

# PROTECT YOUR PARKING GARAGE INVESTMENT

Engineering + Restoration + Preventive Maintenance + Training



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**SC**  
StructureCare™  
Engineering + Restoration + Preventive Maintenance

# STRUCTURECARE™



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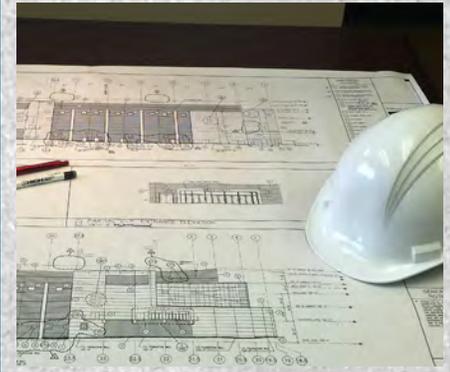


**OUR PHILOSOPHY IS UNIQUE** in that we believe in a strong connection between the engineering and implementation of a solution, particularly

if there is interest in long term results. The singular ability, under one roof, to problem solve, engineer and implement a solution is what StructureCare delivers to our clients. This includes an emergency repair, a restoration issue, or a preventive maintenance plan. StructureCare works with you to develop real solutions. The traditional Design-Bid-Build business model has an incomplete accountability ownership often resulting in unmet expectations.

StructureCare is a full-service team with engineering and field service expertise backed by parking garage design, construction, and repair experience on over 600+ structures. We leverage this extensive experience with a focus on prevention to help us make appropriate, cost-effective and long-term recommendations for your parking structures. This single source solution backed by our extensive garage experience puts your best interest first.

- ▶ Detailed Condition Assessments—which include documentation of current conditions, root cause analysis of failures, prioritized repair recommendations along with probable cost.
- ▶ Preventive Maintenance Program Development—provides an organized, site specific operations and maintenance plan.
- ▶ In-Service Training of Facility Staff—helps you implement portions of the PM plan, including necessary periodic and winter maintenance.
- ▶ Restoration Management and Implementation—by our engineering and field teams can design and perform restoration and repair strategies.
- ▶ Structural Preventive Maintenance Services—by experienced field personnel can perform routine maintenance services beyond the scope of facility staff.



# PARKING STRUCTURES ARE NOT LIKE OTHER BUILDINGS

Parking structure deterioration occurs naturally, but this process is accelerated because of weather, winter maintenance, traffic, damage caused by accidents, and other uncontrollable variables.

Without proper care, the deterioration becomes so advanced that areas of the garage must be taken out of service due to safety and/or structural concerns.

Continued neglect creates further deterioration, making the parking structure obsolete to the point where it will need to be demolished because the cost of repair exceeds the cost of rebuilding.

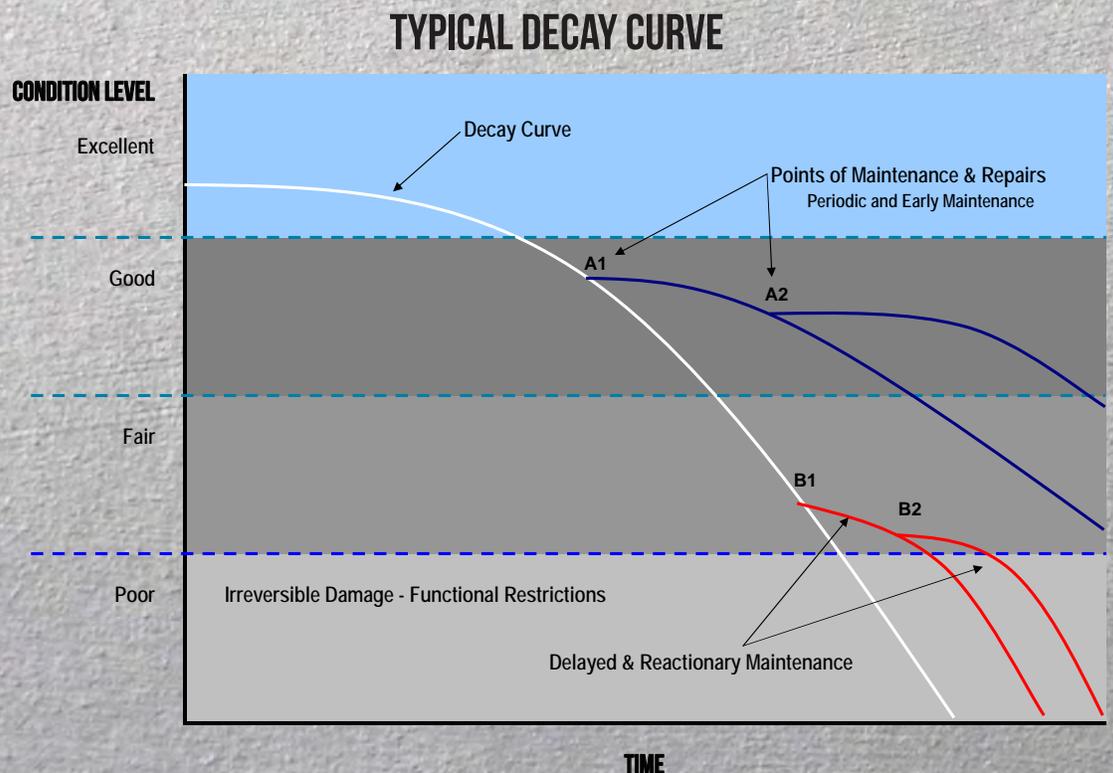
Maintenance that is delayed and reactionary significantly increases the cost of repair and diminishes the service life as the following situations arise:

- ▶ More significant interruptions
- ▶ Disproportionately high maintenance budget
- ▶ Increased hazardous conditions
- ▶ Loss of revenue
- ▶ Unpredictable spending

Periodic and early maintenance is important. The sooner you start, the better the chance you have to reap all the benefits, such as:

- ▶ Longer service life
- ▶ Long-term maintenance and repair predictability
- ▶ Planned and less frequent service interruptions
- ▶ Control of your maintenance budgets

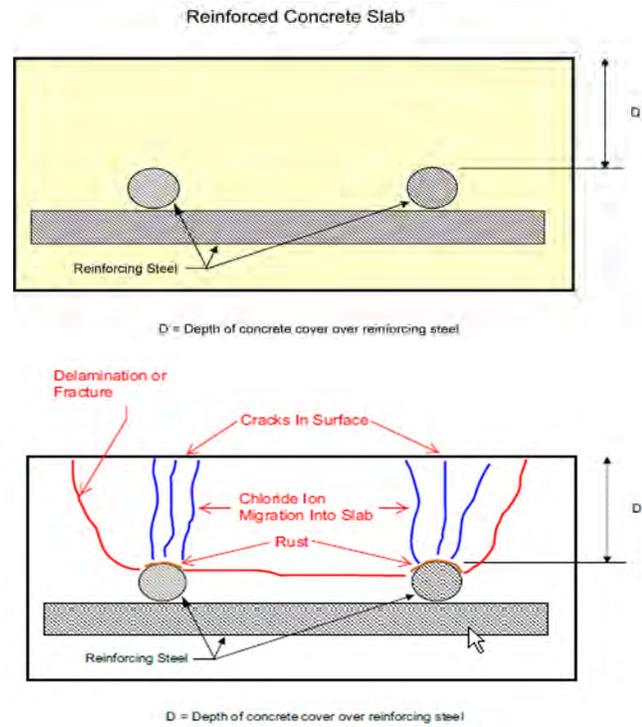
StructureCare can help you maximize the service life of your parking structure and keep your maintenance costs manageable and predictable. Our experts offer real solutions that will meet your specific needs.



# STRUCTURAL DETERIORATION IS AT WORK IN YOUR PARKING STRUCTURE BUT YOU CAN CONTROL THAT DETERIORATION

Concrete is an alkaline material when first placed, creating passive resistance to corrosion around all embedded steel. As long as the concrete remains stable, corrosion of the reinforcing steel is unlikely.

Over time, as concrete ages and wears, cracks that form in the surface create pathways to the embedded steel. Chloride laden water migrates into the concrete via these cracks and through the pores of the concrete. The chlorides alter the chemistry of the concrete, making the environment acidic. An acidic concrete environment destroys the protective passive resistance, promoting corrosion in the presence of air and water.



## STRUCTURECARE IS QUALIFIED TO HANDLE THE PROBLEMS UNIQUE TO PARKING STRUCTURES, INCLUDING:



▲ **WATERPROOFING CONCERNS:** Water infiltration is a major cause of deterioration in parking garages. Therefore, waterproofing repair and maintenance is essential to the longevity of the structure.

▼ **WEATHER AND SEASONAL CHALLENGES:** Mother Nature unleashes the most devastating forces that compromise your concrete structure, but proper maintenance and planning will help you fight back.



▼ **ROOF LEVEL ISSUES:** Good maintenance starts at the roof of your parking structure where exposure to ultraviolet light and winter maintenance accelerate deterioration and wear.



▲ **STRUCTURAL AND STEEL PROBLEMS:** Water and de-icers together create a deadly cocktail for the steel in your parking structure.

# CASE STUDY 1

## SCENARIO: LEAKING CONDITIONS, FAILED SEALANTS, CRACKED CONCRETE.

### Traditional Contracting

Engineer-Owner-Contractor

- ▶ Method of Work: Engage engineer, investigate conditions, develop specifications, owner engages contractor, owner manages implementation.
- ▶ Solution: Recaulked the deck, routed and sealed cracks.
- ▶ Outcome: Recurring leaks and cracks within six months.
- ▶ Summary: Symptom approach to repair led to costly repeated repairs over three years. This solution failed to resolve the root condition.



Leaking conditions, failed sealants, cracked concrete.

### StructureCare

Owner-StructureCare

- ▶ Method of Work: Engage StructureCare team, investigate root cause, design and implement solution, monitor conditions as part of long term preventive maintenance.
- ▶ Solution: Modified structural connections, repaired cracked concrete, installed more flexible waterproofing materials, revised winter maintenance program.
- ▶ Outcome: Long-term durable repair.
- ▶ Summary: Root cause approach solved underlying structure condition as opposed to treating the symptoms.



Modified connection.

## CASE STUDY 2

### SCENARIO: LEAKING AND DETERIORATING CONDITIONS AT DRAINAGE LOW SPOTS.

#### Traditional Contracting

Engineer-Owner-Contractor

- ▶ Method of Work: Engage engineer, investigate conditions, develop specifications, owner engages contractor, owner manages implementation.
- ▶ Solution: Repaired delaminated concrete and failed waterproofing.
- ▶ Outcome: Recurring deterioration and leaks within 12 months.
- ▶ Summary: Symptom approach to repair led to costly repeated repairs. This solution failed to address the root condition.



Ponding, leaking conditions.

#### StructureCare

Owner-StructureCare

- ▶ Method of Work : Engage StructureCare team, investigate root cause, design and implement solution, monitor conditions as part of long-term preventive maintenance.
- ▶ Solution: Installed supplemental drainage, repaired deteriorated concrete, installed new waterproofing.
- ▶ Outcome: Properly draining structure discharged water to drains as opposed to ponding.
- ▶ Summary: Root cause approach solved underlying drainage conditions as opposed to just treating deterioration symptoms.



New supplemental drains.



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