

MUNICIPAL FACILITIES COMMITTEE AGENDA

**January 28, 2016 - North Conference Room
21630 11th Avenue South – Des Moines 98198
5:30 – 6:50 PM**

1. Call to order
2. Selection of Committee Chair
3. Approval of minutes from October 29, 2015 meeting.
4. 2016 Work Program - 20 minutes
Patrice Thorell PRSS Director, Dan Brewer PBPW Director, Joe Dusenbury Harbormaster
5. Discussion of Pay Parking Alternatives - 30 minutes
Joe Dusenbury Harbormaster
6. South 239th Stairs Update - 20 minutes
Brandon Carver/Andrew Merges
7. Field House Roof Replacement Discussion - 10 Minutes
Dan Brewer PBPW Director

Draft Minutes Des Moines City Council Municipal Facilities Committee – 10/29/2015

Meeting called to order: 6:00 pm on October 29, 2015 in North Conference Room @ 21630 11th Ave S. Des Moines, WA 98918

Council Members

Melissa Musser – Chair
Matt Pina – Mayor Pro Tem
Jeremy Nutting – Council Member

Guests

Nadine Byers
Robert Bisordi
Phillip Lonigro
Tony Rosso
Barbara McMichael

City Staff

Patrice Thorell, PRSS Director
Dan Brewer, PBPW Director
Tim George, City Attorney
Brandon Carver, Engineering Services Manager
Janet Best, Administrative Assistant

Minutes of the 9/24/2015 meeting were unanimously approved.

AGENDA:

1. Park, Recreation & Senior Service Master Plan Update - Patrice Thorell
2. South 239th Street Stairs – Andrew Merges, Tim George and Dan Brewer

MEETING:

1. Parks, Recreation & Senior Services Director Patrice Thorell, provided a notebook including the final draft of the 2016-2022 Parks, Recreation & Senior Services Master Plan. Additions from the prior Master Plan are Human Services, Arts and Culture, a Healthy Community and a focus on inclusive recreation. Patrice stated that the Master Plan Committee had gone through each of the projects and established a priority level of 1, 2, or 3 with the hope that Priority 1 projects be accomplished within the next 6 years. She stated that next year this Master Plan would update the City's Comprehensive Plan. The MFC Committee thought the information was well organized and connected. They also appreciated that the project was completed within the budget. The next step is for the Master Plan to go to City Council on the 5th of November for discussion. Once the Council approves the Master Plan, it will go to the State Recreation and Conservation Office for their approval which would then make us eligible to apply for grants over the next 6 years.
2. Brandon Carver, Engineering Services Manager had a prepared handout (written by Andrew Merges) regarding the status of the South 239th Stairs. The stairs are closed due to their unsafe nature which includes a rusting ladder, rusty brackets, cracked wood members, and exposed footings. While this remains City property, the City Attorney's Office previously determined the City is not legally required to replace the stairs. As this is a City Park, Committee members discussed trying to find a way to stabilize and reopen the stairs, and if reopened remove the ladder. Public Works Director Dan Brewer stated that if that was the committee's direction, staff would put together a scope and estimate for interim repairs if feasible, and bring that back to the committee for further discussion and direction including funding. The committee discussed a 2020 SWM project to replace the culvert at the same location and that it may be an opportunity to repair or replace the stairs at that time. Depending on the condition of the culvert the project may happen sooner. Councilmember Musser will discuss the project with the Environment Committee.

The meeting was adjourned at 6:52 pm. Minutes submitted by: Janet Best, Administrative Assistant

2016 Municipal Facilities Committee Draft Work Program Items

January

- Confirm 2016 MFC Work Program
- Redondo, Marina & Beach Park Paid Parking- Implementation Plan Discussion
- S. 239th St. Beach Access Stairs – Continued Discussion
- Field House Roof- Replacement- Discussion

February

- North Marina/Beach Park Project Development- Discussion
 - New Breakwater & Floats
 - Public Fishing Pier Renovations
 - New restroom and extension of Promenade
 - North Bulkhead & Beach Park Bulkhead
- Park Irrigation and Maintenance and Custodial Services Reductions- Discussion

March

- 2016 CIP Project Updates
- Marina DNR Lease Update- Discussion
- Park Code-Title 19 Update- Discussion

April

- North Marina Project Development Funding Plan- Discussion
- Park Impact Fees (Residential and Commercial)- Planning Discussion

May

- 2017 Budget Review (MCI, Marina, and Fund 506)- Discussion
- Barnes Creek Trail Design- Update
- DDM- Main Street Alley Project Update- Discussion

June

- 2017 Budget Review (MCI, Marina, and Fund 506)- Continued Discussion
- Capital Buildings Plan- Discussion
- 2016 CIP Project Update

July

- Draft Park Code-Title 19 Update- Discussion

August

- North Marina Project Development- Continued Discussion

September

- 2016 CIP Project Update
- Lodging Tax Signage Project- Discussion

October

- Follow Up Items

November

- Draft 2017 MFC Work Program

December

- 2016 CIP Project Update

Memorandum

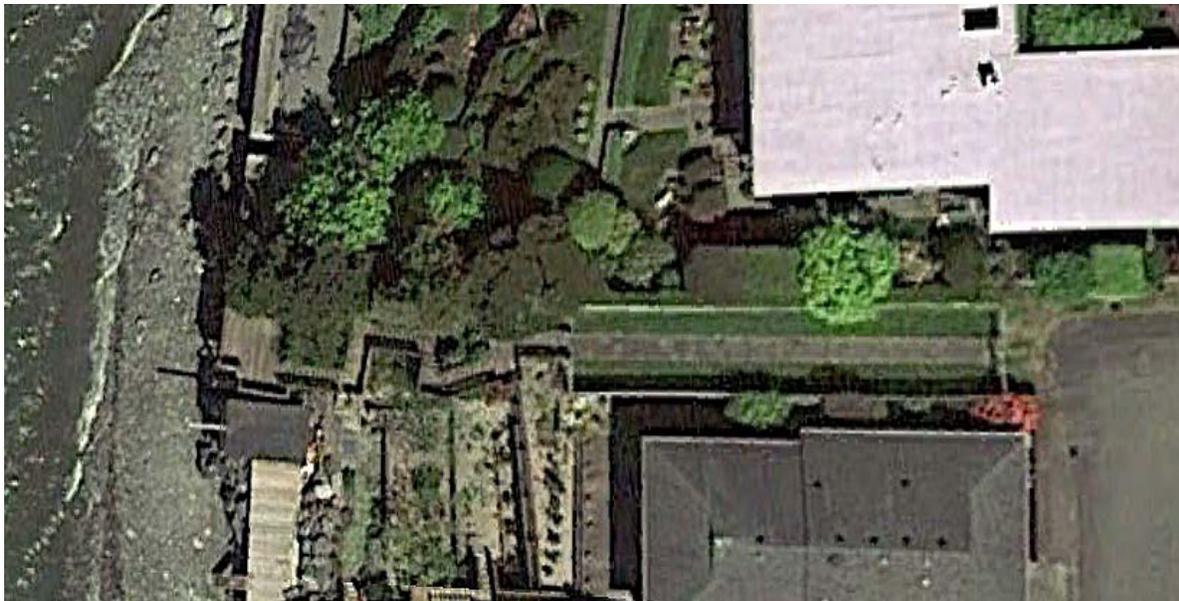
To: Andrew Merges, PE – City of Des Moines
From: Charles Conway
Date: 1/16/2015
Re: S 239th Street Stairs – Access Stair Replacement
Project No: 13136W2

Introduction

This memorandum summarizes the finding and conclusions resulting from KPG's assessment of the condition of an existing access stair and viewing platform extending from the west end of South 239th Street to the Puget Sound shoreline. These recommendations are coordinated with geotechnical observations and structural recommendations in an associated memorandum from CivilTech Engineering.

Existing conditions

South 239th Street terminates at the intersection with 6th Avenue South approximately 145 feet east of the mean high water mark of Puget Sound. The City of Des Moines has maintained public access within the extended street right-of-way to a wood-frame viewing platform at the edge of the gravel beach. This access consists of a gently sloping concrete walkway extending 75 feet from the street end to the head of a wood-frame staircase which traverses steeply sloping terrain to reach the viewing platform.



South 239th Street Beach Access

Concrete Walkway

Description

The concrete walkway is five feet in width and it is bordered on either side by grass. Access to the walk is controlled by a chain-link fence and gate at the east end. A wood-frame gate at the west end of the walkway controls access to the head of the wood stair.

Condition

The walkway consists of weathered, but sound concrete.

Wood-Frame Staircase

Description

The staircase extends approximately 70 feet (straight line distance) from the end of the concrete walkway to the timber-frame viewing platform. The staircase winds back and forth across the slope in order to allow sufficient run to accommodate the requisite number of risers necessary to ascend the slope. The stair consists of seven flights of stairs ranging in length from two to thirteen risers. The clear width between the guards* is 48 inches; the landings are generally 48 inches in length and width. Guards are 38 inches in height above the landing surfaces and the toe of the stair treads. A gripping surface has been milled into the 2 x 6 top rail of the guard; no separate handrails are provided.

The stairs are constructed of standard pressure-treated dimensional lumber with 4 x 4 support posts, paired 2 x 6 treads supported by 2 x 12 stringers and side skirts. 2 x 4 uprights on six-inch centers supporting 2 x 4 horizontal, and milled 2 x 6 vertical cap rails form the guards. The 4 x 4 support posts appear to be bear directly on the underlying soil in manually excavated post holes. Fasteners consist of a combination of galvanized common nails, framing clips and carriage bolt/nut/washer assemblies. No information is available regarding the type or ground-contact rating of the pressure-treated lumber used in the construction of the staircase.

**Guards are protective barriers required by the building code to protect pedestrians from falls.*

Handrails are code-required graspable horizontal or sloping rails intended for guidance and support.

Condition

According to City personnel, the stairs have been in service for 20 years or more. Significant cosmetic and structural deterioration has occurred as the result of weathering and the effects of slope instability. Specific deficiencies include:

1. Surface weathering:

All exposed surfaces exhibit silvering, checking and/or splitting consistent with extended exposure to the elements. Horizontal surfaces exhibit localized surficial algae growth, which suggest that the biocidal components of the pressure treatment have begun to leach out of the wood or have been otherwise rendered ineffective.

2. Splitting of the treads:

Many of the treads have split or begun to split at the ends where they are nailed to the side stringers. This splitting has the effect of rendering the end fasteners ineffective. Several of the most deteriorated treads have been replaced with new pressure-treated lumber.



Replacement Tread

3. Splitting of the stringers:

Many of the stair tread support stringers have split or begun to split where they are penetrated by the stair tread fasteners. This splitting has the effect of weakening the support stringer and rendering the stair tread fasteners ineffective. In some locations, pressure-treated dimensional lumber blocking has been face-nailed to the side of the stringers to provide new connecting points for replacement treads.



Split Support Stringer

4. Guard top stringer deterioration:

The guard top stringers exhibit severe surface weathering and localized splitting in the way of the fasteners.



Replaced Top Stringers

5. Accumulated soil against the structure:

Sloughing of the steep unprotected slope has resulted in an accumulation of soil against the upper surfaces of the timber structure, including the side skirts and lower surfaces of the guards.



Soil Accumulation against Guard

6. Subsidence of slope at support post locations:

The structure shows evidence of subsidence, particularly at the third landing from the top, where the structure is cantilevered over an area of nearly vertical terrain. An additional support post has been added in this area to attempt to arrest further sagging of the landing.



Location of Subsiding Post Foundations

Taken together, the deficiencies described above indicate that the structure has reached the end of its service life. Continued maintenance and replacement of individual components will not be adequate to address the underlying structural and functional deficiencies. Staircase issues include:

- Treads that are rendered slick by algal growth.
- Treads that become detached or loose because of splitting of the tread or the support stringer in the vicinity of the fastenings.
- Potential detachment of a portion of the guard because of deterioration around the fastenings.
- Potential shifting or collapse of the stair structure in areas where subsidence is occurring.

Timber-Frame PlatformDescription

The bottom of the staircase discharges onto a timber-frame viewing platform, which is elevated approximately fifteen feet above the gravel beach. The landward side of the platform rests on a concrete bulkhead, which was constructed as a support structure for the platform. The littoral side of the platform is supported by three creosote-impregnated timber pilings driven into the beach. Lateral stability of the platform is provided by timber x-bracing beneath, and in the plane of, the floor timbers. Connections consist of hot-dipped galvanized steel plates and bolts.

The edge of the platform is protected by a wood-frame guard similar to the guards installed on the access stair. A prefabricated aluminum ship's ladder provides access to the beach from the southwest corner of the platform. The ladder is protected by an unlocked swinging chain-link gate.

Condition

The condition of the platform components are evaluated as follows:

1. The timber framing, driven support pilings and concrete supporting bulkhead appear to be in serviceable condition, with an expected remaining structural service life of ten to fifteen years. The surface of the platform decking exhibits superficial weathering and algal growth, which renders the surface slippery in wet conditions.
2. Exposure to salt water and salt spray has caused significant damage to the connecting hardware. In most cases, the sacrificial zinc galvanizing coating has been completely eroded and the underlying steel components have corroded to the point of being unserviceable. In some cases the connecting hardware has failed completely and fallen away from the structure.
3. The aluminum stair and its supporting components show signs of corrosion and mechanical damage, probably from wave action. The components of the chain-link gate have begun to exhibit significant rust, indicating that the protective galvanizing has reached its life limit.

Platform issues include:

- Platform surface that has been rendered slick by algal growth.
- Structural failure of a guard.
- Failure or detachment of the beach access ladder.
- Potential collapse of the platform due to compromised structural connections.

Extension of Current Closure

KPG concurs with the City of Des Moines that the condition of the wood-frame access stairs and the timber-frame platform pose a significant risk of injury to the public. KPG recommends that the stairs remain closed until remedial actions can be undertaken. We further recommend that temporary shoring of the third landing from the top of the stair be undertaken to prevent collapse of the stair landing until demolition can be undertaken.

Remedial Actions – Viewing Platform

Recommended remedial actions for the viewing platform include:

1. Pressure-washing of the timber components and application of a biocidal, penetrating wood treatment product, particularly to the walking surface of the deck and to any timber components that exhibit mechanical damage or splitting.
2. Replacement of the guards.
3. Replacement of the aluminum beach access ship's ladder.
4. Installation of a substantial locking gate to protect the beach access ladder from public access.
5. Replacement of all connecting hardware with new hot-dipped galvanized hardware meeting the requirements of ASTM A123 and A153.

The design of remedial measures 2 through 5 should be undertaken by a Structural Engineer registered in the State of Washington. It is expected that the repair measures themselves can be accomplished by City of Des Moines personnel.

Remedial Actions – Access Stairs

In view of the serious structural deficiencies resulting from deterioration of the wood structure and the evident instability of the stair foundation, KPG does not recommend attempting to repair the existing stair structure, nor do we recommend replacement of the stair with a similar structure employing a post-supported foundation system. KPG’s recommended approach to replacement of the stair structure entails three main components:

1. Slope stabilization employing methods ranging from geotextile cover and vegetation in combination with local construction of timber or concrete retaining walls to soil nailing and application of shotcrete to the hillside.
 - **Recommended approach: Geotextile cover, vegetation and limited timber retaining walls.**
2. Installation of auger cast concrete piers or, concrete footing caps at each stair landing supported by helical piers or pin piles.
 - **Recommended approach: Pin piles with concrete footing caps.**
3. Replacement of the wood-frame stair structure with a similar wood-frame or timber frame stair structure or with a structure with a longer expected service life (albeit at higher cost).
 - **Recommended approach: Pressure-treated wood frame stair similar to existing stair.**

Permitting and Approvals

Following is a list of permits and approvals that may be required for this project.

Permit	Lead Agency	Notes
State Environmental Policy Act (SEPA) Review	City of Des Moines	Required because project is a government action that is not categorically exempt per WAC 197-11-800. Project will also trigger critical area review.
Shoreline Substantial Development Permit	City of Des Moines	Most likely required because project is within the shoreline management zone and does not meet exemptions in Section 7.2 of the Des Moines Shoreline Management Program.
Building Permit	City of Des Moines	Building permit and associated land use and construction permits required by the City of Des Moines

Rough Order of Magnitude (ROM) Costs

The rough order of magnitude (ROM) costs summarized on the following pages are intended to provide an idea of the range of costs that might be encountered in remediating the current safety and functional deficiencies in the beach access system. The costs are based on a general assessment of the existing conditions and available information, but they do not represent detailed estimates based on design work. Ancillary work, such as stabilization of adjoining retaining structures, adverse soil conditions not apparent from a surface examination of the slope or other unknown conditions may significantly increase costs. More accurate estimates will depend on undertaking a complete geotechnical investigation and completing a preliminary design for replacement of the stairs.

Timber-Frame Platform

Repairs to the timber-frame platform are relatively simple, and could be undertaken by City of Des Moines personnel. Replacement of structural hardware should be as directed by a licensed structural engineer. ROM costs for repairs to the timber platform, undertaken by City personnel, are as follows:

- Engineering and Permitting \$4,000
- Materials and Equipment: \$7,000

Access Stair

ROM cost for recommended remedial approach described on Page 7 is as follows:

- Engineering, CM and Permitting : \$60,000
- Construction: \$115,000

Conclusions

KPG's conclusions are as follows:

1. The existing beach access stair and platform should remain closed to the public until remedial measures can be undertaken.
2. Temporary shoring should be considered for the landing that is subject to subsidence if there will be a significant delay before demolition can be undertaken.
3. Repairs to the timber-framed viewing platform can be accomplished at relatively low cost; these repairs can most likely be done by City of Des Moines personnel.
4. Replacement of the existing stairs will require three distinct measures: slope stabilization, improved pile-type foundations and construction of a new stair. The costs of these measures will depend on the technology and materials employed; the more costly technologies will provide a greater level of assurance regarding slope stability, foundation integrity and a longer expected service life.
5. More definitive estimates for remedial measures will depend on a complete geotechnical and site investigation, a code analysis and preliminary stair layout and design.
6. The new stair design can and should be ADA-compliant. It should be noted that there is no practical means of providing an ADA-compliant wheelchair path along this access route.

CITY OF DES MOINES
 239TH ST STAIR AND STORMWATER ASSESSMENT
 Platform Repairs



Planning Level Cost Estimate
 January 2015

Bid Item No.	Item	Quantity	Unit	Unit Price	Total Cost
1	Power Wash	1	LS	\$ 100.00	\$ 100.00
2	Replace Ladder	1	EA	\$ 500.00	\$ 500.00
3	Timber Treatment	1	LS	\$ 100.00	\$ 100.00
4	Replace Guardrail and Spindles	46	LF	\$ 49.00	\$ 2,254.00
5	New platform Structural Hardware	1	LS	\$ 1,000.00	\$ 1,000.00
Subtotal					\$ 3,954.00
Contingency (50%)					\$ 1,977.00
Construction Subtotal (Rounded)					\$ 6,000.00
Sales Tax (9.5%)					\$ 570.00
Construction Total (Rounded)					\$ 7,000.00
Engineering (1s)					\$ 3,000.00
Permitting (15%)					\$ 1,000.00
Total Planning-Level Cost Estimate (Rounded)					\$ 11,000.00

Notes:

1. This planning-level cost estimate intended to be Rough Order of Magnitude only.
2. Estimate assumes work performed by City maintenance crews.

CITY OF DES MOINES
 239TH ST STAIR AND STORMWATER ASSESSMENT
 STAIR REPLACEMENT



Planning Level Cost Estimate
 January 2015

Bid Item No.	Item	Quantity	Unit	Unit Price	Total Cost
1	Mobilization (8%)	1	LS	\$ 3,328.00	\$ 1,878.96
2	Slope Stabilization	1	LS	\$ 16,000.00	\$ 16,000.00
3	Pin Pile Foundations	6	LS	\$ 5,000.00	\$ 30,000.00
4	Staircase Demolition	1	LS	\$ 5,000.00	\$ 5,000.00
5	Galvanized Steel Handrail	120	LF	\$ 30.00	\$ 3,600.00
6	Wood Treads	50	EA	\$ 62.00	\$ 3,100.00
7	Wood Stringers	135	LF	\$ 9.00	\$ 1,215.00
8	Wood Skirt Boards	120	LF	\$ 11.00	\$ 1,320.00
9	Guard Rail with Spindles	120	LF	\$ 49.00	\$ 5,880.00
10	Landings	80	SF	\$ 4.00	\$ 320.00
11	Support Posts	96	LF	\$ 12.00	\$ 1,152.00
12	Misc. Hardware	1	LS	\$ 1,000.00	\$ 1,000.00
13	Weather Sealant	600	SF	\$ 1.50	\$ 900.00
Subtotal					\$ 69,487.00
Contingency (50%)					\$ 34,743.50
Construction Subtotal (Rounded)					\$ 105,000.00
Sales Tax (9.5%)					\$ 9,975.00
Construction Total (Rounded)					\$ 115,000.00
Geotechnical Investigation, Engineering, Architecture, Admin. (30%)					\$ 34,500.00
Construction Management (12%)					\$ 13,800.00
Permitting (10%)					\$ 11,500.00
Total Planning-Level Cost Estimate (Rounded)					\$ 175,000.00

Notes:

1. This planning-level cost estimate intended to be Rough Order of Magnitude only.

END OF MEMORANDUM

SOUTH 239TH STAIR ASSESSMENT
MUNICIPAL FACILITIES COMMITTEE
JANUARY 28TH, 2016

Status:

Remains Permanently Closed

City Responsibility:

City's Attorney's Office determined the City is not legally required to replace the staircase that has exceeded its service life with the conditions:

- The facility was properly maintained
- Failure is not a result of City action or inaction

Reconstruction & Rehabilitation:

Storm Drainage Conveyance Replacement

- Current Storm Water Management Capital Project
- Total Project Cost = \$170,000

Timber Frame Access Stairs

- Replacement of entire stair facility including soil stabilization
- Total Project Cost = \$175,000 - \$215,000

Timber Framed Platform

- Replace structural steel plates/connections to preserve the facility
- Total Project Cost = \$11,000 (If performed by City Crews)





MUNICIPAL FACILITIES COMMITTEE MEETING
JANUARY 28, 2016

FIELD HOUSE ROOFING PROJECT

This project is currently in the CIP for 2018. Due to the recent severe weather events of November and December, 2015; it has become quite apparent that this roof will not make it to the currently scheduled replacement year of 2018. **The current roofing project budget request is \$120,000.** In an effort to prevent interior damages to the building, staff has developed the following Fund 506 project reprioritizations for Council consideration so that we may free-up the needed \$120,000 roofing funds, and replace the roof in 2016:

- LED Exterior Lighting (\$34,000) – Reschedule this project to 2018.
- Activity Center Floor Repair Contingency (\$20,000) – Delete this project in its entirety, and use the funds to replace the Field House roof.
- Council Chambers Lighting (\$25,000) -- This project was recommended by the contractor that installed the new video recording system, because with the new HD technology; we now have less than optimal broadcasts and recording. This project is not a necessity, and can be rescheduled. Staff recommends keeping this project in the 2016 work program contingent upon the actual cost of the completed Field House Roofing Project. On a side note, we video record our meetings by choice; not because it's a requirement.
- The 2016 beginning fund balance for Fund 506 is estimated at \$60,000 – the 2015 spending is still not finished.
- 2015 Police Services Center Interior Painting (\$61,000) – This project is almost complete, and the total project costs will be around \$48,000; giving us around \$13,000 in budgeted savings to contribute toward the Field House Roofing.
- With the above outlined project reprioritizations, upon completion of the Field House Roof Replacement, the estimated 2016 ending fund balance for Fund 506 would be \$3,830.

REQUESTED MUNICIPAL FACILITY COMMITTEE DIRECTION:

Proceed with the staff recommended Fund 506 project reprioritizations, and proceed with the Field House Roofing Project in 2016.