

Proposed Five-Year Capital Improvement Program 2022-2027

Redondo Beach City Council- June 14, 2022



FY 2021-22 CIP Highlights



- Citywide Slurry Seal Project, Phase 2
- City Council Chamber Improvements
- Electric Vehicle Charging Stations
- Morrell House Roof Replacement
- Traffic Calming Projects
- Sanitary Sewer Rehabilitation
- Pier Restroom

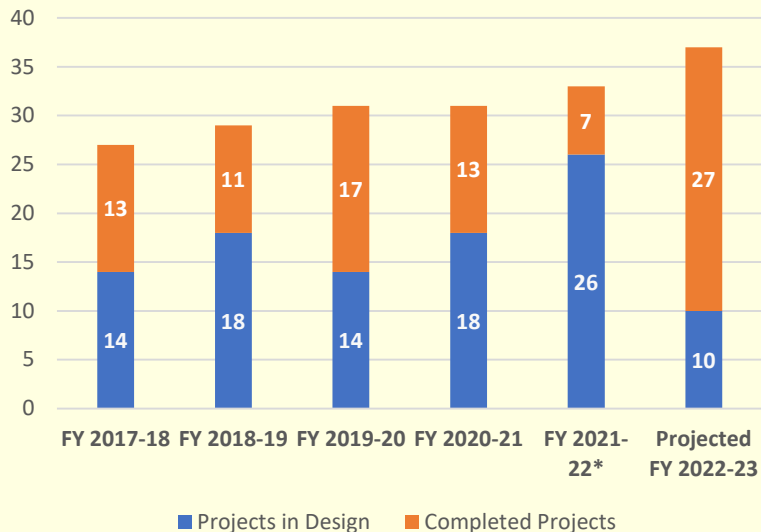


Five-Year History

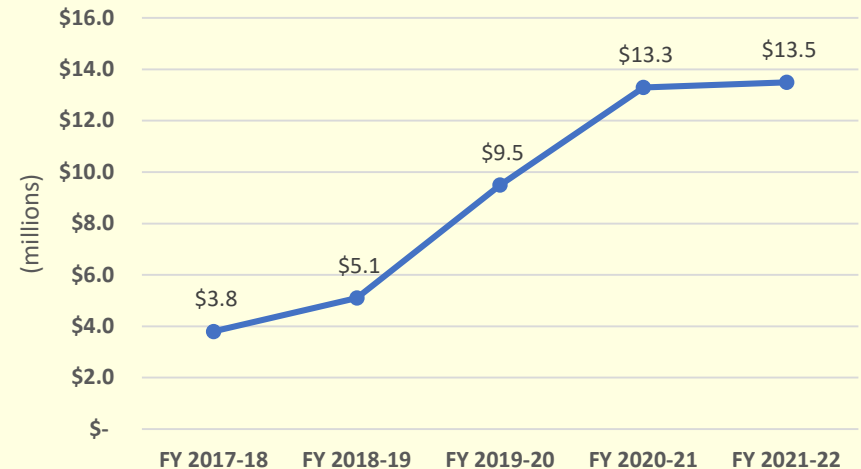
CIP Projects per Fiscal Year

	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22*	FY 2022-23
Total Projects	62	69	68	82	112	122
Projects in Design	14	18	14	18	26	10
Projects in Construction	N/A	N/A	N/A	N/A	10	17
Completed Projects	13	11	17	13	7	27
Expenditures (millions)	3.8	5.1	9.5	13.3	13.5	N/A
<i>*Staffing down 20%</i>						
<i>Note: Staffing Levels for CIP is approximately 6 FTE</i>						

Projects by Fiscal Year



Expenditures by Fiscal Year



Estimated FY 2021-22 CIP Carryover Funding

(as of 5-12-22)

■ Sewer Projects	\$ 8,143,921
■ Drainage Projects	\$ 1,590,230
■ Park Projects	\$ 3,299,605
■ General Improvement Projects	\$ 495,890
■ Street Projects	\$ 27,908,859
■ Public Facility Projects	\$ 6,640,724
■ Waterfront Projects	<u>\$ 9,020,110</u>

CARRYOVER GRAND TOTAL:

\$ 57,099,340

FY22-23 CIP Recommended Funding

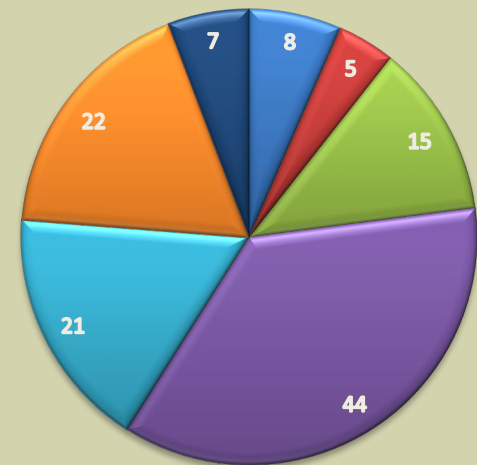
■ Sewer Projects	\$ 4,786,340
■ Drainage Projects	\$ 1,383,000
■ Street Projects	\$ 6,184,809
■ Park Projects	\$ 530,000
■ Public Facility Projects	\$ 1,928,116
■ General Improvement	\$ 100,000
■ Waterfront Projects	<u>\$ 18,775,380</u>

TOTAL \$ 33,687,645

FY 2022-23 CIP Summary

- **\$57.1M** Carryover Total for 112 Projects
- **\$33.7M** Recommended Appropriation Total
 - \$3.4M for 10 recommended projects new to CIP
 - \$30.3M for 37 existing CIP projects
- **\$90.8M** Total CIP Budget
- **122 Total Projects**
 - 112 existing projects
 - 10 new recommended projects

Number of Projects per Category for FY 22-23



- Sewer Projects
- Drainage Projects
- Park Projects
- Street Projects
- Waterfront Projects
- Public Facility Projects
- General Improvement Projects

FY 2022-23 CIP Project Highlights

- Portofino Way Sewer Pump Station
- Yacht Club Way Sewer Pump Station
- Fulton Playfield Infiltration Project
- Pier Parking Structure Critical Repairs
- Pier Parking Structure Security
- International Boardwalk Surface Repair
- Dominguez Park Play Equipment
- Torrance Blvd. Resurfacing
- Traffic Calming Improvements



Pier Parking Structures 2021/22 Condition Assessment

City Council Presentation
June 14, 2022

Background

City owns 3 parking structures (PS) near the Pier

1 - North Pier PS

- Built in early 1960s

2 - South Pier PS

- Built in 1973

3 - Plaza PS

- Built in 1981



Background

Walker Consultants performed the following Assessments of the PS for the City

- 2011 - Condition Assessment of all PS
- 2012 - Structural Analysis of North Pier PS

(Insufficient data on the occupied retail space due to limited access)

- 2015 – Update of 2011 Condition Assessment
- 2021 – Condition Assessment of all PS & Structural Analysis of North Pier PS

(Sufficient data through material testing in the vacant retail space)

Pier Parking Structure

CIP FY 2022-23 Staff Recommendation

- Recommended Improvements
 - North Pier PS Seismic Retrofit- \$1.82M
 - Waterproofing/Repairs (all PS)- \$2.65M
 - **Subtotal - \$4.47M**
- Estimated Carryover Funding - \$110,000
- Recommended Additional Funding FY 2022-23- \$4.35M

Key elements of the project

- Site Assessment
- Identify Deficiencies and Prioritize Repairs
- Prepare Cost Estimates
- Develop Immediate, Short-, and Long-Term Asset Management Plans
- North Pier Seismic Evaluation

SOUTH PIER DEFICIENCIES

- Fair condition
- Concrete deterioration and delamination
- Spalling in floors, columns, beams, and soffits.
- Corrosion of embedded steel in concrete.
- Exposed and rusted slab mild steel reinforcement at numerous locations.
- Waterproofing system deficiencies.
- Village Level wearing slab deterioration.

SOUTH PIER DEFICIENCIES



NORTH PIER DEFICIENCIES

- Fair condition
- Concrete deterioration and delamination
- Spalling in floors, columns, beams, walls and soffits.
- Corrosion of embedded steel in concrete.
- Exposed and rusted slab mild steel reinforcement.
- Waterproofing system deficiencies.
- Structural deficiencies in lateral load resisting system to withstand a code level seismic event

NORTH PIER DEFICIENCIES



Soffit slab deterioration and spall with exposed reinforcement, Village Level (SH3-98)



Beam spall, Pier Level (SH3-201)



Corroded beam ledge, Pier Level (SH3-136)



Rebar on wall, Basement Level (SH3-308)

PLAZA PARKING STRUCTURE DEFICIENCIES

- Good condition
- Concrete floor deterioration and delamination.
- Concrete wall spalling with exposed rebars.
- Post-tensioned beam tendon damage.
- Waterproofing system deficiencies

PLAZA PARKING STRUCTURE DEFICIENCIES



Soffit slab deterioration and spalls with exposed reinforcement, Pier level (BA1-326)



Cracks underside of concrete slabs, Pier level (BA1-326)



Damaged beam P/T rebar, Basin level (SH2-174)

NORTH PIER SEISMIC EVALUATION

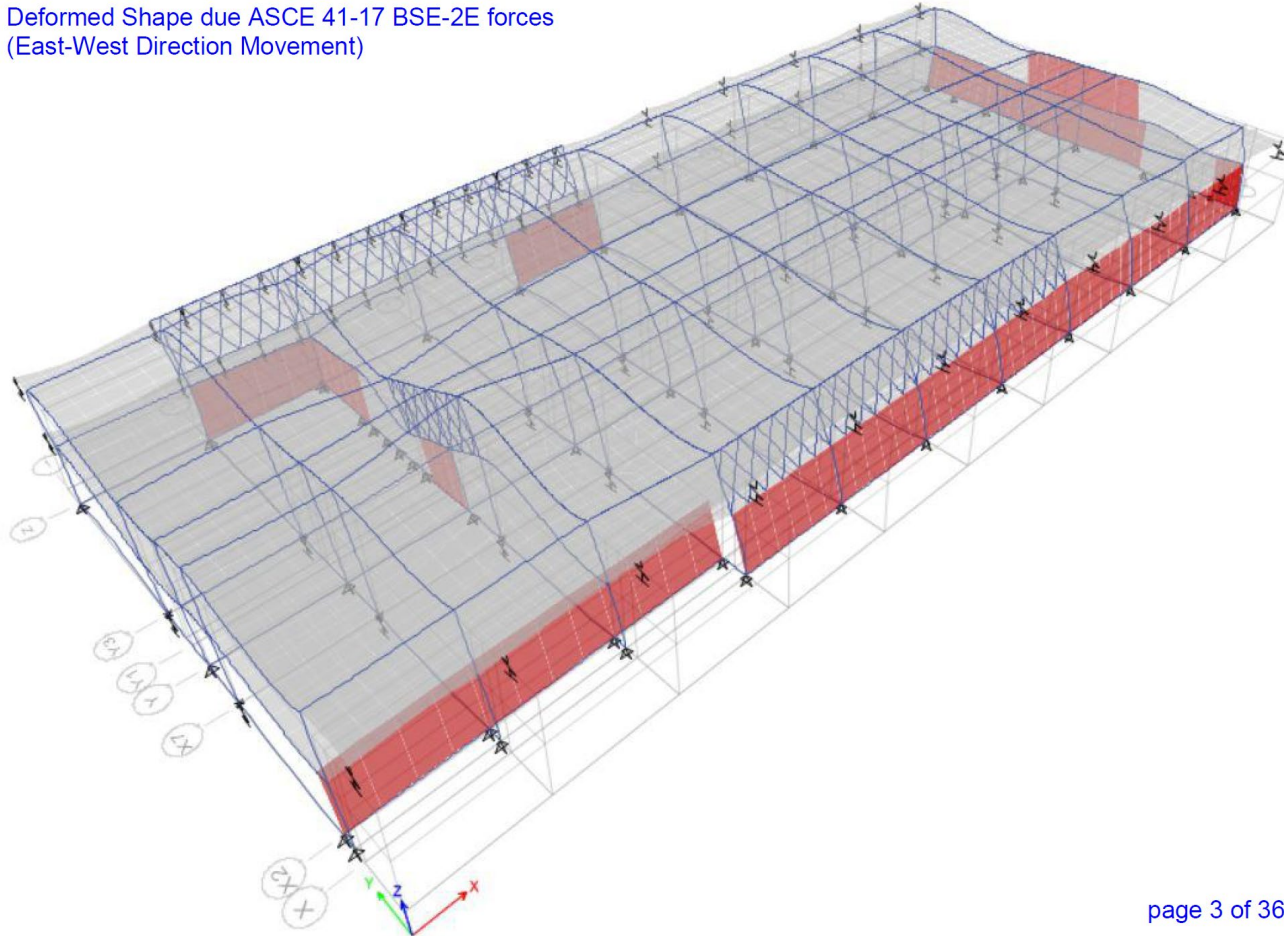
- Tier 1 Screening
 - Sizes of Beams, Columns, Slabs and Walls
 - Spacing and Size of Rebar
 - Structural Condition of Members
 - Identify potential seismic deficiencies
- Tier 2 Evaluation
 - Material Testing
 - Concrete chemical testing
 - Concrete Strength
 - Linear Static and Dynamic Analysis
 - Identify seismic deficiencies with high degree of certainty
 - Propose conceptual retrofit scheme and probable cost

Northridge Earthquake



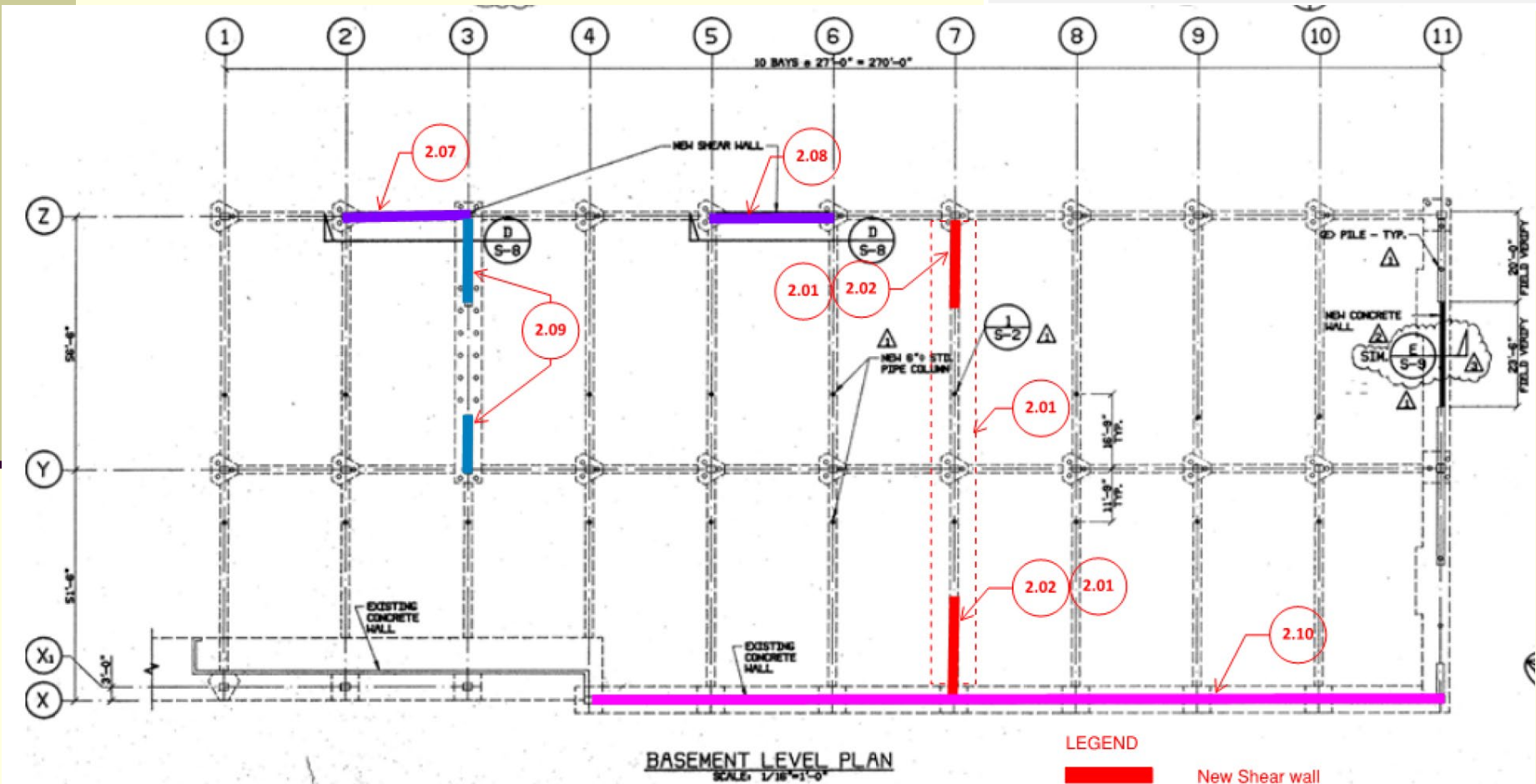
North Pier Seismic Analysis

Deformed Shape due ASCE 41-17 BSE-2E forces
(East-West Direction Movement)

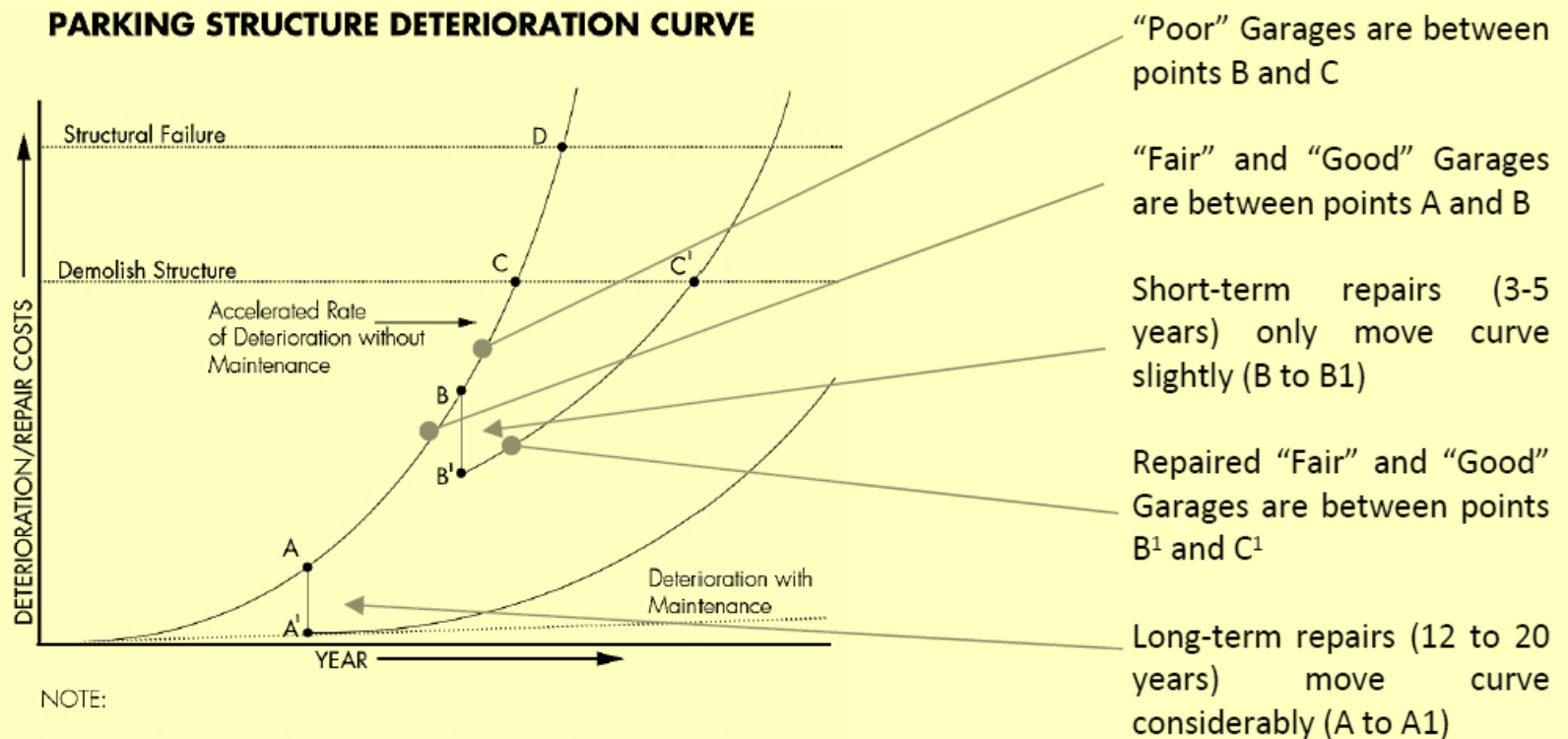


North Pier Seismic Retrofit

Item No.	Work Item Description
1.00	General Conditions
1.10	Mobilization & General Conditions
2.00	Seismic Structural Repairs
2.01	Install (24) new drilled piers
2.02	Install (5) new concrete shear walls at Pier and Basement Level
2.03	Addition of carbon fiber wrapping at Line 3 and X at waffle shear wall at Pier Level
2.04	Addition of shear wall drag reinforcement at Village Level at line Z.1
2.05	Addition of carbon fiber wrap at precast double tee stems (Village & Pier Level) near line Z
2.06	Addition of carbon fiber wrap at CIP Shear walls ends for confinement at line 11 at the Pier Level, at Line Z at CIP columns at lines 2, 3, 5, and 6 at Pier Level
2.07	Thickening of CIP shear wall at line Z (2-3) at Basement Level
2.08	Thickening of CIP shear wall at line Z (5-6) at Basement Level
2.09	Thickening of CIP shear walls at line 3 at Basement Level
2.10	Thickening of CIP shear wall at line X (4-11) at Basement Level
2.11	Thickening of CIP shear wall at line 11 (at grid Y) at Pier Level
2.12	Addition of slab reinforcement at Shear walls (East-West direction) at Village and Pier Level (i.e., chord/drag reinforcement, and shear transfer reinforcement)
2.13	Addition of slab reinforcement at Shear walls (North-South direction) at Village and Pier Level (i.e., chord/drag reinforcement, and shear transfer reinforcement)
2.14	Strengthen CIP column at Grid line 3 and Z at Pier Level



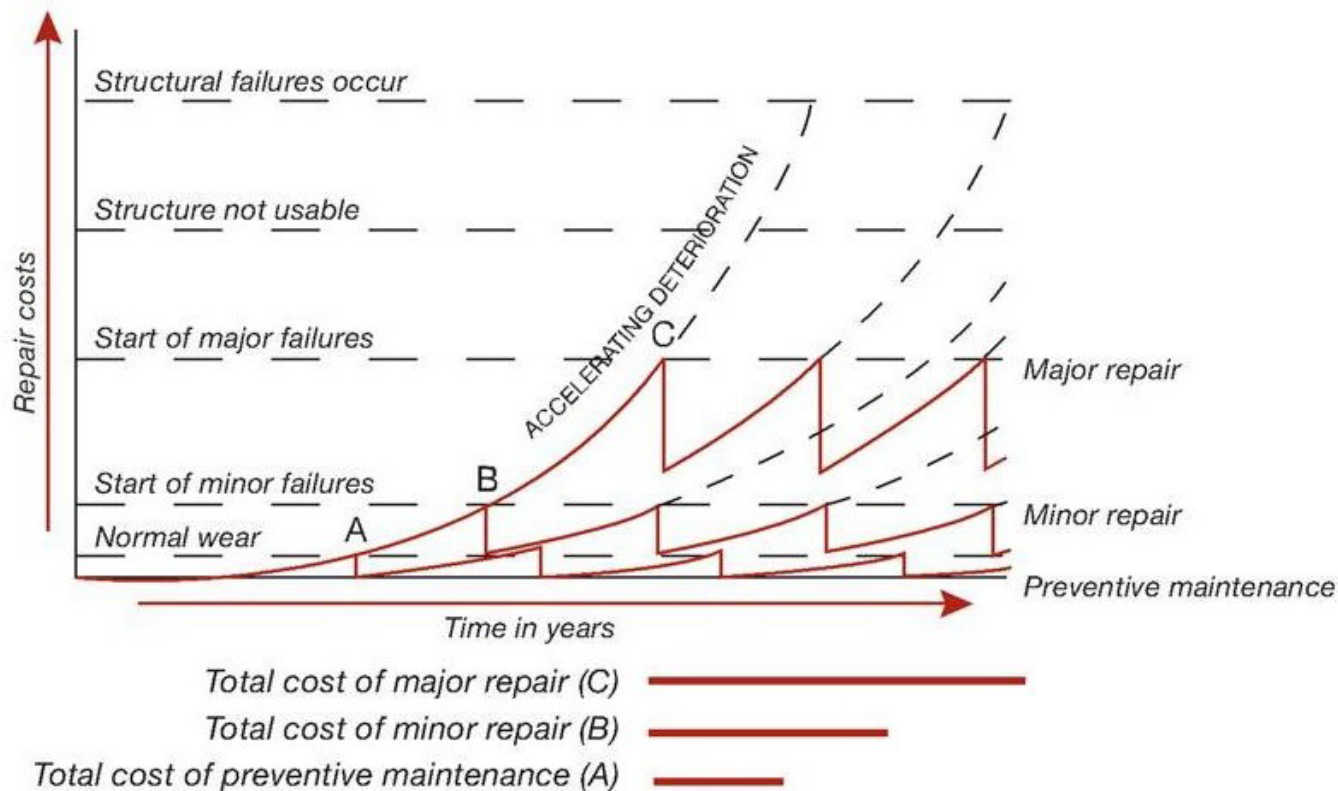
Deterioration Curve of Parking Structures



NOTE:

1. Points A - D represent stages of accelerated deterioration in parking structures.
2. Structures repaired at point A cost less overall and last longer than structures repaired at point B. [Compare curve A¹ to B¹]

Deterioration Curve of Parking Structures

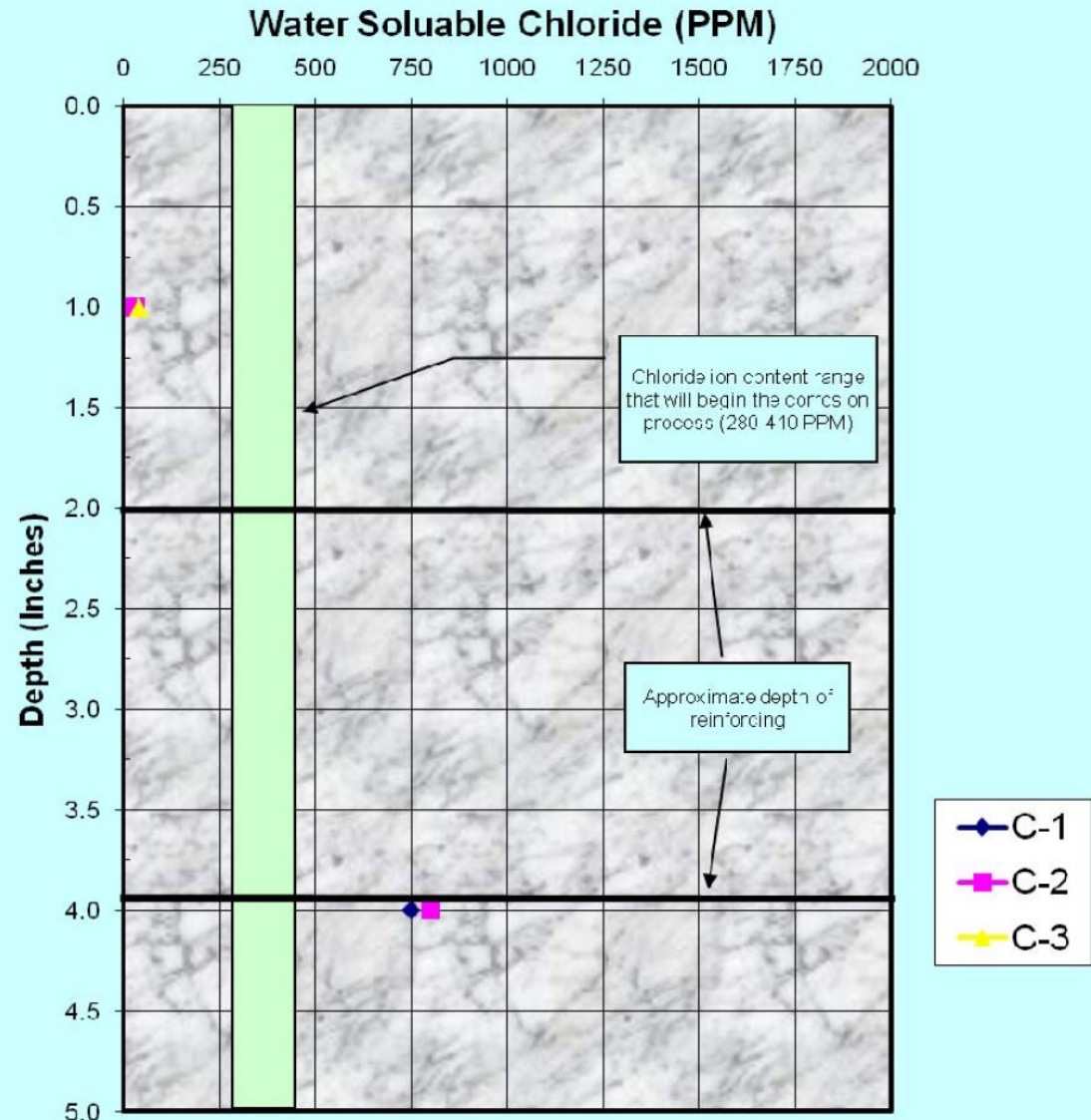


South Pier Chloride Content –Pier Level

Chloride Ion Content vs Depth South Pier Parking Structure				
	1.0	2.0	3.0	4.0
C-1	30			750
C-2	30			800
C-3	40			

The chloride content results indicate that the original structural slab contains high amounts of chloride and therefore is under accelerated deterioration conditions.

Chloride Ion Content vs Depth



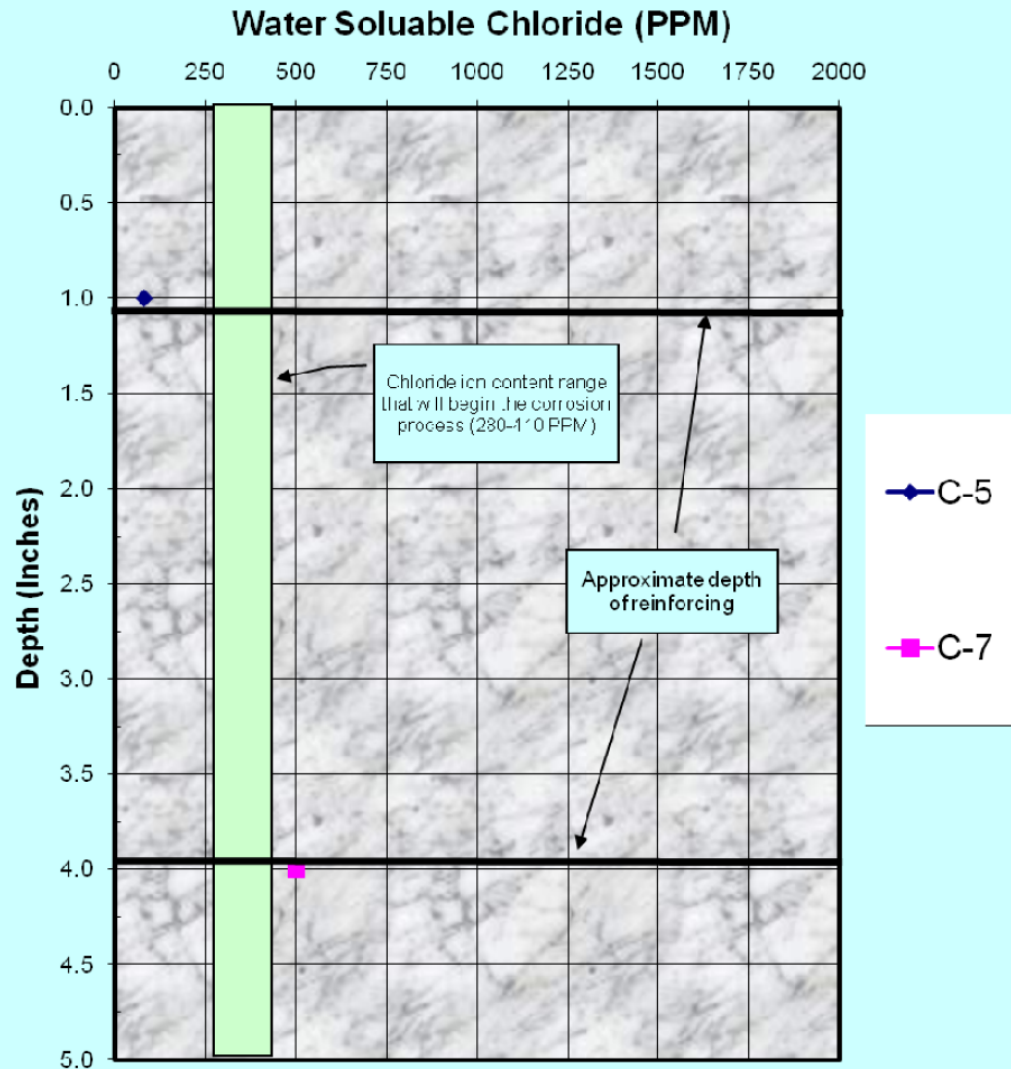
North Pier Chloride Content –Pier Level

Chloride Ion Content vs Depth
North Pier Parking Structure

	1.0	2.0	3.0	4.0
C-5	80			
C-7				500

The chloride content results indicate that the original structural slab contains high amounts of chloride and therefore is under accelerated deterioration conditions.

Chloride Ion Content vs Depth



Recommended Seismic, Structural & Waterproofing Repairs

Location	Budget Forecast - 5 yr Option	Budget Forecast - 10 Yr Option	FY 22-23 Recommendation
North Pier PS Seismic Upgrade	\$ 1,820,000	\$ 1,820,000	\$ 1,820,000
North Pier PS	\$ 1,536,500	\$ 2,272,500	\$ 558,000
South Pier PS	\$ 14,299,500	\$ 16,970,000	\$ 1,967,000
Plaza PS	\$ 851,000	\$ 858,500	\$ 128,000
Total	\$ 18,507,000	\$ 21,921,000	\$ 4,473,000
<i>*Based on Year 1 of 5-year Budget Forecast</i>			

North Pier PS and South Pier PS **Estimated Replacement Cost:**

Total Area (SF)	\$/SF of New Construction + Demo + 5% Inflation	Estimated Total Replacement Cost
600,000	\$ 109	\$ 65,200,000



Municipal Bonding Options

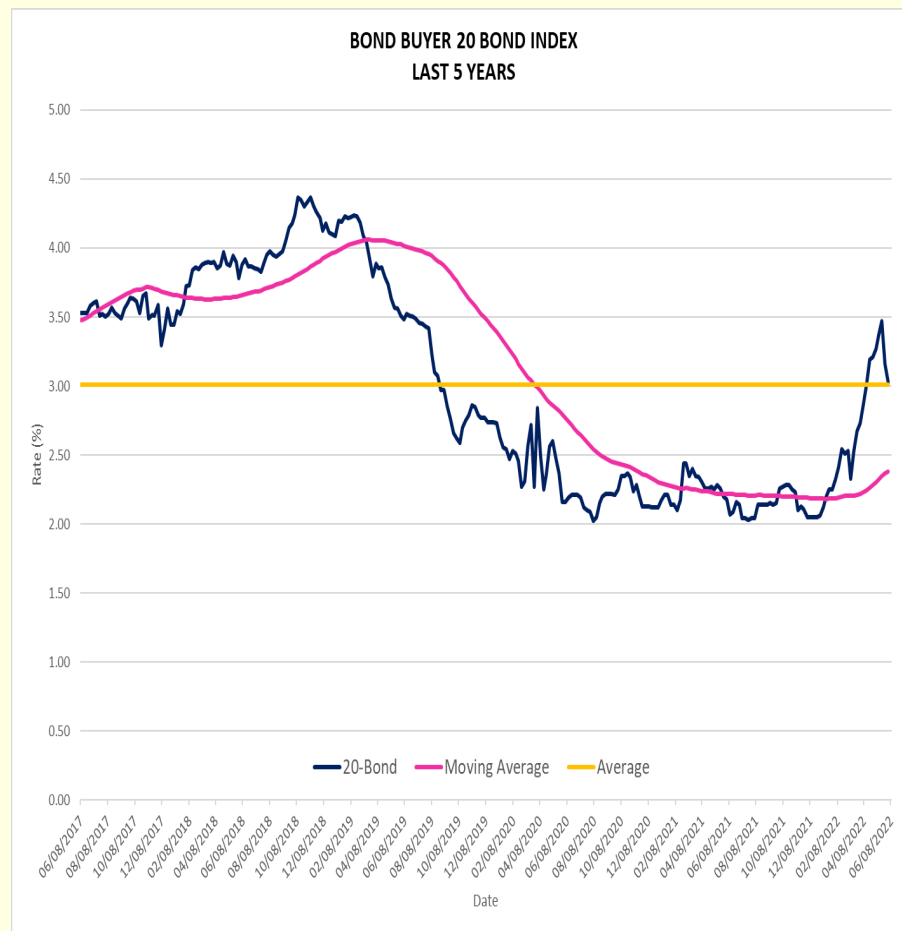
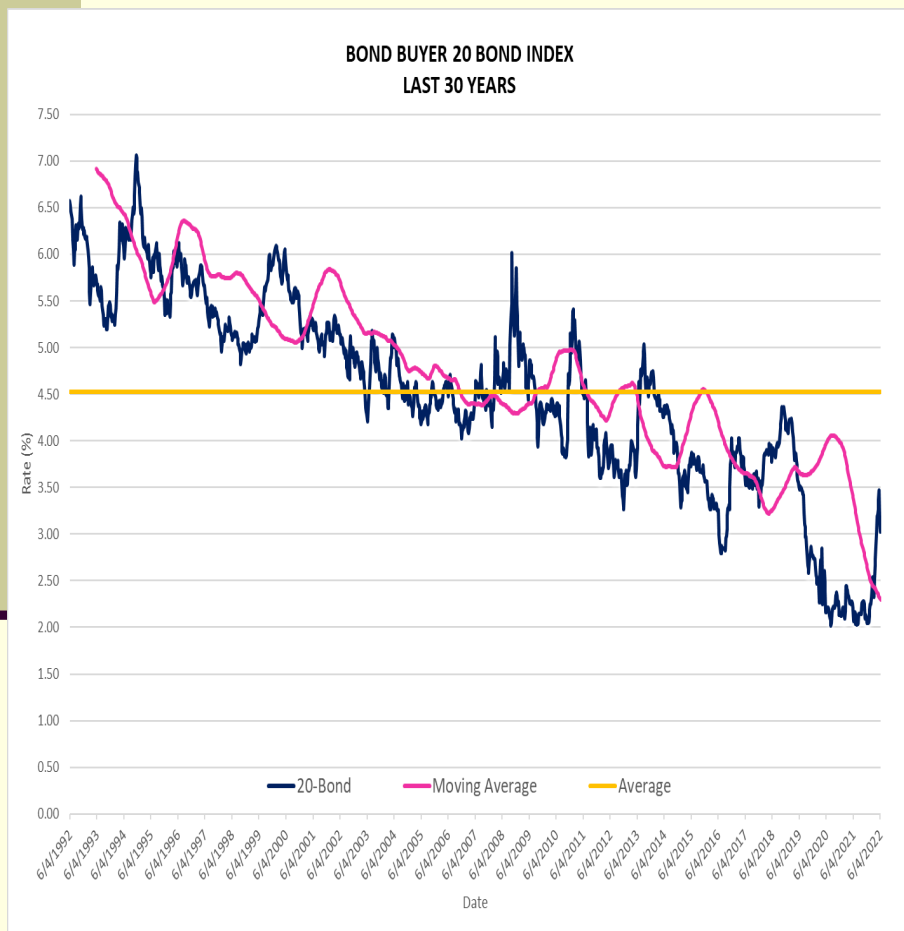
City Council Presentation
June 14, 2022

Market overview

- The current state of the municipal bond market has been and remains volatile given various economic and political events/circumstances
- Inflation – generally driven by events such as the war in Ukraine, supply chain issues, a strong labor market, escalating commodity prices, and a generally hot U.S. economy – has caused a fairly steep and rapid increase in interest rates this year
- In response to stronger than anticipated economic growth, the Federal Reserve raised its Fed Funds benchmark target rate 25bps on March 16 followed by an uncharacteristic 50 bps raise on May 4; likely to increase rates at least two more times, if not more, this year
- Notwithstanding the sudden increase in overall interest rates, tax-exempt bond rates remain in an historically low range

Historical rates

The following graphs illustrate historical trends in the tax-exempt municipal bond market



Market outlook

- The rapid rise in interest rates has been followed by a recent pullback, indicating that there may have been an overcorrection
- Municipal bond issuance volume remains strong (although less than in 2021 year to date)
- The Bloomberg Interest Rate Forecast shows an expectation for rates to continue to rise, but modestly over the next 6 months
- High inflation coupled with FOMC moves to increase rates to cool the economy have led to recession anxiety, which would likely result in lower overall interest rates

Potential financing approaches

- KTS has been surveying the marketplace and believes that while the extreme low rates we saw in 2021 are no longer the norm, rates remain in an historically low trading range
- The ability for the City to finance certain of its capital needs remains a viable option within the City's budget constraints
- Current estimates for funding capacity are as follows:

Annual Budget Payment:	\$1.5 Million	\$2.0 Million
Current Market Rates	\$26,665,000	\$35,615,000
+50bps	\$25,083,000	\$33,521,000
-50bps	\$28,386,000	\$37,904,000

GENERAL NEXT STEPS TO PROCEED

- Work with City stakeholders to determine project(s) scope and bond issue size (1 – 2 months)
 - Staff
 - Budget and Finance Commission
 - City Council
- If authorized, transact bond issue (approximately 3 months)
 - Assemble financing team, prepare legal documents, apply for bond rating
 - Market, sell and deliver bonds
- Expend tax exempt bond proceeds within three (3) years of issuance

Recommendation

- Reconvene the Public Hearing and take testimony; and
- Receive and File Budget Response Reports; and
- Receive and File the 2021 Condition Assessment Reports for the North Pier Parking Structure and the South Pier and Plaza Parking Structures; and
- Continue the Public Hearing to June 21, 2022