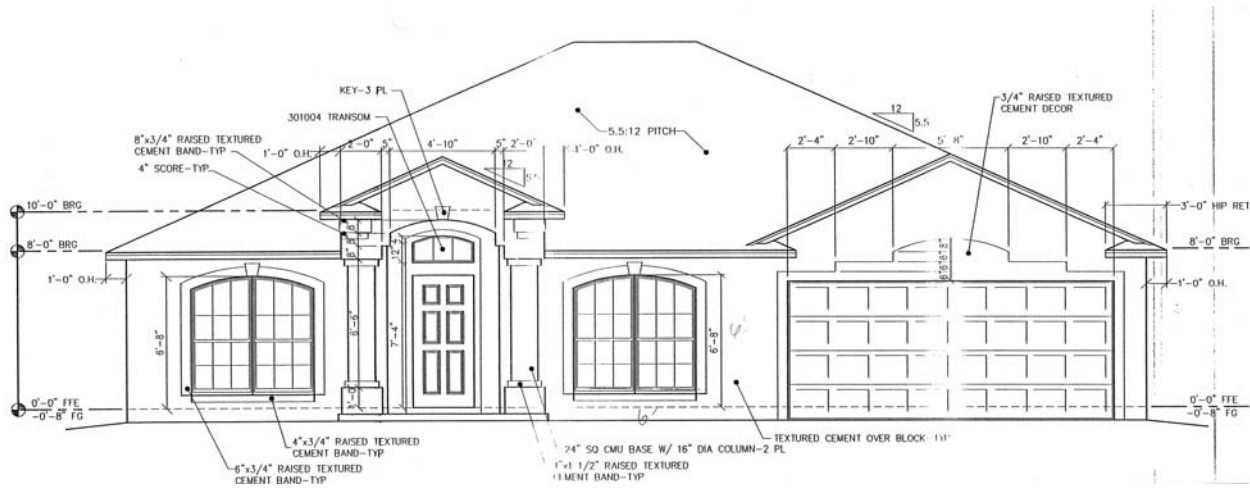


APPENDIX D: HOUSE D - MERCEDES WOOD FRAME HOME



Home built under SBC is in Jacksonville, Florida

Selling Price (with lot) \$115,000

Building Value: \$89,000

Contact person: Mel Temmel
 Vice-President of Construction
 Mercedes Homes, Inc.
 10475 Fortune Parkway
 Jacksonville, FL
 904-538-0102 X234

D.1 Construction Features and Documentation

The wood frame house used in Phase II of the project is currently built by Mercedes Homes, Inc. in Jacksonville, Florida. It is the Michele Cove, 3-bedroom model single-family home with 2,230 total square foot. The home is built in several market areas and this model is the same floor plan and size as the Mercedes Masonry home covered in Appendix A. The major difference is that the costs for this model were calculated using exterior walls of wood vs. masonry. With the exception of wood “shutters”, all other construction costs are the same as for the masonry home. Loss costs were calculated on this specific model and these numbers are different than the masonry house.

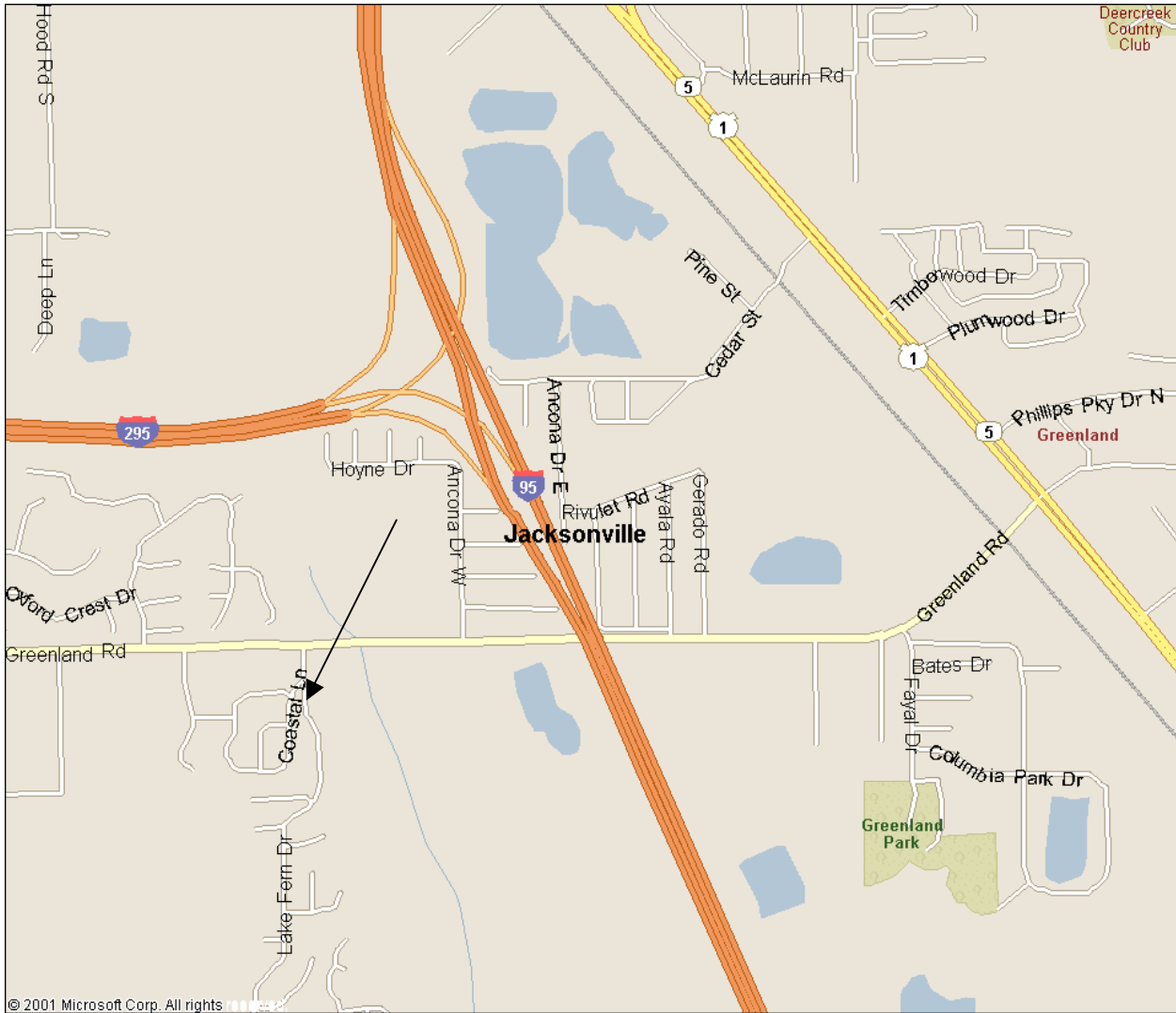


Figure D-1. Location of Mercedes Home in Duval County

D.2 Wind Load Design

For Part II of the project 29 different design scenarios were considered as shown in Table D-1. Once design work was completed and design pressures for openings were determined pricing for trusses, tie-down connections, doors, sliding glass doors, garage doors and windows were determined. Each change identified in Table 1-1 was examined for cost change and reported in Section D-3 of this appendix.

Table D-1: Design Options Considered for FBC 2001

| Design No. | Wind Speed | Exposure | Enclosed/ | | WBDR Protection |
|------------|------------|----------|--------------------|--|------------------|
| | | | Partially Enclosed | | |
| D-1 | 100 | B | E | | Non WBDR |
| D-2 | 110 | B | E | | Non WBDR |
| D-3 | 120 | B | E | | Impact units |
| D-4 | 120 | B | E | | Impact coverings |
| D-5 | 120 | B | E | | Non WBDR |
| D-6 | 120 | B | P | | Not Required |
| D-7 | 120 | C | E | | Impact units |
| D-8 | 120 | C | E | | Impact coverings |
| D-9 | 120 | C | P | | Not Required |
| D-10 | 130 | B | E | | Impact units |
| D-11 | 130 | B | E | | Impact coverings |
| D-12 | 130 | B | E | | Non WBDR |
| D-13 | 130 | B | P | | Not Required |
| D-14 | 130 | C | E | | Impact units |
| D-15 | 130 | C | E | | Impact coverings |
| D-16 | 130 | C | P | | Not Required |
| D-17 | 140 | B | E | | Impact units |
| D-18 | 140 | B | E | | Impact coverings |
| D-19 | 140 | B | E | | Non WBDR |
| D-20 | 140 | B | P | | Not Required |
| D-21 | 140 | C | E | | Impact units |
| D-22 | 140 | C | E | | Impact coverings |
| D-23 | 140 | C | P | | Not Required |
| D-24 | 150 | B | E | | Impact units |
| D-25 | 150 | B | E | | Impact coverings |
| D-26 | 150 | B | P | | Not Required |
| D-27 | 150 | C | E | | Impact units |
| D-28 | 150 | C | E | | Impact coverings |
| D-29 | 150 | C | P | | Not Required |

D.3 Cost Determination

Costs were determined from suppliers, sub-contractors and via contractor's estimates. In this section, cost estimates for each design case are presented. Included also are costing detail for the following items:

- Truss Design
- Connectors for trusses/top plate/wall/bottom plate-foundation

- Windows, Doors and Garage Doors
- Impact Resistant Protection (if required)

D.3.1 Summary of Cost by Design Case

The following tables summarize the cost increases associated with the FBC. Table D-2 shows the total cost increase for each design case considered in this project. Table D-3 presents a summary of the costs across all design cases.

The results in Table D-2 should not be averaged into a single number because they represent costs for only one house and may not reflect market conditions once many homes are built to the FBC. Also, the study found that supplier quotes for some products and services were highly variable; clearly the understanding of the FBC requirements varies significantly at this point. Hence, while the results in Table D-2 are the best estimates that can be made at this time for a few houses, they should be viewed simply as “ball park” estimates of the cost impact of the code. As a wide range of styles and sizes of houses are built to the FBC, there will certainly be examples of cost impacts that are lower as well as higher than those shown in Table D-2.

Table D-2: Summary of Cost Increases by Design Case

| Design Number | Wind speed | Exposure | Enclosed/ Parially Enclosed | WBDR Protection | Wind Resistance | Other | Total | Cost per Sq. Ft. | % of Selling Price |
|---------------|------------|----------|-----------------------------|-----------------|-----------------|----------|------------|------------------|--------------------|
| D-1 | 100 | B | E | Non WBDR | \$109.00 | \$425.00 | \$534.00 | \$0.24 | 0.60% |
| D-2 | 110 | B | E | Non WBDR | \$887.00 | \$425.00 | \$1,312.00 | \$0.60 | 1.47% |
| D-3 | 120 | B | E | Impact | \$6,717.00 | \$425.00 | \$7,142.00 | \$3.25 | 8.02% |
| D-4 | 120 | B | E | Shutters | \$1,860.00 | \$425.00 | \$2,285.00 | \$1.04 | 2.57% |
| D-5 | 120 | B | E | Non WBDR | \$1,144.00 | \$425.00 | \$1,569.00 | \$0.71 | 1.76% |
| D-6 | 120 | B | P | None | \$1,502.00 | \$425.00 | \$1,927.00 | \$0.88 | 2.17% |
| D-7 | 120 | C | E | Impact | \$6,740.00 | \$425.00 | \$7,165.00 | \$3.26 | 8.05% |
| D-8 | 120 | C | E | Shutters | \$2,212.00 | \$425.00 | \$2,637.00 | \$1.20 | 2.96% |
| D-9 | 120 | C | P | None | \$1,709.00 | \$425.00 | \$2,134.00 | \$0.97 | 2.40% |
| D-10 | 130 | B | E | Impact | \$6,571.00 | \$425.00 | \$6,996.00 | \$3.18 | 7.86% |
| D-11 | 130 | B | E | Shutters | \$1,972.00 | \$425.00 | \$2,397.00 | \$1.09 | 2.69% |
| D-12 | 130 | B | E | Non WBDR | \$1,256.00 | \$425.00 | \$1,681.00 | \$0.76 | 1.89% |
| D-13 | 130 | B | P | None | \$1,810.00 | \$425.00 | \$2,235.00 | \$1.02 | 2.51% |
| D-14 | 130 | C | E | Impact | \$7,597.00 | \$425.00 | \$8,022.00 | \$3.65 | 9.01% |
| D-15 | 130 | C | E | Shutters | \$3,077.00 | \$425.00 | \$3,502.00 | \$1.59 | 3.93% |
| D-16 | 130 | C | P | None | \$3,180.00 | \$425.00 | \$3,605.00 | \$1.64 | 4.05% |
| D-17 | 140 | B | E | Impact | \$7,125.00 | \$425.00 | \$7,550.00 | \$3.43 | 8.48% |
| D-18 | 140 | B | E | Shutters | \$2,540.00 | \$425.00 | \$2,965.00 | \$1.35 | 3.33% |
| D-19 | 140 | B | E | Non WBDR | \$1,823.00 | \$425.00 | \$2,248.00 | \$1.02 | 2.53% |
| D-20 | 140 | B | P | None | \$2,763.00 | \$425.00 | \$3,188.00 | \$1.45 | 3.58% |
| D-21 | 140 | C | E | Impact | \$8,479.00 | \$425.00 | \$8,904.00 | \$4.05 | 10.00% |
| D-22 | 140 | C | E | Shutters | \$3,746.00 | \$425.00 | \$4,171.00 | \$1.90 | 4.69% |
| D-23 | 140 | C | P | None | \$3,991.00 | \$425.00 | \$4,416.00 | \$2.01 | 4.96% |
| D-24 | 150 | B | E | Impact | \$7,613.00 | \$425.00 | \$8,038.00 | \$3.65 | 9.03% |
| D-25 | 150 | B | E | Shutters | \$3,084.00 | \$425.00 | \$3,509.00 | \$1.60 | 3.94% |
| D-26 | 150 | B | P | None | \$3,180.00 | \$425.00 | \$3,605.00 | \$1.64 | 4.05% |
| D-27 | 150 | C | E | Impact | \$8,596.00 | \$425.00 | \$9,021.00 | \$4.10 | 10.14% |
| D-28 | 150 | C | E | Shutters | \$3,970.00 | \$425.00 | \$4,395.00 | \$2.00 | 4.94% |
| D-29 | 150 | C | P | None | \$5,849.00 | \$425.00 | \$6,274.00 | \$2.85 | 7.05% |

Table D-3 shows that the cost increases vary significantly depending on the location (wind speed), design options chosen, and the wind borne debris protection methods used (if required). The wind loading features (Category 2 from Table 1-1) are the significant part of the cost increases. The cost increases for the other eight categories are lumped into a single number in Table D-2 and Table D-3 and do vary by house design but do not vary by location or Wind-Borne Debris Region (WBDR) design option.

Summarizing the data in Table D-3, we see:

- For buildings not in the WBDR, the increased cost of construction varies from \$0.24 per square foot to \$1.02 per square foot, or 0.6% to 2.50% of selling price.
- For buildings designed as partially enclosed (for internal pressures) the increased cost of construction range from \$0.88 per square foot to \$1.64 per square foot, or 2.20 to 4.10% of selling price.
- If impact resistant glazed opening protection were used, the increased cost of construction would vary from \$1.04 per square foot to \$2.00 per square foot, or 2.60% to 5.00% of selling price.
- If impact resistant glazing were used, the increased cost of construction would vary from \$3.25 per square foot to \$4.10 per square foot, or 8.00% to 10.10% of selling price.

Table D-3: Summary of Cost Increases by Design Case for Mercedes Wood Frame Home

| Non-Wind Borne Debris Region | Enclosed Design Without Impact Protection | | |
|--------------------------------|--|-------|-------|
| | | Low | High |
| | Wind Resistance Features (\$) | 109 | 1,823 |
| | Other Code Required Items (\$) | 425 | 425 |
| | Range of Total Costs (\$) | 534 | 2,248 |
| | Cost per Square Foot (\$) | 0.24 | 1.02 |
| | Percent of Selling Price (%) | 0.6 | 2.5 |
| Wind-Borne Debris Region | Partially-Enclosed Design | | |
| | | Low | High |
| | Wind Resistance Features (\$) | 1,502 | 3,180 |
| | Other Code Required Items (\$) | 425 | 425 |
| | Range of Total Costs (\$) | 1,927 | 3,605 |
| | Cost per Square Foot (\$) | 0.88 | 1.64 |
| | Percent of Selling Price (%) | 2.2 | 4.1 |
| | Enclosed Design Using Impact Resistant Coverings | | |
| | | Low | High |
| | Wind Resistance Features (\$) | 1,860 | 3,970 |
| | Other Code Required Items (\$) | 425 | 425 |
| | Range of Total Costs (\$) | 2,285 | 4,395 |
| | Cost per Square Foot (\$) | 1.04 | 2.00 |
| | Percent of Selling Price (%) | 2.6 | 5.0 |
| | Enclosed Design Using Impact Resistant Glazing | | |
| Wind Resistance Features (\$) | 6,717 | 8,596 | |
| Other Code Required Items (\$) | 425 | 425 | |
| Range of Total Costs (\$) | 7,142 | 9,021 | |
| Cost per Square Foot (\$) | 3.25 | 4.10 | |
| Percent of Selling Price (%) | 8.0 | 10.1 | |

D.3.2 Cost Breakdown for All Design Cases

The following tables present summarized and individual costs for each of the 29 design cases identified in Table D-1. Generally, costs for structural components for cases D-1 through D-9 are the same. This is because input from truss suppliers indicated that trusses designed for less than 130 MPH would be very similar to designs using SBC wind loads. We, therefore, asked the truss suppliers involved with Part II of the project to provide information for design case D-10 through D-29.

The non-wind design related costs (Categories 1 and 3-10 in Table 1-1) are constant for the entire range of design cases because these changes are house specific. Factors such as size in square feet, number of rooms, termite treatment system used, and swimming pool all effect costs but are not wind load design dependent.

It should be clearly understood that wind design options will control the largest percentage of the increased cost of construction under the 2001 Florida Building Code. Builders, designers and owners have many choices for products, systems and designs available for them to use. (Size and shape of the house, height, wind borne debris protection options, etc.) A look at Table D-2 shows that costs vary significantly for the house shown.

Larger homes may experience an even greater percentage of cost increase due to additional design changes that could be required due to building and site conditions. For example, truss spans greater than approximately 45 feet may require significant re-design to meet wind loads developed at high wind speeds. Additionally, large windows and doors may not be available to meet required wind loads for Exposure C conditions and where wind speeds are 140 mph or higher.

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-1 | |
| | Wind speed | 100 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 885.00 | \$ - |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,147.00 | \$ (63.00) |
| | Installation | | | \$ - |
| | Sliding Glass Doors | \$ 190.00 | \$ 362.00 | \$ 172.00 |
| | Entrance Doors | \$ 89.00 | \$ 89.00 | \$ - |
| | Garage Door | \$ 435.00 | \$ 435.00 | \$ - |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None |
| | | | | \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 109.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 534.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-2 | |
| | Wind speed | 110 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,147.00 | \$ (63.00) |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 362.00 | \$ 172.00 |
| | Entrance Doors | \$ 89.00 | \$ 89.00 | \$ - |
| | Garage Door | \$ 435.00 | \$ 435.00 | \$ - |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 887.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 1,312.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-3 | |
| | Wind speed | 120 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Impact | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 5,542.00 | \$ 4,332.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 615.00 | \$ 180.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 6,717.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 7,142.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-4 | |
| | Wind speed | 120 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,179.00 | \$ (31.00) |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 362.00 | \$ 172.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 615.00 | \$ 180.00 |
| | Impact rated "Shutters" | | \$ 716.00 | \$ 716.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 1,860.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 2,285.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-5 | |
| | Wind speed | 120 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,179.00 | \$ (31.00) |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 362.00 | \$ 172.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 615.00 | \$ 180.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 1,144.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 1,569.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-6 | |
| | Wind speed | 120 | |
| | Exposure | B | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,441.00 | \$ 231.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 379.00 | \$ 189.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 694.00 | \$ 259.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 1,502.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 1,927.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-7 | |
| | Wind speed | 120 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Impact | | |

| Category | Item | Base Price | As designed | Difference |
|--|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 5,486.00 | \$ 4,276.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 694.00 | \$ 259.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| Wind Related + Screen Enclosure | | | | \$ 6,740.00 |
| Other | | | | \$ 425.00 |
| Total | | | | \$ 7,165.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-8 | |
| | Wind speed | 120 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,434.00 | \$ 224.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 694.00 | \$ 259.00 |
| | Impact rated "Shutters" | | \$ 716.00 | \$ 716.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 2,212.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 2,637.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-9 | |
| | Wind speed | 120 | |
| | Exposure | C | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|--|--|---|--------------------|--------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,492.00 | \$ - |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,441.00 | \$ 231.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 900.00 | \$ 465.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| Wind Related + Screen Enclosure | | | | \$ 1,709.00 |
| Other | | | | \$ 425.00 |
| Total | | | | \$ 2,134.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | | |
|-------------------------------------|----------------------|-------------|--|--|
| Builder | Mercedes | | | |
| House Type | Frame | | | |
| Wind Design | Design Number | D-10 | | |
| | Wind speed | 130 | | |
| | Exposure | B | | |
| | Enclosure | E | | |
| Wind-Borne Debris Protection | Impact | | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,527.00 | \$ 35.00 |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 5,542.00 | \$ 4,332.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 694.00 | \$ (1.00) |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 6,571.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 6,996.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | | |
|--------------------|-------------------------------------|-----------------|--|--|
| Builder | Mercedes | | | |
| House Type | Frame | | | |
| Wind Design | Design Number | D-11 | | |
| | Wind speed | 130 | | |
| | Exposure | B | | |
| | Enclosure | E | | |
| | Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,527.00 | \$ 35.00 |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,419.00 | \$ 209.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 694.00 | \$ (1.00) |
| | Impact rated "Shutters" | | \$ 716.00 | \$ 716.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 1,972.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 2,397.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-12 | |
| | Wind speed | 130 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,527.00 | \$ 35.00 |
| | Roof Tie-down | \$ 635.00 | \$ 635.00 | \$ - |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,419.00 | \$ 209.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 694.00 | \$ (1.00) |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 1,256.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 1,681.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-13 | |
| | Wind speed | 130 | |
| | Exposure | B | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,655.00 | \$ 163.00 |
| | Roof Tie-down | \$ 635.00 | \$ 834.00 | \$ 199.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,440.00 | \$ 230.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 900.00 | \$ 205.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 1,810.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 2,235.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-14 | |
| | Wind speed | 130 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Impact | | |

| Category | Item | Base Price | As designed | Difference | |
|-----------------|--|---|--------------------|--|-------------|
| 2 | Wind Load Related | | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 | |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,881.00 | \$ 389.00 | |
| | Roof Tie-down | \$ 635.00 | \$ 1,158.00 | \$ 523.00 | |
| | Walls | | | \$ - | |
| | Windows | \$ 1,210.00 | \$ 5,485.00 | \$ 4,275.00 | |
| | Installation | | \$ 350.00 | \$ 350.00 | |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 | |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 | |
| | Garage Door | \$ 695.00 | \$ 900.00 | \$ 205.00 | |
| | Impact rated "Shutters" | | | \$ - | |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 | |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 | |
| 6 | Screen Enclosure | | | \$ - | |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - | |
| 9 | Mechanical Code | | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 | |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 | |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 | |
| | Dryer Vent | | N/A | \$ - | |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 | |
| | | | | Wind Related + Screen Enclosure | \$ 7,597.00 |
| | | | | Other | \$ 425.00 |
| | | | | Total | \$ 8,022.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-15 | |
| | Wind speed | 130 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,881.00 | \$ 389.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,158.00 | \$ 523.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,440.00 | \$ 230.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 900.00 | \$ 205.00 |
| | Impact rated "Shutters" | | \$ 717.00 | \$ 717.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 3,077.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 3,502.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-16 | |
| | Wind speed | 130 | |
| | Exposure | C | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|--|--|---|--------------------|--------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,241.00 | \$ 749.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,364.00 | \$ 729.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,541.00 | \$ 331.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 1,053.00 | \$ 358.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| Wind Related + Screen Enclosure | | | | \$ 3,180.00 |
| Other | | | | \$ 425.00 |
| Total | | | | \$ 3,605.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-17 | |
| | Wind speed | 140 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Impact | | |

| Category | Item | Base Price | As designed | Difference |
|--|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,836.00 | \$ 344.00 |
| | Roof Tie-down | \$ 635.00 | \$ 674.00 | \$ 39.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 5,542.00 | \$ 4,332.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 900.00 | \$ 205.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| Wind Related + Screen Enclosure | | | | \$ 7,125.00 |
| Other | | | | \$ 425.00 |
| Total | | | | \$ 7,550.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-18 | |
| | Wind speed | 140 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,836.00 | \$ 344.00 |
| | Roof Tie-down | \$ 635.00 | \$ 674.00 | \$ 39.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,432.00 | \$ 222.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 900.00 | \$ 205.00 |
| | Impact rated "Shutters" | | \$ 717.00 | \$ 717.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 2,540.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 2,965.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-19 | |
| | Wind speed | 140 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,836.00 | \$ 344.00 |
| | Roof Tie-down | \$ 635.00 | \$ 674.00 | \$ 39.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,432.00 | \$ 222.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 900.00 | \$ 205.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 1,823.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 2,248.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-20 | |
| | Wind speed | 140 | |
| | Exposure | B | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,894.00 | \$ 402.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,083.00 | \$ 448.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,491.00 | \$ 281.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 1,054.00 | \$ 619.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 2,763.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 3,188.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-21 | |
| | Wind speed | 140 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Impact | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,183.00 | \$ 691.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,324.00 | \$ 689.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 5,486.00 | \$ 4,276.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 435.00 | \$ 1,053.00 | \$ 618.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 8,479.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 8,904.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-22 | |
| | Wind speed | 140 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,183.00 | \$ 691.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,324.00 | \$ 689.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,488.00 | \$ 278.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 1,053.00 | \$ 358.00 |
| | Impact rated "Shutters" | | \$ 717.00 | \$ 717.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 3,746.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 4,171.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-23 | |
| | Wind speed | 140 | |
| | Exposure | C | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,471.00 | \$ 979.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,621.00 | \$ 986.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,548.00 | \$ 338.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 433.00 | \$ 243.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 1,317.00 | \$ 622.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 3,991.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 4,416.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-24 | |
| | Wind speed | 150 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Impact | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,919.00 | \$ 427.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,079.00 | \$ 444.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 5,542.00 | \$ 4,332.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 900.00 | \$ 205.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 7,613.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 8,038.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-25 | |
| | Wind speed | 150 | |
| | Exposure | B | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|--|--|---|--------------------|--------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 2,919.00 | \$ 427.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,079.00 | \$ 444.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,432.00 | \$ 222.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 956.00 | \$ 261.00 |
| | Impact rated "Shutters" | | \$ 717.00 | \$ 717.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| Wind Related + Screen Enclosure | | | | \$ 3,084.00 |
| Other | | | | \$ 425.00 |
| Total | | | | \$ 3,509.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-26 | |
| | Wind speed | 150 | |
| | Exposure | B | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,205.00 | \$ 713.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,281.00 | \$ 646.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,607.00 | \$ 397.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 433.00 | \$ 243.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 1,053.00 | \$ 358.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 3,180.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 3,605.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-27 | |
| | Wind speed | 150 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Impact | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--------------------|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,320.00 | \$ 828.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,564.00 | \$ 929.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 5,486.00 | \$ 4,276.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 1,572.00 | \$ 1,382.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 1,053.00 | \$ 358.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | Wind Related + Screen Enclosure | \$ | 8,596.00 |
| | | Other | \$ | 425.00 |
| | | Total | \$ | 9,021.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-28 | |
| | Wind speed | 150 | |
| | Exposure | C | |
| | Enclosure | E | |
| Wind-Borne Debris Protection | Shutters | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,320.00 | \$ 828.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,564.00 | \$ 929.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 1,432.00 | \$ 222.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 380.00 | \$ 190.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 956.00 | \$ 261.00 |
| | Impact rated "Shutters" | | \$ 717.00 | \$ 717.00 |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 3,970.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 4,395.00 |

Table D-4: Summary of Cost Increases by Design Case

| | | | |
|-------------------------------------|----------------------|-------------|--|
| Builder | Mercedes | | |
| House Type | Frame | | |
| Wind Design | Design Number | D-29 | |
| | Wind speed | 150 | |
| | Exposure | C | |
| | Enclosure | PE | |
| Wind-Borne Debris Protection | None | | |

| Category | Item | Base Price | As designed | Difference |
|-----------------|--|---|--|-------------------|
| 2 | Wind Load Related | | | |
| | Roof Covering (Shingles) | \$ 885.00 | \$ 1,313.00 | \$ 428.00 |
| | Roof Deck-nailing | Builder reported "no increased cost for nailing". | | |
| | Roof Truss | \$ 2,492.00 | \$ 3,891.00 | \$ 1,399.00 |
| | Roof Tie-down | \$ 635.00 | \$ 1,833.00 | \$ 1,198.00 |
| | Walls | | | \$ - |
| | Windows | \$ 1,210.00 | \$ 3,038.00 | \$ 1,828.00 |
| | Installation | | \$ 350.00 | \$ 350.00 |
| | Sliding Glass Doors | \$ 190.00 | \$ 433.00 | \$ 243.00 |
| | Entrance Doors | \$ 89.00 | \$ 134.00 | \$ 45.00 |
| | Garage Door | \$ 695.00 | \$ 1,053.00 | \$ 358.00 |
| | Impact rated "Shutters" | | | \$ - |
| 3 | Termite Treatments (assume one re-treat) | \$ 440.00 | \$ 515.00 | \$ 75.00 |
| 4 | Concrete Slab Additional cost | | \$ 110.00 | \$ 110.00 |
| 6 | Screen Enclosure | | | \$ - |
| 7 | Swimming Pool Duel Drain & related | None | \$ - | None \$ - |
| 9 | Mechanical Code | | | |
| | Balanced Return | | \$ 105.00 | \$ 105.00 |
| | Overflow alarm | | \$ 55.00 | \$ 55.00 |
| | Bath/Toilet Room Exhaust | \$ 150.00 | \$ 200.00 | \$ 50.00 |
| | Dryer Vent | | N/A | \$ - |
| 10 | Plumbing Code See list of changes | | \$ 30.00 | \$ 30.00 |
| | | | Wind Related + Screen Enclosure | \$ 5,849.00 |
| | | | Other | \$ 425.00 |
| | | | Total | \$ 6,274.00 |

D.3.3 Costs for Truss and Tie-down packages

The pages containing Table D-5 and Table D-6 provide cost information for the truss packages (truss design information was provided by the truss manufacturers) and related tie-down connectors required to connect the truss to top plate, top plate to stud and stud to bottom plate/floor as necessary (provided by Simpson Strong Tie and Storm Smart Systems). Trusses were designed using Component and Cladding criteria and as indicated earlier, this results in somewhat higher uplift loads than when Main Wind Force Resisting System (MWFRS) criteria is used. Costs for these materials could be lower than those included in this report if MWFRS criteria is used. At the top of each sheet the truss package selling price is noted along with the change in price vs. the SBC pricing. Within the tables are specific truss details for positive and negative loads and the connectors used with appropriate pricing for each connector. At the bottom of the individual sheets are the total uplift and gravity loads and connector pricing for each design case. (Connector prices were calculated at list price plus 50% for an installation allowance.)

Table D-5: Summary of Truss and Connector Prices

| Wind Speed | Exposure Category | Enclosed/ Partially Enclosed | Truss Package Cost* | Increase vs. SBC | Connector Package Cost** | Increase vs. SBC | Total Cost | Increase vs. SBC |
|------------|-------------------|------------------------------|---------------------|------------------|--------------------------|------------------|------------|------------------|
| 130 | B | E | \$2,492 | | \$635 | | \$3,127 | |
| 130 | B | P | \$2,655 | \$163 | \$834 | \$199 | \$3,489 | \$362 |
| 130 | C | E | \$2,881 | \$389 | \$1,158 | \$523 | \$4,039 | \$912 |
| 130 | C | P | \$3,241 | \$749 | \$1,364 | \$729 | \$4,605 | \$1,478 |
| 140 | B | E | \$2,836 | \$344 | \$674 | \$39 | \$3,510 | \$383 |
| 140 | B | P | \$2,894 | \$402 | \$1,083 | \$448 | \$3,977 | \$850 |
| 140 | C | E | \$3,183 | \$691 | \$1,324 | \$689 | \$4,507 | \$1,380 |
| 140 | C | P | \$3,471 | \$979 | \$1,621 | \$986 | \$5,092 | \$1,965 |
| 150 | B | E | \$2,919 | \$427 | \$1,079 | \$444 | \$3,998 | \$871 |
| 150 | B | P | \$3,205 | \$713 | \$1,281 | \$646 | \$4,486 | \$1,359 |
| 150 | C | E | \$3,320 | \$828 | \$1,564 | \$929 | \$4,884 | \$1,757 |
| 150 | C | P | \$3,891 | \$1,399 | \$1,833 | \$1,198 | \$5,724 | \$2,597 |

* Space Coast Truss Company

** Simpson Strong Tie and Storm Smart Systems

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$0
 Truss Package ID: 1
 Design Parameters --> 130/B/E
 Selling Price \$ 2,492

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|-----|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 205 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 92 | \$ | \$ - |
| | | 4 | | 19 | | \$ | \$ - |
| 6 | BJ4 | 2 | | 221 | 276 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 91 | 213 | \$ | \$ - |
| | | 4 | | 36 | | \$ | \$ - |
| 6 | BJ6 | 2 | | 293 | 330 | \$ 1.22 | \$ 7.29 |
| | | 4 | | 127 | 255 | \$ | \$ - |
| | | 5 | | 76 | 58 | \$ | \$ - |
| 3 | CJ8 | 2 | | 473 | 384 | \$ 1.22 | \$ 3.65 |
| | | 7 | | 779 | 1,101 | \$ | \$ - |
| | | 2 | | 179 | 194 | \$ 1.22 | \$ 1.22 |
| 1 | GE2 | 10 | | 115 | 73 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 282 | \$ 1.22 | \$ 1.22 |
| 1 | | 12 | | 96 | 102 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 13 | | 166 | 155 | \$ 1.22 | \$ 1.22 |
| 1 | | 2 | | 408 | 473 | \$ 1.98 | \$ 1.98 |
| 1 | | 4 | | 408 | 473 | \$ 1.98 | \$ 1.98 |
| 1 | H101 | 2 | | 1,675 | 1,224 | \$ 4.53 | \$ 4.53 |
| 1 | | 10 | | 1,675 | 1,224 | \$ 4.53 | \$ 4.53 |
| 1 | H101S | 2 | | 1,669 | 1,219 | \$ 4.53 | \$ 4.53 |
| 1 | | 10 | | 1,597 | 1,085 | \$ 4.53 | \$ 4.53 |
| 1 | H121A | 1 | | 1,510 | 1,051 | \$ 4.53 | \$ 4.53 |
| 1 | | 9 | | 1,510 | 1,016 | \$ 4.53 | \$ 4.53 |
| 1 | H121S | 2 | | 1,669 | 1,249 | \$ 4.53 | \$ 4.53 |
| 1 | | 10 | | 1,597 | 1,115 | \$ 4.53 | \$ 4.53 |
| 1 | H141S | 2 | | 1,675 | 1,283 | \$ 4.53 | \$ 4.53 |
| 1 | | 11 | | 1,603 | 1,151 | \$ 4.53 | \$ 4.53 |
| 1 | H161S | 2 | | 1,669 | 1,309 | \$ 4.53 | \$ 4.53 |
| 1 | | 10 | | 1,597 | 1,175 | \$ 4.53 | \$ 4.53 |
| 1 | H181S | 2 | | 1,667 | 1,334 | \$ 4.80 | \$ 4.80 |
| 1 | | 9 | | 1,597 | 1,205 | \$ 4.53 | \$ 4.53 |
| 1 | H81 | 2 | 2 | 3,694 | 4,590 | \$ 98.10 | \$ 98.10 |
| 1 | | 12 | | 3,694 | 4,590 | \$ 98.10 | \$ 98.10 |
| 33 | J8 | 2 | | 354 | 355 | \$ 1.22 | \$ 40.10 |
| | | 4 | | 99 | 206 | \$ | \$ - |
| | | 5 | | 190 | 194 | \$ | \$ - |
| 1 | MH81S | 2 | 2 | 3,728 | 4,612 | \$ 100.15 | \$ 100.15 |
| 1 | | 13 | | 3,934 | 4,849 | \$ 100.15 | \$ 100.15 |
| 4 | S1 | 2 | | 1,679 | 1,396 | \$ 4.80 | \$ 19.20 |
| 4 | | 12 | | 1,679 | 1,396 | \$ 4.80 | \$ 19.20 |
| 1 | SH141SP | 2 | | 1,602 | 1,210 | \$ 4.53 | \$ 4.53 |
| 1 | | 15 | | 1,539 | 1,042 | \$ 4.53 | \$ 4.53 |
| 1 | SH161SP | 2 | | 1,602 | 1,238 | \$ 4.53 | \$ 4.53 |
| 1 | | 13 | | 1,539 | 1,074 | \$ 4.53 | \$ 4.53 |
| 1 | SH181SP | 2 | | 1,602 | 1,266 | \$ 4.53 | \$ 4.53 |
| 1 | | 14 | | 1,539 | 1,105 | \$ 4.53 | \$ 4.53 |
| 1 | SH201 | 2 | | 1,679 | 1,366 | \$ 4.80 | \$ 4.80 |
| 1 | | 11 | | 1,679 | 1,366 | \$ 4.80 | \$ 4.80 |
| 1 | SH201A | 2 | | 1,679 | 1,366 | \$ 4.80 | \$ 4.80 |
| 1 | | 13 | | 1,616 | 1,250 | \$ 4.53 | \$ 4.53 |
| 2 | T3 | 2 | | 408 | 856 | \$ 3.57 | \$ 7.14 |
| 2 | | 6 | | 408 | 856 | \$ 3.57 | \$ 7.14 |
| 1 | V12-55H | 1 | | 57 | 1 | | |
| | | 2 | | 191 | 439 | | |
| | | 3 | | 57 | 132 | | |
| 1 | V16-55H | 1 | | 211 | 277 | | |
| | | 2 | | 211 | 445 | | |
| | | 3 | | | | | |
| 1 | V16-55RB | 1 | | 262 | 342 | | |
| | | 2 | | 262 | 342 | | |
| | | 3 | | | | | |
| 1 | V4-55 | 1 | | 48 | 115 | | |
| | | 2 | | 97 | 144 | | |
| | | 3 | | 48 | 115 | | |
| 1 | V4-55H | 1 | | 51 | 76 | | |
| | | 2 | | 51 | 121 | | |
| | | 1 | | 102 | 217 | | |
| 1 | V8-55 | 2 | | 205 | 270 | | |
| | | 3 | | 102 | 217 | | |
| | | 1 | | 98 | 146 | | |
| 1 | V8-55H | 2 | | 98 | 233 | | |
| | | 1 | | 208 | 298 | | |
| | | 2 | | 208 | 298 | | |
| 1 | V8-55RB | 1 | | 208 | 298 | | |
| | | 2 | | 208 | 298 | | |
| | | 3 | | | | | |
| | | | | 65,181 | 61,717 | \$ | 635 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$163
 Truss Package ID: 2
 Design Parameters --> 130/B/PE
 Selling Price \$ 2,655

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|-----|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 218 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 114 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 300 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 91 | 255 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 369 | \$ 1.22 | \$ 7.29 |
| | | 4 | | 127 | 303 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 74 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 451 | \$ 1.98 | \$ 5.94 |
| | | 7 | | 779 | 1,326 | \$ 4.53 | \$ - |
| 1 | GE2 | 2 | | 179 | 217 | \$ 1.22 | \$ 1.22 |
| 1 | | 10 | | 115 | 96 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 365 | \$ 1.22 | \$ 1.22 |
| 1 | | 12 | | 96 | 131 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 13 | | 166 | 201 | \$ 1.22 | \$ 1.22 |
| 1 | | 2 | | 408 | 558 | \$ 1.98 | \$ 1.98 |
| 1 | H101 | 4 | | 408 | 558 | \$ 1.98 | \$ 1.98 |
| 1 | | 2 | | 1,675 | 1,622 | \$ 4.68 | \$ 4.68 |
| 1 | H101S | 10 | | 1,675 | 1,622 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,669 | 1,617 | \$ 4.68 | \$ 4.68 |
| 1 | H121A | 10 | | 1,597 | 1,483 | \$ 5.64 | \$ 5.64 |
| 1 | | 1 | | 1,510 | 1,426 | \$ 4.80 | \$ 4.80 |
| 1 | H121S | 9 | | 1,510 | 1,393 | \$ 4.80 | \$ 4.80 |
| 1 | | 2 | | 1,669 | 1,646 | \$ 4.68 | \$ 4.68 |
| 1 | H141S | 10 | | 1,597 | 1,513 | \$ 5.64 | \$ 5.64 |
| 1 | | 2 | | 1,675 | 1,682 | \$ 4.68 | \$ 4.68 |
| 1 | H161S | 11 | | 1,603 | 1,549 | \$ 5.64 | \$ 5.64 |
| 1 | | 2 | | 1,669 | 1,706 | \$ 4.68 | \$ 4.68 |
| 1 | H181S | 10 | | 1,597 | 1,572 | \$ 5.64 | \$ 5.64 |
| 1 | | 2 | | 1,667 | 1,731 | \$ 4.68 | \$ 4.68 |
| 1 | H81 | 9 | | 1,597 | 1,602 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | 3 | | 3,694 | 5,597 | \$ 101.55 |
| 1 | J8 | 12 | | 3,694 | 5,597 | \$ 101.55 | \$ 101.55 |
| 33 | | 2 | | 345 | 410 | \$ 1.22 | \$ 40.10 |
| | MH81S | 4 | | 99 | 245 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 241 | \$ 1.22 | \$ - |
| 1 | | 2 | 2 | | 3,728 | 5,628 | \$ 191.80 |
| 1 | S1 | 13 | | 3,934 | 5,961 | \$ 191.80 | \$ 191.80 |
| 4 | | 2 | | 1,679 | 1,798 | \$ 4.68 | \$ 18.72 |
| 4 | SH141SP | 12 | | 1,679 | 1,798 | \$ 4.68 | \$ 18.72 |
| 1 | | 2 | 2 | | 1,602 | 1,590 | \$ 5.64 |
| 1 | SH161SP | 15 | | 1,539 | 1,428 | \$ 4.80 | \$ 4.80 |
| 1 | | 2 | | 1,602 | 1,619 | \$ 4.68 | \$ 4.68 |
| 1 | SH181SP | 13 | | 1,539 | 1,458 | \$ 5.64 | \$ 5.64 |
| 1 | | 2 | | 1,602 | 1,647 | \$ 4.68 | \$ 4.68 |
| 1 | SH201 | 14 | | 1,539 | 1,490 | \$ 5.64 | \$ 5.64 |
| 1 | | 2 | | 1,679 | 1,768 | \$ 4.68 | \$ 4.68 |
| 1 | SH201A | 11 | | 1,679 | 1,768 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,679 | 1,768 | \$ 4.68 | \$ 4.68 |
| 1 | T3 | 13 | | 1,616 | 1,652 | \$ 4.68 | \$ 4.68 |
| 2 | | 2 | | 408 | 942 | \$ 3.09 | \$ 6.18 |
| 2 | V12-55H | 6 | | 408 | 942 | \$ 3.09 | \$ 6.18 |
| | | 1 | | 57 | 3 | | |
| | | 2 | | 191 | 517 | | |
| | V16-55H | 3 | | 57 | 156 | | |
| | | 1 | | 79 | 2 | | |
| | | 2 | | 264 | 664 | | |
| | V16-55RB | 3 | | 79 | 200 | | |
| | | 1 | | 262 | 431 | | |
| | | 2 | | 262 | 431 | | |
| | V4-55 | 3 | | | | | |
| | | 1 | | 48 | 135 | | |
| | | 2 | | 97 | 170 | | |
| | V4-55H | 3 | | 48 | 135 | | |
| | | 1 | | 51 | 89 | | |
| | | 2 | | 51 | 141 | | |
| | V8-55 | 1 | | 102 | 259 | | |
| | | 2 | | 205 | 325 | | |
| | | 3 | | 102 | 259 | | |
| | V8-55H | 1 | | 98 | 173 | | |
| | | 2 | | 98 | 273 | | |
| | | 1 | | 208 | 369 | | |
| | V8-55RB | 2 | | 208 | 369 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 78,148 | | \$ 833.84 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$389
 Truss Package ID: 3
 Design Parameters --> 130/CE
 Selling Price \$ 2,881

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|-----|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 317 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 139 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 431 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 91 | 322 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 521 | \$ 1.98 | \$ 11.88 |
| | | 4 | | 127 | 382 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 106 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 625 | \$ 3.57 | \$ 10.71 |
| | | 7 | | 779 | 1,725 | \$ 4.68 | \$ - |
| 1 | GE2 | 2 | | 179 | 307 | \$ 1.22 | \$ 1.22 |
| 1 | | 10 | | 115 | 123 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 452 | \$ 1.98 | \$ 1.98 |
| 1 | | 12 | | 96 | 162 | \$ 1.22 | \$ 1.22 |
| 1 | | 13 | | 166 | 249 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 2 | | 408 | 748 | \$ 3.57 | \$ 3.57 |
| 1 | | 4 | | 408 | 748 | \$ 3.57 | \$ 3.57 |
| 1 | H101 | 2 | | 1,675 | 2,020 | \$ 7.56 | \$ 7.56 |
| 1 | | 10 | | 1,675 | 2,020 | \$ 7.56 | \$ 7.56 |
| 1 | H101S | 2 | | 1,669 | 2,013 | \$ 7.56 | \$ 7.56 |
| 1 | | 10 | | 1,597 | 1,809 | \$ 4.68 | \$ 4.68 |
| 1 | H121A | 1 | | 1,510 | 1,747 | \$ 4.68 | \$ 4.68 |
| 1 | | 9 | | 1,510 | 1,695 | \$ 4.68 | \$ 4.68 |
| 1 | H121S | 2 | | 1,669 | 2,057 | \$ 7.56 | \$ 7.56 |
| 1 | | 10 | | 1,597 | 1,853 | \$ 4.68 | \$ 4.68 |
| 1 | H141S | 2 | | 1,675 | 2,108 | \$ 7.56 | \$ 7.56 |
| 1 | | 11 | | 1,603 | 1,906 | \$ 4.68 | \$ 4.68 |
| 1 | H161S | 2 | | 1,669 | 2,145 | \$ 7.56 | \$ 7.56 |
| 1 | | 10 | | 1,597 | 1,941 | \$ 4.68 | \$ 4.68 |
| 1 | H181S | 2 | | 1,667 | 2,190 | \$ 7.56 | \$ 7.56 |
| 1 | | 9 | | 1,597 | 1,994 | \$ 4.68 | \$ 4.68 |
| 1 | H81 | 2 | 3 | 3,694 | 7,239 | \$ 191.80 | \$ 191.80 |
| 1 | | 12 | | 3,694 | 7,239 | \$ 191.80 | \$ 191.80 |
| 33 | J8 | 2 | | 345 | 566 | \$ 1.98 | \$ 65.34 |
| | | 4 | | 99 | 312 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 313 | \$ 1.22 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 7,279 | \$ 193.00 | \$ 193.00 |
| 1 | | 13 | | 3,934 | 7,666 | \$ 206.35 | \$ 206.35 |
| 4 | S1 | 2 | | 1,679 | 2,275 | \$ 10.80 | \$ 43.20 |
| 4 | | 12 | | 1,679 | 2,275 | \$ 10.80 | \$ 43.20 |
| 1 | SH141SP | 2 | 2 | 1,602 | 1,990 | \$ 4.68 | \$ 4.68 |
| 1 | | 15 | | 1,539 | 1,738 | \$ 4.68 | \$ 4.68 |
| 1 | SH161SP | 2 | | 1,602 | 2,034 | \$ 7.56 | \$ 7.56 |
| 1 | | 13 | | 1,539 | 1,782 | \$ 4.68 | \$ 4.68 |
| 1 | SH181SP | 2 | | 1,602 | 2,074 | \$ 7.56 | \$ 7.56 |
| 1 | | 14 | | 1,539 | 1,830 | \$ 4.68 | \$ 4.68 |
| 1 | SH201 | 2 | | 1,679 | 2,231 | \$ 7.56 | \$ 7.56 |
| 1 | | 11 | | 1,679 | 2,231 | \$ 7.56 | \$ 7.56 |
| 1 | SH201A | 2 | | 1,679 | 2,231 | \$ 7.56 | \$ 7.56 |
| 1 | | 13 | | 1,616 | 2,054 | \$ 7.56 | \$ 7.56 |
| 2 | T3 | 2 | | 408 | 1,313 | \$ 4.53 | \$ 9.06 |
| | | 6 | | 408 | 1,313 | \$ 4.53 | \$ 9.06 |
| 2 | V12-55H | 1 | | 57 | 6 | | |
| | | 2 | | 191 | 843 | | |
| | | 3 | | 57 | 254 | | |
| 2 | V16-55H | 1 | | 79 | 6 | | |
| | | 2 | | 264 | 843 | | |
| | | 3 | | 79 | 254 | | |
| 2 | V16-55RB | 1 | | 262 | 528 | | |
| | | 2 | | 262 | 528 | | |
| | | 3 | | | | | |
| 2 | V4-55 | 1 | | 48 | 174 | | |
| | | 2 | | 97 | 220 | | |
| | | 3 | | 48 | 174 | | |
| 2 | V4-55H | 1 | | 51 | 116 | | |
| | | 2 | | 51 | 182 | | |
| | | 1 | | 102 | 329 | | |
| 2 | V8-55 | 2 | | 205 | 416 | | |
| | | 3 | | 102 | 329 | | |
| | | 1 | | 98 | 224 | | |
| 2 | V8-55H | 2 | | 98 | 352 | | |
| | | 1 | | 208 | 458 | | |
| | | 2 | | 208 | 458 | | |
| 2 | V8-55RB | 1 | | 208 | 458 | | |
| | | 2 | | 208 | 458 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 99,534 | | \$ 1,158.31 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$749
 Truss Package ID: 4
 Design Parameters --> 130/C/PE
 Selling Price \$ 3,241

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|-----|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 337 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 172 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 468 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 91 | 384 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 578 | \$ 1.98 | \$ 11.88 |
| | | 4 | | 127 | 329 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 254 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 724 | \$ 3.57 | \$ 10.71 |
| | | 7 | | 779 | 2,058 | \$ 7.56 | \$ - |
| | | 2 | | 179 | 340 | \$ 1.22 | \$ 1.22 |
| 1 | GE2 | 10 | | 115 | 155 | \$ 1.22 | \$ 1.22 |
| | | 11 | | 277 | 575 | \$ 1.98 | \$ 1.98 |
| | | 12 | | 96 | 206 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 13 | | 166 | 317 | \$ 1.22 | \$ 1.22 |
| | | 2 | | 408 | 874 | \$ 3.57 | \$ 3.57 |
| | | 4 | | 408 | 874 | \$ 3.57 | \$ 3.57 |
| 1 | H101 | 2 | | 1,675 | 2,609 | \$ 10.80 | \$ 10.80 |
| | | 10 | | 1,675 | 2,609 | \$ 10.80 | \$ 10.80 |
| 1 | H101S | 2 | | 1,669 | 2,599 | \$ 10.80 | \$ 10.80 |
| | | 10 | | 1,597 | 2,395 | \$ 10.80 | \$ 10.80 |
| 1 | H121A | 1 | | 1,510 | 2,300 | \$ 10.80 | \$ 10.80 |
| | | 9 | | 1,510 | 2,251 | \$ 10.80 | \$ 10.80 |
| 1 | H121S | 2 | | 1,669 | 2,653 | \$ 10.80 | \$ 10.80 |
| | | 10 | | 1,597 | 2,451 | \$ 10.80 | \$ 10.80 |
| 1 | H141S | 2 | | 1,675 | 2,697 | \$ 10.80 | \$ 10.80 |
| | | 11 | | 1,603 | 2,495 | \$ 10.80 | \$ 10.80 |
| 1 | H161S | 2 | | 1,669 | 2,741 | \$ 10.80 | \$ 10.80 |
| | | 10 | | 1,597 | 2,539 | \$ 10.80 | \$ 10.80 |
| 1 | H181S | 2 | | 1,667 | 2,779 | \$ 10.80 | \$ 10.80 |
| | | 9 | | 1,597 | 2,583 | \$ 10.80 | \$ 10.80 |
| 1 | H81 | 2 | 3 | 3,694 | 8,727 | \$ 206.35 | \$ 206.35 |
| | | 12 | | 3,694 | 8,727 | \$ 206.35 | \$ 206.35 |
| 33 | J8 | 2 | | 345 | 648 | \$ 3.57 | \$ 117.81 |
| | | 4 | | 99 | 371 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 384 | \$ 1.22 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 8,781 | \$ 206.35 | \$ 206.35 |
| | | 13 | | 3,934 | 9,295 | \$ 206.35 | \$ 206.35 |
| 4 | S1 | 2 | | 1,679 | 2,868 | \$ 10.80 | \$ 43.20 |
| | | 12 | | 1,679 | 2,868 | \$ 10.80 | \$ 43.20 |
| 1 | SH141SP | 2 | | 1,602 | 2,553 | \$ 10.80 | \$ 10.80 |
| | | 15 | | 1,539 | 2,306 | \$ 10.80 | \$ 10.80 |
| 1 | SH161SP | 2 | | 1,602 | 2,595 | \$ 10.80 | \$ 10.80 |
| | | 13 | | 1,539 | 2,352 | \$ 10.80 | \$ 10.80 |
| 1 | SH181SP | 2 | | 1,602 | 2,636 | \$ 10.80 | \$ 10.80 |
| | | 14 | | 1,539 | 2,399 | \$ 10.80 | \$ 10.80 |
| 1 | SH201 | 2 | | 1,679 | 2,824 | \$ 10.80 | \$ 10.80 |
| | | 11 | | 1,679 | 2,824 | \$ 10.80 | \$ 10.80 |
| 1 | SH201A | 2 | | 1,679 | 2,824 | \$ 10.80 | \$ 10.80 |
| | | 13 | | 1,616 | 2,647 | \$ 10.80 | \$ 10.80 |
| 2 | T3 | 2 | | 408 | 1,440 | \$ 4.80 | \$ 9.60 |
| | | 6 | | 408 | 1,440 | \$ 4.80 | \$ 9.60 |
| 2 | V12-55H | 1 | | 57 | 9 | | |
| | | 2 | | 191 | 780 | | |
| | | 3 | | 57 | 235 | | |
| 1 | V16-55H | 1 | | 79 | 10 | | |
| | | 2 | | 264 | 1,004 | | |
| | | 3 | | 79 | 302 | | |
| 1 | V16-55RB | 1 | | 262 | 660 | | |
| | | 2 | | 262 | 660 | | |
| | | 3 | | | | | |
| 1 | V4-55 | 1 | | 48 | 203 | | |
| | | 2 | | 97 | 259 | | |
| | | 3 | | 48 | 203 | | |
| 1 | V4-55H | 1 | | 51 | 136 | | |
| | | 2 | | 51 | 213 | | |
| 1 | V8-55 | 1 | | 102 | 391 | | |
| | | 2 | | 205 | 498 | | |
| | | 3 | | 102 | 391 | | |
| 1 | V8-55H | 1 | | 98 | 263 | | |
| | | 2 | | 98 | 412 | | |
| 1 | V8-55RB | 1 | | 208 | 563 | | |
| | | 2 | | 208 | 563 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 123,610 | | \$ 1,363.75 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$344
 Truss Package ID: 5
 Design Parameters --> 140/B/E
 Selling Price \$2,836

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|-----|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 242 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 108 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 328 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 91 | 250 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 394 | \$ 1.22 | \$ 7.29 |
| | | 4 | | 127 | 294 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 78 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 465 | \$ 1.98 | \$ 5.94 |
| | | 7 | | 779 | 1,310 | \$ 4.53 | \$ - |
| 1 | GE2 | 2 | | 179 | 232 | \$ 1.22 | \$ 1.22 |
| 1 | | 10 | | 115 | 90 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 339 | \$ 1.22 | \$ 1.22 |
| 1 | | 12 | | 96 | 122 | \$ 1.22 | \$ 1.22 |
| 1 | | 13 | | 166 | 186 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 2 | | 408 | 565 | \$ 1.98 | \$ 1.98 |
| | | 4 | | 408 | 565 | \$ 1.98 | \$ 1.98 |
| 1 | H101 | 2 | | 1,675 | 1,490 | \$ 5.64 | \$ 5.64 |
| | | 10 | | 1,675 | 1,490 | \$ 5.64 | \$ 5.64 |
| 1 | H101S | 2 | | 1,669 | 1,485 | \$ 5.64 | \$ 5.64 |
| 1 | | 10 | | 1,597 | 1,328 | \$ 4.80 | \$ 4.80 |
| 1 | H121A | 1 | | 1,510 | 1,285 | \$ 4.53 | \$ 4.53 |
| 1 | | 9 | | 1,510 | 1,244 | \$ 4.53 | \$ 4.53 |
| 1 | H121S | 2 | | 1,669 | 1,525 | \$ 5.64 | \$ 5.64 |
| 1 | | 10 | | 1,597 | 1,369 | \$ 4.80 | \$ 4.80 |
| 1 | H141S | 2 | | 1,675 | 1,559 | \$ 5.64 | \$ 5.64 |
| | | 11 | | 1,603 | 1,404 | \$ 4.80 | \$ 4.80 |
| 1 | H161S | 2 | | 1,669 | 1,594 | \$ 5.64 | \$ 5.64 |
| 1 | | 10 | | 1,597 | 1,438 | \$ 4.80 | \$ 4.80 |
| 1 | H181S | 2 | | 1,667 | 1,624 | \$ 4.68 | \$ 4.68 |
| 1 | | 9 | | 1,597 | 1,473 | \$ 5.64 | \$ 5.64 |
| 1 | H81 | 2 | 3 | 3,694 | 5,477 | \$ 98.10 | \$ 98.10 |
| 1 | | 12 | | 3,694 | 5,477 | \$ 98.10 | \$ 98.10 |
| 33 | J8 | 2 | | 345 | 426 | \$ 1.98 | \$ 65.34 |
| | | 4 | | 99 | 241 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 234 | \$ 1.22 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 5,505 | \$ 98.10 | \$ 98.10 |
| | | 13 | | 3,934 | 5,792 | \$ 98.10 | \$ 98.10 |
| 4 | S1 | 2 | | 1,679 | 1,690 | \$ 4.68 | \$ 18.72 |
| | | 12 | | 1,679 | 1,690 | \$ 4.68 | \$ 18.72 |
| 1 | SH141SP | 2 | 2 | 1,602 | 1,471 | \$ 5.64 | \$ 5.64 |
| | | 15 | | 1,539 | 1,275 | \$ 4.53 | \$ 4.53 |
| 1 | SH161SP | 2 | | 1,602 | 1,504 | \$ 5.64 | \$ 5.64 |
| 1 | | 13 | | 1,539 | 1,311 | \$ 4.53 | \$ 4.53 |
| 1 | SH181SP | 2 | | 1,602 | 1,536 | \$ 5.64 | \$ 5.64 |
| | | 14 | | 1,539 | 1,348 | \$ 4.80 | \$ 4.80 |
| 1 | SH201 | 2 | | 1,679 | 1,656 | \$ 4.68 | \$ 4.68 |
| | | 11 | | 1,679 | 1,656 | \$ 4.68 | \$ 4.68 |
| 1 | SH201A | 2 | | 1,679 | 1,656 | \$ 4.68 | \$ 4.68 |
| | | 13 | | 1,616 | 1,519 | \$ 5.64 | \$ 5.64 |
| 2 | T3 | 2 | | 408 | 1,009 | \$ 4.53 | \$ 9.06 |
| | | 6 | | 408 | 1,009 | \$ 4.53 | \$ 9.06 |
| 2 | V12-55H | 1 | | 57 | 3 | \$ 1.22 | \$ - |
| | | 2 | | 191 | 514 | \$ 1.98 | \$ - |
| | | 3 | | 57 | 155 | \$ 1.22 | \$ - |
| 2 | V16-55H | 1 | | 79 | 2 | \$ 1.22 | \$ - |
| | | 2 | | 264 | 652 | \$ 3.57 | \$ - |
| | | 3 | | 79 | 197 | \$ 1.22 | \$ - |
| 2 | V16-55RB | 1 | | 262 | 404 | \$ 1.22 | \$ - |
| | | 2 | | 262 | 404 | \$ 1.22 | \$ - |
| | | 3 | | | | \$ 1.22 | \$ - |
| 2 | V4-55 | 1 | | 48 | 135 | \$ 1.22 | \$ - |
| | | 2 | | 97 | 169 | \$ 1.22 | \$ - |
| | | 3 | | 48 | 135 | \$ 1.22 | \$ - |
| 2 | V4-55H | 1 | | 51 | 89 | \$ 1.22 | \$ - |
| | | 2 | | 51 | 141 | \$ 1.22 | \$ - |
| | | 1 | | 102 | 254 | \$ 1.22 | \$ - |
| 2 | V8-55 | 2 | | 205 | 319 | \$ 1.22 | \$ - |
| | | 3 | | 102 | 254 | \$ 1.22 | \$ - |
| | | 1 | | 98 | 172 | \$ 1.22 | \$ - |
| 2 | V8-55H | 2 | | 98 | 273 | \$ 1.22 | \$ - |
| | | 1 | | 208 | 351 | \$ 1.22 | \$ - |
| | | 2 | | 208 | 351 | \$ 1.22 | \$ - |
| 2 | V8-55RB | 1 | | 208 | 351 | \$ 1.22 | \$ - |
| | | 3 | | | | \$ 1.22 | \$ - |
| | | | | 65,172 | 74,332 | \$ | 674 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$402
 Truss Package ID: 6
 Design Parameters --> 140/B/PE
 Selling Price \$ 2,894

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|-----|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 258 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 134 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 356 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 91 | 298 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 439 | \$ 1.98 | \$ 11.88 |
| | | 4 | | 127 | 323 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 123 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 542 | \$ 1.98 | \$ 5.94 |
| | | 7 | | 779 | 1,571 | \$ 5.64 | \$ - |
| 1 | GE2 | 2 | | 179 | 258 | \$ 1.22 | \$ 1.22 |
| 1 | | 10 | | 115 | 116 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 436 | \$ 1.98 | \$ 1.98 |
| 1 | | 12 | | 96 | 156 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 13 | | 166 | 240 | \$ 1.22 | \$ 1.22 |
| 1 | | 2 | | 408 | 664 | \$ 3.57 | \$ 3.57 |
| 1 | H101 | 4 | | 408 | 664 | \$ 3.57 | \$ 3.57 |
| 1 | | 2 | | 1,675 | 1,953 | \$ 4.68 | \$ 4.68 |
| 1 | H101S | 10 | | 1,675 | 1,953 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,669 | 1,946 | \$ 4.68 | \$ 4.68 |
| 1 | H121A | 10 | | 1,597 | 1,788 | \$ 4.68 | \$ 4.68 |
| 1 | | 1 | | 1,510 | 1,719 | \$ 4.68 | \$ 4.68 |
| 1 | H121S | 9 | | 1,510 | 1,680 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,669 | 1,980 | \$ 4.68 | \$ 4.68 |
| 1 | H141S | 10 | | 1,597 | 1,823 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,675 | 2,022 | \$ 7.56 | \$ 7.56 |
| 1 | H161S | 11 | | 1,603 | 1,866 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,669 | 2,049 | \$ 7.56 | \$ 7.56 |
| 1 | H181S | 10 | | 1,597 | 1,892 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,667 | 2,086 | \$ 7.56 | \$ 7.56 |
| 1 | H81 | 9 | | 1,597 | 1,935 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | 3 | 3,694 | 6,645 | \$ 191.80 | \$ 191.80 |
| 1 | J8 | 12 | | 3,694 | 6,645 | \$ 191.80 | \$ 191.80 |
| 33 | | 2 | | 345 | 490 | \$ 1.98 | \$ 65.34 |
| | MH81S | 4 | | 99 | 287 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 289 | \$ 1.22 | \$ - |
| 1 | | 2 | 2 | 3,728 | 5,748 | \$ 191.80 | \$ 191.80 |
| 1 | S1 | 13 | | 3,934 | 5,754 | \$ 191.80 | \$ 191.80 |
| 4 | | 2 | | 1,679 | 2,156 | \$ 7.56 | \$ 30.24 |
| 4 | SH141SP | 12 | | 1,679 | 2,156 | \$ 7.56 | \$ 30.24 |
| 1 | | 2 | 2 | 1,602 | 1,913 | \$ 4.68 | \$ 4.68 |
| 1 | SH161SP | 15 | | 1,539 | 1,721 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | 2 | 1,602 | 1,946 | \$ 4.68 | \$ 4.68 |
| 1 | SH181SP | 13 | | 1,539 | 1,758 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | 2 | 1,602 | 1,978 | \$ 4.68 | \$ 4.68 |
| 1 | SH201 | 14 | | 1,539 | 1,794 | \$ 4.68 | \$ 4.68 |
| 1 | | 2 | | 1,679 | 2,122 | \$ 7.56 | \$ 7.56 |
| 1 | SH201A | 11 | | 1,679 | 2,122 | \$ 7.56 | \$ 7.56 |
| 1 | | 2 | | 1,679 | 2,122 | \$ 7.56 | \$ 7.56 |
| 1 | T3 | 13 | | 1,616 | 1,985 | \$ 4.68 | \$ 4.68 |
| 2 | | 2 | | 408 | 664 | \$ 3.57 | \$ 7.14 |
| 2 | V12-55H | 6 | | 408 | 664 | \$ 3.57 | \$ 7.14 |
| | | 1 | | 57 | 5 | | |
| | | 2 | | 191 | 605 | | |
| | V16-55H | 3 | | 57 | 182 | | |
| | | 1 | | 79 | 5 | | |
| | | 2 | | 264 | 778 | | |
| | V16-55RB | 3 | | 79 | 234 | | |
| | | 1 | | 262 | 508 | | |
| | | 2 | | 262 | 508 | | |
| | V4-55 | 3 | | | | | |
| | | 1 | | 48 | 158 | | |
| | | 2 | | 97 | 199 | | |
| | V4-55H | 3 | | 48 | 158 | | |
| | | 1 | | 51 | 105 | | |
| | | 2 | | 51 | 165 | | |
| | V8-55 | 1 | | 102 | 303 | | |
| | | 2 | | 205 | 383 | | |
| | | 3 | | 102 | 303 | | |
| | V8-55H | 1 | | 98 | 203 | | |
| | | 2 | | 98 | 320 | | |
| | | 1 | | 208 | 434 | | |
| | V8-55RB | 2 | | 208 | 434 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 90,219 | | \$ 1,083 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$691
 Truss Package ID: 7
 Design Parameters --> 140/CE
 Selling Price \$ 3,183

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|----------|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 373 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 162 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 508 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 91 | 376 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 615 | \$ 3.57 | \$ 21.42 |
| | | 4 | | 127 | 269 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 306 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 744 | \$ 3.57 | \$ 10.71 |
| | | 7 | | 779 | 2,033 | \$ 7.56 | \$ - |
| | | 2 | | 179 | 363 | \$ 1.22 | \$ 1.22 |
| 1 | GE2 | 10 | | 115 | 147 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | 277 | 536 | \$ 1.98 | \$ 1.98 | |
| 1 | | 12 | 96 | 192 | \$ 1.22 | \$ 1.22 | |
| 1 | GE3 | 13 | | 166 | 295 | \$ 1.22 | \$ 1.22 |
| 1 | | 2 | 408 | 884 | \$ 3.09 | \$ 3.09 | |
| 1 | | 4 | 408 | 884 | \$ 3.09 | \$ 3.09 | |
| 1 | H101 | 2 | | 1,675 | 2,414 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,675 | 2,414 | \$ 10.80 | \$ 10.80 |
| 1 | H101S | 2 | | 1,669 | 2,405 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,167 | \$ 7.56 | \$ 7.56 |
| 1 | H121A | 1 | | 1,510 | 2,092 | \$ 7.56 | \$ 7.56 |
| 1 | | 9 | | 1,510 | 2,031 | \$ 7.56 | \$ 7.56 |
| 1 | H121S | 2 | | 1,669 | 2,465 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,228 | \$ 7.56 | \$ 7.56 |
| 1 | H141S | 2 | | 1,675 | 2,516 | \$ 10.80 | \$ 10.80 |
| 1 | | 11 | | 1,603 | 2,279 | \$ 10.80 | \$ 10.80 |
| 1 | H161S | 2 | | 1,669 | 2,567 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,331 | \$ 10.80 | \$ 10.80 |
| 1 | H181S | 2 | | 1,667 | 2,611 | \$ 10.80 | \$ 10.80 |
| 1 | | 9 | | 1,597 | 2,382 | \$ 10.80 | \$ 10.80 |
| 1 | H81 | 2 | 3 | 3,694 | 8,313 | \$ 206.35 | \$ 206.35 |
| 1 | | 12 | | 3,694 | 8,313 | \$ 206.35 | \$ 206.35 |
| 33 | J8 | 2 | | 345 | 671 | \$ 3.57 | \$ 117.81 |
| | | 4 | | 99 | 365 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 373 | \$ 1.22 | \$ - |
| 1 | MH81S | 2 | 2 | 3,728 | 6,079 | \$ 191.80 | \$ 191.80 |
| 1 | | 13 | | 3,934 | 6,470 | \$ 191.80 | \$ 191.80 |
| 4 | S1 | 2 | 4, 2 Ply | 1,679 | 2,710 | \$ 10.80 | \$ 43.20 |
| 4 | | 12 | | 1,679 | 2,710 | \$ 10.80 | \$ 43.20 |
| 1 | SH141SP | 2 | 2 | 1,602 | 2,377 | \$ 10.80 | \$ 10.80 |
| 1 | | 15 | | 1,539 | 2,081 | \$ 7.56 | \$ 7.56 |
| 1 | SH161SP | 2 | 2 | 1,602 | 2,425 | \$ 10.80 | \$ 10.80 |
| 1 | | 13 | | 1,539 | 2,135 | \$ 7.56 | \$ 7.56 |
| 1 | SH181SP | 2 | 2 | 1,602 | 2,474 | \$ 10.80 | \$ 10.80 |
| 1 | | 14 | | 1,539 | 2,189 | \$ 7.56 | \$ 7.56 |
| 1 | SH201 | 2 | | 1,679 | 2,659 | \$ 10.80 | \$ 10.80 |
| 1 | | 11 | | 1,679 | 2,659 | \$ 10.80 | \$ 10.80 |
| 1 | SH201A | 2 | | 1,679 | 2,659 | \$ 10.80 | \$ 10.80 |
| 1 | | 13 | | 1,616 | 2,452 | \$ 10.80 | \$ 10.80 |
| 2 | T3 | 2 | | 408 | 1,540 | \$ 5.64 | \$ 11.28 |
| | | 6 | | 408 | 1,540 | \$ 5.64 | \$ 11.28 |
| 2 | V12-55H | 1 | | 57 | 9 | | |
| | | 2 | | 191 | 776 | | |
| | | 3 | | 57 | 234 | | |
| 2 | V16-55H | 1 | | 79 | 10 | | |
| | | 2 | | 264 | 986 | | |
| | | 3 | | 79 | 297 | | |
| 2 | V16-55RB | 1 | | 262 | 620 | | |
| | | 2 | | 262 | 620 | | |
| | | 3 | | | | | |
| 2 | V4-55 | 1 | | 48 | 203 | | |
| | | 2 | | 97 | 258 | | |
| | | 3 | | 48 | 203 | | |
| 2 | V4-55H | 1 | | 51 | 136 | | |
| | | 2 | | 51 | 212 | | |
| | | 1 | | 102 | 384 | | |
| 2 | V8-55 | 2 | | 205 | 488 | | |
| | | 3 | | 102 | 384 | | |
| | | 1 | | 98 | 262 | | |
| 2 | V8-55H | 2 | | 98 | 411 | | |
| | | 1 | | 208 | 537 | | |
| | | 2 | | 208 | 537 | | |
| 2 | V8-55RB | 1 | | 208 | 537 | | |
| | | 2 | | 208 | 537 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 112,350 | | \$ 1,324 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$979
 Truss Package ID: 8
 Design Parameters --> 140/C/PE
 Selling Price \$ 3,471

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|--------|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 396 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 200 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 550 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 91 | 448 | \$ 1.98 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 682 | \$ 3.57 | \$ 21.42 |
| | | 4 | | 127 | 313 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 371 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 858 | \$ 3.57 | \$ 10.71 |
| | | 7 | | 779 | 2,420 | \$ 10.80 | \$ - |
| | | 2 | | 179 | 401 | \$ 1.22 | \$ 1.22 |
| 1 | GE2 | 10 | | 115 | 185 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | 277 | 678 | \$ 3.57 | \$ 3.57 | |
| 1 | | 12 | 96 | 243 | \$ 1.22 | \$ 1.22 | |
| 1 | GE3 | 13 | | 166 | 375 | \$ 1.22 | \$ 1.22 |
| 1 | | 2 | 408 | 1,031 | \$ 4.53 | \$ 4.53 | |
| 1 | | 4 | 408 | 1,031 | \$ 4.53 | \$ 4.53 | |
| 1 | H101 | 2 | | 1,675 | 3,097 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,675 | 3,097 | \$ 25.00 | \$ 25.00 |
| 1 | H101S | 2 | | 1,669 | 3,086 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,597 | 2,847 | \$ 10.80 | \$ 10.80 |
| 1 | H121A | 1 | | 1,510 | 2,734 | \$ 10.80 | \$ 10.80 |
| 1 | | 9 | | 1,510 | 2,676 | \$ 10.80 | \$ 10.80 |
| 1 | H121S | 2 | | 1,669 | 3,148 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,597 | 2,911 | \$ 25.00 | \$ 25.00 |
| 1 | H141S | 2 | | 1,675 | 3,199 | \$ 25.00 | \$ 25.00 |
| 1 | | 11 | | 1,603 | 2,962 | \$ 25.00 | \$ 25.00 |
| 1 | H161S | 2 | | 1,669 | 3,250 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,597 | 3,013 | \$ 25.00 | \$ 25.00 |
| 1 | H181S | 2 | | 1,667 | 3,294 | \$ 25.00 | \$ 25.00 |
| 1 | | 9 | | 1,597 | 3,065 | \$ 25.00 | \$ 25.00 |
| 1 | H81 | 2 | 3 | 3,694 | 7,785 | \$ 206.35 | \$ 206.35 |
| 1 | | 12 | | 3,694 | 7,785 | \$ 206.35 | \$ 206.35 |
| 33 | J8 | 2 | | 345 | 766 | \$ 3.57 | \$ 117.81 |
| | | 4 | | 99 | 432 | \$ 1.98 | \$ - |
| | | 5 | | 190 | 455 | \$ 1.98 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 6,778 | \$ 191.80 | \$ 191.80 |
| 1 | | 13 | | 3,934 | 7,160 | \$ 191.80 | \$ 191.80 |
| 4 | S1 | 2 | | 1,679 | 3,398 | \$ 25.00 | \$ 100.00 |
| 4 | | 12 | 4-2ply | 1,679 | 338 | \$ 1.22 | \$ 4.86 |
| 1 | SH141SP | 2 | 2 | 1,602 | 3,029 | \$ 25.00 | \$ 25.00 |
| 1 | | 15 | | 1,539 | 2,740 | \$ 10.80 | \$ 10.80 |
| 1 | SH161SP | 2 | 2 | 1,602 | 3,077 | \$ 25.00 | \$ 25.00 |
| 1 | | 13 | | 1,539 | 2,794 | \$ 10.80 | \$ 10.80 |
| 1 | SH181SP | 2 | 2 | 1,602 | 3,125 | \$ 25.00 | \$ 25.00 |
| 1 | | 14 | | 1,539 | 2,849 | \$ 10.80 | \$ 10.80 |
| 1 | SH201 | 2 | | 1,679 | 3,347 | \$ 25.00 | \$ 25.00 |
| 1 | | 11 | | 1,679 | 3,347 | \$ 25.00 | \$ 25.00 |
| 1 | SH201A | 2 | | 1,679 | 3,347 | \$ 25.00 | \$ 25.00 |
| 1 | | 13 | | 1,616 | 3,140 | \$ 25.00 | \$ 25.00 |
| 2 | T3 | 2 | | 408 | 1,687 | \$ 4.68 | \$ 9.36 |
| 2 | | 6 | | 408 | 1,687 | \$ 4.68 | \$ 9.36 |
| | V12-55H | 1 | | 57 | 12 | | |
| | | 2 | | 191 | 910 | | |
| | | 3 | | 57 | 274 | | |
| | V16-55H | 1 | | 79 | 14 | | |
| | | 2 | | 264 | 1,172 | | |
| | | 3 | | 79 | 353 | | |
| | V16-55RB | 1 | | 262 | 773 | | |
| | | 2 | | 262 | 773 | | |
| | | 3 | | | | | |
| | V4-55 | 1 | | 48 | 237 | | |
| | | 2 | | 97 | 303 | | |
| | | 3 | | 48 | 237 | | |
| | V4-55H | 1 | | 51 | 159 | | |
| | | 2 | | 51 | 248 | | |
| | | 1 | | 102 | 457 | | |
| | V8-55 | 2 | | 205 | 583 | | |
| | | 3 | | 102 | 457 | | |
| | | 1 | | 98 | 308 | | |
| | V8-55H | 2 | | 98 | 481 | | |
| | | 1 | | 208 | 248 | | |
| | | 2 | | 208 | 823 | | |
| | V8-55RB | 3 | | | 248 | | |
| | | | | 65,172 | 130,449 | | \$ 1,621 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$427
 Truss Package ID: 9
 Design Parameters --> 150/B/E
 Selling Price \$ 2,919

| Quantity | Truss ID | Joint No. | Truss | | | Connectors | |
|----------|----------|-----------|-------|------------------------|----------------------|------------|-------------|
| | | | Ply | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 283 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 125 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 384 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 91 | 289 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 462 | \$ 1.98 | \$ 11.88 |
| | | 4 | | 127 | 342 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 93 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 725 | \$ 3.57 | \$ 10.71 |
| | | 7 | | 779 | 3,483 | \$ 25.00 | \$ - |
| 1 | GE2 | 2 | | 179 | 273 | \$ 1.22 | \$ 1.22 |
| 1 | | 10 | | 115 | 108 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 400 | \$ 1.22 | \$ 1.22 |
| 1 | | 12 | | 96 | 144 | \$ 1.22 | \$ 1.22 |
| 1 | | 13 | | 166 | 220 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 2 | | 408 | 664 | \$ 3.57 | \$ 3.57 |
| 1 | | 4 | | 408 | 664 | \$ 3.57 | \$ 3.57 |
| 1 | H101 | 2 | | 1,675 | 1,777 | \$ 4.68 | \$ 4.68 |
| 1 | | 10 | | 1,675 | 1,777 | \$ 4.68 | \$ 4.68 |
| 1 | H101S | 2 | | 1,669 | 1,777 | \$ 4.68 | \$ 4.68 |
| 1 | | 10 | | 1,597 | 1,588 | \$ 5.64 | \$ 5.64 |
| 1 | H121A | 1 | | 1,510 | 1,535 | \$ 5.64 | \$ 5.64 |
| 1 | | 9 | | 1,510 | 1,488 | \$ 5.64 | \$ 5.64 |
| 1 | H121S | 2 | | 1,669 | 1,816 | \$ 4.68 | \$ 4.68 |
| 1 | | 10 | | 1,597 | 1,636 | \$ 4.68 | \$ 4.68 |
| 1 | H141S | 2 | | 1,675 | 1,856 | \$ 4.68 | \$ 4.68 |
| 1 | | 11 | | 1,603 | 1,675 | \$ 4.68 | \$ 4.68 |
| 1 | H161S | 2 | | 1,669 | 1,896 | \$ 4.68 | \$ 4.68 |
| 1 | | 10 | | 1,597 | 1,715 | \$ 4.68 | \$ 4.68 |
| 1 | H181S | 2 | | 1,667 | 1,930 | \$ 4.68 | \$ 4.68 |
| 1 | | 9 | | 1,597 | 1,755 | \$ 4.68 | \$ 4.68 |
| 1 | H81 | 2 | 3 | 3,694 | 6,430 | \$ 191.80 | \$ 191.80 |
| 1 | | 12 | | 3,694 | 6,430 | \$ 191.80 | \$ 191.80 |
| 33 | J8 | 2 | | 345 | 502 | \$ 1.98 | \$ 65.34 |
| | | 4 | | 99 | 280 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 277 | \$ 1.22 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 6,464 | \$ 191.80 | \$ 191.80 |
| 1 | | 13 | | 3,934 | 6,806 | \$ 191.80 | \$ 191.80 |
| 4 | S1 | 2 | | 1,679 | 2,007 | \$ 7.56 | \$ 30.24 |
| 4 | | 12 | | 1,679 | 2,007 | \$ 7.56 | \$ 30.24 |
| 1 | SH141SP | 2 | 2 | 1,602 | 1,752 | \$ 4.68 | \$ 4.68 |
| 1 | | 15 | | 1,539 | 1,525 | \$ 5.64 | \$ 5.64 |
| 1 | SH161SP | 2 | | 1,602 | 1,790 | \$ 4.68 | \$ 4.68 |
| 1 | | 13 | | 1,539 | 1,566 | \$ 5.64 | \$ 5.64 |
| 1 | SH181SP | 2 | | 1,602 | 1,828 | \$ 4.68 | \$ 4.68 |
| 1 | | 14 | | 1,539 | 1,608 | \$ 4.68 | \$ 4.68 |
| 1 | SH201 | 2 | | 1,679 | 1,967 | \$ 4.68 | \$ 4.68 |
| 1 | | 11 | | 1,679 | 1,967 | \$ 4.68 | \$ 4.68 |
| 1 | SH201A | 2 | | 1,679 | 1,967 | \$ 4.68 | \$ 4.68 |
| 1 | | 13 | | 1,616 | 1,809 | \$ 4.68 | \$ 4.68 |
| 2 | T3 | 2 | | 408 | 1,174 | \$ 4.53 | \$ 9.06 |
| 2 | | 6 | | 408 | 1,174 | \$ 4.53 | \$ 9.06 |
| | V12-55H | 1 | | 57 | 5 | | |
| | | 2 | | 191 | 595 | | |
| | | 3 | | 57 | 179 | | |
| | V16-55H | 1 | | 79 | 4 | | |
| | | 2 | | 264 | 755 | | |
| | | 3 | | 79 | 228 | | |
| | V16-55RB | 1 | | 262 | 471 | | |
| | | 2 | | 262 | 471 | | |
| | | 3 | | | | | |
| | V4-55 | 1 | | 48 | 156 | | |
| | | 2 | | 97 | 197 | | |
| | | 3 | | 48 | 156 | | |
| | V4-55H | 1 | | 51 | 104 | | |
| | | 2 | | 51 | 163 | | |
| | V8-55 | 1 | | 102 | 295 | | |
| | | 2 | | 205 | 371 | | |
| | | 3 | | 102 | 295 | | |
| | V8-55H | 1 | | 98 | 200 | | |
| | | 2 | | 98 | 316 | | |
| | V8-55RB | 1 | | 208 | 409 | | |
| | | 2 | | 208 | 409 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 89,989 | \$ | 1,079 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$713
 Truss Package ID: 10
 Design Parameters --> 150/B/PE
 Selling Price \$ 3,205

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|---------|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 301 | \$ 1.22 | \$ 7.29 |
| | | 3 | | 52 | 154 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 416 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 91 | 345 | \$ 1.22 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 514 | \$ 1.98 | \$ 11.88 |
| | | 4 | | 127 | 404 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 116 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 641 | \$ 3.57 | \$ 10.71 |
| | | 7 | | 779 | 1,834 | \$ 4.68 | \$ - |
| | | 2 | | 179 | 302 | \$ 1.22 | \$ 1.22 |
| 1 | GE2 | 10 | | 115 | 137 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 511 | \$ 1.98 | \$ 1.98 |
| 1 | | 12 | | 96 | 183 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 13 | | 166 | 282 | \$ 1.22 | \$ 1.22 |
| 1 | | 2 | | 408 | 778 | \$ 3.57 | \$ 3.57 |
| 1 | | 4 | | 408 | 778 | \$ 3.57 | \$ 3.57 |
| 1 | H101 | 2 | | 1,675 | 2,307 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,675 | 2,307 | \$ 10.80 | \$ 10.80 |
| 1 | H101S | 2 | | 1,669 | 2,299 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,117 | \$ 7.56 | \$ 7.56 |
| 1 | H121A | 1 | | 1,510 | 2,033 | \$ 7.56 | \$ 7.56 |
| 1 | | 9 | | 1,510 | 1,989 | \$ 4.68 | \$ 4.68 |
| 1 | H121S | 2 | | 1,669 | 2,347 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,166 | \$ 7.56 | \$ 7.56 |
| 1 | H141S | 2 | | 1,675 | 2,387 | \$ 10.80 | \$ 10.80 |
| 1 | | 11 | | 1,603 | 2,206 | \$ 7.56 | \$ 7.56 |
| 1 | H161S | 2 | | 1,669 | 2,427 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,246 | \$ 10.80 | \$ 10.80 |
| 1 | H181S | 2 | | 1,667 | 2,461 | \$ 10.80 | \$ 10.80 |
| 1 | | 9 | | 1,597 | 2,285 | \$ 10.80 | \$ 10.80 |
| 1 | H81 | 2 | 3 | 3,694 | 7,771 | \$ 206.35 | \$ 206.35 |
| 1 | | 12 | | 3,694 | 7,771 | \$ 206.35 | \$ 206.35 |
| 33 | J8 | 2 | | 345 | 576 | \$ 1.98 | \$ 65.34 |
| | | 4 | | 99 | 332 | \$ 1.22 | \$ - |
| | | 5 | | 190 | 340 | \$ 1.22 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 7,818 | \$ 206.35 | \$ 206.35 |
| 1 | | 13 | | 3,934 | 8,274 | \$ 206.35 | \$ 206.35 |
| 4 | S1 | 2 | 4-2 ply | 1,679 | 2,541 | \$ 10.80 | \$ 43.20 |
| 4 | | 12 | | 1,679 | 2,541 | \$ 10.80 | \$ 43.20 |
| 1 | SH141SP | 2 | 2 | 1,602 | 2,258 | \$ 10.80 | \$ 10.80 |
| 1 | | 15 | | 1,539 | 2,038 | \$ 7.56 | \$ 7.56 |
| 1 | SH161SP | 2 | 2 | 1,602 | 2,297 | \$ 10.80 | \$ 10.80 |
| 1 | | 13 | | 1,539 | 2,079 | \$ 7.56 | \$ 7.56 |
| 1 | SH181SP | 2 | 2 | 1,602 | 2,334 | \$ 10.80 | \$ 10.80 |
| 1 | | 14 | | 1,539 | 2,122 | \$ 7.56 | \$ 7.56 |
| 1 | SH201 | 2 | | 1,679 | 2,502 | \$ 10.80 | \$ 10.80 |
| 1 | | 11 | | 1,679 | 2,502 | \$ 10.80 | \$ 10.80 |
| 1 | SH201A | 2 | | 1,679 | 2,502 | \$ 10.80 | \$ 10.80 |
| 1 | | 13 | | 1,616 | 2,343 | \$ 10.80 | \$ 10.80 |
| 2 | T3 | 2 | | 408 | 1,288 | \$ 4.53 | \$ 9.06 |
| 2 | | 6 | | 408 | 1,288 | \$ 4.53 | \$ 9.06 |
| | V12-55H | 1 | | 57 | 7 | | |
| | | 2 | | 191 | 700 | | |
| | | 3 | | 57 | 211 | | |
| | V16-55H | 1 | | 79 | 8 | | |
| | | 2 | | 264 | 900 | | |
| | | 3 | | 79 | 271 | | |
| | V16-55RB | 1 | | 262 | 590 | | |
| | | 2 | | 262 | 590 | | |
| | | 3 | | | | | |
| | V4-55 | 1 | | 48 | 182 | | |
| | | 2 | | 97 | 231 | | |
| | | 3 | | 48 | 182 | | |
| | V4-55H | 1 | | 51 | 122 | | |
| | | 2 | | 51 | 191 | | |
| | | 1 | | 102 | 351 | | |
| | V8-55 | 2 | | 205 | 445 | | |
| | | 3 | | 102 | 351 | | |
| | | 1 | | 98 | 235 | | |
| | V8-55H | 2 | | 98 | 370 | | |
| | | 1 | | 208 | 503 | | |
| | | 2 | | 208 | 503 | | |
| | V8-55RB | 3 | | | | | |
| | | 2 | | | | | |
| | | 3 | | | | | |
| | | | | 65,172 | 109,733 | | \$ 1,281 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$828
 Truss Package ID: 11
 Design Parameters --> 150/C/E
 Selling Price \$ 3,320

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|--------|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 434 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 52 | 187 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 591 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 91 | 434 | \$ 1.98 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 716 | \$ 3.57 | \$ 21.42 |
| | | 4 | | 127 | 379 | \$ 1.22 | \$ - |
| | | 5 | | 76 | 288 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 930 | \$ 3.09 | \$ 9.27 |
| | | 7 | | 779 | 2,045 | \$ 7.56 | \$ - |
| 1 | GE2 | 2 | | 179 | 422 | \$ 1.98 | \$ 1.98 |
| 1 | | 10 | | 115 | 173 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 626 | \$ 3.57 | \$ 3.57 |
| 1 | | 12 | | 96 | 224 | \$ 1.22 | \$ 1.22 |
| 1 | | 13 | | 166 | 345 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 2 | | 408 | 1,030 | \$ 4.53 | \$ 4.53 |
| | | 4 | | 408 | 1,030 | \$ 4.53 | \$ 4.53 |
| 1 | H101 | 2 | | 1,675 | 2,837 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,675 | 2,837 | \$ 10.80 | \$ 10.80 |
| 1 | H101S | 2 | | 1,669 | 2,827 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,551 | \$ 10.80 | \$ 10.80 |
| 1 | H121A | 1 | | 1,510 | 2,461 | \$ 10.80 | \$ 10.80 |
| 1 | | 9 | | 1,510 | 2,392 | \$ 10.80 | \$ 10.80 |
| 1 | H121S | 2 | | 1,669 | 2,896 | \$ 10.80 | \$ 10.80 |
| 1 | | 10 | | 1,597 | 2,622 | \$ 10.80 | \$ 10.80 |
| 1 | H141S | 2 | | 1,675 | 2,954 | \$ 25.00 | \$ 25.00 |
| 1 | | 11 | | 1,603 | 2,681 | \$ 10.80 | \$ 10.80 |
| 1 | H161S | 2 | | 1,669 | 3,013 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,597 | 2,739 | \$ 10.80 | \$ 10.80 |
| 1 | H181S | 2 | | 1,667 | 3,063 | \$ 25.00 | \$ 25.00 |
| 1 | | 9 | | 1,597 | 2,798 | \$ 10.80 | \$ 10.80 |
| 1 | H81 | 2 | 2 | 3,694 | 5,807 | \$ 191.80 | \$ 191.80 |
| 1 | | 12 | | 3,694 | 5,807 | \$ 191.80 | \$ 191.80 |
| 33 | J8 | 2 | | 345 | 784 | \$ 3.57 | \$ 117.81 |
| | | 4 | | 99 | 422 | \$ 1.98 | \$ - |
| | | 5 | | 190 | 436 | \$ 1.98 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 9,774 | \$ 206.35 | \$ 206.35 |
| 1 | | 13 | | 3,934 | 10,588 | \$ 206.35 | \$ 206.35 |
| 4 | S1 | 2 | 4-2ply | 1,679 | 3,177 | \$ 25.00 | \$ 100.00 |
| 4 | | 12 | | 1,679 | 3,177 | \$ 25.00 | \$ 100.00 |
| 1 | SH141SP | 2 | 2 | 1,602 | 2,792 | \$ 10.80 | \$ 10.80 |
| 1 | | 15 | | 1,539 | 2,451 | \$ 10.80 | \$ 10.80 |
| 1 | SH161SP | 2 | 2 | 1,602 | 2,847 | \$ 10.80 | \$ 10.80 |
| 1 | | 13 | | 1,539 | 2,512 | \$ 10.80 | \$ 10.80 |
| 1 | SH181SP | 2 | 2 | 1,602 | 2,902 | \$ 25.00 | \$ 25.00 |
| 1 | | 14 | | 1,539 | 2,575 | \$ 10.80 | \$ 10.80 |
| 1 | SH201 | 2 | | 1,679 | 3,118 | \$ 25.00 | \$ 25.00 |
| 1 | | 11 | | 1,679 | 3,118 | \$ 25.00 | \$ 25.00 |
| 1 | SH201A | 2 | | 1,679 | 3,118 | \$ 25.00 | \$ 25.00 |
| 1 | | 13 | | 1,616 | 2,879 | \$ 10.80 | \$ 10.80 |
| 2 | T3 | 2 | | 408 | 1,030 | \$ 4.53 | \$ 9.06 |
| | | 6 | | 408 | 1,030 | \$ 4.53 | \$ 9.06 |
| 2 | V12-55H | 1 | | 57 | 11 | | |
| | | 2 | | 191 | 896 | | |
| | | 3 | | 57 | 270 | | |
| 2 | V16-55H | 1 | | 79 | 13 | | |
| | | 2 | | 264 | 1,139 | | |
| | | 3 | | 79 | 343 | | |
| 2 | V16-55RB | 1 | | 262 | 719 | | |
| | | 2 | | 262 | 719 | | |
| | | 3 | | | | | |
| 2 | V4-55 | 1 | | 48 | 234 | | |
| | | 2 | | 97 | 299 | | |
| | | 3 | | 48 | 234 | | |
| 2 | V4-55H | 1 | | 51 | 157 | | |
| | | 2 | | 51 | 245 | | |
| 2 | V8-55 | 1 | | 102 | 444 | | |
| | | 2 | | 205 | 566 | | |
| | | 3 | | 102 | 444 | | |
| 2 | V8-55H | 1 | | 98 | 304 | | |
| | | 2 | | 98 | 475 | | |
| | | 3 | | 208 | 622 | | |
| 2 | V8-55RB | 2 | | 208 | 622 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 127,625 | \$ | 1,564 |

Table D-6: Truss Costs and Reaction Loads

Price for SBC trusses \$2,492
 Change in price \$1,399
 Truss Package ID: 12
 Design Parameters --> 150/C/PE
 Selling Price \$ 3,891

| Quantity | Truss ID | Joint No. | Ply | Truss | | Connectors | |
|----------|----------|-----------|---------|------------------------|----------------------|------------|-------------|
| | | | | Downward Reaction (lb) | Upward Reaction (lb) | Price each | Total Price |
| 6 | BJ2 | 2 | | 145 | 460 | \$ 1.98 | \$ 11.88 |
| | | 3 | | 52 | 230 | \$ 1.22 | \$ - |
| | | 4 | | 19 | | \$ 1.22 | \$ - |
| 6 | BJ4 | 2 | | 221 | 639 | \$ 3.57 | \$ 21.42 |
| | | 3 | | 91 | 516 | \$ 1.98 | \$ - |
| | | 4 | | 36 | | \$ 1.22 | \$ - |
| 6 | BJ6 | 2 | | 293 | 793 | \$ 3.57 | \$ 21.42 |
| | | 4 | | 127 | 443 | \$ 1.98 | \$ - |
| | | 5 | | 76 | 350 | \$ 1.22 | \$ - |
| 3 | CJ8 | 2 | | 473 | 1,004 | \$ 4.53 | \$ 13.59 |
| | | 7 | | 779 | 2,808 | \$ 10.80 | \$ - |
| | | 2 | | 179 | 466 | \$ 1.98 | \$ 1.98 |
| 1 | GE2 | 10 | | 115 | 217 | \$ 1.22 | \$ 1.22 |
| 1 | | 11 | | 277 | 790 | \$ 3.57 | \$ 3.57 |
| 1 | | 12 | | 96 | 282 | \$ 1.22 | \$ 1.22 |
| 1 | GE3 | 13 | | 166 | 437 | \$ 1.98 | \$ 1.98 |
| 1 | | 2 | | 408 | 1,199 | \$ 4.53 | \$ 4.53 |
| 1 | | 4 | | 408 | 1,199 | \$ 4.53 | \$ 4.53 |
| 1 | H101 | 2 | | 1,675 | 3,621 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,675 | 3,621 | \$ 25.00 | \$ 25.00 |
| 1 | H101S | 2 | | 1,669 | 3,608 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,597 | 3,332 | \$ 25.00 | \$ 25.00 |
| 1 | H121A | 1 | | 1,510 | 3,199 | \$ 25.00 | \$ 25.00 |
| 1 | | 9 | | 1,510 | 3,131 | \$ 25.00 | \$ 25.00 |
| 1 | H121S | 2 | | 1,669 | 3,679 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,597 | 3,406 | \$ 25.00 | \$ 25.00 |
| 1 | H141S | 2 | | 1,675 | 3,738 | \$ 25.00 | \$ 25.00 |
| 1 | | 11 | | 1,603 | 3,465 | \$ 25.00 | \$ 25.00 |
| 1 | H161S | 2 | | 1,669 | 3,797 | \$ 25.00 | \$ 25.00 |
| 1 | | 10 | | 1,597 | 3,523 | \$ 25.00 | \$ 25.00 |
| 1 | H181S | 2 | | 1,667 | 3,847 | \$ 25.00 | \$ 25.00 |
| 1 | | 9 | | 1,597 | 3,582 | \$ 25.00 | \$ 25.00 |
| 1 | H81 | 2 | 3 | 3,694 | 9,077 | \$ 206.35 | \$ 206.35 |
| 1 | | 12 | | 3,694 | 9,077 | \$ 206.35 | \$ 206.35 |
| 33 | J8 | 2 | | 345 | 893 | \$ 3.09 | \$ 101.97 |
| | | 4 | | 99 | 500 | \$ 1.98 | \$ - |
| | | 5 | | 190 | 530 | \$ 1.98 | \$ - |
| 1 | MH81S | 2 | 3 | 3,728 | 9,141 | \$ 206.35 | \$ 206.35 |
| 1 | | 13 | | 3,934 | 9,752 | \$ 206.35 | \$ 206.35 |
| 4 | S1 | 2 | 4-2 ply | 1,679 | 3,967 | \$ 25.00 | \$ 100.00 |
| 4 | | 12 | | 1,679 | 3,967 | \$ 25.00 | \$ 100.00 |
| 1 | SH141SP | 2 | 3 | 1,602 | 3,540 | \$ 25.00 | \$ 25.00 |
| 1 | | 15 | | 1,539 | 3,207 | \$ 25.00 | \$ 25.00 |
| 1 | SH161SP | 2 | 2 | 1,602 | 3,569 | \$ 25.00 | \$ 25.00 |
| 1 | | 13 | | 1,539 | 3,269 | \$ 25.00 | \$ 25.00 |
| 1 | SH181SP | 2 | 2 | 1,602 | 3,650 | \$ 25.00 | \$ 25.00 |
| 1 | | 14 | | 1,539 | 3,332 | \$ 25.00 | \$ 25.00 |
| 1 | SH201 | 2 | | 1,679 | 3,908 | \$ 25.00 | \$ 25.00 |
| 1 | | 11 | | 1,679 | 3,908 | \$ 25.00 | \$ 25.00 |
| 1 | SH201A | 2 | | 1,679 | 3,908 | \$ 25.00 | \$ 25.00 |
| 1 | | 13 | | 1,616 | 3,669 | \$ 25.00 | \$ 25.00 |
| 2 | T3 | 2 | | 408 | 1,199 | \$ 4.53 | \$ 9.06 |
| 2 | | 6 | | 408 | 1,199 | \$ 4.53 | \$ 9.06 |
| | V12-55H | 1 | | 57 | 15 | | |
| | | 2 | | 191 | 1,050 | | |
| | | 3 | | 57 | 316 | | |
| | V16-55H | 1 | | 79 | 18 | | |
| | | 2 | | 264 | 1,352 | | |
| | | 3 | | 79 | 407 | | |
| | V16-55RB | 1 | | 98 | 336 | | |
| | | 2 | | 328 | 1,118 | | |
| | | 3 | | 98 | 336 | | |
| | V4-55 | 1 | | 48 | 273 | | |
| | | 2 | | 97 | 350 | | |
| | | 3 | | 48 | 273 | | |
| | V4-55H | 1 | | 51 | 184 | | |
| | | 2 | | 51 | 286 | | |
| | | 1 | | 102 | 527 | | |
| | V8-55 | 2 | | 205 | 675 | | |
| | | 3 | | 102 | 527 | | |
| | | 1 | | 98 | 356 | | |
| | V8-55H | 2 | | 98 | 554 | | |
| | | 1 | | 208 | 761 | | |
| | | 2 | | 208 | 761 | | |
| | V8-55RB | 1 | | 208 | 761 | | |
| | | 2 | | 208 | 761 | | |
| | | 3 | | | | | |
| | | | | 65,172 | 157,119 | | \$ 1,833 |

D.3.4 Wall and Roof Deck Design Details

The exterior walls must be designed for appropriate wind load conditions. For wood frame walls wind pressures were calculated and the framing members examined to determine if changes were required for any of the design cases. When using #2 SYP or SPF 10' high walls can be built using 16" stud spacing in all but one case as indicated in Table D-7. Here again, several builder options exist for wood frame walls as detailed below. The design pressure requirements are provided for each case shown in the Table D-7.

The roof deck nailing pattern requirement was also determined for each design case. Results range from the commonly used 6"/12" (6" spacing on the edge of the sheathing/12" spacing in the interior (field) of the panel) to 6"/8" and 6"/6" in the highest wind design cases. Costs provided by this builder's framing contractor indicated there would be no increase in cost for the closer nailing when required.

These design calculations were prepared by Steve Darby, P.E. An example of the design calculations used in this project is given in Appendix J.

Table D-7: Wall Design Details for Mercedes Wood Frame Home using FBC¹

| Wind Speed (mph gust) | Exposure | Enclosed/ Partially Enclosed | Pressure (psf), Zone 5 | Wall Lumber Size | Wall Passes? | Roof Deck Nail Pattern Edge/Int. - 8d | 5/8" Shear Bolt Spacing (Bottom Plate to Foundation) |
|-----------------------|----------|------------------------------|------------------------|------------------|--------------|---------------------------------------|--|
| 120 | B | E | -32.13 | 2X4 | OK | 6"/16" | 12' |
| 120 | C | E | -39.47 | 2X4 | OK | 6"/12" | 10' |
| 120 | B | P | -40.26 | 2X4 | OK | 6"/12" | 12' |
| 120 | C | P | -40.26 | 2X4 | OK | 6"/9.6" | 10' |
| 130 | B | E | -37.71 | 2X4 | OK | 6"/12" | 10' |
| 130 | C | E | -46.32 | 2X4 | OK | 6"/9.6" | 8' |
| 130 | B | P | -47.25 | 2X4 | OK | 6"/9.6" | 10' |
| 130 | C | P | -58.03 | 2X4 | OK | 6"/8" | 8' |
| 140 | B | E | -43.74 | 2X4 | OK | 6"/9.6" | 9' |
| 140 | C | E | -53.72 | 2X4 | OK | 6"/8" | 7' |
| 140 | B | P | -54.79 | 2X4 | OK | 6"/9.6" | 9' |
| 140 | C | P | -67.30 | 2X4 | OK | 6"/8" | 7' |
| 150 | B | E | -50.27 | 2X4 | OK | 6"/9.6" | 8' |
| 150 | C | E | -61.67 | 2X4 | OK | 6"/8" | 6' |
| 150 | B | P | -62.90 | 2X4 | OK | 6"/8" | 8' |
| 150 | C | P | -77.26 | 2X4 | FAIL | 6"/6.86" | 6' |

1. Wall height of 8 ft used, with 16 inch o/c stud spacing
2. Exterior -3/8" OSB with 1/2" Gypsum interior using SPF#2 lumber with Fb=875 psi, Ft=450 psi, Fv=70 psi, Fcp=425 psi, Fc=1150 psi, E=1,400,000
3. Repetitive bending factors were applied for 3/8" sheathing, but sheathing was not included in lumber section modulus calculations for bending.

D.3.5 Opening (Windows, Doors, Sliding Glass Doors and Garage Doors) Design Pressures and Pricing

For any given set of wind speed, exposure and enclosure conditions, design pressure requirements for windows, and doors (of all types) will additionally vary based on the size of the

unit, mean roof height, and location of the unit on the exterior of the building. Table D-8 and Table D-9 provide a summary of the costs for all openings on this house. Additionally, individual design pressure data for design pressure requirements and prices for non-impact and impact rated units is presented for all 29 design cases shown in Table D-1. Prices for individual units reflect discounts provided by the suppliers and except for the garage doors, do not include installation costs that are reported separately.

Table D-8 shows that prices for non-impact rated units will range from \$2,143 to \$4,631 depending on wind conditions. Prices for impact rated units range from \$7,864 to \$8,246 for the same reason. As indicated earlier, these figures are based on the specific house with specific windows and doors. Caution must be exercised when considering price changes for other house designs. A typical discount afforded to builders has included in the summarized costs in Table D-8. Note that the fenestration prices in Table D-9 reflect the list price.

Table D-8: Summary of Opening Costing for FBC Design Cases

| Wind Speed | Enclosed | | | | Partially Enclosed | |
|------------|------------|---------|------------|---------|--------------------|------------|
| | B | | C | | B | C |
| | Non Impact | Impact | Non Impact | Impact | Non Impact | Non Impact |
| 100 | \$2,143 | N/R | N/R | N/R | N/R | N/R |
| 110 | \$2,258 | N/R | N/R | N/R | N/R | N/R |
| 120 | \$2,290 | \$7,864 | \$2,642 | \$7,887 | \$2,649 | \$2,855 |
| 130 | \$2,628 | \$7,943 | \$2,848 | \$8,092 | \$2,855 | \$3,109 |
| 140 | \$2,846 | \$8,149 | \$3,055 | \$8,246 | \$3,058 | \$3,311 |
| 150 | \$2,902 | \$8,149 | \$3,130 | \$8,246 | \$3,228 | \$4,631 |

Notes:

- N/R = not required
- These prices include a typical discount given to builders

Table D-9: List Prices of Windows

| Internal Pressure Design | | Enclosed | | | | | | | | Partially Enclosed | | | | | |
|--------------------------|-----------------------|--------------|--------------|---------------------|-----------------|--------------|--------------|---------------------|-----------------|--------------------|--------------|---------------------|--------------|--------------|---------------------|
| Wind Speed | Exposure | B | | | | C | | | | B | | | C | | |
| | Fenestration | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Cost for Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Cost for Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact |
| 100 | 3068 Door | -18.49 | 16.97 | \$ 134 | | | | | | | | | | | |
| | 16070 Garage door | -17.02 | 15.16 | \$ 625 | | | | | | | | | | | |
| | 6068 Slider | -17.89 | 16.36 | \$ 426 | | | | | | | | | | | |
| | 2-26SH W/half eyebrow | -21.09 | 16.49 | \$ 155 | | | | | | | | | | | |
| | 2-26SH W/half eyebrow | -18.02 | 16.49 | \$ 155 | | | | | | | | | | | |
| | 35 SH | -18.70 | 17.18 | \$ 170 | | | | | | | | | | | |
| | 35 SH | -18.70 | 17.18 | \$ 170 | | | | | | | | | | | |
| | 35 SH | -18.70 | 17.18 | \$ 170 | | | | | | | | | | | |
| | 35 SH | -18.70 | 17.18 | \$ 170 | | | | | | | | | | | |
| | 35 SH | -18.70 | 17.18 | \$ 170 | | | | | | | | | | | |
| | 24 SH Temp Obscure | -19.30 | 17.78 | \$ 189 | | | | | | | | | | | |
| | Windows | | | \$1,349 | | | | | | | | | | | |
| | All | | | \$2,534 | | | | | | | | | | | |
| | 110 | 3068 Door | -22.37 | 20.53 | \$ 134 | | | | | | | | | | |
| 16070 Garage door | | -20.59 | 18.35 | \$ 769 | | | | | | | | | | | |
| 6068 Slider | | -21.64 | 19.80 | \$ 426 | | | | | | | | | | | |
| 2-26SH W/half eyebrow | | -21.80 | 19.95 | \$ 155 | | | | | | | | | | | |
| 2-26SH W/half eyebrow | | -25.52 | 19.95 | \$ 155 | | | | | | | | | | | |
| 35 SH | | -22.63 | 20.79 | \$ 170 | | | | | | | | | | | |
| 35 SH | | -22.63 | 20.79 | \$ 170 | | | | | | | | | | | |
| 35 SH | | -22.63 | 20.79 | \$ 170 | | | | | | | | | | | |
| 35 SH | | -22.63 | 20.79 | \$ 170 | | | | | | | | | | | |
| 35 SH | | -22.63 | 20.79 | \$ 170 | | | | | | | | | | | |
| 24 SH Temp Obscure | | -23.35 | 21.51 | \$ 189 | | | | | | | | | | | |
| Windows | | | | \$1,349 | | | | | | | | | | | |
| All | | | | \$2,678 | | | | | | | | | | | |

Table D-9: List Prices of Windows

| Internal Pressure Design | | Enclosed | | | | | | | | Partially Enclosed | | | | | |
|--------------------------|-----------------------|--------------|--------------|---------------------|-----------------|--------------|--------------|---------------------|-----------------|--------------------|--------------|---------------------|--------------|--------------|---------------------|
| Wind Speed | Exposure | B | | | | C | | | | B | | | C | | |
| | Fenestration | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Cost for Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Cost for Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact |
| | 120 | 3068 Door | -26.63 | 24.43 | \$ 134 | \$ 134 | -32.26 | 29.60 | \$ 134 | \$ 134 | -34.75 | 32.55 | \$ 134 | -42.10 | 39.44 |
| | 16070 Garage door | -24.50 | 21.84 | \$ 769 | \$ 769 | -29.69 | 26.46 | \$ 868 | \$ 868 | -32.63 | 29.96 | \$ 868 | -39.53 | 36.30 | \$ 1,125 |
| | 6068 Slider | -25.76 | 23.56 | \$ 426 | \$1,850 | -31.21 | 28.55 | \$ 447 | \$1,850 | -33.88 | 31.68 | \$ 447 | -41.05 | 38.39 | \$ 447 |
| | 2-26SH W/half eyebrow | -30.37 | 23.75 | \$ 193 | \$ 964 | -36.80 | 28.77 | \$ 193 | \$ 964 | -38.49 | 31.87 | \$ 197 | -46.64 | 38.62 | \$ 197 |
| | 2-26SH W/half eyebrow | -25.94 | 23.75 | \$ 155 | \$ 964 | -31.43 | 28.77 | \$ 193 | \$ 964 | -34.07 | 31.87 | \$ 197 | -41.28 | 38.62 | \$ 197 |
| | 35 SH | -26.93 | 24.74 | \$ 170 | \$ 806 | -32.63 | 29.97 | \$ 219 | \$ 806 | -35.05 | 32.86 | \$ 219 | -42.47 | 39.82 | \$ 219 |
| | 35 SH | -26.93 | 24.74 | \$ 170 | \$ 806 | -32.63 | 29.97 | \$ 219 | \$ 806 | -35.05 | 32.86 | \$ 219 | -42.47 | 39.82 | \$ 219 |
| | 35 SH | -26.93 | 24.74 | \$ 170 | \$ 806 | -32.63 | 29.97 | \$ 219 | \$ 806 | -35.05 | 32.86 | \$ 219 | -42.47 | 39.82 | \$ 219 |
| | 35 SH | -26.93 | 24.74 | \$ 170 | \$ 806 | -32.63 | 29.97 | \$ 219 | \$ 806 | -35.05 | 32.86 | \$ 219 | -42.47 | 39.82 | \$ 219 |
| | 35 SH | -26.93 | 24.74 | \$ 170 | \$ 806 | -32.63 | 29.97 | \$ 219 | \$ 806 | -35.05 | 32.86 | \$ 219 | -42.47 | 39.82 | \$ 219 |
| | 24 SH Temp Obscure | -27.79 | 25.60 | \$ 189 | \$ 562 | -33.68 | 31.02 | \$ 206 | \$ 496 | -35.91 | 33.72 | \$ 206 | -43.52 | 40.86 | \$ 206 |
| | Windows | | | \$1,387 | \$6,520 | | | \$1,687 | \$6,454 | | | \$1,695 | | | \$1,695 |
| | All | | | \$2,716 | \$9,273 | | | \$3,136 | \$9,306 | | | \$3,144 | | | \$3,401 |
| 130 | 3068 Door | -31.25 | 28.67 | \$ 134 | \$ 134 | -37.86 | 34.74 | \$ 134 | \$ 134 | -40.78 | 38.20 | \$ 134 | -49.41 | 46.29 | \$ 134 |
| | 16070 Garage door | -28.76 | 25.63 | \$ 868 | \$ 868 | -34.85 | 31.05 | \$1,125 | \$ 1,125 | -38.29 | 35.16 | \$1,125 | -46.40 | 42.60 | \$1,317 |
| | 6068 Slider | -30.23 | 27.65 | \$ 447 | \$ 1,850 | -36.63 | 33.51 | \$ 447 | \$ 1,850 | -39.76 | 37.19 | \$ 447 | -48.18 | 45.06 | \$ 447 |
| | 2-26SH W/half eyebrow | -35.65 | 27.87 | \$ 193 | \$ 964 | -43.19 | 33.77 | \$ 193 | \$ 964 | -45.18 | 37.40 | \$ 197 | -54.74 | 45.32 | \$ 256 |
| | 2-26SH W/half eyebrow | -30.45 | 27.87 | \$ 193 | \$ 964 | -36.89 | 33.77 | \$ 193 | \$ 964 | -39.98 | 37.40 | \$ 197 | -48.44 | 45.32 | \$ 256 |
| | 35 SH | -31.61 | 29.03 | \$ 219 | \$ 806 | -38.30 | 35.18 | \$ 219 | \$ 806 | -41.14 | 38.56 | \$ 219 | -49.85 | 46.73 | \$ 219 |
| | 35 SH | -31.61 | 29.03 | \$ 219 | \$ 806 | -38.30 | 35.18 | \$ 219 | \$ 806 | -41.14 | 38.56 | \$ 219 | -49.85 | 46.73 | \$ 219 |
| | 35 SH | -31.61 | 29.03 | \$ 219 | \$ 806 | -38.30 | 35.18 | \$ 219 | \$ 806 | -41.14 | 38.56 | \$ 219 | -49.85 | 46.73 | \$ 219 |
| | 35 SH | -31.61 | 29.03 | \$ 219 | \$ 806 | -38.30 | 35.18 | \$ 219 | \$ 806 | -41.14 | 38.56 | \$ 219 | -49.85 | 46.73 | \$ 219 |
| | 35 SH | -31.61 | 29.03 | \$ 219 | \$ 806 | -38.30 | 35.18 | \$ 219 | \$ 806 | -41.14 | 38.56 | \$ 219 | -49.85 | 46.73 | \$ 219 |
| | 24 SH Temp Obscure | -32.62 | 30.04 | \$ 189 | \$ 562 | -39.52 | 36.4 | \$ 206 | \$ 496 | -42.15 | 39.57 | \$ 206 | -51.07 | 47.95 | \$ 206 |
| | Windows | | | \$1,670 | \$6,520 | | | \$1,687 | \$6,454 | | | \$1,695 | | | \$1,813 |
| | All | | | \$3,119 | \$9,372 | | | \$3,393 | \$9,563 | | | \$3,401 | | | \$3,711 |

Table D-9: List Prices of Windows

| Internal Pressure Design | | Enclosed | | | | | | | | Partially Enclosed | | | | | |
|--------------------------|-----------------------|--------------|--------------|---------------------|-----------------|--------------|--------------|---------------------|-----------------|--------------------|--------------|---------------------|--------------|--------------|---------------------|
| Wind Speed | Exposure | B | | | | C | | | | B | | | C | | |
| | Fenestration | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Cost for Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Cost for Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact | Neg DP (psf) | Pos DP (psf) | Cost for Non Impact |
| | 140 | 3068 Door | -36.24 | 33.25 | \$ 134 | \$ 134 | -43.91 | 40.29 | \$ 134 | \$ 134 | -47.3 | 44.31 | \$ 134 | -57.31 | 53.69 |
| | 16070 Garage door | -33.35 | 29.72 | \$1,125 | \$1,125 | -40.41 | 36.01 | \$1,317 | \$1,317 | -44.41 | 40.78 | \$1,317 | -53.81 | 49.41 | \$1,450 |
| | 6068 Slider | -35.06 | 32.07 | \$ 447 | \$1,850 | -42.48 | 38.86 | \$ 447 | \$1,850 | -46.11 | 43.13 | \$ 447 | -55.87 | 52.25 | \$ 510 |
| | 2-26SH W/half eyebrow | -41.34 | 32.32 | \$ 193 | \$ 964 | -50.09 | 39.17 | \$ 256 | \$ 964 | -52.4 | 43.38 | \$ 256 | -63.49 | 52.56 | \$ 281 |
| | 2-26SH W/half eyebrow | -35.31 | 32.32 | \$ 193 | \$ 964 | -42.79 | 39.17 | \$ 193 | \$ 964 | -46.37 | 43.38 | \$ 197 | -56.18 | 52.56 | \$ 281 |
| | 35 SH | -36.66 | 33.67 | \$ 219 | \$ 806 | -44.42 | 40.8 | \$ 219 | \$ 806 | -47.71 | 44.73 | \$ 219 | -57.81 | 54.19 | \$ 219 |
| | 35 SH | -36.66 | 33.67 | \$ 219 | \$ 806 | -44.42 | 40.8 | \$ 219 | \$ 806 | -47.71 | 44.73 | \$ 219 | -57.81 | 54.19 | \$ 219 |
| | 35 SH | -36.66 | 33.67 | \$ 219 | \$ 806 | -44.42 | 40.8 | \$ 219 | \$ 806 | -47.71 | 44.73 | \$ 219 | -57.81 | 54.19 | \$ 219 |
| | 35 SH | -36.66 | 33.67 | \$ 219 | \$ 806 | -44.42 | 40.8 | \$ 219 | \$ 806 | -47.71 | 44.73 | \$ 219 | -57.81 | 54.19 | \$ 219 |
| | 35 SH | -36.66 | 33.67 | \$ 219 | \$ 806 | -44.42 | 40.8 | \$ 219 | \$ 806 | -47.71 | 44.73 | \$ 219 | -57.81 | 54.19 | \$ 219 |
| | 24 SH Temp Obscure | -37.83 | 34.84 | \$ 204 | \$ 562 | -45.84 | 42.22 | \$ 206 | \$ 496 | -48.88 | 45.9 | \$ 206 | -59.23 | 55.61 | \$ 206 |
| | Windows | | | \$1,685 | \$6,520 | | | \$1,750 | \$6,454 | | | \$1,754 | | | \$1,863 |
| | All | | | \$3,391 | \$9,629 | | | \$3,648 | \$9,755 | | | \$3,652 | | | \$3,957 |
| 150 | 3068 Door | -41.60 | 38.17 | \$ 134 | \$ 134 | -50.41 | 46.25 | \$ 134 | \$ 134 | -54.29 | 50.86 | \$ 134 | -65.79 | 61.63 | |
| | 16070 Garage door | -38.29 | 34.12 | \$1,125 | \$1,125 | -46.39 | 41.34 | \$ 1,317 | \$1,317 | -50.98 | 46.81 | \$1,317 | -61.77 | 56.72 | \$1,450 |
| | 6068 Slider | -40.25 | 36.82 | \$ 447 | \$1,850 | -48.76 | 44.61 | \$ 447 | \$1,850 | -52.94 | 49.51 | \$ 510 | -64.14 | 59.99 | \$ 510 |
| | 2-26SH W/half eyebrow | -47.46 | 37.11 | \$ 193 | \$ 964 | -57.5 | 44.96 | \$ 281 | \$ 964 | -60.15 | 49.8 | \$ 281 | -72.88 | 60.34 | \$ 964 |
| | 2-26SH W/half eyebrow | -40.54 | 37.11 | \$ 193 | \$ 964 | -49.12 | 44.96 | \$ 256 | \$ 964 | -53.23 | 49.8 | \$ 281 | -64.49 | 60.34 | \$ 964 |
| | 35 SH | -42.08 | 38.65 | \$ 219 | \$ 806 | -50.99 | 46.83 | \$ 219 | \$ 806 | -54.77 | 51.34 | \$ 219 | -66.37 | 62.21 | \$ 288 |
| | 35 SH | -42.08 | 38.65 | \$ 219 | \$ 806 | -50.99 | 46.83 | \$ 219 | \$ 806 | -54.77 | 51.34 | \$ 219 | -66.37 | 62.21 | \$ 288 |
| | 35 SH | -42.08 | 38.65 | \$ 219 | \$ 806 | -50.99 | 46.83 | \$ 219 | \$ 806 | -54.77 | 51.34 | \$ 219 | -66.37 | 62.21 | \$ 288 |
| | 35 SH | -42.08 | 38.65 | \$ 219 | \$ 806 | -50.99 | 46.83 | \$ 219 | \$ 806 | -54.77 | 51.34 | \$ 219 | -66.37 | 62.21 | \$ 288 |
| | 35 SH | -42.08 | 38.65 | \$ 219 | \$ 806 | -50.99 | 46.83 | \$ 219 | \$ 806 | -54.77 | 51.34 | \$ 219 | -66.37 | 62.21 | \$ 288 |
| | 24 SH Temp Obscure | -43.43 | 40.00 | \$ 204 | \$ 562 | -52.62 | 48.46 | \$ 206 | \$ 496 | -56.12 | 52.69 | \$ 234 | -68.00 | 63.84 | \$ 206 |
| | Windows | | | \$1,685 | \$6,520 | | | \$1,838 | \$6,454 | | | \$1,891 | | | \$3,574 |
| | All | | | \$3,391 | \$9,629 | | | \$3,736 | \$9,755 | | | \$3,852 | | | \$5,534 |

D.3.6 Options to Meet 2001 Energy Code

Energy code changes may require builders to change designs or products currently used in order to comply with the 2001 Energy Code. In simple terms, energy audits consist of rating a building in terms of the heating, cooling and energy consumption features. These numeric ratings are calculated relative to a baseline feature. To meet the energy requirements, a builder must select a combination of features that yields a total rating (called an E-ratio) of equal to or less than 100. Under the FBC, the baseline features to which the ratings are relative have been changed. As a result, the impact on builders will only be felt when the current energy package used by the builder is minimally compliant with the SBC requirements.

This builder currently builds houses with energy features that exceed the minimum requirements for the SBC and also exceed the new requirements of the FBC. Therefore, no changes were required in this work, and no cost impact has been included in the cost summaries.

However, some builders may build with minimal SBC energy features and, therefore, will not meet the new requirements of the FBC. In this case, changes to the building would be required. To illustrate what could be done, the Department of Community Affairs prepared the Table D-10 that shows several options and methods of meeting the new code. The As-Built case is what the builder currently uses as a standard energy package. Under the SBC, the builder is well within the energy requirements. The first three rows of Table D-10 show how this package scores in the SBC and FBC. If this home was built in any region of the State, the As-Built house would also meet the FBC.

The remaining nine rows of the table show this house with a set of features that minimally meet the SBC requirements (Min SBC Comp.) which does not meet the requirements under the FBC and a couple of options are listed that will meet the FBC energy requirements. Several options are presented to make the houses comply with the FBC.

- Glass type: Single Clear, Double Clear, Single Tinted or Double Tinted.
- Ceiling R Value: R-19 or R-30
- Cooling SEER: 10, 10.5 or 11
- Heating Option: Heat Pump or Electric Strip Heaters
- Location of Air Handling Unit: Interior , Attic or Garage
- Water Heater Rating (EF)

Builders will have to examine current construction practices for each house they build to determine the impact of the 2001Code.

D.3.7 Impact Resistant Covering (Shutters) Pricing

Many options exist for impact resistant coverings:

- Structural Wood Panels
- Storm Panels:
 - Steel
 - Aluminum
 - Acrylic/Polycarbonate
- Accordion Shutters
- Roll Shutters
- Bahama Shutters
- Colonial Shutters
- Flexible Screen Products
- Others

Table D-10: Mercedes Wood Frame Energy Code Options

| House Description | | | | | | | | | E-Ratio '97 | E-Ratio '01 |
|-------------------|---------|--------------|-----------------|--------------|-----------|-----------------|--------------|-----------------|-------------|-------------|
| Wood Frame | Zone | Glass Type/% | Ceiling R-Value | Wall R-Value | Cool SEER | Heat (HSPF/COP) | AHU Location | Water Heater EF | SBC | FBC |
| As-Built | North | Dbl Clr 12 | 30 | 11 | 11 | 7.2 | Interior | 0.86 | 89 | 93 |
| As-Built | Central | Dbl Clr 12 | 30 | 11 | 11 | 7.2 | Interior | 0.86 | 79 | 93 |
| As-Built | South | Dbl Clr 12 | 30 | 11 | 11 | 7.2 | Interior | 0.86 | 81 | 90 |
| Min SBC Comp | North | Dbl Clr 12 | 30 | 11 | 10 | 6.8 | Garage | 0.86 | 98 | 102 |
| FBC Option #1 | North | Dbl Clr 12 | 30 | 11 | 10.5 | 7 | Garage | 0.86 | | 100 |
| FBC Option #2 | North | Dbl Clr 12 | 30 | 11 | 10 | 6.8 | Garage | 0.86 | | 99 |
| FBC Option #3 | North | Dbl Clr 12 | 30 | 11 | 11 | 7.2 | Attic | 0.91 | | 99 |
| Min SBC Comp | Central | Sgl Clr 12 | 30 | 11 | 12 | Electric Strip | Attic | 0.86 | 99 | 119 |
| FBC Option #1 | Central | Sgl Clr 12 | 30 | 11 | 11 | 7.2 | Garage | 0.86 | | 100 |
| FBC Option #2 | Central | Sgl Clr 12 | 30 | 11 | 12 | 7.4 | Attic | 0.91 | | 99 |
| FBC Option #3 | Central | Sgl Clr 12 | 30 | 11 | 10 | 6.8 | Interior | 0.86 | | 100 |
| Min SBC Comp | South | Sgl Clr 12 | 30 | 11 | 10 | Electric Strip | Attic | 0.86 | 100 | 113 |
| FBC Option #1 | South | Sgl Tnt 12 | 30 | 11 | 11 | Electric Strip | Garage | 0.86 | | 99 |
| FBC Option #2 | South | Sgl.Clr. 12 | 30 | 11 | 12 | Electric Strip | Attic | 0.86 | | 100 |
| FBC Option #3 | South | Sgl Clr 12 | 30 | 11 | 10 | Electric Strip | Interior | 0.86 | | 99 |

- E- Ratio '97 column indicates As-Built house is compliant in all three zones under the SBC.
- E- Ratio '01 column indicates As-Built house is compliant in all three zones under the FBC.
- Min. SBC comp = minimum compliant according to SBC.
- FBC Options are possible versions of Min. SBC Comp that meet FBC requirements.

Pricing varies due to the product selected for use and installation requirements for each opening and product. For this project direct mounted steel storm panels were used in the cost analysis. Additionally, we priced direct mounted aluminum panels and track mounted steel and aluminum panels and wood structural panels for this home. For the wood frame home, plywood panels cost less than they do for the masonry home due to not having to provide and install anchors into the masonry walls.

Many options exist and choices of products used will be made based on many factors including the applicability of specific products to the specific openings. For example, the FBC limits the use of wood panels to buildings with a mean roof height of 33 feet (essentially a 2 story building) and panels can be no larger than 8 feet. Builders are advised to secure specific quotations from suppliers for each home to properly assess pricing.

Table D-11 shows the shutter pricing for each window and glazed opening on the house. The area of each opening was increased by 20% to allow the shutter to overlap the wall by approximately 6 inches. Except for the wood panels, these prices include installation by a professional installer.

Table D-11: Pricing of Shutters for Mercedes Home

| Fenestration | Width (ft) | Height (ft) | Square Ft. | Add 20% Area | Steel Panels | | | Aluminum Panels | | |
|--------------|------------|-------------|------------|--------------|--------------------|---------------|-------------------|--------------------|---------------|-------------------|
| | | | | | Direct Mount Price | Add for track | Track Mount Price | Direct Mount Price | Add for track | Track Mount Price |
| 2-26SH | 3.08 | 8.00 | 24.6 | 29.6 | \$ 74 | \$ 24 | \$ 98 | \$ 108 | \$ 24 | \$ 132 |
| 2-26SH | 3.08 | 8.00 | 24.6 | 29.6 | \$ 74 | \$ 24 | \$ 98 | \$ 108 | \$ 24 | \$ 132 |
| 3068 Door | 3.00 | 6.66 | 20.0 | 24.0 | \$ 60 | \$ 19 | \$ 79 | \$ 88 | \$ 19 | \$ 107 |
| 35 SH | 4.42 | 5.25 | 23.2 | 27.8 | \$ 70 | \$ 22 | \$ 92 | \$ 102 | \$ 22 | \$ 124 |
| 35 SH | 4.42 | 5.25 | 23.2 | 27.8 | \$ 70 | \$ 22 | \$ 92 | \$ 102 | \$ 22 | \$ 124 |
| 35 SH | 4.42 | 5.25 | 23.2 | 27.8 | \$ 70 | \$ 22 | \$ 92 | \$ 102 | \$ 22 | \$ 124 |
| 35 SH | 4.42 | 5.25 | 23.2 | 27.8 | \$ 70 | \$ 22 | \$ 92 | \$ 102 | \$ 22 | \$ 124 |
| 35 SH | 4.42 | 5.25 | 23.2 | 27.8 | \$ 70 | \$ 22 | \$ 92 | \$ 102 | \$ 22 | \$ 124 |
| 6068 Slider | 6.00 | 6.66 | 40.0 | 48.0 | \$120 | \$ 38 | \$158 | \$ 175 | \$ 38 | \$ 213 |
| 24 SH Temp | 3.08 | 4.16 | 12.8 | 15.4 | \$ 38 | \$ 12 | \$ 51 | \$ 56 | \$ 12 | \$ 68 |
| Total | | | | | \$717 | | \$943 | \$1,046 | | \$1,271 |

Cost for wood panels was calculated as follows:

- Add 6 inches to the opening size in both directions to allow for overlap of the panel on wall.
- Determine cutting pattern for 4 x 8 sheets of material to calculate number of sheets required.
- Use the prices shown in Table 3-8 for the material and \$25 per hour for labor.
- Pre drill holes in panels.
- For nine glazed openings ten sheets of 7/16 OSB are required: cost = \$60 plus tax.
- Labor is estimated at 14 hours for a cost of \$350.
- Fasteners estimated at: \$20.
- Total cost of \$370 or \$1.70per square foot of rough opening (217 Square feet of rough opening).