|  |  |  |
| --- | --- | --- |
| Roof Trusses Evaluation Report (RTER) of the Meetinghouse  at  Street Address, City State  Owner’s Property No. XXX-XXXX  Engineer of Record (02/25//2019):  Use this template for all meetinghouses to prepare Roof Trusses Evaluation Reports (RTERs). Submit reports to the Project FM, the Project PM and MFD ([Chris.Barker@ldschurch.org](mailto:Chris.Barker@ldschurch.org)) for review and to be archived in the *As-Built Catalog*. The information from the report will be incorporated into the *Building Component Evaluations and Status Lists.*  At the conclusion of any structural upgrade, the Engineer of Record will be required to:   * Add a page at the front of the structural as-built drawings which includes, in table format, STRUCTURAL UPGRADE MEASURES from previous *CERs*, *SERs* and *RTERs* noting the status of those structural upgrade measures. Refer to the *Building Component Evaluations and Status Lists* for a concept example. Submit as-built drawings to the Owner’s Representative and MFD (Chris.Barker@ldschurch.org) to be archived to the *As-Built Catalog*. * Update Table 5-1 of this report and submit it to the Owner’s Representative and MFD ([chris.barker@ldschurch.org](mailto:chris.barker@ldschurch.org)) to be archived in the *As-Built Catalog*. | | |
| Insert color picture of the front elevation of the facility | | |
| FIRM LOGO | Prepared by Firm Name Month, Day, Year | Engineers  Stamp |

# Executive Summary

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BUILDING DATA | | | | | | | | |
| LDS Property Number: | | XXX-XXXX | | | Previous Structural Evaluation Report Date: | | | XXXXXX |
| LDS Building Plan Type: | | XXXXXXXXXX | | | Year Constructed: | | | XXXX |
| Site Visit Date: | | XXXXXXXXXX | | | Year(s) of Additions: | | | XXXX |
| Report Date: | | XXXXXXXXXX | | | Total Building Area: | | | XX,XXX sq. ft. |
| Structural Engineer: | | XXXXXXXXXX | | | Number of Stories: | | | X |
| Firm Job Number: | XXXXXXXXXX | | | Basement: | | | X |
|  | | | | | | | |
| COST ESTIMATE | | | | | | | |
|  | |  | | |  |  | |
| Structural: | | $00,000 | | |  |  | |
|  | |  | | |  |  | |
| Total ConStruction Cost: | | $ 0 | | |
|  | |  | | |  |  | |
| StructURAL design Fee: | | $00,000 | | |  |  | |
| STRUCTural OBSERvation fee: | | $00,000 | | |  |  | |
| special Inspection fee: | | $00,000 | | |  |  | |
|  | |  | | |  |  | |
| Total FEEs: | | $ 0 | | |
|  | |  |
| Total structural Cost1: | | $ 0 | | |

The above estimates do not include the cost for removal and replacement of roofing or other replacements and improvements costs associated with the structural upgrade work.

1. Structural Description

Table 1-1

Vertical Load-Resisting Elements   
for the high roof sections

|  |  |
| --- | --- |
| Element | **Description** |
| Sheathing: | Provide description |
| Joists: | Provide description |
| Roof Beams/Girders: | Provide description |
| Truss Type 1: | Provide description |
| Truss Type 2: | Provide description |
| Attic insulation: | Yes or no. If yes, provide a brief description |

Comments:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Table 1-2

Vertical Load-Resisting Elements   
for the low roof section

|  |  |
| --- | --- |
| Element | **Description** |
| Sheathing: | Provide description |
| Joists: | Provide description |
| Roof Beams/Girders: | Provide description |
| Truss Type 3: | Provide description |
| Truss Type 4: | Provide description |
| Attic insulation: | Yes or no. If yes, provide a brief description |

Comments:

1. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Table 1-3

TRUSS TYPE 1

|  |  |  |  |
| --- | --- | --- | --- |
| **Truss location:** | | Chapel | |
| **Truss span (ft):** | 50 | **Ridge connection:** | Split ring |
| **Top chord:** | 2x6 | **Top chord/Web connection:** | Split ring |
| **Bottom chord:** | 2x6 | **Bottom chord/Web connection:** | Split ring |
| **Web members:** | 1x4 | **Bottom chord splice connection:** | Split ring |
|  | | **Bottom/Top chord connection:** | Split ring |

Table 1-4

TRUSS TYPE 2

|  |  |  |  |
| --- | --- | --- | --- |
| **Truss location:** | | Cultural Hall | |
| **Truss span (ft):** | 50 | **Ridge connection:** | Split ring |
| **Top chord:** | 2x6 | **Top chord/Web connection:** | Split ring |
| **Bottom chord:** | 2x6 | **Bottom chord/Web connection:** | Split ring |
| **Web members:** | 1x4 | **Bottom chord splice connection:** | Split ring |
|  | | **Bottom/Top chord connection:** | Split ring |

Table 1-5

TRUSS TYPE 3

|  |  |  |  |
| --- | --- | --- | --- |
| **Truss location:** | | Classrooms | |
| **Truss span (ft):** | 50 | **Ridge connection:** | Split ring |
| **Top chord:** | 2x6 | **Top chord/Web connection:** | Split ring |
| **Bottom chord:** | 2x6 | **Bottom chord/Web connection:** | Split ring |
| **Web members:** | 1x4 | **Bottom chord splice connection:** | Split ring |
|  | | **Bottom/Top chord connection:** | Split ring |

Table 1-6

TRUSS TYPE 4

|  |  |  |  |
| --- | --- | --- | --- |
| **Truss location:** | | Offices | |
| **Truss span (ft):** | 50 | **Ridge connection:** | Split ring |
| **Top chord:** | 2x6 | **Top chord/Web connection:** | Split ring |
| **Bottom chord:** | 2x6 | **Bottom chord/Web connection:** | Split ring |
| **Web members:** | 1x4 | **Bottom chord splice connection:** | Split ring |
|  | | **Bottom/Top chord connection:** | Split ring |

2. Site Hazards

Table 2-1

Snow characterization

|  |  |
| --- | --- |
| Parameter | Description |
| **Roof snow load (psf):** | XX |
| **Ground snow load (psf):** | XX |

Reference:

1. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Comments:

1. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

3. Scope of Work

The objective of this study is to perform a visual screening (visual observation and engineering judgment) of the roof trusses, associated secondary framing, bracing, and support connections for deficiencies including failing/failed split ring truss connections and other identifiable roof framing deficiencies.

The scope also includes reviewing the roof truss as-built drawings and performing quick check calculations of the split ring truss connections and the gravity load carrying capacity of the roof trusses.

4. Findings

Table 4-1

Structural Deficiencies

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Item | **Description** | **Photo No.** |
|  | Split ring connections: | Slipping or do not satisfy calculations |  |
|  | Truss top chords: | Un-braced |  |
|  | Bolted connections: | Slipping or do not satisfy calculations |  |
|  | Plywood gusset plates: | Insufficient nailing |  |
|  | Compression web members: | Un-braced |  |
|  | Truss web members: | Cut or missing |  |
|  | Non-structural (sound speaker, electrical, etc.) support framing: | Inadequate connection |  |
|  | Roof Truss Type X: | Overstressed due to snow loads |  |
|  | Truss top and bottom chords: | Wood splitting at the connections |  |
|  | Steeple support connection: | Inadequate connection |  |
|  | Suspended ceiling support framing: | Inadequate connection |  |
|  | Overbuild framing: | Inadequate connection |  |

Comments:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Table 4-2

Structural deterioration

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Item | Description | Photo No. |
|  | Dry rot | Evidence of dry rot |  |
|  | Mildew | Evidence of mildew |  |
|  | Termite | Evidence of termite damage |  |

Comments:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

5.  Recommendations

Table 5-1

Structural Upgrade measures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Item | Plan No. | Recommended Upgrade Year/Timing | Actual Upgrade Year |
| S-1 | Describe upgrade | 5-1 | 2013 |  |
| S-2 | Describe upgrade | 5-1 | 2013 |  |
| S-3 | Describe upgrade | 5-1 | 2014 |  |
| S-4 | Describe upgrade | 5-1 | 2014 |  |
| S-5 | Describe upgrade | 5-1 | 2013 |  |
| S-6 | Describe upgrade | 5-1 | 2013 |  |
| S-7 | Describe upgrade | 5-1 | 2013 |  |
| S-8 | Describe upgrade | 5-1 | Next reroof |  |
| S-9 | Describe upgrade | 5-1 | 2014 |  |
| S-10 | Describe upgrade | 5-1 | Next reroof |  |
| S-11 | Describe upgrade | 5-1 | 2013 |  |
| S-12 | Describe upgrade | 5-1 | Next reroof |  |
|  |  |  |  |  |
| D-1 | Describe upgrade | 5-1 | Next reroof |  |
| D-2 | Describe upgrade | 5-1 | 2013 |  |
| D-3 | Describe upgrade | 5-1 | 2014 |  |
|  |  |  |  |  |

Comments:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Insert an 8 ½” x 11” annotated plan view (reduced photocopy of original plan or photocopy of tracing of drawing).

Note the Upgrade Numbers on this plan.

Figure 5-1 – Roof Plan – Deficiency Locations and Recommended Upgrade

**Appendix A – Photographs**

This appendix should include a representative picture of each deficiency noted in this report.

Photo 1 - XXXXXXX

Insert photograph here. Add short description and identifying Deficiency No.

Photo 2 - XXXXXXXX

Insert photograph here. Add short description and identifying Deficiency No.

**Appendix B – Structural Construction Cost Estimate Details**

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Item | Cost | Recommended Upgrade Year/Timing |
| S-1 | Describe upgrade | $00,000 | 2013 |
| S-2 | Describe upgrade | $00,000 | 2013 |
| S-3 | Describe upgrade | $00,000 | 2014 |
| S-4 | Describe upgrade | $00,000 | 2014 |
| S-5 | Describe upgrade | $00,000 | 2013 |
| S-6 | Describe upgrade | $00,000 | 2013 |
| S-7 | Describe upgrade | $00,000 | 2013 |
| S-8 | Describe upgrade | $00,000 | Next reroof |
| S-9 | Describe upgrade | $00,000 | 2014 |
| S-10 | Describe upgrade | $00,000 | Next reroof |
| S-11 | Describe upgrade | $00,000 | 2013 |
| S-12 | Describe upgrade | $00,000 | Next reroof |
|  |  |  |  |
| D-1 | Describe upgrade | $00,000 | Next reroof |
| D-2 | Describe upgrade | $00,000 | 2013 |
| D-3 | Describe upgrade | $00,000 | 2014 |
|  | TOTAL | $00,000 |  |

Comments:

1. The opinion of cost is intended to be a conceptual cost estimate based on the structural engineer’s judgment, past experience with similar projects, and/or the assistance of an architect, general contractor, cost estimator, or other available technical resource.