Nursery Products
Planting a Better Tomorrow

VIA ELECTRONIC MAIL

January 24, 2012

Harold Singer
Executive Officer
California Regional Water Quality Control Board
14440 Civic Drive, Suite 200
Victorville, CA 92392

Subject: Response to Comments - Design Plan
Nursery Products Hawes Composting Facility

Dear Mr. Singer:

This letter responds to the latest letter from the California Regional Water Quality Control Board, Lahontan Region (Water Board) regarding the Design Plan (Plan) for the Nursery Products Hawes Composting Facility (HCF) originally submitted on May 25, 2011. Specifically, the Water Board letter requested a revised version of the design documents regarding the single issue related to the area between the concrete aprons, located at the base of the surface impoundment diversion berms, and the edge of the liner of the surface impoundments (letters dated September 22, 2011 & January 10, 2012).

As described in a January 3, 2012 letter, Nursery Products will adopt the one of the three approaches recommended by the Water Board and eliminate the gap between the concrete apron, located at the base of the surface impoundment diversion berm, and the edge of the liner of the surface impoundments. The final design changes are depicted in the attached design plan drawings, which replace sheets 2, 6, 8 and 9 of the May 2011 Design Plan. Also attached are the changed pages from the May 2011 Design Plan corresponding with the changes in our January 3rd letter. The enclosed pages and drawings replace the identical numbered drawings and pages in the May 2011 Design Plan.

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By this letter, Nursery Products has fully responded to the comments of the Water Board regarding the Design Plan and will proceed with construction promptly.

If you have any questions, or if we can be of help in any way, please feel free to call me at 760-272-1224.

Sincerely,

Chris Seney, P.E.

Enclosures: Design Plan Changed Pages
Design Plan Drawings

northern end of waste pile will be fine graded (within the lowest 1-foot contour) to drain to the diversion berm openings. The diversion berm openings are located at the lowest elevation points and/or the point where the majority of stormwater is directed by the Site grades. The surface impoundment diversion berm will consist of engineered fill consisting of native subgrade compacted to 90 percent relative compaction using ASTM D 1557 as the compaction standard.

Three openings are incorporated into the surface impoundment diversion berm to direct the peak discharge from the 100-year, 24-hour storm event from the remainder of the Site into the surface impoundments. Calculations to size the openings length for flow through during the 100-year, 24-hour storm event are presented in Appendix C. A 20-foot opening is incorporated in the diversion berm south of Surface Impoundment A and two 10-foot openings are incorporated in the diversion berm to the east and south of Surface Impoundment B. The openings are designed with concrete abutment walls on each side of the inlet, intermediate bollards set at 10-foot increments, and concrete aprons upstream and downstream of the inlet to control erosion. The upstream portion of the apron has a thickened edge extending 12 inches below grade to control erosion. In addition, a metal plate is bolted to the downstream portion of the concrete apron to bridge the gap between the concrete apron an the lined surface impoundment.

During typical operating conditions, the openings will remain open for water to sheet flow into the impoundments. Anytime the water in the surface impoundments approaches the minimum required two feet of freeboard, the openings will be closed by manually inserting long stop logs made of metal (i.e. aluminum or stainless steel), or engineer-approved alternative material into guide frames attached to the concrete abutments, and intermediate bollards on the sides of the openings, and the concrete apron on the bottom of the openings. The stop logs shall be made of one piece in the longitudinal direction across the diversion berm opening (nominally 10-feet), but are typically constructed in segments in the vertical direction to facilitate manual insertion. The stop logs will incorporate a rubber, neoprene, or engineer-approved equivalent seal on each side (end) to seal at the wall and across the bottom to seal at the sill or with the next log. The top elevation of the stop logs will be at least as high as the top elevation of the diversion berms. The stop logs will be stored in a designated, fully marked location onsite at the office. When the stop logs are in place, the stormwater from events in excess of the 100-year, 24-hour, storm event will back up onto the northern end of the Site (“1,000 year storm event containment area”).

The 1,000-year, 24-hour hydrology study prepared by AEI CASC is presented in Appendix B of this Deisgn Plan (AEI CASC, 2011). The Site design grades and

consideration of other site features in the area (office trailer, vehicle parking, tanks, and compost) were used to determine the 1,000 year storm event containment area while the stoplogs are in place. The office trailer is elevated and will not impact the 1,000 year storm event containment area. Vehicles and onsite equipment displace a minimal stormwater volume and would be relocated out of the 1,000 year storm event containment area during such events. Tanks will be located outside of the 1,000 year storm event containment area. When the facility is operating at full capacity, there will be an estimated 3,000 cubic yards of compost within the 1,000 year storm event containment area which is equivalent to approximately 1.8 acre-feet. Approximately 0.9 acre-foot of compost volume (volume that would be within the depth of stormwater) was included for the east and the west sides of the Site in the net stormwater volume in the AEI CASC study to determine the limits of the 1,000 year storm event containment area.

The net volume difference between the 100-year, 24-hour and the 1,000-year, 24-hour storm events plus the contributing volume from the other site features is 5.3 acre-feet (AF) for the On-Site Area A (14.9 AF + 0.9 AF – 10.5 AF) and 3.6 AF (9.2 AF + 0.9 AF – 6.5 AF) for On-Site Area B. These On-Site Areas are the drainage areas to the Surface Impoundments A and B, respectively. To contain the net stormwater volume from a 1,000-year 24-hour precipitation event on the Site, the minimum elevation of the perimeter berm and the surface impoundment diversion berm is 2,317.6 feet for the western portion of the facility draining to Surface Impoundment A, and 2,318.7 feet for the eastern portion of the facility draining to Surface Impoundment B.

3.4 Leak Detection Monitoring Sumps

The HCF design includes a leak detection monitoring sump (LDMS) below the lowest portion of each surface impoundment as presented in Section 3.2 above. The LDMS allows for detection of the potential vertical migration of water and removal of a water sample for testing. The LDMS is composed of, from bottom to top, a GCL, a FML, cushion geotextile, 2 feet of gravel, and nonwoven filter geotextile. A 6-inch diameter PVC pipe is installed within the gravel to allow access for moisture detecting equipment and to allow for sampling and/or pumping of liquid from the LDMS. Details illustrating these sumps are presented in the design drawings in Appendix A of this Design Plan.

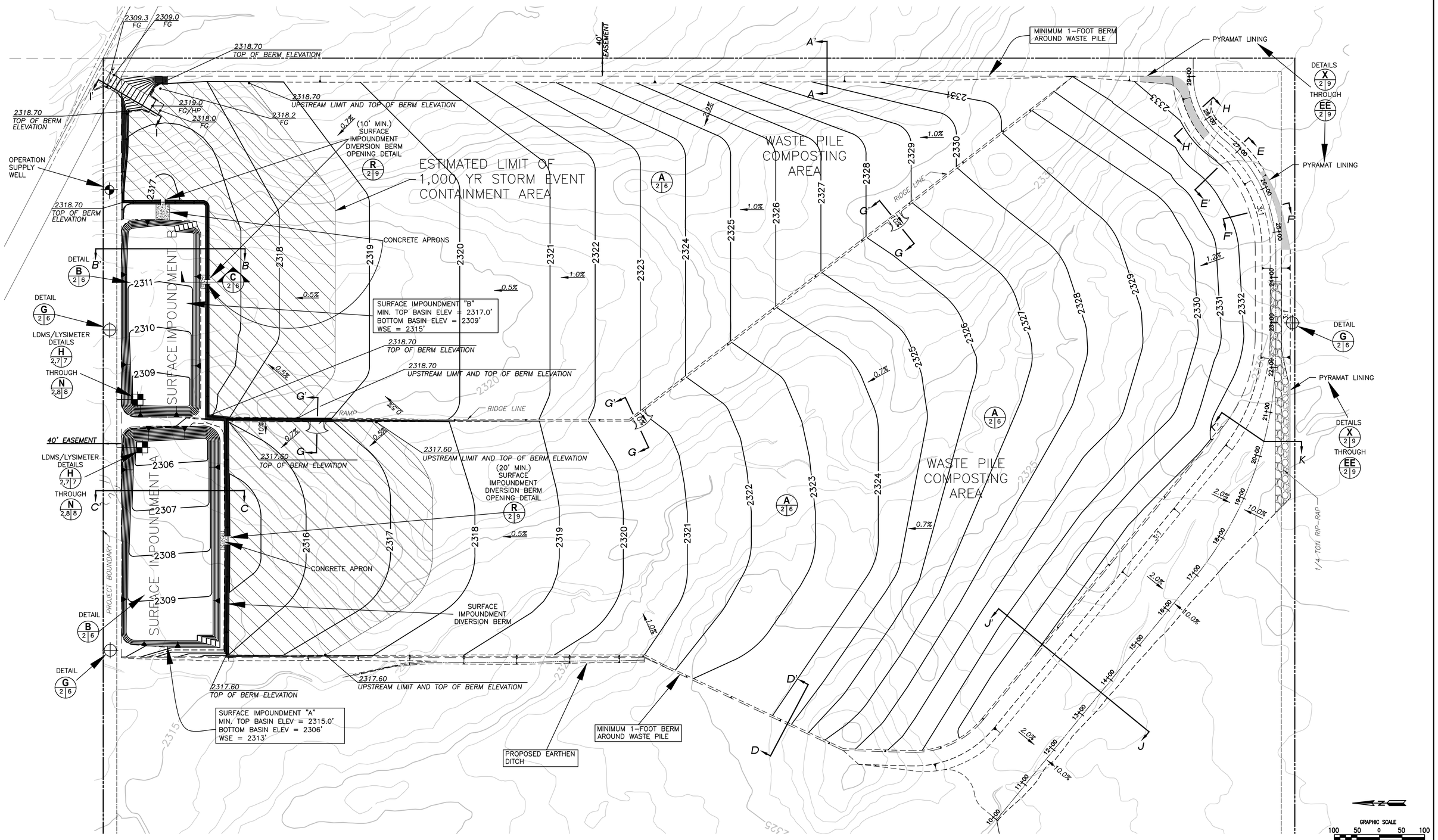
3.5 Lysimeters

The liner design includes a lysimeter five feet below the lowest portion of each surface impoundment as presented in Section 3.2 above. Lysimeters allow for detection of the potential vertical migration of water and removal of a water sample for testing. The lysimeter is composed of, from bottom to top, a GCL, FML, cushion geotextile, 2 feet of gravel, and nonwoven filter geotextile. A 6-inch diameter PVC pipe is installed within the gravel to allow access for moisture detecting equipment and allow for sampling and/or pumping of liquid from the lysimeter. Details illustrating these unsaturated zone monitoring lysimeters are presented in the design drawings in Appendix A of this Design Plan.

3.6 Groundwater Wells

One operations supply groundwater well and three groundwater monitoring wells are proposed at the HCF. The operations supply well will be located along the northern perimeter of the facility, near the office. Two downstream and one upstream groundwater monitoring wells are proposed. The downstream groundwater monitoring wells are located along the northern perimeter of the facility near the surface impoundments. The upstream groundwater monitoring well is located along the southern perimeter of the facility near the drainage channel. The operations supply groundwater well and the three proposed groundwater monitoring wells are located outside facility operations areas and drainage features.

Details regarding the groundwater monitoring well construction and monitoring requirements are presented in the Monitoring and Reporting Plan and Sampling and Analysis Plan for the HCF. A schematic well construction diagram is presented on the design drawings in Appendix A.



REV	DESCRIPTION OF REVISION	BY	DATE
3	EXTEND CONCRETE APRON	MMC	1/13/12
2	MAY 2011 DESIGN DRAWINGS	MMC	5/19/11
1	MARCH 2011 DESIGN DRAWINGS	MSH	2/21/11

Geosyntec consultants

REGISTERED PROFESSIONAL ENGINEER JENNIFER L. KEVITUS NO. C 64932 EXP 6/30/13 CIVIL STATE OF CALIFORNIA

PROJECT	HCF
DESIGNED	JLN
CHECKED	JWS
PROJECT MANAGER	JLN
DATE	5/19/11

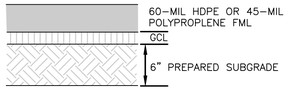
HAWES COMPOSTING FACILITY
SAN BERNARDINO COUNTY, CA

GRADING PLAN

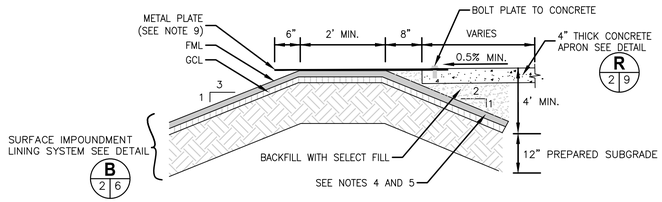
REVISION 3

SHEET NO. 2 of 9

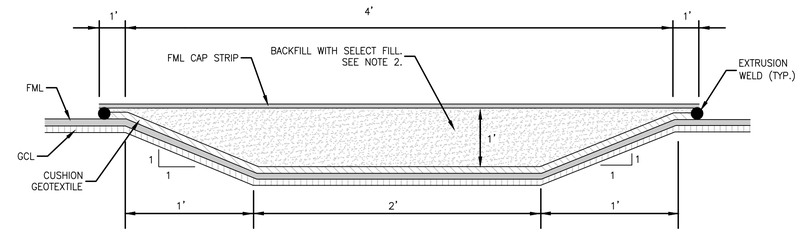
WASTE PILE COMPOSTING AREA LINING SYSTEM (A 2|6)
NOT TO SCALE



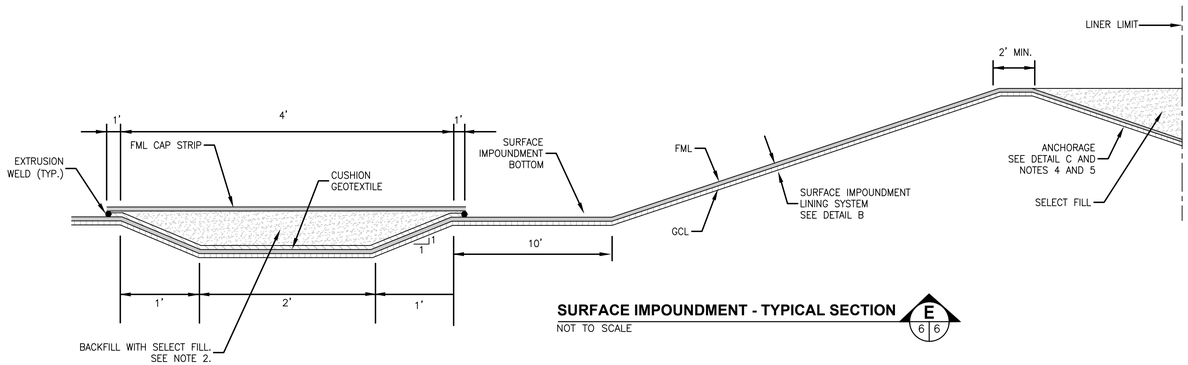
SURFACE IMPOUNDMENT LINING SYSTEM (B 2|6)
NOT TO SCALE



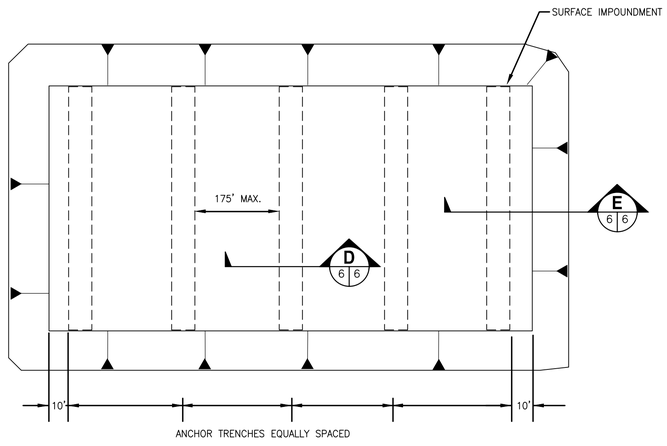
SURFACE IMPOUNDMENT PERIMETER ANCHORAGE (SHOWN AT DIVERSION BERM OPENING) (C 2|6)
NOT TO SCALE



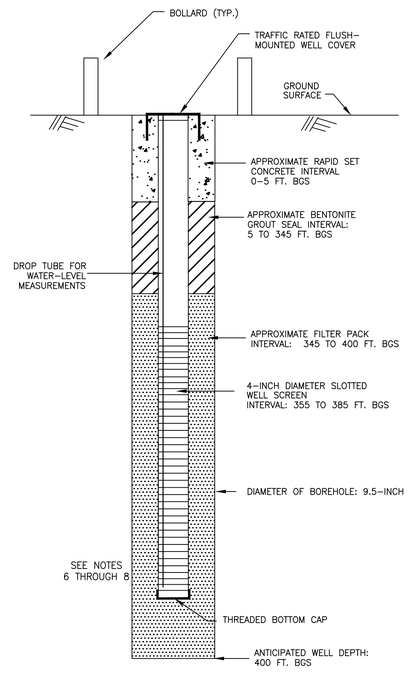
RETENTION BASIN BOTTOM ANCHOR TRENCH (D 6|6)
NOT TO SCALE



SURFACE IMPOUNDMENT - TYPICAL SECTION (E 6|6)
NOT TO SCALE



RETENTION BASIN BOTTOM ANCHORAGE (F 6|6)
NOT TO SCALE



GROUNDWATER MONITORING WELL (G 2|6)
NOT TO SCALE

NOTES:

1. EXISTING GROUND SURFACE IS BASED ON A SURVEY PREVIOUSLY PERFORMED BY OTHERS.
2. USE SELECT FILL TO CONSTRUCT THE COMPACTED LINER ANCHORAGE. SELECT FILL SHALL CONSIST OF GRANULAR SOIL WITH AT LEAST 40% OF MATERIAL SMALLER THAN 1/4-INCH AND A MAXIMUM PARTICLE SIZE OF 1-INCH.
3. TOP OF THE SITE PERIMETER BERM SHALL BE GRADED FLAT IN THE LONGITUDINAL DIRECTION AND SHALL BE GRADED TO 1% MAX. AWAY FROM THE INSIDE OF THE IMPOUNDMENT.
4. ANCHORAGE ALIGNMENT AND EDGES SHALL BE STRAIGHT AND SMOOTH.
5. EXTEND GEOMEMBRANE SEAM WELDS THROUGH THE ANCHORAGE.
6. THE GROUNDWATER MONITORING WELL CONSTRUCTION DIAGRAM IS SCHEMATIC AND IS NOT TO SCALE.
7. WELL MAY BE DEEPER AND SCREEN LENGTHENED BASED ON GEOLOGY.
8. WELL GROUNDWATER MONITORING DESIGN IS BASED ON ENCOUNTERING GROUNDWATER AT AN APPROXIMATE DEPTH OF 300 FEET.
9. THICKNESS AND TYPE OF METAL PLATE TO BE PROPOSED BY CONTRACTOR AND ENGINEER-APPROVED.

REV	DESCRIPTION OF REVISION	BY	DATE
4			
3	REVISED SECTION C AND E	MMC	1/13/12
2	MAY 2011 DESIGN DRAWINGS	MMC	5/19/11
1	MARCH 2011 DESIGN DRAWINGS	MSH	2/21/11

Geosyntec consultants

REGISTERED PROFESSIONAL ENGINEER JENNIFER L. NEVIUS NO. C 64832 EXP. 6/30/13 CIVIL STATE OF CALIFORNIA

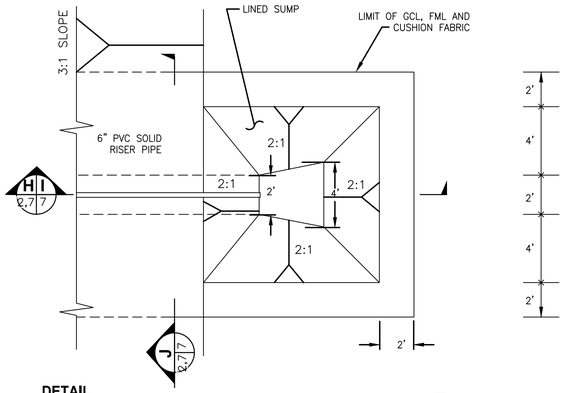
PROJECT	HCF
DESIGNED	JLN
CHECKED	JWS
PROJECT MANAGER	JLN
DATE	5/19/11

HAWES COMPOSTING FACILITY
SAN BERNARDINO COUNTY, CA

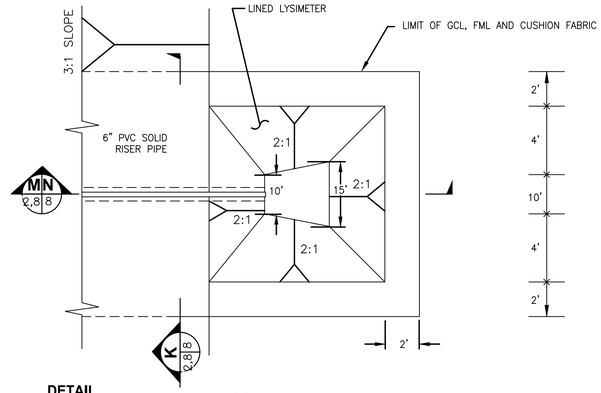
DETAILS AND SECTIONS

REVISION 3

SHEET NO. 6 of 9



DETAIL
LEAK DETECTION MONITORING SUMP (PLAN VIEW) M 2 8
NOT TO SCALE



DETAIL
LYSIMETER (PLAN VIEW) N 2,8 8
NOT TO SCALE

REV	DESCRIPTION OF REVISION	BY	DATE
4			
3			
2			
3	DELETED GEOWEB DETAILS O, P, AND Q	MMC	1/13/12
2	MAY 2011 DESIGN DRAWINGS	MMC	5/19/11
1	MARCH 2011 DESIGN DRAWINGS	MSH	2/21/11

Geosyntec consultants

REGISTERED PROFESSIONAL ENGINEER
JENNIFER L. NEVIUS
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EXP. 6/30/13
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STATE OF CALIFORNIA

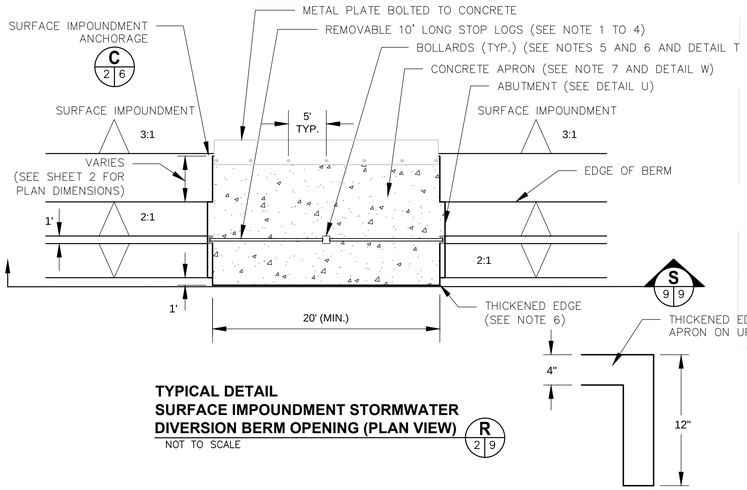
PROJECT	HCF
DESIGNED	JLN
CHECKED	JWS
PROJECT MANAGER	JLN
DATE	5/19/11

HAWES COMPOSTING FACILITY
SAN BERNARDINO COUNTY, CA

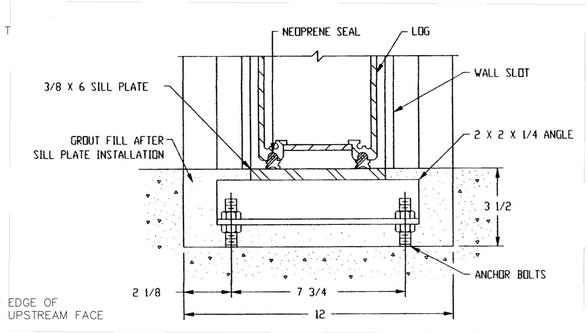
DETAILS AND SECTIONS

REVISION 3

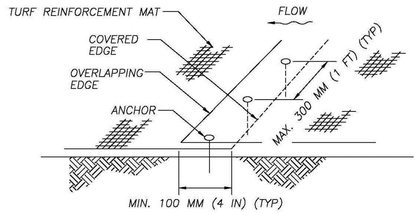
SHEET NO. 8 of 9



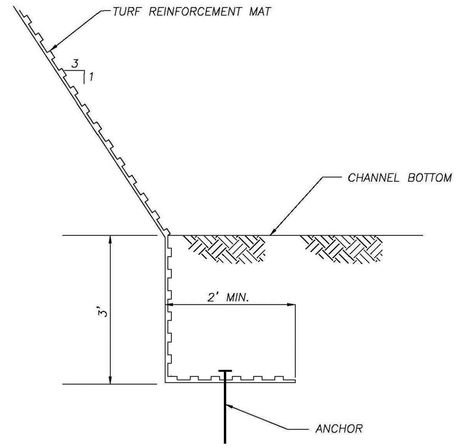
TYPICAL DETAIL
SURFACE IMPOUNDMENT STORMWATER DIVERSION BERM OPENING (PLAN VIEW) R 2 9
NOT TO SCALE



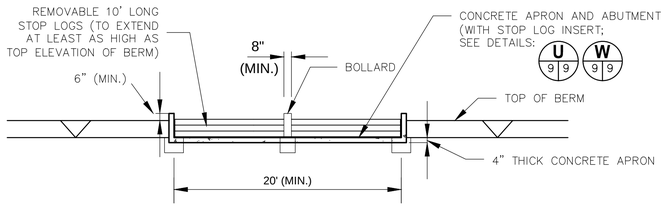
DETAIL (TYPICAL)
BOTTOM STOP LOG EMBEDDED GUIDE FRAME (CONCRETE APRON) W 9 9
NOT TO SCALE



DETAIL
TURF REINFORCEMENT MAT OVERLAP JOINT Z 2 9
NOT TO SCALE

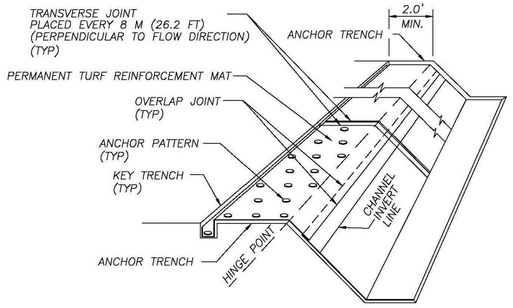


DETAIL
TERMINATION AT TOE OF SLOPE AA 2 9
NOT TO SCALE

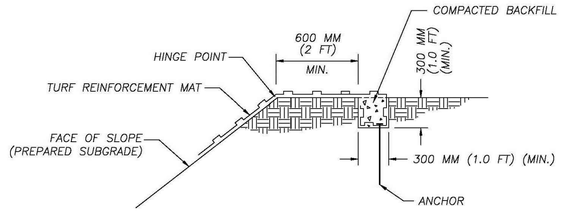


TYPICAL SECTION
SURFACE IMPOUNDMENT STORMWATER DIVERSION BERM OPENING S 9 9
NOT TO SCALE

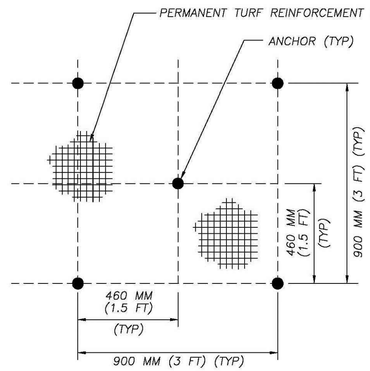
NOTE: FOR CLARITY, PERSPECTIVE VIEW DOES NOT SHOW ALL ANCHORS.



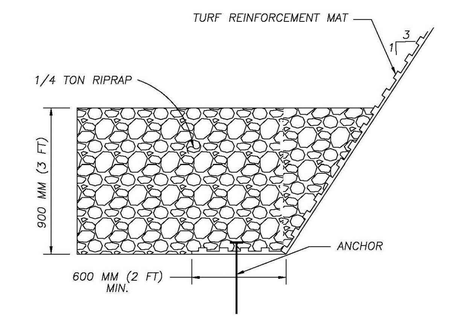
DETAIL
PERMANENT TURF REINFORCEMENT MAT X 2 9
NOT TO SCALE



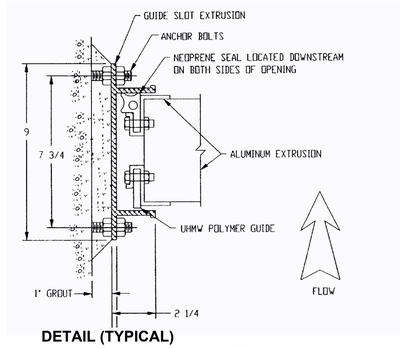
DETAIL
KEY TRENCH AT TOP OF SLOPE AA 2 9
NOT TO SCALE



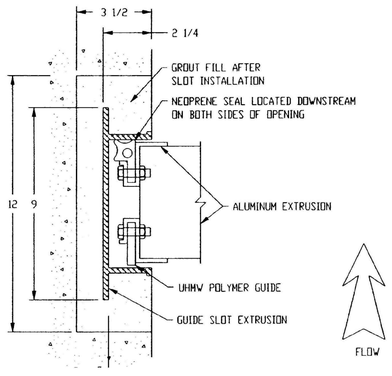
DETAIL
ANCHOR PATTERN BB 2 9
NOT TO SCALE



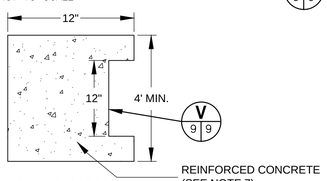
DETAIL
ANCHOR TRENCH AT TOE OF SLOPE EE 2 9
NOT TO SCALE



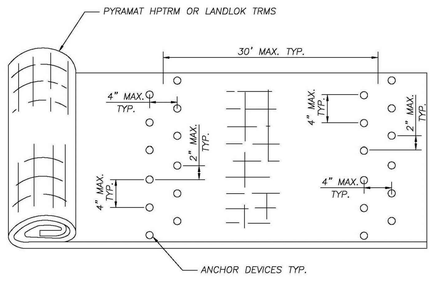
DETAIL (TYPICAL)
SIDE STOP LOG MOUNTED GUIDE FRAME (BOLLARDS) T 9 9
NOT TO SCALE



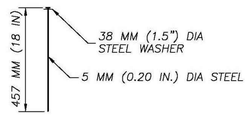
DETAIL (TYPICAL)
SIDE STOP LOG EMBEDDED GUIDE FRAME (ABUTMENTS) V 9 9
NOT TO SCALE



DETAIL (TYPICAL)
DIVERSION BERM ABUTMENT (PLAN VIEW) U 9 9
NOT TO SCALE



DETAIL
SIMULATED CHECK SLOT Y 2 9
NOT TO SCALE



DETAIL
ANCHOR PIN CC 2 9
NOT TO SCALE

NOTES:

1. THE STOP LOGS SHALL BE OF ONE PIECE (LONGITUDINALLY ACROSS THE OPENING) AND SHALL HAVE A WIDTH OF 10'. THE STOP LOGS MAY CONSIST OF MULTIPLE PIECES VERTICALLY, PER STANDARD MANUFACTURERS DIMENSIONS. THE STOP LOGS SHALL BE FABRICATED OF METAL OR ENGINEER APPROVED EQUIVALENT (I.E. COPOLYMER COMPOSITE).
2. THE STOP LOGS SHALL BE MANUALLY INSERTED AND REMOVED INTO A GUIDE AND FRAME ASSEMBLY FABRICATED OF METAL (I.E., CAST IRON, STEEL, OR ALUMINUM) OR ENGINEER APPROVED EQUIVALENT AND MUST BE COMPATIBLE WITH THE STOP LOG MATERIAL SELECTED.
3. THE GUIDE FRAMES SHALL BE EMBEDDED IN THE CONCRETE APRON AND ABUTMENT WALLS. THE STOP LOG GUIDE FRAMES SHALL BE BOLTED, PER MANUFACTURERS SPECIFICATIONS, TO MINIMUM 8"X8" (PLAN) CONCRETE FILLED STEEL BOLLARDS.
4. THE BOTTOM OF THE STOP LOGS SHALL PROVIDE A FLUSH SEAL ALONG THE GUIDE FRAME SURFACES TO PROVIDE A PROPER SEAL AT THE STOP LOG CONTACT SURFACES AND AT THE CORNERS. THE TOP OF THE STOP LOGS SHALL BE FLUSH WITH OR EXTEND ABOVE THE TOP OF THE ADJACENT BERM. CONTRACTOR MAY PROPOSE EQUIVALENT GUIDE FRAMES AND SEALS, SUBJECT TO ENGINEER APPROVAL.
5. THE BOLLARD AND ABUTMENT FOUNDATIONS SHALL BE AT LEAST 6 INCHES WIDER THAN THE ABOVE GRADE DIMENSIONS EACH WAY AND SHOULD EXTEND 2 FEET BELOW GRADE.
6. APRON SHALL CONSIST OF 4-INCH THICK CONCRETE REINFORCED WITH 6X6-W1.4XW1.4 WELDED WIRE MESH ON EITHER SIDE OF THE STOP LOG EMBEDDED SILL. THE APRON SHALL HAVE A 12" DEEP THICKENED EDGE ON THE UPSTREAM SIDE.
7. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI. CONCRETE ABUTMENTS SHALL BE REINFORCED WITH #5 BARS @ 12"O.C. EACH WAY WITH 2" CLEAR COVER.
8. FILL AND SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION USING ASTM D 1557 AS THE COMPACTION STANDARD.

REV	DESCRIPTION OF REVISION	BY	DATE
4			
3	REVISED DETAIL R	MMC	1/13/12
2	MAY 2011 DESIGN DRAWINGS	MMC	5/19/11
1	MARCH 2011 DESIGN DRAWINGS	MSH	2/21/11

Geosyntec consultants

REGISTERED PROFESSIONAL ENGINEER JENNIFER L. NEITUS NO. C 64932 EXP. 6/30/13 CIVIL STATE OF CALIFORNIA

PROJECT	HCF
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HAWES COMPOSTING FACILITY
SAN BERNARDINO COUNTY, CA

DETAILS AND SECTIONS

REVISION 3

SHEET NO. 9 of 9