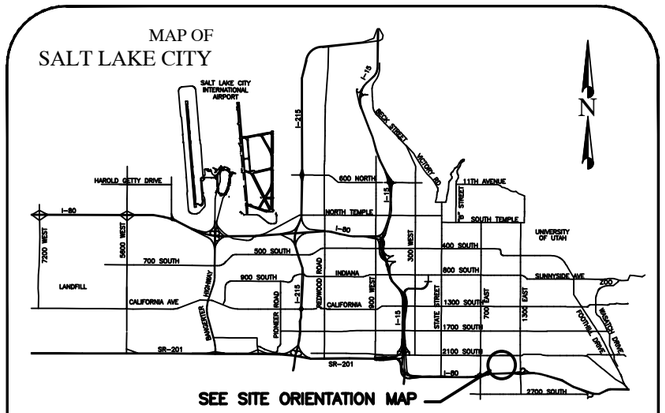
SALT LAKE CITY CORPORATION

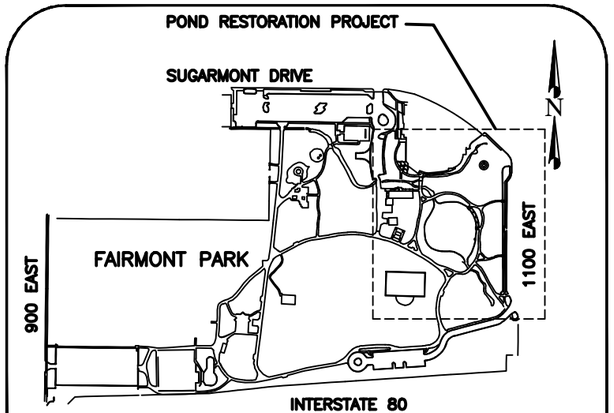
FAIRMONT PARK POND RESTORATION PROJECT
1040 EAST SUGARMONT DRIVE
JOB NO. 230416



VICINITY MAP

SHEET SET ASSEMBLY ORDER

SHEET DESIGNATOR	BINDING ORDER	SHEET TITLE
GI 001	1	GENERAL INFORMATION COVER SHEET
GI 002	2	GENERAL INFORMATION NOTES
LD 101	3	LANDSCAPE DEMOLITION PLAN
LS 101	4	LANDSCAPE SITE PLAN
LG 101	5	LANDSCAPE GRADING PLAN
LP 101	6	LANDSCAPE PLANTING PLAN
LI 101	7	LANDSCAPE IRRIGATION PLAN
SC 301	8	LANDSCAPE SECTIONS
SC 302	9	LANDSCAPE SECTIONS
DT 501	10	LANDSCAPE DETAILS
DT 502	11	LANDSCAPE DETAILS
DT 503	12	LANDSCAPE DETAILS
DT 504	13	LANDSCAPE DETAILS
DT 505	14	LANDSCAPE DETAILS
DT 506	15	LANDSCAPE DETAILS
DT 507	16	LANDSCAPE DETAILS
PT01	17	BID ALTERNATE #1
PT02	18	BID ALTERNATE #1
PT03	19	BID ALTERNATE #1
PT04	20	BID ALTERNATE #1
PT05	21	BID ALTERNATE #1
PT05	22	BID ALTERNATE #1
PT07	23	BID ALTERNATE #1



SITE ORIENTATION MAP

OWNER

DEPARTMENT OF:
COMMUNITY AND NEIGHBORHOODS
ENGINEERING DIVISION

DIRECTOR - MIKE REBERG
CITY ENGINEER - JEFF SNELLING, S.E.

349 SOUTH 200 EAST, SUITE 100
SALT LAKE CITY, UTAH 84111
OFFICE - 801.535.7961
FAX - 801.535.6093

CITY OFFICIALS

	MAYOR	JACKIE BISKUPSKI
CITY COUNCIL	DIST. 1	JAMES ROGERS
	DIST. 2	ANDREW JOHNSTON
	DIST. 3	STAN PENFOLD
	DIST. 4	DEREK KITCHEN
	DIST. 5	ERIN MENDENHALL
	DIST. 6	CHARLIE LUKE
	DIST. 7	LISA ADAMS

DESIGNER

LANDSCAPE ARCHITECT:

BIO-WEST
1063 West 1400 North • Logan, Utah 84321 • 435-752-4202

LANDSCAPE ARCHITECT
No. 6677105
SANDRA DAVENPORT
8/23/2017
ELECTRONIC SEAL
STATE OF UTAH

Note: Plans are intended to be printed in color on 11" x 17" paper.

CITY ENGINEER	CITY PROJECT MANAGER	PPL DIRECTOR	PPL PROGRAM MANAGER	PROJECT DESIGNER
JEFF SNELLING, S.E — DATE	RONALD SALISBURY, PLA — DATE	KRISTIN RIKER — DATE	TROY BAKER — DATE	CHRISTOPHER SANDS, RLA — DATE

FAIRMONT PARK POND RESTORATION PROJECT
1040 EAST SUGARMONT DRIVE
JOB NO. 230416

GENERAL NOTES

Project Limits
All construction activity shall be confined to the project limit of disturbance including any staging/stockpile areas. Do not disturb, excavate or work beyond project limits of disturbance without permission from the Owners Representative.

Site Mapping
Basis of bearing for plans is Utah State Plane Central Zone NAD' 83 US Survey foot Coordinates. Elevation datum is NAVD 88/Geoid model 1999. The base survey was provided by Salt Lake City Corporation. Verification of survey mapping is the responsibility of the Contractor.

Survey Staking
Survey staking is the responsibility of the Contractor. The Contractor may obtain CAD files from the Designer for staking and layout purposes.

Permits
The Contractor is required to comply with all construction related requirements in each permit issued for the project.

Utilities
Utility locations have not been surveyed. It is the responsibility of the Contractor to perform all utility locations at least 48 hours prior to excavation, call 1(800)662-4111. It is the responsibility of the Contractor to protect all existing sewer, water, gas and electric utilities encountered in the work. Any relocation or improvements of utilities shall be accurately noted on as-built drawings and issued to the Owners Representative at the completion of the project.

Temporary Construction Facilities
All temporary utilities and facilities will be the responsibility of the Contractor. A construction trailer is not required. Potable water is not available on site and shall be provided by the Contractor. A chemical toilet of suitable type shall be provided and maintained by the Contractor at all times. The Contractor is responsible for job site conditions and the safety for human life during the course of construction. This requirement shall apply continuously during the period of construction and is not limited to normal working hours.

The Contractor shall keep job site area clean, hazard free and dispose of all debris, rubbish and construction waste, and remove all abandoned materials from the site. All disturbed staging and access areas are to be restored to pre-construction condition. The Contractor is responsible to reclaim (regrade, seed and mulch, or turf sod) construction features not specified as remaining on the site and clean up all areas at the completion of the project.

Construction Spoils and Waste Handling
Items encountered below grade and not shown on the drawings shall be brought to the attention of the Owners Representative. All construction spoils and waste are the responsibility of the Contractor and shall be disposed of at an approved landfill facility.

Clearing and Grubbing
Existing on-site materials shall be carefully removed and stored for re-use, or disposed of at an approved landfill facility. All existing vegetation not in designated excavation areas and not designated for removal is to be protected in place. Completely remove stumps, roots, shrubs, weeds, and other debris protruding from the ground in areas to be excavated.

Site Earthwork and Grading
The Contractor is responsible for all site earthwork and grading activities to meet designs identified in plans and details, which are intended to show final result of design. Modifications may be required to suit job site conditions encountered during construction and shall be included in as-built drawings provided to the Owners Representative at completion of the project.

All pond banks and stream channel banks affected by construction activities shall be stabilized and protected throughout construction.

Backfill and embankment material shall be composed of suitable excavated soils.

Existing topsoil shall be excavated and salvaged by Contractor for use in landscaping and grading activities. Topsoils used in landscaping shall have acidity range (pH) from 5.5 to 7.5 and a minimum organic content of 2%.

Topsoil shall be placed at 80% to 90% maximum dry density and subsoil at 85% minimum compaction as determined by the Standard Proctor Method (ASTM D0698-66T or AASHTO T99). All existing topsoils shall be salvaged and utilized for revegetation activities to the extent possible.

Site Construction Notes
All tree removal activities and site disturbance activities shall occur only after a Nesting Bird Survey has been conducted within the construction site footprint and all protocols and protective measures are followed.

All planting and seeding activities shall occur during the designated seeding and planting window from September 15 to December 1 unless in areas with irrigation or as otherwise authorized by the Owners Representative.

Where ground conditions are damp and equipment traffic would result in excessive ground compaction and rutting, use construction mats to access active work areas.

Use a water truck or other suitable watering device as needed to control dust.

Inspect paved roads adjacent to the project site regularly for mud tracking; sweep roadways as needed and ensure roads are left clean at the end of each shift.

Clean site and dispose of construction waste as permitted.

Temporary Environmental/Safety Fence
Install fencing to demarcate active work areas as appropriate based on construction phasing.

The Contractor is responsible to keep access to Private Property open at all times during construction. The Contractor is responsible to keep access to areas of the park not affected by construction open at all times during construction.

The Contractor is responsible for installing water control measures as needed to perform stream work in dry conditions. Water control measures include but are not limited to diversions, culverts, sumps with pumps or other means necessary to divert surface water away from the active work area.

Storm Water Pollution Prevention Plan Notes
1. No earth shall be disturbed until erosion control measures are in place.

2. Erosion control measures will be maintained and remain in place until re-vegetation measures have been established.

3. Monitor, inspect, and maintain all erosion control measures as needed to prevent erosion and sediment discharge into creeks or pond. Adjust locations of measures and install additional measures as construction phasing requires. Disturbed areas where construction activity has ceased will be stabilized in accordance with State UPDES and Salt Lake City requirements. Submittal of NOI and acquisition of UPDES Storm Water General Permit for Construction Activities (UTR300000) is the responsibility of the Contractor.

4. The Contractor is responsible for implementing and utilizing Best Management Practices (BMPs) to prevent storm water runoff and water pollution during construction activities. The Contractor is responsible for supplying equipment and plans that provide both dust and fire control during project construction. Use caution when working in and around wet areas. If potential hazardous materials are encountered, contact the Owners Representative immediately.

Grading And Drainage Plan Notes
1. Contractor to stake the boundary of the grading area for approval from the Owners Representative prior to initiating grading activities.

2. Contractor is responsible for erosion, dust and temporary drainage control during grading operations.

3. Fill areas are to be compacted throughout to a minimum of 90% relative compaction.

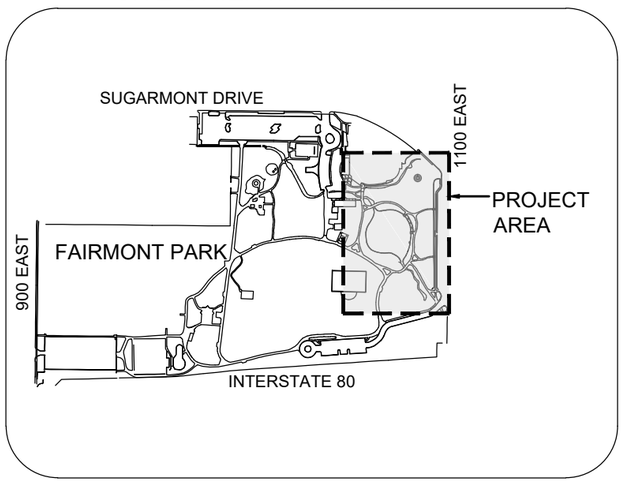
4. Contractor is responsible for the location and protection of all utilities.

5. Export soil, if any, must be transported to a legal landfill or permitted site.

ABBREVIATIONS

APPROX	APPROXIMATE
AVG	AVERAGE
BC	BOTTOM OF CURB
BM	BENCHMARK
BOC	BACK OF CURB
BW	BOTTOM OF WALL
CAL	CALIPER
CL	CENTERLINE
CY	CUBIC YARD
DIA	DIAMETER
EL	ELEVATION
EXIST	EXISTING
FG	FINISH GRADE
HORIZ	HORIZONTAL
HP	HIGH POINT
IN	INCHES
LF	LINEAR FEET
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
REQ'D	REQUIRED
ROW	RIGHT OF WAY
SF	SQUARE FOOT
SHT	SHEET
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL
VERT	VERTICAL

SITE ORIENTATION KEY



PREPARER:

BIO-WEST
1063 West 1400 North • Logan, Utah 84321 • 435-752-4202

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

PROJECT IDENTIFICATION:

FAIRMONT PARK POND RESTORATION PROJECT

PROJECT OWNER:

SALT LAKE CITY CORPORATION

ENGINEERING

349 South 200 East, Suite 100
Salt Lake City, Utah 84114-5506
Phone: (801)535-6157

MARK	DATE	DESCRIPTION

PREPARER #:
CONTRACT #:
PROJECT #: 230416
FILE #:
DRAWING FILE:
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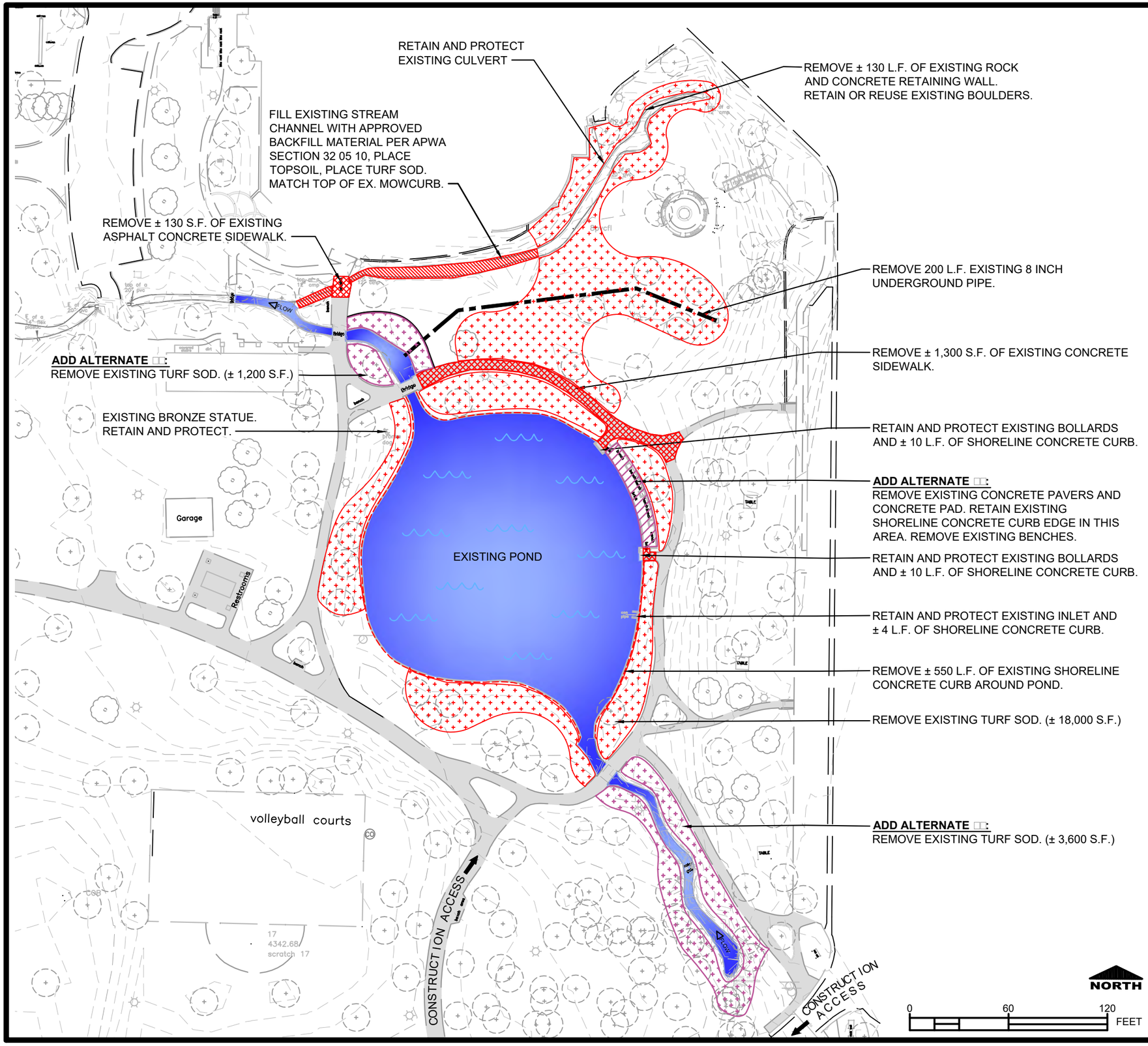
SHEET TITLE:

GENERAL INFORMATION NOTES

SHEET IDENTIFIER:

GI 002

BINDING ORDER



DEMOLITION □LAN LEGEND

- EXISTING CONCRETE SIDEWALK - RETAIN AND PROTECT EXCEPT WHERE NOTED.
- EXISTING TREES - RETAIN AND PROTECT
- EXISTING LIGHT POST - RETAIN AND PROTECT
- EXISTING PICNIC TABLE ON CONCRETE PAD - RETAIN AND PROTECT
- EXISTING CONTOUR
- REMOVE EXISTING TURF SOD
- REMOVE EXISTING CONCRETE SIDEWALK

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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SALT LAKE CITY CORPORATION

ENGINEERING

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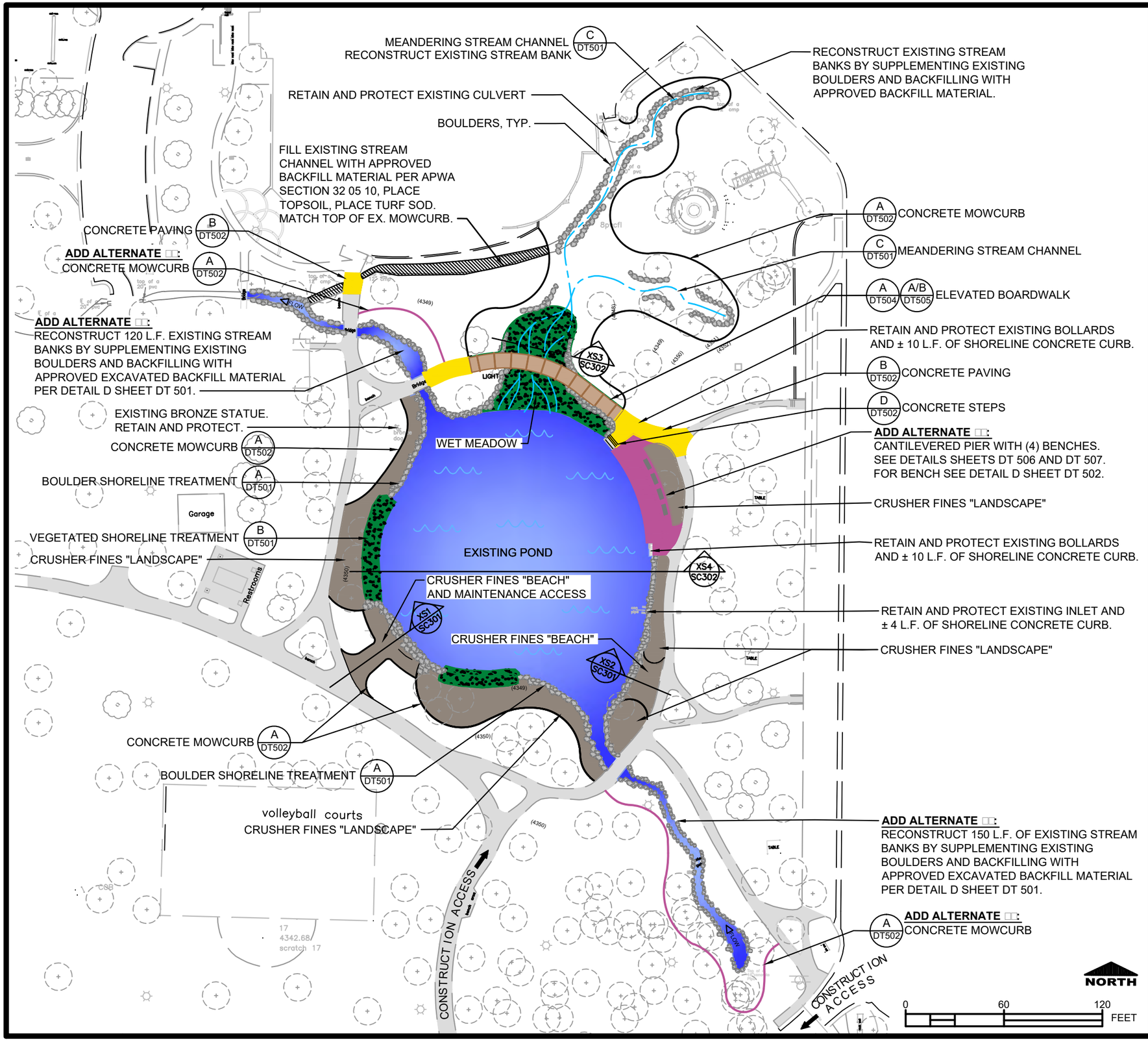
SHEET TITLE:

LANDSCAPE DEMOLITION PLAN

SHEET IDENTIFIER:

LD 101

BINDING ORDER 3 OF 23



SITE □LAN LEGEND

- EXISTING CONCRETE SIDEWALK; RETAIN AND PROTECT
- EXISTING TREES - RETAIN AND PROTECT
- EXISTING LIGHT POST - RETAIN AND PROTECT
- EXISTING PICNIC TABLE ON CONCRETE PAD - RETAIN AND PROTECT
- EXISTING CONTOUR
- LIMESTONE CRUSHER FINES SURFACE
- CONCRETE MOWCURB
- ELEVATED BOARDWALK
- ADD ALTERNATE #1: CANTILEVERED PIER WITH BENCHES AND CONCRETE SIDEWALK
- CONCRETE PAVING
- BOULDER SHORELINE TREATMENT
- VEGETATED SHORELINE TREATMENT (BY OTHERS)
- EXISTING CONTOUR - MAJOR
- EXISTING CONTOUR - MINOR
- C DT502 — DETAIL / SHEET NUMBER

LANDSCA□E SITE □LAN NOTES

1. CONTRACTOR TO LAY OUT HARDSCAPE ELEMENTS AND VERIFY LAYOUT WITH THE PROJECT MANAGER PRIOR TO CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES.

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

PROJECT IDENTIFICATION:

FAIRMONT PARK POND RESTORATION PROJECT

PROJECT OWNER:

SALT LAKE CITY CORPORATION

ENGINEERING

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Phone: (801)535-6157

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SHEET TITLE:
LANDSCAPE SITE PLAN

SHEET IDENTIFIER:
LS 101

BINDING ORDER 4 OF 23

RECONSTRUCT EXISTING STREAM BANKS BY SUPPLEMENTING EXISTING BOULDERS AND BACKFILLING WITH APPROVED BACKFILL MATERIAL.

RETAIN AND PROTECT EXISTING CULVERT

BOULDERS, TYP.

FILL EXISTING STREAM CHANNEL WITH APPROVED BACKFILL MATERIAL PER APWA SECTION 32 05 10, PLACE TOPSOIL, PLACE TURF SOD. MATCH TOP OF EX. MOWCURB.

ADD ALTERNATE □:
RECONSTRUCT 120 L.F. EXISTING STREAM BANKS BY SUPPLEMENTING EXISTING BOULDERS AND BACKFILLING WITH APPROVED EXCAVATED BACKFILL MATERIAL.

EXISTING BRONZE STATUE. RETAIN AND PROTECT.

RETAIN AND PROTECT EXISTING BOLLARDS AND ± 10 L.F. OF SHORELINE CONCRETE CURB TYP. TWO LOCATIONS.

RETAIN AND PROTECT EXISTING INLET AND ± 4 L.F. OF SHORELINE CONCRETE CURB.

ADD ALTERNATE □:
RECONSTRUCT 150 L.F. OF EXISTING STREAM BANKS BY SUPPLEMENTING EXISTING BOULDERS AND BACKFILLING WITH APPROVED EXCAVATED BACKFILL MATERIAL.

SURFACE ELEV ≈ 4347
BOTTOM ELEV ≈ 4332
EXISTING POND (BY OTHERS)

CONSTRUCTION ACCESS

NORTH

0 60 120 FEET

GRADING □LAN LEGEND

- EXISTING CONCRETE SIDEWALK; RETAIN AND PROTECT
- EXISTING TREES - RETAIN AND PROTECT
- EXISTING LIGHT POST - RETAIN AND PROTECT
- EXISTING PICNIC TABLE ON CONCRETE PAD - RETAIN AND PROTECT
- EXISTING CONTOUR
- LIMESTONE CRUSHER FINES SURFACE
- CONCRETE MOWCURB
- ELEVATED BOARDWALK
- ADD ALTERNATE #1: CANTILEVERED PIER WITH BENCHES AND CONCRETE SIDEWALK
- CONCRETE PAVING
- EXISTING CONTOUR - MAJOR
- EXISTING CONTOUR - MINOR
- PROPOSED CONTOUR - MAJOR
- PROPOSED CONTOUR - MINOR
- 4251.75 (4250.50) PROPOSED SPOT ELEVATION / EXISTING SPOT ELEVATION
- COMPACTED NATURAL CLAY LINER (BY OTHERS)
- CLEAN GRAVEL TREATMENT (2" MINUS, 6" THICK) (BY OTHERS)
- CLEAN COBBLE TREATMENT(3"-8" ROUNDED, 12 THICK) (BY OTHERS)
- COBBLE ROCK PILE (SUBMERGED) (BY OTHERS)

LANDSCA□E GRADING □LAN NOTES

1. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL AND TEMPORARY DRAINAGE CONTROL DURING GRADING OPERATIONS..
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES.
3. POND EXCAVATION AND ALL SUBMERGED TREATMENTS BY OTHERS.

PREPARER:

BIO-WEST
1063 West 1400 North • Logan, Utah 84321 • 435-752-4202

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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FAIRMONT PARK POND RESTORATION PROJECT

PROJECT OWNER:

SALT LAKE CITY CORPORATION
ENGINEERING
349 South 200 East, Suite 100
Salt Lake City, Utah 84114-5506
Phone: (801)535-6157

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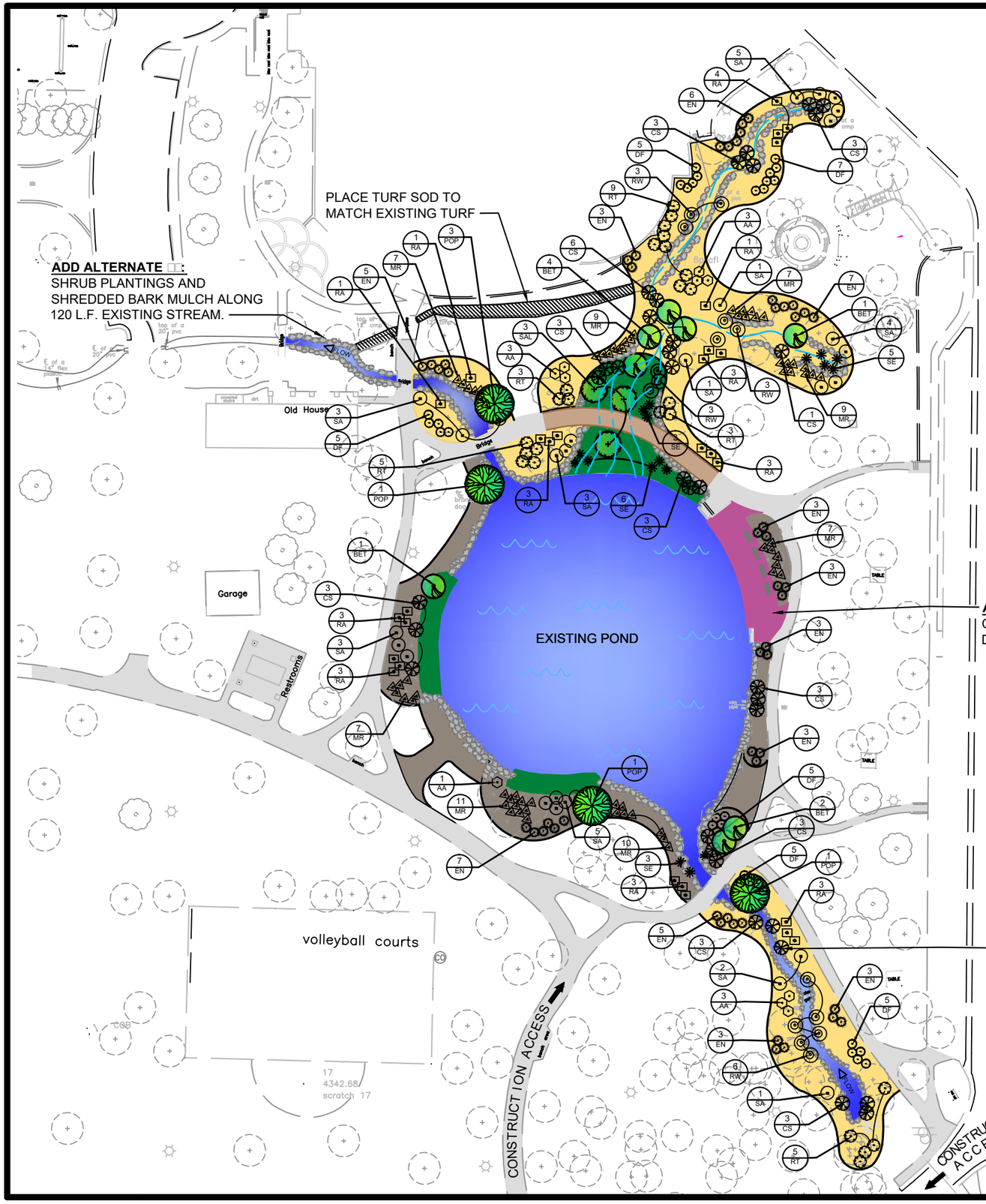
SHEET TITLE:
LANDSCAPE GRADING PLAN

SHEET IDENTIFIER:
LG 101

BINDING ORDER 5 OF 23



LANDSCA□E □LANTING □LAN LEGEND

- EXISTING CONCRETE SIDEWALK RETAIN AND PROTECT
- LIMESTONE CRUSHER FINES SURFACE
- MEANDERING STREAM CHANNEL
- CONCRETE MOW STRIP
- ELEVATED BOARDWALK
- BOULDER SHORELINE TREATMENT
- SHRUB PLANTINGS AND SHREDDED BARK MULCH (4 INCH THICK)
- WETLAND SOD □(BY OTHERS)

□LANT LIST

□E□	BOTANICAL □COMMON NAME □H□DRO□ONE
TREES: □" CALI□ER SI□E	
BET	BETULA OCCIDENTALIS / RIVER BIRCH
POP	POPULUS ANGUSTIFOLIA / NARROWLEAF COTTONWOOD
SAL	SALIX AMYGDALOIDES / PEACHLEAF WILLOW
SHRUBS: □GALLON SI□E	
CS	CORNUS SERICEA / RED-OSIER DOGWOOD
RW	ROSA WOODSII / WOODS ROSE / Sd2
SE	SALIX EXIGUA / COYOTE WILLOW
AA	AMELANCHIER ALNIFOLIA / SERVICEBERRY / Sd1
DF	DASIPHORA FRUTICOSA / CINQUEFOIL / Sd2
EN	ERICAMERIA NAUSEOSA / RABBITBRUSH / Sd0
MR	MAHONIA REPENS / CREEPING MAHONIA / GV1
RT	RHUS TRILOBATA / SKUNKBUSH / Sd0
RA	RIBES AUREUM / GOLDEN CURRANT /Sd2
SA	SYMPHORICARPOS ALBUS / SNOWBERRY /Sd2

□WETLAND SOD: PRE-VEGETATED (NATIVE) COIR EROSION CONTROL MAT. EACH MAT = 3.3 FEET WIDE X 16.4 FEET LONG X 4 INCHES THICK.

LANDSCA□E □LANTING □LAN NOTES

1. THE PLANTING PLAN IS DIAGRAMMATIC. PLANT LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS OF PLANT MATERIALS TO BE APPROVED BY THE OWNERS REPRESENTATIVE IN THE FIELD PRIOR TO INSTALLATION.
2. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY "THE AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
3. NO SUBSTITUTION OF PLANT SPECIES WILL BE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
4. LOCATE AND VERIFY ALL UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT ANY CONFLICTS TO THE OWNERS REPRESENTATIVE.
5. PROVIDE A MINIMUM TOPSOIL DEPTH OF SIX (6) INCHES ON AREAS OF CUT AND FILL DISTURBANCES AS PER SECTION 32 92 00.
6. DO NOT INSTALL PLANT MATERIAL UNTIL THE ROUGH GRADING OF TOPSOIL IS APPROVED BY THE OWNERS REPRESENTATIVE.
7. ALL PLANT SPECIES ARE NATIVE TO UTAH AND ADAPTED TO CONDITIONS FOUND ON SITE. RIPARIAN SPECIES ARE LOCATED ALONG STREAMS AND POND.

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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FAIRMONT PARK POND RESTORATION PROJECT

PROJECT OWNER:

SALT LAKE CITY CORPORATION

ENGINEERING

349 South 200 East, Suite 100
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LANDSCAPE PLANTING PLAN

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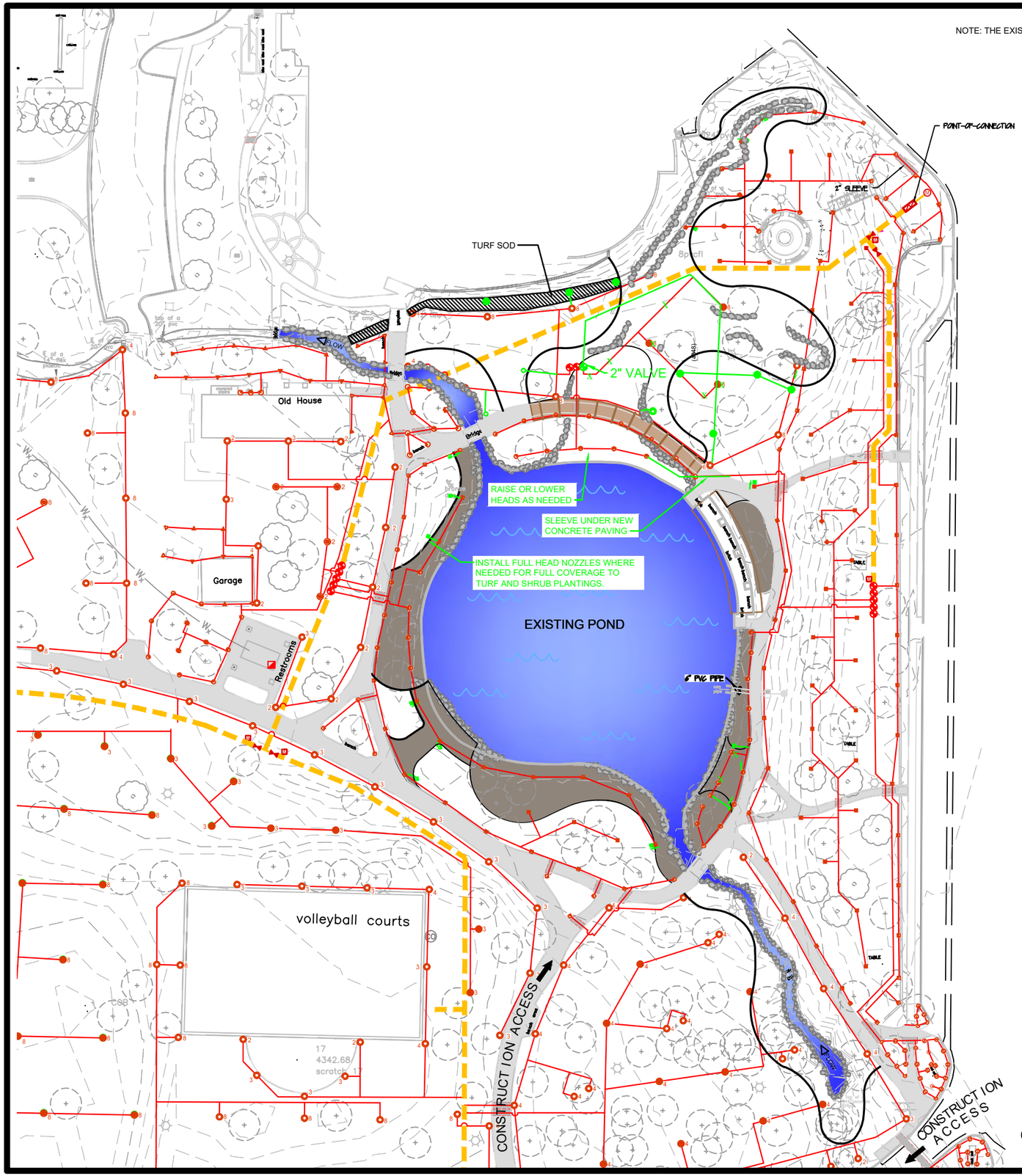
LP 101

BINDING ORDER 6 OF 23

NOTE: THE EXISTING IRRIGATION ZONES ARE TO BE RETAINED.



IRRIGATION PLAN LEGEND

- EXISTING CONCRETE SIDEWALK RETAIN AND PROTECT
- LIMESTONE CRUSHER FINES SURFACE
- MEANDERING STREAM CHANNEL (NOT SHOWN)
- CONCRETE MOW STRIP
- ELEVATED BOARDWALK
- BOULDER SHORELINE TREATMENT

EXISTING IRRIGATION SYSTEM LEGEND

SYMBOL	DESCRIPTION
	CONTROLLER (LOCATED IN RESTROOM)
M	METER
	BACKFLOW PREVENTER AND ENCLOSURE
	ISOLATION VALVE
	QUICK COUPLING VALVE
AR	AIR RELEASE VALVE
	REMOTE CONTROL VALVE
	VALVE LABEL: ZONE NUMBER / GALLONS PER MINUTE (GPM) / ZONE TYPE / ELECTRIC CONTROL VALVE SIZE
	MAINLINE
	LATERAL LINE
	PIPE SLEEVING

HUNTER STREAM ROTOR SPRINKLERS (SPACING-PATTERN)

MP1000 NOZZLE	MP2000 NOZZLE	MP2000 NOZZLE	MP3000 NOZZLE
14'-Q	17'-Q	19'-Q	30'-Q
14'-T	17'-T	19'-T	30'-T
14'-H	17'-H	19'-H	30'-H
14'-TT	17'-TT	19'-TQ	30'-TT
14'-TQ	17'-F	19'-F	30'-TQ
14'-F			30'-F

ROTOR SPRINKLERS

- 5505-SS (PART CIRCLE)
- 5505-SS (FULL CIRCLE)

PROPOSED IRRIGATION SYSTEM LEGEND

- X — IRRIGATION EQUIPMENT TO BE REMOVED
- IRRIGATION EQUIPMENT TO BE RELOCATED
- LATERAL LINE

HUNTER STREAM ROTOR SPRINKLERS (SPACING-PATTERN)

MP1000 NOZZLE	MP2000 NOZZLE	MP2000 NOZZLE	MP3000 NOZZLE
14'-Q	17'-Q	19'-Q	30'-Q
14'-T	17'-T	19'-T	30'-T
14'-H	17'-H	19'-H	30'-H
14'-TT	17'-TT	19'-TQ	30'-TT
14'-TQ	17'-F	19'-F	30'-TQ
14'-F			30'-F

RAINBIRD FALCON 6504 SERIES ROTOR SPRINKLERS

- (PART CIRCLE)
- (FULL CIRCLE)

REFER TO DETAIL E/DT503 FOR ROTOR HEAD WITH FLEXIBLE SWING PIPE DETAIL.

EXISTING IRRIGATION SYSTEM INFORMATION IS FROM FAIRMONT PARK IRRIGATION SYSTEM RECORD DOCUMENT PLANS DATED FEBRUARY 2013

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

PROJECT IDENTIFICATION:

FAIRMONT PARK POND RESTORATION PROJECT

PROJECT OWNER:

SALT LAKE CITY CORPORATION

ENGINEERING

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Phone: (801)535-6157

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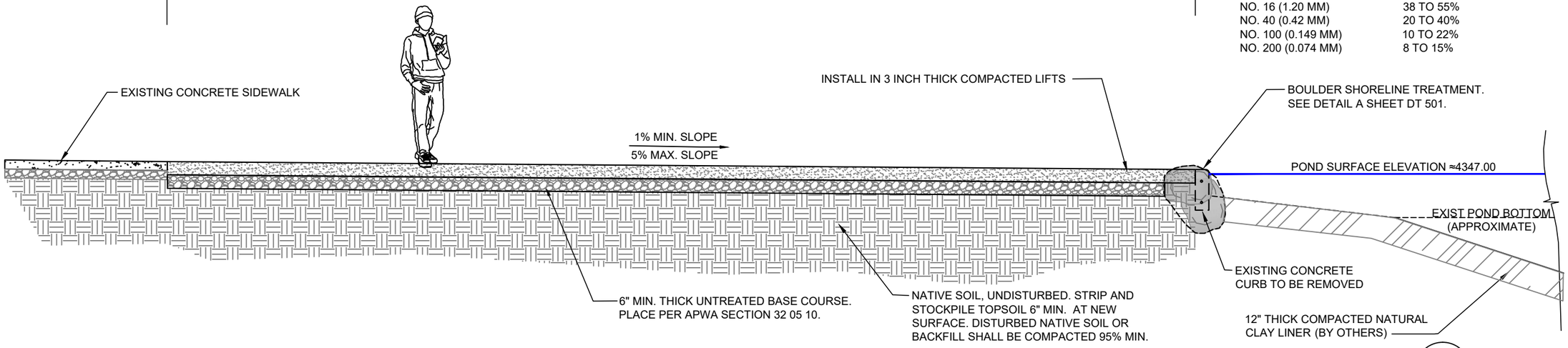
SHEET TITLE:

LANDSCAPE IRRIGATION PLAN

SHEET IDENTIFIER:

LI 101

BINDING ORDER 7 OF 23



XS1 SECTION (MAINTENANCE ACCESS AND CRUSHER FINES "BEACH")

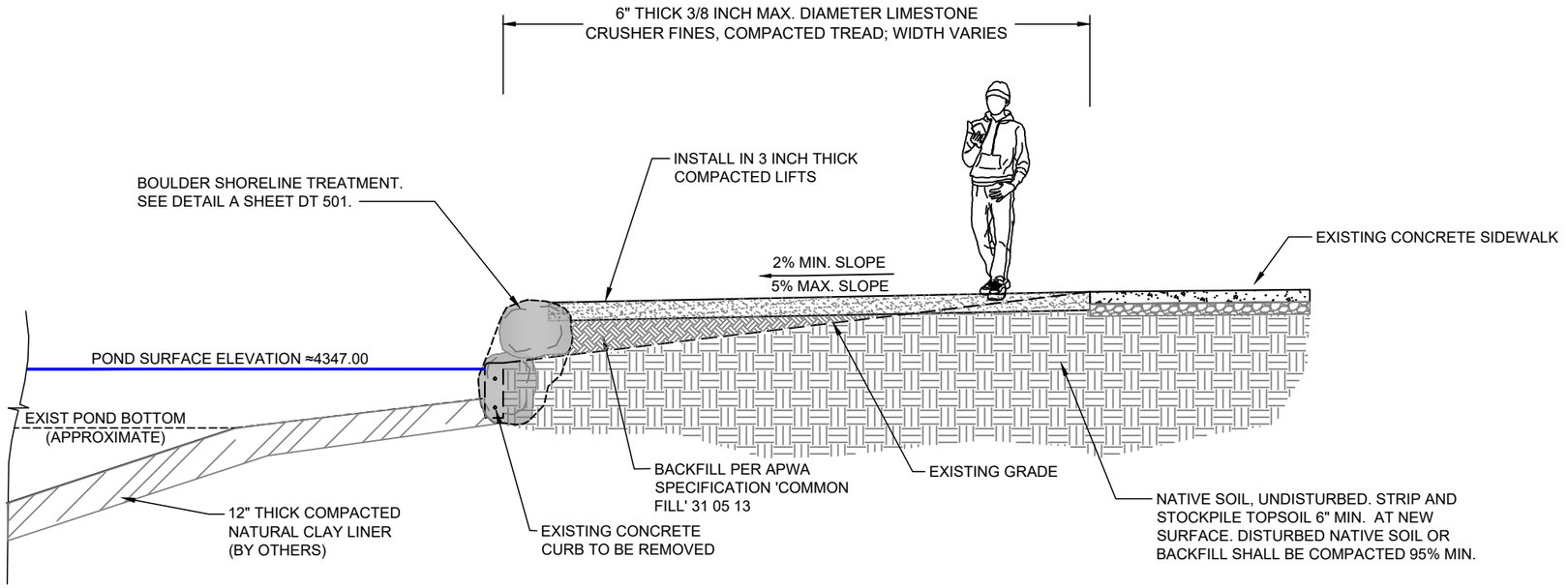
1" = 4'-0"

1

CRUSHER FINES NOTES:

1. THE CONTRACTOR SHALL FURNISH AND DELIVER LIMESTONE CRUSHER FINES CONSISTING OF IRREGULAR AND ANGULAR PARTICLES. NO ROUNDED MATERIAL IS ACCEPTABLE. THE LIMESTONE CRUSHER FINES SHALL MEET THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE	PERCENT PASSING
3/8 INCH (9.52 MM)	100%
NO. 4 (4.76 MM)	75 TO 92%
NO. 8 (2.38 MM)	50 TO 72%
NO. 16 (1.20 MM)	38 TO 55%
NO. 40 (0.42 MM)	20 TO 40%
NO. 100 (0.149 MM)	10 TO 22%
NO. 200 (0.074 MM)	8 TO 15%



XS2 SECTION (CRUSHER FINES "BEACH")

1" = 4'-0"

2

CRUSHER FINES NOTES:

1. THE CONTRACTOR SHALL FURNISH AND DELIVER LIMESTONE CRUSHER FINES CONSISTING OF IRREGULAR AND ANGULAR PARTICLES. NO ROUNDED MATERIAL IS ACCEPTABLE. THE LIMESTONE CRUSHER FINES SHALL MEET THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE	PERCENT PASSING
3/8 INCH (9.52 MM)	100%
NO. 4 (4.76 MM)	75 TO 92%
NO. 8 (2.38 MM)	50 TO 72%
NO. 16 (1.20 MM)	38 TO 55%
NO. 40 (0.42 MM)	20 TO 40%
NO. 100 (0.149 MM)	10 TO 22%
NO. 200 (0.074 MM)	8 TO 15%

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

PROJECT IDENTIFICATION:

FAIRMONT PARK POND RESTORATION PROJECT

PROJECT OWNER:

SALT LAKE CITY CORPORATION

ENGINEERING

349 South 200 East, Suite 100
Salt Lake City, Utah 84114-5506
Phone: (801)535-6157

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SHEET TITLE:

LANDSCAPE SECTION

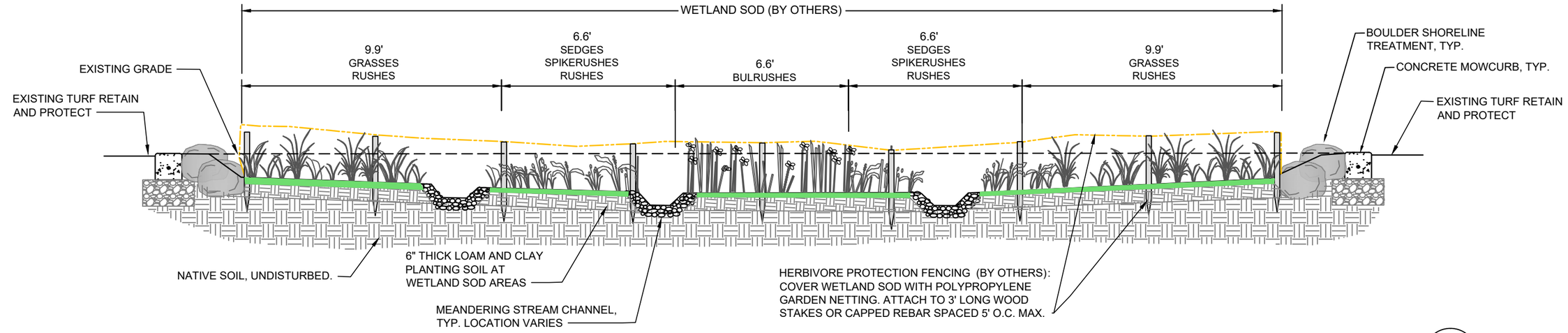
SHEET IDENTIFIER:

SC 301

BINDING ORDER 8 OF 23

□ET MEADO□ NOTES:

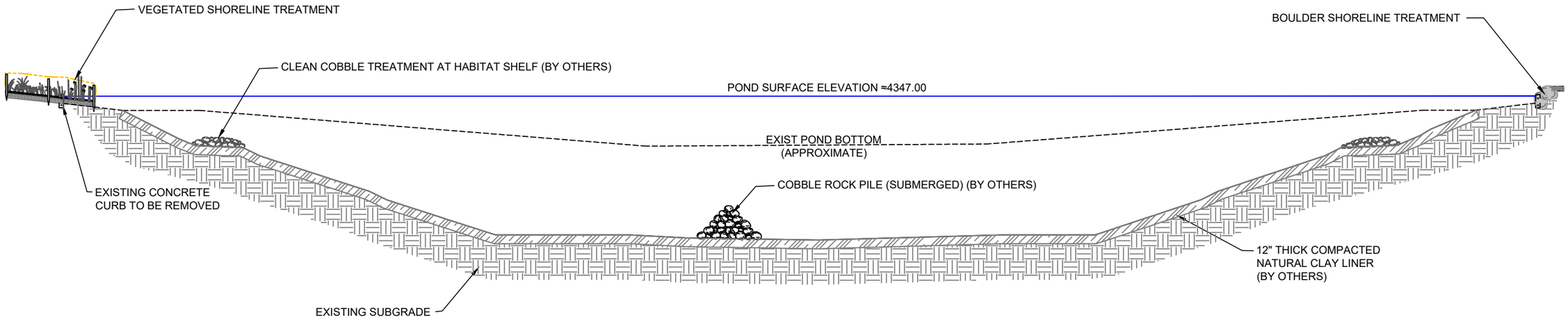
1. WETLAND SOD: PRE-VEGETATED (NATIVE) COIR EROSION CONTROL MAT. EACH MAT = 3.3' (1M) WIDE BY 16.4' (5M) LONG. COIR MAT THICKNESS: 3-4 INCHES. AVAILABLE FROM NORTH FORK NATIVE PLANTS (PHONE# 1-877-444-6996)



XS3 SECTION (WET MEADOW)

1" = 4'-0"

3



XS4 SECTION (FISH POND - BY OTHERS)

1" = 12'-0"

4

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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SHEET TITLE:

LANDSCAPE SECTION

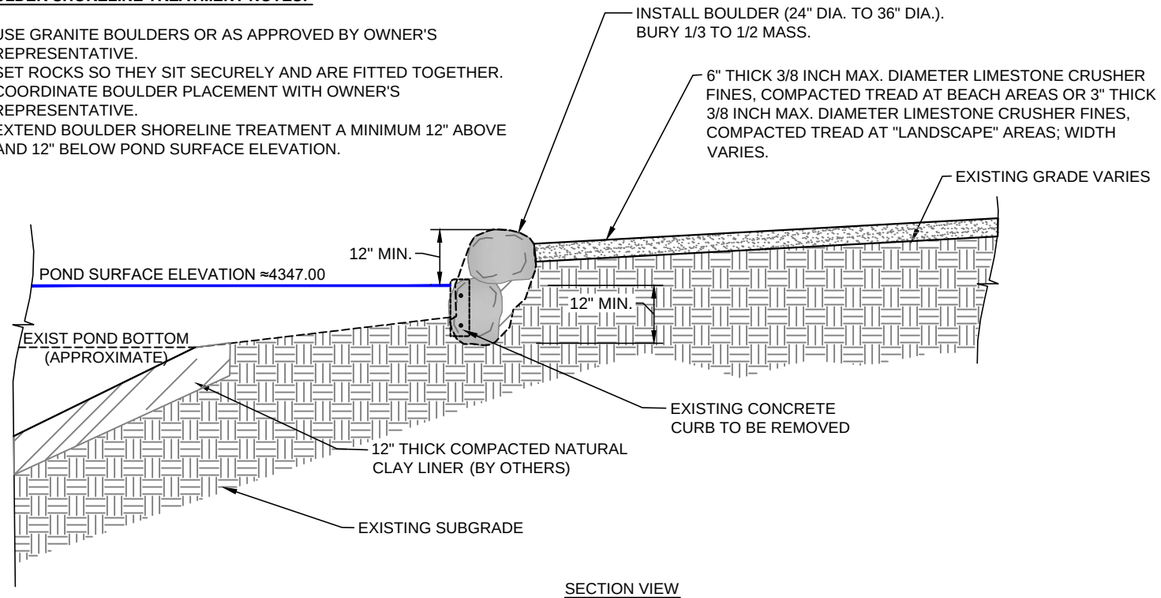
SHEET IDENTIFIER:

SC 302

BINDING ORDER 9 OF 23

BOULDER SHORELINE TREATMENT NOTES:

1. USE GRANITE BOULDERS OR AS APPROVED BY OWNER'S REPRESENTATIVE.
2. SET ROCKS SO THEY SIT SECURELY AND ARE FITTED TOGETHER.
3. COORDINATE BOULDER PLACEMENT WITH OWNER'S REPRESENTATIVE.
4. EXTEND BOULDER SHORELINE TREATMENT A MINIMUM 12" ABOVE AND 12" BELOW POND SURFACE ELEVATION.



SECTION VIEW

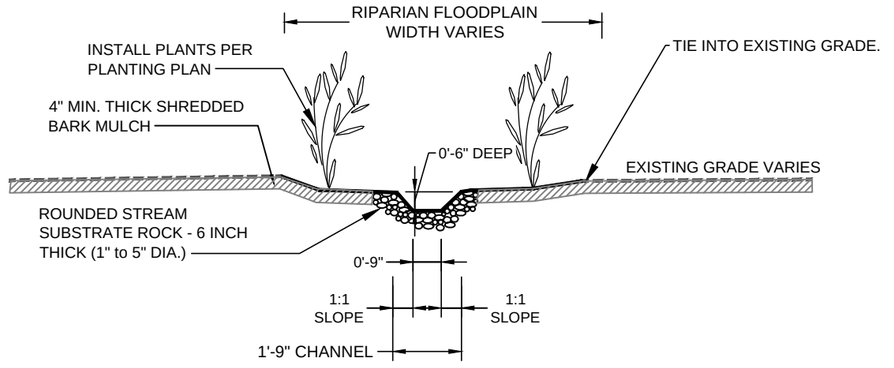
BOULDER SHORELINE TREATMENT

1" = 4'-0"

A

MEANDERING STREAM CHANNEL NOTES:

1. EXCAVATE CHANNEL TO THE DIMENSIONS SHOWN. REMOVE ALL SPOILS FROM SITE AND DISPOSE AT AN APPROVED LOCATION.



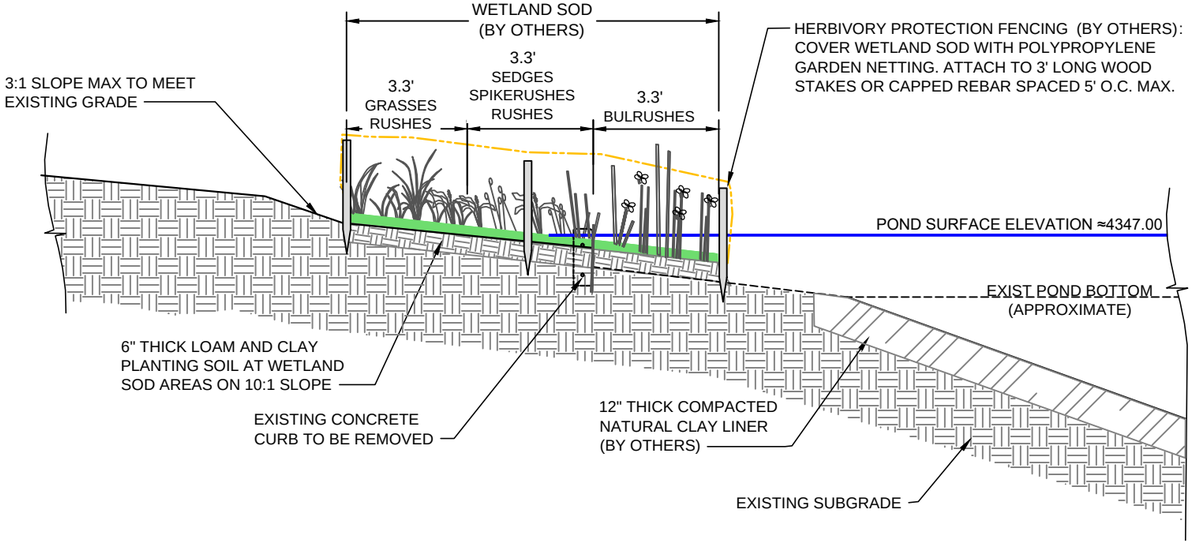
MEANDERING STREAM CHANNEL

1" = 4'-0"

C

VEGETATED SHORELINE TREATMENT NOTES :

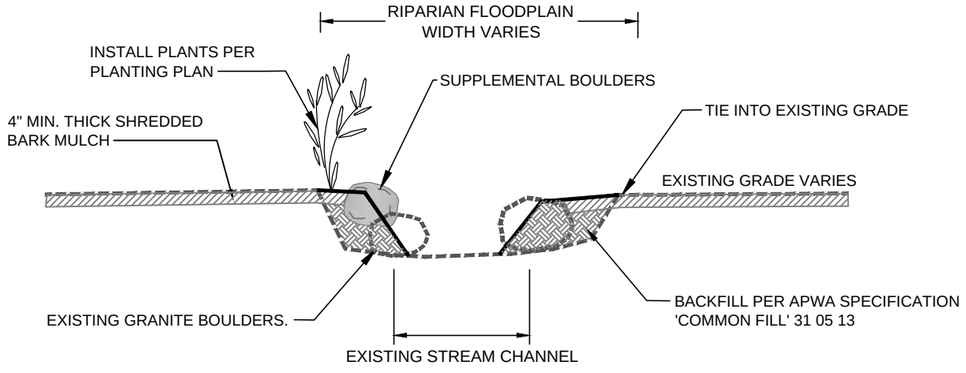
1. WETLAND SOD: PRE-VEGETATED (NATIVE) COIR EROSION CONTROL MAT. EACH MAT = 3.3' (1M) WIDE BY 16.4' (5M) LONG. COIR MAT THICKNESS: 3-4 INCHES. AVAILABLE FROM NORTH FORK NATIVE PLANTS (PHONE# 1-877-444-6996)



VEGETATED SHORELINE TREATMENT

1" = 4'-0"

B



RECONSTRUCT EXISTING STREAM BANK (ADD ALTERNATE #2)

1" = 4'-0"

D

PREPARER:

BIO-WEST
1063 West 1400 North • Logan, Utah 84321 • 435-752-4202

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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FAIRMONT PARK POND RESTORATION PROJECT

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ENGINEERING

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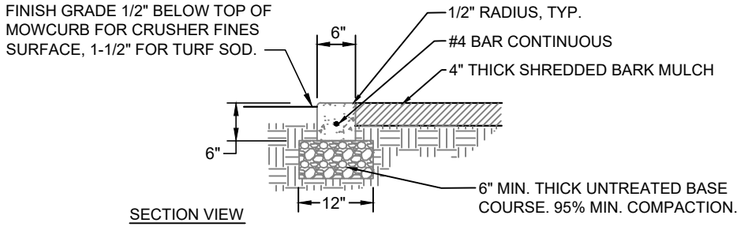
LANDSCAPE SECTION

SHEET IDENTIFIER:

DT 501

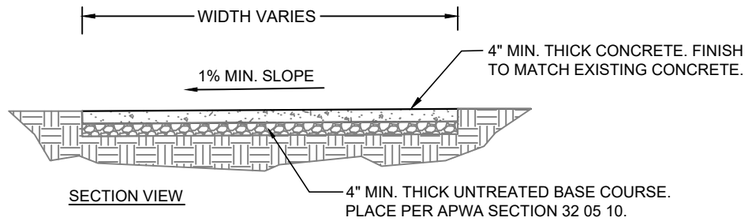
BINDING ORDER 10 OF 23



CONCRETE MOWCURB

1" = 2'-0"

A



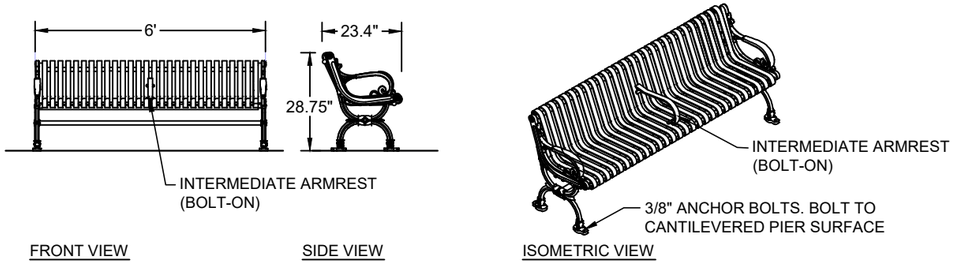
CONCRETE PAVING

1" = 2'-0"

B

BENCH NOTES:

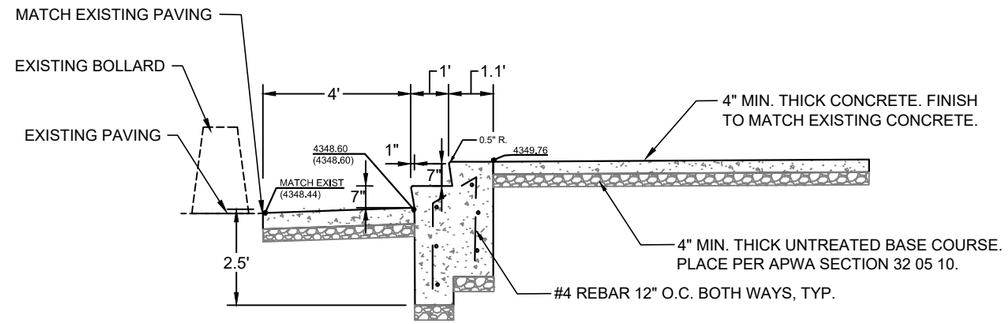
1. BENCH IS TO BE VICTOR STANLEY MODEL NO. CR-10 CLASSIC SERIES, 6 FOOT, BLACK WITH INTERMEDIATE ARM REST, OR EQUAL.
2. ALL FABRICATED METAL COMPONENTS ARE POWDER-COATED STEEL.
3. CONTRACTOR TO FURNISH ANCHOR BOLTS.



BENCH (ADD ALTERNATE #1)

1" = 2'-0"

C



CONCRETE STEPS

1" = 2'-0"

D

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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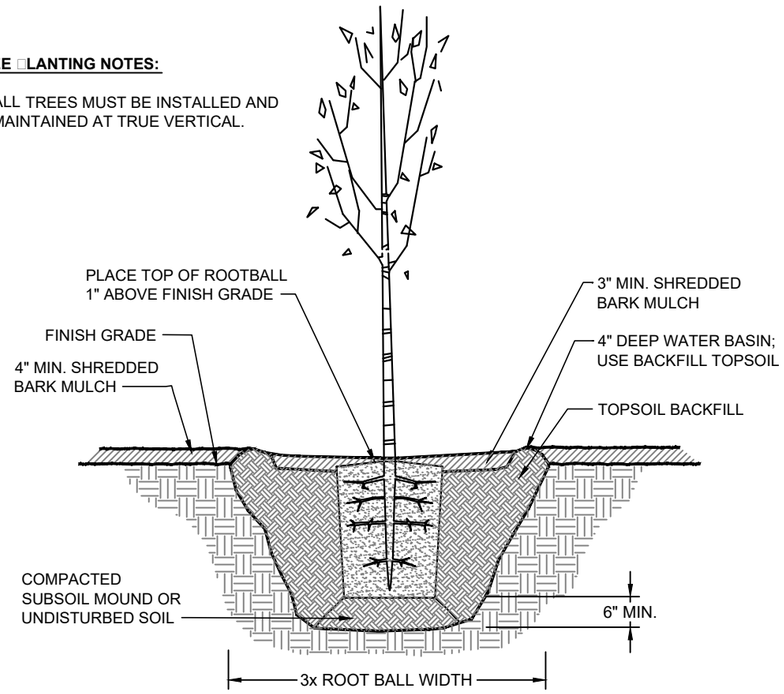
LANDSCAPE DETAILS

SHEET IDENTIFIER:
DT 502

BINDING ORDER 11 OF 23

TREE □LANTING NOTES:

1. ALL TREES MUST BE INSTALLED AND MAINTAINED AT TRUE VERTICAL.



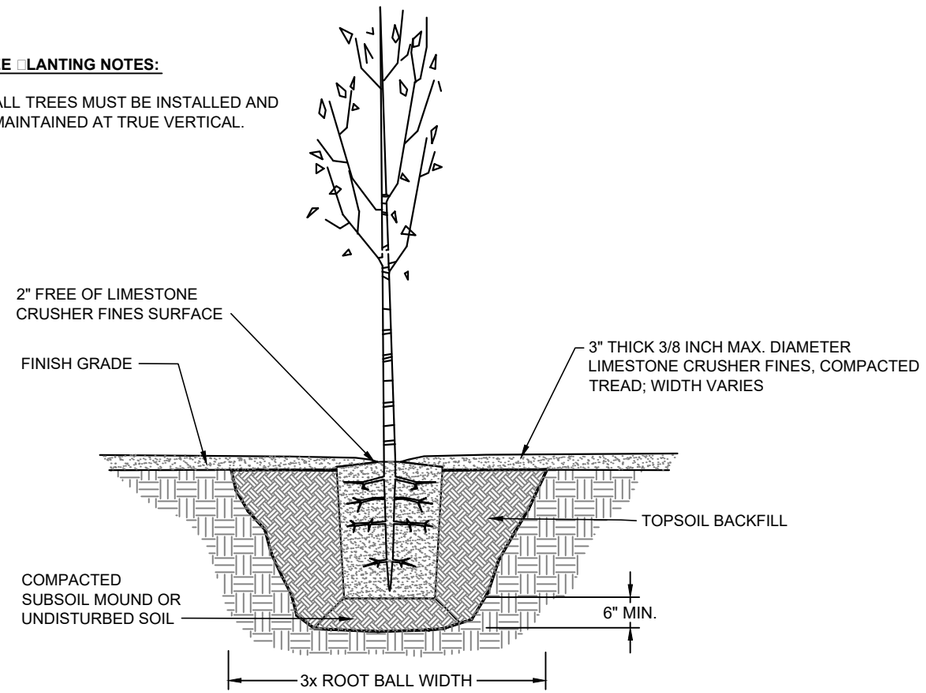
TREE PLANTING IN SHREDDED BARK MULCH

NOT TO SCALE

A

TREE □LANTING NOTES:

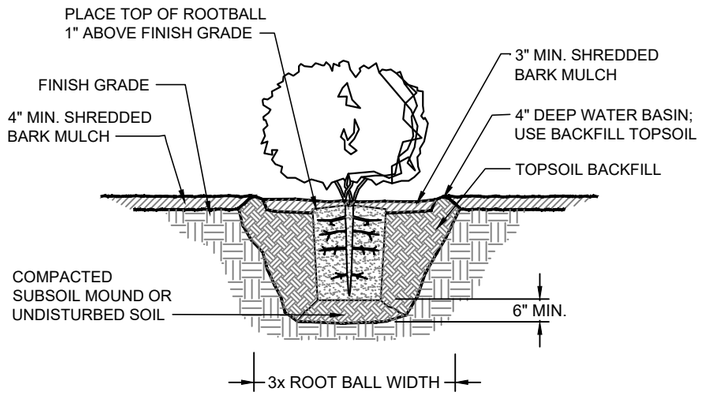
1. ALL TREES MUST BE INSTALLED AND MAINTAINED AT TRUE VERTICAL.



TREE PLANTING IN LIMESTONE CRUSHER FINES SURFACE

NOT TO SCALE

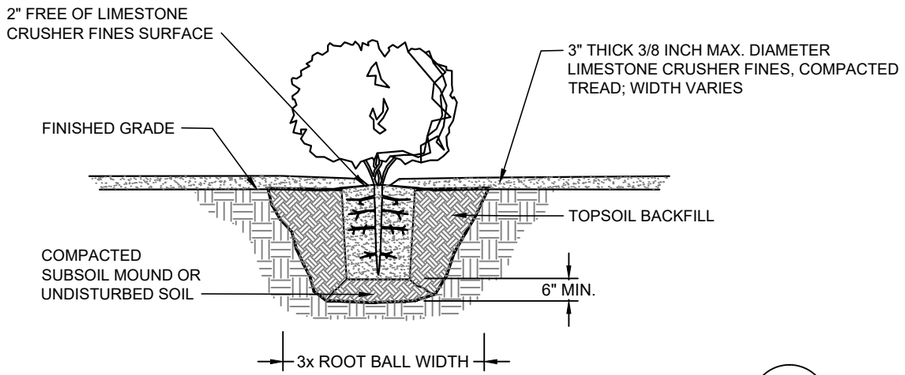
B



SHRUB PLANTING IN SHREDDED BARK MULCH

NOT TO SCALE

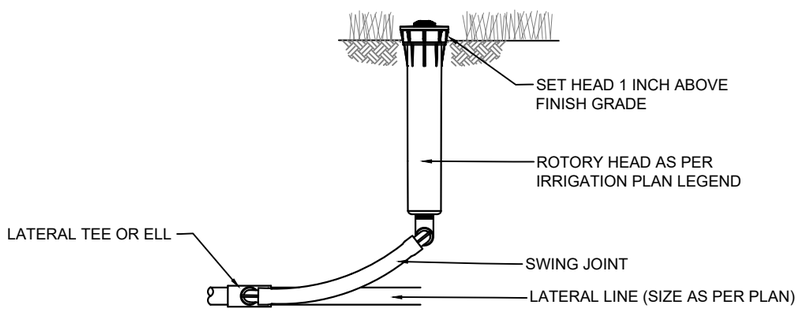
C



SHRUB PLANTING IN LIMESTONE CRUSHER FINES SURFACE

NOT TO SCALE

D



ROTOR HEAD WITH FLEXIBLE SWING PIPE

NOT TO SCALE

E

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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SALT LAKE CITY CORPORATION

ENGINEERING

349 South 200 East, Suite 100
Salt Lake City, Utah 84114-5506
Phone: (801)535-6157

MARK	DATE	DESCRIPTION

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CONTRACT #:
PROJECT #: **230416**
FILE #:
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SHEET TITLE:

LANDSCAPE DETAILS

SHEET IDENTIFIER:

DT 503

BINDING ORDER 12 OF 23

EXISTING TURF

WET MEADOW

EXISTING TURF

CONCRETE MOWCURB A / DT502

CONCRETE PAVING B / DT502

4347.60
(4348.60)

N78°38'16"E 40.87'

N52°16'48"W 63.64'

REMOVE ± 1,500 S.F. OF EXISTING CONCRETE SIDEWALK.

10'-0" LONG (TWO) 2" x 12" BEAM, 10'-0" O.C. MAX.

10'-0" LONG 6" x 6" RAIL BOLTED WITH 5/8" x 7" BOLTS, STAGGER SPLICES OR JOINTS

2" x 12" JOIST ON HANGER, 16" O.C.

2" x 6" TREATED DOUG FIR DECKING BARK SIDE UP. TRIM AS NEEDED TO MAKE RADIUS OF BOARDWALK. (NOT SHOWN)

PROVIDE HELICAL PIERS (TYP) TO MEET STRUCTURAL LOAD REQUIREMENTS - DEPTH VARIES 10' O.C. MAX.

A/B DT505 ELEVATED BOARDWALK

4350.00
(4349.00)

MATCH EXIST
(4349.25)

6.5'

EXIST. LIGHT FIXTURE

S76°49'16"E 62.30'

BRIDGE

4347.41
(4348.76)

PLANTING AREA

TC 4350.05

4350.05

B / DT502 CONCRETE PAVING

4350.00
(4349.00)

4349.95

MATCH EXIST
(4351.50)

4347.26
(4347.76)

29.4'

EG =4348.30

4349.95
(4349.20)

EG =4352

3.5%

4349.76

4348.60
(4348.60)

EG =4350

EG =4351.5

(4348.44)

4350.00
(4350.00)

EG =4351

SAW CUT EXISTING CONCRETE PAVING AT EXPANSION JOINT

BOULDER SHORELINE TREATMENT A / DT501

CONCRETE STEPS D / DT502

(4348.48)

4349.76

ADD ALTERNATE #1 CONCRETE

(4348.39)

REMOVE EXISTING SHORELINE CONCRETE CURB AROUND POND (BY OTHERS)

REMOVE ± 40 S.F. OF EXISTING CONCRETE PAVING AND CONCRETE CURB.

MATCH EXIST
(4348.44)

(4348.39)

EG =4349

MATCH EXIST
(4351.00)

RETAIN AND PROTECT EXISTING BOLLARDS AND SHORELINE CONCRETE CURB.

75' RADIUS

SAW CUT EXISTING CONCRETE PAVING AT EXPANSION JOINT

POND
(SURFACE ELEVATION ≈4347.00)

ELEVATED BOARDWALK: PLAN VIEW

1" = 12'-0"

A

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

PROJECT IDENTIFICATION:

FAIRMONT PARK POND RESTORATION PROJECT

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SALT LAKE CITY CORPORATION

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LANDSCAPE DETAILS

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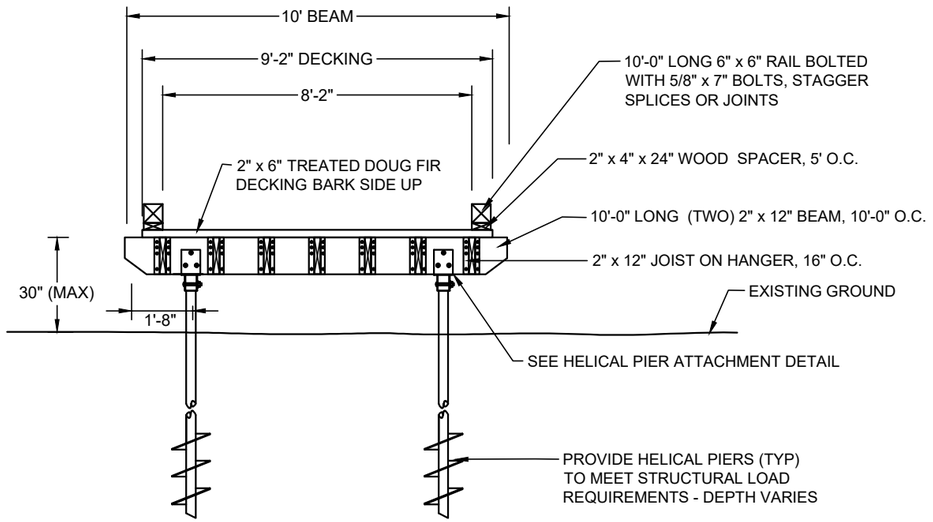
DT 504

BINDING ORDER 13 OF 23



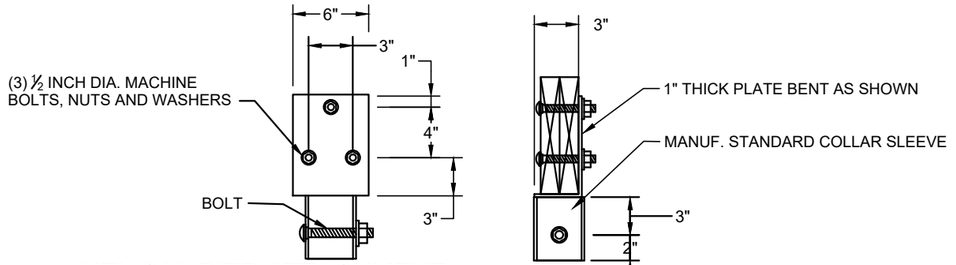
ELEVATED BOARDWALK: SECTION

1" = 4'-0"

A

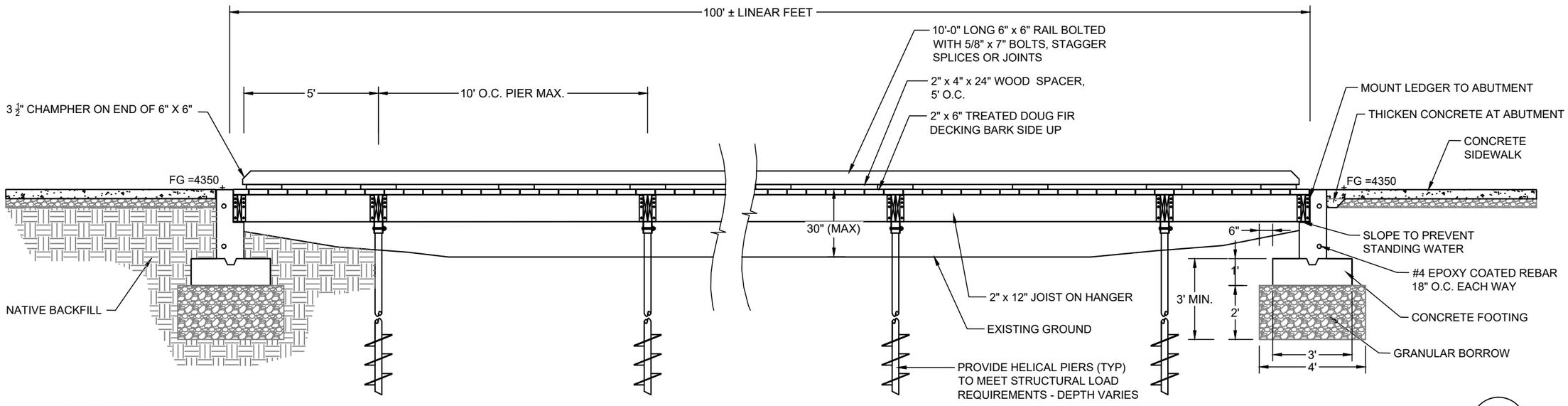
ELEVATED BOARDWALK NOTES:

1. PRE-DRILL HOLES TO PREVENT SPLITTING DURING CONSTRUCTION. ATTACH DECKING USING GALVANIZED SECURITY SCREWS & HARDWARE. ALL WOODEN MEMBERS SHALL BE BOLTED OR SCREWED TOGETHER. NO NAIL CONNECTIONS.
2. USE ONLY GALVANIZED HARDWARE.
3. THE CONTRACTOR CAN OBTAIN FROM THE CLIENT, A GEOTECHNICAL REPORT INDICATING THE SITE SOIL PROPERTIES THAT CAN SUPPORT HELICAL PIER LOADS PRIOR TO BEGINNING CONSTRUCTION.
4. ALL WOOD MEMBERS OR ELEMENTS ARE TO BE PRESSURE TREATED NO. 2 GRADE DOUGLAS-FIR OR LARCH AS PER APWA STANDARDS EXCEPT FOR THE BOARDWALK DECKING WHICH IS TO BE TREATED DOUGLAS FIR.
5. THE BOARDWALK DESIGN ASSUMES A LIVE LOAD OF 60 PSI PEDESTRIAN AND 150 PSF SNOW AND WIND LOAD.



HELICAL PIER ATTACHMENT

NOT TO SCALE



ELEVATED BOARDWALK: PROFILE

1" = 4'-0"

B

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

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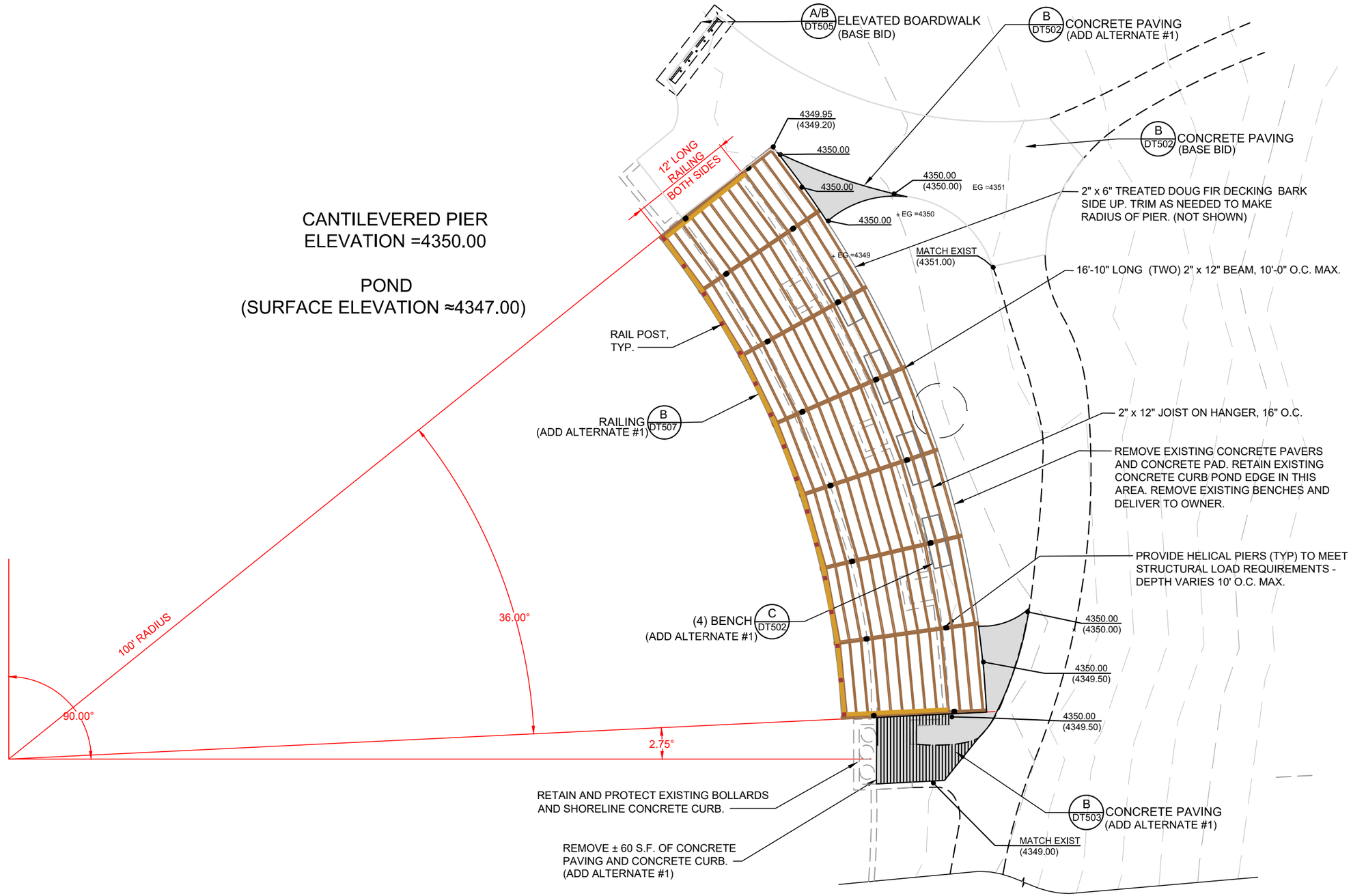
DT 505

BINDING ORDER 14 OF 23



ADD ALTERNATE #1 CANTILEVERED PIER WITH BENCHES: PLAN VIEW

1" = 12'-0"

A

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

PROJECT IDENTIFICATION:

FAIRMONT PARK POND RESTORATION PROJECT

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SHEET IDENTIFIER:

DT 506

BINDING ORDER 15 OF 23

CANTILEVERED □IER NOTES:

1. PRE-DRILL HOLES TO PREVENT SPLITTING DURING CONSTRUCTION. ATTACH DECKING USING GALVANIZED SECURITY SCREWS & HARDWARE. ALL WOODEN MEMBERS SHALL BE BOLTED OR SCREWED TOGETHER. NO NAIL CONNECTIONS.
2. USE ONLY GALVANIZED HARDWARE.
3. THE CONTRACTOR CAN OBTAIN FROM THE CLIENT, A GEOTECHNICAL REPORT INDICATING THE SITE SOIL PROPERTIES THAT CAN SUPPORT HELICAL PIER LOADS PRIOR TO BEGINNING CONSTRUCTION.
4. ALL WOOD MEMBERS OR ELEMENTS ARE TO BE PRESSURE TREATED NO. 2 GRADE DOUGLAS-FIR OR LARCH AS PER APWA STANDARDS EXCEPT FOR THE BOARDWALK DECKING WHICH IS TO BE TREATED DOUGLAS FIR.
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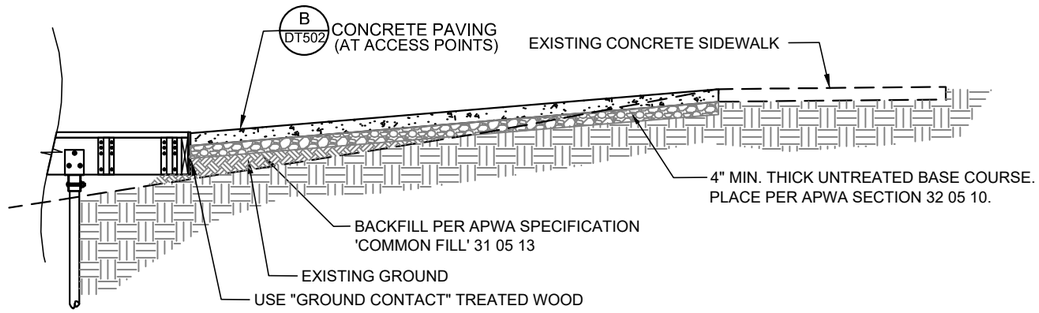
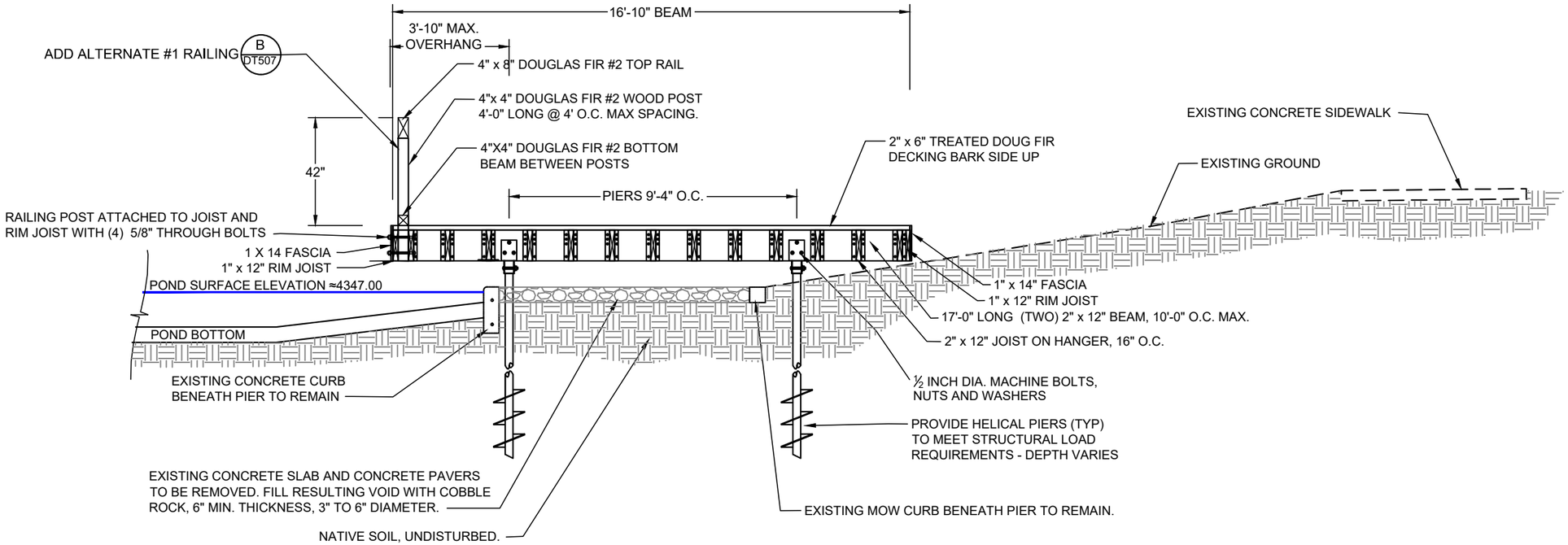


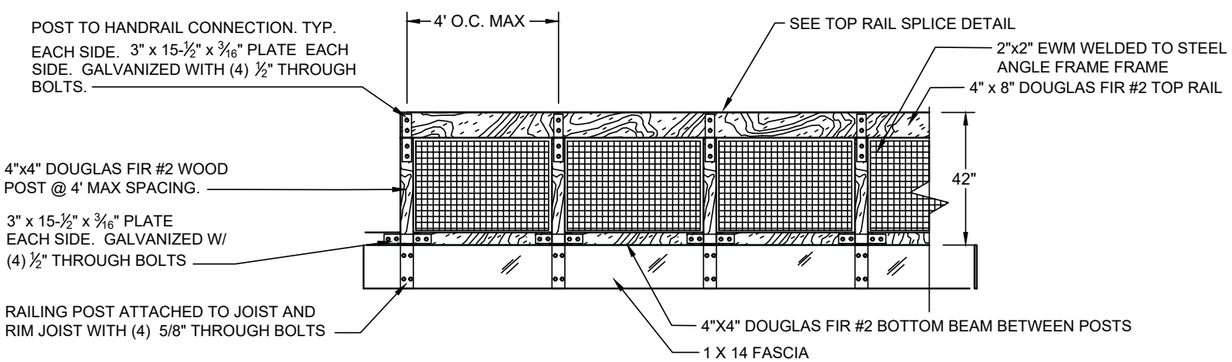
SECTION VIEW AT CONCRETE PAVING ACCESS POINTS



ADD ALTERNATE #1 CANTILEVERED PIER WITH BENCHES: SECTION

1" = 4'-0"

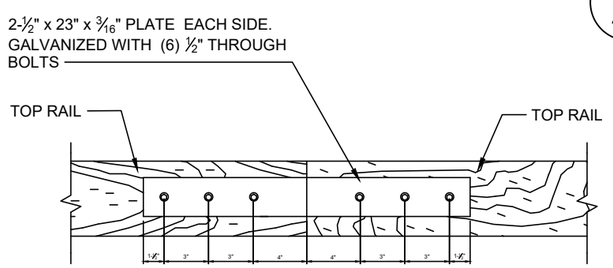
A



ADD ALTERNATE #1 RAILING: ELEVATION

1" = 4'-0"

B



TOP RAIL SPLICE DETAIL: TOP VIEW

NOT TO SCALE

PREPARER:

BIO-WEST

PREPARER CONSULTANTS:

PROFESSIONAL SEAL:

PROJECT IDENTIFICATION:

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PROJECT OWNER:

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ENGINEERING

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BINDING ORDER 16 OF 23

FAIRMONT PARK
POND RESTORATION

GENERAL NOTES

1. This structure has been designed in accordance with the project architects plan layout and guidelines. Suitability for access and intended usage shall be the responsibility of the architect.
2. Vehicular access larger than the design live load shall be limited by permanent physical means.
3. Prior to construction the contractor shall verify all elevations through the project architect.
4. Only PermaTrak North America may provide the precast structure shown on these plans.

DESIGN DATA

1. Boardwalk shall be designed in accordance with the AASHTO LRFD bridge design specifications and the LRFD guide specification for the design of pedestrian bridges.

   Design Live Load: Pedestrian Loading - 60 psf Uniform
   Vehicular Loading - H-5 Truck or
   150 psf snow and wind load

2. Abutments and piers shall be designed for lateral earth pressure, live load surcharge and structure loads.
3. All geotechnical recommendations contained in the report of subsurface investigation shall be followed. Report is titled "Geotechnical Engineering Report" by Terracon dated May 24, 2017.
4. Each helical pier shall be designed to support the following service level (unfactored) loads.
   Vertical: 13 Tons (DL+LL)
   Lateral: 1 Ton
5. Railing shall be designed in accordance with AASHTO specifications. The railing supplier is responsible for the engineering of the detailed railing in accordance with the project specifications.

MATERIALS

1. All bolts, nuts, washers, and hardware shall be hot dipped galvanized after fabrication in accordance with ASTM A153.
2. Cast-in-place concrete shall have a 28-day concrete compressive strength of 4000 psi.
3. All foundation reinforcing shall be Grade 60 conforming to ASTM A615.

	PROJECT COMPONENTS
SUPPLIED BY PERMATRAK	PRECAST CONCRETE TREADS
	PRECAST CONCRETE BEAMS
	PRECAST CONCRETE CURBS
	RUBBER LEVELING PADS
SUPPLIED BY CONTRACTOR	CLIP ANGLES WITH 3/4" DIAMETER RODS, WASHERS AND NUTS (6x6x3/8x0'-4")
	STABILIZER ANGLES WITH 3/4" DIAMETER RODS, WASHERS AND NUTS (6x6x1/4)
	HILTI HY-200 EPOXY ADHESIVE (STABILIZER AND CLIP ANGLE ANCHORING SYSTEM CONNECTION)
	CAST-IN-PLACE CONCRETE
	3/4" DIAMETER x 1'-8" LONG THREADED BARS WITH NUTS AND WASHERS (BEAM TO HELICAL CAP PLATE / CAST-IN-PLACE ABUTMENT CONNECTION)
	3/4" DIAMETER x 10" THREADED ROD WITH NUT AND OVERSIZED WASHER (CURB TO TREAD CONNECTION)
	SIKAFLEX - 11 FC EXPANSIVE FILLER MATERIAL (CURB TO TREAD CONNECTION)
	SHIM AND GROUT (LEVELING FOR BEAM TO HELICAL CAP PLATE)
	RAILING AND CONNECTION HARDWARE
	HELICAL PIER FOUNDATIONS, CAP PLATE CONNECTION AND CONNECTION HARDWARE

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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PREPARED FOR:

BIO WEST, INC.

FOR REVIEW & APPROVAL

PermaTrak® The Concrete Boardwalk Company
www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS
FLORIDA
GEORGIA
LOUISIANA
NORTH CAROLINA
OHIO

PROJECT TITLE:

FAIRMONT PARK
POND RESTORATION
SALT LAKE CITY, UTAH

JOB NUMBER:	2016-807
DATE:	06/30/2017
DESIGNED BY:	EMD
DRAWN BY:	RPU
CHECKED BY:	JVP
SHEET NO.	PT01

HELICAL PIER NOTES

1. DESIGN AND PERFORMANCE REQUIREMENTS
   - A. HELICAL ANCHORS SHALL BE DESIGNED TO SUPPORT THE NOMINAL COMPRESSION AND LATERAL LOAD(S) AS SHOWN ON THE PROJECT PLANS. THE OVERALL LENGTH, HELIX CONFIGURATION AND MINIMUM EFFECTIVE TORSIONAL RESISTANCE OF A HELICAL ANCHOR SHALL BE SUCH THAT THE REQUIRED GEOTECHNICAL CAPACITY IS DEVELOPED BY THE HELIX PLATE(S) IN AN APPROPRIATE BEARING STRATUM(S).
   - B. ALL STEEL STRUCTURE ANCHOR COMPONENTS SHALL BE DESIGNED WITHIN THE LIMITS PROVIDED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). EITHER ALLOWABLE STRESS DESIGN (ASD) OR LOAD AND RESISTANCE FACTOR DESIGN (LRFD) ARE ACCEPTABLE METHODS OF ANALYSIS.
   - C. EXCEPT WHERE NOTED OTHERWISE ON THE PROJECT PLANS, ALL ANCHORS SHALL BE INSTALLED TO PROVIDE A MINIMUM FACTOR OF SAFETY AGAINST ULTIMATE COMPRESSION RESISTANCE OF 2.0, A MAXIMUM AXIAL DEFLECTION AT NOMINAL COMPRESSION LOAD OF 0.5 INCHES, AND MUST SATISFY THE DEFLECTION CRITERIA AS STATED ON THE PLANS OR DRAWINGS.
   - D. EXCEPT WHERE NOTED OTHERWISE ON THE PROJECT PLANS, EACH ANCHOR SHALL BE DESIGNED TO MEET A CORROSION SERVICE LIFE OF 50 YEARS.
   - E. THE ANCHORAGE DESIGN SHALL TAKE INTO ACCOUNT SUCH ANCHOR SPACING, SOIL STRATIFICATION, CORROSION AND STRAIN COMPATIBILITY ISSUES AS ARE PRESENT FOR THE PROJECT.

2. QUALIFICATIONS OF INSTALLING CONTRACTOR AND DESIGNER
   - A. THE INSTALLING CONTRACTOR AND ANCHOR DESIGNER SHALL SUBMIT TO THE OWNER OR OWNER'S REPRESENTATIVE A PROPOSAL INCLUDING THE FOLLOWING DOCUMENTATION. WORK SHALL NOT BEGIN UNTIL ALL THE SUBMITTALS HAVE BEEN RECEIVED AND APPROVED BY THE OWNER. ALL COSTS ASSOCIATED WITH INCOMPLETE OR UNACCEPTABLE SUBMITTALS SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.
   - B. EVIDENCE OF INSTALLING CONTRACTOR'S COMPETENCY IN INSTALLATION OF HELICAL ANCHORS SHALL BE PROVIDED TO THE OWNER'S SATISFACTION AND MAY INCLUDE ANY OR ALL OF THE FOLLOWING:
      1. ANCHOR MANUFACTURER'S CERTIFICATE OF COMPETENCY IN INSTALLATION OF HELICAL PILES, OR
      2. A LIST OF AT LEAST THREE PROJECTS COMPLETED WITHIN THE PREVIOUS THREE YEARS WHEREIN THE INSTALLING CONTRACTOR INSTALLED HELICAL ANCHORS SIMILAR TO THOSE SHOWN IN THE PROJECT PLANS, SUCH LIST TO INCLUDE NAMES AND PHONE NUMBERS OF THOSE PROJECT OWNER'S REPRESENTATIVES WHO CAN VERIFY THE INSTALLING CONTRACTOR'S PARTICIPATION IN THOSE PROJECTS, OR
      3. A LETTER FROM THE ANCHOR MANUFACTURER, DISTRIBUTOR OR MANUFACTURER'S REPRESENTATIVE EXPRESSING ABILITY AND INTENT TO PROVIDE ON-SITE SUPERVISION OF THE ANCHOR INSTALLATION.
   - C. A LISTING OF ALL SAFETY VIOLATIONS LODGED AGAINST THE INSTALLING CONTRACTOR WITHIN THE PREVIOUS THREE YEARS AND THE CURRENT STATUS OR FINAL RESOLUTIONS THEREOF. DESCRIPTIONS OF SAFETY IMPROVEMENTS INSTITUTED WITHIN THE PREVIOUS THREE YEARS MAY ALSO BE SUBMITTED, AT THE INSTALLING CONTRACTOR'S DISCRETION.
   - D. EVIDENCE OF ANCHOR DESIGNER'S COMPETENCE: EVIDENCE OF COMPETENCE IN THE DESIGN OF HELICAL ANCHORS SHALL BE PROVIDED TO THE OWNER'S SATISFACTION AND MAY INCLUDE ANY OR ALL OF THE FOLLOWING:
      - A. REGISTRATION AS A PROFESSIONAL ENGINEER OR RECOGNITION BY THE LOCAL JURISDICTIONAL AUTHORITY, OR
      - B. A LIST OF AT LEAST THREE PROJECTS COMPLETED WITHIN THE PREVIOUS THREE YEARS WHEREIN THE ANCHOR DESIGNER DESIGNED HELICAL ANCHORS SIMILAR TO THOSE SHOWN IN THE PROJECT PLANS, SUCH LIST TO INCLUDE NAMES AND PHONE NUMBERS OF THOSE PROJECT OWNER'S REPRESENTATIVES WHO CAN VERIFY THE ENGINEER'S PARTICIPATION IN THOSE PROJECTS, OR
      - C. RECOMMENDATION FROM THE ANCHOR MANUFACTURER, DISTRIBUTOR OR MANUFACTURER'S REPRESENTATIVE.

3. PRE-CONSTRUCTION SUBMITTALS

A. WITHIN TWO WEEKS OF RECEIVING THE CONTRACT AWARD, THE INSTALLING CONTRACTOR AND/OR ANCHOR DESIGNER SHALL SUBMIT THE FOLLOWING HELICAL ANCHOR DESIGN DOCUMENTATION:
   1. CERTIFICATION FROM THE ANCHOR DESIGNER THAT THE PROPOSED ANCHORS MEET THE REQUIREMENTS STATED HEREIN.
   2. QUALIFICATIONS OF ANCHOR INSTALLER PER SECTIONS 2B AND 2C
   3. QUALIFICATIONS OF ANCHOR DESIGNER PER SECTION 2D
   4. PRODUCT DESIGNATIONS FOR HELIX AND EXTENSION SECTIONS AND ALL ANCILLARY PRODUCTS TO BE SUPPLIED AT EACH HELICAL ANCHOR LOCATION
   5. INDIVIDUAL ANCHORAGE NOMINAL LOADS
   6. INDIVIDUAL ANCHORAGE PRE-TENSIONING REQUIREMENTS (IF ANY)
   7. MANUFACTURER'S PUBLISHED ALLOWABLE SYSTEM CAPACITIES FOR THE ANCHOR ASSEMBLIES, INCLUDING LOAD TRANSFER DEVICES
   8. CALCULATED THEORETICAL GEOTECHNICAL CAPACITY OF ANCHORS
   9. MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERIA
   10. MAXIMUM ALLOWABLE INSTALLATION TORQUE OF ANCHOR
   11. MINIMUM EMBEDMENT LENGTHS AND SUCH OTHER SITE SPECIFIC EMBEDMENT DEPTH REQUIREMENTS AS MAY BE APPROPRIATE FOR THE SITE SOIL PROFILES
   12. INCLINATION ANGLE AND LOCATION TOLERANCE REQUIREMENTS
   13. COPIES OF CERTIFIED CALIBRATION REPORTS FOR TORQUE MEASURING EQUIPMENT AND LOAD TEST MEASURING EQUIPMENT TO BE USED ON THE PROJECT. THE CALIBRATIONS SHALL HAVE BEEN PERFORMED WITHIN ONE YEAR OF THE PROPOSED STARTING DATE FOR HELICAL PILE INSTALLATION OR AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER BASED ON THE PROPOSED STARTING DATE.

4. PLACEMENT REQUIREMENTS
   - A. WHEN HELICAL ANCHOR PLACEMENT IS SHOWN ON THE PROJECT PLANS, PRODUCTION ANCHORS SHALL BE PLACED SUCH THAT THE ANCHOR HEAD IS WITHIN 1 INCH LATERALLY AND 1 INCH LONGITUDINALLY, AND THE ANCHOR SHAFT ALIGNMENT IS WITHIN 2 DEGREES OF THE INCLINATION ANGLE, SHOWN ON THE PROJECT PLANS.
   - B. WHEN ANCHOR PLACEMENT IS NOT SHOWN ON THE PROJECT PLANS, THE PLACEMENTS, ALIGNMENTS AND THEIR RESPECTIVE TOLERANCES SHALL BE INCLUDED AS PART OF THE DESIGN SUBMITTAL.

5. ANCHOR INSTALLATION
   - A. BEFORE ENTERING THE CONSTRUCTION SITE TO BEGIN WORK, THE INSTALLING CONTRACTOR SHALL PROVIDE PROOF OF INSURANCE COVERAGE AS STATED IN THE GENERAL SPECIFICATIONS AND/OR CONTRACT.
   - B. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL ALL HELICAL ANCHORS PER THE PROJECT PLANS AND APPROVED ANCHORAGE DESIGN DOCUMENTATION. IN THE EVENT OF CONFLICT BETWEEN THE PROJECT PLANS AND THE APPROVED ANCHORAGE DESIGN DOCUMENTATION, THE INSTALLING CONTRACTOR SHALL NOT BEGIN CONSTRUCTION ON ANY AFFECTED ITEMS UNTIL SUCH CONFLICT HAS BEEN RESOLVED.
   - C. THE INSTALLING CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATIONS IN A MANNER TO INSURE THE SAFETY OF PERSONS AND PROPERTY IN THE VICINITY OF THE WORK. THE INSTALLING CONTRACTOR'S PERSONNEL SHALL COMPLY WITH SAFETY PROCEDURES IN ACCORDANCE WITH OSHA STANDARDS AND ANY ESTABLISHED PROJECT SAFETY PLAN.
   - D. THE INSTALLING CONTRACTOR SHALL REQUEST MARKING OF UNDERGROUND UTILITIES BY AN UNDERGROUND UTILITY LOCATION SERVICE AS REQUIRED BY LAW, AND SHALL AVOID CONTACT WITH ALL MARKED UNDERGROUND FACILITIES.
   - E. THE PORTION OF THE CONSTRUCTION SITE OCCUPIED BY THE INSTALLING CONTRACTOR, HIS EQUIPMENT AND HIS MATERIAL STOCKPILES SHALL BE KEPT REASONABLY CLEAN AND ORDERLY.
   - F. INSTALLATION OF HELICAL ANCHORS MAY BE OBSERVED BY REPRESENTATIVES OF THE OWNER FOR QUALITY ASSURANCE PURPOSES. THE INSTALLING CONTRACTOR SHALL GIVE THE OWNER'S REPRESENTATIVE AT LEAST 24 HOURS PRIOR NOTICE OF ANCHOR INSTALLATION OPERATIONS.
   - G. THE HELICAL ANCHOR INSTALLATION TECHNIQUE SHALL BE SUCH THAT IT IS CONSISTENT WITH THE GEOTECHNICAL, LOGISTICAL, ENVIRONMENTAL, AND LOAD CARRYING CONDITIONS OF THE PROJECT. THE LEAD SECTION SHALL BE POSITIONED AT THE LOCATION AS SHOWN ON THE ANCHOR DESIGN DRAWINGS. THE HELICAL ANCHOR SECTIONS SHALL BE ENGAGED AND ADVANCED INTO THE SOIL IN A SMOOTH, CONTINUOUS MANNER AT A RATE OF ROTATION OF 5 TO 25 RPM'S. SUFFICIENT DOWN PRESSURE (CROWD) SHALL BE APPLIED TO UNIFORMLY ADVANCE THE HELICAL ANCHOR SECTIONS A DISTANCE APPROXIMATELY EQUAL TO THE PITCH OF THE HELIX PLATE (TYPICALLY 3 INCHES) PER REVOLUTION. THE RATE OF ROTATION AND MAGNITUDE OF DOWN PRESSURE SHALL BE ADJUSTED FOR DIFFERENT SOIL CONDITIONS AND DEPTHS. EXTENSION SECTIONS SHALL BE PROVIDED TO OBTAIN THE REQUIRED MINIMUM OVERALL LENGTH AND MINIMUM EFFECTIVE TORSIONAL RESISTANCE AS SHOWN ON THE PROJECT PLANS.

6. TERMINATION CRITERIA
   - A. THE MINIMUM OVERALL LENGTH CRITERIA AND THE MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERIA AS SPECIFIED IN THE PRE-CONSTRUCTION SUBMITTALS MUST BE SATISFIED PRIOR TO TERMINATING THE ANCHOR INSTALLATION. IN THE EVENT ANY HELICAL ANCHOR FAILS TO MEET THESE PRODUCTION QUALITY CONTROL CRITERIA, THE FOLLOWING PRE-QUALIFIED REMEDIES ARE AUTHORIZED:
      1. IF THE INSTALLATION FAILS TO MEET THE MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERION AT THE MINIMUM EMBEDMENT LENGTH:
         - A. CONTINUE THE INSTALLATION TO GREATER DEPTHS UNTIL THE TORSIONAL RESISTANCE CRITERION IS MET, PROVIDED THAT, IF A MAXIMUM LENGTH CONSTRAINT IS APPLICABLE, CONTINUED INSTALLATION DOES NOT EXCEED SAID MAXIMUM LENGTH CONSTRAINT, OR
         - B. DEMONSTRATE ACCEPTABLE ANCHOR PERFORMANCE THROUGH PROOF TESTING, OR
         - C. REPLACE THE ANCHOR WITH ONE HAVING A DIFFERENT HELIX CONFIGURATION. THE REPLACEMENT ANCHOR MUST NOT EXCEED ANY APPLICABLE MAXIMUM EMBEDMENT LENGTH AND EITHER (A) BE EMBEDDED TO A LENGTH THAT PLACES ITS LAST HELIX AT LEAST THREE TIMES ITS OWN DIAMETER BEYOND THE POSITION OF THE FIRST HELIX OF THE REPLACED ANCHOR AND MEET THE MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERION, OR (B) PASS PROOF TESTING.

IF THE TORSIONAL RESISTANCE DURING INSTALLATION REACHES THE HELICAL ANCHOR'S ALLOWABLE TORQUE RATING PRIOR TO SATISFACTION OF THE MINIMUM EMBEDMENT LENGTH CRITERION:
   - A. TERMINATE THE INSTALLATION AT THE DEPTH OBTAINED IF ALLOWED BY THE OWNER'S REPRESENTATIVE, OR
   - B. REPLACE THE ANCHOR WITH ONE HAVING A SHAFT WITH A HIGHER TORSIONAL STRENGTH RATING. THIS REPLACEMENT ANCHOR MUST BE INSTALLED TO SATISFY THE MINIMUM EMBEDMENT LENGTH CRITERION. IT MUST ALSO BE EMBEDDED TO A LENGTH THAT PLACES ITS LAST HELIX AT LEAST THREE TIMES ITS OWN DIAMETER BEYOND THE POSITION OF THE HELIX OF THE REPLACED ANCHOR WITHOUT EXCEEDING ANY APPLICABLE MAXIMUM EMBEDMENT LENGTH REQUIREMENTS AND IT MUST MEET THE MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERION, OR
   - C. REPLACE THE ANCHOR WITH ONE HAVING A DIFFERENT HELIX CONFIGURATION. THIS REPLACEMENT ANCHOR MUST BE INSTALLED TO SATISFY THE MINIMUM EMBEDMENT LENGTH CRITERION. IT MUST ALSO BE EMBEDDED TO A LENGTH THAT PLACES ITS LAST HELIX AT LEAST THREE TIMES ITS OWN DIAMETER BEYOND THE POSITION OF THE FIRST HELIX OF THE REPLACED ANCHOR WITHOUT EXCEEDING ANY APPLICABLE MAXIMUM EMBEDMENT LENGTH REQUIREMENTS, AND IT MUST MEET THE MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERION, OR
   - D. IF ALLOWED BY THE ANCHOR LOCATION TOLERANCE OR APPROVED BY THE OWNER'S REPRESENTATIVE, REMOVE AND REINSTALL THE ANCHOR AT A POSITION AT LEAST THREE TIMES THE DIAMETER OF THE LARGEST HELIX AWAY FROM THE INITIAL LOCATION. ORIGINAL EMBEDMENT LENGTH AND TORSIONAL RESTANCE CRITERIA MUST BE MET. THIS ANCHOR REPOSITIONING MAY REQUIRE THE INSTALLATION OF ADDITIONAL HELICAL ANCHORS WITH NOMINAL LOADS ADJUSTED FOR THESE SPACING CHANGES.

3. IF THE INSTALLATION REACHES A SPECIFIED MAXIMUM EMBEDMENT LENGTH WITHOUT ACHIEVING THE MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERION:
   - A. IF ALLOWED BY THE ANCHOR LOCATION TOLERANCE OR APPROVED BY THE OWNER'S REPRESENTATIVE, REMOVE AND REINSTALL THE ANCHOR AT A POSITION AT LEAST THREE TIMES THE DIAMETER OF THE LARGEST HELIX AWAY FROM THE INITIAL LOCATION. ORIGINAL EMBEDMENT LENGTH AND TORSIONAL RESISTANCE CRITERIA MUST BE MET. THIS ANCHOR REPOSITIONING MAY REQUIRE THE INSTALLATION OF ADDITIONAL HELICAL ANCHORS WITH NOMINAL LOADS ADJUSTED FOR THESE SPACING CHANGES, OR
   - B. DEMONSTRATE ACCEPTABLE ANCHOR PERFORMANCE THROUGH PROOF TESTING, OR
   - C. DE-RATE THE LOAD CAPACITY OF THE HELICAL ANCHOR AND INSTALL ADDITIONAL ANCHORS AS NECESSARY. THE DE-RATED CAPACITY AND ADDITIONAL ANCHOR LOCATION SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE, OR
   - D. REPLACE THE ANCHOR WITH ONE HAVING A DIFFERENT HELIX CONFIGURATION. THIS REPLACEMENT ANCHOR MUST INSTALLED TO SATISFY THE MINIMUM EMBEDMENT LENGTH CRITERION AND IT MUST BE INSTALLED TO SATISFY THE MINIMUM EMBEDMENT LENGTH CRITERION AND IT MUST MEET THE MINIMUM EFFECTIVE TORSIONAL RESISTANCE CRITERION.

4. IF A HELICAL ANCHOR FAILS TO MEET ACCEPTANCE CRITERIA IN A PERFORMANCE OR PROOF TEST:
   - A. INSTALL THE ANCHOR TO A GREATER DEPTH AND INSTALLATION TORQUE AND RE-TEST PROVIDED THAT, IF A MAXIMUM EMBEDMENT LENGTH CONSTRAINT IS APPLICABLE, CONTINUED INSTALLATION WILL NOT EXCEED SAID MAXIMUM LENGTH CONSTRAINT, OR
   - B. REPLACE THE ANCHOR WITH ONE HAVING MORE AND/OR LARGER HELIX PLATES. IT MUST BE EMBEDDED TO A LENGTH THAT PLACES ITS LAST HELIX AT LEAST THREE TIMES ITS OWN DIAMETER BEYOND THE POSITION OF THE FIRST HELIX OF THE REPLACED PILE WITHOUT EXCEEDING ANY APPLICABLE MAXIMUM EMBEDMENT LENGTH REQUIREMENTS. THIS REPLACEMENT PILE MUST BE RE-TESTED, OR
   - C. IF APPROVED BY THE OWNER'S REPRESENTATIVE, DE-RATE THE LOAD CAPACITY OF THE HELICAL ANCHOR AND INSTALL ADDITIONAL ANCHORS. ADDITIONAL ANCHORS MUST BE INSTALLED AT POSITIONS THAT ARE AT LEAST THREE TIMES THE DIAMETER OF THE LARGEST HELIX AWAY FROM ANY OTHER ANCHOR LOCATIONS AND ARE APPROVED BY THE OWNER'S REPRESENTATIVE. ANCHORS INSTALLED IN COHESIVE SOILS SHALL NOT BE SPACED CLOSER THAN FOUR HELIX DIAMETERS.

5. PROOF TESTING TO QUALIFY AN ANCHOR UNDER ANY OF THE FOREGOING REMEDIAL ACTIONS SHALL NOT BE USED TO SATISFY PROOF TESTING FREQUENCY REQUIREMENTS SHOWN IN THE PROJECT PLANS OR THE DESIGN DOCUMENTATION. IF A HELICAL ANCHOR FAILS A PRODUCTION QUALITY CONTROL CRITERION FOR ANY OTHER REASON, ANY PROPOSED REMEDY MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INITIATING ITS IMPLEMENTATION AT THE PROJECT SITE.

7. INSTALLATION RECORD SUBMITTALS
   - A. THE INSTALLING CONTRACTOR SHALL PROVIDE THE OWNER, OR HIS AUTHORIZED REPRESENTATIVE, COPIES OF INDIVIDUAL HELICAL ANCHOR INSTALLATION RECORDS WITHIN 24 HOURS AFTER EACH INSTALLATION IS COMPLETED. FORMAL COPIES SHALL BE SUBMITTED (WITHIN 5 DAYS). THESE INSTALLATION RECORDS SHALL INCLUDE, BY ARE NOT LIMITED TO, THE FOLLOWING INFORMATION:
      1. DATE AND TIME OF INSTALLATION
      2. LOCATION OF HELICAL ANCHOR
      3. ACTUAL HELICAL ANCHOR TYPE AND CONFIGURATION
      4. ANCHOR REVEAL
      5. TOTAL LENGTH OF INSTALLED ANCHOR
      6. ACTUAL INCLINATION OF THE ANCHOR
      7. ACTUAL EFFECTIVE TORSIONAL RESISTANCE
      8. CALCULATED GEOTECHNICAL CAPACITY BASED ON ACTUAL TORSIONAL RESISTANCE
      9. COMMENTS PERTAINING TO INTERRUPTIONS, OBSTRUCTIONS, OR OTHER RELEVANT INFORMATION

8. ANCHOR TESTING
   - A. TWO STATIC LOAD TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
      1. STATIC LOAD TESTS SHALL BE PERFORMED ON TWO (2) HELICAL PILES AFTER INSTALLATION IN ACCORDANCE WITH THE PLANS. THE STATIC LOAD CAPACITY TEST SHALL BE CONDUCTED ONE AT A TIME AND SHALL CONSIST OF THE FOLLOWING. AN INITIAL AXIAL SETTING FORCE OF 5,000 LBS SHALL BE APPLIED TO THE HELICAL ANCHOR OR HELICAL PILE. LOAD INCREMENTS OF 10 TO 15% OF THE DESIGN ALLOWABLE LOAD SHALL BE SUBSEQUENTLY APPLIED WITH A CONSTANT TIME INTERVAL BETWEEN EACH INCREMENT, IN ACCORDANCE WITH ASTM D 1143 QUICK LOAD TEST METHOD FOR INDIVIDUAL PILES, UNTIL THE PROOF LOAD SPECIFIED ON THE PLANS IS REACHED. AFTER THE FINAL HOLD PERIOD, THE MAXIMUM PILE HEAD DISPLACEMENT SHALL BE RECORDED. THE TEST SHALL BE DEEMED SUCCESSFUL PROVIDED HELICAL ANCHOR AND HELICAL PILE MAXIMUM PILE HEAD DISPLACEMENT IS LESS THAN THREE QUARTER (3/4) INCH AT THE DESIGN LOAD. IN THE EVENT OF AN UNSATISFACTORY TEST, THE HELICAL ANCHOR OR HELICAL PILE SHALL BE INSTALLED TO ADDITIONAL LENGTH AND TORQUE UNTIL A SUCCESSFUL PROOF LOAD CAPACITY TEST HAS BEEN COMPLETED. AXIAL LOAD SHALL BE APPLIED TO THE HELICAL ANCHOR AND HELICAL PILE DURING THE PROOF LOAD CAPACITY TEST UTILIZING THE FINAL BRACKET ASSEMBLY CONFIGURATION. THROUGH THE DURATION OF INSTALLATION AND TESTING, THE HORIZONTAL MOVEMENT OF THE STRUCTURE TO WHICH THE HELICAL ANCHORS ARE ATTACHED SHALL BE LIMITED AS SHOWN ON THE PLANS.
   - B. IF ANCHOR TESTING IS REQUIRED, THE INSTALLING CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND PRE-PRODUCTION HELICAL ANCHORS NECESSARY TO ACCOMPLISH THE TESTING AS SHOWN IN THE APPROVED ANCHOR DESIGN DOCUMENTATION. INSTALLING CONTRACTOR SHALL APPLY THE SPECIFIED LOADS FOR THE SPECIFIED DURATIONS AND RECORD THE SPECIFIED DATA, FOR THE SPECIFIED NUMBER OF ANCHORS. NO DEVIATIONS FROM THE TEST PLAN(S) WILL BE ALLOWED WITHOUT EXPLICIT APPROVAL IN WRITING FROM THE OWNER'S REPRESENTATIVE.
   - C. INSTALLING CONTRACTOR SHALL PROVIDE THE OWNER, OR OWNER'S REPRESENTATIVE, COPIES OF RAW FIELD TEST DATA OR REPORTS WITHIN 24 HOURS AFTER COMPLETION OF EACH LOAD TEST. FORMAL TEST REPORTS SHALL BE SUBMITTED WITHIN (INSERT AMOUNT OF TIME) FOLLOWING TEST COMPLETION. FORMAL TEST REPORTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING INFORMATION:
      1. NAME OF PROJECT AND INSTALLING CONTRACTOR
      2. NAME OF INSTALLING CONTRACTOR'S SUPERVISOR DURING INSTALLATION
      3. NAME OF THIRD PARTY TEST AGENCY, IF ANY
      4. PRE-PRODUCTION OR PRODUCTION TEST
      5. DATE, TIME, AND DURATION OF TEST
      6. UNIQUE IDENTIFIER AND LOCATION OF HELICAL ANCHOR TESTED
      7. TYPE OF TEST (PERFORMANCE OF PROOF)
      8. DESCRIPTION OF CALIBRATED TESTING EQUIPMENT AND TEST SET-UP
      9. ACTUAL HELICAL ANCHOR TYPE AND CONFIGURATION
      10. STEPS AND DURATION OF EACH LOAD INCREMENT
      11. CUMULATIVE ANCHOR-HEAD MOVEMENT AT EACH LOAD STEP

9. CLEANUP
   - A. WITHIN (2 WEEKS) OF COMPLETION OF THE WORK, THE INSTALLING CONTRACTOR SHALL REMOVE ANY AND ALL MATERIAL, EQUIPMENT, TOOLS, BUILDING MATERIALS, CONCRETE FORMS, DEBRIS, OR OTHER ITEMS BELONGING TO THE INSTALLING CONTRACTOR OR USED UNDER THE INSTALLING CONTRACTOR'S DIRECTION.

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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PREPARED FOR:

BIO WEST, INC.

FOR REVIEW & APPROVAL

PermaTrak® The Concrete Boardwalk Company

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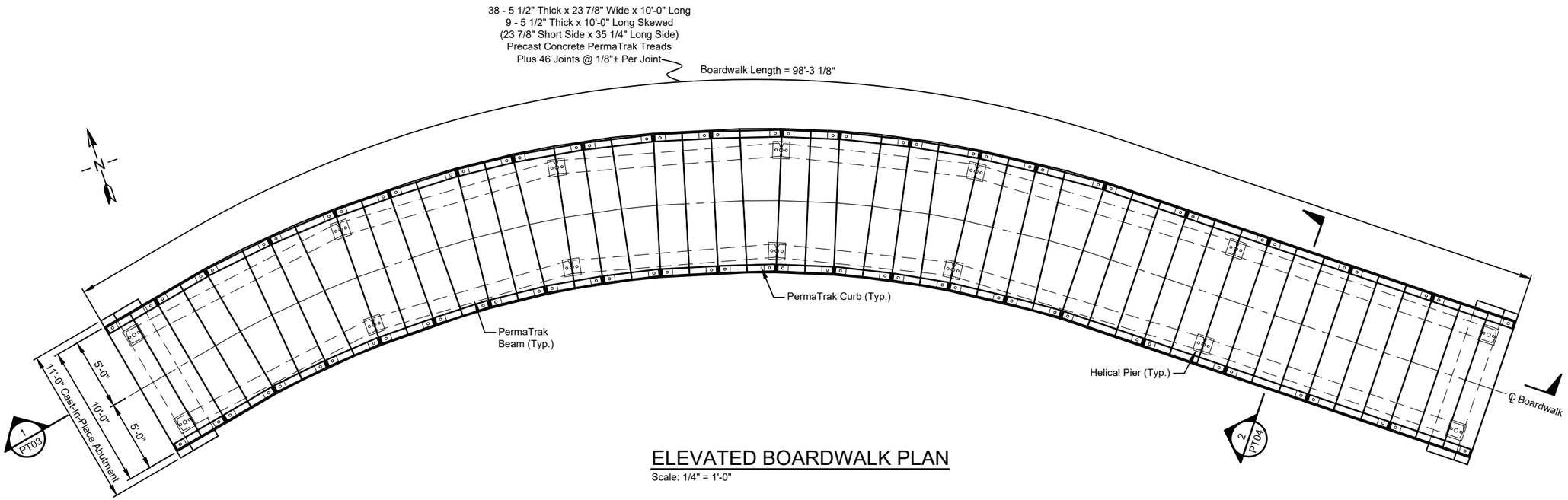
OFFICE LOCATIONS
FLORIDA
GEORGIA
LOUISIANA
NORTH CAROLINA
OHIO

PROJECT TITLE:

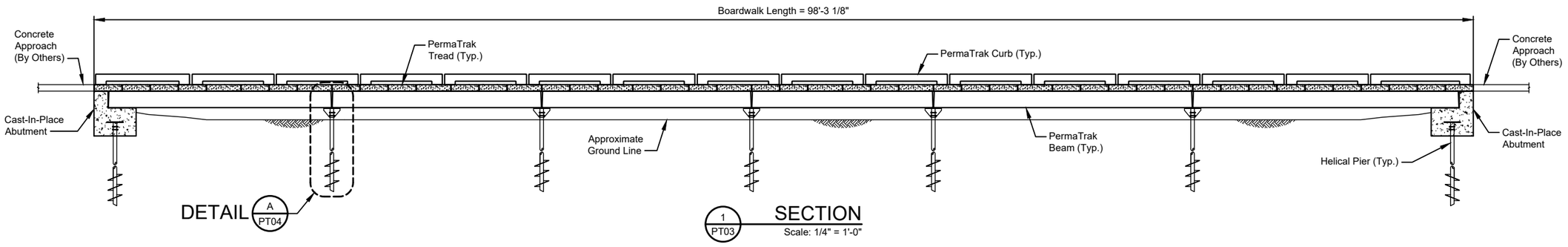
FAIRMONT PARK
POND RESTORATION
SALT LAKE CITY, UTAH

JOB NUMBER:	2016-807
DATE:	06/30/2017
DESIGNED BY:	EMD
DRAWN BY:	RPU
CHECKED BY:	JVP
SHEET NO.	PT02



ELEVATED BOARDWALK PLAN

Scale: 1/4" = 1'-0"



SECTION

Scale: 1/4" = 1'-0"

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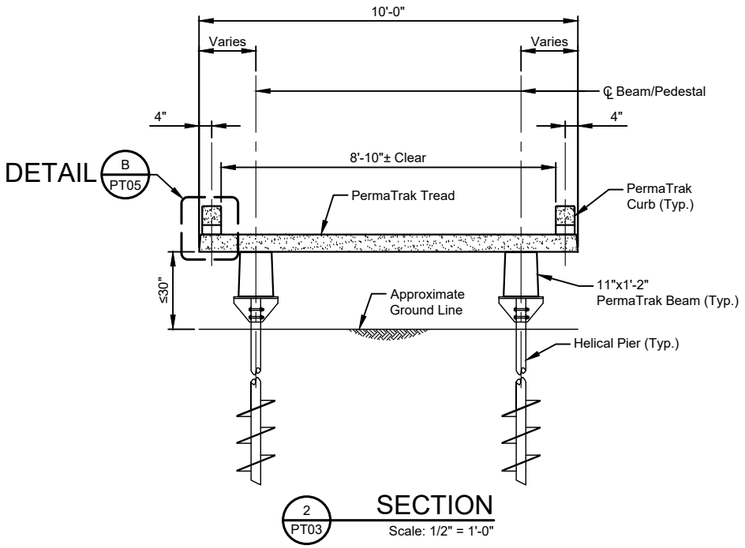
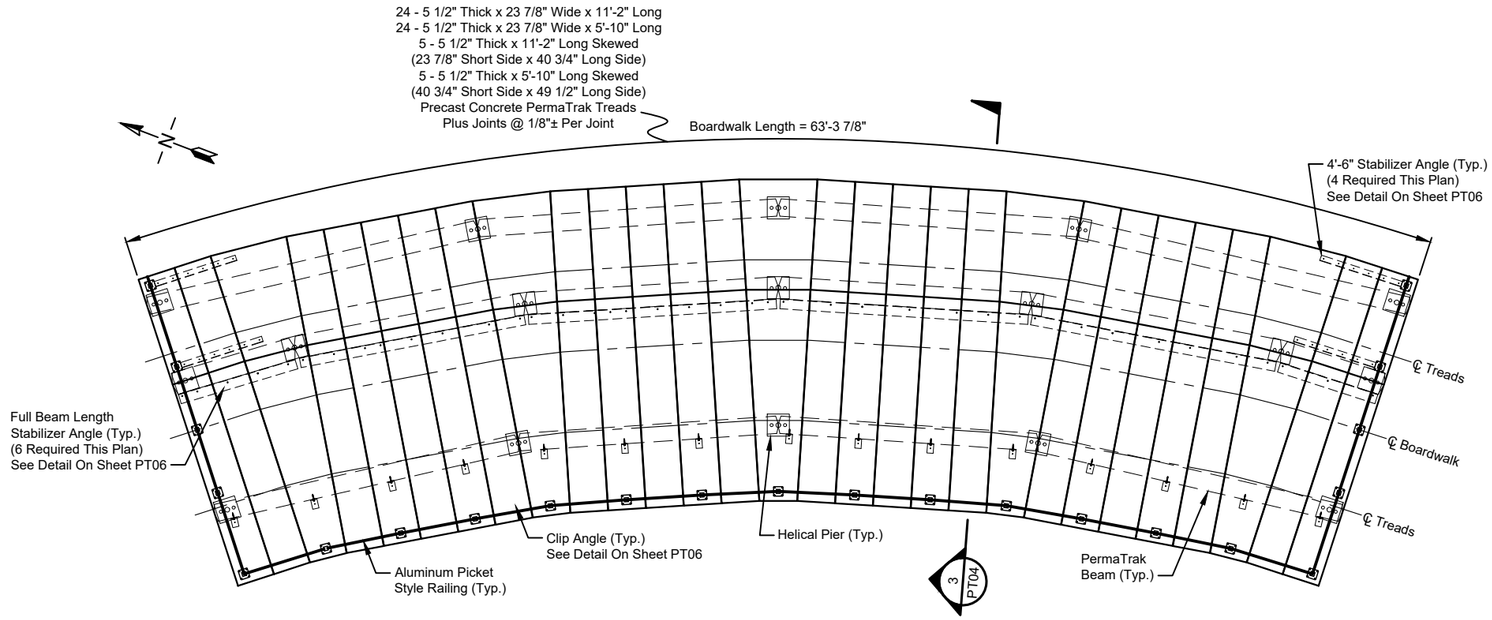
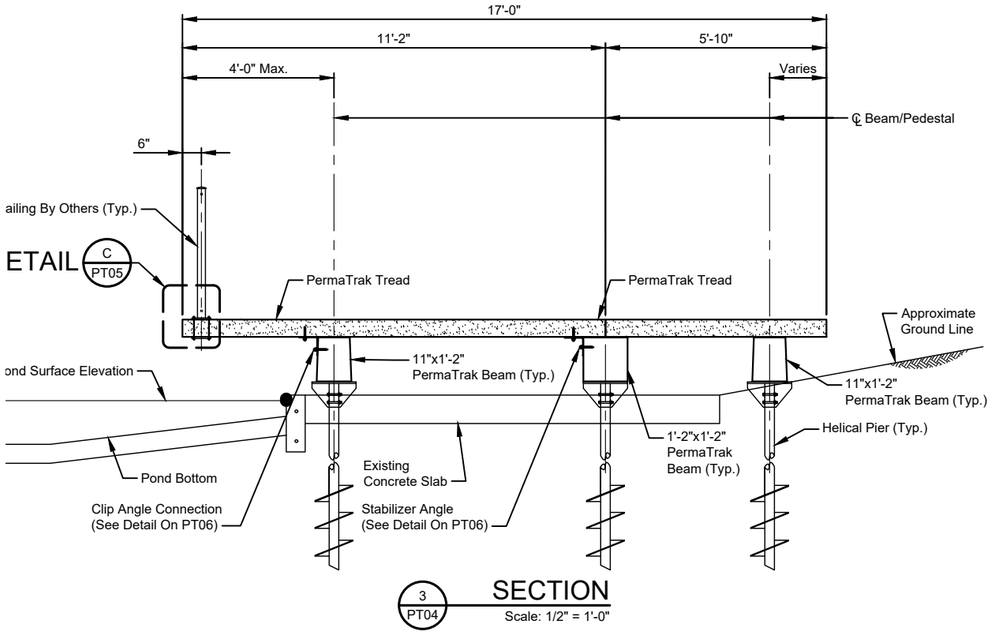
SHEET NO.	PT03

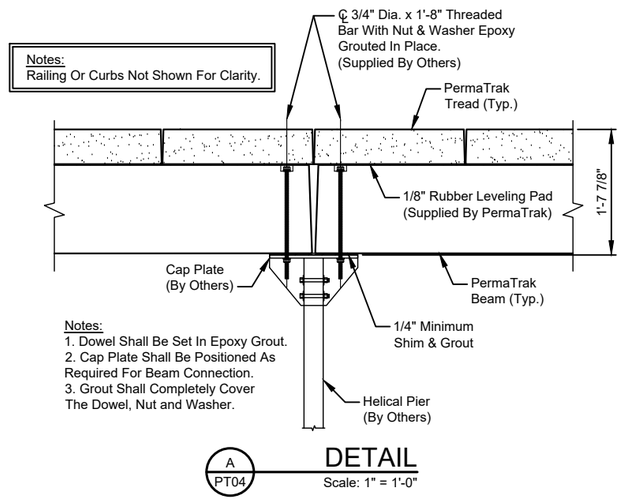




CANTILEVERED BOARDWALK PLAN

Scale: 1/4" = 1'-0"





Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

NO.	DATE	DESCRIPTION	BY:
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PREPARED FOR:

BIO WEST, INC.

FOR REVIEW & APPROVAL

PermaTrak® The Concrete Boardwalk Company

www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS

FLORIDA

GEORGIA

LOUISIANA

NORTH CAROLINA

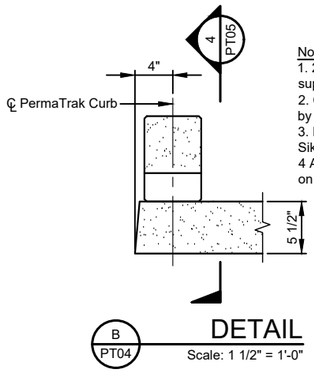
OHIO

PROJECT TITLE:

FAIRMONT PARK
POND RESTORATION

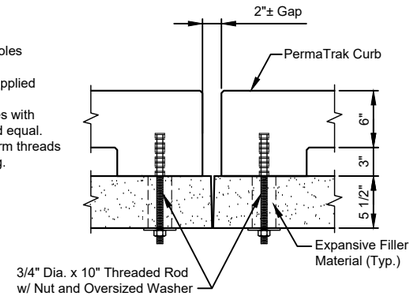
SALT LAKE CITY, UTAH

JOB NUMBER:	2016-807
DATE:	06/30/2017
DESIGNED BY:	EMD
DRAWN BY:	RPU
CHECKED BY:	JVP
SHEET NO.	PT04



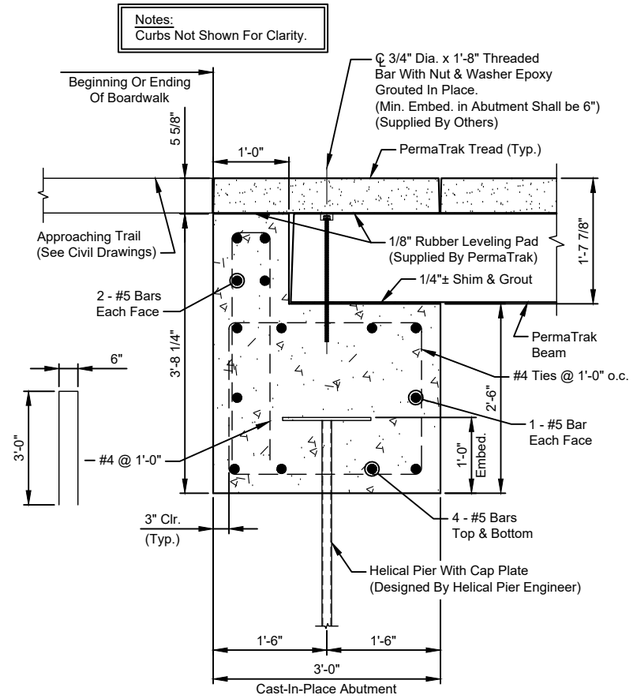
Notes:
1. 2" diameter preformed holes supplied by PermaTrak.
2. Connection hardware supplied by others.
3. Fill oversized dowel holes with Sikaflex-11 FC or approved equal.
4 After tightening nut, deform threads on rod to prevent loosening.

B PT04 DETAIL
Scale: 1 1/2" = 1'-0"

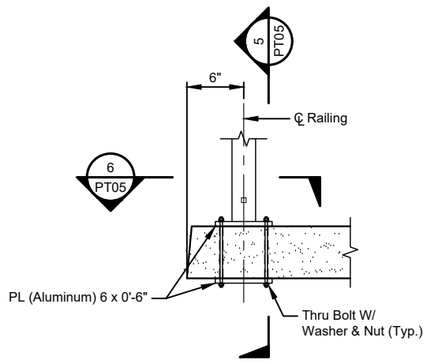


4 PT05 SECTION
Scale: 1 1/2" = 1'-0"

Notes:
Curbs Not Shown For Clarity.

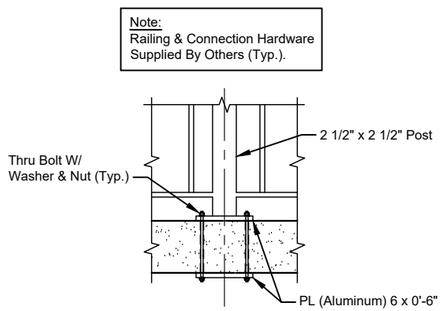


TYPICAL CAST-IN-PLACE ABUTMENT DETAIL
Scale: 1" = 1'-0"

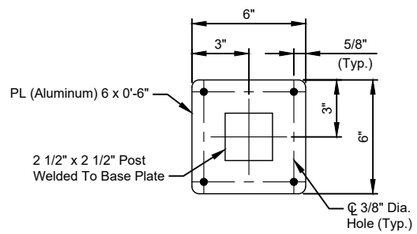


C PT04 DETAIL
Scale: 1 1/2" = 1'-0"

Note:
Railing & Connection Hardware Supplied By Others (Typ.).



5 PT05 SECTION
Scale: 1 1/2" = 1'-0"



6 PT05 SECTION
Scale: 3" = 1'-0"

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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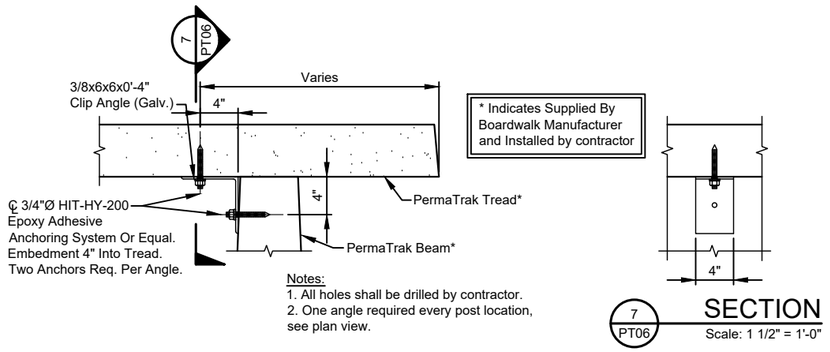
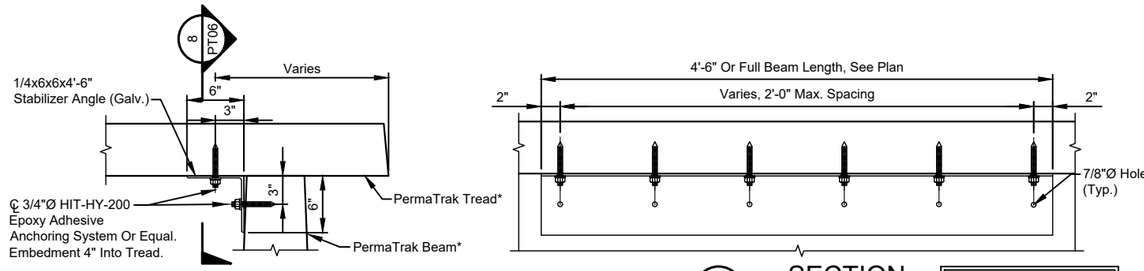
SHEET NO.	PT05



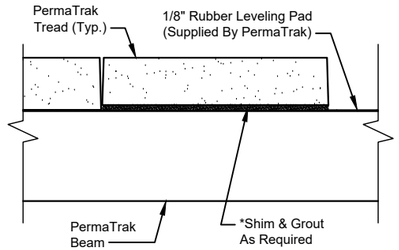
TREAD TO BEAM CONNECTION

Scale: Not To Scale



STABILIZER ANGLE DETAIL

Scale: Not To Scale



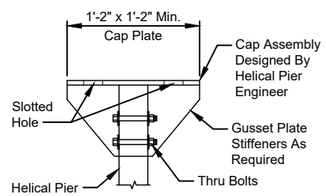
*Note:
Due to tolerances and variance in precast production and installation accuracy, shimming and grouting may be required. Where required the entire bearing area and void shall be shim and grouted.

TYPICAL SHIM/GROUT DETAIL

Scale: Not To Scale (UNDER TREAD)

Helical Pier Notes:

1. Minimum Design Loads Are As Follows
   Axial = 13 Tons
   Lateral = 1 Ton
2. Helical Pier, Cap Plate Assembly, Gusset Plates, And Hardware Shall Be Hot-Dipped Galv. Cap Plate Assembly Shall Have (2) Slotted (2"x1") Holes For Beam Connection.
3. Depth Of Helical Pier To Be Designed By The Helical Pier Engineer.
4. Cross Bracing Of Helical Piers May Be Required For Stability And Shall Be Detailed By Helical Pier Engineer.



TYPICAL HELICAL PIER CAP DETAIL

Scale: Not To Scale

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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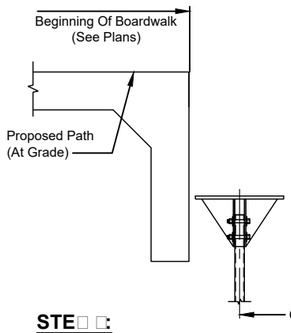
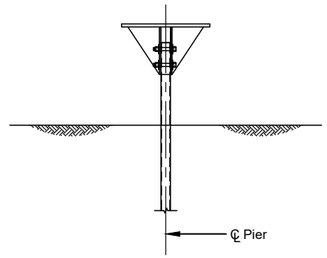
DESIGNED BY:	EMD
DRAWN BY:	RPU
CHECKED BY:	JVP
SHEET NO.	PT06

PermaTrak Installation Diagrams

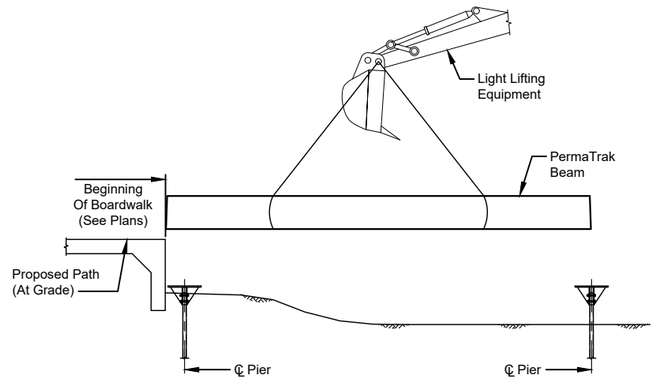
NOTES:
This document is intended to provide the installer guidelines for typical PermaTrak applications.
It is not meant to be all inclusive and may be adjusted based upon encountered field conditions.



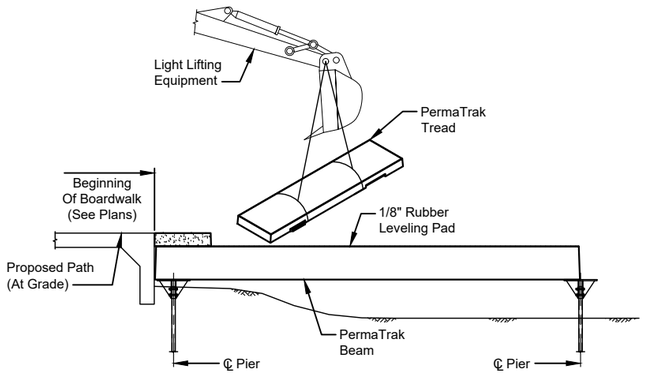
STE□ □:
Survey center of pier control points. Excavate subgrade to bearing elevation.
Set pier supplied by contractor . Check horizontal and vertical control.



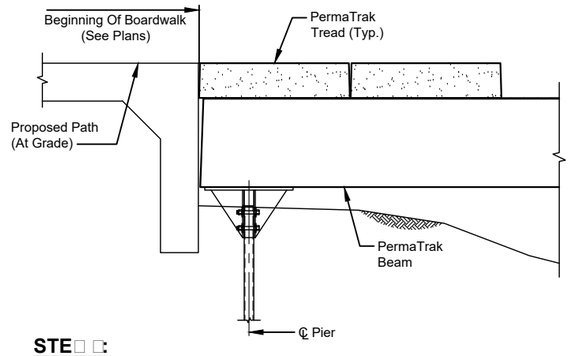
STE□ □:
Survey center of pier control points. Excavate subgrade to bearing elevation.
Set pier supplied by contractor. Check horizontal and vertical control.



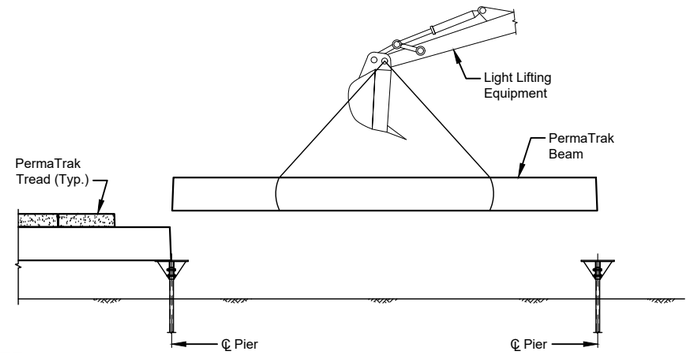
STE□ □:
After pier is set, position beam over piers and ensure uniform bearing.



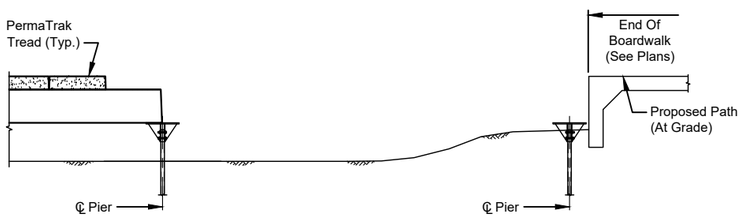
STE□ □:
Lay rubber leveling pad on top of beam, position precast tread on top of beam.



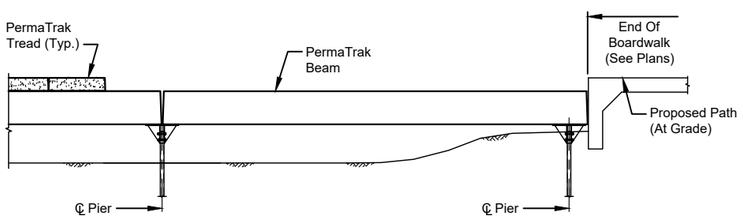
STE□ □:
Set 2nd tread ahead of 1st tread, aligning tongues with grooves, check joint spacing,
adjust tread position if needed, continue setting treads until 1/3 span reached.



STE□ □:
Continue installing piers, beams and treads at design locations until reaching end station. If "Top Down Construction" is desired then PermaTrak engineering must be contacted for approval. Top surface of boardwalk must be protected with plywood or other means while operating machinery on the boardwalk.



STE□ □:
Establish end of boardwalk (may need adjustment based upon accuracy of installed portion in steps 1 - 6).
Check squareness with boardwalk alignment and adjust if necessary.



STE□ □:
Position beam over piers and ensure uniform bearing.
Install treads on top of beams (per steps 4 - 5) until complete.

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