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REPORT OF GEOTECHNICAL EXPLORATION

London Laurel Regional Fairgrounds Development

London, Laurel County, Kentucky

Prepared for: London Tourism

May 31, 2024

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May 31, 2024

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Subject: **Report of Geotechnical Exploration**
London Laurel Regional Fairgrounds Development
London, Laurel County, Kentucky
Solid Ground Project No.: 24-301

Mr. Robinson,

Solid Ground Consulting Engineers (Solid Ground) is pleased to present our Report of Geotechnical Exploration. This report is for the proposed London Laurel Regional Fairgrounds Development to be located in London, Kentucky. The geotechnical exploration was conducted in general accordance with the scope of work agreed upon through email.

This report contains our findings and recommendations for the referenced project detailed above. Once completed, it is recommended that Solid Ground have the opportunity to review plans and specifications. In addition, it is recommended that Solid Ground be retained to perform observations during earthwork, foundations, and slab-on-grade construction. Solid Ground will not be held responsible for interpretations and field observations made by others.

We appreciate the opportunity to provide our consulting services to you. We look forward to working with you on this and future projects.

Sincerely,
SOLID GROUND CONSULTING ENGINEERS

Beck Smith, PE
Senior Engineer
Kentucky License Number 37415

Richard Farrell, PE
Senior Engineer

1.0 Executive Summary

Solid Ground Consulting Engineers performed a geotechnical exploration in support of the proposed New Laurel County Fairgrounds Development located at 1855 State Hwy 229, London, Laurel County, Kentucky. The approximate coordinates of the site are 37.088324°N, -84.042752°W.

1.1 Summary of Findings

Solid Ground conducted a total of four (4) soil test borings at the site, all being located within the approximate development boundaries.

Soil overburden generally consisted of a layer of topsoil or gravel underlain by natural soils described as Silty Sand (SM), Lean Clay (CL) and Clayey Sand (SC) with varying amounts of gravel to auger refusal depths. The borings encountered auger refusal at depths between 10.5 feet and 12.5 feet.

The finished floor elevation (FFE) is currently unknown at the time of this report. It is anticipated that some site grading will be required to achieve the finished grade.

2.0 Project Information

2.1 Purpose and Scope of Services

The purpose of this subsurface exploration was to prepare recommendations for design and construction of foundations and floor slabs for the proposed development. Our scope of work included the following:

- A discussion of site surface conditions.
- A discussion of subsurface conditions encountered as well as a discussion of the published geologic conditions at the site.
- A summary of field and laboratory testing results including a brief review of test procedures.
- Boring logs and laboratory tests will be summarized in the report and included in the appendices.
- A discussion of specific geotechnical conditions and concerns which may affect the design or construction of the project.
- Recommendations for site preparation and construction of compacted fills.

- Recommended general design and construction criteria for the project foundations.
- Recommended general design and construction criteria for the pavement and concrete pad areas.
- A recommendation for seismic site class according to International Building Code which was adopted by the 2018 International Building Code (IBC).

2.2 Project Description

The project consists of an approximately 30,000 square foot building. The approximate site location is depicted below in Figure 1.

Figure 1: Approximate Site Location

2.3 Site Conditions

Solid Ground personnel visited the site throughout the geotechnical exploration to observe existing conditions, to help interpret the subsurface data, and to detect conditions which could affect recommendations.

The site is located at 1855 State Hwy 229, London, Laurel County, Kentucky. The expansion area is mostly covered with low grass, gravel, and asphalt.

2.4 Structural Loading Information

Anticipated maximum column loading of 50 kips and wall loading of 5 kips per linear foot. If these assumed loads are incorrect, Solid Ground should be immediately contacted to revise our recommendations, if necessary.

2.5 Site Grading and Topography

The finished floor elevation (FFE) is currently unknown at the time of this report. Based on existing topography, site grading is anticipated to be moderate.

3.0 Subsurface Findings and Encountered Conditions

3.1 Review of Previous Site Development and Historical Information

Based on review of historical maps provided by the United States Geological Survey (USGS) (Figures 2 & 3) and historical imagery provided by Google Earth (Figures 4 & 5), it appears there has been some development within proximity of the site associated with development of the fairgrounds.

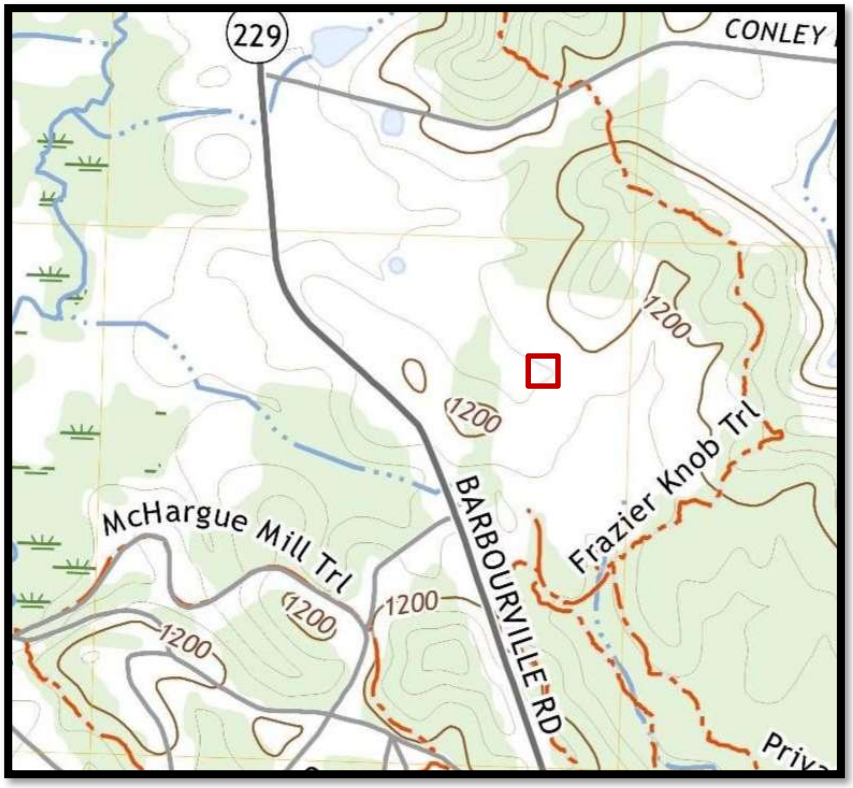


Figure 2: 2022 USGS Topographic Map of the Lily Quadrangle

Figure 3: 1970 USGS Topographic Map of the Lily Quadrangle

Figure 4: 2021 Google Earth Imagery

Figure 5: 1997 Google Earth Imagery

3.2 Published Geologic Information

Geologic information was referenced from the Kentucky Geological Survey (KGS), geologic maps of the Lily Quadrangle, Laurel County, Kentucky (Figure 6). The site is underlain by the Pikeville Formation. Locally, the unit is described as containing sandstones, siltstones, shales, and coal, Lower to Middle Pennsylvanian in age.

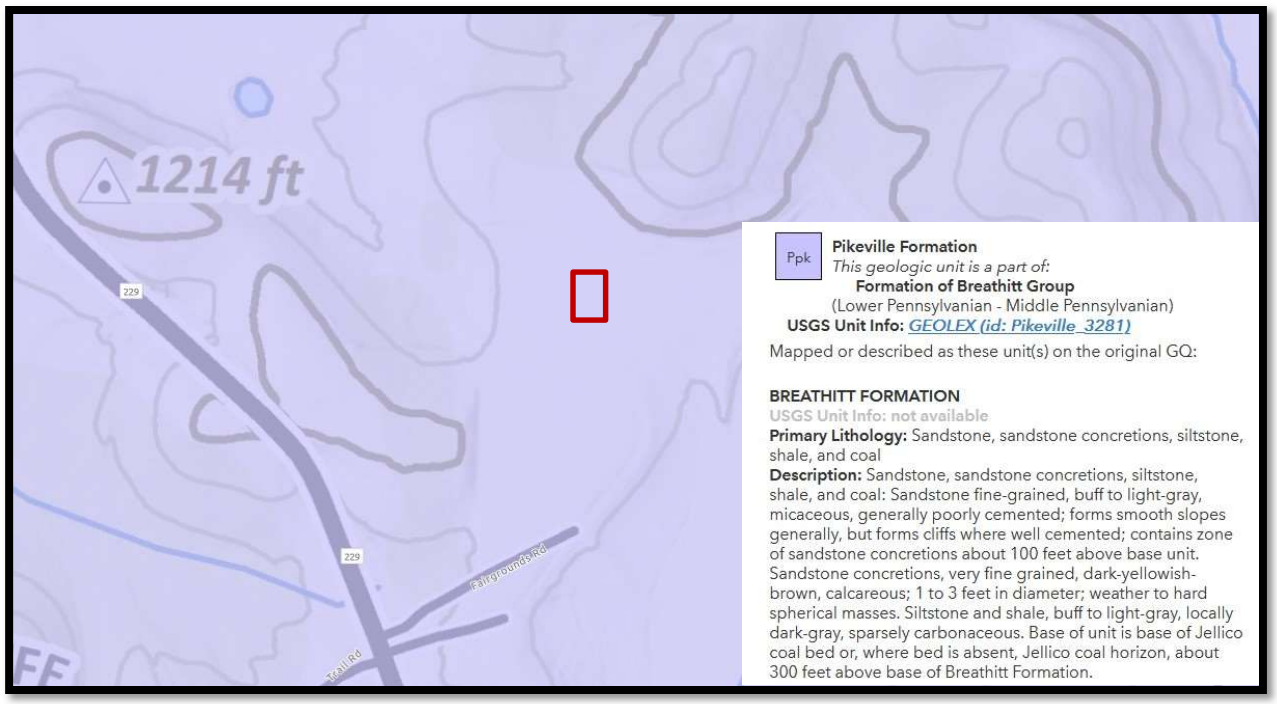


Figure 6: KGS Geologic Mapping

The KGS mapping (Figure 7) indicates that the underlying rock unit has no karst potential, with zero mapped sinkholes either on the site or within the vicinity of the site. Solid Ground should be contacted if any karst activity is encountered in construction for remediation recommendations.

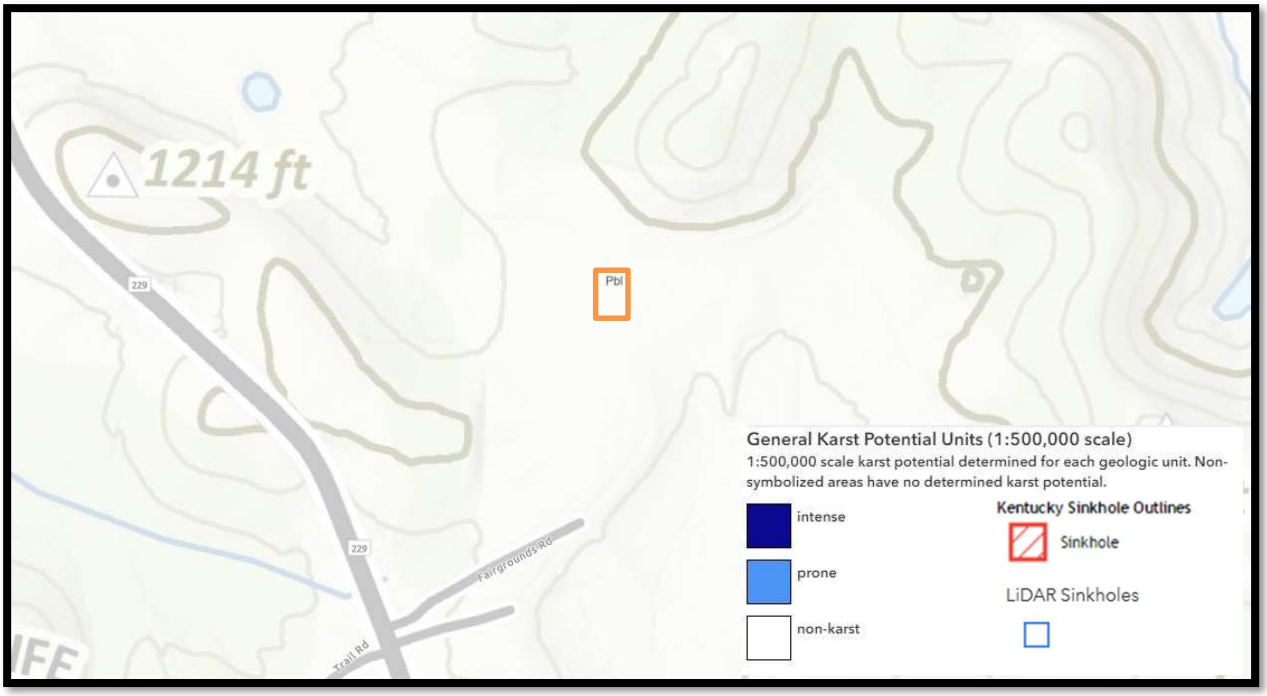


Figure 7: KGS Karst Potential Mapping

3.3 Subsurface Exploration Program

Solid Ground conducted a total of four (4) soil test borings, borings were located within the approximate expansion boundaries. Borings were located as close to the proposed expansion as site conditions allowed.

Boring surface elevations were estimated utilizing ArcGIS and LiDAR data. Therefore, the locations and surface elevations should be considered approximate. It should be noted that the subsurface conditions will vary and the representative profile is based upon the number of borings drilled during the field operations. Boring locations are shown in Figure 8 below.

Figure 8: Approximate Boring Locations

3.4 Subsurface Conditions

The soil samples were classified by Solid Ground personnel according to the Unified Soil Classification System (USCS ASTM D2488; USCS ASTM 2487 for select samples). A description of each soil layer is as follows.

Surficial Materials **–** Two (2) of the borings (B-1 and B-3) encountered a surficial layer of gravel (6 inches), while B-2 and B-4 encountered a surficial layer of topsoil (6 inches). It should be noted that thicknesses of these materials may vary across the site. The thicknesses presented in this report should be considered approximate.

Natural Soils - The borings encountered fill soils underlying the surficial materials layer described Silty Sand (SM), Lean Clay (CL) and Clayey Sand (SC) with varying amounts of gravel to auger refusal depths. The N-values ranged from 5 to 50+ blows per foot, with a consistency of soft to hard.

***Auger Refusal* –** The borings encountered auger refusal at depths between 10.5 feet and 12.5 feet.

Detailed descriptions and strength characteristics are included on the boring logs in Appendix A.

***Groundwater* –** Groundwater was not encountered within the borings. Free groundwater levels fluctuate with seasonal weather conditions and may vary. Therefore, the borings may not be representative of the actual free water levels. To achieve an accurate measurement of free groundwater levels, water wells or piezometers should be installed.

Solid Ground should be contacted if groundwater is encountered during earthwork operations. Please note, the groundwater table can fluctuate significantly which could have an impact on the subsurface soils. Table 1 summarizes our findings.

Table 1: Boring Summary

Boring Number	Approximate Surface Elevation (ft)	Auger Refusal Depth (ft)	Final Elevation (ft)
B-1	1189.5	10.5	1179.0
B-2	1190.3	11.9	1178.4
B-3	1186.9	12.5	1174.4
B-4	1185.9	12.5	1173.4

4.0 Geotechnical Concerns and Construction Considerations

Based on the results of the subsurface exploration and our experience with similar projects, we believe the project site is generally suitable for the proposed development. However, some concerns exist with the subsurface conditions as discussed below.

4.1 Surficial Materials

Based on the information gathered from the borings, the site has a surficial layer of topsoil (6 inches) and gravel (6 inches). These thicknesses are representative of conditions encountered at the boring locations only, thickness and aerial extent of the strata may vary across the site. Construction plans should adequately address stripping and the disposal of these materials prior to earthwork operations. Topsoil should only be used as fill in landscaping areas.

4.2 Construction in Cut/Fill Areas

Cut areas have the potential to be overcut, disturbing the in-situ soils to depths below proposed finished grade. Areas to receive fill are stripped of topsoil and are also sometimes disturbed to depths deeper than intended. Both cut and fill areas should be proof rolled prior to construction taking place. Soft, loose, or wet areas should be identified and remediated in accordance with the recommendations provided in the "5.1 Earthwork" section of this report.

4.3 Construction During Wet Conditions

It is understood that potential development could occur during wet conditions. Based on experience with construction projects during wet conditions, subgrade remediation is often required. In addition, delays of earthwork/foundation operations could occur. Clays swell and silts break down when high moisture conditions are present. To stabilize the subgrade materials, drying and recompacting could be required. During wet conditions, the on-site materials may become saturated and are unable to dry in a timely manner.

Typically, remediation methods consist of undercutting soft and/or saturated soils, moisture conditioning, and recompacting or replacing with a granular stone that is "capped" with dense graded aggregate (DGA). The extent and depth of the undercut is on a case-by-case basis depending on the soil conditions. We recommend contracting Solid Ground to observe earthwork operations and foundation and slab-on-grade construction. In addition, we

recommend that the earthwork contractor and the design team adequately budget for remediation repairs.

4.4 Preliminary Liquefaction Potential and Settlement

Liquefaction is the phenomenon where saturated soils develop high pore-water pressures during seismic shaking and lose their strength characteristics. This phenomenon generally occurs in areas of high seismicity where groundwater is shallow. Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow spread foundations.
Three conditions are generally required for liquefaction to occur:

1. The soil must be saturated (relatively shallow groundwater)
2. The soil must be loosely packed (low density)
3. Ground shaking of sufficient intensity must occur to function as a trigger mechanism.

Based on our recommendations for the foundation the soils should be considered to have low liquefaction potential.

4.5 Site and Foundation Drainage

Experience has shown that the onsite materials are prone to degradation during wet periods of the year and/or under heavy traffic. Surface and ground water should be controlled while the subgrade fill materials are exposed and use only enough compactive effort to achieve stability and job site requirements for compaction. In addition, it is recommended that foundation concrete, or a concrete bearing medium, be placed the same day that foundation excavation is performed.

The final grade should be sloped away from the structure and pavements a minimum of two percent to promote positive drainage. Roof drains and foundation drains should be installed and should discharge surface runoff away from the structure to provide positive site drainage. It should be noted that drainage should be designed and constructed without impacting neighboring properties. Drainage design is beyond our scope of work.

It is imperative that dewatering be maintained during construction and after development. If positive dewatering methods are not continually applied and maintained, the potential of remedial subgrade measures and long-term settlement is greatly increased.

We anticipate that a concern and difficulty during construction will be properly dewatering the site. The contractor should observe the site and understand this report. Drainage design is beyond our scope of services, but Solid Ground can provide drainage design for additional negotiated fees.

4.6 Underground Utilities

Design and Construction plans should adequately address the concern of potential settlement of underground utilities. Please note, all excavations should adhere to applicable codes such as OSHA.

4.7 Off Site Borrow Material

We anticipate fill material may be required to achieve the FFE. Offsite borrow material could be required. Construction plans should include this consideration as well as ensure the offsite borrow material meets the recommendations detailed in this report.

4.8 Soil Compaction Equipment

The soil compaction equipment should be selected by the type of fill anticipated for the site. Smooth drum rollers should be utilized for clean sands and silts, while clays may be compacted utilizing sheepsfoot rollers. We anticipate utilizing both a sheepsfoot roller and a smooth drum roller at this site.

4.9 Soil Plasticity

The subsurface soils were field classified as lean clay. These soils can have high plasticity characteristics and be subject to volume changes with fluctuations in moisture content. The near surface on-site material is not considered highly plastic. Care should still be taken to mitigate subgrade degradation and reduce subgrade remediation. Therefore, we recommend minimal mitigation efforts consisting of the following:

- Improved site drainage to minimize exposure of these soils to moisture fluctuations, especially near building foundations and slab on grade.
- Minimize exposure of these soils to excessive wetting or drying.
- Deepen footings to achieve a more consistent moisture condition.

4.10 Silty Material

The silty material observed on site is prone to breaking down under high moisture and repeated traffic. Care should be taken to not allow water to pond on the site and to reduce

the construction traffic across the building pad and paving areas. Failure to do so will result in delays to both the project budget and schedule.

4.11 Construction in a Demolition Zone

The site is occupied by an existing driveway that will be demolished prior to new construction. Demolition often leaves behind elements of structure foundations, underground utilities, etc. Care should be exercised during site preparation activities to completely remove all such elements and replace any disturbed soils as engineered fill.

4.12 Granular Material

Some of the on-site soils consisted of granular material (sand and gravel). This material often does not allow "neat" excavations for foundations and utilities and will slump from the banks into the excavation. We anticipate that this will require additional backfill material and time to backfill. The contractor should account for this additional material and time during the pre-construction phase.

4.13 Soft Soils

Some soft soils were encountered in borings within the proposed development. These soils may require selective undercutting and replacement as engineered fill per section 5.1.2 of this report or flowable fill.

5.0 Confirmation-Dependent Recommendations

The following recommendations are based on the information gathered and subsurface conditions encountered during this limited exploration. We have developed these recommendations under the assumption that our sampling performed on the site accurately portrays conditions that are not immediately visible due to earth, rock, water, or time**. It should be noted that Solid Ground cannot be held liable for fill placed or performance of the subgrade without observations to confirm that conditions in the field are consistent with inferences from the samples we obtained.**

Please note, if earthwork construction begins during wet weather conditions there is a likelihood that the schedule will be prolonged and extensive remediation, or a more robust geotechnical recommendation will be required.

5.1 Earthwork

5.1.1 Site Preparation

- Topsoil and other surficial materials should be stripped to prepare the site for construction.
    - In-place density testing should be performed to check that the previously recommended compaction criteria have been achieved.
    - Fill placement should be monitored on a full-time basis by Solid Ground during site grading.
    - Fill placement should extend to a minimum of 10 feet beyond the building footprint.
- After stripping and cutting operations, the subgrade should be evaluated by Solid Ground. Possible remediation methods may be required if the subgrade and site soils are exposed to wet weather conditions.
- The building pad may require stabilization prior to new fill placement or for slab-on grade-construction. Solid Ground should be consulted to assist in selecting the method most appropriate for site conditions. These methods may consist of any or combination of the following:
    - Tensar geogrid reinforcement.
    - "Walking" No. 2 stone into the soft subgrade.
    - Application of compacted DGA.

5.1.2 Structural Fill Placement

The finished floor elevation (FFE) is currently unknown at the time of this report. It is anticipated that some site grading will be required to achieve the finished grade. Backfill materials for structural fill placement may consist of soil or durable crushed stone. The following steps are recommended for fill placement within the building pad. **The onsite soils are expected to meet the requirements for structural fill material. Off-site borrow material is anticipated and cannot be ruled out without a review of the site grading plan.**

Structural fill material, if required, is defined as the following:

- Inorganic natural soil with maximum particle sizes of 3 inches.
- Plasticity Index of no greater than 30 percent and liquid limit less than 50.
- Solid Ground should observe the material to confirm the soils meet applicable standards for structural fill.
- Other sources of structural fill should be verified by Solid Ground.
    - If other sources of structural fill are anticipating, Solid Ground should collect a bulk sample for standard Proctor testing.

The following are recommendations for placement of soil structural fill:

- Structural fill should be placed in 6-inch to no greater than 8-inch-thick layers.
- Structural fill should be compacted to at least 98 percent of the soil's maximum dry density as determined by the standard Proctor compaction test (ASTM D698).
- The moisture content of the fill material should be maintained at about 2 percent (above or below) of its standard Proctor optimum moisture content.
- In-place density testing should be performed to determine if the previously recommended compaction criteria have been achieved.
- Fill placement should be monitored on a full-time basis by Solid Ground during site grading.
- Fill placement should extend to a minimum of 10 feet beyond the building footprint.

Solid Ground should be contacted if any unexpected subsurface conditions are encountered during earthwork construction. It is important that Solid Ground observe earthwork construction.

5.1.3 Protection of Earthwork

Common earthwork construction practices can leave soils exposed for long periods of time while work is performed in other areas of a site. Care should be taken during the earthwork phase to protect soils from degradation caused by sunlight, wind, precipitation, and other factors. Solid Ground recommends that any exposed soil be protected by straw, seeding, rock, or other methods if the area the soil is in will be left unattended for more than three days. Any soil left unattended or unprotected for more than three days should be re-evaluated prior to continuation of work.

5.2 Foundations

5.2.1 Discussion

Based on the subsurface conditions encountered, information gathered during this exploration, and past knowledge of the site's development, we recommend that foundations be designed as shallow spread footings bearing on stiff/dense or better in-situ material.

We recommend the use of a maximum net allowable bearing pressure of 2,000 PSF (pounds per square foot) for foundations bearing on these materials. It should be noted that there is a potential for selective undercut in the foundations due to the soft soils encountered along the surface. The undercut can be replaced with suitable structural fill as recommended in this report or replaced with flowable fill with soil like properties.

A detailed settlement analysis was beyond the scope of this report. Based on the assumed structural loads, the available site grading information, the recommended bearing pressure, knowledge of the site's development and empirical correlation for the subsurface conditions encountered beneath the proposed structure, we estimate the total settlement of the foundation to be about 1 inch or less and differential settlement of the foundation to be about ½ inch or less.

Once the design is finalized, we recommend allowing Solid Ground the opportunity to review the plans and specifications.

5.2.2 Construction Considerations

The following typical construction considerations are recommended:

- Column footings and strip footings should be at least 24 inches wide and 12 inches thick.
- All exterior footing bottoms should be **at least 24 inches below the lowest adjacent exterior grade for protection against frost penetration.**
- Clean the foundation bearing area so it is nearly level and is free of ponded water and loose material.
- Dewatering methods may be necessary if the foundation excavation takes place during wet weather.
- Solid Ground should be on site while the foundation construction is performed.
- Dynamic Cone Penetrometer (DCP) testing should be performed on each spread footing and every 20 feet within each strip footing as a check on the soil bearing capacity.
- Once fill operations are completed and foundation excavations begin, it is important that the foundation excavations be protected from wet weather conditions by placement of concrete or bearing medium immediately after. Please note, providing positive site drainage is critical to the performance of the foundations.
- There is a possibility that during foundation excavations that perched water may be encountered. If perched water is encountered, it is recommended to dewater the site. This may be achieved by constructing "bleeders" or trenches from the site to an area with lower elevation and allow water to be gravity directed away from site.

5.3 Slab-on-Grade

We assume that the slab-on-grade will be utilized for moderate loads of up to 250 pounds per square foot maximum. If this assumption is incorrect, Solid Ground should be contacted to modify recommendations.

- It should be noted that if the site soils are exposed to wet weather conditions or continuous construction traffic, the soils have potential to degrade and will lose their strength. This could require a more robust subgrade improvement design.
- It is imperative that dewatering be continuous and construction traffic be controlled away from the building pad.

- It should be noted that the means and methods of construction that will be performed by others will heavily dictate the suitability and sustainability of the site conditions and building service life during and after construction**.**

The following recommendations should be followed:

- Solid Ground should observe the finished subgrade once grading is completed. If excessive pumping and/or rutting is observed remediation may be required. Typical remediation methods consist of undercutting the unsuitable soil and placing recompacted soil or granular material.
- If construction is to take place during wet periods of the year, there is a potential that remediation methods will be required to stabilize the soil subgrade. Solid Ground should be consulted to assist in selecting the method most appropriate for site conditions. These methods may consist of any or combination of the following:
  - Tensar geogrid reinforcement.
  - "Walking" No. 2 stone into the soft subgrade.
  - Application of consolidated No. 57 stone.
- It is imperative that quality control be performed specifically for the slab-on-grade to ensure that moisture contents, as well as compaction efforts, are within optimum.
- It is recommended that the floor slab be constructed with an open graded stone base of a minimum of **8 inches** in thickness. The floor slab should be constructed with a minimum of **6 inches** of reinforced concrete.
- A subgrade modulus, *k,* of 80 pounds per cubic inch (PCI) for design of the floor slab supported by granular material.
- Control joints should be placed per the most recent ACI standards and guidance.
- The floor slab should be fully ground-supported. This will reduce the possibility of cracking and displacement of the floor slab due to differential settlement.

It is recommended to perform proof rolling prior to placing stone to serve as the slab working base, and again immediately prior to constructing the slab.

5.4 Seismic Site Classification

The Seismic Site Classification assumes that shallow spread and strip footings will be utilized. This classification is based on the seismic standards and design values from the 2009 NEHRP Recommended Seismic Provisions and the 2010 ASCE-7 Standard. Based on the results of our exploration and the geology of the area, we assign a site seismic classification of "C".

5.5 Pavement Recommendations

5.5.1 General

Based on our experience with similar traffic loading (assumed) and subsurface conditions, the subgrade soils are assumed to have a CBR of 3.0 for the pavement analysis based on SPT correlation. American Association of State Highway and Transportation Officials (AASHTO) Guide for Design of Pavement Structures (1993) was used for the analysis. The assumptions are listed below for the pavement analysis.

If the following assumptions are incorrect, Solid Ground should be contacted to provide additional recommendations.

- Initial Serviceability of 4.2
- Resilient Modulus of 4,500
- Terminal Serviceability of 2.0
- Reliability of 80%
- Life of 15 years
- Maximum Estimated Equivalent Single Axe Load (ESAL's) of 30,000 for Light Duty with following assumptions:
    - 10 Package Delivery Vehicles per day
    - 700 Passenger Cars per day
- Maximum Estimated Equivalent Single Axe Load (ESAL's) of 100,000 for Heavy Duty, with following assumptions:
    - 3 Garbage trucks per week
    - 10 Buses per week
    - 10 Tractor Trailers per week
    - 10 Package Delivery Vehicles per day
    - 700 Passenger Cars per day

5.5.2 Flexible Asphalt Pavements

Based on the design assumptions detailed above, we recommend the following asphalt pavement sections in Tables 2 and 3:

Table 2: Light Duty Asphalt Pavement Section

Material	Light Duty Thickness (Inches)
Asphalt Surface Course	1.5
Asphalt Base Course	2.0
Compacted Crushed Stone Base	8.0

Table 3: Heavy Duty Asphalt Pavement Section

Material	Heavy Duty Thickness (Inches)
Asphalt Surface Course	2.0
Asphalt Base Course	2.0
Compacted Crushed Stone Base	9.0
*1 Layer of Tensar TX5 and Geogrid Filter Fabric	
*Walk #2 into subgrade and observe proof roll to identify unsuitable areas	

Indicates typical remediation methods for soft soils identified during proof rolling. Not required if proof rolls indicate stable subgrade conditions.

5.5.3 Rigid Concrete Pavements

Based on the assumptions given in Section 5.5.1, the following concrete pavement sections are recommended in Table 4:

Table 4: Heavy Duty Rigid Concrete Pavement

Material	Heavy Duty Thickness (Inches)	Designed Compressive Strength (psi)
Concrete	7.0	4,000
Compacted Crushed Stone Base	7.0	
*1 Layer of Tensar TX5 and Geogrid Filter Fabric		
*Walk #2 into subgrade and observe proof roll to identify unsuitable areas		

Indicates typical remediation methods for soft soils identified during proof rolling. Not required if proof rolls indicate stable subgrade conditions.

We recommend the dumpster pad be constructed of concrete:

- The dumpster pad apron should extend the entire length of the garbage truck beyond the face of the dumpster.

5.6 Plan Review

To better assure conformance of the final design documents with the recommendations contained in this report, and to better comply with the building department's requirements, Solid Ground should review the completed project plans prior to construction. The plans should be made available for our review as soon as possible after completion so that we can better assist in keeping your project schedule on track.

We recommend that the following project-specific note be added to the architectural, structural, and civil plans: "The geotechnical aspects of the project, including site grading, utility and foundation excavations, slab on grade construction, placement and compaction of engineered fill, installation of site drainage should be performed in accordance with the recommendations of the *"Geotechnical Report prepared by Solid Ground Consulting Engineers, dated May 31, 2024."*

5.7 Construction Monitoring and Observations

Based on past experience, in order to obtain the Certificate of Occupancy for this development, you will be required to directly contract a qualified and certified inspection firm to provide special inspection items consisting of observing the following:

- Soil Construction
- Foundation Construction
- Concrete Placement
- Reinforcement Placement
- Steel Construction

It is advantageous to the owner to contract with Solid Ground to provide construction monitoring and observations for this project. Some of those benefits are as follows:

- As the Geotechnical Engineer of Record (GER) for this project, we will provide confirmation that subsurface conditions exposed during construction are

substantially the same as those interpolated from our limited subsurface exploration, on which the analysis and design were based.

- The recommendations in this report are based on limited subsurface information. The nature and extent of variation across the site may not become evident until construction. If variations are then exposed, it will be necessary to re-evaluate our recommendations. In the event that subsurface conditions differ from those anticipated, we as the GER will provide recommendations if deemed necessary.

6.0 Report Limitations

This report has been prepared for the exclusive use of *London Tourism and Mr. Chris Robinson* for specific application to the project site. Our recommendations have been prepared using generally accepted standards of geotechnical engineering practice in the Commonwealth of Kentucky. No other warranty is expressed or implied.

The recommendations provided are based on the subsurface information and other findings obtained by Solid Ground as well as information provided by you. If there are revisions to the plans for this project or if subsurface conditions detailed in this report are encountered during construction that are different than our exploration, we should be notified immediately to modify the foundation recommendations if deemed necessary. We cannot be held responsible for the impact of those conditions on the project if those impacts are not made known to us.

The scope of services did not include an environmental assessment for determining the presence or absence of wetlands or hazardous or toxic materials. Any statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.

7.0 Associated Geotechnical Risks

The analytical tools which are used by the geotechnical engineer in this area are generally empirical and must be used in conjunction with professional engineering judgment and experience. Therefore, the recommendations presented in this geotechnical exploration should not be considered risk-free and are not a guarantee that the proposed structure will perform as planned. The engineering recommendations presented in this are based on the information gathered during the subsurface exploration, information provided by you and past experience with similar projects.

APPENDICES

APPENDIX A – BORING LOGS

APPENDIX B – LAB RESULTS

Soil Boring: B-1

Project: Laurel County Fairgrounds
Location: 3XQ4+8W London, KY, USA37.08833, -84.04268
Project Number: 24-301

Date Started: 05/22/2024	Date Completed: 05/22/2024	Lat/Long: 37.088728, -84.042535
Location Accuracy: Estimated from Google Maps	Client Name: London Tourism	Hammer Type: Auto
Method: Auger		

Rig Type: Lonestar LST1G+HDA
Tooling: 2-3/4" Hollow Stem Auger
Surface Elevation: 1189.5'

Depth (Ft)	Elevation (Ft)	Visual Classification and Remarks	Depth of Sample	Sample Graphic	Blow Counts	Uncorrected N-Value	Moisture Content (%)
		Gravel 0.5					
		Silty Sand with Gravel, hard, dry to moist, orangish brown (SM)	2.5 ft		19-50/0.4'	50	13.8
	1185						
5		5': gray, shaly, no gravel	5 ft		50/0.5'	50	
		7.5': dark gray	7.5 ft		16-50/0.4'	50	13.6
	1180						
10		10.5	10 ft		50/0.5'	50	
		Auger refusal at 10.5'					

Graphics Legend

Gravel

SM

SS - Small Split Spoon

-

Water Levels

▽ -

▼ -

Soil Boring: B-2

Project: Laurel County Fairgrounds
Location: 3XQ4+8W London, KY, USA37.08833, -84.04268
Project Number: 24-301

Date Started: 05/22/2024	Date Completed: 05/22/2024	Lat/Long: 37.088725, -84.042822
Location Accuracy: Estimated from Google Maps	Client Name: London Tourism	Hammer Type: Auto
Method: Auger		

Rig Type	Lonestar LST1G+HDA
Tooling	2-3/4" Hollow Stem Auger
Surface Elevation	1190.3'

Depth (Ft)	Elevation (Ft)	Graphic Log	Visual Classification and Remarks	Samples: Depth of Sample	Samples: Sample Graphic	Samples: Blow Counts	Samples: Uncorrected N-Value	Lab: Moisture Content (%)
	1190		**Topsoil** 0.5					
			Lean Clay, stiff, moist, light brown, trace organics (CL)	2.5 ft		4-5-6	11	23.9
5	1185		5': very stiff, trace sand	5 ft		6-8-11	19	20.7
			7.5	7.5 ft		18-19-50/0.1'	69	
			Clayey Sand, hard, moist, black, trace organics, shaly (SC) 10.0	10 ft				
10	1180		**Silty Sand**, hard, moist, light brown, no organics (SM)			50/0.4'	50	
			11.9					
			Auger refusal at 11.9'					

Graphics Legend

- Topsoil
- CL
- SC
- SM
- SS - Small Split Spoon
- -

Water Levels

- ▽ -
- ▼ -

Solid Ground Consulting Engineers, PLLC

Soil Boring: B-3

Project: Laurel County Fairgrounds
Location: 3XQ4+8W London, KY, USA37.08833, -84.04268
Project Number: 24-301

Date Started: 05/22/2024	Date Completed: 05/22/2024	Lat/Long: 37.087963, -84.042562
Location Accuracy: Estimated from Google Maps	Client Name: London Tourism	Hammer Type: Auto
Method: Auger		

Rig Type	Lonestar LST1G+HDA
Tooling	2-3/4" Hollow Stem Auger
Surface Elevation	1186.9'

Depth (Ft)	Elevation (Ft)	Graphic Log	Visual Classification and Remarks	Samples: Depth of Sample	Samples: Sample Graphic	Samples: Blow Counts	Samples: Uncorrected N-Value	Lab: % Fines	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)
			Gravel 0.5							
	1185		**Lean Clay**, firm to stiff, moist, orangish brown, trace organics (CL)	2.5 ft	X	3-2-3	5	87.11	35-17-18	20.4
5			5': very stiff	5 ft	X	2-6-11	17			
	1180		7.5': with sand, no organics	7.5 ft	X	13-12-16	28			23.1
10			10.0	10 ft	X	13-50/0.3'	50			
	1175		**Clayey Sand**, hard, moist, light brown (SC) 12.5							

Auger refusal at 12.5'

Graphics Legend

Gravel

CL

SC

SS - Small Split Spoon

Water Levels

▽ -

▼ -

Soil Boring: B-4

Project: Laurel County Fairgrounds
Location: 3XQ4+8W London, KY, USA37.08833, -84.04268
Project Number: 24-301

Date Started: 05/22/2024	Date Completed: 05/22/2024	Lat/Long: 37.087966, -84.042832
Location Accuracy: Estimated from Google Maps	Client Name: London Tourism	Hammer Type: Auto
Method: Auger		

Rig Type	Lonestar LST1G+HDA
Tooling	2-3/4" Hollow Stem Auger
Surface Elevation	1185.9'

Depth (Ft)	Elevation (Ft)	Graphic Log	Visual Classification and Remarks	Depth of Sample	Sample Graphic	Blow Counts	Uncorrected N-Value	Moisture Content (%)
	1185		**Topsoil** 0.5					
			Lean Clay, hard, dry to moist, light brown (CL)	2.5 ft		7-13-50/0.5'	50	17.4
5	1180		5.0 **Clayey Sand**, hard, dry to moist, tan (SC)	5 ft		16-50/0.5'	50	11.7
			7.5': orangish light gray, very stiff, dry to moist	7.5 ft		7-12-19	31	
10	1175		10.0 **Silty Sand**, hard, dry to moist, dark gray, shaley (SM)					
			12.5					

Auger refusal at 12.5'

Graphics Legend

Topsoil
CL
SC
SM
SS - Small Split Spoon
-

Water Levels

- -
- -

SOLID GROUND
CONSULTING ENGINEERS, PLLC
Engineering Innovation; Providing Solutions to Your Challenges.

Distribution:

Report:

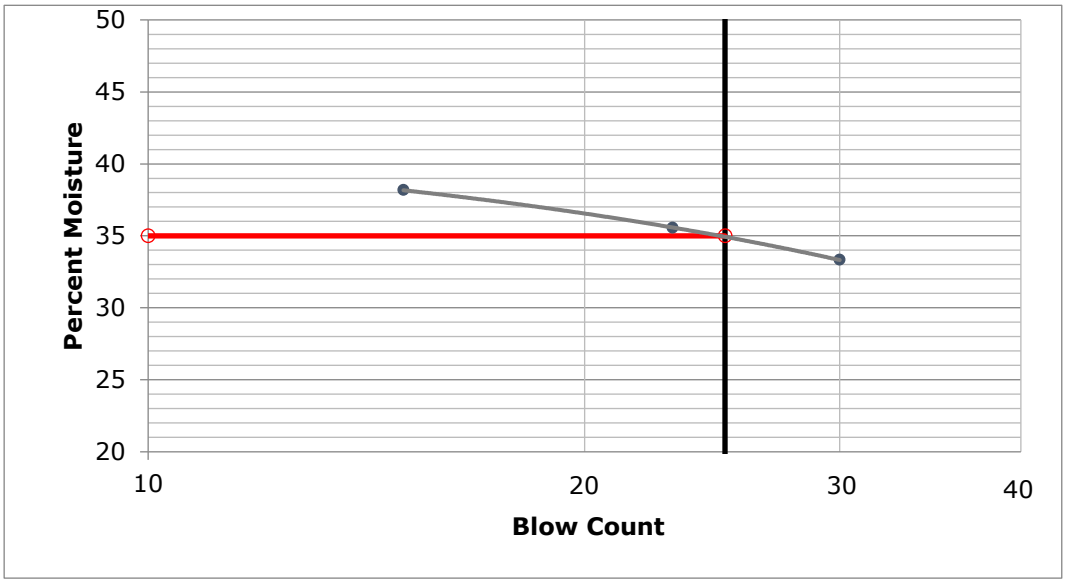
REPORT OF ATTERBERG LIMIT TESTING - ASTM D4318

Project Name	Laurel FG	Project #	24-301
Sample #	B3	Depth	2.5'-4.0'
Soil Description	Brown LEAN CLAY	Prep. Method	DRY
Date Sample Received	5/24/2024	Date Tested	5/28/2024

LIQUID LIMIT

Run Number	1	2	3	4	5	6
Tare Number	13	30	34			
Tare + Wet Soil	21.4	19.6	21.0			
Tare + Dry Soil	19.5	18.0	18.9			
Weight of Water	1.9	1.6	2.1			
Weight of Tare	13.8	13.5	13.4			
Weight of Dry Soil	5.7	4.5	5.5			
Water Content	33.3	35.6	38.2			
Number of Blows	30	23	15			

Liquid limit test was performed using manual device and metal grooving tool



LL	35
PL	17
PI	18
SYMBOL FROM PLASTICITY CHART	CL
Minus #200	87.11
USCS	LEAN CLAY

PLASTIC LIMIT

Run Number	1	2	3	4	5	Natural Moisture
Tare Number	55	114				
Tare + Wet Soil	21.2	20.0				
Tare + Dry Soil	20.1	19.1				
Weight of Water	1.1	0.9				
Weight of Tare	13.8	13.8				
Weight of Dry Soil	6.3	5.3				
Water Content	17.5	17.0				
Plastic Limit	17.2					

Plastic limt test specimens were hand rolled

SOLID GROUND
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Distribution:

Report of Percent Passing No. 200 Sieve
ASTM D1140

Project Name: Laurel FG | Project #: 24-301

Sample #: B3 | Depth: 2.5'-4.0'

Soil Description: Brown LEAN CLAY | Method A or B: B

Date Sample Received: 5/24/2024 | Date Tested: 5/28/2024

Boring/Sample No.	B3					
Depth (From-To)	2.5'-5.0'					

#200 DATA						
Tare Number	LRP					
Wet Soil + Tare, g	836.3					
Dry Soil + Tare, g	478.5					
Wt. of Tare	435.6					
Wt. of Dry Soil, g	42.9					
Soak Time, hours	24					

% MOISTURE DATA						
Tare Number	8	188				
Wet Soil + Tare, g	74.1	72.5				
Dry Soil + Tare, g	64.0	62.4				
Wt of Water	10.1	10.1				
Wt of Tare	13.6	13.6				
Wt. of Dry Soil, g	50.4	48.8				
% Moisture	20.0	20.7				

CALCULATIONS						
Dry Wt. Before, g	332.90					
Dry Wt. After, g	42.90					
% Retained	12.9					
% Passing	87.1					

Natural Moisture Content Determination (ASTM D2216)

Project Name: Laurel FG Date: 5/28/2024

Project Number: 24-301 Page: 1 of 1

Boring Number	Sample Depth	Can ID Number	Can Weight	Wet Weight + Can	Dry Weight + Can	Moisture %
B1	2.5-3.4	4	13.9	74.1	67.6	12.1
		27	13.8	65.5	58.6	15.4
B1	7.5-8.4	38	13.7	73.5	66.2	13.9
		108	13.5	66.1	59.9	13.4
B2	2.5-4.0	40	13.9	77.2	65.0	23.9
		42	13.8	77.7	65.4	23.8
B2	5.0-6.5	25	13.5	68.4	59.0	20.7
		100	13.9	69.7	60.1	20.8
B3	2.5-4.0	8	13.6	74.1	64.0	20.0
		188	13.6	72.5	62.4	20.7
B3	7.5-9.0	17	13.6	74.4	63.8	21.1
		33	13.4	68.9	57.8	25.0
B4	2.5-4.0	46	13.5	70.0	62.6	15.1
		47	13.8	77.6	67.1	19.7
B4	5.0-6.0	3	13.4	77.1	70.4	11.8
		48	13.4	72.1	66.0	11.6

BUILDING LOADS / DESCRIPTION:

WIDTH: 150 LENGTH: 300.67 HEIGHT: 18 / 18

(BUILDING DIMENSIONS ARE NOMINAL. REFER TO PLANS).

SITE ADDRESS: 37°05'18.9"N 84°02'35.3"W
LONDON, KY 40744

THIS STRUCTURE IS DESIGNED UTILIZING THE LOADS INDICATED AND APPLIED AS REQUIRED BY : KBC 18

RISK CATEGORY: III- High

CONSTRUCTION TYPE: IIB

THE CONTRACTOR IS TO CONFIRM THAT THESE LOADS COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT.

ROOF DEAD LOAD:	2.0	PSF (ROOF PANELS & PURLINS)			
COLLATERAL LOAD:	4.0	PSF 1	BASIC WIND SPEED:	120	MPH
ROOF LIVE LOAD:	20.00	PSF	WIND EXPOSURE:	C	
GROUND SNOW LOAD:	15	PSF	INTERNAL PRESSURE COEFF.:		
SNOW EXPOSURE:	1.0		0.18 /	-0.18	
THERMAL FACTOR:	1.20		WIND IMP. FACTOR	1.00	
SNOW IMP. FACTOR:	1.10		MAPPED SPECTRAL RESPONSE ACC.		SPECTRAL RESPONSE COEFF.
ROOF SNOW LOAD:	12.99	PSF	Ss	0.24	Sds 0.25
SITE CLASS:	D - default		S1	0.10	Sd1 0.16
SEISMIC DESIGN CAT.:	C				DESIGN BASE SHEAR, V:
SEISMIC IMP. FACTOR	1.25				EXPANDED FORMULA 0.667*Ie*Sms*W/R
Cs (LONGITUDINAL)	0.106				LONGITUDINAL 45.05
Cs (TRANSVERSE)	0.106		SEISMIC FORCE RESISTING SYSTEM		TRANSVERSE 45.16 1
R (LONGITUDINAL)	3		STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE		
R (TRANSVERSE)	3		STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE		

GENERAL NOTES:

1) ALL STRUCTURAL STEEL SECTIONS AND WELDED PLATE MEMBERS ARE DESIGNED IN ACCORDANCE WITH THE AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" AS REQUIRED BY THE SPECIFIED BUILDING CODE.
2) ALL WELDING OF STRUCTURAL STEEL IS BASED ON AWS D1.1 "STRUCTURAL WELDING CODE", LATEST EDITION.
3) MATERIALS:
   - PLATE, FLANGE, AND WEB MATERIAL..... A572 GRADE 50 OR A529 GRADE 50
   - STRUCTURAL TUBE..... A500, Fy = 50 ksi MIN.
   - HOT-ROLLED STRUCTURAL..... A992 OR A572 GRADE 50
   - ROD BRACING..... F1554 GRADE 55
   - HIGH-STRENGTH BOLTS..... A325
   - BLIND BOLTS..... "HOLLO-BOLT" OR "BOXBOLT" BRANDS ACCEPTABLE
   - FABRIC..... DAF 29CPPVDF##G75 (FIRE-RATED PER NFPA 701)
4) BOLT TIGHTENING REQUIREMENTS:
   ALL HIGH STRENGTH BOLTS ARE A325 UNLESS NOTED OTHERWISE.
   ALL BOLTED CONNECTIONS SHALL BE SNUG TIGHT.
   WASHERS ARE NOT REQUIRED UNLESS NOTED OTHERWISE.
5) ALL STRUCTURAL STEEL TO RECEIVE A PRIMER. THIS PAINT IS NOT INTENDED FOR LONG TERM EXPOSURE TO THE ELEMENTS.
6) WINDOWS AND DOORS THAT ARE PROVIDED BY OTHERS ARE ASSUMED TO MEET WIND LOADING REQUIREMENTS OF THE BUILDING STRUCTURE. THEY MUST BE PROTECTED BY AN IMPACT-PROTECTIVE SYSTEM OR HAVE IMPACT-RESISTANT GLAZING AS REQUIRED BY THE BUILDING CODE.
7) COLLATERAL LOADS, UNLESS NOTED OTHERWISE, SHALL BE UNIFORMLY DISTRIBUTED. IF CONCENTRATED LOADS ARE TO EXCEED 250 LBS, CONTACT THE METAL BUILDING SUPPLIER.
8) IF SNOW GUARDS OR OTHER DEVICES INTENDED TO HOLD SNOW AND/OR ICE ON THE ROOF SYSTEM ARE TO BE USED ON THIS BUILDING, THEY MUST BE INSTALLED UNDER THE GUIDANCE OF THE ENGINEER OF RECORD TO NOT EXCEED THE DESIGN ROOF SNOW LOAD.
9) ADDITIONAL COLLATERAL LOADING HAS BEEN CONSIDERED. PLEASE REFER TO SHEET C2 FOR FURTHER DETAILS.

FOUNDATION AND ANCHOR BOLTS:

1) FOUNDATION AND ANCHOR DESIGN IS NOT BY CLEARSPAN. THE FOUNDATION AND ANCHOR DESIGN IS BY OTHERS. REFER TO ANCHOR BOLT PLAN GENERAL NOTES - NOTE 2 ON SHEET B2 FOR FURTHER INFORMATION.

WARNING: Cancer and Reproductive Toxicity - P65Warnings.ca.gov

BUILDER / CONTRACTOR RESPONSIBILITIES

IT IS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO ENSURE THAT ALL PROJECT PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE REQUIREMENTS OF ANY GOVERNING BUILDING AUTHORITIES. THE SUPPLYING OF SEALED ENGINEERING DATA AND DRAWINGS FOR THE METAL BUILDING SYSTEM DOES NOT IMPLY OR CONSTITUTE AN AGREEMENT THAT THE METAL BUILDING SYSTEM MANUFACTURER OR ITS DESIGN ENGINEER IS ACTING AS THE ENGINEER OF RECORD OR DESIGN PROFESSIONAL FOR A CONSTRUCTION PROJECT.

APPROVAL OF THE METAL BUILDING SYSTEM MANUFACTURER'S DRAWINGS AND CALCULATIONS INDICATE THAT THE METAL BUILDING SYSTEM MANUFACTURER CORRECTLY INTERPRETED AND APPLIED THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. (SECT. 4.4.1 AISC CODE OF STANDARD PRACTICE, 2016 ED.) WHERE DISCREPANCIES EXIST BETWEEN THE METAL BUILDING SYSTEM MANUFACTURER'S STRUCTURAL STEEL PLANS AND THE PLANS FOR OTHER TRADES, THE STRUCTURAL STEEL PLANS SHALL GOVERN. (SECT. 3.3 AISC CODE OF STANDARD PRACTICE, 2016 ED.) DESIGN CONSIDERATIONS OF ANY MATERIALS IN THE STRUCTURE WHICH ARE NOT FURNISHED BY THE METAL BUILDING SYSTEM MANUFACTURER ARE THE RESPONSIBILITY OF THE CONTRACTORS AND ENGINEERS OTHER THAN THE METAL BUILDING SYSTEM MANUFACTURER'S ENGINEER UNLESS SPECIFICALLY INDICATED.

THE CONTRACTOR IS RESPONSIBLE FOR ALL ERECTION OF STEEL AND ASSOCIATED WORK IN COMPLIANCE WITH THE METAL BUILDING SYSTEM MANUFACTURER "FOR CONSTRUCTION" DRAWINGS.

ALL BRACING AS SHOWN AND PROVIDED BY THE METAL BUILDING SYSTEM MANUFACTURER FOR THIS BUILDING IS REQUIRED AND SHALL BE INSTALLED BY THE ERECTOR AS A PERMANENT PART OF THE STRUCTURE.

TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BRACES, FALSE WORK, CRIBBING OR OTHER ELEMENTS REQUIRED FOR THE ERECTION OPERATION WILL BE DETERMINED AND FURNISHED AND INSTALLED BY THE ERECTOR. THESE TEMPORARY SUPPORTS WILL SECURE THE STEEL FRAMING, OR ANY PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED, INCLUDING THOSE RESULTING FROM WIND AND ERECTION OPERATIONS, BUT NOT THE LOADS RESULTING FROM THE PERFORMANCE OF WORK BY OR THE ACTS OF OTHERS, NOR SUCH UNPREDICTABLE LOADS AS THOSE DUE TO HURRICANE, TORNADO, EARTHQUAKE, EXPLOSION, OR COLLISION. (SECT. 7.10.3 AISC CODE OF STANDARD PRACTICE, 2016 ED.)

ONCE OWNER HAS SIGNED THE APPROVAL PACKAGE AND THE PROJECT IS RELEASED FOR FABRICATION, CHANGES AFTER APPROVAL SHALL BE BILLED TO THE OWNER. CHARGES CAN INCLUDE MATERIAL, ENGINEERING, OR OTHER COSTS. AN ADDITIONAL FEE MAY BE CHARGED IF THE PROJECT MUST BE MOVED FROM FABRICATION AND SHIPPING SCHEDULE.

WARNING : IN NO CASE SHOULD GALVALUME STEEL PANELS BE USED IN CONJUNCTION WITH LEAD OR COPPER. BOTH WARNING: LEAD AND COPPER HAVE HARMFUL CORROSION EFFECTS ON THE ALUMINUM ZINC ALLOY COATING WHEN THEY ARE USED IN CONTACT WITH GALVALUME STEEL PANELS. EVEN RUN-OFF FROM COPPER FLASHING, WIRING, OR TUBING ONTO GALVALUME SHOULD BE AVOIDED.

APPROVAL NOTES

THE FOLLOWING CONDITIONS APPLY IN THE EVENT THAT THESE DRAWINGS ARE USED AS APPROVAL DRAWINGS: IT IS IMPERATIVE THAT ANY CHANGES TO THESE DRAWINGS BE MADE IN CONTRASTING INK (PREFERABLY RED INK), HAVE ALL INSTANCES OF CHANGE CLEARLY INDICATED, AND BE LEGIBLE AND UNAMBIGUOUS. A SIGNATURE AND DATE IS REQUIRED ON ALL PAGES. MANUFACTURER RESERVES THE RIGHT TO RE-SUBMIT DRAWINGS WITH EXTENSIVE OR COMPLEX CHANGES REQUIRED TO AVOID MIS-FABRICATION. THIS MAY IMPACT THE DELIVERY SCHEDULE. APPROVAL OF THESE DRAWINGS INDICATES CONCLUSIVELY THAT THE METAL BUILDING SYSTEM MANUFACTURER HAS CORRECTLY INTERPRETED THE CONTRACT REQUIREMENTS, AND FURTHER CONSTITUTES AGREEMENT THAT THE BUILDING AS DRAWN WITH INDICATED CHANGES REPRESENTS THE TOTAL OF THE MATERIALS TO BE SUPPLIED BY MANUFACTURER. ANY CHANGES NOTED ON THE DRAWINGS NOT IN CONFORMANCE WITH THE TERMS AND REQUIREMENTS OF THE CONTRACT BETWEEN MANUFACTURER AND ITS CUSTOMER ARE NOT BINDING ON MANUFACTURER UNLESS SUBSEQUENTLY SPECIFICALLY ACKNOWLEDGED AND AGREED TO IN WRITING BY CHANGE ORDER OR SEPARATE DOCUMENTATION. MANUFACTURER RECOGNIZES THAT RUBBER STAMPS ARE ROUTINELY USED FOR INDICATING APPROVAL, DISAPPROVAL, REJECTION, OR MERE REVIEW OF THE DRAWINGS SUBMITTED. HOWEVER, MANUFACTURER DOES NOT ACCEPT CHANGES OR ADDITIONS TO CONTRACTUAL TERMS AND CONDITIONS THAT MAY APPEAR WITH USE OF A STAMP OR SIMILAR INDICATION OF APPROVAL, DISAPPROVAL, ETC. SUCH LANGUAGE APPLIED TO MANUFACTURER'S DRAWINGS BY THE CUSTOMER, ARCHITECT, ENGINEER, OR ANY OTHER PARTY WILL BE CONSIDERED AS UNACCEPTABLE ALTERNATIONS TO THESE DRAWING NOTES, AND WILL NOT ALTER THE CONTRACTUAL RIGHTS AND OBLIGATIONS EXISTING BETWEEN MANUFACTURER AND ITS CUSTOMER.

THE OWNER MUST SECURE ALL REQUIRED APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCY AS REQUIRED.

CUSTOMER DESIGN APPROVAL

PLEASE SIGN AND CHECK THE APPROPRIATE BOX BELOW THE SIGNATURE AFTER REVIEWING THE DOCUMENTS.
MY SIGNATURE BELOW ACKNOWLEDGES THAT I HAVE READ AND REVIEWED ALL THE SHEETS LISTED IN THE CONTENT GUIDE AND AGREE TO THE SPECIFICATIONS SHOWN UNLESS OTHERWISE NOTED.
UPON ACCEPTANCE OF THE DRAWINGS, ANY DEVIATIONS FROM THE SIGNED DRAWINGS AND SPECIFICATIONS OUTLINED IN THE EXECUTED DRAWINGS ARE SUBJECT TO ADDITIONAL CHARGES AND MAY RESULT IN DELAY OF INSTALLATION OR DELIVERY OF YOUR STRUCTURE. A CHANGE ORDER WILL BE ISSUED TO YOU WITH THE OUTLINED ADDITIONAL COST ASSOCIATED WITH THESE CHANGES AND A PROPOSED NEW DELIVERY SCHEDULE.
NO CHANGES WILL BE ACCEPTED UNLESS WE HAVE A CHANGE ORDER SIGNED BY AN AUTHORIZED REPRESENTATIVE.

CUSTOMER SIGNATURE: _____ DATE: _____

☐ APPROVE ☐ APPROVE WITH CHANGES

DRAWING INDEX

DEVELOPED BY:

ClearSpan
ENGINEERING SERVICES & PRODUCTS CO.
1440 18TH AVENUE SW
DYERSVILLE, IA 52040
P:563.875.6113
WWW.ESAPCO.COM
WWW.CLEARSPAN.COM

ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: COVER PAGE

DRAWING DETAILS

DRAWN BY: SBN CREATION DATE: 10/17/2024

REVISIONS:

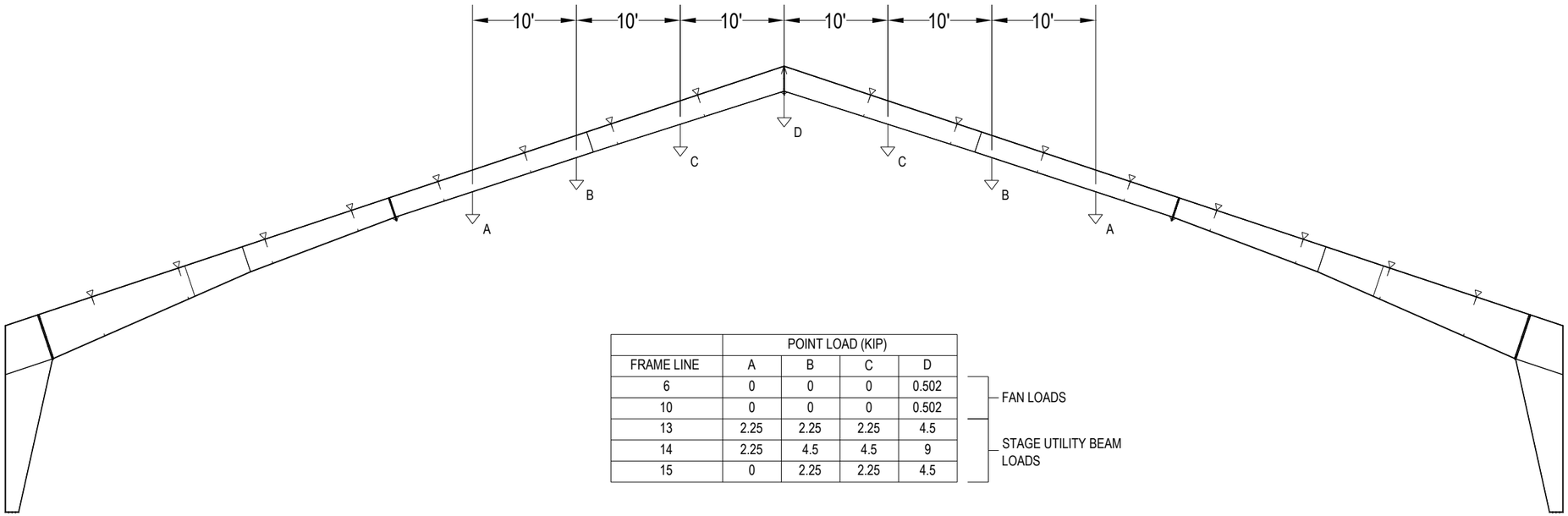
NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

SHEET SIZE: 11X17

SHEET: C1

PRINTED DATE: 11/08/2024



	POINT LOAD (KIP)			
FRAME LINE	A	B	C	D
6	0	0	0	0.502
10	0	0	0	0.502
13	2.25	2.25	2.25	4.5
14	2.25	4.5	4.5	9
15	0	2.25	2.25	4.5

FAN LOADS

STAGE UTILITY BEAM LOADS

ALLOWABLE LOADS FOR FRAME LINES 6, 10, 13, 14, 15

DEVELOPED BY:
ClearSpan
ENGINEERING SERVICES & PRODUCTS CO.
1440 18TH AVENUE SW
DYERSVILLE, IA 52040
P:563.875.6113
WWW.ESAPCO.COM
WWW.CLEARSPAN.COM

ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-5" x 18'-0"

SHEET TITLE: ADDITIONAL COLLATERAL LOAD

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

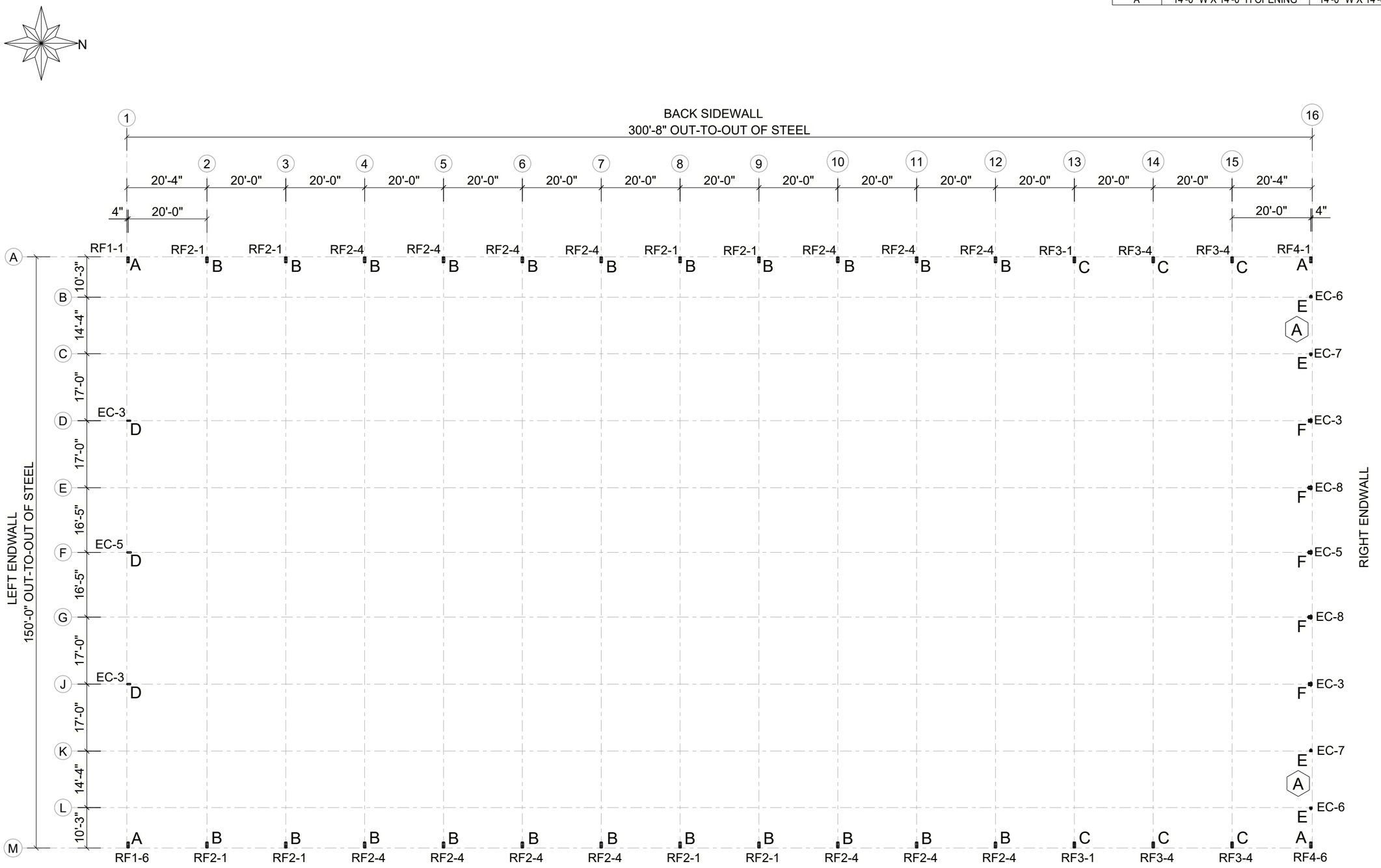
NO SCALE

SHEET SIZE: 11X17

SHEET: C2

PRINTED DATE: 11/08/2024

FRAME-OUT SCHEDULE		
CALL-OUT	DESCRIPTION	ROUGH OPENING
A	14'-0" W X 14'-0" H OPENING	14'-0" W X 14'-0" H



FRONT SIDEWALL

ANCHOR BOLT PLAN

NOTE: ALL BASE PLATES @ 100'-0" (U.N.O.)

DEVELOPED BY:

ClearSpan

ENGINEERING SERVICES & PRODUCTS CO.
1440 18TH AVENUE SW
DYERSVILLE, IA 52040
P 563.875.6113
WWW.ESAPCO.COM
WWW.CLEARSPAN.COM

ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: ANCHOR BOLT PLAN

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

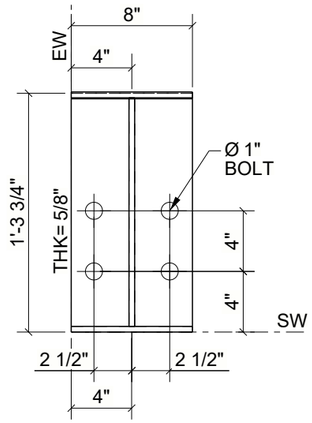
NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

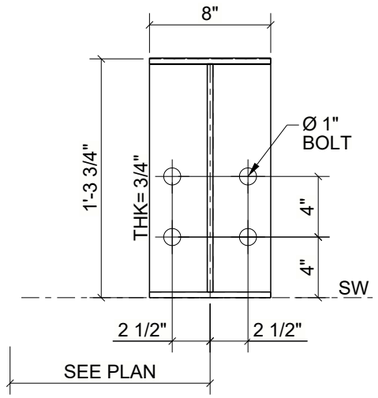
SHEET SIZE: 11X17

SHEET: B1

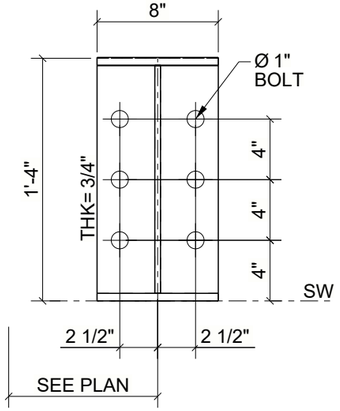
PRINTED DATE: 11/08/2024



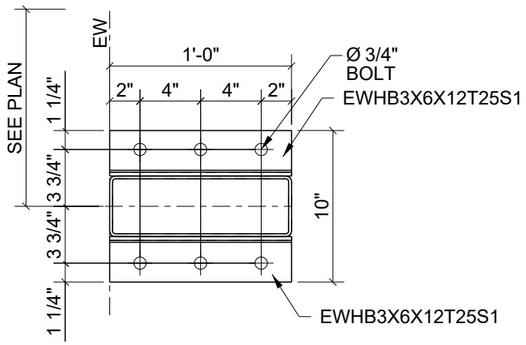
4X DETAIL A
BASE EL. 100'-0"



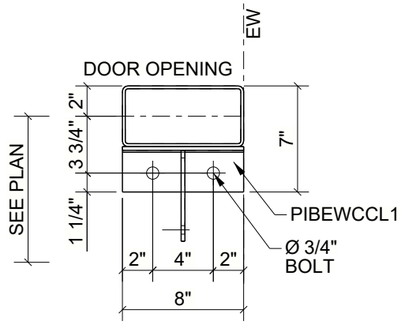
22X DETAIL B
BASE EL. 100'-0"



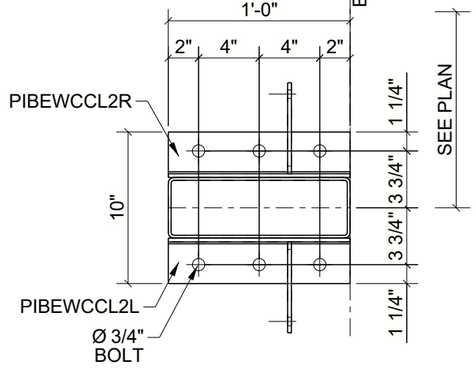
6X DETAIL C
BASE EL. 100'-0"



3X DETAIL D
BASE EL. 100'-0"



4X DETAIL E
BASE EL. 100'-0"



5X DETAIL F
BASE EL. 100'-0"

NOTE: " Dia " DIMENSIONS SHOWN REPRESENT REQUIRED ANCHOR BOLT DIAMETER. USE TABLE BELOW TO DETERMINE BASE PLATE ANCHOR HOLE SIZE PER ANCHOR DIAMETER.

ANCHOR BOLT DIAMETER	BASE PLATE ANCHOR HOLE SIZE	PROJECTION
1/2 "	5/8 "	3 "
5/8 "	3/4 "	3 "
3/4 "	7/8 "	3 "
1 "	1 1/8 "	3 "
1 1/4 "	1 3/8 "	3 "

ANCHOR BOLT SETTING NOTE

1) THE ANCHOR BOLT SETTINGS SHOWN ON THESE DRAWINGS NOT ONLY INDICATE WHERE THE ANCHOR BOLTS ARE TO BE PLACED, BUT ALSO THE FOOTPRINT OF THE BUILDING. IT IS ESSENTIAL THAT THESE BOLT PATTERNS BE FOLLOWED. IN THE EVENT THAT THESE SETTINGS DIFFER FROM THE FOUNDATION PLANS, THE BUILDING MANUFACTURER MUST BE CONTACTED IMMEDIATELY.

TYPICAL BASE PLATE ELEVATION

FINISHED FLOOR = 100'-0"
BOTTOM OF BASE PLATE ELEVATION = 100'-0" (U.N.O)

ANCHOR BOLT PLAN GENERAL NOTES

1) THE SPECIFIED ANCHOR ROD DIAMETER ASSUMES F1554 GRADE 36 UNLESS NOTED OTHERWISE. ANCHOR ROD MATERIAL OF EQUAL DIAMETER MEETING OR EXCEEDING THE STRENGTH REQUIREMENTS SET FORTH ON THESE DRAWINGS MAY BE UTILIZED AT THE DISCRETION OF THE FOUNDATION DESIGN ENGINEER. ANCHOR ROD EMBEDMENT LENGTH SHALL BE DETERMINED BY THE FOUNDATION DESIGN ENGINEER.

2) THE FOUNDATION AND ANCHORS ARE CRITICAL ELEMENTS FOR THE BUILDING TO FUNCTION AS DESIGNED. UNLESS NOTED OTHERWISE ON SHEET C1, THE OWNER IS RESPONSIBLE FOR ENSURING THE FOUNDATION IS DESIGNED FOR THE BUILDING BY A PROFESSIONAL IN ACCORDANCE WITH LOCAL REQUIREMENTS.

3) ALL ANCHOR RODS, FLAT WASHERS FOR ANCHOR RODS, EXPANSION BOLTS, AS WELL AS ALL CONCRETE/MASONRY EMBEDMENT PLATES ARE NOT BY BUILDING MANUFACTURER, UNLESS NOTED OTHERWISE.

4) THIS DRAWING IS NOT TO SCALE.

5) THE ANCHOR BOLT LOCATIONS PROVIDED BY BUILDING MANUFACTURER SATISFY PERTINENT REQUIREMENTS FOR THE DESIGN OF THE MATERIALS SUPPLIED BY THE BUILDING MANUFACTURER. PLEASE NOTE THAT THESE REQUIREMENTS MAY NOT SATISFY ALL ANCHOR BOLT EDGE DISTANCE REQUIREMENTS DEPENDING ON THE DETAILS OF THE FOUNDATION DESIGN. BECAUSE FOUNDATION DESIGN IS NOT WITHIN THE BUILDING SCOPE OF WORK, IT IS THE RESPONSIBILITY OF THE QUALIFIED PROFESSIONAL DESIGNING THE FOUNDATION TO MAKE SURE THAT SUFFICIENT CONCRETE EDGE DISTANCE IS PROVIDED FOR THE ANCHOR BOLTS IN THE DETAILS OF THE FOUNDATION DESIGN.

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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
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LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: ANCHOR BOLT PATTERN

DRAWING DETAILS

DRAWN BY: SBN CREATION DATE: 10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE
SHEET SIZE: 11X17

SHEET: B2

PRINTED DATE: 11/08/2024

NOTES FOR REACTIONS

1. All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
2. Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
3. Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
4. Building reactions are based on the following building data:

Width	(ft)	= 150.0
Length	(ft)	= 300.7
Eave Height	(ft)	= 18.0/ 18.0
Roof Slope	(rise/12)	= 4.00/ 4.00
Roof Dead Load	(psf)	= 2.0
Wall Dead Load		
Left Endwall	(psf)	= 2.0
Right Endwall	(psf)	= 2.0
Front Sidewall	(psf)	= 2.0
Back Sidewall	(psf)	= 2.0
Roof Live Load	(psf)	= 20.0
Frame Live Load	(psf)	= 12.0
Collateral Load	(psf)	= 4.0
Snow Load	(psf)	= 13.0
Wind Speed	(mph)	=120.0
Wind Code		=KBC 18 (IBC 15)
Exposure		=C
Closure		=Enclosed
Internal Wind Coeff		=-0.18, +0.18
Risk Category		=III- High
Importance - Wind		= 1.00
Importance - Seismic		= 1.25
Seismic Design Category		=C
Seismic Coeff	(Sms)	= 0.38

5. Loading conditions are:
   1. Dead+Collateral+Snow
   2. Dead+Collateral+Snow+Snow_Drift
   3. Dead+Collateral+Snow+Slide_Snow
   4. 0.6Dead+0.6Wind_Left1
   5. 0.6Dead+0.6Wind_Right1
   6. 0.6Dead+0.6Wind_Long1L
   7. 0.6Dead+0.6Wind_Long1R
   8. 0.6Dead+0.6Wind_Long2L
   9. 0.6Dead+0.6Wind_Long2R
   10. 1.04Dead+1.04Collateral+0.7Seismic_LongR
   11. 0.6Dead+0.6Wind_Right2+0.6Wind_Suction
   12. 0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L

ENDWALL COLUMN:

BASIC COLUMN REACTIONS (k):

Frame Line	Column Line	Gravity	Uplift	Outward	Inward
1	D	0.92	1.93	2.13	3.08
1	F	1.31	0.93	3.48	4.77
1	J	0.92	1.62	2.32	2.84
16	B	0.28	0.75	2.03	2.58
16	C	0.36	0.95	2.82	3.50
16	D	0.61	0.80	3.81	4.70
16	E	0.81	0.58	4.43	5.45
16	F	0.89	0.48	4.78	5.91
16	G	0.81	0.58	4.43	5.45
16	J	0.61	0.80	3.81	4.70
16	K	0.36	0.95	2.82	3.50
16	L	0.28	0.75	2.03	2.58

ENDWALL COLUMN:

MAXIMUM REACTIONS (k):

Frame Line	Column Line	Gravity	Uplift	Outward	Inward
1	D	1.22	1.16	1.29	1.85
1	F	1.90	0.56	2.10	2.88
1	J	1.52	0.97	1.39	1.72
16	B	0.28	0.45	1.22	1.55
16	C	0.36	0.57	1.69	2.10
16	D	0.61	0.48	2.28	2.82
16	E	0.81	0.35	2.65	3.27
16	F	0.89	0.29	2.87	3.54
16	G	0.81	0.35	2.65	3.27
16	J	0.61	0.48	2.28	2.82
16	K	0.36	0.57	1.69	2.10
16	L	0.28	0.45	1.22	1.55

RIGID FRAME:

BASIC COLUMN REACTIONS (k)

Frame Id	Column Line	-----Dead---- Horz	Vert	--Collateral- Horz	Vert	-----Live---- Horz	Vert	-----Snow---- Horz	Vert	--Wind_Left1- Horz	Vert	-Wind_Right1- Horz	Vert
1*	A	8.42	9.76	3.18	3.43	9.04	9.77	9.79	10.57	-22.80	-26.44	-16.12	-21.92
1*	M	-8.42	9.76	-3.18	3.43	-9.04	9.77	-9.79	10.57	16.12	-21.92	22.80	-26.44

Frame Id	Column Line	--Wind_Left2- Horz	Vert	-Wind_Right2- Horz	Vert	--Wind_Long1- Horz	Vert	--Wind_Long2- Horz	Vert	-Seismic_Left Horz	Vert	Seismic_Right Horz	Vert
1*	A	-16.61	-17.41	-9.92	-12.89	-16.12	-31.35	-20.63	-26.37	-1.05	-0.23	1.05	0.23
1*	M	9.92	-12.89	16.61	-17.41	20.63	-26.37	16.12	-31.34	-1.05	0.23	1.05	-0.23

Frame Id	Column Line	-Seismic_Long Horz	Vert	F1UNB_SL_L- Horz	Vert	F1UNB_SL_R- Horz	Vert
1*	A	0.00	-3.77	8.54	10.35	8.54	6.43
1*	M	0.00	-3.77	-8.54	6.43	-8.53	10.35

Frame Id	Column Line	-----Dead---- Horz	Vert	--Collateral- Horz	Vert	-----Live---- Horz	Vert	-----Snow---- Horz	Vert	--Wind_Left1- Horz	Vert	-Wind_Right1- Horz	Vert
2*	A	5.92	7.65	6.15	6.64	17.51	18.90	18.96	20.46	-40.21	-45.86	-27.96	-38.56
2*	M	-5.92	7.65	-6.15	6.64	-17.51	18.90	-18.96	20.46	27.96	-38.56	40.21	-45.86

Frame Id	Column Line	--Wind_Left2- Horz	Vert	-Wind_Right2- Horz	Vert	--Wind_Long1- Horz	Vert	--Wind_Long2- Horz	Vert	-Seismic_Left Horz	Vert	Seismic_Right Horz	Vert
2*	A	-28.08	-27.97	-15.56	-20.71	-27.16	-50.27	-34.44	-42.24	-1.54	-0.34	1.54	0.34
2*	M	15.56	-20.71	28.08	-27.97	34.44	-42.24	27.16	-50.27	-1.54	0.34	1.54	-0.34

Frame Id	Column Line	-Seismic_Long Horz	Vert	F2UNB_SL_L- Horz	Vert	F2UNB_SL_R- Horz	Vert
2*	A	0.00	-3.77	16.53	20.01	16.53	12.43
2*	M	0.00	-3.77	-16.53	12.43	-16.53	20.01

Frame Id	Column Line	-----Dead---- Horz	Vert	--Collateral- Horz	Vert	-----Live---- Horz	Vert	-----Snow---- Horz	Vert	--Wind_Left1- Horz	Vert	-Wind_Right1- Horz	Vert
3*	A	5.92	7.65	6.54	6.90	17.51	18.90	18.96	20.46	-33.32	-37.24	-21.47	-31.86
3*	M	-5.92	7.65	-6.54	6.90	-17.51	18.90	-18.96	20.46	21.47	-31.86	33.32	-37.24

Frame Id	Column Line	--Wind_Left2- Horz	Vert	-Wind_Right2- Horz	Vert	--Wind_Long1- Horz	Vert	--Wind_Long2- Horz	Vert	-Seismic_Left Horz	Vert	Seismic_Right Horz	Vert
3*	A	-22.11	-19.78	-10.27	-14.40	-21.88	-37.30	-27.05	-31.59	-1.54	-0.34	1.54	0.34
3*	M	10.27	-14.40	22.11	-19.78	27.05	-31.59	21.88	-37.30	-1.54	0.34	1.54	-0.34

Frame Id	Column Line	F3UNB_SL_L- Horz	Vert	F3UNB_SL_R- Horz	Vert
3*	A	16.53	20.01	16.53	12.43
3*	M	-16.53	12.43	-16.53	20.01

Frame Id	Column Line	-----Dead---- Horz	Vert	--Collateral- Horz	Vert	-----Live---- Horz	Vert	-----Snow---- Horz	Vert	--Wind_Left1- Horz	Vert	-Wind_Right1- Horz	Vert
4*	A	7.10	9.05	28.88	23.18	17.52	18.90	18.96	20.46	-33.31	-37.24	-21.47	-31.86
4*	M	-7.10	9.05	-28.88	23.18	-17.52	18.90	-18.96	20.46	21.47	-31.86	33.31	-37.24

Frame Id	Column Line	--Wind_Left2- Horz	Vert	-Wind_Right2- Horz	Vert	--Wind_Long1- Horz	Vert	--Wind_Long2- Horz	Vert	-Seismic_Left Horz	Vert	Seismic_Right Horz	Vert
4*	A	-22.10	-19.78	-10.27	-14.40	-21.88	-37.30	-27.05	-31.59	-1.54	-0.34	1.54	0.34
4*	M	10.27	-14.40	22.10	-19.78	27.05	-31.59	21.88	-37.30	-1.54	0.34	1.54	-0.34

Frame Id	Column Line	F4UNB_SL_L- Horz	Vert	F4UNB_SL_R- Horz	Vert
4*	A	16.54	20.01	16.55	12.43
4*	M	-16.55	12.43	-16.54	20.01

Frame Id	Column Line	-----Dead---- Horz	Vert	--Collateral- Horz	Vert	-----Live---- Horz	Vert	-----Snow---- Horz	Vert	--Wind_Left1- Horz	Vert	-Wind_Right1- Horz	Vert
5*	A	7.10	9.05	16.12	13.73	17.52	18.90	18.96	20.46	-40.20	-45.86	-27.95	-38.56
5*	M	-7.10	9.05	-16.12	13.73	-17.52	18.90	-18.96	20.46	27.95	-38.56	40.20	-45.86

Frame Id	Column Line	--Wind_Left2- Horz	Vert	-Wind_Right2- Horz	Vert	--Wind_Long1- Horz	Vert	--Wind_Long2- Horz	Vert	-Seismic_Left Horz	Vert	Seismic_Right Horz	Vert
5*	A	-28.07	-27.97	-15.55	-20.71	-27.16	-50.27	-34.44	-42.24	-1.54	-0.34	1.54	0.34
5*	M	15.55	-20.71	28.07	-27.97	34.44	-42.23	27.16	-50.26	-1.54	0.34	1.54	-0.34

Frame Id	Column Line	-Seismic_Long Horz	Vert	F5UNB_SL_L- Horz	Vert	F5UNB_SL_R- Horz	Vert
5*	A	0.00	-3.77	16.54	20.01	16.55	12.43
5*	M	0.00	-3.77	-16.55	12.43	-16.54	20.01

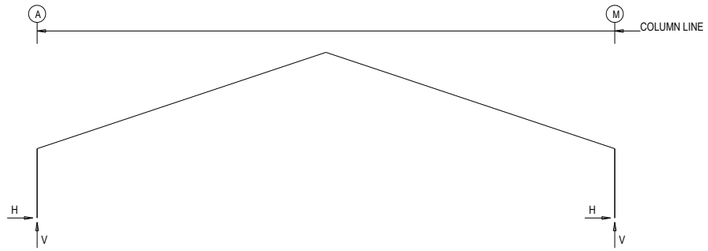
Frame Id	Column Line	-----Dead---- Horz	Vert	--Collateral- Horz	Vert	-----Live---- Horz	Vert	-----Snow---- Horz	Vert	--Wind_Left1- Horz	Vert	-Wind_Right1- Horz	Vert
6*	A	4.37	5.99	3.18	3.43	9.04	9.77	9.79	10.57	-22.80	-26.44	-16.12	-21.92
6*	M	-4.37	5.99	-3.18	3.43	-9.04	9.77	-9.79	10.57	16.12	-21.92	22.80	-26.44

Frame Id	Column Line	--Wind_Left2- Horz	Vert	-Wind_Right2- Horz	Vert	--Wind_Long1- Horz	Vert	--Wind_Long2- Horz	Vert	-Seismic_Left Horz	Vert	Seismic_Right Horz	Vert
6*	A	-16.61	-17.41	-9.92	-12.89	-16.12	-31.35	-20.63	-26.37	-1.05	-0.23	1.05	0.23
6*	M	9.92	-12.89	16.61	-17.41	20.63	-26.37	16.12	-31.34	-1.05	0.23	1.05	-0.23

Frame Id	Column Line	-Seismic_Long Horz	Vert	F6UNB_SL_L- Horz	Vert	F6UNB_SL_R- Horz	Vert
6*	A	0.00	-3.77	8.54	10.35	8.54	6.43
6*	M	0.00	-3.77	-8.54	6.43	-8.53	10.35

1*	Frame lines:	1
2*	Frame lines:	2 3 8 9
3*	Frame lines:	4 5 6 7 10 11 12
4*	Frame lines:	13
5*	Frame lines:	14 15
6*	Frame lines:	16

FRAME LINES: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



RIGID FRAME:

MAXIMUM REACTIONS

Column_Reactions(k)

Frm Id	Col Line	Load Id	Horz	Vert
1*	A	3	21.39	23.76
		4	-8.63	-10.01
		6	-4.62	-12.95
1*	M	3	-21.39	23.76
		3	-21.39	23.76
		5	8.63	-10.01
		8	4.62	-12.95
1*	Frame lines:	1		

RIGID FRAME:

MAXIMUM REACTIONS

Column_Reactions(k)

Frm Id	Col Line	Load Id	Horz	Vert
2*	A	3	31.03	34.75
		4	-20.57	-22.92
		6	-12.75	-25.57
2*	M	3	-31.03	34.75
		5	20.57	-22.92
		8	12.75	-25.57
2*	Frame lines:	2 3 8 9		

RIGID FRAME:

MAXIMUM REACTIONS

Column_Reactions(k)

Frm Id	Col Line	Load Id	Horz	Vert
3*	A	3	31.41	35.02
		4	-16.44	-17.75
		7	-9.58	-17.79
3*	M	2	-31.41	35.02
		3	-31.41	35.02
		5	16.44	-17.75
		9	9.58	-17.79
3*	Frame lines:	4 5 6 7 10 11 12		

RIGID FRAME:

MAXIMUM REACTIONS

Column_Reactions(k)

Frm Id	Col Line	Load Id	Horz	Vert
4*	A	1	54.94	52.69
		4	-15.73	-16.91
		6	-8.87	-16.95
4*	M	1	-54.94	52.69
		3	-54.94	52.69
		5	15.73	-16.91
		9	8.87	-16.95
4*	Frame lines:	13		

RIGID FRAME:

MAXIMUM REACTIONS

Column_Reactions(k)

Frm Id	Col Line	Load Id	Horz	Vert
5*	A	1	42.18	43.24
		4	-19.86	-22.09
		6	-12.04	-24.73
5*	M	3	-42.18	43.24
		5	19.86	-22.09
		8	12.04	-24.73
5*	Frame lines:	14 15		

RIGID FRAME:

MAXIMUM REACTIONS

Column_Reactions(k)

Frm Id	Col Line	Load Id	Horz	Vert
6*	A	3	17.34	19.99
		4	-11.06	-12.27
		6	-7.05	-15.22
6*	M	1	-17.34	19.99
		3	-17.34	19.99
		5	11.06	-12.27
		8	7.05	-15.22
6*	Frame lines:	16		

BUILDING BRACING REACTIONS

Wall Loc	Wall Line	Col Line	Reactions in plane of wall Reactions(k) Wind Horz	Seismic Horz	Panel_Shear (lb/ft) Wind	Seis	Note
L_EW	1						(h)
F_SW	M	1,2	2.69	2.36			(b)
		2,3	2.69	2.36			(b)
		8,9	2.69	2.36			(b)
		14,15	2.69	2.36			(b)
		15,16	2.69	2.36			(b)
R_EW	16						(h)
B_SW	A	15,16	2.69	2.37			(b)
		14,15	2.69	2.37			(b)
		8,9	2.69	2.37			(b)
		2,3	2.69	2.37			(b)
		1,2	2.69	2.37			(b)

(b)Wind bent in bay, base above finish floor
(h)Rigid frame at endwall

Reactions for seismic represent shear force, Eh
Reaction values shown are unfactored

1

DEVELOPED BY:

ClearSpan

ENGINEERING SERVICES & PRODUCTS CO.
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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
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529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT:
CHRIS ROBINSON

CONTACT PHONE:
859-806-0086

STRUCTURE SKU #:
00417

STRUCTURE SIZE:
150'-0" x 300'-8" x 18'-0"

SHEET TITLE:
ANCHOR BOLT REACTIONS

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

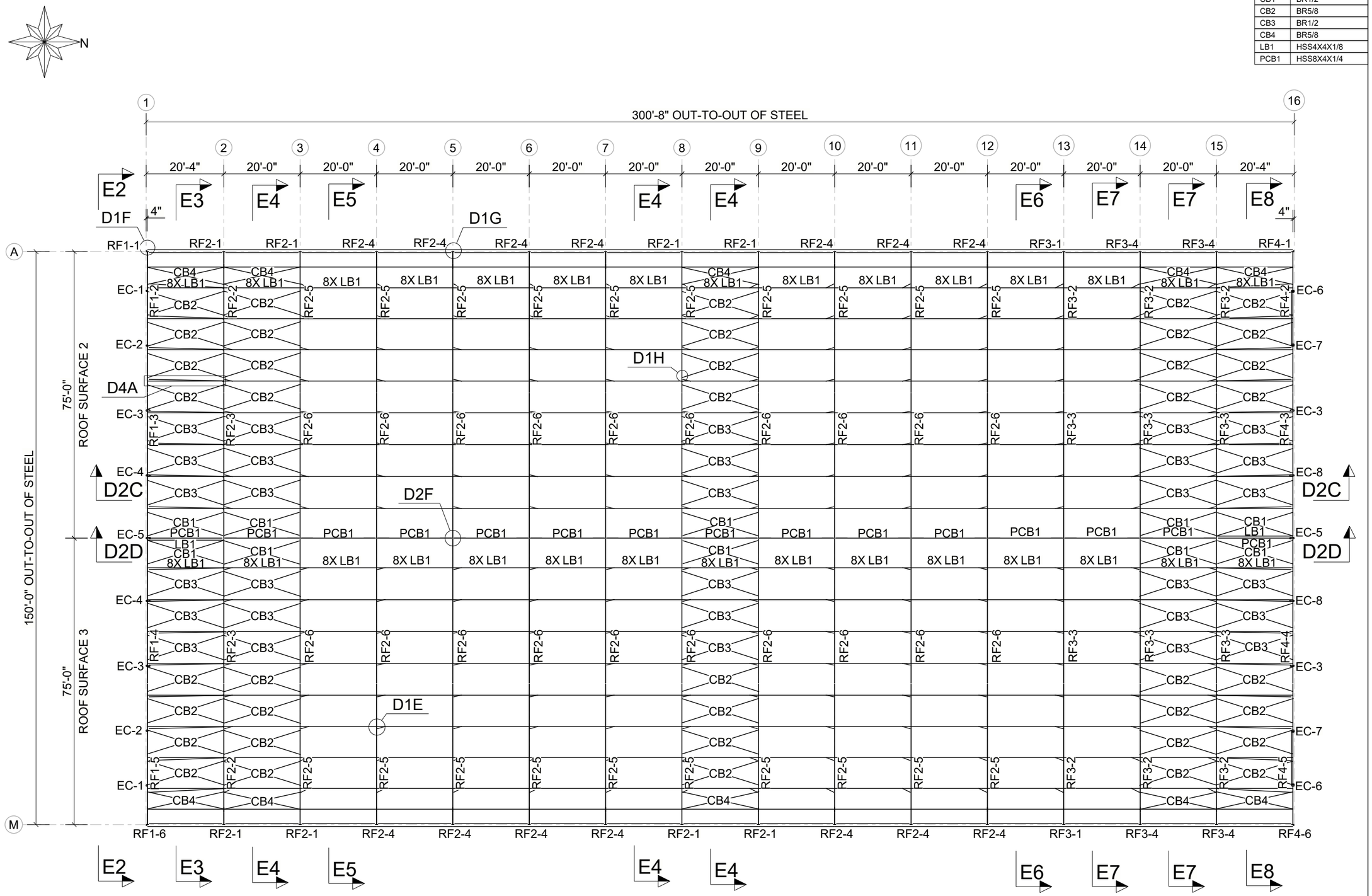
NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE
SHEET SIZE: 11X17

SHEET: BR1

PRINTED DATE: 11/08/2024

BRACE TABLE	
MARK	MATERIAL
CB1	BR1/2
CB2	BR5/8
CB3	BR1/2
CB4	BR5/8
LB1	HSS4X4X1/8
PCB1	HSS8X4X1/4



ROOF FRAMING PLAN

DEVELOPED BY:

ClearSpan

ENGINEERING SERVICES & PRODUCTS CO.
1440 18TH AVENUE SW
DYERSVILLE, IA 52040
P:563.875.6113
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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
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529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: ROOF PLAN

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

SHEET SIZE: 11X17

SHEET: E1

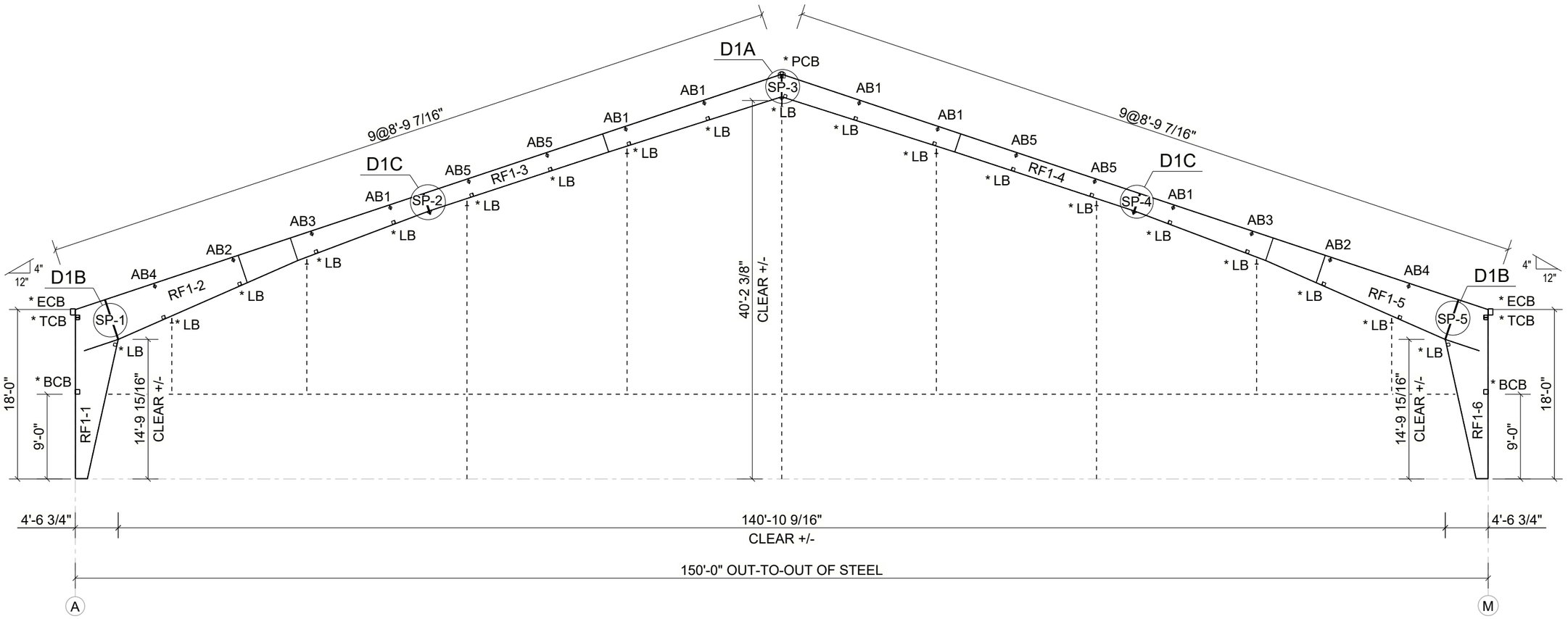
PRINTED DATE: 11/08/2024

MEMBER TABLE							
Mark	Weight	Length	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF1-1	1380	19'-2 1/8"	15.0 / 54.0	0.375	18'-11 1/2"	8 x 3/8" x 17'-11 1/16" 8 x 5/16" x 3'-3 1/4"	8 x 3/8" x 15'-0 5/8"
RF1-2	1804	35'-7 9/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.250 0.250 0.188	14'-10 3/16" 5'-10" 14'-10"	8 x 5/16" x 35'-6 3/16"	8 x 5/16" x 20'-9 1/4" 8 x 5/16" x 14'-10 1/8"
RF1-3	1410	40'-1 3/16"	23.0 / 24.0 24.0 / 28.5	0.188 0.188	20'-0" 20'-0"	8 x 5/16" x 40'-0"	8 x 1/4" x 20'-0" 8 x 1/4" x 19'-2 15/16"
RF1-4	1414	40'-1 3/16"	23.0 / 24.0 24.0 / 28.5	0.188 0.188	20'-0" 20'-0"	8 x 5/16" x 40'-0"	8 x 1/4" x 20'-0" 8 x 1/4" x 19'-2 15/16"
RF1-5	1804	35'-7 9/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.250 0.250 0.188	14'-10 3/16" 5'-10" 14'-10"	8 x 5/16" x 35'-6 3/16"	8 x 5/16" x 20'-9 1/4" 8 x 5/16" x 14'-10 1/8"
RF1-6	1380	19'-2 1/8"	15.0 / 54.0	0.375	18'-11 1/2"	8 x 3/8" x 17'-11 1/16" 8 x 5/16" x 3'-3 1/4"	8 x 3/8" x 15'-0 5/8"

STIFFENER TABLE			
	PLATE SIZE		
MARK	WIDTH	THICK	LENGTH
RF1-1	3.880	0.250	45.11
RF1-6	3.880	0.250	45.11

SPLICE BOLT TABLE				
MARK	QTY	BOLT SIZE	TYPE	PLATE THK
SP-1	12	Ø1" X 3"	A325N	5/8"
SP-2	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-3	8	Ø3/4" X 2"	A325N	3/8"
SP-4	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-5	12	Ø1" X 3"	A325N	5/8"

BRACE TABLE	
MARK	MATERIAL
AB1	HSS4X10GA
AB2	HSS4X10GA
AB3	HSS4X10GA
AB4	HSS4X10GA
AB5	HSS4X10GA



RIGID FRAME ELEVATION: FRAME LINE 1

* SEE ROOF PLAN & SIDEWALL ELEVATION SHEET

DEVELOPED BY:

ClearSpan

ENGINEERING SERVICES & PRODUCTS CO.
1440 18TH AVENUE SW
DYERSVILLE, IA 52040
P:563.875.6113
WWW.ESAPCO.COM
WWW.CLEARSPAN.COM

ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT:
CHRIS ROBINSON

CONTACT PHONE:
859-806-0086

STRUCTURE SKU #:
00417

STRUCTURE SIZE:
150'-0" x 300'-8" x 18'-0"

SHEET TITLE:
RIGID FRAME ELEVATION

DRAWING DETAILS			
DRAWN BY:	SBN	CREATION DATE:	10/17/2024
REVISIONS:			
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD
NO.	BY:	DATE:	DESCRIPTION:
NO SCALE			
SHEET SIZE: 11X17		SHEET:	E2

PRINTED DATE: 11/08/2024

MEMBER TABLE

Mark	Weight	Length	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF2-1	1380	19'-1 7/8"	15.0 / 54.0	0.375	18'-11 3/8"	8 x 3/8" x 17'-10 15/16" 8 x 1/4" x 3'-3 1/4"	8 x 3/8" x 15'-0 1/2"
RF2-2	1794	35'-7 5/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.250 0.250 0.188	14'-9 15/16" 5'-10" 14'-9 7/8"	8 x 1/4" x 20'-3 15/16" 8 x 5/16" x 15'-1 7/8"	8 x 3/8" x 20'-9" 8 x 3/8" x 14'-10"
RF2-3	1393	40'-1 5/16"	23.0 / 24.0 24.0 / 28.5	0.188 0.188	20'-0" 20'-0"	8 x 5/16" x 40'-0"	8 x 5/16" x 20'-0" 8 x 1/4" x 19'-2 15/16"

1

1

STIFFENER TABLE

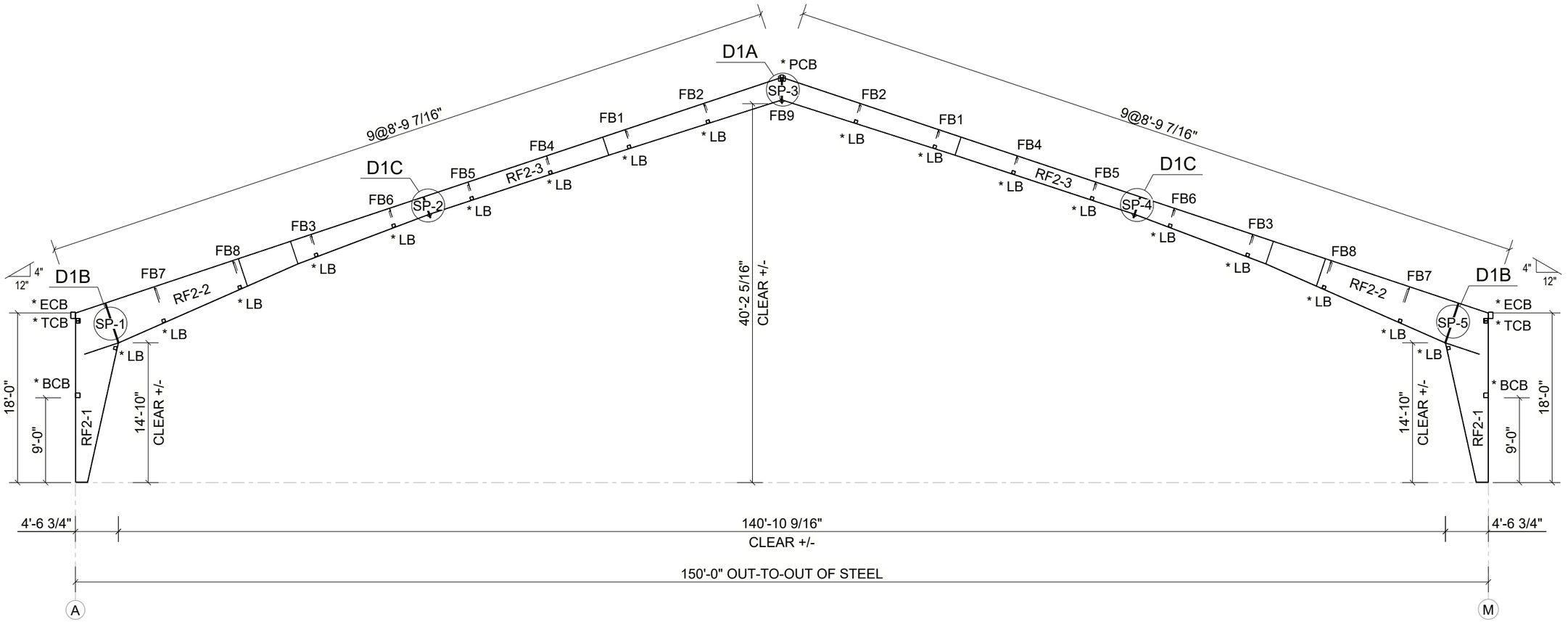
MARK	PLATE SIZE WIDTH	THICK	LENGTH
RF2-1	3.880	0.250	45.11

SPLICE BOLT TABLE

MARK	QTY	BOLT SIZE	TYPE	PLATE THK
SP-1	14	Ø3/4" X 2 1/2"	A325N	3/4"
SP-2	10	Ø1" X 3"	A325N	3/4"
SP-3	8	Ø3/4" X 2"	A325N	1/2"
SP-4	10	Ø1" X 3"	A325N	3/4"
SP-5	14	Ø3/4" X 2 1/2"	A325N	3/4"

BRACE TABLE

MARK	MATERIAL
FB1	L2X2X1/8
FB2	L2X2X1/8
FB3	L2X2X1/8
FB4	L2X2X1/8
FB5	L2X2X1/8
FB6	L2X2X1/8
FB7	L2X2X1/8
FB8	L2X2X1/8
FB9	L3X3X3/16



RIGID FRAME ELEVATION: FRAME LINE 2

* SEE ROOF PLAN & SIDEWALL ELEVATION SHEET

DEVELOPED BY:
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DYERSVILLE, IA 52040
P:563.875.6113
WWW.ESAPCO.COM
WWW.CLEARSPAN.COM

ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: RIGID FRAME ELEVATION

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

SHEET SIZE: 11X17

SHEET: E3

PRINTED DATE: 11/08/2024

MEMBER TABLE

Mark	Weight	Length	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF2-1	1380	19'-1 7/8"	15.0 / 54.0	0.375	18'-11 3/8"	8 x 3/8" x 17'-10 15/16" 8 x 1/4" x 3'-3 1/4"	8 x 3/8" x 15'-0 1/2"
RF2-5	1790	35'-7 5/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.250 0.250 0.188	14'-9 15/16" 5'-10" 14'-9 7/8"	8 x 1/4" x 20'-3 15/16" 8 x 5/16" x 15'-1 7/8"	8 x 3/8" x 20'-9" 8 x 3/8" x 14'-10"
RF2-6	1391	40'-1 5/16"	23.0 / 24.0 24.0 / 28.5	0.188 0.188	20'-0" 20'-0"	8 x 5/16" x 40'-0"	8 x 5/16" x 20'-0" 8 x 1/4" x 19'-2 15/16"

1

1

STIFFENER TABLE

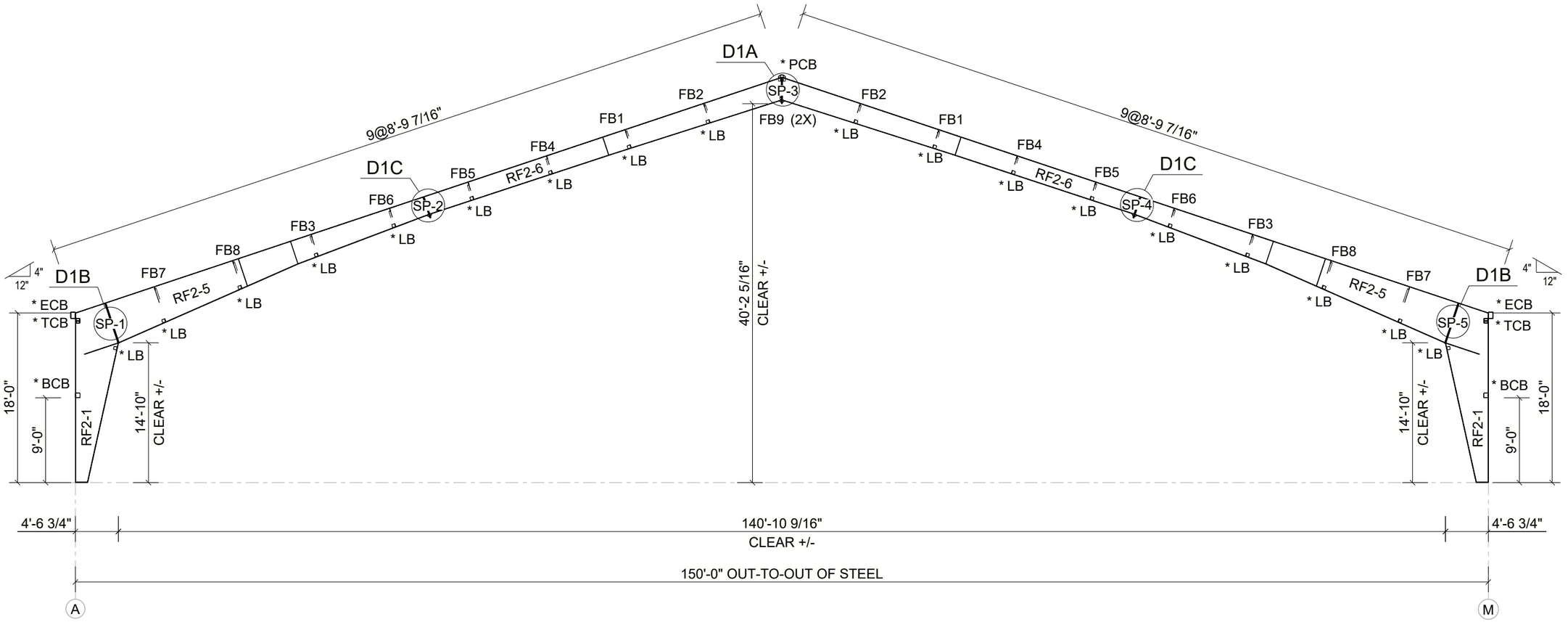
MARK	PLATE SIZE WIDTH	THICK	LENGTH
RF2-1	3.880	0.250	45.11

SPLICE BOLT TABLE

MARK	QTY	BOLT SIZE	TYPE	PLATE THK
SP-1	14	Ø3/4" X 2 1/2"	A325N	3/4"
SP-2	10	Ø1" X 3"	A325N	3/4"
SP-3	8	Ø3/4" X 2"	A325N	1/2"
SP-4	10	Ø1" X 3"	A325N	3/4"
SP-5	14	Ø3/4" X 2 1/2"	A325N	3/4"

BRACE TABLE

MARK	MATERIAL
FB1	L2X2X1/8
FB2	L2X2X1/8
FB3	L2X2X1/8
FB4	L2X2X1/8
FB5	L2X2X1/8
FB6	L2X2X1/8
FB7	L2X2X1/8
FB8	L2X2X1/8
FB9	L3X3X3/16



RIGID FRAME ELEVATION: FRAME LINE 3, 8, 9

* SEE ROOF PLAN & SIDEWALL ELEVATION SHEET

DEVELOPED BY:

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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: RIGID FRAME ELEVATION

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

SHEET SIZE: 11X17

SHEET: E4

PRINTED DATE: 11/08/2024

MEMBER TABLE

Mark	Weight	Length	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF2-4	1386	19'-1 7/8"	15.0 / 54.0	0.375	18'-11 3/8"	8 x 3/8" x 17'-10 15/16" 8 x 1/4" x 3'-3 1/4"	8 x 3/8" x 15'-0 1/2"
RF2-5	1790	35'-7 5/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.250 0.250 0.188	14'-9 15/16" 5'-10" 14'-9 7/8"	8 x 1/4" x 20'-3 15/16" 8 x 5/16" x 15'-1 7/8"	8 x 3/8" x 20'-9" 8 x 3/8" x 14'-10"
RF2-6	1391	40'-1 5/16"	23.0 / 24.0 24.0 / 28.5	0.188 0.188	20'-0" 20'-0"	8 x 5/16" x 40'-0"	8 x 5/16" x 20'-0" 8 x 1/4" x 19'-2 15/16"

1

1

STIFFENER TABLE

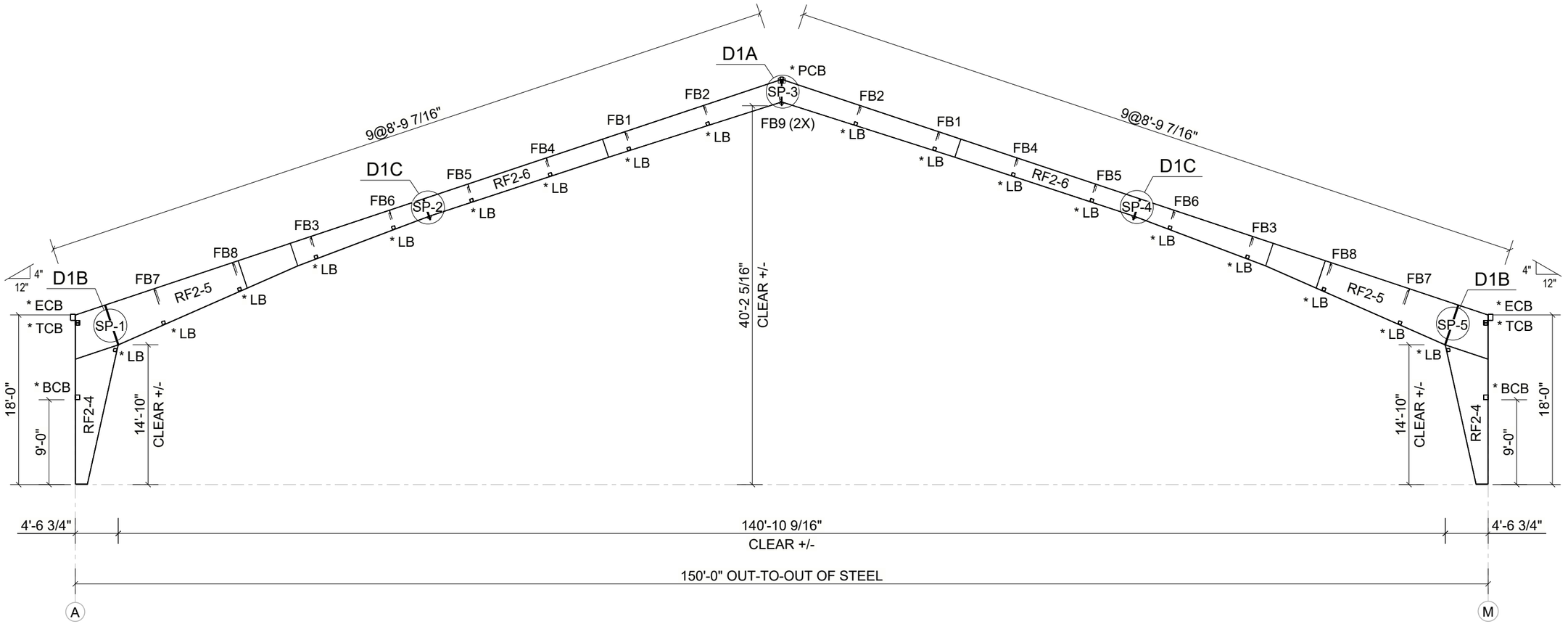
MARK	PLATE SIZE WIDTH	THICK	LENGTH
RF2-4	3.880	0.250	56.54

SPLICE BOLT TABLE

MARK	QTY	BOLT SIZE	TYPE	PLATE THK
SP-1	14	Ø3/4" X 2 1/2"	A325N	3/4"
SP-2	10	Ø1" X 3"	A325N	3/4"
SP-3	8	Ø3/4" X 2"	A325N	1/2"
SP-4	10	Ø1" X 3"	A325N	3/4"
SP-5	14	Ø3/4" X 2 1/2"	A325N	3/4"

BRACE TABLE

MARK	MATERIAL
FB1	L2X2X1/8
FB2	L2X2X1/8
FB3	L2X2X1/8
FB4	L2X2X1/8
FB5	L2X2X1/8
FB6	L2X2X1/8
FB7	L2X2X1/8
FB8	L2X2X1/8
FB9	L3X3X3/16



RIGID FRAME ELEVATION: FRAME LINE 4, 5, 6, 7, 10, 11, 12

* SEE ROOF PLAN & SIDEWALL ELEVATION SHEET

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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT:
CHRIS ROBINSON

CONTACT PHONE:
859-806-0086

STRUCTURE SKU #:
00417

STRUCTURE SIZE:
150'-0" x 300'-8" x 18'-0"

SHEET TITLE:
RIGID FRAME ELEVATION

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE
SHEET SIZE: 11X17

SHEET: E5

PRINTED DATE: 11/08/2024

MEMBER TABLE

Mark	Weight	Length	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF3-1	1559	19'-1 7/8"	15.0 / 54.0	0.375	18'-11 3/16"	8 x 1/2" x 17'-10 3/4" 8 x 1/2" x 3'-3 3/16"	8 x 1/2" x 15'-0"
RF3-2	2544	35'-7 3/16"	53.0 / 36.5 36.5 / 30.0	0.313 0.313	14'-9 1/2" 5'-10"	8 x 1/2" x 35'-5 7/16"	8 x 5/8" x 20'-8 1/2" 8 x 5/8" x 14'-10 1/16"
RF3-3	1860	40'-1 1/4"	30.0 / 23.0 23.0 / 24.0 24.0 / 28.5	0.250 0.188 0.250	14'-9 15/16" 20'-0" 20'-0"	8 x 1/2" x 40'-0"	8 x 1/2" x 20'-0" 8 x 3/8" x 19'-2 7/8"

1

STIFFENER TABLE

MARK	PLATE SIZE WIDTH	THICK	LENGTH
RF3-1	3.880	0.313	56.48

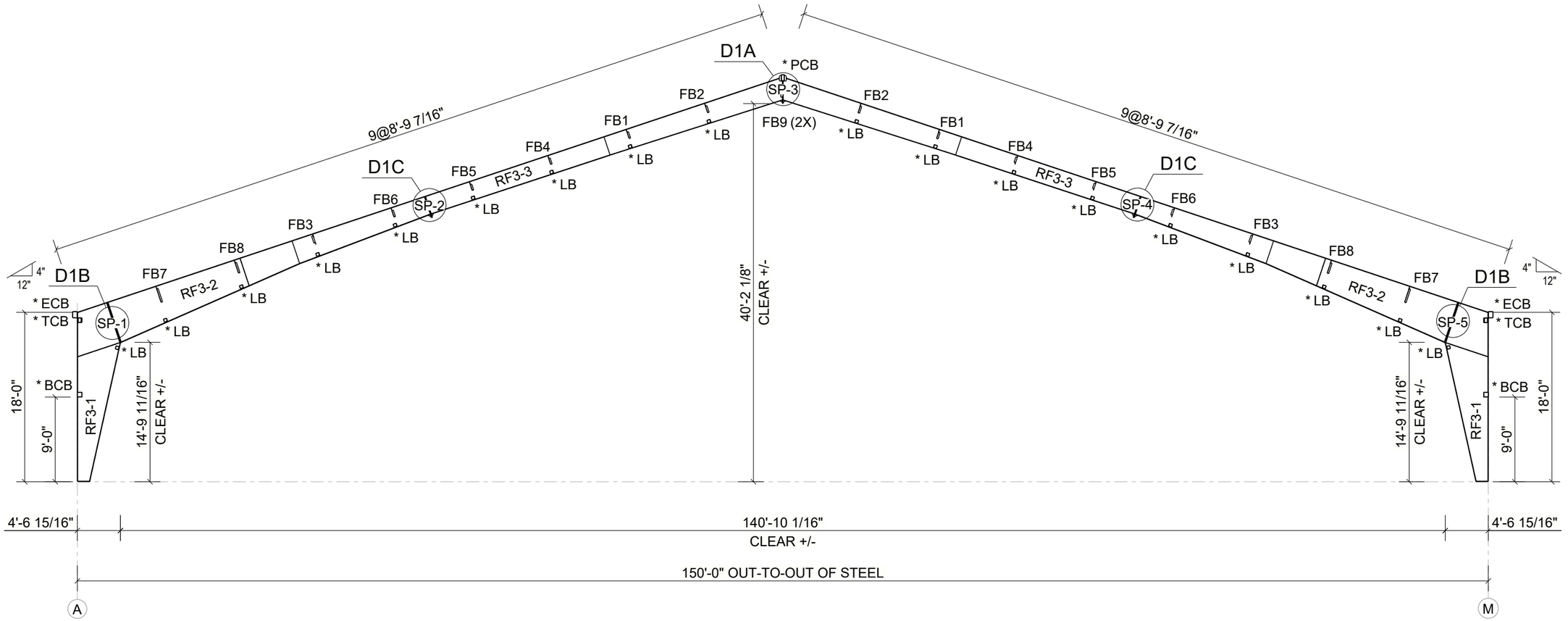
SPLICE BOLT TABLE

MARK	QTY	BOLT SIZE	TYPE	PLATE THK
SP-1	14	Ø1 1/4" X 4"	A325N	1"
SP-2	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-3	8	Ø3/4" X 2"	A325N	3/8"
SP-4	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-5	14	Ø1 1/4" X 4"	A325N	1"

1

BRACE TABLE

MARK	MATERIAL
FB1	L2X2X1/8
FB2	L2X2X1/8
FB3	L2X2X1/8
FB4	L2X2X1/8
FB5	L2X2X1/8
FB6	L2X2X1/8
FB7	L2X2X1/8
FB8	L2X2X1/8
FB9	L3X3X3/16



RIGID FRAME ELEVATION: FRAME LINE 13

* SEE ROOF PLAN & SIDEWALL ELEVATION SHEET

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1440 18TH AVENUE SW
DYERSVILLE, IA 52040
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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
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529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: RIGID FRAME ELEVATION

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE
SHEET SIZE: 11X17
SHEET: E6

PRINTED DATE: 11/08/2024

MEMBER TABLE

Mark	Weight	Length	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF3-2	2544	35'-7 3/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.313 0.313 0.250	14'-9 1/2" 5'-10" 14'-9 15/16"	8 x 1/2" x 35'-5 7/16"	8 x 5/8" x 20'-8 1/2" 8 x 5/8" x 14'-10 1/16"
RF3-3	1860	40'-1 1/4"	23.0 / 24.0 24.0 / 28.5	0.188 0.250	20'-0" 20'-0"	8 x 1/2" x 40'-0"	8 x 1/2" x 20'-0" 8 x 3/8" x 19'-2 7/8"
RF3-4	1551	19'-1 7/8"	15.0 / 54.0	0.375	18'-11 3/16"	8 x 1/2" x 17'-10 3/4" 8 x 1/2" x 3'-3 3/16"	8 x 1/2" x 15'-0"

STIFFENER TABLE

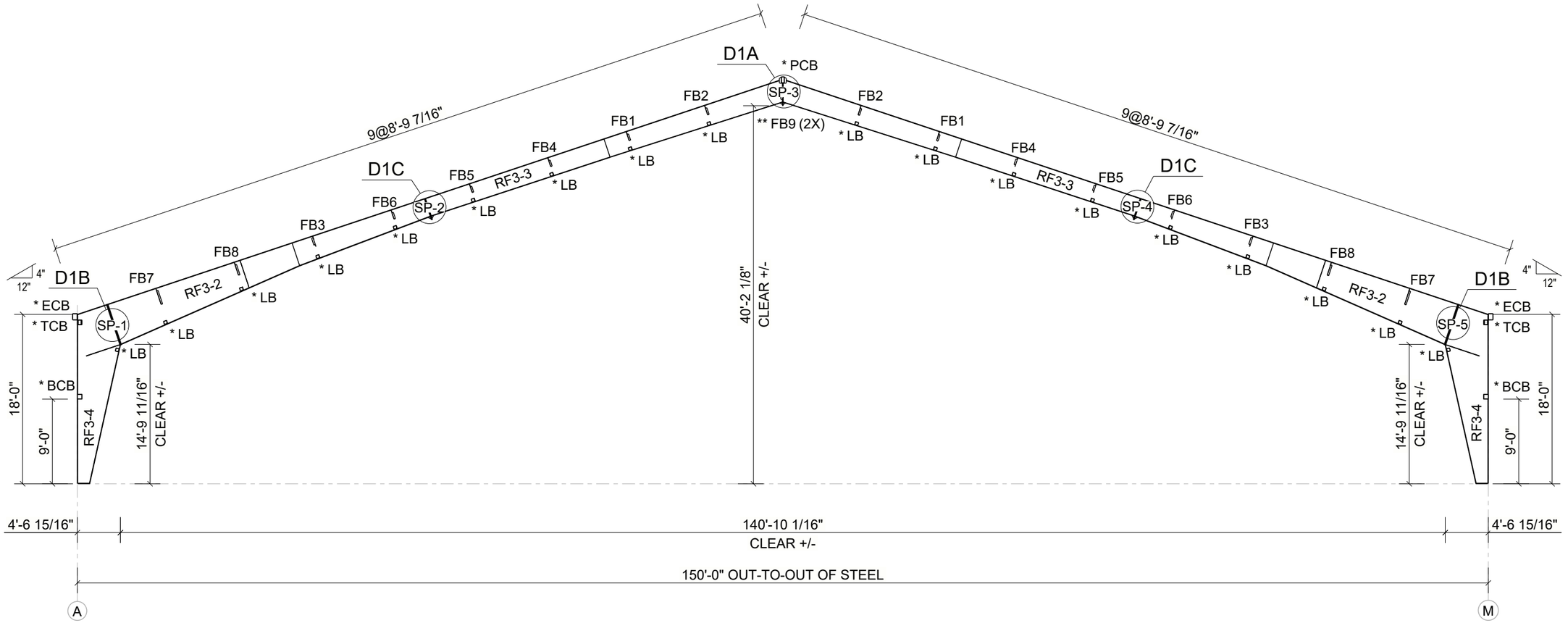
MARK	PLATE SIZE WIDTH	THICK	LENGTH
RF3-4	3.880	0.313	45.19

SPLICE BOLT TABLE

MARK	QTY	BOLT SIZE	TYPE	PLATE THK
SP-1	14	Ø1 1/4" X 4"	A325N	1"
SP-2	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-3	8	Ø3/4" X 2"	A325N	3/8"
SP-4	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-5	14	Ø1 1/4" X 4"	A325N	1"

BRACE TABLE

MARK	MATERIAL
FB1	L2X2X1/8
FB2	L2X2X1/8
FB3	L2X2X1/8
FB4	L2X2X1/8
FB5	L2X2X1/8
FB6	L2X2X1/8
FB7	L2X2X1/8
FB8	L2X2X1/8
FB9	L3X3X3/16



RIGID FRAME ELEVATION: FRAME LINE 14, 15

* SEE ROOF PLAN & SIDEWALL ELEVATION SHEET

** (1) FB @ FRAME LINE 15. SEE PEAK BRACE LAYOUT DETAIL

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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION: LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT: CHRIS ROBINSON

CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: RIGID FRAME ELEVATION

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

SHEET SIZE: 11X17

SHEET: E7

PRINTED DATE: 11/08/2024

MEMBER TABLE

Mark	Weight	Length	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF4-1	1384	19'-2 1/8"	15.0 / 54.0	0.375	18'-11 1/2"	8 x 3/8" x 17'-11 1/16" 8 x 5/16" x 3'-3 1/4"	8 x 3/8" x 15'-0 5/8"
RF4-2	1804	35'-7 9/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.250 0.250 0.188	14'-10 3/16" 5'-10" 14'-10"	8 x 5/16" x 35'-6 3/16"	8 x 5/16" x 20'-9 1/4" 8 x 5/16" x 14'-10 1/8"
RF4-3	1414	40'-1 3/16"	23.0 / 24.0 24.0 / 28.5	0.188 0.188	20'-0" 20'-0"	8 x 5/16" x 40'-0"	8 x 1/4" x 20'-0" 8 x 1/4" x 19'-2 15/16"
RF4-4	1410	40'-1 3/16"	23.0 / 24.0 24.0 / 28.5	0.188 0.188	20'-0" 20'-0"	8 x 5/16" x 40'-0"	8 x 1/4" x 20'-0" 8 x 1/4" x 19'-2 15/16"
RF4-5	1804	35'-7 9/16"	53.0 / 36.5 36.5 / 30.0 30.0 / 23.0	0.250 0.250 0.188	14'-10 3/16" 5'-10" 14'-10"	8 x 5/16" x 35'-6 3/16"	8 x 5/16" x 20'-9 1/4" 8 x 5/16" x 14'-10 1/8"
RF4-6	1384	19'-2 1/8"	15.0 / 54.0	0.375	18'-11 1/2"	8 x 3/8" x 17'-11 1/16" 8 x 5/16" x 3'-3 1/4"	8 x 3/8" x 15'-0 5/8"

STIFFENER TABLE

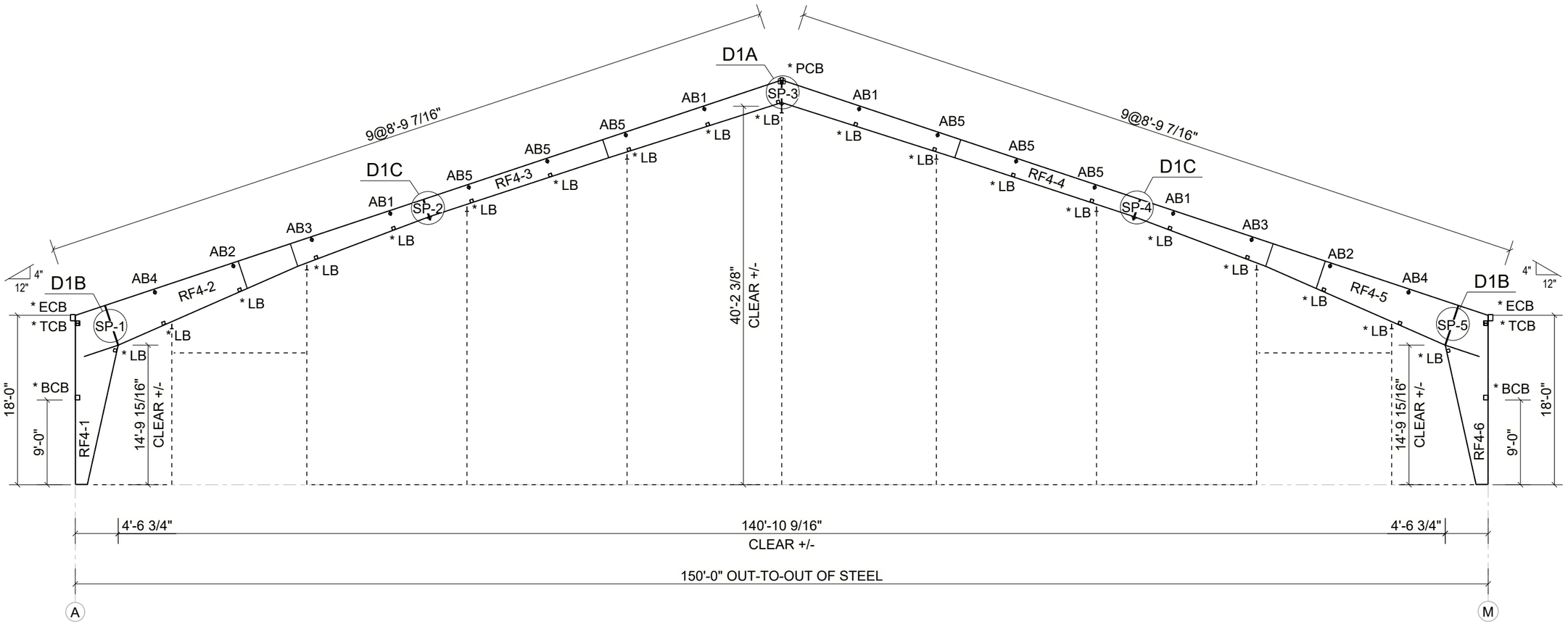
MARK	PLATE SIZE WIDTH	THICK	LENGTH
RF4-1	3.880	0.250	45.11
RF4-6	3.880	0.250	45.11

SPLICE BOLT TABLE

MARK	QTY	BOLT SIZE	TYPE	PLATE THK
SP-1	12	Ø1" X 3"	A325N	5/8"
SP-2	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-3	8	Ø3/4" X 2"	A325N	3/8"
SP-4	10	Ø3/4" X 2 1/2"	A325N	3/4"
SP-5	12	Ø1" X 3"	A325N	5/8"

BRACE TABLE

MARK	MATERIAL
AB1	HSS4X10GA
AB2	HSS4X10GA
AB3	HSS4X10GA
AB4	HSS4X10GA
AB5	HSS4X10GA



RIGID FRAME ELEVATION: FRAME LINE 16

* SEE ROOF PLAN & SIDEWALL ELEVATION SHEET

DEVELOPED BY:

ClearSpan

ENGINEERING SERVICES & PRODUCTS CO.
1440 18TH AVENUE SW
DYERSVILLE, IA 52040
P:563.875.6113
WWW.ESAPCO.COM
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ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT:
CHRIS ROBINSON

CONTACT PHONE:
859-806-0086

STRUCTURE SKU #:
00417

STRUCTURE SIZE:
150'-0" x 300'-8" x 18'-0"

SHEET TITLE:
RIGID FRAME ELEVATION

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

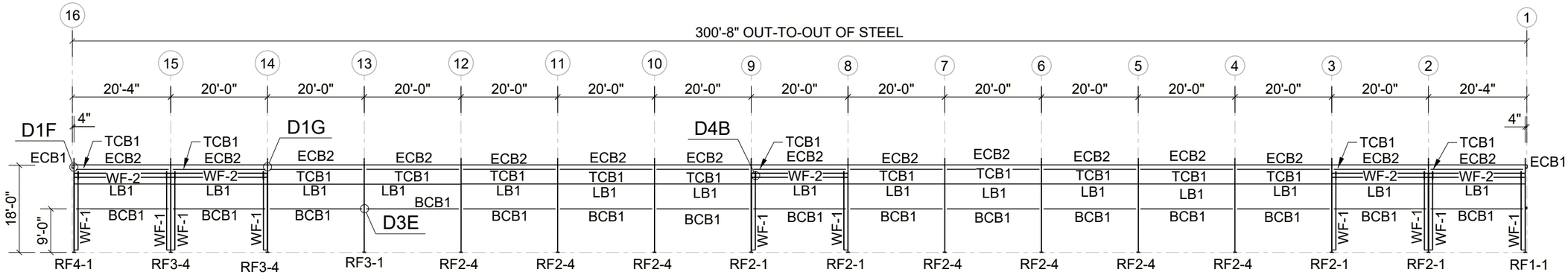
SHEET SIZE: 11X17

SHEET: E8

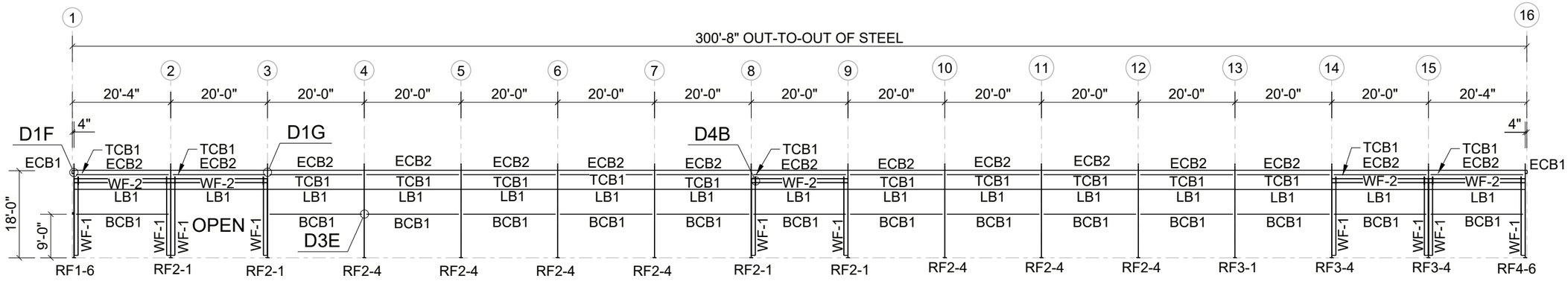
PRINTED DATE: 11/08/2024

BOLT TABLE (PER CONNECTION)		
QTY	BOLT SIZE	BOLTED ASSEMBLIES
12	Ø5/8" X 2" A325N BOLT	WF-1 TO RF
8	Ø1" X 3" A325N BOLT	WF-1 TO WF-2

BRACE TABLE	
MARK	MATERIAL
BCB1	HSS6X6X3/16
ECB1	HSS8X6X3/16
ECB2	HSS8X6X3/16
LB1	HSS4X4X1/8
TCB1	HSS6X6X3/16
WF-1	W10X19
WF-2	W10X22



SIDEWALL FRAMING: FRAME LINE A



SIDEWALL FRAMING: FRAME LINE M

NOTE:
OPEN BELOW BCB'S.

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SHEET TITLE:
SIDEWALL ELEVATION

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REVISIONS:			
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NO.	BY:	DATE:	DESCRIPTION:

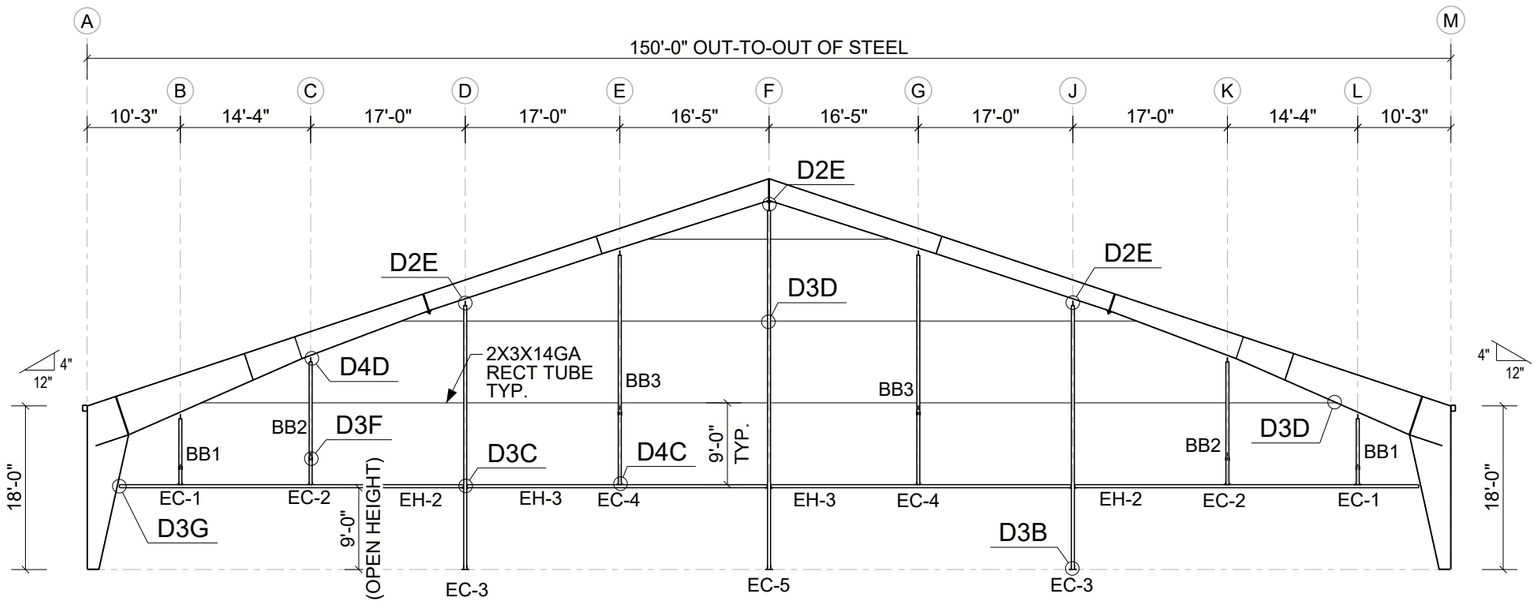
NO SCALE
SHEET SIZE: 11X17

SHEET: E9

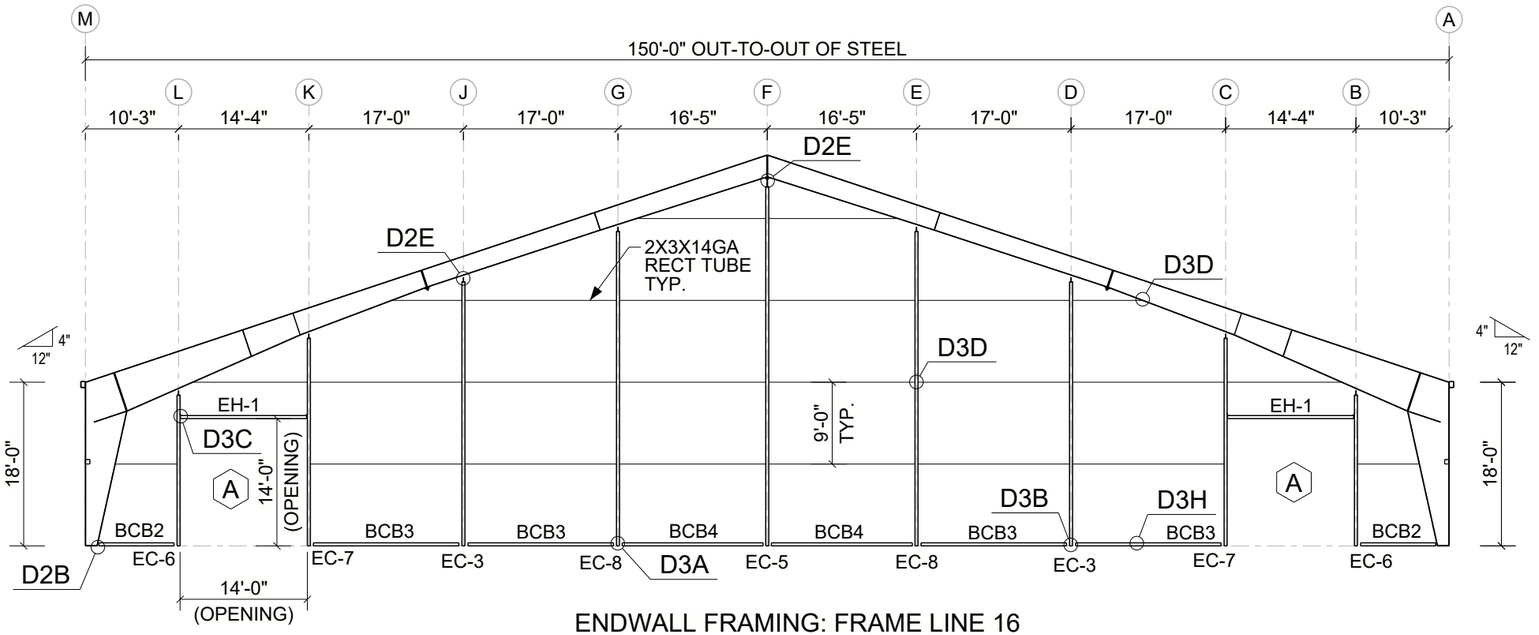
PRINTED DATE: 11/08/2024

FRAME-OUT SCHEDULE		
CALL-OUT	DESCRIPTION	ROUGH OPENING
A	14'-0" W X 14'-0" H OPENING	14'-0" W X 14'-0" H

BRACE TABLE	
MARK	MATERIAL
BB1	HSS4X4X3/16
BB2	HSS4X4X3/16
BB3	HSS4X4X3/16
BCB2	HSS4X4X1/8
BCB3	HSS4X4X1/8
BCB4	HSS4X4X1/8
EC-1	HSS4X4X3/16
EC-2	HSS6X4X3/16
EC-3	HSS12X4X3/16
EC-4	HSS10X4X3/16
EC-5	HSS14X4X3/16
EC-6	HSS8X4X3/16
EC-7	HSS8X4X3/16
EC-8	HSS14X4X3/16
EH-1	HSS8X4X3/16
EH-2	HSS6X4X3/16
EH-3	HSS12X4X3/16



ENDWALL FRAMING: FRAME LINE 1



ENDWALL FRAMING: FRAME LINE 16

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STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: ENDWALL ELEVATION

DRAWING DETAILS

DRAWN BY: SBN CREATION DATE: 10/17/2024

REVISIONS:

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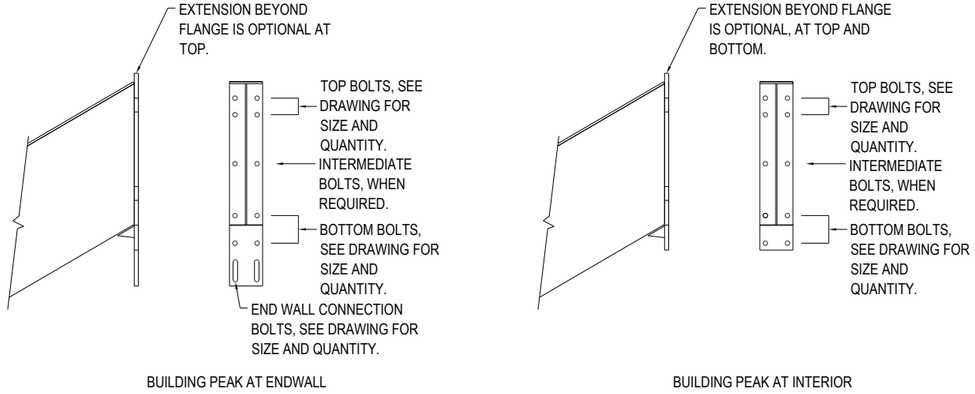
NO SCALE

SHEET SIZE: 11X17

SHEET: E10

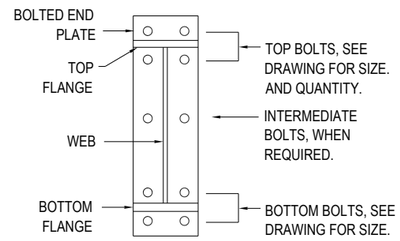
PRINTED DATE: 11/08/2024



D1A

BOLTED END PLATE CONNECTION AT BUILDING PEAK

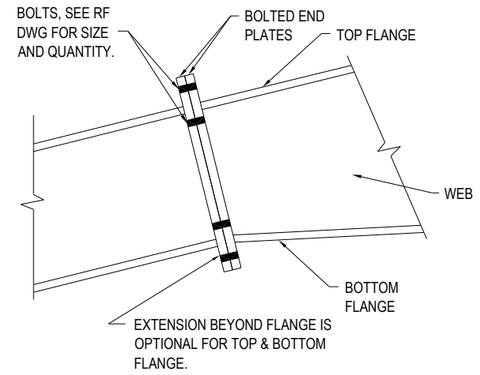
DA1



D1B

BOLTS FOR RAFTER TO COLUMN CONNECTION

DA3

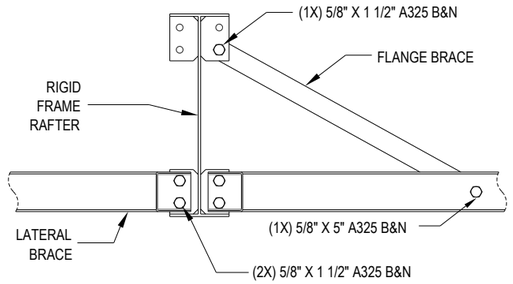


D1C

BOLTED END PLATE RAFTER SPLICE

DA4

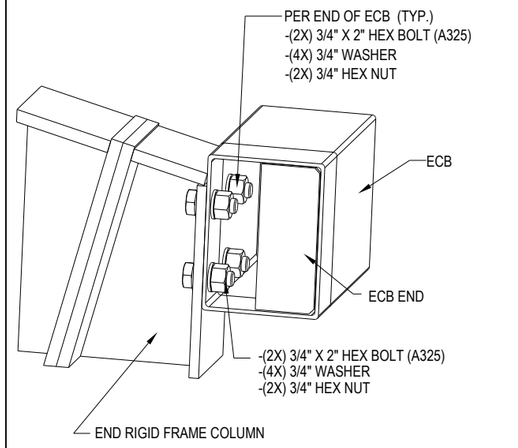
D1D



D1E

LATERAL BRACE TO INTERIOR RIGID FRAME

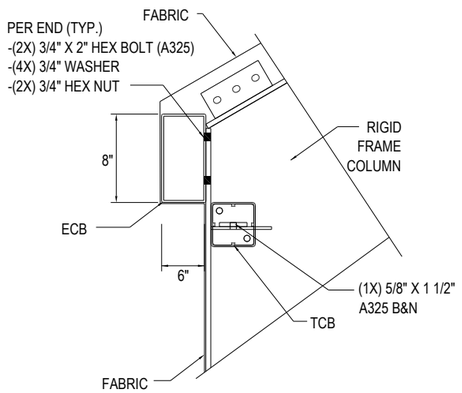
DB8



D1F

LOW EAVE COVER BRACE CONNECTION

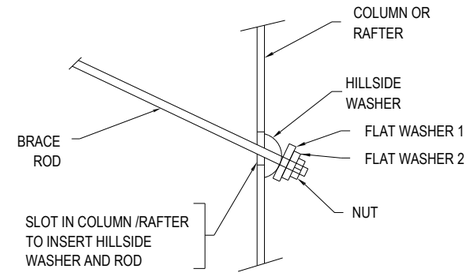
DB17



D1G

EAVE COVER BRACE, TOP COVER BRACE AT MID COLUMN

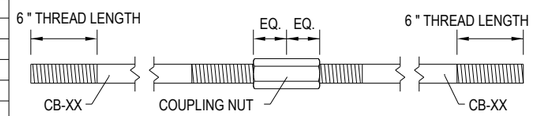
DB20



BRACE ROD, NUT END

D1H

DIAGONAL BRACE ROD HARDWARE		
FOR Ø 7/16" THREADS	FLAT WASHER 1	1/2" STRUCTURAL WASHER
	FLAT WASHER 2	7/16" STRUCTURAL WASHER
	NUT	7/16" HEAVY HEX NUT
FOR Ø 1/2" THREADS	FLAT WASHER 1	N/A
	FLAT WASHER 2	1/2" STRUCTURAL WASHER
	NUT	1/2" HEX NUT
FOR Ø 9/16" THREADS	FLAT WASHER 1	5/8" STRUCTURAL WASHER
	FLAT WASHER 2	9/16" STRUCTURAL WASHER
	NUT	9/16" HEAVY HEX NUT
FOR Ø 5/8" THREADS	FLAT WASHER 1	N/A
	FLAT WASHER 2	5/8" STRUCTURAL WASHER
	NUT	5/8" HEAVY HEX NUT
FOR Ø 3/4" THREADS	FLAT WASHER 1	N/A
	FLAT WASHER 2	3/4" STRUCTURAL WASHER
	NUT	3/4" HEAVY HEX NUT
FOR Ø1 " THREADS	FLAT WASHER 1	N/A
	FLAT WASHER 2	1 " STRUCTURAL WASHER
	NUT	1 " HEAVY HEX NUT
FOR Ø1-1/4" THREADS	FLAT WASHER 1	N/A
	FLAT WASHER 2	1-1/4" STRUCTURAL WASHER
	NUT	1-1/4" HEAVY HEX NUT



NOTE: MARK EACH ROD HALF THE WIDTH OF THE COUPLING NUT FROM THE END TO ENSURE THAT THEY MEET AT THE CENTER OF THE COUPLING NUT

ROD SPLICE DETAIL
(IF REQUIRED)

DIAGONAL BRACE ROD

DB30

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529 S MAIN ST
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CONTACT PHONE: 859-806-0086

STRUCTURE SKU #: 00417

STRUCTURE SIZE: 150'-0" x 300'-9" x 18'-0"

SHEET TITLE: CONNECTION DETAILS

DRAWING DETAILS

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REVISIONS:

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1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

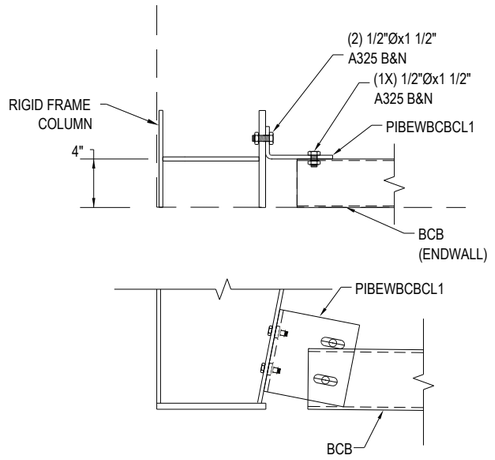
NO SCALE

SHEET SIZE: 11X17

SHEET: D1

PRINTED DATE: 11/08/2024

D2A

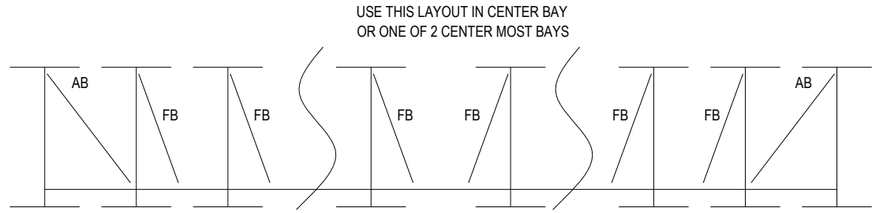


D2B

BOTTOM COVER BRACE (BCB) TO
RIGID FRAME CORNER COLUMN

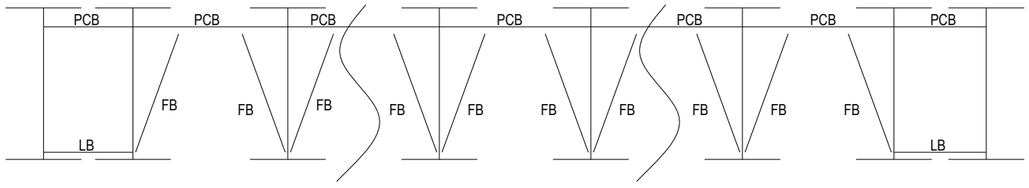
DB24

D2C



FLANGE BRACE LAYOUT

DB31

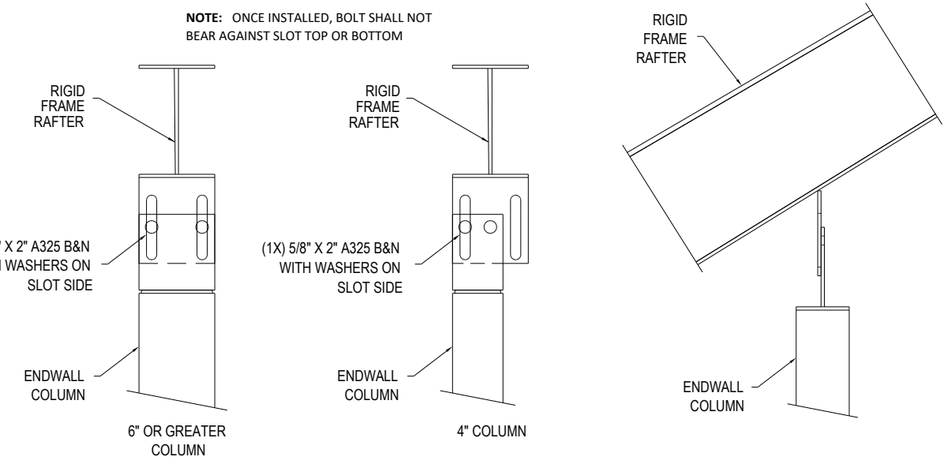


D2D

PEAK BRACE LAYOUT

DB32

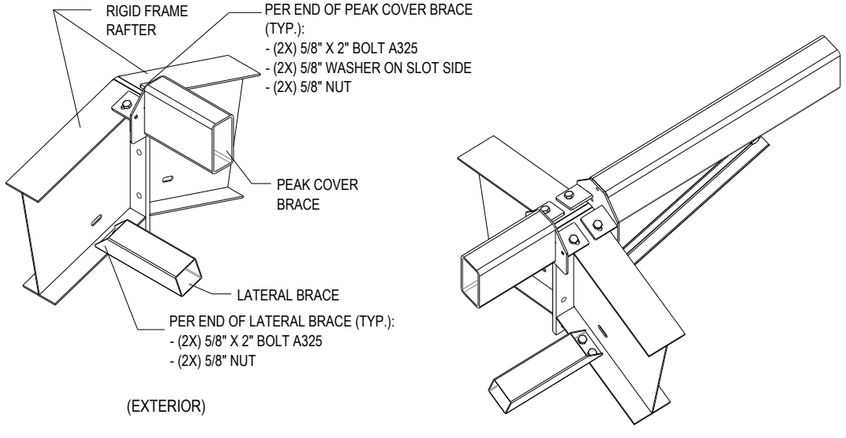
NOTE: ONCE INSTALLED, BOLT SHALL NOT BEAR AGAINST SLOT TOP OR BOTTOM

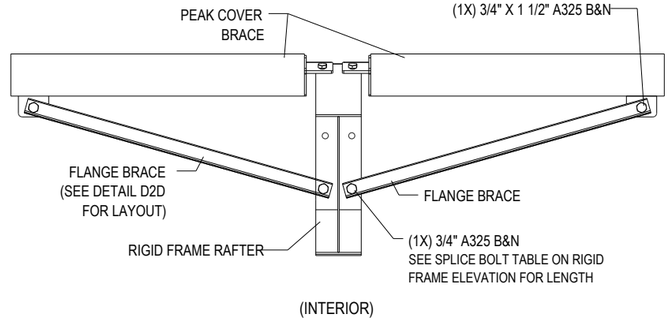


D2E

COLUMN TO RIGID FRAME RAFTER

DE1





D2F

[DB34] - PEAK COVER BRACE CONNECTION - SPLIT COVER
(INTERIOR/EXTERIOR)

DB34

D2G

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SHEET TITLE: CONNECTION DETAILS

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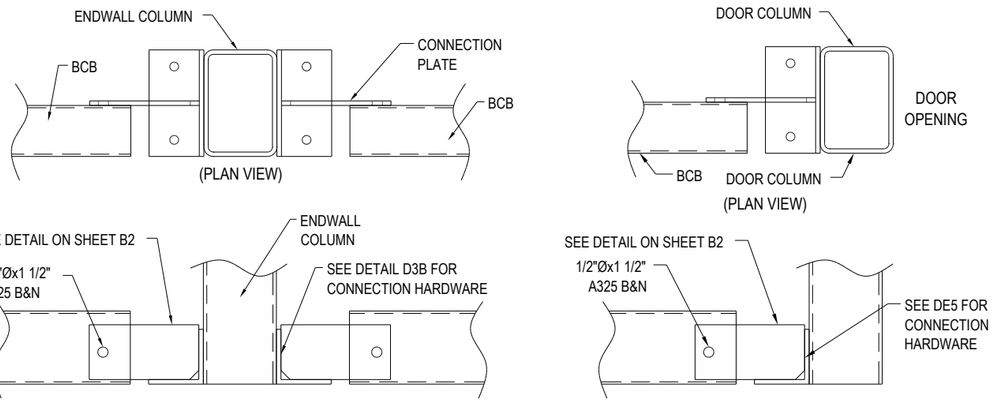
NO SCALE

SHEET SIZE: 11X17

SHEET: D2

PRINTED DATE: 11/08/2024

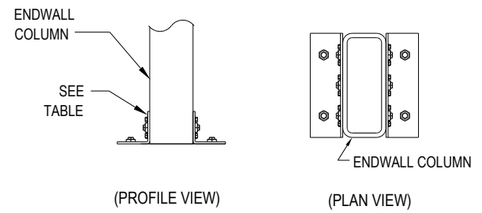


NOTE: PLAN & ELEV VIEWS ARE GENERIC AND MAY NOT BE REPRESENTATIVE OF THE ACTUAL BRACKET.
NOTE: CONNECTION PLATE AT DOOR LOCATIONS MAY NEED TO BE FIELD CUT

D3A ENDWALL BOTTOM COVER BRACE (BCB) CONNECTION TO ENDWALL COLUMN

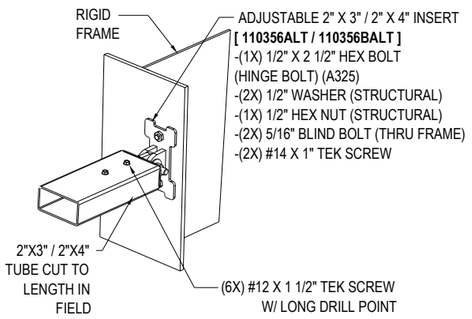
DE6

COLUMN	BLIND-BOLT (PER BRACKET)	TEK SCREW (PER BRACKET)
PIBEWCCL1	(2X) 1/2" BLIND-BOLT	(6X) #12 X 1 1/2", #5 DRILL POINT
PIBEWCCL2L/R	(3X) 1/2" BLIND-BOLT	(8X) #12 X 1 1/2", #5 DRILL POINT
EWHB3X6X12T25S1	(3X) 1/2" BLIND-BOLT	(8X) #12 X 1 1/2", #5 DRILL POINT



D3B ENDWALL COLUMN TO BASE PLATE CONNECTION

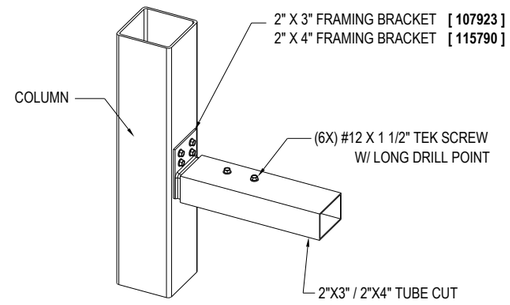
DE5



BLIND BOLT HOLE SIZES & INSTALLATION TORQUE

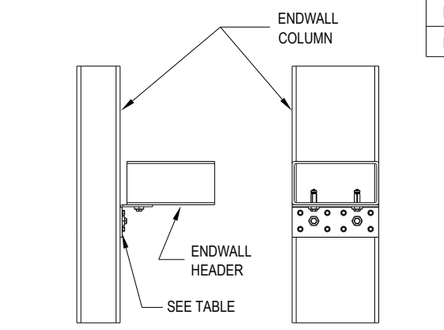
BLIND BOLT DIA.	HOLE DIA.	INSTALLATION TORQUE
1/4"	7/16"	14 FT-LB
5/16"	9/16"	18 FT-LB
3/8"	3/4"	33 FT-LB
1/2"	13/16"	59 FT-LB
5/8"	1 1/16"	140 FT-LB
3/4"	1 5/16"	221 FT-LB

NOTE: REFER TO BLIND BOLT TECHNICAL DATA FOR MORE INFORMATION IF USING BLIND BOLTS.



D3D FRAMING CONNECTION

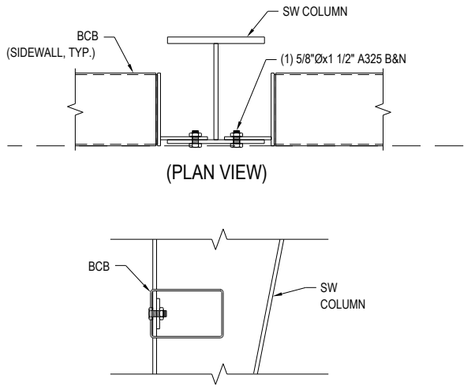
DF2



HEADER	BRACKET	BLIND-BOLT (PER BRACKET)	TEK SCREW (PER BRACKET)
EH1	EWHB3X3X8T25S1	(4X) 1/2" BLIND-BOLT	(8X) #12 X 1 1/2", #5 DRILL POINT
EH2	EWHB3X3X6T25S1	(4X) 1/2" BLIND-BOLT	(8X) #12 X 1 1/2", #5 DRILL POINT
EH3	EWHB3X3X12T25S1	(6X) 1/2" BLIND-BOLT	(12X) #12 X 1 1/2", #5 DRILL POINT

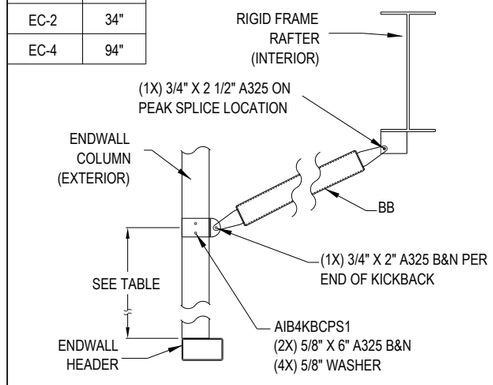
D3C HEADER TO COLUMN CONNECTION

DF1



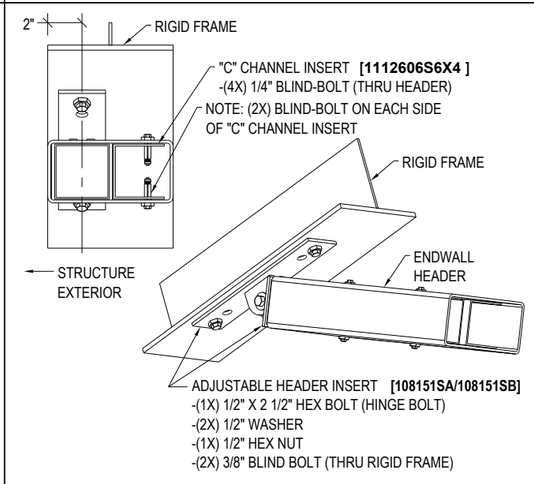
D3E BOTTOM COVER BRACE (BCB) TO SW COLUMN FLANGE (ABOVE BASE)

COLUMN	HEIGHT
EC-1	22"
EC-2	34"
EC-4	94"



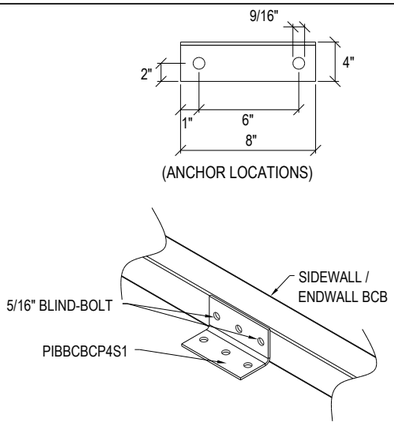
D3F KICKBACK AT ENDWALL TO RIGID FRAME

DB35



D3G HEADER TO RIGID FRAME CONNECTION

DF4



D3H SIDEWALL/ENDWALL BOTTOM COVER BRACE (BCB)

DB29

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STRUCTURE SIZE: 150'-0" x 300'-8" x 18'-0"

SHEET TITLE: CONNECTION DETAILS

DRAWING DETAILS

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REVISIONS:

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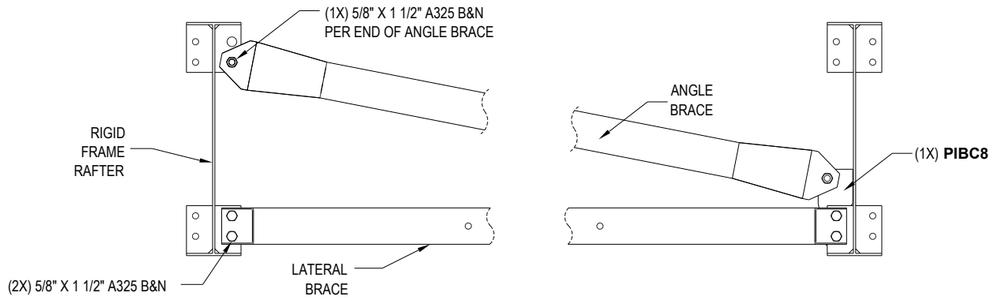
NO SCALE
SHEET SIZE: 11X17
SHEET: D3

PRINTED DATE: 11/08/2024

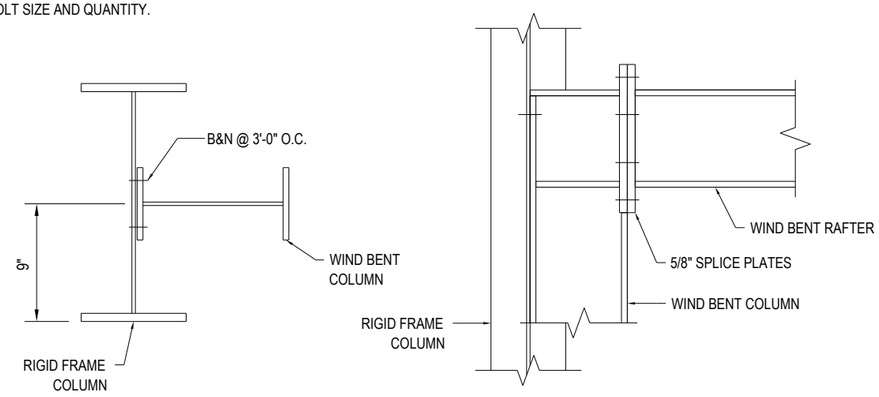


D4A

LATERAL BRACE TO EXPANDABLE ENDWALL RIGID FRAME
(WITH ANGLE BRACE & PIBC8)

DB5

SEE DRAWING FOR BOLT SIZE AND QUANTITY.



WIND BENT COLUMN TO
BUILDING COLUMN

WIND BENT COLUMN TO
WIND BENT RAFTER

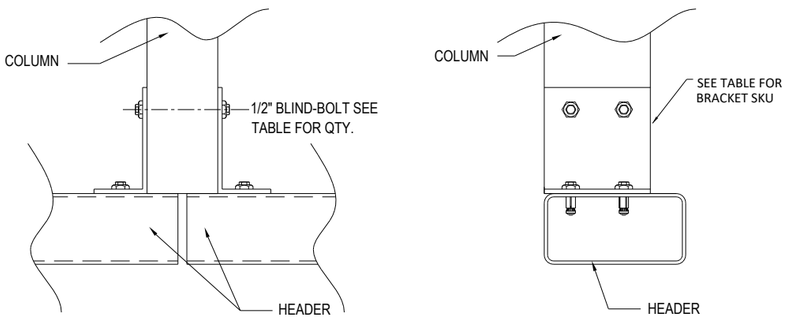
D4B

WIND BENT FRAME CONNECTION

DB36

CONDITION SHOWN AT HEADER SPLICE,
CONDITION AT CONTINUOUS HEADER SIMILAR

COLUMN	BRACKET	BLIND-BOLT (PER BRACKET)	TEK SCREW (PER BRACKET)
EC-1	EWHB3X3X4T25S2	(2X) 1/2" BLIND-BOLT	(4X) #12 X 1 1/2", #5 DRILL POINT
EC-2	EWHB3X3X6T25S1	(4X) 1/2" BLIND-BOLT	(6X) #12 X 1 1/2", #5 DRILL POINT
EC-4	EWHB3X3X10T25S1	(6X) 1/2" BLIND-BOLT	(8X) #12 X 1 1/2", #5 DRILL POINT

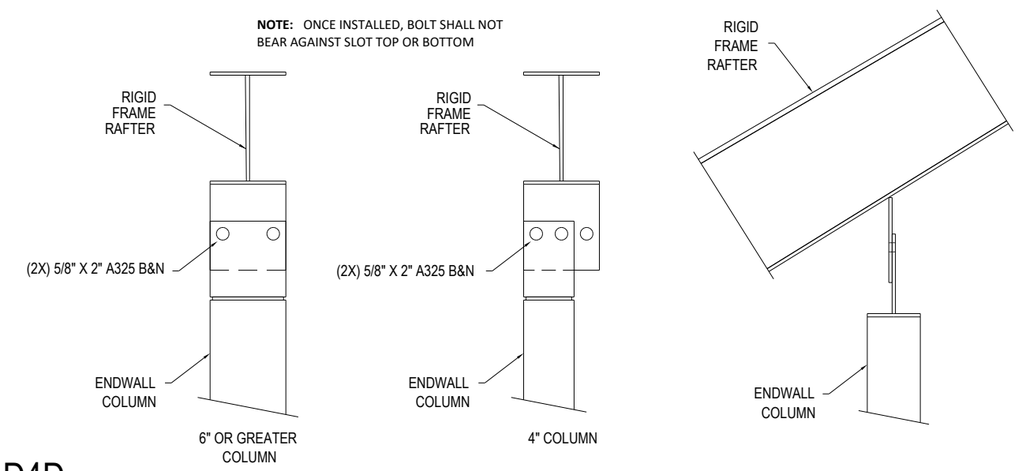


D4C

ENDWALL CONNECTION ABOVE HEADER

DE3

NOTE: ONCE INSTALLED, BOLT SHALL NOT
BEAR AGAINST SLOT TOP OR BOTTOM



D4D

COLUMN TO RIGID FRAME RAFTER

DEVELOPED BY:

ClearSpan

ENGINEERING SERVICES & PRODUCTS CO.
1440 18TH AVENUE SW
DYERSVILLE, IA 52040
P:563.875.6113
WWW.ESAPCO.COM
WWW.CLEARSPAN.COM

ORDER #: 7877479

CUSTOMER #: 9123980

PROFESSIONAL SEAL

CUSTOMER INFORMATION:
LONDON TOURISM AND PARKS
529 S MAIN ST
LONDON, KY 40741-1942

CUSTOMER CONTACT:
CHRIS ROBINSON

CONTACT PHONE:
859-806-0086

STRUCTURE SKU #:
00417

STRUCTURE SIZE:
150'-0" x 300'-8" x 18'-0"

SHEET TITLE:
CONNECTION DETAILS

DRAWING DETAILS

DRAWN BY:	SBN	CREATION DATE:	10/17/2024

REVISIONS:

NO.	BY:	DATE:	DESCRIPTION:
1	TAB	11/05/2024	INCREASED COLLATERAL LOAD

NO SCALE

SHEET SIZE: 11X17

SHEET: D4

PRINTED DATE: 11/08/2024