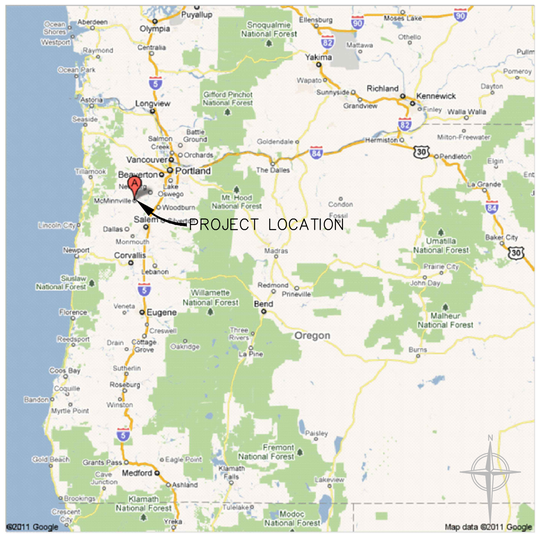
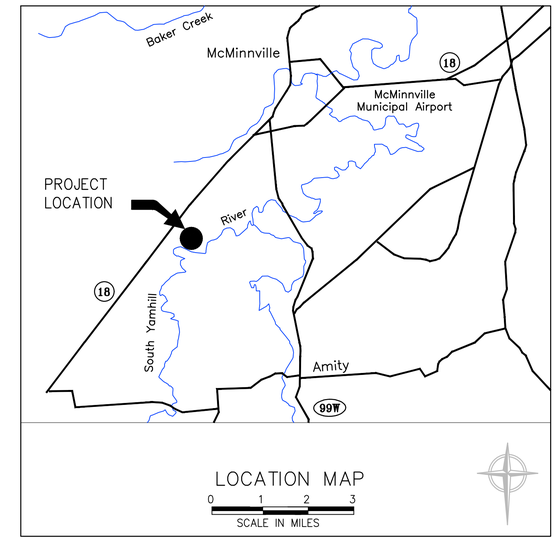
PERMIT DRAWINGS
MODULE 11
RIVERBEND LANDFILL
MCMINNVILLE, OREGON
SEPTEMBER 2015

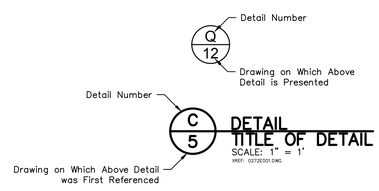


INDEX OF SHEETS

SHEET NO.	TITLE
1	COVER AND INDEX SHEET
2	SITE PLAN AND EXISTING TOPOGRAPHY
3	BASE GRADING PLAN–OVERALL
4	FINAL GRADING PLAN
5	SURFACE WATER MANAGEMENT PLAN
6	BASE GRADING PLAN–MODULES 11ABC
7	BASE GRADING PLAN–MODULE 11D
8	DETAILS I
9	DETAILS II
10	DETAILS III
11	DETAILS IV
12	DETAILS V
13	DETAILS VI
14	DETAILS VII



DETAIL IDENTIFICATION LEGEND



Example: Detail Number 2 Presented on Drawing No. 6 was Referenced for the First Time on Drawing No. 5.

NOTES: ABOVE REFERENCING SYSTEM ALSO APPLIES TO SECTION IDENTIFICATIONS.

PREPARED FOR:

RIVERBEND LANDFILL COMPANY
13469 HIGHWAY 18
McMINNVILLE, OREGON 97128

PREPARED BY:

Geosyntec consultants
engineers | scientists | innovators

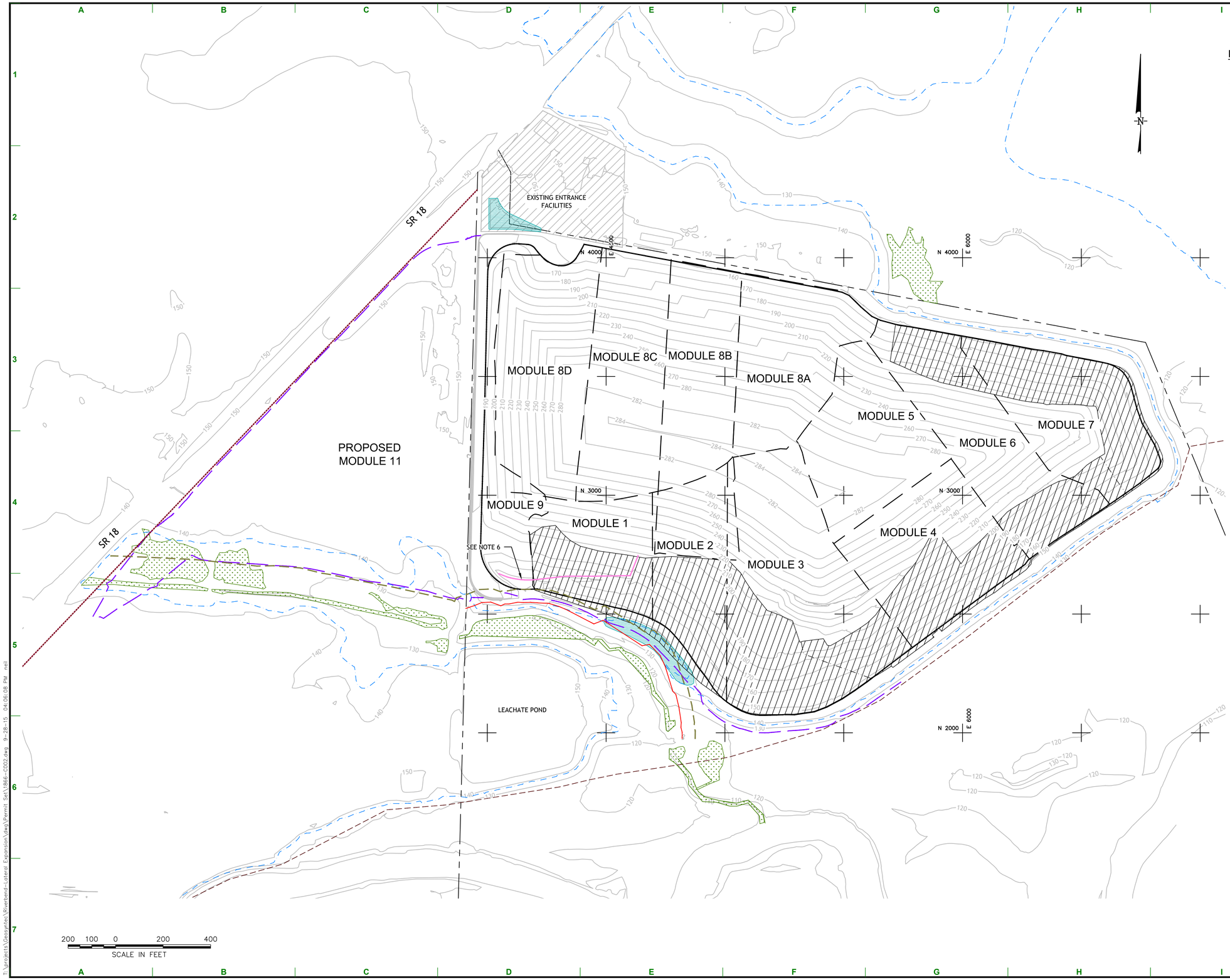
1111 BROADWAY, SIXTH FLOOR
OAKLAND, CALIFORNIA 94607

Expires: 6/30/2016

PROJECT NO. WG1866

SHEET NO. 1

T:\projects\Geosyntec\Riverbend-Lateral Expansion\dwg\Permit Set\1866-C001.dwg 9-28-15 03:52:40 PM neil



LEGEND:

- EXISTING TOPOGRAPHY
- APPROXIMATE EXISTING MODULES BOUNDARY
- EXISTING PERMITTED AREA
- PL BOUNDARY
- 105' OFFSET TO STREAM BANK
- 50' OFFSET TO STREAM BANK
- 50' OFFSET TO TAX LOT LINE
- PROPOSED TOE OF BERM
- 100 YR FLOODPLAIN
- EXISTING FLOODWAY
- EXISTING TERMINATION BERM (SEE NOTE 6)
- STORMWATER POND (EXISTING)
- WETLANDS (SEE NOTE 1)
- PREVIOUSLY CLOSED AREA

NOTES:

1. SITE TOPOGRAPHY PROVIDED BY WM (AERIAL PHOTOGRAPHY BY AERO-METRIC, INC., DATED 15 FEBRUARY 2015). AS THE SITE IS AN ACTIVE LANDFILL, TOPOGRAPHY MAY HAVE CHANGED SINCE THE SURVEY DATE SHOWN.

2. DISPOSAL MODULE AND PREVIOUSLY-CLOSED AREAS BOUNDARIES COMPILED BY GEOSYNTEC BASED ON DATA PROVIDED BY RIVERBEND LANDFILL COMPANY.

3. ADDITIONAL BENCHMARKS LOCATED OUTSIDE LIMITS SHOWN ON DRAWING ARE AVAILABLE ON ELECTRONIC SITE TOPOGRAPHY FILE. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL CONFIRM BENCHMARKS WITH LELAND MACDONALD AND ASSOCIATES, LLC., MCMINNVILLE, OREGON.

4. NORTHINGS, EASTINGS, AND ELEVATIONS ARE IN LOCAL COORDINATE SYSTEM AS DETERMINED BY LELAND A. MACDONALD AND ASSOCIATES, LLC, MCMINNVILLE, OREGON. TO CONVERT FROM NAVD88 TO LOCAL ELEVATIONS NEED TO SUBTRACT 2.78 FEET FROM NAVD88 ELEVATIONS.

5. EXISTING FINAL COVER IN AREA OF MODULE 1, 2, AND 3 SHALL BE USED AS OVERLINER WITH PRIOR CONFIRMATION OF ITS LIMITS IN THE FIELD.

6. PORTION OF MODULE 9 OVERLIES MODULE 1.

REGISTERED PROFESSIONAL ENGINEER — OREGON — Expires 6/30/2016

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: SITE PLAN AND EXISTING TOPOGRAPHY

PROJECT TITLE: SITE PERMIT APPLICATION RIVERBEND EXPANSION - MODULE 11 RIVERBEND LANDFILL - COMPANY YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	ACP	DATE:	SEPTEMBER 2015
DRN BY:	ACP	SCALE:	AS SHOWN
CHK BY:	FWS	PROJECT:	WG1866
REV BY:	FWS	DOCUMENT:	
APP BY:	HDS	FILE:	

Geosyntec consultants
1111 Broadway
Sixth Floor
Oakland, CA 94607

DRAWING NO. 2

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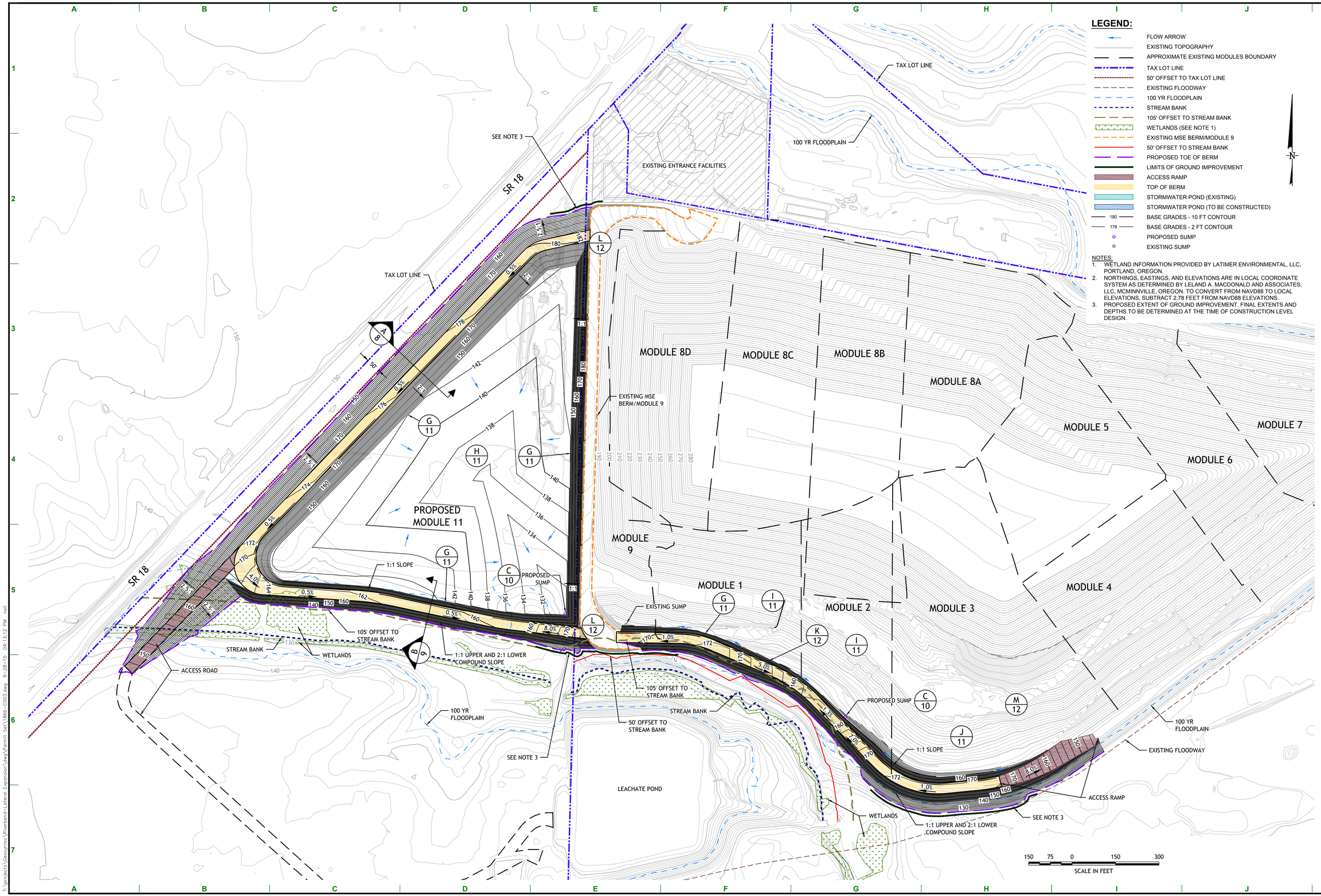

LEGEND:

- FLOW ARROW
- EXISTING TOPOGRAPHY
- APPROXIMATE EXISTING MODULES BOUNDARY
- TAX LOT LINE
- 50' OFFSET TO TAX LOT LINE
- EXISTING FLOODWAY
- 100 YR FLOODPLAIN
- STREAM BANK
- 105' OFFSET TO STREAM BANK
- WETLANDS (SEE NOTE 1)
- EXISTING MSE BERM/MODULE 9
- 50' OFFSET TO STREAM BANK
- PROPOSED TOE OF BERM
- LIMITS OF GROUND IMPROVEMENT
- ACCESS RAMP
- TOP OF BERM
- STORMWATER POND (EXISTING)
- STORMWATER POND (TO BE CONSTRUCTED)
- 180 BASE GRADES - 10 FT CONTOUR
- 178 BASE GRADES - 2 FT CONTOUR
- PROPOSED SUMP
- EXISTING SUMP

NOTES:

1. WETLAND INFORMATION PROVIDED BY LATIMER ENVIRONMENTAL, LLC, PORTLAND, OREGON.
2. NORTHINGS, EASTINGS, AND ELEVATIONS ARE IN LOCAL COORDINATE SYSTEM AS DETERMINED BY LELAND A. MACDONALD AND ASSOCIATES, LLC, MCMINNVILLE, OREGON. TO CONVERT FROM NAVD88 TO LOCAL ELEVATIONS, SUBTRACT 2.78 FEET FROM NAVD88 ELEVATIONS.
3. PROPOSED EXTENT OF GROUND IMPROVEMENT. FINAL EXTENTS AND DEPTHS TO BE DETERMINED AT THE TIME OF CONSTRUCTION LEVEL DESIGN.

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: BASE GRADING PLAN OVERALL

PROJECT TITLE: SITE PERMIT APPLICATION RIVERBEND EXPANSION - MODULE 11 RIVERBEND LANDFILL - CORNELIUS YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS	DATE:	SEPTEMBER 2015
DRN BY:	NTB	SCALE:	AS NOTED
CHK BY:	FWS	PROJECT:	WG1866
REV BY:	FWS	DOCUMENT:	
APP BY:	HDS	FILE:	

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DRAWING NO. 3

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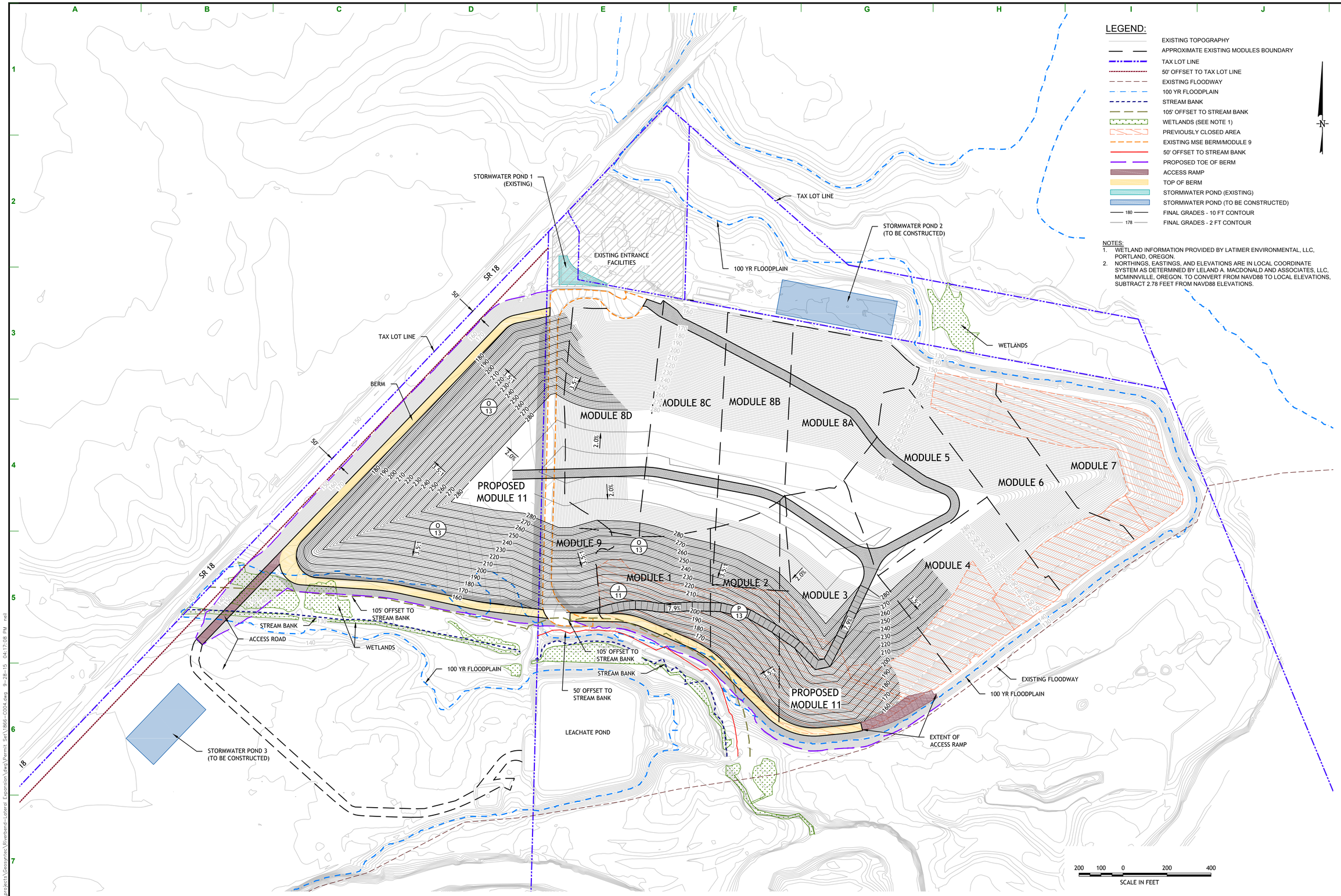

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: FINAL GRADING PLAN

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - LORAL WAY
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY: FWS	DATE: SEPTEMBER 2015
DRN BY: NTB	SCALE: AS NOTED
CHK BY: FWS	PROJECT: WG1866
REV BY: FWS	DOCUMENT:
APP BY: HDS	FILE:

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DRAWING NO. 4

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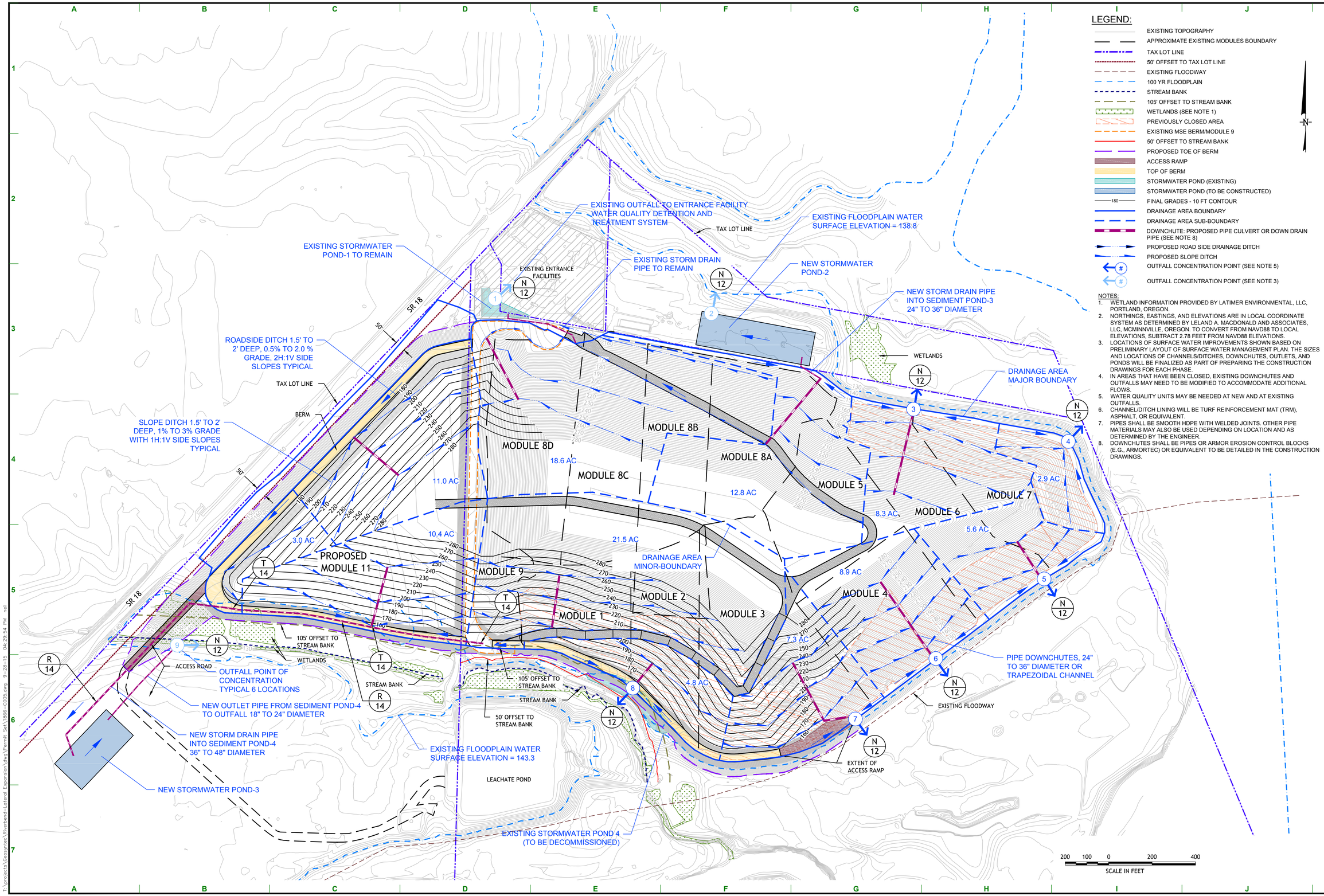

LEGEND:

- EXISTING TOPOGRAPHY
- APPROXIMATE EXISTING MODULES BOUNDARY
- TAX LOT LINE
- 50' OFFSET TO TAX LOT LINE
- EXISTING FLOODWAY
- 100 YR FLOODPLAIN
- STREAM BANK
- 105' OFFSET TO STREAM BANK
- WETLANDS (SEE NOTE 1)
- PREVIOUSLY CLOSED AREA
- EXISTING MSE BERM/MODULE 9
- 50' OFFSET TO STREAM BANK
- PROPOSED TOE OF BERM
- ACCESS RAMP
- TOP OF BERM
- STORMWATER POND (EXISTING)
- STORMWATER POND (TO BE CONSTRUCTED)
- 180 FINAL GRADES - 10 FT CONTOUR
- DRAINAGE AREA BOUNDARY
- DRAINAGE AREA SUB-BOUNDARY
- DOWNCHUTE: PROPOSED PIPE CULVERT OR DOWN DRAIN PIPE (SEE NOTE 8)
- PROPOSED ROAD SIDE DRAINAGE DITCH
- PROPOSED SLOPE DITCH
- # OUTFALL CONCENTRATION POINT (SEE NOTE 5)
- # OUTFALL CONCENTRATION POINT (SEE NOTE 3)

N

NOTES:

1. WETLAND INFORMATION PROVIDED BY LATIMER ENVIRONMENTAL, LLC, PORTLAND, OREGON.
2. NORTHINGS, EASTINGS, AND ELEVATIONS ARE IN LOCAL COORDINATE SYSTEM AS DETERMINED BY LELAND A. MACDONALD AND ASSOCIATES, LLC, MCMINNVILLE, OREGON. TO CONVERT FROM NAVD88 TO LOCAL ELEVATIONS, SUBTRACT 2.78 FEET FROM NAVD88 ELEVATIONS.
3. LOCATIONS OF SURFACE WATER IMPROVEMENTS SHOWN BASED ON PRELIMINARY LAYOUT OF SURFACE WATER MANAGEMENT PLAN. THE SIZES AND LOCATIONS OF CHANNELS/DITCHES, DOWNCHUTES, OUTLETS, AND PONDS WILL BE FINALIZED AS PART OF PREPARING THE CONSTRUCTION DRAWINGS FOR EACH PHASE.
4. IN AREAS THAT HAVE BEEN CLOSED, EXISTING DOWNCHUTES AND OUTFALLS MAY NEED TO BE MODIFIED TO ACCOMMODATE ADDITIONAL FLOWS.
5. WATER QUALITY UNITS MAY BE NEEDED AT NEW AND AT EXISTING OUTFALLS.
6. CHANNEL/DITCH LINING WILL BE TURF REINFORCEMENT MAT (TRM), ASPHALT, OR EQUIVALENT.
7. PIPES SHALL BE SMOOTH HDPE WITH WELDED JOINTS. OTHER PIPE MATERIALS MAY ALSO BE USED DEPENDING ON LOCATION AND AS DETERMINED BY THE ENGINEER.
8. DOWNCHUTES SHALL BE PIPES OR ARMOR EROSION CONTROL BLOCKS (E.G., ARMORTEC) OR EQUIVALENT TO BE DETAILED IN THE CONSTRUCTION DRAWINGS.

REGISTERED PROFESSIONAL ENGINEER — Lawrence B. Stevenson — OREGON — Expires 6/30/16

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: SURFACE WATER MANAGEMENT PLAN

PROJECT TITLE: SITE PERMIT APPLICATION RIVERBEND EXPANSION - MODULE 11 RIVERBEND LANDFILL - COON ROAD YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS	DATE:	SEPTEMBER 2015
DRN BY:	NTB	SCALE:	AS NOTED
CHK BY:	FWS	PROJECT:	WG1866
REV BY:	FWS	DOCUMENT:	
APP BY:	HDS		
FILE:			

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DRAWING NO. 5

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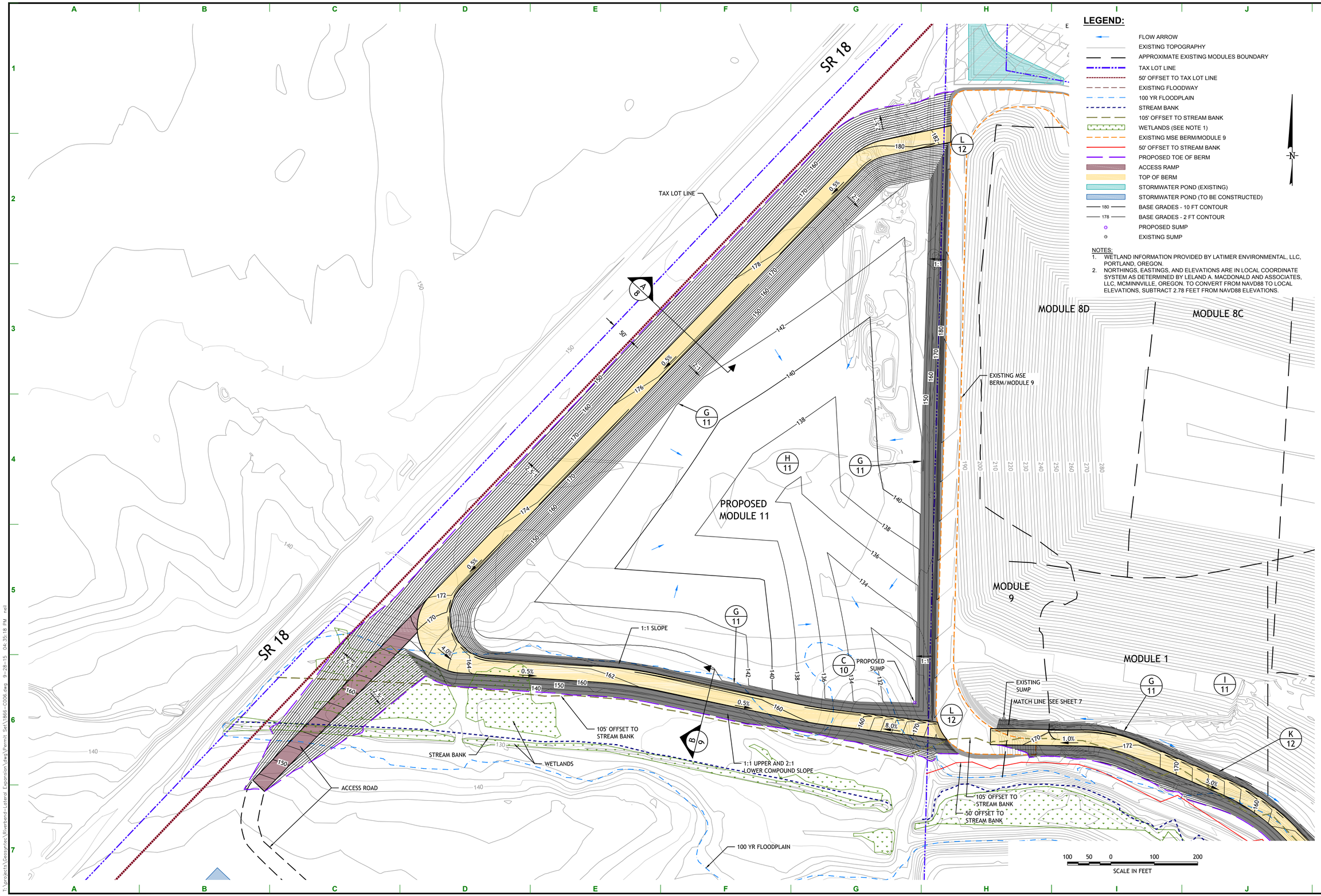

LEGEND:

- FLOW ARROW
- EXISTING TOPOGRAPHY
- APPROXIMATE EXISTING MODULES BOUNDARY
- TAX LOT LINE
- 50' OFFSET TO TAX LOT LINE
- EXISTING FLOODWAY
- 100 YR FLOODPLAIN
- STREAM BANK
- 105' OFFSET TO STREAM BANK
- WETLANDS (SEE NOTE 1)
- EXISTING MSE BERM/MODULE 9
- 50' OFFSET TO STREAM BANK
- PROPOSED TOE OF BERM
- ACCESS RAMP
- TOP OF BERM
- STORMWATER POND (EXISTING)
- STORMWATER POND (TO BE CONSTRUCTED)
- 180 BASE GRADES - 10 FT CONTOUR
- 178 BASE GRADES - 2 FT CONTOUR
- PROPOSED SUMP
- EXISTING SUMP

NOTES:

1. WETLAND INFORMATION PROVIDED BY LATIMER ENVIRONMENTAL, LLC, PORTLAND, OREGON.
2. NORTHINGS, EASTINGS, AND ELEVATIONS ARE IN LOCAL COORDINATE SYSTEM AS DETERMINED BY LELAND A. MACDONALD AND ASSOCIATES, LLC, MCMINNVILLE, OREGON. TO CONVERT FROM NAVD88 TO LOCAL ELEVATIONS, SUBTRACT 2.78 FEET FROM NAVD88 ELEVATIONS.

REGISTERED PROFESSIONAL ENGINEER — Alfred G. Stevens — OREGON — Expires 6/30/2016

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE
BASE GRADING PLAN MODULE 11ABC

PROJECT TITLE
SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - COMPANY
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS
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CHK BY:	FWS
REV BY:	FWS
APP BY:	HDS
FILE:	
DATE:	SEPTEMBER 2015
SCALE:	AS NOTED
PROJECT:	WG1866
DOCUMENT:	

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DRAWING NO.
6

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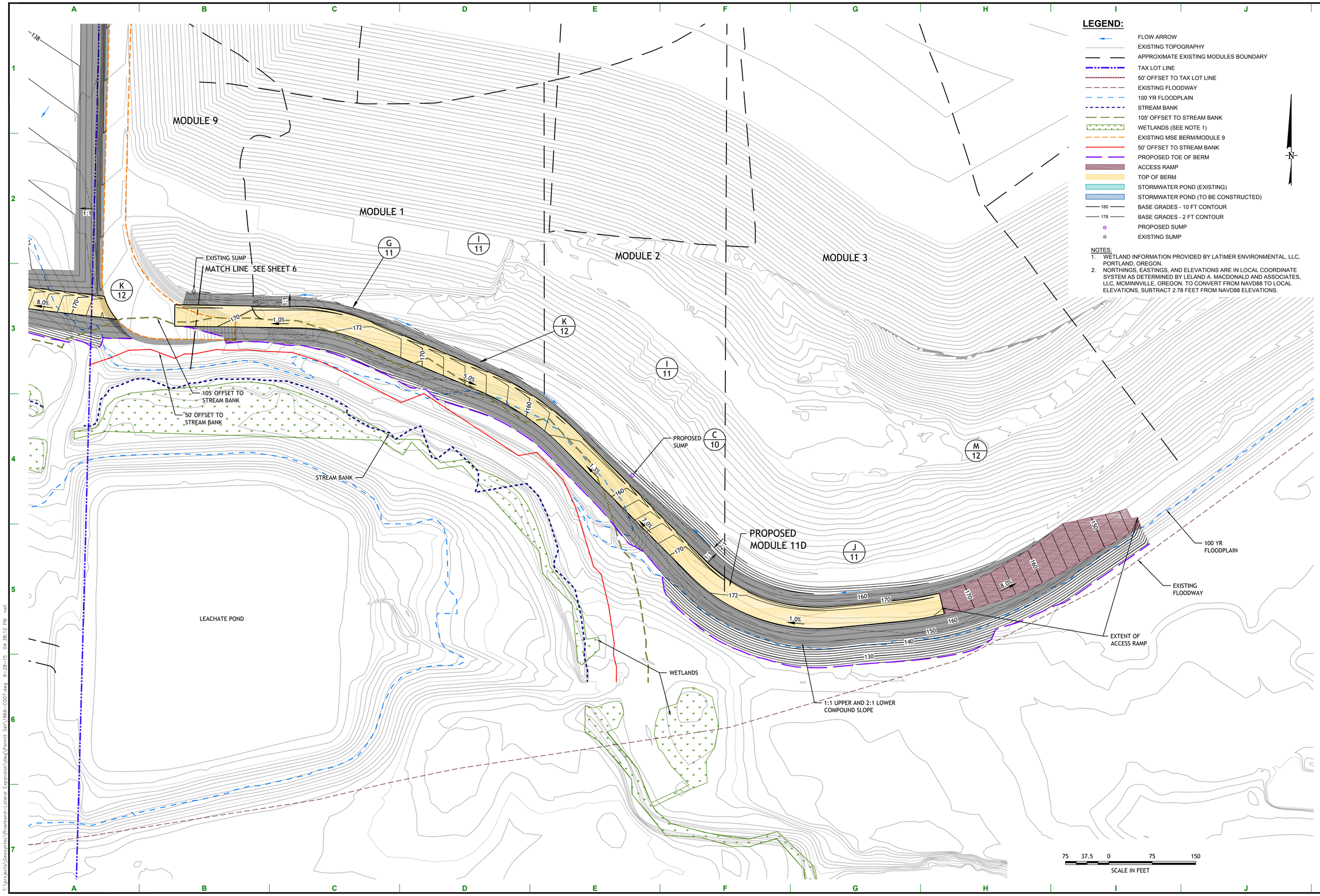

LEGEND:

- FLOW ARROW
- EXISTING TOPOGRAPHY
- APPROXIMATE EXISTING MODULES BOUNDARY
- TAX LOT LINE
- 50' OFFSET TO TAX LOT LINE
- EXISTING FLOODWAY
- 100 YR FLOODPLAIN
- STREAM BANK
- 105' OFFSET TO STREAM BANK
- WETLANDS (SEE NOTE 1)
- EXISTING MSE BERM/MODULE 9
- 50' OFFSET TO STREAM BANK
- PROPOSED TOE OF BERM
- ACCESS RAMP
- TOP OF BERM
- STORMWATER POND (EXISTING)
- STORMWATER POND (TO BE CONSTRUCTED)
- 180 BASE GRADES - 10 FT CONTOUR
- 178 BASE GRADES - 2 FT CONTOUR
- PROPOSED SUMP
- EXISTING SUMP

NOTES:

1. WETLAND INFORMATION PROVIDED BY LATIMER ENVIRONMENTAL, LLC, PORTLAND, OREGON.
2. NORTHINGS, EASTINGS, AND ELEVATIONS ARE IN LOCAL COORDINATE SYSTEM AS DETERMINED BY LELAND A. MACDONALD AND ASSOCIATES, LLC, MCMINNVILLE, OREGON. TO CONVERT FROM NAVD88 TO LOCAL ELEVATIONS, SUBTRACT 2.78 FEET FROM NAVD88 ELEVATIONS.

REGISTERED PROFESSIONAL ENGINEER — STEVEN J. SHAMOUN — OREGON — EXPIRES: 6/30/16

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: BASE GRADING PLAN MODULE 11D

PROJECT TITLE: SITE PERMIT APPLICATION RIVERBEND EXPANSION - MODULE 11 RIVERBEND LANDFILL - CORNELIUS YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS	DATE:	SEPTEMBER 2015
DRN BY:	NTB	SCALE:	AS NOTED
CHK BY:	FWS	PROJECT:	WG1866
REV BY:	FWS	DOCUMENT:	
APP BY:	HDS	FILE:	

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DRAWING NO. 7

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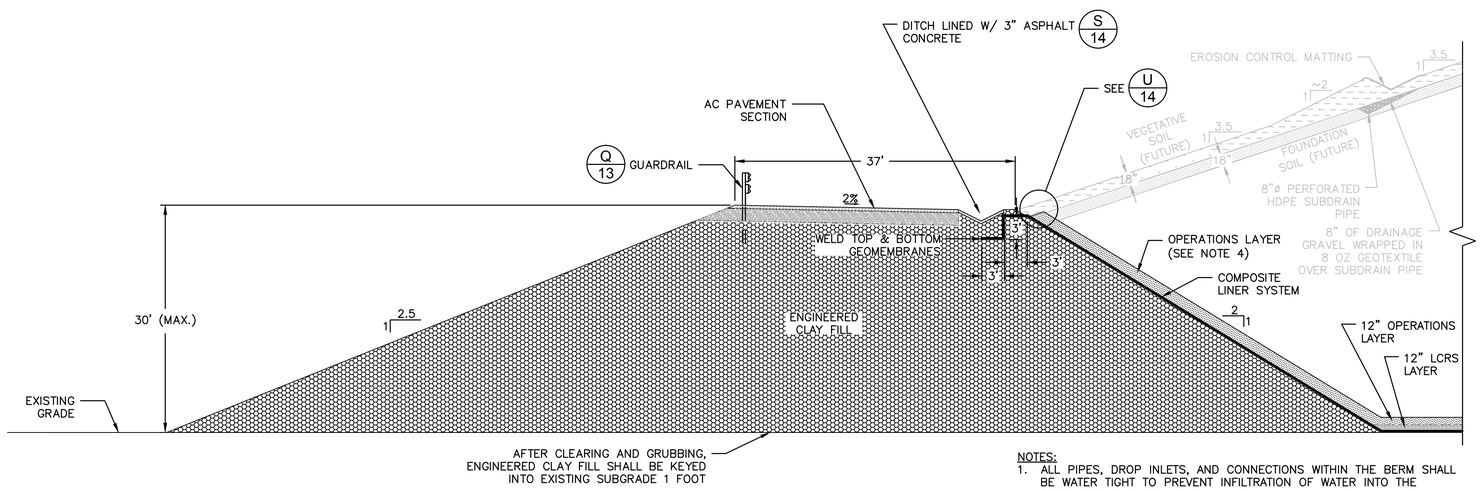

NOTES:
1. ALL PIPES, DROP INLETS, AND CONNECTIONS WITHIN THE BERM SHALL BE WATER TIGHT TO PREVENT INFILTRATION OF WATER INTO THE SURROUNDING SOILS.
2. PAVEMENT SECTION DETAIL WILL BE PROVIDED AT CONSTRUCTION LEVEL DESIGN.
3. OPERATIONS LAYER ON SLOPES SHALL BE PLACED BY OWNER.

A / 3,6 WESTERN BERM CROSS SECTION – TYPICAL
NOT TO SCALE

REVISIONS

NO.	DESCRIPTION	DATE
2	REVISION 2	08/21/13

SHEET TITLE: DETAILS I

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - OPERATIONS
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY: FWS	DATE: SEPTEMBER 2015
DRN BY: NTB	SCALE: AS NOTED
CHK BY: FWS	PROJECT: WG1866
REV BY: FWS	DOCUMENT:
APP BY: HDS	FILE:

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DRAWING NO. 8

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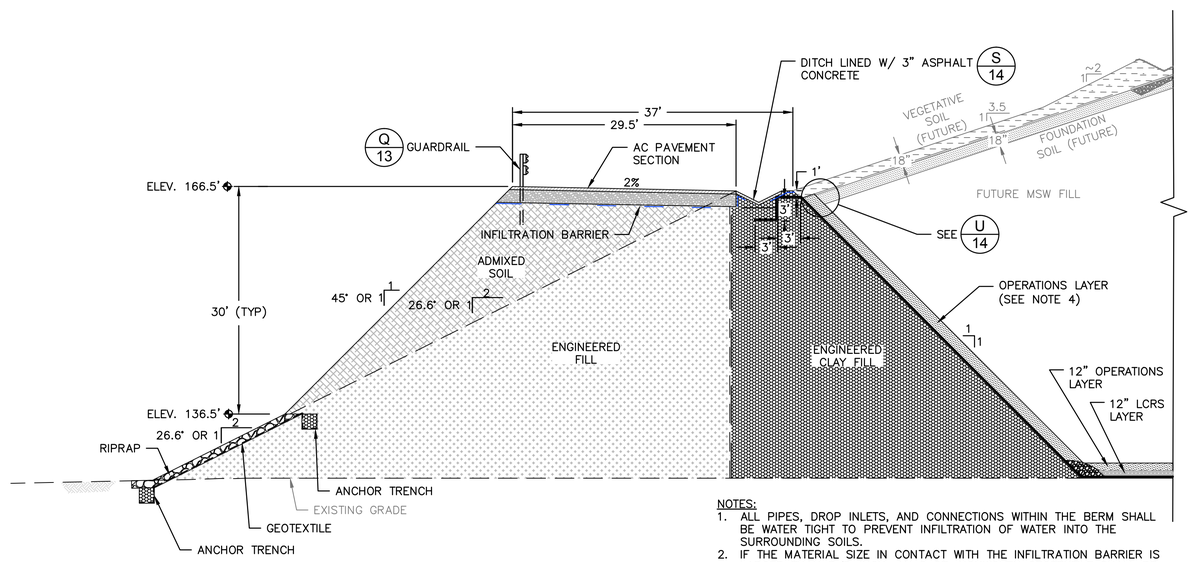

NOTES:

1. ALL PIPES, DROP INLETS, AND CONNECTIONS WITHIN THE BERM SHALL BE WATER TIGHT TO PREVENT INFILTRATION OF WATER INTO THE SURROUNDING SOILS.
2. IF THE MATERIAL SIZE IN CONTACT WITH THE INFILTRATION BARRIER IS LARGER THAN 3/8–INCH, AN 8 OZ. NONWOVEN GEOTEXTILE SHALL BE DEPLOYED ABOVE AND BELOW THE INFILTRATION BARRIER.
3. INFILTRATION BARRIER SHALL EXTEND TO COVER THE ANCHOR TRENCH ALONG THE LANDFILL PERIMETER AND SHALL BE DEPLOYED ABOVE DOUBLE SIDED GEOCOMPOSITE TO THE LIMIT OF WASTE CONTAINMENT SYSTEM.
4. OPERATIONS LAYER ON SLOPES SHALL BE PLACED BY OWNER.
5. EROSION CONTROL: ADMIXED SOIL AND RIPRAP OVER ENGINEERED FILL DETAILS TO BE PROVIDED AT CONSTRUCTION–LEVEL DESIGN.
6. 2H:1V ENGINEERED FILL SLOPE OF TRADITIONAL BERM.
7. ADDITIONAL 1H:1V ADMIXED SOIL SLOPE DURING OPERATIONS FOR ACCESS ROAD.

B / 3,6 SOUTHERN BERM CROSS SECTION – TYPICAL

NOT TO SCALE

REVISIONS

NO.	DESCRIPTION	DATE
2	REVISION 2	08/21/13

SHEET TITLE: DETAILS II

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - OPERATIONS
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS	DATE:	SEPTEMBER 2015
DRN BY:	NTB	SCALE:	AS NOTED
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DRAWING NO. 9

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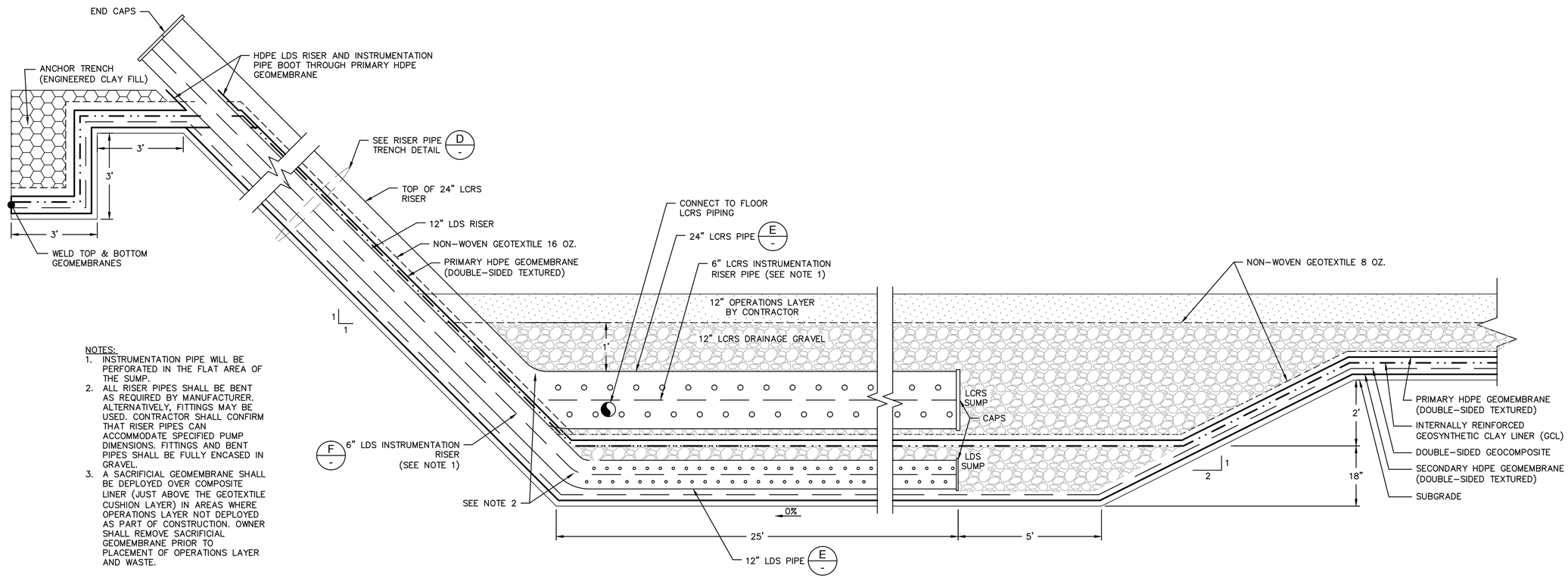
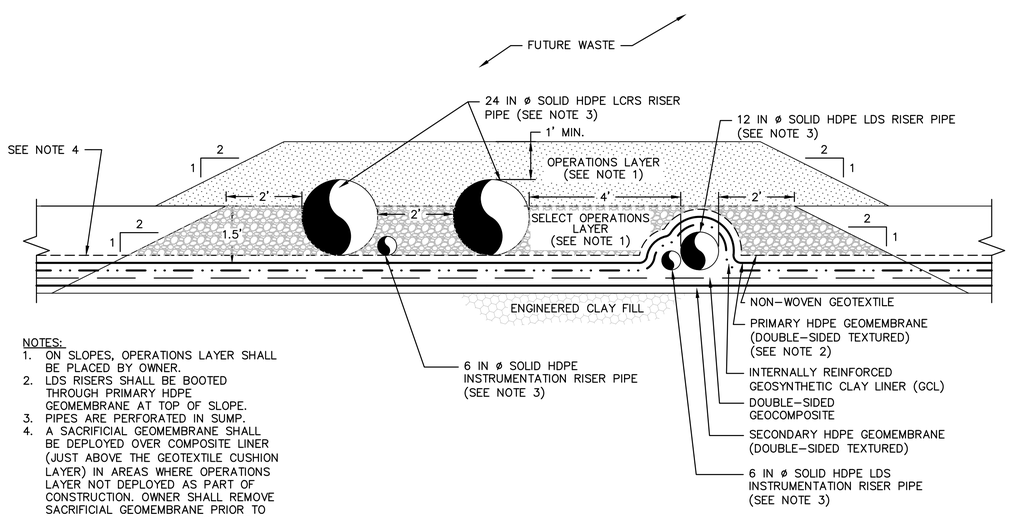


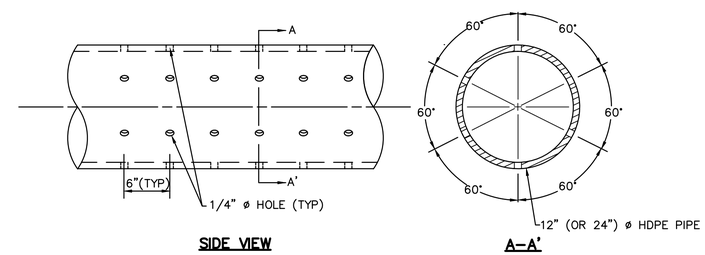
NOTES:
1. INSTRUMENTATION PIPE WILL BE PERFORATED IN THE FLAT AREA OF THE SUMP.
2. ALL RISER PIPES SHALL BE BENT AS REQUIRED BY MANUFACTURER. ALTERNATIVELY, FITTINGS MAY BE USED. CONTRACTOR SHALL CONFIRM THAT RISER PIPES CAN ACCOMMODATE SPECIFIED PUMP DIMENSIONS. FITTINGS AND BENT PIPES SHALL BE FULLY ENCASED IN GRAVEL.
3. A SACRIFICIAL GEOMEMBRANE SHALL BE DEPLOYED OVER COMPOSITE LINER (JUST ABOVE THE GEOTEXTILE CUSHION LAYER) IN AREAS WHERE OPERATIONS LAYER NOT DEPLOYED AS PART OF CONSTRUCTION. OWNER SHALL REMOVE SACRIFICIAL GEOMEMBRANE PRIOR TO PLACEMENT OF OPERATIONS LAYER AND WASTE.

C/3,6,7 SUMP SECTION
NOT TO SCALE

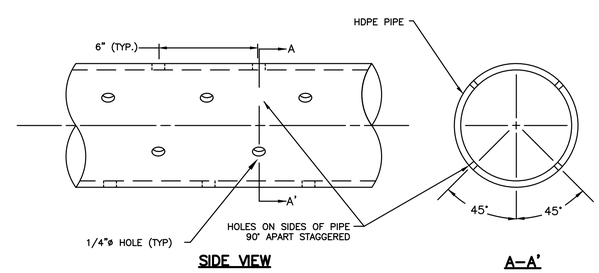


NOTES:
1. ON SLOPES, OPERATIONS LAYER SHALL BE PLACED BY OWNER.
2. LDS RISERS SHALL BE BOOTED THROUGH PRIMARY HDPE GEOMEMBRANE AT TOP OF SLOPE.
3. PIPES ARE PERFORATED IN SUMP.
4. A SACRIFICIAL GEOMEMBRANE SHALL BE DEPLOYED OVER COMPOSITE LINER (JUST ABOVE THE GEOTEXTILE CUSHION LAYER) IN AREAS WHERE OPERATIONS LAYER NOT DEPLOYED AS PART OF CONSTRUCTION. OWNER SHALL REMOVE SACRIFICIAL GEOMEMBRANE PRIOR TO PLACEMENT OF OPERATIONS LAYER AND WASTE.

D/- RISER PIPE TRENCH DETAIL
NOT TO SCALE



E/10,14 12"ø AND 24"ø LCRS SUMP AND LDS RISER PIPE PERFORATION
NOT TO SCALE



F/11,13 6"ø LCRS PIPE PERFORATION
NOT TO SCALE

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: DETAILS III

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - OPERATIONS
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS	DATE:	SEPTEMBER 2015
DRN BY:	NTB	SCALE:	AS NOTED
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Oakland, CA 94607

DRAWING NO. 10

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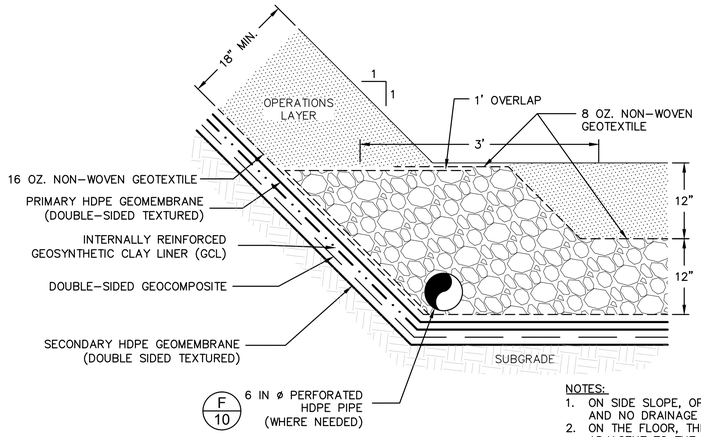
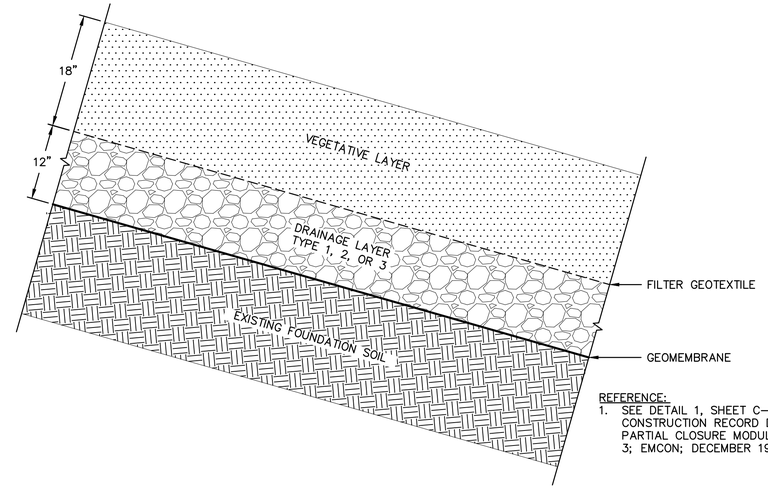


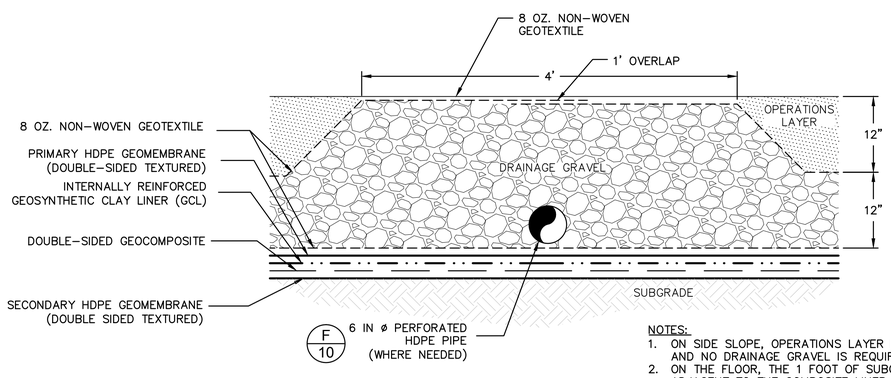
NOTES:
1. ON SIDE SLOPE, OPERATIONS LAYER IS 18" MINIMUM AND NO DRAINAGE GRAVEL IS REQUIRED.
2. ON THE FLOOR, THE 1 FOOT OF SUBGRADE SOIL ADJACENT TO THE COMPOSITE LINER SYSTEM SHALL MEET THE INTERFACE STRENGTH SPECIFIED IN THIS UPDATED PERMIT REPORT.

G / 3,6,7 COMPOSITE LINER SYSTEM AT BERM – WITH PIPE
NOT TO SCALE



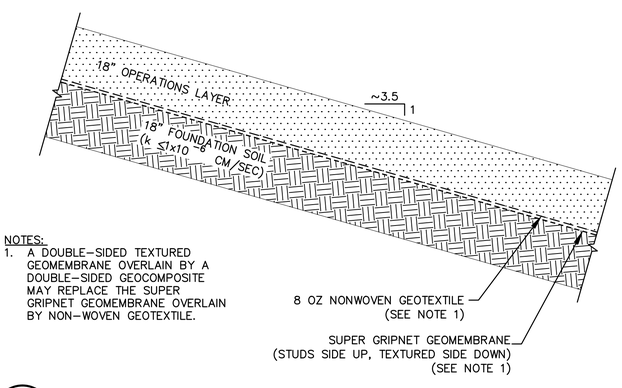
REFERENCE:
1. SEE DETAIL 1, SHEET C-6, CONSTRUCTION RECORD DRAWINGS, PARTIAL CLOSURE MODULES 1, 2, 3; EMCON; DECEMBER 1994.

I / 3,6,7 EXISTING FINAL COVER AS AN OVERLINER FOR FUTURE WASTE – SEE NOTE 1
NOT TO SCALE



NOTES:
1. ON SIDE SLOPE, OPERATIONS LAYER IS 18" MINIMUM AND NO DRAINAGE GRAVEL IS REQUIRED.
2. ON THE FLOOR, THE 1 FOOT OF SUBGRADE SOIL ADJACENT TO THE COMPOSITE LINER SYSTEM SHALL MEET THE INTERFACE STRENGTH SPECIFIED IN THIS UPDATED PERMIT REPORT.

H / 3,7 COMPOSITE LINER SYSTEM AT BERM – WITH PIPE
NOT TO SCALE



NOTES:
1. A DOUBLE-SIDED TEXTURED GEOMEMBRANE OVERLAIN BY A DOUBLE-SIDED GEOCOMPOSITE MAY REPLACE THE SUPER GRIPNET GEOMEMBRANE OVERLAIN BY NON-WOVEN GEOTEXTILE.

J / 4 OVERLINER SYSTEM
NOT TO SCALE

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: DETAILS IV

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - CORNELIUS
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS	DATE:	SEPTEMBER 2015
DRN BY:	NTB	SCALE:	AS NOTED
CHK BY:	FWS	PROJECT:	WG1866
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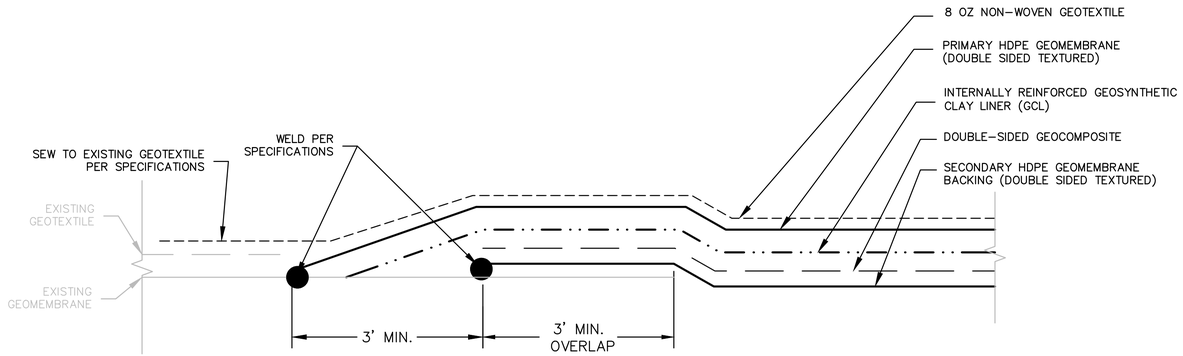
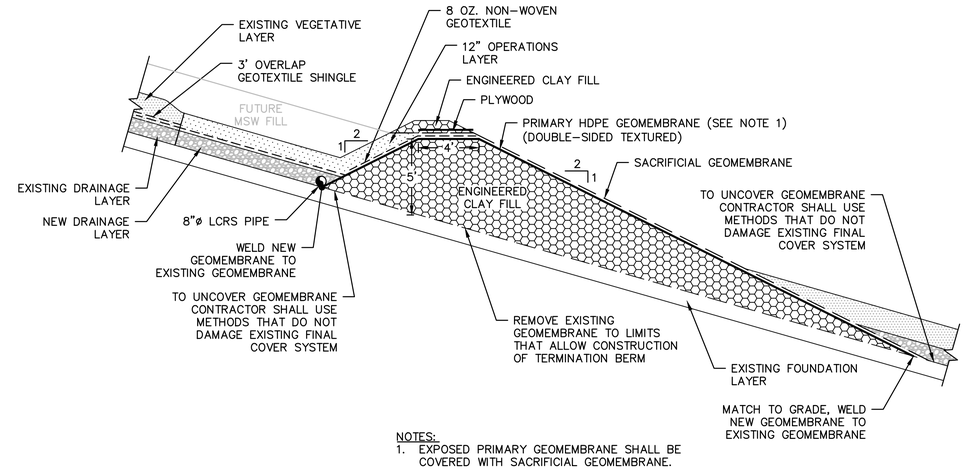
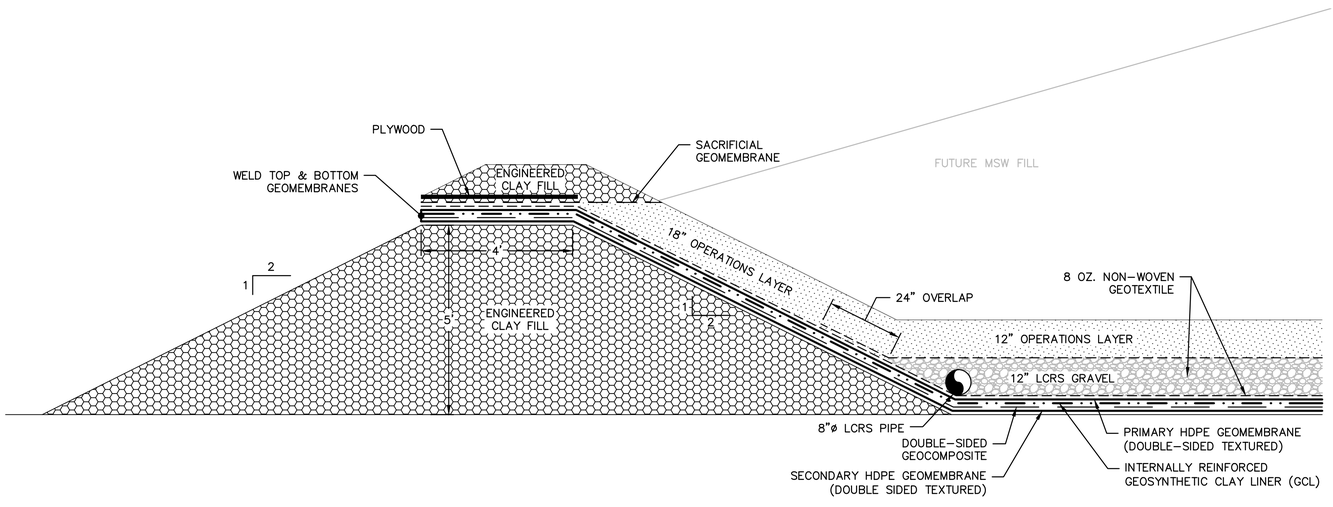


K / 3,6,7 TIE IN EXISTING FINAL COVER TO NEW MODULE LINER
NOT TO SCALE

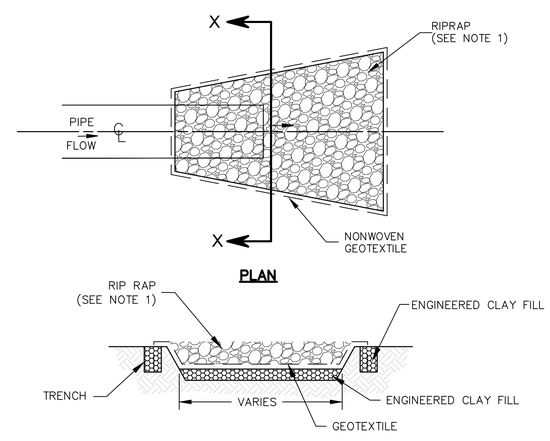


NOTES:
1. EXPOSED PRIMARY GEOMEMBRANE SHALL BE COVERED WITH SACRIFICIAL GEOMEMBRANE.

M / 3,7 TERMINATION BERM OVER PREVIOUSLY CLOSED AREA
NOT TO SCALE



L / 3,6 TERMINATION BERM
NOT TO SCALE



NOTES:
1. DIMENSIONS AND RIP RAP SIZE TO BE DETERMINED AS PART OF CONSTRUCTION-LEVEL DESIGN.

N / 5 RIPRAP PROTECTION DETAIL
NOT TO SCALE

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: DETAILS V

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - CORNELIUS
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

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DRAWING NO. 12

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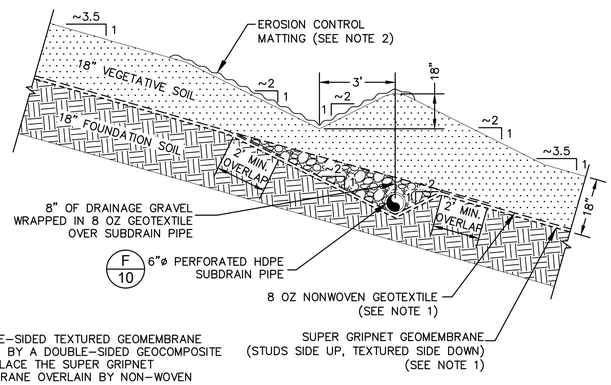
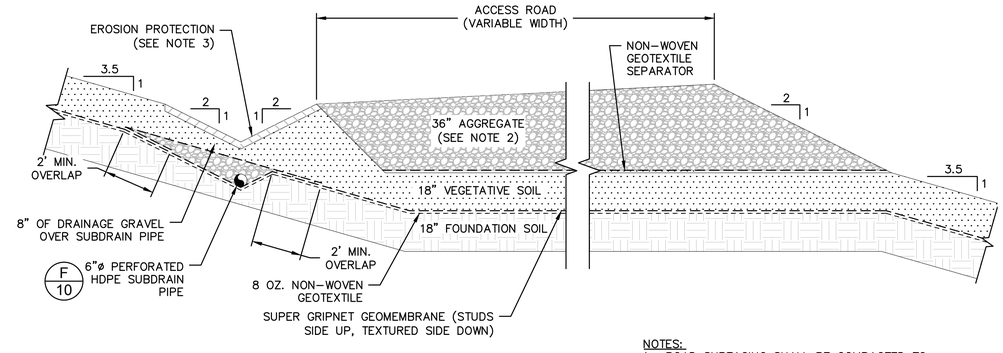


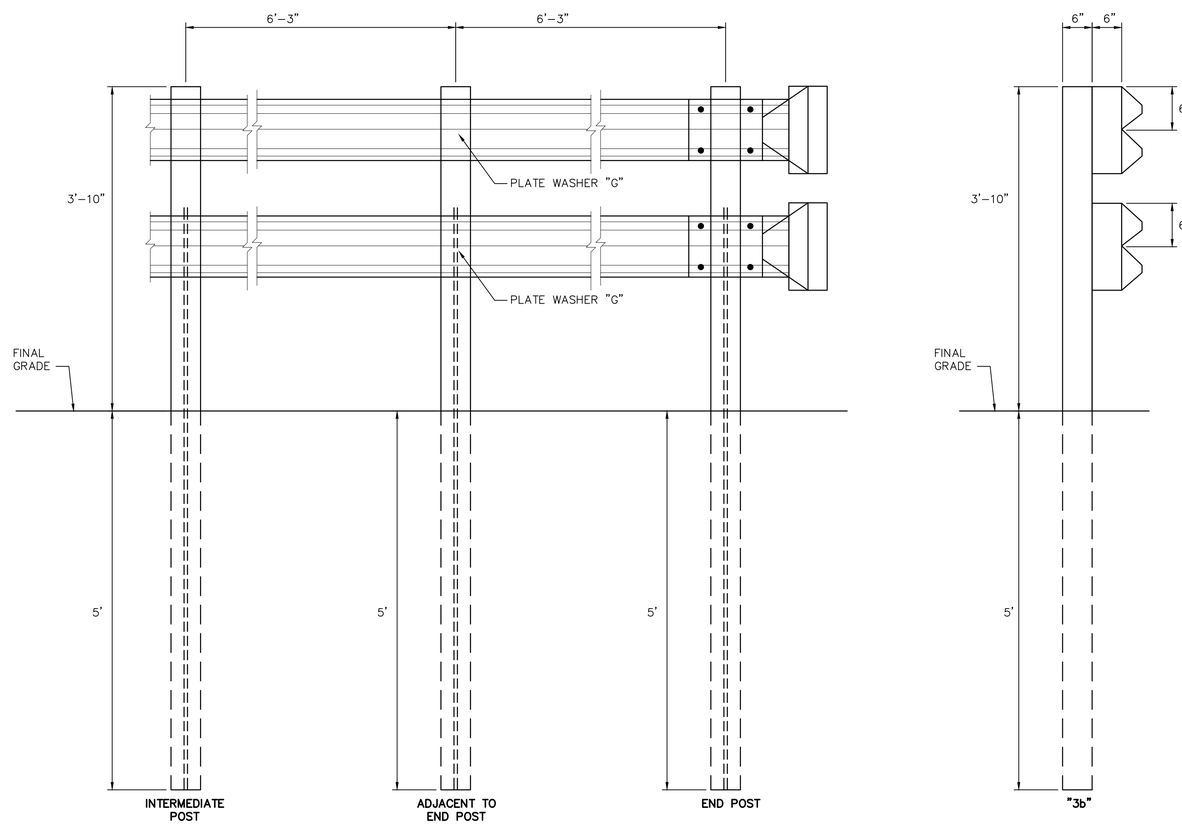
NOTES:
1. A DOUBLE-SIDED TEXTURED GEOMEMBRANE OVERLAIN BY A DOUBLE-SIDED GEOCOMPOSITE MAY REPLACE THE SUPER GRIPNET GEOMEMBRANE OVERLAIN BY NON-WOVEN GEOTEXTILE.
2. EROSION PROTECTION SHALL BE SELECTED AS PART OF FINAL DESIGN.

O 4 FINAL COVER SYSTEM (TYP)
NOT TO SCALE



NOTES:
1. ROAD SURFACING SHALL BE COMPACTED TO 90% RELATIVE COMPACTION (ASTM D1557).
2. OPEN-GRADED AGGREGATE MEETING THE REQUIREMENTS IN SECTION 02630.11(A) FRACTURE OF ROUNDED ROCK IN THE ODOT STANDARD SPECIFICATIONS.
3. EROSION PROTECTION FOR DITCH SHALL BE SELECTED AS PART OF FINAL DESIGN.

P 4 STORMWATER DITCH & SUBDRAIN TRENCH DETAIL ALONG ACCESS ROADS
NOT TO SCALE



NOTES:
1. ALL POST SPACING SHALL BE 6'-3" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. GUARDRAIL SHALL MEET ALL FHWA AND ODOT STANDARDS FOR TRAFFIC AND SPEEDS AT THE LANDFILL.
3. ALL HOLES IN BEAM SHALL BE SHOP-PUNCHED BEFORE GALVANIZING.
4. GUARDRAIL SHALL MEET REQUIREMENTS IN OREGON STANDARD DRAWINGS RD400, RD405, RD410, RD415, RD420, RD430, RD435, AND RD450.
5. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL BY OWNER 30 DAYS BEFORE INSTALLATION DATE.

Q 8,9 GUARDRAIL DETAIL
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
Hans A. Stephens
OREGON
Expires 6/30/2016

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: DETAILS VI

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL COMPANY
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

DES BY:	FWS	DATE:	SEPTEMBER 2015
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DRAWING NO.
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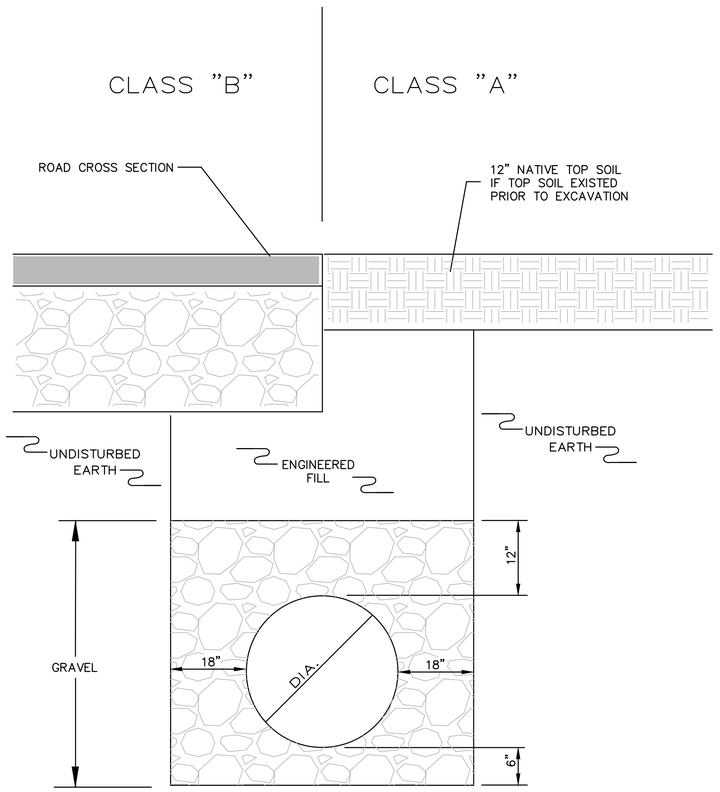
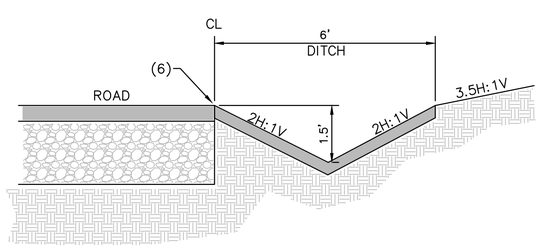


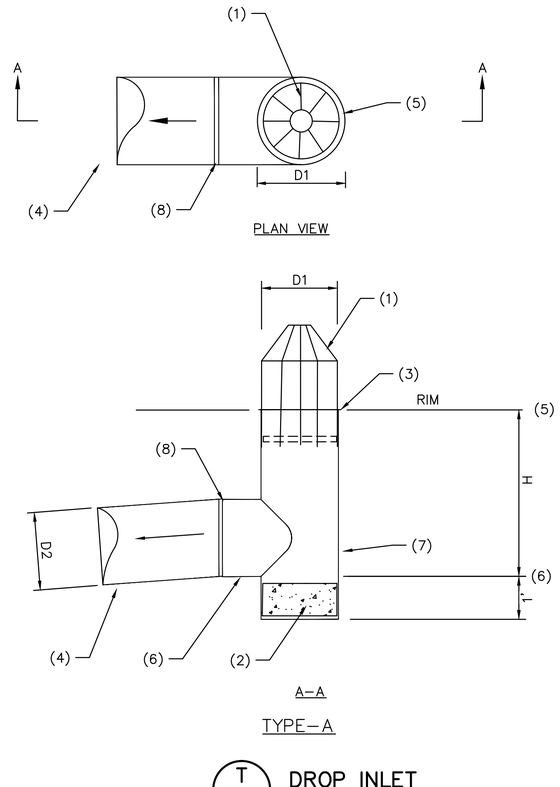
NOTES:
1. ALL MATERIALS SHALL BE COMPACTED TO 95% RELATIVE COMPACTION (ASTM D1557).
2. AVOID USE OF IMPACT TAMPERS DIRECTLY ABOVE THE PIPE UNTIL BACKFILL HAS BEEN PLACED TO ENSURE NO LOCAL DEFORMATION OF THE PIPE.

TRENCH STABILIZATION:
IF REQUIRED, TRENCH STABILIZATION SHALL BE SPECIFIED SEPARATELY AND PLACED PRIOR TO PLACEMENT OF BEDDING MATERIAL.

R/5 TRENCH DETAIL
NOT TO SCALE



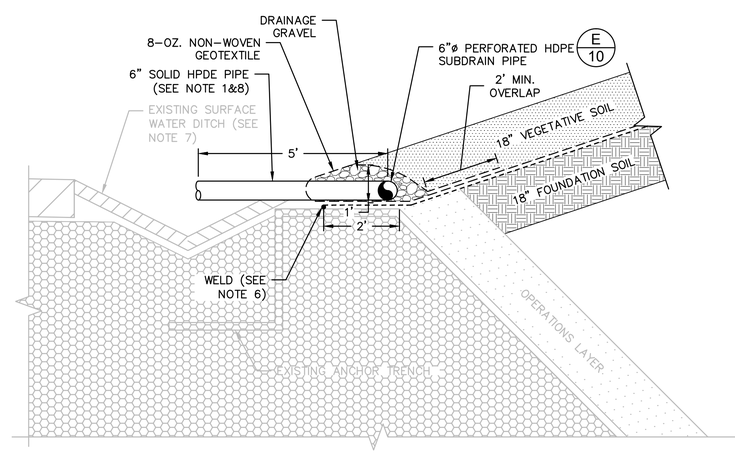
S/8,9 V-DITCH DETAIL
NOT TO SCALE



T/5 DROP INLET
NOT TO SCALE

DETAIL NOTES (#):

1. BAR GUARD (TRASH RACK) HANCOR MODEL NO. 2420 DA OR EQUIVALENT APPROVED BY OWNER.
2. HDPE WELDED PLUG AND 4" CONCRETE PIPE PLUG IN BOTTOM OF TEE.
3. VERTICAL RISER CUT TO FIT RIM ELEVATION.
4. HDPE (PE 3408) WATER TIGHT PIPE AND BUTT WELDED JOINTS. INSIDE DIAMETER SHOWN ON PLAN. ROTATE TO ANGLE SHOWN ON PLAN.
5. RIM ELEVATION SHOWN ON PLAN.
6. PIPE INVERT ELEVATION (INV) SHOWN ON PLAN.
7. HDPE (PE 3408) PREFAB TEE FITTING (D1xD1xD2 FOR TYPE–A AND D2xD2xD1 FOR TYPE–B).
8. BUTT WELDED JOINT (ASTM D 2657).



NOTES:
1. THE PIPE SECTION THAT EXTENDS INTO THE DITCH SHALL BE INSTALLED AT 5 FOOT INTERVALS.
2. CONTRACTOR TO FIELD LOCATE AND UNCOVER EXISTING LINER SYSTEM AND EXISTING FINAL COVER TERMINATIONS IN THE AREA OF CLOSURE. CONTRACTOR TO EXTEND AND CONNECT NEW FINAL COVER SYSTEM TO EXISTING CONTAINMENT SYSTEM OR FINAL COVER SYSTEM AS NECESSARY TO MAINTAIN A CONTINUOUS CONTAINMENT SYSTEM.
3. CONTRACTOR TO FIELD–VERIFY EXISTING LINER/FINAL COVER TERMINATIONS. IF CONDITIONS VARY, CHANGES TO THE DIMENSIONS MAY BE MADE UPON APPROVAL FROM THE ENGINEER.
4. EXISTING INTERIM COVER ABOVE MSW MAY ACCOUNT FOR A PORTION OF THE FOUNDATION SOIL LAYER THICKNESS PROVIDED THE INTERIM COVER MATERIAL MEETS REQUIREMENTS IN THE SPECIFICATIONS FOR COMPACTED SOIL (I.E., COMPACTION AND GRADATION).
5. DURING CONSTRUCTION, INSTALLER/CONTRACTOR MAY REQUIRE SAND BAGS TO ADDRESS WIND UPLIFT OF GEOSYNTHETICS.
6. FINAL COVER GEOMEMBRANE SHALL BE WELDED TO EXISTING 60–MIL PRIMARY GEOMEMBRANE. EXISTING INFILTRATION BARRIER SHALL BE REPAIRED AND WELDED TO THE FINAL COVER GEOMEMBRANE.
7. ASPHALT CONCRETE OF EXISTING SURFACE WATER DITCH SHALL BE REPAIRED. NEW ASPHALT CONCRETE LINING REPAIR SHALL NOT OBSTRUCT 6–INCH DIAMETER DRAINAGE OUTLET PIPES.
8. MINOR REGRADING MAY BE REQUIRED TO ACHIEVE POSITIVE DRAINAGE.

U/8,9 MSE BERM ANCHOR TRENCH AND FINAL COVER TERMINATION
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — OREGON — EXPIRES 6/30/16

NO.	DESCRIPTION	DATE

REVISIONS

SHEET TITLE: DETAILS VII

PROJECT TITLE: SITE PERMIT APPLICATION
RIVERBEND EXPANSION - MODULE 11
RIVERBEND LANDFILL - COMPANY
YAMHILL COUNTY, OREGON

WASTE MANAGEMENT

PERMIT DRAWINGS

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