MILWAUKIE BAY PARK FINAL DESIGN

100% SD / FINAL DESIGN – PRICING NARRATIVE (01/08/2019)

SITE DEMOLITION

- Assume demolition of all pathways (concrete, asphalt, and brick) including base rock within the Work Limit Line.
- Assume demolition of all stairs, cheek walls, and handrails including footing and base material within the Work Limit Line.
- Remove and salvage all boulders and boulders with plaques.
- Remove and salvage metal trolley sculpture
- Remove and salvage (2) fish sculptures.
- Remove and salvage all signs within the work limit line with the exception of parking lot signs.
- Assume removal of existing irrigation system and related components within the work limit line.
- Provide tree protection fencing and protection provisions for all existing trees.

PAVEMENT, RAMPS, CURBS

CONCRETE PAVING - PEDESTRIAN

- See detail 01/L7.10.
- Finish: Standard color, broom finish

CONCRETE PAVING - VEHICULAR

- See detail 02/L7.10.
- Finish: Standard color, broom finish

STONE UNIT PAVING

- See detail 05/L7.10
- Vehicular grade pavers, size and finish varies.

WOOD DECK PAVING

- FSC certified hardwood decking mechanically fastened to steel structure below.

PEDESTRIAN BRIDGE OVER BIOSWALE

- FSC certified hardwood decking mechanically fastened to steel structure below.

TROLLEY TRAIL PAVING

- Concrete Unit Pavers – Vehicular grade pavers, sand set over 6" of compacted aggregate, size and finish varies, specialty pattern to separate bicycle zone and pedestrian zone.
- Aluminum edging to be included at all landscaped areas.

RAIL LINE INTERPRETIVE PAVING

- 6" Corten Steel train rail embedded in to grade (2 rails, 8'-3" apart O.C.)
- 3'-8" long x 1'-6" wide stone slabs to be set in line between the rails as shown on plans (3 slabs). Three slab groups to be dispersed along rail line at 3' O.C. Infill space between slab groups with chip seal paving (see chip seal paving below for more information).
- Pavers to be engraved with interpretive text/graphic information. Provide $60,000 allowance for text.

CHIP SEAL PAVING

- 1/4"(-) chips (field selected by Landscape Architect) to be placed over asphalt surface layer and 6" compacted aggregate.

GRAVEL PAVING

- See detail 06/L7.10.

POURED IN PLACE PLAY SURFACING

- Poured in place rubberized surfacing over 6" compacted aggregate.

KLEIN POINT PAVING

- Concrete unit pavers to match existing adjacent paving (similar to Cambridge Cobble Pavers by Belgard).
- Sand set over 6" compacted aggregate.

REINFORCED TURF PAVING

- Seeded turf installed with Grasspave2 Porous Grass Paver system by Invisible Structures, Inc.

STEPS

STONE STAIR – TYPE 1

- Large locally sourced stone slab treads over concrete stair. Concrete stair to be reinforced over 6" of compacted aggregate.
- Tread dimensions equal 1'-6" deep x 3' wide, total width of stair per plan, Riser height = 6"

STONE STAIR – TYPE 2

- Large locally sourced stone slab treads over concrete stair. Concrete stair to be reinforced over 6" of compacted aggregate.
- Tread dimensions equal 1'-3" deep x 3' wide, total width of stair per plan, Riser height = 6"

STONE STAIR – TYPE 3

- Large locally sourced stone slab treads over 6" compacted aggregate.
- Tread dimensions per plan, Riser height = 6"

CONCRETE STAIR

- Standard concrete stair, broom finish.
- Tread dimensions per plan, Riser height = 6"

WALLS

STONE RETAINING WALL

- See detail 04/L7.10

BOULDER WALL

- Smooth, rounded boulders with a diameter or 24" – 72".
- Boulder to be stacked and mortar set with gaps no larger than 2" in field by select stone mason.
- Boulders to be field selected by Landscape Architect.

STEEL RETAINING WALL AND GUARDRAIL

- See detail 03/L7.10
- 1/4" flatbar posts to be set 4' O.C.

SITE FURNISHINGS

- Provide allowance of $200,000 for site furnishings incl. picnic tables, lounge seating, park benches, signage, skate deterrents, etc.

RAILINGS, BARRIERS, FENCING

GOOSE FENCING

- Assume 400 LF of 2' high, galvanized steel mesh fence

HANDRAIL

- Custom stainless-steel handrail constructed out of 1.125" s.s. tube.
- 34" height posts set 6' O.C. constructed of 3/8" s.s. flatbar.

TEMPORARY LANDSCAPE FENCING

- Temporary wood fencing, 4' high vertical slat panels, including footings.

LANDSCAPE LIGHTING

SEE ELECTRICAL NARRATIVE

DRAINAGE

DRAINAGE SWALE

- Bioswale lined with scattered boulders and landscape logs.

PLANTING, SOILS, LANDSCAPE – *SEE PLANTING PLAN FOR MORE INFORMATION*

PROPOSED SITE TREE

- 50% of total shall be 2-1/2" caliper.
- 30% of total shall be 3" caliper.
- 20% of total shall be 6" caliper.

SEEDED TURF AREA

- Soil preparation – excavate planting areas for a depth of 12" and replace with 12" depth, imported and amended topsoil.
- Seed at 7lbs/1000SF
- Assume sub-surface drainage system at 20' o.c..

ORNAMENTAL PLANTING

- Soil preparation – excavate planting areas for a depth of 18" and replace with 18" depth, imported and amended topsoil. Assume all excessive on-site soils not needed for subgrade fill areas are hauled off and disposed.
- Assume all container plantings at 24" O.C.
    - 80% of total shall be 1 gal.
    - 10% of total shall be 3 gal.
    - 10% of total shall be 5 gal.

UPLAND HABITAT PLANTING

- Soil preparation – excavate planting areas for a depth of 18" and replace with 18" depth, imported and amended topsoil. Assume all excessive on-site soils not needed for subgrade fill areas are hauled off and disposed.
- Assume 50% of area to be container plantings at 24" O.C. and 50% of area to be seeded with a meadow mix. Within the 50% container planted area, the following container sizes apply:
    - 50% of total shall be 1 gal.
    - 30% of total shall be 3 gal.
    - 20% of total shall be 5 gal.

LOWLAND/STORMWATER PLANTING

- Soil preparation – excavate planting areas for a depth of 18" and replace with 18" depth, imported and amended topsoil. Assume all excessive on-site soils not needed for subgrade fill areas are hauled off and disposed.
- Assume 50% of area to be container plantings at 24" O.C. and 50% of area to be seeded with a meadow mix. Within the 50% container planted area, the following container sizes apply:
    - 80% of total shall be 1 gal.
    - 10% of total shall be 3 gal.
    - 10% of total shall be 5 gal.

LANDSCAPE LOG

- Natural logs of 18-inch to 30-in diameter, 8-feet to 24-feet in length.

LANDSCAPE BOULDER

- Smooth, rounded premium grade boulders with a diameter or 24" – 72" set by masonry crew.

EXISTING TREE(S) TO REMAIN

- Pruning of dead branches as needed.

IRRIGATION

- All planting areas and seeded lawn areas are to be fully irrigated with head to head coverage.
- Provide a cost per SF for irrigation that includes the following:
    - Maxicom compatible controls
    - 1 point of connection
    - MP rotators at container plantings.
    - Rotors at lawn.
    - (2) Tree bubblers at each tree.

MISCELLANEOUS SITE FEATURES

INTERACTIVE WATER FEATURE

- See water feature narrative for mechanical system pricing information.
- Paving to be 3”-6” thick custom CNC milled stone in 48”x48” slabs to create a topographic pattern in the denoted area.
- Paving to be mortar set on concrete slab. For concrete slab see detail 02/L7.10.

RESTROOM BUILDING

- See architecture

OVERHEAD SHADE TRELLIS

- See architecture

FIRE PIT

- 6’ diameter cut out in stone wall to create a fire pit.
- Fire pit to have a drain rock bottom.
- Include custom stone cover to be placed over pit with locking mechanism.

PLAY EQUIPMENT

- For manufactured and custom equipment, include a $150,000 allowance.

ZUCKER
engineering & design

Milwaukie Bay Park
100% Schematic Design – Civil Narrative
January 4, 2019

Utility and Right of Way Demolition

Along the OR 99E right-of-way, approximately 7,600 square feet of concrete sidewalk will be removed to accommodate new sidewalk alignment. The existing traffic signal mast arm and cross walk sensor at Monroe Street will need to be relocated out of the proposed sidewalk corridor. The three light bollards at the north end of the trail will also need to be removed/relocated.

Near the Monroe Street intersection, the existing artwork, stairs, boulders, paving, and light fixture will be removed and salvaged for Owner. Approximately 200 linear feet of abandoned gas line and 2,600 square feet of asphalt trails will also to be removed.

Along the southwest corner of the site, the newly constructed Field Inlet and approximately 110 linear feet of 12inch ductile iron storm pipe will be removed.

Refer to the Electrical Narrative for additional utility demolition associated with power.

Water Service

It's anticipated that a new 2-inch potable water service with double check will be required to serve the restroom facilities, water feature, and drinking fountains. Another reduced pressure (RP) backflow device is anticipated to be required for the water feature. An existing 10-inch DIP is located along the park frontage within the curb line, so no roadway patch work will be necessary for this new service. It is estimated that 30 LF of 2-inch water line will be necessary to serve the restroom and water feature control (assumed to be in the restroom building).

Sanitary Sewer

An existing sewer service and several sewer manholes are located on this site. It's anticipated that approximately 85 LF of 4-inch sanitary sewer pipe with (3) cleanouts will be necessary to service to new restroom. This sewer line will connect into one of the existing manholes with an inside drop.

Storm Drainage

The storm drainage elements for this site consist of the following:

- 300 LF of 4-inch storm drain,
- 650 LF of 6-inch storm drain,
- 75 LF of 8-inch storm drain,
- (9) landscape area drains,
- (10) cleanouts,

- (3) 6-foot long trench drains and (1) 8-foot long trench drain,
- 1,500 LF of perforated 4-inch drain pipe behind walls and along slopes,
- 400 LF of perforated playground underdrain, and
- (7) pipe outfalls into the proposed drainage swales and existing drainage pond.

Earthwork

Unadjusted earthwork quantities for this design concept have been estimated based on the difference of the proposed finished grade contours and the surface from the existing conditions survey. The following cut and fill quantities do not account for the volume of imported topsoil, the thickness of the paved surfaces, or the underlying base courses.

Total Cut = 5,000 CY
Total Fill = 1,500 CY

Erosion and Sedimentation Control

Erosion control for this site will consist of approximately 1,000 LF of sediment fence, 2,000 linear feet of biobags/waddles, (10) inlet protections, and (2) gravel construction entrances.

Zucker Engineering, LLC • 4014 SE Ankeny Street • Portland, Oregon 97214 • ph: 503.956.3473

FWD//
FIELDWORK DESIGN & ARCHITECTURE

MILWAUKIE BAY PARK

NARRATIVE FOR ARCHITECTURAL COST ESTIMATES

RESTROOMS

- FLOOR – Slab on grade concrete with light grind and epoxy seal.
- STRUCTURAL SYSTEM – Light gauge metal framing, metal joists, metal decking
- ROOF SYSTEM – TPO roofing, with cor-ten flashing, parapet cap, and fascia, topped with extensive tray type green roof system
- WALL – Folded cor-ten battens over perforated metal rain screen panel assembly over liquid applied water resistant barrier over dens glass sheathing over framing clad at interior face with stainless steel interior cladding panels on glass mat gypsum board.
- FIXTURES – Prefinished metal privacy partitions, mirrors, changing table, bench, wall hooks, hand dryer, waste receptacle, ADA grab bars and stainless toilets, lavatory sinks and faucets per MEP consultant. Restroom pavilion to include drinking fountain on exterior, final location to be determined. Refer to plan drawing for dimensions and further notes on fixtures and equipment.

TRELLIS SHADE STRUCTURE

- STRUCTURAL SYSTEM – Cor-ten steel frame bolted to concrete piers with bolted connections.
- ROOF SYSTEM – At shaded roof: low slope perforated metal with cor-ten steel purlins at edges and panel joints.
- WALL – Folded cor-ten slat screens fastened to structural cor-ten frame

STO DESIGN GROUP, INC.
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City of Milwaukie
Milwaukie, OR

Milwaukie Bay Park Final Design Narrative

Prepared

for

City of Milwaukie
Clackamas County
Oregon

by

STO Design Group, Inc.

January 04, 2019

STO DESIGN GROUP, INC.
AQUATECTURE • ENGINEERING
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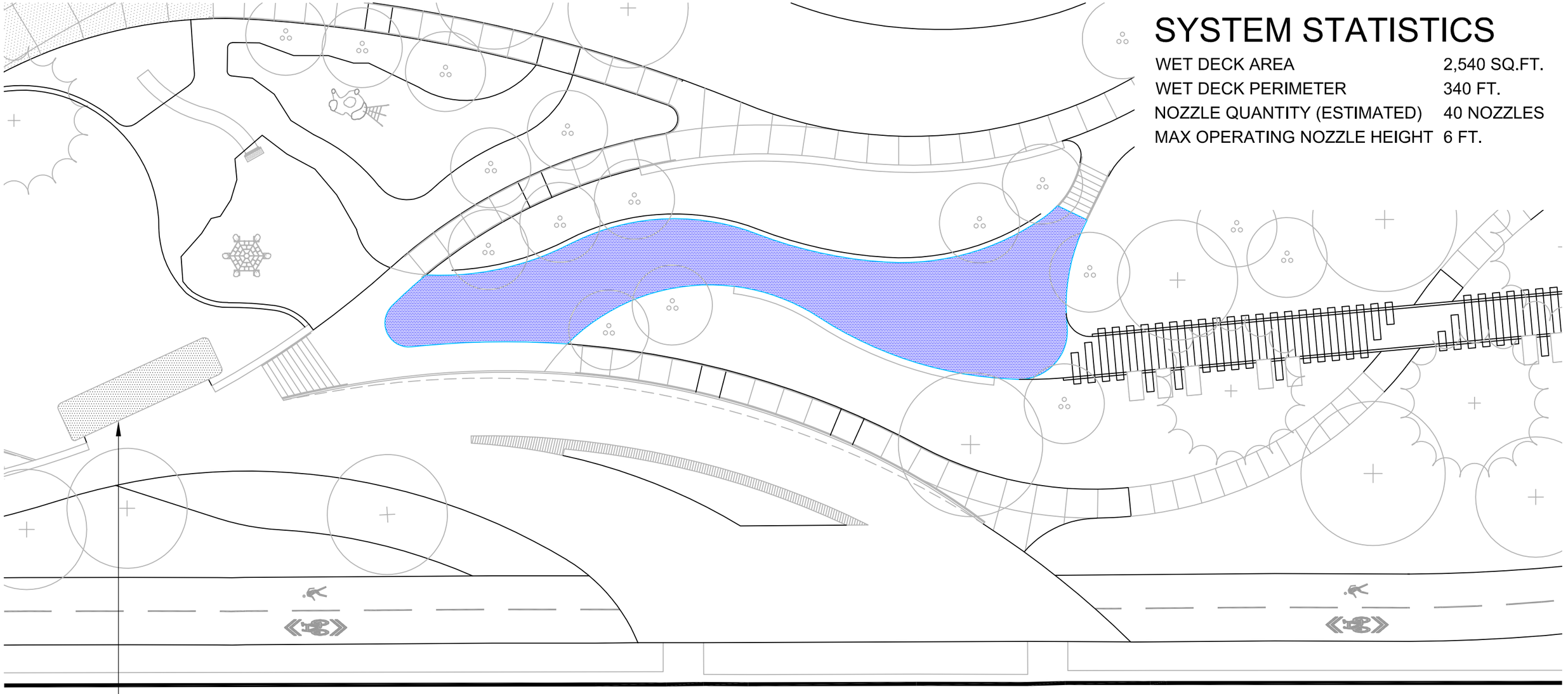
INTERACTIVE WATER FEATURE – SPRAY DECK

- Assumptions:
  - Wet Deck Area = 2,540 sq.ft.
  - Wet Deck Perimeter = 340 ft.
  - Estimated Number of LED Illuminated Interactive Jets = 40
- Equipment:
  - 40 interactive nozzles with LED lights (various types; mist, column, arching, marble)
  - Piping; Sch 40/80 pvc, type K copper, stainless steel
  - Valves; butterfly, ball, solenoid
  - Wind Sensor
  - Electrical Panel, Nema 3R enclosure, timeclocks, auxiliary contacts, disconnects, transformers
  - Junction/pull boxes
  - Rigid electrical conduit
  - Show Control Panel with DMX control
  - Potable supply pressure reducing backflow preventer
  - Water totalizer
  - Inline strainer, basket, wye type
  - Wet deck drains
  - Equipment space – 30 – 40 sq.ft.
- Exclusions
  - Site grading
  - Wet Deck concrete, reinforcement, waterproofing
  - Finishes; pavers, etc.
  - Equipment room
- Cost Estimate (range) $275,000 - $325,000

SYSTEM STATISTICS

WET DECK AREA	2,540 SQ.FT.
WET DECK PERIMETER	340 FT.
NOZZLE QUANTITY (ESTIMATED)	40 NOZZLES
MAX OPERATING NOZZLE HEIGHT	6 FT.



WATER FEATURE EQUIPMENT TO BE
LOCATED IN RESTROOM BUILDING

STO DESIGN GROUP, INC.
PARKS & RECREATION SPECIALISTS
2500 Redhill Ave, Suite 205 • Santa Ana, CA 92705
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PROJECT: MILWAUKIE BAY PARK - MILWAUKIE OREGON	DATE: 01/04/19
SUBJECT: WATER FEATURE AREA SITE PLAN	SCALE: 1" = 20'-0"
	REV. #

R&W
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204 SE Stone Mill Dr., Suite 280 ▪ Vancouver, WA 98684
(877) 9RW.ENGR ▪ www.rweng.com ▪ Phone: 503.292.6000 ▪ Fax: 503.726.3326

MEMORANDUM

DATE: .....January 7, 2019 Project Number: 1170.006.001

TO: COMPANY:.....2.ink Studio
ATTENTION:.....Tom Wortman

FROM: .....Sam Russum E-mail: srussum@rweng.com

SUBJECT: .....Milwaukie Bay Park – Design Intent Narrative

Existing Conditions:

Currently, the park has a 100A, 120/240V, 1-phase, 3-wire electric service meter pedestal located in the open turf area south of the Redwood Tree on the east side of the park. This meter pedestal serves the current park site lighting, parking lot lighting and restroom building lighting and power loads. The existing restroom building is a single unisex restroom located at the top of the existing boat ramp on the south side of the property.

The meter pedestal is fed from an existing conduit dip off a PGE power pole with a single-phase pole mounted transformer. An electrical handhole is located near the existing meter pedestal, which serves as the terminus for conduits radiating out to existing lighting and electrical loads.

New Electric Service:

The new restroom building will be provided with a 200A, 120/240V, 1-phase, 3-wire electrical service. The service will be fed from one of the two existing PGE power poles that currently have single phase transformers mounted on them. Transformer capacities and conduit dips to underground feeds will be modified and extended to proposed service and distribution equipment located inside the maintenance chase of the new restroom building. Existing power poles are located along the east park boundary adjacent to SE McLoughlin Blvd.

A new communication service will be brought underground to the new restroom building. The service will be fed from one of the existing power poles located along the east park boundary adjacent to SE McLoughlin Blvd. The demarcation equipment will be located

inside the maintenance chase of the new restroom building.

The existing meter pedestal serving the existing single use restroom and site lighting will be removed. The electrical branch circuits will be re-fed from the new restroom building. The lighting control system will be relocated from the current metered pedestal to the maintenance chase located in the new restroom building.

A new lighting control system will be provided in the maintenance chase for the new site and building lighting located throughout the park.

Restroom Building Electrical:

Surface mounted vandal-proof LED luminaires will be provided in the restrooms and on the building exterior. Surface mounted LED strips will be provided in the maintenance chase. The interior lighting will be controlled by occupancy sensors and the exterior lighting will be controlled by photosensor/astronomic time clock system. Interior light power densities will comply with the Oregon Energy Code. Exterior luminaires will be specified with LED light engines and color temperatures similar to incandescent lamps. These will be coordinated to approximate the color temperature of the existing post top acorn luminaires along McLoughlin Blvd. Interior luminaires will be specified with LED light engines producing a bright white color temperature.

A new lighting control system will be provided in the maintenance chase of the restroom building for control of all new and existing site and building lighting located throughout the park. Master override switches for all lighting will be located inside the maintenance chase. A photosensor will be mounted on the roof of the restroom building.

Egress lighting will be provided for the restrooms. Egress lighting will comply with the minimum National Fire Code (NFC) and International Building Code (IBC) requirements. Egress luminaires will be provided with 90-minute integral battery packs and test switches.

Power will be provided to restroom hand dryers, a single locking vandal-proof receptacle in each restroom, and to general purpose receptacles within the maintenance chase. Freeze protection and related necessary power will also be provided in all restroom building spaces.

Restroom Building Heating and Ventilation:

Heating for the building will be provided by under slab electric radiant heating. Electric heating cables will be placed within the concrete floor slab to provide heating to a temperature of 45°F. This system will provide heating to the toilet rooms and mechanical service chase.

Ventilation will be provided to the toilet room areas by an exhaust fan located in the mechanical service chase. This fan will pull air from the toilet rooms and exhaust it

through a wall louver or roof cap. Incoming make up air will be passive via louvers in the walls or doors. The fan will operate continuously during occupied or open park hours. The amount of exhaust air will be in compliance with the current Oregon Mechanical Specialty Code at 50 CFM per water closet or urinal.

Restroom Building Plumbing:

Plumbing fixtures will be provided as shown and located by the architect. Fixtures and accessories will be penal grade stainless steel for vandal resistance. All fixtures will be infrared operated. Water closets and urinals will have remote flush valves located in the mechanical service chase for vandal resistance.

Waste and vent piping will be sized in compliance with the current Oregon Plumbing Specialty Code and be cast iron or ABS. Water piping will be sized in compliance with the current Oregon Plumbing Specialty Code and will be cross-linked polyethylene (PEX).

Park Lighting and Power:

LED bollards will be added along a new path that connects the trolley trail to the river-walk path. The bollards will match the existing bollards. The new bollards will be added to the existing lighting circuit and will be controlled by photosensors/astronomic timeclock located in Restroom Building mechanical chase.

Low profile, in-ground LED luminaires will be added along the new path that connects the river-walk path and the park's main water feature area. Luminaires will be provided with LED light engines matching the incandescent color temperature. All lighting will be controlled by photosensors/astronomic timeclock located in Restroom Building mechanical chase.

The northern portion of the existing river-walk path will be modified. With the path modifications, several existing bollards located along that portion of the path will need to be relocated.

Several bollards will be provided for general illumination at the uncovered picnic area near the river-walk. The new bollards will match the park's existing bollards. Lighting will be controlled by photosensors/astronomic timeclock located in restroom building mechanical chase.

Recessed LED strip accent lighting will be added along the seating wall located at the park's main entrance. Luminaires will be provided with LED light engines matching the incandescent color temperature. All lighting will be controlled by photosensors/astronomic timeclock located in Restroom Building mechanical chase.

In-ground asymmetric LED wall washing luminaires will be provided at the rock wall near the park's water feature. Luminaires will be provided with LED light engines matching the

incandescent color temperature. All lighting will be controlled by photosensors/astronomic timeclock located in Restroom Building mechanical chase.

Low level LED luminaires will be recessed within the stairs for illumination. Luminaires will be provided with LED light engines matching the incandescent color temperature. All lighting will be controlled by photosensors/astronomic timeclock located in Restroom Building mechanical chase.

Surface mounted Linear LED luminaires will be installed on the underside of the trellis to provide illumination of the upper picnic area. Luminaires will be provided with LED light engines matching the incandescent color temperature. All lighting will be controlled by photosensors/astronomic timeclock located in Restroom Building mechanical chase.

In-ground weatherproof power receptacles will be provided at designated locations around the amphitheater stage area for temporary performance lighting and equipment.

Provide single point potable water connection and electrical power connection for water feature system. Provide accent lighting at/in the new water feature. Luminaires will be provided with LED light engines matching the incandescent color temperature. Water feature lighting will be controlled by photosensors/astronomic timeclock system located in Restroom Building mechanical chase.

END OF MEMORANDUM