

Replacement Standards For Temple Facilities

Temple Department

September 30, 2004

Replacement Standards

Title

This replacement standard is to be applied by facility managers during CNA needs identification inspection and by members of the verification team during the CNA verification inspection.

This standard is used to evaluate

A conscientious and consistent program of scheduled preventive maintenance work to each item will maximize its useful life.

Condition	Definition	Action
1. Excellent.		Do not consider replacement under these conditions.
2. Very Good.		Do not consider replacement under these conditions.
3. Good.		Replacement of the ... is not yet justified. Continue to repair as needed. Evaluate the item annually until replacement is required.
4. Fair.		Replace this ...
5. Poor.		This ... is over-due for replacement.

Replacement Directives

Architectural Replacement Standards

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Architectural Replacement Standards

Ceiling Acoustical Tile

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work can maximize the useful life of the entire area covered by ceiling tile.

Condition	Definition	Action
1. Excellent. Tile and grids in new or like new condition. Tile is uniform in color and appearance.	There is no permanent soiling, staining or, discoloration. There are no visible dents, cracks or chipped surfaces. Grid not bent, chipped, distorted, damaged or missing sections .	Do not consider replacement under these conditions.
2. Very Good. Tile and grid in the area being inspected is only beginning to show defects.	Slight discoloration may be present in aging tile or around return air ducts. There may be a few indentations in tiles, slightly cracked but no broken tiles. Spot cleaning and minor repairs to prevent sagging and remove marks have been made to maintain the condition of the tile and grid. 75% of the tile and grid in the area being inspected is still in very good condition.	Do not consider replacement under these conditions.
3. Good. Tile and grid is showing defects, but is generally within acceptable limits. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the ceiling tile and grid in this condition for many years.	The tile is showing slight yellowing, discoloration, and indentation. Regular spot cleaning has kept the tile attractive. There may be some cracked but no broken or missing tiles. Repairs and replacements have been made to correct sagging, fading, dented, and chipped tiles. 75% of the tile/grid in the area being considered is still in good condition.	Propose replacement of Sealing, Celestial, Endowment, or Brides Rooms. Do not propose replacement in other areas. Evaluate the tile annually until replacement is required.
4. Fair. The tile/grid is showing considerable cracks, marks, and defects.	More than 50% of the area covered is showing discoloration, sagging, cracks, marks, and may vary in color and appearance. Cleaning and other restoration processes are having minimal effect on the tile. Repairs are needed often to correct sagging, cracking, and denting.	Replace the tile.
5. Poor. The tile/grid is showing serious and extensive discoloration and defects.	Most of the tile is sagging, dented, broken, chipped, cracked, and not uniform in color and appearance. Extensive marking and disfiguration detracts from the appearance of the tile. Damage is irreversible.	The ceiling tile is over-due for replacement. Consider Grid replacement. Evaluate the tile annually until replacement is required.

Replacement Directives

1. Ceiling tile replacement may include all tile, or the tile may be replaced in selected rooms as preferred by the temple leadership.
2. The addition of new space does not necessarily justify the replacement of ceiling tile in existing space.

Architectural Replacement Standards

Doors with hardware, Interior

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each component of the Interior Door will maximize its useful life. The replacement standard provides direction to temple building engineers/facility managers for replacing **the entire door or door system**, not individual components or parts of a system.

Condition	Definition	Action
1. Excellent. The door <u>functions</u> as originally installed. There are no signs of sagging, chips, dents, splintered areas, scratches, warps or hardware that does not function properly.	The operation of the door is totally reliable. All components including glass, veneer, finish, locks, seals, frames and hardware are intact and fully functioning with no visible defects.	Do not consider replacement under these conditions.
2. Very Good. Necessary adjustments and minor parts replacement may be necessary. Only slight scratches, wear, and dents on the hardware and veneer are evident. The door functions as originally installed.	Door swing, latch, handle, closures, and hardware are totally reliable. Adjustments and parts replacement to doors, moldings, frame, and hardware will maintain the integrity of door. Most of the surface area of the door, door frame, and hardware are in original condition. The hardware is showing only slight wear.	Do not consider replacement under these conditions.
3. Good. The door continues to function with intermittent component repairs, replacements. (It should be possible, with proper and timely repairs, maintenance and necessary replacements, to extend the life of the door without replacement of the entire door system.)	The door functions adequately. Some scratches, chips, and dents. Some components have failed and are replaced. Others are approaching the end of their useful lives. Most of the surface finish of the door, frame, and hardware are still in good condition. The door may have a slight amount of warp.	Propose replacement/refurbishment of Sealing, Celestial, Endowment, and Brides room doors. Do not propose replacement/refurbishment of other doors.
4. Fair. The door no longer functions as designed and will not without major repairs.	Hinges, locks and panic hardware no longer function as original. Surface finishes of the door, door frame, and hardware are in fair condition. The door shows some warp, but can still be adjusted. The door has considerable scratches, dents, chips.	Propose replacement/refurbishment of doors and/or frame.
5. Poor. The overall door assembly is subject to constant breakdowns and delivers inadequate quality. The appearance is no longer acceptable.	Door sags from hinge failure. Locking system is inoperable. Door finish and hardware shows extensive peeling, scratches, splintering, and chips. The door is warped to the point that it cannot be adjusted to latch properly. Panic hardware is inoperable and new panic hardware is incompatible with the old door.	The door is over-due for replacement.

Replacement Directives:

1. Replace/refurbish with equal veneer selection, stain colors and specifications as closely as possible.
2. When partial replacement occurs, maintain consistency in styles and ratings of doors and components.
3. When replacing door in entire building or building section, replace with church standard specified products.
4. Latch noise does not justify replacement of mechanisms.

Architectural Replacement Standards

Fiberglass Statues (Oxen and Angel Moroni)

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work can maximize the useful life of the entire area covered by fiberglass statues.

Condition	Definition	Action
1. Excellent. Statues are in new or like new condition. Gold leafing or paint is uniform in color and appearance.	There is no permanent soiling, staining or, discoloration. There are no visible dents, cracks or chipped surfaces. The fiberglass is not chipped, distorted, damaged or missing gold leafing.	Do not consider replacement under these conditions.
2. Very Good. Fiberglass in the area being inspected is only beginning to show defects.	Slight discoloration may be present in the fiberglass. There may be a few cracks but no broken horns, trumpets, arms or legs. Spot cleaning and minor repairs to prevent discoloration have been made to maintain the condition of the fiberglass. 75% of the fiberglass finish in the area being inspected is still in very good condition.	Do not consider replacement under these conditions.
3. Good. Fiberglass is showing defects, but is generally within acceptable limits. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the gold leafing in this condition for many years.)	The fiberglass statue is showing slight yellowing or dulling, discoloration, and cracking. Regular spot cleaning has kept the fiberglass attractive. There may be some cracked but no broken or missing fiberglass pieces. Repairs and refinishes have been made to correct fading, cracked, and chipped fiberglass. 75% of the fiberglass in the area being considered is still in good condition.	Propose replacement of oxen statues. Do not propose replacement of the Angel Moroni statue. Evaluate the statue annually until replacement is required. Evaluate the costs of scaffolding and an average cost of US \$ 14,000 for the statue.
4. Fair. Fiberglass is showing considerable cracks, marks, and defects.	More than 50% of the area covered is showing discoloration, cracks, marks, and may vary in color and appearance. Cleaning and other restoration processes are having minimal effect on the fiberglass. Repairs are needed often to correct splitting, cracking, and discoloration.	Replace the statue. Purchase a second statue for replacement for future swapping of statues in highly polluted areas. This will minimize crane and/or scaffolding costs.
5. Poor. The fiberglass is showing serious and extensive discoloration and defects.	Most of the fiberglass is broken, chipped, cracked, and not uniform in color and appearance. Extensive marking and disfiguration detracts from the appearance of the statue. Damage is irreversible.	The statue is over-due for replacement.

Replacement Directives

See the attached three pictures for a level 3 statue of the Angel Moroni.



Architectural Replacement Standards

Interior Lighting

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate interior incandescent and florescent lighting fixtures.

A conscientious and consistent program of scheduled preventive maintenance work to each fixture, lense, and reflector will maximize useful life.

Condition	Definition	Action
1. Excellent. The fixture is in new or like-new condition.	There is no visible damage or wear. No objectionable operating noise. Crystal and hardware in excellent condition.	Do not consider replacement under these conditions.
2. Very Good. The fixture is only beginning to show wear.	Small repairs may have been made to correct loose electrical or structural connections. Operating noise is not distracting. No crystal or hardware missing, in very good condition	Do not consider replacement under these conditions.
3. Good. The fixture is showing wear, but is generally within acceptable limits. (It should be possible with proper and timely repairs (such as the replacement of lamp covers) to extend the useful life of the fixture for many years.)	Repairs have been made to correct loose electrical or structural connections. Lamp lenses, crystal, diffusers and other components may exhibit some damage Noisy lamp ballasts have been replaced.	Propose replacement or refurbishment to Sealing, Celestial, Endowment, and Brides room lighting. Do not replace/refurbish other areas. Continue to repair as needed. Evaluate the fixture annually.
4. Fair. The fixture is showing considerable wear and use.	Operating costs may be excessive. Electrical and/or structural connections may be failing. Serious mars may show in the finish. Lamp lenses and components may be discolored. Operating noise is distracting. Replacement components are no longer available.	Replace/refurbish this fixture.
5. Poor. The fixture is showing serious and extensive wear and/or damage.	Repairs and replacement of components can no longer be made. Operating noise is distracting.	This fixture is over-due for replacement.

Replacement Directives

1. Do not replace fixtures simply because they are "out-of -date" or because "they do not look good." Replace according to the above criteria.
2. Use only Church approved specifications and details when replacing lighting fixtures. Use T-8 lamps and electronic ballasts when replacing flourescent fixtures.
3. Replace all of the fixtures in a room to maintain continuity of appearance.
4. Use Headquarter Interior Design consultant when considering replacement of light fixtures.
5. Light levels in a specific type room should not exceed the recommended foot candles for that room.
6. Maintain lamp color, rating, and rendition as originally designed.

Architectural Replacement Standards

Metal Door and Window Entrance Systems

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each component of the metal door and window entry system will maximize its useful life.

The replacement standard provides direction to temple building engineers/facility managers for replacing **the entire Metal Door and Window Entrance System** not individual components or parts of a system.

Condition	Definition	Action
1. Excellent. Systems <u>function</u> as originally installed. There are no signs of discolored or fading aluminum, cracked or broken glass, sagging doors, or deteriorated weather stripping.	The system is totally reliable. The door operates smoothly, is functioning properly and is secure. All components including glass, locks, rubber seals, frames, and hardware are intact.	Do not consider replacement under these conditions.
2. Very Good. Necessary adjustments and minor parts replacement may be necessary. Some fading, looseness, rubbing of anodized aluminum is apparent.	The system is totally reliable. Adjustment and minor parts replacement will maintain the integrity of door and window system. The anodized area and hardware surfaces on a door/window assembly are still in very good condition.	Do not consider replacement under these conditions.
3. Good. The system continues to function with intermittent component repairs and replacements. (It should be possible, with proper and timely repairs, maintenance and necessary replacements, to extend the life of the metal door and window entrance system without replacement of the entire system.)	The door functions adequately. Some parts may be loose, with some chips, grinding. Some components that have failed have been replaced. Others are approaching the end of their useful lives. 75% of the anodized area, and hardware surfaces, on a metal door/window entry system are still in good condition. Doors and windows are still secure.	Replacement of the entire door and window assembly is not justified but should continue to be evaluated annually. Make necessary repairs and parts replacements as needed. It is not yet time to replace the Metal door and window entrance system.
4. Fair. The metal door and window entrance system no longer functions as designed and will not without major repairs.	Hinges, locks and panic hardware are not functioning as originally designed. Minor glass chips and cracks may be evident. Less than 75% of the aluminum anodized areas, and hardware surfaces, are in good condition. It may not be possible to fully secure the door.	Propose Replacement.

Replacement Directives

1. Use only recommended professional glazing contractors when replacing/repairing an entire system.

Architectural Replacement Standards

ROOFING: Built-up Asphalt or Bitumen

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each roofing component will maximize the useful life of the entire system. This program includes regular inspections of the roofing. Standard roofing industry recommendations are to make thorough inspections of the roofing at least in the spring and the fall, and after serious weather trauma.

Condition	Definition	Action
1. Excellent. The roofing appears to be in new or like-new condition.	The roofing membrane shows no damage nor wear. There are no leaks.	Do not consider replacement under these conditions.
2. Very Good. The roofing is beginning to show slight wear and/or damage.	The surface aggregate may be thinning due to traffic or erosion in some locations. Ridges may have lifted due to expansion. The roof is still water-tight.	Do not consider replacement under these conditions. Continue to inspect. Redistribute aggregate as needed. Keep debris off roof.
3. Good. The roofing is showing wear and/or damage. (It should be possible with proper preventive maintenance and timely repairs, to extend the useful life of single-ply and built-up roofing membrane for many years.)	The roofing asphalt is exposed in some areas because of the loss of aggregate. The material is begin to show buckling, fish-mouthing, slight cracking at ridges, open seams, punctures, splitting, tight bubbles, surface slippage, and/or wrinkling. Flashings, drip edges and flashed penetrations and minor leaks may have necessitated repair.	Replacement of the entire roofing system is not yet justified. Continue to inspect and repair as necessary. Evaluate annually until replacement may be required.
4. Fair. The roofing is showing extensive wear and/or damage.	The membrane is exposed in many areas because of the loss of aggregate. Blistering, buckling, alligator cracking, ridge cracking, fish mouthing, open seams, oxidation, punctures, serious splitting, cracked bubbles, surface slippage, and/or wrinkling have damaged the membrane in excess of 30% of the surface. Some damage to the roof deck, insulating material, or the interior of the temple may have occurred.	Replace this roofing system. A professional consultant must be hired to design and supervise application. Perform necessary maintenance to keep moisture from the roof deck and the interior of the temple until the reroofing work commences.
5. Poor. The entire roofing system is showing serious and extensive wear and/or damage.	Most of the membrane is exposed, oxidized and cracked. The surface shows extensive blistering, buckling, cracking, fish-mouthing, open seams, punctures, splitting, surface slippage, ridging, and/or wrinkling. Moisture has penetrated through the roof insulating material damaging the roof deck and/or the interior of the temple.	This roofing system is overdue for replacement.

Replacement Directives

1. If roofing on a different wing or a different surface is in good condition, it may be retained only if doing so does not create an unsightly appearance.
2. Only roofing replacement systems and details that are found in the standard Church specifications should be used.
3. Schedule replacement of the roofing well in advance so that the project can be developed and bid during the winter months. Time the replacement of the roofing to avoid as much bad weather as possible.
4. Replacing the roofing system may need to be completed in conjunction with structural improvements to the temple, in compliance with Church seismic criteria.

Architectural Replacement Standards

ROOFING: Composition Shingles

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each roofing component will maximize the useful life of the entire system. This program includes regular inspections of the roofing. Standard roofing industry recommendations are to make thorough inspections of the roofing at least in the spring and the fall, and after serious weather trauma.

Condition	Definition	Action
1. Excellent. The shingles are in new or like-new condition.	The shingles show no damage nor wear. There are no leaks.	Do not consider replacement under these conditions.
2. Very Good. The shingles are beginning to show slight wear and/or damage.	Evidence of minor granule erosion may be seen in the rain gutters. Minor lifting of tabs may have occurred due to wind. The roof is still water-tight.	Do not consider replacement under these conditions. Continue to inspect. Retab as needed. Keep debris off roof.
3. Good. The shingles are showing wear and/or damage. (It should be possible with proper preventive maintenance and timely repairs, to extend the roofs useful life .)	The shingles are beginning to crack and/or curl. Some granules may have been eroded from the shingles's surface. Some tabs may have broken off. Flashings, drip edges and flashed penetrations may require repair. Minor leaks may have necessitated repair.	Replacement of the entire roofing system is not yet justified. Continue to inspect and repair as necessary. Evaluate annually until replacement may be required.
4. Fair. The shingles are showing extensive wear and/or damage.	The shingles have cracked horizontally and/or curled over more than 30% of the surface, and numerous tabs may have broken off. Leaking has required repairs. Erosion of the granules may have exposed shingle felt backing. Minor damage may have occurred to the roof deck or the interior of the temple.	Replace this roofing system. A professional consultant may be hired to help if necessary. Perform necessary maintenance to keep moisture from the roof deck and the interior of the temple until the reroofing work commences.
5. Poor. The entire roofing system is showing serious and extensive wear and/or damage.	Most of the shingles are showing horizontal cracking or are badly curled. Many shingles are broken or are missing. Granule erosion may have exposed the felt backing on most of the shingles. Leaking has likely damaged the roof deck and/or interior of the temple.	This roofing system is overdue for replacement.

Replacement Directives

1. If roofing on a different wing or a different surface is in good condition, it may be retained only if doing so does not create an unsightly appearance.
2. Only roofing replacement systems and details that are found in the standard Church specifications should be used.
3. Schedule replacement of the roofing well in advance so that the project can be developed and bid during the winter months. Time the replacement of the roofing to avoid as much bad weather as possible.
4. Replacing the roofing system may need to be completed in conjunction with structural improvements to the temple, in compliance with Church seismic criteria.
5. Always refer back to the warranty, and file a claim with the shingle manufacturer if premature aging or failure has occurred.

Architectural Replacement Standards

ROOFING: Concrete Tile

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each roofing component will maximize useful life of the entire system. This program includes regular inspections of the roofing. Standard roofing industry recommendations are to make thorough inspections of the roofing at least in the spring and the fall, and after serious weather trauma.

Note: *Faulty installation can lead to leaks in the underlayment or base sheet long before the failure of the tile. A common mistake has been to leave out the necessary vertical cleats, and install only the horizontal cleats, which then trap water and cause leaks. This condition may justify replacement or reinstallation of the roof.*

Condition	Definition	Action
1. Excellent. The roofing appears to be in new or like-new condition.	The concrete tile shows no damage nor displacement. There are no leaks.	Do not consider replacement under these conditions.
2. Very Good. The roofing is beginning to show scattered damage.	Fewer than 25 tile may have come loose or are broken. The roof is still water-tight.	Do not consider replacement under these conditions. Continue to inspect. Re-anchor any loose tile and replace any broken tile as needed.
3. Good. The roofing is showing damage. (It should be possible with proper maintenance and timely repairs, to extend the useful life of concrete tile roofing for many years.)	Damage to tile due to traffic, fastener failure, or the elements has become more widespread. Fewer than 100 tile may have come loose or are broken. Minor leaks may have necessitated repair.	Replacement of the entire roofing system is not justified but should continue to be evaluated annually. Continue to inspect. Re-anchor any loose tile and replace any broken tile as needed. Remove tile, repair underlayment, and restore tile as needed.
4. Fair. The roofing is showing extensive damage.	There is widespread damage to the tile and/or extensive damage to the underlayment. A large number of tile (100+) may be loose, missing, cracked or broken. The underlayment is no longer watertight and the roof leaks in numerous locations. Some damage to the roof deck or the interior of the building may have occurred.	Replace this roofing system. A professional consultant may be hired to design and possibly supervise application of a new roofing system. A life-cycle cost analysis should be made to determine which roofing system should be specified as the replacement. Perform necessary maintenance to keep moisture from the roof deck and the interior of the building until the reroofing work commences.
5. Poor. Most of the roofing system is failing due to serious and extensive damage.	Most of the concrete tile are loose, missing, cracked or broken, and/or the underlayment has buckling, cracking, open seams, oxidation, punctures, ridging, splitting, and/or wrinkling. Moisture has penetrated through the roof damaging extensive areas of the roof deck and/or the interior of the building.	This roofing system is over-due for replacement.

Replacement Directives

1. If tile can be matched, replace only those sections of a roofing system that need to be replaced. Roofing of different installation years on different sections may not need to be replaced at the same time.
2. Only roofing replacement systems and details that are found in the standard Church specifications should be used.
3. Schedule replacement of the roofing well in advance so that the project can be developed and bid during the winter months. Time the replacement of the roofing to avoid as much bad weather as possible.
4. Replacing the roofing system may need to be completed in conjunction with structural improvements to the temple, in compliance with Church seismic criteria.

**Architectural
Replacement Standards**

ROOFING: Single-ply Rubber Membrane (EPDM) - Ballasted

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to this component will maximize useful life of the entire system. This program includes regular inspections of the roofing. Standard roofing industry recommendations are to make thorough inspections of the roofing at least in the Spring and the Fall, and after serious weather trauma.

Condition	Definition	Action
1. Excellent. The roof appears to be in new or like-new condition.	The ballast is undisturbed and evenly distributed. There are no leaks.	Do not consider replacement under these conditions.
2. Very Good. The roof is beginning to show the effects of traffic or erosion.	The ballast may be displaced due to traffic or erosion in some locations. The roof is still water tight.	Do not consider replacement under these conditions. Continue to inspect. Redistribute ballast as needed.
3. Good. The roof is showing effects of traffic, erosion, expansion, oxidation and/or wear. (It should be possible with proper preventive maintenance and timely repairs, to extend the useful life of single-ply membrane roofing for many years.)	The membrane is exposed in some areas because of the ballast displacement. The membrane is beginning to show slight cracking at ridges, open seams, punctures, and/or splitting. Minor leaks may have necessitated repair.	Replacement of the entire roofing system is not justified but should continue to be evaluated annually. Continue to inspect and repair as needed.
4. Fair. The roofing is showing extensive damage.	The membrane is exposed in many areas because of ballast loss or displacement. Buckling, ridge and surface cracking, open seams, oxidation and/or punctures have damaged the roof membrane in excess of 30% of the surface. Some damage to the roof deck, insulating material, or the interior of the temple may have occurred.	Replace this roofing system. A professional consultant must be hired to design and supervise application. Perform necessary maintenance to keep moisture from the roof deck and the interior of the temple until the re-roofing work commences.
5. Poor. Most of the roofing system is failing due to extensive damage.	Large areas of the membrane are exposed, and oxidized. The membrane is no longer watertight due to buckling, extensive cracking, open seams, punctures and/or splitting. Moisture has penetrated through the roof insulating material, damaging the roof deck and/or the interior of the temple.	This roofing system is over-due for replacement.

Replacement Directives

1. If roofing on a different wing or a different surface is in good condition, it may be retained only if doing so does not create an unsightly appearance.
2. Only roofing replacement materials and details that are found in the standard Church specifications should be used.
3. Schedule replacement of the roofing well in advance so that the project can be developed and bid during the winter months. Time the replacement of the roofing to avoid as much bad weather as possible.
4. Replacing the roofing system may need to be completed in conjunction with structural improvements to the temple, in compliance with Church seismic criteria.

Architectural

Replacement Standards *ROOFING: Single-ply Rubber Membrane (EPDM) - Fully Adhered*

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each roofing component will maximize useful life of the entire system. This program includes regular inspections of the roofing. Standard roofing industry recommendations are to make thorough inspections of the roofing at least in the spring and the fall, and after serious weather trauma.

Condition	Definition	Action
1. Excellent. The roofing appears to be in new or like-new condition.	The roofing membrane shows no damage nor wear. There are no leaks.	Do not consider replacement under these conditions.
2. Very Good. The roofing is beginning to show slight wear and/or damage.	The membrane may show fading or discoloration due to sun and weather. Slight ridges may have lifted due to expansion. The roof is still water-tight.	Do not consider replacement under these conditions. Continue to inspect. Keep debris off roof.
3. Good. The roofing is showing effects of traffic and/or wear. (It should be possible with proper preventive maintenance and timely repairs, to extend the useful life of single-ply membrane roofing for many years.)	The membrane is beginning to show buckling, slight cracking at ridges, open seams, oxidation, punctures, and/or wrinkling. Minor leaks may have necessitated repair.	Replacement of the entire roofing system is not justified but should continue to be evaluated annually. Continue to inspect, repair as needed, and keep debris off roof.
4. Fair. The roofing is showing extensive damage.	The membrane is showing advanced deterioration due to sun and weather. , Oxidation, lost adherence, open seams and/or punctures have damaged the roof in excess of 30% of the surface. Some damage to the roof deck, insulating material, or the interior of the temple may have occurred.	Replace this roofing system. A professional consultant should be hired to design and supervise application. Perform necessary maintenance to keep moisture from the roof deck and the interior of the temple until the re-roofing work commences.
5. Poor. Most of the roofing system is failing due to serious damage.	Most of the membrane is oxidized and cracked. The surface shows cracking, open seams, punctures. Moisture has penetrated through the roof insulating material, damaging the roof deck and/or the interior of the meetinghouse.	This roofing system is over-due for replacement.

Replacement Directives

1. If roofing on a different wing or a different surface is in good condition, it may be retained only if doing so does not create an unsightly appearance.
2. Only roofing replacement materials and details that are found in the standard Church specifications should be used.
3. Schedule replacement of the roofing well in advance so that the project can be developed and bid during the winter months. Time the replacement of the roofing to avoid as much bad weather as possible.
4. Replacing the roofing system may need to be completed in conjunction with structural improvements to the temple, in compliance with Church seismic criteria.

Architectural Replacement Standards

ROOFING: Wood or Shake Shingles

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each roofing component will maximize the useful life of the entire system. This program includes regular inspections of the roofing. Standard roofing industry recommendations are to make thorough inspections of the roofing at least in the spring and the fall, and after serious weather trauma.

Condition	Definition	Action
1. Excellent. The shingles are in new or like-new condition.	The shingles show no damage nor wear. There are no leaks.	Do not consider replacement under these conditions.
2. Very Good. The shingles are beginning to show slight wear and/or damage.	The shingles may show fading or discoloration due to sun and weather. A few shingles may have broken, splintered, come loose, and/or are missing. The roof is still water-tight.	Do not consider replacement under these conditions. Continue to inspect. Repair as needed. Keep debris, moss, mold and fungus off roof. Apply linseed oil and graphite mix when necessary.
3. Good. The shingles are showing wear and/or damage. (It should be possible with proper preventive maintenance and timely repairs, to extend the useful life of single-ply membrane roofing for many years.)	Wear due to the elements has caused slight warping and/or thinning of the exposed portion of the shingles. Damage to shingles has become more widespread due to elements, fastener failure, or traffic. Many shingles may have cracked, loosened or broken. Minor leaks may have necessitated repair to the shingles and/or base sheet.	Replacement of the entire roofing system is not yet justified. Continue to inspect and repair as necessary. Evaluate annually until replacement may be required. Apply linseed oil and graphite mix when necessary.
4. Fair. The shingles are showing extensive wear and/or damage.	Wear due to the elements has caused serious warping and/or thinning of the exposed portion of the shingles. The shingles are cracked, loose, broken and/or are missing over more than 30% of the surface. Leaking has required repairs. Minor damage may have occurred to the roof deck or the interior of the temple.	Replace this roofing system. A professional consultant may be hired to help if necessary. Perform necessary maintenance to keep moisture from the roof deck and the interior of the temple until the re-roofing work commences.
5. Poor. The entire roofing system is showing serious and extensive wear and/or damage.	Most of the shingles are cracked, warped, eroded, broken and/or missing. Leaking has likely damaged the roof deck and/or interior of the temple.	This roofing system is overdue for replacement.

Replacement Directives

1. If roofing on a different wing or a different surface is in good condition, it may be retained only if doing so does not create an unsightly appearance.
2. Only roofing replacement systems and details that are found in the standard Church specifications should be used.
3. Schedule replacement of the roofing well in advance so that the project can be developed and bid during the winter months. Time the replacement of the roofing to avoid as much bad weather as possible.
4. Replacing the roofing system may need to be completed in conjunction with structural improvements to the temple, in compliance with Church seismic criteria.

HVAC Replacement Standards

- 23 HVAC: Air Handlers
- 24 HVAC: Hot Water or Steam Boiler
- 25 HVAC: Refrigeration Condensing Unit
- 25 HVAC: Cooling Towers and Chillers
- 26 HVAC: Fire, Security, and Comfort Control Systems

Audio Visual Replacement Standards

Electronic Audio and Video Units

This replacement standard is to be applied by facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate cassette tape recorders/players (CR), compact disk players(CDP), televisions (TV), video cassette recorders/players (VCRs), combination TV-VCRs, television projectors (TVP), and television cameras. **Each electronic audio and video unit should be evaluated independent of all other units.**

A conscientious and consistent program of scheduled preventive maintenance work to each item will maximize its useful life.

Condition	Definition	Action
1. Excellent. The unit <u>functions</u> as designed.	The unit delivers high quality sound and/or picture without distortion. Controls operate properly. Color is true, flesh tones are natural.	Do not consider replacement under these conditions.
2. Very Good. Necessary adjustments keep the unit functioning as designed.	The unit delivers high quality sound and/or picture without distortion. Slight adjustments to the manual controls are needed.	Do not consider replacement under these conditions.
3. Good. The unit continues to function with regular maintenance and intermittent repairs. (It should be possible with proper maintenance and timely repairs, to extend the useful life of the unit.)	The unit delivers good quality sound. Colors and flesh tones may be out of adjustment. Occasional repairs may be made to the electronics or the manual controls to keep it in good operating condition. The unit is still reliable.	Replacement of the item is not justified but should continue to be evaluated annually. Make necessary repairs and parts replacements as needed. It is not yet time to replace the unit.
4. Fair. The unit no longer functions as designed and will not without major repairs.	The sound and/or picture quality detracts from the message being presented. The quality may not be improved without considerable repairs. The unit cannot be relied on to function upon demand.	Replace this unit.
5. Poor. The unit no longer functions as designed and delivers inadequate sound and/or picture quality.	The sound and/or picture quality detracts from the message being presented, or does not operate at all. Repair costs have become intolerable. Major defects and wear.	This unit is over-due for replacement.

Replacement Directives

1. Replace only with items found in Purchasing Reference Guide (PRG).

Replacement Standards

AV Projector

This replacement standard is to be applied by temple engineers or facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate ordinance video projection equipment. **Each electronic video unit should be evaluated independent of all other units.**

A conscientious and consistent program of scheduled preventive maintenance work to each item will maximize its useful life.

Condition	Definition	Action
1. Excellent. The unit functions as designed.	The unit delivers high quality picture without distortion. Controls operate properly.	Do not consider replacement under these conditions.
2. Very Good. Necessary adjustments keep the unit functioning as designed.	The unit delivers high quality picture without distortion with slight adjustments to the manual controls. There are less than 3 stuck pixels.	Do not consider replacement under these conditions. Replace bulb if approaching 2000 bulb hours.
3. Good. The unit continues to function with regular maintenance and intermittent repairs. (It should be possible with proper maintenance and timely repairs, to extend the useful life of the unit for many years.)	The unit delivers good quality picture. After following the monthly and quarterly preventive maintenance and adjustment procedures, one or more of the adjustments will not come into alignment. There are between 3 and 5 stuck pixels.	Review the results of the adjustment procedure with AV Engineering for repair or exchange. Make necessary repairs and parts replacements as needed. It is not yet time to replace the unit.
4. Fair. The unit no longer functions as designed and will not without major repairs.	The picture quality produced detracts from the ordinance being presented and the projector cannot be brought into alignment. There are greater than 5 stuck pixels.	Replace this unit.
5. Poor. The unit no longer functions as designed and delivers inadequate sound and/or picture quality.	The picture quality detracts from the ordinance being presented, or does not operate at all. Repair is not cost effective.	This unit is over-due for replacement.

Replacement Directives

1. Replace video units only from inventory provided by Church Audiovisual Engineering.

Audio Visual Replacement Standards

AUDIO-VISUAL: Public Address Sound System

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each component of the sound system will maximize its useful life.

This replacement standard provides direction to temple building engineers/facility managers for replacing **an entire sound system**, not individual components or parts of a system.

Condition	Definition	Action
1. Excellent. The system <u>functions</u> at the original design settings.	Occupants can hear speakers clearly. There is no distracting noise. The system is totally reliable.	Do not consider replacement under these conditions.
2. Very Good. Necessary balancing and other adjustments keep the system functioning at design settings.	Occupants can hear speakers clearly. There is no distracting noise. The system is totally reliable. Adjustments may be necessary for balancing the system.	Do not consider replacement under these conditions.
3. Good. The system continues to function with intermittent component repairs, replacements, and minor system improvements. (It should be possible with proper and timely repairs, maintenance, and necessary replacements to extend the entire sound system for many years without replacement of the entire system.)	Occupants can hear speakers clearly. There is no distracting noise. Some components have failed and have been replaced. Others are approaching the end of their useful lives.	Replacement of the entire sound system is not justified but should continue to be evaluated annually. Make necessary repairs and parts replacements as needed. It is not yet time to replace the sound system.
4. Fair. The system no longer functions as designed and will not without major alterations.	Occupants often may not hear speakers clearly. There may be distracting noise that has not been corrected through component replacement, nor can be corrected without major corrections or replacement. Most of the components are old and their operating effectiveness have declined.	Propose replacement or refurbishment.
5. Poor. The overall sound system is subject to constant breakdowns and delivers inadequate sound quality.	Occupants are distracted by the failures of the sound system and noise. The components are old and undependable. The technology is out of date. Repair costs have become intolerable.	This sound system is over-due for replacement.

Replacement Directives

1. Use only Church approved consultants, specifications and details when replacing an entire sound system.
2. Where ever possible, continue to use as many existing components that are in good condition, such as speakers, speaker cans, speaker cable, microphones, pulpit controls, etc.

Furnishings Replacement Standards

- 16 FURNISHINGS: Floor Carpet, Carpet Tile, Area Rugs
- 17 FURNISHINGS: Wall Coverings
- 18 FURNISHINGS: Floral Arrangements
- 19 FURNISHINGS: General Drapery and Curtains
- 20 FURNISHINGS: Ceremonial Drapery and Curtains
- 21 FURNISHINGS: Wood Molding and Trim
- 22 FURNISHINGS: Case Goods
- 23 FURNISHINGS: Seating
- 24 FURNISHINGS: Tile and Stone

Furnishings Replacement Standards

FLOORING: Carpet; Carpet Tile; Area Rugs

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate broadloom carpet, carpet tile, and area rugs.

A conscientious and consistent program of cleaning and scheduled preventive maintenance work will maximize the useful life of the entire carpet.

A carpet replacement may include all the carpet in a temple, or the carpet may be replaced in wear zones as preferred by temple administrators. Wear zones may be identified as:

1. Chapel/Assembly Rooms
2. Celestial/Sealing Rooms
3. Endowment Rooms
4. Foyers, hallways and stairs
5. Administrative Offices
6. Locker Rooms

Condition	Definition	Action
1. Excellent. Carpet is in new or like-new condition.	There is no permanent soiling, staining, or fading. There is no visible frizzing, fraying, seam separation, bubbling, backing separation, matting, or tearing.	Do not consider replacement under these conditions.
2. Very Good. Carpet in the area being inspected is only beginning to show wear.	Slight matting or fading may be present in areas of heaviest traffic. Regular spotting and cleaning have maintained the carpet's attractive appearance. Small repairs may have been made to correct some snagging, or fraying. There is no visible seam separation, bubbling, backing separation, or tearing. 75% to 95% of the carpet in the area being inspected is still in very good condition.	Do not consider replacement under these conditions.
3. Good. Carpet is showing wear, but is generally within acceptable limits (It should be possible with proper and timely repairs and preventive maintenance to extend the life of the carpet in this condition for many years.)	The areas of heaviest traffic are showing matting or fading. Regular spotting and cleaning have kept the carpet looking attractive. Repairs have been made to correct frizzing, fraying, seam separation, backing separation, bubbling, or tearing. 75% to 95% of the carpet in the area being considered is still in good condition.	Propose replacement for Sealing, Celestial, Endowment, and Brides Room Carpet. Do not propose replacement of any other areas. Evaluate annually until replacement is required.
4. Fair. Carpet is showing considerable wear.	Many places are showing matting or fading. Regular spotting and cleaning are having minimal effect on appearance. Repairs are needed often to correct snagging, frizzing, fraying, seam separation, bubbling, backing separation, or tearing. It is no longer possible to eliminate all frizzing. Less than 75% of the carpet is in fair condition.	Replace this carpet.
5. Poor. Carpet is showing serious and extensive wear.	Most of the carpet is showing matting or fading. Frizzing is irreversible. Regular spotting and cleaning has little or no effect on appearance. Repairs must be made constantly to correct snagging, fraying, seam separation, bubbling, backing separation, or tearing.	This carpet is over-due for replacement.

Replacement Directives

1. New carpet colors should be selected such that the carpet replacement will not prematurely trigger the replacement of other furnishings. The color of the replacement carpet should be chosen to compliment temple components and not be a reason to replace them. Such components include (but are not limited to) existing carpet, pew fabric, opera chair fabric, foyer furniture, chair color, counter tops, window sills, toilet partitions, or portable partitions.
2. When carpet is replaced a stone base installation can be considered.

Furnishings Replacement Standards

Case Goods

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate desks, office furniture, tables, consoles, and built-in cabinetry. A conscientious and consistent program of scheduled preventive maintenance work to case goods will maximize their useful life.

Condition	Definition	Action
1. Excellent.	There is no visible damage or wear. The structure is sound with no wobble.	Do not consider replacement or refurbishment under these conditions.
2. Very Good.	Small repairs may have been made to correct the loosening of structural connections. There may be slight mars in the wood or finish.	Do not consider replacement or refurbishment under these conditions.
3. Good. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of case goods in this condition for many years.)	Repairs have been made to correct loose structural connections. There are noticeable mars in the wood or finish.	Propose replacement or refurbishment in Sealing, Celestial, Endowment, or Brides areas. Retrofit or replacement is not yet justified in other areas. Continue to clean and repair. Evaluate the item annually until retrofit or replacement is required.
4. Fair.	Serious mars may show in the wood or finish. Structural connections may be failing.	Replacement or refurbishment is needed.
5. Poor.	Repairs can no longer restore the furniture to useable condition. Many deep mars are obvious in the wood or finish.	This is over-due replacement or refurbishment.

Replacement Directives

1. Replace case goods in reasonable groups to maintain continuity of appearance.
2. When replacing furniture do not choose painted lacquer, and lacquered finishes.

Furnishings Replacement Standards

Ceremonial Drapery/Curtains

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate Austrian drapes, Ordinance room drapes, and New Name drapes. A conscientious and consistent program of scheduled preventive maintenance work to each drapery/curtain will maximize its useful life.

Condition	Definition	Action
1. Excellent.	Draperies have no loose threads. Hems are secure and seams tight, if liners are present, stitching is tight. There are no tears, stains, fading or pilling. Fabric folds and hems hang uniformly, with no twisting or shrinkage. Hardware functions smoothly and has no broken or missing parts.	Do not consider replacement under these conditions.
2. Very Good.	Draperies have a slight amount of loose threads. Hems are secure and seams tight, if liners are present, stitching is tight. There are no tears, stains, fading or pilling. Regular spotting and cleaning have kept the drapery looking attractive. Fabric folds and hems hang uniformly, with no twisting or shrinkage.	Do not consider replacement under these conditions.
3. Good. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the draperies or curtains in this condition for many years.)	Draperies have some loose threads. Hems are secure and seams tight, if liners are present, stitching is tight. Repairs have been made to correct tears. Regular spotting and cleaning have kept the drapery looking attractive. There may be slight fading, pilling or shrinkage. Fabric folds and hems may have slight twisting.	Propose replacement or refurbishment in Sealing, Celestial, Endowment, or Brides areas. Retrofit or replacement is not yet justified in other areas. Continue to clean and repair. Evaluate the item annually until retrofit or replacement is required.
4. Fair.	Draperies have considerable loose threads. Hems and seams are coming un-sewn or are loose. Liners may be coming unstitched. Many repairs have been needed to correct tears. Regular spotting and cleaning do little to add to the appearance. There is some fading, pilling and shrinkage. Fabric folds and hems may be twisting. Hardware does not function smoothly, but has no broken or missing parts.	Replace this drapery or curtain.
5. Poor.	Draperies have extensive loose threads. Hems and seams are coming un-sewn. Liners may be hanging loose. There may be tears, permanent stains, noticeable fading and pilling. Fabric folds and hems may have noticeable shrinkage and twisting. Hardware does not function smoothly and may have broken or missing parts.	This drapery or curtain is over-due for replacement.

Replacement Directives

1. The replacement of hardware does not necessarily justify the replacement drapery or curtains. If Austrian drapes are replaced, evaluate if upgrading motors and mechanisms are needed and coordinate with TFD.
2. The color of the replacement drapery or curtain should be chosen to compliment other existing components and not be a reason to replace them. Such components include, but are not limited to, wall covering, carpet, moldings, fabrics, and partitions.
3. Austrian drapes should be spot cleaned and vacuumed only. Do not dry clean or remove from temple to be cleaned.

Furnishings Replacement Standards

Floral Arrangements/Plants

This replacement standard is to be applied by temple building engineers/ facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each item will maximize its useful life.

Condition	Definition	Action
1. Excellent.	Flowers are clean and look fresh and realistic. Arrangement has original proportions, appropriate colors and scale. Vase is in new condition.	Do not consider replacement under these conditions.
2. Very Good.	Flowers are dusty but can be cleaned with a hairdryer on cool setting. Vase is in good condition and can be cleaned or polished to look new.	Do not consider replacement under these conditions.
3. Good. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the florals or plants in this condition for many years.)	Arrangement has good general shape and colors. Slight soiling that cannot be cleaned exists but is not very noticeable.	Propose replacement for Sealing, Celestial, Endowment, and Brides Room floral arrangements. Do not propose replacement in any other areas. Evaluate annually until replacement is required.
4. Fair.	Flowers are soiled and cannot be cleaned. Petal edges show fraying. Colors have faded and quality deteriorated. Arrangement has lost its shape. Vase has obvious damage or discoloration.	Propose replacement of floral arrangements.
5. Poor.	Arrangement is out of shape or has missing flowers. Vase is broken or stained.	Over-due for replacement.

Replacement Directives

1. Appropriate colors and high-quality flowers are to be used. Scale should be correct for the space. Do not block view of paintings or mirrors.

Furnishings Replacement Standards

General Drapery/Curtains

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate interior and outer window coverings, and any other inner drapes or curtains, except Austrian drapes, Ordinance room drapes, New Name drapes. A conscientious and consistent program of scheduled preventive maintenance work to each drapery/curtain will maximize its useful life.

Condition	Definition	Action
1. Excellent.	Draperies have no loose threads. Hems are secure and seams tight, if liners are present, stitching is tight. There are no tears, stains, fading or pilling. Fabric folds and hems hang uniformly, with no twisting or shrinkage. Hardware functions smoothly and has no broken or missing parts.	Do not consider replacement under these conditions.
2. Very Good.	Draperies have a slight amount of loose threads. Hems are secure and seams tight, if liners are present, stitching is tight. There are no tears, stains, fading or pilling. Regular spotting and cleaning have kept the drapery looking attractive. Fabric folds and hems hang uniformly, with no twisting or shrinkage.	Do not consider replacement under these conditions.
3. Good. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the draperies or curtains in this condition for many years.)	Draperies have some loose threads. Hems are secure and seams tight, if liners are present, stitching is tight. Repairs have been made to correct tears. Regular spotting and cleaning have kept the drapery looking attractive. There may be slight fading, pilling or shrinkage. Fabric folds and hems may have slight twisting.	Replacement of the draperies or curtains is not yet justified. Continue to repair as needed. Evaluate the item annually until replacement is required.
4. Fair.	Draperies have considerable loose threads. Hems and seams are coming un-sewn or are loose. Liners may be coming unstitched. Many repairs have been needed to correct tears. Regular spotting and cleaning do little to add to the appearance. There is some fading, pilling and shrinkage. Fabric folds and hems may be twisting. Hardware does not function smoothly, but has no broken or missing parts.	Replace this drapery or curtain.
5. Poor.	Draperies have extensive loose threads. Hems and seams are coming un-sewn. Liners may be hanging loose. There may be tears, permanent stains, noticeable fading and pilling. Fabric folds and hems may have noticeable shrinkage and twisting. Hardware does not function smoothly and may have broken or missing parts.	This drapery or curtain is over-due for replacement.

Replacement Directives

1. The replacement of hardware does not necessarily justify the replacement drapery or curtains.
2. The color of the replacement drapery or curtain should be chosen to compliment other existing components and not be a reason to replace them. Such components include, but are not limited to, wall covering, carpet, moldings, fabrics, and partitions.
3. Austrian drapes should be spot cleaned and vacuumed only – no dry cleaning.

Furnishings Replacement Standards

Seating

This standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each pew, chair, and sofa will maximize the useful life of these furnishings.

Condition	Definition	Action
1. Excellent. The item is in new or like-new condition.	There is no permanent soiling, staining, or fading of the fabric. There is no visible damage or wear. The structure is sound with no wobble.	Do not consider retrofit or replacement under these conditions.
2. Very Good. The item is only beginning to show wear.	There may be slight thinning of the fabric on arms, corners or edges. Regular spotting and cleaning have maintained the upholstery's attractive appearance. Small repairs may have been made to correct some snagging of the fabric or loosening of structural connections. There may be slight mars in the wood or finish.	Do not consider retrofit or replacement under these conditions.
3. Good. The item is showing wear, but is within acceptable limits. (It should be possible with proper and timely repairs, preventive maintenance, and necessary replacement of parts (such as arm covers, chair feet or use of arm covers) to extend the useful life of upholstered seating for many years.)	Thinning of fabric on arms, corners and edges may be obvious. Regular spotting and cleaning have kept the upholstery looking attractive. Repairs have been made to correct snags, tears in the fabric and/or loose structural connections. There are noticeable mars or cracking in the wood or finishes.	Propose replacement or refurbishment in Sealing, Celestial, Endowment, or Brides areas. Retrofit or replacement is not yet justified in other areas. Continue to clean and repair. Evaluate the item annually until retrofit or replacement is required.
4. Fair. The item is showing considerable wear and use.	The fabric is visibly worn in many locations. Regular spotting and cleaning does little to add to the appearance. Many repairs have been needed. The structure may not be sound. Mars in the wood or finish may have become objectionable.	Retrofit or replace the item. If structural integrity can be maintained, do a life cycle cost analysis to decide whether to retrofit (reupholster) or replace the item. If the item has serious marring or structural failure, and/or high retrofit costs then replace the item.
5. Poor. The item is showing serious and extensive wear and/or damage.	Fabric has worn clear through on some arms, corners or edges. There may be thinning or tearing of the fabric on the seat. Regular spotting and cleaning are having minimal effect on appearance. There may be some permanent soiling, staining, or fading. Repairs are needed often to correct snagging and fraying. Serious mars may show in the wood or finish. Structural connections may be failing. Many deep mars are obvious in the wood or finish.	This item is over-due for replacement.

Replacement Directives

1. Retrofit all of the items only in seating areas or zones that qualify by this standard.
2. When reupholstering chairs, provide (2) sets of arm covers for chairs with fully padded arms.
3. Always consider replacing padding, especially in cushions, when retrofitting an upholstered item.

Replacement Standards

Wall covering, Sisal

This replacement standard is to be applied by the facility managers during CNA needs identification inspection and by members of the verification team during the CNA verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work can maximize the useful life of the entire area covered by sisal.

Sisal replacement may include all of the sisal in a meetinghouse, or the sisal may be replaced in homogeneous wear zones as preferred by the stake leaders, Wear zones may be identified as:

1. Chapel and overflow
2. Cultural hall
3. Foyers, hallways and stairs
4. Classrooms and offices

Condition	Definition	Action
1.Excellent. Sisal is new or like new condition.	There is no permanent soiling, staining or, fading. There is no visible frizzing, fraying, seam separation, bubbling, sagging, or tearing	Do not consider replacement under these conditions.
2. Very Good. Sisal in the area being inspected is only beginning to show defects.	Slight fading may be present in areas of direct sunlight. Spot cleaning and minor repairs to prevent sagging, separating, bubbling and fraying have been made to maintain the condition of the sisal. 75% to 95% of the sisal in the area being inspected is still in excellent condition.	Do not consider replacement under these conditions.
3. Good. Sisal is showing defects, but is within acceptable limits. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the sisal in this condition for many years. This does not take vandalism into consideration.)	The areas of heaviest sunlight are showing fading. Regular spot cleaning has kept the sisal attractive. Repairs have been made to correct frizzing, fraying, seam separation, bubbling, sagging and tearing. 75% to 95% of the sisal in the area being considered is still in very good condition.	Replacement is not yet justified Evaluate the sisal annually until replacement is required.
4. Fair. The sisal is showing considerable wear marks and spots.	Many places are showing fading, sagging, and marks. Regular cleaning is having minimal effect on the sisal. Repairs are needed often to correct sagging, fraying, and seam separation. Less than 75% of the sisal is in good condition. Visual defects such as L shaped tears may detract from the overall appearance.	Replace the sisal. Defects that detract from the overall appearance may be replaced in a specific area.
5. Poor. The sisal is showing serious and extensive wear and defects.	Most of the sisal is fraying, bubbling, separating, tearing and sagging. Extensive marking detracts from the appearance of the sisal. Damage is irreversible.	The sisal is over-due for replacement.

Replacement Directives

1. New wall covering colors have been designed such that the sisal does not prematurely trigger the replacement of other items. The color of the replacement sisal should be chosen to **compliment** other existing meetinghouse components and **not be a reason to replace them**. Such components include, but are not limited to, existing sisal, carpet, pew fabric, opera chair fabric, foyer furniture, chair color, counter tops, window sills, toilet partitions, or portable partitions. The Standard Color Scheme Guide on CD will assist in the selection of coordinating colors.
2. The addition of new space does not necessarily justify the replacement of sisal in existing space.

Furnishings Replacement Standards

Tile/Stone

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate wall and floor tile, granite, marble, and all hard flooring surfaces. A conscientious and consistent program of scheduled preventive maintenance work to all hard flooring will maximize its useful life.

Condition	Definition	Action
1. Excellent.	Floor or wall tile/stone have no discoloration of finish. There are no chipped, cracked or broken tiles. There are no loose or missing portions. Grout is uniform in color and appearance.	Do not consider replacement or mechanical resurfacing under these conditions.
2. Very Good.	Floor or wall tile/stone have no discoloration of finish. There are no cracks with no chipped or broken tiles. There are no loose or missing portions. Grout is uniform in color and appearance.	Do not consider replacement or mechanical resurfacing under these conditions.
3. Good. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the tile or stone in this condition for many years.)	Floor or wall tile/stone have no discoloration of finish. Mechanical resurfacing or replacement of individual tiles and regrouting have kept the tile looking attractive. There are no loose or missing portions. Grout may show slight variation in color or appearance.	Propose replacement or mechanical refinishing in Sealing, Celestial, Endowment, or Brides areas. Retrofit or replacement is not yet justified in other areas. Continue to clean and repair. Evaluate the item annually until retrofit or replacement is required.
4. Fair.	Floor or wall tile/stone have slight discoloration of finish present. There may be some cracks or chips with no broken tiles. There are no loose or missing portions. Grout may show slight variation in color or appearance. A small amount of grout is loose or missing.	Replace or mechanical refinish tile or stone floor.
5. Poor.	Floor or wall tile/stone have some discoloration of finish present. There are cracks or chips present with some broken tiles. There are some loose or missing portions. Grout shows obvious variation in color or appearance. Some grout is loose or missing.	This tile or stone is over-due for replacement.

Replacement Directives

1. The replacement of adjacent carpet does not necessarily justify the replacement of tile or stone.
2. The color of the replacement stone or tile should be chosen to compliment other existing components and not be a reason to replace them. Such components include, but are not limited to, wall covering, carpet, moldings, fabrics, and partitions.

Furnishings Replacement Standards

Wall Coverings

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate fabric and vinyl wall coverings.

A conscientious and consistent program of scheduled preventive maintenance work to all wall coverings will maximize their useful life.

Wall covering replacement may include the entire wall covering in a temple, or the wall covering may be replaced in homogeneous wear zones as preferred by the temple administrators. Wear zones may be identified as:

1. Chapel/Assembly Rooms
2. Celestial/Sealing Rooms
3. Endowment Rooms
4. Foyers, hallways and stairs
5. Administrative Offices

Condition	Definition	Action
1. Excellent.	There is no permanent soiling, staining or, fading, fraying, seam separation, bubbling, sagging, or tearing. Wall coverings are not torn, seams are tight.	Do not consider replacement under these conditions.
2. Very Good.	There is no discoloration or staining. Spot cleaning and minor repairs to prevent sagging, separating, bubbling and fraying have been made to maintain the condition of the wall covering. 75% to 95% of the wall covering in the area being inspected is still in excellent condition.	Do not consider replacement under these conditions.
3. Good. (It should be possible, with proper and timely repairs and preventive maintenance, such as use of corner guards, to extend the life of the wall covering in this condition.)	There is no discoloration or staining. Regular spot cleaning has kept the wall covering attractive. Repairs have been made to correct frizzing, fraying, seam separation, bubbling, sagging and tearing. 75% to 95% of the wall covering in the area being considered is still in very good condition.	Propose replacement for Sealing, Celestial, Endowment, and Brides Room wall coverings. Do not propose replacement of any other areas. Evaluate annually until replacement is required.
4. Fair.	Many places are showing fading, sagging, and marks. Regular cleaning is having minimal effect on the wall covering. There are un-repairable sagging, fraying, and seam separation. Less than 75% of the wall covering is in good condition. Visual defects such as L shaped tears or holes may detract from the overall appearance.	Replace the wall covering.
5. Poor.	Most of the wall covering is fraying, bubbling, separating, tearing and sagging. Extensive marking detracts from the appearance of the wall coverings. Damage is irreversible.	The wall covering is over-due for replacement.

Replacement Directives

1. New wall covering colors should be designed such that the wall covering does not prematurely trigger the replacement of other items. The color of the replacement wall covering should be chosen to **compliment** other existing temple components and not be a reason to replace them. Such components include, but are not limited to, existing wall covering, carpet, pew fabric, opera chair fabric, foyer furniture, chair color, counter tops, window sills, toilet partitions, or portable partitions.
2. The addition of new space does not necessarily justify the replacement of wall covering in existing space.
3. Do not use fabric wall coverings.

Furnishings Replacement Standards

Wood Moldings and Trim

This replacement standard is to be applied by temple building engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

This standard is used to evaluate wood molding and baseboards, painted molding and baseboards. A conscientious and consistent program of scheduled preventive maintenance work to wood moldings and trim will maximize its useful life.

Condition	Definition	Action
1. Excellent.	Painted moldings have no gouges, cracks, scratches, chips or discoloration. Finished wood surfaces have no scratches or chips. Finish is uniform. All repairs are done in a professional manner.	Do not consider replacement under these conditions.
2. Very Good.	Painted moldings may have slight gouges, cracks, scratches or discoloration. Paint is not oxidized or peeling but may be slightly chipped. Finished wood surfaces have slight scratches or chips. Finish is uniform. All repairs are done in a professional manner.	Do not consider replacement under these conditions.
3. Good. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the wood moldings and trim in this condition for many years.)	Painted moldings may have some gouges, cracks, scratches or discoloration. Paint may be slightly oxidized with a small area peeling or chipped. Finished wood surfaces have some scratches or chips. Finish is uniform. All repairs are done in a professional manner.	Propose replacement or refurbishment in Sealing, Celestial, Endowment, or Brides areas. Retrofit or replacement is not yet justified in other areas. Continue to clean and repair. Evaluate the item annually until retrofit or replacement is required.
4. Fair.	Painted moldings have considerable gouges, cracks, scratches or discoloration. Paint is oxidized, peeling or chipped. Finished wood surfaces have considerable scratches or chips. Finish may not be uniform. Repairs are not done in a professional manner.	Replacement or refurbishment is needed.
5. Poor.	Painted moldings have excessive gouges, cracks, scratches, rotting, warping, structural or insect damage, or discoloration. Paint is oxidized, peeling or chipped. Finished wood surfaces have excessive scratches or chips. Repairs are not done in a professional manner.	This is over-due for replacement or refurbishment

Replacement Directives

Grounds Replacement Standards

- 28 GROUNDS: Site Management Plan, Governing Principles
- 29 GROUNDS: Paving/Resurfacing, Asphalt Parking, Drives & Roads

Sample Site Management Plan

Purpose

This plan is intended to assist in managing the _____ Temple grounds maintenance operations. It provides direction for staff, consultants, and service contractors in standards of landscape performance, appearance, and care.

Cleanliness and Maintenance Standard

The _____ Temple grounds should be cleaned and maintained to a 2 or better rating as described by the Church Building Quality Standards Guideline.

Management Review

Formal review and cost updates for this Site Management Plan should be conducted at least once annually, during maintenance service provider contract negotiating and bidding.

Annual Review and Update:

Date

Signature

Temple Grounds Maintenance and Replacement Standards

Purpose

These guidelines are prepared to assist the Temple Engineer/Facilities Manager and other staff in determining when and how to maintain Temple site elements until they reach the end of their useful life. Efforts should be made to coordinate these guidelines during each Annual CNA needs identification inspection.

Governing Principles

Softscapes

All existing and installed flowers, trees, shrubs, groundcover and lawns should be prepared and maintained so that their natural growth and development will be safe, manageable, and cost effective throughout their sustainable life. The guiding principle of temple landscape design is that it should “enhance and complement, rather than compete with the temple ... while drawing attention toward the temple entrance.”

Hardsurfaces

All walks, curbs, gutters and parking surfaces should be installed and maintained so that they provide easy, convenient and safe access for patrons, service vehicles and other users of the site. Replacement of these site elements should not occur until proper safety, security, and protection for these participants can no longer be achieved through the regularly scheduled maintenance procedures and practices as provided in the Temple Maintenance & Cleaning Standards.

Site Utility Systems, Equipment and Water Features

All irrigation systems, exterior lighting, site drainage systems and natural or manmade water features should be installed and maintained so that they provide proper collection, retention, and distribution of water, light and other natural elements on the site. Replacement of these systems should not occur until they have reached their extended useful life or no longer can function in providing their initial design purposes.

Site Furniture

All fences, trash receptacles, benches, signs, flagpoles and other site furniture should be installed and maintained as per Temple Maintenance & Cleaning Standards. Replacement should not occur until these items can no longer provide a safe and healthy environment for all patrons, vehicles & other site users.

A conscientious, consistent and documented program of scheduled preventative maintenance to meet Temple Maintenance & Cleaning Standards should be followed at each Temple Site. Replacement of all materials and systems should follow approved guidelines provided in the Temple Site Management Plan (TSMP). This process should be documented, prioritized and budgeted during the Annual Review so that replacement follows approved and timely implementation of these standards.

Seasonal Flowers

Design Purpose

Seasonal flowers enhance the attractiveness and presentation of the temple and positively influence the site environment for comfort and inspiration. They beautify the entry areas as well as provide photographic settings at courtyards, plazas, and monument signs.

Quality Standard

- *Flowerbeds should be maintained in good to excellent condition with nearly full bloom of flowers throughout the growing season.*
- *The flowerbeds should be neat, clean, and free of weeds, litter, plant debris, and spent flowers.*
- *The flowerbeds should be free of pests.*
- *The flowerbeds should be replanted at least 2 times per year to provide fresh, continuous color.*

Maintenance Requirements

- The original landscape design drawings and specifications, with approved design changes, should be the basis for the flowerbed location, layout, and inventory.
- A qualified horticulturalist or landscape architect should assist church employees and/or assigned specialists in developing an annual service calendar for planting seasonal flowers based on the seasonal flower inventory. They should also assist in identifying required maintenance services for the flowerbeds.
- A qualified horticulturalist, landscape architect or landscape maintenance contractor should assist church employees and/or assigned specialists by inspecting and maintaining the flowerbeds as needed during the growing season. This service should include providing color photographs of each flowerbed during the growing season. For comparison purposes, the photographs should be taken from the same location at the same times each year.

Trees

Design Purpose

Trees enhance the attractiveness and presentation of the _____ Temple and positively influence the site environment for comfort and attraction. They help shade large parking areas and prevent soil erosion.

Quality Standard

- *Trees should be maintained in good to excellent condition.*
- *Trees should appear clean, neat, and well trimmed with no dead, broken, or diseased limbs.*
- *Trees should be free of pests.*
- *Dead or dying trees should be replaced with the same tree type when conditions allow.*
- *Remove leaves as needed to keep lawns, parking lots, and sidewalks clear of debris.*

Maintenance Requirements

- The original landscape design drawings and specifications, with approved design changes, should be the basis for the tree location, layout, and inventory. Each tree should be identified on a cross reference chart showing its assigned number on the landscape plan.
- An experienced certified arborist or assigned specialist should assist in preparing an inventory, determining maintenance requirements, and developing an annual service calendar for each tree.
- An experienced certified arborist or assigned specialist should inspect the trees annually and update the inventory and annual service calendar. Color photographs should be taken annually of each tree or group of trees. For comparison purposes, the photographs should be taken from the same location on or near the same time each year.
- An experienced certified arborist or assigned specialist should maintain the trees based on the inventory and annual service calendar.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each tree will maximize its useful and sustainable life.

- Selective removal of trees as they reach maturity is justified if they are no longer meeting the design criteria or maintenance and replacement standards established by the original or modified planting plan. Consult with the authorized Landscape Architect designated by Headquarters to assist in this evaluation. .
- Each tree should be inspected and recommendations reported annually to the verification team by the experienced certified arborist or assigned specialist selected to maintain the tree. Replacement should be evaluated against the following criteria:

Condition	Definition	Action
1. <i>Excellent.</i> The tree is in a thriving, healthy condition.	The tree is generally undamaged or marred by poor maintenance practices, natural forces or insects/pests.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> The tree has sustained some damage, but generally is in a healthy condition.	Poor maintenance practices, natural forces or insects/pests has damaged the tree.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed by the certified arborist's annual report.
3. <i>Good.</i> The tree is showing improvement from previous damage sustained earlier in its life.	Growth and development of the tree is continuing, though hindered by the poor maintenance practices, natural forces or insects/pests that affected its growth earlier in its life. Most damage has been stopped or altered enough to extend the life of the tree.	Replacement of the tree is not yet justified but should continue to be evaluated annually. Follow the recommendations presented by the certified arborist's annual report.
4. <i>Fair.</i> The tree is showing considerable signs of deterioration.	30%-50% of the limbs have died or shown considerable signs of altered growth. Extensive damage to the growth areas of the tree has occurred due to insects/pests infestation or other natural forces.	Provide analysis to determine whether continued maintenance practices could extend the life of the tree. If the tree cannot be saved and the analysis justifies replacement, do not repair any damaged areas. Follow recommendations presented by the certified arborist's annual report. <u>Only perform corrective maintenance to those areas that may result in possible life or safety situations.</u>
5. <i>Poor.</i> The tree is showing serious or extensive wear and/or damage.	50%-75% of the tree has died. Deterioration and/or poor growth has caused concern for safety and protection of surrounding plants, surfaces, buildings, etc. Messyness and cleanliness are significant concerns.	This tree should be replaced.

Replacement Directives

1. Use only Church approved specifications and details when replacing trees on site.
2. Schedule replacement during cool or dormant seasons so that there is not a significant impact on the tree during installation.
3. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Shrubs and Ground Covers

Design Purpose

Shrubs and ground covers enhance the attractiveness and presentation of the _____ Temple and positively influence the site environment. They help retain slopes, prevent soil erosion, and reduce weed development.

Quality Standard

- *Shrubs and ground covers should be maintained in good to excellent condition.*
- *Shrubs and ground covers should be free of weeds, litter, and plant debris.*
- *Shrubs and ground covers should appear clean, neat, and trimmed of dead, broken, or diseased branches.*
- *Shrubs and ground covers should be free of pests.*

Maintenance Requirements

- The original landscape design drawings and specifications, with approved design changes, should be the basis for the shrubs and ground covers location, layout, and inventory.
- A qualified horticulturalist or assigned specialist should assist in preparing an inventory, determining maintenance requirements, and developing an annual service calendar for the shrubs and ground covers.
- A qualified horticulturalist, assigned specialist or lawn/grounds care service contractor should inspect the shrubs and ground covers quarterly and update the inventory and annual service calendar. Color photographs should be taken annually of the shrubs and ground covers. For comparison purposes, the photographs should be taken from the same location on or near the same time each year.
- A qualified horticulturalist, assigned specialist or lawn/grounds care service contractor should maintain the shrubs and ground covers based on the inventory and annual service calendar.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each tree will maximize its useful and sustainable life.

- Selective removal of shrubs and ground covers as they reach maturity is justified if they are no longer meeting the design criteria or maintenance and replacement standards established by the original or modified planting plan. Consult with the authorized Landscape Architect designated by Headquarters to assist in this evaluation. .
- Each shrub and area of ground cover should be inspected and recommendations reported annually to the verification team. Replacement should be evaluated against the following criteria:

Condition	Definition	Action
1. <i>Excellent.</i> The shrub or groundcover is in a thriving, healthy condition.	The shrub or groundcover is generally undamaged or marred by poor maintenance practices, natural forces or insects/ pests.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> The shrub or groundcover has sustained some damage, but generally is in a healthy condition.	Poor maintenance practices, natural forces or insects/pests have slightly damaged the shrub or groundcover. Long-term effects are negligible.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed by this section of the Management Plan.
3. <i>Good.</i> The shrub or groundcover is showing improvement from previous damage sustained earlier in its life.	Growth and development of the shrub or groundcover is continuing, though hindered by the poor soil conditions, maintenance practices, natural forces or insects/pests that affected its growth earlier in its life. Most damage has been stopped or altered enough to extend the life of the shrub or groundcover.	Replacement of the shrub or groundcover is not yet justified but should continue to be evaluated annually. Follow the recommendations presented in this section of the Management Plan.
4. <i>Fair.</i> The shrub or groundcover is showing considerable signs of deterioration.	30%-50% of the limbs have died or shown considerable signs of altered growth. Extensive damage to the growth areas of the shrub or groundcover has occurred due to insects/pests infestation or other natural forces.	Provide analysis to determine whether continued maintenance practices could extend the life of the tree. If the shrub or groundcover cannot be saved and the analysis justifies replacement, do not repair any damaged areas. Follow recommendations presented in this section of the Management Plan.
5. <i>Poor.</i> The shrub or groundcover is showing serious or extensive wear and/or damage.	50% or more of the shrub or groundcover has died. Deterioration has caused concern for safety and protection of surrounding plants, surfaces, buildings, etc. Neatness & cleanliness are significant concerns.	This shrub or groundcover should be replaced.

Replacement Directives

1. Use only Church approved specifications and details when replacing shrubs or groundcover on site.
2. Schedule replacement during cool or dormant seasons so that there is not a significant impact on the shrub or groundcover during installation.
3. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Lawn

Design Purpose

Lawn enhances the attractiveness and presentation of the _____ Temple and positively influences the site environment. Lawn allows light foot traffic, retains soil on minor slopes, provides fire breaks, prevents soil erosion, and reduces weed development.

Quality Standard

- *Lawn areas are healthy green in color.*
- *Lawn areas have no dry spots.*
- *Lawn areas are mowed at a uniform height and appearance.*
- *Lawn edges are trimmed back to the sidewalk edge and are flush or no more than one inch below adjacent sidewalks and mow strips.*
- *Lawn around tree base is cut back leaving bare soil around most trees.*
- *There are no weeds present.*
- *Sprinkler heads are at or slightly below lawn level.*
- *Lawn is of uniform makeup in type, size and texture.*

Maintenance Requirements

- The original landscape design drawings and specifications, with approved design changes, should be the basis for the lawn locations, layout, and inventory.
- A qualified lawn/grounds care service contractor or church employees should assist in preparing an inventory, determining maintenance requirements, and developing an annual service calendar for the lawn.
- A qualified lawn/grounds care service contractor or church employees should inspect the lawn monthly and update the inventory and annual service calendar. Color photographs should be taken quarterly of the lawn. For comparison purposes, the photographs should be taken from the same location on or near the same time each year.
- A qualified lawn/grounds care service contractor or church employees should maintain the lawn based on the inventory and annual service calendar.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each tree will maximize its useful and sustainable life.
- Selective removal of lawn areas as they reach maturity is justified if they are no longer meeting the design criteria or maintenance and replacement standards established by the original or modified planting plan. Consult with the authorized Landscape Architect designated by Headquarters to assist in this evaluation. .
- Each lawn area should be inspected and recommendations reported annually to the verification team by the authorized Landscape Architect or assigned specialist selected to evaluate the lawn areas. Replacement should be evaluated against the following criteria:

Condition	Definition	Action
1. <i>Excellent.</i> The lawn area is in a thriving, healthy condition.	The lawn area is generally undamaged or marred by poor maintenance practices, natural forces or insects/ pests.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> The lawn area has sustained some damage, but generally is in a healthy condition.	Poor maintenance practices, natural forces or insects/pests have damaged the lawn area.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed in this section of the Management Plan.
3. <i>Good.</i> The lawn area is showing improvement from previous damage sustained earlier in its life.	Growth and development of the lawn area is continuing, though hindered by the poor maintenance practices, poor soil conditions, natural forces or insects/pests. Most damage has been stopped or altered enough to extend its life.	Replacement of the lawn is not yet justified but should continue to be evaluated annually. Follow the recommendations presented in this section of the Management Plan.
4. <i>Fair.</i> The lawn area is showing considerable signs of deterioration.	30%-50% of the lawn has died or shown considerable signs of altered growth. Extensive damage to the growth areas of the lawn has occurred due to insects/pests infestation or other natural forces.	Provide analysis to determine whether continued maintenance practices could extend the life of the lawn. If the lawn area cannot be saved and the analysis justifies replacement, do not repair any damaged areas. Follow recommendations presented in this section of the Management Plan.
5. <i>Poor.</i> The lawn area is showing serious or extensive wear and/or damage.	50% or more of the lawn has died. Deterioration has caused concern for safety and protection of surrounding plants, surfaces, buildings, etc.	This lawn area should be replaced.

Replacement Directives

1. Use only Church approved specifications and details when replacing lawn areas on site.
2. Schedule replacement during cool or dormant seasons so that there is not a significant impact on the tree during installation.
3. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Hard Surfaces (Walkways, Curbs, Gutters, and Parking Areas)

Design Purpose

Hard surfaces provide easy, convenient, and safe access to the _____ Temple for patrons, service vehicles, and other users of the site.

Quality Standard

- *Hard surfaces are free of loose debris and live vegetation.*
- *For parking areas, there are no potholes, all longitudinal and block cracks are sealed, no pieces are missing in alligatored areas, all markings are clearly distinguishable and visible, and there is no raveling or spalling present.*
- *For walkways, curb, and gutters, they are free from cracks, spalling, and chips, there are no trip hazards, and repairs are done in a workmanlike manner.*
- *Walks and parking areas should be free of ice during working hours.*

Maintenance Requirements

- The original site design drawings and specifications, with approved design changes, should be the basis for the hard surfaces location and layout.
- The annual maintenance requirements should be identified and included in the annual service calendar. These requirements should include repairs, striping, sweeping, power washing, and snow removal services.
- Qualified service contractors, church employees or assigned specialists should provide the maintenance services according to the annual service calendar.
- All ice and other weather related hazards should be dealt with in a timely manner. During operating hours, snow, ice and other weather hazards should be responded to immediately to ensure the safety of those on site.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each surface material will maximize its useful and sustainable life.

- Hard surface (concrete, asphalt, pavers, etc.) replacement may include all exposed exterior surfaces. These may be replaced in homogenous wear zones as preferred by the verification team. Wear zones may be identified as:
 1. Walkways
 2. Stairs and stair landings/treads
 3. Concrete or stone curbs
 4. Other flatwork

Replacement should be evaluated against the following criteria.

Condition	Definition	Action
1. <i>Excellent.</i> Surface has new or like new conditions.	There are no cracks, spalling, trip hazards or chips.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> Surface in the area being considered is only beginning to show defects.	Slight spalling, cracks or chips may be evident. Minor repairs have been made to maintain the condition of the surface. 75% to 95% of the surface in the area being inspected is still in excellent condition.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed by this section of Management Plan.
3. <i>Good.</i> Surface is showing defects, but is within acceptable limits. (It should be possible, with proper and timely repairs and preventive maintenance, to extend the life of the materials for many years).	The areas of heaviest use and those subject to freezing and chemicals are showing some wear. Repairs have been made to correct cracking, spalling, chips and trip hazards. 75% to 95% of the surface area being considered is still in very good condition.	Replacement is not yet justified. Make necessary repairs until retrofit or replacement of the entire area may be required. Seal shrinkage and longitudinal cracks annually. Remove and replace alligatored areas and potholes using either shallow patching or deep patching depending on the condition of the base.
4. <i>Fair.</i> Surface is showing considerable wear, cracking, spalling, chipping and trip hazards.	Many places are showing cracks, extreme cracks, spalling, chipping, and trip hazards. Regular repair is having minimal effect on the appearance and functionality of the surface material. Less than 75% of the material is in good condition.	Schedule Replacement. <u>Prior to replacement, only perform corrective maintenance to those areas that may result in possible life or safety situations.</u>
5. <i>Poor.</i> Surface is showing serious and extensive wear and defects.	Most of surface material has cracks, spalled areas, chips and trip hazards. Extensive defects detract from the appearance and function of the surface. Damage is irreversible.	The surface material is over-due for replacement.

Replacement Directives

1. Use only Church approved specifications and details when replacing surface materials.
2. Replacement surface materials will invariably differ in appearance with older weathered materials that may be left in place. These appearance differences do not justify replacement of older surfaces which still have service life. By the same token, addition of new materials does not necessarily justify the replacement of surface materials in existing areas.
3. It may be necessary to utilize professional consultants and products to extend the life of the surfaces by patching chips, cracks and spalling and by grinding or re-leveling walkway sections and pads.
4. Schedule replacement so that the project can be developed and bid during the winter months. Time replacement to avoid as much bad weather as possible.
5. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Irrigation System

Design Purpose

The irrigation system supports plant growth and development so that the aesthetic quality of the landscape design can be maintained and properly managed.

Quality Standard

- *The irrigation system should operate as designed for the conditions of the site.*
- *Zones should be separated based on watering needs of plants, soil types, slopes, and solar exposure.*
- *The system should perform with matched precipitation rates, uniform distribution, and head to head coverage.*
- *There should be no broken equipment or sprinkler heads and the automatic electronic signaling should operate without problem.*
- *The water for the landscape should be relatively clean and pose no threat to public health and safety.*
- *The water should contain no element that will inhibit plant health or stain hard surfaces, and should be odor free.*
- *The system should not irrigate onto sidewalks, driveways, and parking lots or spray on any buildings.*

Maintenance Requirements

- The original irrigation design drawings and specifications, with approved design changes, should be the basis for the irrigation system layout.
- A qualified irrigation system consultant should assist in determining the maintenance services of the irrigation system. The consultant should inspect the irrigation system annually. The following guidelines should be followed in determining the required services:
 - a. The irrigation schedule should conform to the watering needs of the season.
 - b. The irrigation schedule should be reviewed periodically to prevent over watering.
 - c. The irrigation schedule should be managed to provide proper coverage without run-off.
 - d. The irrigation system should be reviewed periodically to ensure uniform coverage during operation.
 - e. The irrigation system should not operate when it is raining.
 - f. The irrigation system should operate during pre-dawn hours to reduce development of plant disease and evaporation.
 - g. The irrigation system components should be repaired and/or replaced with the same components.

- h. An effort should be made to install locally available commercial grade irrigation components.
- A qualified irrigation system consultant, church employee or assigned specialist should perform the irrigation system maintenance services.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each component of the system will maximize its useful and sustainable life.
- The replacement standard provides directions for replacing **an entire system** and not individual components or parts of a system. Replacement should be evaluated against the following criteria:

Condition	Definition	Action
1. <i>Excellent.</i> The system <u>functions</u> at fully adequate levels.	The system is totally reliable. Sprinkler heads are at or below turf level. All turf and planting areas are evenly watered (no dry spots).	Do not consider replacement under these conditions.
2. <i>Very Good.</i> Necessary adjustments and minimal head replacements keep system functioning at fully adequate levels.	The system is totally reliable. Adjustments may need to be made to maintain the system.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed in this section of the Management Plan.
3. <i>Good.</i> The system continues to function with intermittent component repairs, replacements and minor system improvements (it should be possible, with proper and timely repairs, maintenance and necessary replacements, to extend the entire irrigation system for many years without replacement of the entire system).	Turf and planting areas are adequately covered. Some components have failed and have been replaced. Others are approaching the end of their useful lives. Adjustments need to be made. A small number of components need replacement.	Replacement of the entire irrigation system is not justified, but should continue to be evaluated annually. Make necessary repairs and parts replacements as needed. It is not yet time to replace the irrigation system.
4. <i>Fair.</i> The system no longer functions adequately and will not without major alterations.	A lack of coverage due to low pressure caused by leakage and or system expansion exists. 20% of the system does not function adequately.	Make a study and life cycle cost analysis to determine whether to replace faulty components of the irrigation system, retrofit the existing system, or replace the system entirely.
5. <i>Poor.</i> The overall irrigation system is subject to constant breakdowns and delivers inadequate quality.	Complete lack of coverage to turf and plantings due to low pressure caused by leaks, worn and broken sprinkler heads, and extensive expansions of the system.	This irrigation system is over-due for replacement.

Replacement Directives

1. Use only Church approved specifications and details when replacing irrigation system components.
2. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Exterior Lighting

Design Purpose

Exterior lighting enhances visibility for safety and security and provides lighting that is attractive and functional. Exterior lighting is used on monument signs to enhance identity and recognition of the _____ Temple.

Quality Standard

- *All lights function properly.*
- *No lights are burned out.*
- *Fixtures are clean with no debris in the covers.*
- *Fixtures are securely attached.*
- *Covers are not cracked, broken, or missing.*
- *Light poles and fixtures are uniform in appearance.*

Maintenance Requirements

- The original exterior lighting design drawings and specifications, with approved design changes, should be the basis for the exterior lighting location and layout.
- The annual maintenance requirements should be identified and included in the annual service calendar. These requirements should include repairs, angle adjustments, bulb replacement, washing, and other electrical services.
- Maintain a sufficient inventory of light bulbs, lenses, ballast and glass covers to respond to repair needs.
- Qualified service contractors, church employees or assigned specialists should provide the maintenance services according to the annual service calendar.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each lighting fixture will maximize its useful and sustainable life.

- Selective removal of light fixtures as they reach their extended life is justified if they are no longer meeting the design criteria or maintenance and replacement standards established by the original or modified lighting plan. Consult with the authorized Landscape Architect designated by Headquarters to assist in this evaluation. .
- Each light fixture should be inspected and recommendations reported annually to the verification team by the maintenance staff. Replacement should be evaluated against the following criteria:

Condition	Definition	Action
1. <i>Excellent.</i> The light fixture is in excellent condition.	The light fixture is generally undamaged or marred by poor maintenance practices or natural forces.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> The light fixture has sustained some damage, but generally is in a good condition.	Poor maintenance practices or natural forces have damaged the light fixture.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed by this section of the Management Plan.
3. <i>Good.</i> The light fixture is showing improvement from previous damage sustained earlier on site.	Most damage has been stopped or altered enough to extend the life of the light fixture.	Replacement of the tree is not yet justified but should continue to be evaluated annually. Follow the recommendations presented by this section of the Management Plan.
4. <i>Fair.</i> The light fixtures are showing considerable signs of deterioration.	30%-50% of the fixtures on site show considerable signs of deterioration. Extensive damage has occurred due to poor maintenance or other natural forces.	Provide analysis to determine whether continued maintenance practices could extend the life of the light fixtures. If the fixtures cannot be saved and the analysis justifies replacement, do not repair any damaged areas. <u>Only perform corrective maintenance to those areas that may result in possible life or safety situations.</u>
5. <i>Poor.</i> The light fixtures are showing serious or extensive wear and/or damage.	50% or more of the light fixtures are un-repairable. Deterioration has caused concern for safety and visibility surrounding walking surfaces, buildings, etc.	These fixtures should be replaced.

Replacement Directives

1. Use only Church approved specifications and details when replacing light fixtures on site.
2. Schedule replacement during shut down periods of temple annual service calendar.
3. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Water Features/Fountains/

Design Purpose

Water features and natural streams or ponds are used to provide many temples with a sense of entry and a focal point for photographs. They are also used to mask unwanted noise from adjacent streets or properties and enhance the reverent atmosphere for temple patrons.

Quality Standard

- *Fountain water should be clean and free of algae and other debris.*
- *No water should spill, splash, or be blown outside of the fountain.*
- *Lights should not be burned out.*
- *Fountain surfaces are clean with no debris, film, algae, or other foreign matter.*
- *Fountain tile, caps, and other surface material are secure and not broken, cracked, or missing.*
- *Fountain mechanical systems are functioning properly.*
- *Filters are clean and functioning properly.*
- *Natural ponds & streams should be clean and free of debris for positive water movement to occur.*

Maintenance Requirements

- The annual maintenance requirements should be identified and included in the annual service calendar. These requirements should include:
 - a. Repairs
 - b. Fountain start-up and shutdown
 - c. Water and filter replacement/cleaning
 - d. pH and chemical testing
 - e. Light bulb replacement
 - f. Washing
 - g. Other services
- Qualified service contractors, church employees or assigned specialists should provide the maintenance services according to the annual service calendar.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each water feature will maximize its useful and sustainable life.
- Selective removal or repair of water features is justified if they are no longer meeting the design criteria established by the original or modified plans. Consult with the authorized Landscape Architect designated by Headquarters to assist in this evaluation. .
- Each water feature should be inspected and recommendations reported annually to the verification team by the authorized maintenance group selected to maintain the feature. Replacement should be evaluated against the following criteria:

Condition	Definition	Action
1. <i>Excellent.</i> The water feature, natural pond or stream is in excellent condition.	The feature is generally undamaged or marred by poor maintenance practices or natural forces.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> The water feature, natural pond or stream has sustained some damage, but generally is in good condition.	Poor maintenance practices or natural forces have damaged the feature.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed by this section of Management Plan.
3. <i>Good.</i> The water feature, natural pond or stream is showing improvement from previous damage sustained earlier in its life.	The function and operation of the water feature is continuing, though hindered by the poor maintenance practices, or natural forces that affected its use. Most damage has been stopped or altered enough to extend the life of the water feature.	Replacement of the water feature is not yet justified but should continue to be evaluated annually. Follow the recommendations presented by this section of the Management Plan.
4. <i>Fair.</i> The water feature, natural pond or stream is showing considerable signs of deterioration.	30%-50% of the feature is not functioning as originally designed. Extensive damage to materials at the water source has occurred due to poor maintenance or other natural forces.	Provide analysis to determine whether continued maintenance practices could extend the life of the water feature. If the feature cannot be maintained in its proper state, do not repair any damaged areas. Follow recommendations presented by the Landscape Architects certified arborist's annual report. <u>Only perform corrective maintenance to those areas that may result in possible life or safety situations.</u>
5. <i>Poor.</i> The water feature, natural pond or stream is showing serious or extensive wear and/or damage.	50% or more of the water feature does not function or operate as originally designed. Deterioration has caused concern for safety and protection of surrounding plants, surfaces, buildings, etc.	This water feature should be replaced.

Replacement Directives

1. Use only Church approved specifications and details when replacing water features.
2. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Site Drainage

Design Purpose

Site drainage is used to protect buildings, grounds, and surrounding properties from damage caused by rain, snow, broken or malfunctioning water supply systems, and other surface water that may be on the _____ Temple site.

Quality Standard

- *Drains, basins and pipe should be clean and free of debris.*
- *Clean-outs shall function properly and be free of debris.*
- *Splash basins shall be installed and functioning properly to prevent erosion and splattering on The Nauvoo Temple where roof areas drain onto the landscape.*
- *No water should flow onto adjacent properties.*
- *Drainage basins should be kept clean of garbage and other debris.*
- *Retention/detention basins should be kept to design capacity. Excess dirt should be removed as soon as possible.*
- *Standing water should be removed as soon as local codes permit.*
- *Natural streams and drainage systems should be clear and clean for positive distribution through surface movement.*

Maintenance Requirements

- The annual maintenance requirements should be identified and included in the annual service calendar. These requirements should include:
 - a. Clean-out inspection and maintenance
 - b. Check splash block/basin areas for proper function
 - c. Storm drain inspection and cleaning
 - d. Retention/detention basin inspection and cleaning
 - e. Other services
- Qualified service technicians should provide the maintenance services according to the annual service calendar.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work for each component of the drainage system will maximize its useful and sustainable life.
- Each Drainage System component should be inspected and recommendations reported annually to the verification team by the authorized Landscape Architect designated by Headquarters to assist in this evaluation process. Replacement should be evaluated against the following criteria.

Condition	Definition	Action
1. <i>Excellent.</i> The system(s) functions at fully adequate levels of operation.	The system and its components are totally reliable. Water collection and retention meets local requirements.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> Only necessary adjustments and minimal repairs keep system(s) functioning at fully adequate levels.	The system is totally reliable. Minor repairs and adjustments may need to be made to maintain the system.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed by this section in the Management Plan.
3. <i>Good.</i> The system(s) continues to function with occasional repairs (it should be possible to extend use of the system without replacement).	Some components have failed and been replaced. Others are approaching the end of their useful lives. Adjustments need to be made. A small number of components need replacement.	Replacement of the entire drainage system is not yet justified, but should continue to be evaluated annually. Follow the recommendations presented by this section of the Management Plan.
4. <i>Fair.</i> The system(s) no longer functions adequately and will not without major alterations.	30%-50% of the system does not function adequately. Major damage is occurring to surrounding surfaces as a result of failure in system.	Provide analysis to determine whether continued maintenance practices could extend the life of the system. If the system cannot be saved and the analysis justifies replacement, do not repair any damaged areas. <u>Only perform corrective maintenance to those areas that may result in possible life or safety situations.</u>
5. <i>Poor.</i> The overall drainage system(s) is subject to constant breakdowns and delivery problems.	50% or more of the system components have failed to function properly. Deterioration has caused concern for safety and protection of surrounding plants, surfaces, buildings, etc.	This drainage system should be replaced.

Replacement Directives

1. Use only Church approved specifications and details when replacing drainage system components.
2. Schedule replacement during dry, summer months to avoid as much bad weather as possible.
3. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Site Furniture

Design Purpose

Site furniture is used to protect buildings, grounds, and surrounding properties from damage from exterior sources including vandalism. It also provides visitors and patrons' outdoor areas to enjoy the peace of the temple. Other site furniture items are provided for the health and safety of all who enter the temple grounds or may provide additional aesthetics and focus to the temple.

Quality Standard

- *Site furniture shall be clean and free of debris.*
- *Site furniture shall be safe and well maintained and functioning properly.*
- *Items requiring painting shall be kept neat in appearance and free from visual oxidation or wear.*
- *Signs shall be straight, easily read, and well maintained.*
- *Trash receptacles shall be emptied regularly.*
- *Flags and flagpoles shall be treated with respect according to the dictates of proper flag etiquette.*

Maintenance Requirements

- The annual maintenance requirements should be identified and included in the annual service calendar. These requirements should include:
 - a. Cleaning inspection and maintenance.
 - b. Check drinking fountains for proper function.
 - c. Winterize drinking fountains.
 - d. Winterize all planting pots, benches and other items, which can be brought inside during the colder months.
 - e. Other services
- Qualified service technicians should provide the maintenance services according to the annual service calendar.

Replacement Standards

- The replacement standard is to be applied by the Temple Engineer/Facility Manager during the R&I needs identification inspection and by members of the verification team. A conscientious and consistent program of scheduled preventive maintenance work to each site-furnishing item will maximize its useful and sustainable life.

- Each furniture item should be inspected and recommendations reported annually to the verification team by the maintenance staff. Replacement should be evaluated against the following criteria:

Condition	Definition	Action
1. <i>Excellent.</i> The site furniture item is in excellent condition.	The item is generally undamaged or marred by poor maintenance practices or natural forces.	Do not consider replacement under these conditions.
2. <i>Very Good.</i> The site furniture item has sustained some damage, but generally is in good condition.	Poor maintenance practices, vandalism or natural forces have damaged the item.	Do not consider replacement under these conditions. Provide preventative measures of maintenance as directed by this section of the Management Plan.
3. <i>Good.</i> The site furniture item continues to sustain some damage and is showing signs of wear and weathering.	Most damage is repairable and maintenance will extend the life of the item.	Replacement of the site furniture item is not yet justified but should continue to be evaluated annually. Follow the recommendations presented by this section of the Management Plan.
4. <i>Fair.</i> The site furniture items are showing considerable signs of deterioration.	30%-50% of the items have shown considerable signs of deterioration. Extensive damage has occurred due to poor maintenance, vandalism or other natural forces.	Provide analysis to determine whether continued maintenance practices could extend the life of the site furniture. If the fixture cannot be saved and the analysis justifies replacement, do not repair any damaged areas. <u>Only perform corrective maintenance to those areas that may result in possible life or safety situations.</u>
5. <i>Poor.</i> The site furniture items are showing serious or extensive wear and/or damage.	50% or more of the items are no longer functional in their use. Deterioration has caused concern for safety and usefulness around surfaces, buildings, etc.	These items should be replaced immediately.

Replacement Directives

1. Use only Church approved specifications and details when replacing site furniture components.
2. Schedule replacement as needed and follow Annual Service Calendar as much as possible.
3. Update the Temple Site Management Plan (TSMP) for local use and headquarters information.

Grounds

Replacement Standards

PAVING AND SURFACING: Asphalt Parking, Drives & Roads

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work to each part of the pavement will maximize the useful life of the entire system. The asphalt pavement used for temple parking drives and roads should be inspected and evaluated against the following criteria. Core testing may help you to make the final determination to replace the asphalt paving system.

Condition	Definition	Action
1. Excellent. The pavement is in new or like-new condition.	The pavement is generally undamaged and shows minimal effects from sun and moisture.	Do not consider replacement under these conditions.
2. Very Good. The pavement is beginning to show some wear and/or damage	There is some oxidation of the asphalt material as evidenced by color change. Raveling is not present. Slight cracking may be present.	Do not consider replacement under these conditions. Seal shrinkage and longitudinal cracks annually.
3. Good. The pavement is showing correctable wear and/or damage. (It should be possible with proper and timely repairs and preventive maintenance to extend the life of the pavement in this condition for many years.)	Surface oxidation of the asphalt is exposing some of the aggregate. There may be some raveling. Linear cracks are present. There may be some scattered, small areas of alligator cracking.	Replacement of the entire paving is not yet justified but should continue to be evaluated annually. Make necessary repairs until retrofit or replacement of the entire area may be required. Seal shrinkage and longitudinal cracks annually. Remove and replace alligatored areas and pot holes using either shallow patching or deep patching depending on the condition of the base. It is not yet time to apply a slurry seal coat <i>unless the aggregate is limestone</i> . If the pavement can be saved make needed repairs and apply a Type I or Type II sand slurry seal coat. (A professional consultant should not be needed for a slurry seal project).
4. Fair. The pavement is showing considerable wear and/or damage.	Numerous linear cracks, some exceeding 1" in width, have developed. 30% to 50% of the surface exhibits alligator cracking. Extensive raveling of the surface aggregate may be occurring due to severe oxidation.	Hire a professional consultant and testing services to carefully evaluate the paving, base, and sub-base materials. Review the report objectively and decide when replacement of the entire parking area paving system should be scheduled. <u>Only perform corrective maintenance to that which is necessary for continued use of the facility.</u>
5. Poor. The pavement is showing serious and extensive wear and/or damage.	Major linear and alligator cracking as well as raveling is present over 75% of the parking surface.	This paving system is overdue for replacement.

Routine maintenance should include sweeping of the parking area, inspecting for damage, and sealing cracks.

Replacement Directives

1. Use only Church approved specifications and details when replacing parking area paving systems.
2. Schedule replacement of the parking area paving so that the project can be developed and bid during the winter months. Time the replacement to avoid as much bad weather as possible.
3. Many temples are configured so as to have more than one parking area. These areas should be inspected and evaluated independently.

4. Coordinate work schedule with local leaders.

Temple Site Management Program

Governing Principles

May 2004

Purpose

These guidelines are prepared to assist the Temple Engineer/Facilities Manager and other staff in determining when and how to replace Temple site elements that reach the end of their useful life. Please coordinate needed changes during the annual inspection process.

Governing Principles

Softscapes

All flowers, trees, shrubs, groundcover and lawns should be installed and maintained so that their natural growth and development will be manageable, and cost effective throughout their sustainable life. The guiding principle of temple landscaping is that it should “enhance and complement, rather than compete with the temple ... drawing attention toward the temple entrance.”

Hardsurfaces

All walks, curbs, gutters and parking surfaces and site drainage equipment/systems should be installed and maintained so that they provide convenient and safe access for patrons, service vehicles and other users of the site. Replacement of these site elements should not occur until proper safety, security, and protection for these participants can no longer be achieved through the regularly scheduled maintenance procedures and practices as provided in the Temple Maintenance & Cleaning Standards.

Site Utility Systems, Equipment and Water Features

All irrigation systems, exterior lighting, site drainage systems and water features should be installed and maintained so that they provide proper collection, retention, and distribution of water, light and other natural elements on the site. Replacement of these systems should not occur until they have reached their extended useful life or no longer provide their initial design functionality.

Site Furniture

All fences, trash receptacles, benches, signs, flagpoles and other furniture should be installed and maintained as per Temple Maintenance & Cleaning Standards. Replacement should not occur unless these items can no longer provide a functional safe and healthy environment.

A conscientious, consistent and documented program of scheduled preventative maintenance to meet Temple Maintenance & Cleaning Standards should be followed at each Temple Site. Replacement of all materials and systems should follow existing approval procedures, and as outlined in the Temple Site Management Plan (TSMP). This process should be documented, prioritized and budgeted during the annual inspection.

HVAC Replacement Standards

- 23 HVAC: Air Handlers
- 24 HVAC: Hot Water or Steam Boiler
- 25 HVAC: Refrigeration Condensing Unit
- 25 HVAC: Cooling Towers and Chillers
- 26 HVAC: Fire, Security, and Comfort Control Systems

HVAC Replacement Standards

Air Handlers

This replacement standard is to be applied by the temple building engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection. **Each air handler should be evaluated independent of all other air handlers in the facility.**

A conscientious and consistent program of scheduled preventive maintenance work to each air handler will maximize its useful life.

Condition	Definition	Action
1. Excellent. The air handler functions at original design levels.	The air handler operates at designed BTU and CFM economically. Operating noise is not noticeable.	Do not consider replacement under these conditions.
2. Very Good. Necessary adjustments keep the air handler functioning at design levels.	The air handler operates economically. Through effective maintenance (filter replacements, etc.) the air handler is still producing design levels of BTU and CFM. Adjustments may be necessary for the air handler to operate as efficiently as possible. Operating noise is not objectionable.	Do not consider replacement under these conditions.
3. Good. The air handler continues to function with regular maintenance and intermittent repairs. (It should be possible with proper preventive maintenance and timely repairs, to extend the useful life of the air handler for many years.)	Air handler efficiency may be slightly diminished, affecting the economy of operation. The coils are still in good condition. Some air handler parts have been replaced. Other original parts may not be functioning at peak levels. Operating noise levels are still tolerable. .	Replacement of the air handler is not justified but should continue to be evaluated annually. Make necessary repairs and parts replacements as needed.
4. Fair. The air handler no longer functions as designed and will not without major repairs. The technology may be outdated.	Operating efficiency and effectiveness have declined. Space carbon dioxide (CO ₂) levels may be too low. Operating and/or repair costs have dramatically increased and no longer compare favorably to rebuilding the air handler. Operating noise may be distracting.	Replace or refurbish this air handler.
5. Poor. The air handler is subject to constant breakdowns even during critical service periods and delivers inadequate levels of BTU or CFM.	The air handler is old and undependable. The technology may be out of date. Operating and repair costs may have become intolerable. The occupants may be uncomfortable and/or distracted by the noise.	This air handler is over-due for replacement.

Replacement Directives

1. Use only Church approved specifications and details when replacing HVAC components.
2. When upgrading, consult with Church mechanical engineers before replacing equipment.

HVAC Replacement Standards

Cooling Towers and Chillers

This replacement standard is to be applied by temple engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection. **Each tower or chiller unit should be evaluated independent of all other units in the facility.**

A conscientious and consistent program of scheduled preventive maintenance work to each condensing unit will maximize its useful life. **Note:** Refrigerant service tasks must be performed by certified refrigerant handlers.

Condition	Definition	Action
1. Excellent. The tower or chiller unit functions at the original design level.	The tower or chiller operates economically and quietly as required without interruption in service due to mechanical problems.	Do not consider replacement under these conditions.
2. Very Good. Necessary service is provided to keep the tower or chiller unit functioning at design levels. Slight damage to coils may be evident.	The tower or chiller unit operates economically and quietly. Through effective maintenance the unit is still producing at design levels	Do not consider replacement under these conditions.
3. Good. The tower or chiller unit continues to function with regular maintenance and intermittent repairs. (It should be possible with proper preventive maintenance and timely repairs, to extend the useful life of the unit for many years.)	The tower or chiller efficiency may be slightly diminished effecting the economy of operation. Effective preventive maintenance is being followed. Refrigerant may be leaking, requiring repair of seals and/or lines, and replacement of some refrigerant. Some parts have been replaced. Other original parts may not be functioning at peak levels.	Replacement or reconditioning this unit is not justified but should continue to be evaluated annually. Make necessary repairs and parts replacements as needed.
4. Fair. The tower or chiller unit no longer functions as designed and will not without major repairs. The technology may be outdated.	Operating efficiency and effectiveness have declined. Refrigerant leaks out intermittently. Operating, maintenance and repair costs have dramatically increased and no longer compare favorably to new units.	Replace or recondition this unit.
5. Poor. The tower or chiller unit is subject to constant breakdowns even during critical service periods and delivers an inadequate amount of cooling.	The tower or chiller unit is old and undependable. The technology may be out of date. Refrigerant leaks out so often as to render the unit unreliable.	This unit is over-due for replacement.

Replacement Directives

1. Use only Church approved specifications and details when replacing towers or chillers.
2. Conduct chiller oil analysis every year, and eddy-current tube analysis approximately every three years.

HVAC Replacement Standards

Fire, Security, or Comfort Controls

This replacement standard is to be applied by the temple engineer/facility manager during R&I needs identification inspection and by members of the verification team during the R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance work on each component and part of a Fire, Security, and Comfort Control systems, will maximize the useful life of the entire system.

This replacement standard provides direction to facility managers for replacing **an entire system**, not individual components or parts of a system.

Condition	Definition	Action
1. Excellent. The system functions at the original design levels.	Occupants are comfortable, the system operates economically, and operating noise is not noticeable.	Do not consider replacement under these conditions.
2. Very Good. Necessary balancing and other adjustments keep the system functioning at design levels.	Occupants are comfortable, the system operates economically and operating noise is not noticeable. Adjustments may be necessary for balancing the system and/or for regulating controls.	Do not consider replacement under these conditions.
3. Good. The system continues to function with intermittent component repairs, replacements, and minor system improvements. (It should be possible with proper preventive maintenance, timely repairs, and necessary replacements to extend the entire HVAC system for many years without replacement of the entire system.)	Occupants are comfortable, the system operates economically and operating noise is not objectionable. Some components have failed and have been replaced. Others are approaching the end of their useful lives.	Replacement of the entire system is not justified but should continue to be evaluated annually. Make necessary repairs and replacements of components as needed.
4. Fair. The system no longer functions as designed and will not without major alterations. The technology may be outdated.	Occupants are often uncomfortable. Most of the components are old and their operating efficiency and effectiveness have declined. Operating costs have dramatically increased and no longer compare favorably to those of new meetinghouse systems. Some operating noise may be distracting.	Make an engineering study and life cycle cost analysis to determine whether to retrofit the system or to replace entirely. A professional consultant should be hired at this point to help with this study. The consultant should not design a total system replacement until such a proposal has been verified and funded.
5. Poor. The overall HVAC system is subject to constant breakdowns even during critical service periods and delivers inadequate comfort even when in service.	The components are old and undependable. The technology is out of date. The occupants are uncomfortable and distracted by the noise. Operating and repair costs have become intolerable.	The entire system is overdue for replacement.

Replacement Directives

1. Use only Church approved specifications and details when replacing alarm or control systems.

HVAC Replacement Standards

Hot Water or Steam Boiler

This replacement standard is to be applied by temple engineers/facility managers during R&I needs identification inspections, and by members of the verification team during an R&I verification inspection.

A conscientious and consistent program of scheduled preventive maintenance on each component and part will maximize the useful life of the boiler.

Condition	Definition	Action
1. Excellent. The boiler functions at the original design levels.	The boiler operates at designed hot water or steam outputs.	Do not consider replacement under these conditions.
2. Very Good. Necessary adjustments keep the boiler functioning at the original design levels.	The boiler operates economically. Through effective maintenance (water treatment, thorough cleaning, small leak repair, scale removal) the boiler is still producing at design levels. Adjustments to boiler controls, valves, burners, and safety devices may be necessary to operate as efficiently as possible. Operating noise is not noticeable.	Do not consider replacement under these conditions.
3. Good. The boiler continues to function with regular maintenance and intermittent repairs. (It should be possible with proper preventive maintenance and timely repairs to extend the useful life of the boiler for many years.)	The boiler's efficiency may be slightly diminished, effecting the economy of operation. The boiler's structure and components are still in good and safe condition. Some boiler parts have been replaced. Other original parts may not be functioning at peak levels.	Replacement of the boiler is not yet justified. Continue to repair and replace parts (including tubes, pumps, controls, etc.) as needed. It is not yet time to replace the boiler.
4. Fair. The boiler no longer functions as designed and will not without major repairs. The technology may be outdated.	Operating efficiency and effectiveness have declined. Water and/or steam pressure cannot be maintained consistently due to leaks or poor component support. Heating tubes may have deteriorated.	Propose replacement or refurbishment of this boiler.
5. Poor. The boiler is subject to constant breakdowns even during critical service periods and delivers inadequate levels of hot water or steam.	The boiler is old and undependable. The technology may be out of date. Heating tubes have seriously corroded and/or are leaking. Operating and repair costs may have become intolerable.	This boiler is over-due for replacement.

Replacement Directives

1. Use only approved consultants, and Church specifications and details when replacing a boiler.

HVAC Replacement Standards

Refrigeration Condensing Unit

This replacement standard is to be applied by temple engineers/facility managers during R&I needs identification inspection and by members of the verification team during the R&I verification inspection. **Each refrigeration condensing unit should be evaluated independent of all other units in the facility.**

A conscientious and consistent program of scheduled preventive maintenance work to each condensing unit will maximize its useful life. **Note:** Refrigerant service tasks must be performed by a certified refrigerant handler.

Condition	Definition	Action
1. Excellent. The refrigeration condensing unit <u>functions</u> at the original design level.	The condensing unit operates economically and quietly as required without interruption in service due to mechanical problems.	Do not consider replacement under these conditions.
2. Very Good. Necessary service keep the refrigeration condensing unit functioning at design levels. Slight damage to coils may be evident.	The condensing unit operates economically and quietly. Through effective maintenance (proper start up procedures, coil cleaning, refrigerant levels, compressor oil levels, lubrication, etc.) the unit is still producing at design levels. There may be slight damage (flattening) of coil fins.	Do not consider replacement under these conditions.
3. Good. The refrigeration condensing unit continues to function with regular maintenance and intermittent repairs. (It should be possible with proper preventive maintenance and timely repairs, to extend the useful life of the unit for many years.)	The condensing unit's efficiency may be slightly diminished effecting the economy of operation. Effective preventive maintenance (proper coil cleaning, start up procedures, refrigerant levels, compressor oil levels, lubrication) is being followed. Refrigerant may be leaking, requiring repair of seals and/or lines, and replacement of some refrigerant. Some parts have been replaced. Flattened coil fins may have to be combed out. Other original parts may not be functioning at peak levels.	Replacement or reconditioning this unit is not justified but should continue to be evaluated annually. Make necessary repairs and parts replacements as needed.
4. Fair. The refrigeration condensing unit no longer functions as designed and will not without major repairs. The technology may be outdated.	Operating efficiency and effectiveness have declined. Refrigerant leaks out intermittently. Operating, maintenance and repair costs have dramatically increased and no longer compare favorably to new units.	Replace or recondition this unit.
5. Poor. The refrigeration condensing unit is subject to constant breakdowns even during critical service periods and delivers an inadequate amount of refrigerant.	The condensing unit is old and undependable. The technology may be out of date. Refrigerant leaks out so often as to render the unit unreliable.	This unit is over-due for replacement.

Replacement Directives

1. Use only Church approved specifications and details when replacing HVAC components.