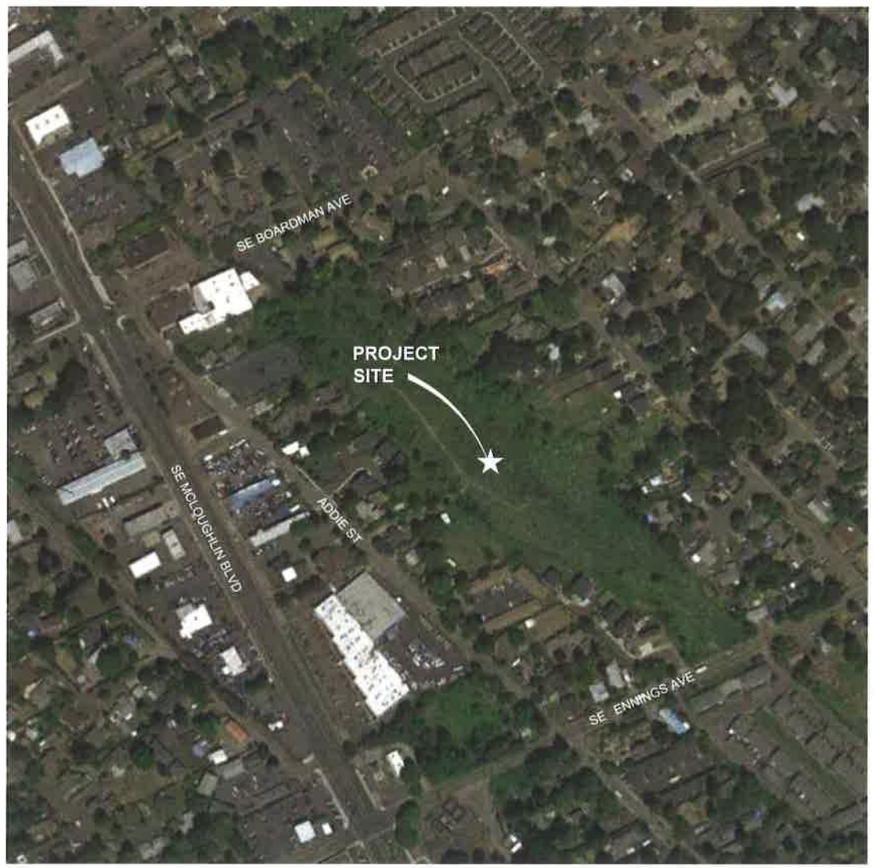
20200.17.D

OAK LODGE
WATER SERVICES



Contract Drawings For

BOARDMAN WETLAND COMPLEX

Wetland Enhancement, Trails, Parking, and Sanitary Sewer Line Replacement.

Clackamas County Land Use Application (Not for Construction)

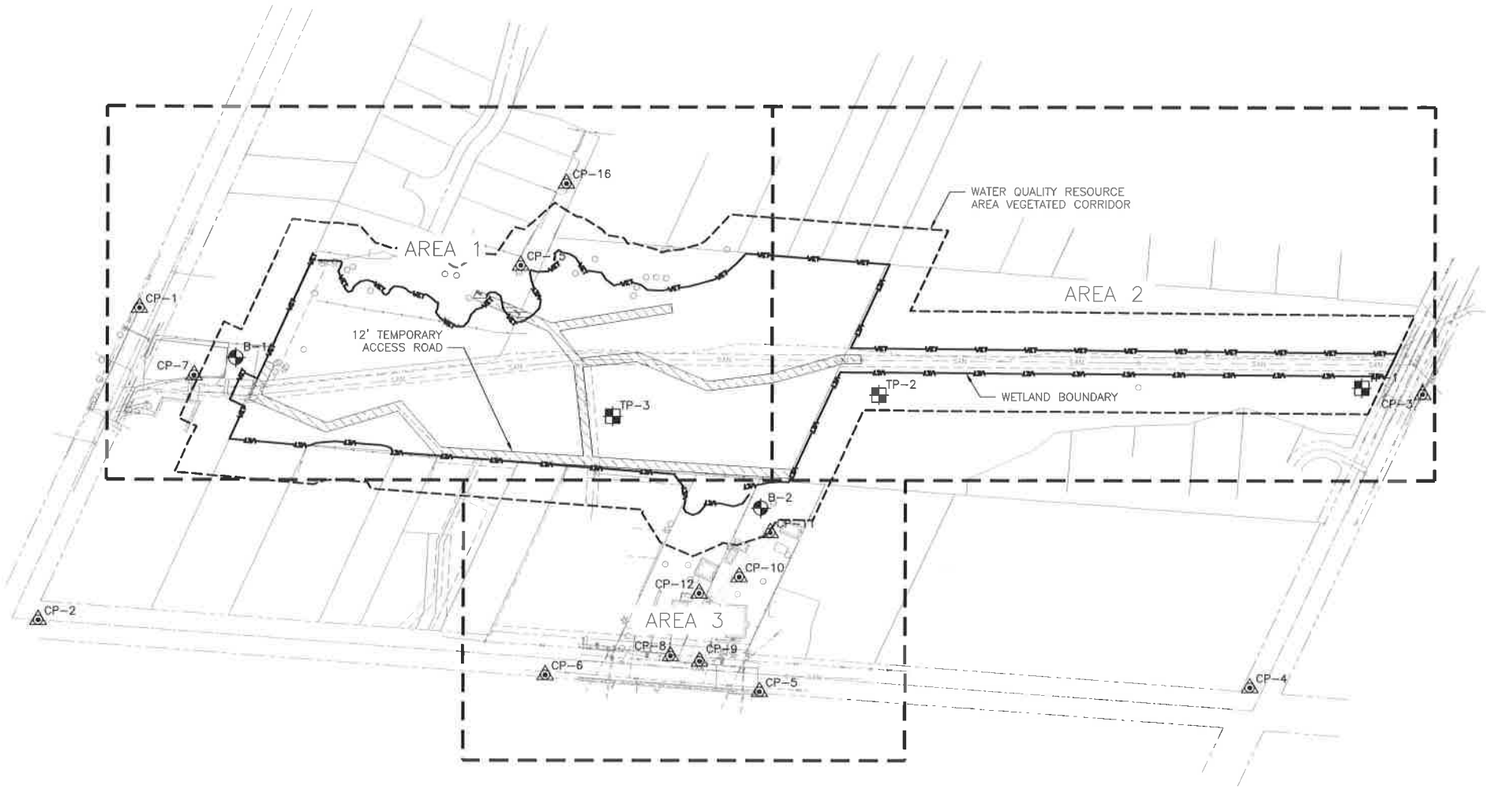
Project No.
1004005□

Milwaukie, Oregon
□anuary, 2017

Directions to Site:

From Washington, Interstate 5 south
I-5 S towards Portland
At the junction with I-□4, stay on I-5 S
Take exit 300B toward U.S. 26E□Oregon 99E
On US 26 follow signs for McLoughlin Boulevard
Turn left onto SE Boardman Avenue
Arrive at SE Boardman Avenue and Addie Street

From Salem, OR, Interstate 5 North
I-5 North towards Portland
Take exit 2□□ for I-205
Take exit 9 for OR 99E toward Downtown
Turn Right onto OR 99E N□McLoughlin Blvd
Turn right onto SE Boardman Avenue
Arrive at SE Boardman Avenue and Addie Street



INDE□ OF DRAWINGS

KE□ PLAN

100 0 100

SCALE IN FEET

CONTROL POINT TABLE			
CP □	NORTHING	EASTING	ELEV
CP-1	37571.96	59113.64	75.24
CP-2	37249.40	58742.65	76.68
CP-3	36272.42	60309.61	74.80
CP-4	36131.82	59882.27	93.18
CP-5	36553.57	59393.18	87.82
CP-6	36756.74	59195.37	81.23
CP-7	37358.29	59109.07	73.99
CP-8	36666.73	59335.81	84.21
CP-9	36635.97	59359.85	85.55
CP-10	36685.39	59472.70	79.75
CP-11	36702.37	59542.06	76.90
CP-12	36704.10	59418.64	79.74
CP-15	37184.90	59526.50	75.87
CP-16	37226.28	59642.66	83.67

LEGEND

WETLAND TEMPORARY REMOVAL/FILL

VEGETATED CORRIDOR TEMPORARY REMOVAL/FILL

GEOTECH LEGEND:

B-X SOIL BORING LOCATION

TP-X TEST PIT LOCATION

CP-X SURVEY CONTROL POINT

SEE NOTE 1

SURVE□ NOTES:

HORI□ONTAL CONTROL:
BASED ON NGS BENCHMARK NO. Q 723, NAD 83, 2011 OREGON NORTH ZONE.

ELEVATION DATUM:
ELEVATIONS ARE BASED ON NGS BENCHMARK NO. Q 723, ELEVATION = 102.14 FEET (NAVD 88), CONVERTED TO 98.662 (NGVD 29)

NOTES:

1. SEE CONTRACT DOCUMENTS FOR GEOTECHINCAL DATA REPORT.

ISSUE	DATE	DESCRIPTION

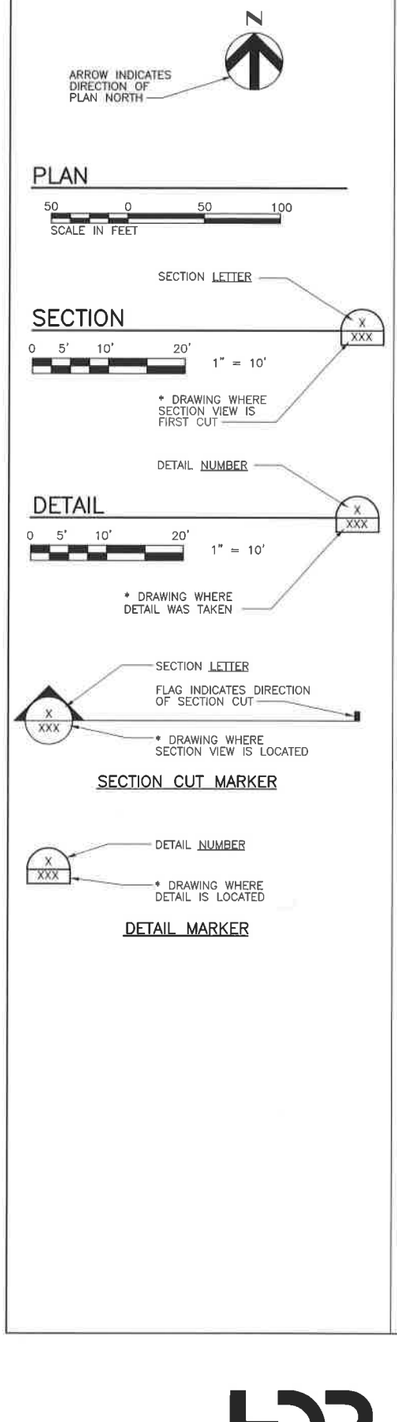
PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

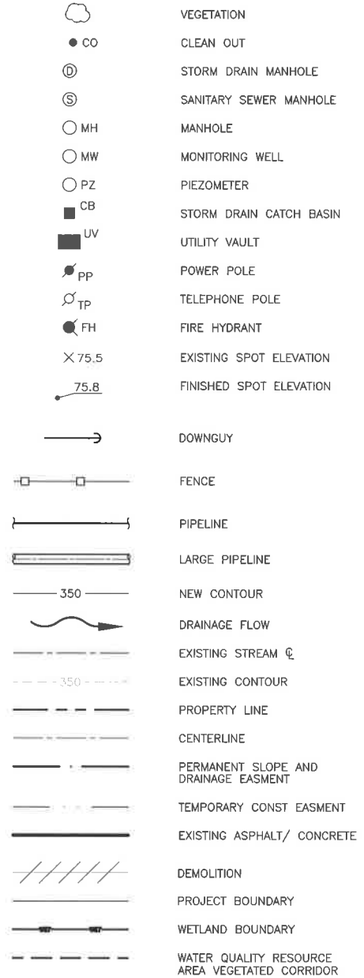
KE□ PLAN, SURVE□ CONTROL, AND SHEET INDE□

FILENAME	BDMN-G02
SCALE	AS SHOWN
SHEET	G02

GENERAL SYMBOLOGY



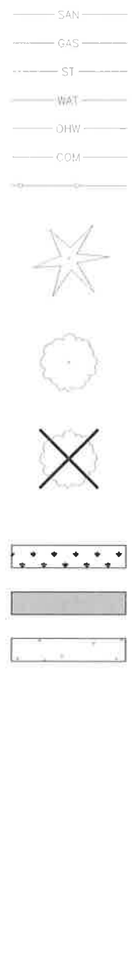
SITE PLAN SYMBOLOGY



NOTES:

1. UTILITIES THAT ARE SUSPENDED ABOVE GRADE ARE DESIGNATED BY THE PREFIX "OH".

SITE PLAN SYMBOLOGY (CONTD)



ABBREVIATIONS

ABND	ABANDONED
AC	ASPHALT CONCRETE PAVEMENT
ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
&	AND
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
ARV	AIR RELIEF VALVE
@	AT
BF	BLIND FLANGE
BFP	BACK FLOW PREVENTOR
BFV	BUTTERFLY VALVE
℄	CENTER LINE
CDF	CONTROLLED DENSITY FILL
CLR	CLEAR
CMP	CONCRETE MASONARY PIPE
CMU	CONCRETE MASONARY UNIT
CO	CLEAN OUT
CON	CONCRETE
CONST	CONSTRUCTION
CONTD	CONTINUED
CV	CHECK VALVE
DF	DOUGLAS FIR
DI	DUCTILE IRON
DIA, ø	DIAMETER
D, DR	DRAIN
E	EAST
ED	EQUIPMENT DRAIN
EF	EXHAUST FAN
EL	ELEVATION
ELB	ELBOW
EW	EACH WAY
EXIST	EXISTING
F	FAN
FCA	FLANGED COUPLING ADAPTER
FCV	FLOW CONTROL VALVE
FE	FLOW ELEMENT
FF	FINISH FLOOR
FH	FIRE HYDRANT
FLG	FLANGE
FM	FLOW METER
FS	FLOW SWITCH
FT	FEET / FOOT
G	GAS
GPM	GALLONS PER MINUTE
GV	GATE VALVE
GWB	GYPSUM BOARD
HB	HOSE BIB
HM	HOLLOW METAL
HVAC	HEATING VENTILATION AND AIR CONDITIONING
IE	INVERT ELEVATION
L	LENGTH
MAX	MAXIMUM
MF	MECHANICAL FITTING
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MTR	MOTOR
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO., #	NUMBER
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD UTILITIES
P	PUMP
PE	POLYETHYLENE, PIPE END
PI	PRESSURE INDICATOR
P	PK NAIL (SURVEY CONTROL)
PK	PLATE
PNL	PANEL
PVC	POLY VINYL CHLORIDE
PG	PRESSURE GAGE
PS	PIPE SUPPORT
R&R	REMOVE AND REPLACE PER EXISTING
RED	REDUCING, REDUCER
REQD	REQUIRED
RFCA	RESTRAINED FLANGE COUPLING ADAPTER
ROW	RIGHT OF WAY

ABBREVIATIONS (CONTD)

S	SLOPE, SOUTH
SA	SANITARY SEWER
SCH	SCHEDULE
SF	SILT FENCE
SH	SHEET
SPEC	SPECIFICATION
SQ	SQUARE
SST	STAINLESS STEEL
ST	STREET STORM LINE
STL	STEEL STORM LINE
TYP	TYPICAL
UV	ULTRAVIOLET
UVR	ULTRAVIOLET REACTOR
V	VALVE
VAC	VACUUM
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THROUGH ROOF
VIF	VERIFY LOCATION AND/OR FEATURES IN FIELD
W	WEST, WATER
W/	WITH
WST	WASTE

GENERAL NOTES

1. THIS IS A STANDARD DRAWING SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. OREGON LAW REQUIRES ALL PROJECTS REQUIRING EXCAVATION TO FOLLOW RULES SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. A COPY OF THESE RULES MAY BE OBTAINED BY CALLING THE ONE CALL CENTER AT 503-232-1987. THE ONE CALL CENTER MUST BE CONTACTED IF THERE ARE ANY QUESTIONS REGARDING THESE RULES. ADDITIONALLY, THE ONE CALL CENTER MUST BE CONTACTED AT 503-246-6699 AT LEAST TWO BUSINESS DAYS BEFORE COMMENCING ANY EXCAVATION OR DIGGING.

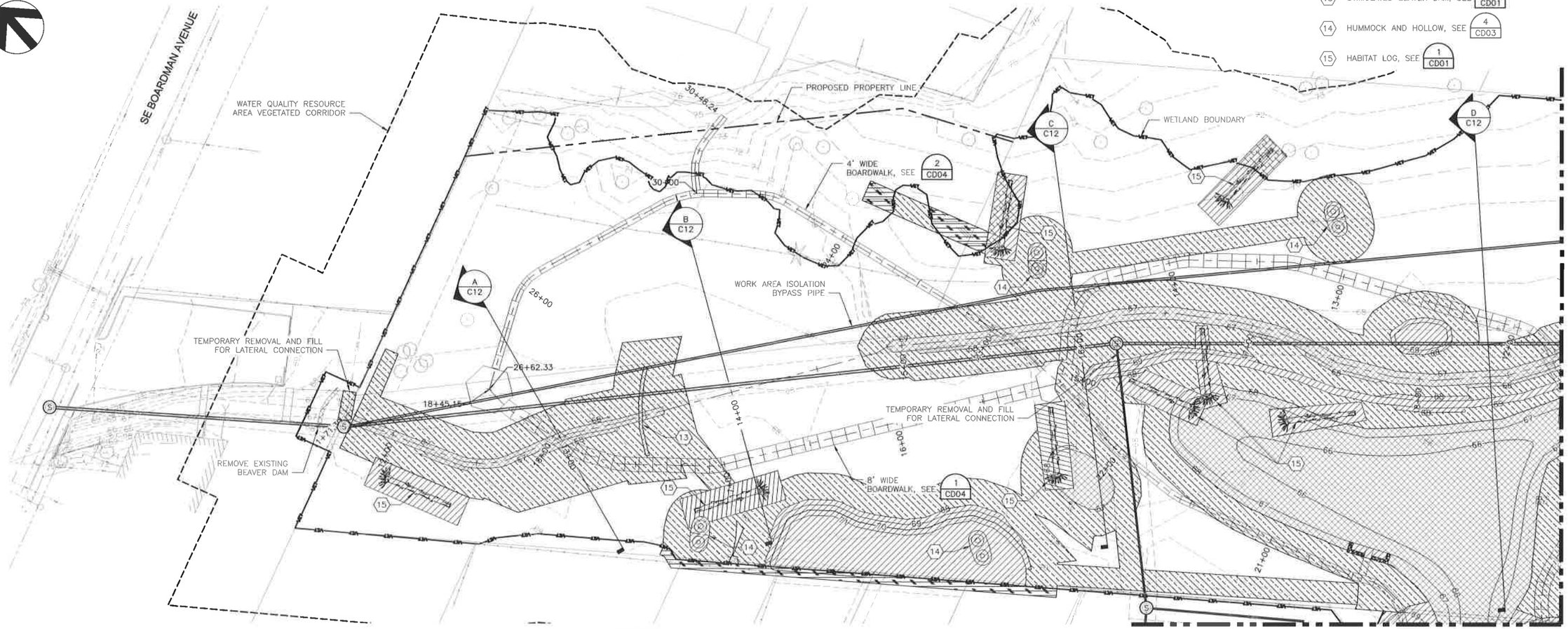
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

FILENAME BDMN-G03
SCALE N A
SHEET G03

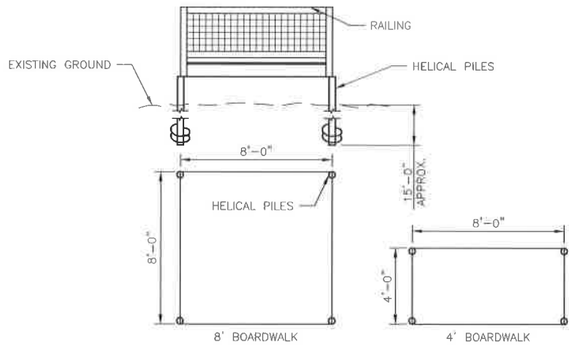


KEY NOTES:

13. STIMULATED BEAVER DAM, SEE 4 CD01
14. HUMMOCK AND HOLLOW, SEE 4 CD03
15. HABITAT LOG, SEE 1 CD01

CONSTRUCTION NOTES:

1. SPECIFIC LOCATIONS OF HUMMOCK AND HOLLOW FEATURES TO BE FIELD LOCATED AND STAKED BY PROJECT BIOLOGIST DURING CONSTRUCTION.
2. PLACE 8 BRUSH PILES DISTRIBUTED THROUGHOUT THE WETLAND AREA ABOVE ELEVATION 68, SPECIFIC LOCATIONS TO BE FIELD LOCATED AND STAKED BY PROJECT BIOLOGIST DURING CONSTRUCTION.
3. PLACE 6 SNAGS DISTRIBUTED THROUGHOUT THE WETLAND AREA, SPECIFIC LOCATIONS TO BE FIELD LOCATED AND STAKED BY PROJECT BIOLOGIST DURING CONSTRUCTION.



BOARDWALK SEGMENT IMPACTS

NOT TO SCALE

EACH BOARDWALK SEGMENT = 0.18 SQ FEET IMPACT, 2.7 CUBIC FEET OF PERMANENT FILL

LEGEND

- WETLAND TEMPORARY REMOVAL/FILL
- VEGETATED CORRIDOR TEMPORARY REMOVAL/FILL
- WETLAND PERMANENT FILL
- VEGETATED CORRIDOR PERMANENT FILL
- WETLAND PERMANENT REMOVAL
- VEGETATED CORRIDOR PERMANENT REMOVAL

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

AREA 1 TRAIL AND GRADING PLAN

0 30 60

FILENAME	BDMN-C01
SCALE	AS SHOWN

SHEET C01

KEY NOTES:

(14) HUMMOCK AND HOLLOW, SEE 4/CD03

(15) HABITAT LOG, SEE 1/CD01

OUTSIDE STUDY AREA

WETLAND BOUNDARY

WORK AREA ISOLATION BYPASS PIPE

PERMANENT FILL FOR NEW MANHOLE

PERMANENT REMOVAL FOR EXISTING MANHOLE

LAUNCH/RECEIVING PIT

WORK AREA ISOLATION CUTOFF WALL AND TRENCH, SEE DETAIL THIS SHEET

WATER QUALITY RESOURCE AREA VEGETATED CORRIDOR

OUTSIDE STUDY AREA

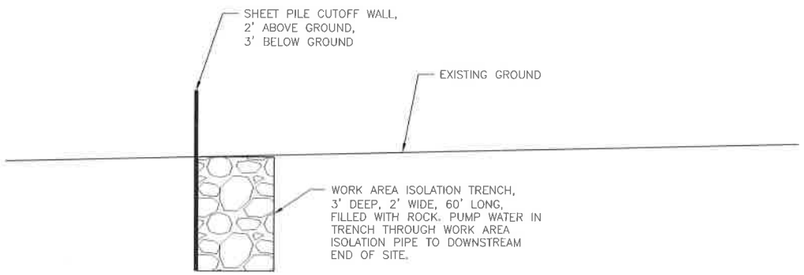
SE JENNINGS AVENUE

SEE SHEET C01

SEE SHEET C05

CONSTRUCTION NOTES:

1. SPECIFIC LOCATIONS OF HUMMOCK AND HOLLOW FEATURES TO BE FIELD LOCATED AND STAKED BY PROJECT BIOLOGIST DURING CONSTRUCTION.
2. PLACE 8 BRUSH PILES DISTRIBUTED THROUGHOUT THE WETLAND AREA ABOVE ELEVATION 68, SPECIFIC LOCATIONS TO BE FIELD LOCATED AND STAKED BY PROJECT BIOLOGIST DURING CONSTRUCTION.
3. PLACE 6 SNAGS DISTRIBUTED THROUGHOUT THE WETLAND AREA, SPECIFIC LOCATIONS TO BE FIELD LOCATED AND STAKED BY PROJECT BIOLOGIST DURING CONSTRUCTION.



WORK AREA ISOLATION CUTOFF WALL AND TRENCH DETAIL

NOT TO SCALE

LEGEND

- WETLAND TEMPORARY REMOVAL/FILL
- WETLAND PERMANENT FILL
- WETLAND PERMANENT REMOVAL
- VEGETATED CORRIDOR TEMPORARY REMOVAL/FILL
- VEGETATED CORRIDOR PERMANENT FILL
- VEGETATED CORRIDOR PERMANENT REMOVAL

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

AREA 2 TRAIL AND GRADING PLAN

0 30 60

FILENAME	BDMN-C02
SCALE	AS SHOWN
SHEET	C02

KEY NOTES:

- 7 4 FT PERVIOUS CONCRETE TRAIL
- 8 8 FT PERVIOUS CONCRETE TRAIL
- 9 PERVIOUS PAVEMENT
- 12 6 FT SIDEWALK WITH CURB
- 18 STREET LIGHT

LEGEND

- WETLAND TEMPORARY REMOVAL/FILL
- WETLAND PERMANENT FILL
- WETLAND PERMANENT REMOVAL
- VEGETATED CORRIDOR TEMPORARY REMOVAL/FILL
- VEGETATED CORRIDOR PERMANENT FILL
- VEGETATED CORRIDOR PERMANENT REMOVAL

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

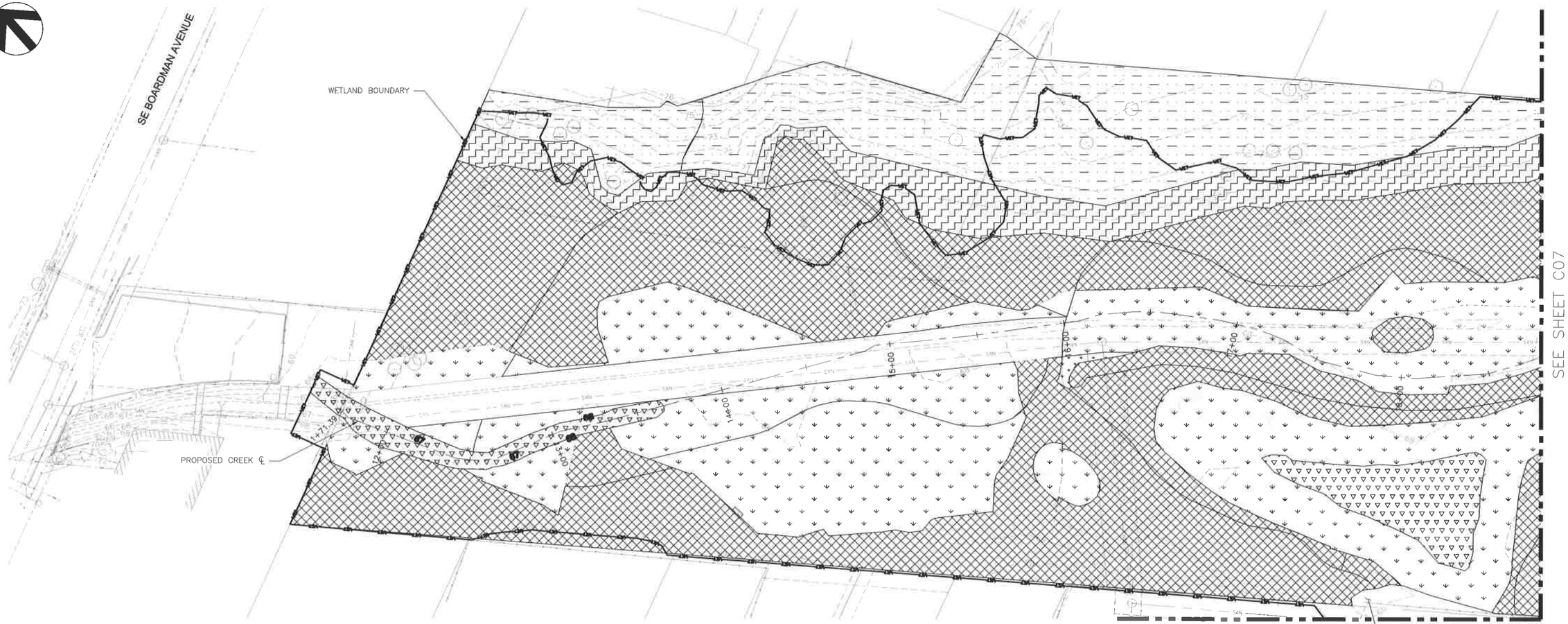
BOARDMAN WETLAND COMPLEX

AREA 3 CIVIL LAYOUT

0 20 40'

FILENAME	BDMN-C05
SCALE	AS SHOWN

SHEET C05



PLANTING LEGEND:

SEE SHEET CD02 FOR PLANTING SCHEDULE.

- OPEN WATER
- SEMIPERMANENTLY FLOODED – TYPE 1
- SEASONALLY FLOODED – TYPE 2
- RIPARIAN – TYPE 3
- BUFFER/UPLAND – TYPE 4

HDR

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	10040058

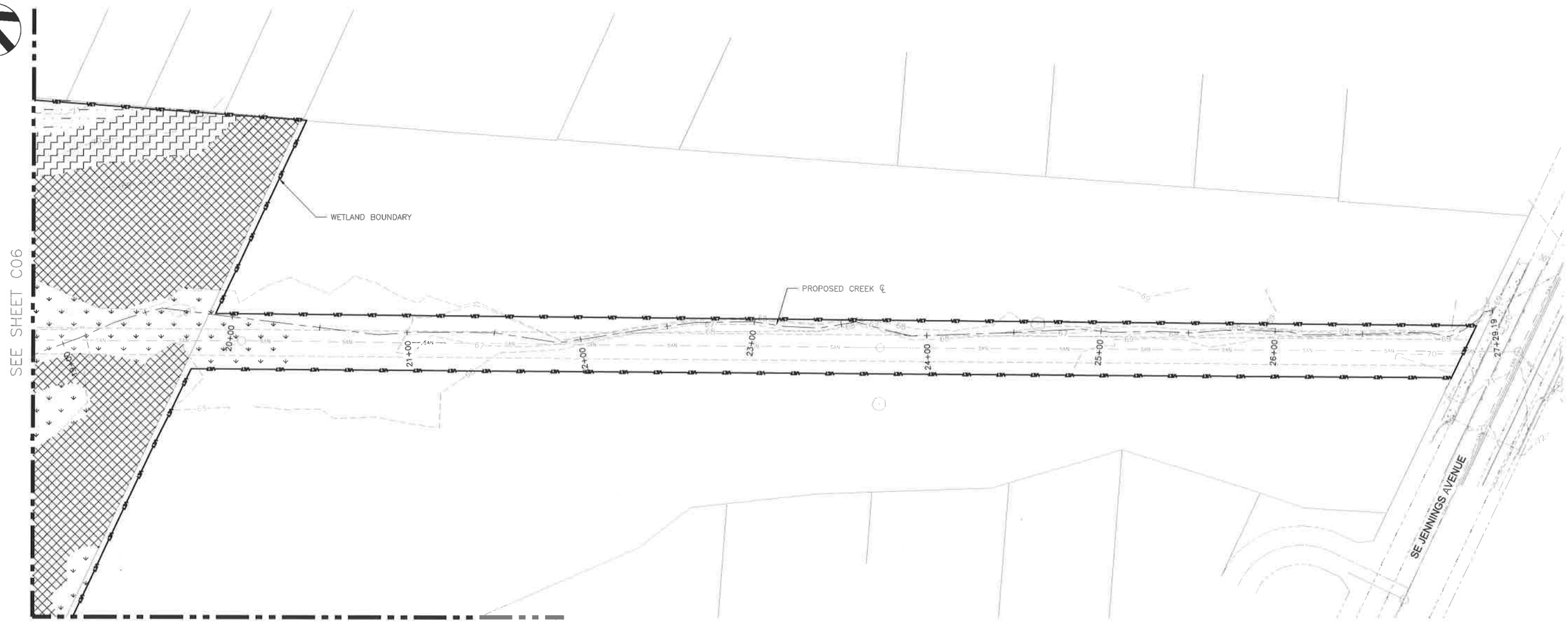
BOARDMAN WETLAND COMPLEX

AREA 1 PLANTING PLAN

0 30' 60'

FILENAME	BDMN-C06
SCALE	AS SHOWN

SHEET C06



SEE SHEET C08

PLANTING LEGEND:

SEE SHEET CD02 FOR PLANTING SCHEDULE.

- OPEN WATER
- SEMIPERMANENTLY FLOODED – TYPE 1
- SEASONALLY FLOODED – TYPE 2
- RIPARIAN – TYPE 3
- BUFFER/UPLAND – TYPE 4

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	10040058

BOARDMAN WETLAND COMPLEX

AREA 2 PLANTING PLAN

0 30' 60'

FILENAME	BDMN-C07
SCALE	AS SHOWN

SHEET C07

GENERAL NOTES:

A. PLANT LEGEND, DETAILS & INSTALLATION REQUIREMENTS – SEE SPECIFICATIONS & PLANT DETAILS

B. PLANTING SCHEDULE:
- TREES, SHRUBS, GROUNDCOVER, RUSHES & SEDGES – TO BE INSTALLED FROM OCTOBER 1 – MARCH 1ST.
- GRASS SEEDING – TO BE COMPLETED FROM MARCH 1 – MAY 15TH / SEPTEMBER 1ST – OCTOBER 1ST.

C. COMPOST AMENDMENT: XXX C.Y. REQUIRED AT 2" DEPTH. SEE SPECS.

D. COMPOST TOP DRESS: XXX C.Y. REQUIRED AT 4" DEPTH.

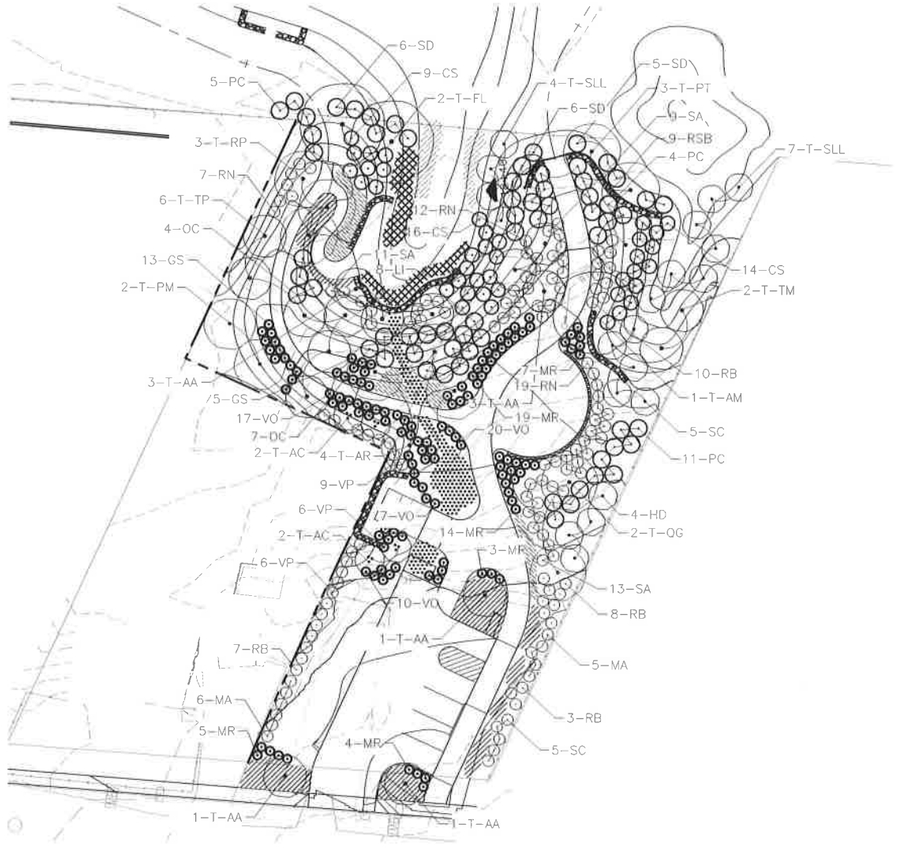
E. SECURING PLANT MATERIAL – PLANT MATERIALS SHALL BE SECURED 30 DAYS FROM AWARD OF CONTRACT. SUBMIT SALES ORDER AS PROOF OF PURCHASE, SEE SPECS.

F. MYCORRHIZAL INOCULUM: MYCOAPPLY MICRONIZED ENDO / ECTO POWDER
- UPLAND TREES, SHRUBS & GROUNDCOVER – XX LBS. AT 1 TBS PER SHRUB AND 3 TBS PER TREE (1 LB = 48 TBS)

F. INSPECTION REQUIREMENTS: NOTIFY ENGINEER 24 HOURS IN ADVANCE. ALL SUBSEQUENT WORK SHALL BE REJECTED IF NOT REVIEWED & APPROVED.
- TOPSOIL PREPARATION & COMPOST TYPE "A" INSTALLATION SHALL BE INSPECTED & APPROVED PRIOR TO PLANTING.
- PLANT MATERIALS SHALL BE INSPECTED & APPROVED PRIOR TO PLANTING.
- LAYOUT OF PLANT MATERIALS IS TO BE INSPECTED & APPROVED PRIOR TO PLANTING.
- PLANT MATERIAL INSTALLATION SHALL BE INSPECTED & APPROVED FOR REPRESENTATIVE SAMPLE.

G. PLANT ESTABLISHMENT PERIOD OF ONE (1) CALENDAR YEAR
MINIMUM IS REQUIRED FOR ALL PLANTS INSTALLED ON THIS PROJECT AND FOR ALL PLANTING AREAS, INCLUDING THE WETLAND MITIGATION AREA. WORK SHALL INCLUDE MAINTENANCE VISITS AND MONTHLY REPORTS. MAINTENANCE SHALL INCLUDE:
- MINIMUM 36 MAINTENANCE VISITS (FEB. & NOV. @ 2 PER MONTH; MARCH–OCT. @ 4 PER MONTH)
- TEN (10) MONTHLY REPORTS
- SUBMIT WEED CONTROL PLAN FOR APPROVAL.
- ALL WORK NECESSARY TO ENSURE VIGOROUS & HEALTHY GROWTH OF ALL INSTALLED PLANT MATERIALS BY WATERING, SPRAYING, PRUNING, TIGHTENING & REPAIRING OF TREE STAKES, AND RESETTING PLANTS TO PROPER GRADES OR VERTICAL POSITION AS REQUIRED.
- REMOVAL AND DISPOSAL OF FOREIGN, DEAD, OR REJECTED PLANT MATERIAL LEGALLY OFF–SITE & THE REPLACEMENT OF ALL UNSATISFACTORY PLANT MATERIAL INSTALLED UNDER THIS CONTRACT.
- MAINTAINING A WEED–FREE CONDITION BY SPRAYING AND/OR CULTIVATING PLANTING AREAS WEEKLY AND DISPOSING OF DEAD WEEDS LEGALLY OFF–SITE.
- GENERATING & DISTRIBUTING ELECTRONICALLY A DETAILED MONTHLY SITE REPORT THAT RECORDS DATE, TIME, WEATHER, WORK PERFORMED, HEALTH & VIGOR OF PLANT MATERIALS, OUTSTANDING CONDITIONS WITH SUGGESTIVE CORRECTIVE MEASURES, & DIGITAL PHOTOS TO CAPTURE SITE PROGRESS.
- JOINT INSPECTIONS WITH PROJECT REPRESENTATIVE. THREE (3) REQUIRED.
- CORRECTION OF ALL UNSATISFACTORY CONDITIONS WITHIN 10–DAY PERIOD UPON WRITTEN NOTICE. FAILURE TO COMPLY SHALL CONSTITUTE JUSTIFICATION BY OWNER TO TAKE CORRECTIVE STEPS & TO DEDUCT ALL COSTS FROM MONIES DUE TO CONTRACTOR.

H. WARRANTY PLANT REPLACEMENT:
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REPLACEMENT PLANTS FOR ALL PLANT MATERIAL REJECTED THROUGH THE FIRST YEAR OF PLANT ESTABLISHMENT.
- ALL REJECTED PLANT MATERIAL SHALL BE REPLACED AT THE DATES APPROVED BY THE PROJECT REPRESENTATIVE. ALL REPLACEMENT PLANTS SHALL BE OF THE SAME SPECIES AND QUALITY AS THE PLANTS THEY REPLACE. SEE SPECIFICATIONS.
- WARRANTY ALSO APPLIES TO ALL PLANTS INSTALLED WITHIN THE WETLAND MITIGATION AREA.



PLANT LEGEND

LABEL	BOTANICAL NAME	COMMON NAME	SIZE
T–AC	ACER CIRCINATOM	VINE MAPLE	5'–6' (3–STEM)
T–AM	ACER MACROPHYLLUM	BIGLEAF MAPLE	1–1/2" CAL.
T–AR	ALNUS RUBRA	RED ALDER	2" CAL.
T–AA	AMELACIER ALNIFOLIA	SASKATOON SERVICEBERRY	1–1/2" CAL.
T–FL	FRAXINUS LATIFOLIA	OREGON ASH	2" CAL.
T–PM	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	5'
T–PT	POPULUS TRICHOCARPA	BLACK COTTONWOOD	1" CAL.
T–QG	QUERCUS GARRYANA	OREGON WHITE OAK	1–1/2" CAL.
T–RP	RHAMNUS PURSHIANA	CASCARA	1–1/2" CAL.
T–SLL	SALIX LUCIDA	PACIFIC WILLOW	4'
T–TM	TSUGA MERTENSIANA	WESTERN HEMLOCK	5'
T–TP	THUJA PLICATA	WESTERN RED CEDAR	5'

SHRUBS, GROUNDCOVERS & ORNAMENTAL GRASSSES

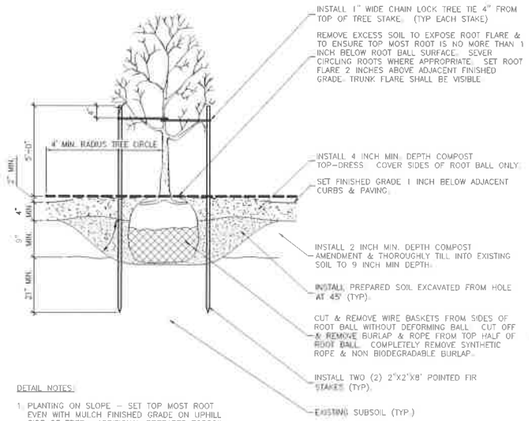
CS	CORNUS SERICEA	REDOISER DOGWOOD	1 GAL.
GS	BAULTHEIA SHALLON	SALAL	2 GAL.
HD	HOLODISCUS DISCOLOR	OCEAN SPAY	2 GAL.
LI	LONICERA INVOLUCRATA	TWINBERRY	2 GAL.
MA	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	2 GAL.
MR	MAHONIA REPENS	CREEPING MAHONIA	1 GAL.
OC	OEMLERIA CERASIFORMIS	INDIAN PLUM	2 GAL.
PC	PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	2 GAL.
RB	RIBES SANGUINEUM	RED FLOWERING CURRENT	2 GAL.
RN	ROSA NUTKANA	NOOTKA ROSE	1 GAL.
RSB	RUBUS SPECTABILIS	SALMONBERRY	1 GAL.
SA	SYMPHORICARPOS ALBA	COMMON SNOWBERRY	1 GAL.
SC	SAMBUCUS CAERULEA	BLUE ELDERBERRY	3'
SD	SPIREA DOUGLASI	DOUGLAS SPIREA	1 GAL.
VO	VACCINIUM OVATUM	EVERGREEN HUCKELBERRY	2 GAL.
VP	VACCINIUM PARVIFOLIUM	RED HUCKELBERRY	2 GAL.

GROUNDCOVERS

AU	ARCTOSTAPHYLOS UVA–URSI	KINNIKINNICK	1 GAL.
FC	FRAGARIA CHILOENSIS	COSTAL STRAWBERRY	1 GAL.

WETLAND

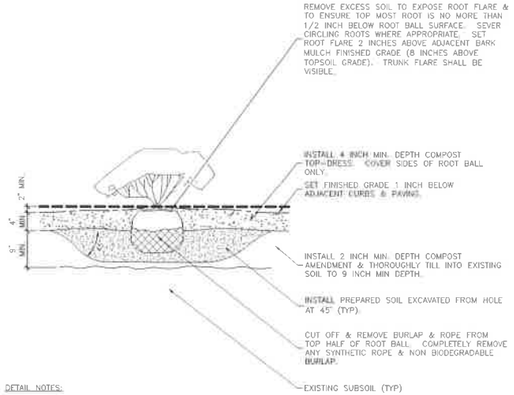
SA	SCIRPUS ACUTUS	HARDSTEM BULRUSH	1 GAL.
SS	CAREX OBNUPTA	SLOUGH SEDGE	1 GAL.



DETAIL NOTES:

1. PLANTING ON SLOPE – SET TOP MOST ROOT EVEN WITH MULCH FINISHED GRADE ON UPHILL SIDE OF TREE. ADDITIONAL PREPARED TOPSOIL WILL BE REQUIRED ON DOWNHILL SIDE TO CONSTRUCT SOIL SAUCER TO HOLD WATER.

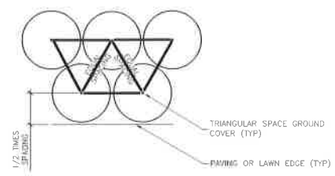
1 C08 TREE PLANTING DETAIL
NOT TO SCALE



DETAIL NOTES:

1 PLANTING ON SLOPE – SET TOP MOST ROOT EVEN WITH MULCH FINISHED GRADE ON UPHILL SIDE OF TREE. ADDITIONAL PREPARED TOPSOIL WILL BE REQUIRED ON DOWNHILL SIDE TO CONSTRUCT SOIL SAUCER TO HOLD WATER.

2 C08 SHRUB, GROUNDCOVER & PLANTING
NOT TO SCALE



DETAIL NOTES:

1. ALL GROUND COVER SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING PER ON CENTER SPACING AS SPECIFIED IN PLANT LEGEND
2. LOCATE GROUND COVER ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY CURB, SIDEWALK, OR OTHER HARD SURFACE, UNLESS OTHERWISE SPECIFIED.

3 C08 GROUNDCOVER, RUSHES & SEDGES SPACING DETAIL
NOT TO SCALE

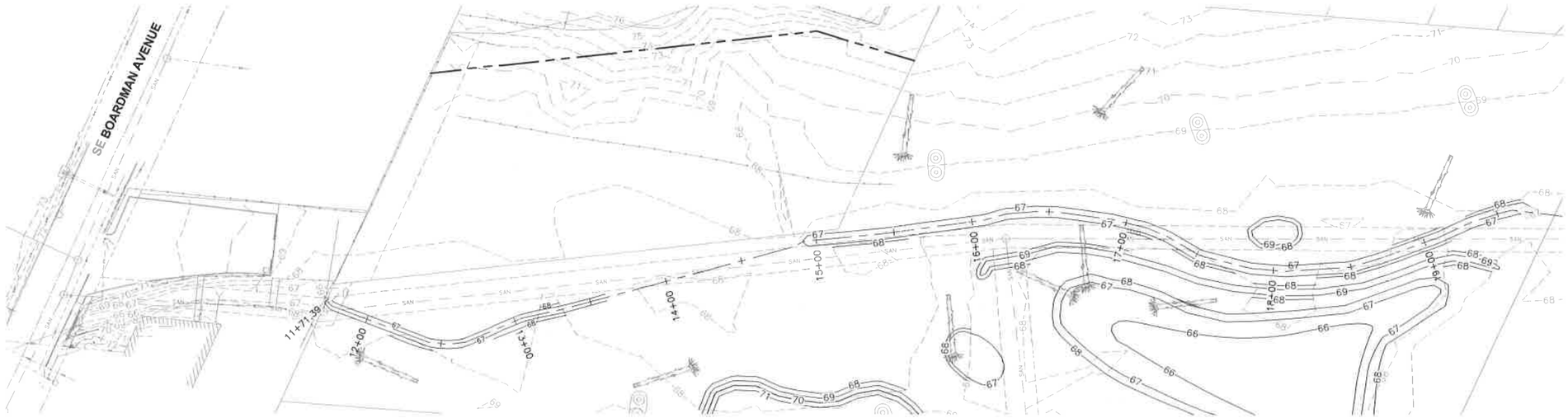
ISSUE	DATE	DESCRIPTION

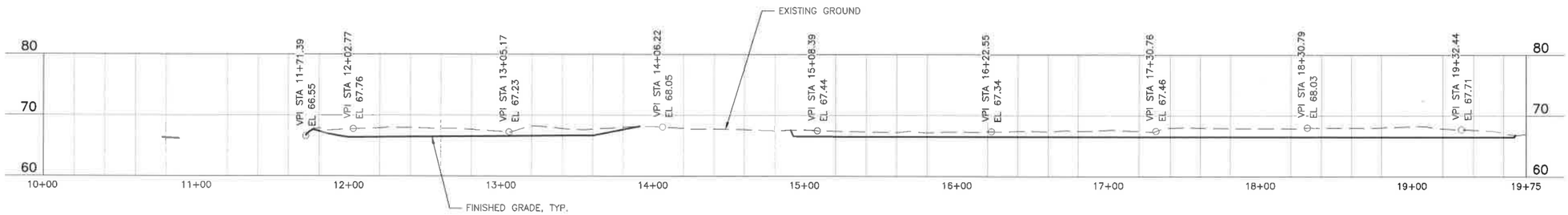
PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	10040058

BOARDMAN WETLAND COMPLEX

AREA 3 PLANTING PLAN

FILENAME	BDMN-C08
SCALE	Custom
SHEET	C08





ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

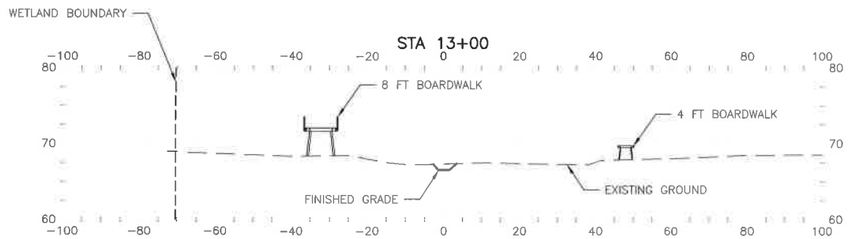
BOARDMAN WETLAND COMPLEX

STREAM PROFILE

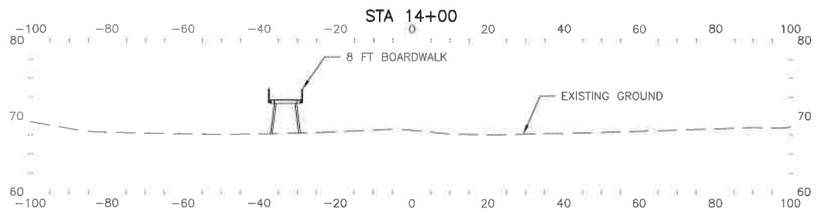
0 40 80

FILENAME	BDMN-C11
SCALE	AS SHOWN

SHEET C11

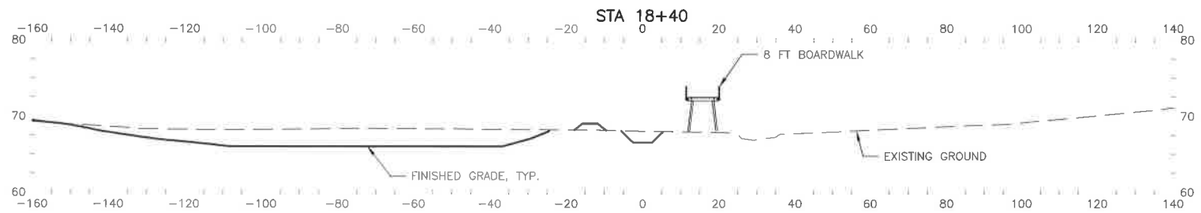


WETLAND SECTION A C1

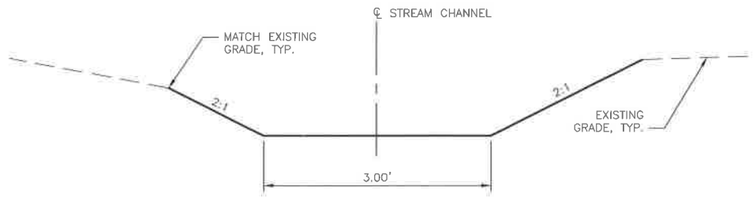


WETLAND SECTION B C1

WETLAND SECTION C C1



WETLAND SECTION D C1



TYPICAL CHANNEL SECTION 1 –

NOTES:

1. 8 FT BOARDWALK DECK ELEVATION TO BE 72 FT.
2. 4 FT BOARDWALK DECK ELEVATION TO BE 30 IN ABOVE FINISHED GRADE.

ISSUE	DATE	DESCRIPTION

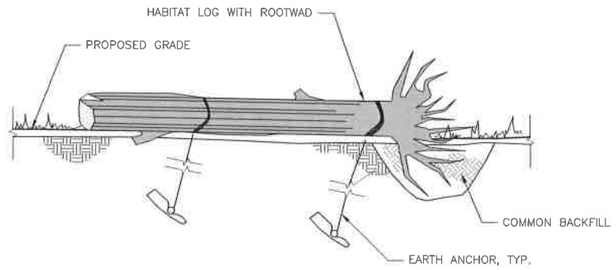
PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

CROSS SECTIONS

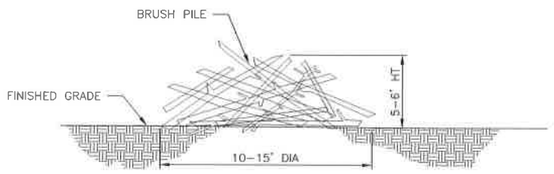
FILENAME	BDMN-C12
SCALE	AS SHOWN

SHEET C12



HABITAT LOG
SCALE: NTS

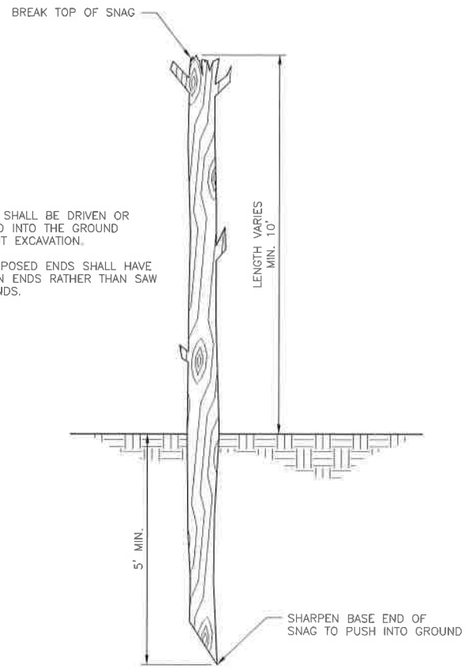
1



NOTES:
1. BRUSH PILE CONSTRUCTED FROM TREES AND BRUSH SALVAGED DURING DEMOLITION.
2. DO NOT REMOVE BARK.
3. DO NOT TREAT WITH PRESERVATIVES, STAINS, OR CHEMICAL TREATMENTS.
4. SEE PLANTING PLAN FOR APPROX. LOCATIONS. FINAL LOCATION TO BE APPROVED BY WETLAND MITIGATION SPECIALIST.

BRUSH PILE
SCALE: NTS

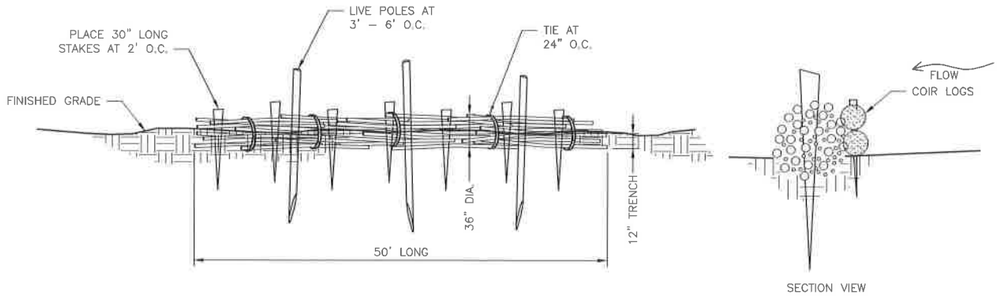
2



NOTES:
1. SNAGS SHALL BE DRIVEN OR PUSHED INTO THE GROUND WITHOUT EXCAVATION.
2. ALL EXPOSED ENDS SHALL HAVE BROKEN ENDS RATHER THAN SAW CUT ENDS.

SNAG
SCALE: NTS

3



NOTES:
1. HARVEST 1/2"–2" DIA. WILLOW CUTTINGS FROM LOCAL STANDS.
2. TIE BRANCHES INTO 36" DIA. BUNDLES ALTERNATING BUTT–ENDS. TIE SECURELY WITH TWINE.
3. EXCAVATE TRENCH AND PLACE BUNDLES.
4. PLACE 2"x4"x48" SPLIT WOOD STAKES AND LIVE WILLOW POLES THROUGH BUNDLES AT 3'–6' SPACING.
5. BACKFILL WITH NATIVE SOIL, TAMP TO REMOVE ALL AIR POCKETS, MAKING SURE THAT FIRM CONTACT IS MADE BETWEEN THE LIVE WILLOW BUNDLES/STAKES AND THE SOIL.
6. PLACE COIR LOGS ON UPSTREAM SIDE OF SIMULATED BEAVER DAM AND SECURE WITH STAKES SPACED AT 6' ON CENTER.
7. WATER BEAVER DAM AFTER INSTALLATION.

SIMULATED BEAVER DAM
SCALE: NTS

4

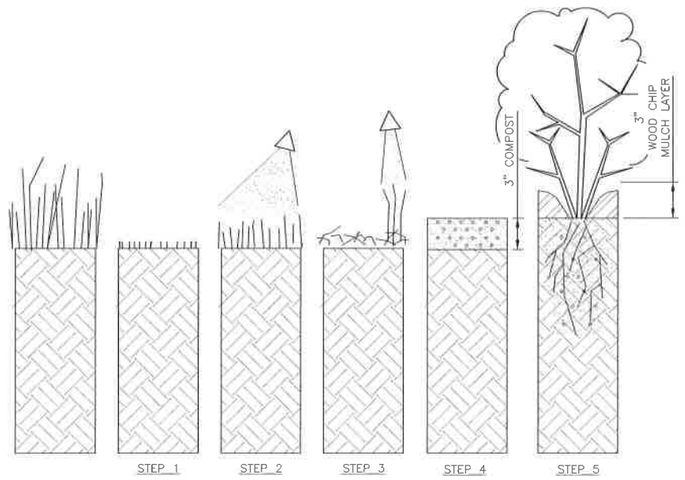
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	10040051

BOARDMAN WETLAND COMPLEX

RESTORATION DETAILS

FILENAME	BDMN-CD01
SCALE	NTS
SHEET	CD01



PLANTING AREA PREPARATION
(SEE GENERAL RESTORATION PLANTING NOTES)

STEP 1
APRIL 15 TO JUNE 30: CUT NOXIOUS AND UNWANTED VEGETATION TO THE GROUND AND REMOVE DEBRIS FROM SITE

STEP 2
AFTER A MINIMUM OF 12" OF RE-GROWTH, OR A MINIMUM OF ONE MONTH SPRAY REGROWTH WITH HERBICIDE

STEP 3
FOLLOWING A MINIMUM OF SIX WEEKS BUT NOT LATER THAN SEPTEMBER 15, SPOT-SPRAY RE-GROWTH WITH HERBICIDE

STEP 4
2 WEEKS MINIMUM POST SPOT-SPRAYING PLACE 3" DEPTH MEDIUM COMPOST ACCORDING TO STD SPEC SECTION XX

STEP 5
POCKET PLANT PLANTING MATERIAL THROUGH COMPOST AND INSTALL 3" DEPTH BARK OR WOOD CHIP MULCH ACCORDING TO STD SPEC SECTION XX AND THE PLANTING DETAILS. SEE NOTE 3.

NOTES:

1. THIS SEQUENCE OF WORK SHALL APPLY TO ALL PLANTING AREAS.
2. THIS DETAIL FOR ORDER OF WORK ONLY. WEED CONTROL IN PLANTING AREAS SHALL BE IN ACCORDANCE WITH STD SPEC SECTION XX.
3. BARK OR WOOD CHIP MULCH SHALL BE APPLIED TO ALL AREAS EXCEPT STREAM BANK PLANTING MIX AREAS. REFER TO SPECIAL PROVISIONS.

PLANTING AREA WEED CONTROL & SOIL PREPARATION

1 / –

SCALE: NTS

GENERAL RESTORATION PLANTING NOTES:

1. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK STANDARDS FOR PLANT MATERIAL, CURRENT EDITION.
2. SEE SPECIFICATIONS FOR ADDITIONAL PLANTING AREA PREPARATION AND WEED CONTROL REQUIREMENTS. HERBICIDE APPLICATION SHALL MEET LOCAL AND STATE CODES.
3. IMPORTED TOPSOILS SHALL MEET THE SPECIFICATIONS OF TOPSOIL TYPE A.

PLANTING SCHEDULE:

RESTORATION MIX	COMMON NAME	SCIENTIFIC NAME	SYMBOL	SPACING	CONDITION	MIN. SIZE
SEMIPERMANENTLY FLOODED – TYPE 1 (EMERGENT POND FRINGE)	SMALL-FRUITED BULRUSH	SCIRPUS MICROCARPUS	SB	5' O.C.	CORM	2.5 FT
	BROAD LEAF ARROWHEAD	SAGITTARIA LATIFOLIA	BA	5' O.C.	CORM	2.5 FT
	NARROWLEAF BUR-REED	SPARGANIUM ANGUSTIFOLIUM	NB	5' O.C.	CORM	2.5 FT
	SOFT STEM BULRUSH	SCHOENOPLECTUS TABERNAEMONTANI	SSF	5' O.C.	PLUG	2.5 FT
SEASONALLY FLOODED – TYPE 2	SLOUGH SEDGE	CAREX OBNUPTA	SS	2' O.C.	PLUG	N/A
	LADY FERN	ATHYRIUM FILIX-FEMINA	LF	2' O.C.	PLUG	N/A
	REDTWIG DOGWOOD	CORNUS SERICEA	RD	5' O.C.	1 GALLON	2.5 FT
	DOUGLAS SPIREA	SPIRAEA DOUGLASII	SD	5' O.C.	1 GALLON	2.5 FT
	PACIFIC WILLOW	SALIX LUCIDA	SP	5' O.C.	LIVE STAKE	2.5 FT
	SITKA WILLOW	SALIX SITCHENSIS	SW	5' O.C.	1 GALLON	2.5 FT
RIPARIAN – TYPE 3	BLACK COTTONWOOD	POPULUS BALSAMIFERA	BC	5' O.C.	1 GALLON	2.5 FT
	RED ALDER	ALNUS RUBRA	RA	5' O.C.	1 GALLON	2.5 FT
	WESTERN RED CEDAR	THUJA PLICATA	RC	5' O.C.	2 GALLON	5 FT
	WESTERN CRABAPPLE	MALUS FUSCA	MF	5' O.C.	1 GALLON	2.5 FT
	OREGON ASH	FRAXINUS LATIFOLIA	FL	5' O.C.	1 GALLON	2.5 FT
	SALMON BERRY	RUBUS SPECTABILIS	SB	5' O.C.	1 GALLON	2.5 FT
	REDTWIG DOGWOOD	CORNUS SERICEA	RD	5' O.C.	1 GALLON	2.5 FT
BUFFER/UPLAND – TYPE 4	COMMON SNOWBERRY	SYMPHORICARPOS ALBUS	CS	5' O.C.	1 GALLON	2.5 FT
	PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	PN	5' O.C.	1 GALLON	2.5 FT
	DOUGLAS FIR	PSEUDOTSUGA MENZEISII	PM	5' O.C.	2 GALLON	5 FT
	REDFLOWER CURRANT	RIBES SANGUINEUM	RF	5' O.C.	1 GALLON	2.5 FT
	VINE MAPLE	ACER CIRCINATUM	VM	5' O.C.	1 GALLON	2.5 FT

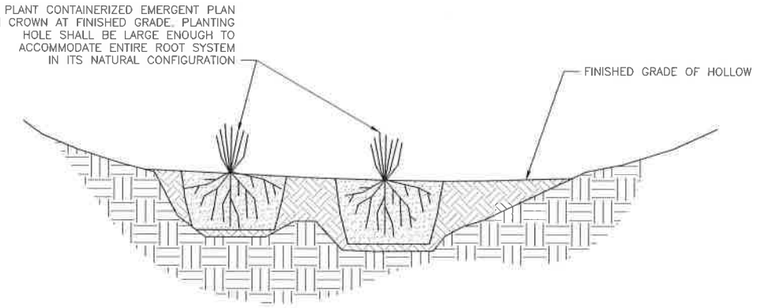
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

PLANTING DETAILS 1

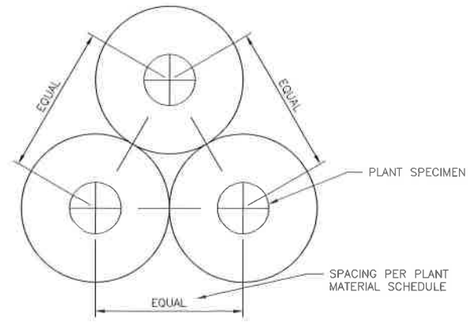
FILENAME: BDMN-CD02
SCALE: NTS
SHEET: CD02



PLANTING DETAIL FOR HOLLOWS

1

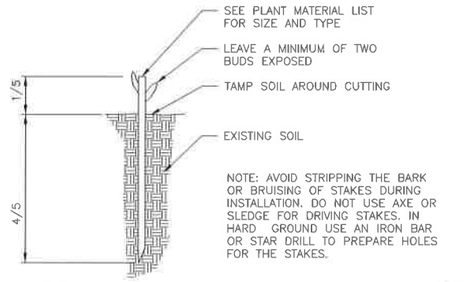
SCALE: NTS



TYPICAL TRIANGULAR PLANT SPACING

2

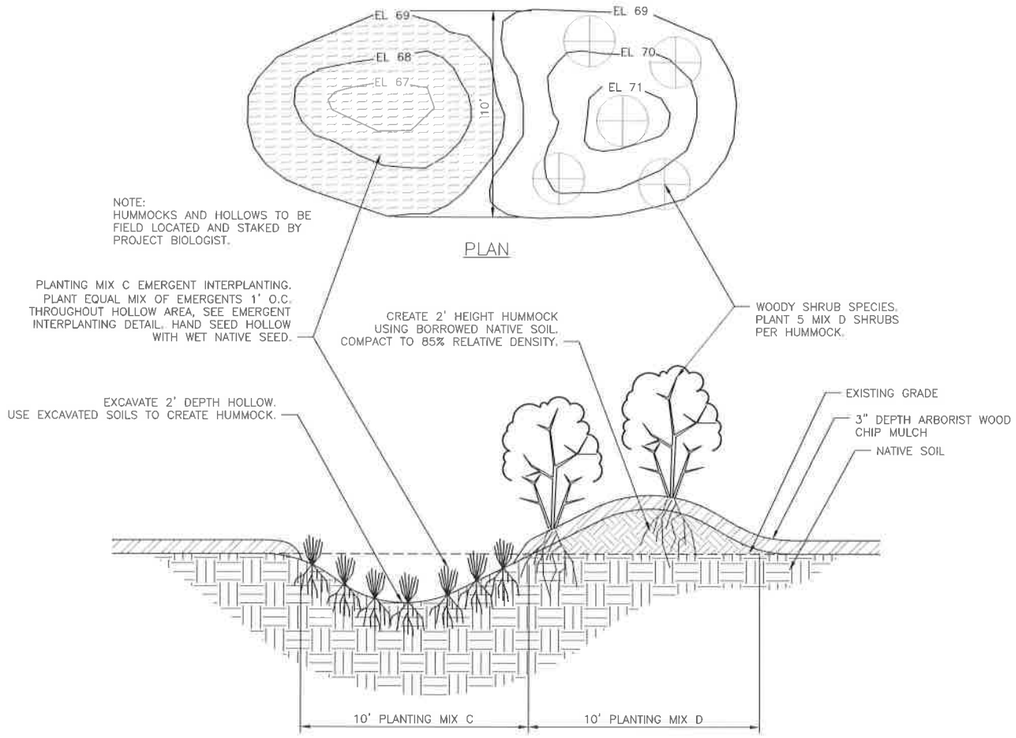
SCALE: NTS



LIVE STAKE INSTALLATION

3

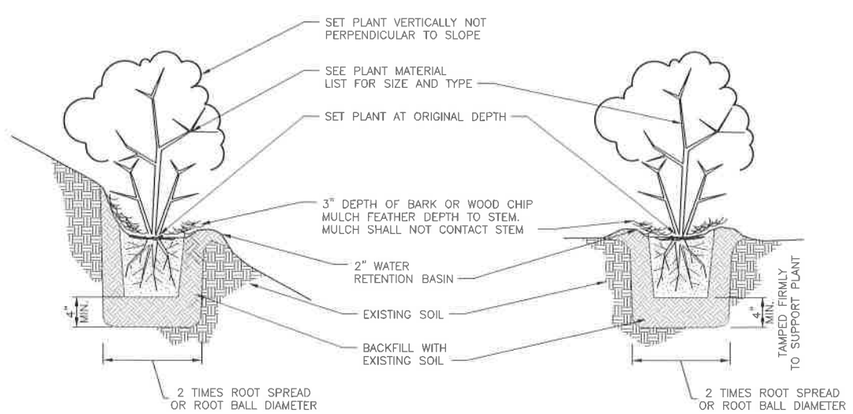
SCALE: NTS



HUMMOCK AND HOLLOW DETAIL

4

SCALE: NTS



*NOTE: BARK OR WOOD CHIP MULCH SHALL BE PLACED IN 12" RADIUS AROUND EACH PLANT.

TREE AND SHRUB PLANTING

5

SCALE: NTS

ISSUE	DATE	DESCRIPTION

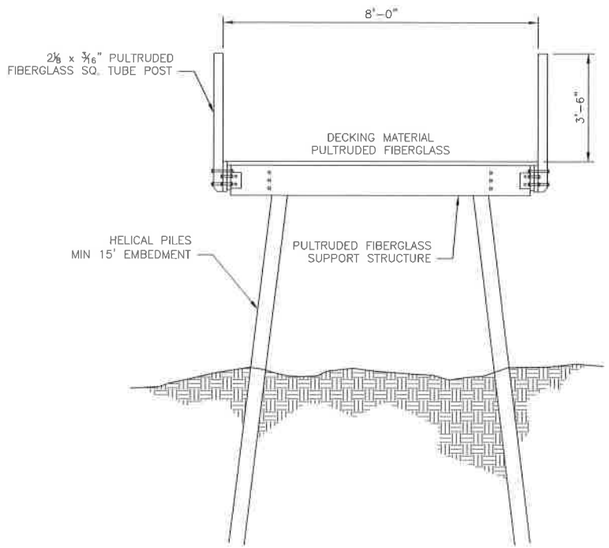
PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

PLANTING DETAILS 2

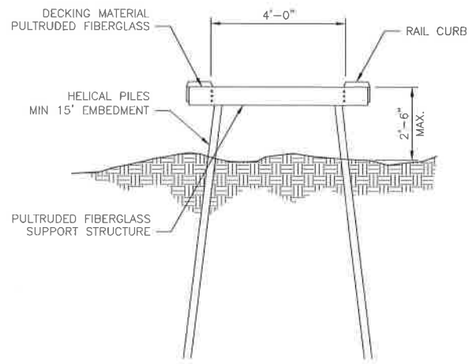
FILENAME	BDMN-CD03
SCALE	NTS

SHEET CD03



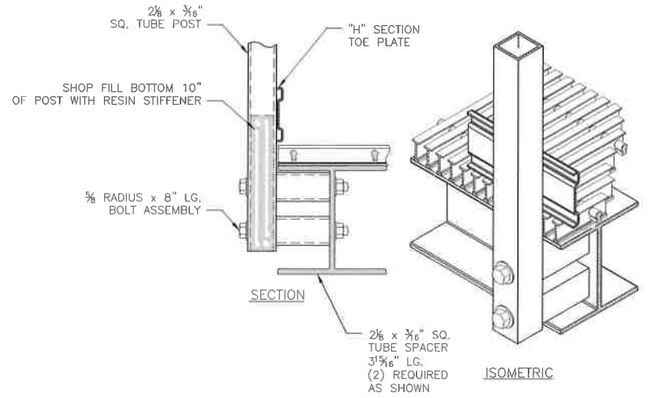
8' WIDE BOARDWALK SECTION VIEW

SCALE: NTS



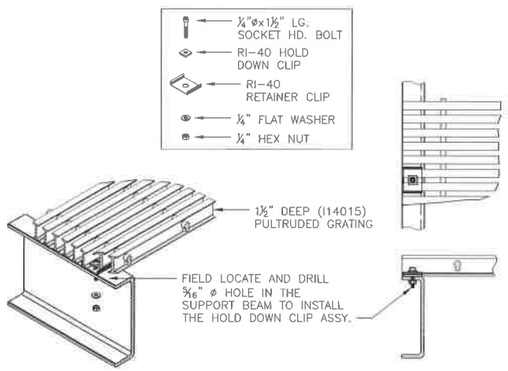
4' WIDE BOARDWALK SECTION VIEW

SCALE: NTS



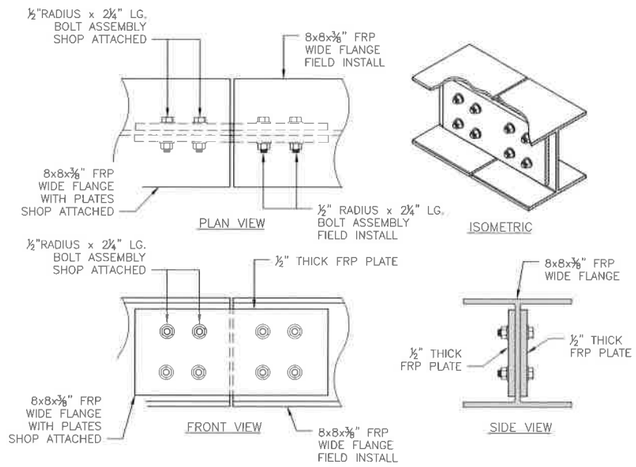
HANDRAIL CONNECTION DETAIL

SCALE: NTS



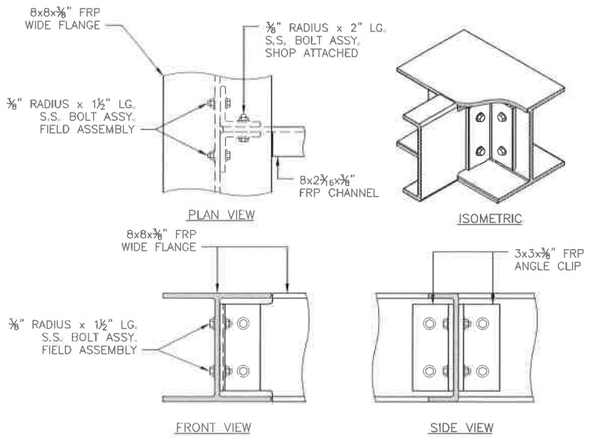
DECKING CONNECTION DETAIL

SCALE: NTS



SPLICE CONNECTION DETAIL

SCALE: NTS



TEE CONNECTION DETAIL

SCALE: NTS

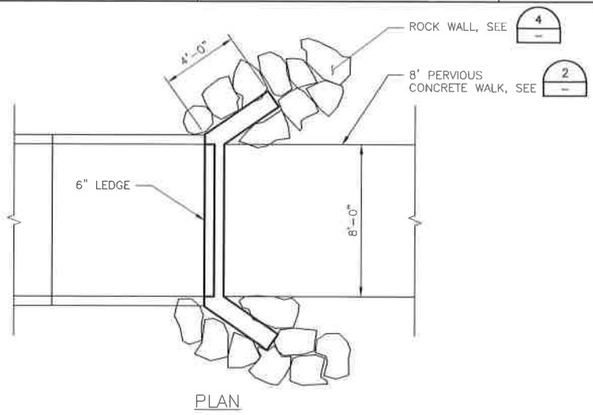
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

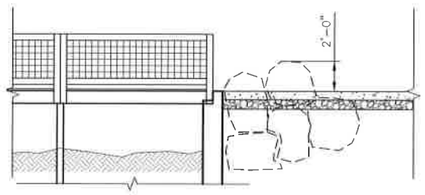
BOARDMAN WETLAND COMPLEX

TRAIL AND BOARDWALK DETAILS 1

FILENAME	BDMN-CD04
SCALE	NTS
SHEET	CD04

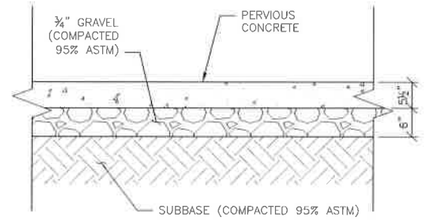


PLAN

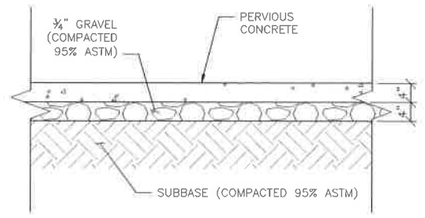


SECTION

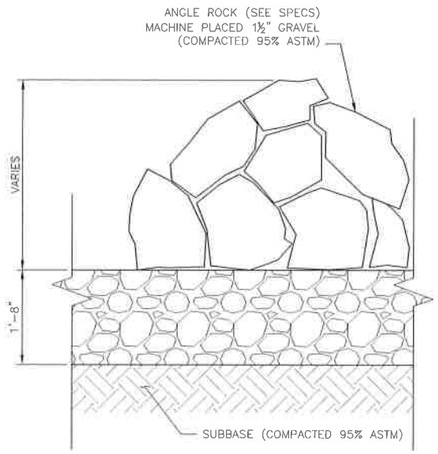
CONCRETE HEAD WALL 1
SCALE: 1/4" = 1'-0"



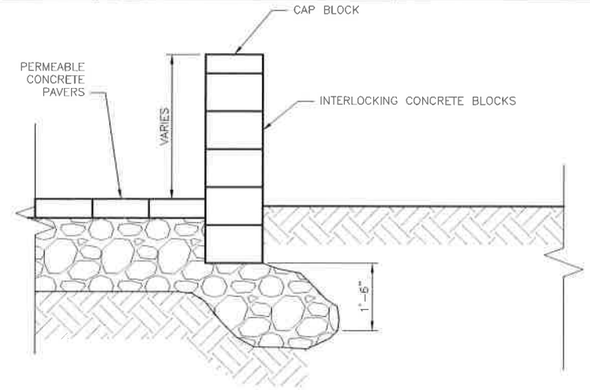
8' PERVIOUS CONCRETE WALK 2
SCALE: 3/4" = 1'-0"



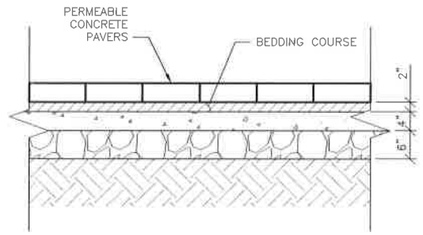
4' PERVIOUS CONCRETE WALK 3
SCALE: 3/4" = 1'-0"



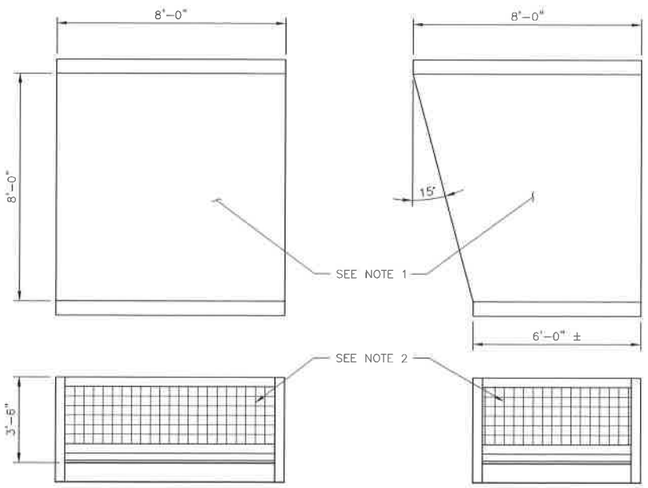
ROCK WALL 4
SCALE: 3/4" = 1'-0"



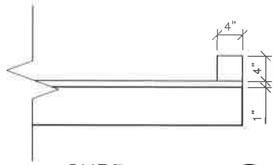
CLASS SPACE SEAT WALL 5
SCALE: 3/4" = 1'-0"



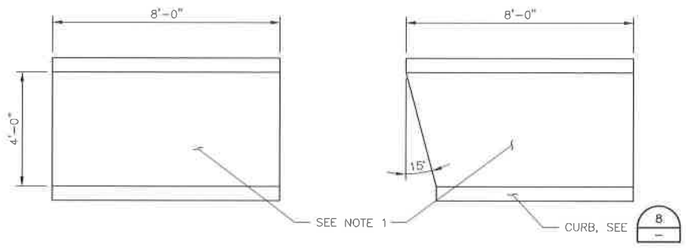
CLASS SPACE PAVING 6
SCALE: 3/4" = 1'-0"



8' BOARDWALK 7
SCALE: 3/8" = 1'-0"



CURB 8
SCALE: 1" = 1'-0"



4' BOARDWALK 9
SCALE: 3/8" = 1'-0"

NOTES:

1. DECKING BASE BID
   SAFE-T-SPAN T2510
   POLTRUDED GRATING

   DECKING ALTERNATE NO. 2
   THRU FLOW
   REINFORCED
   POLYPROPYLENE

2. RAILING INFILL
   FENCE PANEL
   "BLACK HOG"
   WILD HOG RAILINGS
   6 GA. POWDER COATED
   COLOR BLACK

ISSUE	DATE	DESCRIPTION

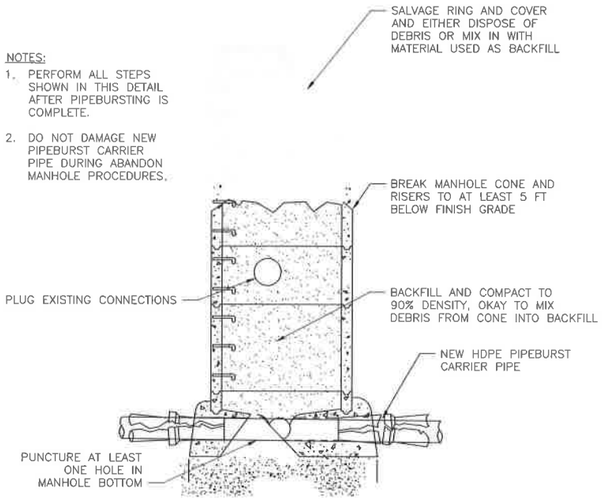
PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

TRAIL AND BOARDWALK DETAILS 2

FILENAME	BDMN-CD05
SCALE	NTS

SHEET
CD05



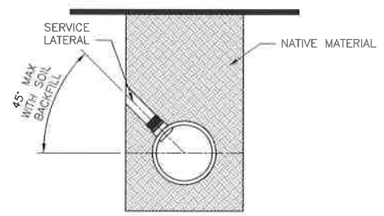
NOTES:

1. PERFORM ALL STEPS SHOWN IN THIS DETAIL AFTER PIPEBURSTING IS COMPLETE.
2. DO NOT DAMAGE NEW PIPEBURST CARRIER PIPE DURING ABANDON MANHOLE PROCEDURES.

ABANDON MANHOLE DETAIL

SCALE: NTS

1



NOTES:

1. THE SEWER TAP SHALL NOT BE MADE EXCEPT IN THE PRESENCE OF A CITY INSPECTOR NOR SHALL ANY CONNECTION BE MADE WITHOUT CITY APPROVAL.
2. HDPE ELECTROFUSION TEE IS REQUIRD ON HDPE SANITARY SEWER MAINLINES.
3. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS".
4. THE TEE CONNECTION SHOULD NOT BE PLACED AT AN ANGLE EXCEEDING 45° FROM THE SPRINGLINE. GREATER ANGLES ARE SUBJECT TO DESIGN ENGINEER APPROVAL AND MAY REQUIRE ALTERNATE BACKFILL.
5. SEWER TAP SHALL BE MADE ABOVE SPRINGLINE.
6. HOLE IN MAIN TO BE MACHINE DRILLED OR CORED.

TEE DETAIL

SCALE: NTS

2

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lule
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

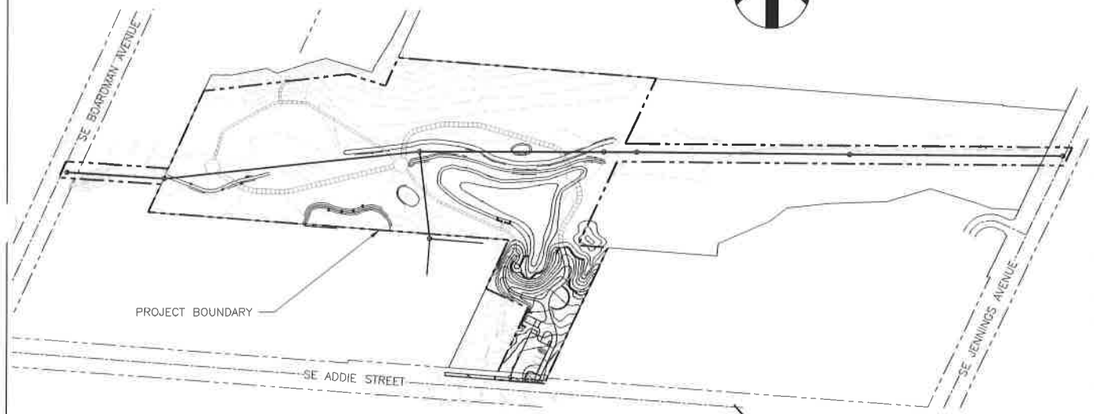
SANITAR□ SEWER DETAILS

FILENAME	BDMN-CD06
SCALE	NTS

SHEET CD06

EROSION AND SEDIMENT CONTROL PLANS:

VICINITY MAP



SITE MAP

130 0 130 260

SCALE IN FEET

CLASSIFICATION AND DESCRIPTION:

SITE SOIL CLASSIFICATION:

91B WOODBURN SILT LOAM,
3 TO 8 PERCENT SLOPES
25 COVE SILT CLAY LOAM

PROPERTY DESCRIPTION:

WITHIN CLACKAMAS COUNTY, TAX LOTS # 22E18CA02716, 22E18CA04101, 22E18CA04407, 22E18CA04200, 22E18CA04300. LOCATED IN SECTION 18, TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

SITE DESCRIPTION:

PROJECT AREA LOCATED IN CLACKAMAS COUNTY WITHIN SENSITIVE AREAS.

PROJECT LOCATION:

WETLAND BETWEEN SE BOARDMAN AVENUE AND SE JENNINGS AVENUE EAST OF SE ADDIE STREET.
LATITUDE = 45.394
LONGITUDE= -122.611

NARRATIVE DESCRIPTIONS:

EXISTING SITE CONDITIONS

WETLAND CREEK WITH ADJACENT DEVELOPMENT.

DEVELOPED CONDITIONS

REGRADE TO PROVIDE TOPOGRAPHICAL VARIETY, INSTALL BOARDWALK AND TRAILS, PROVIDE PARKING AND AMENITIES. ADD NATIVE PANTINGS

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

- GRADING AND TRAILS (JULY 1 – DEC 15)
- COMPLETE GRADING AND SEEDING BY: DEC 15

TOTAL SITE AREA = 6.0 ACRES
TOTAL DISTURBED AREA = 3.5 ACRES

RECEIVING WATER BODIES:

TRIBUTARY TO WILLAMETTE RIVER

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A 8.A)
2. THE ESCP MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE MEASURES AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS. (SCHEDULE A8.C.II.(1)(C))
3. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT. (SCHEDULE A 12.C.IV)
4. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL LO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A 8.C.II.(L)(D))
5. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED.
   IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A8.C.I.(1) & (2))
6. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.O.V.(1) AND A7.O.V.(3))
7. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS. (SCHEDULE A.7.D.I AND A.B.C)
8. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. DIRECT ALL WASH WATER INTO A PIT OR LEAK-PROOF CONTAINER. HANDLE WASH WATER AS WASTE, CONCRETE DISCHARGE TO WATERS OF THE SLATE IS PROHIBITED. (SCHEDULE A8.C.I.(6) AND A.B.C.II.(2))
9. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GROVEL ROADWAYS. (SCHEDULE A8.C.II.(3))
10. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A8.C.I.(7))
11. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES. (SCHEDULE A 7.D.II. AND A8.C.I(4))
12. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(5))
13. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS: VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
14. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCH A 7.E.III.)
15. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A 7.A.IV)
16. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)
17. IF A STORMWATER TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION AL INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A9.D)
18. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL LIMES OF THE YEAR. (SCHEDULE A 7.A.II)
19. AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SCHEDULE A 7.E.II.(2))
20. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND DURING WET WEATHER. (SCHEDULE A7.A.I)
21. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
22. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SCHEDULE A9.C.II)
23. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A9.C.III & IV)
24. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A9.B.I)
25. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SCHEDULE A9.B.II)
26. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
27. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR ON ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A7.F.II)
28. PROVIDE PERMANENT EROSION CONTROL MEASURES ON ALL EXPOSED AREAS. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. HOWEVER, DO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AS EXPOSED AREAS BECOME STABILIZED, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. PROPERLY DISPOSE OF CONSTRUCTION MATERIALS AND WASTE, INCLUDING SEDIMENT RETAINED BY TEMPORARY BMPS. (SCHEDULE A.7.A.V(2) AND A8.C.III)
29. IF WATER OF THE STATE IS WITHIN THE PROJECT SITE OR WITHIN 50 FEET OF THE PROJECT BOUNDARY, MAINTAIN THE EXISTING NATURAL BUFFER WITHIN THE 50-FOOT ZONE FOR THE DURATION OF THE PERMIT COVERAGE, OR MAINTAIN LESS THAN THE ENTIRE EXISTING NATURAL BUFFER AND PROVIDE ADDITIONAL EROSION AND SEDIMENT CONTROL BMPS. (SCHEDULE A.7.B.I)

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES:

1. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAT SEPTEMBER 1; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS.
2. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP i.e. (FILTER BAG).
3. ALL EXPOSED SOILS MUST BE COVERED DURING THE WET WEATHER PERIOD (OCT 1 – MAY 31).

BMP MATRIX FOR CONSTRUCTION PHASES:

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMPS.

	CLEARING	MASS GRADING	UTILITY INSTALLATION	STREET CONSTRUCTION	FINAL STABILIZATION	WET WEATHER (OCT 1 - MAY 31)
EROSION PREVENTION						
PRESERVE NATURAL VEGETATION	**X	X	X		X	X
GROUND COVER	X		X			X
HYDRAULIC APPLICATIONS					X	
PLASTIC SHEETING						
MATTING						
DUST CONTROL	X	X	X		X	
TEMPORARY/ PERMANENT SEEDING		X	X		X	X
BUFFER ZONE	**X	X			X	X
OTHER: FLOW DIVERSION		*X	X			
SEDIMENT CONTROL						
SEDIMENT FENCE (PERIMETER)					X	X
SEDIMENT FENCE (INTERIOR)	**X	X		X	X	
STRAW WATTLES					X	
FLOCK DEPM	**X	X			X	X
INLET PROTECTION	**X		X	X		
DEWATERING	**X	X	X			
SEDIMENT TRAP	**X		X			
NATURAL BUFFER ENCROACHMENT						
OTHER:						
RUN OFF CONTROL						
CONSTRUCTION ENTRANCE	**X	X	X	X	X	X
PIPE SLOPE DRAIN						
OUTLET PROTECTION	**X		X		X	
SURFACE ROUGHENING					X	X
CHECK DAMS	X	X		X		
OTHER:						
POLLUTION PREVENTION						
PROPER SIGNAGE	X	X	X	X	X	X
HAZ WASTE MGMT			X			
SPILL KIT ON-SITE	**X	X	X	X	X	
CONCRETE WASHOUT AREA			X	X		
OTHER:						

* SIGNIFIES ADDITIONAL BMPS REQUIRED FOR WORK WITHIN 50 FT OF WATERS OF THE STATE.

** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

RATIONALE STATEMENT:

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ's GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMPS WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INITIAL

PERMITTEE'S SITE INSPECTOR:

COMPANY/AGENCY: _____
PHONE: _____
FAX: _____
E-MAIL: _____
DESCRIPTION OF EXPERIENCE: _____

INSPECTION FREQUENCY:

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOW MELT, IS OCCURRING. AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS, REGARDLESS OF WHETHER RUNOFF IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PRIOR GREATER THAN FOURTEEN (14) CONSECUTIVE CALENDAR DAYS.	ONCE EVERY 1 MONTH.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.
5. PERIOD DURING WHICH DISCHARGE IS UNLIKELY DUE TO FREEZING CONDITIONS.	MONTHLY, RESUME MONITORING IMMEDIATELY UPON MELT, OR WHEN WEATHER CONDITIONS MAKE DISCHARGE UNLIKELY.

- HOLD A PRE-CON MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE EC INSPECTOR.
  ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200C PERMIT REQUIREMENTS.
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200C PERMIT REQUIREMENTS.
- RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR LOCAL MUNICIPALITY DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION (SCHEDULE B.2.a)

GENERAL NOTE:

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

PLANNING ENGINEERING SURVEYING FIRM:

DEVELOPER:

OAK LODGE WATER SERVICES
CONTACT: JASON RICE
14496 SE RIVER ROAD
OAK GROVE, OR 97267
PHONE: 503-654-7765

ENGINEERING:

HDR ENGINEERING, INC.
CONTACT: AMY DAMMARELL
1001 SW 5TH AVENUE, SUITE 1800
PORTLAND, OR 97204-1134
PHONE: 503-423-3700
FAX: 503-423-3737

SURVEYING FIRM:

AKS ENGINEERING AND FORESTRY
CONTACT: NICK WHITE
12965 SW HERMAN ROAD #100
TUALATIN, OR 97062
PHONE: 503-563-6151

HDR

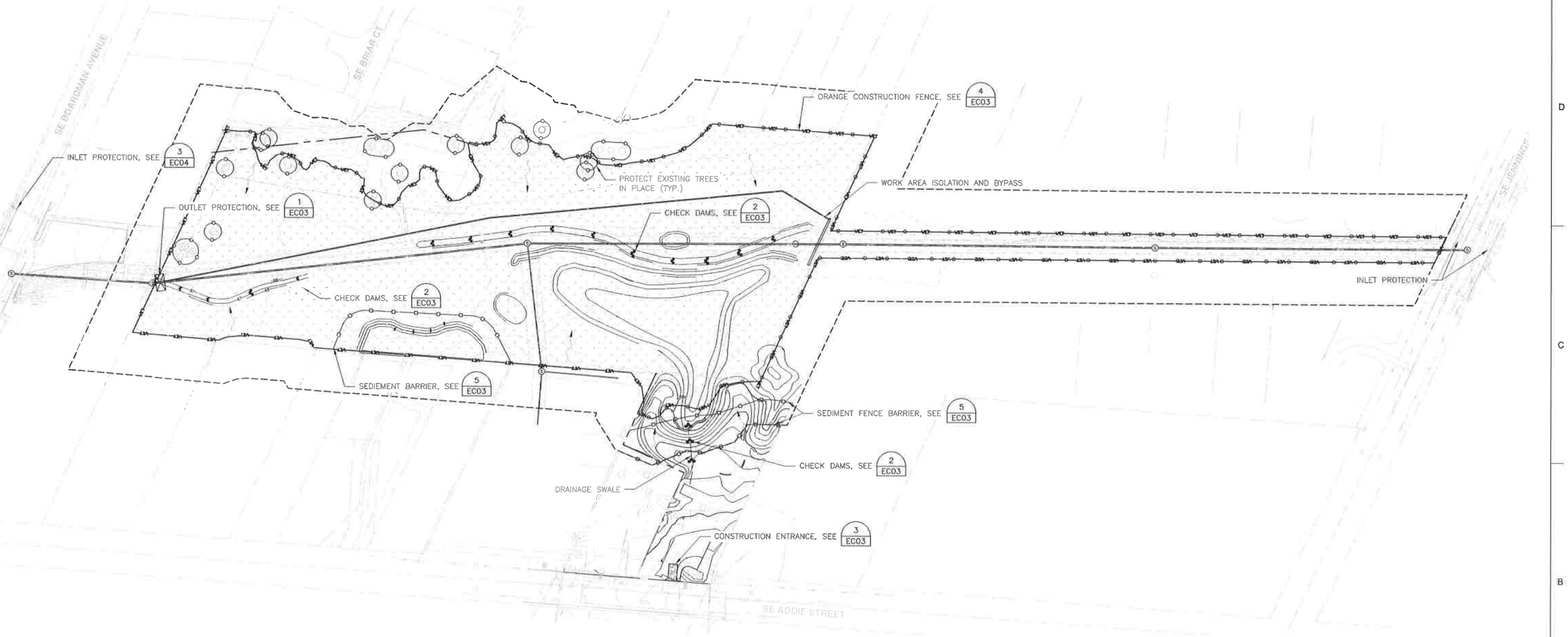
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

EROSION AND SEDIMENT CONTROL GENERAL NOTES

FILENAME: BDMN-EC01
SCALE: AS SHOWN
SHEET: EC01



PLAN

60 0 60 120

SCALE IN FEET

PRE-CONSTRUCTION CLEARING, DEMOLITION AND GRADING NOTES:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. INSTALL CHECK DAMS AFTER GRADING AND BEFORE STABILIZATION.
3. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.
4. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA.
5. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
6. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES MAY INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING. STRAW WATTLES, FILTER BERMS, AND BANK STABILIZATION.
7. REFER TO PLANTING PLAN FOR SEED MIXES FOR TEMPORARY OR PERMANENT SEEDING. RESTORE THE SITE AT THE COMPLETION OF CONSTRUCTION.
8. AN AREA SHALL BE PROVIDED FOR THE WASHING OUT OF CONCRETE TRUCKS IN A LOCATION THAT DOES NOT PROVIDE RUN-OFF THAT CAN ENTER THE STORM WATER SYSTEM. IF THE CONCRETE WASH-OUT AREA CAN NOT BE CONSTRUCTED GREATER THAN 50' FROM ANY DISCHARGE POINT, SECONDARY MEASURES SUCH AS BERMS OR TEMPORARY SETTLING PITS MAY BE REQUIRED. THE WASH-OUT SHALL BE LOCATED WITHIN SIX FEET OF TRUCK ACCESS AND BE CLEANED WHEN IT REACHES 50% OF THE CAPACITY.
9. THESE EROSION AND SEDIMENT CONTROL PLANS ASSUME "DRY WEATHER" CONSTRUCTION. "WET WEATHER" CONSTRUCTION MEASURES NEED TO BE APPLIED BETWEEN OCT. 1ST AND MAY 31ST.
10. APPLY MULCH TO AREAS THAT ARE WITHIN 50 FEET OF THE CHANNEL THAT HAVE RECENTLY BEEN GRADED AND DO NOT YET HAVE ESTABLISHED VEGETATION.

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT)
- SEDIMENT BARRIER
- ORANGE CONSTRUCTION FENCE
- CONSTRUCTION ENTRANCE
- WETLAND
- DRAINAGE FLOW DIRECTION
- PROPERTY LINE

ISSUE	DATE	DESCRIPTION
-	-	-

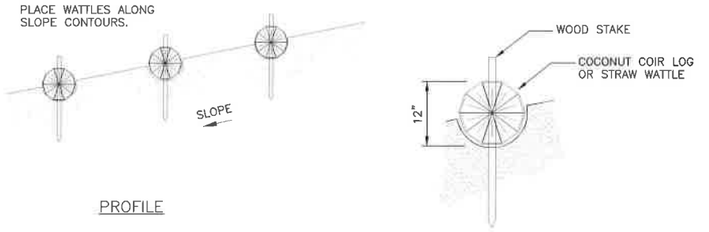
PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	A. Dammarell
PROJECT NUMBER	10040051

BOARDMAN WETLAND COMPLEX

EROSION AND SEDIMENT CONTROL PLAN

FILENAME	BDMN-EC02
SCALE	AS SHOWN

SHEET EC02

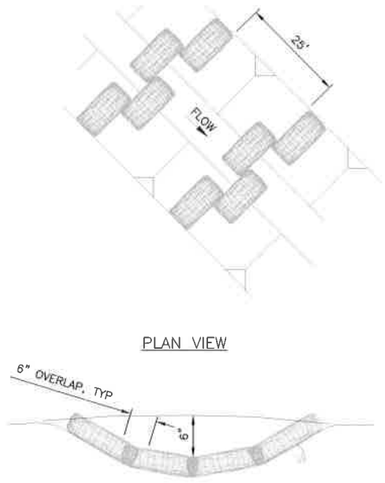


NOTES:

1. STAKING SPECIFICATIONS:
   a. 1"X2" WOODEN STAKES
   b. ADDITIONAL STAKES MAY BE INSTALLED ON DOWNHILL SIDE OF LOGS, ON STEEP SLOPE OR HIGHLY EROSIVE SOILS.

STRAW OR COIR WATTLES

NTS

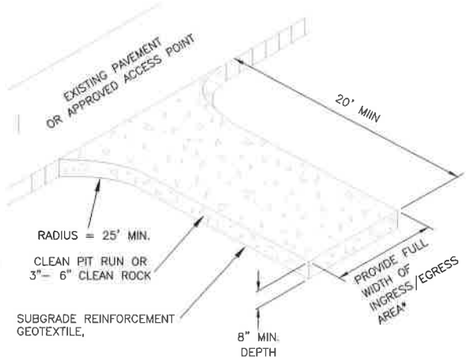


NOTES:

1. STAKING OF BAGS REQUIRED USING (2) 1"X2" WOOD STAKES OR APPROVED EQUAL PER BAG.
2. CHECK DAMS CAN BE CONSTRUCTED USING STRAW WATTLES OR OTHER APPROVED MATERIALS.

CHECK DAM

NTS

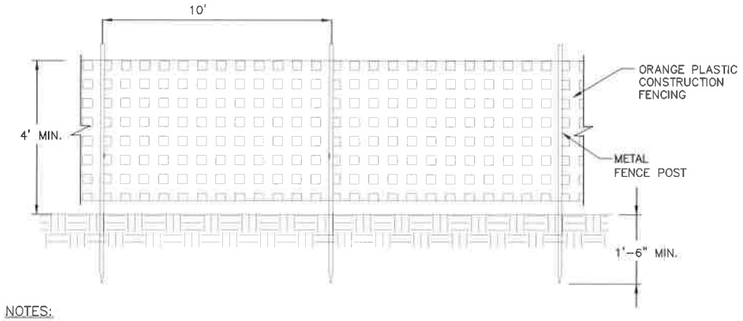


NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUN OFF THROUGH AN APPROVED FILTERING SYSTEM.

CONSTRUCTION ENTRANCE

NTS

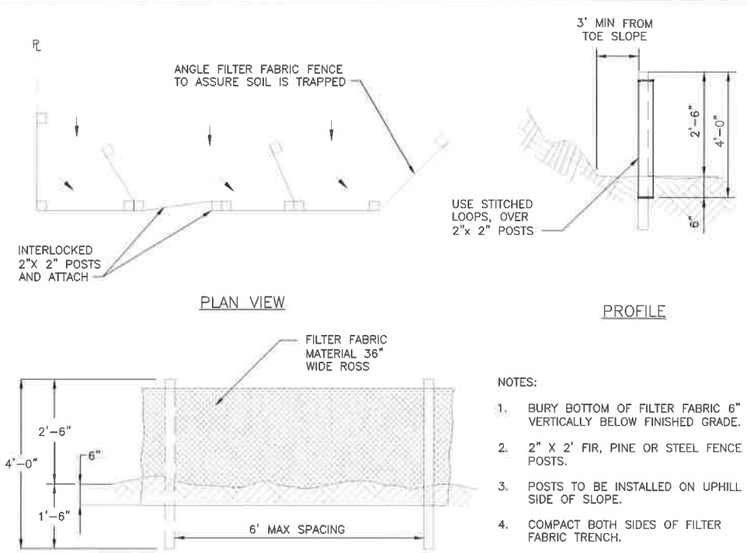


NOTES:

1. FENCE ALIGNMENT CAN BE CHANGED SLIGHTLY TO AVOID TREE ROOT ZOONES
2. DO NOT NAIL OR STAPLE FENCE TO TREES.

ORANGE CONSTRUCTION FENCE

NTS

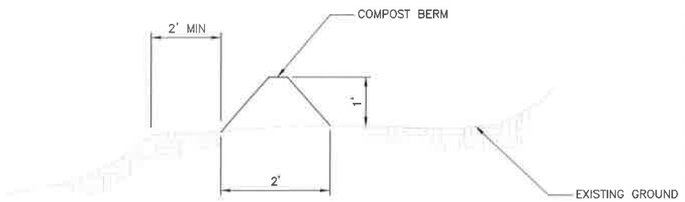


NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2" X 2' FIR, PINE OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.

SEDIMENT FENCE

NTS



FILTER BERM

NTS

ISSUE	DATE	DESCRIPTION

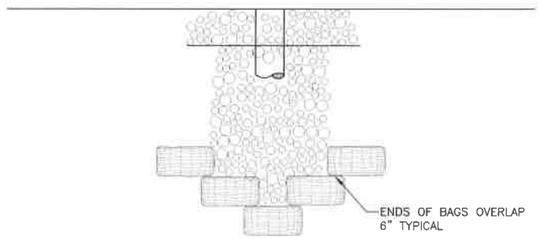
PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

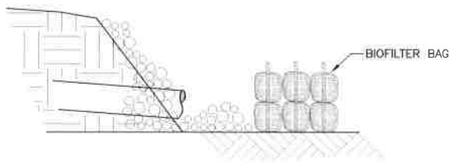
EROSION AND SEDIMENT CONTROL DETAILS 1

FILENAME	BDMN-EC03
SCALE	AS SHOWN

SHEET EC03



PLAN VIEW



PROFILE

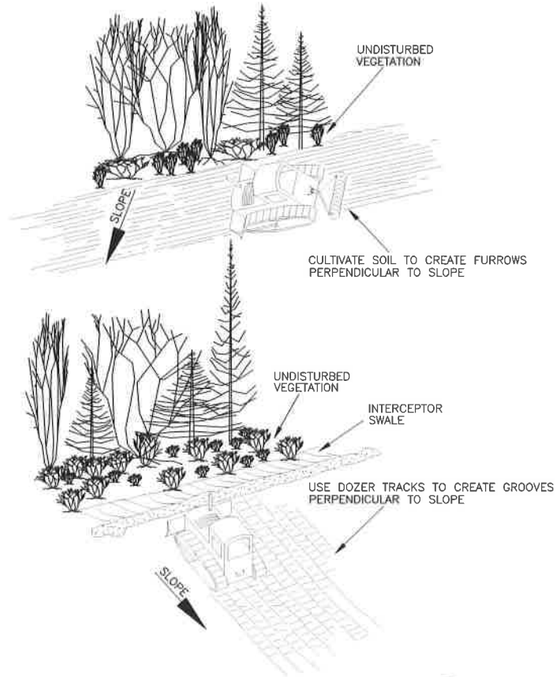
NOTES:

1. BIO BAGS ONLY REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER.
2. STAKING OF BAGS REQUIRED WITH EITHER METHOD USING (2) 1"x 2" WOOD STAKES OR APPROVED EQUAL PER BAG.

OUTLET PROTECTION

NTS

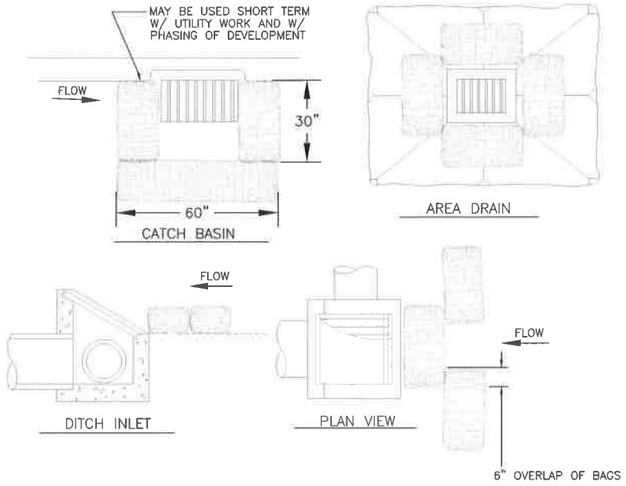
1



SURFACE ROUGHENING

NTS

2



NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2"WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN YOU MUST HAVE 4 BAGS AND THEY SHALL BE OVERLAPPED BY 6".

INLET PROTECTION

NTS

3

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	Amy Dammarell
DESIGNED	P. Woerrlein
DRAWN BY	D. Lute
CHECKED BY	
PROJECT NUMBER	1004005

BOARDMAN WETLAND COMPLEX

EROSION AND SEDIMENT CONTROL
DETAILS 2

FILENAME	BDMN-EC04
SCALE	AS SHOWN

SHEET
EC04