**MORPHOLOGY**

**STRUCTURE REFERENCES**

See this link for to sizing Mass Timber, and a Timber Bay Design Tool that allows you to size the elements of a full structural bay.

<https://www.fastepp.com/concept-lab/timber-bay-design-tool/>

Online Free Book with Online calculators - Structural Elements for Architects and Builders, Third Edition, <https://jonochshorn.com/structuralelements/index.html>

This book can calculate Timber, steel, and wood beams and columns.

IBC 2015 Chapter 16  Structural Loads. free online; <https://codes.iccsafe.org/content/IBC2015/chapter-16-structural-design>

See also The  Studio Companion 5th. Ed. Pages 32-148  Edition.

Free version online at  <https://archive.org/details/The_Architects_Studio_Companion_Rules_of_Thumb_for_Preliminary_Design_5th_Editio>

 An excellent overview of the Basic and complex systems.

Building Construction Illustrated by Frank Ching, <https://archive.org/details/FrancisD.K.ChingBuildingConstructionIllustratedWiley2014_201606/page/n83/mode/2up>

Building Structures  Illustrated by Frank Ching, read online for free at <https://pdfmedia.net/book/LByNAwAAQBAJ/building-structures-illustrated/francis-d-k-ching/john-wiley-sons/352/2014-03-04/9781118848302/uncategoriezed>

Mass timber systems. and overview of 10 primary system types; <https://www.canadianarchitect.com/mass-timber-primer/>

Research study of systems and  link 1. (<https://courses.cit.cornell.edu/arch262/fireCode.html>)  for code conformance

in an initial schematic structural framing plan(s) -foundation plan and typical floor framing plan and roof framing plan.