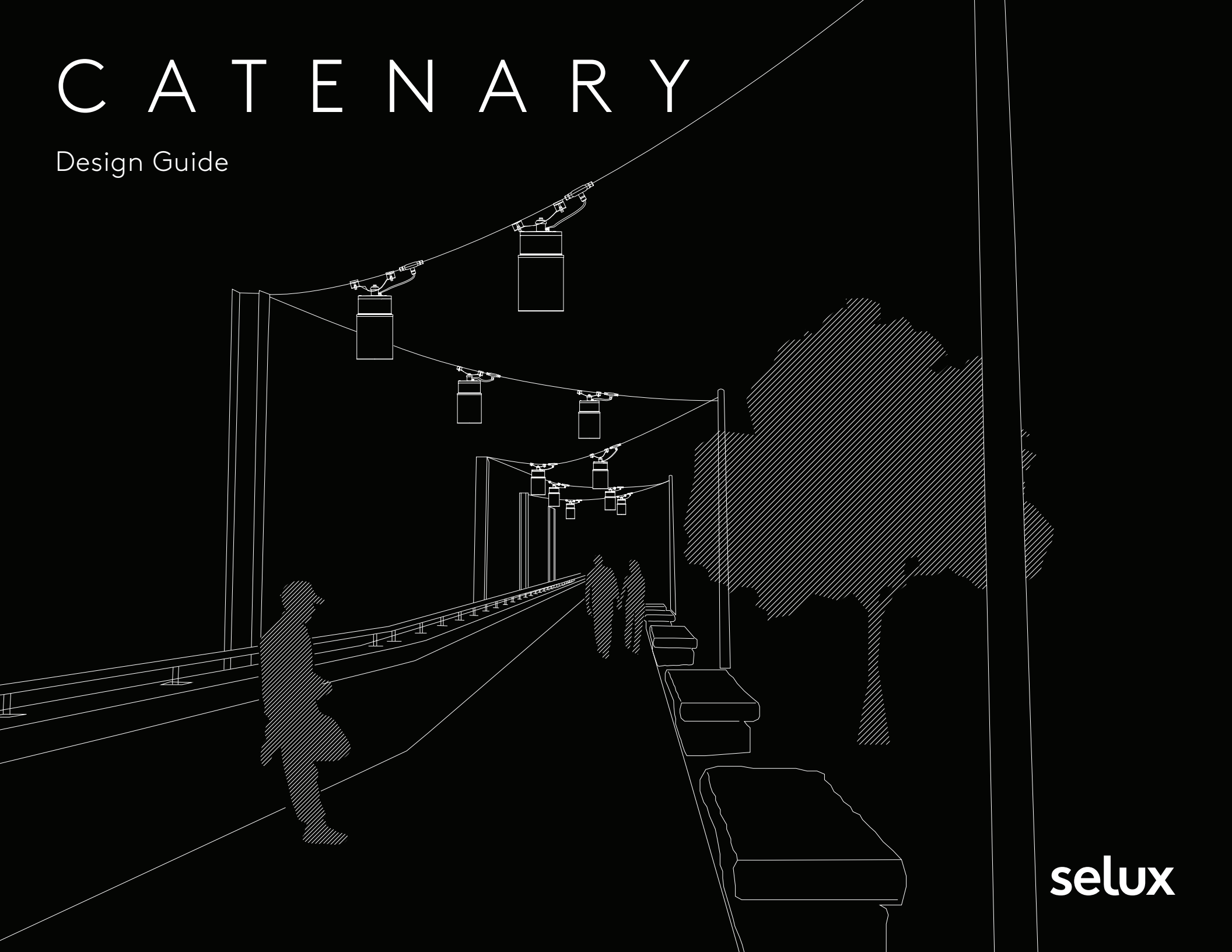


# CATENARY

Design Guide



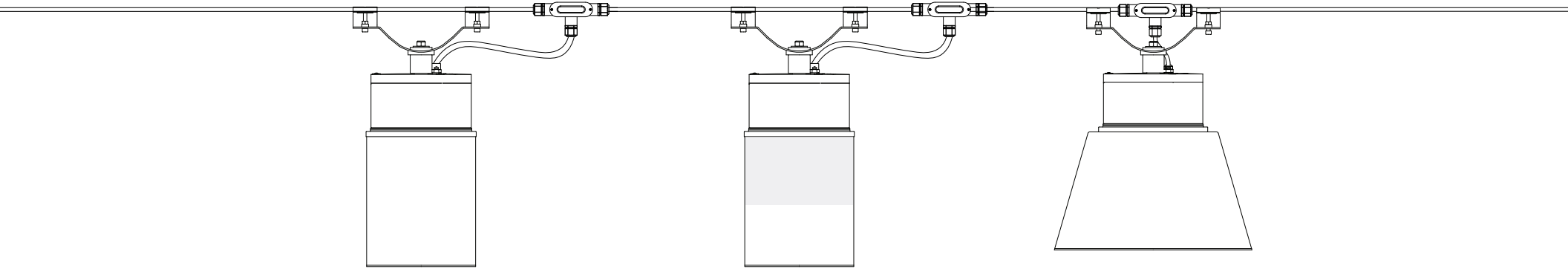
**selux**



Lanova Catenary

Lanova by Selux is an attractive LED luminaire perfect for a designer needing improved visual guidance and purposeful light. Lanova allows you the design freedom to position the light exactly where it is required with a luminous focal point or a dramatic shadow. It creates the perfect ambiance—a modest light during the day transforms to a functional and energizing light by nightfall. Lanova creates excellent visibility and enhanced safety and security in large public areas such as parks, plazas, and campus squares.

Lanova catenary and pendant systems deliver a wide range of looks and optical options. The two optical system options include the Gen5 technical versions (Type I, Type II, Type III, Type IV, Type V Round, and Type V Square) and a diffuse ambiance version.



Clear Long Cylinder

Half Frosted Cylinder

Clear Tapered Cylinder

Product Specifications

Light engine:	GEN5
Output:	1,300lm - 4,500lm nominal
CCT:	3000K, 4000K; 3-Step Binning; 80+ CRI
Distributions:	Type I, Type II, Type III, Type III Wide, Type IV, Type V Round, Type V Square, Type V Rectangular, Diffuse Bowl
Options:	Dimming, Hi-Lo Switching, House Side Shield, Mid-Run Connector, Clear Long Cylinder, ½ Frosted Cylinder, Clear Tapered Cylinder

Refer to luminaire specification sheet or installation instructions for various wiring scenarios.

Discera Catenary

Discera Catenary is a sleek LED fixture perfect for any designer needing improved visual guidance and precise placement of light. Suspending the Discera Catenary on cables allows light to be focused where it is needed, leaving other places in shadow, creating a beautiful and dramatic effect. The recessed optics in the Discera shield the light source for more comfortable viewing. Having the choice of housing size, distribution, and output level allows the luminaire to be applied in a very tailored way.

Discera Catenary can be used to guide pedestrians, providing a sense of safety and security. Selux will work with you to engineer an elegant and unique solution for your project.

Product Specifications

Light engine:	GEN5
Output:	3,300lm - 13,400lm nominal
CCT:	2700K, 3000K, 4000K; 3-Step Binning; 80+ CRI
Distributions:	Type I, Type II, Type III, Type III Wide, Type IV, Type V Round
Options:	Dimming, House Side Shield, Diffuse Flat Glass, Mid-Run Connector

Refer to luminaire specification sheet or installation instructions for various wiring scenarios.

Discera 400

Discera 600

Mid-Run Splice Connector

Provided for catenary applications with multiple luminaires in a run to combine the line cords attached to the luminaires

# What Can Selux Provide?

Selux can offer the complete solution. By submitting a completed Catenary Design Guide Form, Selux will build a catenary package fully engineered with supporting poles, cables, cords, and luminaires. Anchoring catenary systems to buildings or structures not provided by Selux will have to be evaluated by the on-site Professional Engineer (PE).

Catenary suspended luminaires require additional materials for proper installation for the lighting system. These additional materials include structural tension cable for

luminaire suspension and fittings for attachment to the building structure or structural masts/poles and cable ends. Stainless steel is recommended due to its resistance to corrosion, strength, long life, and aesthetic appearance. Reference the luminaire weight and EPA on product specification sheet.



Westgate Oxford, Oxford, Great Britain - Photographer Tom Niven, Amphitype



**Clevis Assembly & Adjustable Turnbuckles**  
Manual adjustment is provided by rotating the adjusting sleeve.



**Stainless Steel Structural Tension Cable**  
Offers the best combination of strength and stiffness for static structures. As spans and loads increase, the cables get larger in diameter (the number of strands increases).



**Poles & Anchor Points**  
Selux can provide mounting points for poles or anchored brackets to buildings or structures. Selux can provide calculations and size the poles appropriately on a project-specific basis. Brackets to structure must be evaluated by on-site PE.

**Professional Engineer Stamped Drawings**  
Selux can provide stamped drawings (if required) for a fee. It is important to identify this at the early stages of the project so the cost can be included in the budget. Stamped drawings may extend the lead time.



\*Selux does not provide structural design and engineering of building attachment or pole foundation, catenary system installation, or building cable attachment details.



# General Questions

often asked



How much cable sag can be expected in a cable span?

As a rule of thumb, plan on a sag of 3% of the cable span for each cable length. For example, if you had a 33’ cable span, the maximum vertical displacement, or sag would be approximately 12”.



What is the typical process when requesting a budget estimate?

Once Selux has obtained all of the project information needed, it will typically take one to two weeks (dependent on design complexity) for preliminary budgets.



Is geographic location important in catenary design?

Geographic location is critical when designing your project. Wind loads and other loads factor into the cabling and pole requirements.



Ithaca Commons, Ithaca, New York





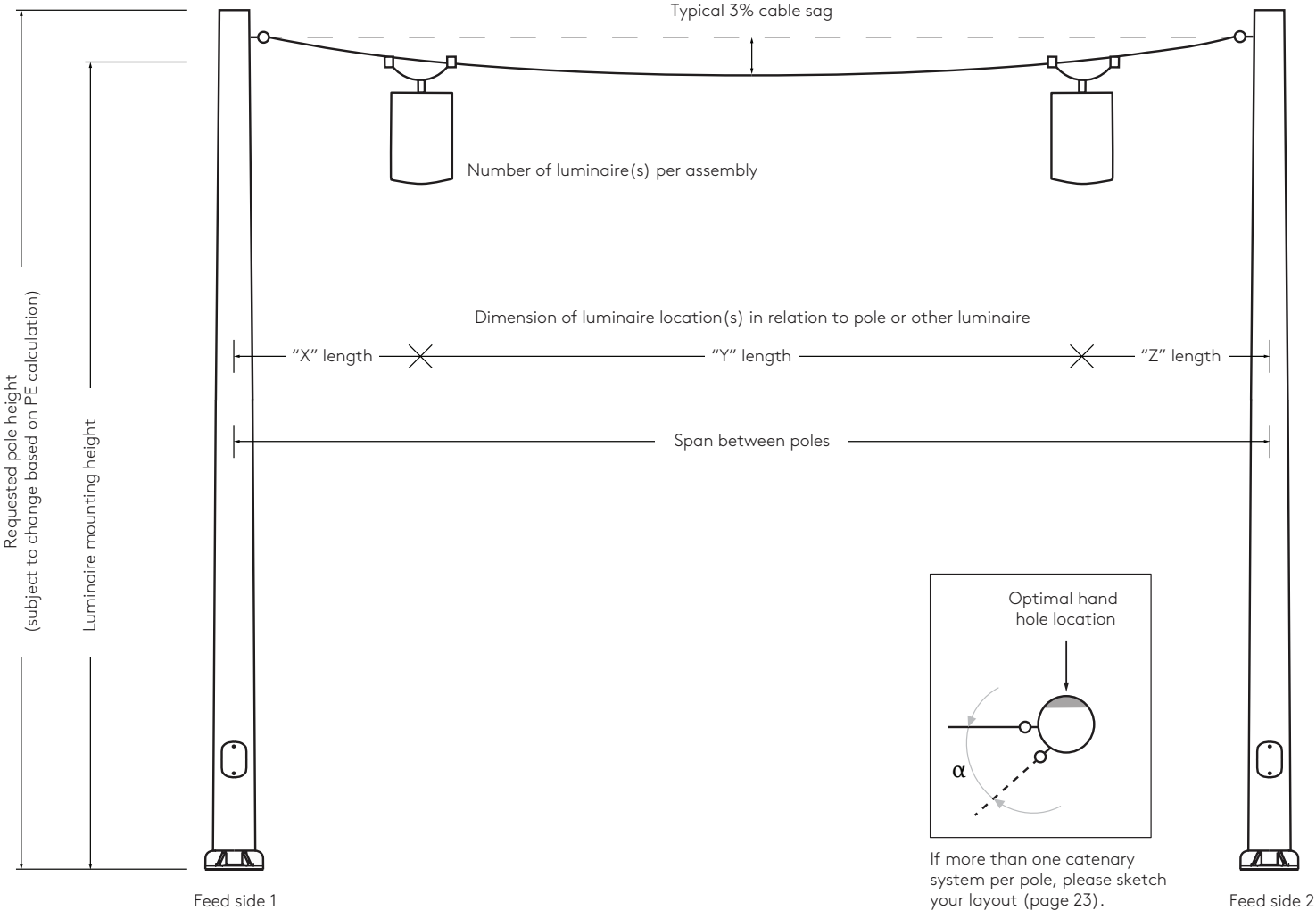


Riverfront Park, Troy, New York - HyExposure Photography



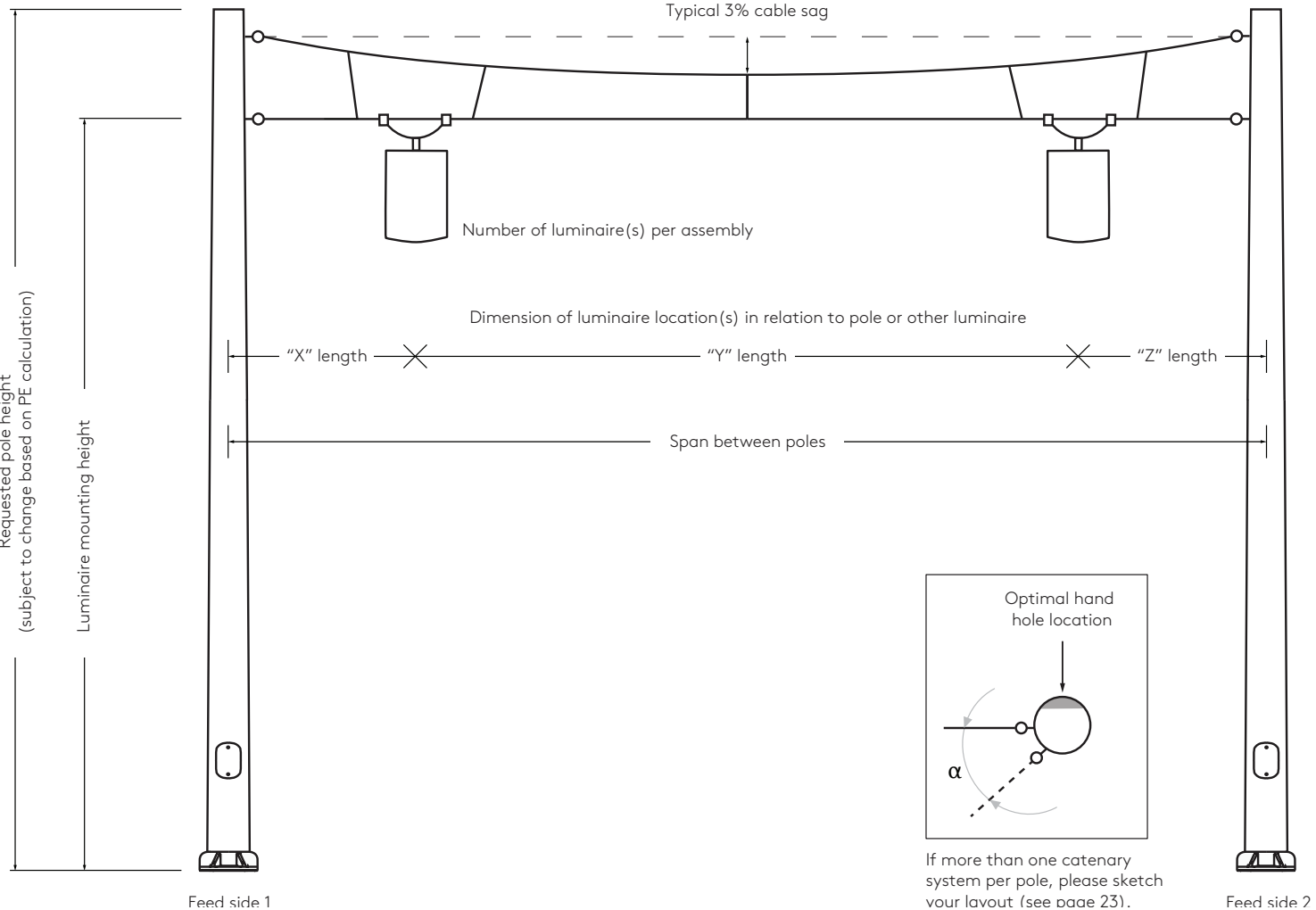
# Single Wire Catenary Suspension

## Pole to Pole (Type A)



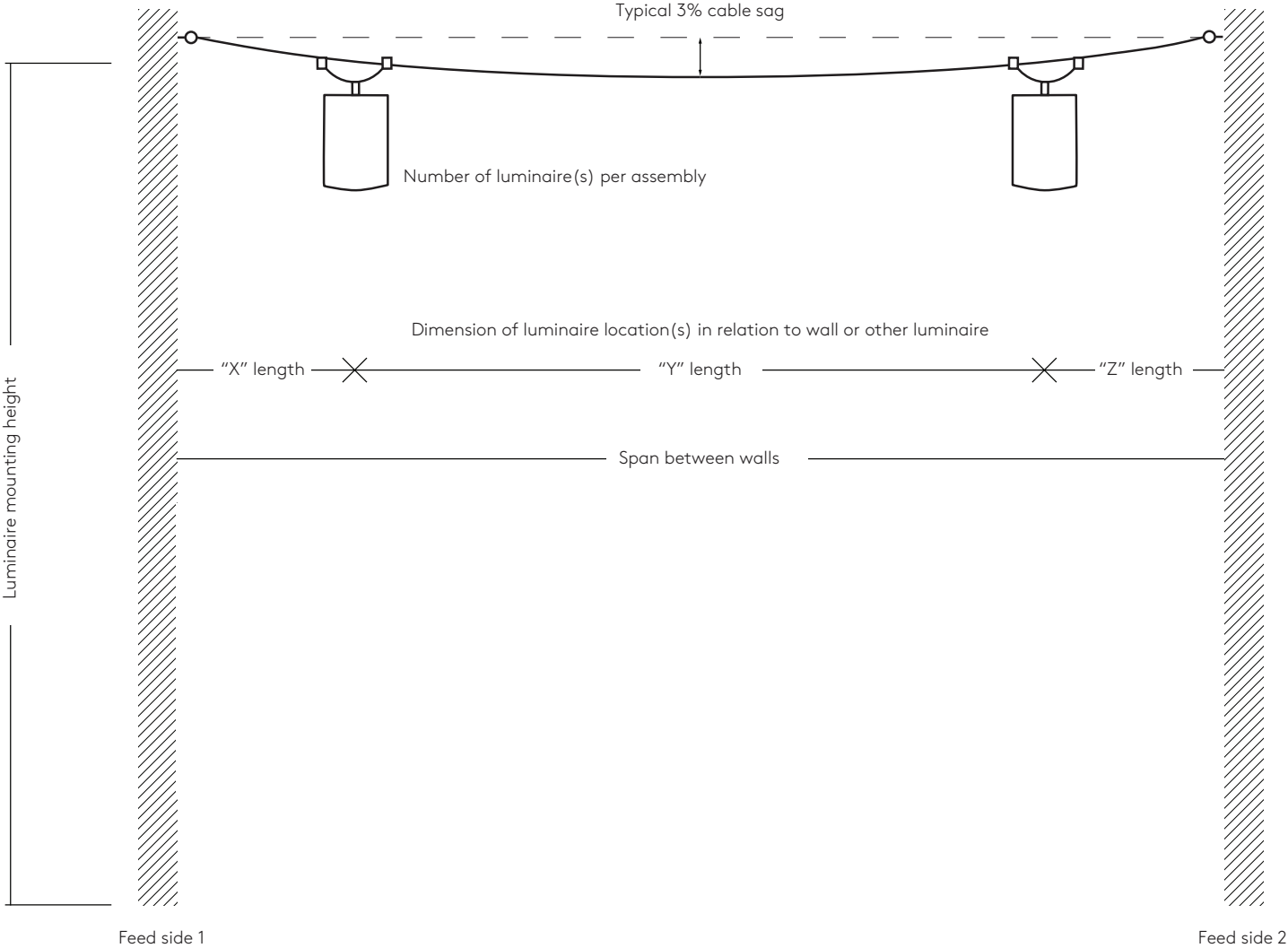
# Double Wire Catenary Suspension

## Pole to Pole (Type B)



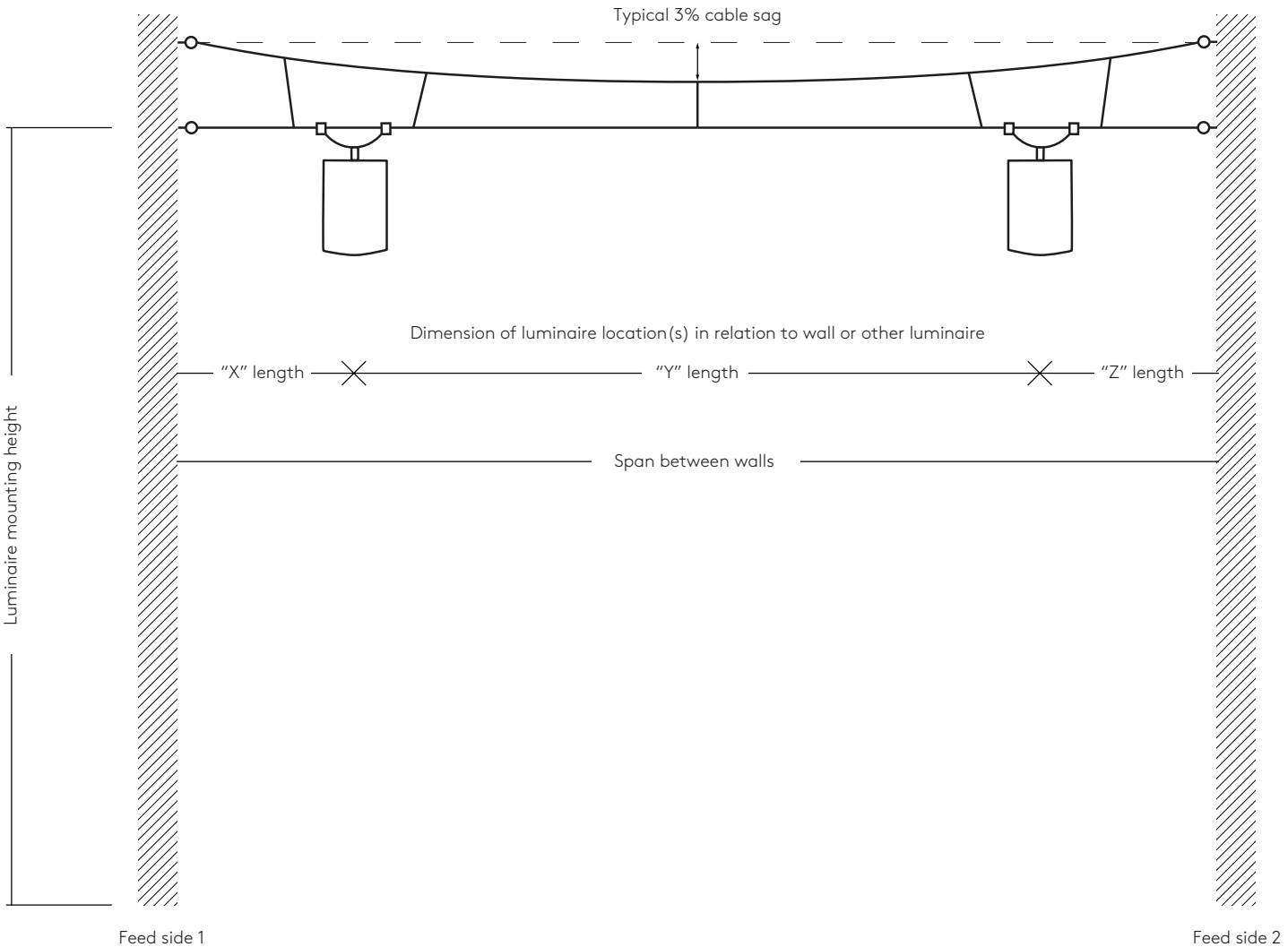
# Single Wire Catenary Suspension

## Wall to Wall (Type C)



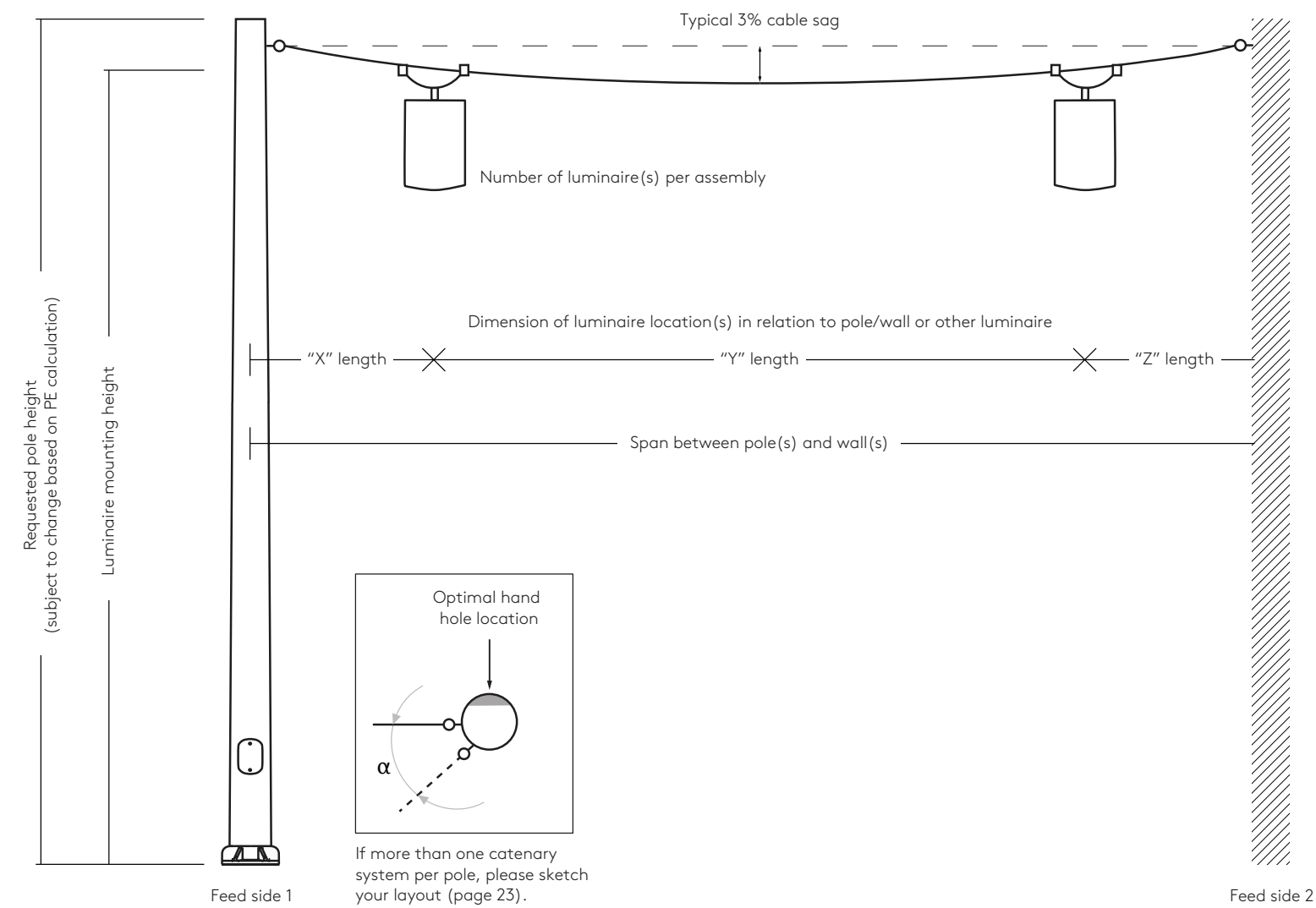
# Double Wire Catenary Suspension

## Wall to Wall (Type D)



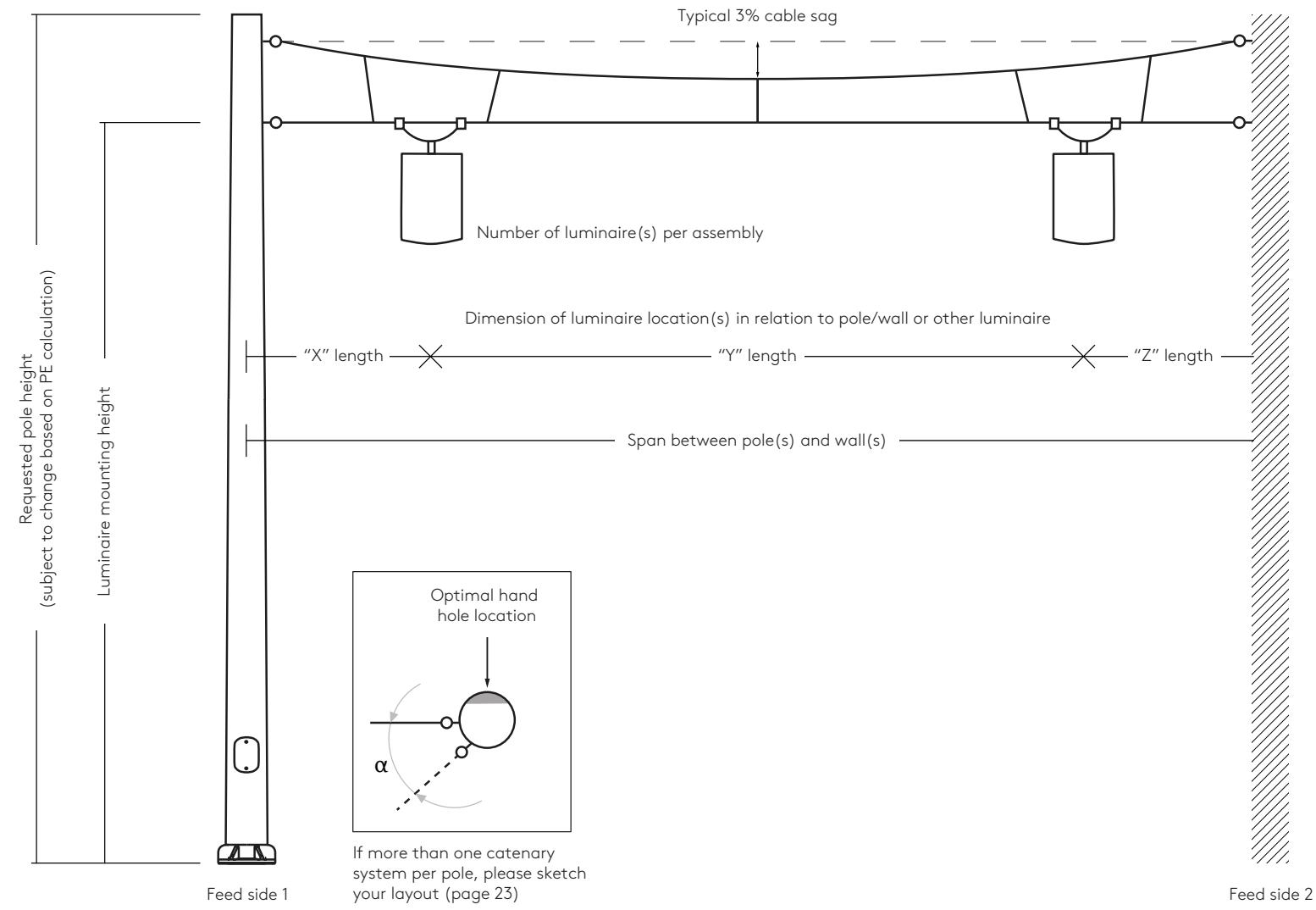
# Single Wire Catenary Suspension

## Pole to Wall (Type E)



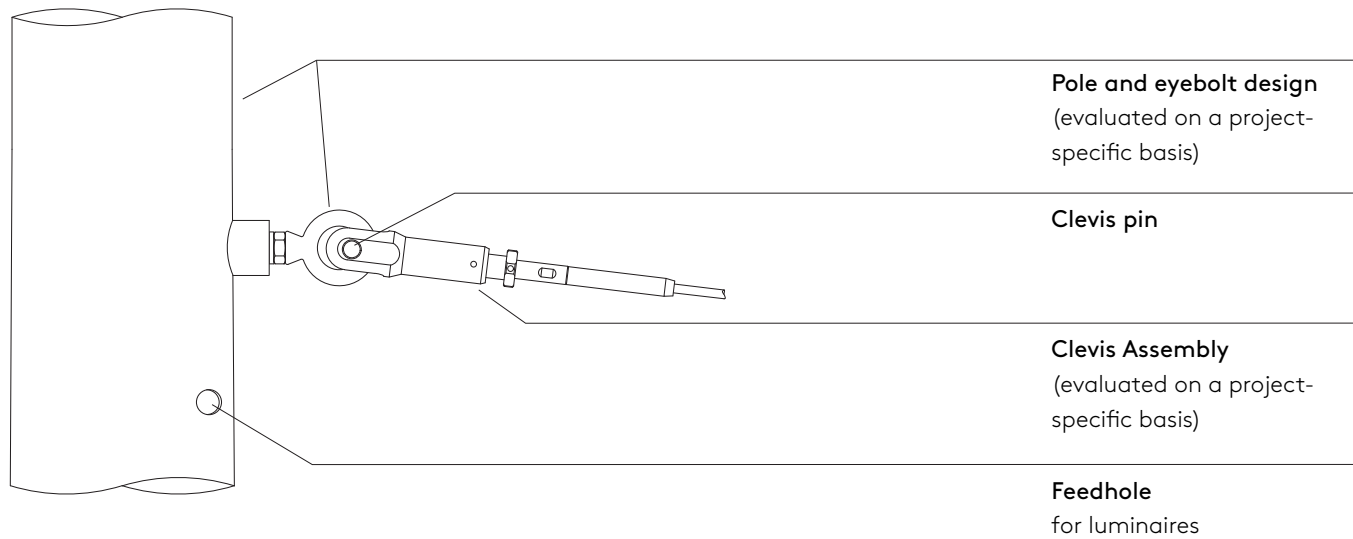
# Double Wire Catenary Suspension

## Pole to Wall (Type F)

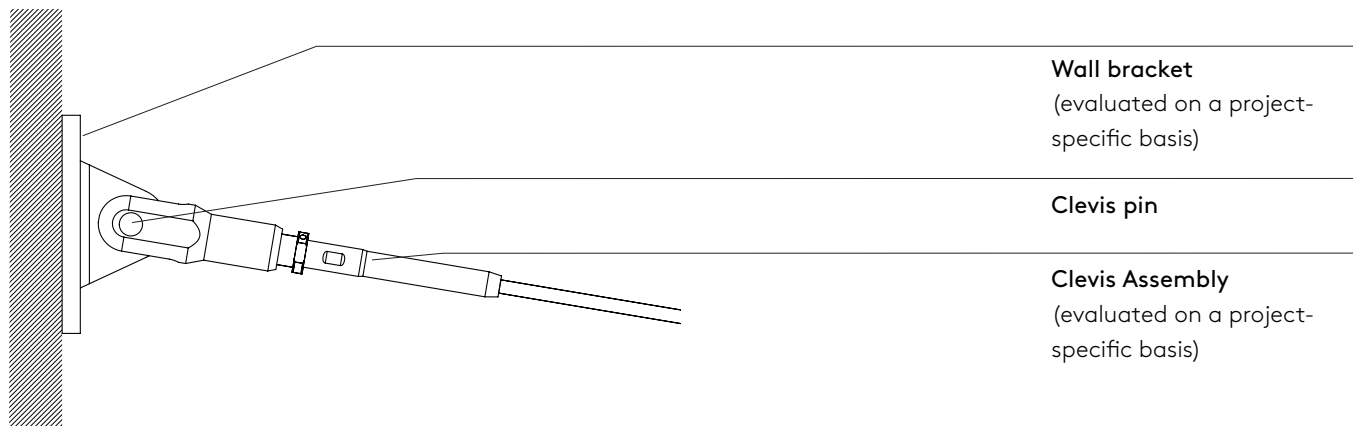




Example Pole Anchor Detail



Example Wall Anchor Detail



# Selux will size and provide pole or wall anchor details

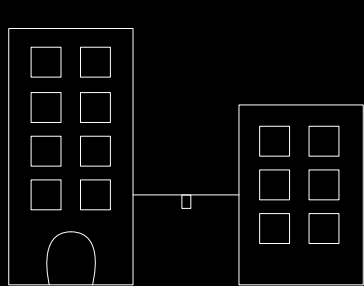
On a project-specific basis, Selux will size and provide pole or wall anchor details. These details are completely dependent on the catenary system and its application. To the left are generic anchor details from previous projects.



T-Mobile Call Center Facility - Kris Decker/Firewater Photography

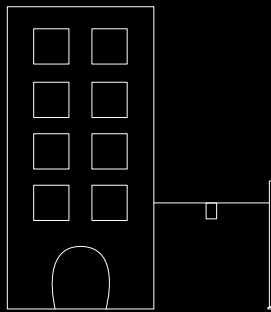


**At time of order for the catenary system,**  
Selux will need the following in order to  
process the solution



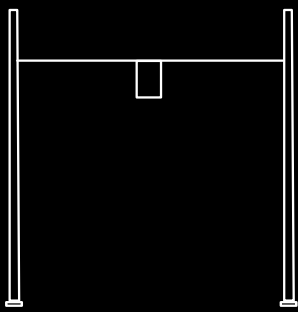
### Building-to-Building Applications

- 1 Completed Catenary Design Guide request form
- 2 Confirmed site and catenary span dimensions
- 3 Expected wind speed for the project location
- 4 Relative building movements from site professional engineer – will the walls move independently from each other (how much movement) or will the building be considered as one unit?
- 5 Site Plan (CAD Required)



### Building-to-Pole Applications

- 1 Completed Catenary Design Guide request form
- 2 Confirmed site and catenary span dimensions
- 3 Expected wind speed for the project location
- 4 Relative building movements from site professional engineer – will the walls move independently from each other (how much movement) or will the building be considered as one unit?
- 5 Site Plan (CAD Required)



### Pole-to-Pole Applications

- 1 Completed Catenary Design Guide request form
- 2 Confirmed site and catenary span dimensions
- 3 Expected wind speed for the project location
- 4 Site Plan (CAD Required)



Lobo Rainforest, Albuquerque, NM - Photographer: Dekker/Perich/Sabatini



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