Sudden Valley Community Association
360-734-6430
4 Clubhouse Circle Bellingham, WA 98229
www.suddenvalley.com

Board of Directors Regular Meeting

December 12, 2024, 7:00 PM, COMMUNITY CENTER, MULTIPURPOSE ROOM A

Call to Order

Land Acknowledgement & Anti-Racism Statement

Roll Call

Item 1) Adoption of Agenda

Item 2) Announcements

Item 3) Property Owner Comments – 15 Minutes Total
Please note that comments are limited to 3 minutes per person

Item 4) Barn 8 Structural Evaluation Presentation

Item 5) Financial Reports – October Financials

Item 6) Consent Agenda
6a. Minutes – November 2, 2024, Draft AGM Minutes
6b. Minutes – November 2, 2024, Draft Board Organizational Meeting Minutes
6c. Minutes – November 14, 2024, Board Meeting Minutes

Item 7) GM Report – November

Item 8) New Business
8a. Ratification of Executive Action – Storm Clean Up
8b. Capital Request – Storm Damage Repair
8c. Approval Request – HR Consultant Services
8d. 2025 AGM Vendor Contracts Discussion

Adjournment

Community Members may participate in the meeting via Zoom by using the link below:
https://us02web.zoom.us/j/86704997445

KINGWORKS
STRUCTURAL
ENGINEERS

Barn 8 Dance Hall
Structural Evaluation Report

Sudden Valley Community Association (SVCA)
8 Barn View Drive
Sudden Valley, WA 98229

11/15/24

600 Dupont St, Suite B, Bellingham, WA 98225 | p: 360-714-8260 | www.king-works.com

Table of Contents

Introduction and Scope

The following report is a preliminary structural evaluation of the Barn 8 Dance Hall in Sudden Valley, herein referred to as Barn 8, prepared by Kingworks Structural Engineers. This report represents our opinion based on site observations, review of available building drawings, and cursory structural calculations. Kingworks worked in conjunction with Cool Runnings Construction and PNW Services to expose primary structure at various locations to allow for observation. No material strength testing of the structure was performed, concrete reinforcement was scanned at exposed foundation locations.

This preliminary evaluation serves as Phase 1 of Kingworks scope of work. During this phase Kingworks became generally familiar with the existing building framing based on limited areas being exposed to view and approximating for the remaining areas that were not visible. Kingworks has developed as-built structural drawings based on the observed structure (Appendix 1), as well as performed cursory calculations on the structural capacities of the primary structural systems of the building (Appendix 2). Investigation of non-structural components such as partition walls, architectural finishes, mechanical systems, or decorative facades was limited.

This report is intended for use by the Sudden Valley Community Association. Any re-use of the information presented in this report is at the sole risk of the user. This report does not represent a warranty or guarantee that other problems do not exist, such as material decay that was not visible while on site. Kingworks has prepared this report using a degree of skill and care ordinarily exercised under similar circumstances by structural engineers practicing in this or similar localities.

Evaluation Approach and Procedure Summary

This report aims to provide a comprehensive structural evaluation of the primary systems in the building. The assessment focuses on two main structural components: the lateral force-resisting system, designed to withstand wind and seismic forces, and the gravity force-resisting system, which supports dead loads (the building's self-weight), live loads (temporary occupant loads), and snow loads on the roof.

The International Existing Building Code (IEBC) is the applicable building code that would apply for any modifications or analysis on Barn 8. Provisions of this code document were used for Kingworks evaluation and calculations.

Building and Site Data

General Building Description

Barn 8, constructed in the early 1960s, was initially intended for agricultural use. It has since been renovated and now serves as a community center for the Sudden Valley Community Association. The building encompasses approximately 22,000 square feet of usable space, featuring a gym, offices, locker rooms, and pool equipment on the ground floor. The upper floor primarily consists of an open assembly area, complemented by storage and ancillary spaces along the sides.

Structural System Description

The primary building structure for Barn 8 can best be described as a wood framed building with conventional shallow spread concrete foundations. The roof structure over the main assembly space consists of wood gambrel style trusses with vaulted bottom chords spanning between timber beams and columns. The roof over the areas adjacent to the assembly area consist of sawn wood joists spanning between wood framed walls.

The upper floor framing for Barn 8 is relatively consistent, with heavy timber joists and beams in a regular grid with 2" horizontal wood decking spanning between the joists. Timber columns support the floor framing and are supported on shallow spread concrete foundations. The perimeter of the barn is made of wood framed walls with the upper level appearing to consist of timber posts and girts and the lower level framed with more traditional stud wall construction with plywood sheathing. Perimeter walls that were exposed for Kingworks review were supported on concrete stemwalls and foundations.

Structural Drawings, Upgrades, and Renovations

Limited drawings were available for Kingworks during our review of the building. As-built floor plans were provided by SVCA, developed by J2 Consultants, as well as Sarah Brown Architecture + Design. These plans had approximate wall and column locations, but no actual framing or structural information. Based on our site observations it appears there may have been some structural modifications that have occurred during the structure's lifetime. At the lower entrance to the gym a steel beam was present that appears to have been installed to allow the removal of a first-floor column. The gambrel trusses in the vaulted assembly space may have had some modifications, steel tie rods are installed at a periodic spacing across the bottom of the truss. The Gambrel truss modifications were likely made to help resist outward thrust at the base of the trusses. Some of the Gambrel trusses have horizontal wood members spanning across the truss adjacent the tie-rods, whereas other trusses these members have been removed.

Level of Seismicity

Barn 8 is in an area considered to have a high level of seismicity per modern seismic evaluation standards. The level of seismicity is determined from the mapped spectral response accelerations provided by USGS for the subject building's location. It is common for areas in the Pacific Northwest to be classified as a high level of seismicity, in large part due to the proximity to the Cascadia Subduction Zone, a large fault stretching from Northern California to Vancouver Island. This fault is capable of earthquakes more than 9.0 on the Moment Magnitude Scale (MMS), a modern calculation like the Richter Scale. The MMS earthquake scale is a logarithmic scale that measures the size of an earthquake based on the total energy released. Because it's logarithmic, each whole number increase on the scale represents 32 times more energy than the number below it. For example, a magnitude 7.0 earthquake releases 32 times more energy than a magnitude 6.0 earthquake.

Barn 8 has experienced two notable seismic events during its lifespan, the 1965 Seatac (6.6 magnitude), and the 2001 Nisqually (6.7 magnitude). While these ground motions had epicenters located over 100 miles away and were significantly less than those predicted by current building codes and seismic evaluation standards, the structure appears to have performed adequately without collapse. A current code level seismic event for the Sudden Valley area is likely more than 9.0 on the MMS scale.

Occupancy and Design Code
As noted previously, Barn 8 was built in the early 1960's and likely designed to the 1961 or 1964 Uniform Building Code (UBC). Buildings from this era typically do not meet today's seismic and wind design and detailing standards. Additionally, oversight by the authority having jurisdiction was generally less rigorous than it is now, which can serve as a quality control measure in construction.

Barn 8 was likely originally built to serve agricultural purposes, versus today's use as an assembly and community space. Agricultural facilities are typically designed with a lower factor of safety due to the reduced risk to human life. This results in a building that is likely designed for lower lateral and gravity loading compared to a building that was originally designed for its current use today.

Analysis and Results

Gravity System Analysis
Although not all framing in Barn 8 was accessible, Cool Runnings Construction removed finishes in areas selected by Kingworks to provide insights into the typical framing layout and configurations at various conditions. Locations to be exposed were chosen with the intent to provide a wide array of structure conditions in the building. Douglas fir larch, select structural grade, was used in Kingworks analysis. This is common for wood of this vintage in this area and appeared consistent with the quality of wood that was observed on site. Kingworks conducted preliminary calculations (attached) with the following key findings:

Gambrel Roof Trusses: The gambrel trusses spanning the dance hall were analyzed for compliance with current code loadings, including snow, wind, and dead loads. The trusses, spaced approximately 2'-8" apart, support 1" horizontal decking. During the site visit, Kingworks measured the truss geometry, connections, and member sizes. The steep pitched roof covered with metal roofing allows for reduced snow load, as snow accumulation would be less likely. Analysis was performed using Bentley Ram Elements, a 3D structural modeling software. Overall, the individual truss members demonstrated sufficient capacity to support the roof dead and snow loads. However, the connections between truss members were minimal—often consisting of only four to five nails. Kingworks found the top cross tie member likely needs additional connection to resist a full snow load event and maintain typical factors of safety used in current designs. To enhance performance and ensure effective "truss action," additional connections such as steel side plates with screws or bolts could improve the performance at this location of the trusses. Additional attachment into the adjacent roof diaphragms could improve performance for wind and seismic lateral loading, see Lateral System Analysis section for further description on this.

Gambrel Truss Support Framing: The gambrel trusses are supported by heavy timber beams and columns in the assembly space. The beam sizes could not be fully assessed without extensive removal of finishes, but the columns appear adequately sized to carry the loads. Notably, the connection between the columns and the structure below is minimal, which raises concerns during high wind events where upward pressure could potentially detach the columns from their supports. Supplemental light gauge framing connectors could be added at this joint to resist this load.

Remaining Roof Framing: Outside the central gambrel truss area, the roof features solid sawn wood rafters. Areas adjacent to the trusses (between grids 1-3 and 6-8) were found to have 2"x8" rafters spaced 3'-0" apart. These rafters appear capable of supporting current code-level snow loads, including surcharge snow loading from snow sliding from the steep gambrel trussed roof area. However, their connections exhibit limited wind uplift anchorage, which could lead to separation during a code-level wind event. This could be remedied by installing light-gauge hurricane clips to secure the rafters to their support beams and walls. The roof area from grids 8-10 consists of 2"x10" joists at 24" on center spanning between 8"x8" heavy timber girders. The joists and girders show adequate capacity, but this area also lacks adequate wind uplift anchorage. Supplemental light gauge framing connectors could be added to provide wind uplift anchorage.

Heavy Timber Columns:
The roof and floor framing at the interior are supported by heavy timber columns. 4"x6" timber columns support the gambrel trusses and 12"x12" timber columns support the main floor and lower roof areas. The columns analyzed were found to have adequate capacity to support gravity loading. A minimal connection is present to attach the top and bottom of the columns to prevent movement. In a wind or seismic event, the column could become unseated due to horizontal loading or movement of the building. Supplemental light gauge framing connectors could be added to provide anchorage and prevent separation.

Assembly Space Floor Framing:
The assembly hall floor framing consists of 2" horizontal decking, timber joists, and timber girders. Joist sizes vary, with some areas featuring 6"x12" joists at 3'-0" on center, while others have 3"x12" joists at 2'-6" on center. The girders, 12"x12" heavy timber beams, span between heavy timber columns. Both the decking and joists appear to meet current code loading requirements, but the girders do not have adequate bending capacity for assembly usage loading of 100-lbs per square foot. They can only accommodating an occupant live load of approximately 50-lbs per square foot, akin to office or classroom design standards. An example of 50-lbs per square foot would be twenty-five 200-lbs people within a 10-ft by 10-ft area. In areas such as dance halls, rhythmic dancing motions could amplify the loading experienced by the support structure due to the inertial loads. The girders could be strengthened to support higher loads if additional members are sistered to the girders, such as steel channels bolted or screwed into the sides of the girders. Please note, Kingworks provided a cursory report dated January 30, 2020 and anticipated design load for the Barn 8 dance hall based on extrapolating data from the Barn 7 framing, this loading limitation noted here is more accurate based on field measurements and supersedes the previous report recommendation.

Foundations:
Two interior timber column foundations were exposed by the contractor ahead of Kingworks site visit, with rebar scanning performed. The foundations were found to be 3-ft square with thickness varying between 9" and 10". The reinforcement scanning indicated that two bars were in each footing each way, size of the reinforcement is unknown. While subgrade preparation below the foundations and allowable soil bearing pressures are unknown, the calculated bearing pressures at a typical column was found to be approximately 2,800 PSF. Allowable bearing pressures in this area are typically between 2,000 to 4,000 PSF. Reinforcement in the foundations was scanned in two locations and assuming a relatively small rebar size, typical spread footings at columns had adequate flexural capacity.

The exterior wall foundations were exposed at two locations for Kingworks review while on site. The exterior walls that are on the North and South ends of the building are supported on continuous wall footings with a concrete stem wall. The footing appeared to be 2-ft wide with an 8-in thick concrete stemwall. The footing size observed at these locations appeared adequate for the loads they were supporting. Horizontal reinforcement appeared to be present in the stemwall and foundation based on the scanning results. No vertical bars connecting the stemwall to the foundation were found by the reinforcement scanner. Connection between the stemwall and foundation is needed to prevent separation or detachment between the two during a wind or seismic event. It is possible that vertical reinforcement is present at a large spacing and the area scanned was within that spacing. A positive connection between the stemwall and foundation could be made by adding structural steel angles that are anchored to both the concrete foundation and concrete stemwall, or core drilled rebar epoxy dowels through the stemwall to the foundation could be added.

The east and west exterior walls rest on the slab on grade without thickened edges or additional foundations. Although these walls do not carry significant gravity loads, they function as shear walls to resist lateral forces. Typically, a continuous wall foundation or thickened slab edge is used to support vertical wall loads and provide frost protection. Saturated soil beneath the slab edge may freeze and expand in cold conditions, leading to frost heave and potential lifting of the slab and exterior wall. The City of Bellingham recommends a minimum depth of 12 inches for exterior footings to ensure frost protection. This issue could be mitigated by underpinning the slab with reinforced concrete grade beams on these sides of the building.

Material Decay:
It is likely that material decay is present at various locations throughout the building. The exterior walls did not appear to have a weather resistant barrier (such as a Tyvek wrap) that protects the primary wood framing from moisture penetrating the siding. Staining and potential material decay was visible in the base of some studs and on the sill plate of the walls on the east side of the building where finishes were removed. Dry rot on an existing girder was also found in the mechanical room that was found during Kingworks evaluation in 2020. Structural members with material decay should be replaced in kind and moisture protection put in place to prevent future decay. Locating and identifying areas of material decay would require significant removal of finishes to identify all locations.

Lateral System and Analysis
Kingworks performed a cursory lateral analysis for the building. Analysis and existing capacities used in our review were based on the limited areas exposed to view and on-site measurements. The primary lateral system for the building consists of horizontal straight sheathing acting as a diaphragm to distribute lateral loads to perimeter wood shear walls sheathed with plywood. For our analysis, reduced seismic loads (75% current code) were used, as allowed per the International Existing Building Code.

Diaphragms:
The horizontal wood decking at the roof and floor level serves as a diaphragm for the building to distribute lateral loads to the perimeter shear walls. The shear demand on the diaphragm was found to exceed the allowable capacity per code, meaning the diaphragm is not adequate to transfer wind and seismic loads to the building's shear walls.. Additionally, the diaphragm span for the barn

exceeds recommendations by current codes. Straight sheathed diaphragms such as this are subject to excessive lateral deflection in a wind or seismic events when they span more than 40-ft. Excessive diaphragm deflection could result in increased damage to other parts of the structure due to movement. This issue could be addressed by either adding plywood sheathing over the existing decking to strengthen the diaphragm or by adding additional lateral force resisting elements, such as plywood sheathed shear walls, in the interior of the building so the diaphragm does not need to span as far.

Shear Walls - Sheathing:
Plywood sheathing was observed at the perimeter walls where the contractor had removed siding. The walls did not appear to have blocking installed at the panel edges, and the sheathing did not extend above the double top plate of the wall. Without sheathing extending up to the roof diaphragm, there is not a complete load path for lateral load to transfer from the roof diaphragm into the wall. The siding likely provides some shear resistance to transfer loads to from the roof diaphragm to the wall, but likely is inadequate to resist anticipated loads in a code level wind or seismic event. The shear wall sheathing on the north and south sides of the building appeared to have adequate capacity, whereas the shear walls on the east and west sides were over stressed. This deficiency could be addressed by adding sheathing from the double top plate up to the roof diaphragm and adding blocking and framings clips to tie the diaphragm and the wall together. Blocking should also be added to plywood edges in the shear walls. Adding interior shear walls as discussed above would reduce the loads on the exterior walls while also reducing the diaphragm overloading.

Shear Walls – Sill Bolts:
Half-inch diameter sill bolts were observed at six feet on center in the walls that had the framing exposed. This anchor bolt size and spacing was adequate on the north and south sides of the building, it was not adequate on the east and west sides of the building. This could be remedied by adding additional post-installed epoxy anchors into the sill plates of the walls on these sides of the building. Note that for the new sill bolts to be effective on the east and west walls, the foundation will need to be installed on these sides of the building as noted in the gravity section of the report.

Shear Walls - Holdowns
Shear walls typically have holdowns at their ends to resist overturning forces in a wind or seismic event. No holdowns were observed in the walls that were opened for our observation. Holdowns could be added to the ends of all the shear walls with epoxy anchors into the existing foundations and additional studs or posts added at the end of the shear walls to mitigate this deficiency.

Gambrel Trusses – Lateral Loads
The Gambrel trusses have a steep pitch with a prominent projection above the main roof. Wind pressures act perpendicular to the roof plane of a building and wind pressure during a code level event on this type of roof creates a larger horizontal force than a typical roof. The trusses appear to resist this loading condition with additional wood diagonals from the columns, creating a knee brace type of configuration. The gambrel trusses were analyzed for this lateral loading condition and the truss members and their connections were found to be inadequate.

Kingworks found if the trusses are tied into the adjacent roof diaphragms it reduces the demand on these knee brace conditions to be within allowable limits. This attachment could be achieved with supplemental structure such as steel plates and straps from the truss chords to the adjacent roof rafters. This approach would require the diaphragm has adequate capacity and a load path the resist the force at the base of the trusses. Adding additional interior shear walls and installing plywood sheathing to the top or bottom of the roof rafters would likely be required.

The upper exterior walls of the raised gambrel truss space consisted of timber diagonals with no plywood sheathing. The diagonals provide some lateral resistance and stability to the structure, but likely are not adequate for current code wind or seismic loads. Additional sheathing could be added to these end walls so they can act like a traditional wood shear wall. Demand on these end walls could be reduced by adding interior shear walls as discussed above.

Evaluation Summary Table

	No.	Item	Description	Mitigation
Gravity	G1	Gambrel Truss Member Connections	Inadequate connection between some members of the gambrel trusses.	Add additional side plates with screws or bolts between members.
	G2	Gambrel Truss Holdowns	No wind uplift anchorage to support framing from trusses to supports.	Add Simpson Strong Tie hurricane ties from trusses to beams below.
	G3	Gambrel Truss Support Framing	Limited connection between girder and column.	Add column caps or light gauge clips to tie girder to column.
	G4	Timber Columns	Lacking positive connections top and bottom.	Add light gauge clips or column caps and bases to columns.
	G5	12x12 Assembly Floor Girders	Inadequate capacity for 12x12 girders in dance hall.	Strengthen girders by sistering steel channels to sides of girders.
	G6	Foundations at East and West Walls	No foundations on the east or west side walls.	Add concrete foundations below walls that epoxy doweled into existing concrete.
	G7	Foundations Below Columns Supporting Steel Beam	Foundations were too small below columns supporting the steel beam at the gym entrance.	Epoxy dowel into existing footing and increase size of the footing.
	G8	Material Decay	Material decay found on exterior wall and miscellaneous roof framing.	Replace members.
	G9	Wind Uplift Anchorage	Wind uplift anchorage was not present on typical roof framing.	Install light gauge framing connectors between framing and support structure to resist wind uplift.
	G10	Stemwall to Footing Connection	Connection between concrete stemwall and foundation appeared missing.	Install supplemental steel or core drilled rebar to attach stemwall and foundation together.
Lateral	L1	Inadequate Diaphragms	Horizontal sheathed floor and roof diaphragms are inadequate.	Install plywood sheathing over the floor and roof decking.
	L2	East and West Shear Wall Sheathing	Wall sheathing overstressed on east and west walls. No wall sheathing above the wall top plate.	Add blocking to sheathing panel edges, install sheathing above the lower wall top plate on the gable end walls and/or add interior shear walls.
	L3	Sill Bolts	Sill bolts on the east and west shear walls are inadequate.	Install additional sill epoxy anchors these walls
	L4	Shear Wall Holdowns	No holdowns at existing shear walls.	Install post installed epoxy anchors with light gauge holdowns to wood posts at ends of shear walls.
	L5	Gambrel Truss Lateral Loads	Truss inadequate to resist horizontal loading.	Tie the gambrel trusses to adjacent roof diaphragm with straps, strengthen diaphragm to resist load from trusses and add/or add interior shear walls.
	L6	Gambrel End Walls	Diagonal Timber Framing at End Walls	Install plywood sheathing over the existing wall framing to create a shear wall and/or add interior shear walls.

Conclusion

This structural evaluation and calculations were performed based on a level of performance appropriate for a building of this era, constructed prior to the adoption of many current seismic design philosophies. The gravity system upgrades noted are intended to improve the structure so it can support the loading for the intended occupancy and uses. The lateral system upgrades recommended in this report are intended to improve the wind and seismic performance of the building to a Life Safety level of building performance; meaning that after a wind or seismic event there will be some residual strength and stiffness left in the lateral force resisting system of the building, thus preventing collapse and allowing exit for occupants. The performance should not be expected to be equivalent to a new structure conforming to current building codes. However, the appropriate remediation of the issues noted in this report will improve the structural performance and reduce hazards. Remediations noted in this report will likely require the building to be unoccupied while being performed.

In structural design, engineers apply the concept of a factor of safety, which essentially involves designing structural elements and connections with additional capacity beyond the anticipated loads. This extra strength provides a margin of safety to protect building occupants in case of unforeseen extreme loads, damage, or hidden defects in the structure. In spite of the deficiencies noted in this report, the barn has withstood decades of service without exhibiting failures, but in our opinion, appropriate factors of safety are not available to protect the structure from future damage or failure in the event of extreme load events (like high occupancy loads, severe wind events, or earthquakes) or in the event that hidden defects or damage are exacerbated.

Kingworks based our evaluation and calculations on limited structural information available. Prior to moving forward with any of the noted upgrades, further selective demolition may be needed to confirm conditions. Please note this report is intended to supersede the previous preliminary report Kingworks provided in January 2020. The 2020 report was a preliminary review and included likely deficiencies Barn 8 may have based on our analysis of a similar adjacent structure, the Library Barn.

After you have had a chance to review the recommendations contained herein, we would welcome the opportunity to meet with you to discuss our findings and develop a scope for a subsequent phase of work, which would provide construction drawings for the structural improvements that you choose to enact.

This concludes our report; please contact us with any questions at your convenience.

Sincerely,

Bernt Johnson PE, SE, DBIA
Senior Engineer | Associate

Quinn Hanks PE
Principal

KINGWORKS STRUCTURAL ENGINEERS

Barn 8 Dance Hall
Structural Evaluation Report

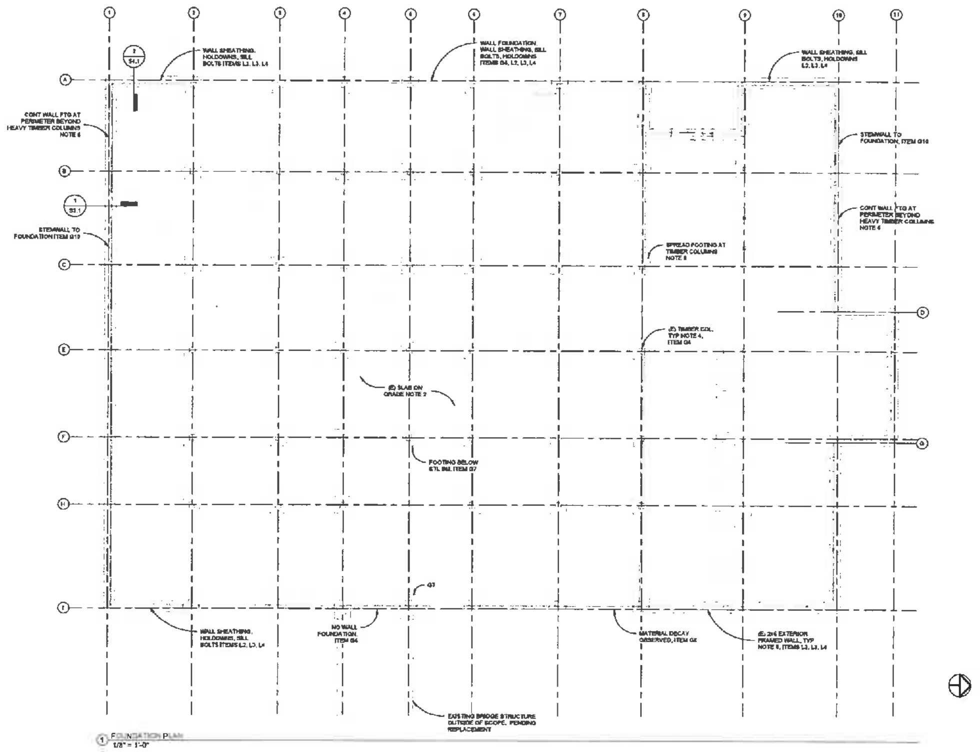
APPENDIX 1: As-Built Structural Drawings

KINGWORKS STRUCTURAL ENGINEERS

PRELIMINARY

PLAN NOTES:

1. DISCLAIMER: STRUCTURE SHOWN IS BASED ON LIMITED AREAS OF EXPOSED STRUCTURE, APPROXIMATIONS AND ASSUMPTIONS WERE MADE FOR PORTIONS NOT ACCESSIBLE OR VISIBLE.
2. EXISTING SLAB ON GRADE VARIES FROM 3" TO 4" AND REINFORCED WITH WELDED WIRE FABRIC WITH A 6x6 GRID.
3. EXISTING SPREAD FOOTINGS AT TIMBER COLUMNS ARE 3'-0"x3'-6"x3"~10" THICK, REINFORCED WITH (2) BARS EACH WAY, COLUMNS OBSERVED HAD A 12"x12"x18"-24" TALL CONCRETE PLINTH WITH (2) VERTICAL REINFORCING BARS.
4. TYPICAL TIMBER COLUMNS ARE 12"x12".
5. TYPICAL EXTERIOR FRAMED WALLS CONSISTED OF 2x6 STUDS @16" O/C WITH SINGLE BOTTOM PLATE AND DOUBLE TOP PLATE, WALLS OBSERVED HAD 1/2" ⌀ SILL BOLTS AT 6'-0" O/C, EXTERIOR WALL SHEATHING UP TO LOWER LEVEL TOP PLATE.
6. EXISTING PERIMETER CONCRETE WALL FOOTING, 2'-0" WIDE x 0'-6" DEEP WITH AN 8" THICK CONCRETE STEMWALL.



1 FOUNDATION PLAN
1/8" = 1'-0"

REV	Description	Date
	Revision Schedule	

Preliminary

SCALE:
1/8" = 1'-0"

BARN 8 STRUCTURAL EVALUATION

4 CLUBHOUSE CIRCLE
BELLINGHAM, WA 98229

SUDDEN VALLEY COMMUNITY ASSOCIATION

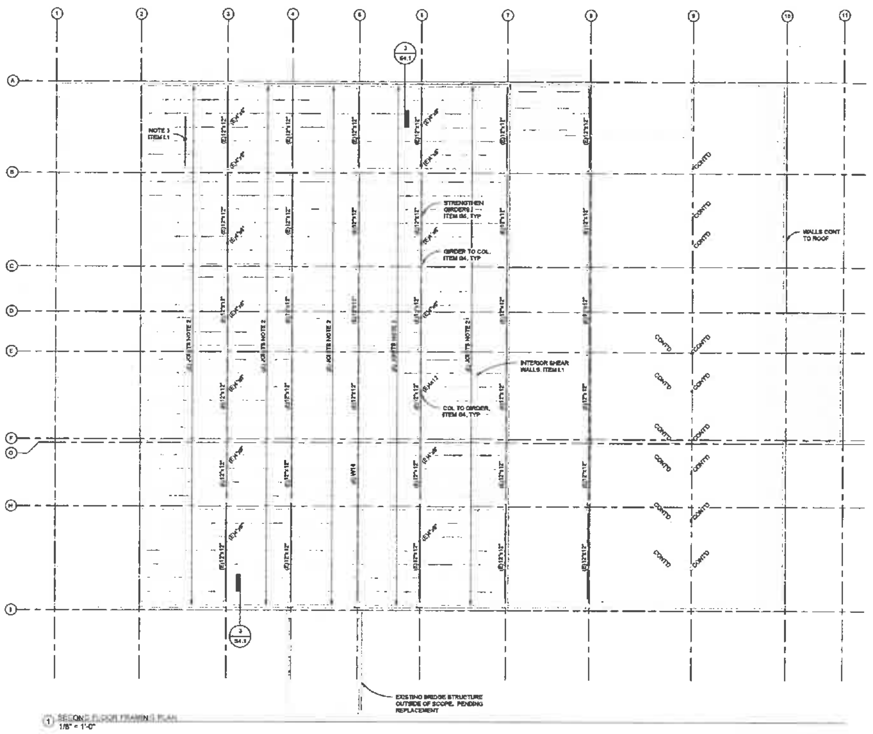
FOUNDATION PLAN

10/29/2024

S2.1

PLAN NOTES

1. DISCLAIMER: STRUCTURE SHOWN IS BASED ON LIMITED AREAS OF EXPOSED STRUCTURE, APPROXIMATIONS AND ASSUMPTIONS WERE MADE FOR PORTIONS NOT ACCESSIBLE OR VISIBLE.
2. EXISTING FLOOR JOISTS VARY ACROSS BUILDING, VARY FROM 6"x12" JOISTS AT 3'-0" ON CENTER, TO 3"x12" JOISTS AT 2'-0" O/C.
3. EXISTING FLOOR SHEATHING CONSISTS OF 2" HORIZONTAL BOARD SHEATHING.



1 SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"

KINGWORKS STRUCTURAL ENGINEERS

PRELIMINARY

REV | Description | Date

Revision Schedule

Preliminary

SCALE:
1/8" = 1'-0"

BARN 8 STRUCTURAL EVALUATION

4 CLUBHOUSE CIRCLE
BELLINGHAM, WA 98229

SUDDEN VALLEY COMMUNITY ASSOCIATION

SECOND FLOOR FRAMING PLAN

10/29/2024

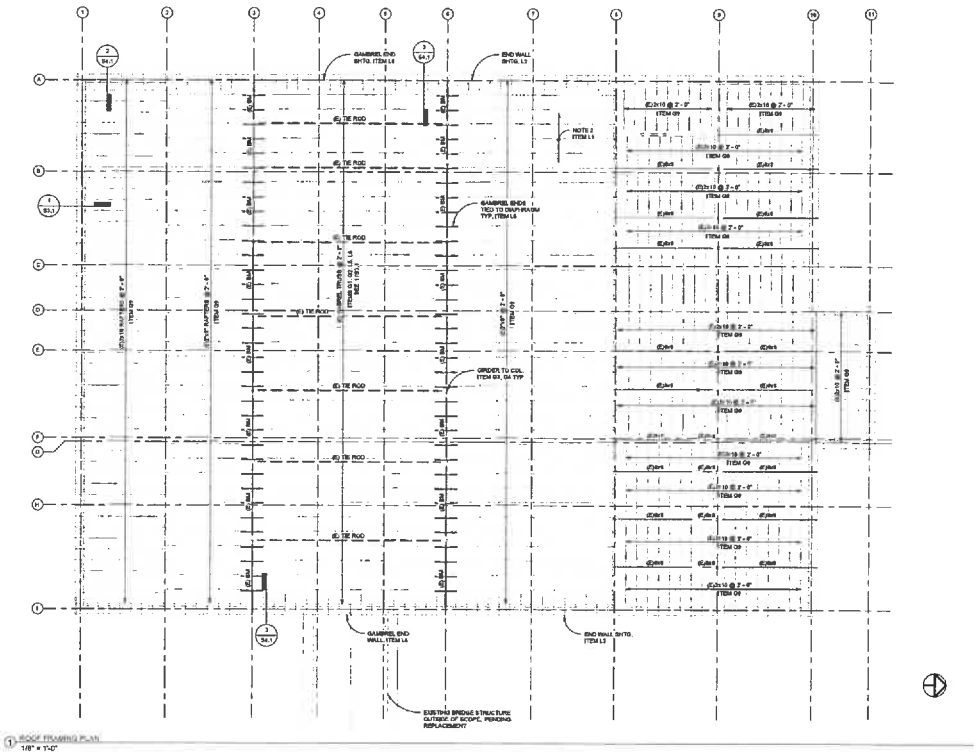
S2.2

KINGWORKS STRUCTURAL ENGINEERS

PRELIMINARY

PLAN NOTES

1. DISCLAIMER: STRUCTURE SHOWN IS BASED ON LIMITED AREAS OF EXPOSED STRUCTURE. APPROXIMATIONS AND ASSUMPTIONS WERE MADE FOR PORTIONS NOT ACCESSIBLE OR VISIBLE.
2. TYPICAL ROOF SHEATHING CONSISTS OF 1" OR 2" HORIZONTAL BOARD SHEATHING.



1 ROOF FRAMING PLAN
1/8" = 1'-0"

REV	Description	Date
	Revision Schedule	

Preliminary

SCALE
1/8" = 1'-0"

BARN 8 STRUCTURAL EVALUATION

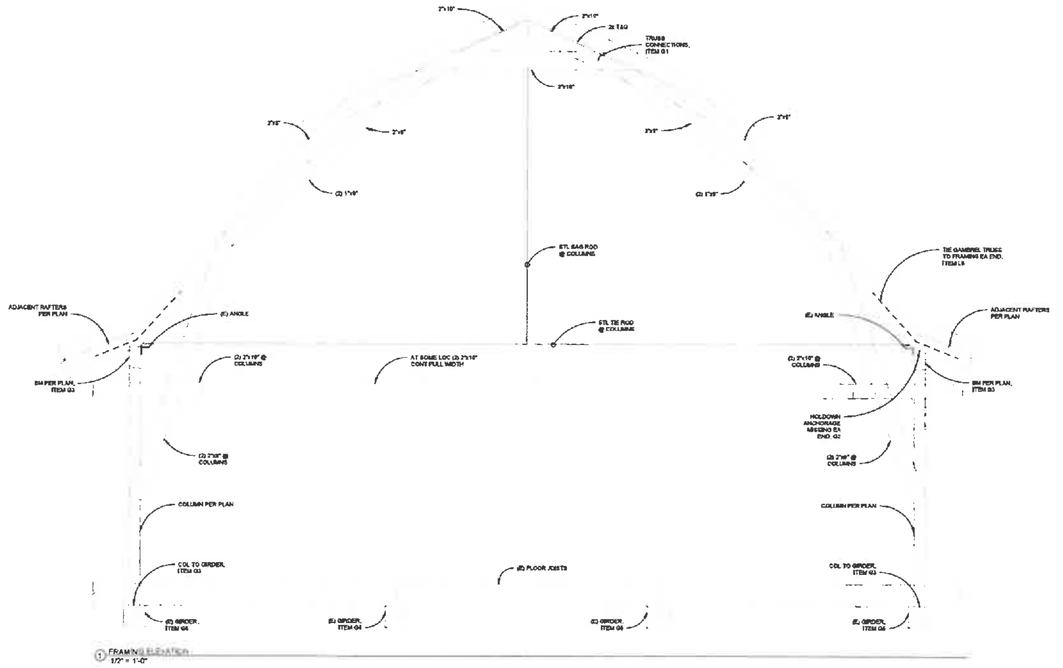
4 CLUBHOUSE CIRCLE
BELLINGHAM, WA 98229

SUDDEN VALLEY COMMUNITY ASSOCIATION

ROOF FRAMING PLAN

10/29/2024

S2.3



1 FRAMING ELEVATION
1/2" = 1'-0"

KINGWORKS STRUCTURAL ENGINEERS

PRELIMINARY

REV	Description	Date
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Preliminary

SCALE:
1/2" = 1'-0"

BARN 8 STRUCTURAL EVALUATION

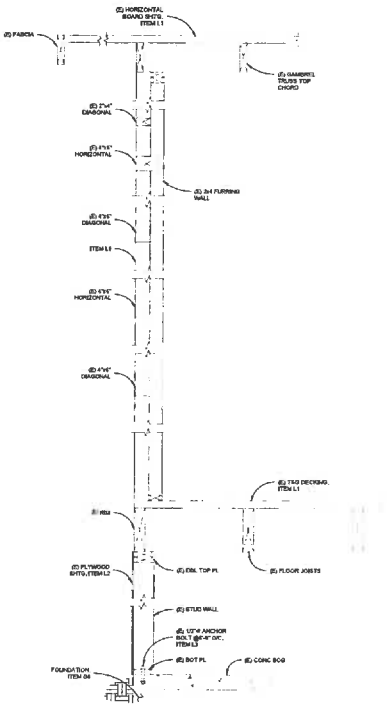
4 CLUBHOUSE CIRCLE
BELLINGHAM, WA 98229

SUDDEN VALLEY COMMUNITY ASSOCIATION

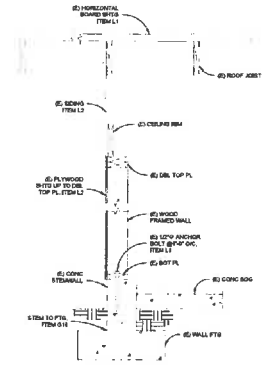
ELEVATION

10/29/2024

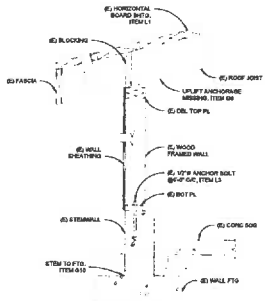
S3.1



3 WALL SECTION ADJACENT GAMBREL TRUSS
1" = 1'-0"



2 TYP EXTERIOR WALL SECTION, FTG CONDITION
1" = 1'-0"



1 TYP EXT WALL SECTION - NORTH & SOUTH
1" = 1'-0"

KINGWORKS STRUCTURAL ENGINEERS

PRELIMINARY

REV	Description	Date
	Revision Schedule	

Preliminary

SCALE:
1" = 1'-0"

BARN & STRUCTURAL EVALUATION

4 CLUBHOUSE CIRCLE
BELLINGHAM, WA 98229
SUDDEN VALLEY COMMUNITY ASSOCIATION

FRAMING DETAILS

10/29/2024

S4.1

KINGWORKS STRUCTURAL ENGINEERS

Barn 8 Dance Hall
Structural Evaluation Report

APPENDIX 2: Structural Calculations

KINGWORKS STRUCTURAL ENGINEERS
600 Dupont St, Suite B
Bellingham, WA 98225
360.714.8260
www.king-works.com

PROJECT	SVCA - Barn 8		
DESCRIPTION	Structural Calculations		
ENGINEER	PROJECT NO.	DATE	PAGE
BJ	24110	11/15/24	1

STRUCTURAL CALCULATIONS

FOR

Barn 8 Dance Hall
Sudden Valley Community Association
8 Barn Drive
Sudden Valley, WA 98229

Code: 2021 International Existing Building Code
Loads: Sds = 0.774g / Site Class D Assumed
V = 98 MPH / Exp B / Internal Pressure Coeff = 0.18
LL = 100 PSF (Commercial and Assembly Space)

Description:

Cursory structural calculations to support the preliminary structural review report of the Barn 8 Structure. Structure is approximately 20,000SF with a lower level community center and an upper level assembly hall. The building was originally constructed for agriculture purposes. Gravity system largely consists of heavy timber framing and shallow spread footings. Custom Gambrel trusses span the center area above the dance hall. Lateral system consists of wood diaphragms and shear walls.

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STRUCTURAL ENGINEERS
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Bellingham, WA 98225
360-714-8260 www.king-works.com

JOB TITLE SVCA Barn 8
Structural Evaluation
JOB NO. 24110 SHEET NO.
CALCULATED BY BBJ DATE
CHECKED BY KQH DATE

EXISTING FLOOR DEAD LOAD

Items	Description	Multiple	psf (max)
Flooring	Carpet & pad		1.0
Decking	3/4" plywood/OSB ← ASSUMED		2.7
Decking	2" Decking		5.0
Framing	Wood 2x @24"	x 2.0	5.0
			0.0
Ceiling	Suspended acoustical tile		1.8
			0.0
Mech & Elec	Mech. & Elec.		2.0
Misc.	Misc.	x 4.0	2.0
		Actual Dead Load	○ 19.5
		Use this DL instead	◉ 20.0

LIVE LOAD PER ASCE 7

Occupancy or Use	Uniform, L_o psf (kN/m²)
Apartments (See Residential)	
Access floor systems	
Office use	50 (2.40)
Computer use	100 (4.79)
Armories and drill rooms	150 (7.18)
Assembly areas	
Fixed seats (fastened to floors)	60 (2.87)
Lobbies	100 (4.79)
Movable seats	100 (4.79)
Platforms (assembly)	100 (4.79)
Stage floors	150 (7.18)
Reviewing stands, grandstands, and bleachers	100 (4.79)
Stadiums and arenas with fixed seats (fastened to the floor)	60 (2.87)
Other assembly areas	100 (4.79)

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JOB TITLE SVCA Barn 8
Structural Evaluation
JOB NO. 24110 SHEET NO.
CALCULATED BY BBJ DATE
CHECKED BY KQH DATE

ROOF DEAD LOAD

Items	Description	Multiple	psf
Roofing	Metal, copper, or tin sheets		1.5
Decking	2" Decking		5.0
Insulation	R-19 Fiberglass insul.		0.6
Framing	Wood 2x @24"	x 0.0	0.0
Misc.	T&G Ceiling	x 3.0	1.5
Mech & Elec	Mech. & Elec.		2.0
Misc.	Misc.	x 3.7	1.9
			0.0
		Actual Dead Load	○ 12.5
		Use this DL instead	◉ 12.5

ROOF SNOW LOAD PER WHATCOM COUNTY WEBSITE

Whatcom County	Approx. Average Elevation	Revised Ground Snow Load	Revised Roof Snow Load
Acme	310	22	25
Bellingham	100	15	25
Blaine	45	16	25
Deming	210	24	25
Diablo	910	100	100
Ferndale	60	20	25
Glacier	900	74	74
Lawrence	145	24	25
Lynden	103	24	25
Maple Falls	643	77	77
Mt. Baker Ski Area	4200	588	588
Newhalem	510	129	129
Nooksack	84	24	25
Sumas	36	24	25
Wickersham	310	28	28
Kendall	460		50
Paradise	460		50
Pt. Roberts	120		25

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JOB TITLE SVCA Barn 8
Structural Evaluation
JOB NO. 24110 SHEET NO.
CALCULATED BY BBJ DATE
CHECKED BY KQH DATE

Snow Loads : ASCE 7- 16

Nominal Snow Forces

Roof slope	=	20.6 deg
Horiz. eave to ridge dist (W)	=	35.0 ft
Roof length parallel to ridge (L)	=	180.0 ft

min slope at gambrel truss

Type of Roof		Hip and gable w/ trussed systems
Ground Snow Load	Pg =	15.0 psf
Risk Category	=	II
Importance Factor	I =	1.0
Thermal Factor	Ct =	1.00
Exposure Factor	Ce =	1.0
Pf = 0.7*Ce*Ct*I*Pg	=	10.5 psf
Unobstructed Slippery Surface		yes
Sloped-roof Factor	Cs =	0.76
Balanced Snow Load	=	**8.0 psf**

metal roof

Near ground level surface balanced snow load = **15.0 psf**

Rain on Snow Surcharge Angle		0.70 deg
Code Maximum Rain Surcharge		5.0 psf
Rain on Snow Surcharge	=	0.0 psf
Ps plus rain surcharge	=	8.0 psf
Minimum Snow Load	Pm =	0.0 psf
Uniform Roof Design Snow Load	=	**8.0 psf**

NOTE: Alternate spans of continuous beams shall be loaded with half the design roof snow load so as to produce the greatest possible effect[illegible]nd excep[illegible]

unbalanced snow load condition on gambrel truss

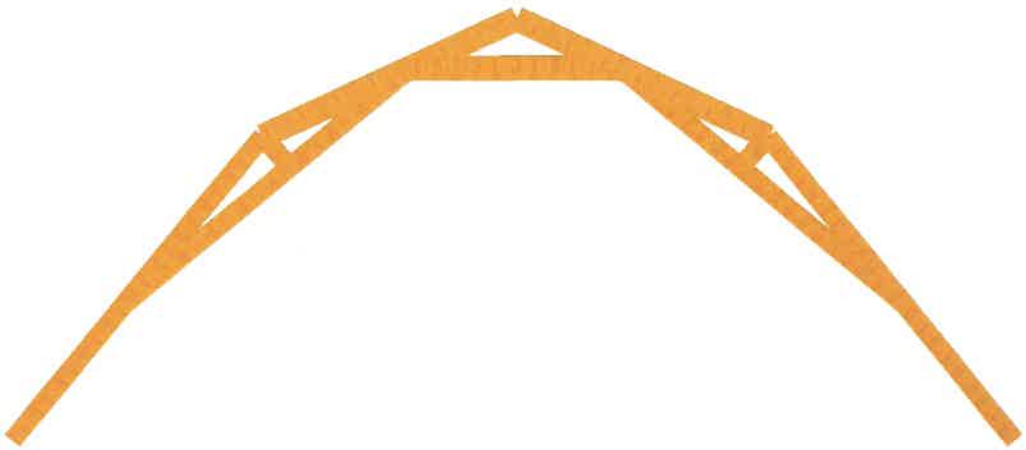
Unbalanced Snow Loads - for Hip & Gable roofs only

Required if slope is between 7 on 12 =	30.26 deg	
and 2.38 deg =	2.38 deg	**Unbalanced snow loads must be applied**
Windward snow load =	2.4 psf	= 0.3Ps
Leeward snow load from ridge to 7.16' =	24.1 psf	= hdγ / √S + Ps
Leeward snow load from 7.16' to the eave =	8.0 psf	= Ps

note: areas outside of the gambrel truss area do not have adequate slope qualify for a reduced snow load. those areas were checked for the 25 psf minimum required by the county.

15 ft adjacent gambrel truss is designed for 8 psf additional snow load to account for sliding snow forom gambrel per ASCE 7

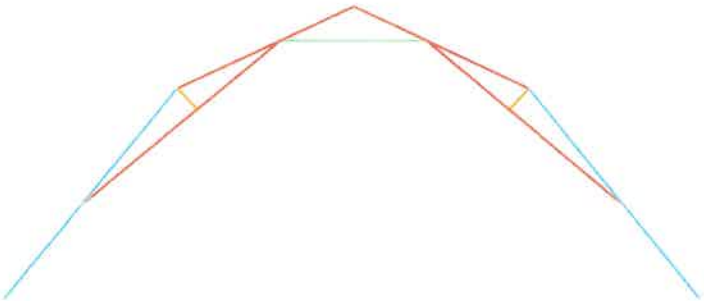
TYPICAL TRUSS BETWEEN TIE RODS/CROSS BEAMS



TYPICAL TRUSS BETWEEN TIE RODS/CROSS BEAMS
Balanced Snow Load

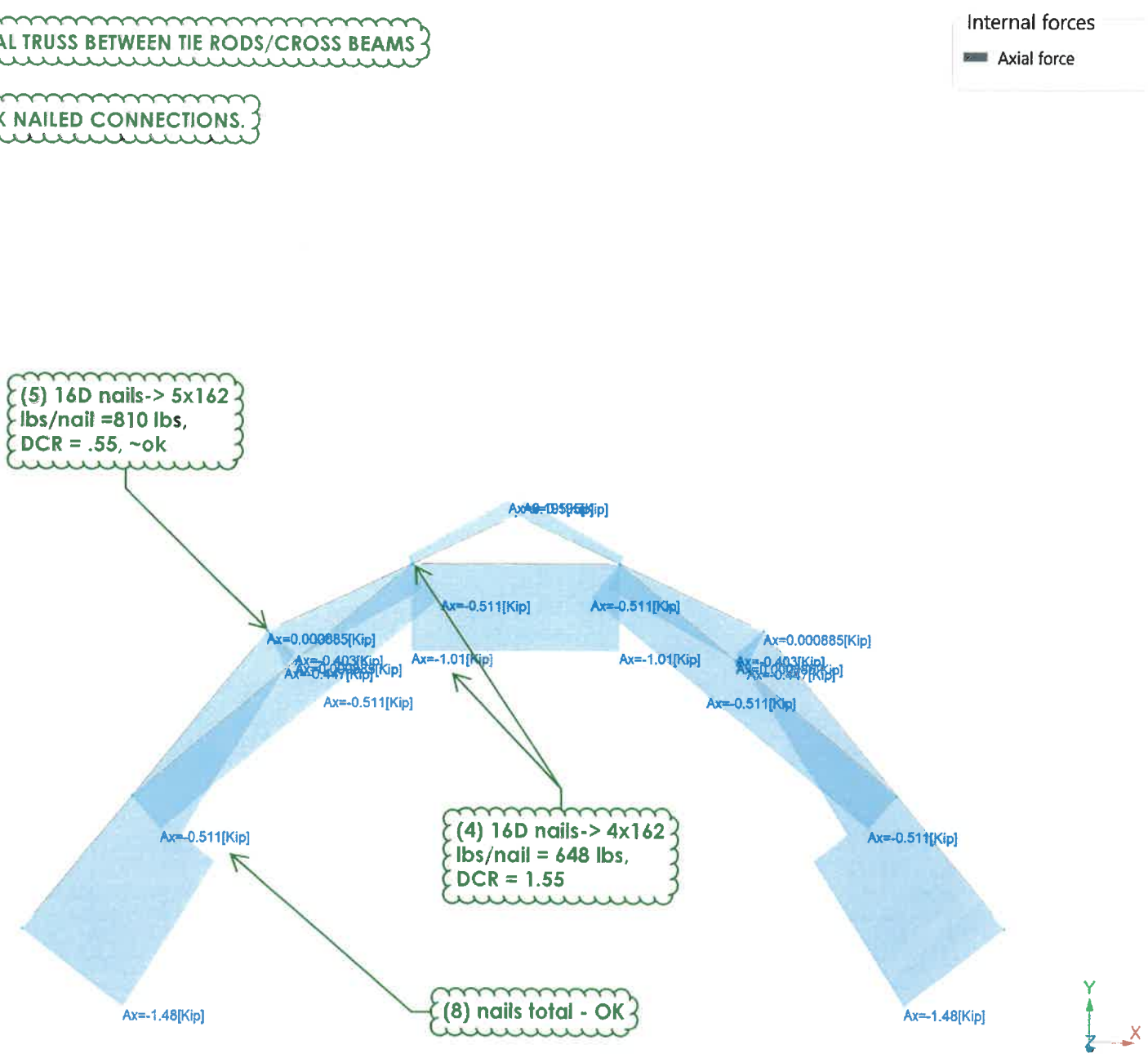
stress ratio on members is less than 1.0, OK

Stress ratio
AISC/AISI/BS/AS/CSA/NDS
0.34
0.30
0.26
0.23
0.19
0.15
0.11
0.08
0.04
7.129E-05



TYPICAL TRUSS BETWEEN TIE RODS/CROSS BEAMS

CHECK NAILED CONNECTIONS.



Design Method	Allowable Stress Design (ASD)
Connection Type	Lateral loading
Fastener Type	Nail
Loading Scenario	Single Shear

Main Member Type	Douglas Fir-Larch
Main Member Thickness	-- Other (in inches) -- 2
Side Member Type	Douglas Fir-Larch
Side Member Thickness	-- Other (in inches) -- 1
Nail Type	Common Wire
Nail Size	16d (D = 0.162 in.; L = 3.5 in.)
Load Duration Factor	C_D = 1.15
Wet Service Factor	C_M = 1.0
End Grain Factor	C_eg = 1.0
Temperature Factor	C_t = 1.0
Diaphragm Factor	C_di = 1.0

Connection Yield Modes

Im	788 lbs.
Is	394 lbs.
II	268 lbs.
IIIm	279 lbs.
IIIs	163 lbs.
IV	162 lbs.

Adjusted ASD Capacity	**162 lbs.**
Fastener length exceeds total connection thickness	

- Nail bending yield strength of 90000 psi is assumed.
- The Adjusted ASD Capacity does not apply for toe-nails installed in wood members.
- Length of tapered tip is assumed to be two times the nail diameter for calculating dowel bearing length in the main member.
- The Adjusted ASD Capacity only applies for nails that have been driven flush with the side member surface. It does not apply for nails that have been overdriven into the side member.

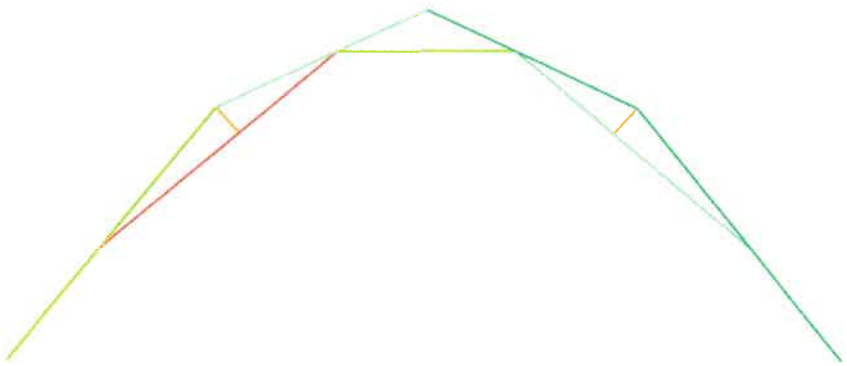
While every effort has been made to insure the accuracy of the information presented, and special effort has been made to assure that the information reflects the state-of-the-art, neither the American Wood Council nor its members assume any responsibility for any particular design prepared from this on-line Connection Calculator. Those using this on-line Connection Calculator assume all liability from its use.

The Connection Calculator was designed and created by Cameron Knudson, Michael Dodson and David Pollock at Washington State University. Support for development of the Connection Calculator was provided by American Wood Council

unbalanced snow load condition

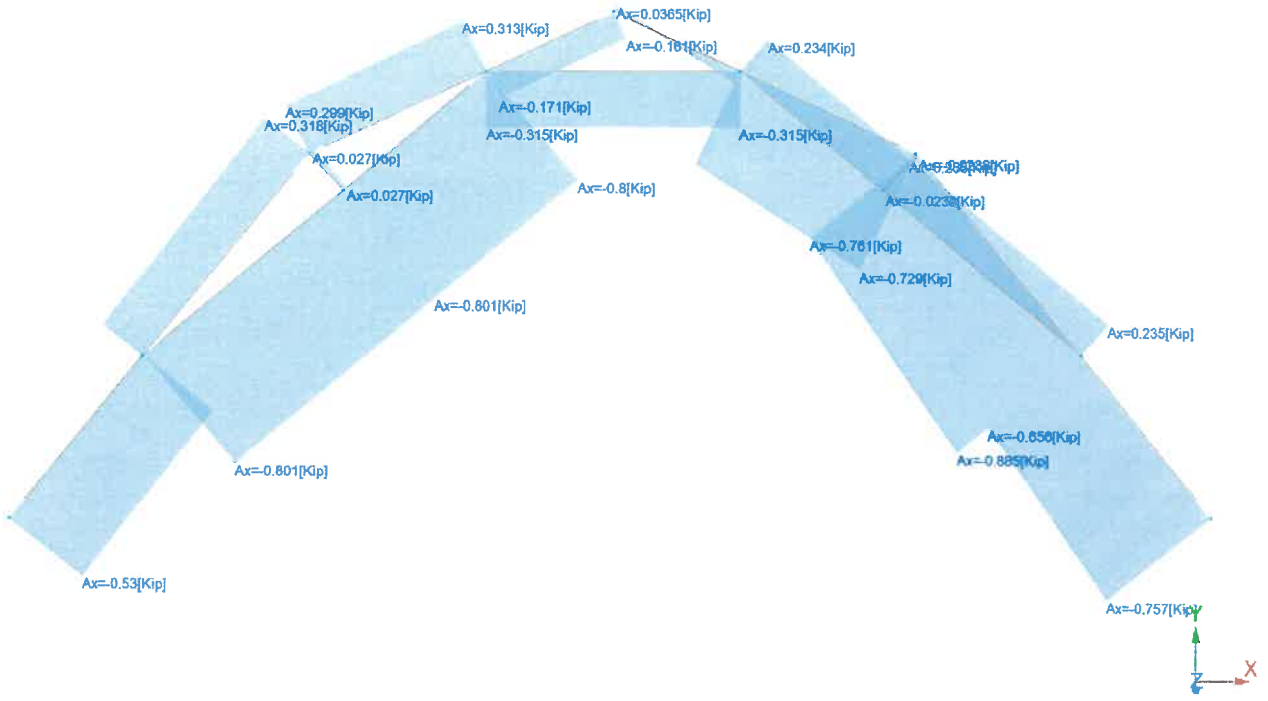
Stress ratio
AISC/AISI/BS/AS/CSA/NDS

0.74
0.66
0.58
0.49
0.41
0.33
0.25
0.17
0.08
1.056E-03



TYPICAL TRUSS BETWEEN TIE RODS/CROSS BEAMS

CHECK NAILED CONNECTIONS.
ok for unbalanced snow load condition compared to uniform snow load condition



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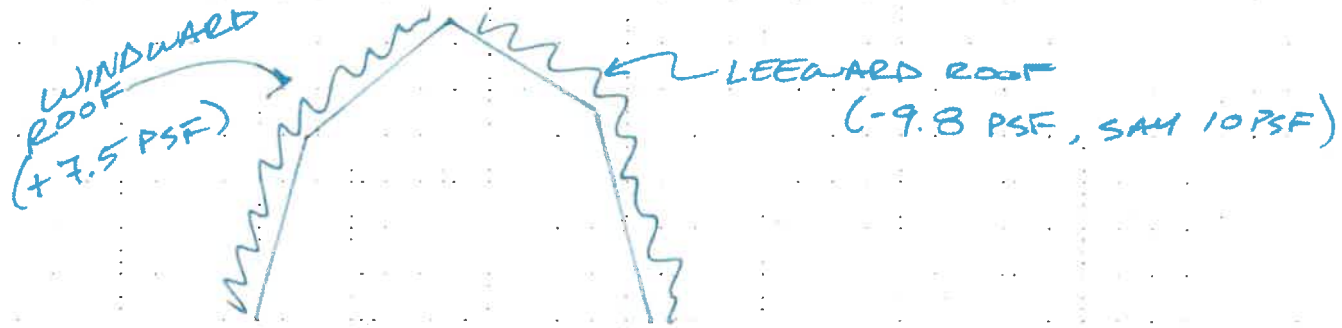
PROJECT			
DESCRIPTION			
ENGINEER	PROJECT NO.	DATE	PAGE

WIND LOADS ON GABLE TRUSSES

MWFRS:



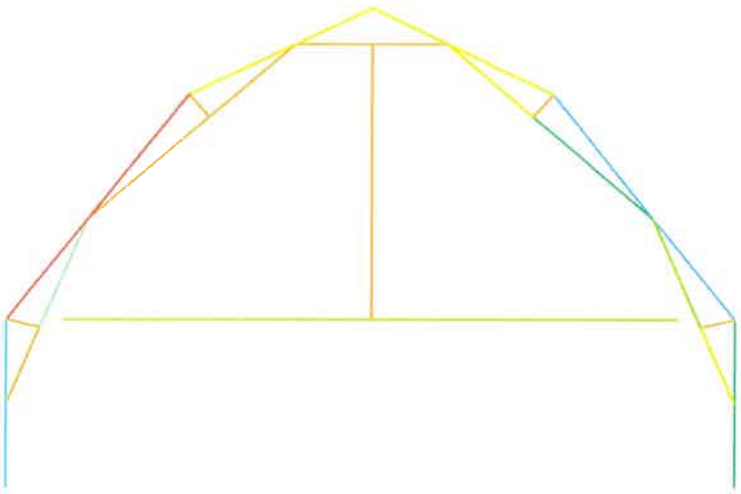
COMPONENTS & CLADDING:

ATRIB = 35' x 2.67' = 95 SF

TRUSS AT TIE RODS - EXISTING CONDITION (NOT BRACED BY ADJACENT DIAPHRAGMS)

UNBALANCED WINDLOAD APPLIED (WINDWARD POSITIVE, LEEWARD NEGATIVE)

Stress ratio
AISC/AISI/BS/AS/CSA/NDS

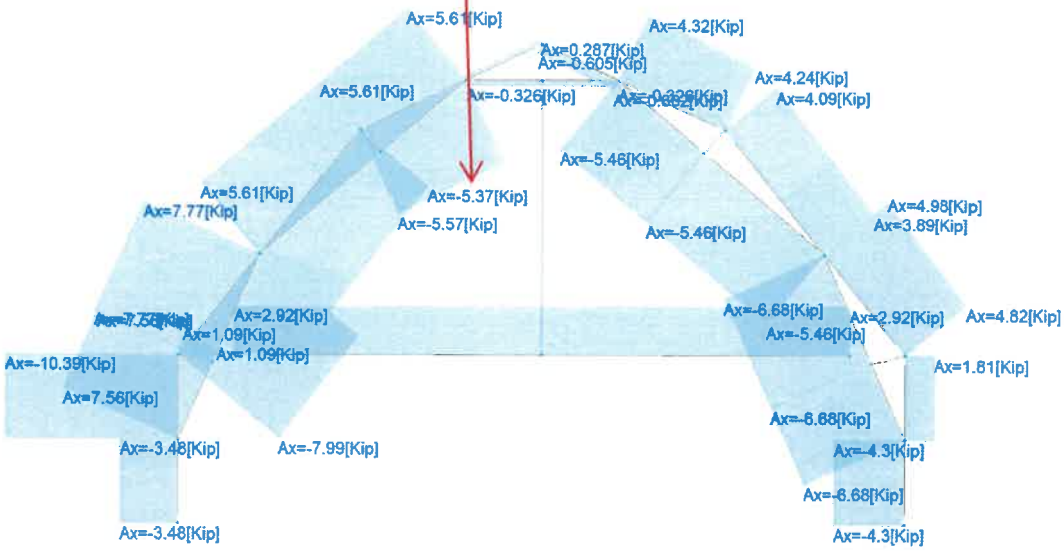


Internal forces
Axial force

TRUSS AT TIE RODS - EXISTING CONDITION (NOT BRACED BY ADJACENT DIAPHRAGMS)

UNBALANCED WINDLOAD APPLIED (WINDWARD POSITIVE, LEEWARD NEGATIVE)

AXIAL LOADS EXCEED NAILED CONNECTIONS CALCULATED ON PREV PAGES

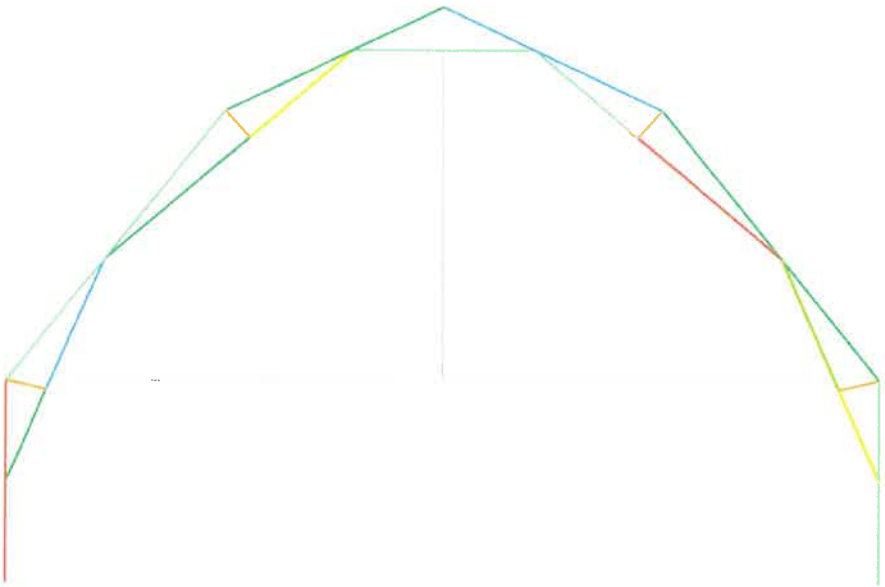


TRUSS AT TIE RODS - ASSUMING BRACED BY ADJACENT DIAPHRAGMS VIA NEW CONNECTIONS

UNBALANCED WINDLOAD APPLIED (WINDWARD POSITIVE, LEEWARD NEGATIVE)

Stress ratio
AISC/AISI/BS/AS/CSA/NDS

0.26
0.23
0.20
0.17
0.15
0.12
0.09
0.06
0.03
0.00

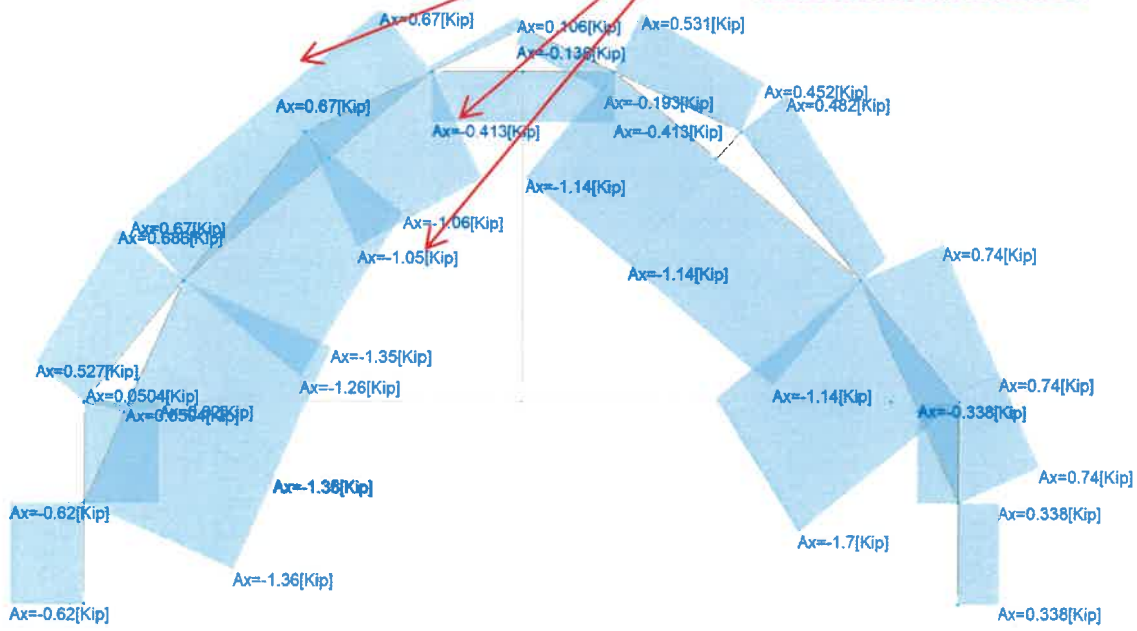


Internal forces
Axial force

TRUSS AT TIE RODS -- ASSUMING BRACED BY ADJACENT DIAPHRAGMS VIA NEW CONNECTIONS

UNBALANCED WINDLOAD APPLIED (WINDWARD POSITIVE, LEEWARD NEGATIVE)

NAILED CONNECTIONS WITHIN CAPACITIES CALCULATED EARLIER IN PDF



KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

DESCRIPTION: 6x12 Floor Purlin

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

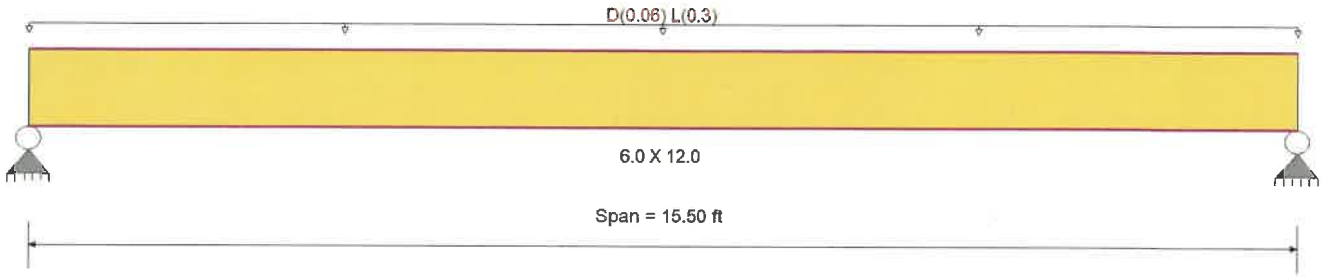
Wood Species : Douglas Fir-Larch
Wood Grade : Select Structural

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1,600.0 psi
Fb -	1,600.0 psi
Fc - Prll	1,100.0 psi
Fc - Perp	625.0 psi
Fv	170.0 psi
Ft	950.0 psi

E : Modulus of Elasticity

Ebend- xx	1,600.0ksi
Eminbend - xx	580.0ksi
Density	31.210pcf



Applied Loads

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

Beam self weight calculated and added to loading
Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 3.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.587 : 1	Maximum Shear Stress Ratio	=	0.312 : 1
Section used for this span		6.0 X 12.0	Section used for this span		6.0 X 12.0
fb: Actual	=	939.99psi	fv: Actual	=	53.12 psi
F'b	=	1,600.00psi	F'v	=	170.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	7.750ft	Location of maximum on span	=	14.538 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.283 in	Ratio =	656 >=360	Span: 1 : L Only
Max Upward Transient Deflection	0 in	Ratio =	0 <360	n/a
Max Downward Total Deflection	0.355 in	Ratio =	524 >=180	Span: 1 : +D+L
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	M	fb	F'b	V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.131	0.070	0.90	1.00	1.00	1.00	1.000	1.00	1.00	1.00	2.27	189.2	1,440.0	0.51	10.7	153.0
+D+L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.587	0.312	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	11.28	940.0	1,600.0	2.55	53.1	170.0
+D+0.750L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.376	0.200	1.25	1.00	1.00	1.00	1.000	1.00	1.00	1.00	9.03	752.3	2,000.0	2.04	42.5	212.5
+0.60D					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.044	0.024	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	1.36	113.5	2,560.0	0.31	6.4	272.0

DESCRIPTION: 6x12 Floor Purlin

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.3549	7.807		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	2.911	2.911
Max Upward from Load Combinations	2.911	2.911
Max Upward from Load Cases	2.325	2.325
D Only	0.586	0.586
+D+L	2.911	2.911
+D+0.750L	2.330	2.330
+0.60D	0.352	0.352
L Only	2.325	2.325

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

DESCRIPTION: 3x12 Floor Purlin at 24" o/c

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

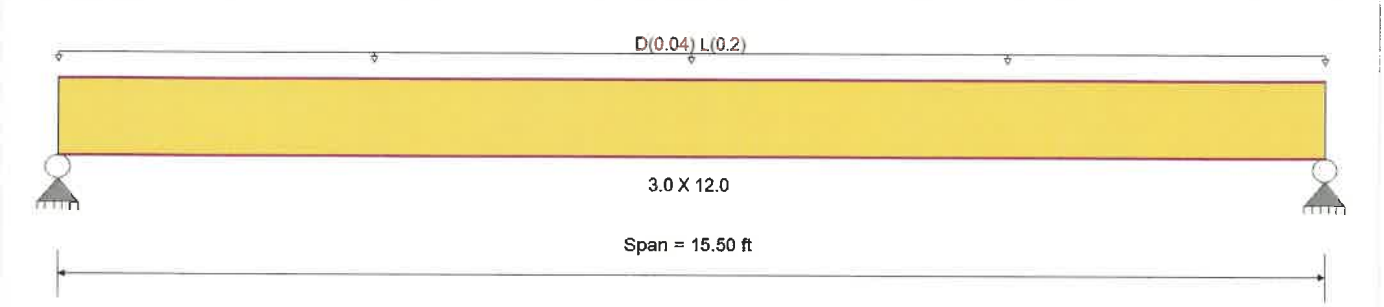
Wood Species : Douglas Fir-Larch
Wood Grade : Select Structural

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1,600.0 psi
Fb -	1,600.0 psi
Fc - Prll	1,100.0 psi
Fc - Perp	625.0 psi
Fv	170.0 psi
Ft	950.0 psi

E : Modulus of Elasticity

Ebend- xx	1,600.0 ksi
Eminbend - xx	580.0 ksi
Density	31.210 pcf



Applied Loads

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

Beam self weight calculated and added to loading
Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 2.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.775 : 1	Maximum Shear Stress Ratio	=	0.412 : 1
Section used for this span		3.0 X 12.0	Section used for this span		3.0 X 12.0
fb: Actual	=	1,240.30 psi	fv: Actual	=	70.09 psi
F'b	=	1,600.00 psi	F'v	=	170.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	7.750 ft	Location of maximum on span	=	14.538 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.378 in	Ratio =	492 >=360	Span: 1 : L Only
Max Upward Transient Deflection	0 in	Ratio =	0 <360	n/a
Max Downward Total Deflection	0.468 in	Ratio =	397 >=180	Span: 1 : +D+L
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	Moment Values M	fb	F'b	Shear Values V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.166	0.088	0.90	1.00	1.00	1.00	1.000	1.00	1.00	1.00	1.44	239.3	1,440.0	0.32	13.5	153.0
+D+L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.775	0.412	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	7.44	1,240.3	1,600.0	1.68	70.1	170.0
+D+0.750L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.495	0.263	1.25	1.00	1.00	1.00	1.000	1.00	1.00	1.00	5.94	990.0	2,000.0	1.34	55.9	212.5
+0.60D					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.056	0.030	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	0.86	143.6	2,560.0	0.19	8.1	272.0

DESCRIPTION: 3x12 Floor Purlin at 24" o/c

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.4683	7.807		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	1.920	1.920
Max Upward from Load Combinations	1.920	1.920
Max Upward from Load Cases	1.550	1.550
D Only	0.370	0.370
+D+L	1.920	1.920
+D+0.750L	1.533	1.533
+0.60D	0.222	0.222
L Only	1.550	1.550

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01 kingworks (c) ENERCALC INC 1983-2023

DESCRIPTION: 12x12 Floor Girder - Typical supporting truss

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

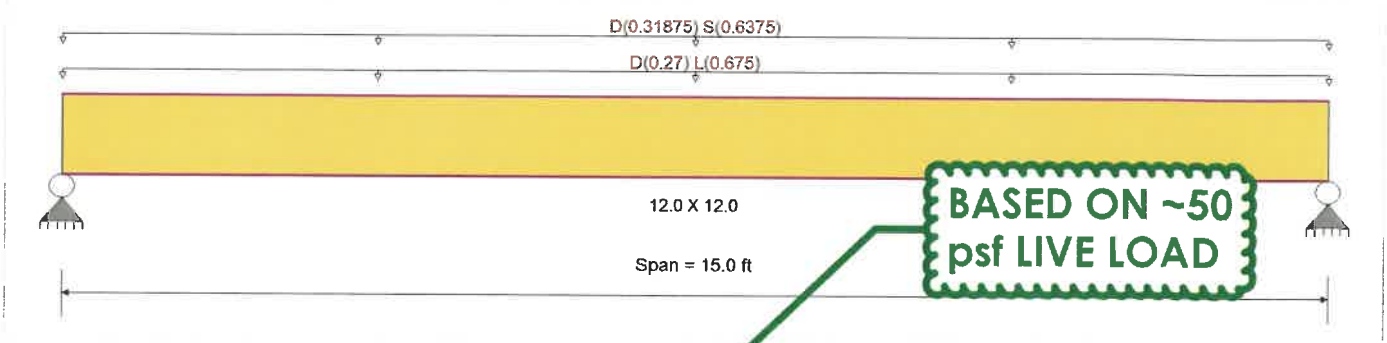
Wood Species : Douglas Fir-Larch
Wood Grade : Select Structural

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1,600.0 psi
Fb -	1,600.0 psi
Fc - Prll	1,100.0 psi
Fc - Perp	625.0 psi
Fv	170.0 psi
Ft	950.0 psi

E : Modulus of Elasticity

Ebend- xx	1,600.0 ksi
Eminbend - xx	580.0 ksi
Density	31.210 pcf



Applied Loads

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

Beam self weight calculated and added to loading
Uniform Load : D = 0.020, L = 0.050 ksf, Tributary Width = 13.50 ft, (Floor Load)
Uniform Load : D = 0.01250, S = 0.0250 ksf, Tributary Width = 25.50 ft, (Roof Load From Truss - Smeared)

DESIGN SUMMARY

Design N.G.

Maximum Bending Stress Ratio	=	1.022 : 1	Maximum Shear Stress Ratio	=	0.557 : 1
Section used for this span		12.0 X 12.0	Section used for this span		12.0 X 12.0
fb: Actual	=	1,880.08 psi	fv: Actual	=	108.87 psi
F'b	=	1,840.00 psi	F'v	=	195.50 psi
Load Combination		+D+0.750L+0.750S	Load Combination		+D+0.750L+0.750S
Location of maximum on span	=	7.500 ft	Location of maximum on span	=	14.015 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.280 in	Ratio =	643 >=360	Span: 1 : L Only
Max Upward Transient Deflection	0 in	Ratio =	0 <360	n/a
Max Downward Total Deflection	0.665 in	Ratio =	270 >=180	Span: 1 : +D+0.750L+0.750S
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	M	fb	F'b	V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.505	0.275	0.90	1.00	1.00	1.00	1.000	1.00	1.00	1.00	17.44	726.5	1,440.0	4.04	42.1	153.0
+D+L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.948	0.517	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	36.42	1,517.5	1,600.0	8.44	87.9	170.0
+D+S					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.801	0.436	1.15	1.00	1.00	1.00	1.000	1.00	1.00	1.00	35.37	1,473.6	1,840.0	8.19	85.3	195.5
+D+0.750L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.660	0.360	1.25	1.00	1.00	1.00	1.000	1.00	1.00	1.00	31.67	1,319.8	2,000.0	7.34	76.4	212.5
+D+0.750L+0.750S					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0

DESCRIPTION: 12x12 Floor Girder - Typical supporting truss

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	M	fb	F'b	V	fv	F'v
Length = 15.0 ft	1	1.022	0.557	1.15	1.00	1.00	1.00	1.000	1.00	1.00	1.00	45.12	1,880.1	1,840.0	10.45	108.9	195.5
+0.60D					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.170	0.093	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	10.46	435.9	2,560.0	2.42	25.2	272.0

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750L+0.750S	1	0.6648	7.555		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	12.033	12.033
Max Upward from Load Combinations	12.033	12.033
Max Upward from Load Cases	5.063	5.063
D Only	4.650	4.650
+D+L	9.712	9.712
+D+S	9.431	9.431
+D+0.750L	8.447	8.447
+D+0.750L+0.750S	12.033	12.033
+0.60D	2.790	2.790
L Only	5.063	5.063
S Only	4.781	4.781

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

SVCA Barn 8 - Enercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01 kingworks

(c) ENERCALC INC 1983-2023

DESCRIPTION: Typ 12x12 Floor Girder Not Supporting Truss

based on 100 psf LL, beam is OK for 50 PSF live Load

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

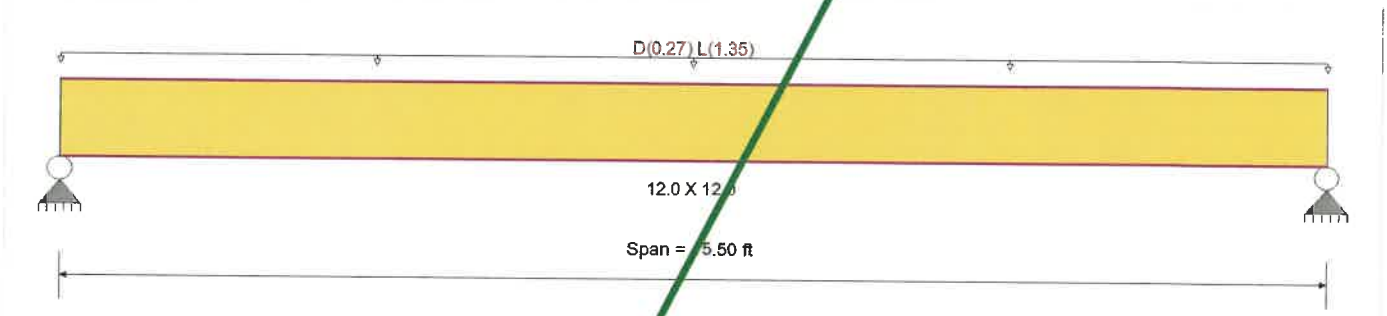
Wood Species : Douglas Fir-Larch
Wood Grade : Select Structural

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1,600.0 psi
Fb -	1,600.0 psi
Fc - Prll	1,100.0 psi
Fc - Perp	625.0 psi
Fv	170.0 psi
Ft	950.0 psi

E : Modulus of Elasticity

Ebend- xx	1,600.0 ksi
Eminbend - xx	580.0 ksi
Density	31.210 pcf



Applied Loads

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

Beam self weight calculated and added to loading
Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 13.50 ft, (Floor Load)

DESIGN SUMMARY

Design N.G.

Maximum Bending Stress Ratio	=	1.291 : 1	Maximum Shear Stress Ratio	=	0.687 : 1
Section used for this span		12.0 X 12.0	Section used for this span		12.0 X 12.0
fb: Actual	=	2,066.16 psi	fv: Actual	=	116.76 psi
F'b	=	1,600.00 psi	F'v	=	170.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	7.750 ft	Location of maximum on span	=	14.538 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.638 in	Ratio =	291 <360	Span: 1 : L Only
Max Upward Transient Deflection	0 in	Ratio =	0 <360	n/a
Max Downward Total Deflection	0.780 in	Ratio =	238 >=180	Span: 1 : +D+L
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	Moment Values M	fb	F'b	Shear Values V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.262	0.139	0.90	1.00	1.00	1.00	1.000	1.00	1.00	1.00	9.05	376.9	1,440.0	2.04	21.3	153.0
+D+L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	1.291	0.687	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	49.59	2,066.2	1,600.0	11.21	116.8	170.0
+D+0.750L					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.822	0.437	1.25	1.00	1.00	1.00	1.000	1.00	1.00	1.00	39.45	1,643.8	2,000.0	8.92	92.9	212.5
+0.60D					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.50 ft	1	0.088	0.047	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	5.43	226.1	2,560.0	1.23	12.8	272.0

DESCRIPTION: Typ 12x12 Floor Girder Not Supporting Truss

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.7801	7.807		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	12.797	12.797
Max Upward from Load Combinations	12.797	12.797
Max Upward from Load Cases	10.463	10.463
D Only	2.334	2.334
+D+L	12.797	12.797
+D+0.750L	10.181	10.181
+0.60D	1.401	1.401
L Only	10.463	10.463

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

based on 100 psf live load, beam is ok for 50 psf live load

actual beam size unknown, to be verified during phase 2 as needed

Steel Beam

Project File: 241003kw24110 SVCA Barn 8 - Epercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01

3-2023

DESCRIPTION: (e)W14 Beam Check

CODE REFERENCES

Calculations per AISC 360-16, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set : IBC 2021

Material Properties

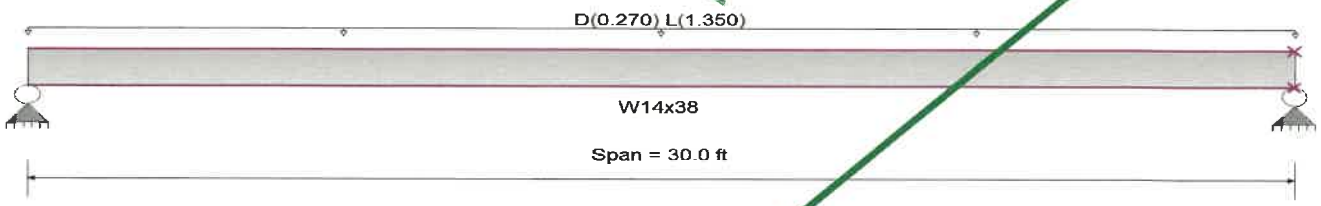
Analysis Method :Allowable Strength Design

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Bending Axis : Major Axis Bending

Fy : Steel

E: Modulu



Applied Loads

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

Beam self weight calculated and added to loading

Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 13.50 ft, (Floor Load)

DESIGN SUMMARY

Design N.G.

Maximum Bending Stress Ratio =	1.216 : 1	Maximum Shear Stress Ratio =	0.285 : 1
Section used for this span	W14x38	Section used for this span	W14x38
Ma : Applied	186.539 k-ft	Va : Applied	24.872 k
Mn / Omega : Allowable	153.443 k-ft	Vn/Omega : Allowable	87.420 k
Load Combination	+D+L	Load Combination	+D+L
		Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	2.209 in	Ratio =	162	<360	Span: 1 : L Only
Max Upward Transient Deflection	0 in	Ratio =	0	<360	n/a
Max Downward Total Deflection	2.719 in	Ratio =	132	<180	Span: 1 : +D+L
Max Upward Total Deflection	0 in	Ratio =	0	<180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios		Summary of Moment Values						Summary of Shear Values		
Segment Length	Span #	M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	VnxVnx/Omega	
D Only													
Dsgn. L = 30.00 ft	1	0.226	0.053	34.66		34.66	256.25	153.44	1.00	1.00	4.62	131.13	87.42
+D+L													
Dsgn. L = 30.00 ft	1	1.216	0.285	186.54		186.54	256.25	153.44	1.00	1.00	24.87	131.13	87.42
+D+0.750L													
Dsgn. L = 30.00 ft	1	0.968	0.227	148.57		148.57	256.25	153.44	1.00	1.00	19.81	131.13	87.42
+0.60D													
Dsgn. L = 30.00 ft	1	0.136	0.032	20.80		20.80	256.25	153.44	1.00	1.00	2.77	131.13	87.42

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	2.7190	15.086		0.0000	0.000

Vertical Reactions

Support notation : Far left is #' Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	24.872	24.872
Max Upward from Load Combinations	24.872	24.872
Max Upward from Load Cases	20.250	20.250
D Only	4.622	4.622
+D+L	24.872	24.872
+D+0.750L	19.809	19.809
+0.60D	2.773	2.773

DESCRIPTION: (e)W14 Beam Check

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
L Only	20.250	20.250

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

DESCRIPTION: 12x12 column check

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	8 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.1		
Fb +	1350 psi	Fv	170 psi
Fb -	1350 psi	Ft	675 psi
Fc - Prll	925 psi	Density	31.21 pcf
Fc - Perp	625 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1600	1600	1600 ksi
Minimum	580	580	

Wood Section Name	**12x12**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**12** in	Allow Stress Modification Factors	
Exact Depth	**12** in	Cf or Cv for Bending	1.0
Area	144.0 in^2	Cf or Cv for Compressio	1.0
Ix	1,728.0 in^4	Cf or Cv for Tension	1.0
Iy	1,728.0 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0
		Use Cr : Repetitive ?	No

Column Buckling Condition:
Fully braced against buckling ABOUT X-X Axis
Fully braced against buckling ABOUT Y-Y Axis

Applied Loads

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

Column self weight included : 249.680 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 8.0 ft, D = 3.840, L = 19.20 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.1748 : 1**

Load Combination	+D+L
Governing NDS Forumla	Comp Only, fc/Fc'
Location of max.above base	0.0 ft
At maximum location values are .	
Applied Axial	23.290 k
Applied Mx	0.0 k-ft
Applied My	0.0 k-ft
Fc : Allowable	925.0 psi

PASS Maximum Shear Stress Ratio = **0.0 : 1**

Load Combination	+0.60D
Location of max.above base	8.0 ft
Applied Design Shear	0.0 psi
Allowable Shear	272.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	0.0 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y 0.0 in at 0.0 ft above base
for load combination : n/a
Along X-X 0.0 in at 0.0 ft above base
for load combination : n/a

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Load Combination Results

Load Combination	C_D	C_P	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.900	1.000	0.03412	PASS	0.0 ft	0.0	PASS	8.0 ft
+D+L	1.000	1.000	0.1748	PASS	0.0 ft	0.0	PASS	8.0 ft
+D+0.750L	1.250	1.000	0.1110	PASS	0.0 ft	0.0	PASS	8.0 ft
+0.60D	1.600	1.000	0.01151	PASS	0.0 ft	0.0	PASS	8.0 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only					4.090				
+D+L					23.290				
+D+0.750L					18.490				

Wood Column

DESCRIPTION: 12x12 column check

Maximum Reactions

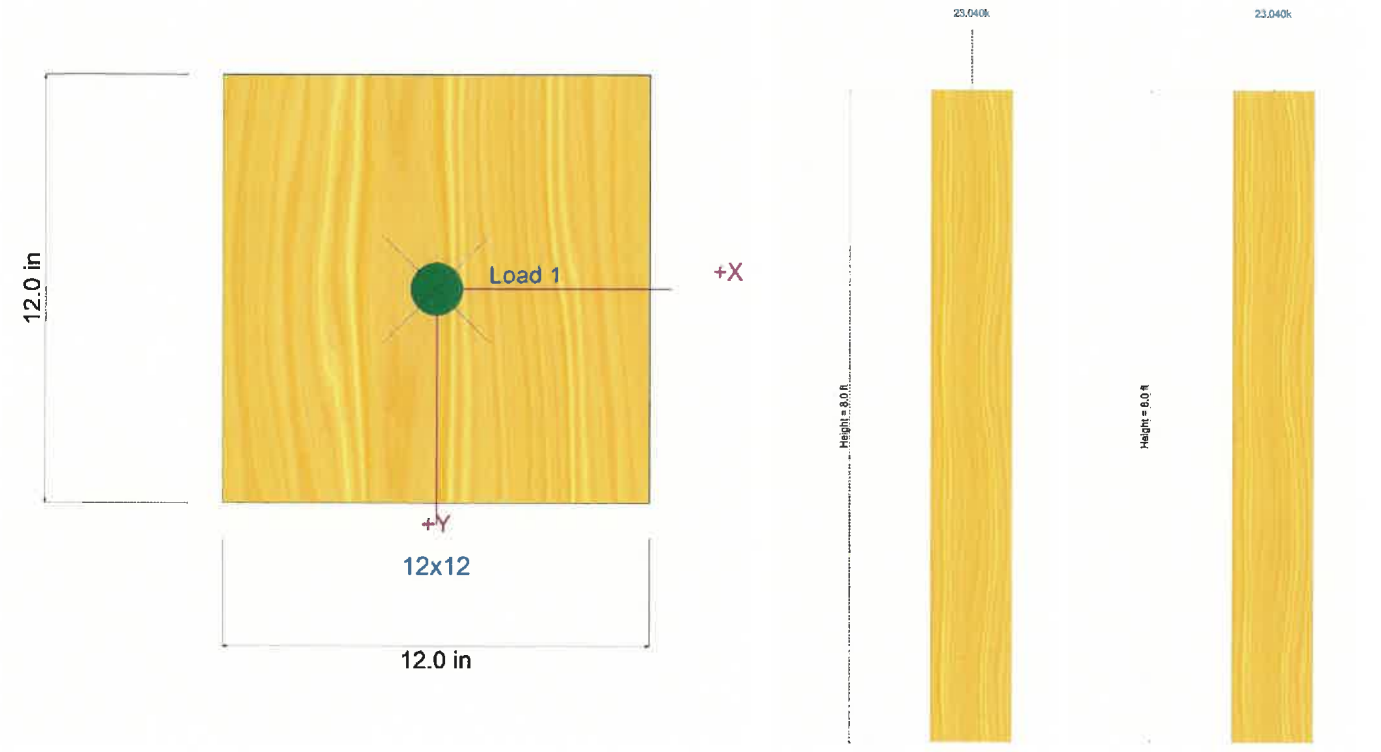
Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments @ Base	@ Top	k-ft	Mx - End Moments @ Base	@ Top
+0.60D						2.454					
L Only						19.200					

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
D Only	0.0000 in	0.000ft	0.000 in	0.000 ft
+D+L	0.0000 in	0.000ft	0.000 in	0.000 ft
+D+0.750L	0.0000 in	0.000ft	0.000 in	0.000 ft
+0.60D	0.0000 in	0.000ft	0.000 in	0.000 ft
L Only	0.0000 in	0.000ft	0.000 in	0.000 ft

Sketches



KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01 kingworks

DESCRIPTION: (e) 12x12 column check - with Roof Loading

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	8 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.1		
Fb +	1,350.0 psi	Fv	170.0 psi
Fb -	1,350.0 psi	Ft	675.0 psi
Fc - Prll	925.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**12x12**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**12.0** in	Allow Stress Modification Factors	
Exact Depth	**12.0** in	Cf or Cv for Bending	1.0
Area	144.0 in^2	Cf or Cv for Compressio	1.0
Ix	1,728.0 in^4	Cf or Cv for Tension	1.0
Iy	1,728.0 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0
		Use Cr : Repetitive ?	No

Column Buckling Condition:
Fully braced against buckling ABOUT X-X Axis
Fully braced against buckling ABOUT Y-Y Axis

Applied Loads

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

Column self weight included : 249.680 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 8.0 ft, D = 3.840, L = 19.20 k
Axial Load at 8.0 ft, D = 2.40, S = 4.80 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.1929 : 1**

Load Combination	+D+L
Governing NDS Forumla	Comp Only, fc/Fc'
Location of max.above base	0.0 ft
At maximum location values are .	
Applied Axial	25.690 k
Applied Mx	0.0 k-ft
Applied My	0.0 k-ft
Fc : Allowable	925.0 psi

PASS Maximum Shear Stress Ratio = **0.0 : 1**

Load Combination	+0.60D
Location of max.above base	8.0 ft
Applied Design Shear	0.0 psi
Allowable Shear	272.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	0.0 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y 0.0 in at 0.0 ft above base
for load combination : n/a
Along X-X 0.0 in at 0.0 ft above base
for load combination : n/a

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Load Combination Results

Load Combination	C_D	C_P	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.900	1.000	0.05414	PASS	0.0 ft	0.0	PASS	8.0 ft
+D+L	1.000	1.000	0.1929	PASS	0.0 ft	0.0	PASS	8.0 ft
+D+S	1.150	1.000	0.07370	PASS	0.0 ft	0.0	PASS	8.0 ft
+D+0.750L	1.250	1.000	0.1255	PASS	0.0 ft	0.0	PASS	8.0 ft
+D+0.750L+0.750S	1.150	1.000	0.1599	PASS	0.0 ft	0.0	PASS	8.0 ft
+0.60D	1.600	1.000	0.01827	PASS	0.0 ft	0.0	PASS	8.0 ft

DESCRIPTION: (e) 12x12 column check - with Roof Loading

Maximum Reactions

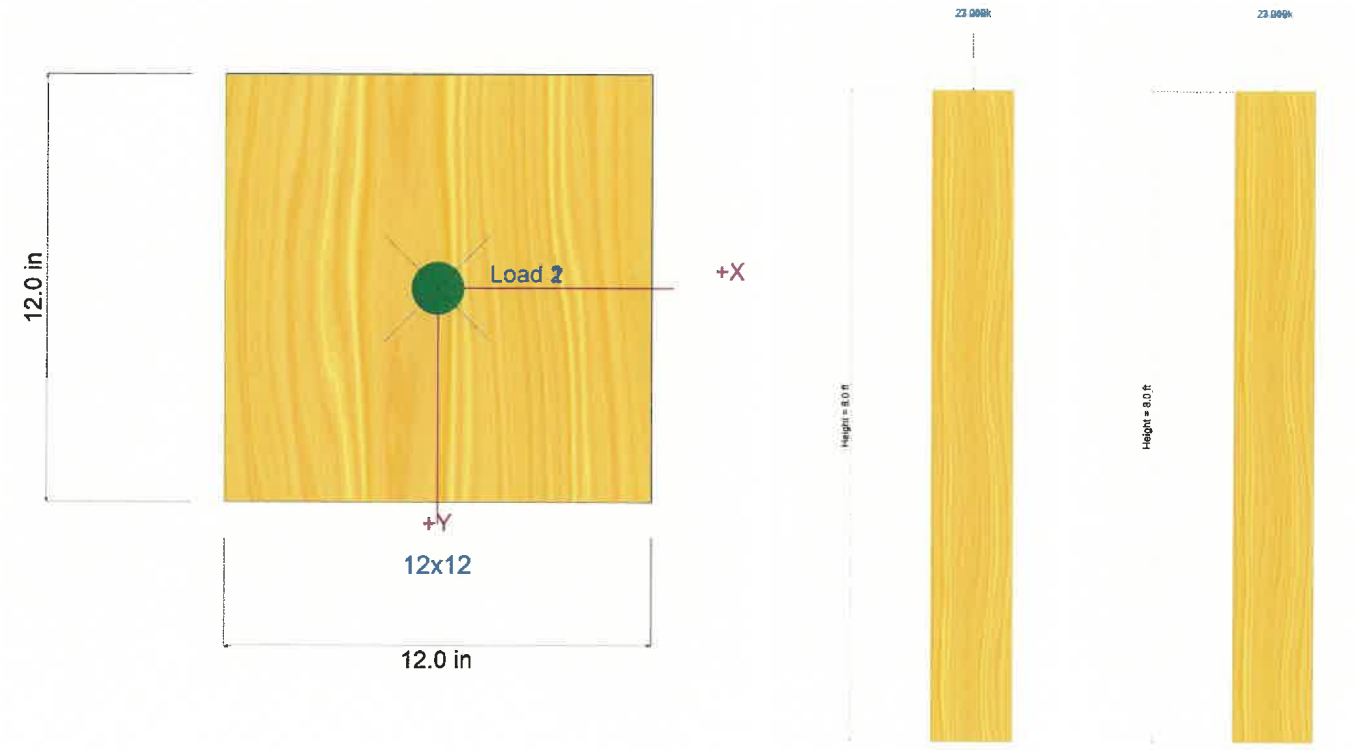
Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only						6.490				
+D+L						25.690				
+D+S						11.290				
+D+0.750L						20.890				
+D+0.750L+0.750S						24.490				
+0.60D						3.894				
L Only						19.200				
S Only						4.800				

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
D Only	0.0000 in	0.000ft	0.000 in	0.000 ft
+D+L	0.0000 in	0.000ft	0.000 in	0.000 ft
+D+S	0.0000 in	0.000ft	0.000 in	0.000 ft
+D+0.750L	0.0000 in	0.000ft	0.000 in	0.000 ft
+D+0.750L+0.750S	0.0000 in	0.000ft	0.000 in	0.000 ft
+0.60D	0.0000 in	0.000ft	0.000 in	0.000 ft
L Only	0.0000 in	0.000ft	0.000 in	0.000 ft
S Only	0.0000 in	0.000ft	0.000 in	0.000 ft

Sketches



KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01 kingworks (c) ENERCALC INC 1983-2023

DESCRIPTION: 2x10 Sub Purlins (Between 3.5 and 4)

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

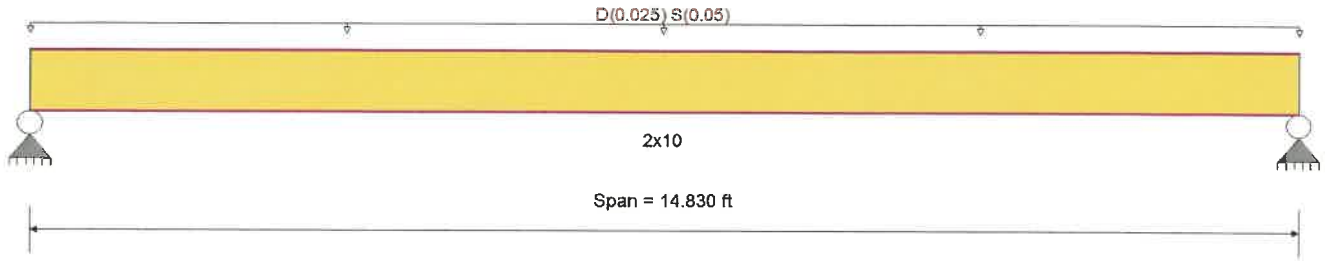
Wood Species : Douglas Fir-Larch
Wood Grade : No.1

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1000 psi
Fb -	1000 psi
Fc - Prll	1500 psi
Fc - Perp	625 psi
Fv	180 psi
Ft	675 psi

E : Modulus of Elasticity

Ebend- xx	1700 ksi
Eminbend - xx	620 ksi
Density	31.21 pcf



Applied Loads

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

Beam self weight NOT internally calculated and added
Uniform Load : D = 0.01250, S = 0.0250 ksf, Tributary Width = 2.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.914 : 1	Maximum Shear Stress Ratio	=	0.261 : 1
Section used for this span		2x10	Section used for this span		2x10
fb: Actual	=	1,156.68 psi	fv: Actual	=	53.98 psi
F'b	=	1,265.00 psi	F'v	=	207.00 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	7.415 ft	Location of maximum on span	=	0.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.325 in	Ratio =	546 >=360	Span: 1 : S Only
Max Upward Transient Deflection	0 in	Ratio =	0 <360	n/a
Max Downward Total Deflection	0.488 in	Ratio =	364 >=180	Span: 1 : +D+S
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	M	fb	F'b	V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.389	0.111	0.90	1.00	1.00	1.00	1.100	1.00	1.00	1.00	0.69	385.6	990.0	0.17	18.0	162.0
+D+S					1.00	1.00	1.00	1.100	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.914	0.261	1.15	1.00	1.00	1.00	1.100	1.00	1.00	1.00	2.06	1,156.7	1,265.0	0.50	54.0	207.0
+D+0.750S					1.00	1.00	1.00	1.100	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.762	0.217	1.15	1.00	1.00	1.00	1.100	1.00	1.00	1.00	1.72	963.9	1,265.0	0.42	45.0	207.0
+0.60D					1.00	1.00	1.00	1.100	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.131	0.037	1.60	1.00	1.00	1.00	1.100	1.00	1.00	1.00	0.41	231.3	1,760.0	0.10	10.8	288.0

DESCRIPTION: 2x10 Sub Purlins (Between 3.5 and 4)

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.4881	7.469		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	0.556	0.556
Max Upward from Load Combinations	0.556	0.556
Max Upward from Load Cases	0.371	0.371
D Only	0.185	0.185
+D+S	0.556	0.556
+D+0.750S	0.463	0.463
+0.60D	0.111	0.111
S Only	0.371	0.371

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01 kingworks (c) ENERCALC INC 1983-2023

DESCRIPTION: 2"x8" Roof Rafters (Adjacent Gambrel Trusses)

includes sliding snow surcharge

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

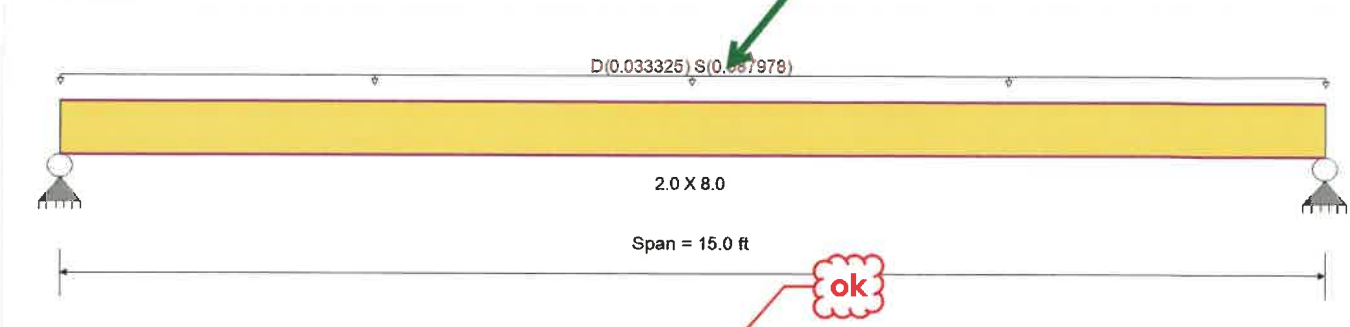
Wood Species : Douglas Fir-Larch (North)
Wood Grade : Select Structural

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1,350.0 psi
Fb -	1,350.0 psi
Fc - Prll	1,900.0 psi
Fc - Perp	625.0 psi
Fv	180.0 psi
Ft	825.0 psi

E : Modulus of Elasticity

Ebend- xx	1,900.0 ksi
Eminbend - xx	690.0 ksi
Density	30.590 pcf



Applied Loads

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

Beam self weight NOT internally calculated and added
Uniform Load : D = 0.01250, S = 0.0330 ksf, Tributary Width = 2.666 ft

DESIGN SUMMARY

Design N.G.

Maximum Bending Stress Ratio	=	1.030 : 1	Maximum Shear Stress Ratio	=	0.376 : 1
Section used for this span		2.0 X 8.0	Section used for this span		2.0 X 8.0
fb: Actual	=	1,919.05 psi	fv: Actual	=	77.82 psi
F'b	=	1,863.00 psi	F'v	=	207.00 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	7.500 ft	Location of maximum on span	=	14.343 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.622 in	Ratio =	289 >=240	Span: 1 : S Only
Max Upward Transient Deflection	0 in	Ratio =	0 <240	n/a
Max Downward Total Deflection	0.857 in	Ratio =	209 >=180	Span: 1 : +D+S
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	M	fb	F'b	V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.362	0.132	0.90	1.00	1.00	1.00	1.200	1.00	1.00	1.00	0.94	527.2	1,458.0	0.23	21.4	162.0
+D+S					1.00	1.00	1.00	1.200	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.0 ft	1	1.030	0.376	1.15	1.00	1.00	1.00	1.200	1.00	1.00	1.00	3.41	1,919.1	1,863.0	0.83	77.8	207.0
+D+0.750S					1.00	1.00	1.00	1.200	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.843	0.308	1.15	1.00	1.00	1.00	1.200	1.00	1.00	1.00	2.79	1,571.1	1,863.0	0.68	63.7	207.0
+0.60D					1.00	1.00	1.00	1.200	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 15.0 ft	1	0.122	0.045	1.60	1.00	1.00	1.00	1.200	1.00	1.00	1.00	0.56	316.3	2,592.0	0.14	12.8	288.0

DESCRIPTION: 2"x8" Roof Rafters (Adjacent Gambrel Trusses)

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.8572	7.555		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	0.910	0.910
Max Upward from Load Combinations	0.910	0.910
Max Upward from Load Cases	0.660	0.660
D Only	0.250	0.250
+D+S	0.910	0.910
+D+0.750S	0.745	0.745
+0.60D	0.150	0.150
S Only	0.660	0.660

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01 kingworks (c) ENERCALC INC 1983-2023

DESCRIPTION: 8"x8" purlins right of barn

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

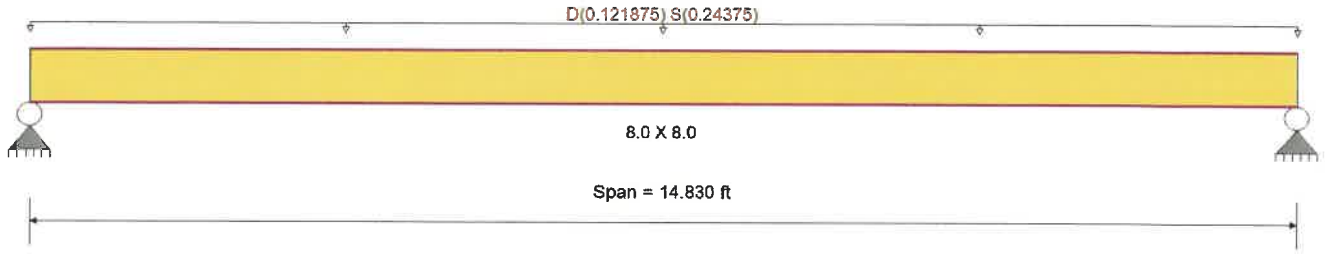
Wood Species : Douglas Fir-Larch
Wood Grade : No.1

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1,350.0 psi
Fb -	1,350.0 psi
Fc - Prll	925.0 psi
Fc - Perp	625.0 psi
Fv	170.0 psi
Ft	675.0 psi

E : Modulus of Elasticity

Ebend- xx	1,600.0 ksi
Eminbend - xx	580.0 ksi
Density	31.210 pcf



Applied Loads

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

Beam self weight NOT internally calculated and added
Uniform Load : D = 0.01250, S = 0.0250 ksf, Tributary Width = 9.750 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.910 : 1	Maximum Shear Stress Ratio	=	0.297 : 1
Section used for this span		8.0 X 8.0	Section used for this span		8.0 X 8.0
fb: Actual	=	1,413.48 psi	fv: Actual	=	57.98 psi
F'b	=	1,552.50 psi	F'v	=	195.50 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	7.415 ft	Location of maximum on span	=	0.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.489 in	Ratio =	364 >=360	Span: 1 : S Only
Max Upward Transient Deflection	0 in	Ratio =	0 <360	n/a
Max Downward Total Deflection	0.733 in	Ratio =	242 >=180	Span: 1 : +D+S
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	M	fb	F'b	V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.388	0.126	0.90	1.00	1.00	1.00	1.000	1.00	1.00	1.00	3.35	471.2	1,215.0	0.82	19.3	153.0
+D+S					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.910	0.297	1.15	1.00	1.00	1.00	1.000	1.00	1.00	1.00	10.05	1,413.5	1,552.5	2.47	58.0	195.5
+D+0.750S					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.759	0.247	1.15	1.00	1.00	1.00	1.000	1.00	1.00	1.00	8.38	1,177.9	1,552.5	2.06	48.3	195.5
+0.60D					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 14.830 ft	1	0.131	0.043	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	2.01	282.7	2,160.0	0.49	11.6	272.0

DESCRIPTION: 8"x8" purlins right of barn

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.7328	7.469		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	2.711	2.711
Max Upward from Load Combinations	2.711	2.711
Max Upward from Load Cases	1.807	1.807
D Only	0.904	0.904
+D+S	2.711	2.711
+D+0.750S	2.259	2.259
+0.60D	0.542	0.542
S Only	1.807	1.807

KINGWORKS STRUCTURAL ENGINEERS

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Beam

Project File: 241003kw24110 SVCA Barn 8 - Enercalc.ec6

LIC# : KW-06019395, Build:20.23.08.01 kingworks (c) ENERCALC INC 1983-2023

DESCRIPTION: 2"x8" Roof Rafters (1 bay beyond Gambrel Trusses)

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2021

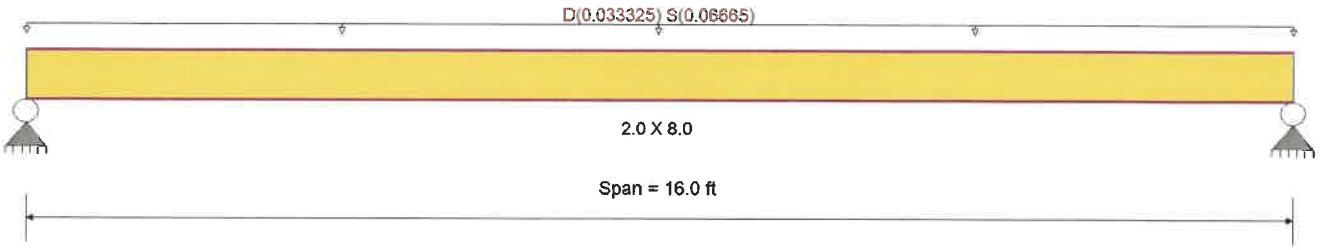
Wood Species : Douglas Fir-Larch (North)
Wood Grade : Select Structural

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1,350.0 psi
Fb -	1,350.0 psi
Fc - Prll	1,900.0 psi
Fc - Perp	625.0 psi
Fv	180.0 psi
Ft	825.0 psi

E : Modulus of Elasticity

Ebend- xx	1,900.0 ksi
Eminbend - xx	690.0 ksi
Density	30.590 pcf



Applied Loads

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

Beam self weight NOT internally calculated and added
Uniform Load : D = 0.01250, S = 0.0250 ksf, Tributary Width = 2.666 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.966 : 1	Maximum Shear Stress Ratio	=	0.333 : 1
Section used for this span		2.0 X 8.0	Section used for this span		2.0 X 8.0
fb: Actual	=	1,799.55 psi	fv: Actual	=	68.96 psi
F'b	=	1,863.00 psi	F'v	=	207.00 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	8.000 ft	Location of maximum on span	=	15.358 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.610 in	Ratio =	314 >=240	Span: 1 : S Only
Max Upward Transient Deflection	0 in	Ratio =	0 <240	n/a
Max Downward Total Deflection	0.915 in	Ratio =	209 >=180	Span: 1 : +D+S
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C_t	CLx	C_F	Cfu	C_i	C_r	M	fb	F'b	V	fv	F'v
D Only														0.0	0.00	0.0	0.0
Length = 16.0 ft	1	0.411	0.142	0.90	1.00	1.00	1.00	1.200	1.00	1.00	1.00	1.07	599.9	1,458.0	0.25	23.0	162.0
+D+S					1.00	1.00	1.00	1.200	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 16.0 ft	1	0.966	0.333	1.15	1.00	1.00	1.00	1.200	1.00	1.00	1.00	3.20	1,799.6	1,863.0	0.74	69.0	207.0
+D+0.750S					1.00	1.00	1.00	1.200	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 16.0 ft	1	0.805	0.278	1.15	1.00	1.00	1.00	1.200	1.00	1.00	1.00	2.67	1,499.6	1,863.0	0.61	57.5	207.0
+0.60D					1.00	1.00	1.00	1.200	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 16.0 ft	1	0.139	0.048	1.60	1.00	1.00	1.00	1.200	1.00	1.00	1.00	0.64	359.9	2,592.0	0.15	13.8	288.0

DESCRIPTION: 2"x8" Roof Rafters (1 bay beyond Gambrel Trusses)

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.9146	8.058		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	0.800	0.800
Max Upward from Load Combinations	0.800	0.800
Max Upward from Load Cases	0.533	0.533
D Only	0.267	0.267
+D+S	0.800	0.800
+D+0.750S	0.667	0.667
+0.60D	0.160	0.160
S Only	0.533	0.533

⚠ This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

ⓘ The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Hazards by Location

Search Information

Coordinates: 48.71513060091034, -122.322959889505

Elevation: 329 ft

Timestamp: 2024-10-24T15:54:00.805Z

Hazard Type: Wind

ASCE 7-16		ASCE 7-10		ASCE 7-05	
MRI 10-Year	67 mph	MRI 10-Year	72 mph	ASCE 7-05 Wind Speed	85 mph
MRI 25-Year	74 mph	MRI 25-Year	79 mph		
MRI 50-Year	79 mph	MRI 50-Year	85 mph		
MRI 100-Year	83 mph	MRI 100-Year	91 mph		
Risk Category I	93 mph	Risk Category I	100 mph		
Risk Category II	98 mph	Risk Category II	110 mph		
Risk Category III	105 mph	Risk Category III-IV	115 mph		
Risk Category IV	109 mph				

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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⚠ This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

ⓘ The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

ATC Hazards by Location

Search Information

Coordinates:	48.71513060091034, -122.322959889505
Elevation:	329 ft
Timestamp:	2024-10-24T15:56:52.342Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default

Basic Parameters

Name	Value	Description
S_S	0.967	MCE_R ground motion (period=0.2s)
S_1	0.341	MCE_R ground motion (period=1.0s)
S_{MS}	1.161	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	0.774	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1.2	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.905	Coefficient of risk (0.2s)
CR_1	0.895	Coefficient of risk (1.0s)
PGA	0.414	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.497	Site modified peak ground acceleration
T_L	16	Long-period transition period (s)
SsRT	0.967	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.069	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.341	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.381	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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JOB TITLE SVCA Barn 8
Structural Evaluation
JOB NO. 24110 SHEET NO.
CALCULATED BY BBJ DATE
CHECKED BY KQH DATE

Seismic Loads: IBC 2021

Strength Level Forces

Risk Category : II
Importance Factor (Ie) : 1.00

Site Class : D - code default

Ss (0.2 sec) = 96.70 %g
S1 (1.0 sec) = 34.10 %g

A site specific ground motion analysis is required for seismically isolated structures or with damping systems, see ASCE7 11.4.8
Site specific ground motion analysis performed:

Fa =	1.200	Sms =	1.160	S_{DS} =	0.774	Design Category =	D
Fv =	1.959	Sm1 =	0.668	S_{D1} =	0.445	Design Category =	D

Seismic Design Category = **D**
Redundancy Coefficient ρ = 1.00 Code exception must be met for p to equal 1.0
Number of Stories: 2
Structure Type: Light Frame
Horizontal Struct Irregularities: No plan Irregularity
Vertical Structural Irregularities: No vertical Irregularity

Flexible Diaphragms: Yes
Building System: **Bearing Wall Systems**
Seismic resisting system: **Light frame (wood) walls with structural wood shear panels**
System Structural Height Limit: **65 ft**
Actual Structural Height (hn) = 32.0 ft
See ASCE7 Section 12.2.5 for exceptions and other system limitations

DESIGN COEFFICIENTS AND FACTORS

Response Modification Coefficient (R) = 6.5
Over-Strength Factor (Ωo) = 2.5
Deflection Amplification Factor (Cd) = 4
S_{DS} = 0.774
S_{D1} = 0.445

Seismic Load Effect (E) = Eh +/-Ev = ρQ_E +/- $0.2S_{DS}D$ = Qe +/- 0.155D Q_E = horizontal seismic force
Special Seismic Load Effect (Em) = Emh +/- Ev = $\Omega o\, Q_E$ +/- $0.2S_{DS}D$ = 2.5Qe +/- 0.155D D = dead load

PERMITTED ANALYTICAL PROCEDURES

Simplified Analysis - Use Equivalent Lateral Force Analysis

Equivalent Lateral-Force Analysis - Permitted
Building period coef. (C_T) = 0.020 Cu = 1.40
Approx fundamental period (Ta) = $C_T h_n^x$ = 0.269 sec x= 0.75 Tmax = CuTa = 0.377 sec
User calculated fundamental period = T = 0.269 sec
Long Period Transition Period (TL) = ASCE7 map = 16 sec

Seismic response coef. (Cs) = Sdsl/R = 0.119 ASCE7 11.4.8 exception 2 equations used
but not less than Cs = 0.044Sdsl = 0.034
USE Cs = 0.119

Design Base Shear V = 0.119W

Model & Seismic Response Analysis - Permitted (see code for procedure)

ALLOWABLE STORY DRIFT

Structure Type: All other structures
Allowable story drift Δa = 0.020hsx where hsx is the story height below level x

per IEBC section 303.3.2 use 75% seismic forces for existing building. so V = .089 W

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PROJECT	SVCA Barn 8 Analysis
PROJECT #	24110
PAGE	OF
BY	BBJ
DATE	
SUBJECT	Lateral Loads - Primary LFRS

LATERAL LOADS - WIND v. SEISMIC AND VERT DISTRIBUTION
ref: ASCE 7-16 / 2018 IBC

C_S = 0.089 * W
T = 0.269 sec

Cs already incl I_E = 1.00 *(Note I_E NOT added within this spreadsheet)*

S_{DS} = 0.774

Redundancy Factor "ρ"
(E-W loads) 1.00
(N-S loads) 1.00

UNIT WTS OF (H) & (V) ELEMENTS

TYPE	DESCRIPTION	UNIT WT (PSF)
A	ROOF (inc 5 PSF trib from int walls)	17.5
B	FLOOR (inc 10 PSF interior walls)	30
C	Exterior Walls	10
D		
E		
F		
G		
H		
J		
K		
L		
M		

LEVELS

LEVEL	HT FROM BASE (FT)
High Roof	27
lw rf & 2nd	10

HORIZONTAL ELEMENT DEFINITION

LEVEL	TYPE	PROJECTED AREA (SF)	SLOPE (DEG)	APPROX. % SOLID	UNIT WT (PSF)	EFFECTIVE UNIT WT (PSF)	SUBTOTAL (KIPS)	
High Roof	A	6600	30	100%	18	20.2	133	
						WT SUBTOTAL	133	KIPS
lw rf & 2nd	A	6650	0	100%	18	17.5	116	
	B	6600	0	100%	30	30.0	198	
						WT SUBTOTAL	314	KIPS
						WT SUBTOTAL		KIPS
						WT SUBTOTAL		KIPS
						WT SUBTOTAL		KIPS

VERTICAL ELEMENT DEFINITION

LEVEL	TYPE	LENGTH (LF)	TRIB HT (FT)	APPROX. % SOLID	AREA (SF)	UNIT WT (PSF)	SUBTOTAL (KIPS)	
High Roof	C	136	7.5	100%	1020	10	10	
						WT SUBTOTAL	10	KIPS
lw rf & 2nd	C	350	5	100%	1750	10	18	
						WT SUBTOTAL	18	KIPS
						WT SUBTOTAL		KIPS
						WT SUBTOTAL		KIPS
						WT SUBTOTAL		KIPS

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LATERAL LOADS - CONTINUED

SEISMIC BASE SHEAR SUMMARY

	LEVEL	TOTAL WT	C_s	ρ	V (seismic) LRFD (1.0E)	V (seismic) ASD (0.7E)	
EAST-WEST LOAD DIRECTION	High Roof	144	0.089	1.00	12.8	8.9	
	lw rf & 2nd	332	0.089	1.00	29.5	20.7	
	SUM =	475.4			42.3	29.6	KIPS
NORTH-SOUTH LOAD DIRECTION	High Roof	144	0.089	1.00	12.8	8.9	
	lw rf & 2nd	332	0.089	1.00	29.5	20.7	
	SUM =	475.4			42.3	29.6	KIPS

[Vertical load distribution per ASCE 7-16 is attached separately, the story forces shown at left are for purposes of summing total base shear only]

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PROJECT	SVCA Barn 8 Analysis		
PROJECT #	24110	PAGE	OF
BY	BBJ	DATE	1/0/1900
SUBJECT	Lateral Loads - Primary LFRS		

LATERAL LOADS - SEISMIC FORCE VERTICAL DISTRIBUTION PAGE: 3 / 3

ref: ASCE 7-16 Sec. 12.8.3

SEISMIC	E-W	N-S	
V_{LRFD}	42.3	42.3	kips
V_{ASD}	29.6	29.6	kips
k	1.00		

	STORY	W_x	H_x	$W_x \times H_x^k$	C_{vx}	STORY SHEAR $F_x=C_{vx} \times V$ LRFD	STORY SHEAR $F_x=C_{vx} \times V$ ASD	CUMULATIVE SHEAR Σ V (kips) LRFD	CUMULATIVE SHEAR Σ V (kips) ASD
EAST-WEST LOAD DIRECTION	High Roof	143.6	27.0	3876.3	0.54	22.8	16.0	22.8	16.0
	lw rf & 2nd	331.9	10.0	3318.8	0.46	19.5	13.7	42.3	29.6
			Σ =	7195.1		42.3	29.6	kips	
NORTH-SOUTH LOAD DIRECTION	High Roof	143.6	27.0	3876.3	0.54	22.8	16.0	22.8	16.0
	lw rf & 2nd	331.9	10.0	3318.8	0.46	19.5	13.7	42.3	29.6
			Σ =	7195.1		42.3	29.6	kips	

*** Note that all story and cumulative shears include both I_E and Redundancy Factor "ρ"*

LATERAL LOADS - SEISMIC DIAPHRAGM FORCES

ref: ASCE 7-16 Sec. 12.10.1.1

Rho Applied? N

	STORY	W_x	F_x	Σ F_i	Σ W_i	F_{px}	LIMITS ≥	LIMITS ≤	V_{DIA} (kips) LRFD	V_{DIA} (kips) ASD
EAST-WEST LOAD DIRECTION	High Roof	143.6	22.8	22.8	143.6	22.8	22.2	44.4	**22.8**	**16.0**
	lw rf & 2nd	331.9	19.5	42.3	475.4	29.5	51.4	102.7	**51.4**	**36.0**
NORTH-SOUTH LOAD DIRECTION	High Roof	143.6	22.8	22.8	143.6	22.8	22.2	44.4	**22.8**	**16.0**
	lw rf & 2nd	331.9	19.5	42.3	475.4	29.5	51.4	102.7	**51.4**	**36.0**

*** Note that all diaphragm shears include I_E, but only include Redundancy Factor "ρ" if "Y" checked above.*

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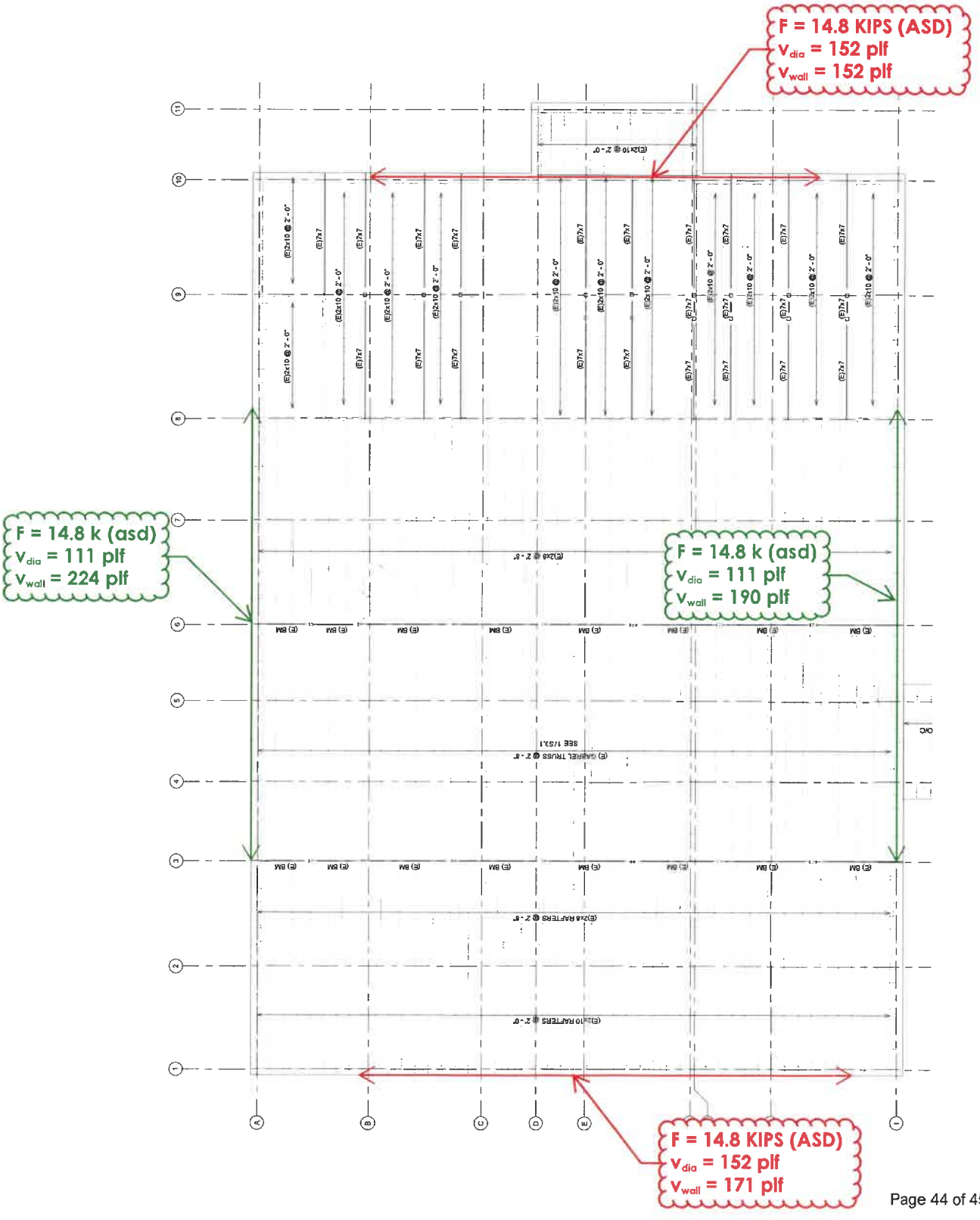
PROJECT	SVCA - Barn 8		
DESCRIPTION	Structural Calculations		
ENGINEER	PROJECT NO.	DATE	PAGE
BJ	24110	10/24/24	1



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PROJECT	SVCA - Barn 8		
DESCRIPTION	Structural Calculations		
ENGINEER	PROJECT NO.	DATE	PAGE
BJ	24110	10/24/24	1

shear wall data observed on site:
1/2" sheathing
8d nails at 3" to 6" spacing
1/2" anchor bolts at 6'-0" on center

1/2" sheathing with 8d nail at 3" o/c - unblocked
v_n = 730 plf / 2.8 x 0.6 = 156 plf
North Wall - v_a = 152 plf, DCR = 0.97, OK
South Wall - v_a = 171 plf, DCR = 1.09, NG
East Wall - v_a = 190 plf, DCR = 1.22, NG
West Wall - v_a = 224 plf, DCR = 1.43 NG

If blocking verified/added
v_n = 730 plf / 2.8 = 260 plf
OK for all walls

2x T&G Diaphragm
v_n = 140 plf / 2.8 = 50 plf
North/South Side - v_a = 152 plf, DCR = 3.0, NG
East/West Side - v_a = 111 plf, DCR = 2.22, NG

1/2" Anchor Bolt at 6'-0" O/C
v_n = 1.6*650 / 6 = 173 plf
North/South Walls - OK
East and West Walls - NG

If sheathing added to roof/floor
v_n = 264 plf (East/West Direction) - OK
v_n = 200 plf (North/ South Direction) - OK

Sudden Valley Community Association
Balance Sheet
October 31, 2024 and December 31, 2023

	Unaudited** Oct 31, 2024	See Note** Dec 31, 2023	Inc / (Dec)
OPERATIONS			
Current Assets			
Operating Cash	$ 763,794	$ 678,244	$ 85,550
Building Completion Deposit Fund	749,910	506,408	243,502
Member Receivables - Operations*	-	43,985	(43,985)
Other Receivables	16,077	16,560	(483)
Prepaid Expenses	118,509	70,215	48,294
Operating Lease ROU Assets	6,550	10,631	(4,081)
Inventory	4,361	5,659	(1,298)
Total Current Assets	1,659,201	1,331,702	327,500
Current Liabilities			
Accounts Payable	(72,010)	(226,676)	154,666
Accrued Vacation Liability	(81,512)	(64,195)	(17,317)
Accrued Payroll	-	(64,114)	64,114
Prepaid Assessments	(219,240)	(224,404)	5,164
Building Completion Deposits	(749,910)	(506,408)	(243,502)
Other Refundable Deposits	(9,456)	(5,896)	(3,560)
Operating Lease Liability	(6,550)	(10,631)	4,081
Prepaid Golf Memberships	(9,483)	(112,089)	102,606
Total Current Liabilities	(1,148,161)	(1,214,413)	66,252
Deferred Lease Revenue Liabilities			
Deferred Library Lease Revenue	(37,333)	-	(37,333)
Total Deferred Lease Revenue Liabilities	(37,333)	-	(37,333)
Operating Reserve Funds			
Emergency Operating Cash	363,590	362,252	1,338
Undesignated Reserves Cash	284,998	306,265	(21,267)
Total Operating Reserve Funds	648,588	668,517	(19,929)
Net Operating Assets	**$ 1,122,295**	**$ 785,806**	**$ 336,490**
CAPITAL			
Capital Current Assets			
CRRRF (Capital Repair & Replacement) Cash Fund	3,217,732	3,627,018	(409,286)
Roads Reserve Cash Fund	2,108,328	2,034,275	74,053
Board Density Reduction Cash Fund	87,864	87,688	176
Mailbox Cash Fund	147,695	126,445	21,250
CRRRF Capital Reserve Holding Cash	219,482	222,019	(2,537)
Mitigation Assignment of Savings Cash	49,804	49,688	116
LWWSD Assignment of Savings Cash	14,935	101,840	(86,905)
Member Receivables - Capital**	-	16,112	(16,112)
Total Capital Current Assets	5,845,840	6,265,085	(419,245)
Capital Fixed Assets			
Fixed Assets	16,847,527	15,373,162	1,474,365
Finance ROU Assets	71,628	136,464	(64,836)
Lots Held for Sale	236,456	236,456	-
Total Capital Assets	17,155,611	15,746,082	1,409,529
Long Term Liabilities			
CRRRF Loan 2022	(1,597,678)	(1,799,425)	201,746
Finance Leases	(54,790)	(106,596)	51,806
Total Long Term Liabilities	(1,636,337)	(1,906,021)	269,684
NET ASSETS	***$ 22,487,409***	***$ 20,890,952***	***$1,596,457***
MEMBER EQUITY			
Member Equity			
Current Year Net Income: Operations	468,755	463,239	5,516
Net Income: Rec Special Assmt	-	(180,468)	180,468
Transfers Out from Operations to Capital	(145,600)	(32,799)	(112,801)
Current Year Net Income: Capital**	1,131,052	1,471,336	(340,284)
Transfers Into Capital from Operations	145,600	32,799	112,801
Retained Earnings**	5,232,892	4,950,121	282,771
Capital**	15,654,710	14,186,724	1,467,986
TOTAL MEMBER EQUITY	***$ 22,487,409***	***$20,890,952***	***$1,596,457***

***** The Association's internal policy is to write off any member receivables that are 30 days past due as bad debts for internal financial statement purposes. As per SVCA policy, Management continues to pursue collection of these receivables via all avenues allowed by Washington State laws. In addition, the Association records and bills finance charges on receivables that are thirty days past due at 1% per month. At October 31, 2024, and December 31, 2023, the balances of receivables written off were $758,711 and $623,674, respectively.

** Beginning with the 2020 year end audited financial statements, Accounting Standards Codification (ASC) 606 requires issued audited financial statements to reclassify unspent capital dues revenue, including related capital transfer fee collections, as a contract liability balance (unearned revenue), which is then reversed out in future years when capital dues/capital transfer fee collections are actually expended on capital related expenditures. This particular accounting standard change is only incorporated into the issued audited financial statements and is not factored into SVCA's internal monthly statements as it would obscure the reality of monthly capital dues/capital transfee fee revenues collected for internal monthly presentation purposes. See SVCA's 2020 through 2023 audited financial statements (2023 represents the most recently issued audited statements), which fully incorporate ASC 606 and comply with Generally Accepted Accounting Principals (GAAP).

Sudden Valley Community Association
Income Statement Summary

UNAUDITED	Current Month - October 2024			Year to Date - 10 Months Ending 10/31/2024			
	Operations & Operating Reserves	Operations Better / (Worse) Budget	Capital Reserves**	Operations & Operating Reserves	Operations Better / (Worse) Budget	Coll %	Capital Reserves**
REVENUE							
Current Year Dues & Assessments Income							
Dues & Assessments Income	222,528		230,678	2,227,532			2,309,376
Bad Debt Reserve	(360)		(1,695)	(45,082)			(36,906)
Net Current Year Assessment Income	222,168	10,884	228,983	2,182,450	69,615	98.0%	2,272,470
Bad Debt Recoveries - Prior Years			(37)				24,842
Golf Income	68,614	21,071	-	1,362,355	135,085		-
Marina Income	-	-	-	240,977	47,257		-
Rec Center & Pools Income	257	257	-	32,429	10,529		-
Legal & Collections Income	-	-	-	-	-		-
Other Income	23,989	19,211	-	135,268	56,256		-
Rental Income - Other	2,351	2,112	-	12,164	4,494		-
Area Z Rental Income	3,885	(2,115)	-	19,708	(4,292)		-
Lease Income	5,632	1,486	-	55,104	13,644		-
New Home Construction Fees	6,250	6,250	-	207,150	132,150		2,500
Capital Gain (Loss) on Sale of Assets	-	-	-	-	-		1,368
Investment Income	885	794	3,390	7,538	6,621		39,646
Total Revenue	**334,031**	**59,950**	**232,336**	**4,255,143**	**471,359**		**2,340,826**
EXPENSES							
Salaries & Benefits	169,085	20,566	-	1,925,858	131,347		-
Contracted & Professional Services	71,995	(65,614)	-	248,144	(106,224)		-
CC&Rs/ Mandates	61,102	(22,855)	-	457,988	(92,258)		-
Maintenance & Landscaping	30,848	26,050	-	375,765	6,775		-
Utilities	23,305	(2,332)	-	175,682	(4,762)		-
Administrative	17,330	(5,648)	-	154,277	(11,963)		-
Regulatory Compliance	25,233	(13,202)	-	198,920	(36,968)		-
Insurance Premiums	16,274	(2,042)	-	157,428	(15,111)		-
Other Expenses	-	83	-	-	833		-
Depreciation Expense	-	-	112,312	-	-		1,136,968
Interest expense	-	-	5,796	-	-		56,694
Total Expenses	**415,172**	**(64,994)**	**118,108**	**3,694,062**	**(128,331)**		**1,193,662**
Net Income (Loss)	**(81,141)**	**(5,044)**	**114,228**	**561,081**	**343,028**		**1,147,164**
Net UDR Activity for Operations							
Firewise	-			(5,734)			
Hazardous Tree Removal	(6,460)			(55,000)			
GM Recruiting Search	(6,545)			(24,495)			
Legal Expenses - Past Due Account Collections	(1,940)			(1,940)			
Net Income (Loss) with Board Approved UDR	**(96,086)**	**(5,044)**	**114,228**	**473,912**	**343,028**		**1,147,164**
Other Activity							
Net Other UDR Activity*	2,148			53,478			
AR Accrual - Prior Year Reversal	-		-	(43,985)			(16,112)
AR Accrual - Current Year	-		-	-			-
Lease Income- Library Prepaid Recognized	667			2,667			
Vacation Liability Accrual	2,900			(17,317)			
Total Other Activity	**5,715**		**-**	**(5,157)**			**(16,112)**
Grand Total Activity	**(90,371)**	**(5,044)**	**114,228**	**468,755**	**343,028**		**1,131,052**

*Prior year recoveries for operations are deposited into the Undesignated Reserve Account (UDR).
**Refer to the last footnote on the Balance Sheet (prior page) for a discussion of Accounting Standards Codification (ASC) 606 and capital dues revenue collections.

Sudden Valley Community Association
Reserve Cash Balance & Activity
10 Months Actual, 2 Months Projected

UNAUDITED

	Capital Reserve Funds							Operating Reserve Funds		
	CRRRF	Roads	CRRRF Capital Reserve Holding Cash	Board Density Reduction	Mailbox	Mitigation Assignment of Savings*	Total Capital Reserve Funds	Emergency Ops	UDR	Total Operating Reserve Funds
Net Available Cash 12/31/2023	**3,627,018**	**2,034,275**	**222,019**	**87,688**	**126,445**	**151,528**	**$ 6,248,973**	**362,252**	**306,265**	**$ 668,517**
Dues Received	1,114,591	1,153,191		-	20,755		**2,288,536**	-	84,376	**84,376**
Storm Water Mitigation Plan Fee		2,500					**2,500**			**-**
Investment Income	22,614	15,415	813	176	495	134	**39,646**	1,338	1,151	**2,490**
Sale of Assets	1,368			-			**1,368**			**-**
Board Approved Transfer- Marina Dock Replacement	105,600									
Board Approved Transfer- Other Transfers	40,000						**40,000**			**-**
Mitigation Release	-	86,923				(86,923)	**-**			**-**
2024 Expenditures	(1,693,458)	(1,183,976)	(3,350)	-	-		**(2,880,784)**		(106,794)	**(106,794)**
Net Available Cash at 10/31/2024	**3,217,732**	**2,108,328**	**219,482**	**87,864**	**147,695**	**64,739**	**$ 5,845,840**	**363,590**	**284,998**	**$ 648,588**
2 Month Outlook										
Outlook - 2024 Dues (95% collections)	214,069	220,177			3,973		**$ 438,219**			**$ -**
Outlook - Prior Year Collections	3,316	3,410			62		**6,788**		6,545	**6,545**
CRRRF Loan Payments for year 2024	(55,507)						**(55,507)**			**-**
Obligated Expenses/Holdings	(1,071,029)	(381,116)	(219,482)			(64,739)	**(1,736,365)**		(35,749)	**(35,749)**
Net Usable Cash Balance 12/31/2024	**2,308,582**	**1,950,800**	**-**	**87,864**	**151,730**	**-**	**$ 4,498,975**	**363,590**	**255,795**	**$ 619,385**
Board Recommended Carryover Balance	(600,000)	(500,000)					**$ (1,100,000)**			**$ -**
Net Usable Cash 12/31/2024, After Recommendation	**$ 1,708,582**	**$ 1,450,800**	**$ -**	**$ 87,864**	**$ 151,730**	**$ -**	**$ 3,398,975**	**$ 363,590**	**$ 255,795**	**$ 619,385**
Net Current Year Cash Increase (Decrease)	(1,318,436)	(83,475)	(222,019)	176	25,285	(151,528)	$ (1,749,998)	1,338	(50,470)	$ (49,132)

*Note, when mitigation period has ended, unspent funds will be returned to the source account, Roads and CRRRF.

Sudden Valley Community Association
Operations - By Department
October 1, 2024 to October 31, 2024
CURRENT MONTH

Whole $

UNAUDITED

Department	Actual Revenue	Revenue B / (W)	Actual Salary Benefits	Salary & Benefits B / (W)	Actual Other Expense *	Other Exp B / (W)*	Net Income / (Loss) *	Net B / (W)*
ACC / Security	23,096	22,867	-	7,097	108,934	(75,396)	(85,838)	(45,432)
Accounting	1,976	743	27,185	984	10,574	(5,898)	(35,783)	(4,171)
Administration	1,801	1,652	33,830	2,300	20,187	(12,397)	(52,216)	(8,445)
Common Costs	4,251	993	-	-	40,221	(15,011)	(35,970)	(14,018)
Facilities	9,517	(630)	3,748	478	18,126	1,377	(12,357)	1,225
Maintenance	-	-	22,866	9,153	9,525	21,310	(32,391)	30,463
Subtotal	**40,641**	**25,625**	**87,629**	**20,012**	**207,567**	**(86,015)**	**(254,555)**	**(40,378)**
Golf	68,614	21,071	61,870	7,108	30,658	(1,717)	(23,914)	26,462
Marina	-	-	-	-	900	473	(900)	473
Rec/ Pools/ Parks	2,608	2,369	19,586	(6,554)	6,962	1,700	(23,940)	(2,485)
Subtotal	**71,222**	**23,440**	**81,456**	**554**	**38,520**	**456**	**(48,754)**	**24,450**
Subtotal Operations before Ops Dues	**111,863**	**49,065**	**169,085**	**20,566**	**246,087**	**(85,559)**	**(303,309)**	**(15,928)**
Ops Dues Earned	222,528						222,528	
Curr Yr Bad Debts Activity	(360)						(360)	
Net Ops Dues	222,168	10,884					222,168	10,884
Net Operations	**334,031**	**59,949**	**169,085**	**20,566**	**246,087**	**(85,559)**	**(81,141)**	**(5,044)**
Net BOD Approved UDR Activity for Operations								
Firewise	-		-		-		-	
Hazardous Tree Removal	-		-		6,460		(6,460)	
GM Recruiting Search	-		-		6,545		(6,545)	
Legal Expenses - Past Due Account Collections	-		-		1,940		(1,940)	
Net Operations with Board Approved UDR	**334,031**	**59,949**	**169,085**	**20,566**	**261,032**	**(85,559)**	**(96,086)**	**(5,044)**
Other Operating Activity								
UDR Activity	5,187				3,039		2,148	
AR Accrual - Prior Year Reversal	-				-		-	
AR Accrual - Current Year	-				-		-	
Lease Income- Library Prepaid Recognized	667				-		667	
Vacation Liability Accrual	-				(2,900)		2,900	
Total Other Operating Activity	5,854				139		5,715	
Grand Total Operations Activity	**339,885**	**59,949**	**169,085**	**20,566**	**261,171**	**(85,559)**	**(90,371)**	**(5,044)**

*** Excludes Depreciation**
B / (W) = Better / (Worse) Than Budget

Sudden Valley Community Association
Operations - By Department
January 1, 2024 to October 31, 2024
YEAR TO DATE

Whole $

UNAUDITED

Department	Actual Revenue	Revenue B / (W)	Actual Salary Benefits	Salary & Benefits B / (W)	Actual Other Expense *	Other Exp B / (W)*	Net Income / (Loss) *	Net B / (W)*
ACC / Security	272,706	195,414	-	74,131	441,651	(136,830)	(168,945)	132,715
Accounting	24,022	(15,012)	296,165	(1,982)	78,569	(16,198)	(350,712)	(33,192)
Administration	5,568	3,548	369,065	8,321	116,024	(29,041)	(479,521)	(17,172)
Common Costs	40,527	7,944	-	-	416,088	(100,992)	(375,561)	(93,048)
Facilities	74,812	9,352	39,316	4,663	127,463	50,318	(91,967)	64,333
Maintenance	-	-	314,291	15,512	65,008	35,499	(379,299)	51,011
Subtotal	**417,635**	**201,246**	**1,018,837**	**100,645**	**1,244,803**	**(197,244)**	**(1,846,005)**	**104,647**
Golf	1,362,355	135,085	677,956	34,945	386,286	(53,848)	298,113	116,182
Marina	248,110	50,390	-	-	12,551	2,758	235,559	53,148
Rec/ Pools/ Parks	44,592	15,022	229,065	(4,243)	124,563	(11,343)	(309,036)	(564)
Subtotal	**1,655,057**	**200,497**	**907,021**	**30,702**	**523,400**	**(62,433)**	**224,636**	**168,766**
Subtotal Operations before Ops Dues	**2,072,692**	**401,743**	**1,925,858**	**131,347**	**1,768,203**	**(259,677)**	**(1,621,369)**	**273,413**
Ops Dues Earned	2,227,532						2,227,532	
Curr Yr Bad Debts Activity	(45,082)						(45,082)	
Net Ops Dues	2,182,450	69,615					2,182,450	69,615
Net Operations	**4,255,142**	**471,358**	**1,925,858**	**131,347**	**1,768,203**	**(259,677)**	**561,081**	**343,028**
Net BOD Approved UDR Activity for Operations								
Firewise	-		-		5,734		(5,734)	
Hazardous Tree Removal	-		-		55,000		(55,000)	
GM Recruiting Search	-		-		24,495		(24,495)	
Legal Expenses - Past Due Account Collections	-		-		1,940		(1,940)	
Net Operations with Board Approved UDR	**4,255,142**	**471,358**	**1,925,858**	**131,347**	**1,855,372**	**(259,677)**	**473,912**	**343,028**
Other Operating Activity								
UDR Activity	73,071				19,593		53,478	
AR Accrual - Prior Year Reversal	(43,985)				-		(43,985)	
AR Accrual - Current Year	-				-		-	
Lease Income- Library Prepaid Recognized	2,667				-		2,667	
Vacation Liability Accrual	-				17,317		(17,317)	
Total Other Operating Activity	31,753				36,910		(5,157)	
Grand Total Operations Activity	**4,286,895**	**471,358**	**1,925,858**	**131,347**	**1,892,282**	**(259,677)**	**468,755**	**343,028**

*** Excludes Depreciation**
B / (W) = Better / (Worse) Than Budget

SUDDEN VALLEY COMMUNITY ASSOCIATION - LOTS & DUES ANALYSIS 2024

	Actual Year Prepaid			Actual Current			Actual 1 Mth Due		Actual 2 Mth Due		Actual 3 Mth Due		Actual 4+ Mth Due		Pmt Plans		Total Prepaid & Current			Total Not Current			Total Billable Lots			SVCA Owned Lots				LLE & CTB	Dues Exempt	Total Non Billable Lots	Total All Lots
	Vac	Dev	Total	Vac	Dev	Total	Vac	Dev	Vac	Dev	Vac	Dev	Vac	Dev	Vac	Dev	Vac	Dev	Total	Vac	Dev	Total	Vac	Dev	Total	Restricted Perm	Restricted WD10	Avail.	Total				
Jan	20	96	116	301	2,517	2,818	24	62	5	13	1	11	16	40	1	14	321	2,613	2,934	47	140	187	368	2,753	3,121	774	0	3	777	737	6	1,520	4,641
Feb	22	104	126	303	2,508	2,811	14	59	10	22	3	6	15	42	1	12	325	2,612	2,937	43	141	184	368	2,753	3,121	774	0	3	777	737	6	1,520	4,641
Mar	23	114	137	307	2,510	2,817	11	57	4	9	4	7	17	44	1	12	330	2,624	2,954	37	129	166	367	2,753	3,120	774	0	3	777	738	6	1,521	4,641
Apr	27	121	148	308	2,532	2,840	5	31	4	13	1	4	21	38	1	14	335	2,653	2,988	32	100	132	367	2,753	3,120	774	0	3	777	738	6	1,521	4,641
May	28	123	151	304	2,508	2,812	13	58	3	11	0	6	18	34	1	13	332	2,631	2,963	35	122	157	367	2,753	3,120	774	0	3	777	738	6	1,521	4,641
Jun	29	136	165	293	2,482	2,775	17	65	9	17	1	5	16	37	2	11	322	2,618	2,940	45	135	180	367	2,753	3,120	774	0	3	777	738	6	1,521	4,641
Jul	31	152	183	293	2,476	2,769	11	51	7	15	7	10	16	35	2	14	324	2,628	2,952	43	125	168	367	2,753	3,120	774	0	3	777	738	6	1,521	4,641
Aug	31	169	200	293	2,436	2,729	8	79	4	10	6	9	22	37	2	14	324	2,605	2,929	42	149	191	366	2,754	3,120	774	0	3	777	738	6	1,521	4,641
Sep	34	201	235	290	2,427	2,717	11	58	0	14	4	6	24	35	2	13	324	2,628	2,952	41	126	167	365	2,754	3,119	774	0	3	777	739	6	1,522	4,641
Oct	51	298	349	281	2,350	2,631	6	53	2	4	0	6	23	31	2	12	332	2,648	2,980	33	106	139	365	2,754	3,119	774	0	3	777	739	6	1,522	4,641
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LLE = Lot Line Eraser
CTB = Covenant to Bind

BOARD OF DIRECTORS BUSINESS MEETING MINUTES

Annual General Meeting

November 2, 2024

ASSOCIATION NAME: Sudden Valley Community Association
DATE AND LOCATION: SATURDAY, NOVEMBER 2, 2024 Dance Barn
CALLED TO ORDER AT: 1:04 p.m.
AUDIENCE MEMBERS: A quorum of fifty-one members were present.

BOARD MEMBERS PRESENT:

1. Keith McLean-President	**4. Linda Bradley-Secretary**	**7. Ray Meador**
2. Taimi Van De Polder-Vice President	**5. Stu Mitchell**	**8. Rob Gibbs-N&E Chair**
3. Laurie Robinson- Treasurer	**6. Rick Asai**	**9. Daniel Rodriquez-ACC Chair**

STAFF MEMBERS: Jo Anne Jensen, General Manager
Spencer Huston, IT
Kyle Kaltenbach, Rec
Diane Bruneau

PARLIAMENTARIAN: Paul McClintock

I. CALL TO ORDER

The meeting was called to order by President McLean at 1:04p.m. who stated he would be serving as the presiding officer to allow the members to do the work of the annual general meeting.

II. INTRODUCTION OF THE PARLIAMENTARIAN

President McLean introduced the Parliamentarian, Paul McClintock, this is his first year as the Parliamentarian for SVCA.

Meeting Procedures

Robert's Rules of Order 12th Edition shall govern this meeting.
The Parliamentarian explained the rules for speaking during the meeting.
The President announced the proposed rules and asked if any objections. Hearing none, they were adopted.
He thanked the Staff for their efforts this year and recognized the current board and the outgoing board for all their hard work.

III. CERTIFICATE OF QUORUM

As of 1:04 PM there were fifty-one members present in the Dance Barn. A quorum is present.

IV. PROOF OF NOTICE OF ANNUAL GENERAL MEETING

Secretary, Linda Bradley

The notice of the annual meeting addressed to all members at the address on record at the Association Administration Office was placed in the mail on September 25, 2024, which satisfies the requirement of the Bylaws that notice be mailed at least 30 days before the meeting. The Secretary is in receipt of the postal service reports of the mailing.

V. APPROVAL OF 2023 AGM MINUTES.

The minutes for the 2023 annual meeting were reviewed by the board and were made available on the Sudden Valley: website under the AGM Button for this event for the membership's review. Are there any corrections to the minutes?

Hearing none, the minutes are approved as presented.

As per the advice of our Parliamentarian, based on Roberts Rules, 48.12, we propose to authorize the Board to approve the minutes of the 2024 meeting. Are there any objections?

Hearing none, this proposal is adopted.

VI. Introduction of the Board of Directors Candidates. N&E Chair

It was announced that there were four open positions for the Board of Directors, three (3) who will each serve three (3) year term and one (1) who will serve a two year term based on cumulative votes for each. The list of names appearing on the ballot in order are:

- Rick Asai
- Ray Meador
- Nancy Alyanak
- Taimi Van De Polder
- Tom Henning

VII. Introduction of the Nominations and Elections Committee Candidates

The N&E Committee has four (4) open positions for the election; each committee member will have a two (2) year term. No candidates applied for the Committee.
This committee will be soliciting interested candidates to serve on the 2025 committee.

VIII. Introduction of the Architectural Control Committee Candidates

The Architectural Control Committee has six open positions for the election, each committee member will have a three (3) year term. Only two (2) candidates applied.
This committee will be soliciting interested candidates to serve on the 2025 committee.

- Allen Helvajian
- Daniel Vink

IX. NEW BUSINESS

a. Measure 1

Shall the Sudden Valley Community Association's 2025 annual consolidated budget, which provides for assessment revenue of $5,525,641 and non-assessment revenue of $2,007,501 for a total combined assessment and non-assessment revenue of $7,533,142 be approved or rejected?

The Treasurer presented the 2025 budget.

Discussion: One member addressed the Board on the 2025 budget.

b. Measure 2: Shall Article III, Section 4, (b) be amended to remove inconsistent descriptions of a director's term of office?

No discussion

This concluded the presentation of the Candidates and ballot measures members instructed to vote their ballots.

N&E members collected any floor ballots voted.

X. COMMITTEE REPORTS

The committee reports will be posted to the Sudden Valley website for viewing after the AGM.

XI. President's Report

President Keith McLean made a report.

XII. Treasurer's Report

Director Robinson, Treasurer, made a report.

XIII. General Manager Report

General Manager Jo Anne Jensen made a report.

XIV. Property Owners' Comments

Property owners made comments.

XV. Election Results

The chair declares Ray Meador, Rick Asai and Taimi Van De Polder as elected to the Board of directors for three-year terms, and Tom Henning is elected to a two year term.

a. Board of Directors

- Ray Meador 713 3 year term
- Rick Asai 689 3 year term
- Taimi Van De Polder 615 3 year term
- Tom Henning 610 2 year term
- Nancy Alyanak 503

For the ACC, both Allen Helvajian with 775 votes and Daniel Vink with 664 votes have been elected to three-year terms on the Achetectual Control Committee.

b. ACC Committee

- Allen Helvajian 775 3 year term
- Daniel Vink 664 3 year term

c. Measure One Approve the proposed budget.

- Approve 621
- Reject 340

APPROVED

There being less than a majority of total owners rejecting the budget, the budget is approved.

e. Measure 2. Bylaw Amendment

- Approve 854
- Reject 82

APPROVED

There being at least two-thirds approving the Bylaw amendment by two-thirds of the members. voting by mail-in ballot or in person to pass, the description of a director's term has been adopted.

XVI. Announcements

The President announced the new GM, Michael Bennet, and when he will be begin working for the Association on December 10th.

At the December 12th Board meeting a meet and greet prior to the meeting will be held to greet the new GM. This will be held from 6:00-7:00PM in the Community Center.

Announced that the Board Organizational meeting would be held at the conclusion of the AGM.

XVII. Adjourned 2:13p.m.

SUDDEN VALLEY BOARD OF DIRECTORS

Board Organizational Meeting

November 02, 2024

Minutes

DATE AND LOCATION: Saturday, November 02, 2024, Dance Barn
CALLED TO ORDER AT: 2:30PM
AUDIENCE MEMBERS: Not Recorded

ATTENDING:

Staff Members: Jo Anne Jensen, General Manager
N&E Chair Rob Gibbs

Call to Order

Rob Gibbs, N&E Chair, called the meeting to order.

Roll Call:

1. Andrew Tischleder- absent	4. Rick Asai	7.Linda Bradley	10. Rob Gibbs
2. Stuart Mitchell	5. Keith McLean	8. Ray Meador	
3. Tom Henning	6. Laurie Robinson	9. Taimi Van de Polder	

1. **Adoption of Agenda**

Motion: Move to adopt the agenda.

Motion By: Director Van De Polder		**Seconded By:** Director Meador	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:** 5	**Abstained**	

2. **Procedure vote**

Motion: if no one has a preference move to vote by a show of hands.

Motion By: Director Van de Polder		**Seconded By:** None	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained**	

3. **Officer Nominations**

a. **President**

Keith McLean was nominated by Taimi Van De Polder.
Taimi Van De Polder was nominated by Ray Meador.

Keith McLean received 7 votes.
Taimi Van De Polder received 1 vote.

Keith McLean is President.

b. **Vice President**

Taimi Van De Polder was nominated by Linda Bradley.
No other nominees.

Unanimous vote to approve Taimi Van De Polder, Vice President.

Taimi Van de Polder is Vice President.

c. <u>Secretary</u>

Linda Bradley was nominated by Taimi Van De Polder.
No other nominees.
Unanimous vote to approve Linda Bradley, Secretary.

d. <u>Treasurer</u>

Taimi Van De Polder nominated Laurie Robinson as Treasurer.
No other nominees.
Unanimous vote to approve Laurie Robinson Treasurer.

Final Executive Committee Members

President	Keith McLean
Vice President	Taimi Van De Polder
Treasurer	Laurie Robinson
Secretary	Linda Bradley

Motion to Adjourn

Motion By: Keith McLean		**Seconded By:** N/A	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained**	

Meeting Adjourned: 2:36PM

Approved by:

_____

Linda Bradley, Board of Directors Secretary

REGULAR SESSION OF THE BOARD OF DIRECTORS

Thursday, November 14, 2024

Minutes

DATE AND LOCATION: MULTIPURPOSE ROOM A
CALLED TO ORDER AT: 7:00 PM
AUDIENCE MEMBERS: Not Recorded

BOARD MEMBERS PRESENT:

1. Keith McLean	4. Laurie Robinson-via Zoom	7.AJ Tischleder-Excused	10. Robb Gibbs
2. Taimi Van de Polder	5. Tom Henning	8. Rick Asai	11. Daniel Rodriguez
3. Linda Bradley	6. Ray Meador	9 Stu Mitchell-Absent	

ATTENDING:

Staff Members: Jo Anne Jensen, General Manager. Joel Heverling, Director of Finance, Spencer Huston, IT.

Call to Order

President McLean called the meeting to order at 7:00 PM.
Land Acknowledgement and Anti-Racism Statement.

1. **President called for motion to adopt the agenda.**

Motion: Move to adopt the agenda.

Motion By: Director Bradley		**Seconded By:** Director Van De Polder	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained**	

Motion: Move to amend the agenda.

Director Rodriquez requested Board approval of a new ACC member. Item 8h.
Director Gibbs requested new members approval to the N&E Committee. Item 8i.

Motion By: Director Bradley		**Seconded By:** Director McLean	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained**	

2. **<u>Announcements.</u>**

Area Z new maintenance facility open house.
Valley Craft Market
Christmas Tree Lighting
New GM Reception before Board meeting 12/12.
Breakfast With Santa
Looking for submissions from members of the community regarding children's activities or accomplishments for articles in the Views.

3. **Property owner comments.**

A homeowner made comments regarding the marina and proposed lot sales.

4. **Consent Agenda**

Motion: Have the minutes of October 4th, 2024, and the minutes of October 24th, 2024, approved as submitted

Motion By: Director Bradley		**Seconded By:** Director Robinson	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: 7	**Against:**	**Abstained:** 1	

5. **Financial Reports**

September Financial Reports and Capital Reserves -Joel Heverling

6. **GM October Report**

7. **Continuing Business**

7a. Ratification of Executive Action: Execution of GM Contract

Motion: Move to ratify the execution of the new GM contract authorized by the Board on 9/26/24, and again on 10/4/24.

Motion By: Director Bradley		**Seconded By:** Director Robinson	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

7b. Approval Request – Sale of SVCA Lots

Motion: Move the Board of Directors approve the proposed activities for 3 blocks, 3, 33, and 63 Louise Drive, with the goal of selling the properties, with the understanding that any offers received on the properties will be brought back to the board for direction before any action is taken.

Motion By: Director McLean		**Seconded By:** Director Bradley	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

8. **New Business**

8a. Certification of 2024 Election

Motion: Move that the Board of Directors accept the 2024 election certification presented by any chair rob gives, including all candidates and measures and corrections by Linda Bradley, that we made, saying that was seconded by Linda, all in favor of the amended motion.

Motion By: Director McLean		**Seconded By** Director Bradley	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

8b. Director Assignments for Standing Committees

NOTE: The Architectural Control Committee and **Nominations & Elections Committee** Chairs were appointed by their respective committees as stipulated in the Bylaws.

Long Range Planning Committee

Motion: Nominate Director Ray Meador for Chair of LRPC.

Motion By: Director Van De Polder		**Seconded By** Director Robinson		
Approved: X	**Not Approved:**	**Tabled:**	**Died:**	
In Favor: Unanimous	**Against:**	**Abstained:**		

Motion: Nominate Rick Asai as his second director.

Motion By: Director Van De Polder		**Seconded By** Director Bradley	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

Finance Committee

Motion: Laurie is Chair of Finance Committee as Treasurer. Director Robinson nominates Taimi Van De Polder as second director on Finance.

Motion By: Director Bradley		**Seconded By** Director Robinson	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

Document Review Committee

Motion: Nominate Linda Bradley for the chair of the Document Review Committee.

Motion By: Director Van De Polder		**Seconded By** Director McLean	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

Motion: Nominate Taimi Van De Polder as my second board member on the Document Review Committee.

Motion By: Director Bradley		**Seconded By** Director Mc Lean	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

8c. Reapproval of Charters for Ad Hoc Committees

Safety Committee

Motion: That the Board re-establish the Safety Committee for the year 2025.

Motion By: Director Bradley		**Seconded By** Director Van De Polder	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

Motion: Nominate Rick Asai as Chair of the Safety Committee.

Motion By: Director Van De Polder		**Seconded By** Director McLean	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

Motion: Nominate Tom Henning as co-chair of the Safety Committee.

Motion By: Director Van De Polder		**Seconded By** Director McLean	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

8d. Approval Request-Native Landscaping Project

Motion: Move that the Board of Directors approve the NNLP Maintenance Agreement and authorize the General Manager to sign it on their behalf.

Motion By: Director McLean	**Seconded By** Director Bradley

Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained:**	

8e. Approval Request-Pacific Security Contract Terms
Motion: Move that the Board of Directors approve the change to contract terms proposed by Pacific Security and authorize the General Manager to sign the work order formalizing this change on a trial basis of one year.

Motion By: Director Bradley		**Seconded By:** Director Van De Polder	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained**	

8f. Approval Request- 2025 Fines & Fee Schedule
New Construction Extension Fees
Motion 1: The Board of Directors approve the proposed change of the new construction fees which include with modifications as discussed.
***NOTE:** Round up monthly amounts to 1st extension $850.00, 2nd extension $1,700.00, 3rd extension $1,700.00.

Motion By: Director McLean		**Seconded By:** Director Bradley	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: 5	**Against:** 2	**Abstained**	

Marina Fees
Motion 2: The Board of Directors approve the proposed changes to the Marina rental fees.

Motion By: Director McLean		**Seconded By:** Director Bradley	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: 6	**Against:** 1	**Abstained**	

8g. GM Transition Plan-discussion the General Manager provided the Board with the steps included in proposed plan. There were no comments from the Board regarding the plan.

8h. Appointment of new Architectural Control Committee member.
Director Rodriguez asked for John Gingrich to be approved by the Board to serve on the 2025 ACC Committee. There were no objections.

8i. Appointment of new Nomination & Election Committee members.
Director Gibbs asked for Jo Jean Kos, and Donn Jamtaas be approved by the Board to serve on the 2025 committee. There were no objections.

9. Closed Session -Legal
Moved to closed session at 10:03PM.

Motion By: Director Bradley		**Seconded By:** Director Gibbs	
Approved: X	**Not Approved:**	**Tabled:**	**Died:**
In Favor: Unanimous	**Against:**	**Abstained**	

Moved to open session-10:55 PM.
There was no action coming out of closed session.

Adjourned 10:56 PM.

Approved by: _____
Linda Bradley, Board of Directors Secretary

Sudden Valley Community Association
360-734-6430
4 Clubhouse Circle Bellingham, WA 98229
www.suddenvalley.com

CAPITAL REQUEST MEMO

To: **Executive Team, Sudden Valley Community Association Board of Directors**

From: **Jo Anne Jensen, General Manager**

Date: **November 22nd, 2024**

Subject: **Capital Request – Tree Limb & Debris Clearing**

Purpose
To request Executive Team approval for a proposed initiative to remove fallen trees, limbs, and other debris from throughout the Association.

Background
SVCA experienced a severe windstorm on Tuesday evening, November 19th, that caused extensive damage throughout the Association. Many homes were damaged and almost all properties have downed trees, limbs, and other debris that needs to be removed. It is important to remove this debris so that it does not fill the ditches or block culverts that are needed for drainage. Debris should also be removed before we get snow, because it will make plowing more dangerous and less effective.

Analysis
We propose to conduct a "Firewise" type event, where residents are asked to bring debris to the roadside for pickup. When SVCA staff conduct Firewise, it takes five weeks to clear all the neighborhoods. The storm has created significantly more debris than we typically remove during Firewise, so we need to complete much more work in much less time.

Working with Mike Brock, we estimated that we would need four, three-person crews equipped with a truck capable of holding wood chips and a heavy-duty chipper, and a two-person flagging team. This would require hiring ten seasonal workers and renting four chippers and two trucks. When we looked into the availability and cost of rentals and temporary staff, it quickly became clear that it would be challenging and expensive to get what we needed.

We also spoke with the tree services that we have worked with over the year. As a result, Rawls Tree Service offered to dedicate their entire twenty-person crew along with their equipment to pick up and dispose of all the debris brought to the roadside for a daily rate of $17,000. Rawls estimates that it will take four to five days to complete the project using their regular crew and equipment ($68,000 to $85,000 plus tax). This is an ideal solution because it is less costly than renting everything ourselves and the experienced crew will work together more efficiently. To secure these services, SVCA needs to contract immediately with Rawls Tree Service. In this situation, we cannot wait for a meeting of the full Board.

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Requests

Request that the Executive Team approve $95,000 from UDR to cover the costs associated with removing trees and debris from the roadside throughout the Association and authorize the GM to execute a contract with Rawls Tree Service for this work.

Motion

Move that the Executive Team approve $95,000 from UDR to cover the costs associated with removing trees and debris from the roadside throughout the Association and authorize the GM to execute a contract with Rawls Tree Service for this work.

Approval

Approved: _____ Not Approved: _____ SVCA Board of Directors

Signed: _____ Date: _____

Keith McLean, SVCA Board President

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CAPITAL REQUEST MEMO

To: **Sudden Valley Community Association Board of Directors**

From: **Jo Anne Jensen, General Manager**

Date: **December 12, 2024**

Subject: **Capital Request – Storm Response Funding**

Purpose
To request funding for fallen and hazardous tree removal and debris clean up.

Background
SVCA experienced a severe windstorm on Tuesday evening, November 19th, that caused extensive damage to trees throughout the Association. Many common areas are littered with downed trees, limbs, and other debris. It is important to remove this debris so that it does not fill the ditches or block culverts that are needed for drainage or increase the risk of fire in the dry summer months. Timing is critical, since roadside debris should be removed before we get snow, because it will affect plowing.

In addition to clearing downed trees and debris, SVCA is also actively evaluating and removing trees that were damaged by the storm but have not yet fallen. Managing the evaluation and removal of these hazardous trees is a part of SVCA's normal operations. As I reported to the Board on March 28th and again on November 14th, Association spending on the removal of hazardous has already significantly exceeded the budgeted amount for this activity. The November windstorm damaged many trees on SVCA property, greatly increasing the number of trees that must be evaluated and removed.

This memo describes in detail the additional funding needed for debris clean-up and tree removal made necessary by the recent storm.

Analysis
The Executive Team approved $95,000 in funding for clearing of debris throughout the Association. These funds were exhausted during the week of December 2 – 6, but there was not enough time to clear all streets. While the approach to clearing debris is similar to what SVCA does each year as part of the "Firewise" project, the current effort is not limited to limbs that are 8" or less in diameter. By using Rawls Tree Service to do the cleanup, SVCA got access to twenty experienced crew members and heavy equipment with significantly more capacity than our everyday equipment. For example, Rawls is able to chip debris up to 22" in diameter, and their unit also operates much more quickly. In only five days of clearing, Rawls Tree Service generated 30 truckloads of wood chips; this translates to 448 cubic yards of material. For perspective, that amount of material would cover a football field at a depth of about 3 inches.

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Mike Brock, SVCA's Maintenance & Facilities Manager, estimates that three additional days are needed for Rawls Tree Service to complete clearing all roadside debris. This includes moving saleable timber from SVCA property to a central area where it will be loaded and delivered to a lumber mill. One load has already been delivered, netting $1,044.50 in revenue for SVCA. These funds will be used to offset the cost of cleanup.

In addition to clearing roadside debris, many trees had to be cleared from the roads during and immediately after the storm. While many of these trees were cleared by Maintenance, some exceeded the size that can be handled with SVCA equipment. Those larger trees were handled by third party vendors.

Prior to 11/19, SVCA received 181 requests from members to evaluate & remove (if necessary) a hazardous tree. Since 11/19, we have received 39 such requests, with 17 of those still pending evaluation. Additionally, based on the number of requests that are still pending, and the new requests that we receive each day, we estimate that SVCA could spend as much as $250,000 in additional hazardous tree expenses related to the November storm event cleanup activities.

Summary of Costs

Roadside Debris Removal	
• 5 days, 12/2 – 6; 20 crew members plus equipment	$92,480
• 3 additional days	$55,488
Subtotal (Roads)	$147,968
Clearing Trees from Roadway	
• Rawls Tree Service	$77,792
• Stremler	$1,831
• NW Geologic Survey	$540.00
Subtotal (Roads)	$80,163
Hazard Tree Removals	
• November	$11,424
• December & January (estimate)	$240,000
Subtotal (CRRRF)	$251,424
Grand Total	**$479,555**

Sources of Funding

Costs associated with clearing trees from the road and removing organic material to ensure the drainage system remains functional are typically attributed to the Roads Fund. At the end of October, the Roads Fund had an available cash balance of $2,108,328, and an estimated end-of-year net usable cash balance of $1,450,800. While funds for storm cleanup were not budgeted, I recommend using the Roads Fund to pay for $228,131 of road clearing and cleanup costs.

Costs associated with maintaining property are typically attributed to the Capital Repair & Replacement Reserve Fund (CRRRF). At the end of October, CRRRF had an available cash balance of

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$3,217,732, and an estimated end-of-year net usable cash balance of $1,708,582. While funds for storm cleanup were not budgeted, I recommend using CRRRF to pay for $251,424 of hazardous tree removal costs.

Requests
Request that the Board approve $228,131 from the Roads Fund to cover the costs associated with removing trees and debris from the roadside throughout the Association caused by the November storm event.

Request that the Board approve $251,424 from CRRRF to cover the costs associated with hazardous tree removal throughout the Association caused by the November storm event.

Request that the Board de-obligate $95,000 of funding from UDR to cover the costs associated with removing trees and debris from the roadside throughout the Association related to the November storm event and change this funding source for these approved cleanup activities to be utilized from the $228,131 Roads Fund storm event cleanup project stated above.

Motions
Move that the Board approve $228,131 from the Roads Fund to cover the costs associated with removing trees and debris from the roadside throughout the Association caused by the November storm event.

Move that the Board approve $251,424 from CRRRF to cover the costs associated with hazardous tree removal throughout the Association caused by the November storm event.

Move that the Board de-obligate $95,000 of funding from UDR to cover the costs associated with removing trees and debris from the roadside throughout the Association related to the November storm event and change this funding source for these approved cleanup activities to be utilized from the $228,131 Roads Fund storm event cleanup project stated above.

Approval
Approved: _____ Not Approved: _____ SVCA Board of Directors

Signed: _____ Date: _____
Keith McLean, SVCA Board President

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APPROVAL REQUEST MEMO

To: **Executive Team, Sudden Valley Community Association Board of Directors**

From: **Jo Anne Jensen, General Manager**

Date: **December 12, 2024**

Subject: **Approval Request – HR Consultant Services**

Purpose
To request Board approval of a formal contract with Resourceful, a OneDigital Company, for ongoing Human Resources (HR) consultant services.

Background
SVCA's regular staff includes 6 managers and 24 union employees. This group is augmented by an ever-changing mix of up to 40 seasonal employees, dependent on the time of year. The HR function at SVCA provides support to the organization as follows:

- Supporting managers in the supervision and counselling of their teams, including annual reviews, to ensure compliance with SVCA policies and state and federal law;
- Supporting the needs of current staff, including accessing benefits and other employee resources, to ensure compliance with state and federal law;
- Working with the union to respond to questions and manage MOUs, grievances, etc.;
- Managing job postings, candidate applications, pre-employment checks, onboarding paperwork, and the maintenance of employee files, to ensure compliance with state and federal law;
- Administering the annual open enrollment period.

SVCA's experienced managers are familiar with best practices in supervision and counselling employees, but questions can arise in certain situations. To ensure compliance with the Collective Bargaining Agreement (CBA), and all state and federal requirements for employers, it is necessary to have access to an organization that has access to expertise across the full spectrum of HR competencies and can become familiar with SVCA's organization, facilitating quick response when needed.

Analysis
In the past, SVCA had a hybrid role on staff called the Administrative Service Manager. This role combined HR expertise with the day-to-day supervision of the Administrative Services group. While this worked effectively in the past, no single individual can be expert in all aspects of HR. SVCA was able to attract candidates for this role of varying experience and qualifications.

For the past two years, SVCA has called on a local HR professional, Wendy St. Clair, for help in establishing compliant personnel files and for support when unusual situations arise. This was effective in some situations, but any issues involving the Teamsters union required support from our legal advisor, which has been expensive.

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Over the past nine months, I reached out to several different HR consultants, both single individuals and larger companies. I was able to find one organization, Resourceful, that satisfied all of SVCA's requirements:

- Expertise across a wide range of HR competencies;
- Deep experience working with unionized organizations;
- Experience working with similar sized organizations;
- Experience working with organizations in our industry (HOA management);
- Willingness to supply consulting services, not just software;
- Resources sufficient to take on a new client.

Resourceful, a small local company that recently became part of a larger national organization, OneDigital, satisfies all of these requirements. Located in the North Seattle area, Resourceful has staff that can easily come on site to get to know the team and audit personnel records. They have experience working with unionized organizations (Chelan County, SEIU) and have the Seattle Yacht Club as a client. The proposal provided by Resourceful is attached and more information can be found online at ResourcefulHR.com

Resourceful recommends a contract that defines a retainer relationship, with the option to convert to a month-to-month relationship with a lower number of hours after six months. The table below summarizes the anticipated first year cost:

Service	**Cost**
Initial set-up Fee	$2,500
Six month, 30-hour/month retainer (6 x $6,000)	$36,000
Month-to-month, 20-hour/month (6 x $4,000)	$24,000
Total Full Year Cost	**$62,500**
Six-Month Cost (the minimum obligation)	**$38,500**

The cost of this relationship would be offset by lower legal fees, since it would not be necessary to involve SVCA's lawyers in most personnel matters. Through the end of October, SVCA has spent $142,916 on legal fees, compared to an annual budget of $65,000 for this category of expense. Clearly, it is important to find ways to reduce legal costs going forward.

Requests
Request that the Board of Directors authorize the GM to execute a contract with Resourceful, a OneDigital Company, for a six-month retainer contract including 30 hours of HR consulting per month, to be paid for out of 2025 Operational Funds.

Motion
Move that the Board of Directors authorize the GM to execute a contract with Resourceful, a OneDigital Company, for a six-month retainer contract including 30 hours of HR consulting per month, to be paid for out of 2025 Operational Funds.

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Approval

Approved: _____ Not Approved: _____ SVCA Board of Directors

Signed: _____ Date: _____

Keith McLean, SVCA Board President

ONEDIGITAL

Do well by doing good.

OneDigital Overview

- Ranked 30th in large company category
- Only insurance brokerage & retirement plan advisory firm to make this year's list
- B&B in the Nation and 2 years in a row in the PNW

200+
Offices Nationwide

3,500+
Employees

100,000+
Clients Nationwide

Independent &
Privately-Owned

8,000,000+
Individuals Served

23 Years
Strategic Expansion

HR
Consulting

Health &
Wellbeing

Employee
Benefits

Financial
Services

Employee
Engagement

Reporting &
Analytics

Wealth
Management

Compliance
Consulting

Pharmacy
Consulting

Property &
Casualty

Mergers &
Acquisitions

Global
Benefits

REPRESENTATIVE CLIENTS

Primary

OncoResponse

RMI

NSC Near Space Corporation 25 YEARS

TomDouglas AND Co.

CAMBER COLLECTIVE

NORTHWEST HEALTHCARE Response Network.

WASHINGTON STEM
REIMAGINING SCIENCE, TECHNOLOGY, ENGINEERING + MATH EDUCATION

ARCHITECTS baylis
CELEBRATING 50 YEARS

CARDIAC STUDY CENTER, INC., P.S.

SEATTLE YACHT CLUB

TRI-TEC MANUFACTURING

WHAT OUR CLIENTS SAY

It made me a believer. When you have the right kind of organization, it definitely works.

- Kevin Tucker, Near Space Corporation

They are a high level resource that gives me peace of mind. They give me confidence that they are seeing things that aren't top of mind for me. As CEO, I feel like I'm putting my company in a much safer position than it was in before.

- Yana Collins Lehman, Trevanna Post

My ability to confidently work in my role knowing that I have a team of experts to assist has been vital to the transformation of the HR department at Tri-Tec Manufacturing

- Cyndy Jackson, Tri-Tec Manufacturing

Even though we now have an internal HR specialist doing a lot of the day-to-day work, we value OneDigital's expertise and support, so we just signed a new contract to continue the relationship

- Cathy Mulhall, Chelan County

WHAT WE HEARD ARE YOUR PRIORITIES

Conduct an HR assessment and review your current HR practices and documentation. Build a proactive HR action plan that considers your operations and ensures all key areas are addressed and compliant.

Provide guidance and coaching to leadership and managers as needed on compliance, labor relations, and other HR initiatives.

Serve as an HR advisor to GM and managers; provide support and coaching as appropriate to respond to employee relations issues including performance and disciplinary actions. Assist with employee questions and concerns around leave, accommodation, and business practices.

Review current CBA for union employees and provide recommendations for improvements to the formal and informal grievance process. Work with SVCA and union stewards to align on strategies to support SVCA employees.

Identify training and development opportunities that enhance performance of the business and staff and increase employee engagement. Provide customized training and partner with other resources as appropriate.

Implement performance management process that aligns with the business and employee development needs. Train and coach managers on delivering performance feedback and be a resource to managers and employees on performance issues.

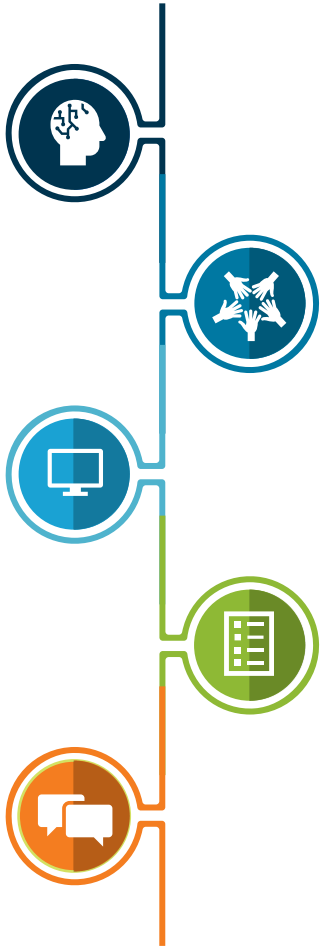
Support leadership changes through knowledge transfer and documentation to ensure consistent business practices. Provide strategic guidance to new GM on the structure of the HR function and people operations.

Review and update policies as needed in employee handbook that reflect the organization’s mission, goals and desired culture while ensuring compliance.

OUR APPROACH

Designate Management Sponsor

Help set clear objectives for Sudden Valley Community Association and meet regularly to discuss progress and concerns



Assemble OneDigital Team

Work with a team of consultants with varying specialties to best support your specific needs alongside a primary point person who will know your business inside and out

Kick-Off Meeting

HR support will be available from day one. Meet with 2+ consultants to identify your immediate needs

Set-Up Process

Review current HR practices, processes & documentation to create an action plan to prioritize and strategize activities that will have the greatest impact on your business

Identify Communication Cadence

- **Weekly:** We have a check-in call with you to share updates, make decisions, and adjust our week's priorities as needed
- **Monthly:** We will use our check-in call to ensure alignment on action plan priorities, goals, and timelines
- **Ongoing:** We keep tabs on what is coming down the pipeline that may impact your business, including federal, state, and local regulations

OUR REMARKABLE TEAM

PERSONAL • STRATEGIC • FRESH-THINKING • INVESTED IN SUCCESS

Phoebe Ingraham
Director, HR Consulting

Megan Bloom
Client Executive

Dror Zaluski
Client Executive

Andrea Allard
Manager, HR Consulting

Carrie Allen
Manager, HR Consulting

Cymbre Brown
HR Generalist

Lindsay Green
HR Generalist

Adri Peecher
HR Generalist

ONEDIGITAL

SERVICE PLAN OPTIONS

CLIENT SETUP FEE | $2,500

UP TO
20 HOURS
PER MONTH

$4,000

UP TO
30 HOURS
PER MONTH

$6,000
Recommended

UP TO
25 HOURS
PER MONTH

$5,000

ADDITIONAL TIME | $236.25 PER HOUR

*One Digital will invoice client by email monthly. Fees are invoiced monthly in advance for selected services. Additional service time and expenses will be included in the following monthly invoice.

ONEDIGITAL OFFERINGS BEYOND HR CONSULTING

EMPLOYEE BENEFITS

HIGH-PERFORMING BENEFITS

Develop a multi-year strategy that enables your organization to prepare for future workforce challenges.

FUNDING STRATEGIES

Cost containment does not mean cutting benefits. Understand your cost drivers and explore aggressive benefit strategies to control and optimize every dollar spent.

REPORTING & ANALYTICS

Harness the power of data and ensure your strategy and investments not only support growth, but also allow you to foster an exceptional workplace.

EMPLOYEE ENGAGEMENT

Focus on connection and accessibility to deliver customized, multi-channel benefits education and engagement throughout the year.

RETIREMENT + WEALTH

FIND EFFICIENCIES

Reduce burden on HR and payroll departments by updating plan technology and integrating systems.

IMPROVE PARTICIPATION

Make it easy for employees to engage in a conversation about their financial health and path to retirement.

UNDERSTAND COSTS

Understand how your vendor and service costs compare to other companies in your industry and region and how participation impacts your bottom line.

DIRECT COMPLIANCE

Receive strategic guidance on key regulations and actions you can take to stay up to date.

PROPERTY + CASUALTY

STRATEGY FOCUSED

Beyond quoting coverages, our approach to risk management centers on leveraging benchmarking and analytic tools to uncover industry-specific insights to help minimize unforeseen risks.

INDEPENDENT MODEL

Our independent service model enables us to work with over 500 carriers to find the most cost-effective coverage options available in the market.

HIGH-TOUCH SERVICE

Our ongoing services such as safety trainings and on-site audits help employers effectively reduce claims by bringing consistent recommendations and claims support.

DIVERSE OFFERINGS

From Cyber Risk to Workers' Compensation, business property insurance and everything in between, you can work with a single partner for a holistic approach to risk management.

OUR TEAM BEYOND HR

EMPLOYEE BENEFITS

WASHINGTON

Danielle Meier
Account Manager

Dave Wedin
Sr Client Executive

Michael Holloway
Client Executive

Brett Meier
Client Executive

Ryan Gowin
Sr Client Executive

Joseph Neff
Sr Client Executive

OREGON

Felipe Hardy
Client Executive

Phaedra Andersen
Sr. Client Executive

IDAHO

Melinda McDaniel
Principal
Sr Client Executive

Robert Tierney
Principal
Sr Client Executive

RETIREMENT & WEALTH

Mary Caballero
Managing Principal

PROPERTY & CASUALTY

Shawn Pelton
Sales Manager

Next Steps

We are excited to dig in and start making progress on your priorities. When you are ready to get started, I will send you our standard service agreement for your review, and we can discuss next steps. We look forward to supporting you and the SVCA team!

CONTACT

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megan.bloom@onedigital.com
443.255.5636