

TABLE OF CONTENTS

Topic	Slide Number(s)
Design Standards	3 – 4
Western Species	5
Definitions- lumber	6 – 7
Lumber Types	8
In-Grade vs. Clear Wood Testing	9 – 11
Structural Lumber Categories	12 – 13
Nominal Sizes of Dimension Lumber	14 – 17
Grading of Lumber	18 – 22
Nomenclature	23 – 25
Reference Design Values – Sawn Lumber	26 – 33
Wood Design Notation	34
E and E_{min} Values	35 – 38
Adjustment Factors for Sawn Lumber	39 – 71
Volume Factor for Glu-Lam Beams	72 – 75
Glu-Lam Orientations	76
Adjustment Factors for Glu-Lam Timbers	77 – 78
Reference Design Values – Glu-Lam Timbers	80 – 82
Adjustment Factors for Glu-Lam Timbers	83 – 85
Prismatic Beam Design	86 – 102
Beam Design	103 – 121
Example Problem – Beam Stability	122 – 140
Curvature Factor	141 – 144
Example Problem – Pedestrian Bridge	145 – 167
Glu-Lam Beam Camber	168
Axial Force (Column) Design	169
Example Problem – Axial Tension Design	170 – 174
Simple Solid Column Design	175 – 181
Beam Stability Factor C_L	182 – 185
Buckling Length Coefficients K_e	186
Applicability of Adjustment Factors-Sawn Lumber	187
Column Length and Slenderness Ratio	188 – 189
Example Problem – Rectangular Column Design	190 – 196
Bending + Axial Tension Design	197 – 201

Bending + Axial Compression Design	202 – 208
Example Problem – Column Design + Lateral Load	209 – 222
Collector Design	223 – 226
Notched Beam Design	227 – 235
Example Problem – Notched Beam	236 – 260
Example Problem – Built-up Beam	261 – 268
Example Problem – Wood Beam w/ Steel Plate	269 – 287
Example Problem – Beam Strengthening	288 – 298
Mechanical Connections	299 – 309
Example Problem – Bolted Connection	310 – 313
Example Problem – Bolted Ledger Connection	314 – 330
Example Problem – Nailed Ledger Connection	331 – 346
Example Problem – Shear Transfer	347 – 354
Example Problem – Shear Wall Sill Plate Bolting	355 – 363