

Designs for the Halsey Street-2nd Street Bridge and Off-Street Multi-Use Trail

Spring 2021
Troutdale

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PSU Civil & Environmental Engineering Capstone

Spring 2021

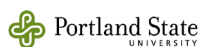
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Acknowledgments

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This report was prepared as part of a class project for the Civil and Environmental Engineering Project Management and Design course at Portland State University. The contents of this report were developed by the student authors and do not necessarily reflect the views of Portland State University. The analyses, conclusions, and recommendations contained in the report should not be construed as an engineering report or used as a substitute for professional engineering services.

This report represents original student work and recommendations prepared by students in the Sustainable City Year Program for the City of Troutdale. Text and images contained in this report may not be used without permission from the University of Oregon.

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About SCI

The Sustainable Cities Institute (SCI) is an applied think tank focusing on sustainability and cities through applied research, teaching, and community partnerships. We work across disciplines that match the complexity of cities to address sustainability challenges, from regional planning to building design and from enhancing engagement of diverse communities to understanding the impacts on municipal budgets from disruptive technologies and many issues in between.

SCI focuses on sustainability-based research and teaching opportunities through two primary efforts:

1. Our Sustainable City Year Program (SCYP), a massively scaled university-community partnership program that matches the resources of the University with one Oregon community each year to help advance that community's sustainability goals; and

2. Our Urbanism Next Center, which focuses on how autonomous vehicles, e-commerce, and the sharing economy will impact the form and function of cities.

In all cases, we share our expertise and experiences with scholars, policymakers, community leaders, and project partners. We further extend our impact via an annual Expert-in-Residence Program, SCI China visiting scholars program, study abroad course on redesigning cities for people on bicycle, and through our co-leadership of the Educational Partnerships for Innovation in Communities Network (EPIC-N), which is transferring SCYP to universities and communities across the globe. Our work connects student passion, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCYP

The Sustainable City Year Program (SCYP) is a year-long partnership between SCI and a partner in Oregon, in which students and faculty in courses from across the university collaborate with a public entity on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner agency through a variety of studio projects and service-

learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations that result in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future.

About City of Troutdale

Troutdale is a dynamic suburban community in Multnomah County, situated on the eastern edge of the Portland metropolitan region and the western edge of the Columbia River Gorge. Settled in the late 1800s and incorporated in 1907, this “Gateway to the Gorge” is approximately six square miles in size with a population of nearly 17,000 residents. Almost 75% of that population is aged 18-64.

Troutdale’s median household income of \$72,188 exceeds the State of Oregon’s \$59,393. Troutdale’s neighbors include Wood Village and Fairview to the west, Gresham to the south, and unincorporated areas of Multnomah County to the east.

For the first part of the 20th century, the city remained a small village serving area farmers and company workers at nearby industrial facilities. Starting around 1970, Troutdale became a bedroom community in the region, with subdivisions and spurts of multi-family residential housing occurring. In the 1990s, efforts were made to improve the aesthetics of the community’s original core, contributing to an award-winning “Main Street” infill project that helped with placemaking. In the 2010s, the City positioned itself as a jobs center as it worked with stakeholders to transform a large superfund area to one of the region’s most attractive industrial centers – the Troutdale-Reynolds Industrial Park.

The principal transportation link between Troutdale and Portland is Interstate 84. The Union Pacific Railroad main line runs just north of Troutdale’s city center. The Troutdale area is the gateway to the famous Columbia River Gorge Scenic Area and Sandy River recreational areas, and its outdoor pursuits. Troutdale’s appealing and

beautiful natural setting, miles of trails, and parkland and conservation areas draw residents and visitors alike. The City’s pride in place is manifested through its monthly gatherings and annual events, ranging from “First Friday” art walks to the city’s long-standing Summerfest celebration each July. A dedicated art scene and an exciting culinary mix have made Troutdale an enviable destination and underscore the community’s quality of life. Troutdale is home to McMenamins Edgefield, one of Portland’s beloved venues for entertainment and hospitality.

In recent years, Troutdale has developed a robust economic development program. The City’s largest employers are Amazon and FedEx Ground, although the City also has numerous local and regional businesses that highlight unique assets within the area. Troutdale’s recent business-related efforts have focused on the City’s Town Center, where 12 “opportunity sites” have been identified for infill development that respects the small-town feel while offering support to the existing retail environment. The next 20 years promise to be an exciting time for a mature community to protect what’s loved and expand opportunities that contribute to Troutdale’s pride in place.

Course Participants

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EXECUTIVE SUMMARY

The City of Troutdale wishes to develop a proposal for a pedestrian bridge that crosses Southwest 257th Drive near downtown Troutdale, approximately 200 feet south of the intersection with Historic Columbia River Highway. The project is identified in the City's *Town Center Plan* and is expected to be discussed in a three-city "Main Streets on Halsey" corridor planning effort in 2021. There have been no formal engineering studies done, though hypothetical designs have been rendered. This proposal would seek to connect a prospective off-street multi-use trail from Halsey Street (to the west) to 2nd Street (to the east) over 257th Drive, a major arterial road and freight route. This would enhance connections between downtown and residential areas to the west, and improve safety for pedestrians and bicyclists.

The Portland State University *Halsey-2nd Bridge* Capstone group was employed to produce a 30% design or initial designs leading to a 30% design. Also desired are costing estimates for additional design/permitting/construction that could take place in a five-year horizon, plus feedback from Multnomah County and City engineers to highlight permitting requirements or conditions. The City would like design considerations to be made for bicycle and neighborhood electric vehicles such as golf carts. Inspiration should be taken from a recent bridge installation connecting Pier Park and Chimney Park in north Portland.

In designing the bridge, the Capstone group determined through analysis that a steel truss would be the best structural system to use. Shop-fabricated steel trusses are widely accepted as the ideal option for pedestrian bridges. The proposed design is a 140-foot-long single-span truss with a deck that has 14 feet of clear width. The truss type is a Pratt truss, with 14 panes that are each 10 feet square and which have 45 degree diagonals. The truss will be composed of Grade 50 steel. The bridge deck will be a reinforced concrete slab that rests on 18-gauge corrugated steel decking, and which is simply supported in the transverse direction relative to the long axis of the bridge. The slab will be 6.25 inches high in total, with #9 rebar placed every 12 inches.

The bridge will be simply supported by concrete abutments, one on each side of 257th Drive. Each abutment will be a 2-foot-thick stem wall, at the top of which is a 10-inch-thick bearing pad and a 6-inch-thick back wall that extends 2 feet above the stem wall. The abutments will each have a spread footing foundation with a width of 18 feet and a thickness of 2.5 feet. The foundation on the west side of the road will have a back wall height of 12.5 feet. On the east side the back wall will be 10.5 feet high. The foundations will have wing walls to retain the soil in the backfill, which will consist partially of Geofam. The wing walls will be 8 inches thick and will extend 10 feet back, perpendicular to the stem wall.

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The bridge will cross 257th Drive in a direction perpendicular to the road. The vertical clearance between the bridge and the road will be 18 feet. Trails connecting the bridge westward to Halsey Street, and eastward to 2nd Street, will be shared-use pathways that are 14 feet wide. Ramps are used to connect the trails with the elevated bridge

The bridge and trails will conform with the standards of the American Association of State Highway and Transportation (AASHTO), or with superseding local and state regulations where necessary. The start-to-finish construction time is estimated to be around 20 weeks. The total cost for the completed facility, if constructed in 2026, is estimated to be \$1,943,538.

INTRODUCTION

This report presents the initial designs for the pedestrian bridge proposal requested by the City of Troutdale, as completed by the Portland State University *Halsey-2nd Bridge* Capstone group. Background information regarding the project will be given, including information about the project site and a discussion of all stakeholders. Then, an analysis of the bridge alternatives considered for the project will be presented, showing how one bridge type was chosen. A detailed description will be given of the proposed facility design which includes the preferred alternative. Lastly, there will be a description of the regulations and agencies that must be considered for construction of the project.

1.0 PROJECT BACKGROUND

The City of Troutdale has requested the Capstone group to produce the 30% design for a pedestrian bridge. The bridge would cross Southwest 257th Drive near downtown Troutdale, approximately 200 feet south of the intersection with Columbia River Highway (see Figure 1.1). 257th Drive has high traffic due to its connection to I-84 and is dangerous for pedestrians, cyclists and NEVs (neighborhood electric vehicles) to cross. The City of Troutdale’s *Town Center Plan* aims to increase pedestrian access to the downtown area to the west of the residential areas to the east, creating a need for a new link in this location. This pedestrian bridge would also complement the “Main Streets on Halsey” project that aims to connect Troutdale and Fairview for pedestrians.

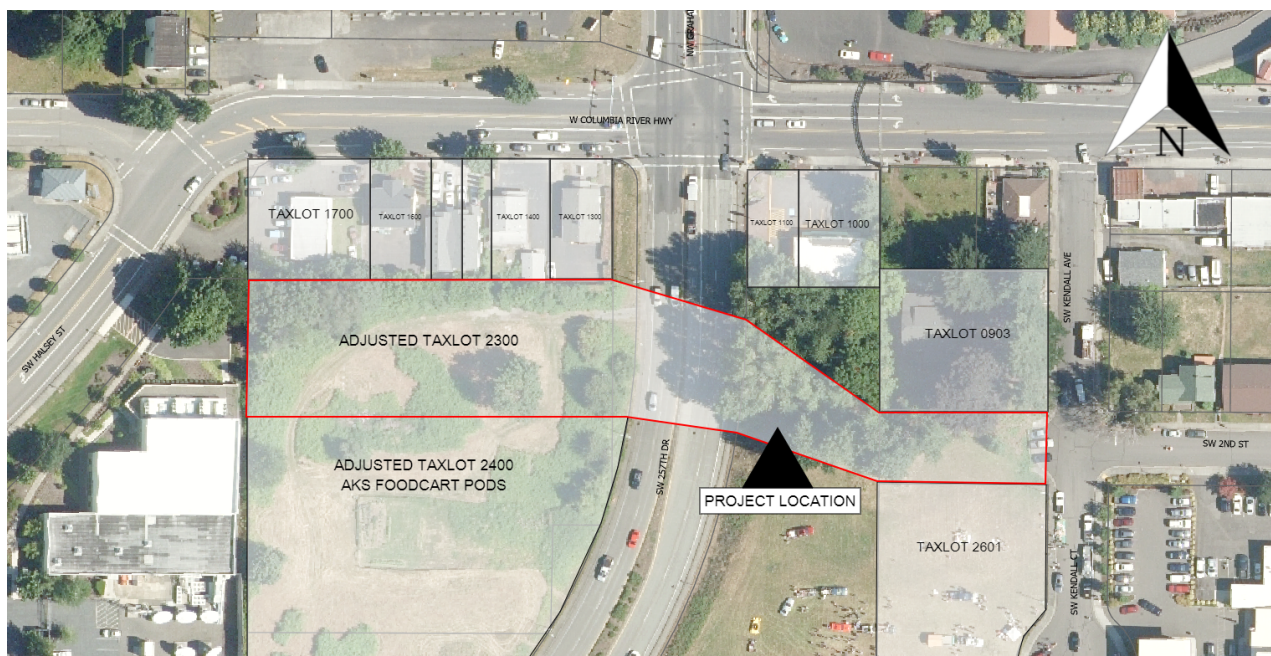


Figure 1.1: Project Site and Surrounding Properties. Source: Troutdale GIS

Several existing data sources have been utilized for this project. LIDAR contours and GIS layers have been created by the City of Troutdale and are available to the public. Additionally, geotechnical reports and a phase 1 Environmental Site Assessment were financed for the above-mentioned food cart project to the south, and both have been made available for the purposes of this report.

1.1 EXISTING SITE CONDITIONS

Information for the project site was acquired from a preliminary geotechnical engineering report conducted by GeoPacific Engineering and Consulting on November 11th, 2020, from the City of Troutdale GIS, and from Google Earth (Figure 1.3).

With respect to the site conditions and topography, there is a mild downward trending slope in the north direction, with steeper, localized slopes as 257th Drive is approached from both east and west directions (Figure 1.2). The elevation difference between 257th Drive and the east and west sides is greater than 10+ feet. The vegetation is mostly short grass with dense trees located on the north east side and sparse trees and brambles on the west side (Figure 1.3). Trees will need to be removed from the property. A city water line runs along the west side of 257th Drive. There is a 5-foot utility and slope easement on the east side of 257th Drive. There are adjacent properties to the north, on the west side that may need easements dependent on the ramp width. There will be a retaining wall running parallel with the bridge and trail west of 257th Drive (south side).



Figure 1.2: 2-foot Contour Lines Showing Slopes Around Site Location. Source: Troutdale GIS



Figure 1.3: Satellite View Showing Vegetation at Site Location. Source: Google Earth.

A large public project such as a bridge requires an environmental assessment of any area that will be altered or excavated. This assessment has already been conducted by GeoPacific Engineering for an adjacent project west of 257th Drive. Three exploratory test pits (TP-1 through TP-3) were excavated on the north end of the property and are proximate to the proposed bridge and trail location. The test pits were dug to depths between 11 and 15 feet. The excavations revealed undocumented fill on the surface that is a medium stiff to stiff sandy silt (ML), with a thickness ranging from 2 (TP-1) to 3 feet (TP-3).

Below the undocumented fill was a buried topsoil horizon consistent of loose, moderately organic, sandy silt (OL-ML) with roots throughout. The organic sandy silt ranged in thickness from 6 inches at TP-1 to 2 feet at TP-3. Underneath the buried topsoil horizon was a medium stiff sandy silt (ML), with a thickness between 2.5 and 4 feet. Minor sidewall caving was observed in the sandy silt. Below the sandy silt was a medium dense, silty sand (SM), which transitioned to a gravelly sand at a depth of 12 feet at TP-1 and 7 feet at TP-3.

The groundwater table was not observed during the investigation, but regional mapping indicates a ground water table above 20 feet. It should be noted that the investigation was conducted at the beginning of the wet season (November). The groundwater table is expected to be highest during the spring (March or April).

GeoPacific concluded that a site class D can be assumed. The allowable soil bearing capacity for spread foundations is 2,000 psf, with a coefficient of subgrade reaction of 150 kcf. The maximum allowable bearing pressure may be increased by 1/3 for wind and

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seismic loading (short-term transient conditions). A value of 0.42 can be assumed for the coefficient of friction between the footing base and soil. These calculations were performed for the adjacent project on the west side but are being considered as relevant to the whole bridge project site since no soil investigation has been conducted east of 257th Drive.

The bridge site is located within range of five potential earthquake source zones: the Lacamas Creek-Sandy River Fault, the Grant Butte and Damascus-Tickle Creek Fault Zones, the Portland Hills Fault Zone, the Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone. The closest is the Lacamas Creek-Sandy River Fault, mapped 0.5 miles northeast. A seismic study conducted by Oregon Department of Transportation concluded that the fault zone is potentially active with a possible rupture length greater than 25 miles.

The Grant Butte and Damascus-Tickle Creek Fault Zones are mapped 2.8 miles south, with fault lengths that are approximately 10 miles. The Portland Hills Fault Zone is located 11.9 miles southwest of the site, with an accuracy within 500 meters. No seismic activity has been recorded, but the zone is assumed to be potentially active. The Gales Creek-Newberg-Mt. Angel Structural Zone is approximately 32.5 miles southwest of the site and is assumed to be potentially active, but no evidence of seismic activity has been recorded.

The Cascadia Subduction Zone is a 680-mile-long zone, located off the Oregon coast. DOGAMI indicates that the project site is in an area expected to have very strong shaking from the Cascadia Subduction Zone. The expected seismic ground motion parameters are listed in the table below. Geopacific concluded that the soil is not susceptible to liquefaction. A summary of ground motion parameters is given by the 2015 International Building Codes (IBC-2015, Table 1.1). These parameters will aid in foundation and pile design.

Table 1.1: Recommended Earthquake Ground Motion Parameters (IBC-2015)

Parameter	Value
Location (Lat, Long), degrees	45.540, -122.391
Mapped Spectral Acceleration Values (MCE):	
Peak Ground Acceleration PGA_M	0.428 g
Short Period, S_s	0.889 g
1.0 Sec Period, S_1	0.375 g
Soil Factors for Site Class D:	
F_a	1.145
F_v	1.651
$SD_s = 2/3 \times F_a \times S_s$	0.678 g
$SD_1 = 2/3 \times F_v \times S_1$	0.412 g
Seismic Design Category	D

1.2 STAKEHOLDERS

The stakeholders for this project include users of the bridge, the City of Troutdale, Multnomah County, and adjacent property owners.

- The bridge is designed for pedestrians and those riding bicycles and NEVs to safely cross 257th Drive.
- The project is a major civic investment for the City of Troutdale. It will connect and expand their downtown to the west side of 257th Drive.
- Multnomah County owns the right of way and will likely be covering maintenance costs for the bridge.
- On the east side, an adjacent property is owned by a housing developer, who plans to build affordable housing to the south of the project site. The bridge would allow convenient and safe access for future residents to the west side of 257th Drive. The owner may pay for the east side approach in the future.
- On the west side, the owners of the property to the south are in the process of developing a modern food cart pod area. The food cart area is expected to be a major attractor for both local residents as well as visitors. The bridge will allow the neighborhoods on the east side access to their establishment, potentially increasing their revenue.
- The adjacent properties to the north will be within a close proximity to the bridge and trail which may require easements and will bring human traffic near their properties.

2.0 ALTERNATIVES ANALYSIS

An alternatives analysis was conducted to select construction material for the bridge's main span. Four traditional building materials were selected to be analyzed.

2.1 ALTERNATIVES

This section aims to assess the viability of each of the four materials based on seven selection criteria that were determined to be of specific interest to the client.

2.1.1 ALTERNATIVE A: CAST-IN-PLACE CONCRETE GIRDERS

Cast-in-place girders (Figure 2.1) are built from reinforced concrete and are assembled at the site of construction. The use of cast-in-place structural elements can increase flexibility of design and enable the use of complex monolithic structural elements. However, cast-in-place concrete can increase the time and cost of construction due to increased excavation, form construction, curing time, and quality control.



Figure 2.1: Typical Box Girder Bridge in Portland. Source: Google Maps

2.1.2 ALTERNATIVE B: PRECAST CONCRETE GIRDERS

Precast concrete girders (Figure 2.2) are built to design specifications by a manufacturer and transported to the construction site. This logistical dynamic allows for elements to arrive on site already built, cured, and checked by quality

control. Use of precast concrete can allow for a more efficient construction process but may limit design options. Precast concrete elements can also undergo stresses during transportation and construction that they were not specifically designed to withstand, so logistically complex projects may be problematic.



Figure 2.2: Oregon Precast Concrete Girder Bridge. Source: ODOT

2.1.3 ALTERNATIVE C: STEEL GIRDERS

Steel girder bridges (Figure 2.3) typically consist of either I-section or box-section steel beams and are also referred to as plate girders and box girders. Plate girder bridges are cheaper and easier to construct and maintain than box girder bridges, but do not offer as much structural strength. Rolled steel girder bridges are constructed using prefabricated steel I-beams. Plate girder bridges are built by welding flat pieces of steel together onsite to make the I-beams. Durability of steel members offer many benefits, but are also constrained by local availability.



Figure 2.3: Steel Girder Pedestrian Bridge. Source: SteelConstruction.info

2.1.4 ALTERNATIVE D: TRUSS SYSTEM

Shop-fabricated steel truss systems (Figure 2.4) are widely accepted as the ideal structural design in pedestrian bridge applications. They are available in a large variety of truss types and configurations. Truss manufacturers are usually tasked with the deck design, using typical site plan details. Truss options include truss style, rails, decking types, and finish options. Manufacturers have pre-engineered designs which can be ready for shipment within two months for simple truss designs. Trusses allow for a quick installation that can be installed overnight.



Figure 2.4: Steel Truss System. Source: Portland.gov

2.1.5 ALTERNATIVE E: NO BUILD

The “No Build” alternative (Figure 2.5) indicates no action will be taken and the potential site of construction will be left unchanged.



Figure 2.5: Unchanged Project Site. Source: Google Maps.

2.2 SELECTION CRITERIA

The following selection criteria were selected due to their relevance to the client and the design constraints of the project. Each criteria will be evaluated individually as they apply to each alternative being considered.

2.2.1 COST OF CONSTRUCTION

An account of the overall cost of materials and construction of the bridge system on the site. This represents the best cost estimate relative to the costs of each system.

2.2.2 APPEARANCE AND AESTHETIC

An assessment of the overall appearance of the structure and whether or not similar structures can be found in the area.

2.2.3 CONSTRUCTION TIME

The relative time to execute and install the given structural system. This can include the construction of members on site, erection of members, and connecting/assembling sets of members on the bridge. Shorter construction times were scored better because the road would have to be shut down for a shorter amount of time which would be more convenient for the people using the road.

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2.2.4 WEIGHT OF STRUCTURE

The weight of the structure refers to the dead-load of the bridge. It is strongly related to the material of the structure being used during the construction process. Structural weight can be calculated directly from the structural model based on the material density and volume input. A lighter weight will reduce transportation cost, which is beneficial to the client so lighter weighted options will receive a higher score.

2.2.5 DIFFICULTY OF DESIGN

The difficulty of designing the structure based on the type of system used. Scores in this category are based on our teams' experience in the type of structure, as well as the complexity of the structure. More complex structures require more time for engineers to design, so the less complex a structure is, the better score it will receive.

2.2.6 SUSTAINABILITY OF MATERIAL

Scores in this category are focused mainly on the relative environmental impact of the material used. It was assumed that concrete was less sustainable than steel, and a lighter structure was more sustainable than a heavier one.

2.2.7 MAINTENANCE COST

The overall category covers maintenance needs required with certain bridge designs. Some factors included are damage from freeze-thaw cycles, erosion, and feasibility of maintenance checks overall. The lowest maintenance cost is the most desirable for the client, so lower maintenance costs received higher scores.

2.2.8 DISRUPTION TO LOCAL AREA

The disruption section covers the traffic, business, and local area inconveniences due to the proposed construction design. Disruptions considered are lane closures, traffic diversions, and effects on the surrounding business community.

2.2.8 PROVIDES SAFE PEDESTRIAN ACCESS ACROSS 257TH DRIVE

Does the proposed system allow pedestrians to safely cross 257th Drive? A full score will be awarded for all alternatives except for the no build scenario.

2.3 SCORING

Each alternative considered was scored based on their merit with each of the selection criteria. A raw score will be applied based on the design team's assessment after which a weighted multiplier will be applied to account for the client's stated priorities.

2.3.1 INITIAL SCORING CRITERIA

Each alternative has been evaluated and scored on a scale of one to five. One is considered least ideal and five is considered most ideal. Any evaluation between the two extremes is based on relevant research, peripheral projects with similar case histories, and the discretion of the design team.

2.3.2 WEIGHTED ADJUSTMENT

After the raw scores were tabulated, a weighted multiplier was applied to emphasize the priorities of the client. Weights were chosen on a scale of one to five with one being aligned with normal importance and five being aligned with highest importance. For the client, cost, construction time, and local disruption to traffic and business were determined to be the most important criteria along with the necessity for pedestrian accessibility across 257th Drive.

2.3.3 PUGH MATRIX

A Pugh Matrix was tabulated to evaluate the scoring and final weighted adjustment of each criteria as they applied to the alternatives being considered. Final tabulation can be found in Table 2.1.

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Table 2.1: Pugh Matrix

ALTERNATIVE TITLE & DESCRIPTION	Weight	Alt. A: CIP Concrete	Alt. B: Precast Concrete	Alt. C: Steel Girders	Alt. D: Truss	Alt. E: No Build
Cost	(3)	2*(3)	1*(3)	3*(3)	1*(3)	5*(3)
Aesthetics	(2)	3*(2)	2*(2)	3*(2)	5*(2)	5*(2)
Const. Time	(3)	2*(3)	3*(3)	3*(3)	5*(3)	5*(3)
Weight	(2)	2*(2)	2*(2)	4*(2)	5*(2)	5*(2)
Design Difficulty	(1)	1*(1)	2*(1)	4*(1)	3*(1)	5*(1)
Sustainability	(1)	2*(1)	2*(1)	3*(1)	4*(1)	5*(1)
Maintenance	(2)	4*(2)	5*(2)	4*(2)	3*(2)	5*(2)
Local Disruption	(3)	1*(3)	3*(3)	3*(3)	5*(3)	5*(3)
Pedestrian Access	(5)	5*(5)	5*(5)	5*(5)	5*(5)	1*(5)
Subtotal		27	30	37	41	41
Weighted Total		64	68	81	91	90

2.4 RESULTS

An alternatives analysis was conducted to compare potential materials for the pedestrian bridge in question. Each alternative was evaluated and scored for their viability with each of eight selection criteria. Additionally, a weighted multiplier was applied to take the client’s priorities into account.

The highest scoring alternative was Alternative D: Truss System (Table 2.1). The second highest scoring criterion was Alternative E: No Build which scored well with all selection criteria regardless of weighted adjustment. It should be noted that the No Build alternative would most likely not rank so highly if the Pugh Matrix was focused on criteria other than building material.

3.0 FACILITY DESIGN

The facility will consist of the proposed bridge crossing 257th Drive, the foundations that support the bridge, and the trails connecting the bridge westward to Halsey Street, and eastward to 2nd Street. This section contains descriptions of the proposed facility design, including details of the criteria, geometry, and calculations that determined the design of each component. A cost estimate for the facility and a construction schedule are also provided.

3.1 SPECIFICATIONS USED

The specifications referred to in the following sections are:

- *AASHTO LRFD Bridge Design Specifications, 7th ed. (“AASHTO Bridge”)*
- *AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges, 2nd ed. (“AASHTO Pedestrian”)*
- *Oregon Department of Transportation Bridge Design Manual, June 2020 (“ODOT”)*

3.2 BRIDGE DESIGN

The bridge will consist of a truss and a deck. Per the alternatives analysis above, a steel truss was selected as the preferred bridge type for spanning 257th Drive. The deck is a reinforced-concrete slab that is the walking/driving surface of the bridge and is supported by a corrugated steel pan. This section details the selected aspects of the bridge and the methods used to design it.

3.2.1 TRUSS DESIGN

Based on recommendations from pedestrian bridge manufacturers and local examples identified as aesthetically pleasing by the client (for example the Pier Park - Chimney Park connector bridge, see Figure 3.1), a Pratt truss was chosen as the truss type. This truss type incorporates square panels braced by 45° diagonal members and is a common choice for this type of project.



Figure 3.1: Truss Bridge. Source: Oregonlive.com

3.2.1.1 TRUSS DESIGN CRITERIA

To calculate the tensile resistance of a chosen member, *AASHTO Bridge* Section 6.8.2.1 was used. Since connections have not yet been designed, only tensile resistance for yielding in the gross section was considered, meaning only equation 6.8.2.1-1 was used. Once the connections between members are designed then equation 6.8.2.1-2 will also be used and the tensile resistance will be the lesser value of the two equations.

AASHTO Bridge Section 6.9.4.1 was used to calculate the nominal compressive resistance of a chosen member. Elastic critical buckling resistance was calculated based on flexural buckling only, equation 6.9.4.1.2-1, since the connections are not designed yet. We are assuming that $K_z L_z$ is greater than $K_y L_y$ so only flange buckling is taken into consideration. Once the connections are designed $K_z L_z$ may become smaller than $K_y L_y$ and torsional buckling will have to be taken into account, meaning equation 6.9.4.1.3-1 will be used to calculate the elastic critical buckling resistance.

AASHTO Bridge Section 6.10.9.2 was used to calculate shear resistance of a member since the webs are unstiffened and *AASHTO Bridge* Section 6.12.2.1 was used for flexure calculations. All resistance factors are defined in *AASHTO Bridge* Section 6.5.4.2.

Loading considerations focused on the dead and live loads the bridge is expected to experience. Dead loads consider the self weight of the structure, which encompasses the truss members, slab and corrugated steel pan, and any additional components to be permanently attached (e.g. lighting, railing, etc.). Slab self-weights were added as uniformly distributed loads in SAP2000, a software for structural analysis, and truss member weights were calculated using the built in functionality of SAP2000. To account for

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additional dead loads, a modifier of 1.15x was applied to all dead loads, rather than performing a detailed analysis of secondary loading. Live loads considered were pedestrian live loads of 90 psf, and the AASHTO recommended design vehicle, H10.

Due to the nature of the 30% report and limited time of analysis, the following loading scenarios were not analyzed, despite being necessary for any finalized structural design: snow, seismic, rain, impact (due to collisions below the roadway).

3.2.1.2 TRUSS GEOMETRY

Dimensions for members of pedestrian bridge such as bridge span length, width, height, and truss member sizes. For a detailed image of the

General bridge dimensions are: 14 ft. clear space between trusses, 10 ft. truss height, and 140 ft. bridge length. Grade 50 steel was selected for the analysis. Truss type is a Pratt truss, with 45° diagonals. Member sizes shown in Table 3.1 below:

Table 3.1: Truss Member Dimensions

Truss Members				
	# Members	Length (ft)	Type	Steel Grade
Top Chord	12	10	W14X74	Gr. 50
Bottom Chord	14	10	W14X68	Gr. 50
Diagonals	15	14.1	W10X33	Gr. 50
Verticals	13	10	W6X15	Gr. 50

3.2.1.3 TRUSS CALCULATIONS

The calculations for the truss were done using Excel Spreadsheets and SAP2000. SAP2000 provided the maximum moment, shear, and axial forces experienced by each member based on factored loading conditions previously described. Excel was used to calculate if chosen member sizes

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were sufficient to meet the code requirements. Member properties were pulled from the AISC shapes database spreadsheet. The codes used are referenced in the Excel Spreadsheets (Appendix D.3.5) and a sample calculation can be found in Appendix D.3.4.

Excel calculated the factored moment, shear, and axial load capacity based on member properties and compared them to the demand loads from SAP2000. The demand to capacity ratio was calculated for moment, shear, axial compression, and axial tension. A member met the criteria if each one of the ratios was under 1.0 and the combined flexure and compression and flexure and tension equations were satisfied. Separate Excel sheets were used to design the bottom, top, vertical, and diagonal chords.

3.2.2 SLAB DESIGN

The final slab design was chosen to be a corrugated steel option with a concrete top layer as the base for the pedestrian walkway across the bridge as seen in Figure 3.2. Based on certain bridge specifications and the need for a lighter superstructure, we decided to go with this option. The slab dimensions were taken from a pre-existing corrugated steel design catalog that can be easily manufactured. This section details the design process that was gone through to achieve our final design.

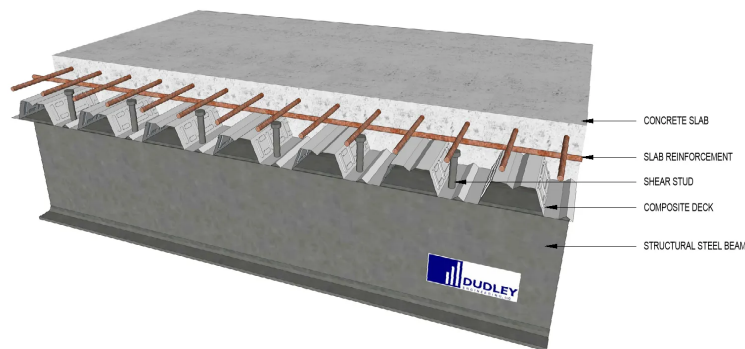


Figure 3.2: Proposed Corrugated Steel Deck Design. Source: Dudley Engineering

3.2.2.1 SLAB DESIGN CRITERIA

Looking at the initial site conditions and knowing that we must have a 140 ft span bridge, it was found that the best option would be for a corrugated steel deck. The reason behind this decision was to reduce the overall weight of the bridge and the need for supports in the center of the span. Being that the

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bridge also must withstand significant live load, a corrugated steel option reduced the need for stringers as well as deck thickness. Overall, these reductions aided in the design for a lighter bridge.

For the slab design code according to *AASHTO Bridge*, only the design check will be applied to moment strength (“flexural resistance”), service limit state (live load deflection limit), and basic detailing (concrete cover and spacing). For our design only dead load (DC, DW) and live load (LL) will be considered. Flexural resistance will be in accordance with *AASHTO Bridge* 5.7.3.2 and 5.5.4.2 while service limit state follows *AASHTO Pedestrian* Section 5 as per specific code and standards. These codes and standards specify that deflection is not to exceed $L/360$ for decks with significant pedestrian traffic. Concrete cover and spacing will follow *AASHTO Bridge* tables 5.12.3-1—Cover for Unprotected Main Reinforcing Steel (in.) and 5.10.3.1—Minimum Spacing of Reinforcing Bars.

As can be seen in Appendix D.1.1 , for the bridge, the maximum moment from the live loads will be the controlling factor in the design of the thickness, rebar size and spacing of the bridge deck. Along with the pedestrian load of 90 psf, the bridge will also be designed for AASHTO Standard H10 utility vehicle. These design specifications are determined in *ODOT* Figure 1.3.2F where the bridge deck clear span is 14 ft.

3.2.2.2 SLAB GEOMETRY

Dimensions for the corrugated steel deck slab are shown below in Figure 3.3. The specifications for the corrugated steel deck were taken from ASC Steel Deck, a corrugated decking company located in Sacramento, CA. The bridge design was calculated with NH-32 Composite Decking as per the ASC Steel Deck *Floor Deck Catalog*. The deck material is 18 gauge steel with a 3 in height to help reduce the weight and increase the load capacity. Accounting for the required minimum of 2.5 in concrete cover and applied loads, it was found that the concrete thickness needed would be 3.25 in with a total thickness of 6.25 in (Appendix D.1.1). Lastly, to meet the load requirements and slab width of 14 ft, #9 rebar was designed and added every 12 inches.

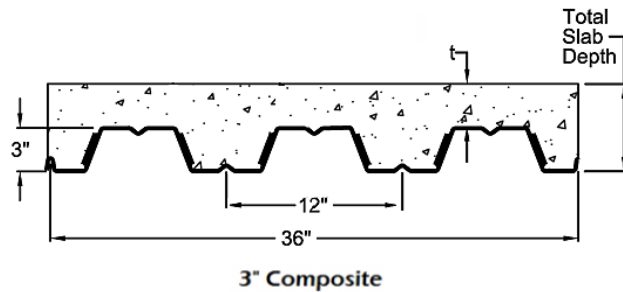


Figure 3.3: Proposed Corrugated Steel Deck Specification Design.
Source: ASC Steel Deck

3.2.2.3 SLAB CALCULATIONS

The slab design for the bridge consists of dead and live loads. To reduce the overall thickness and weight of the bridge, a corrugated steel composite deck option was chosen. The dead load is the weight of the corrugated steel and concrete slab. Later adjustments must be made to incorporate the joint loads and any other added loads, but for our current design we will only be including design considerations for the steel, concrete, and live loads.

The live load will be a temporary load of either a 90 psf pedestrian load or AASHTO Standard H10 design truck load with a total weight of 10 tons. The truck will be designed for both directions of travel. For our specific design, the pedestrian load will be the controlling factor across the span of the entire 140 ft bridge span. The moving truck load only controls in the transversal direction in the 14 ft span between the truss chords. Equations and detailed calculations for the load analysis are provided in Appendix D.1.1.

The maximum moment from the pedestrian load is the controlling factor for the design in the longitudinal direction. For the transversal direction, the two rear 8 kip axle loads spaced at 6 ft from the H10 vehicle (see tire spacing, Appendix D.3.1) will provide the controlling design moment. Moments for the H10 moving vehicle load on the slab were checked using Excel analysis as shown in Appendix D.1.2. The maximum moment occurs when the truck axles are located at 2.5 ft and 8.5 ft across the width of the bridge.

From the required spacing and cover, maximum moment strength, and live limit state as shown in Appendix D.1.1, it can be determined that 6.25

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inches is the final thickness that satisfies the deflection and reinforced concrete checks with the most efficient design.

For the corrugated steel composite deck design, values are based off of initial slab calculations for the controlling pedestrian live load. The corrugated steel was interpolated and designed from the ASC Steel Deck catalog knowing that the minimum thickness calculated was 6.25 in and the max live load is 90 psf multiplied by a live factor load of 1.75. For a 6.25 inch slab, values are interpolated between 6 inches and 6.5 inches to produce a NH-32 Composite 6.25 inch slab with #9 rebar (Appendix D.1.1).

When designing for corrugated steel, dead load can be neglected knowing that the deck can support itself and only the live load strength has to be designed for. From the slab design it is determined that the dead load is 56.78 psf with a live load capacity of 265 psf. These calculations are interpolated from the ASC Steel Deck catalog.

3.3 FOUNDATION DESIGN

The bridge is to be supported by a pair of concrete abutments on either side of 257th Drive (see example in Figure 3.4). The sizing of the spread footing foundations is a preliminary design to ensure they meet requirements for stability. Assumptions were made regarding thickness of abutment elements and further detailing will have to be completed in later designs.



Figure 3.4: Example of concrete bridge abutment with wing walls.
Source: 2012 FHWA Bridge Inspector's Manual

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3.3.1 FOUNDATION DESIGN CRITERIA

The geotechnical report used for this design was originally intended for a food cart pod on the adjacent property to the south on the west side of the road. This report contained very limited information and forced the use of a concrete abutment with a spread footing. It was assumed that this geotechnical report was valid to either side of 257th Drive due to the close proximity. The footing would have to be designed using the provided allowable bearing capacity and sliding friction factor provided. Finally, the height of the abutment wall had to be tall enough to allow the bridge 18 feet of clearance above 257th Drive.

Loading for the abutments was provided in the geotechnical report and from the structural design group for the bridge span. As per recommendation from the report, a traffic surcharge of 250 psf was used as loading from the pathway and a horizontal equivalent fluid density of 35 pcf was used in place of active earth pressure. Due to time constraints, seismic loading was not determined and will have to be researched on further designs.

The safety factor for sliding used for the completed design is 1.5 in accordance with AASHTO 2012 *Bridge Design Specifications* 10.6.3.4 and a reduced safety factor of 1.2 was used for construction due to reduced vertical loads at this time. The factor of safety for bearing capacity is unknown because the ultimate bearing capacity of the soil was never provided. This design assumes an adequate factor of safety was applied to the allowable bearing capacity provided in the geotechnical report. A more detailed geotechnical survey providing these values is recommended for further design. Resistance to overturning is in accordance with AASHTO 2012 *Bridge Design Specifications* 11.6.3.3 that states that the eccentricity must be within the middle third of the total length of footing.

Due to the limited nature of the geotechnical report, it is strongly recommended that future designs consider mechanically stabilized earth walls with either a spread footing placed on top or a pile foundation. Using MSE walls will reduce the amount of concrete necessary because it eliminates the need for the abutment to support all the soil behind it. MSE walls also take less time to construct and don't require as high skill labor. A pile foundation could improve the stability of the foundation by improving its resistance to horizontal forces and seismic loading. This, however, will require CPT or SPT testing to determine the skin friction and bearing capacity of the soils down to much greater depths.

3.3.2 FOUNDATION GEOMETRY

As mentioned before, footing and wing wall dimensions were selected based on terrain, bridge clearance over 257th Drive, loading, and assumptions of member sizing based on needs. The stem wall was assumed to be 2 ft. thick given a 1.5 ft. wide bearing pad and 6 inch backwall. Footing thickness was assumed to be 2.5 ft. 8 inch thick wing walls extend 10 ft back from the abutment and are perpendicular to the stem wall. Total footing width is 18 ft extending about 1 foot beyond the total width of the bridge. The back wall extends 2 ft. above the top of the stem wall. As per AASHTO 11.10.2.2 from the *2012 Bridge Design Specifications*, two feet of soil is used as the toe cover. A layer of Geofam had to be used above the heel on both abutments to meet bearing capacity requirements. Thicknesses of soil over heel, Geofam and the height of the stem wall for each side are shown in Table 3.2.

Table 3.2: Abutment dimensions

Abutment Dimensions Unique to Each Side		
Location	East	West
Geofam	4 feet	5 feet
Backfill Soil	5.5 feet	6.5 feet
Pathway Pavement	1 foot	1 foot
Height Stem Wall	8.5 feet	10.5 feet
Height Back Wall	10.5 feet	12.5 feet
Toe Length	8 feet	8 feet
Heel Length	8 feet	8 feet

3.3.3 FOUNDATION CALCULATIONS

Calculations for the abutment were done using an excel spreadsheet. From the loading values mentioned earlier, tables of vertical, horizontal, and moment forces on the abutment were created on a per foot basis. Due to the height of the abutment wall, it was assumed that the load would spread evenly across the base of the spread footing. For the dead weight of the footing itself, the various components were broken up and their individual weights determined. Their center of mass was then determined to allow for the calculation of moment forces. One half of the bridge's

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weight including dead and live load was placed on top of each bearing pad. Weight from the wing walls, fill soil and geofoam was also calculated and spread across the base of the footing. The choice of EPS 22 Geofoam was determined from the ASTM D6817 Physical Property Requirements of EPS Geofoam table in the *Expanded Polystyrene (EPS) Geofoam Applications & Technical Data* document by estimating the compressive loading from the pavement and surcharge.

After the forces and moments were calculated, overturning resistance was checked by determining eccentricity and ensuring that it was in the middle third of the footing. The resisting friction force and horizontal force from the soil were then calculated and used to ensure compliance with the sliding factor of safety. As mentioned earlier, during construction without the weight of the bridge, the resistance to sliding was below the factor of safety required but still over 20% above the minimum. Due to this, it was decided to use a lower factor of safety since the abutments won't be supporting people during this stage. The allowable bearing capacity of 2 ksf turned out to be the main controlling factor for our design. For this design to work, geofoam had to be used above the heel as a way to ensure that the eccentricity of the bearing load was near zero. This ensured that max and min bearing loads at the toe and heel were nearly equal to each other as per the equations from AASHTO 11.6.3.2-2 and 11.6.3.2-3 from the *2012 Bridge Design Specifications*. Iterations were used by changing the lengths of the toe, heel, and geofoam height to achieve a working design. The design spreadsheet that includes all these calculations for either side are displayed in appendix D, section 2.

3.4 TRAIL DESIGN

Trails connecting the bridge westward to Halsey Street, and eastward to 2nd Street, will be shared-use pathways (Figure 3.5). The trails are located in an area with a large number of future developments so there were several restrictions on where the path could be placed. Due to the terrain and required height above the road, the approaches to the bridge will have to be connected with earthen ramps. This section will discuss the design criteria and geometry of the trail.



Figure 3.5: Shared-use path. Source: ODOT

3.4.1 TRAIL DESIGN CRITERIA

As shown in the drawings in Appendix C, the pathway connects between a firelane that branches off Halsey Street on the west side of 257th Drive, to the stub of 2nd Street on the east side. On the west side, the trail had to be kept as far south as possible to keep noise and foot traffic away from the residences to the north.

The *AASHTO Guide for the Development of Bicycle Facilities* recommends a minimum 10 feet width for a two directional shared-use path. Per the client's request, the trail is designed to be 14 feet in width which exceeds the minimum width set by AASHTO. Given the trail is to be used by pedestrians and cyclists, asphalt pavement is the selected material. It will be cheaper to construct and maintain. The asphalt pavement shall be built per the *Troutdale Construction Standards*. The requirement is an asphalt surface of 3.5 inches on aggregate base of 8 inches on undisturbed or compacted subgrade.

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3.4.2 TRAIL GEOMETRY

The bridge will cross 257th Drive in a direction perpendicular to the road. The horizontal alignment of the bridge itself was chosen to minimize the length of the bridge while also trying to use favorable terrain to minimize the height of the abutment walls for the foundation. The approaches were designed with a slope of no greater than 4.75% to allow room for minor errors during construction and meet ADA requirements of no greater than 5%. This resulted in long sections of trail that were above the terrain surface. Because of this, a slope of 2:1 on either side of the trail was used to minimize the area consumed by fill soil around the pathway. With this, a one foot shoulder was also included to allow for the placement of a fence in future designs to prevent those using the pathway from endangering themselves on the steeper slope.

As specified by the *Oregon Bicycle and Pedestrian Design Guide*, the pathway is to have a 2% cross slope to the north to prevent excess runoff from going onto the southern property. In the section encompassed by the wing walls of the abutment, the cross-slope of the pathway is to be 0% with the intention that water will drain back 10 feet until it reaches the section not encompassed by the walls.

3.5 COST ESTIMATE

The total cost estimate for the designed pedestrian bridge for the City of Troutdale would cost a total of \$1,943,538, reference Appendix A for a breakdown of each line item of the project. Reference numbers for each line item were obtained from the Bid Item List in the *Oregon Standard Specifications for Construction*. and prices were estimated using various methods depending on the line item. Bid items such as the 3" asphalt base, 5" crushed aggregate, subgrade geotextile, and any bid item whose quantity was measured had their quantities estimated using the engineering software packages AutoCAD, Civil 3D, and SAP2000, and prices for each were gathered from the Oregon DOT Weighted Average Item Prices – Calendar Year 2019, previous awarded prices from taxiway and runway projects from the Port of Portland, and other online resources such as online estimators and suppliers. Lumpsum, LP, items such as those listed under the General subsection were estimated using cost estimates from similar projects provided by AKS Engineering & Forestry. The bridge bid item was obtained from an estimate created by Contech Engineered Solutions.

Included in the estimation are additional costs associated with permits and fees, contingency, engineering and construction administration, and labor contingency. Also

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included in the attached cost estimate is a projected project cost five years in the future. The percentages used in calculating each additional cost were referenced from similar scoped projects. The projected project cost was obtained through using an average index factor of +3% per year. The index factor was referenced from the average Transportation Construction Cost Index Factor for the years of 2011–2019 provided by AKS Engineering & Forestry.

The City of Troutdale would also like financial contributions from the developer on the East side of the approach. Per the city's request, provided in Appendix A is also a breakdown of the total cost for the East section only. The total cost to construct the up to the bridge tie-in on the East side would be \$448,137. This cost estimate captured items under the General, Shared Path, and Foundation only. The means, methods and calculations were all the same for this cost estimate, the only changes were to the quantities and adjustment of lump sum prices to account only for the East section.

3.6 CONSTRUCTION SCHEDULE

A construction schedule is provided in Appendix B. The schedule includes sequencing and time estimates for major tasks, to give an overview of the timeline for the project's construction phase. A provisional start date is given in 2025, based on the current plans for the project. The total construction time is estimated to be around 20 weeks.

4.0 REGULATORY COMPLIANCE AND PERMITTING

This section contains information on the agencies that will need to be considered regarding the regulations and permitting that may govern the construction phase of the project.

4.1 CITY OF TROUTDALE

The facility design and construction will be compliant with the *Troutdale Construction Standards*, which guide the construction and use of streets and other public works in the city. As the City of Troutdale is the project owner, regulations and permitting at the municipal level will be handled internally between the city's departments, and thus should have minimal impact on the project budget and schedule. The Building Division of the City's Community Development Department will oversee construction activity and ensure compliance with building codes. Their responsibilities include: reviewing construction drawings and related files, issuing building permits, inspecting construction work for consistency, and reporting activity to relevant agencies.

4.2 MULTNOMAH COUNTY

The extent of the facility will lie within the City of Troutdale's jurisdiction, but Multnomah County maintains 257th Drive — the road that the bridge will be crossing. During planning and construction, coordination will be necessary between the City of Troutdale, being the project owner, and the Transportation Division of Multnomah County's Department of Community Services. In accordance with the *Multnomah County Code* Building Regulations, a permit or agreement shall be required for any construction within a County right-of-way. Permitting is handled by the county's Right of Way Permits Office who will require documentation of the project, responsibilities, and schedule. The *Multnomah County Road Rules* dictate the types of permits, of which the Construction Permit is required for any activity in the right of way that involves the construction of a facility, structure or otherwise permanently alters any physical aspect of the right of way. Provisions for road closure and traffic control during construction will need to be planned for with the County.

4.3 OREGON DEPARTMENT OF TRANSPORTATION

Any aspects of design and construction which are not covered by the Troutdale standards shall be addressed using the specifications of the Oregon Department of Transportation. The standards relevant to this project are the *Oregon Bridge Design Manual*, and the *Oregon Bicycle and Pedestrian Design Guide*.

4.4 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION

Where not governed by the agencies above, the facility design and construction shall be compliant with the standards of the American Association of State Highway and Transportation (AASHTO), an organization which publishes specifications and guidelines that are used for the development, operation, and maintenance of the national transportation system. This project shall follow AASHTO standards regarding bridge design, bicycle facilities, and the design of highways and streets.

4.5 AMERICANS WITH DISABILITIES ACT

Design of the facility must meet all Americans with Disabilities Act (ADA) specifications for geometry and access, as described in the *ADA Standards for Accessible Design*. The guidelines in all AASHTO publications incorporate the requirements set by the ADA.

5.0 CONCLUSION

This project endeavored to produce a 30% design for a pedestrian bridge in the City of Troutdale. The bridge is a 140-foot steel Pratt truss and the terminal ends of the bridge are supported by a mat foundation. The bridge spans 257th Drive near the downtown area and will provide pedestrians and cyclists with an accessible means to stroll through the downtown Troutdale area. This bridge is approximately 200 feet south of the intersection with Columbia River Highway and will complement the proposed “Main Streets on Halsey” collaboration that will connect Troutdale and Fairview pedestrians.

The scope of this project was somewhat limited by the level of detail included in available data. The rudimentary geotechnical report didn't provide enough information to design the piles, and there was insufficient time available to investigate seismic loads. Additionally, the west side property is in development and thus the topology and site conditions are subject to change. To expand on the scope of this investigation, the client can compare the provided cost estimates and determine if these values meet expectations. Assuming the cost of the project is not prohibitive, it can be weighed against the public benefits such a pedestrian bridge will bring to the many residents in the Troutdale and Fairview areas.

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REFERENCES

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APPENDICES

The following appendices are attached.

A. Construction Cost Estimate

Calculations for the estimated cost of the proposed bridge, including additional costs associated with permits and fees, contingency, and administration.

B. Construction Schedule

Sequencing and time estimates for major tasks, to give an overview of the timeline for the project's construction phase.

C. Drawings

CAD drawings of the project site and the proposed bridge and trail designs.

D. Calculations

Detailed calculations and supporting materials used for developing the bridge and foundation elements of the facility design.

APPENDIX A
CONSTRUCTION COST ESTIMATE

REF.	ITEM	QUANT.	UNIT	UNIT COST	TOTAL
GENERAL					\$138,000
0210-0100000A	Mobilization	1	LS	\$40,000	\$40,000
0221-0100000A	Temporary Protection and Direction of Traffic	1	LS	\$10,000	\$10,000
0280-0100000A	Erosion Control	1	LS	\$11,000	\$11,000
1040-0100000E	Material Testing	1	LS	\$15,000	\$15,000
0320-0100000A	Clearing and Grubbing	1	LS	\$8,000	\$8,000
0446-0100000F	Stormwater Drain	1100	FT	\$10	\$11,000
1030-0102000E	Seeding/ Stabilization	1	LS	\$2,300	\$23,000
2021.TROUT.02-1	Construction Survey Work	1	LS	\$20,000	\$20,000
SHARED PATH					\$59,650
0330-0105000K	General Excavation	100	CUYD	\$10	\$1,000
0905-0200000A	Modify Existing Signs and Legends	1	LS	\$5,500	\$5,500
0735-0100000M	3" Asphalt Pavement	250	TON	\$125	\$31,250
0640-0100000M	5" Crushed Aggregate	250	CUYD	\$70	\$17,500
0350-0105000J	Subgrade Geotextile	1100	SQYD	\$4	\$4,400
BRIDGE					\$404,000
2021.TROUT.02-2	140X14 14014CNH Continental AASHTO Express Pedestrian Truss	1	LS	\$300,000	\$300,000
2021.TROUT.02-3	Bridge Installation	1	LS	\$50,000	\$50,000
0530-0100000A	Reinforcement	7000	LB	\$3	\$21,000
0540-0206000K	General Strc Concrete, Class 5000	30	CUYD	\$1,100	\$33,000
FOUNDATION					\$235,000
0540-0101000A	Concrete Abutment/Footing	100	CUYD	\$600	\$60,000
1040-0107000K	Engineered Fill Soil	1000	CUYD	\$18	\$18,000
0330-0102000K	Foundation Excavation	2000	CUYD	\$46	\$92,000
2021.TROUT.02-4	Geofoam	50	CUYD	\$100	\$5,000
0530-01000000A	Reinforcement	20000	LB	\$3	\$60,000

ENGINEER'S ESTIMATE OF CONSTRUCTION COST \$836,650

(5% of ENGINEER'S ESTIMATE OF CONSTRUCTION COST) PERMITS & FEES \$41,833

(40% of ENGINEER'S ESTIMATE OF CONSTRUCTION COST) CONTINGENCY \$334,660

(15% of ENGINEER'S ESTIMATE OF CONSTRUCTION COST) ENGINEERING & CONSTRUCTION ADMINISTRATION \$125,498

(30% of ENGINEER'S ESTIMATE OF CONSTRUCTION COST + CONTINGENCY) LABOR CONTINGENCY \$351,393

TOTAL ESTIMATED CONSTRUCTION COST \$1,690,033

TOTAL ESTIMATED CONSTRUCTION COST (2026) \$1,943,538



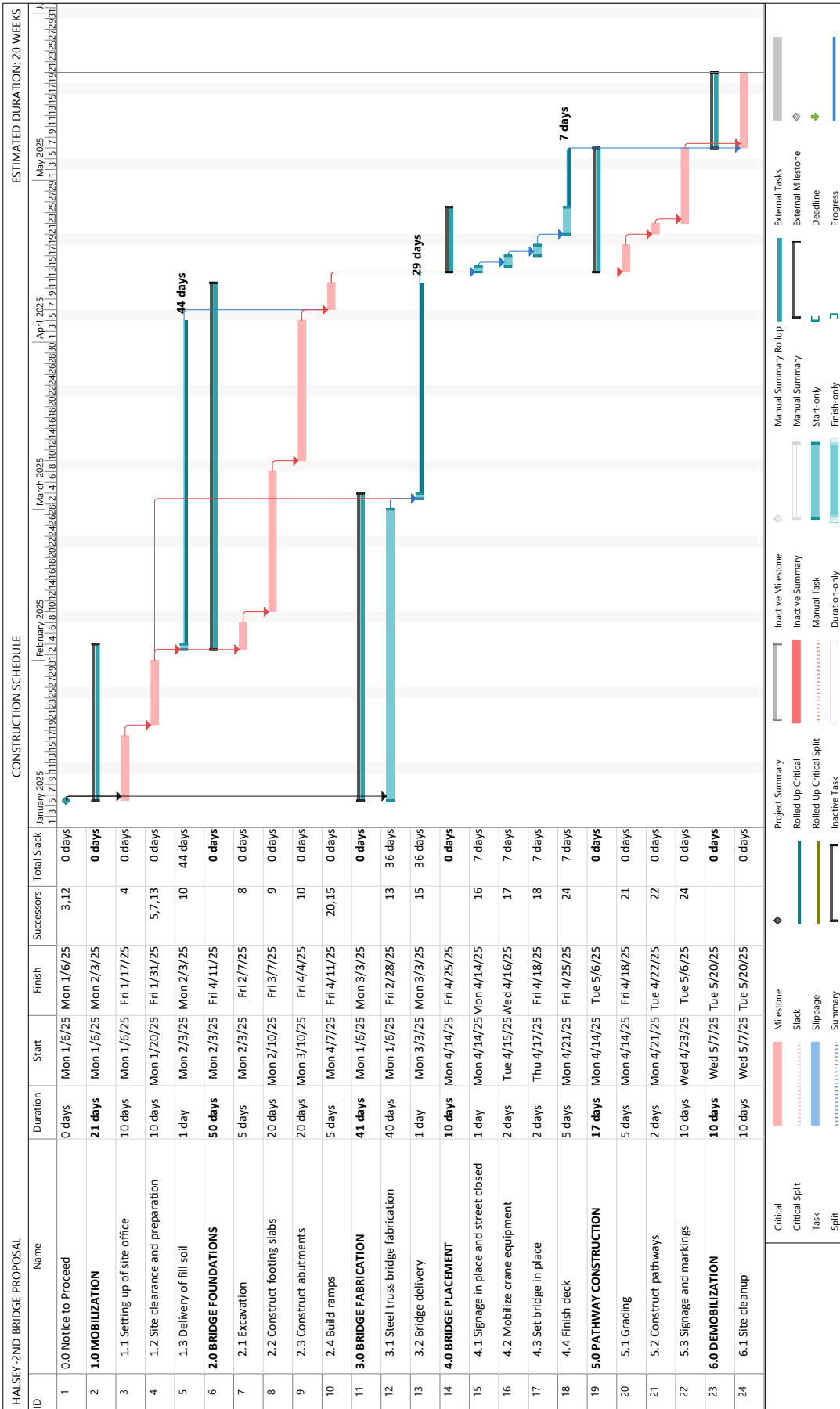
Halsey-2nd Bridge (2021.TROUT.02)
 Engineer's Construction Cost Estimate East

REF.	ITEM	QUANT.	UNIT	UNIT COST	TOTAL
GENERAL					\$125,000
0210-010000A	Mobilization	1	LS	\$13,500	\$40,000
0221-010000A	Temporary Protection and Direction of Traffic	1	LS	\$3,500	\$10,000
0280-010000A	Erosion Control	1	LS	\$4,000	\$11,000
1040-010000E	Material Testing	1	LS	\$5,000	\$15,000
0320-010000A	Clearing and Grubbing	1	LS	\$2,700	\$8,000
0446-010000F	Stormwater Drain	700	FT	\$10	\$11,000
1030-010200E	Seeding/ Stabilization	1	LS	\$1,000	\$23,000
2021.TROUT.02-1	Construction Survey Work	1	LS	\$7,000	\$7,000
SHARED PATH					\$20,750
0330-010500K	General Excavation	40	CUYD	\$10	\$400
0905-020000A	Modify Existing Signs and Legends	1	LS	\$5,500	\$5,500
0735-010000M	3" Asphalt Pavement	50	TON	\$125	\$6,250
0640-010000M	5" Crushed Aggregate	100	CUYD	\$70	\$7,000
0350-010500J	Subgrade Geotextile	400	SQYD	\$4	\$1,600
FOUNDATION					\$76,100
0540-010100A	Concrete Abutment/Footing	50	CUYD	\$600	\$30,000
1040-010700K	Engineered Fill Soil	500	CUYD	\$18	\$9,000
0330-010200K	Foundation Excavation	100	CUYD	\$46	\$4,600
2021.TROUT.02-3	Geofoam	25	CUYD	\$100	\$2,500
0530-010000A	Reinforcement	10000	LB	\$3	\$30,000

ENGINEER'S ESTIMATE OF CONSTRUCTION COST \$221,850
 PERMITS & FEES \$11,093
 CONTINGENCY \$88,740
 ENGINEERING & CONSTRUCTION ADMINISTRATION \$33,278
 LABOR CONTINGENCY \$93,177
TOTAL ESTIMATED CONSTRUCTION COST - EAST \$448,137
TOTAL ESTIMATED CONSTRUCTION COST - EAST (2026) \$515,358

5% (ENGINEER'S ESTIMATE OF CONSTRUCTION COST)
 40% (ENGINEER'S ESTIMATE OF CONSTRUCTION COST)
 15% (ENGINEER'S ESTIMATE OF CONSTRUCTION COST)
 30% (ENGINEER'S ESTIMATE OF CONSTRUCTION COST + CONTINGENCY)

APPENDIX B
CONSTRUCTION SCHEDULE



APPENDIX C
DRAWINGS



PROJECT LOCATION

VICINITY MAP
NO SCALE

Project Location:
The project is located south of the intersection of SW Halsey St. and SW 257th Ave. The project is located on the west end of the bridge lands in the revised lot 2300 and the East end lands in Lot 2501

Property Description:
Tax lots 2300 and 2501, crossing the easement for SW 257th Ave.
Zone District:
Central Business District (CBD) with Town Center (TC) Overlay

Existing Land Use:
Undeveloped lots

Quartz:
East Lot:
SW 257th Dr.: Multnomah County

Applicant:
City of Troutdale

Engineering Firm:
Portland State University, under the management of Evan Kristof, and guidance of Blair Carlson with AKS Engineering



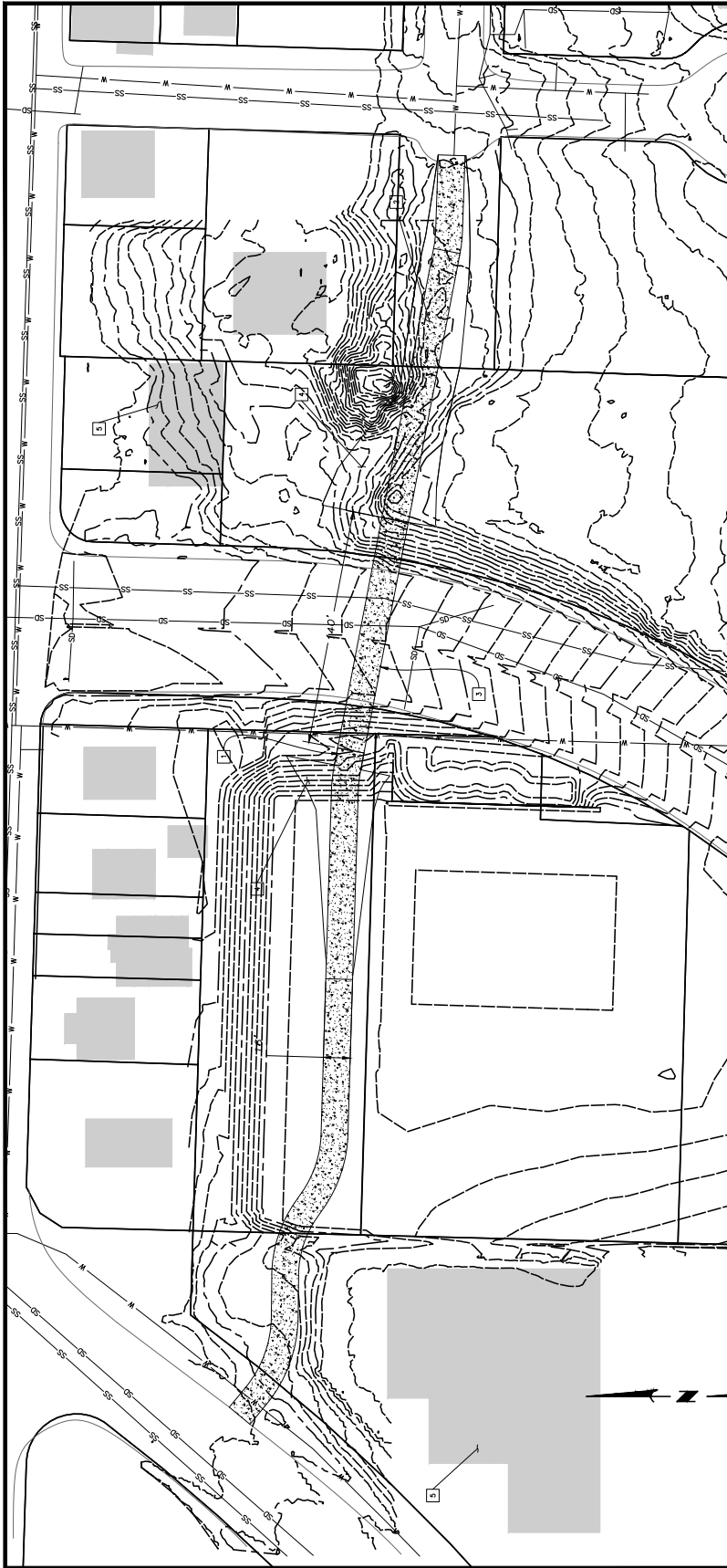
SITE MAP
SCALE: 1" = 60'

INDEX OF SHEETS	TITLE SHEET
100	TITLE SHEET
200	SITE PLAN
300	TYPICAL TRAIL SECTIONS
301	TRAIL PLAN AND PROFILE
400	BRIDGE PLAN & ELEVATION
401	BRIDGE FOUNDATIONS
402	TYPICAL BRIDGE SECTION

DO NOT SCALE THIS DRAWING
FOLLOW DIMENSIONS INDICATED
SCALES CORRECT ONLY FOR
FULL SIZE SHEET (22 X34")

DATE	REVISION	BY

DRAWN: _____	CHECKER: _____
DESIGNED: _____	REVIEWER: _____
PEDESTRIAN BRIDGE HALSEY-2ND TROUTDALE, OR	
TITLE SHEET	
SHEET NO.	100



NOTES

1. 10 FT WINGED WALLS
2. ASPHALT PATHWAY
3. PREFABRICATED TRUSS BRIDGE
4. FUTURE SOIL FILL
5. EXISTING STRUCTURES
6. TAX LOTS

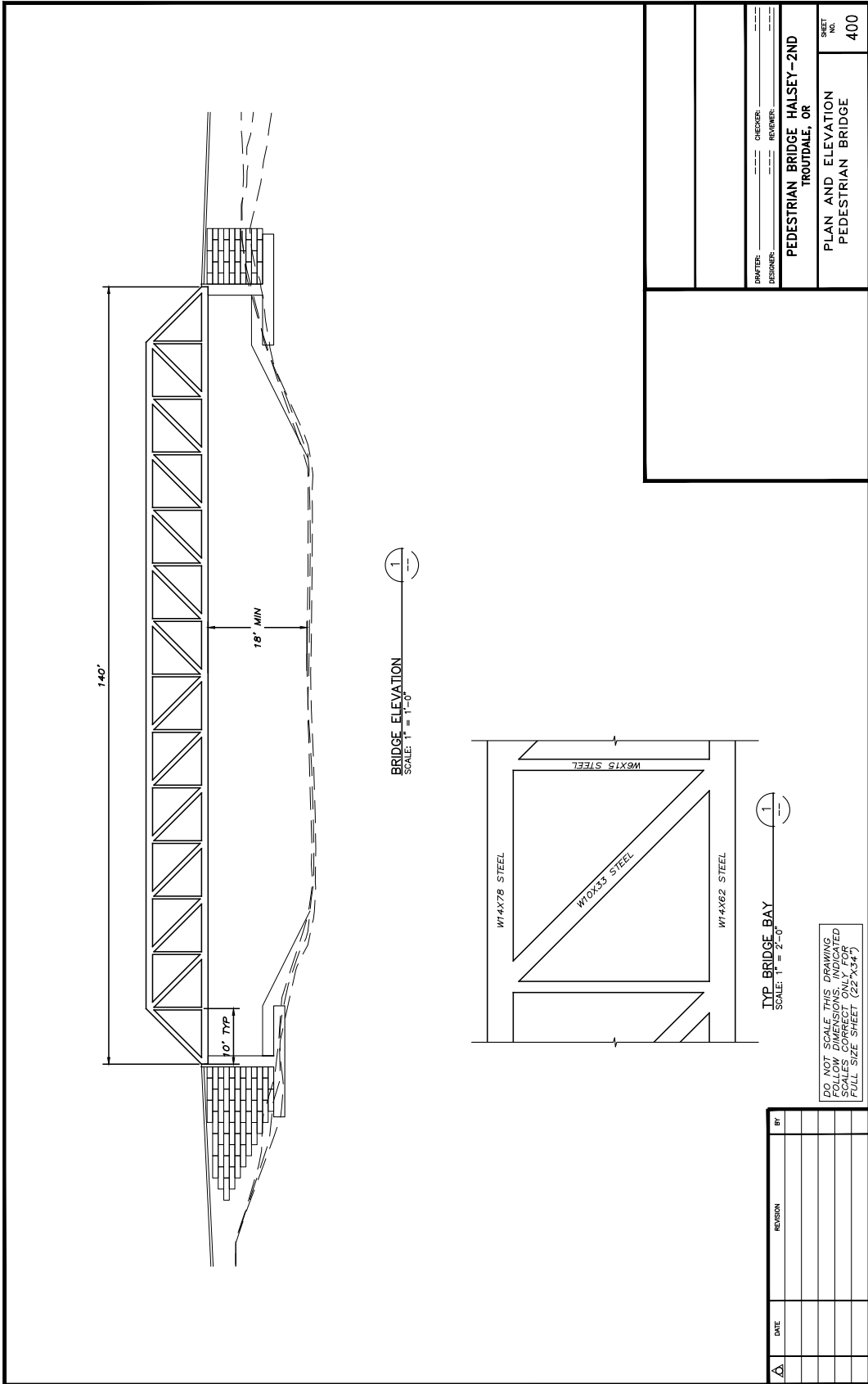
LEGEND

- SS — EXISTING SEWER LINE
- SD — EXISTING STORM DRAIN LINE
- W — EXISTING WATER LINE
- MAJOR — MAJOR CONTOUR LINE (5 FT)
- MINOR — MINOR CONTOUR LINES (1 FT)
- TAX LOT BORDERS
- EXISTING ROADWAY

DO NOT SCALE THIS DRAWING
 FOR DIMENSIONS. ALL DIMENSIONS
 SHALL BE TAKEN FROM THE
 FULL SIZE SHEET (22" X 34")

DATE	REVISION	BY

DRAFTER: <u>D.A.B</u> CHECKER: <u>D.A.B</u> REVIEWER: <u>D.T</u> DESIGNER: <u>D.A.B</u> REVISOR: <u>REVIEWER</u>
PEDESTRIAN BRIDGE HALSEY-2ND PROJECT SUBTITLE
SITEPLAN SHEETSUBTITLE SHEETDESCRIPTION C2.0



140'

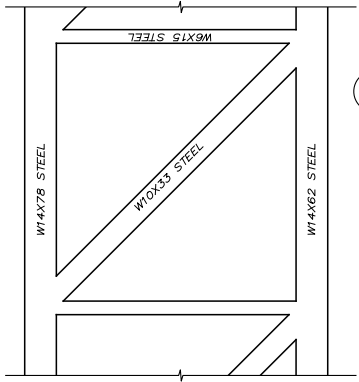
10' TYP

18' MIN

1

1

BRIDGE ELEVATION
SCALE: 1" = 1'-0"



1

1

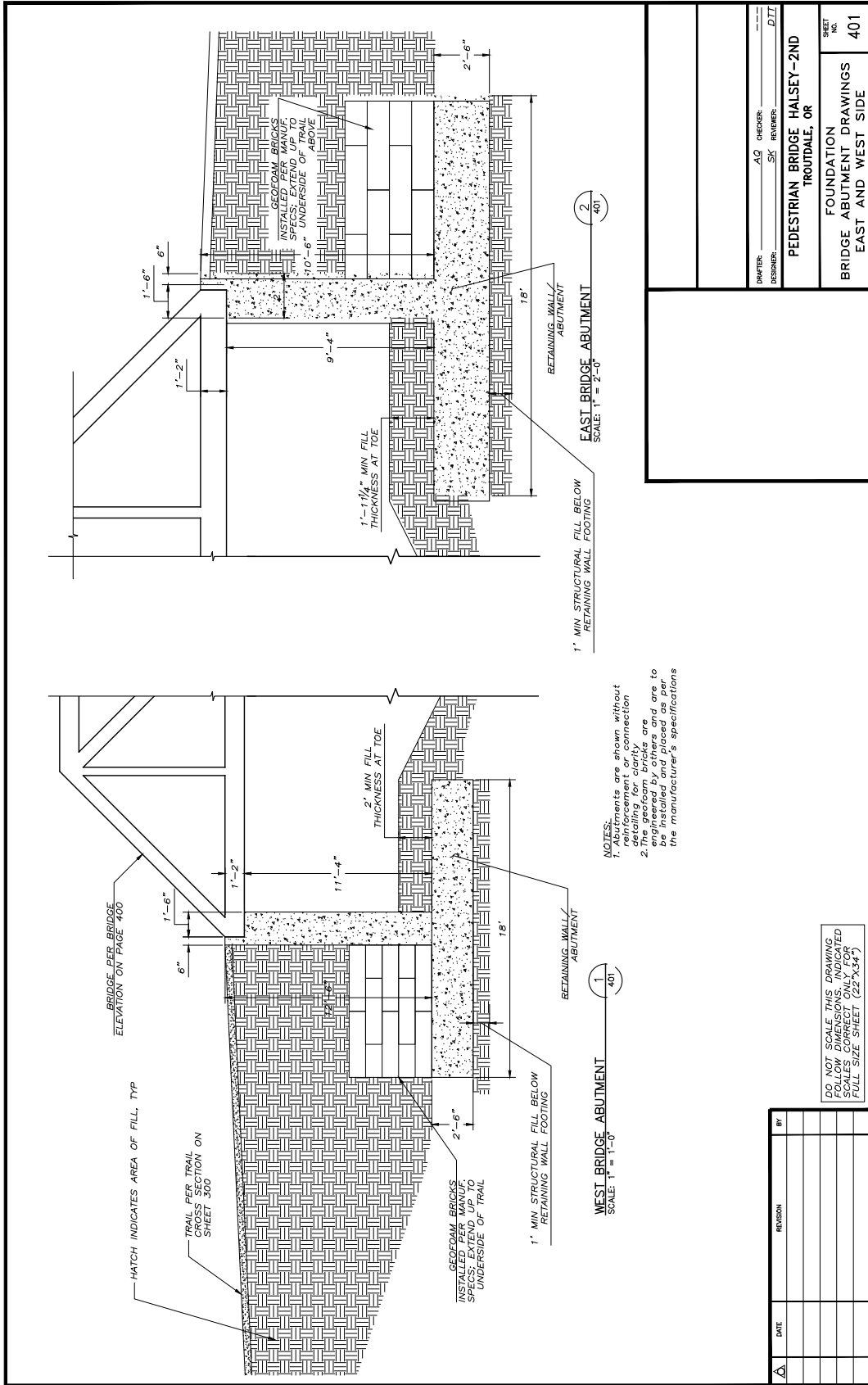
TYP. BRIDGE BAY
SCALE: 1" = 2'-0"

DO NOT SCALE THIS DRAWING
FOLLOW DIMENSIONS. INDICATED
SCALES CORRECT ONLY FOR
FULL SIZE SHEET (22 X34)

DATE	REVISION	BY

DRAFTER: _____	CHECKER: _____
DESIGNER: _____	REVIEWER: _____
PEDESTRIAN BRIDGE HALSEY-2ND TROUTDALE, OR	
PLAN AND ELEVATION PEDESTRIAN BRIDGE	SHEET NO. 400

2021.TROUT.02 - LAYOUT.DWG USRC:Lampost PLOT DATE: 5/23/2021 PLOT TIME: 10:41 PM



NOTES:
 1. Abutments are shown without reinforcement or connection to the bridge deck.
 2. The geofram bricks are engineered by others and are to be used in accordance with the manufacturer's specifications.

DATE	REVISION	BY

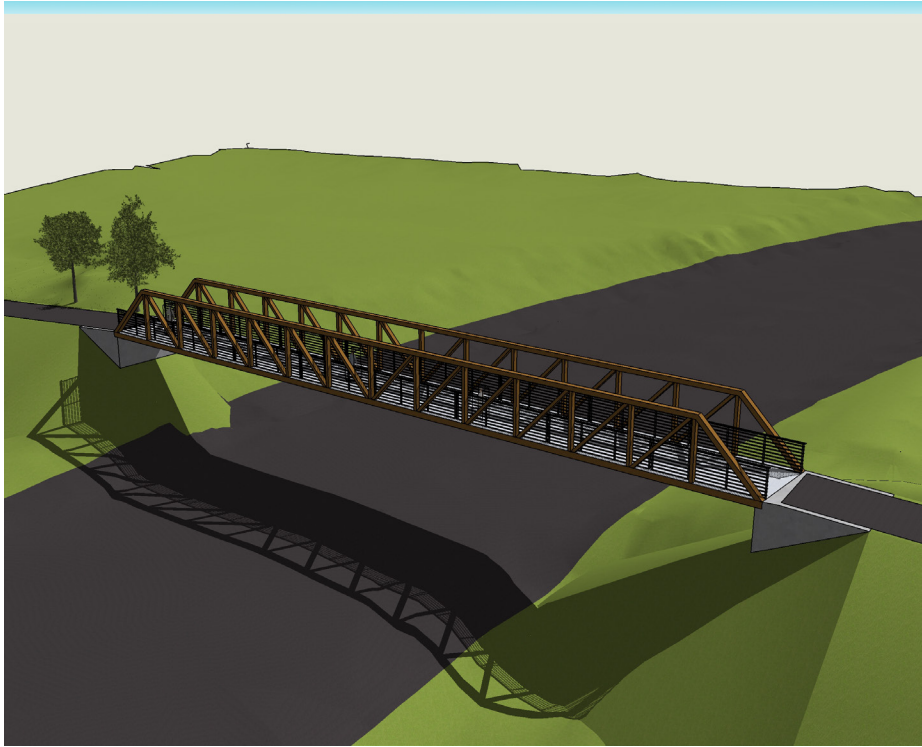
DO NOT SCALE THIS DRAWING
 FOLLOW DIMENSIONS, INDICATED
 FULL-SIZE SHEET (25'x34')

DRAFTER: _____ CHECKER: AG
 DESIGNER: _____ REVIEWER: SK
 D/I/I

PEDESTRIAN BRIDGE HALSEY-2ND
 TROODALE, OR

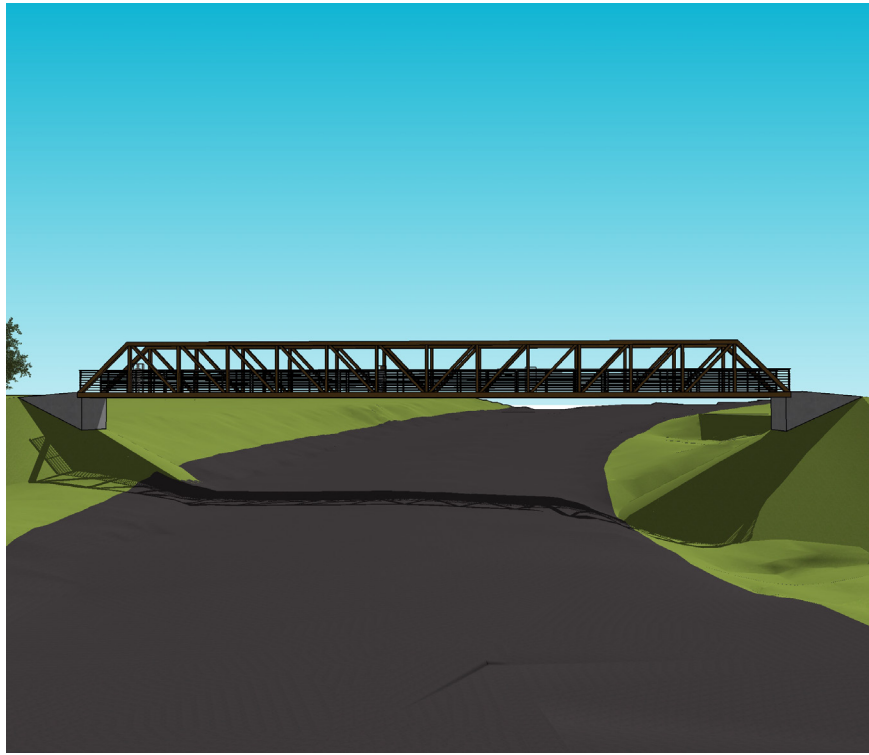
FOUNDATION
 BRIDGE ABUTMENT DRAWINGS
 EAST AND WEST SIDE

SHEET NO.
401

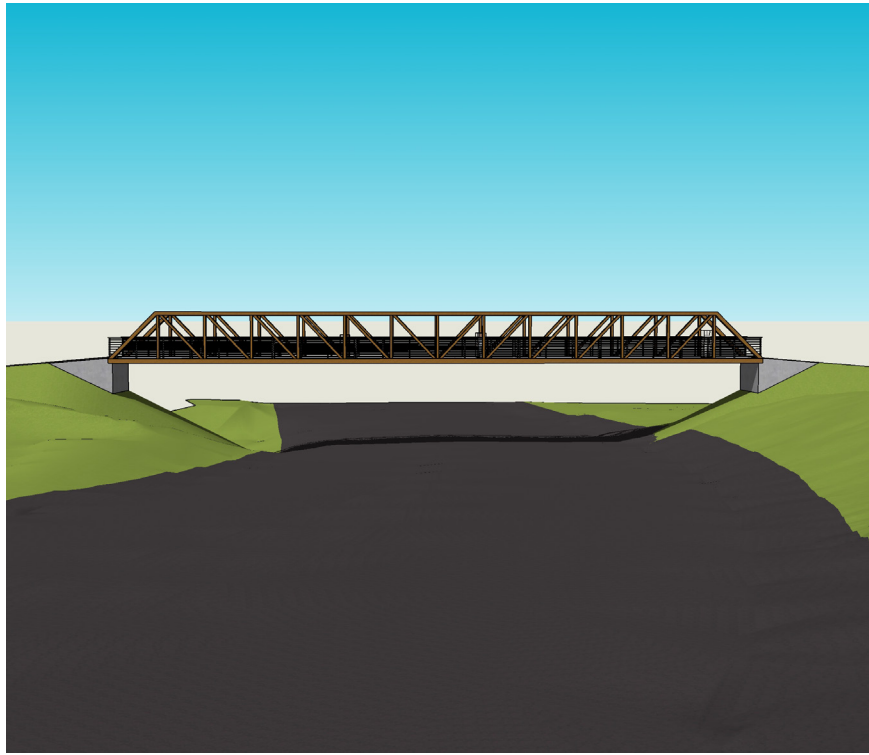


Halsey - 2nd Bridge

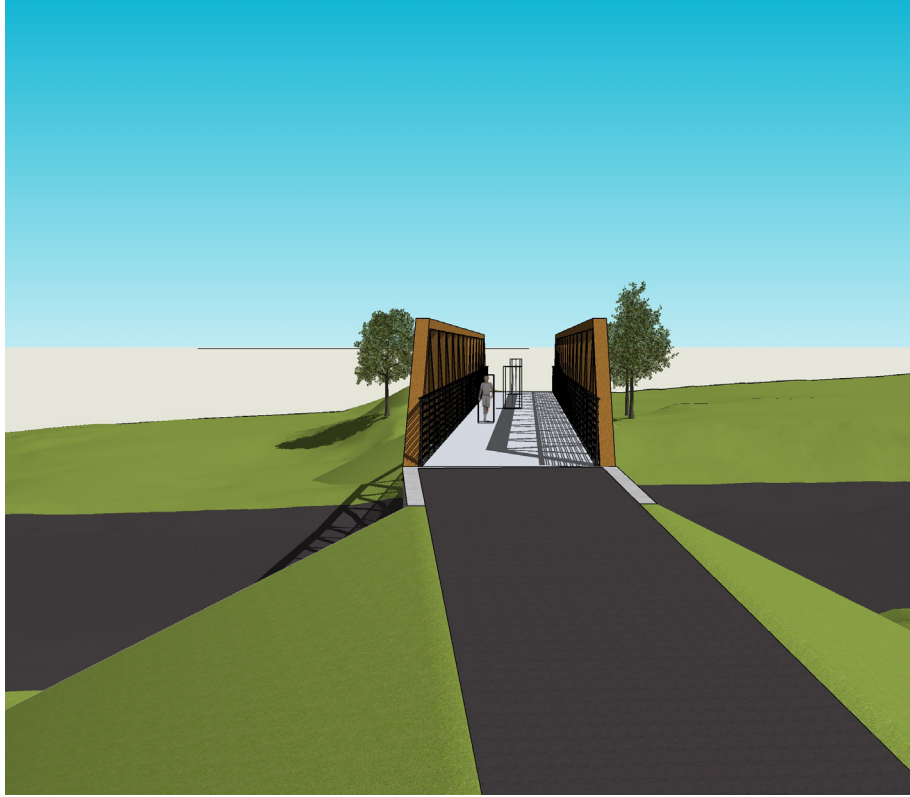
June 9, 2021 ::



SOUTH ELEVATION



NORTH ELEVATION



EAST ELEVATION



WEST ELEVATION

APPENDIX D

CALCULATIONS

Appendix D is provided in a separate document.

Appendix D

Calculations

Section	Name	Page
1	Slab	1
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Appendix D.1

Slab Calculations

Appendix D.1.1

Slab Hand Calculations

APPENDIX: SLAB DESIGN CALCULATIONS

Slab height $h = 6.25$ in

Reinforced by #9 bar Diameter = 1.128 in Area $A_s = 1.0$ in²

Distance between bars $b = 12$ in

Concrete strength $f'_c = 5000$ psi = 5 ksi

Steel yield strength $f_y = 60$ ksi

Slab cover = 2.5 in

Constants for bridge:

Slab span $L = 14$ ft = 168 in

Live load = 90 psf = 0.0075 ksi

CHECK STRENGTH

Find capacity

$$d_t = h - cover - \frac{1}{2} diameter = 6.25 - 2.5 - \frac{1}{2} \cdot 1.128 = 3.186 \text{ in}$$

$$\beta_1 = 0.85 - \left(\frac{f'_c - 4000 \text{ psi}}{1000} \right) \cdot 0.05 = 0.85 - \left(\frac{5000 - 4000}{1000} \right) \cdot 0.05 = 0.8$$

$$c = \frac{A_s f_y}{0.85 f'_c \beta_1 b} = \frac{1.0 \cdot 60}{0.85 \cdot 5 \cdot 0.8 \cdot 12} = 1.471 \text{ in}$$

$$a = \beta_1 c = 0.8 \cdot 1.471 = 1.176 \text{ in}$$

$$\phi = 0.65 + 0.15 \left(\frac{d_t}{c} - 1 \right) = 0.65 + 0.15 \left(\frac{3.186}{1.471} - 1 \right) = 0.825$$

$$\phi M_N = \phi A_s f_y \left(d_t - \frac{a}{2} \right) = 0.825 \cdot 1.0 \cdot 60 \left(3.186 - \frac{1.176}{2} \right) = 128.59 \text{ kip} \cdot \text{in}$$

Find required strength

$$M_{axle} = 69.120 \text{ kip} \cdot \text{in}$$

$$M_U = 1.75 M_{axle} = 1.75 \cdot 69.12 = 120.96 \text{ kip} \cdot \text{in}$$

Check strength

$$\phi M_N > M_U \quad \underline{\text{OK}}$$

CHECK AMOUNT OF STEEL

$$\rho = \frac{A_s}{b h} = \frac{1.0}{12 \cdot 6.25} = 0.0133$$

$$\rho_g = 0.0018 \quad \text{Minimum for temperature and shrinkage}$$

$$\rho_{min} = \max \text{ of } \frac{3\sqrt{f'_c}}{f_y} \text{ or } \frac{200}{f_y} = \max \text{ of } \frac{3\sqrt{5000}}{60000} \text{ or } \frac{200}{60000} = 0.0035$$

$$\rho_{max} = 0.364 \beta_1 \frac{f'_c}{f_y} = 0.364 \cdot 0.8 \frac{5000}{60000} = 0.0243$$

Check

$$\rho > \rho_g \quad \underline{\text{OK}}$$

$$\rho > \rho_{min} \quad \underline{\text{OK}}$$

$$\rho < \rho_{max} \quad \underline{\text{OK}}$$

CHECK STRAIN

$$\varepsilon_t = \frac{0.003}{c/d} - 0.003 = \frac{0.003}{1.471/3.186} - 0.003 = 0.00350$$

$$\varepsilon_t > 0.003 \quad \underline{\text{OK}}$$

CHECK DEFLECTION

Find cracked moment

$$f_R = 7.5\sqrt{f'_c} / 1000 = 7.5\sqrt{5000} / 1000 = 0.530 \text{ ksi}$$

$$I_g = \frac{1}{12} b h^3 = \frac{1}{12} \cdot 12 \cdot 6.25^3 = 244.141 \text{ in}^4$$

$$y_t = h / 2 = 6.25 / 2 = 3.125 \text{ in}$$

$$M_{cr} = \frac{f_R I_g}{y_t} = \frac{0.530 \cdot 244.141}{3.125} = 41.432 \text{ kip} \cdot \text{in}$$

Find service moment

$$M_a = M_{axle} = 69.120 \text{ kip} \cdot \text{in}$$

Find neutral axis

$$n = \frac{29000}{57\sqrt{f'_c}} = \frac{29000}{57\sqrt{5000}} = 7.195$$

$$12 \bar{y} \left(\frac{\bar{y}}{2} \right) - n A_s (d_t - \bar{y}) = 0 \quad \text{Sum of moments about neutral axis}$$

$$12 \bar{y} \left(\frac{\bar{y}}{2} \right) - (7.195)(1.0)(3.186 - \bar{y}) = 0$$

$$\text{Solve quadratic } \bar{y} = 1.445 \text{ in}$$

Find cracked moment of inertia

$$I_{cr} = \frac{1}{12} b \bar{y}^4 + b \bar{y} \left(\frac{\bar{y}}{2} \right)^2 + n A_s (d - \bar{y})^2$$

$$I_{cr} = \frac{1}{12} \cdot 12 (1.445)^4 + 12 (1.445) \left(\frac{1.445}{2} \right)^2 + (7.195)(1.0)(3.186 - 1.445)^2 = 33.878 \text{ in}^4$$

Find effective moment of inertia

$$I_e = \left(\frac{M_{cr}}{M_a}\right)^3 I_g + \left[1 - \left(\frac{M_{cr}}{M_a}\right)^3\right] I_{cr} \leq I_g$$

$$I_e = \left(\frac{41.432}{69.120}\right)^3 \cdot 244.141 + \left[1 - \left(\frac{41.432}{69.120}\right)^3\right] \cdot 33.878 \leq 244.141$$

$$I_e = 79.163 \text{ in}^4$$

Check deflection

$$\delta_{\text{allowed}} = L / 360 = 168 \text{ in} / 360 = 0.467 \text{ in}$$

$$\delta_{\text{immediate}} = \delta_{\text{pedestrians}} = \frac{5}{384} \frac{wL^4}{EI} = \frac{5}{384} \frac{0.0075 \cdot 168^4}{57 \cdot \sqrt{5000} \cdot 79.163} = 0.244 \text{ in}$$

$$\delta_{\text{immediate}} < \delta_{\text{allowed}} \quad \underline{\text{OK}}$$

CHECK STEEL AREA

$$A_s > \frac{1.30 b h}{2(b+h) f_y} = \frac{1.30 \cdot 12 \cdot 6.25}{2(12 + 6.25) \cdot 60} = 0.0445 \text{ in}^2$$

$$A_s = 1.0 \text{ in}^2 > 0.0445 \quad \underline{\text{OK}}$$

ALL CHECKS WORKED OUT

Appendix D.1.2

Slab Excel Calculations

Appendix D.2.1

Geotech Excel Calcs

West Abutment Design

Unit Weights	
γ concrete	150 pcf
γ geofoam (EPS 22)	1.35 pcf
γ soil	135 pcf
γ pavement	145 pcf
γ equivalent active earth	35 pcf

Note: γ soil assumed

Dimensions	
Toe	8 ft
Heel	8 ft
Stem Wall Thickness	2 ft
Footing Thickness	2.5 ft
Bridge Seat Height	8.5 ft
Back wall Height	10.5 ft
Back wall thickness	0.5 ft
Geofoam Thickness	4 ft
Pavement Thickness	1 ft
Toe Soil Thickness	2 ft
Heel Soil Thickness	5.5 ft
Footing Width	18 ft
Fill Width	16.667 ft
Total Height	13 ft
Total Length	18 ft
Wing Wall Thickness	0.6667 ft
Wing Wall Length	10 ft
Volume Concrete	1274 ft ³
Volume Geofoam	533.33 ft ³
Volume Fill Soil	1021.3 ft ³

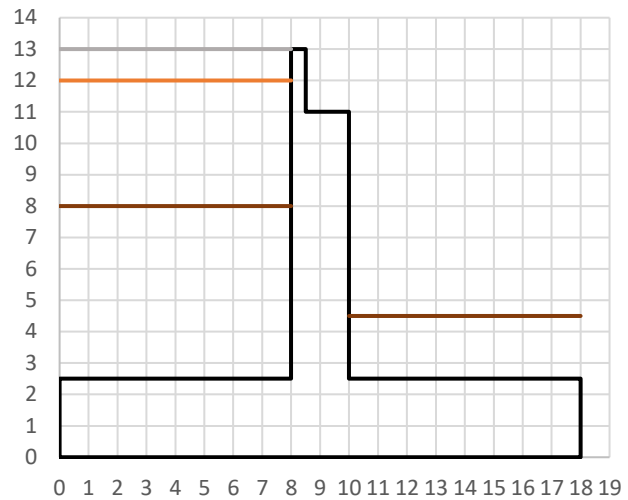
Bridge Loads	
Bridge DL	100 kips
Bridge LL	88.2 kips
Applied DL per foot	5.6 klf
Applied LL per foot	4.9 klf

Note: Loading values are 1/2 total bridge

Other Inputs	
Allowable Bearing Capacity	2 ksf
Coefficient Friction	0.42
Traffic Surcharge	250 psf

Limit States		
Sliding	Overturning	Bearing
PASS	PASS	PASS

Abutment X-Section



Everything below this point is on a per foot basis

Resisting Forces and Moments About Toe			
	Fy	x	MR
	kips	ft	k-ft
Footing	6.75	9	60.75
Stem Wall	2.55	9	22.95
Back wall	0.15	9.75	1.463
Toe Cover	2.16	4	8.64
Heel Cover	6.6141	14	92.6
Surcharge	2	14	28
Wing Wall	1.1667	15	17.5
Bridge	10.5	8.75	91.49
Sum w/o bridge	21.391		231.9
Sum w/ bridge	31.846		323.4

Note: ignoring passive pressure

Note: Assumed flat grade behind

Overturning Forces and Moments About Toe			
	Fx	y	MO
	kips	ft	k-ft
Backfill	2.9575	4.3333	12.82
Surcharge	3.25	6.5	21.13
Sum	6.2075		33.94

Note: ignoring passive pressure

Note: Assumed flat grade behind

Limit States

Note: 1=pass, 0=fail

Overturning during construction	
x	9.2544 ft
eccentricity	-0.2544 ft
$L/6 > ec$	1

Overturning with bridge	
x	9.0888 ft
eccentricity	-0.0888 ft
$L/6 > ec$	1

Sliding during construction	
Factor Safety	1.4473
FS > 1.2 for construction	1

Sliding with bridge	
Factor Safety	2.1547
FS > 1.5	1

Bearing during construction	
qtoe	1.0876 ksf
qheel	1.2892 ksf
qmax < qallow	1

Bearing with bridge	
qtoe	1.7169 ksf
qheel	1.8216 ksf
qmax < qallow	1

West Abutment Design

Unit Weights	
γ concrete	150 pcf
γ geofoam (EPS 22)	1.35 pcf
γ soil	135 pcf
γ pavement	145 pcf
γ equivalent active earth	35 pcf

Note: γ soil assumed

Dimensions	
Toe	8 ft
Heel	8 ft
Stem Wall Thickness	2 ft
Footing Thickness	2.5 ft
Bridge Seat Height	10.5 ft
Back wall Height	12.5 ft
Back wall thickness	0.5 ft
Geofoam Thickness	5 ft
Pavement Thickness	1 ft
Toe Soil Thickness	2 ft
Heel Soil Thickness	6.5 ft
Footing Width	18 ft
Fill Width	16.667 ft
Total Height	15 ft
Total Length	18 ft
Wing Wall Thickness	0.6667 ft
Wing Wall Length	10 ft
Volume Concrete	1372.7 ft ³
Volume Geofoam	666.67 ft ³
Volume Fill Soil	1154.7 ft ³

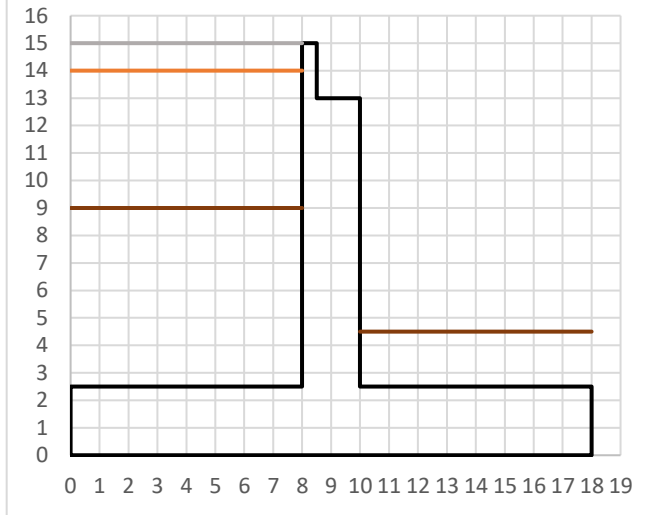
Bridge Loads	
Bridge DL	100 kips
Bridge LL	88.2 kips
Applied DL per foot	5.6 klf
Applied LL per foot	4.9 klf

Note: Loading values are 1/2 total bridge

Other Inputs	
Allowable Bearing Capacity	2 ksf
Coefficient Friction	0.42
Traffic Surcharge	250 psf

Limit States		
Sliding	Overturning	Bearing
PASS	PASS	PASS

Abutment X-Section



Everything below this point is on a per foot basis

Resisting Forces and Moments About Toe			
	Fy	x	MR
	kips	ft	k-ft
Footing	6.75	9	60.75
Stem Wall	3.15	9	28.35
Back wall	0.15	9.75	1.463
Toe Cover	2.16	4	8.64
Heel Cover	7.6241	14	106.7
Surcharge	2	14	28
Wing Wall	1.3889	15	20.83
Bridge	10.5	8.75	91.49
Sum w/o bridge	23.223		254.8
Sum w/ bridge	33.679		346.3

Note: ignoring passive pressure

Note: Assumed flat grade behind

Overturning Forces and Moments About Toe			
	Fx	y	MO
	kips	ft	k-ft
Backfill	3.9375	5	19.69
Surcharge	3.75	7.5	28.13
Sum	7.6875		47.81

Note: ignoring passive pressure

Note: Assumed flat grade behind

Limit States

Note: 1=pass, 0=fail

Overturning during construction	
x	8.9119 ft
eccentricity	0.0881 ft
$L/6 > ec$	1

Overturning with bridge	
x	8.8616 ft
eccentricity	0.1384 ft
$L/6 > ec$	1

Sliding during construction	
Factor Safety	1.2688
$FS > 1.2$ for construction	1

Sliding with bridge	
Factor Safety	1.84
FS > 1.5	1

Bearing during construction	
qtoe	1.3281 ksf
qheel	1.2523 ksf
qmax < qallow	1

Bearing with bridge	
qtoe	1.9573 ksf
qheel	1.7847 ksf
qmax < qallow	1

West Bridge Foundation Calculation

Bridge Loads

$$\text{Applied DL} = \frac{\text{Bridge DL}}{\text{footing width}} = \frac{100 \text{ k}}{18 \text{ ft}} = 5.56 \text{ klf}$$

$$\text{Applied LL} = \frac{\text{Bridge LL}}{\text{footing width}} = \frac{88.2 \text{ k}}{18 \text{ ft}} = 4.90 \text{ klf}$$

Resisting Forces

$$\text{Footing } F_y = \text{footing volume} \times \text{concrete density} = 6.75 \text{ k}$$

$$\text{Stem wall } F_y = \text{stem wall volume} \times \text{concrete density} = 3.15 \text{ k}$$

$$\text{Back wall } F_y = \text{back wall volume} \times \text{concrete density} = 0.15 \text{ k}$$

$$\text{Wing wall } F_y = 2 \times (\text{wing wall volume} \times \text{concrete density}) = 1.39 \text{ k}$$

$$\text{Toe cover } F_y = \text{soil over toe volume} \times \text{soil density} = 2.16 \text{ k}$$

$$\text{Heel cover } F_y = \text{soil over heel volume} \times \text{soil density} \times \frac{\text{total width} - \text{wing walls}}{\text{total width}} = 7.62 \text{ k}$$

$$\text{Bridge } F_y = \text{bridge DL} + \text{bridge LL} = 10.5 \text{ k}$$

$$\text{Surcharge } F_y = \text{traffic surcharge} \times \text{heel width} = 0.250 \text{ ksf} \times 8 \text{ ft} = 2.0 \text{ k}$$

$$\text{Sum without bridge } F_y = 23.2 \text{ k}$$

$$\text{Sum with bridge } F_y = 33.7 \text{ k}$$

Overturning Forces

$$\text{Backfill } F_x = 0.5 \times \text{active earth pressure} \times \text{total height}^2 = 3.94 \text{ k}$$

$$\text{Surcharge } F_x = \text{traffic surcharge} \times \text{total height} = 3.75 \text{ k}$$

$$\text{Sum } F_x = 7.69 \text{ k}$$

Moments About Toe

Resisting;

$$\text{Footing } M_R = \text{footing } F_y \times \text{distance from toe} = 60.75 \text{ k} - \text{ft}$$

$$\text{Stem wall } M_R = 28.35 \text{ k} - \text{ft}$$

$$\text{Back wall } M_R = 1.46 \text{ k} - \text{ft}$$

$$\text{Wing wall } M_R = 20.83 \text{ k} - \text{ft}$$

$$\text{Toe cover } M_R = 8.64 \text{ k} - \text{ft}$$

$$\text{Heel cover } M_R = 106.7 \text{ k} - \text{ft}$$

$$\text{Bridge } M_R = 91.49 \text{ k} - \text{ft}$$

$$\text{Surcharge } M_R = 28.0 \text{ k} - \text{ft}$$

$$\text{Sum without bridge } M_R = 254.8 \text{ k} - \text{ft}$$

$$\text{Sum with bridge } M_R = 346.3 \text{ k} - \text{ft}$$

Overturning;

$$\text{Backfill } M_O = 19.69 \text{ k} - \text{ft}$$

$$\text{Surcharge } M_O = 28.13 \text{ k} - \text{ft}$$

$$\text{Sum } M_O = 47.81 \text{ k} - \text{ft}$$

Limit States

Overturning;

$$X = \frac{\text{Sum with bridge } M_R - \text{Sum } M_O}{\text{Sum with bridge } F_y} = 8.91 \text{ ft}$$

$$\text{Eccentricity} = \frac{\text{footing width}}{2} - X = 0.08 \text{ ft}$$

$$\frac{\text{Footing width}}{6} = 3 \text{ ft}$$

$$\frac{\text{Footing width}}{6} > \text{Eccentricity} = \text{True}$$

Sliding;

$$\text{Factor of Safety} = \frac{\text{Sum with bridge } F_y \times \text{coefficient friction}}{\text{Sum } F_x} = 1.84$$

Factor of Safety > 1.5 = True

Bearing;

$$q_{toe} = \frac{\text{Sum with bridge } F_y}{\text{footing width}} \times \left(1 + \frac{6e}{\text{footing width}}\right) = 1.96 \text{ ksf}$$

$$q_{heel} = \frac{\text{Sum with bridge } F_y}{\text{footing width}} \times \left(1 - \frac{6e}{\text{footing width}}\right) = 1.78 \text{ ksf}$$

$q_{max} < q_{allowable} = \text{True}$

Appendix D.3

Truss Calculations

Appendix D.3.1

Sap2000 Loading

SAP2000 Loading Calculations

Slab dead load (from concrete group, concrete and corrugated pan weight = 56.78 psf)

Slab distributed load

$\gamma_{slab} := 56.78 \text{ psf}$ concrete loading provided by concrete group

$w_{slab} := 14 \text{ ft}$

$$w_{slab} := \gamma_{slab} \cdot \frac{w_{slab}}{2} = 0.397 \text{ klf}$$

Truck loading: Assume truck is placed as close to the truss as possible

$Front := 2 \text{ kip}$ Front wheel load

$Back := 8 \text{ kip}$ Back wheel load

$W := 14 \text{ ft}$ Bridge width

$Tw := 6 \text{ ft}$ Spacing between axle tires

$Tl := 14 \text{ ft}$ Spacing between axles

Sum moments to find maximum axle loading on truss:

Front:

$$P_{front} := Front \cdot \frac{W}{W} + Front \cdot \frac{(W - Tw)}{W} = 3.143 \text{ kip}$$

Back

$$P_{back} := Back \cdot \frac{W}{W} + Back \cdot \frac{(W - Tw)}{W} = 12.571 \text{ kip}$$

Pedestrian (Using 90 psf AASHTO recommended pedestrian loading)

$$ped := 90 \text{ psf} \quad w_{ped} := \frac{W}{2} \cdot ped = 630 \text{ plf}$$

Clear Deck Width	Design Vehicle
7 to 10 feet	H5
Over 10 feet	H10

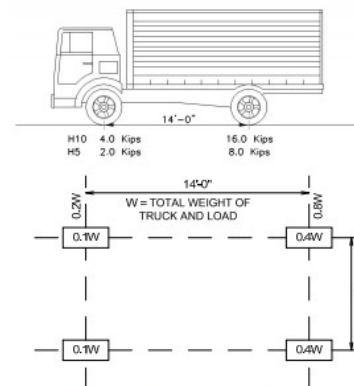


Figure 3.2-1—Maintenance Vehicle Configurations.

Load Factors (AASHTO, T3.4.1-1 and T3.4.1-2)

Dead + Components (DC)

$$\gamma_{p.min} := 0.9$$

$$\gamma_{p.max} := 1.25$$

Live Loading (LL)

$$Factor := 1.75$$

Created with PTC Mathcad Express. See www.mathcad.com for more information.

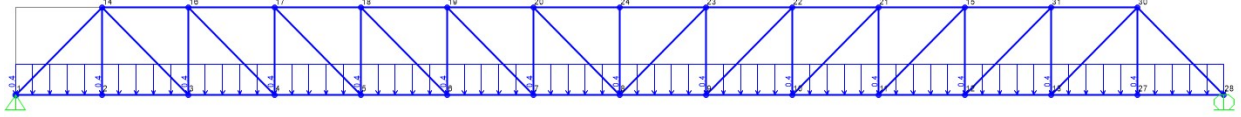
Appendix D.3.2

Sap2000 Assignments/Outputs

Appendix

Loading Conditions and Diagrams

Dead Load assignments (0.395 kip/ft + self-weight)



Moving Load assignments:

Truck

Vehicle Data

Vehicle name: VEH1 Units: Kip, ft, F

Load Elevation: [Diagram showing a downward arrow]

Load Length Type	Minimum Distance	Maximum Distance	Uniform Load	Axle Load
Leading Load	Infinite	0.		12.571
Leading Load	Infinite	0.		12.571
Fixed Length	14.		0.	3.429

Buttons: Add, Insert, Modify, Delete

Vehicle Remains Fully In Path

OK Cancel

Pedestrian

Vehicle Data

Vehicle name: PED Units: Kip, ft, F

Load Elevation: [Diagram showing a red rectangular area]

Load Length Type	Minimum Distance	Maximum Distance	Uniform Load	Axle Load
Leading Load	Infinite		0.63	0.
Leading Load	Infinite		0.63	0.

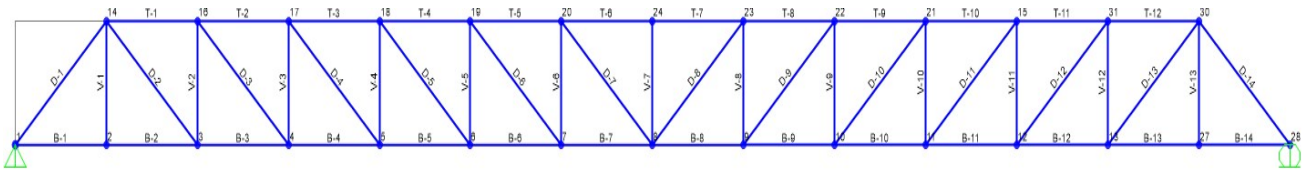
Buttons: Add, Insert, Modify, Delete

Vehicle Remains Fully In Path

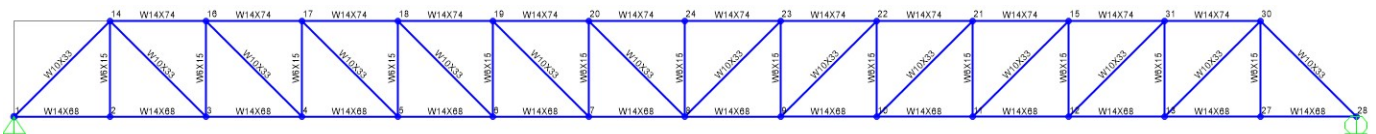
OK Cancel

Frames

Frame Section Names:



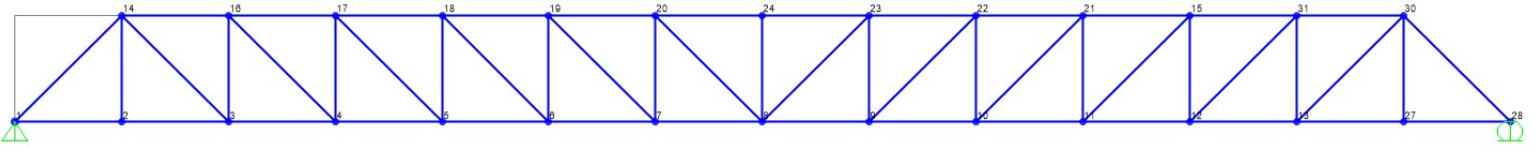
Frame Section Assignments:



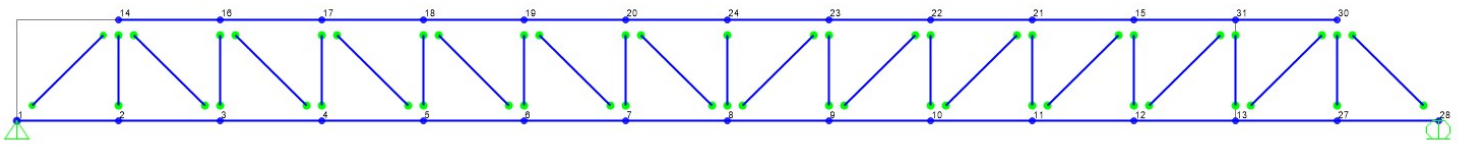
Appendix

Joints

Joint names:

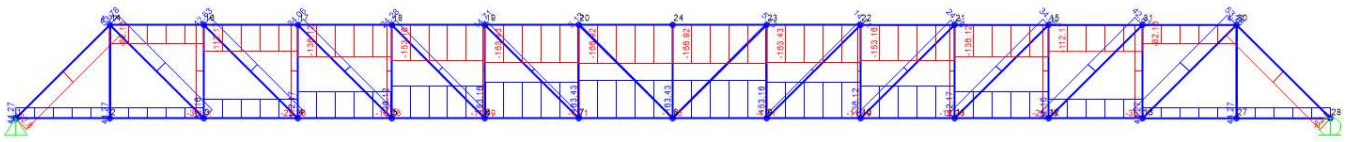


Joint Releases:

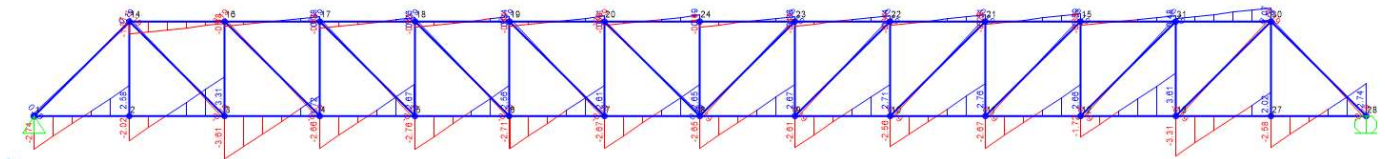


Member Force Analysis

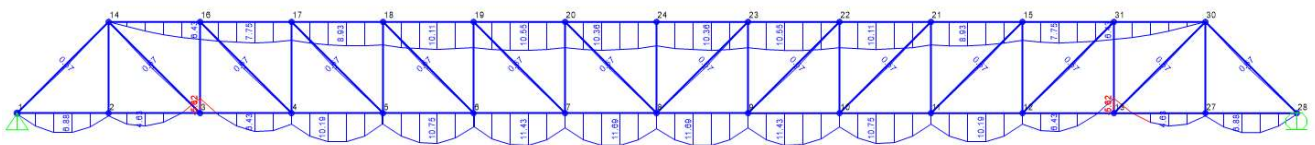
Dead Load Axial Output:



Dead Load Shear Output:

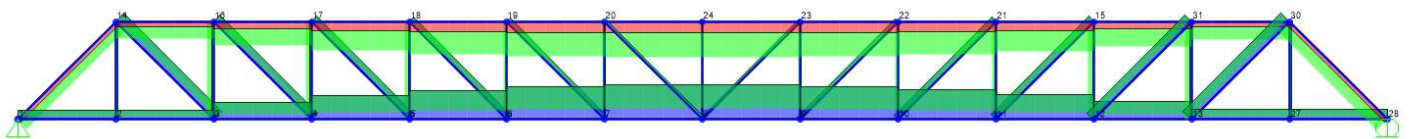


Dead Load Moment Output:



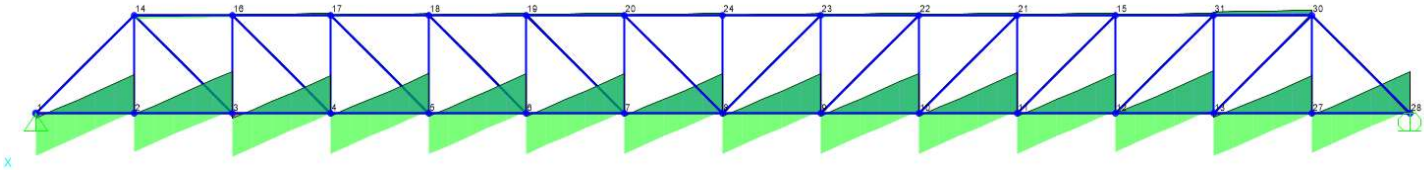
Strength 1 Loading Envelopes (Factored live and dead loads; see excel sheets for member values):

Axial:

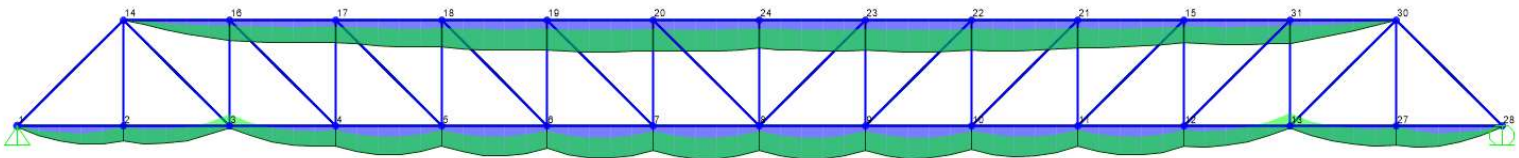


Appendix

Shear:



Moment:



Appendix D.3.3

Sap2000 Self-Generated Report



SAP2000 Analysis Report

Prepared by
Portland State University

Model Name: Truss-SAPMODEL_5.20.sdb

21 May 2021

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1. Model geometry

This section provides model geometry information, including items such as joint coordinates, joint restraints, and element connectivity.

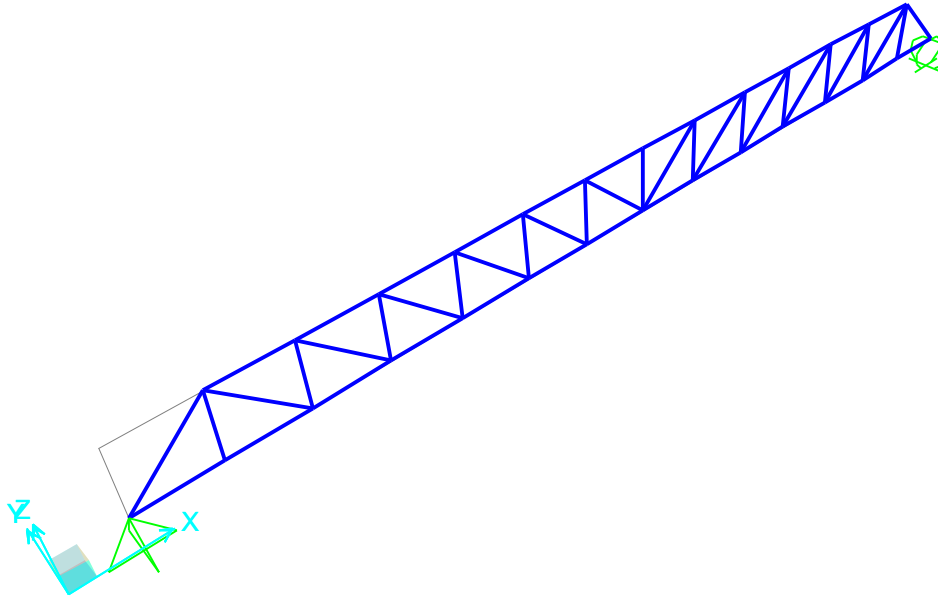


Figure 1: Finite element model

1.1. Joint coordinates

Table 1: Joint Coordinates

Table 1: Joint Coordinates					
Joint	CoordSys	CoordType	GlobalX	GlobalY	GlobalZ
			in	in	in
1	GLOBAL	Cartesian	85.959	0.	57.334
2	GLOBAL	Cartesian	205.959	0.	57.334
3	GLOBAL	Cartesian	325.959	0.	57.334
4	GLOBAL	Cartesian	445.959	0.	57.334
5	GLOBAL	Cartesian	565.959	0.	57.334
6	GLOBAL	Cartesian	685.959	0.	57.334
7	GLOBAL	Cartesian	805.959	0.	57.334
8	GLOBAL	Cartesian	925.959	0.	57.334
9	GLOBAL	Cartesian	1045.959	0.	57.334
10	GLOBAL	Cartesian	1165.959	0.	57.334
11	GLOBAL	Cartesian	1285.959	0.	57.334
12	GLOBAL	Cartesian	1405.959	0.	57.334
13	GLOBAL	Cartesian	1525.959	0.	57.334
14	GLOBAL	Cartesian	205.959	0.	177.334
15	GLOBAL	Cartesian	1405.959	0.	177.334
16	GLOBAL	Cartesian	325.959	0.	177.334
17	GLOBAL	Cartesian	445.959	0.	177.334
18	GLOBAL	Cartesian	565.959	0.	177.334
19	GLOBAL	Cartesian	685.959	0.	177.334

Table 1: Joint Coordinates

Joint	CoordSys	CoordType	GlobalX in	GlobalY in	GlobalZ in
20	GLOBAL	Cartesian	805.959	0.	177.334
21	GLOBAL	Cartesian	1285.959	0.	177.334
22	GLOBAL	Cartesian	1165.959	0.	177.334
23	GLOBAL	Cartesian	1045.959	0.	177.334
24	GLOBAL	Cartesian	925.959	0.	177.334
27	GLOBAL	Cartesian	1645.959	0.	57.334
28	GLOBAL	Cartesian	1765.959	0.	57.334
30	GLOBAL	Cartesian	1645.959	0.	177.334
31	GLOBAL	Cartesian	1525.959	0.	177.334

1.2. Joint restraints

Table 2: Joint Restraint Assignments

Table 2: Joint Restraint Assignments

Joint	U1	U2	U3	R1	R2	R3
1	Yes	Yes	Yes	No	No	No
28	No	No	Yes	No	No	No

1.3. Element connectivity

Table 3: Connectivity - Frame

Table 3: Connectivity - Frame

Frame	JointI	JointJ	Length in
B-1	1	2	120.
B-2	2	3	120.
B-3	3	4	120.
B-4	4	5	120.
B-5	5	6	120.
B-6	6	7	120.
B-7	7	8	120.
B-8	8	9	120.
B-9	9	10	120.
D-1	14	1	169.706
D-2	3	14	169.706
D-3	4	16	169.706
D-4	5	17	169.706
D-5	6	18	169.706
D-6	7	19	169.706
D-7	20	8	169.706
D-8	8	23	169.706
D-9	9	22	169.706
T-1	14	16	120.
T-2	16	17	120.
T-3	17	18	120.

1. Model geometry

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Table 3: Connectivity - Frame

Frame	JointI	JointJ	Length in
T-4	18	19	120.
T-5	19	20	120.
T-6	20	24	120.
T-7	24	23	120.
T-8	23	22	120.
T-9	22	21	120.
V-1	2	14	120.
V-2	16	3	120.
V-3	17	4	120.
V-4	18	5	120.
V-5	19	6	120.
V-6	20	7	120.
V-7	24	8	120.
V-8	23	9	120.
V-9	22	10	120.
B-10	10	11	120.
B-11	11	12	120.
B-12	12	13	120.
B-13	13	27	120.
B-14	27	28	120.
D-10	10	21	169.706
D-11	11	15	169.706
D-12	12	31	169.706
D-13	13	30	169.706
D-14	28	30	169.706
T-10	21	15	120.
T-11	15	31	120.
T-12	31	30	120.
V-10	21	11	120.
V-11	12	15	120.
V-12	13	31	120.
V-13	30	27	120.

Table 4: Frame Section Assignments

Table 4: Frame Section Assignments

Frame	AnalSect	DesignSect	MatProp
B-1	W14X68	W14X68	Default
B-2	W14X68	W14X68	Default
B-3	W14X68	W14X68	Default
B-4	W14X68	W14X68	Default
B-5	W14X68	W14X68	Default
B-6	W14X68	W14X68	Default
B-7	W14X68	W14X68	Default
B-8	W14X68	W14X68	Default
B-9	W14X68	W14X68	Default
D-1	W10X33	W10X33	Default
D-2	W10X33	W10X33	Default
D-3	W10X33	W10X33	Default
D-4	W10X33	W10X33	Default
D-5	W10X33	W10X33	Default

Table 4: Frame Section Assignments

Frame	AnalSect	DesignSect	MatProp
D-6	W10X33	W10X33	Default
D-7	W10X33	W10X33	Default
D-8	W10X33	W10X33	Default
D-9	W10X33	W10X33	Default
T-1	W14X74	W14X74	Default
T-2	W14X74	W14X74	Default
T-3	W14X74	W14X74	Default
T-4	W14X74	W14X74	Default
T-5	W14X74	W14X74	Default
T-6	W14X74	W14X74	Default
T-7	W14X74	W14X74	Default
T-8	W14X74	W14X74	Default
T-9	W14X74	W14X74	Default
V-1	W6X15	W6X15	Default
V-2	W6X15	W6X15	Default
V-3	W6X15	W6X15	Default
V-4	W6X15	W6X15	Default
V-5	W6X15	W6X15	Default
V-6	W6X15	W6X15	Default
V-7	W6X15	W6X15	Default
V-8	W6X15	W6X15	Default
V-9	W6X15	W6X15	Default
B-10	W14X68	W14X68	Default
B-11	W14X68	W14X68	Default
B-12	W14X68	W14X68	Default
B-13	W14X68	W14X68	Default
B-14	W14X68	W14X68	Default
D-10	W10X33	W10X33	Default
D-11	W10X33	W10X33	Default
D-12	W10X33	W10X33	Default
D-13	W10X33	W10X33	Default
D-14	W10X33	W10X33	Default
T-10	W14X74	W14X74	Default
T-11	W14X74	W14X74	Default
T-12	W14X74	W14X74	Default
V-10	W6X15	W6X15	Default
V-11	W6X15	W6X15	Default
V-12	W6X15	W6X15	Default
V-13	W6X15	W6X15	Default

Table 5: Frame Release Assignments 1 - General, Part 1 of 2

Table 5: Frame Release Assignments 1 - General, Part 1 of 2

Frame	PI	V2I	V3I	T1	M2I	M3I
D-1	No	No	No	No	No	Yes
D-2	No	No	No	No	No	Yes
D-3	No	No	No	No	No	Yes
D-4	No	No	No	No	No	Yes
D-5	No	No	No	No	No	Yes
D-6	No	No	No	No	No	Yes
D-7	No	No	No	No	No	Yes

1. Model geometry

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Table 5: Frame Release Assignments 1 - General, Part 1 of 2

Frame	PI	V2I	V3I	TI	M2I	M3I
D-8	No	No	No	No	No	Yes
D-9	No	No	No	No	No	Yes
V-1	No	No	No	No	No	Yes
V-2	No	No	No	No	No	Yes
V-3	No	No	No	No	No	Yes
V-4	No	No	No	No	No	Yes
V-5	No	No	No	No	No	Yes
V-6	No	No	No	No	No	Yes
V-7	No	No	No	No	No	Yes
V-8	No	No	No	No	No	Yes
V-9	No	No	No	No	No	Yes
D-10	No	No	No	No	No	Yes
D-11	No	No	No	No	No	Yes
D-12	No	No	No	No	No	Yes
D-13	No	No	No	No	No	Yes
D-14	No	No	No	No	No	Yes
V-10	No	No	No	No	No	Yes
V-11	No	No	No	No	No	Yes
V-12	No	No	No	No	No	Yes
V-13	No	No	No	No	No	Yes

Table 5: Frame Release Assignments 1 - General, Part 2 of 2

Table 5: Frame Release Assignments 1 - General, Part 2 of 2

Frame	PJ	V2J	V3J	TJ	M2J	M3J
D-1	No	No	No	No	No	Yes
D-2	No	No	No	No	No	Yes
D-3	No	No	No	No	No	Yes
D-4	No	No	No	No	No	Yes
D-5	No	No	No	No	No	Yes
D-6	No	No	No	No	No	Yes
D-7	No	No	No	No	No	Yes
D-8	No	No	No	No	No	Yes
D-9	No	No	No	No	No	Yes
V-1	No	No	No	No	No	Yes
V-2	No	No	No	No	No	Yes
V-3	No	No	No	No	No	Yes
V-4	No	No	No	No	No	Yes
V-5	No	No	No	No	No	Yes
V-6	No	No	No	No	No	Yes
V-7	No	No	No	No	No	Yes
V-8	No	No	No	No	No	Yes
V-9	No	No	No	No	No	Yes
D-10	No	No	No	No	No	Yes
D-11	No	No	No	No	No	Yes
D-12	No	No	No	No	No	Yes
D-13	No	No	No	No	No	Yes
D-14	No	No	No	No	No	Yes
V-10	No	No	No	No	No	Yes
V-11	No	No	No	No	No	Yes
V-12	No	No	No	No	No	Yes
V-13	No	No	No	No	No	Yes

2. Material properties

This section provides material property information for materials used in the model.

Table 6: Material Properties 02 - Basic Mechanical Properties

Table 6: Material Properties 02 - Basic Mechanical Properties

Material	UnitWeight Kip/in3	UnitMass Kip-s2/in4	E1 Kip/in2	G12 Kip/in2	U12	A1 1/F
4000Psi	8.6806E-05	2.2483E-07	3604.997	1502.082	0.2	5.5000E-06
A416Gr270	2.8356E-04	7.3446E-07	28500.			6.5000E-06
A992Fy50	2.8356E-04	7.3446E-07	29000.	11153.846	0.3	6.5000E-06

Table 7: Material Properties 03a - Steel Data

Table 7: Material Properties 03a - Steel Data

Material	Fy Kip/in2	Fu Kip/in2	FinalSlope
A992Fy50	50.	65.	-0.1

Table 8: Material Properties 03b - Concrete Data

Table 8: Material Properties 03b - Concrete Data

Material	Fc Kip/in2	eFc Kip/in2	FinalSlope
4000Psi	4.	4.	-0.1

Table 9: Material Properties 03f - Tendon Data

Table 9: Material Properties 03f - Tendon Data

Material	Fy Kip/in2	Fu Kip/in2	FinalSlope
A416Gr270	245.1	270.	-0.1

3. Section properties

This section provides section property information for objects used in the model.

3.1. Frames

Table 10: Frame Section Properties 01 - General, Part 1 of 4

Table 10: Frame Section Properties 01 - General, Part 1 of 4

SectionName	Material	Shape	t3 in	t2 in	tf in	tw in	t2b in	tfb in
W10X33	A992Fy50	I/Wide Flange	9.73	7.96	0.435	0.29	7.96	0.435
W12X50	A992Fy50	I/Wide Flange	12.2	8.08	0.64	0.37	8.08	0.64
W14X48	A992Fy50	I/Wide Flange	13.8	8.03	0.595	0.34	8.03	0.595
W14X61	A992Fy50	I/Wide Flange	13.9	10.	0.645	0.375	10.	0.645
W14X68	A992Fy50	I/Wide Flange	14.	10.	0.72	0.415	10.	0.72
W14X74	A992Fy50	I/Wide Flange	14.2	10.1	0.785	0.45	10.1	0.785
W18X35	A992Fy50	I/Wide Flange	17.7	6.	0.425	0.3	6.	0.425
W6X15	A992Fy50	I/Wide Flange	5.99	5.99	0.26	0.23	5.99	0.26

Table 10: Frame Section Properties 01 - General, Part 2 of 4

Table 10: Frame Section Properties 01 - General, Part 2 of 4

SectionName	Area in2	TorsConst in4	I33 in4	I22 in4	I23 in4	AS2 in2	AS3 in2
W10X33	9.71	0.58	171.	36.6	0.	2.82	5.77
W12X50	14.6	1.71	391.	56.3	0.	4.51	8.62
W14X48	14.1	1.45	484.	51.4	0.	4.69	7.96
W14X61	17.9	2.19	640.	107.	0.	5.21	10.75
W14X68	20.	3.01	722.	121.	0.	5.81	12.
W14X74	21.8	3.87	795.	134.	0.	6.39	13.21
W18X35	10.3	0.51	510.	15.3	0.	5.31	4.25
W6X15	4.43	0.1	29.1	9.32	0.	1.38	2.6

Table 10: Frame Section Properties 01 - General, Part 3 of 4

Table 10: Frame Section Properties 01 - General, Part 3 of 4

SectionName	S33 in3	S22 in3	Z33 in3	Z22 in3	R33 in	R22 in
W10X33	35.15	9.2	38.8	14.	4.1965	1.9415
W12X50	64.1	13.94	71.9	21.3	5.175	1.9637
W14X48	70.14	12.8	78.4	19.6	5.8589	1.9093
W14X61	92.09	21.4	102.	32.8	5.9795	2.4449
W14X68	103.14	24.2	115.	36.9	6.0083	2.4597
W14X74	111.97	26.53	126.	40.5	6.0389	2.4793
W18X35	57.63	5.1	66.5	8.06	7.0367	1.2188
W6X15	9.72	3.11	10.8	4.75	2.563	1.4505

Table 10: Frame Section Properties 01 - General, Part 4 of 4

Table 10: Frame Section Properties 01 - General, Part 4 of 4

SectionName	AMod	A2Mod	A3Mod	JMod	I2Mod	I3Mod	MMod	WMod
W10X33	1.	1.	1.	1.	1.	1.	1.	1.
W12X50	1.	1.	1.	1.	1.	1.	1.	1.
W14X48	1.	1.	1.	1.	1.	1.	1.	1.
W14X61	1.	1.	1.	1.	1.	1.	1.	1.
W14X68	1.	1.	1.	1.	1.	1.	1.	1.
W14X74	1.	1.	1.	1.	1.	1.	1.	1.
W18X35	1.	1.	1.	1.	1.	1.	1.	1.
W6X15	1.	1.	1.	1.	1.	1.	1.	1.

3.2. Areas

Table 11: Area Section Properties, Part 1 of 3

Table 11: Area Section Properties, Part 1 of 3							
Section	Material	AreaType	Type	DrillDOF	Thickness in	BendThick in	F11Mod
ASEC1	4000Psi	Shell	Shell-Thin	Yes	12.	12.	1.

Table 11: Area Section Properties, Part 2 of 3

Table 11: Area Section Properties, Part 2 of 3							
Section	F22Mod	F12Mod	M11Mod	M22Mod	M12Mod	V13Mod	V23Mod
ASEC1	1.	1.	1.	1.	1.	1.	1.

Table 11: Area Section Properties, Part 3 of 3

Table 11: Area Section Properties, Part 3 of 3		
Section	MMod	WMod
ASEC1	1.	1.

3.3. Solids

Table 12: Solid Property Definitions

Table 12: Solid Property Definitions				
SolidProp	Material	MatAngleA Degrees	MatAngleB Degrees	MatAngleC Degrees
Solid1	4000Psi	0.	0.	0.

4. Load patterns

This section provides loading information as applied to the model.

4.1. Definitions

Table 13: Load Pattern Definitions

Table 13: Load Pattern Definitions			
LoadPat	DesignType	SelfWtMult	AutoLoad
DEAD	Dead	1.	

5. Load cases

This section provides load case information.

5.1. Definitions

Table 14: Load Case Definitions, Part 1 of 2

Table 14: Load Case Definitions, Part 1 of 2

Case	Type	InitialCond	ModalCase	BaseCase	MassSource	DesActOpt
DEAD	LinStatic	Zero				Prog Det
LIVE_H-10	LinMoving	Zero				Prog Det
LIVE_PED	LinMoving	Zero				Prog Det

Table 14: Load Case Definitions, Part 2 of 2

Table 14: Load Case Definitions, Part 2 of 2

Case	DesignAct
DEAD	Non-Composite
LIVE_H-10	Short-Term Composite
LIVE_PED	Short-Term Composite

5.2. Static case load assignments

Table 15: Case - Static 1 - Load Assignments

Table 15: Case - Static 1 - Load Assignments

Case	LoadType	LoadName	LoadSF
DEAD	Load pattern	DEAD	1.15

5.3. Response spectrum case load assignments

Table 16: Function - Response Spectrum - User

Table 16: Function - Response Spectrum - User

Name	Period Sec	Accel	FuncDamp
UNIFRS	0.	1.	0.05

Table 16: Function - Response Spectrum - User

Name	Period Sec	Accel	FuncDamp
UNIFRS	1.	1.	

6. Load combinations

This section provides load combination information.

Table 17: Combination Definitions

Table 17: Combination Definitions

ComboName	ComboType	CaseName	ScaleFactor
LL	Envelope	LIVE_H-10	1.
LL		LIVE_PED	1.
STRENGTH_I-Mi n	Linear Add	DEAD	0.9
STRENGTH_I-Mi n		LL	1.75
STRENGTH_I-M ax	Linear Add	DEAD	1.25
STRENGTH_I-M ax		LL	1.75
STRENGTH_I	Envelope	STRENGTH_I-M ax	1.
STRENGTH_I		STRENGTH_I-Mi n	1.

7. Design preferences

This section provides the design preferences for each type of design, which typically include material reduction factors, framing type, stress ratio limit, deflection limits, and other code specific items.

7.1. Steel design

Table 18: Preferences - Steel Design - AISC 360-10, Part 1 of 4

Table 18: Preferences - Steel Design - AISC 360-10, Part 1 of 4

THDesign	FrameType	PatLLF	SRatioLimit	MaxIter	SDC	SeisCode	SeisLoad	ImpFactor
Envelopes	SMF	0.75	0.95	1	D	Yes	Yes	1.

Table 18: Preferences - Steel Design - AISC 360-10, Part 2 of 4

Table 18: Preferences - Steel Design - AISC 360-10, Part 2 of 4

SystemRho	SystemSds	SystemR	SystemCd	Omega0	Provision	AMethod	SOMethod	SRMethod
1.	0.5	8.	5.5	3.	LRFD	Direct Analysis	General 2nd Order	Tau-b Fixed

Table 18: Preferences - Steel Design - AISC 360-10, Part 3 of 4

Table 18: Preferences - Steel Design - AISC 360-10, Part 3 of 4

NLCoeff	PhiB	PhiC	PhiTY	PhiTF	PhiV	PhiVRolledI	PhiVT	PlugWeld
0.002	0.9	0.9	0.9	0.75	0.9	1.	0.9	Yes

Table 18: Preferences - Steel Design - AISC 360-10, Part 4 of 4

Table 18: Preferences - Steel Design - AISC 360-10, Part 4 of 4

HSSWelding	HSSReduce T	CheckDefl	DLRat	SDLAndLLR at	LLRat	TotalRat	NetRat
ERW	No	No	120.	120.	360.	240.	240.

7.2. Concrete design

Table 19: Preferences - Concrete Design - ACI 318-14, Part 1 of 2

Table 19: Preferences - Concrete Design - ACI 318-14, Part 1 of 2

THDesign	NumCurves	NumPoints	MinEccen	PatLLF	UFLimit	SeisCat	Rho	Sds
Envelopes	24	11	Yes	0.75	0.95	D	1.	0.5

Table 19: Preferences - Concrete Design - ACI 318-14, Part 2 of 2

Table 19: Preferences - Concrete Design - ACI 318-14, Part 2 of 2

PhiT	PhiCTied	PhiCSpiral	PhiV	PhiVSeismic	PhiVJoint
0.9	0.65	0.75	0.75	0.6	0.85

7.3. Aluminum design

Table 20: Preferences - Aluminum Design - AA-ASD 2000

Table 20: Preferences - Aluminum Design - AA-ASD 2000

FrameType	SRatioLimit	LatFact	UseLatFact
Moment Frame	1.	1.333333	No

7.4. Cold formed design

Table 21: Preferences - Cold Formed Design - AISI-ASD96

Table 21: Preferences - Cold Formed Design - AISI-ASD96

FrameType	SRatioLimit	OmegaBS	OmegaBUS	OmegaBLTB	OmegaVS	OmegaVNS	OmegaT	OmegaC
Braced Frame	1.	1.67	1.67	1.67	1.67	1.5	1.67	1.8

8. Design overwrites

This section provides the design overwrites for each type of design, which are assigned to individual members of the structure.

8.1. Steel design

Table 22: Overwrites - Steel Design - AISC 360-10, Part 1 of 7

Table 22: Overwrites - Steel Design - AISC 360-10, Part 1 of 7

Frame	DesignSect	FrameType	Fy Kip/in2	RLLF	AreaRatio	XLMajor
D-1	Program Determined	Program Determined	0.	0.	0.	0.
V-1	Program Determined	Program Determined	0.	0.	0.	0.
D-2	Program Determined	Program Determined	0.	0.	0.	0.
V-2	Program Determined	Program Determined	0.	0.	0.	0.
D-3	Program Determined	Program Determined	0.	0.	0.	0.
V-3	Program Determined	Program Determined	0.	0.	0.	0.
D-4	Program Determined	Program Determined	0.	0.	0.	0.
V-4	Program Determined	Program Determined	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 1 of 7

Frame	DesignSect	FrameType	Fy Kip/in2	RLLF	AreaRatio	XMLMajor
D-5	Program Determined	Program Determined	0.	0.	0.	0.
V-5	Program Determined	Program Determined	0.	0.	0.	0.
D-6	Program Determined	Program Determined	0.	0.	0.	0.
V-6	Program Determined	Program Determined	0.	0.	0.	0.
V-11	Program Determined	Program Determined	0.	0.	0.	0.
D-11	Program Determined	Program Determined	0.	0.	0.	0.
V-10	Program Determined	Program Determined	0.	0.	0.	0.
D-10	Program Determined	Program Determined	0.	0.	0.	0.
V-9	Program Determined	Program Determined	0.	0.	0.	0.
D-9	Program Determined	Program Determined	0.	0.	0.	0.
V-8	Program Determined	Program Determined	0.	0.	0.	0.
D-8	Program Determined	Program Determined	0.	0.	0.	0.
V-7	Program Determined	Program Determined	0.	0.	0.	0.
B-1	Program Determined	Program Determined	0.	0.	0.	0.
B-2	Program Determined	Program Determined	0.	0.	0.	0.
B-3	Program Determined	Program Determined	0.	0.	0.	0.
B-4	Program Determined	Program Determined	0.	0.	0.	0.
B-5	Program Determined	Program Determined	0.	0.	0.	0.
B-6	Program Determined	Program Determined	0.	0.	0.	0.
B-7	Program Determined	Program Determined	0.	0.	0.	0.
B-8	Program Determined	Program Determined	0.	0.	0.	0.
B-9	Program Determined	Program Determined	0.	0.	0.	0.
B-10	Program Determined	Program Determined	0.	0.	0.	0.
B-11	Program Determined	Program Determined	0.	0.	0.	0.
B-12	Program Determined	Program Determined	0.	0.	0.	0.
T-1	Program Determined	Program Determined	0.	0.	0.	0.
T-2	Program Determined	Program Determined	0.	0.	0.	0.
T-3	Program Determined	Program Determined	0.	0.	0.	0.
T-4	Program Determined	Program Determined	0.	0.	0.	0.
T-5	Program Determined	Program Determined	0.	0.	0.	0.
T-6	Program Determined	Program Determined	0.	0.	0.	0.
T-7	Program Determined	Program Determined	0.	0.	0.	0.
T-8	Program Determined	Program Determined	0.	0.	0.	0.
T-9	Program Determined	Program Determined	0.	0.	0.	0.
T-10	Program Determined	Program Determined	0.	0.	0.	0.
V-12	Program Determined	Program Determined	0.	0.	0.	0.
T-12	Program Determined	Program Determined	0.	0.	0.	0.
V-13	Program Determined	Program Determined	0.	0.	0.	0.
D-13	Program Determined	Program Determined	0.	0.	0.	0.
B-13	Program Determined	Program Determined	0.	0.	0.	0.
B-14	Program Determined	Program Determined	0.	0.	0.	0.
D-14	Program Determined	Program Determined	0.	0.	0.	0.
T-11	Program Determined	Program Determined	0.	0.	0.	0.
D-12	Program Determined	Program Determined	0.	0.	0.	0.
D-7	Program Determined	Program Determined	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 2 of 7

Table 22: Overwrites - Steel Design - AISC 360-10, Part 2 of 7

Frame	XMLMinor	XLLTB	K1Major	K1Minor	K2Major	K2Minor	KLTB
D-1	0.	0.	0.	0.	0.	0.	0.
V-1	0.	0.	0.	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 2 of 7

Frame	XLMinor	XLLTB	K1Major	K1Minor	K2Major	K2Minor	KLTB
D-2	0.	0.	0.	0.	0.	0.	0.
V-2	0.	0.	0.	0.	0.	0.	0.
D-3	0.	0.	0.	0.	0.	0.	0.
V-3	0.	0.	0.	0.	0.	0.	0.
D-4	0.	0.	0.	0.	0.	0.	0.
V-4	0.	0.	0.	0.	0.	0.	0.
D-5	0.	0.	0.	0.	0.	0.	0.
V-5	0.	0.	0.	0.	0.	0.	0.
D-6	0.	0.	0.	0.	0.	0.	0.
V-6	0.	0.	0.	0.	0.	0.	0.
V-11	0.	0.	0.	0.	0.	0.	0.
D-11	0.	0.	0.	0.	0.	0.	0.
V-10	0.	0.	0.	0.	0.	0.	0.
D-10	0.	0.	0.	0.	0.	0.	0.
V-9	0.	0.	0.	0.	0.	0.	0.
D-9	0.	0.	0.	0.	0.	0.	0.
V-8	0.	0.	0.	0.	0.	0.	0.
D-8	0.	0.	0.	0.	0.	0.	0.
V-7	0.	0.	0.	0.	0.	0.	0.
B-1	0.	0.	0.	0.	0.	0.	0.
B-2	0.	0.	0.	0.	0.	0.	0.
B-3	0.	0.	0.	0.	0.	0.	0.
B-4	0.	0.	0.	0.	0.	0.	0.
B-5	0.	0.	0.	0.	0.	0.	0.
B-6	0.	0.	0.	0.	0.	0.	0.
B-7	0.	0.	0.	0.	0.	0.	0.
B-8	0.	0.	0.	0.	0.	0.	0.
B-9	0.	0.	0.	0.	0.	0.	0.
B-10	0.	0.	0.	0.	0.	0.	0.
B-11	0.	0.	0.	0.	0.	0.	0.
B-12	0.	0.	0.	0.	0.	0.	0.
T-1	0.	0.	0.	0.	0.	0.	0.
T-2	0.	0.	0.	0.	0.	0.	0.
T-3	0.	0.	0.	0.	0.	0.	0.
T-4	0.	0.	0.	0.	0.	0.	0.
T-5	0.	0.	0.	0.	0.	0.	0.
T-6	0.	0.	0.	0.	0.	0.	0.
T-7	0.	0.	0.	0.	0.	0.	0.
T-8	0.	0.	0.	0.	0.	0.	0.
T-9	0.	0.	0.	0.	0.	0.	0.
T-10	0.	0.	0.	0.	0.	0.	0.
V-12	0.	0.	0.	0.	0.	0.	0.
T-12	0.	0.	0.	0.	0.	0.	0.
V-13	0.	0.	0.	0.	0.	0.	0.
D-13	0.	0.	0.	0.	0.	0.	0.
B-13	0.	0.	0.	0.	0.	0.	0.
B-14	0.	0.	0.	0.	0.	0.	0.
D-14	0.	0.	0.	0.	0.	0.	0.
T-11	0.	0.	0.	0.	0.	0.	0.
D-12	0.	0.	0.	0.	0.	0.	0.
D-7	0.	0.	0.	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 3 of 7

Table 22: Overwrites - Steel Design - AISC 360-10, Part 3 of 7

Frame	CmMajor	CmMinor	Cb	B1Major	B1Minor	B2Major	B2Minor
D-1	0.	0.	0.	0.	0.	0.	0.
V-1	0.	0.	0.	0.	0.	0.	0.
D-2	0.	0.	0.	0.	0.	0.	0.
V-2	0.	0.	0.	0.	0.	0.	0.
D-3	0.	0.	0.	0.	0.	0.	0.
V-3	0.	0.	0.	0.	0.	0.	0.
D-4	0.	0.	0.	0.	0.	0.	0.
V-4	0.	0.	0.	0.	0.	0.	0.
D-5	0.	0.	0.	0.	0.	0.	0.
V-5	0.	0.	0.	0.	0.	0.	0.
D-6	0.	0.	0.	0.	0.	0.	0.
V-6	0.	0.	0.	0.	0.	0.	0.
V-11	0.	0.	0.	0.	0.	0.	0.
D-11	0.	0.	0.	0.	0.	0.	0.
V-10	0.	0.	0.	0.	0.	0.	0.
D-10	0.	0.	0.	0.	0.	0.	0.
V-9	0.	0.	0.	0.	0.	0.	0.
D-9	0.	0.	0.	0.	0.	0.	0.
V-8	0.	0.	0.	0.	0.	0.	0.
D-8	0.	0.	0.	0.	0.	0.	0.
V-7	0.	0.	0.	0.	0.	0.	0.
B-1	0.	0.	0.	0.	0.	0.	0.
B-2	0.	0.	0.	0.	0.	0.	0.
B-3	0.	0.	0.	0.	0.	0.	0.
B-4	0.	0.	0.	0.	0.	0.	0.
B-5	0.	0.	0.	0.	0.	0.	0.
B-6	0.	0.	0.	0.	0.	0.	0.
B-7	0.	0.	0.	0.	0.	0.	0.
B-8	0.	0.	0.	0.	0.	0.	0.
B-9	0.	0.	0.	0.	0.	0.	0.
B-10	0.	0.	0.	0.	0.	0.	0.
B-11	0.	0.	0.	0.	0.	0.	0.
B-12	0.	0.	0.	0.	0.	0.	0.
T-1	0.	0.	0.	0.	0.	0.	0.
T-2	0.	0.	0.	0.	0.	0.	0.
T-3	0.	0.	0.	0.	0.	0.	0.
T-4	0.	0.	0.	0.	0.	0.	0.
T-5	0.	0.	0.	0.	0.	0.	0.
T-6	0.	0.	0.	0.	0.	0.	0.
T-7	0.	0.	0.	0.	0.	0.	0.
T-8	0.	0.	0.	0.	0.	0.	0.
T-9	0.	0.	0.	0.	0.	0.	0.
T-10	0.	0.	0.	0.	0.	0.	0.
V-12	0.	0.	0.	0.	0.	0.	0.
T-12	0.	0.	0.	0.	0.	0.	0.
V-13	0.	0.	0.	0.	0.	0.	0.
D-13	0.	0.	0.	0.	0.	0.	0.
B-13	0.	0.	0.	0.	0.	0.	0.
B-14	0.	0.	0.	0.	0.	0.	0.
D-14	0.	0.	0.	0.	0.	0.	0.
T-11	0.	0.	0.	0.	0.	0.	0.
D-12	0.	0.	0.	0.	0.	0.	0.
D-7	0.	0.	0.	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 4 of 7

Table 22: Overwrites - Steel Design - AISC 360-10, Part 4 of 7

Frame	HSSReduce T	HSSWelding	Omega0	Ry	Pnc Kip	Pnt Kip	Mn3 Kip-in
D-1	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-1	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-2	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-2	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-3	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-3	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-4	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-4	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-5	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-5	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-6	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-6	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-11	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-11	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-10	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-10	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-9	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-9	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-8	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-8	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-7	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-1	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-2	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-3	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-4	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-5	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-6	Program Determined	Program Determined	0.	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 4 of 7

Frame	HSSReduce T	HSSWelding	Omega0	Ry	Pnc Kip	Pnt Kip	Mn3 Kip-in
B-7	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-8	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-9	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-10	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-11	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-12	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-1	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-2	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-3	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-4	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-5	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-6	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-7	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-8	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-9	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-10	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-12	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-12	Program Determined	Program Determined	0.	0.	0.	0.	0.
V-13	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-13	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-13	Program Determined	Program Determined	0.	0.	0.	0.	0.
B-14	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-14	Program Determined	Program Determined	0.	0.	0.	0.	0.
T-11	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-12	Program Determined	Program Determined	0.	0.	0.	0.	0.
D-7	Program Determined	Program Determined	0.	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 5 of 7

Table 22: Overwrites - Steel Design - AISC 360-10, Part 5 of 7							
Frame	Mn2	Vn2	Vn3	CheckDefl	DeflType	DLRat	SDLAndLLR at
	Kip-in	Kip	Kip				
D-1	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-1	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-2	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-2	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-3	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-3	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-4	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-4	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-5	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-5	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-6	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-6	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-11	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-11	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-10	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-10	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-9	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-9	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-8	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-8	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-7	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-1	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-2	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-3	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-4	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-5	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-6	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-7	0.	0.	0.	Program Determined	Program Determined	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 5 of 7

Frame	Mn2 Kip-in	Vn2 Kip	Vn3 Kip	CheckDefl	DeflType	DLRat	SDLAndLLR at
B-8	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-9	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-10	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-11	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-12	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-1	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-2	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-3	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-4	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-5	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-6	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-7	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-8	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-9	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-10	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-12	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-12	0.	0.	0.	Program Determined	Program Determined	0.	0.
V-13	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-13	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-13	0.	0.	0.	Program Determined	Program Determined	0.	0.
B-14	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-14	0.	0.	0.	Program Determined	Program Determined	0.	0.
T-11	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-12	0.	0.	0.	Program Determined	Program Determined	0.	0.
D-7	0.	0.	0.	Program Determined	Program Determined	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 6 of 7

Table 22: Overwrites - Steel Design - AISC 360-10, Part 6 of 7

Frame	LLRat	TotalRat	NetRat	DLAbs in	SDLAndLLA bs in	LLAbs in	TotalAbs in
D-1	0.	0.	0.	0.	0.	0.	0.
V-1	0.	0.	0.	0.	0.	0.	0.
D-2	0.	0.	0.	0.	0.	0.	0.
V-2	0.	0.	0.	0.	0.	0.	0.
D-3	0.	0.	0.	0.	0.	0.	0.
V-3	0.	0.	0.	0.	0.	0.	0.
D-4	0.	0.	0.	0.	0.	0.	0.
V-4	0.	0.	0.	0.	0.	0.	0.
D-5	0.	0.	0.	0.	0.	0.	0.
V-5	0.	0.	0.	0.	0.	0.	0.
D-6	0.	0.	0.	0.	0.	0.	0.
V-6	0.	0.	0.	0.	0.	0.	0.
V-11	0.	0.	0.	0.	0.	0.	0.
D-11	0.	0.	0.	0.	0.	0.	0.
V-10	0.	0.	0.	0.	0.	0.	0.
D-10	0.	0.	0.	0.	0.	0.	0.
V-9	0.	0.	0.	0.	0.	0.	0.
D-9	0.	0.	0.	0.	0.	0.	0.
V-8	0.	0.	0.	0.	0.	0.	0.
D-8	0.	0.	0.	0.	0.	0.	0.
V-7	0.	0.	0.	0.	0.	0.	0.
B-1	0.	0.	0.	0.	0.	0.	0.
B-2	0.	0.	0.	0.	0.	0.	0.
B-3	0.	0.	0.	0.	0.	0.	0.
B-4	0.	0.	0.	0.	0.	0.	0.
B-5	0.	0.	0.	0.	0.	0.	0.
B-6	0.	0.	0.	0.	0.	0.	0.
B-7	0.	0.	0.	0.	0.	0.	0.
B-8	0.	0.	0.	0.	0.	0.	0.
B-9	0.	0.	0.	0.	0.	0.	0.
B-10	0.	0.	0.	0.	0.	0.	0.
B-11	0.	0.	0.	0.	0.	0.	0.
B-12	0.	0.	0.	0.	0.	0.	0.
T-1	0.	0.	0.	0.	0.	0.	0.
T-2	0.	0.	0.	0.	0.	0.	0.
T-3	0.	0.	0.	0.	0.	0.	0.
T-4	0.	0.	0.	0.	0.	0.	0.
T-5	0.	0.	0.	0.	0.	0.	0.
T-6	0.	0.	0.	0.	0.	0.	0.
T-7	0.	0.	0.	0.	0.	0.	0.
T-8	0.	0.	0.	0.	0.	0.	0.
T-9	0.	0.	0.	0.	0.	0.	0.
T-10	0.	0.	0.	0.	0.	0.	0.
V-12	0.	0.	0.	0.	0.	0.	0.
T-12	0.	0.	0.	0.	0.	0.	0.
V-13	0.	0.	0.	0.	0.	0.	0.
D-13	0.	0.	0.	0.	0.	0.	0.
B-13	0.	0.	0.	0.	0.	0.	0.
B-14	0.	0.	0.	0.	0.	0.	0.
D-14	0.	0.	0.	0.	0.	0.	0.
T-11	0.	0.	0.	0.	0.	0.	0.
D-12	0.	0.	0.	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 6 of 7

Frame	LLRat	TotalRat	NetRat	DLAbs	SDLAndLLAbs	LLAbs	TotalAbs
				in	in	in	in
D-7	0.	0.	0.	0.	0.	0.	0.

Table 22: Overwrites - Steel Design - AISC 360-10, Part 7 of 7

Table 22: Overwrites - Steel Design - AISC 360-10, Part 7 of 7

Frame	NetAbs	SpecCamber	DCLimit
	in	in	
D-1	0.	0.	0.
V-1	0.	0.	0.
D-2	0.	0.	0.
V-2	0.	0.	0.
D-3	0.	0.	0.
V-3	0.	0.	0.
D-4	0.	0.	0.
V-4	0.	0.	0.
D-5	0.	0.	0.
V-5	0.	0.	0.
D-6	0.	0.	0.
V-6	0.	0.	0.
V-11	0.	0.	0.
D-11	0.	0.	0.
V-10	0.	0.	0.
D-10	0.	0.	0.
V-9	0.	0.	0.
D-9	0.	0.	0.
V-8	0.	0.	0.
D-8	0.	0.	0.
V-7	0.	0.	0.
B-1	0.	0.	0.
B-2	0.	0.	0.
B-3	0.	0.	0.
B-4	0.	0.	0.
B-5	0.	0.	0.
B-6	0.	0.	0.
B-7	0.	0.	0.
B-8	0.	0.	0.
B-9	0.	0.	0.
B-10	0.	0.	0.
B-11	0.	0.	0.
B-12	0.	0.	0.
T-1	0.	0.	0.
T-2	0.	0.	0.
T-3	0.	0.	0.
T-4	0.	0.	0.
T-5	0.	0.	0.
T-6	0.	0.	0.
T-7	0.	0.	0.
T-8	0.	0.	0.
T-9	0.	0.	0.
T-10	0.	0.	0.
V-12	0.	0.	0.
T-12	0.	0.	0.

8. Design overwrites

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Table 22: Overwrites - Steel Design - AISC 360-10, Part 7 of 7

Frame	NetAbs	SpecCambe r	DCLimit
	in	in	
V-13	0.	0.	0.
D-13	0.	0.	0.
B-13	0.	0.	0.
B-14	0.	0.	0.
D-14	0.	0.	0.
T-11	0.	0.	0.
D-12	0.	0.	0.
D-7	0.	0.	0.

Appendix D.3.4

Excel Hand Calcs

Calculations for Bottom Chords, Line 2 of Excel Spreadsheet

Flexure Calculations

Defined Variables

$$t_f := 0.72 \text{ in} \quad b_f := 10 \text{ in} \quad \phi_f := 1$$

$$F_{yf} := 50 \text{ ksi} \quad M_u := 2.598 \text{ kip} \cdot \text{in}$$

$$S_y := 24.2 \text{ in}^3 \quad E := 29000 \text{ ksi}$$

$$Z_y := 36.9 \text{ in}^3$$

Calculated Variables

$$\lambda_{pf} := 0.38 \cdot \sqrt{\frac{E}{F_{yf}}} = 9.152$$

$$\lambda_f := \frac{b_f}{2 \cdot t_f} = 6.944$$

$$\lambda_{rf} := 0.83 \cdot \sqrt{\frac{E}{F_{yf}}} = 19.989$$

$$M_p := 1.5 \cdot F_{yf} \cdot S_y = 1815 \text{ kip} \cdot \text{in}$$

$$M_n := \begin{cases} M_p & \text{if } \lambda_f \leq \lambda_{pf} \\ \left(1 - \left(1 - \frac{S_y}{Z_y} \right) \cdot \left(\frac{\lambda_f - \lambda_{pf}}{0.45 \cdot \sqrt{\frac{E}{F_{yf}}}} \right) \right) \cdot F_{yf} \cdot Z_y & \text{if } \lambda_{pf} < \lambda_f \leq \lambda_{rf} \end{cases} = 1815 \text{ kip} \cdot \text{in}$$

$$\phi_f \cdot M_n = 1815 \text{ kip} \cdot \text{in}$$

$$\text{D/C flexure} = \frac{M_u}{\phi_f \cdot M_n} = 0.00143$$

Tension Calculations

Defined Variables

$$A_g := 20 \text{ in}^2$$

$$K := 1$$

$$\phi_y := 0.95$$

$$F_y := 50 \text{ ksi}$$

$$P_{ut} := 134.887 \text{ kip}$$

$$l := 120 \text{ in}$$

$$F_u := 65 \text{ ksi}$$

$$E := 29000 \text{ ksi}$$

$$Q := 1$$

$$r_y := 2.46 \text{ in}$$

Calculated Variables

$$P_r := \phi_y \cdot F_y \cdot A_g = 950 \text{ kip}$$

$$\text{D/C tension} = \frac{P_{ut}}{\phi_y \cdot F_y \cdot A_g} = 0.142$$

Shear Calculations

Defined Variables

$$D := 27.5 \text{ in} \qquad \phi_v := 1$$

$$F_{yw} := 50 \text{ ksi} \qquad V_u := (-3.853) \text{ kip}$$

$$t_w := 0.415 \text{ in} \qquad E := 29000 \text{ ksi}$$

$$k := 5$$

Calculated Variables

$$C := \left\{ \begin{array}{l} \text{if } \frac{D}{t_w} \leq 1.12 \cdot \sqrt{\frac{E \cdot k}{F_{yf}}} \\ \quad \left\| \begin{array}{l} 1 \\ \text{if } 1.12 \cdot \sqrt{\frac{E \cdot k}{F_{yf}}} < \frac{D}{t_w} \leq 1.40 \cdot \sqrt{\frac{E \cdot k}{F_{yf}}} \\ \quad \left\| \begin{array}{l} \frac{1.12 \cdot \sqrt{\frac{E \cdot k}{F_{yf}}}}{\frac{D}{t_w}} \\ \text{if } \frac{D}{t_w} > 1.40 \cdot \sqrt{\frac{E \cdot k}{F_{yf}}} \\ \quad \left\| \begin{array}{l} \frac{1.57 \cdot \left(\frac{E \cdot k}{F_{yw}}\right)}{\left(\frac{D}{t_w}\right)^2} \end{array} \right. \end{array} \right. \end{array} \right. \right. = 0.91$$

$$V_p := 0.58 \cdot F_{yw} \cdot D \cdot t_w = 331 \text{ kip}$$

$$V_n := C \cdot V_p = 301 \text{ kip}$$

$$\phi_v \cdot V_n = 301 \text{ kip}$$

$$D/C \text{ shear} = \frac{|V_u|}{\phi_v \cdot V_n} = 0.0128$$

Compression Calculations

Defined Variables

$$\begin{array}{lll}
 A_g := 20 \text{ in}^2 & K := 1 & \phi_c := 0.9 \\
 F_y := 50 \text{ ksi} & P_{uc} := 0 \text{ kip} & l := 120 \text{ in} \\
 F_u := 65 \text{ ksi} & E := 29000 \text{ ksi} & \\
 Q := 1 & r_y := 2.46 \text{ in} &
 \end{array}$$

Calculated Variables

$$P_o := Q \cdot F_y \cdot A_g = 1000 \text{ kip}$$

$$P_e := \frac{\pi^2 \cdot E}{\left(\frac{K \cdot l}{r_y}\right)^2} \cdot A_g = 2406 \text{ kip}$$

$$P_n := \left\| \begin{array}{l} \text{if } \frac{P_e}{P_o} \geq 0.44 \\ \left\| \left(0.658^{\left(\frac{P_o}{P_e}\right)}\right) \cdot P_o \right. \\ \text{if } \frac{P_e}{P_o} < 0.44 \\ \left\| 0.877 \cdot P_e \right. \end{array} \right\| = 840 \text{ kip}$$

$$P_r := \phi_c \cdot P_n = 756 \text{ kip}$$

$$\text{D/C compression} = \frac{P_{uc}}{\phi_c \cdot P_n} = 0$$

Appendix D.3.5

Excel Member Calcs

Bottom Chord Members

Design Check Summary

Section	W14X68	Unit
Zx	115	in
A	20	in ²
h/tw	27.5	
ddet	14	
d	14	in
ry	2.46	in
ix	722	in ⁴
tw	0.415	in
bf	10	in
tf	0.72	in
Sy	24.2	in ³
Zy	36.9	in ³

Choose section from left dropdown

Property (Select from dropdown)

radius of gyration about the axis normal to the plane of buckling

Mat. Props	
Steel	A709 Gr. 50
Fy	50
Fu	70

D/C_PM	0.093603
D/C _{tension}	0.622928
D/C _{compression}	0
D/C _{shear}	0.093603
D/C _{flexure}	0.251468
D/C _{combined tens/flex}	0.84684
D/C _{combined comp/flex}	0.2519

Mat Prop Units Definition/AASHTO code reference

K	1	C4.6.2.5.1
ℓ	120 in	unbraced length in plane of buckling, in
E	29000 ksi	
Fy	50 ksi	specified minimum yield strength of steel/pin/pin plate
Fu	65 ksi	
φ _c	0.9	6.5.4.2
φ _u	0.8	6.5.4.2
φ _y	0.95	6.5.4.2
φ _v	1	6.5.4.2
φ _f	1	6.5.4.2
Rp	1	6.8.2.1
U	1	
Q	1	

For shear
C

5

Bottom Chord Members

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
0.1 STRENGTH B-1			134.887	0	-3.882	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			134.887	2.598	-3.853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			134.887	2.598	-3.853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-1			134.887	94.627	2.007	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-1			134.887	147.841	7.868	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-1			134.887	162.24	13.729	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-1			134.887	137.825	19.589	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			134.887	74.594	25.45	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			134.887	74.594	25.45	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			134.887	72.144	25.457	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-1			62.387	0	-25.987	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			62.387	0.388	-25.98	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			62.387	0.388	-25.98	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-1			62.387	73.749	-20.098	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-1			62.387	108.295	-14.216	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-1			62.387	104.026	-8.333	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-1			62.387	60.942	-2.451	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			62.387	-20.957	3.431	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			62.387	-20.957	3.431	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-1			62.387	-21.382	3.456	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-1			159.149	0	-5.392	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			159.149	2.749	-5.361	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			159.149	2.749	-5.361	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-1			159.149	123.34	1.13	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-1			159.149	190.021	7.621	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-1			159.149	202.793	14.112	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-1			159.149	161.655	20.602	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			159.149	66.607	27.093	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			159.149	66.607	27.093	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kIp*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
120 STRENGTH B-1			159.149	63.993	27.102	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-1			86.649	0	-27.497	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			86.649	0.539	-27.487	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			86.649	0.539	-27.487	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-1			86.649	102.461	-20.975	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-1			86.649	150.474	-14.463	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-1			86.649	144.578	-7.95	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-1			86.649	84.772	-1.438	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			86.649	-28.944	5.074	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			86.649	-28.944	5.074	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-1			86.649	-29.533	5.101	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-1			159.149	0	-3.882	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			159.149	2.749	-3.853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			159.149	2.749	-3.853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-1			159.149	123.34	2.007	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-1			159.149	190.021	7.868	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-1			159.149	202.793	14.112	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-1			159.149	161.655	20.602	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			159.149	74.594	27.093	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			159.149	74.594	27.093	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-1			159.149	72.144	27.102	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-1			62.387	0	-27.497	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			62.387	0.388	-27.487	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-1			62.387	0.388	-27.487	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-1			62.387	73.749	-20.975	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-1			62.387	108.026	-14.463	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-1			62.387	104.026	-8.333	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-1			62.387	60.942	-2.451	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			62.387	-28.944	3.431	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-1			62.387	-28.944	3.431	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-1			62.387	-29.533	3.456	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-2			134.887	72.144	-3.008	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kkip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
0.1 STRENGTH B-2			134.887	74.649	-2.978	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-2			134.887	74.649	-2.978	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-2			134.887	143.993	2.775	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-2			134.887	174.522	8.528	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-2			134.887	166.236	14.281	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-2			134.887	119.135	20.034	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-2			134.887	33.219	25.786	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-2			134.887	33.219	25.786	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-2			134.887	30.676	25.793	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-2			62.387	-2.382	-25.056	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-2			62.387	-20.991	-25.049	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-2			62.387	-20.991	-25.049	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-2			62.387	49.61	-19.311	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-2			62.387	81.396	-13.573	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-2			62.387	74.368	-7.835	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-2			62.387	28.524	-2.097	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-2			62.387	-56.134	3.641	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-2			62.387	-56.134	3.641	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-2			62.387	-56.647	3.669	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-2			159.149	63.993	-4.526	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-2			159.149	66.65	-4.494	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-2			159.149	66.65	-4.494	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-2			159.149	164.772	1.889	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-2			159.149	208.986	8.272	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-2			159.149	199.289	14.655	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-2			159.149	133.683	21.037	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-2			159.149	18.168	27.42	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-2			159.149	18.168	27.42	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-2			159.149	15.462	-27.43	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-2			86.649	-29.533	-26.575	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-2			86.649	-28.991	-26.565	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-2			86.649	-28.991	-26.565	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _e	P _e	P _n	φ _y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
24.06 STRENGTH B-2			86,649	70,389	-20,197	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
48.02 STRENGTH B-2			86,649	115,86	-13,829	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
71.98 STRENGTH B-2			86,649	107,421	-7,461	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
95.94 STRENGTH B-2			86,649	45,073	-1,093	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9 STRENGTH B-2			86,649	-71,185	5,275	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
120 STRENGTH B-2			86,649	-71,185	5,275	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0 STRENGTH B-2			159,149	-71,861	5,306	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1 STRENGTH B-2			159,149	72,144	-3,008	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
24.06 STRENGTH B-2			159,149	74,649	-2,978	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
48.02 STRENGTH B-2			159,149	164,772	2,775	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
71.98 STRENGTH B-2			159,149	208,986	8,528	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
95.94 STRENGTH B-2			159,149	199,289	14,655	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9 STRENGTH B-2			159,149	135,683	21,037	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
120 STRENGTH B-2			159,149	33,219	27,42	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0 STRENGTH B-2			159,149	30,676	27,43	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1 STRENGTH B-2			62,387	-29,533	-26,575	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
24.06 STRENGTH B-2			62,387	-28,991	-26,565	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
48.02 STRENGTH B-2			62,387	49,61	-20,197	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
71.98 STRENGTH B-2			62,387	81,396	-13,829	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
95.94 STRENGTH B-2			62,387	74,368	-7,835	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9 STRENGTH B-2			62,387	28,524	-2,097	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
120 STRENGTH B-2			62,387	-71,185	3,641	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0 STRENGTH B-2			62,387	-71,185	3,641	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1 STRENGTH B-3			248,777	30,676	-4,244	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1 STRENGTH B-3			248,777	33,312	-4,215	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
24.06 STRENGTH B-3			248,777	33,312	-4,215	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
48.02 STRENGTH B-3			248,777	132,916	1,549	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
			248,777	196,964	7,313	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
71.98	STRENGTH-B-3		248.777	231.037	13.077	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH-B-3		248.777	226.295	18.841	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-3		248.777	182.738	24.605	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-3		248.777	182.738	24.605	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH-B-3		248.777	181.929	24.612	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH-B-3		114.677	-56.647	-26.362	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-3		114.677	-56.148	-26.356	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-3		114.677	-56.148	-26.356	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH-B-3		114.677	40.822	-20.58	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH-B-3		114.677	98.976	-14.804	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH-B-3		114.677	118.315	-9.028	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH-B-3		114.677	98.84	-3.253	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-3		114.677	40.549	2.523	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-3		114.677	40.549	2.523	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH-B-3		114.677	40.21	2.552	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH-B-3		293.374	15.462	-6.079	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-3		293.374	18.281	-6.047	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-3		293.374	18.281	-6.047	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH-B-3		293.374	154.234	0.347	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH-B-3		293.374	239.537	6.741	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH-B-3		293.374	279.77	13.135	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH-B-3		293.374	266.094	19.529	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-3		293.374	198.508	25.923	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-3		293.374	198.508	25.923	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH-B-3		293.374	197.566	25.933	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH-B-3		159.274	-71.861	-28.197	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-3		159.274	-71.179	-28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-3		159.274	-71.179	-28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH-B-3		159.274	62.14	-21.782	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH-B-3		159.274	141.549	-15.376	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH-B-3		159.274	167.048	-8.971	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH-B-3		159.274	138.638	-2.565	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
119.9	STRENGTH B-3		159.274	56.319	3.841	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-3		159.274	56.319	3.841	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-3		159.274	55.847	3.872	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-3		293.374	30.676	-4.244	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-3		293.374	33.312	-4.215	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-3		293.374	33.312	-4.215	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-3		293.374	154.334	1.549	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-3		293.374	239.537	7.313	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-3		293.374	279.77	13.135	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-3		293.374	266.094	19.529	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-3		293.374	198.508	25.923	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-3		293.374	198.508	25.923	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-3		293.374	197.566	-28.197	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-3		114.677	-71.861	-28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-3		114.677	-71.179	-28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-3		114.677	-71.179	-28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-3		114.677	40.822	-21.782	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-3		114.677	98.976	-15.376	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-3		114.677	118.315	-9.028	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-3		114.677	98.84	-3.253	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-3		114.677	40.549	2.523	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-3		114.677	40.549	2.523	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-3		114.677	40.21	2.552	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-4		341.562	181.929	-3.502	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-4		341.562	182.904	-3.473	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-4		341.562	182.904	-3.473	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-4		341.562	265.081	2.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-4		341.562	308.443	8.069	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-4		341.562	312.989	13.839	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-4		341.562	278.721	19.61	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-4		341.562	205.338	25.38	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-4		341.562	205.338	25.38	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
120 STRENGTH B-4			341.562	204.701	25.387	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-4			157.206	40.21	-25.58	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			157.206	40.624	-25.573	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			157.206	40.624	-25.573	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-4			157.206	120.363	-19.802	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-4			157.206	161.287	-14.03	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-4			157.206	163.997	-8.259	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-4			157.206	126.991	-2.488	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			157.206	51.17	3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			157.206	51.17	3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-4			157.206	50.774	3.312	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-4			402.697	197.566	-5.113	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			402.697	198.703	-5.082	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			402.697	198.703	-5.082	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-4			402.697	311.889	1.319	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-4			402.697	371.465	7.719	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-4			402.697	376.532	14.12	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-4			402.697	327.99	20.521	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			402.697	225.538	26.921	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			402.697	225.538	26.921	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-4			402.697	224.446	26.931	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-4			218.342	55.847	-27.192	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			218.342	56.423	-27.182	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			218.342	56.423	-27.182	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-4			218.342	167.171	-20.781	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-4			218.342	224.01	-14.38	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-4			218.342	226.94	-7.978	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-4			218.342	175.959	-1.577	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			218.342	71.07	4.824	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			218.342	71.07	4.824	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-4			218.342	70.519	4.856	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-4			402.697	197.566	-3.502	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_e	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
0.1 STRENGTH B-4			402.697	198.703	-3.473	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			402.697	198.703	-3.473	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-4			402.697	311.889	2.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-4			402.697	371.165	8.069	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-4			402.697	376.532	14.12	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-4			402.697	327.99	20.521	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			402.697	225.538	26.921	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			402.697	225.538	26.921	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-4			402.697	224.446	26.931	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-4			157.206	40.21	-27.192	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			157.206	40.624	-27.182	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-4			157.206	40.624	-27.182	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-4			157.206	120.363	-20.781	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-4			157.206	161.287	-14.38	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-4			157.206	163.397	-8.259	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-4			157.206	126.691	-2.488	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			157.206	51.17	3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-4			157.206	51.17	3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-4			157.206	50.774	3.312	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-5			414.789	204.701	-3.561	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			414.789	205.686	-3.532	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			414.789	205.686	-3.532	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-5			414.789	290.288	2.238	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-5			414.789	336.075	8.009	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-5			414.789	343.048	13.779	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-5			414.789	311.205	19.549	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-5			414.789	240.547	25.319	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-5			414.789	240.547	25.319	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-5			414.789	239.62	25.326	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-5			190.591	50.774	-25.642	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			190.591	51.192	-25.636	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			190.591	51.192	-25.636	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
24.06 STRENGTH B-5			190.591	131.973	-19.863	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-5			190.591	173.939	-14.091	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-5			190.591	177.09	-8.319	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-5			190.591	141.426	-2.546	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-5			190.591	66.947	3.226	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-5			190.591	66.554	3.255	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-5			488.908	224.446	-5.19	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			488.908	225.594	-5.158	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-5			488.908	341.611	1.242	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-5			488.908	403.718	7.642	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-5			488.908	411.916	14.043	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-5			488.908	366.204	20.443	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-5			488.908	266.582	26.843	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-5			488.908	266.582	26.843	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-5			264.71	70.519	-27.271	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			264.71	71.1	-27.262	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			264.71	71.1	-27.262	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-5			264.71	183.296	-20.859	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-5			264.71	241.581	-14.457	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-5			264.71	245.958	-8.055	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-5			264.71	196.424	-1.653	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-5			264.71	92.981	4.75	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-5			264.71	92.437	4.781	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-5			488.908	224.446	-3.561	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			488.908	225.594	-3.532	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-5			488.908	341.611	2.238	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-5			488.908	341.611	2.238	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-5			488.908	403.718	8.009	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
71.98	STRENGTH B-5		488,908	411,916	14,043	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-5		488,908	366,204	20,443	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-5		488,908	266,582	26,843	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-5		488,908	266,582	26,843	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-5		488,908	265,502	26,853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-5		190,591	50,774	-27,271	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-5		190,591	51,192	-27,262	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-5		190,591	51,192	-27,262	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-5		190,591	131,973	-20,859	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-5		190,591	173,939	-14,457	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-5		190,591	177,09	-8,319	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-5		190,591	141,426	-2,546	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-5		190,591	66,947	3,226	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-5		190,591	66,947	3,226	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-5		190,591	66,554	3,255	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-6		467,429	239,62	-3,489	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		467,429	240,591	-3,46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		467,429	240,591	-3,46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-6		467,429	321,87	2,31	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-6		467,429	364,334	8,081	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-6		467,429	367,983	13,851	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-6		467,429	332,817	19,622	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		467,429	258,837	25,392	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		467,429	258,837	25,392	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-6		467,429	257,895	25,399	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-6		214,394	66,554	-25,569	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		214,394	66,966	-25,562	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		214,394	66,966	-25,562	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-6		214,394	146,187	-19,79	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-6		214,394	186,594	-14,018	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-6		214,394	188,185	-8,246	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-6		214,394	150,961	-2,474	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000	Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			kips	kip*in	kips	in ²	ksi	ksi	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _t
119.9	STRENGTH B-6		214.394	74.923	3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		214.394	74.923	3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-6		214.394	74.524	3.327	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-6		550.804	265.502	-5.092	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		550.804	266.634	-5.061	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		550.804	266.634	-5.061	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-6		550.804	378.721	1.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-6		550.804	436.898	7.74	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-6		550.804	441.166	14.141	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-6		550.804	391.525	20.541	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		550.804	287.973	26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		550.804	287.973	26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-6		550.804	286.877	26.951	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-6		297.769	92.437	-27.172	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		297.769	93.009	-27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		297.769	93.009	-27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-6		297.769	203.038	-20.761	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-6		297.769	259.158	-14.359	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-6		297.769	261.368	-7.957	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-6		297.769	209.669	-1.555	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		297.769	104.059	4.847	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		297.769	104.059	4.847	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-6		297.769	103.506	4.879	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-6		550.804	265.502	-3.489	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		550.804	266.634	-3.46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		550.804	266.634	-3.46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-6		550.804	378.721	2.31	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-6		550.804	446.898	8.081	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-6		550.804	441.166	14.141	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-6		550.804	391.525	20.541	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		550.804	287.973	26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		550.804	287.973	26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
120	STRENGTH B-6		550.804	286.877	26.951	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-6		214.394	66.554	-27.172	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		214.394	66.966	-27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-6		214.394	66.966	-27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-6		214.394	146.187	-20.761	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-6		214.394	186.594	-14.359	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-6		214.394	188.185	-8.246	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-6		214.394	150.961	-2.474	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		214.394	74.923	3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-6		214.394	74.923	3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-6		214.394	74.923	3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-7		499.706	257.895	-3.453	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		499.706	258.86	-3.474	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		499.706	258.86	-3.474	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-7		499.706	338.344	-2.348	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-7		499.706	379.014	8.12	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-7		499.706	380.868	13.893	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-7		499.706	343.908	19.665	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		499.706	268.133	25.437	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		499.706	268.133	25.437	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-7		499.706	267.184	25.444	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-7		228.707	74.533	-25.53	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		228.707	74.933	-25.523	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		228.707	74.933	-25.523	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-7		228.707	153.525	-19.751	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-7		228.707	193.302	-13.978	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-7		228.707	194.264	-8.205	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-7		228.707	156.411	-2.433	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		228.707	79.743	3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		228.707	79.743	3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-7		228.707	79.342	3.369	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-7		588.648	286.877	-5.046	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
0.1	STRENGTH B-7		588.648	288	-5.015	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		588.648	288	-5.015	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-7		588.648	398.048	-1.387	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-7		588.648	454.187	7.79	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-7		588.648	456.415	14.192	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-7		588.648	404.735	20.594	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		588.648	299.144	26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		588.648	299.039	27.006	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-7		588.648	299.144	26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		588.648	288	-3.453	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		588.648	288	-3.424	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-7		588.648	398.048	2.348	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-7		588.648	454.187	8.12	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-7		588.648	456.415	14.192	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-7		588.648	404.735	20.594	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		588.648	299.144	26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		588.648	299.039	27.006	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-7		588.648	299.144	26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		588.648	288	-27.114	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-7		588.648	288	-27.114	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties							General(6.9.4.1.1)						
Location ft	Load Case	Frame #	P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q 6.9.4.2	E ksi	K AASHTO LRFD C4.6.2.5.1	ℓ in Unbraced length in the plane of buckling	r _y in Radius of gyration about the axis normal to the plane of buckling	P _e kips Equivalent nominal yield resistance, 6.9.4.1.1	P _e kips Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	P _n kips Nominal compressive resistance, 6.9.4.1.1	φ _y
24.06	STRENGTH B-7		228.707	153.525	-20.711	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-7		228.707	193.302	-14.309	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-7		228.707	194.264	-8.205	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-7		228.707	156.411	-2.433	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-7		228.707	79.743	3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-7		228.707	79.743	3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-8		502.84	267.184	-3.369	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-8		502.84	268.135	-3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-8		502.84	288.135	-3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-8		502.84	381.652	2.433	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-8		502.84	380.189	8.205	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-8		502.84	339.91	13.978	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-8		502.84	260.817	19.751	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-8		502.84	259.854	25.523	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-8		228.707	79.342	-25.444	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-8		228.707	79.743	-25.437	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-8		228.707	156.411	-19.665	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-8		228.707	194.264	-13.893	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-8		228.707	193.302	-8.12	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-8		228.707	153.525	-2.348	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-8		228.707	74.933	3.424	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-8		228.707	74.933	3.424	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-8		591.782	298.039	-4.931	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-8		591.782	299.146	-4.899	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-8		591.782	299.146	-4.899	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-8		591.782	405.127	-1.503	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
			591.782	457.199	7.906	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_e	P_e	P_n	ϕ_y
ft			kips	k*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
71.98 STRENGTH B-8			591.782	455.362	14.309	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-8			591.782	399.615	20.711	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-8			591.782	289.958	27.114	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-8			591.782	289.958	27.114	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-8			591.782	288.836	27.123	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-8			317.649	110.197	-27.006	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-8			317.649	110.754	-26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-8			317.649	110.754	-26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-8			317.649	217.237	-20.594	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-8			317.649	269.811	-14.192	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-8			317.649	268.475	-7.79	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-8			317.649	213.229	-1.387	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-8			317.649	104.074	5.015	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-8			317.649	104.074	5.015	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-8			317.649	103.506	5.046	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-8			591.782	298.039	-3.369	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-8			591.782	299.146	-3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-8			591.782	299.146	-3.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-8			591.782	405.127	2.433	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-8			591.782	457.199	8.205	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-8			591.782	455.362	14.309	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-8			591.782	399.615	20.711	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-8			591.782	289.958	27.114	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-8			591.782	289.958	27.114	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-8			591.782	288.836	27.123	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-8			228.707	79.342	-27.006	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-8			228.707	79.743	-26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-8			228.707	79.743	-26.996	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-8			228.707	156.411	-20.594	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-8			228.707	194.264	-14.192	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-8			228.707	193.302	-8.12	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-8			228.707	153.525	-2.348	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
119.9	STRENGTH-B-8		228.707	74.933	3.424	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-8		228.707	74.933	3.424	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH-B-8		228.707	74.524	3.453	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH-B-9		473.665	259.854	-3.327	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-9		473.665	260.797	-3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-9		473.665	260.797	-3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH-B-9		473.665	335.114	2.474	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH-B-9		473.665	370.617	8.246	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH-B-9		473.665	367.304	14.018	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH-B-9		473.665	325.177	19.79	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-9		473.665	244.235	25.562	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-9		473.665	244.235	25.562	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH-B-9		473.665	243.264	25.569	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH-B-9		214.394	74.524	-25.399	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-9		214.394	74.923	-25.392	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-9		214.394	150.961	-19.622	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH-B-9		214.394	188.185	-13.851	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH-B-9		214.394	186.594	-8.081	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH-B-9		214.394	146.187	-2.31	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-9		214.394	66.966	3.46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-9		214.394	66.966	3.46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH-B-9		214.394	66.554	3.489	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH-B-9		557.04	288.836	-4.879	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-9		557.04	289.934	-4.847	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH-B-9		557.04	289.934	-4.847	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH-B-9		557.04	393.822	7.957	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH-B-9		557.04	443.8	14.359	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH-B-9		557.04	439.869	20.761	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH-B-9		557.04	382.028	27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-9		557.04	270.277	27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH-B-9		557.04	270.277	27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data						Material/Section Properties						General(6.9.4.1.1)					
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_e	P_e	P_n	ϕ_y
ft			kips	kIP*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
120	STRENGTH B-9		557.04	269.147	27.172	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-9		297.769	103.506	-26.951	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-9		297.769	104.059	-26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-9		297.769	104.059	-26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-9		297.769	209.669	-20.541	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-9		297.769	261.368	-14.141	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-9		297.769	259.158	-7.74	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-9		297.769	203.038	-1.34	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-9		297.769	93.009	5.061	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-9		297.769	92.437	5.092	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-9		557.04	288.836	-3.327	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-9		557.04	289.934	-3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-9		557.04	289.934	-3.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-9		557.04	393.822	2.474	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-9		557.04	443.8	8.246	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-9		557.04	439.869	14.359	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-9		557.04	382.028	20.761	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-9		557.04	270.277	27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-9		557.04	270.277	27.163	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-9		214.394	269.147	27.172	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-9		214.394	74.923	-26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-9		214.394	74.923	-26.942	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-9		214.394	150.961	-20.541	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-9		214.394	188.185	-14.141	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-9		214.394	186.594	-8.081	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-9		214.394	146.187	-2.31	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-9		214.394	66.966	3.46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-9		214.394	66.966	3.46	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-10		424.138	243.264	-3.255	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)				
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000		Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			P kips	M3 kip*in	V2 kips		A_g in ²	F_y ksi	F_u ksi	Q	E ksi	K	ℓ in	r_y in	P_o kips	P_e kips	P_n kips	ϕ_y
0.1 STRENGTH B-10			424.138	244.194	-3.226		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			424.138	244.194	-3.226		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-10			424.138	315.247	2.546		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-10			424.138	347.485	8.319		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-10			424.138	340.909	14.091		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-10			424.138	295.518	19.863		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			424.138	211.311	25.636		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			424.138	211.311	25.636		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-10			424.138	210.327	25.642		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-10			190.591	66.554	-25.326		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			190.591	66.947	-25.319		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			190.591	66.947	-25.319		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-10			190.591	141.426	-19.549		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-10			190.591	177.09	-13.779		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-10			190.591	173.939	-8.009		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-10			190.591	131.973	-2.238		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			190.591	51.192	3.532		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			190.591	51.192	3.532		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-10			190.591	50.774	3.561		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-10			498.257	269.147	-4.781		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			498.257	270.228	-4.75		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			498.257	270.228	-4.75		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-10			498.257	370.246	1.653		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-10			498.257	416.354	8.055		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-10			498.257	408.552	14.457		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-10			498.257	346.84	20.859		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			498.257	231.219	27.262		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			498.257	231.219	27.262		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-10			498.257	230.073	27.271		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-10			264.71	92.437	-26.853		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			264.71	92.981	-26.843		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			264.71	92.981	-26.843		20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
24.06 STRENGTH B-10			264.71	196.424	-20.443	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-10			264.71	245.958	-14.043	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-10			264.71	241.581	-7.642	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-10			264.71	183.296	-1.242	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			264.71	71.1	5.158	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			264.71	71.1	5.158	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-10			264.71	70.519	5.19	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-10			498.257	269.147	-3.255	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			498.257	270.228	-3.226	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			498.257	270.228	-3.226	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-10			498.257	370.246	2.546	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-10			498.257	416.354	8.319	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-10			498.257	408.552	14.457	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-10			498.257	346.84	20.859	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			498.257	231.219	27.262	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			498.257	231.219	27.262	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-10			498.257	230.073	27.271	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-10			190.591	66.554	-26.853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			190.591	66.947	-26.843	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			190.591	66.947	-26.843	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-10			190.591	141.426	-20.443	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-10			190.591	177.09	-14.043	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98 STRENGTH B-10			190.591	173.939	-8.009	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94 STRENGTH B-10			190.591	131.973	-2.238	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			190.591	51.192	3.532	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9 STRENGTH B-10			190.591	51.192	3.532	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120 STRENGTH B-10			190.591	50.774	3.561	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0 STRENGTH B-10			354.066	210.327	-3.312	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			354.066	211.266	-3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1 STRENGTH B-10			354.066	211.266	-3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06 STRENGTH B-10			354.066	284.748	2.488	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02 STRENGTH B-10			354.066	319.414	8.259	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
71.98	STRENGTH B-11		354,066	315,265	14,03	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
95.94	STRENGTH B-11		354,066	272,301	19,802	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9	STRENGTH B-11		354,066	190,523	25,573	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9	STRENGTH B-11		354,066	190,523	25,573	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
120	STRENGTH B-11		354,066	189,549	25,58	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0	STRENGTH B-11		157,206	50,774	-25,387	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1	STRENGTH B-11		157,206	51,17	-25,38	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1	STRENGTH B-11		157,206	51,17	-25,38	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
24.06	STRENGTH B-11		157,206	126,691	-19,61	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
48.02	STRENGTH B-11		157,206	163,397	-13,839	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
71.98	STRENGTH B-11		157,206	161,287	-8,069	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
95.94	STRENGTH B-11		157,206	120,363	-2,298	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9	STRENGTH B-11		157,206	40,624	3,473	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9	STRENGTH B-11		157,206	40,624	3,473	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
120	STRENGTH B-11		157,206	40,624	3,502	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0	STRENGTH B-11		415,202	230,073	-4,856	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1	STRENGTH B-11		415,202	231,166	-4,824	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1	STRENGTH B-11		415,202	231,166	-4,824	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
24.06	STRENGTH B-11		415,202	334,016	1,577	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
48.02	STRENGTH B-11		415,202	382,957	7,978	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
71.98	STRENGTH B-11		415,202	377,988	14,38	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
95.94	STRENGTH B-11		415,202	319,109	20,781	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9	STRENGTH B-11		415,202	206,321	27,182	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
119.9	STRENGTH B-11		415,202	206,321	27,182	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
120	STRENGTH B-11		415,202	205,186	27,192	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0	STRENGTH B-11		218,342	70,519	-26,931	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1	STRENGTH B-11		218,342	71,07	-26,921	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
0.1	STRENGTH B-11		218,342	71,07	-26,921	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
24.06	STRENGTH B-11		218,342	175,959	-20,521	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
48.02	STRENGTH B-11		218,342	226,94	-14,12	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
71.98	STRENGTH B-11		218,342	224,01	-7,719	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95
95.94	STRENGTH B-11		218,342	167,171	-1,319	20	50	65	1	29000	1	120	2.46	1000	2405,667	840,3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000	Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			P kips	M3 kip*ft	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _e kips	P _e kips	P _n kips	φ _t
119.9	STRENGTH B-11		218.342	56.423	5.082	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-11		218.342	56.423	5.082	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-11		218.342	55.847	5.113	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-11		415.202	230.073	-3.312	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-11		415.202	231.166	-3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-11		415.202	231.166	-3.284	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-11		415.202	334.016	2.488	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-11		415.202	382.957	8.259	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-11		415.202	377.988	14.38	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-11		415.202	319.109	20.781	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-11		415.202	206.321	27.182	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-11		415.202	206.321	27.182	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-11		415.202	205.186	27.192	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-11		157.206	50.774	-26.921	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-11		157.206	51.17	-26.921	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-11		157.206	51.17	-26.921	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-11		157.206	126.691	-20.521	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-11		157.206	163.397	-14.12	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-11		157.206	161.287	-8.069	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-11		157.206	120.363	-2.298	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-11		157.206	40.624	3.473	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-11		157.206	40.624	3.473	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-11		157.206	40.21	3.502	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-12		264.252	189.549	-2.525	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		264.252	190.36	-2.518	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		264.252	190.36	-2.518	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-12		264.252	235.138	3.253	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-12		264.252	241.101	9.028	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-12		264.252	208.249	14.804	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-12		264.252	136.582	20.58	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		264.252	33.312	26.356	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		264.252	33.312	26.356	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000	Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			kips	kip*in	kips	in ²	ksi	ksi	Q	E	K	in	in	kips	kips	kips	ϕ_y
120	STRENGTH B-12		264.252	30.676	26.362	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-12		114.677	40.21	-24.616	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		114.677	40.549	-24.609	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		114.677	40.549	-24.609	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-12		114.677	98.47	-18.844	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-12		114.677	117.575	-13.08	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-12		114.677	97.866	-7.315	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-12		114.677	39.341	-1.55	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		114.677	-57.998	4.215	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		114.677	-57.998	4.215	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-12		114.677	-58.5	4.244	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-12		308.849	205.186	-3.846	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		308.849	206.129	-3.836	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		308.849	206.129	-3.836	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-12		308.849	274.936	2.565	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-12		308.849	289.834	8.971	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-12		308.849	250.822	15.376	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-12		308.849	157.9	21.782	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		308.849	18.281	28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		308.849	18.281	28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-12		308.849	15.462	28.197	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-12		159.274	55.847	-25.937	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		159.274	56.319	-25.927	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		159.274	56.319	-25.927	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-12		159.274	138.268	-19.532	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-12		159.274	166.308	-13.137	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-12		159.274	140.439	-6.743	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-12		159.274	60.659	-0.348	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		159.274	-73.029	6.047	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		159.274	-73.029	6.047	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-12		159.274	-73.714	6.079	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-12		308.849	205.186	-2.525	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location ft	Load Case	Frame #	P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _o kips	P _e kips	P _n kips	φ _y
0.1	STRENGTH B-12		308.849	206.129	-2.518	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		308.849	206.129	-2.518	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-12		308.849	274.936	3.253	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-12		308.849	289.834	9.028	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-12		308.849	250.822	15.376	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-12		308.849	157.9	21.782	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		308.849	33.312	28.188	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		308.849	30.676	28.197	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-12		308.849	40.21	-25.937	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		114.677	40.549	-25.927	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-12		114.677	40.549	-25.927	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-12		114.677	98.47	-19.532	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-12		114.677	117.575	-13.137	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-12		114.677	97.866	-7.315	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-12		114.677	39.341	-1.55	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		114.677	-73.029	4.215	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-12		114.677	-73.029	4.215	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-12		114.677	-73.714	4.244	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-13		147.882	30.676	-3.669	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		147.882	32.699	-3.641	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		147.882	32.699	-3.641	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-13		147.882	120.701	2.083	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-13		147.882	177.137	7.806	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-13		147.882	194.757	13.53	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-13		147.882	173.563	19.254	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		147.882	113.554	24.977	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		147.882	113.554	24.977	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-13		147.882	112.13	24.984	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-13		62.387	-58.5	-25.797	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		62.387	-57.977	-25.79	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		62.387	-57.977	-25.79	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_o	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
24.06	STRENGTH B-13		62.387	27.05	-20.056	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-13		62.387	73.262	-14.322	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-13		62.387	80.659	-8.588	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-13		62.387	49.241	-2.854	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		62.387	-20.991	2.881	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		62.387	-20.991	2.881	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-13		62.387	-21.382	3.008	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-13		172.143	15.462	-5.306	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		172.143	17.648	-5.275	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		172.143	17.648	-5.275	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-13		172.143	137.249	1.079	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-13		172.143	210.19	7.432	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-13		172.143	229.221	13.786	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-13		172.143	194.343	20.14	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		172.143	105.555	26.493	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		172.143	103.978	26.503	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-13		172.143	103.978	26.503	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-13		86.649	-73.714	-27.433	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		86.649	-73.029	-27.424	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		86.649	-73.029	-27.424	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-13		86.649	43.598	-21.06	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-13		86.649	106.315	-14.696	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
71.98	STRENGTH B-13		86.649	115.123	-8.332	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
95.94	STRENGTH B-13		86.649	70.021	-1.967	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		86.649	-28.991	4.397	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13		86.649	-28.991	4.397	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
120	STRENGTH B-13		86.649	-29.533	4.526	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0	STRENGTH B-13		172.143	32.676	-3.669	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		172.143	32.699	-3.641	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13		172.143	32.699	-3.641	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
24.06	STRENGTH B-13		172.143	137.249	2.083	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
48.02	STRENGTH B-13		172.143	210.19	7.806	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)						
Location	Load Case	Frame #		Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000		Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling		Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft				kips	kip*in	kips		in ²	ksi	ksi	Q	E	K	ℓ	r _y		kips	kips	kips	φ _y
71.98	STRENGTH B-13			172.143	229.221	13.786		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
95.94	STRENGTH B-13			172.143	194.343	20.14		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13			172.143	113.554	26.493		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13			172.143	113.554	26.493		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
120	STRENGTH B-13			172.143	112.13	26.503		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0	STRENGTH B-13			62.387	-73.714	-27.433		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13			62.387	-73.029	-27.424		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-13			62.387	-73.029	-27.424		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
24.06	STRENGTH B-13			62.387	27.05	-21.06		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
48.02	STRENGTH B-13			62.387	73.262	-14.696		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
71.98	STRENGTH B-13			62.387	80.659	-8.588		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
95.94	STRENGTH B-13			62.387	49.241	-2.854		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13			62.387	-28.991	2.881		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-13			62.387	-28.991	2.881		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
120	STRENGTH B-13			62.387	-29.533	3.008		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0	STRENGTH B-14			147.882	112.13	-3.475		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-14			147.882	113.544	-3.302		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-14			147.882	113.544	-3.302		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
24.06	STRENGTH B-14			147.882	168.785	2.499		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
48.02	STRENGTH B-14			147.882	185.211	8.37		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
71.98	STRENGTH B-14			147.882	162.823	14.241		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
95.94	STRENGTH B-14			147.882	101.619	20.112		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-14			147.882	2.599	25.983		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-14			147.882	2.599	25.983		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
120	STRENGTH B-14			147.882	3.04E-13	25.99		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0	STRENGTH B-14			62.387	-21.382	-25.457		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-14			62.387	-20.957	-25.45		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-14			62.387	-20.957	-25.45		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
24.06	STRENGTH B-14			62.387	60.942	-19.589		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
48.02	STRENGTH B-14			62.387	104.026	-13.729		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
71.98	STRENGTH B-14			62.387	108.295	-7.868		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
95.94	STRENGTH B-14			62.387	73.749	-2.007		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kip ² /in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
119.9	STRENGTH B-14		62.387	0.388	3.853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
119.9	STRENGTH B-14		62.387	0.388	3.853	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	120	STRENGTH B-14		3.04E-13	3.882	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0	STRENGTH B-14		172.143	103.978	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0.1	STRENGTH B-14		172.143	105.557	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0.1	STRENGTH B-14		172.143	105.557	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	24.06	STRENGTH B-14		172.143	192.615	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	48.02	STRENGTH B-14		172.143	225.764	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	71.98	STRENGTH B-14		172.143	205.003	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	95.94	STRENGTH B-14		172.143	130.332	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	119.9	STRENGTH B-14		172.143	2.75	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	120	STRENGTH B-14		172.143	4.22E-13	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0	STRENGTH B-14		86.649	-29.533	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0.1	STRENGTH B-14		86.649	-28.944	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0.1	STRENGTH B-14		86.649	-28.944	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	24.06	STRENGTH B-14		86.649	84.772	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	48.02	STRENGTH B-14		86.649	144.578	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	71.98	STRENGTH B-14		86.649	150.474	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	95.94	STRENGTH B-14		86.649	102.461	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	119.9	STRENGTH B-14		86.649	0.539	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	120	STRENGTH B-14		86.649	4.22E-13	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0	STRENGTH B-14		172.143	112.13	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0.1	STRENGTH B-14		172.143	113.544	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	0.1	STRENGTH B-14		172.143	113.544	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	24.06	STRENGTH B-14		172.143	192.615	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	48.02	STRENGTH B-14		172.143	225.764	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	71.98	STRENGTH B-14		172.143	205.003	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	95.94	STRENGTH B-14		172.143	130.332	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	119.9	STRENGTH B-14		172.143	2.75	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95
	120	STRENGTH B-14		172.143	2.75	20	50	65	1	29000	1	120	2.46	1000	2405.667	840.3094	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)					
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000		Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraces length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling		Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			kips	Kip*in	kips		A_g in ²	F_y ksi	F_u ksi	Q	E ksi	K	l in	r_y in		P_o kips	P_e kips	P_n kips	ϕ_y
120	STRENGTH B-14		172.143	4.22E+3	27.5		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0	STRENGTH B-14		62.387	-29.533	-27.102		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-14		62.387	-28.944	-27.093		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
0.1	STRENGTH B-14		62.387	-28.944	-27.093		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
24.06	STRENGTH B-14		62.387	60.942	-20.602		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
48.02	STRENGTH B-14		62.387	104.026	-14.112		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
71.98	STRENGTH B-14		62.387	108.295	-7.868		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
95.94	STRENGTH B-14		62.387	73.749	-2.007		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-14		62.387	0.388	3.853		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
119.9	STRENGTH B-14		62.387	0.388	3.853		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95
120	STRENGTH B-14		62.387	3.04E+3	3.882		20	50	65	1	29000	1	120	2.46		1000	2405.667	840.3094	0.95

Bottom Chord Membe

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.2.1)								
Location	Load Case	Frame #	P _t kips	P _u kips	D/C _{tension}	P _c kips	P _u kips	C _{compression}	b _f in	t _f in	F _{yf} ksi	S _x in ³	Z _x in ³	λ _y	λ _{pf}	λ _{rf}	M _p kip*in
0 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-1			950	134.887	0.141986		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-1			950	62.387	0.065671		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-1			950	159.149	0.167525		0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location	Load Case	Frame #	P_r kips	P_u kips	$D/C_{tension}$	ϕ_c	P_r kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_y in^3	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_p in^3	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_y	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pF}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{rF}	plastic moment, 6.12.2.2.1 M_p kip*in
120 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-1			950	86,649	0.091209	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-1			950	159,149	0.167525	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-1			950	62,387	0.065671	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-1			950	134,887	0.141986	0.9	756,2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.2.1)									
Location	Load Case	Frame #	P _t kips	P _u kips	D/C _{tension}	φ _c	P _c kips	P _u kips	C _{compression}	b _f in	t _f in	F _y ksi	S _y in ³	Z _y in ³	λ _{pf}	λ _{pl}	λ _{nr}	M _p kip*in
0.1 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-2			950	134.887	0.141986	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-2			950	62.387	0.065671	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-2			950	159.149	0.167525	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-2			950	86.649	0.091209	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-2			950	86.649	0.091209	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-2			950	86.649	0.091209	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.2.1)								
Location	Load Case	Frame #	P _t kips	P _u kips	D/C _{tension}	P _t kips	P _u kips	Compression	Flange width b _f in	Flange thickness t _f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F _y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S _x in ³	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z _x in ³	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ _r	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ _{rc}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ _{rt}	plastic moment, 6.12.2.2.1 M _p kip*in
24.06	STRENGTH B-2		950	86.649	0.091209	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-2		950	86.649	0.091209	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-2		950	86.649	0.091209	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-2		950	86.649	0.091209	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-2		950	86.649	0.091209	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-2		950	86.649	0.091209	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-2		950	86.649	0.091209	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-2		950	159.149	0.167525	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-2		950	62.387	0.065671	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-3		950	248.777	0.261871	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-3		950	248.777	0.261871	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-3		950	248.777	0.261871	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-3		950	248.777	0.261871	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)																											
Location ft	Load Case	Frame #	P_t kips	P_u kips	$D/C_{tension}$	ϕ_c	P_c kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	F_y ksi	S_x in^3	Z_x in^3	λ_c	λ_{pf}	λ_{nt}	M_p $\text{kip}\cdot\text{ft}$																				
			Factored tensile resistance, only considering gross section yielding 6.8.2.1-1			Axial tension experienced by member under factored loads				Resistance factor for compression, AASHTO LRFD 6.5.4.2			Factored compressive resistance, 6.9.2.1-1			Axial compression experienced by member under factored loads				Flange width			Flange thickness		specific minimum yield strength, AASHTO LRFD 6.12.2.2.1		Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1		plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1		Slenderness ratio for the compression flange, 6.10.8.2.2-3		Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4		Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5		plastic moment, 6.12.2.2.1	
71.98	STRENGTH B-3		950	248.777	0.261871	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
95.94	STRENGTH B-3		950	248.777	0.261871	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
119.9	STRENGTH B-3		950	248.777	0.261871	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
119.9	STRENGTH B-3		950	248.777	0.261871	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
120	STRENGTH B-3		950	248.777	0.261871	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
0.1	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
0.1	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
24.06	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
48.02	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
71.98	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
95.94	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
119.9	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
119.9	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
120	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
0	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
0.1	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
24.06	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
48.02	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
71.98	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
95.94	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
119.9	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
119.9	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
120	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
0	STRENGTH B-3		950	159.274	0.167657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
0.1	STRENGTH B-3		950	159.274	0.167657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
24.06	STRENGTH B-3		950	159.274	0.167657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
48.02	STRENGTH B-3		950	159.274	0.167657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
71.98	STRENGTH B-3		950	159.274	0.167657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				
95.94	STRENGTH B-3		950	159.274	0.167657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815																				

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location	Load Case	Frame #	P_t	P_u	$D/C_{tension}$	ϕ_c	P_c	P_u	Compression	Flange width	Flange thickness	F_y	S_y	Z_y	λ_c	λ_{pf}	λ_{rt}	M_p
			Factored tensile resistance, only considering gross section yielding 6.8.2.2.1-1	Axial tension experienced by member under factored loads		Resistance factor for compression, AASHTO LRFD 6.5.4.2	Factored compressive resistance, 6.9.2.2.1-1	Axial compression experienced by member under factored loads				specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
119.9	STRENGTH B-3		950	159.274	0.167/657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-3		950	159.274	0.167/657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-3		950	159.274	0.167/657	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-3		950	293.374	0.308815	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-3		950	114.677	0.120713	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location	Load Case	Frame #	P_r kips	P_u kips	D/C-tension	ϕ_c	P_c kips	P_u kips	Ccompression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_y in ³	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_p in ³	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_y	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pF}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{rF}	plastic moment, 6.12.2.2.1 M_p kip*in
120	STRENGTH B-4		950	341.562	0.359539	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
950	157.206		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-4		950	218.342	0.229834	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-4		950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location	Load Case	Frame #	P_r kips	P_u kips	D/C _{tension}	ϕ_c	P_r kips	P_u kips	C _{compression}	b_f in	t_f in	F_y ksi	S_x in ³	Z_x in ³	λ_y	λ_{yf}	λ_{rf}	M_p kip*in
ft																		
0.1 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-4			950	402.697	0.423892	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-4			950	157.206	0.16548	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-5			950	414.789	0.43662	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.1)									
Location	Load Case	Frame #	P_r kips	P_u kips	D/C tension	ϕ_c	P_r kips	P_u kips	C compression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_y in ³	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_p in ³	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_y	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pF}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{rF}	plastic moment, 6.12.2.2.1 M_p kip*in
24.06 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-5			950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-5			950	264.71	0.278642	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-5			950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)						
Location	Load Case	Frame #	Factored tensile resistance, only considering gross section yielding 6.8.2.1-1	Axial tension experienced by member under factored loads	$D/C_{tension}$	Resistance factor for compression, AASHTO LRFD 6.5.4.2	Factored compressive resistance, 6.9.2.1-1	Axial compression experienced by member under factored loads	Compression	Flange width	Flange thickness	Specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
ft			P_t kips	P_u kips		ϕ_c	P_c kips	P_u kips		b_f in	t_f in	F_{yt} Ksi	S_y in ³	Z_x in ³	λ_c	λ_{cF}	λ_{cT}	M_p kip*in
71.98	STRENGTH-B-5		950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH-B-5		950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-5		950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-5		950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH-B-5		950	488.908	0.51464	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH-B-5		950	190.591	0.200622	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH-B-6		950	467.429	0.492031	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH-B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH-B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH-B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH-B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH-B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location	Load Case	Frame #	P_r	P_u	$D/C_{tension}$	ϕ_c	P_r	P_u	Compression	Flange width	Flange thickness	F_y	S_y	Z_y	λ_r	λ_{rH}	λ_{rT}	M_p
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
119.9	STRENGTH B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	214.394	0.225678	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	297.769	0.313441	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	550.804	0.579794	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.1)								
Location	Load Case	Frame #	P_c	P_u	$D/C_{tension}$	P_c	P_u	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
ft			kips	kips		kips	kips		in	in	ksi	S_y	Z_y	λ_r	λ_{pr}	λ_{nr}	kip*in
120	STRENGTH B-6		950	550.804	0.579794		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-6		950	214.394	0.225678		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-7		950	499.706	0.526006		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-7		950	228.707	0.240744		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-7		950	588.648	0.619629		0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)						
Location	Load Case	Frame #	P _t kips	P _u kips	D/C _{tension}	φ _c	P _c kips	P _u kips	Compression	b _f in	t _f in	F _{yt} ksi	S _y in ³	Z _x in ³	λ _f	λ _{pf}	λ _{nf}	M _p kip*ft
24.06 STRENGTH B-7			950	228.707	0.2407/44	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-7			950	228.707	0.2407/44	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-7			950	228.707	0.2407/44	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-7			950	228.707	0.2407/44	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-7			950	228.707	0.2407/44	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-7			950	228.707	0.2407/44	0.9	756.2784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-8			950	502.84	0.529305	1.9	1596.588	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	502.84	0.529305	2.9	2436.897	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	502.84	0.529305	3.9	3277.206	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-8			950	502.84	0.529305	4.9	4117.516	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-8			950	502.84	0.529305	5.9	4957.825	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-8			950	502.84	0.529305	6.9	5798.135	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-8			950	502.84	0.529305	7.9	6638.444	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	502.84	0.529305	8.9	7478.753	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	502.84	0.529305	9.9	8319.063	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-8			950	228.707	0.2407/44	11.9	9999.681	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	228.707	0.2407/44	12.9	10839.99	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	228.707	0.2407/44	13.9	11680.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-8			950	228.707	0.2407/44	14.9	12520.61	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-8			950	228.707	0.2407/44	15.9	13360.92	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-8			950	228.707	0.2407/44	16.9	14201.23	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-8			950	228.707	0.2407/44	17.9	15041.54	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	228.707	0.2407/44	18.9	15881.85	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	228.707	0.2407/44	19.9	16722.16	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-8			950	228.707	0.2407/44	20.9	17562.47	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-8			950	591.782	0.622928	21.9	18402.77	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	591.782	0.622928	22.9	19243.08	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	591.782	0.622928	23.9	20083.39	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-8			950	591.782	0.622928	24.9	20923.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-8			950	591.782	0.622928	25.9	21764.01	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location	Load Case	Frame #	P_t	P_u	$D/C_{tension}$	ϕ_c	P_c	P_u	$C_{compression}$	b_f	t_f	F_y	S_y	Z_y	λ_c	λ_{pd}	λ_{nt}	M_p
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
71.98 STRENGTH B-8			950	591.782	0.622928	26.9	22604.32	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-8			950	591.782	0.622928	27.9	23444.63	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	591.782	0.622928	28.9	24284.94	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	591.782	0.622928	29.9	25125.25	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-8			950	591.782	0.622928	30.9	25965.56	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-8			950	317.649	0.334367	31.9	26805.87	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	317.649	0.334367	32.9	27646.18	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	317.649	0.334367	33.9	28486.49	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-8			950	317.649	0.334367	34.9	29326.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-8			950	317.649	0.334367	35.9	30167.11	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-8			950	317.649	0.334367	36.9	31007.42	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-8			950	317.649	0.334367	37.9	31847.72	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	317.649	0.334367	38.9	32688.03	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	317.649	0.334367	39.9	33528.34	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-8			950	317.649	0.334367	40.9	34368.65	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-8			950	591.782	0.622928	41.9	35208.96	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	591.782	0.622928	42.9	36049.27	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	591.782	0.622928	43.9	36889.58	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-8			950	591.782	0.622928	44.9	37729.89	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-8			950	591.782	0.622928	45.9	38570.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-8			950	591.782	0.622928	46.9	39410.51	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-8			950	591.782	0.622928	47.9	40250.82	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	591.782	0.622928	48.9	41091.13	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-8			950	591.782	0.622928	49.9	41931.44	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-8			950	591.782	0.622928	50.9	42771.75	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-8			950	228.707	0.240744	51.9	43612.06	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	228.707	0.240744	52.9	44452.36	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-8			950	228.707	0.240744	53.9	45292.67	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-8			950	228.707	0.240744	54.9	46132.98	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-8			950	228.707	0.240744	55.9	46973.29	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-8			950	228.707	0.240744	56.9	47813.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-8			950	228.707	0.240744	57.9	48653.91	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.2.1)										
Location	Load Case	Frame #	P _t	P _u	D/C _{tension}	Resistance factor for compression, AASHTO LRFD 6.5.4.2	φ _c	P _c	P _u	C _{compression}	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	M _p
ft			kips	kips				kips	kips		in	in	ksi	In ³	In ³		λ _{pl}	λ _{pl}	kip*in
119.9	STRENGTH B-8		950	228.707	0.240744	58.9	4949.422	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-8		950	228.707	0.240744	59.9	5034.53	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-8		950	228.707	0.240744	60.9	5117.484	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-9		950	473.665	0.498595	61.9	52015.15	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-9		950	473.665	0.498595	62.9	52855.46	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-9		950	473.665	0.498595	63.9	53695.77	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-9		950	473.665	0.498595	64.9	54536.08	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-9		950	473.665	0.498595	65.9	55376.39	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-9		950	473.665	0.498595	66.9	56216.7	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-9		950	473.665	0.498595	67.9	57057.01	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-9		950	473.665	0.498595	68.9	57897.31	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-9		950	473.665	0.498595	69.9	58737.62	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-9		950	473.665	0.498595	70.9	59577.93	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-9		950	214.394	0.225678	71.9	60418.24	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-9		950	214.394	0.225678	72.9	61258.55	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-9		950	214.394	0.225678	73.9	62098.86	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-9		950	214.394	0.225678	74.9	62939.17	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-9		950	214.394	0.225678	75.9	63779.48	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-9		950	214.394	0.225678	76.9	64619.79	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-9		950	214.394	0.225678	77.9	65460.1	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-9		950	214.394	0.225678	78.9	66300.41	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-9		950	214.394	0.225678	79.9	67140.72	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-9		950	214.394	0.225678	80.9	67981.03	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-9		950	557.04	0.586358	81.9	68821.34	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-9		950	557.04	0.586358	82.9	69661.65	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-9		950	557.04	0.586358	83.9	70501.95	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-9		950	557.04	0.586358	84.9	71342.26	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-9		950	557.04	0.586358	85.9	72182.57	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-9		950	557.04	0.586358	86.9	73022.88	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-9		950	557.04	0.586358	87.9	73863.19	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-9		950	557.04	0.586358	88.9	74703.5	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-9		950	557.04	0.586358	89.9	75543.81	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)					COMPRESSION (6.9)					FLEXURE (6.12.2.1)					
Location	Load Case	Frame #	P_u kips	P_u kips	D/C_{ension}	ϕ_c	P_u kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_x in ³	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_x in ³	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_c	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{c1}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{c2}	plastic moment, 6.12.2.2.1 M_p kip*in
120	STRENGTH B-9		950	557.04	0.586358	90.9	76384.12	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0	STRENGTH B-9		950	297.769	0.313441	91.9	77224.43	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0.1	STRENGTH B-9		950	297.769	0.313441	92.9	78064.74	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0.1	STRENGTH B-9		950	297.769	0.313441	93.9	78905.05	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
24.06	STRENGTH B-9		950	297.769	0.313441	94.9	79745.36	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
48.02	STRENGTH B-9		950	297.769	0.313441	95.9	80585.67	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
71.98	STRENGTH B-9		950	297.769	0.313441	96.9	81425.98	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
95.94	STRENGTH B-9		950	297.769	0.313441	97.9	82266.29	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	297.769	0.313441	98.9	83106.6	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	297.769	0.313441	99.9	83946.9	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
120	STRENGTH B-9		950	297.769	0.313441	100.9	84787.21	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0	STRENGTH B-9		950	557.04	0.586358	101.9	85627.52	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0.1	STRENGTH B-9		950	557.04	0.586358	102.9	86467.83	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
24.06	STRENGTH B-9		950	557.04	0.586358	103.9	87308.14	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
48.02	STRENGTH B-9		950	557.04	0.586358	104.9	88148.45	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
71.98	STRENGTH B-9		950	557.04	0.586358	105.9	88988.76	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
95.94	STRENGTH B-9		950	557.04	0.586358	106.9	89829.07	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	557.04	0.586358	107.9	90669.38	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	557.04	0.586358	108.9	91509.69	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
120	STRENGTH B-9		950	557.04	0.586358	109.9	92350	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0	STRENGTH B-9		950	214.394	0.225678	110.9	93190.31	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0.1	STRENGTH B-9		950	214.394	0.225678	111.9	94030.62	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
24.06	STRENGTH B-9		950	214.394	0.225678	112.9	94870.93	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
48.02	STRENGTH B-9		950	214.394	0.225678	113.9	95711.24	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
71.98	STRENGTH B-9		950	214.394	0.225678	114.9	96551.54	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
95.94	STRENGTH B-9		950	214.394	0.225678	115.9	97391.85	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	214.394	0.225678	116.9	98232.16	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	214.394	0.225678	117.9	99072.47	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	214.394	0.225678	118.9	99912.78	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
119.9	STRENGTH B-9		950	214.394	0.225678	119.9	100753.1	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
120	STRENGTH B-9		950	214.394	0.225678	120.9	101593.4	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	
0	STRENGTH B-10		950	424.138	0.446461	121.9	102433.7	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815	

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.1)									
Location	Load Case	Frame #	P_r kips	P_u kips	$D/C_{tension}$	ϕ_c	P_r kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_y in ³	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_y in ³	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_c	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pf}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{r1}	plastic moment, 6.12.2.2.1 M_p kip*in
0.1 STRENGTH B-10			950	424.138	0.446461	122.9	103274	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-10			950	424.138	0.446461	123.9	104114.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-10			950	424.138	0.446461	124.9	104954.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-10			950	424.138	0.446461	125.9	105794.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-10			950	424.138	0.446461	126.9	106635.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-10			950	424.138	0.446461	127.9	107475.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-10			950	424.138	0.446461	128.9	108315.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
143.9 STRENGTH B-10			950	424.138	0.446461	129.9	109156.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
167.9 STRENGTH B-10			950	424.138	0.446461	130.9	109996.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
191.9 STRENGTH B-10			950	424.138	0.446461	131.9	110836.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
215.9 STRENGTH B-10			950	424.138	0.446461	132.9	111677.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
239.9 STRENGTH B-10			950	424.138	0.446461	133.9	112517.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
263.9 STRENGTH B-10			950	424.138	0.446461	134.9	113357.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
287.9 STRENGTH B-10			950	424.138	0.446461	135.9	114198	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
311.9 STRENGTH B-10			950	424.138	0.446461	136.9	115038.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
335.9 STRENGTH B-10			950	424.138	0.446461	137.9	115878.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
359.9 STRENGTH B-10			950	424.138	0.446461	138.9	116719	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
383.9 STRENGTH B-10			950	424.138	0.446461	139.9	117559.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
407.9 STRENGTH B-10			950	424.138	0.446461	140.9	118399.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
431.9 STRENGTH B-10			950	424.138	0.446461	141.9	119239.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
455.9 STRENGTH B-10			950	424.138	0.446461	142.9	120080.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
479.9 STRENGTH B-10			950	424.138	0.446461	143.9	120920.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
503.9 STRENGTH B-10			950	424.138	0.446461	144.9	121760.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
527.9 STRENGTH B-10			950	424.138	0.446461	145.9	122601.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
551.9 STRENGTH B-10			950	424.138	0.446461	146.9	123441.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
575.9 STRENGTH B-10			950	424.138	0.446461	147.9	124281.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
599.9 STRENGTH B-10			950	424.138	0.446461	148.9	125122.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
623.9 STRENGTH B-10			950	424.138	0.446461	149.9	125962.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
647.9 STRENGTH B-10			950	424.138	0.446461	150.9	126802.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
671.9 STRENGTH B-10			950	424.138	0.446461	151.9	127643	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
695.9 STRENGTH B-10			950	424.138	0.446461	152.9	128483.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
719.9 STRENGTH B-10			950	424.138	0.446461	153.9	129323.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)					COMPRESSION (6.9)					FLEXURE (6.12.1)					
Location	Load Case	Frame #	P_t kips	P_u kips	$D/C_{tension}$	ϕ_c	P_t kips	P_u kips	Ccompression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_y in^3	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_y in^3	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_f	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pf}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{pf}	plastic moment, 6.12.2.2.1 M_p kip*in
24.06 STRENGTH B-10			950	264.71	0.278642	154.9	130163.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-10			950	264.71	0.278642	155.9	131004.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-10			950	264.71	0.278642	156.9	131844.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-10			950	264.71	0.278642	157.9	132684.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-10			950	264.71	0.278642	158.9	133525.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-10			950	264.71	0.278642	159.9	134365.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-10			950	264.71	0.278642	160.9	135205.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-10			950	498.257	0.524481	161.9	136046.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-10			950	498.257	0.524481	162.9	136886.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-10			950	498.257	0.524481	163.9	137726.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-10			950	498.257	0.524481	164.9	138567	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-10			950	498.257	0.524481	165.9	139407.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-10			950	498.257	0.524481	166.9	140247.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-10			950	498.257	0.524481	167.9	141087.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-10			950	498.257	0.524481	168.9	141928.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-10			950	498.257	0.524481	169.9	142768.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-10			950	498.257	0.524481	170.9	143608.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-10			950	190.591	0.200622	171.9	144449.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-10			950	190.591	0.200622	172.9	145289.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-10			950	190.591	0.200622	173.9	146129.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-10			950	190.591	0.200622	174.9	146970.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-10			950	190.591	0.200622	175.9	147810.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-10			950	190.591	0.200622	176.9	148650.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-10			950	190.591	0.200622	177.9	149491	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-10			950	190.591	0.200622	178.9	150331.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-10			950	190.591	0.200622	179.9	151171.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-10			950	190.591	0.200622	180.9	152012	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0 STRENGTH B-10			950	354.066	0.372701	181.9	152852.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-10			950	354.066	0.372701	182.9	153692.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-10			950	354.066	0.372701	183.9	154532.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-10			950	354.066	0.372701	184.9	155373.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-10			950	354.066	0.372701	185.9	156213.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location ft	Load Case	Frame #	P _t kips	P _u kips	D/C _{tension}	φ _c	P _c kips	P _u kips	C _{compression}	b _f in	t _f in	F _y ksi	S _y in ³	Z _y in ³	λ _y	λ _{pl}	λ _{tr}	M _p kip*in
71.98	STRENGTH B-11		950	354.066	0.372701	186.9	157053.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-11		950	354.066	0.372701	187.9	157894.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	354.066	0.372701	188.9	158734.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	354.066	0.372701	189.9	159574.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-11		950	354.066	0.372701	190.9	160415.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	157.206	0.16548	191.9	161255.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	157.206	0.16548	192.9	162095.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	157.206	0.16548	193.9	162936	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-11		950	157.206	0.16548	194.9	163776.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-11		950	157.206	0.16548	195.9	164616.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-11		950	157.206	0.16548	196.9	165456.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-11		950	157.206	0.16548	197.9	166297.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	157.206	0.16548	198.9	167137.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	157.206	0.16548	199.9	167977.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-11		950	157.206	0.16548	200.9	168818.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-11		950	415.202	0.437055	201.9	169658.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	415.202	0.437055	202.9	170498.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	415.202	0.437055	203.9	171339.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-11		950	415.202	0.437055	204.9	172179.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-11		950	415.202	0.437055	205.9	173019.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-11		950	415.202	0.437055	206.9	173860	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-11		950	415.202	0.437055	207.9	174700.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	415.202	0.437055	208.9	175540.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	415.202	0.437055	209.9	176380.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-11		950	415.202	0.437055	210.9	177221.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-11		950	218.342	0.229834	211.9	178061.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	218.342	0.229834	212.9	178901.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	218.342	0.229834	213.9	179742.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-11		950	218.342	0.229834	214.9	180582.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-11		950	218.342	0.229834	215.9	181422.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-11		950	218.342	0.229834	216.9	182263.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-11		950	218.342	0.229834	217.9	183103.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)						
Location	Load Case	Frame #	P _t	P _u	D/C _{ension}	φ _c	P _c	P _u	Compression	b _f	t _f	F _y	S _x	Z _x	λ _y	λ _{pl}	λ _{r1}	M _p
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
119.9	STRENGTH B-11		950	218.342	0.229834	218.9	183943.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	218.342	0.229834	219.9	184784	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-11		950	218.342	0.229834	220.9	185624.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-11		950	415.202	0.437055	221.9	186464.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	415.202	0.437055	222.9	187305	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	415.202	0.437055	223.9	188145.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-11		950	415.202	0.437055	224.9	188985.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-11		950	415.202	0.437055	225.9	189825.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-11		950	415.202	0.437055	226.9	190666.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-11		950	415.202	0.437055	227.9	191506.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	415.202	0.437055	228.9	192346.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	415.202	0.437055	229.9	193187.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-11		950	415.202	0.437055	230.9	194027.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-11		950	157.206	0.16548	231.9	194867.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	157.206	0.16548	232.9	195708	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-11		950	157.206	0.16548	233.9	196548.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-11		950	157.206	0.16548	234.9	197388.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-11		950	157.206	0.16548	235.9	198229	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-11		950	157.206	0.16548	236.9	199069.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-11		950	157.206	0.16548	237.9	199909.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	157.206	0.16548	238.9	200749.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-11		950	157.206	0.16548	239.9	201590.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-11		950	157.206	0.16548	240.9	202430.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-12		950	264.252	0.27816	241.9	203270.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12		950	264.252	0.27816	242.9	204111.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12		950	264.252	0.27816	243.9	204951.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-12		950	264.252	0.27816	244.9	205791.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-12		950	264.252	0.27816	245.9	206632.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-12		950	264.252	0.27816	246.9	207472.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-12		950	264.252	0.27816	247.9	208312.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12		950	264.252	0.27816	248.9	209153	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12		950	264.252	0.27816	249.9	209993.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.1.1)									
Location	Load Case	Frame #	P_u	P_u	$D/C_{tension}$	ϕ_c	P_u	P_u	Compression	d_f	t_f	F_y	S_x	Z_x	λ_y	λ_{pl}	λ_{r1}	M_p
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
120	STRENGTH B-12	0	264.252	0.27816	250.9	210883.6	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12	0	114.677	0.120713	251.9	211673.9	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12	0	114.677	0.120713	252.9	212514.2	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12	0	114.677	0.120713	253.9	213354.5	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-12	0	114.677	0.120713	254.9	214194.9	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-12	0	114.677	0.120713	255.9	215035.2	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-12	0	114.677	0.120713	256.9	215875.5	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-12	0	114.677	0.120713	257.9	216715.8	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12	0	114.677	0.120713	258.9	217556.1	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12	0	114.677	0.120713	259.9	218396.4	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-12	0	114.677	0.120713	260.9	219236.7	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-12	0	308.849	0.325104	261.9	220077	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12	0	308.849	0.325104	262.9	220917.3	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-12	0	308.849	0.325104	263.9	221757.6	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-12	0	308.849	0.325104	264.9	222597.9	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-12	0	308.849	0.325104	265.9	223438.3	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-12	0	308.849	0.325104	266.9	224278.6	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12	0	308.849	0.325104	267.9	225118.9	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12	0	308.849	0.325104	268.9	225959.2	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-12	0	308.849	0.325104	269.9	226799.5	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-12	0	308.849	0.325104	270.9	227639.8	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12	0	159.274	0.167657	271.9	228480.1	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12	0	159.274	0.167657	272.9	229320.4	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-12	0	159.274	0.167657	273.9	230160.7	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-12	0	159.274	0.167657	274.9	231001	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-12	0	159.274	0.167657	275.9	231841.4	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-12	0	159.274	0.167657	276.9	232681.7	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-12	0	159.274	0.167657	277.9	233522	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12	0	159.274	0.167657	278.9	234362.3	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-12	0	159.274	0.167657	279.9	235202.6	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-12	0	159.274	0.167657	280.9	236042.9	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-12	0	308.849	0.325104	281.9	236883.2	0	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)							FLEXURE (6.12.2.1)				
Location	Load Case	Frame #	P_t kips	P_u kips	$D/C_{tension}$	ϕ_c	P_c kips	P_u kips	Ccompression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_y in^3	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_y in^3	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_c	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pf}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{r1}	plastic moment, 6.12.2.2.1 M_p kip*in
0.1 STRENGTH B-12			950	308.849	0.325104	282.9	237723.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-12			950	308.849	0.325104	283.9	238563.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-12			950	308.849	0.325104	284.9	239404.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-12			950	308.849	0.325104	285.9	240244.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-12			950	308.849	0.325104	286.9	241084.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-12			950	308.849	0.325104	287.9	241925.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-12			950	308.849	0.325104	288.9	242765.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-12			950	308.849	0.325104	289.9	243605.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-12			950	308.849	0.325104	290.9	244446	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-12			950	114.677	0.120713	291.9	245286.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-12			950	114.677	0.120713	292.9	246126.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-12			950	114.677	0.120713	293.9	246966.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-12			950	114.677	0.120713	294.9	247807.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-12			950	114.677	0.120713	295.9	248647.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-12			950	114.677	0.120713	296.9	249487.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-12			950	114.677	0.120713	297.9	250328.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-12			950	114.677	0.120713	298.9	251168.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-12			950	114.677	0.120713	299.9	252008.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-12			950	114.677	0.120713	300.9	252849.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-13			950	147.882	0.155665	301.9	253689.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-13			950	147.882	0.155665	302.9	254529.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-13			950	147.882	0.155665	303.9	255370	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-13			950	147.882	0.155665	304.9	256210.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06 STRENGTH B-13			950	147.882	0.155665	305.9	257050.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02 STRENGTH B-13			950	147.882	0.155665	306.9	257890.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98 STRENGTH B-13			950	147.882	0.155665	307.9	258731.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94 STRENGTH B-13			950	147.882	0.155665	308.9	259571.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-13			950	147.882	0.155665	309.9	260411.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9 STRENGTH B-13			950	147.882	0.155665	310.9	261252.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120 STRENGTH B-13			950	147.882	0.155665	311.9	262092.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-13			950	62.387	0.065671	312.9	262932.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1 STRENGTH B-13			950	62.387	0.065671	313.9	263773.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location	Load Case	Frame #	P _t kips	P _u kips	D/C _{tension}	φ _c	P _r kips	P _u kips	Compression	b _f in	t _f in	F _{yf} ksi	S _x in ³	Z _x in ³	λ _c	λ _{pf}	λ _{nf}	M _p kip*in
24.06	STRENGTH-B-13		950	62.387	0.065671	314.9	264613.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH-B-13		950	62.387	0.065671	315.9	265453.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH-B-13		950	62.387	0.065671	316.9	266294	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH-B-13		950	62.387	0.065671	317.9	267134.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-13		950	62.387	0.065671	318.9	267974.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-13		950	62.387	0.065671	319.9	268815	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH-B-13		950	62.387	0.065671	320.9	269655.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	172.143	0.181203	322.9	271335.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	172.143	0.181203	323.9	272176.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH-B-13		950	172.143	0.181203	324.9	273016.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH-B-13		950	172.143	0.181203	325.9	273856.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH-B-13		950	172.143	0.181203	326.9	274697.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH-B-13		950	172.143	0.181203	327.9	275537.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-13		950	172.143	0.181203	328.9	276377.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-13		950	172.143	0.181203	329.9	277218.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH-B-13		950	172.143	0.181203	330.9	278058.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	86.649	0.091209	331.9	278898.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	86.649	0.091209	332.9	279739	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	86.649	0.091209	333.9	280579.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH-B-13		950	86.649	0.091209	334.9	281419.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH-B-13		950	86.649	0.091209	335.9	282259.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH-B-13		950	86.649	0.091209	336.9	283100.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH-B-13		950	86.649	0.091209	337.9	283940.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-13		950	86.649	0.091209	338.9	284780.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH-B-13		950	86.649	0.091209	339.9	285621.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH-B-13		950	86.649	0.091209	340.9	286461.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	172.143	0.181203	341.9	287301.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	172.143	0.181203	342.9	288142.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH-B-13		950	172.143	0.181203	343.9	288982.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH-B-13		950	172.143	0.181203	344.9	289822.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH-B-13		950	172.143	0.181203	345.9	290663	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location	Load Case	Frame #	P_t kips	P_u kips	D/ $C_{tension}$	ϕ_c	P_c kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	F_y ksi	S_x in ³	Z_x in ³	λ_c	λ_{cfl}	λ_{cn}	M_p kip*in
71.98	STRENGTH B-13		950	172.143	0.181203	346.9	291503.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-13		950	172.143	0.181203	347.9	292343.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-13		950	172.143	0.181203	348.9	293183.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-13		950	172.143	0.181203	349.9	294024.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-13		950	172.143	0.181203	350.9	294864.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-13		950	62.387	0.065671	351.9	295704.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-13		950	62.387	0.065671	352.9	296545.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-13		950	62.387	0.065671	353.9	297385.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-13		950	62.387	0.065671	354.9	298225.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-13		950	62.387	0.065671	355.9	299066.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-13		950	62.387	0.065671	356.9	299906.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-13		950	62.387	0.065671	357.9	300746.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-13		950	62.387	0.065671	358.9	301587	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-13		950	62.387	0.065671	359.9	302427.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-14		950	62.387	0.065671	360.9	303267.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	147.882	0.155665	361.9	304108	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	147.882	0.155665	362.9	304948.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	147.882	0.155665	363.9	305788.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-14		950	147.882	0.155665	364.9	306628.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-14		950	147.882	0.155665	365.9	307469.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-14		950	147.882	0.155665	366.9	308309.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-14		950	147.882	0.155665	367.9	309149.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	147.882	0.155665	368.9	309990.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	147.882	0.155665	369.9	310830.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-14		950	147.882	0.155665	370.9	311670.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-14		950	62.387	0.065671	371.9	312511	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	62.387	0.065671	372.9	313351.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	62.387	0.065671	373.9	314191.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-14		950	62.387	0.065671	374.9	315032	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-14		950	62.387	0.065671	375.9	315872.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-14		950	62.387	0.065671	376.9	316712.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-14		950	62.387	0.065671	377.9	317552.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location	Load Case	Frame #	P _t kips	P _u kips	D/C _{ension}	φ _c	P _c kips	P _u kips	Compression	b _f in	t _f in	F _y ksi	S _x in ³	Z _x in ³	λ _p	λ _{pf}	λ _{nf}	M _p kip*ft
119.9	STRENGTH B-14		950	62.387	0.065671	378.9	318993.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	62.387	0.065671	379.9	319233.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-14		950	62.387	0.065671	380.9	320073.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	172.143	0.181203	381.9	320914.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	172.143	0.181203	382.9	321754.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	172.143	0.181203	383.9	322594.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-14		950	172.143	0.181203	384.9	323435.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-14		950	172.143	0.181203	385.9	324275.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-14		950	172.143	0.181203	386.9	325115.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-14		950	172.143	0.181203	387.9	325956	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	172.143	0.181203	388.9	326796.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	172.143	0.181203	389.9	327636.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-14		950	172.143	0.181203	390.9	328476.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-14		950	86.649	0.091209	391.9	329317.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	86.649	0.091209	392.9	330157.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-14		950	86.649	0.091209	393.9	330997.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-14		950	86.649	0.091209	394.9	331838.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-14		950	86.649	0.091209	395.9	332678.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-14		950	86.649	0.091209	396.9	333518.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-14		950	86.649	0.091209	397.9	334359.1	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	86.649	0.091209	398.9	335199.4	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	86.649	0.091209	399.9	336039.7	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-14		950	86.649	0.091209	400.9	336880	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-14		950	172.143	0.181203	401.9	337720.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	172.143	0.181203	402.9	338560.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14		950	172.143	0.181203	403.9	339400.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-14		950	172.143	0.181203	404.9	340241.3	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-14		950	172.143	0.181203	405.9	341081.6	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-14		950	172.143	0.181203	406.9	341921.9	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-14		950	172.143	0.181203	407.9	342762.2	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	172.143	0.181203	408.9	343602.5	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14		950	172.143	0.181203	409.9	344442.8	0	0	10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)									
Location	Load Case	Frame #		P_t	P_u	D/C-tension		ϕ_c	P_c	P_u	C-compression		Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
ft				kips	kips				kips	kips			in	in	Ksi	in ³	in ³	λ_c	λ_{cp}	λ_{nr}	kip*in
120	STRENGTH B-14			950	172.143	0.181203		410.9	345283.1	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0	STRENGTH B-14			950	62.387	0.065671		411.9	346123.4	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14			950	62.387	0.065671		412.9	346963.7	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
0.1	STRENGTH B-14			950	62.387	0.065671		413.9	347804	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
24.06	STRENGTH B-14			950	62.387	0.065671		414.9	348644.4	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
48.02	STRENGTH B-14			950	62.387	0.065671		415.9	349484.7	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
71.98	STRENGTH B-14			950	62.387	0.065671		416.9	350325	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
95.94	STRENGTH B-14			950	62.387	0.065671		417.9	351165.3	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14			950	62.387	0.065671		418.9	352005.6	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
119.9	STRENGTH B-14			950	62.387	0.065671		419.9	352845.9	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815
120	STRENGTH B-14			950	62.387	0.065671		420.9	353686.2	0	0		10	0.72	50	24.2	36.9	6.944444	9.151612	19.98905	1815

Bottom Chord Membr

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M _n kip*in	φ _t N/A	φ* _t M _n kip*in	M _u kip*in	D/C _{flexure}	F _{yw} ksi	E ksi	D in	t _w in	k	C	V _p kip	V _n kip	φ _v N/A	φ _v V _n kip	V _u kip	(D)/C _v N/A	Combined tension and flexure AASHTO 6.8.2.3-1/2
0 STRENGTH B-1			1815	1	1815	0	0	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.882	0.012887	0.070993
0.1 STRENGTH B-1			1815	1	1815	2.598	0.001431	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.853	0.012791	0.072425
0.1 STRENGTH B-1			1815	1	1815	2.598	0.001431	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.853	0.012791	0.072425
24.06 STRENGTH B-1			1815	1	1815	94.627	0.052136	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.007	0.006662	0.123129
48.02 STRENGTH B-1			1815	1	1815	147.841	0.081455	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.868	0.026119	0.152448
71.98 STRENGTH B-1			1815	1	1815	162.24	0.089388	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	13.729	0.045575	0.160382
95.94 STRENGTH B-1			1815	1	1815	137.825	0.075937	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	19.589	0.065028	0.14693
119.9 STRENGTH B-1			1815	1	1815	74.594	0.041099	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.45	0.084484	0.112092
119.9 STRENGTH B-1			1815	1	1815	74.594	0.041099	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.45	0.084484	0.112092
120 STRENGTH B-1			1815	1	1815	72.144	0.039749	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.987	0.086267	0.032835
0.1 STRENGTH B-1			1815	1	1815	0	0	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.987	0.086267	0.032835
0.1 STRENGTH B-1			1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.98	0.086244	0.033049
0.1 STRENGTH B-1			1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.98	0.086244	0.033049
24.06 STRENGTH B-1			1815	1	1815	73.749	0.040653	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.098	0.066718	0.073468
48.02 STRENGTH B-1			1815	1	1815	108.295	0.059667	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.216	0.047192	0.092502
71.98 STRENGTH B-1			1815	1	1815	104.026	0.057315	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.333	0.027662	0.09015
95.94 STRENGTH B-1			1815	1	1815	60.942	0.033577	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.451	0.008136	0.066412
119.9 STRENGTH B-1			1815	1	1815	-20.957	0.011547	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.431	0.01139	0.021289
119.9 STRENGTH B-1			1815	1	1815	-20.957	0.011547	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.431	0.01139	0.021289
120 STRENGTH B-1			1815	1	1815	-21.382	0.011781	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.431	0.01139	0.021055
0 STRENGTH B-1			1815	1	1815	0	0	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.362	0.017899	0.083763
0.1 STRENGTH B-1			1815	1	1815	2.749	0.001515	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.361	0.017796	0.085277
0.1 STRENGTH B-1			1815	1	1815	2.749	0.001515	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.361	0.017796	0.085277
24.06 STRENGTH B-1			1815	1	1815	123.34	0.067956	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	1.13	0.0003751	0.151719
48.02 STRENGTH B-1			1815	1	1815	190.021	0.104695	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.621	0.025299	0.188457
71.98 STRENGTH B-1			1815	1	1815	202.793	0.111732	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.112	0.066847	0.195494
95.94 STRENGTH B-1			1815	1	1815	161.655	0.089066	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.602	0.068391	0.172829
119.9 STRENGTH B-1			1815	1	1815	66.607	0.036698	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.093	0.0899391	0.120461
119.9 STRENGTH B-1			1815	1	1815	66.607	0.036698	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.093	0.0899391	0.120461

Compression Data			Shear (6.10.9)																		
Location	Load Case	Frame #	M_u	ϕ_t	ϕ^*M_u	M_u	$D/C_{flexure}$	F_{yw}	E	D	t_w	K	C	V_p	V_n	ϕ_v	$\phi_v \cdot V_n$	V_u	$(D/C)_v$		
ft			kip*ft	N/A	kip*ft	kip*ft		ksi	ksi	in	in			kip	kip	N/A	kip	kip		N/A	
120	STRENGTH B-1		1815	1	1815	63.993	0.035258	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.102	0.089968	0.11902	
0	STRENGTH B-1		1815	1	1815	0	0	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.497	0.09128	0.045605	
0.1	STRENGTH B-1		1815	1	1815	0.539	0.000297	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.487	0.091246	0.045902	
24.06	STRENGTH B-1		1815	1	1815	102.461	0.056452	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.975	0.069629	0.102057	
48.02	STRENGTH B-1		1815	1	1815	150.474	0.082906	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.463	0.048012	0.128511	
71.98	STRENGTH B-1		1815	1	1815	144.578	0.079657	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-7.95	0.026391	0.125262	
95.94	STRENGTH B-1		1815	1	1815	84.772	0.046706	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-1.438	0.004774	0.092311	
119.9	STRENGTH B-1		1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	5.074	0.016844	0.029658	
119.9	STRENGTH B-1		1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	5.101	0.016844	0.029658	
120	STRENGTH B-1		1815	1	1815	-29.533	0.016272	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	5.101	0.016933	0.029333	
0	STRENGTH B-1		1815	1	1815	0	0	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.882	0.012887	0.083763	
0.1	STRENGTH B-1		1815	1	1815	2.749	0.001515	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.853	0.012791	0.085277	
24.06	STRENGTH B-1		1815	1	1815	123.34	0.067956	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.007	0.006662	0.151719	
48.02	STRENGTH B-1		1815	1	1815	190.021	0.104695	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.868	0.026119	0.188457	
71.98	STRENGTH B-1		1815	1	1815	202.793	0.111732	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.112	0.046847	0.195494	
95.94	STRENGTH B-1		1815	1	1815	161.655	0.089066	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.602	0.068391	0.172829	
119.9	STRENGTH B-1		1815	1	1815	74.594	0.041099	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.093	0.089939	0.124861	
119.9	STRENGTH B-1		1815	1	1815	74.594	0.041099	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.093	0.089939	0.124861	
120	STRENGTH B-1		1815	1	1815	72.144	0.039749	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.102	0.089968	0.123511	
0	STRENGTH B-1		1815	1	1815	0	0	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.497	0.09128	0.032835	
0.1	STRENGTH B-1		1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.487	0.091246	0.033049	
24.06	STRENGTH B-1		1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.487	0.091246	0.033049	
48.02	STRENGTH B-1		1815	1	1815	73.749	0.040633	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.975	0.069629	0.073468	
71.98	STRENGTH B-1		1815	1	1815	108.295	0.059677	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.463	0.048012	0.092502	
95.94	STRENGTH B-1		1815	1	1815	104.026	0.057315	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.333	0.027662	0.09015	
119.9	STRENGTH B-1		1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.431	0.01139	0.016888	
119.9	STRENGTH B-1		1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.431	0.01139	0.016888	
120	STRENGTH B-1		1815	1	1815	-29.533	0.016272	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.456	0.011473	0.016564	
0	STRENGTH B-2		1815	1	1815	72.144	0.039749	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.008	0.009985	0.110742	

Compression Data				Shear (6.10.9)																			
Location	Load Case	Frame #		M_n	ϕ_f	ϕ^*M_n	M_u	$D/C_{flexure}$		F_{yw}	E	D	t_w	k	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	$(D/C)_v$		
ft				kip*in	N/A	kip*in	kip*in			ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
0.1 STRENGTH B-2				1815	1	1815	74.649	0.041129		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.978	0.009886	0.112122	
24.06 STRENGTH B-2				1815	1	1815	74.649	0.041129		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.978	0.009886	0.112122	
48.02 STRENGTH B-2				1815	1	1815	143.993	0.079335		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.775	0.009212	0.150328	
71.98 STRENGTH B-2				1815	1	1815	174.522	0.096155		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.528	0.02831	0.167149	
95.94 STRENGTH B-2				1815	1	1815	166.236	0.09159		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.281	0.047408	0.162583	
119.9 STRENGTH B-2				1815	1	1815	119.135	0.065639		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.034	0.066505	0.136632	
119.9 STRENGTH B-2				1815	1	1815	33.219	0.018302		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.786	0.0856	0.089296	
120 STRENGTH B-2				1815	1	1815	30.676	0.016901		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.793	0.085623	0.087895	
0.1 STRENGTH B-2				1815	1	1815	-21.382	0.011781		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.056	0.083176	0.021055	
0.1 STRENGTH B-2				1815	1	1815	-20.991	0.011565		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.049	0.083153	0.02127	
24.06 STRENGTH B-2				1815	1	1815	49.61	0.027333		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-19.311	0.064105	0.060169	
48.02 STRENGTH B-2				1815	1	1815	81.396	0.044846		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-13.573	0.045057	0.077682	
71.98 STRENGTH B-2				1815	1	1815	74.368	0.040974		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-7.835	0.026009	0.073809	
95.94 STRENGTH B-2				1815	1	1815	28.524	0.015716		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.097	0.006961	0.001907	
119.9 STRENGTH B-2				1815	1	1815	-56.134	0.030928		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.641	0.012087	0.001907	
119.9 STRENGTH B-2				1815	1	1815	-56.647	0.03121		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.669	0.01218	0.001625	
0 STRENGTH B-2				1815	1	1815	63.993	0.035258		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-4.526	0.015025	0.11902	
0.1 STRENGTH B-2				1815	1	1815	66.65	0.036722		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-4.494	0.014918	0.120484	
24.06 STRENGTH B-2				1815	1	1815	66.65	0.036722		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	1.889	0.014918	0.120484	
48.02 STRENGTH B-2				1815	1	1815	164.772	0.090783		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.272	0.006271	0.174546	
71.98 STRENGTH B-2				1815	1	1815	208.986	0.115144		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.655	0.048649	0.198906	
95.94 STRENGTH B-2				1815	1	1815	199.289	0.109801		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	21.037	0.069835	0.158519	
119.9 STRENGTH B-2				1815	1	1815	18.168	0.01001		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.42	0.091024	0.193564	
119.9 STRENGTH B-2				1815	1	1815	18.168	0.01001		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.42	0.091024	0.193564	
120 STRENGTH B-2				1815	1	1815	15.462	0.008519		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.42	0.091024	0.193564	
0 STRENGTH B-2				1815	1	1815	-29.533	0.016772		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-26.575	0.088219	0.029333	
0.1 STRENGTH B-2				1815	1	1815	-28.991	0.015973		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-26.565	0.088186	0.029632	
0.1 STRENGTH B-2				1815	1	1815	-28.991	0.015973		50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-26.565	0.088186	0.029632	

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	Resistance factor for flexure, 6.5.4.2	M_n	ϕ_r	ϕ^*M_n	M_u	$D/C_{flexure}$	F_w	E	D	Web thickness	k	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	Combined tension and flexure AASHTO 6.8.2.3-1/2
ft				kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip		N/A
24.06	STRENGTH-B-2		1	1815	1	1815	70.389	0.038782	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.197	0.067046	0.084387
48.02	STRENGTH-B-2		1	1815	1	1815	115.86	0.063835	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-13.829	0.045907	0.109439
71.98	STRENGTH-B-2		1	1815	1	1815	107.421	0.059185	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-7.461	0.024768	0.10479
95.94	STRENGTH-B-2		1	1815	1	1815	45.073	0.024834	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-1.093	0.003628	0.070438
119.9	STRENGTH-B-2		1	1815	1	1815	-71.185	0.03922	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	5.275	0.017511	0.006384
119.9	STRENGTH-B-2		1	1815	1	1815	-71.185	0.03922	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	5.306	0.017511	0.006384
120	STRENGTH-B-2		1	1815	1	1815	72.144	0.039749	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.008	0.009855	0.123511
0.1	STRENGTH-B-2		1	1815	1	1815	74.649	0.041129	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.978	0.009886	0.124892
0.1	STRENGTH-B-2		1	1815	1	1815	74.649	0.041129	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.978	0.009886	0.124892
24.06	STRENGTH-B-2		1	1815	1	1815	164.772	0.090783	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.775	0.0099212	0.174546
48.02	STRENGTH-B-2		1	1815	1	1815	208.986	0.115144	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.528	0.02831	0.198906
71.98	STRENGTH-B-2		1	1815	1	1815	199.289	0.109801	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.655	0.048649	0.193564
95.94	STRENGTH-B-2		1	1815	1	1815	135.683	0.074756	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	21.037	0.069835	0.158519
119.9	STRENGTH-B-2		1	1815	1	1815	33.219	0.018302	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.42	0.091024	0.102065
119.9	STRENGTH-B-2		1	1815	1	1815	33.219	0.018302	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.42	0.091024	0.102065
120	STRENGTH-B-2		1	1815	1	1815	30.676	0.016901	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.43	0.091057	0.100664
0.1	STRENGTH-B-2		1	1815	1	1815	-29.533	0.016272	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-26.575	0.088219	0.165564
0.1	STRENGTH-B-2		1	1815	1	1815	-28.991	0.015973	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-26.565	0.088186	0.16862
0.1	STRENGTH-B-2		1	1815	1	1815	49.61	0.027333	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.197	0.067046	0.060169
24.06	STRENGTH-B-2		1	1815	1	1815	81.396	0.044846	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-13.829	0.045907	0.077682
48.02	STRENGTH-B-2		1	1815	1	1815	74.368	0.040974	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-7.835	0.026009	0.073809
71.98	STRENGTH-B-2		1	1815	1	1815	28.524	0.015716	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.097	0.006961	0.048551
95.94	STRENGTH-B-2		1	1815	1	1815	-71.185	0.03922	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.641	0.012087	-0.00669
119.9	STRENGTH-B-2		1	1815	1	1815	-71.185	0.03922	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.669	0.01218	-0.00676
119.9	STRENGTH-B-2		1	1815	1	1815	-71.185	0.03922	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.669	0.01218	-0.00676
120	STRENGTH-B-2		1	1815	1	1815	30.676	0.016901	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-4.244	0.014088	0.278894
0.1	STRENGTH-B-3		1	1815	1	1815	33.312	0.018354	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-4.215	0.013992	0.278185
0.1	STRENGTH-B-3		1	1815	1	1815	33.312	0.018354	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-4.215	0.013992	0.278185
24.06	STRENGTH-B-3		1	1815	1	1815	132.916	0.073232	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	1.549	0.005142	0.326966
48.02	STRENGTH-B-3		1	1815	1	1815	196.964	0.10852	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.313	0.024276	0.358333

Compression Data			Shear (6.10.9)																
Location	Load Case	Frame #	M_u kip*ft	ϕ_t	ϕ^*M_u kip*ft	$D/C_{flexure}$	F_{wy} ksi	E ksi	D in	t_w in	k	C	V_p kip	V_n kip	ϕ_v	$\phi_v V_n$ kip	V_u kip	(D/C) _v	Combined tension and flexure AASHTO 6.8.2.3-1/2
71.98 STRENGTH B-3			1815	1	1815	231.037	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	13.077	0.043411	0.37502
95.94 STRENGTH B-3			1815	1	1815	226.295	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	18.841	0.062545	0.372698
119.9 STRENGTH B-3			1815	1	1815	182.738	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	24.605	0.081679	0.351366
119.9 STRENGTH B-3			1815	1	1815	182.738	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	24.605	0.081679	0.351366
120 STRENGTH B-3			1815	1	1815	181.929	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	24.612	0.081703	0.35097
0 STRENGTH B-3			1815	1	1815	-56.647	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-26.356	0.087512	0.029146
0.1 STRENGTH B-3			1815	1	1815	-56.148	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-26.356	0.087492	0.029421
0.1 STRENGTH B-3			1815	1	1815	40.822	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.58	0.068318	0.082848
24.06 STRENGTH B-3			1815	1	1815	98.976	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.804	0.049144	0.114889
48.02 STRENGTH B-3			1815	1	1815	98.976	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.253	0.010799	0.125544
71.98 STRENGTH B-3			1815	1	1815	98.84	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.523	0.008375	0.082697
95.94 STRENGTH B-3			1815	1	1815	40.549	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.523	0.008375	0.082697
119.9 STRENGTH B-3			1815	1	1815	40.549	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.523	0.008375	0.082697
120 STRENGTH B-3			1815	1	1815	40.21	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.552	0.008472	0.082511
0 STRENGTH B-3			1815	1	1815	15.462	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-6.079	0.02018	0.316387
0.1 STRENGTH B-3			1815	1	1815	18.281	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-6.047	0.020074	0.317768
0.1 STRENGTH B-3			1815	1	1815	18.281	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-6.047	0.020074	0.317768
24.06 STRENGTH B-3			1815	1	1815	154.234	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	6.741	0.022378	0.426127
48.02 STRENGTH B-3			1815	1	1815	239.537	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	13.135	0.043603	0.445831
71.98 STRENGTH B-3			1815	1	1815	279.77	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	19.529	0.064829	0.439133
95.94 STRENGTH B-3			1815	1	1815	266.094	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.923	0.086505	0.406033
119.9 STRENGTH B-3			1815	1	1815	198.508	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.923	0.086505	0.406033
119.9 STRENGTH B-3			1815	1	1815	198.508	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.923	0.086505	0.406033
120 STRENGTH B-3			1815	1	1815	197.566	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-28.197	0.093603	0.440236
0.1 STRENGTH B-3			1815	1	1815	-71.861	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-28.188	0.093574	0.444611
0.1 STRENGTH B-3			1815	1	1815	-71.179	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-28.188	0.093574	0.444611
24.06 STRENGTH B-3			1815	1	1815	62.14	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-21.782	0.072308	0.118055
48.02 STRENGTH B-3			1815	1	1815	141.549	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-15.376	0.051034	0.161817
71.98 STRENGTH B-3			1815	1	1815	167.048	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.971	0.02978	0.175866
95.94 STRENGTH B-3			1815	1	1815	138.638	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.565	0.008515	0.160213

Compression Data				Shear (6.10.9)																			
Location	Load Case	Frame #		M_u	ϕ_f	$\phi^* M_u$	M_u	$D/C_{flexure}$		F_{yw}	E	D	t_w	k	C	V_n	V_n	ϕ_v	$\phi_v V_n$	V_u	$(D/C)_v$		
ft				kip*in	N/A		kip*in			ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
119.9	STRENGTH B-3			1815	1	1815	56,319	0.03103		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	3,841	0.012751	0.114858	
119.9	STRENGTH B-3			1815	1	1815	56,319	0.03103		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	3,841	0.012751	0.114858	
120	STRENGTH B-3			1815	1	1815	55,847	0.03077		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	3,872	0.012854	0.114598	
0.1	STRENGTH B-3			1815	1	1815	30,676	0.016901		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-4,244	0.014088	0.328388	
0.1	STRENGTH B-3			1815	1	1815	33,312	0.018354		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-4,215	0.013992	0.325129	
24.06	STRENGTH B-3			1815	1	1815	154,234	0.084977		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	1,549	0.005142	0.38445	
48.02	STRENGTH B-3			1815	1	1815	239,537	0.131976		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	7,313	0.024276	0.426127	
71.98	STRENGTH B-3			1815	1	1815	279,77	0.154143		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	13,135	0.043603	0.445831	
95.94	STRENGTH B-3			1815	1	1815	266,094	0.146608		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	19,529	0.064829	0.439133	
119.9	STRENGTH B-3			1815	1	1815	198,508	0.109371		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	25,923	0.086055	0.406033	
119.9	STRENGTH B-3			1815	1	1815	198,508	0.109371		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	25,923	0.086055	0.406033	
120	STRENGTH B-3			1815	1	1815	197,566	0.108852		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	25,933	0.086088	0.405572	
0.1	STRENGTH B-3			1815	1	1815	-71,861	0.039593		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-28,197	0.003603	0.020763	
0.1	STRENGTH B-3			1815	1	1815	-71,179	0.039217		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-28,188	0.003574	0.021139	
24.06	STRENGTH B-3			1815	1	1815	40,822	0.022491		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-28,188	0.003574	0.021139	
48.02	STRENGTH B-3			1815	1	1815	98,976	0.054532		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-15,376	0.072308	0.082848	
71.98	STRENGTH B-3			1815	1	1815	118,315	0.065187		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-9,028	0.02997	0.125544	
95.94	STRENGTH B-3			1815	1	1815	98,84	0.054532		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-3,253	0.010799	0.114814	
119.9	STRENGTH B-3			1815	1	1815	40,549	0.022341		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	2,523	0.008375	0.082697	
119.9	STRENGTH B-3			1815	1	1815	40,549	0.022341		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	2,523	0.008375	0.082697	
120	STRENGTH B-3			1815	1	1815	40,21	0.022154		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	2,552	0.008472	0.082511	
0	STRENGTH B-4			1815	1	1815	181,929	0.100236		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-3,472	0.011625	0.446868	
0.1	STRENGTH B-4			1815	1	1815	182,904	0.100774		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-3,473	0.011529	0.446115	
24.06	STRENGTH B-4			1815	1	1815	182,904	0.100774		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	-3,473	0.011529	0.446115	
48.02	STRENGTH B-4			1815	1	1815	265,081	0.14605		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	2,298	0.007628	0.489361	
71.98	STRENGTH B-4			1815	1	1815	308,443	0.169941		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	8,069	0.026766	0.510598	
95.94	STRENGTH B-4			1815	1	1815	317,244	0.172446		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	13,839	0.04894	0.512824	
119.9	STRENGTH B-4			1815	1	1815	278,721	0.153565		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	19,61	0.065098	0.496041	
119.9	STRENGTH B-4			1815	1	1815	205,638	0.113299		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	25,38	0.084252	0.460249	
119.9	STRENGTH B-4			1815	1	1815	205,638	0.113299		50	29000	27.5	0.415	5	0.910191	330,9625	301,239	1	301,239	25,38	0.084252	0.460249	

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M _n	Resistance factor for flexure, 6.5.4.2	φ*M _n	M _u	D/C _{flexure}	F _{yw}	E	D	t _w	k	C	V _p	V _n	φ _v	φ _v *V _n	V _u	D/C _v	Combined tension and flexure AASHTO 6.8.2.3-1/2	
ft			kip*in	N/A		kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
120 STRENGTH B-4	0		1815	1	1815	204.701	0.112783	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.387	0.084275	0.45979	
0 STRENGTH B-4			1815	1	1815	40.21	0.022154	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.58	0.084916	0.104894	
0.1 STRENGTH B-4			1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.573	0.084893	0.105122	
0.1 STRENGTH B-4			1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.573	0.084893	0.105122	
24.06 STRENGTH B-4			1815	1	1815	120.363	0.066316	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-19.802	0.065735	0.149056	
48.02 STRENGTH B-4			1815	1	1815	161.287	0.088863	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.03	0.046574	0.1171603	
71.98 STRENGTH B-4			1815	1	1815	163.397	0.090026	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.259	0.008259	0.152542	
95.94 STRENGTH B-4			1815	1	1815	126.691	0.069802	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.488	0.008259	0.152542	
119.9 STRENGTH B-4			1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.284	0.010902	0.110933	
119.9 STRENGTH B-4			1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.284	0.010902	0.110933	
120 STRENGTH B-4			1815	1	1815	50.774	0.027975	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.312	0.010995	0.110715	
0 STRENGTH B-4			1815	1	1815	197.566	0.108852	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.113	0.016973	0.520649	
0.1 STRENGTH B-4			1815	1	1815	198.703	0.109478	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.082	0.01687	0.521206	
0.1 STRENGTH B-4			1815	1	1815	198.703	0.109478	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.082	0.01687	0.521206	
24.06 STRENGTH B-4			1815	1	1815	311.889	0.117184	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	1.319	0.004379	0.576638	
48.02 STRENGTH B-4			1815	1	1815	371.165	0.204499	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.719	0.025624	0.605668	
71.98 STRENGTH B-4			1815	1	1815	376.532	0.207456	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.12	0.046873	0.608297	
95.94 STRENGTH B-4			1815	1	1815	377.99	0.180711	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.521	0.068122	0.584523	
119.9 STRENGTH B-4			1815	1	1815	225.538	0.124263	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.921	0.089368	0.534348	
119.9 STRENGTH B-4			1815	1	1815	225.538	0.124263	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.921	0.089368	0.534348	
120 STRENGTH B-4			1815	1	1815	224.446	0.123662	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.931	0.089401	0.533813	
0 STRENGTH B-4			1815	1	1815	55.847	0.03077	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.192	0.090267	0.257185	
0.1 STRENGTH B-4			1815	1	1815	56.423	0.031087	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.182	0.090264	0.257467	
0.1 STRENGTH B-4			1815	1	1815	56.423	0.031087	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.182	0.090264	0.257467	
24.06 STRENGTH B-4			1815	1	1815	167.171	0.092105	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.781	0.068985	0.311705	
48.02 STRENGTH B-4			1815	1	1815	224.01	0.123421	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.38	0.047736	0.339542	
71.98 STRENGTH B-4			1815	1	1815	226.94	0.125036	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-15.77	0.005235	0.316009	
95.94 STRENGTH B-4			1815	1	1815	175.959	0.096947	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.824	0.016014	0.26464	
119.9 STRENGTH B-4			1815	1	1815	71.07	0.039157	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.824	0.016014	0.26464	
119.9 STRENGTH B-4			1815	1	1815	71.07	0.039157	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.824	0.016014	0.26464	
120 STRENGTH B-4			1815	1	1815	70.519	0.038853	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.856	0.01612	0.26437	
0 STRENGTH B-4			1815	1	1815	197.566	0.108852	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.502	0.011625	0.520649	

Compression Data			Shear (6.10.9)																	
Location	Load Case	Frame #	M_n kip*in	ϕ_f	$\phi_f^*M_n$ kip*in	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	Web thickness t_w in	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2 V_p kip	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1 V_n kip	Resistance factor for shear; AASHTO LRFD 6.5.4.2 ϕ_v	Shear experienced by the web under factored loads V_u kip	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1 $(D)/C_v$	Combined tension and flexure AASHTO 6.8.2.3-1/2	
ft				N/A												N/A				
0.1 STRENGTH B-4			1815	1	1815	198.703	0.109478	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.473	0.011529	0.521206
0.1 STRENGTH B-4			1815	1	1815	198.703	0.109478	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.473	0.011529	0.521206
24.06 STRENGTH B-4			1815	1	1815	311.889	0.17184	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.298	0.007628	0.576638
48.02 STRENGTH B-4			1815	1	1815	371.165	0.204499	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.069	0.026786	0.605668
71.98 STRENGTH B-4			1815	1	1815	376.532	0.207456	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.12	0.046873	0.608297
95.94 STRENGTH B-4			1815	1	1815	327.99	0.180711	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.521	0.068122	0.584523
119.9 STRENGTH B-4			1815	1	1815	225.538	0.124263	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.921	0.089568	0.534348
119.9 STRENGTH B-4			1815	1	1815	225.538	0.124263	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.921	0.089568	0.534348
120 STRENGTH B-4			1815	1	1815	224.446	0.133662	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.931	0.089401	0.533813
0.1 STRENGTH B-4			1815	1	1815	40.21	0.022154	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.192	0.090267	0.104894
0.1 STRENGTH B-4			1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.182	0.090234	0.105122
0.1 STRENGTH B-4			1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.182	0.090234	0.105122
24.06 STRENGTH B-4			1815	1	1815	120.363	0.066316	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.781	0.068885	0.149056
48.02 STRENGTH B-4			1815	1	1815	161.287	0.088863	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.38	0.047736	0.171603
71.98 STRENGTH B-4			1815	1	1815	163.397	0.090026	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.259	0.027417	0.172766
95.94 STRENGTH B-4			1815	1	1815	126.691	0.069802	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.488	0.008259	0.152542
119.9 STRENGTH B-4			1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.284	0.010902	0.110933
119.9 STRENGTH B-4			1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.284	0.010902	0.110933
119.9 STRENGTH B-4			1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.284	0.010902	0.110933
120 STRENGTH B-4			1815	1	1815	204.701	0.112783	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.561	0.011821	0.536871
0.1 STRENGTH B-5			1815	1	1815	205.686	0.113326	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.532	0.011725	0.537354
0.1 STRENGTH B-5			1815	1	1815	205.686	0.113326	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.532	0.011725	0.537354
24.06 STRENGTH B-5			1815	1	1815	290.288	0.159938	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.238	0.007429	0.578787
48.02 STRENGTH B-5			1815	1	1815	336.075	0.185165	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.009	0.026587	0.601211
71.98 STRENGTH B-5			1815	1	1815	343.048	0.189907	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	13.779	0.045741	0.604626
95.94 STRENGTH B-5			1815	1	1815	311.205	0.171463	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	19.549	0.064895	0.589031
119.9 STRENGTH B-5			1815	1	1815	240.547	0.132533	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.319	0.08405	0.554427
119.9 STRENGTH B-5			1815	1	1815	240.547	0.132533	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.319	0.08405	0.554427
120 STRENGTH B-5			1815	1	1815	239.62	0.132022	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.326	0.084073	0.553973
0.1 STRENGTH B-5			1815	1	1815	50.774	0.027975	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.642	0.085122	0.225488
0.1 STRENGTH B-5			1815	1	1815	51.192	0.028205	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.636	0.085102	0.225693
0.1 STRENGTH B-5			1815	1	1815	51.192	0.028205	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.636	0.085102	0.225693

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M _n	φ _t	φ _t *M _n	M _u	D/C _{flange}	F _{yw}	E	D	t _w	k	C	V _p	V _n	φ _v	φ _v *V _n	V _u	(D/C) _v	Combined tension and flexure	
ft			kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	AASHTO 6.8.2.3-1/2
24.06	STRENGTH B-5		1815	1	1815	131.973	0.072712	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-19.863	0.065938	0.265255	
48.02	STRENGTH B-5		1815	1	1815	173.939	0.095834	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.091	0.046777	0.285808	
71.98	STRENGTH B-5		1815	1	1815	177.09	0.09757	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.319	0.027616	0.287351	
95.94	STRENGTH B-5		1815	1	1815	141.426	0.077921	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.546	0.008452	0.269885	
119.9	STRENGTH B-5		1815	1	1815	66.947	0.036885	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.226	0.010709	0.233409	
119.9	STRENGTH B-5		1815	1	1815	66.947	0.036885	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.226	0.010709	0.233409	
120	STRENGTH B-5		1815	1	1815	66.554	0.036669	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.255	0.010805	0.233217	
0	STRENGTH B-5		1815	1	1815	224.446	0.133662	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.19	0.017229	0.624562	
0.1	STRENGTH B-5		1815	1	1815	225.594	0.124294	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.158	0.017123	0.625124	
24.06	STRENGTH B-5		1815	1	1815	341.611	0.188215	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	1.242	0.004123	0.681943	
48.02	STRENGTH B-5		1815	1	1815	403.718	0.222434	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.642	0.023569	0.712359	
71.98	STRENGTH B-5		1815	1	1815	411.916	0.226951	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.043	0.046617	0.716374	
95.94	STRENGTH B-5		1815	1	1815	366.204	0.201765	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.443	0.067863	0.693987	
119.9	STRENGTH B-5		1815	1	1815	266.582	0.146877	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.843	0.089109	0.645197	
119.9	STRENGTH B-5		1815	1	1815	266.582	0.146877	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.843	0.089109	0.645197	
120	STRENGTH B-5		1815	1	1815	265.502	0.146282	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.853	0.089142	0.644669	
0	STRENGTH B-5		1815	1	1815	70.519	0.038853	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.271	0.090529	0.313178	
0.1	STRENGTH B-5		1815	1	1815	71.1	0.039174	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.262	0.0905	0.313463	
0.1	STRENGTH B-5		1815	1	1815	183.296	0.10099	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.859	0.069244	0.368411	
24.06	STRENGTH B-5		1815	1	1815	241.581	0.133102	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.457	0.047992	0.396955	
48.02	STRENGTH B-5		1815	1	1815	245.958	0.135514	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.055	0.02674	0.396909	
71.98	STRENGTH B-5		1815	1	1815	196.424	0.108223	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-1.653	0.005487	0.37484	
95.94	STRENGTH B-5		1815	1	1815	92.981	0.051229	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.75	0.015768	0.324179	
119.9	STRENGTH B-5		1815	1	1815	92.981	0.051229	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.75	0.015768	0.324179	
119.9	STRENGTH B-5		1815	1	1815	92.981	0.051229	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.75	0.015768	0.324179	
120	STRENGTH B-5		1815	1	1815	92.437	0.050929	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.81	0.015871	0.323913	
0	STRENGTH B-5		1815	1	1815	224.446	0.123662	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.561	0.011821	0.624562	
0.1	STRENGTH B-5		1815	1	1815	225.594	0.124294	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.532	0.011725	0.625124	
0.1	STRENGTH B-5		1815	1	1815	225.594	0.124294	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.532	0.011725	0.625124	
24.06	STRENGTH B-5		1815	1	1815	341.611	0.188215	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.238	0.0007429	0.681943	
48.02	STRENGTH B-5		1815	1	1815	403.718	0.222434	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.009	0.026587	0.712359	

Compression Data										Shear (6.10.9)										
Location	Load Case	Frame #	M _n kip*in	φ _t	φ* _t M _n kip*in	M _u kip*in	D/C _{flexure}	F _{yw} ksi	E ksi	D in	t _w in	k	C	V _p kip	V _n kip	φ _v	φ _v V _n kip	V _u kip	(D/C) _v	Combined tension and flexure AASHTO 6.8.2.3-1/2
71.98 STRENGTH B-5			1815	1	1815	411.916	0.226951	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.043	0.046617	0.716374
95.94 STRENGTH B-5			1815	1	1815	366.204	0.201765	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.443	0.067863	0.693987
119.9 STRENGTH B-5			1815	1	1815	266.582	0.146877	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.843	0.089109	0.645197
119.9 STRENGTH B-5			1815	1	1815	266.582	0.146877	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.843	0.089109	0.645197
120 STRENGTH B-5			1815	1	1815	265.502	0.146282	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.853	0.089142	0.644669
0 STRENGTH B-5			1815	1	1815	50.774	0.027975	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.271	0.090529	0.225488
0.1 STRENGTH B-5			1815	1	1815	51.192	0.028205	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.262	0.0905	0.225693
24.06 STRENGTH B-5			1815	1	1815	51.192	0.028205	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.262	0.0905	0.225693
48.02 STRENGTH B-5			1815	1	1815	131.973	0.072712	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.859	0.069244	0.265255
48.02 STRENGTH B-5			1815	1	1815	173.939	0.095834	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.457	0.047992	0.285808
71.98 STRENGTH B-5			1815	1	1815	177.09	0.09757	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.319	0.027616	0.287351
95.94 STRENGTH B-5			1815	1	1815	141.426	0.077921	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.546	0.008452	0.269885
119.9 STRENGTH B-5			1815	1	1815	66.947	0.036885	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.226	0.010709	0.233409
119.9 STRENGTH B-5			1815	1	1815	66.947	0.036885	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.226	0.010709	0.233409
120 STRENGTH B-5			1815	1	1815	66.554	0.036669	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.255	0.010805	0.233217
0 STRENGTH B-6			1815	1	1815	239.62	0.132022	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.489	0.011582	0.609383
0.1 STRENGTH B-6			1815	1	1815	240.591	0.132557	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.46	0.011486	0.609859
24.06 STRENGTH B-6			1815	1	1815	321.87	0.177339	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.31	0.007668	0.649665
48.02 STRENGTH B-6			1815	1	1815	364.334	0.200735	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.081	0.026826	0.670462
48.02 STRENGTH B-6			1815	1	1815	367.983	0.202745	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	13.851	0.04598	0.672249
95.94 STRENGTH B-6			1815	1	1815	332.817	0.18337	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	19.622	0.065138	0.655026
119.9 STRENGTH B-6			1815	1	1815	258.837	0.14261	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.392	0.084292	0.618795
119.9 STRENGTH B-6			1815	1	1815	258.837	0.14261	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.392	0.084292	0.618795
120 STRENGTH B-6			1815	1	1815	257.895	0.142091	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.399	0.084315	0.618334
0 STRENGTH B-6			1815	1	1815	66.554	0.036669	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.569	0.084879	0.258272
0.1 STRENGTH B-6			1815	1	1815	66.966	0.036896	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.562	0.084856	0.258474
24.06 STRENGTH B-6			1815	1	1815	146.187	0.080544	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-19.79	0.065695	0.297272
48.02 STRENGTH B-6			1815	1	1815	186.594	0.102807	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.018	0.046534	0.317062
48.02 STRENGTH B-6			1815	1	1815	188.185	0.103683	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.246	0.027374	0.317841
95.94 STRENGTH B-6			1815	1	1815	150.961	0.083174	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.474	0.008213	0.29961

Compression Data				Shear (6.10.9)																		
Location	Load Case	Frame #		M_u	ϕ	ϕ^*M_u	M_u	$D/C_{flexure}$	F_w	E	D	t_w	k	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	$(D/C)_v$		
ft				kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
119.9	STRENGTH B-6			1815	1	1815	74.923	0.04128	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.298	0.010948	0.262371	
119.9	STRENGTH B-6			1815	1	1815	74.923	0.04128	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.298	0.010948	0.262371	
120	STRENGTH B-6			1815	1	1815	74.524	0.04106	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.327	0.011044	0.262176	
0.1	STRENGTH B-6			1815	1	1815	265.502	0.146282	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.092	0.016804	0.709822	
0.1	STRENGTH B-6			1815	1	1815	266.634	0.146906	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.061	0.016801	0.710377	
24.06	STRENGTH B-6			1815	1	1815	378.721	0.208662	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	1.34	0.004448	0.765271	
48.02	STRENGTH B-6			1815	1	1815	436.898	0.240715	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.74	0.025694	0.793763	
71.98	STRENGTH B-6			1815	1	1815	441.166	0.243067	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.141	0.046943	0.795853	
95.94	STRENGTH B-6			1815	1	1815	391.525	0.215716	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.541	0.068188	0.771541	
119.9	STRENGTH B-6			1815	1	1815	287.973	0.158663	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.942	0.089437	0.720827	
119.9	STRENGTH B-6			1815	1	1815	286.877	0.158059	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.951	0.089467	0.720291	
0	STRENGTH B-6			1815	1	1815	92.437	0.050929	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.112	0.090201	0.358712	
0.1	STRENGTH B-6			1815	1	1815	93.009	0.051245	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.163	0.090171	0.358992	
24.06	STRENGTH B-6			1815	1	1815	203.038	0.111867	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.761	0.068919	0.412878	
48.02	STRENGTH B-6			1815	1	1815	259.158	0.142787	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.359	0.047666	0.440363	
71.98	STRENGTH B-6			1815	1	1815	261.368	0.144004	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-7.957	0.026414	0.441445	
95.94	STRENGTH B-6			1815	1	1815	209.669	0.11552	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-1.555	0.005162	0.416126	
119.9	STRENGTH B-6			1815	1	1815	104.059	0.057333	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.847	0.01609	0.364404	
119.9	STRENGTH B-6			1815	1	1815	104.059	0.057333	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	4.847	0.01609	0.364404	
120	STRENGTH B-6			1815	1	1815	103.506	0.057028	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.489	0.011882	0.709822	
0	STRENGTH B-6			1815	1	1815	265.502	0.146282	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.46	0.011486	0.710377	
0.1	STRENGTH B-6			1815	1	1815	266.634	0.146906	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.46	0.011486	0.710377	
24.06	STRENGTH B-6			1815	1	1815	378.721	0.208662	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.31	0.0007668	0.756271	
48.02	STRENGTH B-6			1815	1	1815	436.898	0.240715	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.081	0.026626	0.793763	
71.98	STRENGTH B-6			1815	1	1815	441.166	0.243067	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.141	0.046943	0.795853	
95.94	STRENGTH B-6			1815	1	1815	391.525	0.215716	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.541	0.068188	0.771541	
119.9	STRENGTH B-6			1815	1	1815	287.973	0.158663	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.942	0.089437	0.720827	
119.9	STRENGTH B-6			1815	1	1815	287.973	0.158663	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.942	0.089437	0.720827	

Compression Data			Shear (6.10.9)																	
Location	Load Case	Frame #	M_n kip*in	ϕ_t N/A	ϕ^*M_n kip*in	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	t_w in	k	C	V_p kip	V_n kip	ϕ_v N/A	$\phi_v V_n$ kip	V_u kip	$(D/C)_v$ N/A	Combined tension and flexure AASHTO 6.8.2.3-1/2
120 STRENGTH B-6			1815	1	1815	286.877	0.158059	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.951	0.089467	0.720291
0 STRENGTH B-6			1815	1	1815	66.554	0.036669	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.172	0.090201	0.258272
0.1 STRENGTH B-6			1815	1	1815	66.966	0.036896	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.163	0.090171	0.258474
24.06 STRENGTH B-6			1815	1	1815	146.187	0.080544	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.761	0.068819	0.297272
48.02 STRENGTH B-6			1815	1	1815	188.185	0.103683	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.359	0.047666	0.317062
71.98 STRENGTH B-6			1815	1	1815	150.961	0.083174	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.474	0.008213	0.29961
95.94 STRENGTH B-6			1815	1	1815	74.923	0.04128	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.298	0.010948	0.262371
119.9 STRENGTH B-6			1815	1	1815	257.895	0.142091	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.298	0.010948	0.262371
120 STRENGTH B-6			1815	1	1815	74.524	0.04106	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.327	0.011044	0.262176
0.1 STRENGTH B-7			1815	1	1815	258.86	0.142623	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.453	0.011463	0.652309
24.06 STRENGTH B-7			1815	1	1815	338.344	0.186415	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-3.424	0.011366	0.652782
48.02 STRENGTH B-7			1815	1	1815	379.014	0.208823	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	2.348	0.007794	0.691709
71.98 STRENGTH B-7			1815	1	1815	380.868	0.209845	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	8.12	0.026955	0.711627
95.94 STRENGTH B-7			1815	1	1815	343.908	0.189481	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	13.893	0.04612	0.712535
119.9 STRENGTH B-7			1815	1	1815	268.133	0.147732	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	19.665	0.06528	0.694434
120 STRENGTH B-7			1815	1	1815	267.184	0.147209	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.437	0.084441	0.657323
0 STRENGTH B-7			1815	1	1815	74.524	0.04106	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	25.444	0.084464	0.656859
0.1 STRENGTH B-7			1815	1	1815	74.933	0.041285	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.53	0.08475	0.277242
24.06 STRENGTH B-7			1815	1	1815	74.933	0.041285	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-25.523	0.084727	0.277442
48.02 STRENGTH B-7			1815	1	1815	153.525	0.084587	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-19.751	0.065566	0.315932
71.98 STRENGTH B-7			1815	1	1815	193.302	0.106502	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-13.978	0.046402	0.335413
95.94 STRENGTH B-7			1815	1	1815	156.411	0.083177	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.205	0.027738	0.335884
119.9 STRENGTH B-7			1815	1	1815	79.743	0.043936	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.34	0.011088	0.279798
120 STRENGTH B-7			1815	1	1815	79.342	0.043715	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.369	0.011184	0.279602
0 STRENGTH B-7			1815	1	1815	286.877	0.158059	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.046	0.016751	0.760126

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M _n	φ _t	φ* _t M _n	M _u	D/C _{flexure}	F _{yw}	E	D	t _w	k	C	V _p	V _n	φ _v	φ _v V _n	V _u	(D/C) _v	Combined tension and flexure	
ft			kip*in	N/A		kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	AASHTO 6.8.2.3-1/2
0.1 STRENGTH B-7			1815	1	1815	288	0.158678	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.015	0.016648	0.760676	
0.1 STRENGTH B-7			1815	1	1815	288	0.158678	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-5.015	0.016648	0.760676	
24.06 STRENGTH B-7			1815	1	1815	398.048	0.21931	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	1.387	0.004604	0.814572	
48.02 STRENGTH B-7			1815	1	1815	454.187	0.250241	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	7.79	0.02586	0.842066	
71.98 STRENGTH B-7			1815	1	1815	456.415	0.251468	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	14.192	0.047112	0.843157	
95.94 STRENGTH B-7			1815	1	1815	404.735	0.222994	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	20.594	0.068364	0.817847	
119.9 STRENGTH B-7			1815	1	1815	299.144	0.164818	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	26.996	0.089617	0.766134	
119.9 STRENGTH B-7			1815	1	1815	299.144	0.164818	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.006	0.089617	0.766134	
120 STRENGTH B-7			1815	1	1815	298.039	0.164209	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	27.123	0.090038	0.765593	
0 STRENGTH B-7			1815	1	1815	74.524	0.04106	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.123	0.090038	0.277242	
0.1 STRENGTH B-7			1815	1	1815	74.933	0.041285	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.114	0.090008	0.277442	
0.1 STRENGTH B-7			1815	1	1815	74.933	0.041285	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-27.114	0.090008	0.277442	

Compression Data			Shear (6.10.9)																		
Location	Load Case	Frame #	M_n kip*in	ϕ_f	ϕ^*M_n	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	Web thickness t_w in	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	V_p kip	V_n kip	ϕ_v	$\phi_v V_n$ kip	V_u kip	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	$(D/C)_v$	Combined tension and flexure AASHTO 6.8.2.3-1/2
24.06 STRENGTH-B-7			1815	1	1815	153.525	0.084587	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-20.711	0.068753	0.315932	
48.02 STRENGTH-B-7			1815	1	1815	193.302	0.106502	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-14.309	0.0475	0.335413	
71.98 STRENGTH-B-7			1815	1	1815	194.264	0.107033	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-8.205	0.027238	0.335884	
95.94 STRENGTH-B-7			1815	1	1815	156.411	0.086177	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	-2.433	0.008077	0.317346	
119.9 STRENGTH-B-7			1815	1	1815	79.743	0.043936	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.34	0.011088	0.279798	
120 STRENGTH-B-7			1815	1	1815	79.743	0.043936	50	29000	27.5	0.415	5	0.910191	330.9625	301.239	1	301.239	3.34	0.011088	0.279798	
0.1 STRENGTH-B-8			1815	1	1815	267.184	0.147209	50	29000	27.5	0.415	6	0.997064	330.9625	329.9908	1	329.9908	-3.369	0.010209	0.660158	
0.1 STRENGTH-B-8			1815	1	1815	268.135	0.147733	50	29000	27.5	0.415	7	1	330.9625	330.9625	1	330.9625	-3.34	0.010092	0.660623	
24.06 STRENGTH-B-8			1815	1	1815	344.301	0.189698	50	29000	27.5	0.415	9	1	330.9625	330.9625	1	330.9625	2.433	0.007351	0.697925	
48.02 STRENGTH-B-8			1815	1	1815	381.652	0.210277	50	29000	27.5	0.415	10	1	330.9625	330.9625	1	330.9625	8.205	0.024791	0.716218	
95.94 STRENGTH-B-8			1815	1	1815	380.189	0.209471	50	29000	27.5	0.415	11	1	330.9625	330.9625	1	330.9625	13.978	0.042234	0.715501	
119.9 STRENGTH-B-8			1815	1	1815	339.91	0.187278	50	29000	27.5	0.415	12	1	330.9625	330.9625	1	330.9625	19.751	0.059677	0.695775	
120 STRENGTH-B-8			1815	1	1815	260.817	0.143701	50	29000	27.5	0.415	13	1	330.9625	330.9625	1	330.9625	25.523	0.077117	0.657039	
0.1 STRENGTH-B-8			1815	1	1815	260.817	0.143701	50	29000	27.5	0.415	14	1	330.9625	330.9625	1	330.9625	25.523	0.077117	0.657039	
0.1 STRENGTH-B-8			1815	1	1815	259.854	0.14317	50	29000	27.5	0.415	15	1	330.9625	330.9625	1	330.9625	25.53	0.077139	0.656568	
0.1 STRENGTH-B-8			1815	1	1815	79.743	0.043715	50	29000	27.5	0.415	16	1	330.9625	330.9625	1	330.9625	-25.444	0.076879	0.279602	
0.1 STRENGTH-B-8			1815	1	1815	79.743	0.043936	50	29000	27.5	0.415	17	1	330.9625	330.9625	1	330.9625	-25.437	0.076858	0.279798	
24.06 STRENGTH-B-8			1815	1	1815	156.411	0.086177	50	29000	27.5	0.415	18	1	330.9625	330.9625	1	330.9625	-19.665	0.059418	0.317346	
48.02 STRENGTH-B-8			1815	1	1815	194.264	0.107033	50	29000	27.5	0.415	20	1	330.9625	330.9625	1	330.9625	-13.893	0.041978	0.335884	
71.98 STRENGTH-B-8			1815	1	1815	193.302	0.106502	50	29000	27.5	0.415	21	1	330.9625	330.9625	1	330.9625	-8.12	0.024535	0.335413	
95.94 STRENGTH-B-8			1815	1	1815	153.525	0.084587	50	29000	27.5	0.415	22	1	330.9625	330.9625	1	330.9625	-2.348	0.007094	0.315932	
119.9 STRENGTH-B-8			1815	1	1815	74.933	0.041285	50	29000	27.5	0.415	23	1	330.9625	330.9625	1	330.9625	3.424	0.010346	0.277442	
120 STRENGTH-B-8			1815	1	1815	74.933	0.041285	50	29000	27.5	0.415	24	1	330.9625	330.9625	1	330.9625	3.424	0.010346	0.277442	
0.1 STRENGTH-B-8			1815	1	1815	298.039	0.164209	50	29000	27.5	0.415	25	1	330.9625	330.9625	1	330.9625	3.453	0.0104839	0.768892	
0.1 STRENGTH-B-8			1815	1	1815	299.146	0.164819	50	29000	27.5	0.415	27	1	330.9625	330.9625	1	330.9625	-4.899	0.014802	0.769434	
0.1 STRENGTH-B-8			1815	1	1815	299.146	0.164819	50	29000	27.5	0.415	28	1	330.9625	330.9625	1	330.9625	-4.899	0.014802	0.769434	
24.06 STRENGTH-B-8			1815	1	1815	405.127	0.22321	50	29000	27.5	0.415	29	1	330.9625	330.9625	1	330.9625	1.503	0.004541	0.821338	
48.02 STRENGTH-B-8			1815	1	1815	457.199	0.25219	50	29000	27.5	0.415	30	1	330.9625	330.9625	1	330.9625	7.906	0.023888	0.846844	

Compression Data										Shear (6.10.9)										
Location	Load Case	Frame #	M _n kip*in	φ _t N/A	φ* _t M _n	M _n kip*in	D/C _{Flange}	F _{tw} ksi	E ksi	D in	t _w in	k	C	V _p kip	V _n kip	φ _v	φ _v V _n kip	V _u kip	(D/C) _v N/A	Combined tension and flexure AASHTO 6.8.2.3-1/2
71.98 STRENGTH-B-8			1815	1	1815	455.362	0.250888	50	29000	27.5	0.415	31	1	330.9625	330.9625	1	330.9625	14.309	0.043235	0.84594
95.94 STRENGTH-B-8			1815	1	1815	399.615	0.220174	50	29000	27.5	0.415	32	1	330.9625	330.9625	1	330.9625	20.711	0.062578	0.818638
119.9 STRENGTH-B-8			1815	1	1815	289.958	0.159756	50	29000	27.5	0.415	33	1	330.9625	330.9625	1	330.9625	27.114	0.081925	0.764934
119.9 STRENGTH-B-8			1815	1	1815	289.958	0.159756	50	29000	27.5	0.415	34	1	330.9625	330.9625	1	330.9625	27.114	0.081925	0.764934
120 STRENGTH-B-8			1815	1	1815	288.836	0.159138	50	29000	27.5	0.415	35	1	330.9625	330.9625	1	330.9625	27.123	0.081952	0.764385
0.1 STRENGTH-B-8			1815	1	1815	110.197	0.060715	50	29000	27.5	0.415	36	1	330.9625	330.9625	1	330.9625	-27.006	0.081598	0.388336
0.1 STRENGTH-B-8			1815	1	1815	110.754	0.061021	50	29000	27.5	0.415	37	1	330.9625	330.9625	1	330.9625	-26.996	0.081568	0.388609
24.06 STRENGTH-B-8			1815	1	1815	110.754	0.061021	50	29000	27.5	0.415	38	1	330.9625	330.9625	1	330.9625	-26.996	0.081568	0.388609
48.02 STRENGTH-B-8			1815	1	1815	217.237	0.11969	50	29000	27.5	0.415	39	1	330.9625	330.9625	1	330.9625	-20.594	0.062225	0.440758
95.94 STRENGTH-B-8			1815	1	1815	269.811	0.148656	50	29000	27.5	0.415	40	1	330.9625	330.9625	1	330.9625	-14.192	0.042881	0.466506
119.9 STRENGTH-B-8			1815	1	1815	268.475	0.14792	50	29000	27.5	0.415	41	1	330.9625	330.9625	1	330.9625	-7.79	0.023537	0.465852
120 STRENGTH-B-8			1815	1	1815	213.229	0.117482	50	29000	27.5	0.415	42	1	330.9625	330.9625	1	330.9625	-1.387	0.004191	0.438795
0.1 STRENGTH-B-8			1815	1	1815	104.074	0.057341	50	29000	27.5	0.415	43	1	330.9625	330.9625	1	330.9625	5.015	0.015153	0.385337
119.9 STRENGTH-B-8			1815	1	1815	104.074	0.057341	50	29000	27.5	0.415	44	1	330.9625	330.9625	1	330.9625	5.015	0.015153	0.385337
119.9 STRENGTH-B-8			1815	1	1815	103.506	0.057028	50	29000	27.5	0.415	45	1	330.9625	330.9625	1	330.9625	5.046	0.015246	0.385059
0.1 STRENGTH-B-8			1815	1	1815	298.039	0.164209	50	29000	27.5	0.415	46	1	330.9625	330.9625	1	330.9625	-3.369	0.010179	0.768892
0.1 STRENGTH-B-8			1815	1	1815	299.146	0.164819	50	29000	27.5	0.415	47	1	330.9625	330.9625	1	330.9625	-3.34	0.010092	0.769434
24.06 STRENGTH-B-8			1815	1	1815	405.127	0.22321	50	29000	27.5	0.415	48	1	330.9625	330.9625	1	330.9625	-3.34	0.010092	0.769434
48.02 STRENGTH-B-8			1815	1	1815	457.199	0.2519	50	29000	27.5	0.415	49	1	330.9625	330.9625	1	330.9625	2.433	0.007351	0.821338
71.98 STRENGTH-B-8			1815	1	1815	455.362	0.250888	50	29000	27.5	0.415	50	1	330.9625	330.9625	1	330.9625	8.205	0.024791	0.84684
95.94 STRENGTH-B-8			1815	1	1815	399.615	0.220174	50	29000	27.5	0.415	52	1	330.9625	330.9625	1	330.9625	20.711	0.062578	0.818638
119.9 STRENGTH-B-8			1815	1	1815	289.958	0.159756	50	29000	27.5	0.415	53	1	330.9625	330.9625	1	330.9625	27.114	0.081925	0.764934
119.9 STRENGTH-B-8			1815	1	1815	289.958	0.159756	50	29000	27.5	0.415	54	1	330.9625	330.9625	1	330.9625	27.114	0.081925	0.764934
120 STRENGTH-B-8			1815	1	1815	288.836	0.159138	50	29000	27.5	0.415	55	1	330.9625	330.9625	1	330.9625	27.123	0.081952	0.764385
0.1 STRENGTH-B-8			1815	1	1815	79.342	0.043715	50	29000	27.5	0.415	56	1	330.9625	330.9625	1	330.9625	-27.006	0.081598	0.279602
0.1 STRENGTH-B-8			1815	1	1815	79.743	0.043936	50	29000	27.5	0.415	57	1	330.9625	330.9625	1	330.9625	-26.996	0.081568	0.279798
24.06 STRENGTH-B-8			1815	1	1815	156.411	0.086177	50	29000	27.5	0.415	59	1	330.9625	330.9625	1	330.9625	-20.594	0.062225	0.317346
48.02 STRENGTH-B-8			1815	1	1815	194.264	0.107033	50	29000	27.5	0.415	60	1	330.9625	330.9625	1	330.9625	-14.192	0.042881	0.335884
71.98 STRENGTH-B-8			1815	1	1815	193.302	0.106502	50	29000	27.5	0.415	61	1	330.9625	330.9625	1	330.9625	-8.112	0.024535	0.335413
95.94 STRENGTH-B-8			1815	1	1815	153.525	0.084587	50	29000	27.5	0.415	62	1	330.9625	330.9625	1	330.9625	-2.348	0.007094	0.315932

Compression Data				Shear (6.10.9)															
Location	Load Case	Frame #	M _u	Resistance factor for flexure, 6.5.4.2	M _u	D/C _{flexure}	F _{yw}	E	D	t _w	k	C	V _p	V _n	φ _v	φ _v V _n	V _u	(D/C) _v	Combined tension and flexure AASHTO 6.8.2.3-1/2
ft			kip*in	N/A	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip		
119.9	STRENGTH B-8		1815	1	74,933	0.041285	50	29000	27.5	0.415	63	1	330,9625	330,9625	1	330,9625	3,424	0.010346	0.277442
119.9	STRENGTH B-8		1815	1	74,933	0.041285	50	29000	27.5	0.415	64	1	330,9625	330,9625	1	330,9625	3,424	0.010346	0.277442
120	STRENGTH B-8		1815	1	74,524	0.04106	50	29000	27.5	0.415	65	1	330,9625	330,9625	1	330,9625	3,453	0.010453	0.277242
0	STRENGTH B-9		1815	1	259,854	0.14317	50	29000	27.5	0.415	66	1	330,9625	330,9625	1	330,9625	-3,327	0.010052	0.625857
0.1	STRENGTH B-9		1815	1	260,797	0.14369	50	29000	27.5	0.415	67	1	330,9625	330,9625	1	330,9625	-3,298	0.009965	0.626319
0.1	STRENGTH B-9		1815	1	260,797	0.14369	50	29000	27.5	0.415	68	1	330,9625	330,9625	1	330,9625	-3,298	0.009965	0.626319
24.06	STRENGTH B-9		1815	1	335,114	0.184656	50	29000	27.5	0.415	69	1	330,9625	330,9625	1	330,9625	2,474	0.007475	0.662715
48.02	STRENGTH B-9		1815	1	370,617	0.204197	50	29000	27.5	0.415	70	1	330,9625	330,9625	1	330,9625	8,246	0.024915	0.680103
71.98	STRENGTH B-9		1815	1	367,304	0.202371	50	29000	27.5	0.415	71	1	330,9625	330,9625	1	330,9625	14,018	0.042355	0.67848
95.94	STRENGTH B-9		1815	1	325,177	0.179161	50	29000	27.5	0.415	72	1	330,9625	330,9625	1	330,9625	19,79	0.059795	0.657849
119.9	STRENGTH B-9		1815	1	244,235	0.134565	50	29000	27.5	0.415	73	1	330,9625	330,9625	1	330,9625	25,562	0.077235	0.618208
119.9	STRENGTH B-9		1815	1	244,235	0.134565	50	29000	27.5	0.415	74	1	330,9625	330,9625	1	330,9625	25,562	0.077235	0.618208
0	STRENGTH B-9		1815	1	243,264	0.13403	50	29000	27.5	0.415	75	1	330,9625	330,9625	1	330,9625	25,569	0.077256	0.617732
0	STRENGTH B-9		1815	1	74,524	0.04106	50	29000	27.5	0.415	76	1	330,9625	330,9625	1	330,9625	-25,399	0.076743	0.262176
0.1	STRENGTH B-9		1815	1	74,923	0.04128	50	29000	27.5	0.415	77	1	330,9625	330,9625	1	330,9625	-25,392	0.076722	0.262371
0.1	STRENGTH B-9		1815	1	74,923	0.04128	50	29000	27.5	0.415	78	1	330,9625	330,9625	1	330,9625	-19,622	0.059288	0.29961
24.06	STRENGTH B-9		1815	1	150,961	0.083174	50	29000	27.5	0.415	79	1	330,9625	330,9625	1	330,9625	-13,851	0.041851	0.317841
48.02	STRENGTH B-9		1815	1	188,185	0.103683	50	29000	27.5	0.415	80	1	330,9625	330,9625	1	330,9625	-8,081	0.024417	0.317062
95.94	STRENGTH B-9		1815	1	186,594	0.102807	50	29000	27.5	0.415	81	1	330,9625	330,9625	1	330,9625	-2,31	0.006698	0.297272
119.9	STRENGTH B-9		1815	1	146,187	0.080544	50	29000	27.5	0.415	82	1	330,9625	330,9625	1	330,9625	3,46	0.010454	0.258474
119.9	STRENGTH B-9		1815	1	1815	0.036896	50	29000	27.5	0.415	83	1	330,9625	330,9625	1	330,9625	3,46	0.010454	0.258474
119.9	STRENGTH B-9		1815	1	1815	0.036896	50	29000	27.5	0.415	84	1	330,9625	330,9625	1	330,9625	3,46	0.010454	0.258474
120	STRENGTH B-9		1815	1	66,554	0.036669	50	29000	27.5	0.415	85	1	330,9625	330,9625	1	330,9625	4,879	0.010542	0.258272
0	STRENGTH B-9		1815	1	288,836	0.159138	50	29000	27.5	0.415	86	1	330,9625	330,9625	1	330,9625	-4,879	0.014742	0.727814
0.1	STRENGTH B-9		1815	1	289,934	0.159743	50	29000	27.5	0.415	87	1	330,9625	330,9625	1	330,9625	-4,847	0.014645	0.728352
0.1	STRENGTH B-9		1815	1	289,934	0.159743	50	29000	27.5	0.415	88	1	330,9625	330,9625	1	330,9625	-4,847	0.014645	0.728352
24.06	STRENGTH B-9		1815	1	393,822	0.216982	50	29000	27.5	0.415	89	1	330,9625	330,9625	1	330,9625	1,555	0.004688	0.79231
48.02	STRENGTH B-9		1815	1	443,8	0.244518	50	29000	27.5	0.415	90	1	330,9625	330,9625	1	330,9625	7,957	0.024042	0.803707
71.98	STRENGTH B-9		1815	1	439,869	0.242352	50	29000	27.5	0.415	91	1	330,9625	330,9625	1	330,9625	14,359	0.043366	0.801782
95.94	STRENGTH B-9		1815	1	382,028	0.210484	50	29000	27.5	0.415	92	1	330,9625	330,9625	1	330,9625	20,761	0.062729	0.773455
119.9	STRENGTH B-9		1815	1	270,277	0.148913	50	29000	27.5	0.415	93	1	330,9625	330,9625	1	330,9625	27,163	0.082073	0.718725
119.9	STRENGTH B-9		1815	1	270,277	0.148913	50	29000	27.5	0.415	94	1	330,9625	330,9625	1	330,9625	27,163	0.082073	0.718725

Compression Data			Shear (6.10.9)																	
Location ft	Load Case	Frame #	M_n kip*in	ϕ_r N/A	ϕ^*M_n kip*in	M_n kip*in	$D/C_{flexure}$	specified minimum yield strength of the lower strength flange, AASHTO 6.12.2.2.1 F_{yw} ksi	Modulus of elasticity of steel E ksi	Overall depth of member D in	Web thickness t_w in	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2 k	C	Plastic shear force; AASHTO 6.10.9.2-2 V_p kip	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1 V_n kip	Resistance factor for shear; AASHTO LRFD 6.5.4.2 ϕ_v N/A	Shear experienced by the web under factored loads V_u kip	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1 (D/C) _v N/A	Combined tension and flexure AASHTO 6.8.2.3-1/2	
120	STRENGTH B-9		1815	1	1815	269.147	0.14829	50	29000	27.5	0.415	95	1	330.9625	330.9625	1	330.9625	27.172	0.0821	0.718172
0	STRENGTH B-9		1815	1	1815	103.506	0.057028	50	29000	27.5	0.415	96	1	330.9625	330.9625	1	330.9625	-26.951	0.081432	0.364133
0	1	STRENGTH B-9	1815	1	1815	104.059	0.057333	50	29000	27.5	0.415	97	1	330.9625	330.9625	1	330.9625	-26.942	0.081405	0.364404
0	1	STRENGTH B-9	1815	1	1815	104.059	0.057333	50	29000	27.5	0.415	98	1	330.9625	330.9625	1	330.9625	-26.942	0.081405	0.364404
24.06	STRENGTH B-9		1815	1	1815	209.669	0.11552	50	29000	27.5	0.415	99	1	330.9625	330.9625	1	330.9625	-20.541	0.062064	0.416126
48.02	STRENGTH B-9		1815	1	1815	261.368	0.144004	50	29000	27.5	0.415	100	1	330.9625	330.9625	1	330.9625	-14.141	0.042727	0.441445
71.98	STRENGTH B-9		1815	1	1815	259.158	0.142287	50	29000	27.5	0.415	101	1	330.9625	330.9625	1	330.9625	-7.74	0.023386	0.440363
95.94	STRENGTH B-9		1815	1	1815	203.038	0.111867	50	29000	27.5	0.415	102	1	330.9625	330.9625	1	330.9625	-1.34	0.004049	0.412878
119.9	STRENGTH B-9		1815	1	1815	93.009	0.051245	50	29000	27.5	0.415	103	1	330.9625	330.9625	1	330.9625	5.061	0.015292	0.358992
119.9	STRENGTH B-9		1815	1	1815	93.009	0.051245	50	29000	27.5	0.415	104	1	330.9625	330.9625	1	330.9625	5.061	0.015292	0.358992
120	STRENGTH B-9		1815	1	1815	92.437	0.050929	50	29000	27.5	0.415	105	1	330.9625	330.9625	1	330.9625	5.092	0.015385	0.358712
0	STRENGTH B-9		1815	1	1815	288.836	0.159138	50	29000	27.5	0.415	106	1	330.9625	330.9625	1	330.9625	-3.327	0.010052	0.727814
0	1	STRENGTH B-9	1815	1	1815	289.934	0.159743	50	29000	27.5	0.415	107	1	330.9625	330.9625	1	330.9625	-3.298	0.009965	0.728352
0	1	STRENGTH B-9	1815	1	1815	289.934	0.159743	50	29000	27.5	0.415	108	1	330.9625	330.9625	1	330.9625	-3.298	0.009965	0.728352
24.06	STRENGTH B-9		1815	1	1815	393.822	0.216982	50	29000	27.5	0.415	109	1	330.9625	330.9625	1	330.9625	8.246	0.024915	0.803707
48.02	STRENGTH B-9		1815	1	1815	443.8	0.244518	50	29000	27.5	0.415	110	1	330.9625	330.9625	1	330.9625	8.246	0.024915	0.803707
71.98	STRENGTH B-9		1815	1	1815	439.869	0.242352	50	29000	27.5	0.415	111	1	330.9625	330.9625	1	330.9625	14.359	0.043386	0.801782
95.94	STRENGTH B-9		1815	1	1815	382.028	0.210484	50	29000	27.5	0.415	112	1	330.9625	330.9625	1	330.9625	20.761	0.062729	0.773455
119.9	STRENGTH B-9		1815	1	1815	270.277	0.148913	50	29000	27.5	0.415	113	1	330.9625	330.9625	1	330.9625	27.163	0.082073	0.718725
119.9	STRENGTH B-9		1815	1	1815	270.277	0.148913	50	29000	27.5	0.415	114	1	330.9625	330.9625	1	330.9625	27.163	0.082073	0.718725
120	STRENGTH B-9		1815	1	1815	269.147	0.14829	50	29000	27.5	0.415	115	1	330.9625	330.9625	1	330.9625	27.172	0.0821	0.718172
0	STRENGTH B-9		1815	1	1815	74.524	0.04106	50	29000	27.5	0.415	116	1	330.9625	330.9625	1	330.9625	-26.951	0.081432	0.262176
0	1	STRENGTH B-9	1815	1	1815	74.923	0.04128	50	29000	27.5	0.415	117	1	330.9625	330.9625	1	330.9625	-26.942	0.081405	0.262371
24.06	STRENGTH B-9		1815	1	1815	74.923	0.04128	50	29000	27.5	0.415	118	1	330.9625	330.9625	1	330.9625	-26.942	0.081405	0.262371
48.02	STRENGTH B-9		1815	1	1815	150.961	0.083174	50	29000	27.5	0.415	119	1	330.9625	330.9625	1	330.9625	-20.541	0.062064	0.29961
71.98	STRENGTH B-9		1815	1	1815	188.185	0.103683	50	29000	27.5	0.415	120	1	330.9625	330.9625	1	330.9625	-14.141	0.042727	0.317841
95.94	STRENGTH B-9		1815	1	1815	186.594	0.102807	50	29000	27.5	0.415	121	1	330.9625	330.9625	1	330.9625	-8.081	0.024417	0.317062
119.9	STRENGTH B-9		1815	1	1815	146.187	0.080544	50	29000	27.5	0.415	122	1	330.9625	330.9625	1	330.9625	-2.917	0.00698	0.297722
119.9	STRENGTH B-9		1815	1	1815	66.966	0.036966	50	29000	27.5	0.415	123	1	330.9625	330.9625	1	330.9625	3.46	0.010454	0.258474
120	STRENGTH B-9		1815	1	1815	66.554	0.036669	50	29000	27.5	0.415	124	1	330.9625	330.9625	1	330.9625	3.46	0.010454	0.258474
0	STRENGTH B-10		1815	1	1815	243.264	0.13403	50	29000	27.5	0.415	125	1	330.9625	330.9625	1	330.9625	3.489	0.010542	0.258272
			1815	1	1815	243.264	0.13403	50	29000	27.5	0.415	126	1	330.9625	330.9625	1	330.9625	-3.255	0.009835	0.565599

Compression Data				Shear (6.10.9)																			
Location	Load Case	Frame #		M_n	ϕ_f	ϕ^*M_n	M_u	$D/C_{flexure}$		F_{yw}	E	D	t_w	k	C	V_p	V_n	ϕ_v	ϕ^*V_n	V_u	$(D/C)_s$		
ft				kip*in	N/A	kip*in	kip*in			ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
0.1 STRENGTH B-10				1815	1	1815	244.194	0.134542		50	29000	27.5	0.415	127	1	330.9625	330.9625	1	330.9625	-3.226	0.009747	0.566054	
0.1 STRENGTH B-10				1815	1	1815	244.194	0.134542		50	29000	27.5	0.415	128	1	330.9625	330.9625	1	330.9625	-3.226	0.009747	0.566054	
24.06 STRENGTH B-10				1815	1	1815	315.247	0.17369		50	29000	27.5	0.415	129	1	330.9625	330.9625	1	330.9625	2.546	0.007693	0.600852	
48.02 STRENGTH B-10				1815	1	1815	347.485	0.191452		50	29000	27.5	0.415	130	1	330.9625	330.9625	1	330.9625	8.319	0.025136	0.61664	
71.98 STRENGTH B-10				1815	1	1815	340.909	0.187829		50	29000	27.5	0.415	131	1	330.9625	330.9625	1	330.9625	14.091	0.042576	0.61342	
95.94 STRENGTH B-10				1815	1	1815	295.518	0.16282		50	29000	27.5	0.415	132	1	330.9625	330.9625	1	330.9625	19.863	0.060016	0.59119	
119.9 STRENGTH B-10				1815	1	1815	211.311	0.116425		50	29000	27.5	0.415	133	1	330.9625	330.9625	1	330.9625	25.636	0.077459	0.54995	
119.9 STRENGTH B-10				1815	1	1815	211.311	0.116425		50	29000	27.5	0.415	134	1	330.9625	330.9625	1	330.9625	25.636	0.077459	0.54995	
120 STRENGTH B-10				1815	1	1815	210.327	0.115883		50	29000	27.5	0.415	135	1	330.9625	330.9625	1	330.9625	25.642	0.077477	0.549468	
0.1 STRENGTH B-10				1815	1	1815	66.554	0.036669		50	29000	27.5	0.415	136	1	330.9625	330.9625	1	330.9625	-25.326	0.076522	0.233217	
0.1 STRENGTH B-10				1815	1	1815	66.947	0.036885		50	29000	27.5	0.415	137	1	330.9625	330.9625	1	330.9625	-25.319	0.076501	0.233409	
24.06 STRENGTH B-10				1815	1	1815	66.947	0.036885		50	29000	27.5	0.415	138	1	330.9625	330.9625	1	330.9625	-25.319	0.076501	0.233409	
48.02 STRENGTH B-10				1815	1	1815	141.426	0.077921		50	29000	27.5	0.415	139	1	330.9625	330.9625	1	330.9625	-19.549	0.059067	0.269885	
71.98 STRENGTH B-10				1815	1	1815	177.09	0.09757		50	29000	27.5	0.415	140	1	330.9625	330.9625	1	330.9625	-13.779	0.041633	0.287351	
95.94 STRENGTH B-10				1815	1	1815	173.939	0.095834		50	29000	27.5	0.415	141	1	330.9625	330.9625	1	330.9625	-8.009	0.024199	0.285808	
119.9 STRENGTH B-10				1815	1	1815	131.973	0.072712		50	29000	27.5	0.415	142	1	330.9625	330.9625	1	330.9625	-2.238	0.006762	0.265255	
119.9 STRENGTH B-10				1815	1	1815	51.192	0.028205		50	29000	27.5	0.415	143	1	330.9625	330.9625	1	330.9625	3.532	0.010672	0.225693	
120 STRENGTH B-10				1815	1	1815	51.192	0.028205		50	29000	27.5	0.415	144	1	330.9625	330.9625	1	330.9625	3.532	0.010672	0.225693	
0 STRENGTH B-10				1815	1	1815	50.774	0.027975		50	29000	27.5	0.415	145	1	330.9625	330.9625	1	330.9625	3.561	0.01076	0.225488	
0 STRENGTH B-10				1815	1	1815	269.147	0.14829		50	29000	27.5	0.415	146	1	330.9625	330.9625	1	330.9625	-4.781	0.014446	0.656295	
0.1 STRENGTH B-10				1815	1	1815	270.228	0.148886		50	29000	27.5	0.415	147	1	330.9625	330.9625	1	330.9625	-4.75	0.014352	0.656824	
0.1 STRENGTH B-10				1815	1	1815	270.228	0.148886		50	29000	27.5	0.415	148	1	330.9625	330.9625	1	330.9625	-4.75	0.014352	0.656824	
24.06 STRENGTH B-10				1815	1	1815	370.246	0.203992		50	29000	27.5	0.415	149	1	330.9625	330.9625	1	330.9625	1.653	0.004995	0.705808	
48.02 STRENGTH B-10				1815	1	1815	416.354	0.229396		50	29000	27.5	0.415	150	1	330.9625	330.9625	1	330.9625	8.055	0.024338	0.728389	
71.98 STRENGTH B-10				1815	1	1815	408.552	0.225098		50	29000	27.5	0.415	151	1	330.9625	330.9625	1	330.9625	14.457	0.043682	0.774588	
95.94 STRENGTH B-10				1815	1	1815	346.84	0.191096		50	29000	27.5	0.415	152	1	330.9625	330.9625	1	330.9625	20.859	0.063025	0.694345	
119.9 STRENGTH B-10				1815	1	1815	231.219	0.127393		50	29000	27.5	0.415	153	1	330.9625	330.9625	1	330.9625	27.262	0.082372	0.63772	
119.9 STRENGTH B-10				1815	1	1815	231.219	0.127393		50	29000	27.5	0.415	154	1	330.9625	330.9625	1	330.9625	27.262	0.082372	0.63772	
0 STRENGTH B-10				1815	1	1815	230.073	0.126762		50	29000	27.5	0.415	155	1	330.9625	330.9625	1	330.9625	27.271	0.082399	0.637158	
0.1 STRENGTH B-10				1815	1	1815	92.437	0.050929		50	29000	27.5	0.415	156	1	330.9625	330.9625	1	330.9625	-26.853	0.081136	0.323913	
0.1 STRENGTH B-10				1815	1	1815	92.981	0.051229		50	29000	27.5	0.415	157	1	330.9625	330.9625	1	330.9625	-26.843	0.081106	0.324179	
0.1 STRENGTH B-10				1815	1	1815	92.981	0.051229		50	29000	27.5	0.415	158	1	330.9625	330.9625	1	330.9625	-26.843	0.081106	0.324179	

Compression Data				Shear (6.10.9)																			
Location	Load Case	Frame #		M_n	ϕ_f	ϕ^*M_n	M_u	$D/C_{flexure}$		F_w	E	D	t_w	k	C	V_p	V_n	ϕ_v	ϕ^*V_n	V_u	$(D/C)_v$		
ft				kip*in	N/A	kip*in	kip*in			ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
24.06	STRENGTH-B-10			1815	1	1815	196.424	0.108823		50	29000	27.5	0.415	159	1	330.9625	330.9625	1	330.9625	-20.443	0.061768	0.37484	
48.02	STRENGTH-B-10			1815	1	1815	245.958	0.135514		50	29000	27.5	0.415	160	1	330.9625	330.9625	1	330.9625	-14.043	0.042431	0.399099	
71.98	STRENGTH-B-10			1815	1	1815	241.581	0.133102		50	29000	27.5	0.415	161	1	330.9625	330.9625	1	330.9625	-7.642	0.02309	0.396955	
95.94	STRENGTH-B-10			1815	1	1815	183.296	0.100099		50	29000	27.5	0.415	162	1	330.9625	330.9625	1	330.9625	-1.242	0.003753	0.368411	
119.9	STRENGTH-B-10			1815	1	1815	71.1	0.039174		50	29000	27.5	0.415	163	1	330.9625	330.9625	1	330.9625	5.158	0.015585	0.313463	
119.9	STRENGTH-B-10			1815	1	1815	71.1	0.039174		50	29000	27.5	0.415	164	1	330.9625	330.9625	1	330.9625	5.158	0.015585	0.313463	
120	STRENGTH-B-10			1815	1	1815	70.519	0.038853		50	29000	27.5	0.415	165	1	330.9625	330.9625	1	330.9625	5.19	0.015682	0.313178	
0.1	STRENGTH-B-10			1815	1	1815	270.228	0.148829		50	29000	27.5	0.415	166	1	330.9625	330.9625	1	330.9625	-3.255	0.009835	0.656295	
0.1	STRENGTH-B-10			1815	1	1815	270.228	0.148886		50	29000	27.5	0.415	167	1	330.9625	330.9625	1	330.9625	-3.226	0.009747	0.656824	
24.06	STRENGTH-B-10			1815	1	1815	370.246	0.203992		50	29000	27.5	0.415	169	1	330.9625	330.9625	1	330.9625	2.546	0.007693	0.705808	
48.02	STRENGTH-B-10			1815	1	1815	416.354	0.229396		50	29000	27.5	0.415	170	1	330.9625	330.9625	1	330.9625	8.319	0.025136	0.728389	
71.98	STRENGTH-B-10			1815	1	1815	408.552	0.225098		50	29000	27.5	0.415	171	1	330.9625	330.9625	1	330.9625	14.457	0.043682	0.724568	
95.94	STRENGTH-B-10			1815	1	1815	346.84	0.191096		50	29000	27.5	0.415	172	1	330.9625	330.9625	1	330.9625	20.859	0.063025	0.694345	
119.9	STRENGTH-B-10			1815	1	1815	231.219	0.127393		50	29000	27.5	0.415	173	1	330.9625	330.9625	1	330.9625	27.262	0.082372	0.63772	
119.9	STRENGTH-B-10			1815	1	1815	231.219	0.127393		50	29000	27.5	0.415	174	1	330.9625	330.9625	1	330.9625	27.262	0.082372	0.63772	
120	STRENGTH-B-10			1815	1	1815	230.073	0.126762		50	29000	27.5	0.415	175	1	330.9625	330.9625	1	330.9625	27.271	0.082399	0.637158	
0	STRENGTH-B-10			1815	1	1815	66.554	0.036669		50	29000	27.5	0.415	176	1	330.9625	330.9625	1	330.9625	-26.853	0.081136	0.233217	
0.1	STRENGTH-B-10			1815	1	1815	66.947	0.036885		50	29000	27.5	0.415	177	1	330.9625	330.9625	1	330.9625	-26.843	0.081106	0.233409	
0.1	STRENGTH-B-10			1815	1	1815	66.947	0.036885		50	29000	27.5	0.415	178	1	330.9625	330.9625	1	330.9625	-26.843	0.081106	0.233409	
24.06	STRENGTH-B-10			1815	1	1815	141.426	0.077921		50	29000	27.5	0.415	179	1	330.9625	330.9625	1	330.9625	-20.443	0.061768	0.269885	
48.02	STRENGTH-B-10			1815	1	1815	177.09	0.09757		50	29000	27.5	0.415	180	1	330.9625	330.9625	1	330.9625	-14.043	0.042431	0.287351	
71.98	STRENGTH-B-10			1815	1	1815	173.939	0.095834		50	29000	27.5	0.415	181	1	330.9625	330.9625	1	330.9625	-8.009	0.024199	0.285808	
95.94	STRENGTH-B-10			1815	1	1815	131.973	0.072712		50	29000	27.5	0.415	182	1	330.9625	330.9625	1	330.9625	-2.238	0.006762	0.265255	
119.9	STRENGTH-B-10			1815	1	1815	51.192	0.028205		50	29000	27.5	0.415	183	1	330.9625	330.9625	1	330.9625	3.532	0.010672	0.225693	
119.9	STRENGTH-B-10			1815	1	1815	51.192	0.028205		50	29000	27.5	0.415	184	1	330.9625	330.9625	1	330.9625	3.532	0.010672	0.225693	
120	STRENGTH-B-10			1815	1	1815	50.774	0.027975		50	29000	27.5	0.415	185	1	330.9625	330.9625	1	330.9625	3.561	0.01076	0.225488	
0	STRENGTH-B-11			1815	1	1815	210.327	0.115883		50	29000	27.5	0.415	186	1	330.9625	330.9625	1	330.9625	-3.312	0.010007	0.475708	
0.1	STRENGTH-B-11			1815	1	1815	211.266	0.1164		50	29000	27.5	0.415	187	1	330.9625	330.9625	1	330.9625	-3.284	0.009923	0.476168	
0.1	STRENGTH-B-11			1815	1	1815	211.266	0.1164		50	29000	27.5	0.415	188	1	330.9625	330.9625	1	330.9625	-3.284	0.009923	0.476168	
24.06	STRENGTH-B-11			1815	1	1815	284.748	0.156866		50	29000	27.5	0.415	189	1	330.9625	330.9625	1	330.9625	2.488	0.007517	0.512155	
48.02	STRENGTH-B-11			1815	1	1815	319.414	0.175986		50	29000	27.5	0.415	190	1	330.9625	330.9625	1	330.9625	8.259	0.024954	0.529133	

Compression Data										Shear (6.10.9)										
Location	Load Case	Frame #	M _n	φ _y	φ* _y M _n	M _u	D/C _{flexure}	F _{yw}	E	D	t _w	K	C	V _p	V _n	φ _v	φ _v V _n	V _u	(D/C) _v	Combined tension and flexure
ft			kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	kip	kip	kip	N/A	AASHTO 6.8.2.3-1/2
71.98	STRENGTH B-11		1815	1	1815	315.265	0.1737	50	29000	27.5	0.415	191	1	330.9625	330.9625	1	330.9625	14.03	0.042392	0.527101
95.94	STRENGTH B-11		1815	1	1815	272.301	0.150028	50	29000	27.5	0.415	192	1	330.9625	330.9625	1	330.9625	19.802	0.059832	0.506059
119.9	STRENGTH B-11		1815	1	1815	190.523	0.104971	50	29000	27.5	0.415	193	1	330.9625	330.9625	1	330.9625	25.573	0.077269	0.466009
119.9	STRENGTH B-11		1815	1	1815	190.523	0.104971	50	29000	27.5	0.415	194	1	330.9625	330.9625	1	330.9625	25.573	0.077269	0.466009
120	STRENGTH B-11		1815	1	1815	189.549	0.104435	50	29000	27.5	0.415	195	1	330.9625	330.9625	1	330.9625	25.58	0.07729	0.465532
0	STRENGTH B-11		1815	1	1815	50.774	0.027975	50	29000	27.5	0.415	196	1	330.9625	330.9625	1	330.9625	-25.387	0.076707	0.110715
0.1	STRENGTH B-11		1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	197	1	330.9625	330.9625	1	330.9625	-25.38	0.076885	0.110933
0.1	STRENGTH B-11		1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	198	1	330.9625	330.9625	1	330.9625	-25.38	0.076685	0.110933
24.06	STRENGTH B-11		1815	1	1815	126.691	0.069802	50	29000	27.5	0.415	199	1	330.9625	330.9625	1	330.9625	-19.61	0.059251	0.152542
48.02	STRENGTH B-11		1815	1	1815	163.397	0.090026	50	29000	27.5	0.415	200	1	330.9625	330.9625	1	330.9625	-13.839	0.041814	0.172766
71.98	STRENGTH B-11		1815	1	1815	161.287	0.088863	50	29000	27.5	0.415	201	1	330.9625	330.9625	1	330.9625	-8.069	0.02438	0.171603
95.94	STRENGTH B-11		1815	1	1815	120.363	0.066316	50	29000	27.5	0.415	202	1	330.9625	330.9625	1	330.9625	-2.298	0.006943	0.149056
119.9	STRENGTH B-11		1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	203	1	330.9625	330.9625	1	330.9625	3.473	0.010494	0.105122
119.9	STRENGTH B-11		1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	204	1	330.9625	330.9625	1	330.9625	3.473	0.010494	0.105122
120	STRENGTH B-11		1815	1	1815	40.21	0.022154	50	29000	27.5	0.415	205	1	330.9625	330.9625	1	330.9625	3.502	0.010581	0.104894
0	STRENGTH B-11		1815	1	1815	230.073	0.126762	50	29000	27.5	0.415	206	1	330.9625	330.9625	1	330.9625	-4.856	0.014672	0.549732
0.1	STRENGTH B-11		1815	1	1815	231.166	0.127364	50	29000	27.5	0.415	207	1	330.9625	330.9625	1	330.9625	-4.824	0.014576	0.550267
0.1	STRENGTH B-11		1815	1	1815	231.166	0.127364	50	29000	27.5	0.415	208	1	330.9625	330.9625	1	330.9625	-4.824	0.014576	0.550267
24.06	STRENGTH B-11		1815	1	1815	334.016	0.184051	50	29000	27.5	0.415	209	1	330.9625	330.9625	1	330.9625	1.577	0.004765	0.600638
48.02	STRENGTH B-11		1815	1	1815	382.957	0.210996	50	29000	27.5	0.415	210	1	330.9625	330.9625	1	330.9625	-7.978	0.024105	0.624606
71.98	STRENGTH B-11		1815	1	1815	377.988	0.208258	50	29000	27.5	0.415	211	1	330.9625	330.9625	1	330.9625	14.38	0.043449	0.622173
95.94	STRENGTH B-11		1815	1	1815	319.109	0.175818	50	29000	27.5	0.415	212	1	330.9625	330.9625	1	330.9625	20.781	0.06279	0.593337
119.9	STRENGTH B-11		1815	1	1815	206.321	0.113675	50	29000	27.5	0.415	213	1	330.9625	330.9625	1	330.9625	27.182	0.08213	0.5381
119.9	STRENGTH B-11		1815	1	1815	206.321	0.113675	50	29000	27.5	0.415	214	1	330.9625	330.9625	1	330.9625	27.182	0.08213	0.5381
120	STRENGTH B-11		1815	1	1815	205.186	0.11305	50	29000	27.5	0.415	215	1	330.9625	330.9625	1	330.9625	27.192	0.08216	0.537544
0	STRENGTH B-11		1815	1	1815	70.519	0.038853	50	29000	27.5	0.415	216	1	330.9625	330.9625	1	330.9625	-26.931	0.081372	0.26637
0.1	STRENGTH B-11		1815	1	1815	71.07	0.039157	50	29000	27.5	0.415	217	1	330.9625	330.9625	1	330.9625	-26.921	0.081342	0.26664
0.1	STRENGTH B-11		1815	1	1815	71.07	0.039157	50	29000	27.5	0.415	218	1	330.9625	330.9625	1	330.9625	-26.921	0.081342	0.26664
24.06	STRENGTH B-11		1815	1	1815	175.959	0.129036	50	29000	27.5	0.415	219	1	330.9625	330.9625	1	330.9625	-20.521	0.062004	0.316009
48.02	STRENGTH B-11		1815	1	1815	226.94	0.159431	50	29000	27.5	0.415	220	1	330.9625	330.9625	1	330.9625	-14.412	0.042663	0.340977
71.98	STRENGTH B-11		1815	1	1815	224.01	0.123421	50	29000	27.5	0.415	221	1	330.9625	330.9625	1	330.9625	-7.719	0.023323	0.339542
95.94	STRENGTH B-11		1815	1	1815	167.171	0.092105	50	29000	27.5	0.415	222	1	330.9625	330.9625	1	330.9625	-1.319	0.0003985	0.311705

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M_n	ϕ_f	ϕ^*M_n	M_n	$D/C_{flexure}$	F_{yw}	E	D	t_w	K	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	$(D/C)_v$	Combined tension and flexure
ft			kip*in	N/A	kip*in			ksi	ksi	in	in			kip	kip	N/A	kip	kip	N/A	AASHTO 6.8.2.3-1/2
119.9	STRENGTH-B-11		1815	1	1815	56.423	0.031087	50	29000	27.5	0.415	223	1	330.9625	330.9625	1	330.9625	5.082	0.015355	0.257467
119.9	STRENGTH-B-11		1815	1	1815	56.423	0.031087	50	29000	27.5	0.415	224	1	330.9625	330.9625	1	330.9625	5.082	0.015355	0.257467
120	STRENGTH-B-11		1815	1	1815	55.847	0.030777	50	29000	27.5	0.415	225	1	330.9625	330.9625	1	330.9625	5.113	0.015449	0.257185
0	STRENGTH-B-11		1815	1	1815	230.073	0.126762	50	29000	27.5	0.415	226	1	330.9625	330.9625	1	330.9625	-3.312	0.010007	0.549732
0.1	STRENGTH-B-11		1815	1	1815	231.166	0.127364	50	29000	27.5	0.415	227	1	330.9625	330.9625	1	330.9625	-3.284	0.009923	0.550267
0.1	STRENGTH-B-11		1815	1	1815	231.166	0.127364	50	29000	27.5	0.415	228	1	330.9625	330.9625	1	330.9625	-3.284	0.009923	0.550267
24.06	STRENGTH-B-11		1815	1	1815	334.016	0.184031	50	29000	27.5	0.415	229	1	330.9625	330.9625	1	330.9625	2.488	0.007517	0.600638
48.02	STRENGTH-B-11		1815	1	1815	382.957	0.210996	50	29000	27.5	0.415	230	1	330.9625	330.9625	1	330.9625	8.259	0.024954	0.624606
71.98	STRENGTH-B-11		1815	1	1815	377.988	0.208258	50	29000	27.5	0.415	231	1	330.9625	330.9625	1	330.9625	14.38	0.043449	0.622173
95.94	STRENGTH-B-11		1815	1	1815	319.109	0.175818	50	29000	27.5	0.415	232	1	330.9625	330.9625	1	330.9625	20.781	0.062779	0.593337
119.9	STRENGTH-B-11		1815	1	1815	206.321	0.113675	50	29000	27.5	0.415	233	1	330.9625	330.9625	1	330.9625	27.182	0.08213	0.5381
119.9	STRENGTH-B-11		1815	1	1815	206.321	0.113675	50	29000	27.5	0.415	234	1	330.9625	330.9625	1	330.9625	27.182	0.08213	0.5381
120	STRENGTH-B-11		1815	1	1815	205.186	0.11305	50	29000	27.5	0.415	235	1	330.9625	330.9625	1	330.9625	27.192	0.08216	0.537544
0	STRENGTH-B-11		1815	1	1815	50.774	0.027975	50	29000	27.5	0.415	236	1	330.9625	330.9625	1	330.9625	-26.931	0.081372	0.110715
0.1	STRENGTH-B-11		1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	237	1	330.9625	330.9625	1	330.9625	-26.921	0.081342	0.110933
0.1	STRENGTH-B-11		1815	1	1815	51.17	0.028193	50	29000	27.5	0.415	238	1	330.9625	330.9625	1	330.9625	-26.921	0.081342	0.110933
24.06	STRENGTH-B-11		1815	1	1815	126.691	0.069802	50	29000	27.5	0.415	239	1	330.9625	330.9625	1	330.9625	-20.521	0.062004	0.152542
48.02	STRENGTH-B-11		1815	1	1815	163.397	0.090026	50	29000	27.5	0.415	240	1	330.9625	330.9625	1	330.9625	-14.12	0.042663	0.177266
71.98	STRENGTH-B-11		1815	1	1815	161.287	0.088863	50	29000	27.5	0.415	241	1	330.9625	330.9625	1	330.9625	-8.069	0.02438	0.171603
95.94	STRENGTH-B-11		1815	1	1815	120.363	0.066816	50	29000	27.5	0.415	242	1	330.9625	330.9625	1	330.9625	-2.298	0.004694	0.149056
119.9	STRENGTH-B-11		1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	243	1	330.9625	330.9625	1	330.9625	3.473	0.010494	0.105122
119.9	STRENGTH-B-11		1815	1	1815	40.624	0.022382	50	29000	27.5	0.415	244	1	330.9625	330.9625	1	330.9625	3.473	0.010494	0.105122
120	STRENGTH-B-11		1815	1	1815	40.21	0.022154	50	29000	27.5	0.415	245	1	330.9625	330.9625	1	330.9625	3.502	0.010581	0.104894
0	STRENGTH-B-11		1815	1	1815	189.549	0.104435	50	29000	27.5	0.415	246	1	330.9625	330.9625	1	330.9625	-2.525	0.001629	0.370991
0.1	STRENGTH-B-11		1815	1	1815	190.36	0.104882	50	29000	27.5	0.415	247	1	330.9625	330.9625	1	330.9625	-2.518	0.007608	0.371388
0.1	STRENGTH-B-11		1815	1	1815	190.36	0.104882	50	29000	27.5	0.415	248	1	330.9625	330.9625	1	330.9625	-2.518	0.007608	0.371388
24.06	STRENGTH-B-11		1815	1	1815	235.138	0.129553	50	29000	27.5	0.415	249	1	330.9625	330.9625	1	330.9625	3.253	0.009829	0.393318
48.02	STRENGTH-B-11		1815	1	1815	241.101	0.132838	50	29000	27.5	0.415	250	1	330.9625	330.9625	1	330.9625	9.028	0.027278	0.396238
71.98	STRENGTH-B-11		1815	1	1815	208.249	0.114738	50	29000	27.5	0.415	251	1	330.9625	330.9625	1	330.9625	14.804	0.044742	0.380149
95.94	STRENGTH-B-11		1815	1	1815	166.582	0.075252	50	29000	27.5	0.415	252	1	330.9625	330.9625	1	330.9625	20.58	0.062182	0.34505
119.9	STRENGTH-B-11		1815	1	1815	33.312	0.018354	50	29000	27.5	0.415	253	1	330.9625	330.9625	1	330.9625	26.356	0.075634	0.294474
119.9	STRENGTH-B-11		1815	1	1815	33.312	0.018354	50	29000	27.5	0.415	254	1	330.9625	330.9625	1	330.9625	26.356	0.075634	0.294474

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M_u	ϕ_f	ϕ^*M_u	M_u	$D/C_{flexure}$	F_{yw}	E	D	t_w	K	C	V_p	V_n	ϕ_v	ϕ^*V_n	V_u	$(D/C)_v$	Combined tension and flexure	
ft			kip*in	N/A	kip*in			ksi	ksi	in	in			kip	kip	N/A	kip	kip		N/A	AASHTO 6.8.2.3-1/2
120	STRENGTH-B-12		1815	1	1815	30.676	0.016901	50	29000	27.5	0.415	255	1	330.9625	330.9625	1	330.9625	26.362	0.079653	0.293183	
0	STRENGTH-B-12		1815	1	1815	40.21	0.022154	50	29000	27.5	0.415	256	1	330.9625	330.9625	1	330.9625	-24.616	0.074377	0.082511	
0.1	STRENGTH-B-12		1815	1	1815	40.549	0.022341	50	29000	27.5	0.415	257	1	330.9625	330.9625	1	330.9625	-24.609	0.074356	0.082697	
0.1	STRENGTH-B-12		1815	1	1815	40.549	0.022341	50	29000	27.5	0.415	258	1	330.9625	330.9625	1	330.9625	-24.609	0.074356	0.082697	
24.06	STRENGTH-B-12		1815	1	1815	98.47	0.054253	50	29000	27.5	0.415	259	1	330.9625	330.9625	1	330.9625	-18.844	0.056937	0.11461	
48.02	STRENGTH-B-12		1815	1	1815	117.575	0.064478	50	29000	27.5	0.415	260	1	330.9625	330.9625	1	330.9625	-13.08	0.039521	0.125136	
71.98	STRENGTH-B-12		1815	1	1815	97.866	0.05921	50	29000	27.5	0.415	261	1	330.9625	330.9625	1	330.9625	-7.315	0.022102	0.114277	
95.94	STRENGTH-B-12		1815	1	1815	39.341	0.021675	50	29000	27.5	0.415	262	1	330.9625	330.9625	1	330.9625	-1.55	0.004683	0.082032	
119.9	STRENGTH-B-12		1815	1	1815	-57.998	0.031955	50	29000	27.5	0.415	263	1	330.9625	330.9625	1	330.9625	4.215	0.012736	0.028401	
119.9	STRENGTH-B-12		1815	1	1815	-57.998	0.031955	50	29000	27.5	0.415	264	1	330.9625	330.9625	1	330.9625	4.215	0.012736	0.028401	
120	STRENGTH-B-12		1815	1	1815	-58.5	0.032231	50	29000	27.5	0.415	265	1	330.9625	330.9625	1	330.9625	4.244	0.012823	0.028125	
0	STRENGTH-B-12		1815	1	1815	205.186	0.11305	50	29000	27.5	0.415	266	1	330.9625	330.9625	1	330.9625	-3.846	0.011621	0.425593	
0.1	STRENGTH-B-12		1815	1	1815	206.129	0.11357	50	29000	27.5	0.415	267	1	330.9625	330.9625	1	330.9625	-3.836	0.01159	0.426055	
0.1	STRENGTH-B-12		1815	1	1815	206.129	0.11357	50	29000	27.5	0.415	268	1	330.9625	330.9625	1	330.9625	-3.836	0.01159	0.426055	
24.06	STRENGTH-B-12		1815	1	1815	274.936	0.15148	50	29000	27.5	0.415	269	1	330.9625	330.9625	1	330.9625	2.565	0.00775	0.459753	
48.02	STRENGTH-B-12		1815	1	1815	289.834	0.158688	50	29000	27.5	0.415	270	1	330.9625	330.9625	1	330.9625	8.971	0.027106	0.467049	
71.98	STRENGTH-B-12		1815	1	1815	250.822	0.138194	50	29000	27.5	0.415	271	1	330.9625	330.9625	1	330.9625	15.376	0.046458	0.447943	
95.94	STRENGTH-B-12		1815	1	1815	157.9	0.086997	50	29000	27.5	0.415	272	1	330.9625	330.9625	1	330.9625	21.782	0.065814	0.402435	
119.9	STRENGTH-B-12		1815	1	1815	18.281	0.010072	50	29000	27.5	0.415	273	1	330.9625	330.9625	1	330.9625	28.188	0.085117	0.334057	
119.9	STRENGTH-B-12		1815	1	1815	18.281	0.010072	50	29000	27.5	0.415	274	1	330.9625	330.9625	1	330.9625	28.188	0.085117	0.334057	
120	STRENGTH-B-12		1815	1	1815	15.462	0.008519	50	29000	27.5	0.415	275	1	330.9625	330.9625	1	330.9625	28.188	0.085117	0.334057	
0	STRENGTH-B-12		1815	1	1815	55.847	0.03077	50	29000	27.5	0.415	276	1	330.9625	330.9625	1	330.9625	-25.937	0.078597	0.332677	
0.1	STRENGTH-B-12		1815	1	1815	56.319	0.03103	50	29000	27.5	0.415	277	1	330.9625	330.9625	1	330.9625	-25.927	0.078338	0.114858	
0.1	STRENGTH-B-12		1815	1	1815	56.319	0.03103	50	29000	27.5	0.415	278	1	330.9625	330.9625	1	330.9625	-25.927	0.078338	0.114858	
24.06	STRENGTH-B-12		1815	1	1815	138.268	0.076181	50	29000	27.5	0.415	279	1	330.9625	330.9625	1	330.9625	-19.532	0.059016	0.160009	
48.02	STRENGTH-B-12		1815	1	1815	166.308	0.09163	50	29000	27.5	0.415	280	1	330.9625	330.9625	1	330.9625	-13.137	0.039693	0.1175458	
71.98	STRENGTH-B-12		1815	1	1815	140.439	0.07377	50	29000	27.5	0.415	281	1	330.9625	330.9625	1	330.9625	-6.743	0.020374	0.161205	
95.94	STRENGTH-B-12		1815	1	1815	60.659	0.03421	50	29000	27.5	0.415	282	1	330.9625	330.9625	1	330.9625	-0.348	0.010151	0.117749	
119.9	STRENGTH-B-12		1815	1	1815	-73.029	0.040236	50	29000	27.5	0.415	283	1	330.9625	330.9625	1	330.9625	6.047	0.018271	0.043592	
119.9	STRENGTH-B-12		1815	1	1815	-73.029	0.040236	50	29000	27.5	0.415	284	1	330.9625	330.9625	1	330.9625	6.047	0.018271	0.043592	
120	STRENGTH-B-12		1815	1	1815	-73.714	0.040614	50	29000	27.5	0.415	285	1	330.9625	330.9625	1	330.9625	6.079	0.018368	0.043215	
0	STRENGTH-B-12		1815	1	1815	205.186	0.11305	50	29000	27.5	0.415	286	1	330.9625	330.9625	1	330.9625	-2.525	0.007629	0.425593	

Compression Data				Shear (6.10.9)															
Location	Load Case	Frame #	M _n	Resistance factor for flexure, 6.5.4.2	M _u	D/C _{flexure}	specified minimum yield strength of the lower strength flange, AASHTO 6.12.2.2.1	Modulus of elasticity of steel	Overall depth of member	Web thickness	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1	Resistance factor for shear; AASHTO LRFD 6.5.4.2	Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	Combined tension and flexure AASHTO 6.8.2.3-1/2	
ft			Kip*in	φ	Kip*in		F _{yw}	E	D	t _w	k		V _n	V _n	φ _v	φ _v V _n	V _u	(D/C) _v	
0.1 STRENGTH B-12			1815	1	1815	0.11357	50	29000	27.5	0.415	287	1	330.9625	330.9625	1	330.9625	-2.518	0.007608	0.426055
0.1 STRENGTH B-12			1815	1	1815	0.11357	50	29000	27.5	0.415	288	1	330.9625	330.9625	1	330.9625	-2.518	0.007608	0.426055
24.06 STRENGTH B-12			1815	1	1815	0.15148	50	29000	27.5	0.415	289	1	330.9625	330.9625	1	330.9625	3.253	0.009829	0.459753
48.02 STRENGTH B-12			1815	1	1815	0.159688	50	29000	27.5	0.415	290	1	330.9625	330.9625	1	330.9625	9.028	0.027278	0.467049
71.98 STRENGTH B-12			1815	1	1815	0.138194	50	29000	27.5	0.415	291	1	330.9625	330.9625	1	330.9625	15.376	0.046458	0.447943
95.94 STRENGTH B-12			1815	1	1815	0.086997	50	29000	27.5	0.415	292	1	330.9625	330.9625	1	330.9625	21.782	0.065814	0.402435
119.9 STRENGTH B-12			1815	1	1815	0.018354	50	29000	27.5	0.415	293	1	330.9625	330.9625	1	330.9625	28.188	0.08517	0.341419
119.9 STRENGTH B-12			1815	1	1815	0.018354	50	29000	27.5	0.415	294	1	330.9625	330.9625	1	330.9625	28.188	0.08517	0.341419
120 STRENGTH B-12			1815	1	1815	0.016901	50	29000	27.5	0.415	295	1	330.9625	330.9625	1	330.9625	28.197	0.085197	0.340128
0.1 STRENGTH B-12			1815	1	1815	0.022154	50	29000	27.5	0.415	296	1	330.9625	330.9625	1	330.9625	-25.937	0.078368	0.082511
0.1 STRENGTH B-12			1815	1	1815	0.022341	50	29000	27.5	0.415	297	1	330.9625	330.9625	1	330.9625	-25.927	0.078338	0.082697
0.1 STRENGTH B-12			1815	1	1815	0.022341	50	29000	27.5	0.415	298	1	330.9625	330.9625	1	330.9625	-25.927	0.078338	0.082697
24.06 STRENGTH B-12			1815	1	1815	0.054253	50	29000	27.5	0.415	299	1	330.9625	330.9625	1	330.9625	-19.532	0.059016	0.11461
48.02 STRENGTH B-12			1815	1	1815	0.06478	50	29000	27.5	0.415	300	1	330.9625	330.9625	1	330.9625	-13.137	0.039693	0.125136
71.98 STRENGTH B-12			1815	1	1815	0.053921	50	29000	27.5	0.415	301	1	330.9625	330.9625	1	330.9625	-7.315	0.022102	0.114277
95.94 STRENGTH B-12			1815	1	1815	0.021675	50	29000	27.5	0.415	302	1	330.9625	330.9625	1	330.9625	-1.55	0.004683	0.082032
119.9 STRENGTH B-12			1815	1	1815	-73.029	50	29000	27.5	0.415	303	1	330.9625	330.9625	1	330.9625	4.215	0.012736	0.02012
119.9 STRENGTH B-12			1815	1	1815	-73.029	50	29000	27.5	0.415	304	1	330.9625	330.9625	1	330.9625	4.215	0.012736	0.02012
120 STRENGTH B-12			1815	1	1815	0.040236	50	29000	27.5	0.415	305	1	330.9625	330.9625	1	330.9625	4.244	0.012823	0.019743
0 STRENGTH B-13			1815	1	1815	0.016901	50	29000	27.5	0.415	306	1	330.9625	330.9625	1	330.9625	-3.669	0.011086	0.094734
0.1 STRENGTH B-13			1815	1	1815	0.018016	50	29000	27.5	0.415	307	1	330.9625	330.9625	1	330.9625	-3.641	0.011001	0.095849
0.1 STRENGTH B-13			1815	1	1815	0.018016	50	29000	27.5	0.415	308	1	330.9625	330.9625	1	330.9625	-3.641	0.011001	0.095849
24.06 STRENGTH B-13			1815	1	1815	0.066502	50	29000	27.5	0.415	309	1	330.9625	330.9625	1	330.9625	2.083	0.006294	0.144335
48.02 STRENGTH B-13			1815	1	1815	0.097956	50	29000	27.5	0.415	310	1	330.9625	330.9625	1	330.9625	7.806	0.023586	0.175429
71.98 STRENGTH B-13			1815	1	1815	0.107304	50	29000	27.5	0.415	311	1	330.9625	330.9625	1	330.9625	13.53	0.040881	0.185137
95.94 STRENGTH B-13			1815	1	1815	0.095627	50	29000	27.5	0.415	312	1	330.9625	330.9625	1	330.9625	19.254	0.058176	0.17346
119.9 STRENGTH B-13			1815	1	1815	0.062564	50	29000	27.5	0.415	313	1	330.9625	330.9625	1	330.9625	24.977	0.075468	0.140397
119.9 STRENGTH B-13			1815	1	1815	0.062564	50	29000	27.5	0.415	314	1	330.9625	330.9625	1	330.9625	24.977	0.075468	0.140397
120 STRENGTH B-13			1815	1	1815	0.06178	50	29000	27.5	0.415	315	1	330.9625	330.9625	1	330.9625	24.984	0.075489	0.139612
0 STRENGTH B-13			1815	1	1815	-58.5	50	29000	27.5	0.415	316	1	330.9625	330.9625	1	330.9625	-25.797	0.077945	0.000604
0.1 STRENGTH B-13			1815	1	1815	-57.977	50	29000	27.5	0.415	317	1	330.9625	330.9625	1	330.9625	-25.79	0.077924	0.000892
0.1 STRENGTH B-13			1815	1	1815	0.031943	50	29000	27.5	0.415	318	1	330.9625	330.9625	1	330.9625	-25.79	0.077924	0.000892

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M_n	ϕ	$\phi^* M_n$	M_u	$D/C_{flexure}$	F_w	E	D	t_w	K	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	$(D/C)_v$	Combined tension and flexure
ft			kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	N/A	AASHTO 6.8.2.3-1/2
24.06	STRENGTH-B-13		1815	1	1815	27.05	0.014904	50	29000	27.5	0.415	319	1	330.9625	330.9625	1	330.9625	-20.056	0.060599	0.047739
48.02	STRENGTH-B-13		1815	1	1815	73.262	0.040365	50	29000	27.5	0.415	320	1	330.9625	330.9625	1	330.9625	-14.322	0.043274	0.0732
71.98	STRENGTH-B-13		1815	1	1815	80.659	0.04444	50	29000	27.5	0.415	321	1	330.9625	330.9625	1	330.9625	-8.588	0.025949	0.077275
95.94	STRENGTH-B-13		1815	1	1815	49.241	0.02713	50	29000	27.5	0.415	322	1	330.9625	330.9625	1	330.9625	-2.854	0.008623	0.059965
119.9	STRENGTH-B-13		1815	1	1815	-20.991	0.011565	50	29000	27.5	0.415	323	1	330.9625	330.9625	1	330.9625	2.881	0.008705	0.021127
119.9	STRENGTH-B-13		1815	1	1815	-20.991	0.011565	50	29000	27.5	0.415	324	1	330.9625	330.9625	1	330.9625	2.881	0.008705	0.021127
120	STRENGTH-B-13		1815	1	1815	-21.382	0.011781	50	29000	27.5	0.415	325	1	330.9625	330.9625	1	330.9625	3.008	0.009089	0.021055
0	STRENGTH-B-13		1815	1	1815	15.462	0.008519	50	29000	27.5	0.415	326	1	330.9625	330.9625	1	330.9625	-5.306	0.016032	0.099121
0.1	STRENGTH-B-13		1815	1	1815	17.648	0.009723	50	29000	27.5	0.415	327	1	330.9625	330.9625	1	330.9625	-5.275	0.015938	0.100325
24.06	STRENGTH-B-13		1815	1	1815	17.648	0.009723	50	29000	27.5	0.415	328	1	330.9625	330.9625	1	330.9625	-5.275	0.015938	0.100325
48.02	STRENGTH-B-13		1815	1	1815	137.249	0.075619	50	29000	27.5	0.415	329	1	330.9625	330.9625	1	330.9625	1.079	0.00326	0.166221
71.98	STRENGTH-B-13		1815	1	1815	210.19	0.115807	50	29000	27.5	0.415	330	1	330.9625	330.9625	1	330.9625	7.432	0.022456	0.206409
95.94	STRENGTH-B-13		1815	1	1815	229.221	0.126293	50	29000	27.5	0.415	331	1	330.9625	330.9625	1	330.9625	13.786	0.041654	0.216894
119.9	STRENGTH-B-13		1815	1	1815	194.343	0.107076	50	29000	27.5	0.415	332	1	330.9625	330.9625	1	330.9625	20.14	0.060853	0.197678
119.9	STRENGTH-B-13		1815	1	1815	105.555	0.058157	50	29000	27.5	0.415	333	1	330.9625	330.9625	1	330.9625	26.493	0.080048	0.148759
120	STRENGTH-B-13		1815	1	1815	105.555	0.058157	50	29000	27.5	0.415	334	1	330.9625	330.9625	1	330.9625	26.493	0.080048	0.148759
0	STRENGTH-B-13		1815	1	1815	103.978	0.057288	50	29000	27.5	0.415	335	1	330.9625	330.9625	1	330.9625	26.503	0.080079	0.14789
0.1	STRENGTH-B-13		1815	1	1815	-73.714	0.040614	50	29000	27.5	0.415	336	1	330.9625	330.9625	1	330.9625	-27.433	0.082889	0.004991
0.1	STRENGTH-B-13		1815	1	1815	-73.029	0.040236	50	29000	27.5	0.415	337	1	330.9625	330.9625	1	330.9625	-27.424	0.082861	0.005368
24.06	STRENGTH-B-13		1815	1	1815	43.598	0.024021	50	29000	27.5	0.415	339	1	330.9625	330.9625	1	330.9625	-21.06	0.063633	0.069626
48.02	STRENGTH-B-13		1815	1	1815	106.315	0.058576	50	29000	27.5	0.415	340	1	330.9625	330.9625	1	330.9625	-14.696	0.044404	0.10418
71.98	STRENGTH-B-13		1815	1	1815	115.123	0.063429	50	29000	27.5	0.415	341	1	330.9625	330.9625	1	330.9625	-8.332	0.025175	0.109033
95.94	STRENGTH-B-13		1815	1	1815	70.021	0.038579	50	29000	27.5	0.415	342	1	330.9625	330.9625	1	330.9625	-1.967	0.000543	0.084484
119.9	STRENGTH-B-13		1815	1	1815	-28.991	0.015973	50	29000	27.5	0.415	343	1	330.9625	330.9625	1	330.9625	4.997	0.013285	0.029632
119.9	STRENGTH-B-13		1815	1	1815	-28.991	0.015973	50	29000	27.5	0.415	344	1	330.9625	330.9625	1	330.9625	4.997	0.013285	0.029632
120	STRENGTH-B-13		1815	1	1815	-29.533	0.016272	50	29000	27.5	0.415	345	1	330.9625	330.9625	1	330.9625	4.526	0.013675	0.029333
0	STRENGTH-B-13		1815	1	1815	30.676	0.016901	50	29000	27.5	0.415	346	1	330.9625	330.9625	1	330.9625	-3.669	0.011086	0.1079503
0.1	STRENGTH-B-13		1815	1	1815	32.699	0.018016	50	29000	27.5	0.415	347	1	330.9625	330.9625	1	330.9625	-3.641	0.011001	0.108618
0.1	STRENGTH-B-13		1815	1	1815	32.699	0.018016	50	29000	27.5	0.415	348	1	330.9625	330.9625	1	330.9625	-3.641	0.011001	0.108618
24.06	STRENGTH-B-13		1815	1	1815	137.249	0.075619	50	29000	27.5	0.415	349	1	330.9625	330.9625	1	330.9625	2.083	0.006294	0.166221
48.02	STRENGTH-B-13		1815	1	1815	210.19	0.115807	50	29000	27.5	0.415	350	1	330.9625	330.9625	1	330.9625	7.806	0.023586	0.206409

Compression Data										Shear (6.10.9)										
Location ft	Load Case	Frame #	M _n kip*in	φ _t N/A	φ _t *M _n kip*in	M _u kip*in	D/C _{flexure}	F _{yw} ksi	E ksi	D in	t _w in	k	C	V _p kip	V _n kip	φ _v N/A	φ _v *V _n kip	V _u kip	(D/C) _v N/A	Combined tension and flexure AASHTO 6.8.2.3-1/2
71.98	STRENGTH B-13		1815	1	1815	229.221	0.126293	50	29000	27.5	0.415	351	1	330.9625	330.9625	1	330.9625	13.786	0.041654	0.216894
95.94	STRENGTH B-13		1815	1	1815	194.343	0.107076	50	29000	27.5	0.415	352	1	330.9625	330.9625	1	330.9625	20.14	0.060853	0.197678
119.9	STRENGTH B-13		1815	1	1815	113.554	0.062564	50	29000	27.5	0.415	353	1	330.9625	330.9625	1	330.9625	26.493	0.080048	0.153166
119.9	STRENGTH B-13		1815	1	1815	113.554	0.062564	50	29000	27.5	0.415	354	1	330.9625	330.9625	1	330.9625	26.493	0.080048	0.153166
120	STRENGTH B-13		1815	1	1815	112.13	0.06178	50	29000	27.5	0.415	355	1	330.9625	330.9625	1	330.9625	26.503	0.080079	0.152381
0	STRENGTH B-13		1815	1	1815	-73.714	0.040614	50	29000	27.5	0.415	356	1	330.9625	330.9625	1	330.9625	-27.433	0.082889	-0.00778
0.1	STRENGTH B-13		1815	1	1815	-73.029	0.040236	50	29000	27.5	0.415	357	1	330.9625	330.9625	1	330.9625	-27.424	0.082861	-0.0074
0.1	STRENGTH B-13		1815	1	1815	-73.029	0.040236	50	29000	27.5	0.415	358	1	330.9625	330.9625	1	330.9625	-27.424	0.082861	-0.0074
24.06	STRENGTH B-13		1815	1	1815	27.05	0.014904	50	29000	27.5	0.415	359	1	330.9625	330.9625	1	330.9625	-21.06	0.063633	0.047739
48.02	STRENGTH B-13		1815	1	1815	73.262	0.040365	50	29000	27.5	0.415	360	1	330.9625	330.9625	1	330.9625	-14.696	0.044404	0.0732
71.98	STRENGTH B-13		1815	1	1815	80.659	0.04444	50	29000	27.5	0.415	361	1	330.9625	330.9625	1	330.9625	-8.588	0.025949	0.077275
95.94	STRENGTH B-13		1815	1	1815	49.241	0.02713	50	29000	27.5	0.415	362	1	330.9625	330.9625	1	330.9625	-2.854	0.008623	0.059965
119.9	STRENGTH B-13		1815	1	1815	-28.991	0.015973	50	29000	27.5	0.415	363	1	330.9625	330.9625	1	330.9625	2.881	0.008705	0.016862
119.9	STRENGTH B-13		1815	1	1815	-28.991	0.015973	50	29000	27.5	0.415	364	1	330.9625	330.9625	1	330.9625	2.881	0.008705	0.016862
120	STRENGTH B-13		1815	1	1815	-29.533	0.016272	50	29000	27.5	0.415	365	1	330.9625	330.9625	1	330.9625	3.008	0.009089	0.016564
0	STRENGTH B-14		1815	1	1815	112.13	0.06178	50	29000	27.5	0.415	366	1	330.9625	330.9625	1	330.9625	-3.475	0.0105	0.139612
0.1	STRENGTH B-14		1815	1	1815	113.544	0.062559	50	29000	27.5	0.415	367	1	330.9625	330.9625	1	330.9625	-3.302	0.009977	0.140391
0.1	STRENGTH B-14		1815	1	1815	113.544	0.062559	50	29000	27.5	0.415	368	1	330.9625	330.9625	1	330.9625	-3.302	0.009977	0.140391
24.06	STRENGTH B-14		1815	1	1815	168.785	0.092994	50	29000	27.5	0.415	369	1	330.9625	330.9625	1	330.9625	2.499	0.007551	0.170827
48.02	STRENGTH B-14		1815	1	1815	185.211	0.102045	50	29000	27.5	0.415	370	1	330.9625	330.9625	1	330.9625	8.37	0.02529	0.179877
71.98	STRENGTH B-14		1815	1	1815	162.823	0.08971	50	29000	27.5	0.415	371	1	330.9625	330.9625	1	330.9625	14.241	0.043029	0.167542
95.94	STRENGTH B-14		1815	1	1815	101.619	0.055988	50	29000	27.5	0.415	372	1	330.9625	330.9625	1	330.9625	20.112	0.060768	0.133821
119.9	STRENGTH B-14		1815	1	1815	2.599	0.001432	50	29000	27.5	0.415	373	1	330.9625	330.9625	1	330.9625	25.983	0.078507	0.079265
119.9	STRENGTH B-14		1815	1	1815	2.599	0.001432	50	29000	27.5	0.415	374	1	330.9625	330.9625	1	330.9625	25.983	0.078507	0.079265
120	STRENGTH B-14		1815	1	1815	3.04E-13	1.67E-16	50	29000	27.5	0.415	375	1	330.9625	330.9625	1	330.9625	25.99	0.078529	0.077833
0	STRENGTH B-14		1815	1	1815	-21.382	0.011781	50	29000	27.5	0.415	376	1	330.9625	330.9625	1	330.9625	-25.457	0.076897	0.021055
0.1	STRENGTH B-14		1815	1	1815	-20.957	0.011547	50	29000	27.5	0.415	377	1	330.9625	330.9625	1	330.9625	-25.45	0.076897	0.021055
0.1	STRENGTH B-14		1815	1	1815	-20.957	0.011547	50	29000	27.5	0.415	378	1	330.9625	330.9625	1	330.9625	-25.45	0.076897	0.021055
24.06	STRENGTH B-14		1815	1	1815	60.942	0.033577	50	29000	27.5	0.415	379	1	330.9625	330.9625	1	330.9625	-19.589	0.059188	0.066412
48.02	STRENGTH B-14		1815	1	1815	104.026	0.057315	50	29000	27.5	0.415	380	1	330.9625	330.9625	1	330.9625	-13.729	0.041482	0.09015
71.98	STRENGTH B-14		1815	1	1815	108.295	0.056637	50	29000	27.5	0.415	381	1	330.9625	330.9625	1	330.9625	-7.868	0.023773	0.092502
95.94	STRENGTH B-14		1815	1	1815	73.749	0.040633	50	29000	27.5	0.415	382	1	330.9625	330.9625	1	330.9625	-2.007	0.006064	0.073468

Compression Data				Shear (6.10.9)																		
Location	Load Case	Frame #		M_n	ϕ_t	ϕ^*M_n	M_u	$D/C_{flexure}$	F_{yw}	E	D	t_w	k	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	$(D/C)_v$		
ft				kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
119.9	STRENGTH B-14			1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	383	1	330.9625	330.9625	1	330.9625	3.853	0.011642	0.033049	
119.9	STRENGTH B-14			1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	384	1	330.9625	330.9625	1	330.9625	3.853	0.011642	0.033049	
120	STRENGTH B-14			1815	1	1815	3.04E-13	1.67E-16	50	29000	27.5	0.415	385	1	330.9625	330.9625	1	330.9625	3.882	0.011729	0.032835	
0	STRENGTH B-14			1815	1	1815	103.978	0.057288	50	29000	27.5	0.415	386	1	330.9625	330.9625	1	330.9625	-5.121	0.015473	0.14789	
0.1	STRENGTH B-14			1815	1	1815	105.557	0.058158	50	29000	27.5	0.415	387	1	330.9625	330.9625	1	330.9625	-4.945	0.014941	0.14876	
0.1	STRENGTH B-14			1815	1	1815	105.557	0.058158	50	29000	27.5	0.415	388	1	330.9625	330.9625	1	330.9625	-4.945	0.014941	0.14876	
24.06	STRENGTH B-14			1815	1	1815	192.615	0.106124	50	29000	27.5	0.415	389	1	330.9625	330.9625	1	330.9625	1.487	0.000493	0.196726	
48.02	STRENGTH B-14			1815	1	1815	225.764	0.124388	50	29000	27.5	0.415	390	1	330.9625	330.9625	1	330.9625	7.988	0.024136	0.214989	
71.98	STRENGTH B-14			1815	1	1815	205.003	0.112949	50	29000	27.5	0.415	391	1	330.9625	330.9625	1	330.9625	14.488	0.043775	0.203551	
95.94	STRENGTH B-14			1815	1	1815	130.332	0.071808	50	29000	27.5	0.415	392	1	330.9625	330.9625	1	330.9625	20.989	0.063418	0.16241	
119.9	STRENGTH B-14			1815	1	1815	2.75	0.001515	50	29000	27.5	0.415	393	1	330.9625	330.9625	1	330.9625	27.49	0.083061	0.092117	
119.9	STRENGTH B-14			1815	1	1815	2.75	0.001515	50	29000	27.5	0.415	394	1	330.9625	330.9625	1	330.9625	27.49	0.083061	0.092117	
0	STRENGTH B-14			1815	1	1815	4.22E-13	2.32E-16	50	29000	27.5	0.415	395	1	330.9625	330.9625	1	330.9625	-14.112	0.042639	0.125262	
0	STRENGTH B-14			1815	1	1815	-29.533	0.016272	50	29000	27.5	0.415	396	1	330.9625	330.9625	1	330.9625	-27.102	0.081888	0.029333	
0.1	STRENGTH B-14			1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	398	1	330.9625	330.9625	1	330.9625	-27.093	0.081861	0.029658	
0.1	STRENGTH B-14			1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	399	1	330.9625	330.9625	1	330.9625	-27.093	0.081861	0.029658	
24.06	STRENGTH B-14			1815	1	1815	84.772	0.046706	50	29000	27.5	0.415	400	1	330.9625	330.9625	1	330.9625	-14.112	0.042639	0.125262	
48.02	STRENGTH B-14			1815	1	1815	144.578	0.079657	50	29000	27.5	0.415	401	1	330.9625	330.9625	1	330.9625	-14.112	0.042639	0.125262	
71.98	STRENGTH B-14			1815	1	1815	150.474	0.082906	50	29000	27.5	0.415	401	1	330.9625	330.9625	1	330.9625	-7.621	0.023027	0.128511	
95.94	STRENGTH B-14			1815	1	1815	102.461	0.056452	50	29000	27.5	0.415	402	1	330.9625	330.9625	1	330.9625	-1.13	0.003414	0.102057	
119.9	STRENGTH B-14			1815	1	1815	0.539	0.000297	50	29000	27.5	0.415	403	1	330.9625	330.9625	1	330.9625	5.361	0.016198	0.045902	
119.9	STRENGTH B-14			1815	1	1815	0.539	0.000297	50	29000	27.5	0.415	404	1	330.9625	330.9625	1	330.9625	5.361	0.016198	0.045902	
120	STRENGTH B-14			1815	1	1815	4.22E-13	2.32E-16	50	29000	27.5	0.415	405	1	330.9625	330.9625	1	330.9625	5.392	0.016292	0.045605	
0	STRENGTH B-14			1815	1	1815	112.13	0.06178	50	29000	27.5	0.415	406	1	330.9625	330.9625	1	330.9625	-3.475	0.0105	0.152381	
0.1	STRENGTH B-14			1815	1	1815	113.544	0.062559	50	29000	27.5	0.415	408	1	330.9625	330.9625	1	330.9625	-3.302	0.009977	0.15316	
0.1	STRENGTH B-14			1815	1	1815	113.544	0.062559	50	29000	27.5	0.415	409	1	330.9625	330.9625	1	330.9625	-3.302	0.009977	0.15316	
24.06	STRENGTH B-14			1815	1	1815	192.615	0.106124	50	29000	27.5	0.415	410	1	330.9625	330.9625	1	330.9625	2.499	0.007551	0.214989	
48.02	STRENGTH B-14			1815	1	1815	225.764	0.124388	50	29000	27.5	0.415	411	1	330.9625	330.9625	1	330.9625	8.37	0.02529	0.214989	
71.98	STRENGTH B-14			1815	1	1815	205.003	0.112949	50	29000	27.5	0.415	411	1	330.9625	330.9625	1	330.9625	14.488	0.043775	0.203551	
95.94	STRENGTH B-14			1815	1	1815	130.332	0.071808	50	29000	27.5	0.415	412	1	330.9625	330.9625	1	330.9625	20.989	0.063418	0.16241	
119.9	STRENGTH B-14			1815	1	1815	2.75	0.001515	50	29000	27.5	0.415	413	1	330.9625	330.9625	1	330.9625	27.49	0.083061	0.092117	
119.9	STRENGTH B-14			1815	1	1815	2.75	0.001515	50	29000	27.5	0.415	414	1	330.9625	330.9625	1	330.9625	27.49	0.083061	0.092117	

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M_n kip*in	ϕ_f	ϕ^*M_n	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	Web thickness t_w in	k	C	V_p kip	V_n kip	ϕ_v	$\phi_v V_n$ kip	V_u kip	$(D/C)_v$	Combined tension and flexure AASHTO 6.8.2.3-1/2
120 STRENGTH B-14			1815	1	1815	4.22E+3	2.32E-16	50	29000	27.5	0.415	415	1	330.9625	330.9625	1	330.9625	27.5	0.083091	0.090602
0 STRENGTH B-14			1815	1	1815	-29.533	0.016272	50	29000	27.5	0.415	416	1	330.9625	330.9625	1	330.9625	-27.102	0.081888	0.016564
0.1 STRENGTH B-14			1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	417	1	330.9625	330.9625	1	330.9625	-27.093	0.081861	0.016888
0.1 STRENGTH B-14			1815	1	1815	-28.944	0.015947	50	29000	27.5	0.415	418	1	330.9625	330.9625	1	330.9625	-27.093	0.081861	0.016888
24.06 STRENGTH B-14			1815	1	1815	60.942	0.033577	50	29000	27.5	0.415	419	1	330.9625	330.9625	1	330.9625	-20.602	0.062249	0.066412
48.02 STRENGTH B-14			1815	1	1815	104.026	0.057315	50	29000	27.5	0.415	420	1	330.9625	330.9625	1	330.9625	-14.112	0.042639	0.09015
71.98 STRENGTH B-14			1815	1	1815	108.295	0.059667	50	29000	27.5	0.415	421	1	330.9625	330.9625	1	330.9625	-7.868	0.023773	0.092502
95.94 STRENGTH B-14			1815	1	1815	73.749	0.040633	50	29000	27.5	0.415	422	1	330.9625	330.9625	1	330.9625	-2.007	0.006064	0.073468
119.9 STRENGTH B-14			1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	423	1	330.9625	330.9625	1	330.9625	3.853	0.011642	0.033049
119.9 STRENGTH B-14			1815	1	1815	0.388	0.000214	50	29000	27.5	0.415	424	1	330.9625	330.9625	1	330.9625	3.853	0.011642	0.033049
120 STRENGTH B-14			1815	1	1815	3.04E+3	1.67E-16	50	29000	27.5	0.415	425	1	330.9625	330.9625	1	330.9625	3.882	0.011729	0.032835

Bottom Chord Membe

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
0	STRENGTH B-1		0
0.1	STRENGTH B-1		0.001431
0.1	STRENGTH B-1		0.001431
24.06	STRENGTH B-1		0.052136
48.02	STRENGTH B-1		0.081455
71.98	STRENGTH B-1		0.089388
95.94	STRENGTH B-1		0.075937
119.9	STRENGTH B-1		0.041099
119.9	STRENGTH B-1		0.041099
120	STRENGTH B-1		0.039749
0	STRENGTH B-1		0
0.1	STRENGTH B-1		0.000214
0.1	STRENGTH B-1		0.000214
24.06	STRENGTH B-1		0.040633
48.02	STRENGTH B-1		0.059667
71.98	STRENGTH B-1		0.057315
95.94	STRENGTH B-1		0.033577
119.9	STRENGTH B-1		-0.01155
119.9	STRENGTH B-1		-0.01155
120	STRENGTH B-1		-0.01178
0	STRENGTH B-1		0
0.1	STRENGTH B-1		0.001515
0.1	STRENGTH B-1		0.001515
24.06	STRENGTH B-1		0.067956
48.02	STRENGTH B-1		0.104695
71.98	STRENGTH B-1		0.111732
95.94	STRENGTH B-1		0.089066
119.9	STRENGTH B-1		0.036698
119.9	STRENGTH B-1		0.036698

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
120	STRENGTH B-1		0.035258
0	STRENGTH B-1		0
0.1	STRENGTH B-1		0.000297
0.1	STRENGTH B-1		0.000297
24.06	STRENGTH B-1		0.056452
48.02	STRENGTH B-1		0.082906
71.98	STRENGTH B-1		0.079657
95.94	STRENGTH B-1		0.046706
119.9	STRENGTH B-1		-0.01595
119.9	STRENGTH B-1		-0.01595
120	STRENGTH B-1		-0.01627
0	STRENGTH B-1		0
0.1	STRENGTH B-1		0.001515
0.1	STRENGTH B-1		0.001515
24.06	STRENGTH B-1		0.067956
48.02	STRENGTH B-1		0.104695
71.98	STRENGTH B-1		0.111732
95.94	STRENGTH B-1		0.089066
119.9	STRENGTH B-1		0.041099
119.9	STRENGTH B-1		0.041099
120	STRENGTH B-1		0.039749
0	STRENGTH B-1		0
0.1	STRENGTH B-1		0.000214
0.1	STRENGTH B-1		0.000214
24.06	STRENGTH B-1		0.040633
48.02	STRENGTH B-1		0.059667
71.98	STRENGTH B-1		0.057315
95.94	STRENGTH B-1		0.033577
119.9	STRENGTH B-1		-0.01595
119.9	STRENGTH B-1		-0.01595
120	STRENGTH B-1		-0.01627
0	STRENGTH B-2		0.039749

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

0.1	STRENGTH B-2		0.041129
0.1	STRENGTH B-2		0.041129
24.06	STRENGTH B-2		0.079335
48.02	STRENGTH B-2		0.096155
71.98	STRENGTH B-2		0.09159
95.94	STRENGTH B-2		0.065639
119.9	STRENGTH B-2		0.018302
119.9	STRENGTH B-2		0.018302
120	STRENGTH B-2		0.016901
0	STRENGTH B-2		-0.01178
0.1	STRENGTH B-2		-0.01157
0.1	STRENGTH B-2		-0.01157
24.06	STRENGTH B-2		0.027333
48.02	STRENGTH B-2		0.044846
71.98	STRENGTH B-2		0.040974
95.94	STRENGTH B-2		0.015716
119.9	STRENGTH B-2		-0.03093
119.9	STRENGTH B-2		-0.03093
120	STRENGTH B-2		-0.03121
0	STRENGTH B-2		0.035258
0.1	STRENGTH B-2		0.036722
0.1	STRENGTH B-2		0.036722
24.06	STRENGTH B-2		0.090783
48.02	STRENGTH B-2		0.115144
71.98	STRENGTH B-2		0.109801
95.94	STRENGTH B-2		0.074756
119.9	STRENGTH B-2		0.01001
119.9	STRENGTH B-2		0.01001
120	STRENGTH B-2		0.008519
0	STRENGTH B-2		-0.01627
0.1	STRENGTH B-2		-0.01597
0.1	STRENGTH B-2		-0.01597

Compression Data			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
24.06	STRENGTH B-2		0.038782
48.02	STRENGTH B-2		0.063835
71.98	STRENGTH B-2		0.059185
95.94	STRENGTH B-2		0.024834
119.9	STRENGTH B-2		-0.03922
119.9	STRENGTH B-2		-0.03922
120	STRENGTH B-2		-0.03959
0	STRENGTH B-2		0.039749
0.1	STRENGTH B-2		0.041129
0.1	STRENGTH B-2		0.041129
24.06	STRENGTH B-2		0.090783
48.02	STRENGTH B-2		0.115144
71.98	STRENGTH B-2		0.109801
95.94	STRENGTH B-2		0.074756
119.9	STRENGTH B-2		0.018302
119.9	STRENGTH B-2		0.018302
120	STRENGTH B-2		0.016901
0	STRENGTH B-2		-0.01627
0.1	STRENGTH B-2		-0.01597
0.1	STRENGTH B-2		-0.01597
24.06	STRENGTH B-2		0.027333
48.02	STRENGTH B-2		0.044846
71.98	STRENGTH B-2		0.040974
95.94	STRENGTH B-2		0.015716
119.9	STRENGTH B-2		-0.03922
119.9	STRENGTH B-2		-0.03922
120	STRENGTH B-2		-0.03959
0	STRENGTH B-3		0.016901
0.1	STRENGTH B-3		0.018354
0.1	STRENGTH B-3		0.018354
24.06	STRENGTH B-3		0.073232
48.02	STRENGTH B-3		0.10852

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

71.98	STRENGTH B-3		0.127293
95.94	STRENGTH B-3		0.12468
119.9	STRENGTH B-3		0.100682
119.9	STRENGTH B-3		0.100682
120	STRENGTH B-3		0.100236
0	STRENGTH B-3		-0.03121
0.1	STRENGTH B-3		-0.03094
0.1	STRENGTH B-3		-0.03094
24.06	STRENGTH B-3		0.022491
48.02	STRENGTH B-3		0.054532
71.98	STRENGTH B-3		0.065187
95.94	STRENGTH B-3		0.054457
119.9	STRENGTH B-3		0.022341
119.9	STRENGTH B-3		0.022341
120	STRENGTH B-3		0.022154
0	STRENGTH B-3		0.008519
0.1	STRENGTH B-3		0.010072
0.1	STRENGTH B-3		0.010072
24.06	STRENGTH B-3		0.084977
48.02	STRENGTH B-3		0.131976
71.98	STRENGTH B-3		0.154143
95.94	STRENGTH B-3		0.146608
119.9	STRENGTH B-3		0.109371
119.9	STRENGTH B-3		0.109371
120	STRENGTH B-3		0.108852
0	STRENGTH B-3		-0.03959
0.1	STRENGTH B-3		-0.03922
0.1	STRENGTH B-3		-0.03922
24.06	STRENGTH B-3		0.034237
48.02	STRENGTH B-3		0.077988
71.98	STRENGTH B-3		0.092037
95.94	STRENGTH B-3		0.076385

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
119.9	STRENGTH B-3		0.03103
119.9	STRENGTH B-3		0.03103
120	STRENGTH B-3		0.03077
0	STRENGTH B-3		0.016901
0.1	STRENGTH B-3		0.018354
0.1	STRENGTH B-3		0.018354
24.06	STRENGTH B-3		0.084977
48.02	STRENGTH B-3		0.131976
71.98	STRENGTH B-3		0.154143
95.94	STRENGTH B-3		0.146608
119.9	STRENGTH B-3		0.109371
119.9	STRENGTH B-3		0.109371
120	STRENGTH B-3		0.108852
0	STRENGTH B-3		-0.03959
0.1	STRENGTH B-3		-0.03922
0.1	STRENGTH B-3		-0.03922
24.06	STRENGTH B-3		0.022491
48.02	STRENGTH B-3		0.054532
71.98	STRENGTH B-3		0.065187
95.94	STRENGTH B-3		0.054457
119.9	STRENGTH B-3		0.022341
119.9	STRENGTH B-3		0.022341
120	STRENGTH B-3		0.022154
0	STRENGTH B-4		0.100236
0.1	STRENGTH B-4		0.100774
0.1	STRENGTH B-4		0.100774
24.06	STRENGTH B-4		0.14605
48.02	STRENGTH B-4		0.169941
71.98	STRENGTH B-4		0.172446
95.94	STRENGTH B-4		0.153565
119.9	STRENGTH B-4		0.113299
119.9	STRENGTH B-4		0.113299

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

120	STRENGTH B-4		0.112783
0	STRENGTH B-4		0.022154
0.1	STRENGTH B-4		0.022382
0.1	STRENGTH B-4		0.022382
24.06	STRENGTH B-4		0.066316
48.02	STRENGTH B-4		0.088863
71.98	STRENGTH B-4		0.090026
95.94	STRENGTH B-4		0.069802
119.9	STRENGTH B-4		0.028193
119.9	STRENGTH B-4		0.028193
120	STRENGTH B-4		0.027975
0	STRENGTH B-4		0.108852
0.1	STRENGTH B-4		0.109478
0.1	STRENGTH B-4		0.109478
24.06	STRENGTH B-4		0.17184
48.02	STRENGTH B-4		0.204499
71.98	STRENGTH B-4		0.207456
95.94	STRENGTH B-4		0.180711
119.9	STRENGTH B-4		0.124263
119.9	STRENGTH B-4		0.124263
120	STRENGTH B-4		0.123662
0	STRENGTH B-4		0.03077
0.1	STRENGTH B-4		0.031087
0.1	STRENGTH B-4		0.031087
24.06	STRENGTH B-4		0.092105
48.02	STRENGTH B-4		0.123421
71.98	STRENGTH B-4		0.125036
95.94	STRENGTH B-4		0.096947
119.9	STRENGTH B-4		0.039157
119.9	STRENGTH B-4		0.039157
120	STRENGTH B-4		0.038853
0	STRENGTH B-4		0.108852

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

0.1	STRENGTH B-4		0.109478
0.1	STRENGTH B-4		0.109478
24.06	STRENGTH B-4		0.17184
48.02	STRENGTH B-4		0.204499
71.98	STRENGTH B-4		0.207456
95.94	STRENGTH B-4		0.180711
119.9	STRENGTH B-4		0.124263
119.9	STRENGTH B-4		0.124263
120	STRENGTH B-4		0.123662
0	STRENGTH B-4		0.022154
0.1	STRENGTH B-4		0.022382
0.1	STRENGTH B-4		0.022382
24.06	STRENGTH B-4		0.066316
48.02	STRENGTH B-4		0.088863
71.98	STRENGTH B-4		0.090026
95.94	STRENGTH B-4		0.069802
119.9	STRENGTH B-4		0.028193
119.9	STRENGTH B-4		0.028193
120	STRENGTH B-4		0.027975
0	STRENGTH B-5		0.112783
0.1	STRENGTH B-5		0.113326
0.1	STRENGTH B-5		0.113326
24.06	STRENGTH B-5		0.159938
48.02	STRENGTH B-5		0.185165
71.98	STRENGTH B-5		0.189007
95.94	STRENGTH B-5		0.171463
119.9	STRENGTH B-5		0.132533
119.9	STRENGTH B-5		0.132533
120	STRENGTH B-5		0.132022
0	STRENGTH B-5		0.027975
0.1	STRENGTH B-5		0.028205
0.1	STRENGTH B-5		0.028205

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
24.06	STRENGTH B-5		0.072712
48.02	STRENGTH B-5		0.095834
71.98	STRENGTH B-5		0.09757
95.94	STRENGTH B-5		0.077921
119.9	STRENGTH B-5		0.036885
119.9	STRENGTH B-5		0.036885
120	STRENGTH B-5		0.036669
0	STRENGTH B-5		0.123662
0.1	STRENGTH B-5		0.124294
0.1	STRENGTH B-5		0.124294
24.06	STRENGTH B-5		0.188215
48.02	STRENGTH B-5		0.222434
71.98	STRENGTH B-5		0.226951
95.94	STRENGTH B-5		0.201765
119.9	STRENGTH B-5		0.146877
119.9	STRENGTH B-5		0.146877
120	STRENGTH B-5		0.146282
0	STRENGTH B-5		0.038853
0.1	STRENGTH B-5		0.039174
0.1	STRENGTH B-5		0.039174
24.06	STRENGTH B-5		0.10099
48.02	STRENGTH B-5		0.133102
71.98	STRENGTH B-5		0.135514
95.94	STRENGTH B-5		0.108223
119.9	STRENGTH B-5		0.051229
119.9	STRENGTH B-5		0.051229
120	STRENGTH B-5		0.050929
0	STRENGTH B-5		0.123662
0.1	STRENGTH B-5		0.124294
0.1	STRENGTH B-5		0.124294
24.06	STRENGTH B-5		0.188215
48.02	STRENGTH B-5		0.222434

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
71.98	STRENGTH B-5		0.226951
95.94	STRENGTH B-5		0.201765
119.9	STRENGTH B-5		0.146877
119.9	STRENGTH B-5		0.146877
120	STRENGTH B-5		0.146282
0	STRENGTH B-5		0.027975
0.1	STRENGTH B-5		0.028205
0.1	STRENGTH B-5		0.028205
24.06	STRENGTH B-5		0.072712
48.02	STRENGTH B-5		0.095834
71.98	STRENGTH B-5		0.09757
95.94	STRENGTH B-5		0.077921
119.9	STRENGTH B-5		0.036885
119.9	STRENGTH B-5		0.036885
120	STRENGTH B-5		0.036669
0	STRENGTH B-6		0.132022
0.1	STRENGTH B-6		0.132557
0.1	STRENGTH B-6		0.132557
24.06	STRENGTH B-6		0.177339
48.02	STRENGTH B-6		0.200735
71.98	STRENGTH B-6		0.202745
95.94	STRENGTH B-6		0.18337
119.9	STRENGTH B-6		0.14261
119.9	STRENGTH B-6		0.14261
120	STRENGTH B-6		0.142091
0	STRENGTH B-6		0.036669
0.1	STRENGTH B-6		0.036896
0.1	STRENGTH B-6		0.036896
24.06	STRENGTH B-6		0.080544
48.02	STRENGTH B-6		0.102807
71.98	STRENGTH B-6		0.103683
95.94	STRENGTH B-6		0.083174

Compression Data			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

119.9	STRENGTH B-6	0.04128
119.9	STRENGTH B-6	0.04128
120	STRENGTH B-6	0.04106
0	STRENGTH B-6	0.146282
0.1	STRENGTH B-6	0.146906
0.1	STRENGTH B-6	0.146906
24.06	STRENGTH B-6	0.208662
48.02	STRENGTH B-6	0.240715
71.98	STRENGTH B-6	0.243067
95.94	STRENGTH B-6	0.215716
119.9	STRENGTH B-6	0.158663
119.9	STRENGTH B-6	0.158663
120	STRENGTH B-6	0.158059
0	STRENGTH B-6	0.050929
0.1	STRENGTH B-6	0.051245
0.1	STRENGTH B-6	0.051245
24.06	STRENGTH B-6	0.111867
48.02	STRENGTH B-6	0.142787
71.98	STRENGTH B-6	0.144004
95.94	STRENGTH B-6	0.11552
119.9	STRENGTH B-6	0.057333
119.9	STRENGTH B-6	0.057333
120	STRENGTH B-6	0.057028
0	STRENGTH B-6	0.146282
0.1	STRENGTH B-6	0.146906
0.1	STRENGTH B-6	0.146906
24.06	STRENGTH B-6	0.208662
48.02	STRENGTH B-6	0.240715
71.98	STRENGTH B-6	0.243067
95.94	STRENGTH B-6	0.215716
119.9	STRENGTH B-6	0.158663
119.9	STRENGTH B-6	0.158663

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

120	STRENGTH B-6		0.158059
0	STRENGTH B-6		0.036669
0.1	STRENGTH B-6		0.036896
0.1	STRENGTH B-6		0.036896
24.06	STRENGTH B-6		0.080544
48.02	STRENGTH B-6		0.102807
71.98	STRENGTH B-6		0.103683
95.94	STRENGTH B-6		0.083174
119.9	STRENGTH B-6		0.04128
119.9	STRENGTH B-6		0.04128
120	STRENGTH B-6		0.04106
0	STRENGTH B-7		0.142091
0.1	STRENGTH B-7		0.142623
0.1	STRENGTH B-7		0.142623
24.06	STRENGTH B-7		0.186415
48.02	STRENGTH B-7		0.208823
71.98	STRENGTH B-7		0.209845
95.94	STRENGTH B-7		0.189481
119.9	STRENGTH B-7		0.147732
119.9	STRENGTH B-7		0.147732
120	STRENGTH B-7		0.147209
0	STRENGTH B-7		0.04106
0.1	STRENGTH B-7		0.041285
0.1	STRENGTH B-7		0.041285
24.06	STRENGTH B-7		0.084587
48.02	STRENGTH B-7		0.106502
71.98	STRENGTH B-7		0.107033
95.94	STRENGTH B-7		0.086177
119.9	STRENGTH B-7		0.043936
119.9	STRENGTH B-7		0.043936
120	STRENGTH B-7		0.043715
0	STRENGTH B-7		0.158059

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

0.1	STRENGTH B-7		0.158678
0.1	STRENGTH B-7		0.158678
24.06	STRENGTH B-7		0.21931
48.02	STRENGTH B-7		0.250241
71.98	STRENGTH B-7		0.251468
95.94	STRENGTH B-7		0.222994
119.9	STRENGTH B-7		0.164818
119.9	STRENGTH B-7		0.164818
120	STRENGTH B-7		0.164209
0	STRENGTH B-7		0.057028
0.1	STRENGTH B-7		0.057341
0.1	STRENGTH B-7		0.057341
24.06	STRENGTH B-7		0.117482
48.02	STRENGTH B-7		0.14792
71.98	STRENGTH B-7		0.148656
95.94	STRENGTH B-7		0.11969
119.9	STRENGTH B-7		0.061021
119.9	STRENGTH B-7		0.061021
120	STRENGTH B-7		0.060715
0	STRENGTH B-7		0.158059
0.1	STRENGTH B-7		0.158678
0.1	STRENGTH B-7		0.158678
24.06	STRENGTH B-7		0.21931
48.02	STRENGTH B-7		0.250241
71.98	STRENGTH B-7		0.251468
95.94	STRENGTH B-7		0.222994
119.9	STRENGTH B-7		0.164818
119.9	STRENGTH B-7		0.164818
120	STRENGTH B-7		0.164209
0	STRENGTH B-7		0.04106
0.1	STRENGTH B-7		0.041285
0.1	STRENGTH B-7		0.041285

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

24.06	STRENGTH B-7		0.084587
48.02	STRENGTH B-7		0.106502
71.98	STRENGTH B-7		0.107033
95.94	STRENGTH B-7		0.086177
119.9	STRENGTH B-7		0.043936
119.9	STRENGTH B-7		0.043936
120	STRENGTH B-7		0.043715
0	STRENGTH B-8		0.147209
0.1	STRENGTH B-8		0.147733
0.1	STRENGTH B-8		0.147733
24.06	STRENGTH B-8		0.189698
48.02	STRENGTH B-8		0.210277
71.98	STRENGTH B-8		0.209471
95.94	STRENGTH B-8		0.187278
119.9	STRENGTH B-8		0.143701
119.9	STRENGTH B-8		0.143701
120	STRENGTH B-8		0.14317
0	STRENGTH B-8		0.043715
0.1	STRENGTH B-8		0.043936
0.1	STRENGTH B-8		0.043936
24.06	STRENGTH B-8		0.086177
48.02	STRENGTH B-8		0.107033
71.98	STRENGTH B-8		0.106502
95.94	STRENGTH B-8		0.084587
119.9	STRENGTH B-8		0.041285
119.9	STRENGTH B-8		0.041285
120	STRENGTH B-8		0.04106
0	STRENGTH B-8		0.164209
0.1	STRENGTH B-8		0.164819
0.1	STRENGTH B-8		0.164819
24.06	STRENGTH B-8		0.22321
48.02	STRENGTH B-8		0.2519

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

71.98	STRENGTH B-8	0.250888
95.94	STRENGTH B-8	0.220174
119.9	STRENGTH B-8	0.159756
119.9	STRENGTH B-8	0.159756
120	STRENGTH B-8	0.159138
0	STRENGTH B-8	0.060715
0.1	STRENGTH B-8	0.061021
0.1	STRENGTH B-8	0.061021
24.06	STRENGTH B-8	0.11969
48.02	STRENGTH B-8	0.148656
71.98	STRENGTH B-8	0.14792
95.94	STRENGTH B-8	0.117482
119.9	STRENGTH B-8	0.057341
119.9	STRENGTH B-8	0.057341
120	STRENGTH B-8	0.057028
0	STRENGTH B-8	0.164209
0.1	STRENGTH B-8	0.164819
0.1	STRENGTH B-8	0.164819
24.06	STRENGTH B-8	0.22321
48.02	STRENGTH B-8	0.2519
71.98	STRENGTH B-8	0.250888
95.94	STRENGTH B-8	0.220174
119.9	STRENGTH B-8	0.159756
119.9	STRENGTH B-8	0.159756
120	STRENGTH B-8	0.159138
0	STRENGTH B-8	0.043715
0.1	STRENGTH B-8	0.043936
0.1	STRENGTH B-8	0.043936
24.06	STRENGTH B-8	0.086177
48.02	STRENGTH B-8	0.107033
71.98	STRENGTH B-8	0.106502
95.94	STRENGTH B-8	0.084587

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

119.9	STRENGTH B-8		0.041285
119.9	STRENGTH B-8		0.041285
120	STRENGTH B-8		0.04106
0	STRENGTH B-9		0.14317
0.1	STRENGTH B-9		0.14369
0.1	STRENGTH B-9		0.14369
24.06	STRENGTH B-9		0.184636
48.02	STRENGTH B-9		0.204197
71.98	STRENGTH B-9		0.202371
95.94	STRENGTH B-9		0.179161
119.9	STRENGTH B-9		0.134565
119.9	STRENGTH B-9		0.134565
120	STRENGTH B-9		0.13403
0	STRENGTH B-9		0.04106
0.1	STRENGTH B-9		0.04128
0.1	STRENGTH B-9		0.04128
24.06	STRENGTH B-9		0.083174
48.02	STRENGTH B-9		0.103683
71.98	STRENGTH B-9		0.102807
95.94	STRENGTH B-9		0.080544
119.9	STRENGTH B-9		0.036896
119.9	STRENGTH B-9		0.036896
120	STRENGTH B-9		0.036669
0	STRENGTH B-9		0.159138
0.1	STRENGTH B-9		0.159743
0.1	STRENGTH B-9		0.159743
24.06	STRENGTH B-9		0.216982
48.02	STRENGTH B-9		0.244518
71.98	STRENGTH B-9		0.242352
95.94	STRENGTH B-9		0.210484
119.9	STRENGTH B-9		0.148913
119.9	STRENGTH B-9		0.148913

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

120	STRENGTH B-9		0.14829
0	STRENGTH B-9		0.057028
0.1	STRENGTH B-9		0.057333
0.1	STRENGTH B-9		0.057333
24.06	STRENGTH B-9		0.11552
48.02	STRENGTH B-9		0.144004
71.98	STRENGTH B-9		0.142787
95.94	STRENGTH B-9		0.111867
119.9	STRENGTH B-9		0.051245
119.9	STRENGTH B-9		0.051245
120	STRENGTH B-9		0.050929
0	STRENGTH B-9		0.159138
0.1	STRENGTH B-9		0.159743
0.1	STRENGTH B-9		0.159743
24.06	STRENGTH B-9		0.216982
48.02	STRENGTH B-9		0.244518
71.98	STRENGTH B-9		0.242352
95.94	STRENGTH B-9		0.210484
119.9	STRENGTH B-9		0.148913
119.9	STRENGTH B-9		0.148913
120	STRENGTH B-9		0.14829
0	STRENGTH B-9		0.04106
0.1	STRENGTH B-9		0.04128
0.1	STRENGTH B-9		0.04128
24.06	STRENGTH B-9		0.083174
48.02	STRENGTH B-9		0.103683
71.98	STRENGTH B-9		0.102807
95.94	STRENGTH B-9		0.080544
119.9	STRENGTH B-9		0.036896
119.9	STRENGTH B-9		0.036896
120	STRENGTH B-9		0.036669
0	STRENGTH B-10		0.13403

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

0.1	STRENGTH B-10		0.134542
0.1	STRENGTH B-10		0.134542
24.06	STRENGTH B-10		0.17369
48.02	STRENGTH B-10		0.191452
71.98	STRENGTH B-10		0.187829
95.94	STRENGTH B-10		0.16282
119.9	STRENGTH B-10		0.116425
119.9	STRENGTH B-10		0.116425
120	STRENGTH B-10		0.115883
0	STRENGTH B-10		0.036669
0.1	STRENGTH B-10		0.036885
0.1	STRENGTH B-10		0.036885
24.06	STRENGTH B-10		0.077921
48.02	STRENGTH B-10		0.09757
71.98	STRENGTH B-10		0.095834
95.94	STRENGTH B-10		0.072712
119.9	STRENGTH B-10		0.028205
119.9	STRENGTH B-10		0.028205
120	STRENGTH B-10		0.027975
0	STRENGTH B-10		0.14829
0.1	STRENGTH B-10		0.148886
0.1	STRENGTH B-10		0.148886
24.06	STRENGTH B-10		0.203992
48.02	STRENGTH B-10		0.229396
71.98	STRENGTH B-10		0.225098
95.94	STRENGTH B-10		0.191096
119.9	STRENGTH B-10		0.127393
119.9	STRENGTH B-10		0.127393
120	STRENGTH B-10		0.126762
0	STRENGTH B-10		0.050929
0.1	STRENGTH B-10		0.051229
0.1	STRENGTH B-10		0.051229

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

24.06	STRENGTH B-10		0.108223
48.02	STRENGTH B-10		0.135514
71.98	STRENGTH B-10		0.133102
95.94	STRENGTH B-10		0.10099
119.9	STRENGTH B-10		0.039174
119.9	STRENGTH B-10		0.039174
120	STRENGTH B-10		0.038853
0	STRENGTH B-10		0.14829
0.1	STRENGTH B-10		0.148886
0.1	STRENGTH B-10		0.148886
24.06	STRENGTH B-10		0.203992
48.02	STRENGTH B-10		0.229396
71.98	STRENGTH B-10		0.225098
95.94	STRENGTH B-10		0.191096
119.9	STRENGTH B-10		0.127393
119.9	STRENGTH B-10		0.127393
120	STRENGTH B-10		0.126762
0	STRENGTH B-10		0.036669
0.1	STRENGTH B-10		0.036885
0.1	STRENGTH B-10		0.036885
24.06	STRENGTH B-10		0.077921
48.02	STRENGTH B-10		0.09757
71.98	STRENGTH B-10		0.095834
95.94	STRENGTH B-10		0.072712
119.9	STRENGTH B-10		0.028205
119.9	STRENGTH B-10		0.028205
120	STRENGTH B-10		0.027975
0	STRENGTH B-11		0.115883
0.1	STRENGTH B-11		0.1164
0.1	STRENGTH B-11		0.1164
24.06	STRENGTH B-11		0.156886
48.02	STRENGTH B-11		0.175986

Compression Data			
Location	Load Case	Frame #	Combined compression and flexure AASHTO 6.9.2.2-1/2
ft			

71.98	STRENGTH B-11		0.1737
95.94	STRENGTH B-11		0.150028
119.9	STRENGTH B-11		0.104971
119.9	STRENGTH B-11		0.104971
120	STRENGTH B-11		0.104435
0	STRENGTH B-11		0.027975
0.1	STRENGTH B-11		0.028193
0.1	STRENGTH B-11		0.028193
24.06	STRENGTH B-11		0.069802
48.02	STRENGTH B-11		0.090026
71.98	STRENGTH B-11		0.088863
95.94	STRENGTH B-11		0.066316
119.9	STRENGTH B-11		0.022382
119.9	STRENGTH B-11		0.022382
120	STRENGTH B-11		0.022154
0	STRENGTH B-11		0.126762
0.1	STRENGTH B-11		0.127364
0.1	STRENGTH B-11		0.127364
24.06	STRENGTH B-11		0.184031
48.02	STRENGTH B-11		0.210996
71.98	STRENGTH B-11		0.208258
95.94	STRENGTH B-11		0.175818
119.9	STRENGTH B-11		0.113675
119.9	STRENGTH B-11		0.113675
120	STRENGTH B-11		0.11305
0	STRENGTH B-11		0.038853
0.1	STRENGTH B-11		0.039157
0.1	STRENGTH B-11		0.039157
24.06	STRENGTH B-11		0.096947
48.02	STRENGTH B-11		0.125036
71.98	STRENGTH B-11		0.123421
95.94	STRENGTH B-11		0.092105

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
119.9	STRENGTH B-11		0.031087
119.9	STRENGTH B-11		0.031087
120	STRENGTH B-11		0.03077
0	STRENGTH B-11		0.126762
0.1	STRENGTH B-11		0.127364
0.1	STRENGTH B-11		0.127364
24.06	STRENGTH B-11		0.184031
48.02	STRENGTH B-11		0.210996
71.98	STRENGTH B-11		0.208258
95.94	STRENGTH B-11		0.175818
119.9	STRENGTH B-11		0.113675
119.9	STRENGTH B-11		0.113675
120	STRENGTH B-11		0.11305
0	STRENGTH B-11		0.027975
0.1	STRENGTH B-11		0.028193
0.1	STRENGTH B-11		0.028193
24.06	STRENGTH B-11		0.069802
48.02	STRENGTH B-11		0.090026
71.98	STRENGTH B-11		0.088863
95.94	STRENGTH B-11		0.066316
119.9	STRENGTH B-11		0.022382
119.9	STRENGTH B-11		0.022382
120	STRENGTH B-11		0.022154
0	STRENGTH B-12		0.104435
0.1	STRENGTH B-12		0.104882
0.1	STRENGTH B-12		0.104882
24.06	STRENGTH B-12		0.129553
48.02	STRENGTH B-12		0.132838
71.98	STRENGTH B-12		0.114738
95.94	STRENGTH B-12		0.075252
119.9	STRENGTH B-12		0.018354
119.9	STRENGTH B-12		0.018354

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

120	STRENGTH B-12		0.016901
0	STRENGTH B-12		0.022154
0.1	STRENGTH B-12		0.022341
0.1	STRENGTH B-12		0.022341
24.06	STRENGTH B-12		0.054253
48.02	STRENGTH B-12		0.06478
71.98	STRENGTH B-12		0.053921
95.94	STRENGTH B-12		0.021675
119.9	STRENGTH B-12		-0.03195
119.9	STRENGTH B-12		-0.03195
120	STRENGTH B-12		-0.03223
0	STRENGTH B-12		0.11305
0.1	STRENGTH B-12		0.11357
0.1	STRENGTH B-12		0.11357
24.06	STRENGTH B-12		0.15148
48.02	STRENGTH B-12		0.159688
71.98	STRENGTH B-12		0.138194
95.94	STRENGTH B-12		0.086997
119.9	STRENGTH B-12		0.010072
119.9	STRENGTH B-12		0.010072
120	STRENGTH B-12		0.008519
0	STRENGTH B-12		0.03077
0.1	STRENGTH B-12		0.03103
0.1	STRENGTH B-12		0.03103
24.06	STRENGTH B-12		0.076181
48.02	STRENGTH B-12		0.09163
71.98	STRENGTH B-12		0.077377
95.94	STRENGTH B-12		0.033421
119.9	STRENGTH B-12		-0.04024
119.9	STRENGTH B-12		-0.04024
120	STRENGTH B-12		-0.04061
0	STRENGTH B-12		0.11305

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
0.1	STRENGTH B-12		0.11357
0.1	STRENGTH B-12		0.11357
24.06	STRENGTH B-12		0.15148
48.02	STRENGTH B-12		0.159688
71.98	STRENGTH B-12		0.138194
95.94	STRENGTH B-12		0.086997
119.9	STRENGTH B-12		0.018354
119.9	STRENGTH B-12		0.018354
120	STRENGTH B-12		0.016901
0	STRENGTH B-12		0.022154
0.1	STRENGTH B-12		0.022341
0.1	STRENGTH B-12		0.022341
24.06	STRENGTH B-12		0.054253
48.02	STRENGTH B-12		0.06478
71.98	STRENGTH B-12		0.053921
95.94	STRENGTH B-12		0.021675
119.9	STRENGTH B-12		-0.04024
119.9	STRENGTH B-12		-0.04024
120	STRENGTH B-12		-0.04061
0	STRENGTH B-13		0.016901
0.1	STRENGTH B-13		0.018016
0.1	STRENGTH B-13		0.018016
24.06	STRENGTH B-13		0.066502
48.02	STRENGTH B-13		0.097596
71.98	STRENGTH B-13		0.107304
95.94	STRENGTH B-13		0.095627
119.9	STRENGTH B-13		0.062564
119.9	STRENGTH B-13		0.062564
120	STRENGTH B-13		0.06178
0	STRENGTH B-13		-0.03223
0.1	STRENGTH B-13		-0.03194
0.1	STRENGTH B-13		-0.03194

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
24.06	STRENGTH B-13		0.014904
48.02	STRENGTH B-13		0.040365
71.98	STRENGTH B-13		0.04444
95.94	STRENGTH B-13		0.02713
119.9	STRENGTH B-13		-0.01157
119.9	STRENGTH B-13		-0.01157
120	STRENGTH B-13		-0.01178
0	STRENGTH B-13		0.008519
0.1	STRENGTH B-13		0.009723
0.1	STRENGTH B-13		0.009723
24.06	STRENGTH B-13		0.075619
48.02	STRENGTH B-13		0.115807
71.98	STRENGTH B-13		0.126293
95.94	STRENGTH B-13		0.107076
119.9	STRENGTH B-13		0.058157
119.9	STRENGTH B-13		0.058157
120	STRENGTH B-13		0.057288
0	STRENGTH B-13		-0.04061
0.1	STRENGTH B-13		-0.04024
0.1	STRENGTH B-13		-0.04024
24.06	STRENGTH B-13		0.024021
48.02	STRENGTH B-13		0.058576
71.98	STRENGTH B-13		0.063429
95.94	STRENGTH B-13		0.038579
119.9	STRENGTH B-13		-0.01597
119.9	STRENGTH B-13		-0.01597
120	STRENGTH B-13		-0.01627
0	STRENGTH B-13		0.016901
0.1	STRENGTH B-13		0.018016
0.1	STRENGTH B-13		0.018016
24.06	STRENGTH B-13		0.075619
48.02	STRENGTH B-13		0.115807

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
71.98	STRENGTH B-13		0.126293
95.94	STRENGTH B-13		0.107076
119.9	STRENGTH B-13		0.062564
119.9	STRENGTH B-13		0.062564
120	STRENGTH B-13		0.06178
0	STRENGTH B-13		-0.04061
0.1	STRENGTH B-13		-0.04024
0.1	STRENGTH B-13		-0.04024
24.06	STRENGTH B-13		0.014904
48.02	STRENGTH B-13		0.040365
71.98	STRENGTH B-13		0.04444
95.94	STRENGTH B-13		0.02713
119.9	STRENGTH B-13		-0.01597
119.9	STRENGTH B-13		-0.01597
120	STRENGTH B-13		-0.01627
0	STRENGTH B-14		0.06178
0.1	STRENGTH B-14		0.062559
0.1	STRENGTH B-14		0.062559
24.06	STRENGTH B-14		0.092994
48.02	STRENGTH B-14		0.102045
71.98	STRENGTH B-14		0.08971
95.94	STRENGTH B-14		0.055988
119.9	STRENGTH B-14		0.001432
119.9	STRENGTH B-14		0.001432
120	STRENGTH B-14		1.67E-16
0	STRENGTH B-14		-0.01178
0.1	STRENGTH B-14		-0.01155
0.1	STRENGTH B-14		-0.01155
24.06	STRENGTH B-14		0.033577
48.02	STRENGTH B-14		0.057315
71.98	STRENGTH B-14		0.059667
95.94	STRENGTH B-14		0.040633

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
119.9	STRENGTH B-14		0.000214
119.9	STRENGTH B-14		0.000214
120	STRENGTH B-14		1.67E-16
0	STRENGTH B-14		0.057288
0.1	STRENGTH B-14		0.058158
0.1	STRENGTH B-14		0.058158
24.06	STRENGTH B-14		0.106124
48.02	STRENGTH B-14		0.124388
71.98	STRENGTH B-14		0.112949
95.94	STRENGTH B-14		0.071808
119.9	STRENGTH B-14		0.001515
119.9	STRENGTH B-14		0.001515
120	STRENGTH B-14		2.32E-16
0	STRENGTH B-14		-0.01627
0.1	STRENGTH B-14		-0.01595
0.1	STRENGTH B-14		-0.01595
24.06	STRENGTH B-14		0.046706
48.02	STRENGTH B-14		0.079657
71.98	STRENGTH B-14		0.082906
95.94	STRENGTH B-14		0.056452
119.9	STRENGTH B-14		0.000297
119.9	STRENGTH B-14		0.000297
120	STRENGTH B-14		2.32E-16
0	STRENGTH B-14		0.06178
0.1	STRENGTH B-14		0.062559
0.1	STRENGTH B-14		0.062559
24.06	STRENGTH B-14		0.106124
48.02	STRENGTH B-14		0.124388
71.98	STRENGTH B-14		0.112949
95.94	STRENGTH B-14		0.071808
119.9	STRENGTH B-14		0.001515
119.9	STRENGTH B-14		0.001515

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

120	STRENGTH B-14		2.32E-16
0	STRENGTH B-14		-0.01627
0.1	STRENGTH B-14		-0.01595
0.1	STRENGTH B-14		-0.01595
24.06	STRENGTH B-14		0.033577
48.02	STRENGTH B-14		0.057315
71.98	STRENGTH B-14		0.059667
95.94	STRENGTH B-14		0.040633
119.9	STRENGTH B-14		0.000214
119.9	STRENGTH B-14		0.000214
120	STRENGTH B-14		1.67E-16

Top Chord Members

Design Check Summary

Property (Select from dropdown)	Section	W14X74	Unit
Zx		126	in
A		21.8	in ²
h/tw		25.4	
ddet		14.125	
d		14.2	in
ry		2.48	in
ix		7.95	in ⁴
tw		0.45	in
bf		10.1	in
tf		0.785	in
Sy		26.6	in ³
Zy		40.5	in ³

D/C_PM	0.008049
D/C _{tension}	0
D/C _{compression}	0.728633
D/C _{shear}	0.008049
D/C _{flexure}	0.200291
D/C _{combined tens./flex}	0.200291
D/C _{combined comp./flex}	0.825576

radius of gyration about the axis normal to the plane of buckling

Mat. Props	
Steel	A709 Gr. 50
Fy	50
Fu	70

For shear
C 5

Mat Prop	Units	Definition/ AASHTO code reference
K	1	C4.6.2.5.1
ℓ	120 in	unbraced length in plane of buckling, in
E	29000 ksi	
Fy	50 ksi	specified minimum yield strength of steel/pin/pin plate
Fu	65 ksi	
φ _c	0.9	6.5.4.2
φ _u	0.8	6.5.4.2
φ _y	0.95	6.5.4.2
φ _v	1	6.5.4.2
φ _f	1	6.5.4.2
Rp	1	6.8.2.1
U	1	
Q	1	

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	λ	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in^2	ksi	ksi		ksi		in	in	kips	kips	kips	
0	STRENGTH T-1		-114.677	0	-1.084	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-1		-114.677	47.794	-0.958	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-1		-114.677	92.562	-0.832	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-1		-114.677	134.304	-0.706	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-1		-114.677	173.02	-0.58	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-1		-114.677	208.71	-0.454	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-1		-248.777	0	-2.054	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-1		-248.777	24.51	-1.928	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-1		-248.777	45.994	-1.802	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-1		-248.777	64.452	-1.676	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-1		-248.777	79.883	-1.55	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-1		-248.777	92.289	-1.424	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-1		-159.274	0	-1.506	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-1		-159.274	57.326	-1.331	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-1		-159.274	110.448	-1.156	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-1		-159.274	159.369	-0.981	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-1		-159.274	204.086	-0.805	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-1		-293.374	244.6	-0.63	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-1		-293.374	0	-2.301	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-1		-293.374	34.041	-2.126	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-1		-293.374	63.88	-1.951	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-1		-293.374	89.516	-1.776	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-1		-293.374	110.948	-1.601	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-1		-114.677	128.18	-1.084	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-1		-114.677	0	-0.958	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-1		-114.677	57.326	-0.832	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-1		-114.677	110.448	-0.706	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-1		-114.677	159.369	-0.58	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-1		-114.677	204.086	-0.454	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-1		-114.677	244.6		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General (6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _t
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
0	STRENGTH-T-1		-293.374	0	-2.476	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-1		-293.374	24.51	-2.301	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-1		-293.374	45.994	-2.126	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-1		-293.374	64.452	-1.951	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-1		-293.374	79.883	-1.776	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-1		-293.374	92.289	-1.601	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-2		-157.206	208.71	0.056	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-2		-157.206	219.578	0.182	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-2		-157.206	227.419	0.308	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-2		-157.206	232.235	0.434	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-2		-157.206	234.024	0.56	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-2		-157.206	232.788	0.687	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-2		-157.206	92.289	-0.782	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-2		-341.562	100.712	-0.656	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-2		-341.562	106.109	-0.53	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-2		-341.562	108.479	-0.404	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-2		-341.562	104.143	-0.277	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-2		-218.342	244.6	-0.151	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-2		-218.342	244.6	-0.105	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-2		-218.342	258.743	0.07	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-2		-218.342	268.684	0.245	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-2		-218.342	274.421	0.42	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-2		-218.342	275.956	0.596	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-2		-218.342	273.288	0.771	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-2		-402.697	128.18	-0.943	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-2		-402.697	139.878	-0.768	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-2		-402.697	147.373	-0.593	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-2		-402.697	150.666	-0.417	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-2		-402.697	149.756	-0.242	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-2		-402.697	144.643	-0.067	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-2		-157.206	244.6	0.056	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-2		-157.206	258.743	0.182	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_t
ft			kips	kip*in	kips	in ²	Ksi	Ksi		Ksi		in	in	kips	kips	kips	
0.1 STRENGTH T-2			-157.206	268.684	0.308	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-2			-157.206	274.421	0.434	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-2			-157.206	275.956	0.596	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-2			-157.206	273.288	0.771	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-2			-402.697	92.289	-0.943	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-2			-402.697	100.712	-0.768	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-2			-402.697	106.109	-0.593	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-2			-402.697	108.479	-0.417	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-2			-402.697	107.824	-0.277	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-2			-402.697	104.143	-0.151	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-3			-190.591	232.788	-0.092	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-3			-190.591	249.207	0.034	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-3			-190.591	262.601	0.161	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-3			-190.591	272.968	0.287	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-3			-190.591	280.31	0.413	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-3			-190.591	284.625	0.539	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-3			-414.789	114.887	-0.778	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-3			-414.789	122.605	-0.652	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-3			-414.789	127.297	-0.526	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-3			-414.789	128.963	-0.4	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-3			-414.789	127.603	-0.274	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-3			-264.71	273.288	-0.29	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-3			-264.71	293.885	-0.115	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-3			-264.71	310.28	0.06	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-3			-264.71	322.472	0.235	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-3			-264.71	330.462	0.41	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-3			-488.908	144.643	-1.103	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-3			-488.908	159.565	-0.928	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-3			-488.908	170.284	-0.753	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-3			-488.908	176.801	-0.578	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000	Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraces length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			kips	Kip*in	kips	in ²	Ksi	Ksi	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _t
48.02	STRENGTH-T-3		-488.908	179.115	-0.402	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-3		-488.908	177.226	-0.227	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-3		-190.591	273.288	-0.092	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-3		-190.591	293.885	0.034	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-3		-190.591	310.28	0.161	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-3		-190.591	322.472	0.287	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-3		-190.591	330.462	0.413	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-3		-190.591	334.248	0.585	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-3		-488.908	104.143	-1.103	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-3		-488.908	114.887	-0.928	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-3		-488.908	122.605	-0.753	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-3		-488.908	127.297	-0.578	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-3		-488.908	128.963	-0.402	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-3		-488.908	127.603	-0.274	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-4		-214.394	284.625	-0.00368	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-4		-214.394	296.727	0.122	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-4		-214.394	305.803	0.248	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-4		-214.394	311.854	0.375	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-4		-214.394	314.878	0.501	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-4		-467.429	314.876	0.627	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-4		-467.429	127.603	-0.819	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-4		-467.429	136.419	-0.693	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-4		-467.429	142.21	-0.567	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-4		-467.429	144.974	-0.44	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-4		-467.429	144.713	-0.314	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-4		-467.429	141.426	-0.188	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-4		-297.769	334.248	-0.171	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-4		-297.769	349.779	0.004059	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-4		-297.769	361.107	0.179	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-4		-297.769	368.233	0.354	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-4		-297.769	371.155	0.529	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-4		-297.769	369.875	0.705	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location ft	Load Case	Frame #	P kips	M3 kip*ft	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q 6.9.4.2	E ksi	K AASHTO LRFD C4.6.2.5.1	ℓ in Unbraced length in the plane of buckling	r _y in Radius of gyration about the axis normal to the plane of buckling	P _e kips Equivalent nominal yield resistance, 6.9.4.1.1	P _e kips Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	P _n kips Nominal compressive resistance, 6.9.4.1.1	φ _y Resistance factor for tension, yielding in gross section, 6.5.4.2
95.94	STRENGTH T-4		-550.804	177.226	-0.986	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-4		-550.804	189.471	-0.811	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-4		-550.804	197.514	-0.636	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-4		-550.804	201.353	-0.461	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-4		-550.804	200.99	-0.286	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-4		-550.804	196.425	-0.111	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-4		-214.394	334.248	-0.00368	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-4		-214.394	349.779	0.122	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-4		-214.394	361.107	0.248	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-4		-214.394	368.233	0.375	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-4		-214.394	371.155	0.529	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-4		-214.394	369.875	0.705	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-4		-550.804	127.603	-0.986	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-4		-550.804	136.419	-0.811	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-4		-550.804	142.21	-0.636	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-4		-550.804	144.974	-0.461	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-4		-550.804	144.713	-0.314	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-4		-550.804	141.426	-0.188	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-5		-228.707	314.876	0.14	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-5		-228.707	323.916	0.266	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-5		-228.707	329.93	0.392	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-5		-228.707	332.919	0.518	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-5		-228.707	332.881	0.644	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-5		-228.707	329.817	0.77	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-5		-499.706	141.426	-0.711	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-5		-499.706	148.662	-0.585	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-5		-499.706	152.872	-0.459	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-5		-499.706	154.056	-0.333	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-5		-499.706	152.214	-0.207	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-5		-499.706	147.346	-0.081	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-5		-317.649	369.875	-0.00174	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-5		-317.649	381.729	0.173	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)				
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000		Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			P kips	M3 kip*ft	V2 kips		A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _o kips	P _e kips	P _n kips	φ _t
119.9	STRENGTH-T-5		-317.649	389.381	0.348		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-5		-317.649	392.829	0.524		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-5		-317.649	392.075	0.699		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-5		-317.649	387.118	0.874		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-5		-588.648	196.425	-0.853		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-5		-588.648	206.475	-0.678		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-5		-588.648	212.322	-0.503		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-5		-588.648	213.967	-0.328		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-5		-588.648	211.408	-0.153		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-5		-588.648	204.647	0.023		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-5		-228.707	369.875	0.14		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-5		-228.707	381.729	0.266		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-5		-228.707	389.381	0.392		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-5		-228.707	392.829	0.524		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-5		-228.707	392.075	0.699		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-5		-228.707	387.118	0.874		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-5		-588.648	141.426	-0.853		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-5		-588.648	148.662	-0.678		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-5		-588.648	152.872	-0.503		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-5		-588.648	154.056	-0.333		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-5		-588.648	152.214	-0.207		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-5		-588.648	147.346	-0.081		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-6		-233.474	329.817	0.069		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-233.474	335.766	0.195		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-233.474	338.69	0.321		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-6		-233.474	338.587	0.447		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-6		-233.474	335.458	0.573		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-6		-233.474	329.304	0.699		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-6		-511.53	147.346	-0.7		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-6		-511.53	153.475	-0.573		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-6		-511.53	156.578	-0.447		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-6		-511.53	156.655	-0.321		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000	Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraces length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _n kips	P _e kips	P _n kips	φ _y
0	STRENGTH-T-6		-511.53	153.705	-0.195	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-511.53	147.73	-0.069	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-324.269	387.118	-0.055	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-6		-324.269	395.451	0.12	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-6		-324.269	399.581	0.295	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-6		-324.269	399.508	0.47	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-6		-324.269	395.233	0.645	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-6		-324.269	386.754	0.82	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-6		-602.325	204.647	-0.823	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-6		-602.325	213.16	-0.648	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-602.325	217.469	-0.473	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-602.325	215.76	-0.298	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-6		-602.325	205.181	0.052	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-6		-233.474	387.118	0.069	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-6		-233.474	395.451	0.195	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-6		-233.474	399.581	0.321	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-6		-233.474	399.508	0.47	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-6		-233.474	395.233	0.645	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-6		-233.474	386.754	0.82	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-6		-602.325	147.346	-0.823	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-602.325	153.475	-0.648	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-6		-602.325	156.578	-0.473	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-6		-602.325	156.655	-0.321	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-6		-602.325	153.705	-0.195	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-6		-602.325	147.73	-0.069	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-7		-233.474	329.304	0.069	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-7		-233.474	335.385	0.195	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-7		-233.474	338.439	0.321	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-7		-233.474	338.468	0.447	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-7		-233.474	335.471	0.573	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-7		-233.474	329.448	0.7	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
ft			kips	kkip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
0.1 STRENGTH T-7			-511.53	147.73	-0.699	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-7			-511.53	153.705	-0.573	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-7			-511.53	156.655	-0.447	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-7			-511.53	156.578	-0.321	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-7			-511.53	153.475	-0.195	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-7			-511.53	147.346	-0.069	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-7			-324.269	386.754	-0.052	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-7			-324.269	395.159	-0.123	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-7			-324.269	399.361	0.298	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-7			-324.269	399.359	0.473	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-7			-324.269	395.156	0.648	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-7			-324.269	386.749	0.823	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-7			-602.325	205.181	-0.82	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-7			-602.325	213.48	-0.645	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-7			-602.325	217.576	-0.47	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-7			-602.325	217.469	-0.295	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-7			-602.325	213.16	-0.12	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-7			-602.325	204.647	0.055	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-7			-233.474	386.754	0.069	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-7			-233.474	395.159	0.195	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-7			-233.474	399.361	0.321	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-7			-233.474	399.359	0.473	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-7			-233.474	395.156	0.648	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-7			-233.474	386.749	0.823	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-7			-602.325	147.73	-0.82	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-7			-602.325	153.705	-0.645	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-7			-602.325	156.655	-0.47	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-7			-602.325	153.475	-0.321	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-7			-602.325	147.346	-0.069	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-7			-602.325	329.448	0.062	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-8			-228.707	333.392	0.188	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)				
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000		Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			P kips	M3 kip*ft	V2 kips		A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _o kips	P _s kips	P _n kips	φ _t
48.02 STRENGTH-T-8			-228.707	334.311	0.314		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH-T-8			-228.707	332.204	0.44		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH-T-8			-228.707	327.071	0.566		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH-T-8			-228.707	318.912	0.692		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH-T-8			-502.84	147.346	-0.77		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH-T-8			-502.84	152.214	-0.644		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH-T-8			-502.84	154.056	-0.518		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH-T-8			-502.84	152.872	-0.392		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH-T-8			-502.84	148.662	-0.266		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH-T-8			-502.84	141.426	-0.14		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH-T-8			-317.649	386.749	-0.041		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH-T-8			-317.649	392.587	-0.134		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH-T-8			-317.649	394.222	0.309		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH-T-8			-317.649	391.654	0.484		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH-T-8			-317.649	384.884	0.659		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH-T-8			-317.649	373.911	0.834		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH-T-8			-591.782	204.647	-0.874		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH-T-8			-591.782	211.408	-0.699		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH-T-8			-591.782	213.967	-0.524		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH-T-8			-591.782	212.322	-0.348		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH-T-8			-591.782	206.475	-0.173		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH-T-8			-591.782	196.425	0.001736		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH-T-8			-228.707	386.749	0.062		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH-T-8			-228.707	392.587	0.188		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH-T-8			-228.707	394.222	0.314		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH-T-8			-228.707	391.654	0.484		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH-T-8			-228.707	384.884	0.659		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH-T-8			-228.707	373.911	0.834		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH-T-8			-591.782	147.346	-0.874		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH-T-8			-591.782	152.214	-0.699		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH-T-8			-591.782	154.056	-0.524		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH-T-8			-591.782	152.872	-0.392		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data					Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000		Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraces length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
ft			P kips	M3 kip*in	V2 kips		A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _n kips	P _n kips	P _n kips	φ _t
95.94	STRENGTH-T-8		-591.782	148.662	-0.266		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-8		-591.782	141.426	-0.14		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-9		-214.394	318.912	0.188		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-9		-214.394	319.293	0.314		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-9		-214.394	316.647	0.44		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-9		-214.394	310.975	0.567		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-9		-214.394	302.278	0.693		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-9		-214.394	290.554	0.819		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-9		-473.665	141.426	-0.627		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-9		-473.665	144.713	-0.501		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-9		-473.665	144.974	-0.375		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-9		-473.665	142.21	-0.248		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-9		-473.665	136.419	-0.122		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-9		-473.665	127.603	0.003678		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-9		-297.769	373.911	0.111		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-9		-297.769	375.57	0.286		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-9		-297.769	373.026	0.461		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-9		-297.769	366.279	0.636		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-9		-297.769	355.33	0.811		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-9		-297.769	340.178	0.986		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-9		-557.04	196.425	-0.705		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-9		-557.04	200.99	-0.529		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-9		-557.04	201.353	-0.354		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH-T-9		-557.04	197.514	-0.179		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH-T-9		-557.04	189.471	0.00406		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-9		-557.04	177.226	0.171		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH-T-9		-214.394	373.911	0.188		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH-T-9		-214.394	375.57	0.314		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH-T-9		-214.394	373.026	0.461		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH-T-9		-214.394	366.279	0.636		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH-T-9		-214.394	355.33	0.811		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH-T-9		-214.394	340.178	0.986		21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data					Material/Section Properties										General(6.9.4.1.1)		
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_t
ft			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
119.9	STRENGTH T-9		-557.04	141.426	-0.705	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-9		-557.04	144.713	-0.529	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-9		-557.04	144.974	-0.375	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-9		-557.04	142.21	-0.248	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-9		-557.04	136.419	-0.122	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-9		-557.04	127.603	0.003678	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-10		-190.591	290.554	0.275	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-10		-190.591	286.055	0.401	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-10		-190.591	278.531	0.527	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-10		-190.591	267.98	0.653	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-10		-190.591	254.403	0.779	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-10		-190.591	237.8	0.905	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-10		-424.138	127.603	-0.539	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-10		-424.138	128.963	-0.413	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-10		-424.138	127.297	-0.287	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-10		-424.138	122.605	-0.161	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-10		-424.138	114.887	-0.034	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-10		-424.138	104.143	0.092	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-10		-264.71	340.178	0.228	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-10		-264.71	336.208	0.403	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-10		-264.71	328.035	0.578	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-10		-264.71	315.659	0.753	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-10		-264.71	299.081	0.928	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-10		-264.71	278.3	1.104	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-10		-498.257	177.226	-0.585	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-10		-498.257	179.115	-0.41	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-10		-498.257	176.801	-0.235	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-10		-498.257	170.284	-0.06	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-10		-498.257	159.565	0.115	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-10		-498.257	144.643	0.229	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-10		-190.591	340.178	0.275	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-10		-190.591	336.208	0.403	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location ft	Load Case	Frame #	P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _o kips	P _e kips	P _n kips	φ _y
0.1 STRENGTH T-10			-190.591	328.035	0.578	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-10			-190.591	315.659	0.753	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-10			-190.591	299.081	0.928	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-10			-190.591	278.3	1.104	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-10			-498.257	127.603	-0.585	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-10			-498.257	128.963	-0.413	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-10			-498.257	127.297	-0.287	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-10			-498.257	122.605	-0.161	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-10			-498.257	114.887	-0.034	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-11			-157.206	237.8	0.092	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-11			-157.206	242.63	0.277	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-11			-157.206	244.435	0.404	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-11			-157.206	243.214	0.53	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-11			-157.206	238.966	0.656	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-11			-157.206	231.693	0.782	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-11			-354.066	104.143	-0.687	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-354.066	107.824	-0.561	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-354.066	108.479	-0.434	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-11			-354.066	106.109	-0.308	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-11			-354.066	100.712	-0.182	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-11			-354.066	92.289	-0.056	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-11			-218.342	278.3	0.067	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-11			-218.342	284.562	0.242	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-11			-218.342	286.621	0.417	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-11			-218.342	284.478	0.593	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-11			-218.342	278.132	0.768	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-218.342	267.583	0.943	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-415.202	144.643	-0.771	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-11			-415.202	149.756	-0.596	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-11			-415.202	150.666	-0.421	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-11			-415.202	147.373	-0.245	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	Ksi	Ksi		Ksi		in	in	kips	kips	kips	
0.1 STRENGTH T-11			-415.202	139.878	-0.07	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-11			-415.202	128.18	0.105	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-11			-157.206	278.3	0.151	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-11			-157.206	284.562	0.277	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-11			-157.206	286.621	0.417	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-157.206	284.478	0.593	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-157.206	278.132	0.768	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-11			-157.206	267.583	0.943	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-11			-415.202	104.143	-0.771	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-11			-415.202	107.824	-0.596	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-11			-415.202	108.479	-0.434	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-11			-415.202	106.109	-0.308	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-11			-415.202	100.712	-0.182	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-11			-415.202	92.289	-0.056	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-11			-114.677	231.693	1.616	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-114.677	191.406	1.742	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-11			-114.677	148.094	1.868	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-11			-114.677	101.755	1.994	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-12			-114.677	52.391	2.12	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-12			-114.677	9.04E-13	2.246	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-12			-264.252	92.289	0.454	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-12			-264.252	79.883	0.58	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02 STRENGTH T-12			-264.252	64.452	0.706	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98 STRENGTH T-12			-264.252	45.994	0.832	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94 STRENGTH T-12			-264.252	24.51	0.958	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-12			-264.252	9.04E-13	1.084	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9 STRENGTH T-12			-159.274	267.583	1.792	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120 STRENGTH T-12			-159.274	222.472	1.967	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0 STRENGTH T-12			-159.274	173.158	2.142	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-12			-159.274	119.641	2.317	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1 STRENGTH T-12			-159.274	61.922	2.493	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06 STRENGTH T-12			-159.274	1.26E-12	2.668	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
ft			kips	kip*in	kips	in ²	Ksi	Ksi		Ksi		in	in	kips	kips	kips	
48.02	STRENGTH T-12		-308.849	128.18	0.63	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-12		-308.849	110.949	0.805	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-12		-308.849	89.516	0.981	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-12		-308.849	63.88	1.156	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-12		-308.849	34.041	1.331	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-12		-308.849	1.26E-12	1.506	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-12		-114.677	267.583	1.792	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-12		-114.677	222.472	1.967	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-12		-114.677	173.158	2.142	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
24.06	STRENGTH T-12		-114.677	119.641	2.317	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
48.02	STRENGTH T-12		-114.677	61.922	2.493	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
71.98	STRENGTH T-12		-114.677	1.26E-12	2.668	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
95.94	STRENGTH T-12		-308.849	92.289	0.454	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-12		-308.849	79.883	0.58	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
119.9	STRENGTH T-12		-308.849	64.452	0.706	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
120	STRENGTH T-12		-308.849	45.994	0.832	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0	STRENGTH T-12		-308.849	24.51	0.958	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95
0.1	STRENGTH T-12		-308.849	9.04E-13	1.084	21.8	50	65	1	29000	1	120	2.48	1090	2664.987	918.5007	0.95

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location	Load Case	Frame #	ft	P _t kips	P _u kips	D/C _{tension}	φ _c	P _c kips	P _u kips	Compression	b _f in	t _f in	F _y ksi	S _y in ³	Z _y in ³	λ _p	λ _{pl}	λ _r	M _p kip-in
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	248.777	0.300946	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-1				1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-1				1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-1				1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-1				1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-1				1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-1				1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-1				1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location	Load Case	Frame #	P_u kips	P_u kips	$D/C_{tension}$	ϕ_c	P_u kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, F_{yt} ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_y in^3	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_y in^3	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_t	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pF}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{rF}	plastic moment, 6.12.2.2.1 M_p kip*in
	0 STRENGTH T-1		1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	0.1 STRENGTH T-1		1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	0.1 STRENGTH T-1		1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	24.06 STRENGTH T-1		1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	48.02 STRENGTH T-1		1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	71.98 STRENGTH T-1		1035.5	0	0	0.9	826.6507	293.374	0.354895	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	95.94 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	119.9 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	120 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	0.1 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	0.1 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	24.06 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	48.02 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	71.98 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	95.94 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	119.9 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
	120 STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.2.1)									
Location ft	Load Case	Frame #	P_r kips	P_u kips	$D/C_{compression}$	ϕ_c	P_r kips	P_u kips	Compression	b_f in	t_f in	F_y ksi	S_y in ³	Z_y in ³	λ_{yf}	λ_{yf}	M_p kip*ft	
0.1	STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-2		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-2		1035.5	0	0	0.9	826.6507	402.697	0.487143	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-2		1035.5	0	0	0.9	826.6507	402.697	0.487143	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-2		1035.5	0	0	0.9	826.6507	402.697	0.487143	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-2		1035.5	0	0	0.9	826.6507	402.697	0.487143	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-2		1035.5	0	0	0.9	826.6507	402.697	0.487143	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-3		1035.5	0	0	0.9	826.6507	414.789	0.501771	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-3		1035.5	0	0	0.9	826.6507	414.789	0.501771	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-3		1035.5	0	0	0.9	826.6507	414.789	0.501771	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-3		1035.5	0	0	0.9	826.6507	264.71	0.32022	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-3		1035.5	0	0	0.9	826.6507	264.71	0.32022	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-3		1035.5	0	0	0.9	826.6507	264.71	0.32022	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-3		1035.5	0	0	0.9	826.6507	264.71	0.32022	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-3		1035.5	0	0	0.9	826.6507	264.71	0.32022	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location	Load Case	Frame #	P_u kips	P_u kips	D/tension	ϕ_c	P_u kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	F_y ksi	S_x in ³	Z_x in ³	λ_c	λ_{cr}	λ_{nt}	M_p kip*in
48.02	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-3		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-3		1035.5	0	0	0.9	826.6507	488.908	0.591432	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-4		1035.5	0	0	0.9	826.6507	467.429	0.565449	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-4		1035.5	0	0	0.9	826.6507	467.429	0.565449	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-4		1035.5	0	0	0.9	826.6507	467.429	0.565449	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-4		1035.5	0	0	0.9	826.6507	467.429	0.565449	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-4		1035.5	0	0	0.9	826.6507	467.429	0.565449	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-4		1035.5	0	0	0.9	826.6507	467.429	0.565449	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH T-4		1035.5	0	0	0.9	826.6507	297.769	0.360211	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-4		1035.5	0	0	0.9	826.6507	297.769	0.360211	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-4		1035.5	0	0	0.9	826.6507	297.769	0.360211	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-4		1035.5	0	0	0.9	826.6507	297.769	0.360211	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-4		1035.5	0	0	0.9	826.6507	297.769	0.360211	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)						
Location	Load Case	Frame #	Factored tensile resistance, only considering gross section yielding 6.8.2.1-1	Axial tension experienced by member under factored loads	D/C _{tension}	Resistance factor for compression, AASHTO LRFD 6.5.4.2	Factored compressive resistance, 6.9.2.1-1	Axial compression experienced by member under factored loads	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
ft			P _t kips	P _u kips		φ _c	P _c kips	P _u kips	C _{compression}	b _f in	t _f in	F _{yf} ksi	S _x in ³	Z _x in ³	λ _c	λ _{pf}	λ _{rf}	M _p kip-ft
95.94	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-4		1035.5	0	0	0.9	826.6507	214.394	0.259353	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-4		1035.5	0	0	0.9	826.6507	550.804	0.666308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-4		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-5		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-5		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-5		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-5		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-5		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-5		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH T-5		1035.5	0	0	0.9	826.6507	499.706	0.604495	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-5		1035.5	0	0	0.9	826.6507	499.706	0.604495	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-5		1035.5	0	0	0.9	826.6507	499.706	0.604495	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-5		1035.5	0	0	0.9	826.6507	499.706	0.604495	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-5		1035.5	0	0	0.9	826.6507	499.706	0.604495	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-5		1035.5	0	0	0.9	826.6507	317.649	0.38426	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-5		1035.5	0	0	0.9	826.6507	317.649	0.38426	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)							FLEXURE (6.12.1)				
Location	Load Case	Frame #	P_c kips	P_u kips	D/C_{ension}	ϕ_c	P_c kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_x in^3	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_x in^3	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_c	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{p1}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{r1}	plastic moment, 6.12.2.2.1 M_p kip*in
119.9 STRENGTH T-5			1035.5	0	0	0.9	826.6507	317.649	0.38426	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-5			1035.5	0	0	0.9	826.6507	317.649	0.38426	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0 STRENGTH T-5			1035.5	0	0	0.9	826.6507	317.649	0.38426	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-5			1035.5	0	0	0.9	826.6507	317.649	0.38426	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-5			1035.5	0	0	0.9	826.6507	588.648	0.712088	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-5			1035.5	0	0	0.9	826.6507	588.648	0.712088	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-5			1035.5	0	0	0.9	826.6507	588.648	0.712088	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-5			1035.5	0	0	0.9	826.6507	588.648	0.712088	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-5			1035.5	0	0	0.9	826.6507	588.648	0.712088	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-5			1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-5			1035.5	0	0	0.9	826.6507	588.648	0.712088	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0 STRENGTH T-6			1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-6			1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-6			1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-6			1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-6			1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-6			1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-6			1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-6			1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)						
Location	Load Case	Frame #	P _t	P _u	D/C _{tension}	φ _c	P _c	P _u	C _{compression}	b _f	t _f	F _y	S _x	Z _x	λ _c	λ _{pf}	λ _{nf}	M _p
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
0	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-6		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location	Load Case	Frame #	P_t	P_u	D/C _{tension}	ϕ_c	P_t	P_u	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	M_p
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³	λ_c	λ_{pr}	λ_{nr}	kip*in
0.1	STRENGTH T-7		1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-7		1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-7		1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-7		1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-7		1035.5	0	0	0.9	826.6507	511.53	0.618798	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-7		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-7		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-7		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-7		1035.5	0	0	0.9	826.6507	324.269	0.392268	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-7		1035.5	0	0	0.9	826.6507	233.474	0.282434	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-7		1035.5	0	0	0.9	826.6507	602.325	0.728633	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-7		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-7		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-8		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-8		1035.5	0	0	0.9	826.6507	228.707	0.276667	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)						
Location	Load Case	Frame #	Factored tensile resistance, only considering gross section yielding 6.8.2.1-1	Axial tension experienced by member under factored loads	D/C _{tension}	Resistance factor for compression, AASHTO LRFD 6.5.4.2	Factored compressive resistance, 6.9.2.1-1	Axial compression experienced by member under factored loads	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
ft			P _t kips	P _u kips		φ _c	P _c kips	P _u kips		b _f in	t _f in	F _y ksi	S _x in ³	Z _x in ³	λ _c	λ _{pf}	λ _{nf}	M _p kip*ft
119.9	STRENGTH-T-9		1035.5	0	0	0.9	826.6507	557.04	0.673852	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-9		1035.5	0	0	0.9	826.6507	557.04	0.673852	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-9		1035.5	0	0	0.9	826.6507	557.04	0.673852	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-9		1035.5	0	0	0.9	826.6507	557.04	0.673852	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-9		1035.5	0	0	0.9	826.6507	557.04	0.673852	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-9		1035.5	0	0	0.9	826.6507	557.04	0.673852	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	424.138	0.51308	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)						
Location	Load Case	Frame #	Factored tensile resistance, only considering gross section yielding 6.8.2.1-1	Axial tension experienced by member under factored loads	D/C _{tension}	Resistance factor for compression, AASHTO LRFD 6.5.4.2	Factored compressive resistance, 6.9.2.1-1	Axial compression experienced by member under factored loads	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
ft			P _t kips	P _u kips		φ _c	P _c kips	P _u kips		b _f in	t _f in	F _y ksi	S _x in ³	Z _x in ³	λ _c	λ _{pf}	λ _{nf}	M _p kip*ft
0	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	190.591	0.230558	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	498.257	0.602742	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	498.257	0.602742	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	498.257	0.602742	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	498.257	0.602742	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-10		1035.5	0	0	0.9	826.6507	498.257	0.602742	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	354.066	0.428314	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	354.066	0.428314	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	354.066	0.428314	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	354.066	0.428314	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	218.342	0.264129	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	218.342	0.264129	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	218.342	0.264129	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	218.342	0.264129	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	218.342	0.264129	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH-T-11		1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.1)							
Location	Load Case	Frame #	P_c	P_u	$D/C_{tension}$	ϕ_c	P_c	P_u	Compression	Flange width	Flange thickness	F_y	S_x	Z_x	λ_c	λ_{c1}	λ_{c2}	M_p
ft			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
0.1 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-11			1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-11			1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-11			1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-11			1035.5	0	0	0.9	826.6507	157.206	0.190172	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-11			1035.5	0	0	0.9	826.6507	415.202	0.50227	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-12			1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-12			1035.5	0	0	0.9	826.6507	114.677	0.138725	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-12			1035.5	0	0	0.9	826.6507	264.252	0.319666	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02 STRENGTH T-12			1035.5	0	0	0.9	826.6507	264.252	0.319666	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98 STRENGTH T-12			1035.5	0	0	0.9	826.6507	264.252	0.319666	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94 STRENGTH T-12			1035.5	0	0	0.9	826.6507	264.252	0.319666	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9 STRENGTH T-12			1035.5	0	0	0.9	826.6507	264.252	0.319666	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120 STRENGTH T-12			1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-12			1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1 STRENGTH T-12			1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06 STRENGTH T-12			1035.5	0	0	0.9	826.6507	159.274	0.192674	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE (6.12.2.1)							
Location ft	Load Case	Frame #	P _t kips	P _u kips	D/C _{tension}	φ _t	P _c kips	P _u kips	Compression	b _f in	t _f in	F _y ksi	S _x in ³	Z _x in ³	λ _c	λ _{cr}	λ _{tr}	M _p kip*in
48.02	STRENGTH T-12		1035.5	0	0	0.9	826.6507	308.849	0.373615	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-12		1035.5	0	0	0.9	826.6507	308.849	0.373615	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-12		1035.5	0	0	0.9	826.6507	308.849	0.373615	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-12		1035.5	0	0	0.9	826.6507	308.849	0.373615	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-12		1035.5	0	0	0.9	826.6507	308.849	0.373615	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-12		1035.5	0	0	2.9	2663.652	114.677	0.043053	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-12		1035.5	0	0	3.9	3582.153	114.677	0.032013	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
24.06	STRENGTH T-12		1035.5	0	0	4.9	4500.654	114.677	0.02548	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
48.02	STRENGTH T-12		1035.5	0	0	5.9	5419.154	114.677	0.021161	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
71.98	STRENGTH T-12		1035.5	0	0	6.9	6337.655	114.677	0.018095	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
95.94	STRENGTH T-12		1035.5	0	0	7.9	7256.156	308.849	0.042564	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
119.9	STRENGTH T-12		1035.5	0	0	8.9	8174.656	308.849	0.037781	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
120	STRENGTH T-12		1035.5	0	0	9.9	9093.157	308.849	0.033965	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-12		1035.5	0	0	10.9	10011.66	308.849	0.030849	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-12		1035.5	0	0	11.9	10930.16	308.849	0.028257	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995
0.1	STRENGTH T-12		1035.5	0	0	12.9	11848.66	308.849	0.026066	10.1	0.785	50	26.6	40.5	6.433121	9.151612	19.98905	1995

Compression Data				Shear (6.10.9)																		
Location ft	Load Case	Frame #	M _n kip*in	Resistance factor for flexure, 6.5.4.2	φ	φ*M _n	M _u kip*in	D/C _{flexure}	specified minimum yield strength of the lower strength flange, AASHTO 6.12.2.2.1	E	Overall depth of member	Web thickness	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1	Resistance factor for shear; AASHTO LRFD 6.5.4.2	φ _v *V _n	Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	Combined tension and flexure AASHTO 6.8.2.3-1/2	
			kip*in	N/A		kip*in	D/C _{flexure}	kst	kst	in	in	in	k		kip	kip	N/A	kip	kip	kip	N/A	
0.1 STRENGTH-T-1			0	1	1995	0	0.023957	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.084	0.00327	0	
0.1 STRENGTH-T-1			47.794	1	1995	0.046397	0.023957	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.958	0.00289	0.023957	
0.1 STRENGTH-T-1			92.562	1	1995	0.06732	0.046397	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.832	0.00251	0.046397	
24.06 STRENGTH-T-1			134.304	1	1995	0.086727	0.06732	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.706	0.00213	0.06732	
48.02 STRENGTH-T-1			173.02	1	1995	0.104617	0.086727	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.58	0.00175	0.086727	
71.98 STRENGTH-T-1			208.71	1	1995	0	0.104617	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.454	0.00137	0.104617	
95.94 STRENGTH-T-1			0	1	1995	0.012286	0	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-2.054	0.006197	0	
119.9 STRENGTH-T-1			24.51	1	1995	0.023055	0.012286	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.928	0.005817	0.012286	
119.9 STRENGTH-T-1			45.994	1	1995	0.032307	0.023055	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.802	0.005436	0.023055	
120 STRENGTH-T-1			64.452	1	1995	0.04626	0.032307	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.676	0.005056	0.032307	
0.1 STRENGTH-T-1			79.883	1	1995	0	0.040042	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.55	0.004676	0.040042	
0.1 STRENGTH-T-1			92.289	1	1995	0.05362	0.04626	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.506	0.004296	0.04626	
0.1 STRENGTH-T-1			0	1	1995	0.079884	0	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.331	0.004543	0	
0.1 STRENGTH-T-1			57.326	1	1995	0.102299	0.028735	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.331	0.004015	0.028735	
24.06 STRENGTH-T-1			110.448	1	1995	0.122607	0.05362	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.331	0.004015	0.05362	
48.02 STRENGTH-T-1			159.369	1	1995	0.122607	0.079884	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.981	0.00296	0.079884	
71.98 STRENGTH-T-1			204.086	1	1995	0.122607	0.102299	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.805	0.002429	0.102299	
95.94 STRENGTH-T-1			244.6	1	1995	0	0.122607	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.63	0.001901	0.122607	
119.9 STRENGTH-T-1			0	1	1995	0.017063	0	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-2.476	0.00747	0	
119.9 STRENGTH-T-1			34.041	1	1995	0.03202	0.017063	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-2.301	0.006942	0.017063	
0 STRENGTH-T-1			63.88	1	1995	0.05614	0.03202	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-2.126	0.006414	0.03202	
0.1 STRENGTH-T-1			89.516	1	1995	0.064251	0.05614	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.991	0.005886	0.04487	
0.1 STRENGTH-T-1			110.949	1	1995	0	0.064251	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.776	0.005358	0.055614	
24.06 STRENGTH-T-1			128.18	1	1995	0	0.064251	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.601	0.00483	0.055614	
48.02 STRENGTH-T-1			0	1	1995	0.028735	0	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-1.084	0.00327	0	
71.98 STRENGTH-T-1			57.326	1	1995	0.05362	0.028735	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.958	0.00289	0.028735	
95.94 STRENGTH-T-1			110.448	1	1995	0.102299	0.05362	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.832	0.00251	0.05362	
119.9 STRENGTH-T-1			159.369	1	1995	0.122607	0.079884	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.706	0.00213	0.079884	
119.9 STRENGTH-T-1			204.086	1	1995	0.122607	0.102299	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.58	0.00175	0.102299	
120 STRENGTH-T-1			244.6	1	1995	0.122607	0.122607	50	29000	25.4	0.45	0.45	5	1	331.47	331.47	1	331.47	-0.454	0.00137	0.122607	

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M _n	Resistance factor for flexure, 6.5.4.2	φ _t	φ* _t M _n	M _u	D/C _{flexure}	F _{tw}	E	D	Web thickness	k	C	V _p	V _n	Resistance factor for shear; AASHTO LRFD 6.5.4.2	φ _v V _n	Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	Combined tension and flexure AASHTO 6.8.2.3-1/2
ft			kip*ft/in	N/A		kip*ft/in	kip*ft/in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	N/A	0
0.1 STRENGTH-T-1			1995	1	1995	0	0		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-2.476	0.00747	0.012286
0.1 STRENGTH-T-1			1995	1	1995	24.51	0.012286		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-2.301	0.006942	0.012286
0.1 STRENGTH-T-1			1995	1	1995	45.994	0.023055		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-2.126	0.006414	0.023055
24.06 STRENGTH-T-1			1995	1	1995	64.452	0.032307		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-1.951	0.005886	0.032307
48.02 STRENGTH-T-1			1995	1	1995	79.883	0.040042		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-1.776	0.005358	0.040042
71.98 STRENGTH-T-1			1995	1	1995	92.289	0.04626		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-1.601	0.00483	0.04626
95.94 STRENGTH-T-2			1995	1	1995	208.71	0.104617		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.056	0.000169	0.104617
119.9 STRENGTH-T-2			1995	1	1995	219.578	0.110064		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.182	0.000549	0.110064
119.9 STRENGTH-T-2			1995	1	1995	227.419	0.113994		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.308	0.000929	0.113994
120 STRENGTH-T-2			1995	1	1995	232.235	0.116409		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.434	0.001309	0.116409
0.1 STRENGTH-T-2			1995	1	1995	234.024	0.117305		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.56	0.001689	0.117305
0.1 STRENGTH-T-2			1995	1	1995	232.788	0.116686		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.687	0.002073	0.116686
0.1 STRENGTH-T-2			1995	1	1995	92.289	0.04626		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.782	0.002359	0.04626
24.06 STRENGTH-T-2			1995	1	1995	100.712	0.050482		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.656	0.001979	0.050482
48.02 STRENGTH-T-2			1995	1	1995	106.109	0.053187		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.53	0.001599	0.053187
71.98 STRENGTH-T-2			1995	1	1995	108.479	0.054375		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.404	0.001219	0.054375
95.94 STRENGTH-T-2			1995	1	1995	107.824	0.054047		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.277	0.000836	0.054047
119.9 STRENGTH-T-2			1995	1	1995	104.143	0.052202		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.151	0.000456	0.052202
120 STRENGTH-T-2			1995	1	1995	244.6	0.122607		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.07	0.000211	0.122607
0 STRENGTH-T-2			1995	1	1995	258.743	0.129696		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.245	0.000317	0.129696
0.1 STRENGTH-T-2			1995	1	1995	268.684	0.134679		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.245	0.000739	0.134679
0.1 STRENGTH-T-2			1995	1	1995	274.421	0.137554		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.42	0.001258	0.137554
0.1 STRENGTH-T-2			1995	1	1995	275.956	0.138324		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.596	0.001798	0.138324
24.06 STRENGTH-T-2			1995	1	1995	273.288	0.136986		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.771	0.002326	0.136986
48.02 STRENGTH-T-2			1995	1	1995	128.18	0.064251		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.943	0.002845	0.064251
71.98 STRENGTH-T-2			1995	1	1995	139.878	0.070114		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.768	0.002317	0.070114
95.94 STRENGTH-T-2			1995	1	1995	147.373	0.073871		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.593	0.001789	0.073871
119.9 STRENGTH-T-2			1995	1	1995	150.666	0.075522		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.447	0.001258	0.075522
119.9 STRENGTH-T-2			1995	1	1995	149.756	0.075066		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.242	0.00073	0.075066
120 STRENGTH-T-2			1995	1	1995	144.643	0.072503		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.067	0.000202	0.072503
0 STRENGTH-T-2			1995	1	1995	244.6	0.122607		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.056	0.000169	0.122607
0.1 STRENGTH-T-2			1995	1	1995	258.743	0.129696		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.182	0.000549	0.129696

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame#	M _n	Resistance factor for flexure, 6.5.4.2	φ _t M _n	M _u	D/C _{flexure}	F _{yw}	E	D	t _w	k	C	V _p	V _n	Resistance factor for shear, AASHTO LRFD 6.5.4.2	φ _v V _n	V _u	(D/C) _v	Combined tension and flexure AASHTO 6.8.2.3-1/2
ft			kip*in	N/A		kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	N/A	
0.1 STRENGTH T-2			1995	1	1995	268.684	0.134679	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.308	0.000929	0.134679
24.06 STRENGTH T-2			1995	1	1995	274.421	0.137554	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.434	0.001309	0.137554
48.02 STRENGTH T-2			1995	1	1995	275.956	0.138324	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.596	0.001798	0.138324
71.98 STRENGTH T-2			1995	1	1995	273.288	0.136986	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.771	0.002326	0.136986
95.94 STRENGTH T-2			1995	1	1995	92.289	0.04626	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.943	0.002845	0.04626
119.9 STRENGTH T-2			1995	1	1995	100.712	0.050482	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.768	0.002317	0.050482
119.9 STRENGTH T-2			1995	1	1995	106.109	0.053187	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.593	0.001789	0.053187
120 STRENGTH T-2			1995	1	1995	108.479	0.054375	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.417	0.001258	0.054375
0.1 STRENGTH T-2			1995	1	1995	107.824	0.054047	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.277	0.000836	0.054047
0.1 STRENGTH T-2			1995	1	1995	104.143	0.052202	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.151	0.000456	0.052202
0.1 STRENGTH T-3			1995	1	1995	232.788	0.116686	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.092	0.000278	0.116686
24.06 STRENGTH T-3			1995	1	1995	249.207	0.124916	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.034	0.000103	0.124916
48.02 STRENGTH T-3			1995	1	1995	262.601	0.13163	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.161	0.000486	0.13163
71.98 STRENGTH T-3			1995	1	1995	272.968	0.136826	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.287	0.000866	0.136826
95.94 STRENGTH T-3			1995	1	1995	280.31	0.140506	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.413	0.001246	0.140506
119.9 STRENGTH T-3			1995	1	1995	284.625	0.142669	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.539	0.001626	0.142669
119.9 STRENGTH T-3			1995	1	1995	104.143	0.052202	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.904	0.002727	0.052202
120 STRENGTH T-3			1995	1	1995	114.887	0.057587	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.778	0.002347	0.057587
0.1 STRENGTH T-3			1995	1	1995	122.605	0.061456	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.652	0.001967	0.061456
0.1 STRENGTH T-3			1995	1	1995	127.297	0.063808	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.526	0.001587	0.063808
0.1 STRENGTH T-3			1995	1	1995	128.963	0.064643	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.4	0.001207	0.064643
24.06 STRENGTH T-3			1995	1	1995	127.603	0.063961	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.274	0.000827	0.063961
48.02 STRENGTH T-3			1995	1	1995	273.288	0.136986	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.29	0.000875	0.136986
71.98 STRENGTH T-3			1995	1	1995	293.885	0.147311	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.115	0.000347	0.147311
95.94 STRENGTH T-3			1995	1	1995	310.28	0.155529	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.06	0.000181	0.155529
119.9 STRENGTH T-3			1995	1	1995	322.472	0.16164	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.235	0.000709	0.16164
119.9 STRENGTH T-3			1995	1	1995	330.462	0.165645	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.41	0.001237	0.165645
120 STRENGTH T-3			1995	1	1995	344.248	0.17543	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-1.103	0.003328	0.17543
0.1 STRENGTH T-3			1995	1	1995	144.643	0.072503	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.928	0.0028	0.072503
0.1 STRENGTH T-3			1995	1	1995	159.565	0.079982	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.753	0.002772	0.079982
0.1 STRENGTH T-3			1995	1	1995	170.284	0.085355	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.578	0.002772	0.085355
24.06 STRENGTH T-3			1995	1	1995	176.801	0.088622	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.578	0.001744	0.088622

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M _n kip*in	φ _r	φ*M _n kip*in	M _u kip*in	D/C _{flexure}	F _{yw} ksi	E ksi	D in	t _w in	k	C	V _p kip	V _n kip	φ _v	φ _v V _n kip	V _u kip	(D/C) _v	Combined tension and flexure AASHTO 6.8.2.3-1/2	
ft				N/A												N/A				N/A	
48.02	STRENGTH T-3		1995	1	1995	179,115	0.089782	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.402	0.001213	0.089782	
71.98	STRENGTH T-3		1995	1	1995	177,226	0.088835	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.227	0.000685	0.088835	
95.94	STRENGTH T-3		1995	1	1995	273,288	0.136986	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.092	0.000278	0.136986	
119.9	STRENGTH T-3		1995	1	1995	293,885	0.147311	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.034	0.000403	0.147311	
119.9	STRENGTH T-3		1995	1	1995	310,28	0.155529	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.161	0.000486	0.155529	
120	STRENGTH T-3		1995	1	1995	322,472	0.16164	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.287	0.000866	0.16164	
0.1	STRENGTH T-3		1995	1	1995	330,462	0.165645	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.413	0.001246	0.165645	
0.1	STRENGTH T-3		1995	1	1995	334,248	0.167543	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.585	0.001765	0.167543	
0.1	STRENGTH T-3		1995	1	1995	104,143	0.052202	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-1.103	0.003328	0.052202	
24.06	STRENGTH T-3		1995	1	1995	114,887	0.057587	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.928	0.0028	0.057587	
48.02	STRENGTH T-3		1995	1	1995	122,605	0.061456	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.753	0.002272	0.061456	
71.98	STRENGTH T-3		1995	1	1995	127,297	0.063808	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.578	0.001744	0.063808	
95.94	STRENGTH T-3		1995	1	1995	128,963	0.064643	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.402	0.001213	0.064643	
119.9	STRENGTH T-3		1995	1	1995	127,603	0.063961	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.274	0.000827	0.063961	
119.9	STRENGTH T-3		1995	1	1995	284,625	0.142669	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.00368	1.11E-05	0.142669	
120	STRENGTH T-3		1995	1	1995	296,727	0.148735	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.122	0.000368	0.148735	
0.1	STRENGTH T-4		1995	1	1995	305,803	0.153285	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.248	0.000748	0.153285	
0.1	STRENGTH T-4		1995	1	1995	311,854	0.156318	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.375	0.001131	0.156318	
24.06	STRENGTH T-4		1995	1	1995	314,878	0.157834	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.501	0.001511	0.157834	
48.02	STRENGTH T-4		1995	1	1995	314,876	0.157833	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.627	0.001892	0.157833	
71.98	STRENGTH T-4		1995	1	1995	127,603	0.063961	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.819	0.002471	0.063961	
95.94	STRENGTH T-4		1995	1	1995	136,419	0.068388	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.693	0.002091	0.068388	
119.9	STRENGTH T-4		1995	1	1995	142,21	0.071283	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.567	0.001711	0.071283	
119.9	STRENGTH T-4		1995	1	1995	144,974	0.072669	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.44	0.001327	0.072669	
119.9	STRENGTH T-4		1995	1	1995	144,713	0.072538	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.314	0.000947	0.072538	
120	STRENGTH T-4		1995	1	1995	141,426	0.07089	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.188	0.000567	0.07089	
0.1	STRENGTH T-4		1995	1	1995	334,248	0.167543	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.171	0.000516	0.167543	
0.1	STRENGTH T-4		1995	1	1995	349,779	0.173328	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.004059	1.22E-05	0.173328	
24.06	STRENGTH T-4		1995	1	1995	361,107	0.181006	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.379	0.00054	0.181006	
48.02	STRENGTH T-4		1995	1	1995	368,233	0.184578	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.544	0.001068	0.184578	
71.98	STRENGTH T-4		1995	1	1995	371,155	0.186043	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.529	0.001596	0.186043	
71.98	STRENGTH T-4		1995	1	1995	369,875	0.185401	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.705	0.002127	0.185401	

Compression Data				Shear (6.10.9)																		
Location	Load Case	Frame #	M _u	Resistance factor for flexure, 6.5.4.2	φ	φ* _u	M _u	D/C _{flexure}	F _{yw}	E	D	t _w	k	C	V _p	V _n	φ _v	φ _v * _n	V _u	(D/C) _v	Combined tension and flexure	
ft			kip*in	N/A			kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	AASHTO 6.8.2.3-1/2
95.94	STRENGTH T-4		1995	1	1995	177.226	0.088835		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.986	0.002975	0.088835	
119.9	STRENGTH T-4		1995	1	1995	189.471	0.094973		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.811	0.002447	0.094973	
119.9	STRENGTH T-4		1995	1	1995	197.514	0.099005		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.636	0.001919	0.099005	
120	STRENGTH T-4		1995	1	1995	201.353	0.100929		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.461	0.001391	0.100929	
0	STRENGTH T-4		1995	1	1995	200.99	0.100747		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.286	0.000863	0.100747	
0.1	STRENGTH T-4		1995	1	1995	196.425	0.098459		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.111	0.000335	0.098459	
0.1	STRENGTH T-4		1995	1	1995	334.248	0.167543		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.00368	1.11E-05	0.167543	
24.06	STRENGTH T-4		1995	1	1995	349.779	0.175328		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.122	0.000368	0.175328	
48.02	STRENGTH T-4		1995	1	1995	361.107	0.181006		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.248	0.000748	0.181006	
71.98	STRENGTH T-4		1995	1	1995	368.233	0.184578		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.375	0.001131	0.184578	
95.94	STRENGTH T-4		1995	1	1995	371.155	0.186043		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.529	0.001596	0.186043	
119.9	STRENGTH T-4		1995	1	1995	369.875	0.185401		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.705	0.002127	0.185401	
119.9	STRENGTH T-4		1995	1	1995	127.603	0.063961		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.986	0.002975	0.063961	
120	STRENGTH T-4		1995	1	1995	136.419	0.06838		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.811	0.002447	0.06838	
0	STRENGTH T-4		1995	1	1995	142.21	0.071283		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.636	0.001919	0.071283	
0.1	STRENGTH T-4		1995	1	1995	144.974	0.072669		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.461	0.001391	0.072669	
0.1	STRENGTH T-4		1995	1	1995	144.713	0.072538		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.314	0.000947	0.072538	
24.06	STRENGTH T-4		1995	1	1995	141.426	0.076089		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.188	0.000567	0.076089	
48.02	STRENGTH T-5		1995	1	1995	314.876	0.157833		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.14	0.000422	0.157833	
71.98	STRENGTH T-5		1995	1	1995	323.916	0.16364		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.266	0.000802	0.16364	
95.94	STRENGTH T-5		1995	1	1995	329.93	0.165378		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.392	0.001183	0.165378	
119.9	STRENGTH T-5		1995	1	1995	332.919	0.166877		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.518	0.001563	0.166877	
119.9	STRENGTH T-5		1995	1	1995	332.881	0.166858		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.644	0.001943	0.166858	
120	STRENGTH T-5		1995	1	1995	329.817	0.165322		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.77	0.002323	0.165322	
0	STRENGTH T-5		1995	1	1995	141.426	0.076089		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.711	0.002145	0.076089	
0.1	STRENGTH T-5		1995	1	1995	148.662	0.074517		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.589	0.001765	0.074517	
24.06	STRENGTH T-5		1995	1	1995	154.056	0.077221		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.459	0.001385	0.076628	
48.02	STRENGTH T-5		1995	1	1995	152.214	0.076298		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.207	0.000624	0.076298	
71.98	STRENGTH T-5		1995	1	1995	147.346	0.073858		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.081	0.000244	0.073858	
95.94	STRENGTH T-5		1995	1	1995	369.875	0.185401		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.00174	5.24E-06	0.185401	
119.9	STRENGTH T-5		1995	1	1995	381.729	0.191343		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.173	0.000522	0.191343	

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M_u kip*ft	ϕ	$\phi * M_u$ kip*ft	M_u kip*ft	D/C _{flexure}	F_y ksi	E ksi	D in	Web thickness t_w in	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2 V_p kip	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1 V_n kip	Resistance factor for shear; AASHTO LRFD 6.5.4.2 ϕ_v	$\phi_v * V_n$ kip	Shear experienced by the web under factored loads V_u kip	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1 (D/C) _v	Combined tension and flexure AASHTO 6.8.2.3-1/2
119.9	STRENGTH T-5		1995	1	1995	389.381	0.195178	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.348	0.00105	0.195178
120	STRENGTH T-5		1995	1	1995	392.829	0.196907	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.524	0.001581	0.196907
0.1	STRENGTH T-5		1995	1	1995	392.075	0.196529	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.699	0.002109	0.196529
0.1	STRENGTH T-5		1995	1	1995	387.118	0.194044	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.874	0.002637	0.194044
0.1	STRENGTH T-5		1995	1	1995	196.425	0.098459	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.853	0.002573	0.098459
24.06	STRENGTH T-5		1995	1	1995	206.475	0.103496	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.678	0.002045	0.103496
48.02	STRENGTH T-5		1995	1	1995	212.322	0.106427	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.503	0.001517	0.106427
71.98	STRENGTH T-5		1995	1	1995	213.967	0.107252	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.328	0.00099	0.107252
95.94	STRENGTH T-5		1995	1	1995	211.408	0.105969	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.153	0.000462	0.105969
119.9	STRENGTH T-5		1995	1	1995	204.647	0.10258	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.023	6.94E-05	0.10258
119.9	STRENGTH T-5		1995	1	1995	369.875	0.185401	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.14	0.000422	0.185401
0.1	STRENGTH T-5		1995	1	1995	381.729	0.191343	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.266	0.000802	0.191343
0.1	STRENGTH T-5		1995	1	1995	389.381	0.195178	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.392	0.001183	0.195178
0.1	STRENGTH T-5		1995	1	1995	392.829	0.196907	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.524	0.001581	0.196907
0.1	STRENGTH T-5		1995	1	1995	392.075	0.196529	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.699	0.002109	0.196529
24.06	STRENGTH T-5		1995	1	1995	387.118	0.194044	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.874	0.002637	0.194044
48.02	STRENGTH T-5		1995	1	1995	141.426	0.07089	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.853	0.002573	0.07089
71.98	STRENGTH T-5		1995	1	1995	148.662	0.074517	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.678	0.002045	0.074517
95.94	STRENGTH T-5		1995	1	1995	152.872	0.076628	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.503	0.001517	0.076628
119.9	STRENGTH T-5		1995	1	1995	154.056	0.077221	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.333	0.001005	0.077221
119.9	STRENGTH T-5		1995	1	1995	152.214	0.076298	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.207	0.000624	0.076298
120	STRENGTH T-5		1995	1	1995	147.346	0.073858	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.081	0.000244	0.073858
0	STRENGTH T-6		1995	1	1995	329.817	0.165322	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.069	0.000208	0.165322
0.1	STRENGTH T-6		1995	1	1995	335.766	0.168304	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.195	0.000568	0.168304
0.1	STRENGTH T-6		1995	1	1995	338.69	0.169769	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.321	0.000968	0.169769
24.06	STRENGTH T-6		1995	1	1995	338.587	0.169718	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.447	0.001349	0.169718
48.02	STRENGTH T-6		1995	1	1995	335.458	0.168149	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.573	0.001729	0.168149
71.98	STRENGTH T-6		1995	1	1995	329.304	0.165065	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.699	0.002109	0.165065
95.94	STRENGTH T-6		1995	1	1995	147.346	0.073858	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.7	0.002112	0.073858
119.9	STRENGTH T-6		1995	1	1995	153.475	0.07693	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.573	0.001729	0.07693
119.9	STRENGTH T-6		1995	1	1995	156.578	0.078485	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.447	0.001349	0.078485
120	STRENGTH T-6		1995	1	1995	156.655	0.078524	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.321	0.000968	0.078524

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M_u	ϕ	ϕ^*M_u	M_u	$D/C_{flexure}$	F_y	E	D	t_w	k	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	$(D/C)_v$	Combined tension and flexure AASHTO 6.8.2.3-1/2
ft			kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	kip	N/A	
0 STRENGTH T-6			1995	1	1995	153,705	0.077045	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.195	0.000588	0.077045	
0.1 STRENGTH T-6			1995	1	1995	147,732	0.07405	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.069	0.000208	0.07405	
0.1 STRENGTH T-6			1995	1	1995	387,118	0.194044	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.055	0.000166	0.194044	
24.06 STRENGTH T-6			1995	1	1995	395,451	0.198221	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.12	0.000362	0.198221	
48.02 STRENGTH T-6			1995	1	1995	399,581	0.200291	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.295	0.000089	0.200291	
71.98 STRENGTH T-6			1995	1	1995	399,508	0.200255	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.47	0.001418	0.200255	
95.94 STRENGTH T-6			1995	1	1995	395,233	0.198112	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.645	0.001946	0.198112	
119.9 STRENGTH T-6			1995	1	1995	386,754	0.193862	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.82	0.002474	0.193862	
120 STRENGTH T-6			1995	1	1995	204,647	0.10258	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.823	0.002483	0.10258	
120 STRENGTH T-6			1995	1	1995	213,16	0.106847	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.648	0.001955	0.106847	
0.1 STRENGTH T-6			1995	1	1995	217,469	0.109007	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.473	0.001427	0.109007	
0.1 STRENGTH T-6			1995	1	1995	217,576	0.109061	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.298	0.000899	0.109061	
24.06 STRENGTH T-6			1995	1	1995	213,48	0.107008	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.123	0.000371	0.107008	
48.02 STRENGTH T-6			1995	1	1995	205,181	0.102848	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.052	0.000157	0.102848	
71.98 STRENGTH T-6			1995	1	1995	387,118	0.194044	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.069	0.000208	0.194044	
95.94 STRENGTH T-6			1995	1	1995	395,451	0.198221	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.321	0.000588	0.198221	
119.9 STRENGTH T-6			1995	1	1995	399,581	0.200291	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.195	0.000968	0.200291	
120 STRENGTH T-6			1995	1	1995	399,508	0.200255	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.47	0.001418	0.200255	
120 STRENGTH T-6			1995	1	1995	395,233	0.198112	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.645	0.001946	0.198112	
120 STRENGTH T-6			1995	1	1995	386,754	0.193862	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.82	0.002474	0.193862	
0.1 STRENGTH T-6			1995	1	1995	147,346	0.073858	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.823	0.002483	0.073858	
0.1 STRENGTH T-6			1995	1	1995	153,475	0.07693	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.648	0.001955	0.07693	
0.1 STRENGTH T-6			1995	1	1995	156,578	0.078485	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.473	0.001427	0.078485	
24.06 STRENGTH T-6			1995	1	1995	156,655	0.078524	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.321	0.000968	0.078524	
48.02 STRENGTH T-6			1995	1	1995	153,705	0.077045	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.195	0.000588	0.077045	
71.98 STRENGTH T-6			1995	1	1995	147,732	0.07405	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.069	0.000208	0.07405	
95.94 STRENGTH T-6			1995	1	1995	329,304	0.168113	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.069	0.000208	0.168113	
119.9 STRENGTH T-6			1995	1	1995	335,385	0.166113	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.195	0.000588	0.166113	
119.9 STRENGTH T-7			1995	1	1995	338,439	0.169644	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.321	0.000968	0.169644	
120 STRENGTH T-7			1995	1	1995	338,468	0.169658	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.447	0.001349	0.169658	
0 STRENGTH T-7			1995	1	1995	335,471	0.168156	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.573	0.001729	0.168156	
0.1 STRENGTH T-7			1995	1	1995	329,448	0.165137	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.7	0.002112	0.165137	

Compression Data				Shear (6.10.9)																
Location ft	Load Case	Frame #	M_n kip ² /in	ϕ_t N/A	ϕ^*M_n kip ² /in	M_u kip ² /in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	t_w in	k	C	V_p kip	V_n kip	ϕ_v N/A	$\phi_v V_n$ kip	V_u kip	$(D/C)_v$ N/A	Combined tension and flexure AASHTO 6.8.2.3-1/2
0.1	STRENGTH T-7		1995	1	1995	147.73	0.07405	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.699	0.002109	0.07405
24.06	STRENGTH T-7		1995	1	1995	153.705	0.077045	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.573	0.001729	0.077045
48.02	STRENGTH T-7		1995	1	1995	156.655	0.078524	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.447	0.001349	0.078524
71.98	STRENGTH T-7		1995	1	1995	156.578	0.078485	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.321	0.000968	0.078485
95.94	STRENGTH T-7		1995	1	1995	153.475	0.07693	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.195	0.000588	0.07693
119.9	STRENGTH T-7		1995	1	1995	147.346	0.073858	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.069	0.000208	0.073858
119.9	STRENGTH T-7		1995	1	1995	386.754	0.193862	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.123	0.000371	0.193862
120	STRENGTH T-7		1995	1	1995	395.159	0.198075	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.298	0.000899	0.200181
0.1	STRENGTH T-7		1995	1	1995	399.359	0.200181	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.473	0.001427	0.200181
0.1	STRENGTH T-7		1995	1	1995	395.156	0.198073	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.648	0.002474	0.198073
24.06	STRENGTH T-7		1995	1	1995	399.359	0.200181	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.823	0.002483	0.200181
48.02	STRENGTH T-7		1995	1	1995	395.156	0.198073	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.648	0.001955	0.198073
71.98	STRENGTH T-7		1995	1	1995	386.749	0.193859	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.823	0.002474	0.193859
95.94	STRENGTH T-7		1995	1	1995	147.73	0.07405	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.82	0.002474	0.07405
119.9	STRENGTH T-7		1995	1	1995	153.705	0.077045	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.645	0.001946	0.077045
119.9	STRENGTH T-7		1995	1	1995	156.655	0.078524	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.321	0.000968	0.078524
120	STRENGTH T-7		1995	1	1995	153.475	0.07693	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.195	0.000588	0.07693
0	STRENGTH T-7		1995	1	1995	153.475	0.07693	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.195	0.000588	0.07693
0.1	STRENGTH T-7		1995	1	1995	147.346	0.073858	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.069	0.000208	0.073858
0.1	STRENGTH T-8		1995	1	1995	329.448	0.165137	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.062	0.000187	0.165137
24.06	STRENGTH T-8		1995	1	1995	333.392	0.167114	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.188	0.000567	0.167114

Compression Data			Shear (6.10.9)																		
Location	Load Case	Frame #	M_n kip*in	Resistance factor for flexure, 6.5.4.2	ϕ_t	$\phi_t^*M_n$ kip*in	M_u kip*in	D/C _{flexure}	specified minimum yield strength of the lower strength flange, AASHTO 6.12.2.2.1	Modulus of elasticity of steel	Overall depth of member	Web thickness	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1	Resistance factor for shear; AASHTO LRFD 6.5.4.2	$\phi_v V_n$ kip	Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	Combined tension and flexure AASHTO 6.8.2.3-1/2
ft			kip*in	N/A			kip*in	D/C _{flexure}	ksi	E ksi	D in	t_w in	k		kip	kip	N/A	kip	kip	N/A	
48.02 STRENGTH T-8			1995	1	1995	334,311	0.167574		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.314	0.000947	0.167574
71.98 STRENGTH T-8			1995	1	1995	332,204	0.166518		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.44	0.001327	0.166518
95.94 STRENGTH T-8			1995	1	1995	327,071	0.163945		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.566	0.001708	0.163945
119.9 STRENGTH T-8			1995	1	1995	318,912	0.159856		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.692	0.002088	0.159856
119.9 STRENGTH T-8			1995	1	1995	147,346	0.073858		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.77	0.002323	0.073858
120 STRENGTH T-8			1995	1	1995	152,214	0.076298		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.644	0.001943	0.076298
0 STRENGTH T-8			1995	1	1995	154,056	0.077221		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.518	0.001563	0.077221
0.1 STRENGTH T-8			1995	1	1995	152,872	0.076628		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.392	0.001183	0.076628
0.1 STRENGTH T-8			1995	1	1995	148,662	0.074517		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.266	0.000802	0.074517
24.06 STRENGTH T-8			1995	1	1995	141,426	0.07089		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.14	0.000422	0.07089
48.02 STRENGTH T-8			1995	1	1995	386,749	0.193859		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.041	0.000124	0.193859
71.98 STRENGTH T-8			1995	1	1995	392,587	0.196785		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.134	0.000404	0.196785
95.94 STRENGTH T-8			1995	1	1995	394,222	0.197605		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.309	0.000932	0.197605
119.9 STRENGTH T-8			1995	1	1995	391,654	0.196318		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.484	0.001146	0.196318
119.9 STRENGTH T-8			1995	1	1995	384,884	0.192924		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.659	0.001988	0.192924
120 STRENGTH T-8			1995	1	1995	373,911	0.187424		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.834	0.002516	0.187424
0.1 STRENGTH T-8			1995	1	1995	204,647	0.10258		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.874	0.002637	0.10258
0.1 STRENGTH T-8			1995	1	1995	211,408	0.105969		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.699	0.002109	0.105969
0.1 STRENGTH T-8			1995	1	1995	213,967	0.107252		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.524	0.001581	0.107252
24.06 STRENGTH T-8			1995	1	1995	212,322	0.106427		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.348	0.00105	0.106427
48.02 STRENGTH T-8			1995	1	1995	206,475	0.103496		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.173	0.000515	0.103496
71.98 STRENGTH T-8			1995	1	1995	196,423	0.098459		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.001736	5.24E-06	0.098459
95.94 STRENGTH T-8			1995	1	1995	386,749	0.193859		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.062	0.000187	0.193859
119.9 STRENGTH T-8			1995	1	1995	392,587	0.196785		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.188	0.000567	0.196785
119.9 STRENGTH T-8			1995	1	1995	394,222	0.197605		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.314	0.000947	0.197605
120 STRENGTH T-8			1995	1	1995	391,654	0.196318		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.484	0.001146	0.196318
0 STRENGTH T-8			1995	1	1995	384,884	0.192924		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.659	0.001988	0.192924
0.1 STRENGTH T-8			1995	1	1995	373,911	0.187424		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.834	0.002516	0.187424
0.1 STRENGTH T-8			1995	1	1995	147,346	0.073858		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.874	0.002637	0.073858
24.06 STRENGTH T-8			1995	1	1995	152,214	0.076298		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.699	0.002109	0.076298
48.02 STRENGTH T-8			1995	1	1995	154,056	0.077221		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.524	0.001581	0.077221
71.98 STRENGTH T-8			1995	1	1995	152,872	0.076628		50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.392	0.001183	0.076628

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M_n kip*in	ϕ_t	ϕ^*M_n kip*in	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	t_w in	k	C	V_p kip	V_n kip	ϕ_v N/A	$\phi_v V_n$ kip	V_u kip	$(D/C)_v$ N/A	Combined tension and flexure AASHTO 6.8.2.3-1/2
95.94 STRENGTH T-8			1995	N/A	1995	148.662	0.074517	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.266	0.000802	0.074517
119.9 STRENGTH T-8			1995	1	1995	141.426	0.07089	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.14	0.000422	0.07089
119.9 STRENGTH T-9			1995	1	1995	318.912	0.159856	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.188	0.000567	0.159856
120 STRENGTH T-9			1995	1	1995	319.293	0.160047	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.314	0.000947	0.160047
0 STRENGTH T-9			1995	1	1995	316.647	0.15872	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.44	0.001327	0.15872
0.1 STRENGTH T-9			1995	1	1995	310.975	0.155877	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.567	0.001711	0.155877
0.1 STRENGTH T-9			1995	1	1995	302.278	0.151518	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.693	0.002091	0.151518
24.06 STRENGTH T-9			1995	1	1995	290.554	0.145641	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.819	0.002471	0.145641
48.02 STRENGTH T-9			1995	1	1995	141.426	0.07089	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.627	0.001892	0.07089
71.98 STRENGTH T-9			1995	1	1995	144.713	0.072538	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.501	0.001511	0.072538
95.94 STRENGTH T-9			1995	1	1995	144.974	0.072669	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.375	0.001131	0.072669
119.9 STRENGTH T-9			1995	1	1995	142.21	0.071283	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.248	0.000748	0.071283
119.9 STRENGTH T-9			1995	1	1995	136.419	0.06838	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.122	0.000368	0.06838
120 STRENGTH T-9			1995	1	1995	127.603	0.063961	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.003678	1.11E-05	0.063961
0 STRENGTH T-9			1995	1	1995	373.911	0.187424	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.111	0.000335	0.187424
0.1 STRENGTH T-9			1995	1	1995	375.57	0.188256	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.286	0.000863	0.188256
0.1 STRENGTH T-9			1995	1	1995	373.026	0.18698	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.461	0.001391	0.18698
24.06 STRENGTH T-9			1995	1	1995	366.279	0.183598	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.636	0.001919	0.183598
48.02 STRENGTH T-9			1995	1	1995	355.33	0.17811	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.811	0.002447	0.17811
71.98 STRENGTH T-9			1995	1	1995	340.178	0.170515	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.986	0.002975	0.170515
95.94 STRENGTH T-9			1995	1	1995	196.425	0.098459	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.705	0.002127	0.098459
119.9 STRENGTH T-9			1995	1	1995	200.99	0.100747	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.529	0.001596	0.100747
119.9 STRENGTH T-9			1995	1	1995	201.353	0.100929	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.354	0.001068	0.100929
120 STRENGTH T-9			1995	1	1995	197.514	0.099005	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.179	0.00054	0.099005
0 STRENGTH T-9			1995	1	1995	189.471	0.094973	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.00406	1.22E-05	0.094973
0.1 STRENGTH T-9			1995	1	1995	177.226	0.088835	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.171	0.000516	0.088835
24.06 STRENGTH T-9			1995	1	1995	373.911	0.187424	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.188	0.000567	0.187424
48.02 STRENGTH T-9			1995	1	1995	375.57	0.188256	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.314	0.000947	0.188256
71.98 STRENGTH T-9			1995	1	1995	373.026	0.18698	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.461	0.001391	0.18698
95.94 STRENGTH T-9			1995	1	1995	366.279	0.183598	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.636	0.001919	0.183598
119.9 STRENGTH T-9			1995	1	1995	355.33	0.17811	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.811	0.002447	0.17811
119.9 STRENGTH T-9			1995	1	1995	340.178	0.170515	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.986	0.002975	0.170515

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	M_n kip*in	ϕ_r	ϕ^*M_n kip*in	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	t_w in	k	C	V_p kip	V_n kip	ϕ_v	$\phi_v V_n$ kip	V_u kip	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	$(D/C)_v$	Combined tension and flexure AASHTO 6.8.2.3-1/2
119.9 STRENGTH T-9			1995	1	1995	141.426	0.07089	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.705	0.002127	0.07089	
120 STRENGTH T-9			1995	1	1995	144.713	0.072538	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.529	0.001596	0.072538	
0 STRENGTH T-9			1995	1	1995	144.974	0.072669	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.375	0.001131	0.072669	
0.1 STRENGTH T-9			1995	1	1995	142.21	0.071283	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.248	0.000748	0.071283	
0.1 STRENGTH T-9			1995	1	1995	136.419	0.06838	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.122	0.000368	0.06838	
24.06 STRENGTH T-9			1995	1	1995	127.603	0.063961	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.003678	1.11E-05	0.063961	
48.02 STRENGTH T-10			1995	1	1995	290.554	0.145641	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.275	0.00083	0.145641	
71.98 STRENGTH T-10			1995	1	1995	286.055	0.143386	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.401	0.00121	0.143386	
95.94 STRENGTH T-10			1995	1	1995	278.531	0.139615	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.527	0.00159	0.139615	
119.9 STRENGTH T-10			1995	1	1995	267.98	0.134326	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.653	0.00197	0.134326	
119.9 STRENGTH T-10			1995	1	1995	254.403	0.12752	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.779	0.00235	0.12752	
120 STRENGTH T-10			1995	1	1995	237.8	0.119198	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.905	0.00273	0.119198	
0.1 STRENGTH T-10			1995	1	1995	127.603	0.063961	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.539	0.001626	0.063961	
0.1 STRENGTH T-10			1995	1	1995	128.963	0.064643	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.413	0.001246	0.064643	
0.1 STRENGTH T-10			1995	1	1995	127.297	0.063808	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.287	0.000866	0.063808	
24.06 STRENGTH T-10			1995	1	1995	122.605	0.061456	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.161	0.000466	0.061456	
48.02 STRENGTH T-10			1995	1	1995	114.887	0.057587	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.034	0.000103	0.057587	
71.98 STRENGTH T-10			1995	1	1995	104.143	0.052402	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.092	0.000278	0.052402	
95.94 STRENGTH T-10			1995	1	1995	340.178	0.170515	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.228	0.000688	0.170515	
119.9 STRENGTH T-10			1995	1	1995	336.208	0.168525	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.403	0.001216	0.168525	
119.9 STRENGTH T-10			1995	1	1995	328.035	0.164429	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.578	0.001744	0.164429	
120 STRENGTH T-10			1995	1	1995	315.659	0.158225	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.753	0.002272	0.158225	
0 STRENGTH T-10			1995	1	1995	299.081	0.149915	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.928	0.0028	0.149915	
0.1 STRENGTH T-10			1995	1	1995	278.3	0.139499	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.104	0.003331	0.139499	
0.1 STRENGTH T-10			1995	1	1995	177.226	0.088835	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.585	0.001765	0.088835	
24.06 STRENGTH T-10			1995	1	1995	179.115	0.089782	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.41	0.001237	0.089782	
48.02 STRENGTH T-10			1995	1	1995	176.801	0.088535	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.235	0.000709	0.088535	
71.98 STRENGTH T-10			1995	1	1995	170.284	0.085355	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.06	0.000181	0.085355	
95.94 STRENGTH T-10			1995	1	1995	159.565	0.079982	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.115	0.000347	0.079982	
119.9 STRENGTH T-10			1995	1	1995	144.643	0.072503	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.29	0.000875	0.072503	
119.9 STRENGTH T-10			1995	1	1995	340.178	0.170515	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.275	0.000875	0.170515	
120 STRENGTH T-10			1995	1	1995	336.208	0.168525	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.403	0.001216	0.168525	

Compression Data				Shear (6.10.9)																	
Location	Load Case	Frame #	kip*in	M_u	ϕ	ϕ^*M_u	M_u	$D/C_{flexure}$	specified minimum yield strength of the lower strength flange, AASHTO 6.12.2.2.1	Modulus of elasticity of steel	Overall depth of member	Web thickness	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1	Resistance factor for shear; AASHTO LRFD 6.5.4.2	$\phi_u V_n$	Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	Combined tension and flexure AASHTO 6.8.2.3-1/2
ft			kip*in	N/A		kip*in	$D/C_{flexure}$	ksi	E	D	t_w	k		V_p	V_n	ϕ_v	kip	V_u	(D/C) _v		
0.1	STRENGTH T-10		1995	1	1995	328.035	0.164429	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.578	0.001744	0.164429	
0.1	STRENGTH T-10		1995	1	1995	315.659	0.158225	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.753	0.002272	0.158225	
0.1	STRENGTH T-10		1995	1	1995	299.081	0.149915	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.928	0.0028	0.149915	
24.06	STRENGTH T-10		1995	1	1995	278.3	0.139499	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.104	0.003331	0.139499	
48.02	STRENGTH T-10		1995	1	1995	127.603	0.063961	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.585	0.001765	0.063961	
71.98	STRENGTH T-10		1995	1	1995	128.963	0.064643	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.413	0.001246	0.064643	
95.94	STRENGTH T-10		1995	1	1995	127.297	0.063808	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.287	0.000866	0.063808	
119.9	STRENGTH T-10		1995	1	1995	122.605	0.061456	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.161	0.000486	0.061456	
119.9	STRENGTH T-10		1995	1	1995	114.887	0.057587	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.034	0.000103	0.057587	
120	STRENGTH T-10		1995	1	1995	104.143	0.052202	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.092	0.000278	0.052202	
0.1	STRENGTH T-11		1995	1	1995	237.8	0.119198	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.151	0.000456	0.119198	
0.1	STRENGTH T-11		1995	1	1995	242.63	0.121619	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.277	0.000836	0.121619	
0.1	STRENGTH T-11		1995	1	1995	244.435	0.122524	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.404	0.001219	0.122524	
24.06	STRENGTH T-11		1995	1	1995	243.214	0.121912	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.53	0.001599	0.121912	
48.02	STRENGTH T-11		1995	1	1995	238.966	0.119782	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.656	0.001979	0.119782	
71.98	STRENGTH T-11		1995	1	1995	231.693	0.116137	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.782	0.002359	0.116137	
95.94	STRENGTH T-11		1995	1	1995	104.143	0.052202	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.687	0.002073	0.052202	
119.9	STRENGTH T-11		1995	1	1995	107.824	0.054047	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.561	0.001692	0.054047	
119.9	STRENGTH T-11		1995	1	1995	108.479	0.054375	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.434	0.001309	0.054375	
120	STRENGTH T-11		1995	1	1995	106.109	0.053187	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.308	0.000929	0.053187	
0.1	STRENGTH T-11		1995	1	1995	100.712	0.050482	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.182	0.000549	0.050482	
0.1	STRENGTH T-11		1995	1	1995	92.289	0.04626	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.056	0.000169	0.04626	
0.1	STRENGTH T-11		1995	1	1995	278.3	0.139499	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.067	0.000202	0.139499	
24.06	STRENGTH T-11		1995	1	1995	284.562	0.142638	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.242	0.00073	0.142638	
48.02	STRENGTH T-11		1995	1	1995	286.621	0.14367	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.417	0.001258	0.14367	
71.98	STRENGTH T-11		1995	1	1995	284.478	0.142595	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.593	0.001789	0.142595	
95.94	STRENGTH T-11		1995	1	1995	278.132	0.139415	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.768	0.002317	0.139415	
119.9	STRENGTH T-11		1995	1	1995	267.583	0.134127	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.943	0.002845	0.134127	
119.9	STRENGTH T-11		1995	1	1995	144.643	0.072503	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.771	0.002326	0.072503	
120	STRENGTH T-11		1995	1	1995	149.756	0.075066	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.596	0.001798	0.075066	
0.1	STRENGTH T-11		1995	1	1995	150.666	0.075522	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.421	0.00127	0.075522	
0.1	STRENGTH T-11		1995	1	1995	147.373	0.073871	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.245	0.000739	0.073871	

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M_u kip*in	ϕ	ϕ^*M_u kip*in	M_u kip*in	D/C _{flexure}	F_{yw} ksi	E ksi	D in	Web thickness t_w in	k	C	V_p kip	V_n kip	ϕ_v N/A	$\phi_v V_n$ kip	V_u kip	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1	Combined tension and flexure AASHTO 6.8.2.3-1/2
0.1 STRENGTH T-11			1995	1	1995	139.878	0.070114	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.07	0.000211	0.070114
24.06 STRENGTH T-11			1995	1	1995	128.18	0.064251	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.105	0.000317	0.064251
48.02 STRENGTH T-11			1995	1	1995	278.3	0.139499	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.151	0.000456	0.139499
71.98 STRENGTH T-11			1995	1	1995	284.562	0.142638	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.277	0.000836	0.142638
95.94 STRENGTH T-11			1995	1	1995	286.621	0.14367	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.417	0.001258	0.14367
119.9 STRENGTH T-11			1995	1	1995	284.478	0.142595	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.783	0.001789	0.142595
119.9 STRENGTH T-11			1995	1	1995	278.132	0.139415	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.768	0.002317	0.139415
120 STRENGTH T-11			1995	1	1995	267.583	0.134127	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.943	0.002845	0.134127
0 STRENGTH T-11			1995	1	1995	104.143	0.052202	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.771	0.002326	0.052202
0.1 STRENGTH T-11			1995	1	1995	107.824	0.054047	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.596	0.001798	0.054047
0.1 STRENGTH T-11			1995	1	1995	108.479	0.054375	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.434	0.001309	0.054375
24.06 STRENGTH T-11			1995	1	1995	106.109	0.053187	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.308	0.000929	0.053187
48.02 STRENGTH T-11			1995	1	1995	100.712	0.050482	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.182	0.000549	0.050482
71.98 STRENGTH T-11			1995	1	1995	92.289	0.04626	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	-0.056	0.000169	0.04626
95.94 STRENGTH T-11			1995	1	1995	231.693	0.116137	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.616	0.004875	0.116137
119.9 STRENGTH T-12			1995	1	1995	191.406	0.095943	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.742	0.005255	0.095943
119.9 STRENGTH T-12			1995	1	1995	148.094	0.074233	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.868	0.005636	0.074233
120 STRENGTH T-12			1995	1	1995	101.755	0.051005	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.994	0.006016	0.051005
0 STRENGTH T-12			1995	1	1995	52.391	0.026261	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	2.12	0.006396	0.026261
0.1 STRENGTH T-12			1995	1	1995	90.4E-13	4.53E-16	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	2.246	0.006776	4.53E-16
0.1 STRENGTH T-12			1995	1	1995	92.289	0.04626	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.454	0.00137	0.04626
24.06 STRENGTH T-12			1995	1	1995	79.883	0.040042	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.58	0.00175	0.040042
48.02 STRENGTH T-12			1995	1	1995	64.452	0.032307	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.706	0.00213	0.032307
71.98 STRENGTH T-12			1995	1	1995	45.994	0.023055	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.832	0.00251	0.023055
95.94 STRENGTH T-12			1995	1	1995	24.51	0.012286	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.984	0.00289	0.012286
119.9 STRENGTH T-12			1995	1	1995	90.4E-13	4.53E-16	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.084	0.00327	4.53E-16
119.9 STRENGTH T-12			1995	1	1995	267.583	0.134127	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.792	0.005406	0.134127
120 STRENGTH T-12			1995	1	1995	222.472	0.111515	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.967	0.005934	0.111515
0 STRENGTH T-12			1995	1	1995	173.158	0.086796	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	2.142	0.006462	0.086796
0.1 STRENGTH T-12			1995	1	1995	119.641	0.05997	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	2.317	0.00699	0.05997
0.1 STRENGTH T-12			1995	1	1995	61.922	0.031039	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	2.493	0.007521	0.031039
24.06 STRENGTH T-12			1995	1	1995	1.26E-12	6.3E-16	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	2.668	0.008049	6.3E-16

Compression Data				Shear (6.10.9)																
Location	Load Case	Frame #	M_n kip ² /in	ϕ_t	ϕ^*M_n	M_u kip ² /in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	Web thickness t_w in	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2 k	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2 V_p kip	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1 V_n kip	Resistance factor for shear; AASHTO LRFD 6.5.4.2 ϕ_v	$\phi_v V_n$ kip	Shear experienced by the web under factored loads V_u kip	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1 (D/C) _v	Combined tension and flexure AASHTO 6.8.2.3-1/2
48.02	STRENGTH T-12		1995	1	1995	128.18	0.064251	50	29000	25.4	0.45	5	1	331.47	331.47	N/A	331.47	0.63	0.001901	0.064251
71.98	STRENGTH T-12		1995	1	1995	110.949	0.055614	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.805	0.002429	0.055614
95.94	STRENGTH T-12		1995	1	1995	89.516	0.04487	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	0.981	0.00296	0.04487
119.9	STRENGTH T-12		1995	1	1995	63.88	0.03202	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.156	0.003487	0.03202
119.9	STRENGTH T-12		1995	1	1995	34.041	0.017063	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.331	0.004015	0.017063
120	STRENGTH T-12		1995	1	1995	1.26E-12	6.3E-16	50	29000	25.4	0.45	5	1	331.47	331.47	1	331.47	1.506	0.004543	6.3E-16
0.1	STRENGTH T-12		1995	1	1995	267.583	0.134127	50	29000	25.4	0.45	6	1	331.47	331.47	1	331.47	1.792	0.005406	0.134127
0.1	STRENGTH T-12		1995	1	1995	222.472	0.111515	50	29000	25.4	0.45	7	1	331.47	331.47	1	331.47	1.967	0.005934	0.111515
24.06	STRENGTH T-12		1995	1	1995	173.158	0.086796	50	29000	25.4	0.45	8	1	331.47	331.47	1	331.47	2.142	0.006462	0.086796
48.02	STRENGTH T-12		1995	1	1995	119.641	0.05997	50	29000	25.4	0.45	9	1	331.47	331.47	1	331.47	2.317	0.00699	0.05997
71.98	STRENGTH T-12		1995	1	1995	61.922	0.031039	50	29000	25.4	0.45	10	1	331.47	331.47	1	331.47	2.493	0.007521	0.031039
95.94	STRENGTH T-12		1995	1	1995	1.26E-12	6.3E-16	50	29000	25.4	0.45	11	1	331.47	331.47	1	331.47	2.668	0.008049	6.3E-16
119.9	STRENGTH T-12		1995	1	1995	92.289	0.04626	50	29000	25.4	0.45	12	1	331.47	331.47	1	331.47	2.844	0.008517	0.04626
119.9	STRENGTH T-12		1995	1	1995	79.883	0.040042	50	29000	25.4	0.45	13	1	331.47	331.47	1	331.47	3.019	0.009015	0.040042
119.9	STRENGTH T-12		1995	1	1995	64.452	0.032307	50	29000	25.4	0.45	14	1	331.47	331.47	1	331.47	3.194	0.009513	0.032307
120	STRENGTH T-12		1995	1	1995	45.994	0.023055	50	29000	25.4	0.45	15	1	331.47	331.47	1	331.47	3.369	0.009999	0.023055
0.1	STRENGTH T-12		1995	1	1995	24.51	0.012286	50	29000	25.4	0.45	16	1	331.47	331.47	1	331.47	3.544	0.010485	0.012286
0.1	STRENGTH T-12		1995	1	1995	9.04E-13	4.53E-16	50	29000	25.4	0.45	17	1	331.47	331.47	1	331.47	3.719	0.010971	4.53E-16

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
0	STRENGTH T-1		0.069362
0.1	STRENGTH T-1		0.093319
0.1	STRENGTH T-1		0.115759
24.06	STRENGTH T-1		0.136683
48.02	STRENGTH T-1		0.156089
71.98	STRENGTH T-1		0.173979
95.94	STRENGTH T-1		0.300946
119.9	STRENGTH T-1		0.311866
119.9	STRENGTH T-1		0.321439
120	STRENGTH T-1		0.329663
0	STRENGTH T-1		0.336538
0.1	STRENGTH T-1		0.342066
0.1	STRENGTH T-1		0.096337
24.06	STRENGTH T-1		0.125072
48.02	STRENGTH T-1		0.151699
71.98	STRENGTH T-1		0.176221
95.94	STRENGTH T-1		0.198636
119.9	STRENGTH T-1		0.218943
119.9	STRENGTH T-1		0.354895
120	STRENGTH T-1		0.370062
0	STRENGTH T-1		0.383357
0.1	STRENGTH T-1		0.394779
0.1	STRENGTH T-1		0.404329
24.06	STRENGTH T-1		0.412006
48.02	STRENGTH T-1		0.069362
71.98	STRENGTH T-1		0.098097
95.94	STRENGTH T-1		0.124725
119.9	STRENGTH T-1		0.149247
119.9	STRENGTH T-1		0.171661
120	STRENGTH T-1		0.191969

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Lication	Load Case	Frame #	
ft			

0 STRENGTH T-1	0.354895
0.1 STRENGTH T-1	0.365815
0.1 STRENGTH T-1	0.375388
24.06 STRENGTH T-1	0.383612
48.02 STRENGTH T-1	0.390487
71.98 STRENGTH T-1	0.396015
95.94 STRENGTH T-2	0.199703
119.9 STRENGTH T-2	0.20515
119.9 STRENGTH T-2	0.209081
120 STRENGTH T-2	0.211495
0 STRENGTH T-2	0.212391
0.1 STRENGTH T-2	0.211772
0.1 STRENGTH T-2	0.454308
24.06 STRENGTH T-2	0.458061
48.02 STRENGTH T-2	0.460466
71.98 STRENGTH T-2	0.461522
95.94 STRENGTH T-2	0.46123
119.9 STRENGTH T-2	0.45959
119.9 STRENGTH T-2	0.373112
120 STRENGTH T-2	0.379414
0 STRENGTH T-2	0.383843
0.1 STRENGTH T-2	0.386399
0.1 STRENGTH T-2	0.387083
24.06 STRENGTH T-2	0.385894
48.02 STRENGTH T-2	0.544255
71.98 STRENGTH T-2	0.549467
95.94 STRENGTH T-2	0.552806
119.9 STRENGTH T-2	0.554273
119.9 STRENGTH T-2	0.553868
120 STRENGTH T-2	0.55159
0 STRENGTH T-2	0.217693
0.1 STRENGTH T-2	0.224782

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

0.1 STRENGTH T-2	0.229765
24.06 STRENGTH T-2	0.232641
48.02 STRENGTH T-2	0.23341
71.98 STRENGTH T-2	0.232073
95.94 STRENGTH T-2	0.528263
119.9 STRENGTH T-2	0.532016
119.9 STRENGTH T-2	0.534421
120 STRENGTH T-2	0.535477
0 STRENGTH T-2	0.535185
0.1 STRENGTH T-2	0.533545
0.1 STRENGTH T-3	0.334279
24.06 STRENGTH T-3	0.341594
48.02 STRENGTH T-3	0.347562
71.98 STRENGTH T-3	0.352181
95.94 STRENGTH T-3	0.355453
119.9 STRENGTH T-3	0.357375
119.9 STRENGTH T-3	0.548172
120 STRENGTH T-3	0.552959
0 STRENGTH T-3	0.556398
0.1 STRENGTH T-3	0.558489
0.1 STRENGTH T-3	0.559231
24.06 STRENGTH T-3	0.558625
48.02 STRENGTH T-3	0.441986
71.98 STRENGTH T-3	0.451163
95.94 STRENGTH T-3	0.458468
119.9 STRENGTH T-3	0.4639
119.9 STRENGTH T-3	0.46746
120 STRENGTH T-3	0.469147
0 STRENGTH T-3	0.655879
0.1 STRENGTH T-3	0.662528
0.1 STRENGTH T-3	0.667304
24.06 STRENGTH T-3	0.670208

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
48.02	STRENGTH T-3		0.671239
71.98	STRENGTH T-3		0.670397
95.94	STRENGTH T-3		0.352324
119.9	STRENGTH T-3		0.361501
119.9	STRENGTH T-3		0.368806
120	STRENGTH T-3		0.374238
0	STRENGTH T-3		0.377798
0.1	STRENGTH T-3		0.379485
0.1	STRENGTH T-3		0.637834
24.06	STRENGTH T-3		0.642621
48.02	STRENGTH T-3		0.64606
71.98	STRENGTH T-3		0.648151
95.94	STRENGTH T-3		0.648893
119.9	STRENGTH T-3		0.648287
119.9	STRENGTH T-4		0.38617
120	STRENGTH T-4		0.391562
0	STRENGTH T-4		0.395606
0.1	STRENGTH T-4		0.398302
0.1	STRENGTH T-4		0.399649
24.06	STRENGTH T-4		0.399648
48.02	STRENGTH T-4		0.622304
71.98	STRENGTH T-4		0.626232
95.94	STRENGTH T-4		0.628812
119.9	STRENGTH T-4		0.630044
119.9	STRENGTH T-4		0.629927
120	STRENGTH T-4		0.628463
0	STRENGTH T-4		0.509138
0.1	STRENGTH T-4		0.516058
0.1	STRENGTH T-4		0.521106
24.06	STRENGTH T-4		0.524281
48.02	STRENGTH T-4		0.525583
71.98	STRENGTH T-4		0.525012

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Lication	Load Case	Frame #	
ft			
95.94	STRENGTH T-4		0.745273
119.9	STRENGTH T-4		0.750728
119.9	STRENGTH T-4		0.754312
120	STRENGTH T-4		0.756023
0	STRENGTH T-4		0.755861
0.1	STRENGTH T-4		0.753827
0.1	STRENGTH T-4		0.40828
24.06	STRENGTH T-4		0.4152
48.02	STRENGTH T-4		0.420247
71.98	STRENGTH T-4		0.423422
95.94	STRENGTH T-4		0.424724
119.9	STRENGTH T-4		0.424153
119.9	STRENGTH T-4		0.723163
120	STRENGTH T-4		0.727091
0	STRENGTH T-4		0.729671
0.1	STRENGTH T-4		0.730902
0.1	STRENGTH T-4		0.730786
24.06	STRENGTH T-4		0.729322
48.02	STRENGTH T-5		0.416963
71.98	STRENGTH T-5		0.420991
95.94	STRENGTH T-5		0.42367
119.9	STRENGTH T-5		0.425002
119.9	STRENGTH T-5		0.424985
120	STRENGTH T-5		0.42362
0	STRENGTH T-5		0.667508
0.1	STRENGTH T-5		0.670732
0.1	STRENGTH T-5		0.672608
24.06	STRENGTH T-5		0.673136
48.02	STRENGTH T-5		0.672315
71.98	STRENGTH T-5		0.670146
95.94	STRENGTH T-5		0.549061
119.9	STRENGTH T-5		0.554343

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Lication	Load Case	Frame #	
ft			
119.9	STRENGTH T-5		0.557752
120	STRENGTH T-5		0.559289
0	STRENGTH T-5		0.558953
0.1	STRENGTH T-5		0.556744
0.1	STRENGTH T-5		0.799607
24.06	STRENGTH T-5		0.804085
48.02	STRENGTH T-5		0.80669
71.98	STRENGTH T-5		0.807423
95.94	STRENGTH T-5		0.806283
119.9	STRENGTH T-5		0.80327
119.9	STRENGTH T-5		0.441468
120	STRENGTH T-5		0.44675
0	STRENGTH T-5		0.450159
0.1	STRENGTH T-5		0.451695
0.1	STRENGTH T-5		0.451359
24.06	STRENGTH T-5		0.449151
48.02	STRENGTH T-5		0.775102
71.98	STRENGTH T-5		0.778326
95.94	STRENGTH T-5		0.780201
119.9	STRENGTH T-5		0.780729
119.9	STRENGTH T-5		0.779908
120	STRENGTH T-5		0.777739
0	STRENGTH T-6		0.429386
0.1	STRENGTH T-6		0.432037
0.1	STRENGTH T-6		0.43334
24.06	STRENGTH T-6		0.433294
48.02	STRENGTH T-6		0.4319
71.98	STRENGTH T-6		0.429158
95.94	STRENGTH T-6		0.68445
119.9	STRENGTH T-6		0.68718
119.9	STRENGTH T-6		0.688563
120	STRENGTH T-6		0.688597

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Lication	Load Case	Frame #	
ft			

0 STRENGTH T-6	0.687283
0.1 STRENGTH T-6	0.684621
0.1 STRENGTH T-6	0.564752
24.06 STRENGTH T-6	0.568465
48.02 STRENGTH T-6	0.570305
71.98 STRENGTH T-6	0.570273
95.94 STRENGTH T-6	0.568368
119.9 STRENGTH T-6	0.56459
119.9 STRENGTH T-6	0.819815
120 STRENGTH T-6	0.823608
0 STRENGTH T-6	0.825528
0.1 STRENGTH T-6	0.825576
0.1 STRENGTH T-6	0.823751
24.06 STRENGTH T-6	0.820053
48.02 STRENGTH T-6	0.454917
71.98 STRENGTH T-6	0.45863
95.94 STRENGTH T-6	0.46047
119.9 STRENGTH T-6	0.460438
119.9 STRENGTH T-6	0.458533
120 STRENGTH T-6	0.454755
0 STRENGTH T-6	0.794284
0.1 STRENGTH T-6	0.797015
0.1 STRENGTH T-6	0.798398
24.06 STRENGTH T-6	0.798432
48.02 STRENGTH T-6	0.797118
71.98 STRENGTH T-6	0.794455
95.94 STRENGTH T-7	0.429158
119.9 STRENGTH T-7	0.431867
119.9 STRENGTH T-7	0.433228
120 STRENGTH T-7	0.433241
0 STRENGTH T-7	0.431906
0.1 STRENGTH T-7	0.429222

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Lication	Load Case	Frame #	
ft			

0.1 STRENGTH T-7	0.684621
24.06 STRENGTH T-7	0.687283
48.02 STRENGTH T-7	0.688597
71.98 STRENGTH T-7	0.688563
95.94 STRENGTH T-7	0.68718
119.9 STRENGTH T-7	0.68445
119.9 STRENGTH T-7	0.56459
120 STRENGTH T-7	0.568335
0 STRENGTH T-7	0.570207
0.1 STRENGTH T-7	0.570206
0.1 STRENGTH T-7	0.568334
24.06 STRENGTH T-7	0.564588
48.02 STRENGTH T-7	0.820053
71.98 STRENGTH T-7	0.823751
95.94 STRENGTH T-7	0.825576
119.9 STRENGTH T-7	0.825528
119.9 STRENGTH T-7	0.823608
120 STRENGTH T-7	0.819815
0 STRENGTH T-7	0.454755
0.1 STRENGTH T-7	0.4585
0.1 STRENGTH T-7	0.460372
24.06 STRENGTH T-7	0.460371
48.02 STRENGTH T-7	0.458499
71.98 STRENGTH T-7	0.454753
95.94 STRENGTH T-7	0.794455
119.9 STRENGTH T-7	0.797118
119.9 STRENGTH T-7	0.798432
120 STRENGTH T-7	0.798398
0 STRENGTH T-7	0.797015
0.1 STRENGTH T-7	0.794284
0.1 STRENGTH T-8	0.423455
24.06 STRENGTH T-8	0.425213

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Lication	Load Case	Frame #	
ft			
48.02	STRENGTH T-8		0.425622
71.98	STRENGTH T-8		0.424683
95.94	STRENGTH T-8		0.422396
119.9	STRENGTH T-8		0.418761
119.9	STRENGTH T-8		0.673937
120	STRENGTH T-8		0.676106
0	STRENGTH T-8		0.676927
0.1	STRENGTH T-8		0.676399
0.1	STRENGTH T-8		0.674524
24.06	STRENGTH T-8		0.6713
48.02	STRENGTH T-8		0.55658
71.98	STRENGTH T-8		0.559181
95.94	STRENGTH T-8		0.559909
119.9	STRENGTH T-8		0.558765
119.9	STRENGTH T-8		0.555749
120	STRENGTH T-8		0.550859
0	STRENGTH T-8		0.807061
0.1	STRENGTH T-8		0.810074
0.1	STRENGTH T-8		0.811214
24.06	STRENGTH T-8		0.810481
48.02	STRENGTH T-8		0.807876
71.98	STRENGTH T-8		0.803398
95.94	STRENGTH T-8		0.448986
119.9	STRENGTH T-8		0.451587
119.9	STRENGTH T-8		0.452316
120	STRENGTH T-8		0.451172
0	STRENGTH T-8		0.448155
0.1	STRENGTH T-8		0.443266
0.1	STRENGTH T-8		0.78153
24.06	STRENGTH T-8		0.783699
48.02	STRENGTH T-8		0.78452
71.98	STRENGTH T-8		0.783993

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Lication	Load Case	Frame #	
ft			

95.94	STRENGTH T-8	0.782117
119.9	STRENGTH T-8	0.778893
119.9	STRENGTH T-9	0.401447
120	STRENGTH T-9	0.401616
0	STRENGTH T-9	0.400437
0.1	STRENGTH T-9	0.39791
0.1	STRENGTH T-9	0.394035
24.06	STRENGTH T-9	0.388811
48.02	STRENGTH T-9	0.636006
71.98	STRENGTH T-9	0.637471
95.94	STRENGTH T-9	0.637587
119.9	STRENGTH T-9	0.636356
119.9	STRENGTH T-9	0.633776
120	STRENGTH T-9	0.629848
0	STRENGTH T-9	0.526811
0.1	STRENGTH T-9	0.52755
0.1	STRENGTH T-9	0.526416
24.06	STRENGTH T-9	0.52341
48.02	STRENGTH T-9	0.518532
71.98	STRENGTH T-9	0.511781
95.94	STRENGTH T-9	0.761371
119.9	STRENGTH T-9	0.763405
119.9	STRENGTH T-9	0.763566
120	STRENGTH T-9	0.761856
0	STRENGTH T-9	0.758272
0.1	STRENGTH T-9	0.752816
0.1	STRENGTH T-9	0.425952
24.06	STRENGTH T-9	0.426691
48.02	STRENGTH T-9	0.425557
71.98	STRENGTH T-9	0.422551
95.94	STRENGTH T-9	0.417673
119.9	STRENGTH T-9	0.410922

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

119.9	STRENGTH T-9	0.736865
120	STRENGTH T-9	0.73833
0	STRENGTH T-9	0.738446
0.1	STRENGTH T-9	0.737215
0.1	STRENGTH T-9	0.734634
24.06	STRENGTH T-9	0.730706
48.02	STRENGTH T-10	0.360017
71.98	STRENGTH T-10	0.358012
95.94	STRENGTH T-10	0.35466
119.9	STRENGTH T-10	0.349959
119.9	STRENGTH T-10	0.343909
120	STRENGTH T-10	0.336512
0	STRENGTH T-10	0.569935
0.1	STRENGTH T-10	0.570541
0.1	STRENGTH T-10	0.569798
24.06	STRENGTH T-10	0.567708
48.02	STRENGTH T-10	0.564269
71.98	STRENGTH T-10	0.559482
95.94	STRENGTH T-10	0.471789
119.9	STRENGTH T-10	0.47002
119.9	STRENGTH T-10	0.466379
120	STRENGTH T-10	0.460864
0	STRENGTH T-10	0.453478
0.1	STRENGTH T-10	0.444219
0.1	STRENGTH T-10	0.681706
24.06	STRENGTH T-10	0.682548
48.02	STRENGTH T-10	0.681517
71.98	STRENGTH T-10	0.678613
95.94	STRENGTH T-10	0.673837
119.9	STRENGTH T-10	0.667189
119.9	STRENGTH T-10	0.382127
120	STRENGTH T-10	0.380358

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

0	STRENGTH T-10		0.376717
0.1	STRENGTH T-10		0.371203
0.1	STRENGTH T-10		0.363816
24.06	STRENGTH T-10		0.354557
48.02	STRENGTH T-10		0.659596
71.98	STRENGTH T-10		0.660202
95.94	STRENGTH T-10		0.65946
119.9	STRENGTH T-10		0.65737
119.9	STRENGTH T-10		0.653931
120	STRENGTH T-10		0.649144
0	STRENGTH T-11		0.214284
0.1	STRENGTH T-11		0.216705
0.1	STRENGTH T-11		0.21761
24.06	STRENGTH T-11		0.216998
48.02	STRENGTH T-11		0.214869
71.98	STRENGTH T-11		0.211223
95.94	STRENGTH T-11		0.474716
119.9	STRENGTH T-11		0.476356
119.9	STRENGTH T-11		0.476648
120	STRENGTH T-11		0.475592
0	STRENGTH T-11		0.473187
0.1	STRENGTH T-11		0.469434
0.1	STRENGTH T-11		0.388127
24.06	STRENGTH T-11		0.390917
48.02	STRENGTH T-11		0.391835
71.98	STRENGTH T-11		0.39088
95.94	STRENGTH T-11		0.388053
119.9	STRENGTH T-11		0.383352
119.9	STRENGTH T-11		0.566717
120	STRENGTH T-11		0.568995
0	STRENGTH T-11		0.569401
0.1	STRENGTH T-11		0.567933

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			
0.1	STRENGTH T-11		0.564594
24.06	STRENGTH T-11		0.559382
48.02	STRENGTH T-11		0.234585
71.98	STRENGTH T-11		0.237724
95.94	STRENGTH T-11		0.238756
119.9	STRENGTH T-11		0.237682
119.9	STRENGTH T-11		0.234501
120	STRENGTH T-11		0.229213
0	STRENGTH T-11		0.548672
0.1	STRENGTH T-11		0.550312
0.1	STRENGTH T-11		0.550604
24.06	STRENGTH T-11		0.549548
48.02	STRENGTH T-11		0.547143
71.98	STRENGTH T-11		0.54339
95.94	STRENGTH T-12		0.185499
119.9	STRENGTH T-12		0.165305
119.9	STRENGTH T-12		0.143595
120	STRENGTH T-12		0.120367
0	STRENGTH T-12		0.095624
0.1	STRENGTH T-12		0.069362
0.1	STRENGTH T-12		0.360786
24.06	STRENGTH T-12		0.355258
48.02	STRENGTH T-12		0.348383
71.98	STRENGTH T-12		0.340159
95.94	STRENGTH T-12		0.330587
119.9	STRENGTH T-12		0.319666
119.9	STRENGTH T-12		0.230464
120	STRENGTH T-12		0.207852
0	STRENGTH T-12		0.183133
0.1	STRENGTH T-12		0.156307
0.1	STRENGTH T-12		0.127376
24.06	STRENGTH T-12		0.096337

Compression Data			
			Combined compression and flexure AASHTO 6.9.2.2-1/2
Location	Load Case	Frame #	
ft			

48.02	STRENGTH T-12	0.430727
71.98	STRENGTH T-12	0.423049
95.94	STRENGTH T-12	0.413499
119.9	STRENGTH T-12	0.402077
119.9	STRENGTH T-12	0.388782
120	STRENGTH T-12	0.373615
0	STRENGTH T-12	0.166983
0.1	STRENGTH T-12	0.133041
0.1	STRENGTH T-12	0.102803
24.06	STRENGTH T-12	0.07271
48.02	STRENGTH T-12	0.041619
71.98	STRENGTH T-12	0.009047
95.94	STRENGTH T-12	0.067542
119.9	STRENGTH T-12	0.058932
119.9	STRENGTH T-12	0.049289
120	STRENGTH T-12	0.038479
0	STRENGTH T-12	0.026414
0.1	STRENGTH T-12	0.013033

Diagonal Members

Design Inputs

Property (Select from dropdown)	Section	W10X33	Unit
Zx		38.8	in
A		9.71	in ²
h/tw		27.1	
ddet		9.75	
d		9.73	in
ry		1.94	in
ix		171	in ⁴
tw		0.29	in
bf		7.96	in
tf		0.435	in
Sy		9.2	in ³
Zy		14	in ³

Choose section from left dropdown

radius of gyration about the axis normal to the plane of buckling

Mat. Props	
Steel	A709 Gr. 50
Fy	50
Fu	70

Design Check Summary

D/C _{PM}	4.02E-18
D/C _{tension}	0.420972
D/C _{compression}	0.904087
D/C _{shear}	4.02E-18
D/C _{flexure}	2.08E-17

Mat Prop	Units	Definition/ AASHTO code reference
K	1	C4.6.2.5.1
ℓ	1.70 in	unbraced length in plane of buckling, in
E	29000 ksi	
Fy	50 ksi	specified minimum yield strength of steel/pin/pin plate
Fu	65 ksi	
φ _c	0.9	6.5.4.2
φ _u	0.8	6.5.4.2
φ _y	0.95	6.5.4.2
φ _v	1	6.5.4.2
φ _f	1	6.5.4.2
Rp	1	6.8.2.1
U	1	
Q	1	

For shear
C 5

Compression Data				Material/Section Properties										General(6.9.4.1.1)		
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000	Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling	Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1
in			P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _n kips	P _n kips	P _n kips
0 STRENGTH_I-Min	D-1	D-1	-88.047	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-1	D-1	-88.229	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Min	D-1	D-1	-88.41	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Min	D-1	D-1	-190.578	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-1	D-1	-190.759	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Min	D-1	D-1	-190.941	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Max	D-1	D-1	-122.288	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Max	D-1	D-1	-122.54	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Max	D-1	D-1	-122.792	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Max	D-1	D-1	-224.819	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Max	D-1	D-1	-225.071	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Max	D-1	D-1	-225.323	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I	D-1	D-1	-88.047	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I	D-1	D-1	-88.229	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I	D-1	D-1	-88.41	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I	D-1	D-1	-224.819	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I	D-1	D-1	-225.071	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I	D-1	D-1	-225.323	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Min	D-2	D-2	161.18	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-2	D-2	161.361	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Min	D-2	D-2	161.543	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Min	D-2	D-2	72.633	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-2	D-2	72.814	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Min	D-2	D-2	72.996	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Max	D-2	D-2	189.867	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Max	D-2	D-2	190.119	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Max	D-2	D-2	190.371	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Max	D-2	D-2	101.32	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Max	D-2	D-2	101.572	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Max	D-2	D-2	101.824	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I	D-2	D-2	189.867	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919

Compression Data				Material/Section Properties										General(6.9.4.1.1)				
Location	Load Case	Load Case	Frame #	P	M3	V2		A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n
In				kip	kip*in	kip		in ²	ksi	ksi		ksi		in	in	kip	kip	kip
84.853 STRENGTH_1		D-2		190.119	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-2		190.371	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-2		72.633	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-2		72.814	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-2		72.996	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-2		133.203	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-3		133.384	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-3		133.566	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-3		56.443	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-3		56.611	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-3		56.793	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-3		156.522	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-3		156.774	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-3		157.026	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-3		79.749	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-3		80.001	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-3		80.253	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-3		156.522	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-3		156.774	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-3		157.026	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-3		56.443	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-3		56.611	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-3		56.793	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-4		108.287	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-4		108.468	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-4		108.649	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-4		40.881	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-4		41.063	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-4		41.244	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1		D-4		126.577	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1		D-4		126.829	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1		D-4		127.081	0	0		9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919

Compression Data				Material/Section Properties										General(6.9.4.1.1)		
Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_n	P_n	P_n
In			kips	Kip*in	kips	in ²	Ksi	Ksi		Ksi		in	in	kips	kips	kips
0 STRENGTH_I-Max	D-4		59.172	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Max	D-4		59.474	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Max	D-4		59.675	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I	D-4		126.577	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I	D-4		126.829	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I	D-4		127.081	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I	D-4		40.881	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I	D-4		41.063	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I	D-4		41.244	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Min	D-5		83.368	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-5		83.549	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Min	D-5		83.731	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Min	D-5		24.375	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-5		24.556	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Min	D-5		24.738	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Max	D-5		96.388	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Max	D-5		96.64	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Max	D-5		96.892	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Max	D-5		37.395	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Max	D-5		37.647	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Max	D-5		37.899	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I	D-5		96.388	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I	D-5		96.64	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I	D-5		96.892	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I	D-5		24.375	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I	D-5		24.556	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I	D-5		24.738	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Min	D-6		59.755	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-6		59.936	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_I-Min	D-6		60.118	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_I-Min	D-6		5.753	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_I-Min	D-6		5.934	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Load Case	Frame #	P	M3	VZ	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n
In				kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips
169.706	STRENGTH_1-Min	D-6		6.115	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1-Max	D-6		67.557	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1-Max	D-6		67.809	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1-Max	D-6		68.061	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1-Max	D-6		13.554	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1-Max	D-6		13.806	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1-Max	D-6		14.058	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1	D-6		67.557	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1	D-6		67.809	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1	D-6		68.061	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1	D-6		5.753	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1	D-6		5.934	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1	D-6		6.115	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1-Min	D-7		37.97	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1-Min	D-7		37.789	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1-Min	D-7		37.608	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1-Min	D-7		-14.146	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1-Min	D-7		-14.328	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1-Min	D-7		-14.509	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1-Max	D-7		40.662	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1-Max	D-7		40.41	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1-Max	D-7		40.158	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1-Max	D-7		-11.454	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1-Max	D-7		-11.706	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1-Max	D-7		-11.958	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1	D-7		40.662	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1	D-7		40.41	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1	D-7		40.158	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1	D-7		-14.146	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_1	D-7		-14.328	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_1	D-7		-14.509	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_1-Min	D-8		35.391	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919

Compression Data						Material/Section Properties										General(6.9.4.1.1)		
Location	Load Case	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _e	P _e	P _n	
in				kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
84.853 STRENGTH_I-Min	D-8			35.572	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Min	D-8			35.753	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I-Min	D-8			-16.725	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I-Min	D-8			-16.544	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Min	D-8			-16.363	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I-Min	D-8			37.942	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I-Max	D-8			38.194	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Max	D-8			38.445	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I-Max	D-8			-14.174	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I-Max	D-8			-13.922	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Max	D-8			-13.671	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I-Max	D-8			37.942	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I	D-8			38.194	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I	D-8			38.445	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I	D-8			-16.725	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I	D-8			-16.544	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I	D-8			-16.363	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I	D-8			57.566	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I-Min	D-9			57.747	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Min	D-9			57.928	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I-Min	D-9			3.562	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I-Min	D-9			3.743	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Min	D-9			3.925	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I-Max	D-9			65.367	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I-Max	D-9			65.619	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Max	D-9			65.871	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I-Max	D-9			11.363	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I-Max	D-9			11.615	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I-Max	D-9			11.867	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
0 STRENGTH_I	D-9			65.367	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
84.853 STRENGTH_I	D-9			65.619	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	
169.706 STRENGTH_I	D-9			65.871	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919	

Compression Data				Material/Section Properties										General(6.9.4.1.1)																															
Location	Load Case	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n																												
in				kips	Kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips																												
				Calculated axial forces experienced by member imported from SAP2000			Calculated moment experienced by member imported from SAP2000			Calculated shear experienced by member imported from SAP2000			Gross area of section			Yield strength of steel			Ultimate strength of steel			Slender element reduction factor, 6.9.4.2			Modulus of elasticity of steel			AASHTO LRFD C4.6.2.5.1			Unbraces length in the plane of buckling			Radius of gyration about the axis normal to the plane of buckling			Equivalent nominal yield resistance, 6.9.4.1.1			Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1			Nominal compressive resistance, 6.9.4.1.1		
	0 STRENGTH_I	D-9		3.562	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I	D-9		3.743	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I	D-9		3.925	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Min	D-10		81.163	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Min	D-10		81.344	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I-Min	D-10		81.526	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Min	D-10		22.175	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Min	D-10		22.357	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I-Min	D-10		22.538	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Max	D-10		94.435	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Max	D-10		94.687	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I-Max	D-10		94.870	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Max	D-10		35.195	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Max	D-10		35.447	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I-Max	D-10		35.699	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I	D-10		94.183	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I	D-10		94.435	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I	D-10		94.687	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I	D-10		22.175	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I	D-10		22.357	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I	D-10		22.538	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Min	D-11		106.082	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Min	D-11		106.263	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I-Min	D-11		106.445	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Min	D-11		39.859	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Min	D-11		40.041	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I-Min	D-11		40.222	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Max	D-11		124.372	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Max	D-11		124.624	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	169.706 STRENGTH_I-Max	D-11		124.876	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	0 STRENGTH_I-Max	D-11		58.15	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												
	84.853 STRENGTH_I-Max	D-11		58.402	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919																												

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _s	P _e	P _n
In				kips	k/ft ³ in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips
169.706	STRENGTH_I-Max	D-11		58.654	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I	D-11		124.372	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I	D-11		124.624	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I	D-11		124.876	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I	D-11		39.859	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I	D-11		40.041	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I	D-11		40.222	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I-Min	D-12		131.012	0	-3.4E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I-Min	D-12		131.194	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I-Min	D-12		131.375	0	3.44E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I-Min	D-12		55.785	0	-3.4E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I-Min	D-12		55.967	0	1.03E-14	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I-Min	D-12		56.148	0	3.44E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I-Max	D-12		154.331	0	-4.8E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I-Max	D-12		154.583	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I-Max	D-12		154.835	0	4.77E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I-Max	D-12		79.104	0	-4.8E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I-Max	D-12		79.356	0	1.43E-14	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I-Max	D-12		79.608	0	4.77E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I	D-12		154.331	0	-3.4E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I	D-12		154.583	0	1.43E-14	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I	D-12		154.835	0	4.77E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I	D-12		55.785	0	-4.8E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I	D-12		55.967	0	1.03E-14	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I	D-12		56.148	0	3.44E-16	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I-Min	D-13		164.971	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I-Min	D-13		165.152	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I-Min	D-13		165.334	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I-Min	D-13		72.51	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853	STRENGTH_I-Min	D-13		72.692	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706	STRENGTH_I-Min	D-13		72.873	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
	0 STRENGTH_I-Max	D-13		193.659	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919

Compression Data				Material/Section Properties										General(6.9.4.1.1)			
Location	Load Case	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _e	P _e	P _n
in				kips	kip*in	kips	in ²	Ksi	Ksi		Ksi		in	in	kips	kips	kips
84.853 STRENGTH_1-Max	D-13	D-13		193.911	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1-Max	D-13	D-13		194.163	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1-Max	D-13	D-13		101.198	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1-Max	D-13	D-13		101.45	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1-Max	D-13	D-13		101.702	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1	D-13	D-13		193.659	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1	D-13	D-13		193.911	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1	D-13	D-13		194.163	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1	D-13	D-13		72.51	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1	D-13	D-13		72.692	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1	D-13	D-13		72.873	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1-Min	D-14	D-14		-88.41	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1-Min	D-14	D-14		-88.229	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1-Min	D-14	D-14		-88.047	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1-Min	D-14	D-14		-209.318	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1-Min	D-14	D-14		-209.136	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1-Min	D-14	D-14		-208.955	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1-Max	D-14	D-14		-122.792	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1-Max	D-14	D-14		-122.54	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1-Max	D-14	D-14		-122.288	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1-Max	D-14	D-14		-243.7	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1-Max	D-14	D-14		-243.448	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1-Max	D-14	D-14		-243.196	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1	D-14	D-14		-88.41	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1	D-14	D-14		-88.229	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1	D-14	D-14		-88.047	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
0 STRENGTH_1	D-14	D-14		-243.7	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
84.853 STRENGTH_1	D-14	D-14		-243.448	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919
169.706 STRENGTH_1	D-14	D-14		-243.196	0	0	9.71	50	65	1	29000	1	170	1.94	485.5	361.9283	276.919

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE						
Location	Load Case	Load Case	ϕ_y	P_t kips	P_u kips	$D/C_{tension}$	ϕ_c	P_c kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	F_y ksi	S_x in^3	Z_x in^3	λ_c	λ_{pF}
0 STRENGTH_1-Min	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	88.047	0.35328	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Min	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	88.229	0.35401	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Min	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	88.41	0.354737	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1-Min	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	190.578	0.764676	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Min	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	190.759	0.765402	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Min	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	190.941	0.766133	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1-Min	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	122.288	0.490669	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Max	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	122.54	0.49168	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Max	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	122.792	0.492691	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1-Max	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	224.819	0.902065	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Max	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	225.071	0.903076	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Max	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	225.323	0.904087	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	88.047	0.35328	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	88.229	0.35401	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	88.41	0.354737	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	224.819	0.902065	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	225.071	0.903076	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1	D-1	D-1	0.95	461.225	0	0	0.9	249.2271	225.323	0.904087	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1-Min	D-2	D-2	0.95	461.225	161.18	0.349461	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Min	D-2	D-2	0.95	461.225	161.361	0.349853	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Min	D-2	D-2	0.95	461.225	161.543	0.350248	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1-Min	D-2	D-2	0.95	461.225	72.633	0.157478	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Min	D-2	D-2	0.95	461.225	72.814	0.157871	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Min	D-2	D-2	0.95	461.225	72.996	0.158265	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1-Min	D-2	D-2	0.95	461.225	189.867	0.411658	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Max	D-2	D-2	0.95	461.225	190.371	0.412204	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Max	D-2	D-2	0.95	461.225	190.371	0.412751	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1-Max	D-2	D-2	0.95	461.225	101.32	0.219676	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_1-Max	D-2	D-2	0.95	461.225	101.572	0.220222	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_1-Max	D-2	D-2	0.95	461.225	101.824	0.220769	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_1	D-2	D-2	0.95	461.225	189.867	0.411658	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE						
Location	Load Case	Load Case	ϕ_y	P_r kips	P_u kips	$D/C_{tension}$	ϕ_c	P_r kips	P_u kips	Compression	b_f in	t_f in	F_y ksi	S_y in ³	Z_y in ³	λ_f	λ_{pl}
84.853 STRENGTH_I	D-2	D-2	0.95	461.225	190.119	0.412204	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-2	D-2	0.95	461.225	190.371	0.412751	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-2	D-2	0.95	461.225	72.633	0.157478	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-2	D-2	0.95	461.225	72.814	0.157871	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-2	D-2	0.95	461.225	72.996	0.158265	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-3	D-3	0.95	461.225	133.203	0.288803	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-3	D-3	0.95	461.225	133.384	0.289195	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-3	D-3	0.95	461.225	133.566	0.28959	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-3	D-3	0.95	461.225	56.643	0.122348	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-3	D-3	0.95	461.225	56.611	0.122741	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-3	D-3	0.95	461.225	56.793	0.123135	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-3	D-3	0.95	461.225	156.522	0.339361	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-3	D-3	0.95	461.225	156.774	0.339908	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-3	D-3	0.95	461.225	157.026	0.340454	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-3	D-3	0.95	461.225	79.749	0.172907	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-3	D-3	0.95	461.225	80.001	0.173453	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-3	D-3	0.95	461.225	80.253	0.174	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-3	D-3	0.95	461.225	156.522	0.339361	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-3	D-3	0.95	461.225	156.774	0.339908	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-3	D-3	0.95	461.225	157.026	0.340454	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-3	D-3	0.95	461.225	56.643	0.122348	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-3	D-3	0.95	461.225	56.611	0.122741	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-3	D-3	0.95	461.225	56.793	0.123135	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-4	D-4	0.95	461.225	108.287	0.234781	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-4	D-4	0.95	461.225	108.469	0.235174	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-4	D-4	0.95	461.225	108.649	0.235566	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-4	D-4	0.95	461.225	40.881	0.088636	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-4	D-4	0.95	461.225	41.063	0.08903	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-4	D-4	0.95	461.225	41.244	0.089423	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-4	D-4	0.95	461.225	126.577	0.274437	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-4	D-4	0.95	461.225	126.829	0.274983	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-4	D-4	0.95	461.225	127.081	0.275529	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE									
Location	Load Case	Load Case	ϕ_y	P_r	P_u	$D/C_{tension}$			ϕ_c	P_r	P_u	Compression		Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4
In	Frame #	Frame #		kips	kips				kips	kips				In	In	Ksi	In ³	In ³	λ_c	λ_{pl}
0 STRENGTH_I-Max	D-4	D-4	0.95	461.225	59.172	0.128293			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I-Max	D-4	D-4	0.95	461.225	59.424	0.12884			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I-Max	D-4	D-4	0.95	461.225	59.675	0.129384			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-4	D-4	0.95	461.225	126.577	0.274437			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-4	D-4	0.95	461.225	126.829	0.274983			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-4	D-4	0.95	461.225	127.081	0.275529			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-4	D-4	0.95	461.225	40.881	0.088636			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-4	D-4	0.95	461.225	41.063	0.08903			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-4	D-4	0.95	461.225	41.244	0.089423			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I-Min	D-5	D-5	0.95	461.225	83.368	0.180753			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I-Min	D-5	D-5	0.95	461.225	83.549	0.181146			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I-Min	D-5	D-5	0.95	461.225	83.731	0.18154			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I-Min	D-5	D-5	0.95	461.225	24.375	0.052848			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I-Min	D-5	D-5	0.95	461.225	24.556	0.053241			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I-Min	D-5	D-5	0.95	461.225	24.738	0.053635			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I-Max	D-5	D-5	0.95	461.225	96.388	0.208983			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I-Max	D-5	D-5	0.95	461.225	96.64	0.209529			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I-Max	D-5	D-5	0.95	461.225	96.892	0.210075			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-5	D-5	0.95	461.225	37.395	0.081078			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-5	D-5	0.95	461.225	37.647	0.081624			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-5	D-5	0.95	461.225	37.899	0.08217			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-5	D-5	0.95	461.225	96.388	0.208983			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-5	D-5	0.95	461.225	96.64	0.209529			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-5	D-5	0.95	461.225	96.892	0.210075			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-5	D-5	0.95	461.225	24.375	0.052848			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-5	D-5	0.95	461.225	24.556	0.053241			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-5	D-5	0.95	461.225	24.738	0.053635			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I-Min	D-6	D-6	0.95	461.225	59.755	0.129557			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I-Min	D-6	D-6	0.95	461.225	59.936	0.12995			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I-Min	D-6	D-6	0.95	461.225	60.118	0.130344			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I-Min	D-6	D-6	0.95	461.225	5.753	0.012473			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I-Min	D-6	D-6	0.95	461.225	5.934	0.012866			0.9	249.2271	0	0		7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE						
Location	Load Case	Load Case Frame #	ϕ_y	P_r kips	P_u kips	$D/C_{tension}$	ϕ_c	P_r kips	P_u kips	$C_{compression}$	b_f in	t_f in	F_y Ksi	S_y in ³	Z_y in ³	λ_c	λ_{pd}
169.706	STRENGTH_I-Min	D-6	0.95	461.225	6.115	0.013258	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I-Max	D-6	0.95	461.225	67.557	0.146473	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Max	D-6	0.95	461.225	67.809	0.147019	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Max	D-6	0.95	461.225	68.061	0.147566	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I-Max	D-6	0.95	461.225	13.554	0.029387	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Max	D-6	0.95	461.225	13.806	0.029933	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Max	D-6	0.95	461.225	14.058	0.03048	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I	D-6	0.95	461.225	67.557	0.146473	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-6	0.95	461.225	67.809	0.147019	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-6	0.95	461.225	68.061	0.147566	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I	D-6	0.95	461.225	5.753	0.012473	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-6	0.95	461.225	5.934	0.012866	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-6	0.95	461.225	6.115	0.013258	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I-Min	D-7	0.95	461.225	37.97	0.082324	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Min	D-7	0.95	461.225	37.789	0.081932	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Min	D-7	0.95	461.225	37.508	0.081539	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I-Min	D-7	0.95	461.225	0	0	0.9	249.2271	14.146	0.056759	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Min	D-7	0.95	461.225	0	0	0.9	249.2271	14.328	0.05749	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Min	D-7	0.95	461.225	0	0	0.9	249.2271	14.509	0.058216	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I-Max	D-7	0.95	461.225	40.662	0.088161	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Max	D-7	0.95	461.225	40.41	0.087615	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Max	D-7	0.95	461.225	40.158	0.087068	0.9	249.2271	11.454	0.045958	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I-Max	D-7	0.95	461.225	0	0	0.9	249.2271	11.706	0.046969	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Max	D-7	0.95	461.225	0	0	0.9	249.2271	11.958	0.04798	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Max	D-7	0.95	461.225	0	0	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I	D-7	0.95	461.225	40.662	0.088161	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-7	0.95	461.225	40.41	0.087615	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-7	0.95	461.225	40.158	0.087068	0.9	249.2271	14.146	0.056759	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I	D-7	0.95	461.225	0	0	0.9	249.2271	14.328	0.05749	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-7	0.95	461.225	0	0	0.9	249.2271	14.509	0.058216	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-7	0.95	461.225	0	0	0.9	249.2271	14.509	0.058216	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_I-Min	D-8	0.95	461.225	35.591	0.076733	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data				Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE						
Location	Load Case	Load Case	Frame #	ϕ_y	P_t	P_u	$D_{\text{Compression}}$	ϕ_c	P_c	P_u	Compression	b_f	t_f	F_y	S_x	Z_x	λ_c	λ_{pl}
				Resistance factor for tension, yielding in gross section, 6.5.4.2	Factored tensile resistance, only considering gross section yielding 6.8.2.1-1	Axial tension experienced by member under factored loads		Resistance factor for compression, AASHTO LRFD 6.5.4.2	Factored compressive resistance, 6.9.2.1-1	Axial compression experienced by member under factored loads		Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4
84.853	STRENGTH_LMin	D-8		0.95	461.225	35.572	0.077125	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMin	D-8		0.95	461.225	35.753	0.077517	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_LMin	D-8		0.95	461.225	0	0	0.9	249.2271	16.725	0.067107	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_LMin	D-8		0.95	461.225	0	0	0.9	249.2271	16.544	0.066381	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMin	D-8		0.95	461.225	0	0	0.9	249.2271	16.363	0.065655	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_LMin	D-8		0.95	461.225	37.942	0.082264	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_LMax	D-8		0.95	461.225	38.194	0.08281	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMax	D-8		0.95	461.225	38.445	0.083354	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_LMax	D-8		0.95	461.225	0	0	0.9	249.2271	14.174	0.056872	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_LMax	D-8		0.95	461.225	0	0	0.9	249.2271	13.922	0.055861	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMax	D-8		0.95	461.225	0	0	0.9	249.2271	13.671	0.054854	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_L	D-8		0.95	461.225	37.942	0.082264	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_L	D-8		0.95	461.225	38.194	0.08281	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_L	D-8		0.95	461.225	38.445	0.083354	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_L	D-8		0.95	461.225	0	0	0.9	249.2271	16.544	0.066381	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_L	D-8		0.95	461.225	0	0	0.9	249.2271	16.363	0.065655	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_L	D-8		0.95	461.225	0	0	0.9	249.2271	16.363	0.065655	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_LMin	D-9		0.95	461.225	57.566	0.124811	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_LMin	D-9		0.95	461.225	57.747	0.125204	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMin	D-9		0.95	461.225	57.928	0.125596	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_LMin	D-9		0.95	461.225	3.562	0.007723	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_LMin	D-9		0.95	461.225	3.743	0.008115	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMin	D-9		0.95	461.225	3.925	0.00851	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_LMax	D-9		0.95	461.225	65.367	0.141725	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_LMax	D-9		0.95	461.225	65.619	0.142271	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMax	D-9		0.95	461.225	65.871	0.142817	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_LMax	D-9		0.95	461.225	11.363	0.024637	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_LMax	D-9		0.95	461.225	11.615	0.025183	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_LMax	D-9		0.95	461.225	11.867	0.025729	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
	0 STRENGTH_L	D-9		0.95	461.225	65.367	0.141725	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_L	D-9		0.95	461.225	65.619	0.142271	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_L	D-9		0.95	461.225	65.871	0.142817	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data			Tension (6.8.2)					COMPRESSION (6.9)					FLEXURE				
Location	Load Case	Load Case Frame #	ϕ_t	P_u kips	P_u kips	D/C _{tension}	ϕ_c	P_u kips	P_u kips	Compression	Flange width b_f in	Flange thickness t_f in	F_y ksi	S_y in ³	Z_y in ³	λ_r	λ_{pF}
84.853 STRENGTH_I	D-9	D-9	0.95	461.225	3.562	0.007723	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-9	D-9	0.95	461.225	3.743	0.008115	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-9	D-9	0.95	461.225	3.925	0.00851	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-10	D-10	0.95	461.225	81.163	0.175973	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-10	D-10	0.95	461.225	81.344	0.176365	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-10	D-10	0.95	461.225	81.526	0.17676	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-10	D-10	0.95	461.225	22.175	0.048078	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-10	D-10	0.95	461.225	22.357	0.048473	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-10	D-10	0.95	461.225	22.538	0.048866	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-10	D-10	0.95	461.225	94.183	0.204202	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-10	D-10	0.95	461.225	94.435	0.204748	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-10	D-10	0.95	461.225	94.687	0.205295	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-10	D-10	0.95	461.225	35.195	0.076308	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-10	D-10	0.95	461.225	35.447	0.076854	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-10	D-10	0.95	461.225	35.699	0.0774	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-10	D-10	0.95	461.225	94.183	0.204202	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-10	D-10	0.95	461.225	94.435	0.204748	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-10	D-10	0.95	461.225	94.687	0.205295	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-10	D-10	0.95	461.225	22.175	0.048078	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-10	D-10	0.95	461.225	22.357	0.048473	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-10	D-10	0.95	461.225	22.538	0.048866	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-11	D-11	0.95	461.225	106.682	0.230001	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-11	D-11	0.95	461.225	106.263	0.230393	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-11	D-11	0.95	461.225	106.445	0.230788	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-11	D-11	0.95	461.225	39.859	0.08642	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-11	D-11	0.95	461.225	40.041	0.086814	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-11	D-11	0.95	461.225	40.222	0.087207	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-11	D-11	0.95	461.225	124.624	0.269656	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-11	D-11	0.95	461.225	124.876	0.270202	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-11	D-11	0.95	461.225	124.876	0.270749	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-11	D-11	0.95	461.225	58.15	0.126077	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-11	D-11	0.95	461.225	58.402	0.126624	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data			Tension (6.8.2)					COMPRESSION (6.9)					FLEXURE				
Location	Load Case	Frame #	ϕ_t	P_u kips	P_u kips	D/C _{tension}	ϕ_c	P_u kips	P_u kips	Compression	Flange width b _f in	Flange thickness t _f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F _y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S _y in ³	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z _y in ³	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_y	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{yf}
169.706	STRENGTH_I-Max	D-11	0.95	461.225	58.654	0.12717	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I	D-11	0.95	461.225	124.372	0.269656	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-11	0.95	461.225	124.624	0.270202	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-11	0.95	461.225	124.876	0.270749	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I	D-11	0.95	461.225	39.859	0.08642	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-11	0.95	461.225	40.041	0.086814	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-11	0.95	461.225	40.222	0.087207	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I-Min	D-12	0.95	461.225	131.012	0.284052	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Min	D-12	0.95	461.225	131.194	0.284447	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Min	D-12	0.95	461.225	131.375	0.284839	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I-Min	D-12	0.95	461.225	55.785	0.120955	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Min	D-12	0.95	461.225	55.967	0.121344	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Min	D-12	0.95	461.225	56.148	0.121737	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I-Max	D-12	0.95	461.225	154.331	0.334611	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Max	D-12	0.95	461.225	154.583	0.335157	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Max	D-12	0.95	461.225	154.835	0.335704	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I-Max	D-12	0.95	461.225	79.104	0.171508	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Max	D-12	0.95	461.225	79.356	0.172055	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Max	D-12	0.95	461.225	79.608	0.172601	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I	D-12	0.95	461.225	154.331	0.334611	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-12	0.95	461.225	154.583	0.335157	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-12	0.95	461.225	154.835	0.335704	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I	D-12	0.95	461.225	55.785	0.120955	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I	D-12	0.95	461.225	55.967	0.121347	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I	D-12	0.95	461.225	56.148	0.121737	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I-Min	D-13	0.95	461.225	164.971	0.35768	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Min	D-13	0.95	461.225	165.152	0.358073	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Min	D-13	0.95	461.225	165.334	0.358467	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I-Min	D-13	0.95	461.225	72.51	0.157212	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853	STRENGTH_I-Min	D-13	0.95	461.225	72.692	0.157606	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706	STRENGTH_I-Min	D-13	0.95	461.225	72.873	0.157999	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0	STRENGTH_I-Max	D-13	0.95	461.225	193.659	0.419888	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data			Tension (6.8.2)				COMPRESSION (6.9)				FLEXURE						
Location	Load Case	Load Case	ϕ_y	P_t	P_u	$D/C_{tension}$	ϕ_c	P_t	P_u	$C_{compression}$	Flange width	Flange thickness	F_y	S_x	Z_x	Slenderness ratio for the compression flange,	Limiting slenderness ratio for a compact flange,
in		Frame #		kips	kips			kips	kips		in	in	ksi	in ³	in ³	6.10.8.2.2-3	6.12.2.2.1-4
84.853 STRENGTH_I_Max	D-13	D-13	0.95	461.225	193.911	0.420426	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I_Max	D-13	D-13	0.95	461.225	194.163	0.420972	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I_Max	D-13	D-13	0.95	461.225	101.198	0.219411	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I_Max	D-13	D-13	0.95	461.225	101.45	0.219958	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I_Max	D-13	D-13	0.95	461.225	101.702	0.220504	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-13	D-13	0.95	461.225	193.659	0.41988	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-13	D-13	0.95	461.225	193.911	0.420426	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-13	D-13	0.95	461.225	194.163	0.420972	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-13	D-13	0.95	461.225	72.51	0.157212	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-13	D-13	0.95	461.225	72.692	0.157606	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-13	D-13	0.95	461.225	72.873	0.157999	0.9	249.2271	0	0	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I_Min	D-14	D-14	0.95	461.225	0	0	1.9	526.1461	88.41	0.168033	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I_Min	D-14	D-14	0.95	461.225	0	0	2.9	803.0651	88.229	0.109865	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I_Min	D-14	D-14	0.95	461.225	0	0	3.9	1079.984	88.047	0.081526	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I_Min	D-14	D-14	0.95	461.225	0	0	4.9	1356.903	209.318	0.154262	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I_Min	D-14	D-14	0.95	461.225	0	0	5.9	1633.822	209.136	0.128004	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I_Min	D-14	D-14	0.95	461.225	0	0	6.9	1910.741	208.955	0.109358	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I_Max	D-14	D-14	0.95	461.225	0	0	7.9	2187.66	122.792	0.056129	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I_Max	D-14	D-14	0.95	461.225	0	0	8.9	2464.579	122.54	0.04972	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I_Max	D-14	D-14	0.95	461.225	0	0	9.9	2741.498	122.288	0.044606	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I_Max	D-14	D-14	0.95	461.225	0	0	10.9	3018.417	243.7	0.080738	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I_Max	D-14	D-14	0.95	461.225	0	0	11.9	3295.336	243.448	0.073877	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I_Max	D-14	D-14	0.95	461.225	0	0	12.9	3572.255	243.196	0.068079	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-14	D-14	0.95	461.225	0	0	13.9	3849.174	88.41	0.022969	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-14	D-14	0.95	461.225	0	0	14.9	4126.093	88.229	0.021383	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-14	D-14	0.95	461.225	0	0	15.9	4403.012	88.047	0.019997	7.96	0.435	50	9.2	14	9.149425	9.151612
0 STRENGTH_I	D-14	D-14	0.95	461.225	0	0	16.9	4679.931	243.7	0.052073	7.96	0.435	50	9.2	14	9.149425	9.151612
84.853 STRENGTH_I	D-14	D-14	0.95	461.225	0	0	17.9	4956.85	243.448	0.049113	7.96	0.435	50	9.2	14	9.149425	9.151612
169.706 STRENGTH_I	D-14	D-14	0.95	461.225	0	0	18.9	5233.769	243.196	0.046467	7.96	0.435	50	9.2	14	9.149425	9.151612

Compression Data				(6.12.2.1)										Shear (6.10.9)									
Location	Load Case	Load Case	Frame #	λ_r	M_p	M_n	ϕ_r	ϕ^*M_n	M_u	$D/C_{flexure}$	F_{yw}	E	D	t_w	k	C	V_p	V_n	ϕ_v	$\phi_v V_n$			
				Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1	Resistance factor for flexure, 6.5.4.2					specified minimum yield strength of the lower strength flange, AASHTO 6.12.2.2.1	Modulus of elasticity of steel	Overall depth of member	Web thickness	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2		Plastic shear force; AASHTO LRFD 6.10.9.2-2	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1	Resistance factor for shear; AASHTO LRFD 6.5.4.2				
0 STRENGTH_1-Max	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1-Max	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1-Max	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1	D-4	D-4		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1-Min	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1-Min	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1-Min	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1-Max	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1-Max	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1-Max	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1	D-5	D-5		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1	D-6	D-6		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1	D-6	D-6		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
169.706 STRENGTH_1	D-6	D-6		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
0 STRENGTH_1	D-6	D-6		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			
84.853 STRENGTH_1	D-6	D-6		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	1	118.8284			

Compression Data				(6.12.2.1)													Shear (6.10.9)					
Location	Load Case	Load Case	Frame #	λ_{pl}	M_u kip*in	M_n kip*in	Resistance factor for flexure, 6.5.4.2	ϕ	ϕ^*M_n	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	Modulus of elasticity of steel	Overall depth of member	Web thickness	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	V_p kip	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1	V_n kip	Resistance factor for shear; AASHTO LRFD 6.5.4.2	$\phi_v V_n$ kip
169.706 STRENGTH_I-Max	D-11	D-11	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I	D-11	D-11	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I	D-11	D-11	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I	D-11	D-11	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I	D-11	D-11	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I	D-11	D-11	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I	D-11	D-11	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I-Min	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I-Min	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I-Min	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I-Max	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I-Max	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I-Max	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I-Max	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I-Max	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I-Max	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I	D-12	D-12	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I-Min	D-13	D-13	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
84.853 STRENGTH_I-Min	D-13	D-13	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
169.706 STRENGTH_I-Min	D-13	D-13	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284
0 STRENGTH_I-Max	D-13	D-13	19.98905	19.98905	690	690	1	690	0	0	0	50	29000	27.1	0.29	5	0.521381	227.911	118.8284	118.8284	1	118.8284

Compression Data		(6.12.2.1)										Shear (6.10.9)									
Location	Load Case	Frame #	λ_r	M_p	M_n	Resistance factor for flexure, 6.5.4.2	ϕ_t	$\phi_t M_n$	M_u	$D/C_{flexure}$	specified minimum yield strength of the lower strength flange, AASHTO 6.12.2.2.1	Modulus of elasticity of steel	Overall depth of member	Web thickness	Assumed shear buckling coefficient for unstiffened webs; AASHTO LRFD 6.10.9.2	C	Plastic shear force; AASHTO LRFD 6.10.9.2-2	Nominal shear resistance; AASHTO LRFD 6.10.9.2-1	Resistance factor for shear; AASHTO LRFD 6.5.4.2	$\phi_v V_n$	
in				kip*in	kip*in	N/A		kip*in			ksi	ksi	in	in			kip	kip	N/A	kip	
84.853 STRENGTH_I-Max	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
169.706 STRENGTH_I-Max	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
0 STRENGTH_I-Max	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
84.853 STRENGTH_I-Max	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
169.706 STRENGTH_I-Max	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
0 STRENGTH_I-Max	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
84.853 STRENGTH_I	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
169.706 STRENGTH_I	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
0 STRENGTH_I	D-13		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	5	0.521381	227.911	227.911	118.8284	1	118.8284	
84.853 STRENGTH_I-Min	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	8	0.729933	227.911	227.911	166.3598	1	166.3598	
169.706 STRENGTH_I-Min	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	8	0.816405	227.911	227.911	186.0677	1	186.0677	
0 STRENGTH_I-Min	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	9	0.865928	227.911	227.911	197.3546	1	197.3546	
84.853 STRENGTH_I-Min	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	10	0.912769	227.911	227.911	208.03	1	208.03	
169.706 STRENGTH_I-Min	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	11	0.95732	227.911	227.911	218.1837	1	218.1837	
0 STRENGTH_I-Min	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	12	0.999888	227.911	227.911	227.8855	1	227.911	
84.853 STRENGTH_I-Max	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	14	1	227.911	227.911	227.911	1	227.911	
169.706 STRENGTH_I-Max	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	15	1	227.911	227.911	227.911	1	227.911	
0 STRENGTH_I-Max	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	16	1	227.911	227.911	227.911	1	227.911	
84.853 STRENGTH_I-Max	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	17	1	227.911	227.911	227.911	1	227.911	
169.706 STRENGTH_I-Max	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	18	1	227.911	227.911	227.911	1	227.911	
0 STRENGTH_I-Max	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	19	1	227.911	227.911	227.911	1	227.911	
84.853 STRENGTH_I	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	20	1	227.911	227.911	227.911	1	227.911	
169.706 STRENGTH_I	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	21	1	227.911	227.911	227.911	1	227.911	
0 STRENGTH_I	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	22	1	227.911	227.911	227.911	1	227.911	
84.853 STRENGTH_I	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	23	1	227.911	227.911	227.911	1	227.911	
169.706 STRENGTH_I	D-14		19.98905	690	690	1	690	0	0	50	29000	27.1	0.29	23	1	227.911	227.911	227.911	1	227.911	

Compression Data				
			Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1.1-1
Location	Load Case	Load Case	V_u	$(D/C)_v$
in		Frame #	kip	N/A
0	STRENGTH_I-Min	D-1	0	0
84.853	STRENGTH_I-Min	D-1	0	0
169.706	STRENGTH_I-Min	D-1	0	0
0	STRENGTH_I-Min	D-1	0	0
84.853	STRENGTH_I-Min	D-1	0	0
169.706	STRENGTH_I-Min	D-1	0	0
0	STRENGTH_I-Max	D-1	0	0
84.853	STRENGTH_I-Max	D-1	0	0
169.706	STRENGTH_I-Max	D-1	0	0
0	STRENGTH_I-Max	D-1	0	0
84.853	STRENGTH_I-Max	D-1	0	0
169.706	STRENGTH_I-Max	D-1	0	0
0	STRENGTH_I	D-1	0	0
84.853	STRENGTH_I	D-1	0	0
169.706	STRENGTH_I	D-1	0	0
0	STRENGTH_I	D-1	0	0
84.853	STRENGTH_I	D-1	0	0
169.706	STRENGTH_I	D-1	0	0
0	STRENGTH_I-Min	D-2	0	0
84.853	STRENGTH_I-Min	D-2	0	0
169.706	STRENGTH_I-Min	D-2	0	0
0	STRENGTH_I-Min	D-2	0	0
84.853	STRENGTH_I-Min	D-2	0	0
169.706	STRENGTH_I-Min	D-2	0	0
0	STRENGTH_I-Max	D-2	0	0
84.853	STRENGTH_I-Max	D-2	0	0
169.706	STRENGTH_I-Max	D-2	0	0
0	STRENGTH_I-Max	D-2	0	0
84.853	STRENGTH_I-Max	D-2	0	0
169.706	STRENGTH_I-Max	D-2	0	0
0	STRENGTH_I	D-2	0	0

Compression Data				
			Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1
Location	Load Case	Load Case	V_u	$(D/C)_v$
in		Frame #	kip	N/A
84.853	STRENGTH_I	D-2	0	0
169.706	STRENGTH_I	D-2	0	0
0	STRENGTH_I	D-2	0	0
84.853	STRENGTH_I	D-2	0	0
169.706	STRENGTH_I	D-2	0	0
0	STRENGTH_I-Min	D-3	0	0
84.853	STRENGTH_I-Min	D-3	0	0
169.706	STRENGTH_I-Min	D-3	0	0
0	STRENGTH_I-Min	D-3	0	0
84.853	STRENGTH_I-Min	D-3	0	0
169.706	STRENGTH_I-Min	D-3	0	0
0	STRENGTH_I-Max	D-3	0	0
84.853	STRENGTH_I-Max	D-3	0	0
169.706	STRENGTH_I-Max	D-3	0	0
0	STRENGTH_I-Max	D-3	0	0
84.853	STRENGTH_I-Max	D-3	0	0
169.706	STRENGTH_I-Max	D-3	0	0
0	STRENGTH_I	D-3	0	0
84.853	STRENGTH_I	D-3	0	0
169.706	STRENGTH_I	D-3	0	0
0	STRENGTH_I	D-3	0	0
84.853	STRENGTH_I	D-3	0	0
169.706	STRENGTH_I	D-3	0	0
0	STRENGTH_I-Min	D-4	0	0
84.853	STRENGTH_I-Min	D-4	0	0
169.706	STRENGTH_I-Min	D-4	0	0
0	STRENGTH_I-Min	D-4	0	0
84.853	STRENGTH_I-Min	D-4	0	0
169.706	STRENGTH_I-Min	D-4	0	0
0	STRENGTH_I-Max	D-4	0	0
84.853	STRENGTH_I-Max	D-4	0	0
169.706	STRENGTH_I-Max	D-4	0	0

Compression Data				
			Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1
Location	Load Case	Load Case	V_u	$(D/C)_v$
in		Frame #	kip	N/A
0	STRENGTH_I-Max	D-4	0	0
84.853	STRENGTH_I-Max	D-4	0	0
169.706	STRENGTH_I-Max	D-4	0	0
0	STRENGTH_I	D-4	0	0
84.853	STRENGTH_I	D-4	0	0
169.706	STRENGTH_I	D-4	0	0
0	STRENGTH_I	D-4	0	0
84.853	STRENGTH_I	D-4	0	0
169.706	STRENGTH_I	D-4	0	0
0	STRENGTH_I-Min	D-5	0	0
84.853	STRENGTH_I-Min	D-5	0	0
169.706	STRENGTH_I-Min	D-5	0	0
0	STRENGTH_I-Min	D-5	0	0
84.853	STRENGTH_I-Min	D-5	0	0
169.706	STRENGTH_I-Min	D-5	0	0
0	STRENGTH_I-Max	D-5	0	0
84.853	STRENGTH_I-Max	D-5	0	0
169.706	STRENGTH_I-Max	D-5	0	0
0	STRENGTH_I-Max	D-5	0	0
84.853	STRENGTH_I-Max	D-5	0	0
169.706	STRENGTH_I-Max	D-5	0	0
0	STRENGTH_I	D-5	0	0
84.853	STRENGTH_I	D-5	0	0
169.706	STRENGTH_I	D-5	0	0
0	STRENGTH_I	D-5	0	0
84.853	STRENGTH_I	D-5	0	0
169.706	STRENGTH_I	D-5	0	0
0	STRENGTH_I-Min	D-6	0	0
84.853	STRENGTH_I-Min	D-6	0	0
169.706	STRENGTH_I-Min	D-6	0	0
0	STRENGTH_I-Min	D-6	0	0
84.853	STRENGTH_I-Min	D-6	0	0

Compression Data				
Location	Load Case	Load Case	Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1
in		Frame #	V_u kip	$(D/C)_v$ N/A
169.706	STRENGTH_I-Min	D-6	0	0
0	STRENGTH_I-Max	D-6	0	0
84.853	STRENGTH_I-Max	D-6	0	0
169.706	STRENGTH_I-Max	D-6	0	0
0	STRENGTH_I-Max	D-6	0	0
84.853	STRENGTH_I-Max	D-6	0	0
169.706	STRENGTH_I-Max	D-6	0	0
0	STRENGTH_I	D-6	0	0
84.853	STRENGTH_I	D-6	0	0
169.706	STRENGTH_I	D-6	0	0
0	STRENGTH_I	D-6	0	0
84.853	STRENGTH_I	D-6	0	0
169.706	STRENGTH_I	D-6	0	0
0	STRENGTH_I-Min	D-7	0	0
84.853	STRENGTH_I-Min	D-7	0	0
169.706	STRENGTH_I-Min	D-7	0	0
0	STRENGTH_I-Min	D-7	0	0
84.853	STRENGTH_I-Min	D-7	0	0
169.706	STRENGTH_I-Min	D-7	0	0
0	STRENGTH_I-Max	D-7	0	0
84.853	STRENGTH_I-Max	D-7	0	0
169.706	STRENGTH_I-Max	D-7	0	0
0	STRENGTH_I-Max	D-7	0	0
84.853	STRENGTH_I-Max	D-7	0	0
169.706	STRENGTH_I-Max	D-7	0	0
0	STRENGTH_I	D-7	0	0
84.853	STRENGTH_I	D-7	0	0
169.706	STRENGTH_I	D-7	0	0
0	STRENGTH_I	D-7	0	0
84.853	STRENGTH_I	D-7	0	0
169.706	STRENGTH_I	D-7	0	0
0	STRENGTH_I-Min	D-8	0	0

Compression Data				
			Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1
Location	Load Case	Load Case	V_u	$(D/C)_v$
in		Frame #	kip	N/A
84.853	STRENGTH_I-Min	D-8	0	0
169.706	STRENGTH_I-Min	D-8	0	0
0	STRENGTH_I-Min	D-8	0	0
84.853	STRENGTH_I-Min	D-8	0	0
169.706	STRENGTH_I-Min	D-8	0	0
0	STRENGTH_I-Max	D-8	0	0
84.853	STRENGTH_I-Max	D-8	0	0
169.706	STRENGTH_I-Max	D-8	0	0
0	STRENGTH_I-Max	D-8	0	0
84.853	STRENGTH_I-Max	D-8	0	0
169.706	STRENGTH_I-Max	D-8	0	0
0	STRENGTH_I	D-8	0	0
84.853	STRENGTH_I	D-8	0	0
169.706	STRENGTH_I	D-8	0	0
0	STRENGTH_I	D-8	0	0
84.853	STRENGTH_I	D-8	0	0
169.706	STRENGTH_I	D-8	0	0
0	STRENGTH_I-Min	D-9	0	0
84.853	STRENGTH_I-Min	D-9	0	0
169.706	STRENGTH_I-Min	D-9	0	0
0	STRENGTH_I-Min	D-9	0	0
84.853	STRENGTH_I-Min	D-9	0	0
169.706	STRENGTH_I-Min	D-9	0	0
0	STRENGTH_I-Max	D-9	0	0
84.853	STRENGTH_I-Max	D-9	0	0
169.706	STRENGTH_I-Max	D-9	0	0
0	STRENGTH_I-Max	D-9	0	0
84.853	STRENGTH_I-Max	D-9	0	0
169.706	STRENGTH_I-Max	D-9	0	0
0	STRENGTH_I	D-9	0	0
84.853	STRENGTH_I	D-9	0	0
169.706	STRENGTH_I	D-9	0	0

Compression Data				
			Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1
Location	Load Case	Load Case	V_u	$(D/C)_v$
in		Frame #	kip	N/A
0	STRENGTH_I	D-9	0	0
84.853	STRENGTH_I	D-9	0	0
169.706	STRENGTH_I	D-9	0	0
0	STRENGTH_I-Min	D-10	0	0
84.853	STRENGTH_I-Min	D-10	0	0
169.706	STRENGTH_I-Min	D-10	0	0
0	STRENGTH_I-Min	D-10	0	0
84.853	STRENGTH_I-Min	D-10	0	0
169.706	STRENGTH_I-Min	D-10	0	0
0	STRENGTH_I-Max	D-10	0	0
84.853	STRENGTH_I-Max	D-10	0	0
169.706	STRENGTH_I-Max	D-10	0	0
0	STRENGTH_I-Max	D-10	0	0
84.853	STRENGTH_I-Max	D-10	0	0
169.706	STRENGTH_I-Max	D-10	0	0
0	STRENGTH_I	D-10	0	0
84.853	STRENGTH_I	D-10	0	0
169.706	STRENGTH_I	D-10	0	0
0	STRENGTH_I	D-10	0	0
84.853	STRENGTH_I	D-10	0	0
169.706	STRENGTH_I	D-10	0	0
0	STRENGTH_I-Min	D-11	0	0
84.853	STRENGTH_I-Min	D-11	0	0
169.706	STRENGTH_I-Min	D-11	0	0
0	STRENGTH_I-Min	D-11	0	0
84.853	STRENGTH_I-Min	D-11	0	0
169.706	STRENGTH_I-Min	D-11	0	0
0	STRENGTH_I-Max	D-11	0	0
84.853	STRENGTH_I-Max	D-11	0	0
169.706	STRENGTH_I-Max	D-11	0	0
0	STRENGTH_I-Max	D-11	0	0
84.853	STRENGTH_I-Max	D-11	0	0

Compression Data				
			Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1
Location	Load Case	Load Case	V_u	$(D/C)_v$
in		Frame #	kip	N/A
169.706	STRENGTH_I-Max	D-11	0	0
0	STRENGTH_I	D-11	0	0
84.853	STRENGTH_I	D-11	0	0
169.706	STRENGTH_I	D-11	0	0
0	STRENGTH_I	D-11	0	0
84.853	STRENGTH_I	D-11	0	0
169.706	STRENGTH_I	D-11	0	0
0	STRENGTH_I-Min	D-12	-3.4E-16	2.89E-18
84.853	STRENGTH_I-Min	D-12	0	0
169.706	STRENGTH_I-Min	D-12	3.44E-16	2.89E-18
0	STRENGTH_I-Min	D-12	-3.4E-16	2.89E-18
84.853	STRENGTH_I-Min	D-12	0	0
169.706	STRENGTH_I-Min	D-12	3.44E-16	2.89E-18
0	STRENGTH_I-Max	D-12	-4.8E-16	4.02E-18
84.853	STRENGTH_I-Max	D-12	0	0
169.706	STRENGTH_I-Max	D-12	4.77E-16	4.02E-18
0	STRENGTH_I-Max	D-12	-4.8E-16	4.02E-18
84.853	STRENGTH_I-Max	D-12	0	0
169.706	STRENGTH_I-Max	D-12	4.77E-16	4.02E-18
0	STRENGTH_I	D-12	-3.4E-16	2.89E-18
84.853	STRENGTH_I	D-12	0	0
169.706	STRENGTH_I	D-12	4.77E-16	4.02E-18
0	STRENGTH_I	D-12	-4.8E-16	4.02E-18
84.853	STRENGTH_I	D-12	0	0
169.706	STRENGTH_I	D-12	3.44E-16	2.89E-18
0	STRENGTH_I-Min	D-13	0	0
84.853	STRENGTH_I-Min	D-13	0	0
169.706	STRENGTH_I-Min	D-13	0	0
0	STRENGTH_I-Min	D-13	0	0
84.853	STRENGTH_I-Min	D-13	0	0
169.706	STRENGTH_I-Min	D-13	0	0
0	STRENGTH_I-Max	D-13	0	0

Compression Data				
			Shear experienced by the web under factored loads	Demand-Capacity ratio for shear; AASHTO 6.10.9.1-1
Location	Load Case	Load Case	V_u	$(D/C)_v$
in		Frame #	kip	N/A
84.853	STRENGTH_I-Max	D-13	0	0
169.706	STRENGTH_I-Max	D-13	0	0
0	STRENGTH_I-Max	D-13	0	0
84.853	STRENGTH_I-Max	D-13	0	0
169.706	STRENGTH_I-Max	D-13	0	0
0	STRENGTH_I	D-13	0	0
84.853	STRENGTH_I	D-13	0	0
169.706	STRENGTH_I	D-13	0	0
0	STRENGTH_I	D-13	0	0
84.853	STRENGTH_I	D-13	0	0
169.706	STRENGTH_I	D-13	0	0
0	STRENGTH_I-Min	D-14	0	0
84.853	STRENGTH_I-Min	D-14	0	0
169.706	STRENGTH_I-Min	D-14	0	0
0	STRENGTH_I-Min	D-14	0	0
84.853	STRENGTH_I-Min	D-14	0	0
169.706	STRENGTH_I-Min	D-14	0	0
0	STRENGTH_I-Max	D-14	0	0
84.853	STRENGTH_I-Max	D-14	0	0
169.706	STRENGTH_I-Max	D-14	0	0
0	STRENGTH_I-Max	D-14	0	0
84.853	STRENGTH_I-Max	D-14	0	0
169.706	STRENGTH_I-Max	D-14	0	0
0	STRENGTH_I	D-14	0	0
84.853	STRENGTH_I	D-14	0	0
169.706	STRENGTH_I	D-14	0	0
0	STRENGTH_I	D-14	0	0
84.853	STRENGTH_I	D-14	0	0
169.706	STRENGTH_I	D-14	0	0

Vertical Members

Design Check Summary

Design Inputs

Section	W6X15	Unit
Zx	10.8	in
A	4.43	in ²
h/tw	21.6	
ddet	6	
d	5.99	in
ry	1.45	in
ix	29.1	in ⁴
tw	0.23	in
bf	5.99	in
tf	0.26	in
Sy	3.11	in ³
Zy	4.75	in ³

Property (Select from dropdown)

Choose section from left dropdown

radius of gyration about the axis normal to the plane of buckling

D/C _{PM}	6.42E-18
D/C _{tension}	0.163303
D/C _{compressi}	0.920519
D/C _{shear}	6.42E-18
D/C _{flexure}	1.45E-14

For shear
C 5

Mat. Props	
Steel	A709 Gr. 50
Fy	50
Fu	70

Mat Prop	Units	Definition/ AASHTO code reference
K	1	C4.6.2.5.1
ℓ	120 in	unbraced length in plane of buckling, in
E	29000 ksi	
Fy	50 ksi	specified minimum yield strength of steel/pin/pin plate
Fu	65 ksi	
φ _c	0.9	6.5.4.2
φ _u	0.8	6.5.4.2
φ _y	0.95	6.5.4.2
φ _v	1	6.5.4.2
φ _f	1	6.5.4.2
Rp	1	6.8.2.1
U	1	
Q	1	

Compression Data				Material/Section Properties										General(6.9.4.1.1)					
Location	Load Case	Frame #	Calculated axial forces experienced by member imported from SAP2000	Calculated moment experienced by member imported from SAP2000	Calculated shear experienced by member imported from SAP2000		Gross area of section	Yield strength of steel	Ultimate strength of steel	Slender element reduction factor, 6.9.4.2	Modulus of elasticity of steel	AASHTO LRFD C4.6.2.5.1	Unbraced length in the plane of buckling	Radius of gyration about the axis normal to the plane of buckling		Equivalent nominal yield resistance, 6.9.4.1.1	Considering FB as the buckling mode, AASHTO LRFD 6.9.4.1.2-1	Nominal compressive resistance, 6.9.4.1.1	Resistance factor for tension, yielding in gross section, 6.5.4.2
In			kips	kip*in	kips		In ²	Ksi	Ksi	Q	Ksi	K	in	in		kips	kips	kips	φ _y
0	STRENGTH-V-1		28.517	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-1		28.698	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-1		28.88	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-1		7.671	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-1		7.852	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-1		8.033	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-1		31.681	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-1		31.933	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-1		32.185	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-1		10.835	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-1		11.087	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-1		11.339	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-1		31.681	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-1		31.933	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-1		32.185	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-1		7.671	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-1		7.852	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-1		8.033	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-2		-39.184	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-2		-39.365	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-2		-39.546	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-2		-94.088	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-2		-94.269	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-2		-94.451	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-2		-55.807	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-2		-56.059	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-2		-56.311	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-2		-110.711	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
60	STRENGTH-V-2		-110.963	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
120	STRENGTH-V-2		-111.215	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95
0	STRENGTH-V-2		-39.184	0	0		4.43	50	65	1	29000	1	120	1.45		221.5	185.1292	134.2419	0.95

Location	Load Case	Frame #	P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q ksi	E ksi	K	ℓ in	r _y in	P _o kips	P _e kips	P _n kips	φ _y
60	STRENGTH V-2		-39.365	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-2		-39.546	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-2		-110.711	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-2		-110.963	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-2		-111.215	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-3		-29.532	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-3		-29.713	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-3		-77.792	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-3		-77.973	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-3		-78.154	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-3		-42.716	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-3		-42.968	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-3		-43.22	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-3		-91.157	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-3		-91.409	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-3		-91.661	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-3		-29.532	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-3		-29.713	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-3		-29.713	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-3		-91.157	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-3		-91.409	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-3		-91.661	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-4		-17.711	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-4		-17.892	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-4		-59.895	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-4		-60.077	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-4		-60.258	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-4		-27.1	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-4		-27.352	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-4		-27.604	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-4		-69.466	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95

Location	Load Case	Frame #	P	M3	VZ	A_g	F_y	F_u	Q	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
in			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
60	STRENGTH-V4		-69.717	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V4		-69.969	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V4		-1.7.53	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V4		-17.711	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V4		-17.892	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V4		-69.466	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V4		-69.717	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V4		-69.969	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V4		-4.819	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V5		-5.001	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V5		-5.182	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V5		-4.338	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V5		-4.352	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V5		-4.3.701	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V5		-10.705	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V5		-10.957	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V5		-11.209	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V5		-49.224	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V5		-49.476	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V5		-49.728	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V5		-4.819	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V5		-5.001	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V5		-5.182	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V5		-49.224	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V5		-49.476	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V5		-49.728	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V6		9.205	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V6		9.024	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V6		8.843	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V6		-27.393	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V6		-27.575	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V6		-27.756	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V6		7.025	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95

Location	Load Case	Frame #	P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q	E ksi	K	ℓ in	r _y in	P _o kips	P _e kips	P _n kips	φ _y
60	STRENGTH-V-6		6.773	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-6		6.521	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-6		-29.574	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-6		-29.826	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-6		-30.078	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-6		9.205	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-6		9.024	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-6		8.843	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-6		-29.574	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-6		-29.826	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-6		-30.078	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-7		0.138	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-7		-0.044	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-7		-0.225	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-7		-1.071	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-7		-1.253	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-7		-1.434	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-7		-0.105	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-7		-0.357	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-7		-0.609	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-7		-1.314	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-7		-1.566	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-7		-1.818	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-8		10.753	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH-V-8		10.571	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH-V-8		10.39	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH-V-8		-25.847	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95

Location	Load Case	Frame #	P	M3	V2	A_g	F_y	F_u	Ω	E	K	ℓ	r_y	P_o	P_e	P_n	ϕ_y
in			kips	kip*in	kips	in ²	Ksi	Ksi		Ksi		in	in	kips	kips	kips	
60	STRENGTH V-8		-26.028	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-8		-26.209	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-8		8.572	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-8		8.32	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-8		8.068	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-8		-28.027	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-8		-28.279	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-8		-28.531	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-8		10.753	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-8		10.571	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-8		10.39	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-8		-28.027	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-8		-28.279	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-8		-28.531	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-9		-3.263	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-9		-3.444	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-9		-3.625	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-9		-41.777	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-9		-41.958	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-9		-42.14	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-9		-9.148	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-9		-9.4	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-9		-9.652	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-9		-47.663	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-9		-47.914	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-9		-48.166	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-9		-3.263	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-9		-3.444	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-9		-3.625	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-9		-47.663	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-9		-47.914	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-9		-48.166	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95

Location	Load Case	Frame #	P kips	M3 kip*in	V2 kips	A _g in ²	F _y ksi	F _u ksi	Q _r	E ksi	K	ℓ in	r _y in	P _o kips	P _e kips	P _n kips	φ _y
60	STRENGTH V-10		-16.66	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-10		-16.841	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-10		-58.339	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-10		-58.521	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-10		-58.702	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-10		-26.048	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-10		-26.3	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-10		-26.552	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-10		-67.909	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-10		-68.161	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-10		-68.413	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-10		-16.478	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-10		-16.66	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-10		-16.841	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-10		-67.909	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-10		-68.161	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-10		-68.413	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-11		-29.712	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-11		-29.531	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-11		-29.35	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-11		-76.589	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-11		-76.408	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-11		-76.226	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-11		-43.219	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-11		-42.967	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-11		-42.715	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-11		-90.096	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-11		-89.844	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-11		-89.592	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-11		-29.712	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-11		-29.531	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-11		-29.35	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-11		-90.096	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95

Location	Load Case	Frame #	P	M3	V2	A _g	F _y	F _u	Q	E	K	ℓ	r _y	P _o	P _e	P _n	φ _y
in			kips	kip*in	kips	in ²	ksi	ksi		ksi		in	in	kips	kips	kips	
60	STRENGTH V-11		-89,844	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-11		-89,592	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-12		-39,379	0	-3,4E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-12		-39,197	1,03E-14	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-12		-39,016	0	3,44E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-12		-92,914	0	-3,4E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-12		-92,732	1,03E-14	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-12		-92,551	0	3,44E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-12		-56,143	0	-4,8E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-12		-55,891	1,43E-14	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-12		-55,639	0	4,77E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-12		-109,678	0	-4,8E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-12		-109,426	1,43E-14	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-12		-109,174	0	4,77E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-12		-39,379	0	-3,4E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-12		-39,197	1,43E-14	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-12		-39,016	0	4,77E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-12		-109,678	0	-4,8E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-12		-109,426	1,03E-14	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-12		-109,174	0	3,44E-16	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-13		31,058	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-13		30,877	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-13		30,695	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-13		8,047	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-13		7,866	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-13		7,684	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-13		34,363	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-13		34,112	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-13		33,86	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-13		11,352	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
60	STRENGTH V-13		11,101	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
120	STRENGTH V-13		10,849	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95
0	STRENGTH V-13		34,363	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185,1292	134,2419	0.95

Location in	Load Case	Frame #	P kips	M3 kip*in	VZ kips	A_g in ²	F_y ksi	F_u ksi	Q	E ksi	K	ℓ in	r_y in	P_o kips	P_e kips	P_n kips	ϕ_t
60	STRENGTH V-13		34.112	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-13		33.86	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
0	STRENGTH V-13		8.047	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
60	STRENGTH V-13		7.866	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95
120	STRENGTH V-13		7.684	0	0	4.43	50	65	1	29000	1	120	1.45	221.5	185.1292	134.2419	0.95

Compression Data			Tension (6.8.2)			COMPRESSION (6.9)			FLEXURE (6.12.2.1)									
Location	Load Case	Frame #	P_t	P_u	$D/C_{tension}$	ϕ_c	P_c	P_u	Compression	Flange width	Flange thickness	Specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
In			kips	kips			kips	kips		in	in	Ksi	in ³	in ³		λ_{p1}	λ_{r1}	kip*in
0	STRENGTH V-1		210.425	28.517	0.135521	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-1		210.425	28.698	0.136381	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-1		210.425	28.88	0.137246	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-1		210.425	7.671	0.036455	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-1		210.425	7.852	0.037315	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-1		210.425	8.033	0.038175	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-1		210.425	31.933	0.150557	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-1		210.425	31.933	0.151575	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-1		210.425	32.185	0.152952	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-1		210.425	7.852	0.037315	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-1		210.425	8.033	0.038175	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-1		210.425	8.033	0.038175	0.9	120.8177	39.184	0.324323	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-2		210.425	0	0	0.9	120.8177	39.365	0.325822	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-2		210.425	0	0	0.9	120.8177	39.546	0.32732	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-2		210.425	0	0	0.9	120.8177	94.088	0.77876	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-2		210.425	0	0	0.9	120.8177	94.269	0.780258	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-2		210.425	0	0	0.9	120.8177	94.451	0.781765	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-2		210.425	0	0	0.9	120.8177	56.059	0.463997	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-2		210.425	0	0	0.9	120.8177	56.311	0.466082	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-2		210.425	0	0	0.9	120.8177	110.711	0.916348	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-2		210.425	0	0	0.9	120.8177	111.215	0.920519	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-2		210.425	0	0	0.9	120.8177	39.184	0.324323	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25

Location	Load Case	Frame #	P_u	P_u	$D/C_{tension}$	ϕ_c	P_u	P_u	Compression	Flange width	Flange thickness	F_{yt}	S_y	Z_y	λ_y	λ_{p1}	λ_{r1}	M_p
in			kips	kips			kips	kips		in	in	Ksi	in ³	in ³				kip*in
60	STRENGTH-V-4		210.425	0	0	0.9	120.8177	69.717	0.577043	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-4		210.425	0	0	0.9	120.8177	69.969	0.579129	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-4		210.425	0	0	0.9	120.8177	17.53	0.145095	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-4		210.425	0	0	0.9	120.8177	17.711	0.146593	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-4		210.425	0	0	0.9	120.8177	17.892	0.148091	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-4		210.425	0	0	0.9	120.8177	69.466	0.574965	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-4		210.425	0	0	0.9	120.8177	69.717	0.577043	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-4		210.425	0	0	0.9	120.8177	4.819	0.039887	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-5		210.425	0	0	0.9	120.8177	5.001	0.041393	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-5		210.425	0	0	0.9	120.8177	5.182	0.042891	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-5		210.425	0	0	0.9	120.8177	43.338	0.358706	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-5		210.425	0	0	0.9	120.8177	43.52	0.360212	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-5		210.425	0	0	0.9	120.8177	43.701	0.36171	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-5		210.425	0	0	0.9	120.8177	10.957	0.088605	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-5		210.425	0	0	0.9	120.8177	11.209	0.092776	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-5		210.425	0	0	0.9	120.8177	49.224	0.407424	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-5		210.425	0	0	0.9	120.8177	49.476	0.40951	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-5		210.425	0	0	0.9	120.8177	49.728	0.411595	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-5		210.425	0	0	0.9	120.8177	4.819	0.039887	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-5		210.425	0	0	0.9	120.8177	5.001	0.041393	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-5		210.425	0	0	0.9	120.8177	5.182	0.042891	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-5		210.425	0	0	0.9	120.8177	5.363	0.044389	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-5		210.425	0	0	0.9	120.8177	49.224	0.407424	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-5		210.425	0	0	0.9	120.8177	49.476	0.40951	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-5		210.425	0	0	0.9	120.8177	49.728	0.411595	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-6		210.425	9.205	0.043745	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-6		210.425	9.024	0.042885	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-6		210.425	8.843	0.042024	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-6		210.425	0	0	0.9	120.8177	27.393	0.22673	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-6		210.425	0	0	0.9	120.8177	27.575	0.228236	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-6		210.425	0	0	0.9	120.8177	27.756	0.229735	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-6		210.425	7.025	0.033385	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25

Location	Load Case	Frame #	Factored tensile resistance, only considering gross section yielding 6.8.2.1-1	Axial tension experienced by member under factored loads	D/C _{tension}	Resistance factor for compression, AASHTO LRFD 6.5.4.2	Factored compressive resistance, 6.9.2.1-1	Axial compression experienced by member under factored loads	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	plastic moment, 6.12.2.2.1
in	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	Kips	in	in	Ksi	in ³	in ³				Kip*in
60	STRENGTH-V-6		210.425	6.773	0.032187	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-6		210.425	6.521	0.03099	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-6		210.425	0	0	0.9	120.8177	29.574	0.244782	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-6		210.425	0	0	0.9	120.8177	29.826	0.246868	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-6		210.425	0	0	0.9	120.8177	30.078	0.248954	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-6		210.425	9.205	0.043745	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-6		210.425	9.024	0.042885	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-6		210.425	8.843	0.042024	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-6		210.425	0	0	0.9	120.8177	29.574	0.244782	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-6		210.425	0	0	0.9	120.8177	29.826	0.246868	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-6		210.425	0.138	0.000656	0.9	120.8177	30.078	0.248954	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-7		210.425	0	0	0.9	120.8177	0.044	0.000364	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-7		210.425	0	0	0.9	120.8177	0.225	0.001862	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.071	0.008865	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.253	0.010371	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.434	0.011869	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.105	0.000869	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-7		210.425	0	0	0.9	120.8177	0.357	0.002955	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-7		210.425	0	0	0.9	120.8177	0.609	0.005041	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.314	0.010876	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.566	0.012962	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.818	0.015047	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.566	0.012962	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-7		210.425	0	0	0.9	120.8177	1.818	0.015047	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-8		210.425	10.753	0.051101	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH-V-8		210.425	10.571	0.050236	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH-V-8		210.425	10.39	0.049376	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH-V-8		210.425	0	0	0.9	120.8177	25.847	0.213934	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25

Location	Load Case	Frame #	P_c	P_u	$D/C_{tension}$	ϕ_c	P_c	P_u	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	M_p
In	kips	kips	kips	kips			kips	kips		in	in	Ksi	in ³	in ³				kip*in
60	STRENGTH V-8		210.425	0	0	0.9	120.8177	26.028	0.215432	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-8		210.425	0	0	0.9	120.8177	26.209	0.21693	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-8		210.425	8.572	0.040737	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-8		210.425	8.32	0.039539	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-8		210.425	8.068	0.038341	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-8		210.425	0	0	0.9	120.8177	28.027	0.231978	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-8		210.425	0	0	0.9	120.8177	28.279	0.234063	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-8		210.425	0	0	0.9	120.8177	28.531	0.236149	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-8		210.425	10.753	0.051101	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-8		210.425	10.571	0.050236	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-8		210.425	10.39	0.049376	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-8		210.425	0	0	0.9	120.8177	28.027	0.231978	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-8		210.425	0	0	0.9	120.8177	28.279	0.234063	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-8		210.425	0	0	0.9	120.8177	28.531	0.236149	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-9		210.425	0	0	0.9	120.8177	3.263	0.027008	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-9		210.425	0	0	0.9	120.8177	3.444	0.028506	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-9		210.425	0	0	0.9	120.8177	3.625	0.030004	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-9		210.425	0	0	0.9	120.8177	4.177	0.345785	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-9		210.425	0	0	0.9	120.8177	4.1958	0.347284	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-9		210.425	0	0	0.9	120.8177	4.214	0.34879	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-9		210.425	0	0	0.9	120.8177	9.148	0.075717	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-9		210.425	0	0	0.9	120.8177	9.4	0.077803	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-9		210.425	0	0	0.9	120.8177	9.652	0.079889	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-9		210.425	0	0	0.9	120.8177	47.663	0.394504	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-9		210.425	0	0	0.9	120.8177	47.914	0.396581	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-9		210.425	0	0	0.9	120.8177	48.166	0.398667	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-9		210.425	0	0	0.9	120.8177	3.263	0.027008	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-9		210.425	0	0	0.9	120.8177	3.444	0.028506	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-9		210.425	0	0	0.9	120.8177	3.625	0.030004	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-9		210.425	0	0	0.9	120.8177	4.177	0.345785	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-9		210.425	0	0	0.9	120.8177	4.1958	0.347284	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-9		210.425	0	0	0.9	120.8177	4.214	0.34879	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	16.478	0.136387	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25

Location	Load Case	Frame #	P_u	P_u	$D/C_{tension}$	ϕ_c	P_u	P_u	$C_{compression}$	Flange width	Flange thickness	F_{yr}	S_y	Z_x	λ_r	λ_{pr}	λ_{nr}	M_p
in			kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	16.66	0.137894	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	16.841	0.139392	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	58.339	0.482868	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	58.521	0.484374	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	58.702	0.485873	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	26.048	0.215598	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	26.3	0.217683	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	26.552	0.219769	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	67.909	0.562078	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	68.161	0.564164	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	68.413	0.56625	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	29.712	0.245924	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	29.531	0.244426	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	29.35	0.242928	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	76.589	0.633922	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	76.408	0.632424	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	76.226	0.630918	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	43.219	0.357721	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	42.967	0.355635	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	42.715	0.353549	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	90.096	0.745719	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	89.844	0.743633	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	89.592	0.741547	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	29.712	0.245924	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-10		210.425	0	0	0.9	120.8177	29.531	0.244426	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-10		210.425	0	0	0.9	120.8177	29.35	0.242928	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-10		210.425	0	0	0.9	120.8177	90.096	0.745719	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25

Location	Load Case	Frame #	P_t	P_u	$D/C_{tension}$	ϕ_c	P_c	P_u	Compression	Flange width	Flange thickness	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1	Slenderness ratio for the compression flange, 6.10.8.2.2-3	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5	M_p
in	kips	kips	kips	kips			kips	kips		in	in	ksi	in ³	in ³				kip*in
60	STRENGTH V-11		210.425	0	0	0.9	120.8177	89.844	0.743633	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-11		210.425	0	0	0.9	120.8177	89.592	0.741547	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-12		210.425	0	0	0.9	120.8177	39.379	0.325937	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-12		210.425	0	0	0.9	120.8177	39.197	0.324431	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-12		210.425	0	0	0.9	120.8177	39.016	0.322933	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-12		210.425	0	0	0.9	120.8177	92.914	0.769043	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-12		210.425	0	0	0.9	120.8177	92.732	0.767537	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-12		210.425	0	0	0.9	120.8177	92.551	0.766039	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-12		210.425	0	0	0.9	120.8177	56.143	0.464692	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-12		210.425	0	0	0.9	120.8177	55.891	0.462606	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-12		210.425	0	0	0.9	120.8177	55.639	0.46052	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-12		210.425	0	0	0.9	120.8177	109.678	0.907798	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-12		210.425	0	0	0.9	120.8177	109.426	0.905712	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-12		210.425	0	0	0.9	120.8177	109.174	0.903626	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-12		210.425	0	0	0.9	120.8177	39.197	0.324431	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-12		210.425	0	0	0.9	120.8177	39.016	0.322933	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-12		210.425	0	0	0.9	120.8177	109.678	0.907798	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-12		210.425	0	0	0.9	120.8177	109.426	0.905712	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-12		210.425	0	0	0.9	120.8177	109.174	0.903626	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-12		210.425	0	0	0.9	120.8177	89.844	0.743633	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-13		210.425	31.058	0.147597	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-13		210.425	30.877	0.146736	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-13		210.425	30.695	0.145871	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-13		210.425	8.047	0.038242	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-13		210.425	7.866	0.037381	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-13		210.425	7.684	0.036517	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-13		210.425	34.363	0.163303	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-13		210.425	34.112	0.16211	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-13		210.425	33.86	0.160912	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-13		210.425	11.352	0.053948	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-13		210.425	11.101	0.052755	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-13		210.425	10.849	0.051558	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-13		210.425	34.363	0.163303	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25

Location	Load Case	Frame #	P_r kips	P_u kips	D/C Tension	ϕ_c	P_r kips	P_u kips	C compression	Flange width b_f in	Flange thickness t_f in	specific minimum yield strength, AASHTO LRFD 6.12.2.2.1 F_y ksi	Elastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 S_x in ³	plastic section modulus about the weak axis, AASHTO LRFD 6.12.2.2.1 Z_x in ³	Slenderness ratio for the compression flange, 6.10.8.2.2-3 λ_c	Limiting slenderness ratio for a compact flange, 6.12.2.2.1-4 λ_{pf}	Limiting slenderness ratio for a noncompact flange, 6.12.2.2.1-5 λ_{nt}	plastic moment, 6.12.2.2.1 M_p kip*in
60	STRENGTH V-13		210.425	34.112	0.16211	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-13		210.425	33.86	0.160912	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
0	STRENGTH V-13		210.425	8.047	0.038242	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
60	STRENGTH V-13		210.425	7.866	0.037381	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25
120	STRENGTH V-13		210.425	7.684	0.036517	0.9	120.8177	0	0	5.99	0.26	50	3.11	4.75	11.51923	9.151612	19.98905	233.25

Compression Data				Shear (6.10.9)															
Location	Load Case	Frame #	M_{r1}	ϕ_r	ϕ^*M_{r1}	M_{r2}	$D/C_{flexure}$	F_{yw}	E	D	t_w	k	C	V_p	V_n	ϕ_v	$\phi_v V_n$	V_u	$(D/C)_v$
In			kip*in	N/A	kip*in	kip*in		ksi	ksi	in	in			kip	kip	N/A	kip	kip	N/A
0	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-1		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0

Location	Load Case	Frame #	M_u kip*in	ϕ_t	$\phi_t * M_u$	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	t_w in	k	C	V_p kip	V_n kip	ϕ_v	$\phi_v * V_n$ kip	V_u kip	(D/C) _v
60	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-2		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-3		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-3		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-3		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-3		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-3		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-3		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-4		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0

Location	Load Case	Frame #	M_n kip*in	ϕ_f	$\phi_f * M_n$	M_u kip*in	$D/C_{flexure}$	F_{yw} ksi	E ksi	D in	t_w in	k	C	V_p kip	V_n kip	ϕ_v	$\phi_v * V_n$ kip	V_u kip	(D/C) _v
60	STRENGTH V-13		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-13		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
0	STRENGTH V-13		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
60	STRENGTH V-13		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0
120	STRENGTH V-13		0.984726	1	0.984726	0	0	50	29000	21.6	0.23	5	0.516233	144.072	74.37473	1	74.37473	0	0

APPENDIX E

PROJECT POSTER

2nd-Halsey Pedestrian Bridge (2021.TROUT.02)

Client: Chris Dampen - City of Troutdale



Team Members:

Project Management Bethel Yolamnes Kyle McDonald Sean Kloos	Structural Michael Lefkovich Alex Funk Anna Gurnik Daniel Bezczowski Yuxuan Wang	Transportation Dean Abbey Ali Qamber Orlando Medina-Rico	Geotechnical Ben Kravets Daniela Simugar David Tormanen	Advising and Support Evan Kristoff (PSU) Blair Carlson (AKS) Ron Vandehey (Miller)
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PROJECT OVERVIEW

BACKGROUND

The City of Troutdale has requested the capstone group to produce the 30% design for a pedestrian bridge. The bridge would cross SW 25th Drive near downtown Troutdale, approximately 200 feet south of the intersection with Columbia River Highway SW 219th Dr, has high traffic due to its connection to I-5 and is dangerous for pedestrians, cyclists and NEV's (neighborhood electric vehicles) to cross. The City of Troutdale's 'First Center' Plan aims to increase pedestrian access in the downtown area to the west of the residential areas to the east, creating a need for a new link in this location. This pedestrian bridge would also complement the *Measures on Honor* project that aims to connect Troutdale and Fairview for pedestrians.



Figure 1: Project Location and property boundaries

ABET OUTCOMES

The proposed and designed pedestrian bridge for the City of Troutdale provides many solutions to the residents and community of Troutdale. In order to achieve this, many groups were involved in the design of the pedestrian bridge, including professional engineers from state departments and engineering firms. Their collaboration with our Portland State Capstone team through Virtual Zoom meetings, email correspondence, and file sharing provided professional knowledge in many aspects of pedestrian bridge design, which many students within the group have not been exposed to. These collaborative efforts, in addition to internal efforts within the Capstone team, combined a real-world design project and provided students with experience and knowledge of what to expect once completing their degree and beginning their careers as civil engineers.

GEO TECHNICAL

The design in a developmental stage so more information becomes available.

ABUTMENT FOUNDATION DESIGN

- Reinforced concrete abutment will carry the vertical and horizontal earthquake loads from the superstructure to the main foundation.
- Required highway clearance will control the abutment height with a target of 410 feet by taking advantage of the terrain.
- An axial design spreadsheet was created to ensure the footing met AASHTO LRFD requirements for:
 - Bearing capacity
 - Overturning moment
 - Sliding resistance

FUTURE STEPS INCLUDE:

- Determine final footing location based on ground profile and alignment
- Apply final data from structural group to determine footing using Consider geotrans as backfill if necessary
- Design wing walls to hold backfill

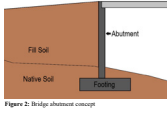


Figure 2: Bridge abutment concept

STAKEHOLDERS

- Pedestrians, Cyclists, Neighborhood Electric Vehicle Users
- City of Troutdale
- Multnomah County
- Adjacent Property Owners

PERMITTING AGENCIES

- Multnomah County
 - Right-of-Way Permits Office
 - Road Services
- City of Troutdale
 - Community Development Department

TRANSPORTATION



Figure 3: Proposed Alignment of the 2nd-Halsey Pedestrian Bridge in Troutdale, OR.

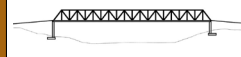


Figure 4: Elevation Profile of the 2nd-Halsey Pedestrian Bridge.

PROPOSED ALIGNMENT DESIGN

Design for the pathway leading to and across the bridge is determined by its purpose as a shared-use path for pedestrians, bicyclists, and others.

CONSTRAINTS

- The pathway must connect between the intersection of Kendall and 2nd street and the fire line on the west side.
- Design for a two-directional shared use path with a width of 14ft.
- Neighborhood electric vehicles, inline skaters, inline skaters, children, or other users require more operating width.
- The vertical clearance over 219th Ave has to be 18ft to accommodate freight traffic.

SLOPE

- The continuous running slope of walking surfaces should not be steeper than 1:20 (5% grade).

CROSS SLOPE

- 1% cross slopes are recommended to accommodate people with disabilities and provide enough slope to convey surface drainage.

STRUCTURAL

ALTERNATIVES CONSIDERED

- Cast in Place Concrete (Alternative A)
- Precast Concrete (Alternative B)
- Steel Girders (Alternative C)
- Steel Truss (Alternative D)
- No build (Alternative E)

ALTERNATIVE TITLE & DESCRIPTION	Weight	AK-A: EIP Concrete	AK-B: Precast Concrete	AK-C: Steel Girders	AK-D: Truss	AK-E: No Build
Cost	10	150	150	150	150	150
Aesthetics	10	150	150	150	150	150
Construction Time	10	150	150	150	150	150
Weight	10	150	150	150	150	150
Design Efficiency	10	150	150	150	150	150
Sustainability	10	150	150	150	150	150
Maintenance	10	150	150	150	150	150
Local Disruption	10	150	150	150	150	150
Pedestrian Access	10	150	150	150	150	150
Initial Cost	14	40	40	40	40	40
Weighted Total	14	40	40	40	40	40

Figure 5: Pugh Matrix for Alternative Analysis



Figure 6: Example of various alternatives considered

The alternatives were built on nine different criteria located in the first column in Figure 5. Considering the criteria presented, the most plausible choice was creating a steel truss designed bridge. Ease of maintenance, low weight, aesthetics and pedestrian access gained favorability for a steel truss bridge.

LOADING CONSIDERATIONS

- Dead Load and Components: Weight of slab, stringers, beams, and truss - any connections. Generally, when considering the bridge design, the dead load attributes to the self weight concrete and steel.
- Live Loading: 20,000 pound maintenance truck load and 90 pounds per square foot pedestrian load

Clear Deck Width	Design Vehicle
7m (23 feet)	HS-20
Over 10 feet	HS-20

Table 1: Maintenance truck loading for bridge

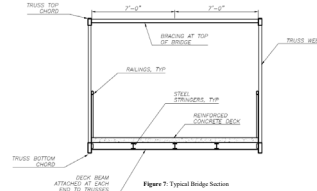


Figure 7: Typical Bridge Section

FUTURE STRUCTURAL DESIGN STEPS

- Advancing Live Loads (e.g. wind, rain, snow, seismic)
- Span, Type, Duration of Future Live Loads
- Allowable Stress and Deflection Codes and Standards

FUTURE AESTHETICS DESIGN CONSIDERATIONS

- Use of light and shadow
- Proportioning deck and abutment size
- Horizontal and vertical geometry

RESOURCES

Special thanks to the following agencies for aiding the progression of this project:

- AKS Engineering & Forestry
- KPFF Consulting Engineers
- Miller Consulting Engineers
- Multnomah County
- Portland Bureau of Transportation
- Trout

Design criteria for the bridge were determined using the following AASHTO publications:

- LRFD Bridge Design Specifications (2014)
- LRFD Bridge Design Specifications for Design of Pedestrian Bridges (2009)
- Guide for the Development of Bicycle Facilities (2012)
- A Policy on Geometric Design of Highways and Streets (2011)
- The guidelines in these publications incorporate requirements set by the Americans with Disabilities Act.

APPENDIX E

FINAL PRESENTATION

Halsey-2nd Bridge

2021.TROUT.02

2021 CEE Capstone: Final Design Presentation



Betiel Yohannes
Anna Gurnik
Orlando Medina-Rico
David Tormanen
Sean Kloos

Daniel Berezovski
Ben Kravets
Ali Qamber
Yanxuan Wang
Kyle McDonald

Alex Funk
Michael Lefcovich
Dean Abbey
Daniela Strugar



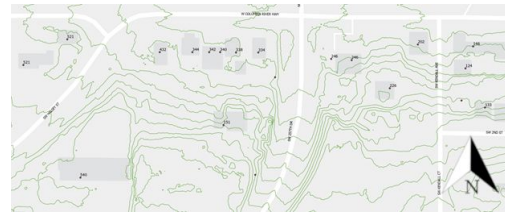
Presentation Outline

- **Background**
- **Alignment and Trail**
- **Structural Design**
- **Geotechnical Design**
- **3D Model**
- **Construction Schedule and Cost Estimate**
- **Questions**

Background

▪ Pedestrian Bridge

- Located in Troutdale crossing SW 257th Dr.
 - 200 ft south of intersection
 - Aim is to increase pedestrian access to downtown area
 - Bridge would also complement Main Streets on Halsey
- Site Conditions
 - Mild downward trending slope in N direction
 - Elevation between SW 257th Dr. greater than 10+
 - Short grass with dense trees
 - Trees will need to be removed from property

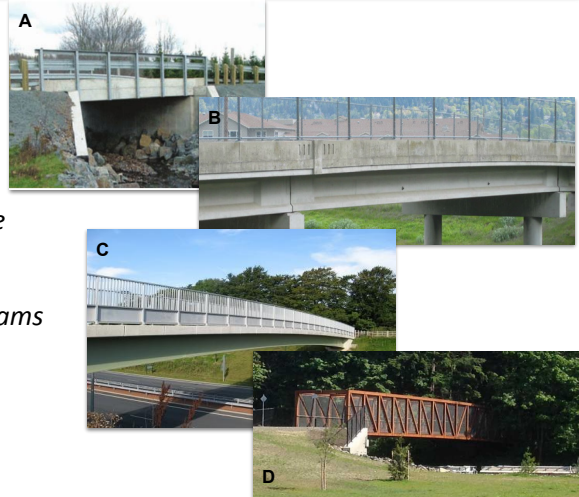


3

Alternatives

▪ Alternative Considered

- A: Cast-in-Place Concrete Girders
 - Built from reinforced concrete
- B: Precast Concrete Girders
 - Efficient construction process by precast concrete
- C: Steel Girders
 - Consist of either I-section or box-section steel beams
- D: Truss System
 - Shop-fabricated steel truss systems



Citation: A; B; C; D.

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Alignment

- **Alignment**

- Constraints

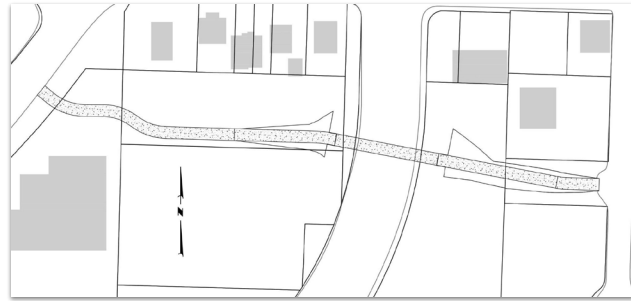
- West side residential area
- Bridge span
- Retaining wall height
- Soil fill amount

- **Earthen Ramps**

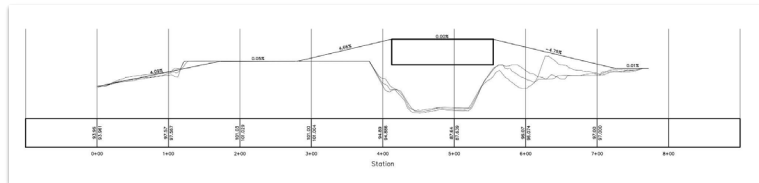
- Constraints

- ADA compliance
- Side slope steepness

- Final Design



Proposed Alignment



5

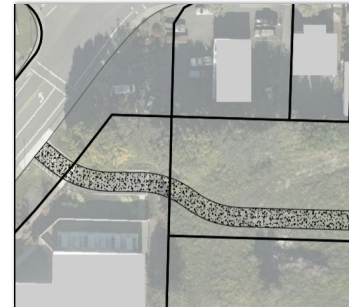
Trail

- **Location**

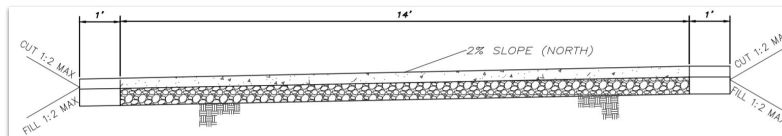
- Connects between SW Halsey and 2nd St

- **Geometry**

- 14 feet trail width with add. 1 foot shoulder width
 - Exceeds 10 feet minimum width
- 2% slope (5% maximum)
 - Sufficient for bike and wheelchair users



Google Maps image with proposed alignment.

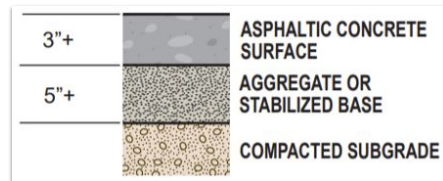


Proposed trail cross section

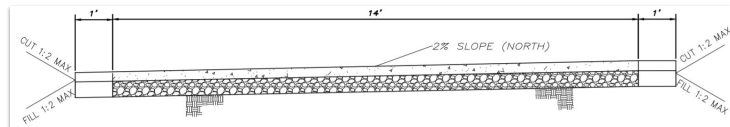
6

Trail

- **Cut/Fill**
 - 2:1 cut/fill slope
 - 2:1 and flatter deemed adequate
- **Layers**
 - 3 inches asphalt top layer
 - Lower cost for initial build
 - 5 inches subbase aggregate
 - Ideal for bike/ped. path



Source: ODOT Bicycle and Pedestrian Design Guide

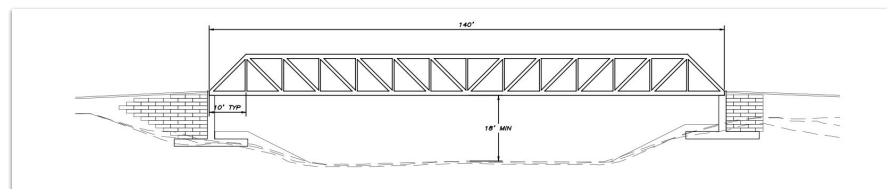
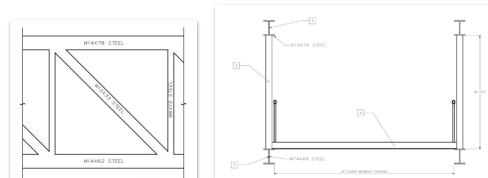


Proposed trail cross section

7

Structural System

- **Primary System for Gravity Loads**
 - 140 ft. long steel Pratt Truss
 - Bridge superstructure located above the decline
 - Fourteen (14) 10 ft. x 10 ft. Square Panels
 - Simply supported from terminal supports
 - Spread Footing Foundation



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Live Loading Conditions

Considerations

- Pedestrian
 - 90 psf. before LRFD factor
 - 158 psf. after LRFD factor

- H10 Design Vehicle
 - 20 Kip total weight
 - 16 Kip rear axle load

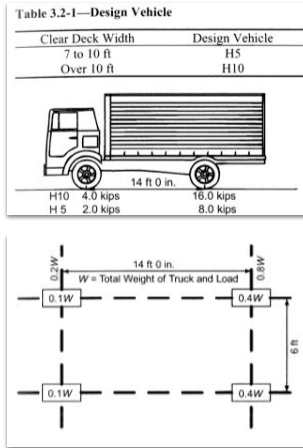
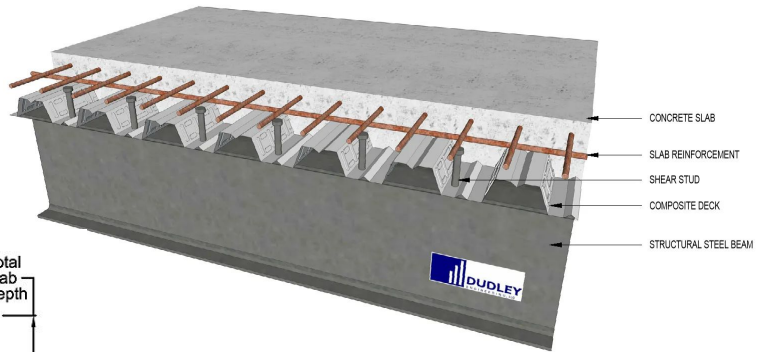
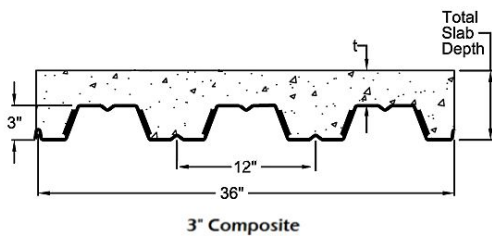


Image Source: 2009 AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges 9

Slab Design

Corrugated Steel Decking

- 6.25" slab deck thickness
- #9 rebar
 - 12" spacing
 - 2.5" cover



Sources:
dudleyengineering.com
odonnellmetaldeck.com

Future Design Considerations

Future Loading

- Additional Dead Loads
 - Railings or Pedestrian Safety Installations
 - Bridge Lighting
 - Other
- Wind
- Rain
- Snow
- Seismic



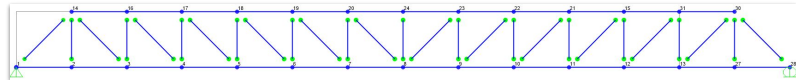
Sources:
ggled.net
facebook.com

11

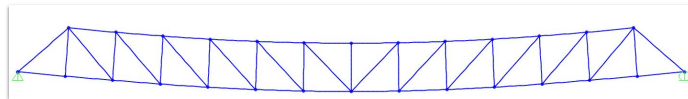
Truss Analysis

SAP2000 Modeling

- 2-D
- Simply supported
- Pinned connections
- Moving load on bottom chord
 - Truck and pedestrian



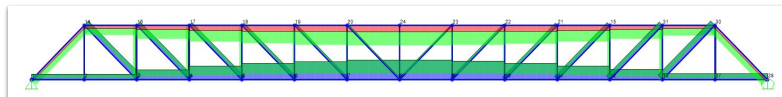
Simply supported, pin-connected diagonals and verticals



Exaggerated deflected shape

Modeling Outputs

- Shear, axial, and moment for each truss member



Axial force envelope from SAP2000

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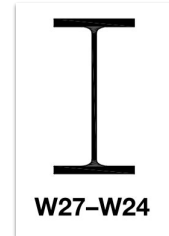
Truss Analysis

Member Selection

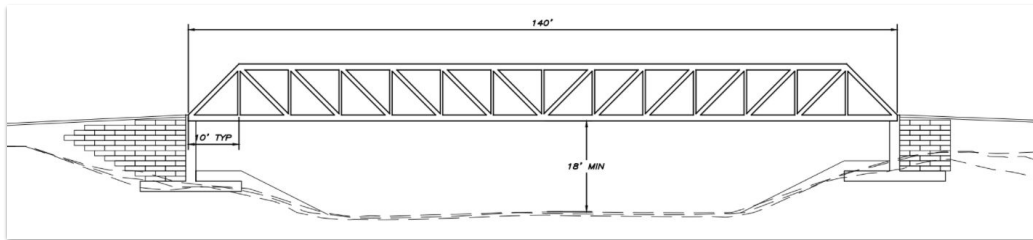
- SAP2000 -> Excel
- Check each loading scenario
- Select section
- Repeat



HSS section (projectmaterial.org)



W27-W24



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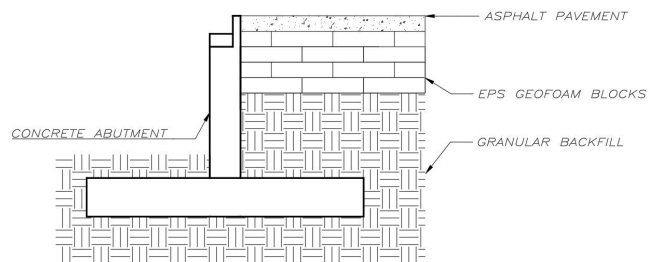
Bridge Foundation Design

Soil Properties

- Food cart project preliminary geotech report
 - Allowable bearing capacity, friction

Spread Footing

- Design spreadsheet
 - Checks for bearing, overturning, sliding
 - Geofoam backfill
 - Dimensions
 - Wing walls



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Geotech Future Recommendations

Alternative Designs

- MSE wall with pile foundation
 - Lower concrete usage
 - Greater resistance to seismic loading
 - Cost savings inconclusive
- MSE wall with spread footing foundation
 - Reduced abutment size
 - Reduces lateral earth pressure on abutment



Requirements for alternatives

- More geotechnical data, deep CPT or SPT test for piles
- May still require some Geofoam due to weight of backfill

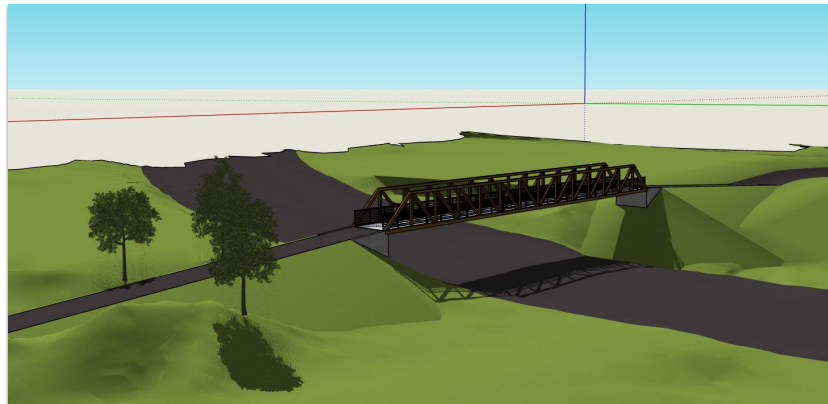
Sources:
reinforcedearth.com

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Sketchup

3D Modeling Software

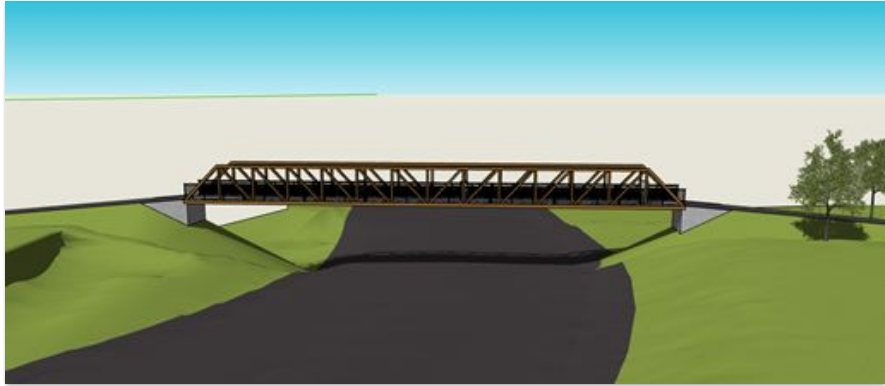
- Concept design
- Sense of scale



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Sketchup

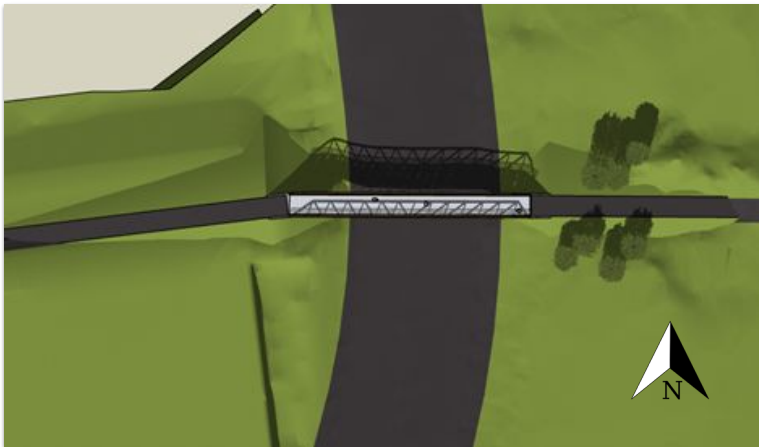
- Elevation View



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Sketchup

- Plan View



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Sketchup

Deck View



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Cost Estimation

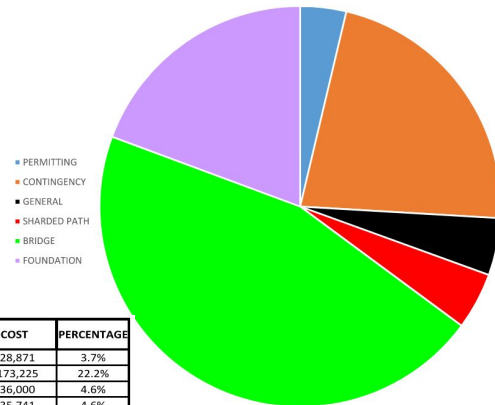
Total Project Cost Estimate

- Total project cost is \$779,511
 - Prices referenced from ODOT and similarly scoped projects
 - Quantities obtained from AUTOCAD and design drawings
 - Bridge cost estimated by Contech Engineered Solutions

East Approach Cost Estimate

- Total project cost is \$115,877
 - Portion of General cost and East side sharded path/foundation items
 - Will be about 15% of total project cost

Halsey-2nd Bridge Cost Breakdown

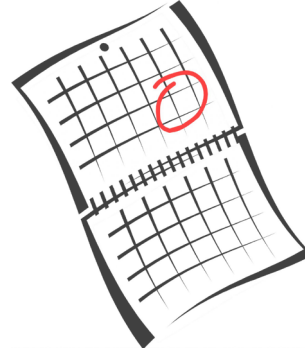


ITEM	COST	PERCENTAGE
PERMITTING	\$28,871	3.7%
CONTINGENCY	\$173,225	22.2%
GENERAL	\$36,000	4.6%
SHARDED PATH	\$35,741	4.6%
BRIDGE	\$354,892	45.5%
FOUNDATION	\$150,783	19.3%
TOTAL	\$779,511	100.0%

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Estimated Construction Schedule

- Mobilization **21 days**
- Bridge Foundations **50 days**
- Bridge Fabrication **41 days**
- Bridge Placement **10 days**
- Pathway Construction **17 days**
- Demobilization **10 days**



Total construction time is around 20 weeks.

Source: pngjoy.com 21

Permitting

- **Permitting**
 - City of Troutdale
 - Multnomah County
 - Oregon Department of Transportation (ODOT)
 - American Association of State Highway and Transportation (AASHTO)
 - Americans with Disabilities Act (ADA)



AFTER THE FACT
ENGINEER/ARCHITECT LETTER OF COMPLIANCE

Sources: cadcondesign.com 22

Conclusion

- **Geometry**

- Trail and bridge

- **Type of foundation**

- Concrete mat foundation with Geofoam

- **Cost**

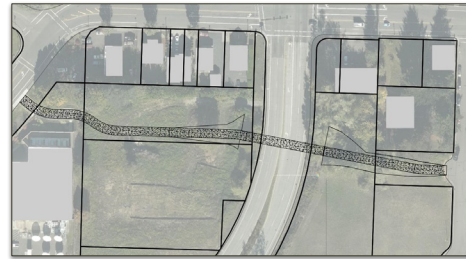
- Total project estimate = \$780,000

- **Construction Schedule**

- 20 weeks

- **Future Tasks**

- Geotechnical testing
- Seismic load calculations
- Stormwater management
- Erosion control



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Questions



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SCI Directors and Staff

Marc Schlossberg	SCI Co-Director, and Professor of Planning, Public Policy and Management, University of Oregon
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Megan Banks	SCYP Director, University of Oregon
Nat Kataoka	Report Coordinator
Danielle Lewis	Graphic Designer