Superior Landfill & Recycling Center Site No. 2 MSWL Lateral Expansion D&O Plans

Permit No. 025~070D(MSWL)

CHATHAM COUNTY, GEORGIA

DECEMBER 2009 (REVISED MARCH 2011)

Project Information:

Address:

Phase 1)

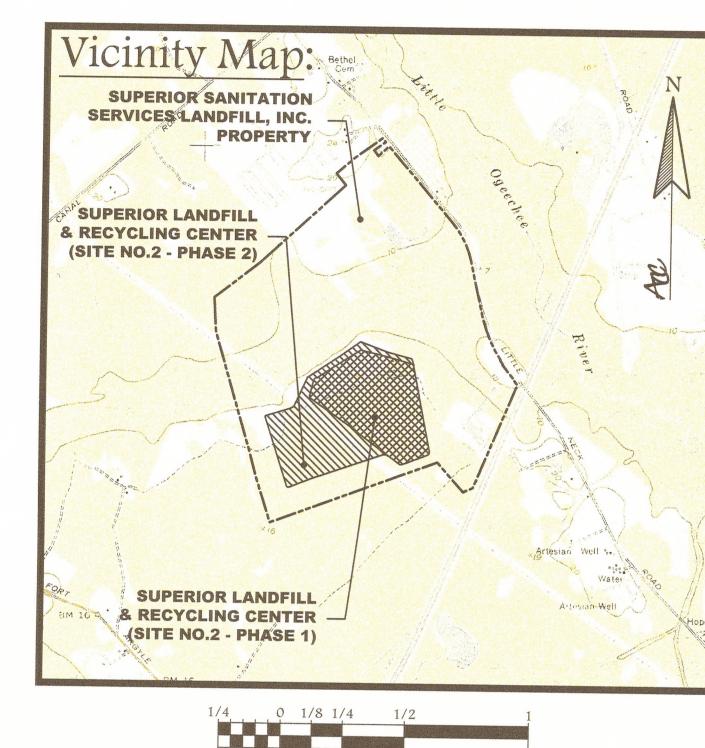
3001 Little Neck Road Savannah, GA 31419 912~927~6113

Description:
Expansion of previously permitted landfill (Site No. 2,

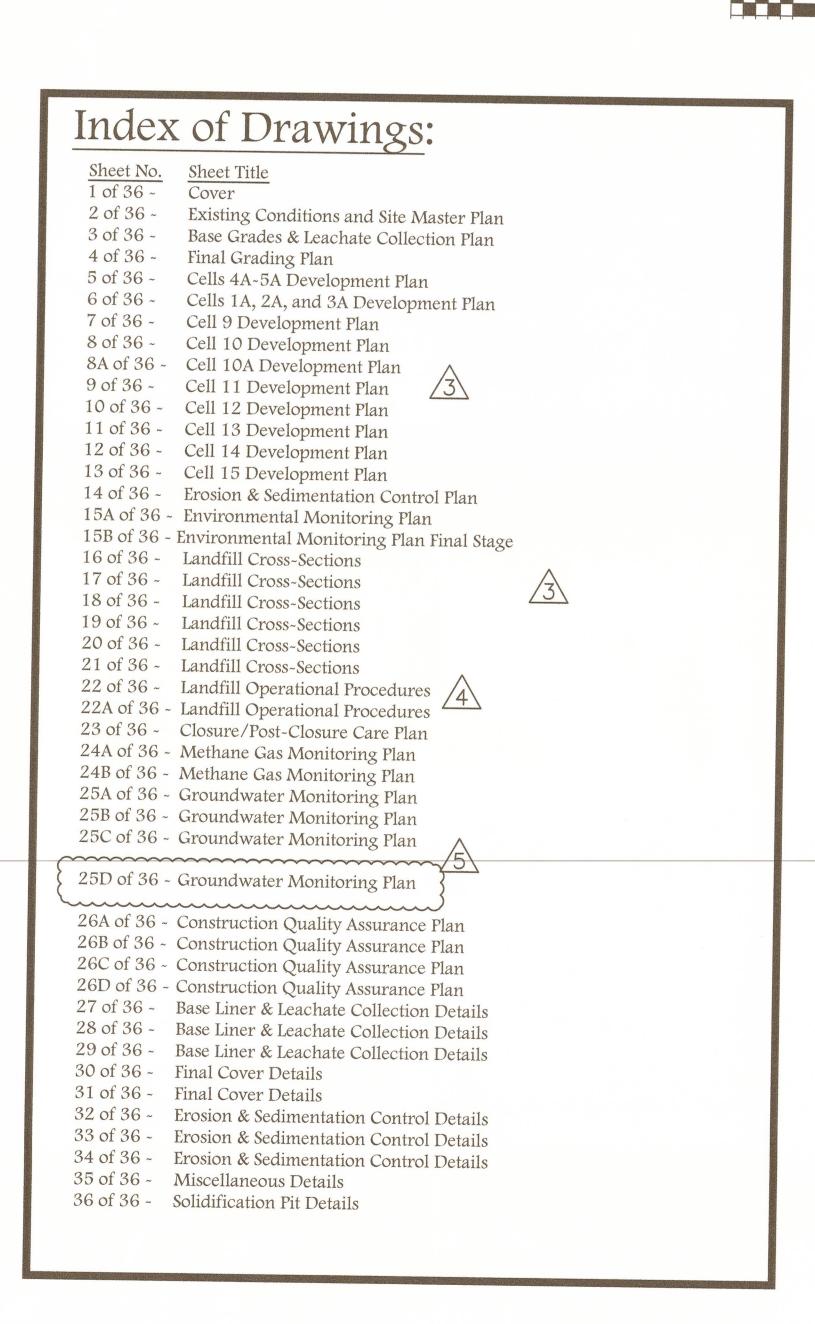
WASTE MANAGEMENT
Waste Management of Georgia, Inc.

Owner:

CONTACT: Mr. Zane Ferris
Director of Landfill Operations
(912) 927-6113



SCALE (IN MILES)



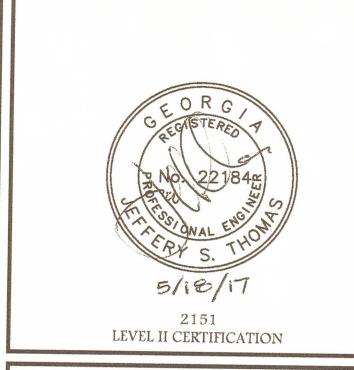




0770.594.5998

f 770.594.5967

www.atlcc.net



PROJECT:

SUPERIOR LANDFILL & RECYCLING CENTER SITE No. 2 MSWL
EXPANSION
D&O PLANS
PERMIT No.: 025-070D(MSWL)



WM of Georgia, Inc. 3001 Little Neck Road Savannah, Ga 31419

REVISIONS	
O. Initial Issue.	12/09/2009
1. Response to Comments	11/05/2010
2. Response to Comments	03/16/2011
3. Response to EPD Comments	10/12/2015
4. CCR Management	04/05/2017
5. Response to EPD Comments	05/18/2017
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PROJECT NUMBER:

I010~215

February 2014

Checked by:

COVER

HEET 1 OF 36

<u>operational procedures</u>

1. VOLUME DETERMINATIONS FOR SUPERIOR SANITATION LANDFILL SITE No. 2

TOTAL AREA OF PROPERTY: 749.18 ACRES AREA ZONED FOR SANITARY LANDFILL: 442.95 ACRES

(|ESTIMATED DAILY MAXIMUM CCR = 565 TONS.

AREA OF SITE 2, PHASE 1 AND 2: 156.4 ACRES

ITEM	PROPERTY	SITE NO. 2 PHASE 1	SITE NO. 2 PHASE 2	TOTAL
Α	TOTAL VOLUME OF REFUSE, LINER PROTECTIVE SOIL, DAILY/INTERMEDIATE COVER SOIL, AND FINAL COVER SOIL	9,907,370 CUBIC YARDS	12,064,870 CUBIC YARDS	21,972,240 CUBIC YARDS
В	IN-PLACE VOLUME OF REFUSE, LINER PROTECTIVE SOIL, AND DAILY/INTERMEDIATE COVER SOIL (AS OF MARCH 2009)	6,792,090 CUBIC YARDS		6,792,090 CUBIC YARDS
С	REMAINING VOLUME OF REFUSE, LINER PROTECTIVE SOIL, AND COVER (AS OF MARCH 2009) = ITEM A - ITEM B	3,115,280 CUBIC YARDS	12,064,870 CUBIC YARDS	15,180,150 CUBIC YARDS
D	TOTAL VOLUME OF LINER PROTECTIVE SOIL	288,930 CUBIC YARDS	218,975 CUBIC YARD	507,905 CUBIC YARDS
E	IN-PLACE VOLUME OF LINER PROTECTIVE SOIL	222,450 CUBIC YARDS		222,450 CUBIC YARDS
F	REMAINING VOLUME OF LINER PROTECTIVE SOIL (AS OF MARCH 2009) = ITEM D $-$ ITEM E	66,480 CUBIC YARDS	218,975 CUBIC YARD	285,455 CUBIC YARDS
G	TOTAL VOLUME OF FINAL COVER SOIL	NOT CALCULATED SEPARATELY	NOT CALCULATED SEPARATELY	643,420 CUBIC YARDS
Н	TOTAL AIRSPACE VOLUME (REFUSE AND DAILY/INTERMEDIATE COVER SOIL) = ITEM A - ITEM D - ITEM G	9,099,150 CUBIC YARDS (FROM ORIGINAL PERMIT)	11,721,765 CUBIC YARDS	20,820,915 CUBIO YARDS
1	IN-PLACE AIRSPACE VOLUME (REFUSE AND DAILY/INTERMEDIATE COVER SOIL) = ITEM B - ITEM E	6,569,640 CUBIC YARDS		6,569,640 CUBIC YARDS
J	REMAINING AIRSPACE VOLUME (REFUSE AND DAILY/INTERMEDIATE COVER SOIL AS OF MARCH 2009) = ITEM H - ITEM I	2,529,510 CUBIC YARDS	11,721,765 CUBIC YARDS	14,251,275 CUBIC YARDS
K	APPROXIMATE VOLUME OF TOTAL DAILY/INTERMEDIATE COVER SOIL REQUIRED = ITEM H ÷ 8	1,137,390 CUBIC YARDS	1,465,220 CUBIC YARDS	2,602,610 CUBIC YARDS
L	APPROXIMATE VOLUME OF DAILY/INTERMEDIATE COVER SOIL IN-PLACE (AS OF MARCH 2009) = ITEM I ÷ 8	821,200 CUBIC YARDS		821,200 CUBIC YARDS
М	APPROXIMATE VOLUME OF DAILY/INTERMEDIATE COVER SOIL REQUIRED IN THE FUTURE = ITEM K - ITEM L	316,190 CUBIC YARDS	1,465,220 CUBIC YARDS	1,781,410 CUBIC YARDS
N	TOTAL WASTE VOLUME = ITEM H - ITEM K	7,961,760 CUBIC YARDS	10,256,545 CUBIC YARDS	18,218,305 CUBIC YARDS
0	IN-PLACE WASTE VOLUME (AS OF MARCH 2009) = ITEM I - ITEM L	5,748,440 CUBIC YARDS		5,748,440 CUBIC YARDS
Р	REMAINING WASTE VOLUME = ITEM N - ITEM O	2,213,320 CUBIC YARDS	10,256,545 CUBIC YARDS	12,469,865 CUBIC YARDS
Q	REMAINING SITE LIFE — (BASED ON APPROXIMATE WASTE ACCEPTANCE RATE = 1,750 TONS/WORKING DAY, 280 WORKING DAYS PER YEAR, AND AN AIRSPACE UTILIZATION RATE OF 0.7 TONS/CUBIC YARD).	NOT CALCULATED SEPARATELY	NOT CALCULATED SEPARATELY	20.4 YEARS
R	ESTIMATED MAXIMUM CCR/MSW RATIO BY WEIGHT: 1:5 ESTIMATED ANNUAL CCR = 150,000 TONS ESTIMATED DAILY MAXIMUM CCR = 565 TONS.	4		

2. CONTROLLED UNLOADING OF WASTE: UNLOADING OF WASTE WILL BE RESTRICTED TO A WORKING FACE LIMITED TO A MAXIMUM OF 200 FEET WIDE BY 200 FEET LONG OR 40,000 SQUARE FEET. A SPOTTER WILL DIRECT TRUCK TRAFFIC TO AND FROM THE WORKING FACE AND WILL SUPERVISE ALL UNLOADING ACTIVITIES. SCAVENGING WILL BE PROHIBITED.

MSW AND CCR DISPOSAL OPERATION MAY BE OPERATED AND MAINTAINED ON AN INDEPENDENT WORKING FACE, AS DEFINED BELOW, OR CCR AND MSW MAY BE CO-MINGLED AT THE SAME WORKING FACE.

OPERATORS WILL BE TRAINED TO IDENTIFY CONDITIONS THAT MAY IMPACT CCR COMPACTION AND WILL OBSERVE INCOMING CCR FOR EXCESS MOISTURE CONTENT.

IN THE EVENT THAT CCR WASTE LOADS ARE BROUGHT TO THE FACILITY CONTAINING EXCESS MOISTURE, THE WASTE MATERIAL WILL BE SPREAD IN A STAGING AREA OVER INTERMEDIATE COVER AND ALLOWED TO DRY PRIOR TO INCORPORATION INTO THE WASTE MASS.

CCR WASTE CHARACTERIZATION AND COMPATIBILITY: BULK SAMPLES OF CCR FROM EACH SOURCE WILL BE OBTAINED FOR CHARACTERIZATION AND COMPATIBILITY. THE SOUTHERN COMPANY IS THE FACILITY'S ONLY SOURCE OF CCR AND DOES NOT ACCEPT BAGHOUSE CCR, FLUE GAS DESULFURIZATION (FGD) WASTE OR BOILER SLAG.) ADDITIONAL CCR TYPES SHALL BE PERMITTED THROUGH EPD PRIOR TO ACCEPTANCE. MSW AND CCR RATIOS THAT EXCEED THOSE DEFINED IN SECTION 1 OF THIS PLAN SHALL BE PERMITTED THROUGH EPD PRIOR TO ACCEPTING INCREASED RATIOS.

SAMPLES FOR CHARACTERIZATION WILL BE TESTED FOR MOISTURE CONTENT, PROCTOR DENSITY, AND GRAIN SIZE TO VERIFY ASSUMPTIONS AND FINALIZE COMPACTION STANDARDS.

SAMPLES FOR COMPATIBILITY WILL TESTED FOR TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) 8 RCRA METALS BY SW-846 METHOD 1311 AND A PAINT FILTER TEST BY SW-845 METHOD 9095.

CCR WASTE ACCEPTANCE PROTOCOL: CCR IS DEFINED BY THE US ENVIRONMENTAL PROTECTION AGENCY AS A SOLID WASTE TO BE REGULATED UNDER A SUBTITLE D (EO 12866 CCR 2050-AE81). CCR WASTE MATERIAL ACCEPTED FOR DISPOSAL AT THIS FACILITY WILL NOT REQUIRE NON—HAZARDOUS CERTIFICATION, ROUTINE RECORD KEEPING PROCEDURES AS SPECIFIED UNDER SECTION 20 OF THIS PLAN WILL BE FOLLOWED.

SPREADING AND COMPACTION: MSW ONLY WASTE WILL BE SPREAD AND COMPACTED IN UNIFORM LAYERS NOT TO EXCEED FIVE FEET IN DEPTH. OPTIMUM DENSITY WILL BE ACHIEVED BY MAKING THREE TO FIVE PASSES OVER THE WASTE WITH THE COMPACTOR. WORKING FACES IN ALL WASTE DISPOSAL AREAS SHALL HAVE A SLOPE NO STEEPER THAN 2H:1V.

MSW AND CCR CO-MINGLED WASTES WILL BE SPREAD AND COMPACTED IN UNIFORM LAYERS NOT TO EXCEED FEET IN DEPTH. OPTIMUM DENSITY WILL BE ACHIEVED BY MAKING THREE TO FIVE PASSES OVER THE WASTE WITH THE COMPACTOR. WORKING FACES IN ALL WASTE DISPOSAL AREAS SHALL HAVE A SLOPE NO STEEPER THAN 2H: 1V.

NO CCR WILL BE CO-MINGLED WITH MSW IN THE FIRST EIGHT FEET OF WASTE PLACED ON THE PROTECTIVE COVER. CO-MINGLED MSW AND CCR MAY BE PLACED IN SUBSEQUENT WASTE LIFTS ONCE THE WASTE LAYER EXCEEDS EIGHT

4. DAILY COVER:

- A. EXCEPT AS PROVIDED IN PARAGRAPH (B) OF THIS SECTION THE PERMITTEE MUST COVER ALL EXPOSED MUNICIPAL SOLID ↑ WASTE AND MSW CO-MINGLED WITH CCR WITH A MINIMUM OF SIX INCHES OF EARTHEN MATERIAL AT THE END OF EACH /4\ OPERATING DAY OR AT MORE FREQUENT INTERVALS IF NECESSARY TO CONTROL DISEASE VECTORS. FIRES. ODORS, BLOWING
- LITTER AND SCAVENGING. DAILY COVER MAY BE STRIPPED AS WASTE IS PLACED ON THE NEXT LIFT ABOVE. B. ALTERNATIVE MATERIALS SUCH AS HIGH DENSITY WOVEN POLYETHYLENE COATED FABRIC TARPS MAY BE USED IN PLACE OF EARTHEN MATERIAL. AIRSPACE SAVER DAILY COVER, ENSTARE ALTERNATE DAILY COVER, ENGINEERED TEXTILE PRODUCTS LANDFILL COVERS, TARP-O-MATIC OR EQUALS MAY BE USED. THE TARP WILL BE MANUALLY OR MECHANICALLY PLACED OVER THE EXPOSED SOLID WASTE AND SECURED AT THE END OF EACH OPERATING DAY. AT THE BEGINNING OF EACH
- OPERATING DAY THE TARP WILL BE REMOVED BEFORE WASTE DISPOSAL IS CONTINUED. C. HYDRATED ASH MAY BE USED AS AN ALTERNATE DAILY COVER CONTINGENT UPON THE FOLLOWING CONDITIONS: 1. HYDRATED ASH NOT STAGED FOR DEPLOYMENT WITHIN 24 HOURS WILL BE STOCKPILED ON THE LANDFILL AND CONTAINED BY EARTHEN BERMS AND TARPS.
- 2. HYDRATED ASH WILL NOT BE USED AS A COMPONENT OF THE INTERMEDIATE COVER.
- 3. THE HYDRATED ASH WILL NOT BE USED OR STORED OUTSIDE THE LANDFILL LINER. 4. THE ASH WILL BE KEPT HYDRATED TO PREVENT DISPERSAL BY THE WIND.
- D. REMEDIATED SOIL NOT EXCEEDING 100 (ppm) TPH AND 20 (ppm) TOTAL BTEX MAY BE USED AS DAILY COVER.

A. A UNIFORM LAYER OF COMPACTED CLEAN EARTH NOT LESS THAN ONE (1) FOOT IN DEPTH WILL BE PLACED OVER EACH PORTION OF ANY INTERMEDIATE MSW OR CO-MINGLED MSW AND CCR LIFT FOLLOWING COMPLETION OF THAT LIFT. A 50/50 MIXTURE OF SOIL/MULCH MAY BE USED AS AN ALTERNATE INTERMEDIATE COVER. THIS COVER MAY BE STRIPPED AS WASTE IS PLACED IN THE NEXT LIFT ABOVE. INTERMEDIATE COVER SHALL BE STOCKPILED IN SEGREGATED AREAS SO AS NOT TO INTERFERE WITH OPERATIONS. INTERMEDIATE COVER SHALL BE PLACED ON ALL MSW DISPOSAL AREAS TO REMAIN OPEN MORE THAN A WEEK. THE COMPOSITION OF INTERMEDIATE COVER SHALL MEET THE FOLLOWING STANDARDS: 1. SAME CRITERIA FOR DAILY COVER: PLUS 2. BE CAPABLE OF SUPPORTING THE GERMINATION AND PROPAGATION OF VEGETATIVE COVER.

- 6. FINAL COVER: TOPSOIL, 50/50 MIXTURE OF SOIL/MULCH, CLAYEY SOILS AND GENERAL FILL MAY BE STOCKPILED ON-SITE IN SEGREGATED AREAS; SO AS NOT TO INTERFERE WITH OPERATIONS. PRIOR TO STOCKPILING, THIS MATERIAL SHALL BE TESTED FOR CONFORMANCE WITH THE D&O PLANS. WHEN THE MUNICIPAL SOLID WASTE FILL PROGRESSION REACHES FINAL GRADE. THE FINAL COVER WILL BE INSTALLED AS DETAILED IN THE D&O PLANS. ALL FINAL COVER COMPONENTS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE CQA PLAN. A 50/50 MIXTURE OF SOIL/MULCH MAY BE USED IN THE UPPER SIX-INCHES OF THE FINAL COVER SOILS.
- 7. FIRE PROTECTION: THE DISPOSAL FACILITY SHALL BE DESIGNED AND OPERATED TO PREVENT AND MINIMIZE THE POTENTIAL FOR FIRE OR
- A MINIMUM SUPPLY OF ONE DAY OF COVER MATERIAL WILL BE MAINTAINED WITHIN 200 FEET OF THE WORKING FACE AND WILL BE USED FOR FIRE PROTECTION. IN CASE OF FIRE, SOIL SHALL BE IMMEDIATELY DUMPED ONTO BURNING AREA. A WATER TRUCK MAY ALSO BE USED IF AVAILABLE TO ASSIST IN
- EXTINGUISHING THE FIRE.

SMOKING WILL BE PROHIBITED IN THE LANDFILL AREA. THE LOCAL FIRE DEPARTMENT SHALL BE NOTIFIED IF A FIRE BREAKS OUT.

- 8. SUPERVISION: THE DISPOSAL FACILITY WILL BE UNDER THE SUPERVISION OF AN EXPERIENCED FULL-TIME EMPLOYEE WHO WILL BE ON-SITE AT ALL TIMES DURING ITS OPERATION. THE SUPERVISOR'S EXPERIENCE MUST INCLUDE TRAINING IN THE OPERATION OF LANDFILLS AND THE IMPLEMENTATION OF DESIGN AND OPERATIONAL PLANS. THE SUPERVISOR SHALL BE CERTIFIED IN ACCORDANCE WITH O.C.G.A. 12-8-24.1 AND THE RULES OF SOLID WASTE MANAGEMENT. AN APPROVED SET OF DESIGN AND OPERATION PLANS SHALL BE KEPT ON-SITE DURING OPERATION
- THE SUPERVISOR AND FACILITY EMPLOYEES WILL RECEIVE REGULAR EDUCATIONAL TRAINING THAT WILL ALLOW THEM TO DETECT SAFETY EMERGENCIES AND RESPOND IN A TIMELY MANNER
- 9. CONTINUITY OF OPERATION: ALL-WEATHER ACCESS ROADS WILL BE PROVIDED TO THE WORKING FACE OF THE DISPOSAL OPERATION. ALL AREAS OF THE SITE ARE SUITABLE FOR WET WEATHER OPERATIONS. BACK-UP OR RENTAL EQUIPMENT WILL BE USED IN THE EVENT OF EQUIPMENT
- 10. <u>SILTATION AND EROSION CONTROL:</u> CLEARING AND GRADING ACTIVITIES WILL BE LIMITED TO THE CURRENT WASTE CELL AREAS, BORROW AREAS, STOCKPILE AREAS, AND SITE FACILITY AREAS. SILT FENCE AND OTHER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ALL CONSTRUCTION ACTIVITIES. DISTURBED AREAS ALONG ROADSIDE AND ON CONSTRUCTED SOIL FILL SLOPES SHALL BE SEEDED AND MULCHED IMMEDIATELY AS WORK PROGRESSES TO ESTABLISH PERMANENT VEGETATION. THE ROAD SURFACE SHALL BE STABILIZED WITH SIX INCHES OF

SOIL STOCKPILE AND INTERMEDIATE COVER AREAS TO BE EXPOSED FOR LONGER THAN THREE MONTHS SHOULD BE MULCHED AND SEEDED WITH TEMPORARY VEGETATION. SILT FENCE SHALL BE PLACED AROUND ALL STOCKPILE AREAS. PERMANENT VEGETATION OVER WASTE FILL AREAS SHALL BE ESTABLISHED AS FINAL COVER IS PLACED. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED WEEKLY AND IMMEDIATELY AFTER SIGNIFICANT RAIN EVENTS. SILT WILL BE REMOVED FROM SILT FENCE WHEN SILT ACCUMULATION REACHES A DEPTH OF ONE HALF THE HEIGHT OF THE SILT FENCE FABRIC. ACCUMULATED SILT WILL BE REMOVED AND PLACED IN DESIGNATED STOCKPILE AREAS. PERMANENT RECORD SHALL BE KEPT OF ALL SEDIMENT POND CLEANING OPERATIONS.

SILT WILL BE REMOVED FROM SEDIMENT PONDS AS REQUIRED TO MAINTAIN THE DESIGN CAPACITY OF THE STORMWATER MANAGEMENT SYSTEM. ALL RECORDS SHALL BE FILED AND MAINTAINED AT THE LANDFILL OFFICE. REPAIRS TO ALL DEVICES SHALL BE MADE AS NECESSARY TO MAINTAIN THEIR EFFECTIVENESS IN SILT CONTROL. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL CONFORM TO THE FOLLOWING

- A. STRIPPING OF VEGETATION, REGRADING, AND OTHER DEVELOPMENT ACTIVITIES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO MINIMIZE EROSION;
- CUT AND FILL OPERATIONS MUST BE KEPT TO A MINIMUM; DEVELOPMENT PLANS MUST CONFORM TO TOPOGRAPHY AND SOIL TYPE, SO AS TO CREATE THE LOWEST PRACTICABLE EROSION POTENTIAL;
- WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED, AND SUPPLEMENTED; THE DISTURBED AREA AND THE DURATION OF EXPOSURE TO EROSIVE ELEMENTS SHALL BE KEPT TO A PRACTICABLE MINIMUM;
- DISTURBED SOIL SHALL BE STABILIZED AS QUICKLY AS PRACTICABLE; TEMPORARY VEGETATION OR MULCHING SHALL BE EMPLOYED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT

O.C.G.A. 12-7-6 BEST MANAGEMENT PRACTICES FOR CONSERVATION AND ENGINEERING PRACTICES:

- H. PERMANENT VEGETATION AND STRUCTURAL EROSION CONTROL MEASURES MUST BE INSTALLED AS SOON AS PRACTICABLE;
- TO THE EXTENT NECESSARY, SEDIMENT IN RUN-OFF WATER MUST BE TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS, OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS STABILIZED. A DISTURBED AREA IS STABILIZED WHEN IT IS BROUGHT TO A CONDITION OF CONTINUOUS COMPLIANCE WITH REQUIREMENTS.
- J. ADEQUATE PROVISIONS SUCH AS BERMS OR DIVERSION DITCHES MUST BE PROVIDED TO MINIMIZE DAMAGE FROM SURFACE WATER TO THE CUT FACE OF EXCAVATIONS OR THE SLOPING SURFACES OF FILLS. K. CUTS AND FILLS MAY NOT ENDANGER ADJOINING PROPERTY;
- L. FILLS MAY NOT ENCROACH UPON NATURAL WATER COURSES OR CONSTRUCTED CHANNELS IN A MANNER SO AS TO ADVERSELY AFFECT OTHER PROPERTY OWNERS;
- M. GRADING EQUIPMENT MUST CROSS FLOWING STREAMS BY THE MEANS OF BRIDGES OR CULVERTS, EXCEPT WHEN SUCH METHODS ARE NOT FEASIBLE: PROVIDED, IN ANY CASE, THAT SUCH CROSSINGS MUST BE KEPT TO A MINIMUM;
- N. LAND-DISTURBING ACTIVITY PLANS FOR EROSION AND SEDIMENTATION CONTROL SHALL INCLUDE PROVISIONS FOR TREATMENT OR CONTROL OF ANY SOURCE OF SEDIMENTS AND ADEQUATE SEDIMENTATION CONTROL FACILITIES TO RETAIN SEDIMENTS ON SITE OR PRECLUDE SEDIMENTATION OF ADJACENT STREAMS;
- O. LAND-DISTURBING ACTIVITIES SHALL NOT BE CONDUCTED WITHIN 25 FEET OF THE BANKS OF ANY STATE WATERS, AS MEASURED FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION, EXCEPT WHERE THE DIRECTOR DETERMINES TO ALLOW A VARIANCE THAT IS AT LEAST AS PROTECTIVE OF NATURAL RESOURCES AND THE ENVIRONMENT, WHERE OTHERWISE ALLOWED BY THE DIRECTOR PURSUANT TO CODE SECTION 12-2-8, OR WHERE A DRAINAGE STRUCTURE OR A ROADWAY DRAINAGE STRUCTURE MUST BE CONSTRUCTED. PROVIDED THAT ADEQUATE EROSION CONTROL MEASURES ARE INCORPORATED IN THE PROJECT PLANS AND SPECIFICATIONS AND ARE IMPLEMENTED; PROVIDED, HOWEVER, THAT BUFFERS OF AT LEAST 25 FEET ESTABLISHED PURSUANT TO PART 6 OF ARTICLE 5 OF CHAPTER 5 OF THIS TITLE SHALL REMAIN IN FORCE UNLESS A VARIANCE IS GRANTED BY THE DIRECTOR AS PROVIDED IN THIS PARAGRAPH; AND
- P. LAND-DISTURBING ACTIVITIES SHALL NOT BE CONDUCTED WITHIN 100 HORIZONTAL FEET, AS MEASURED FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION, OF THE BANKS OF ANY STATE WATERS CLASSIFIED AS "TROUT STREAMS" PURSUANT TO ARTICLE 2 OF CHAPTER 5 OF THIS TITLE UNLESS A VARIANCE FOR SUCH ACTIVITY IS GRANTED BY THE DIRECTOR EXCEPT WHERE A ROADWAY DRAINAGE STRUCTURE MUST BE CONSTRUCTED, PROVIDED THAT ADEQUATE EROSION CONTROL MEASURES ARE INCORPORATED IN THE PROJECT PLANS AND SPECIFICATIONS AND ARE IMPLEMENTED.
- 11. VEGETATIVE PLAN: NO AREA ON THE SITE WILL BE STRIPPED OF ITS NATURAL VEGETATION UNTIL SUCH TIME AS IT IS READY FOR USE. ANY AREA TO BE LEFT EXPOSED AND INACTIVE FOR MORE THAN 3 MONTHS SHALL BE GRASSED. VEGETATION OF THE FINAL COVER SHALL TAKE PLACE WITHIN TWO WEEKS AFTER IT IS PLACED. INTERMEDIATE COVER SHALL BE GRASSED WITH TEMPORARY VEGETATION IF IT WILL BE EXPOSED FOR MORE THAN THREE MONTHS.

ALL SEEDED AREAS MUST BE STABILIZED IN ACCORDANCE WITH THE GEORGIA EROSION AND SEDIMENT CONTROL MANUAL.

A. Ds1 STABILIZATION (TYPICAL)

FOR AREAS REQUIRING STABILIZATION WHEN NO VEGETATION IS AVAILABLE, USE MULCHING UNTIL THE SEASON FOR PLANTING THE REQUIRED VEGETATION IS REACHED. MULCHING WILL BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING (1) DRY STRAW OR HAY SHALL BE SPREAD AT THE RATE OF 2 1/2 TONS PER ACRE. THE MULCH SHALL BE ANCHORED IN THE SOIL WITH A DISK HARROW.

(2) MECHANICALLY APPLIED CLAY AND ASPHALT EMULSION. (3) STRAW AND FIBER MESH ROLL PLACED AND ANCHORED WITH STAPLES.

B. Ds2 Ds3 TEMPORARY & PERMANENT VEGETATION (TYPICAL)

	TYPE	SEEDING RATE (LBS/ACRE)	PLANTING DATES	FERTILIZER RATE (LBS/ACRE)	TYPE FERTILIZER (N-P-K)
-	BERMUDA	20	2/15 - 6/30	400	18-24-12
	LESPEDEZA	25	9/1 - 3/15	400	18-24-12
	PENSACOLA BAHIA	20	3/1 - 10/15	400	18-24-12
	MILLET	10	3/15 - 7/31	400	18-24-12
EV	CONTROL SUBVEY	CONTROL	III BE DROVIDED	AS INDICATED	ON THE APPROVED DE

12. SURVEY CONTROL: SURVEY CONTROL WILL BE PROVIDED AS INDICATED ON THE APPROVED DESIGN AND OPERATIONAL PLAN. SURVEY CONTROL WILL BE ACCOMPLISHED THROUGH THE USE OF PERMANENT BENCHMARKS. WHERE NECESSARY FOR CONSTRUCTION OR OPERATIONAL PURPOSES, VERTICAL AND HORIZONTAL SURVEY CONTROL WILL BE ESTABLISHED AND MAINTAINED TO DELINEATE WASTE FILL BOUNDARIES, STRUCTURES, AND PROPERTY BOUNDARIES.

13. LEACHATE COLLECTION AND TREATMENT: A LINER AND LEACHATE COLLECTION SYSTEM WILL BE INSTALLED AS SHOWN ON THE APPROVED DESIGN AND OPERATION PLAN. THIS COLLECTION SYSTEM SHALL BE PROPERLY SHOWN ON THE APPROVED DESIGN AND OPERATION PLAN. THIS COLLECTION SYSTEM SHALL BE PROPERLY MAINTAINED THROUGHOUT THE OPERATION OF THE DISPOSAL FACILITY.

LEACHATE WILL BE CONVEYED TO ABOVE-GROUND STORAGE TANKS PRIOR TO DISPOSAL. LEACHATE COLLECTED IN THE TANKS SHALL EITHER BE RECIRCULATED BACK INTO THE LANDFILL, SOLIDIFIED AND DISPOSED OF IN THE LANDFILL, HAULED TO A WASTEWATER TREATMENT PLANT OR DISCHARGED INTO A FORCEMAIN.

PRETREATMENT FACILITIES WILL BE CONSTRUCTED IF NECESSARY TO MEET PERMIT LIMITATIONS ESTABLISHED BY THE TREATMENT FACILITY AND/OR EPD.

LEACHATE MAY BE RECIRCULATED BACK INTO THE LANDFILL ONCE SUFFICIENT SOLID WASTE HAS BEEN DEPOSITED IN A CELL UNDER THE FOLLOWING CONDITIONS:

- A. THE CELL MUST HAVE AT LEAST A 15-FOOT LIFT OF SOLID WASTE.
- B. LEACHATE MAY NOT BE DISCHARGED WITHIN 100-FEET OF ANY UNLINED AREA OR ANY CELL WITH AN ALTERNATE LINER. C. LEACHATE MAY BE DISCHARGED BY DIRECT DISCHARGE FROM A TANKER TRUCK INTO THE WORKING FACE OR DISCHARGED DIRECTLY INTO THE WASTE THROUGH A PIPING DISTRIBUTION SYSTEM. D. RECIRCULATION MUST BE AT A CONTROLLED RATE TO AVOID PONDING ON THE WORKING FACE.
- E. A BERM MUST BE CONSTRUCTED NEAR THE WORKING FACE TO PREVENT RUNOFF FROM THE RECIRCULATED LEACHATE. F. AREAS WHERE LEACHATE IS RECIRCULATED INTO THE WORKING FACE MUST BE COVERED WITH DAILY "SOIL" COVER TO AID IN ABSORPTION AND TO CONTROL ODORS.

UPON COMMENCEMENT OF LEACHATE GENERATION BY THE FACILITY. THE OPERATOR SHALL SAMPLE AND ANALYZE THE FOLLOWING:

- A. ON A WEEKLY BASIS, THE VOLUME OF LEACHATE GENERATED AND DISPOSED OF OFF SITE BY THE LANDFILL B. ON A SEMI-ANNUAL BASIS, THE CHEMICAL COMPOSITION OF LEACHATE INCLUDING TOTAL ALKALINITY, SPECIFIC CONDUCTANCE, CHLORIDES, SULFATES, TOTAL DISSOLVED SOLIDS, CHEMICAL OXYGEN DEMAND, METALS AND VOLATILE ORGANIC ANALYSIS. FOR THE SEMI-ANNUAL ANALYSIS, THE LEACHATE SAMPLE SHOULD BE COLLECTED FROM THE LEACHATE STORAGE TANK AND SHOULD BE REPRESENTATIVE OF THE AVERAGE MIXED INFLUENT LEACHATE QUALITY.
- C. ON AN ANNUAL BASIS FOR APPENDIX I CONSTITUENTS AND ANY APPENDIX II CONSTITUENTS IDENTIFIED IN SITE GROUNDWATER SAMPLES.
- OPERATIONS. THE MINIMUM EQUIPMENT ANTICIPATED FOR THESE OPERATIONS IS LISTED 1 COMPACTOR, 1 BULLDOZER AND 1 WATER TRUCK. 15. BACK-UP EQUIPMENT: BACK-UP EQUIPMENT WILL BE OBTAINED FROM A LOCAL DEALER, AS NECESSARY TO MAINTAIN CONTINUITY

14. SITE EQUIPMENT: LANDFILL EQUIPMENT WILL BE PROVIDED AS NECESSARY TO ADEQUATELY MAINTAIN THE FACILITY'S DAY TO DAY

- 16. <u>DIRECTIONAL AND INFORMATIONAL SIGNS:</u> DIRECTIONAL SIGNS WILL BE PLACED ON ROADS NEAR THE DISPOSAL FACILITY. AN INFORMATIONAL SIGN WILL BE PLACED AT THE ENTRANCE TO THE DISPOSAL SITE INDICATING THE DAYS AND HOURS OF OPERATION
- 17. AFTER HOURS DUMPING: NO WASTE WILL BE ACCEPTED ON-SITE AFTER OPERATIONAL HOURS UNLESS AN EMERGENCY SITUATION ARISES. EMERGENCY SITUATIONS ARE TO BE DETERMINED BY THE LANDFILL SITE MANAGER WITH APPROVAL FROM THE GEORGIA REGIONAL OFFICE OF THE EPD. ALL AFTER HOURS DUMPING SHALL BE REPORTED TO THE EPD.
- 18. LITTER CONTROL: THE SITE WILL BE INSPECTED DAILY AND LITTER COLLECTED. THE APPLICATION OF DAILY COVER WILL ALSO MINIMIZE LITTER. NO WASTE WILL REMAIN UNCOVERED OVERNIGHT. SCATTERING OF WASTE BY WIND SHALL BE CONTROLLED BY FENCING OR OTHER BARRIERS.
- 19. <u>Dust control:</u> the entrance and perimeter roads will be paved or graveled to minimize dust. A water truck will BE UTILIZED TO SPRAY ACCESS ROADS, CO-MINGLED MSW AND CCR DISPOSAL AREAS AS NECESSARY TO CONTROL FUGITIVE DUST EMISSIONS. FUGITIVE DUST FROM CCR DISPOSAL AREAS WILL BE MINIMIZED IN ACCORDANCE WITH AIR QUALITY RULE 391-3-1-.02(2)(n)1 AND WILL NOT EXCEED THE LIMITS DEFINED THEREIN.

FUGITIVE CCR DUST COMPLAINTS FROM CITIZENS WILL BE LOGGED VIA WASTE MANAGEMENT'S 1-800 CITIZEN COMMENT SYSTEM AND BE PLACED IN THE FACILITY'S RECORDS AND MADE AVAILABLE FOR INSPECTION BY EPD.

- THE OWNER WILL PREPARE AND SUBMIT TO EPD AN ANNUAL FUGITIVE DUST CONTROL REPORT. THE REPORT WILL BE DUE EVERY 12 MONTHS SUBSEQUENT TO APPROVAL OF THE ORIGINAL CCR MANAGEMENT PLAN. THE REPORT WILL INCLUDE THE FOLLOWING: A. DESCRIPTION OF ACTIONS TAKEN TO CONTROL FUGITIVE CCR DUST
 - B. RECORD OF ALL CITIZEN CCR COMPLAINTS C. A SUMMARY OF CORRECTIVE ACTIONS TAKEN AND RECOMMENDATIONS TO IMPROVE FUGITIVE CCR DUST CONTROL MEASURES (IF APPLICABLE).
- 20. OPERATIONAL RECORDS/DAILY LOGS: RECORDS WILL BE KEPT OF ALL WASTE TRANSPORTED TO THE SITE BY WEIGHT. COMPLETE DAILY LOGS AND OPERATIONAL RECORDS WILL BE RETAINED IN THE ON SITE OFFICE BUILDING AND SHALL BE MADE AVAILABLE TO EPD UPON REQUEST. ALL RECORD KEEPING SHALL BE IN ACCORDANCE WITH RULE 391-3-4-.07(u).
- 21. ON-SITE FIRST AID: FIRST AID SUPPLIES WILL BE LOCATED IN THE OFFICE ON-SITE.

YARD WASTE AND SORTED CONSTRUCTION AND DEMOLITION DEBRIS.

- 22. SITE COMMUNICATIONS: THE OFFICE WILL BE EQUIPPED WITH A TELEPHONE.
- 23. EMPLOYEE FACILITIES: AN OFFICE TO BE LOCATED ON-SITE WILL BE EQUIPPED WITH ELECTRICITY AND RESTROOM FACILITIES.
- 24. ON-SITE SOLID WASTE MATERIALS RECOVERY OPERATIONS: AN AREA WILL BE DESIGNATED FOR THE STORAGE OF RECOVERED RECYCLABLE MATERIALS.
- A. NO ON-SITE RECOVERED MATERIALS PROCESSING ACTIVITIES SHALL OCCUR WITHOUT PRIOR APPROVAL FROM THE ENVIRONMENTAL PROTECTION DIVISION. B. ANY DESIGNATED STORAGE AREA FOR RECOVERED MATERIALS MUST BE MAINTAINED IN A NEAT AND ORDERLY MANNER.
- STORED MATERIALS MUST BE REMOVED FROM THE SITE EVERY 90 DAYS. MATERIALS STORED MORE THAN 90 DAYS SHALL BE DISPOSED IN THE LANDFILL. THE RECOVERED MATERIALS SHALL BE PREFERABLY STORED IN ROLL-OFF CONTAINERS, OR ANY OTHER METHOD APPROVED BY GEORGIA EPD. C. SCAVENGING SHALL NOT BE ALLOWED IN THE RECOVERED MATERIAL PROCESSING AREA.

D. THE FOLLOWING RECOVERED MATERIALS MAY BE STORED: WHITE GOODS, TIRE, ALUMINUM, GLASS, METAL, PAPER, PLASTIC,

25. RECOVERED MATERIALS PROCESSING

OF OPERATIONS.

AND TIPPING FEES.

- A. A TUB GRINDER MAY PROCESS LIMBS AND YARD WASTE INTO MULCH. THIS MATERIAL WILL BE STOCKPILED AND USED FOR LANDSCAPING MULCH AND COMPOSTING OPERATIONS.
- 26. WASTE REQUIRING SPECIAL HANDLING: ALL INFECTIOUS AND ASBESTOS WASTES MUST BE LABELED AND HANDLED IN ACCORDANCE WITH ALL GEORGIA EPD REGULATIONS IN ORDER TO BE ACCEPTED.
- A. ASBESTOS CONTAINING WASTE SHALL BE SEALED IN LEAK-PROOF CONTAINERS LABELED WITH: "CAUTION CONTAINS ASBESTOS FIBERS - AVOID OPENING OR BREAKING CONTAINER - BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH."
- B. ASBESTOS CONTAINING WASTE SHALL BE DISPOSED OF IN SUCH A MANNER AS NOT TO DESTROY THE INTEGRITY OF THE ASBESTOS CONTAINING MATERIALS CONTAINERS PRIOR TO THE PLACEMENT OF COVER MATERIAL. THIS WASTE SHALL BE COMPLETELY COVERED IMMEDIATELY AFTER DEPOSITION WITH A MINIMUM OF SIX(6) INCHES OF NON-ASBESTOS MATERIAL. C. PERSONNEL DISPOSING OF ASBESTOS CONTAINING MATERIAL WILL BE TRAINED FOR THE HAZARDS OF THIS MATERIAL AS
- WELL AS ITS DISPOSAL. D. THE LOCATION OF ASBESTOS SHALL BE RECORDED AND PLACED IN THE OPERATING RECORD.

THE PERMITTED PROPERTY BOUNDARIES, AS SHOWN ON THE ABOVE-REFERENCED MAP.

- A. BIOMEDICAL WASTE FROM GENERATORS OF LESS THAN 100 POUNDS PER MONTH SHALL BE PROPERLY DISPOSED OF AT THE LANDFILL. DISPOSAL OF UNTREATED BIOMEDICAL WASTE FROM GENERATORS OF MORE THAN 100 POUNDS PER MONTH IS
- PROHIBITED AT THE LANDFILL B. TREATED BIOMEDICAL WASTE MAY BE COMBINED AND HANDLED WITH REGULAR SOLID WASTE.
- 27. ZONING: THE CURRENT SITE ZONING IS APPROPRIATE FOR USE AS A LANDFILL.
- 28. PROHIBITED WASTE: NO LIQUID WASTE, EITHER BULK OR CONTAINERIZED SHALL BE PLACED IN THE LANDFILL UNLESS THE CONTAINER HAS ONE GALLON CAPACITY OR LESS. ALSO, NO LEAD ACID BATTERIES, RADIOACTIVE WASTE, OR REGULATED QUANTITIES OF HAZARDOUS WASTE MAY BE ACCEPTED. THESE PROHIBITED WASTE SHALL BE LISTED ON THE INFORMATIONAL SIGN. THE SCALEHOUSE ATTENDANT AND THE EQUIPMENT OPERATORS SHOULD BE TRAINED TO IDENTIFY AND EXCLUDE THESE WASTES. AT A MINIMUM, LANDFILL PERSONNEL MUST BE TRAINED TO RECOGNIZE REGULATED WASTES IN ACCORDANCE WITH GEORGIA EPD AND FEDERAL REGULATIONS. RANDOM INSPECTION OF INCOMING LOADS SHALL BE PERFORMED AT THE SCALEHOUSE BY TRAINED PERSONNEL. THE EPD SHALL BE NOTIFIED IF REGULATED HAZARDOUS WASTE OR PCB WASTE IS DISCOVERED AT THE FACILITY.
- 29. PROHIBITED ACTS: THE LANDFILL SHALL BE OPERATED AND MAINTAINED TO PREVENT OPEN BURNING, SCAVENGING, AND THE OPEN

DUMPING OF WASTES. 30. SITE ACCEPTABILITY LIMITATIONS:

250 YEARS.

- A. THE AREA CONSIDERED FOR ACCEPTABILITY INCLUDES ONLY THAT DELINEATED BY THE DASHED BOUNDARY LINE AND IDENTIFIED AS "SITE NO. 2 - PHASE II" ON ATLANTIC COAST CONSULTING INC.'S FIGURE 17, LIMITS OF STUDY, REVISED ON
- B. A LINER AND LEACHATE COLLECTION SYSTEM SHALL BE PLACED BENEATH ALL AREAS PROPOSED FOR WASTE DISPOSAL. C. THE BOTTOM OF THE LINER SYSTEM MUST BE KEPT A MINIMUM OF 5 FEET ABOVE THE POTENTIOMETRIC SURFACE CONTOURS
- SHOWN ON FIGURE 7-12 OF SEC DONOHUE'S APRIL 1992 REPORT. D. A MINIMUM 500-FOOT UNDISTURBED BUFFER SHALL BE MAINTAINED BETWEEN THE WASTE DISPOSAL BOUNDARY AND ANY ADJACENT RESIDENCES AND/OR WASTE SUPPLY WELLS. E. A MINIMUM BOUNDARY 200-FOOT UNDISTURBED BUFFER SHALL BE MAINTAINED BETWEEN THE WASTE DISPOSAL AREA AND
- F. A MINIMUM 25-FOOT UNDISTURBED BUFFER SHALL BE MAINTAINED BETWEEN THE WASTE DISPOSAL BOUNDARY AND ANY INTERMITTENT OF PERENNIAL STREAMS OR SURFACE WATER BODIES. G. THIS SITE IS LOCATED IN A SEISMIC IMPACT ZONE AS DEFINED IN THE RULES FOR SOLID WASTE MANAGEMENT (CHAPTER 391-3-4-.05 (1) (G)). THE DESIGN ENGINEER MUST CERTIFY THAT ALL CONTAINMENT STRUCTURES ARE DESIGNED TO
- RESIST THE MAXIMUM HORIZONTAL GROUND ACCELERATION FOR THE SITE. THEREFORE, THE REGISTERED PROFESSIONAL ENGINEER PREPARING THE DESIGN AND OPERATIONAL PLAN MUST STAMP AND SIGN EACH ENGINEERING DRAWING WITH THE ACCOMPANYING NOTATION: I HAVE REVIEWED THE INFORMATION PRESENTED IN THIS DRAWING, AND IN MY PROFESSIONAL OPINION, ALL CONTAINMENT STRUCTURES ARE DESIGNED TO RESIST A MAXIMUM HORIZONTAL GROUND ACCELERATION OF 0.16G IN
- H. ALL EROSION CONTROL MEASURES AND/OR DIVERSION DITCHES SHALL CONFORM TO THE EROSION AND SEDIMENT CONTROL ACT AND BE PROTECTIVE OF LITTLE OGEECHEE RIVER AND ITS PERENNIAL AND INTERMITTENT TRIBUTARIES. ALL RUNOFF FROM THE WASTE DISPOSAL BOUNDARY MUST BE ROUTED THROUGH A PERMANENT SEDIMENT CONTROL IMPOUNDMENT. I. ALL SOIL BORINGS, MONITORING WELLS AND PIEZOMETERS, LOCATED WITHIN THE PROPOSED WASTE FOOTPRINT, SHALL BE ABANDONED BY OVERDRILLING AND FILLING WITH A NON-SHRINKING CEMENT/BENTONITE MIX VIA TREMIE PIPE. THE UPPER 10 FEET OF THE BORING CAN BE FILLED WITH HYDRATED BENTONITE TO SURFACE GRADE. A REPORT DOCUMENTING THE ABANDONMENT OF A ALL BORINGS/PIEZOMETERS SHALL BE SUBMITTED TO EPD PRIOR TO CELL CONSTRUCTION. THIS DOCUMENTATION SHALL BE SIGNED AND STAMPED BY THE RESPONSIBLE PROFESSIONAL GEOLOGIST OR ENGINEER REGISTERED TO PRACTICE IN THE STATE OF GEORGIA.
- J. DISTURBANCE OF WETLAND AREAS IS PROHIBITED EXCEPT AS PERMITTED BY THE UNITED STATES ARMY CORPS OF ENGINEERS. SOLID WASTE SHALL NOT BE DISPOSED WITHIN 50 FEET OF WETLANDS AREAS. A STATEMENT CERTIFYING THAT WETLANDS WILL NOT BE IMPACTED AS A RESULT OF CONSTRUCTION ACTIVITIES AT THE SITE SHOULD BE SUBMITTED, SIGNED AND STAMPED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN AND OPERATION PLANS FOR THE SUBJECT
- K. NO WASTE SHALL BE DISPOSED OF IN ANY 100-YEAR FLOOD HAZARD ZONE. THE 100-YEAR FLOOD ELEVATION MUST BE SHOWN O THE DESIGN AND OPERATIONAL PLANS.



ATLANTIC COAST CONSULTING, INC.

630 Colonial Park Drive Roswell, GA 30075 0 770.594.5998 f 770.594.5967 www.atlcc.net



PROJECT:

SUPERIOR LANDFILL & RECYCLING CENTER SITE No. 2 MSWI EXPANSION

PERMIT No.: 025~070D (MSWL)



WM of Georgia, Inc. 3001 Little Neck Road Savannah, Ga 31419

REVISIONS

3. Minor Modification

12/09/2009 11/05/2010 . Response to Comments 03/16/201 2. Response to Comments

10/12/201

04/03/2017

Response to EPD Comments 05/18/201' GEORGIA **Environmental Protection Division** Solid Waste Management Program

MINOR MODIFICATION APPROVAL SOLID WASTE PERMIT NO. 025-070D (MSWL)

Checked by:

I010~215

PROJECT NUMBERS

February 2014

LANDFILL **OPERATIONAL PROCEDURES**

- L. GROUNDWATER, SURFACE WATER, AND METHANE MONITORING SYSTEMS SHALL BE INSTALLED AT THE SITE. SAMPLING PARAMETERS, SAMPLING SCHEDULES, MONITORING WELL CONSTRUCTION AND SPACING MUST ADHERE TO THE GUIDELINES ESTABLISHED IN EPD'S RULE OF SOLID WASTE MANAGEMENT, CHAPTER 391—3—4. THE SYSTEM DESIGN AND MONITORING REQUIREMENTS SHALL BE DETAILED IN A GROUNDWATER MONITORING PLAN THAT IS PREPARED IN ACCORDANCE WITH THE GEORGIA MANUAL FOR GROUNDWATER MONITORING AND IS APROVABLE BY EPE.

 M. THE SUB—BASE SHALL MEET THE FOLLOWING PERFORMANCE STANDARDS:
- (I) BEAR THE WEIGHT OF THE LINER SYSTEM, WASTE, WASTE COVER MATERIAL, AND EQUIPMENT OPERATING ON THE FACILITY WITHOUT CAUSING OR ALLOWING A FAILURE OF THE LINER SYSTEM.

 (II) ACCOMMODATE POTENTIAL SETTLEMENT WITHOUT DAMAGE TO THE LINER SYSTEM.
- 21. <u>CERTIFICATION</u>: PRIOR TO RECEIPT OF SOLID WASTE OR CCR, THE DIVISION MUST BE PROVIDED WITH WRITTEN CERTIFICATION BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN GEORGIA, THAT THE FACILITY HAS BEEN CONSTRUCTED IN ACCORDANCE WITH WRITTEN CERTIFICATION, THE FACILITY OWNER OR OPERATOR MAY COMMENCE DISPOSAL OF RECEIPT BY THE DIVISION OF THE REPEATED FOR EACH SUBSEQUENT MAJOR CONSTRUCTION STAGE, INCLUDING BUT NOT LIMITED TO, NEW CELLS OR TRENCHES, PROCESS, AND APPLICATION OF FINAL COVER.
- 32. <u>Initial placement of waste</u>: The first eight feet of solid waste placed on the protective cover may not contain material capable of penetrating or puncturing the protective cover. These materials will be pulled aside and disposed of in other areas until the waste layer exceeds 8 feet over the protective cover.
- 33. <u>Environmental protection:</u> The Landfill Shall be operated in such manner as to prevent air, land, or water pollution, and public health hazards.
- 34. <u>SITE ACCESS</u>: ENTRANCES TO THE FACILITY ARE EQUIPPED WITH FENCES AND LOCKING GATES TO PREVENT UNAUTHORIZED ACCESS. ACCESS TO THE FACILITY SHALL BE LIMITED TO AUTHORIZED ENTRANCES WHICH SHALL BE CLOSED WHEN THE FACILITY IS BUSINESS HOURS.
- 35. SOLIDIFICATION: THE SOLIDIFICATION PROCESS IS SHOWN ON SHEET 36.
- 36. LANDFILL GAS CONTROL: THIS LANDFILL IS SUBJECT TO NEW SOURCE PERFORMANCE STANDARDS (NSPS) AS PART OF THE CLEAN AIR ACT AND MAY BE REQUIRED TO INSTALL A LANDFILL GAS COLLECTION AND CONTROL SYSTEM (GCCS) WHEN NMOC EMISSIONS EXCEED REGULATORY REQUIREMENTS. A GCCS HAS BEEN DESIGNED AND PARTIALLY CONSTRUCTED FOR THE CURRENTLY PERMITTED SITE 2, PHASE 1. A MODIFIED GCCS DESIGN AND OPERATIONAL PLAN INCORPORATING SITE 2, PHASE 2 WILL BE SUBMITTED TO GEORGIA EPD ONCE AN EXCEEDANCE HAS OCCURRED.
- 37. STAGED CONSTRUCTION & FILL SEQUENCE: THE LANDFILL WILL BE CONSTRUCTED IN STAGES. EACH STAGE MAY BE SUBDIVIDED INTO CELLS FOR CONSTRUCTION. CELL SIZE MAY VARY DEPENDING ON OPERATING CONDITIONS AND WASTE STREAM VOLUME. TEMPORARY STORMWATER CONTROLS, TEMPORARY ROADS AND TEMPORARY LEACHATE CONTROLS SHALL BE CONSTRUCTED FOR EACH CELL. CONSTRUCTION GRADES SHALL MAINTAIN THE MINIMUM PERMITTED SLOPES FOR DRAINAGE IN ACCORDANCE WITH THE STAGE DESIGN. IF VARIATIONS TO THE APPROVED PLAN ARE DESIRED, MINOR MODIFICATIONS WILL BE SUBMITTED TO EPD FOR APPROVAL PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY.
- THE ANTICIPATED ORDER IN WHICH STAGES WILL BE CONSTRUCTED AND FILLED IS AS FOLLOWS: STAGE 1, 2, 3, 4, 5, 6A, 7N, 8N, 6S, 7S, 8S, 10A, 9A, 10B, 9B, 5A, 4A, 3A, 2A, 1A, 11, 12, 13, 14, 15. THE INITIAL LIFT IN EACH STAGE WILL START FROM THE LOW END AND PROCEED TOWARDS THE HIGH END. ALL SUBSEQUENT LIFTS IN EACH STAGE WILL CONTINUE IN THE OPPOSITE DIRECTION FROM WHERE THE PRECEDING LIFT ENDS.
- 38. CCR MANAGEMENT PLAN RENEWAL, MODIFICATIONS AND LOCAL GOVERNMENT NOTIFICATION:
- UPON APPROVAL OF THE CCR MANAGEMENT PLAN BY THE EPD, THE CCR MANAGEMENT PLAN SHALL BE VALID FOR A DURATION OF ONE YEAR. THE FACILITY WILL SUBMIT AN ANNUAL CCR MANAGEMENT AND DUST CONTROL REVIEW SEALED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER. THE ANNUAL CCR MANAGEMENT REPORT MAY BE COMBINED WITH THE ANNUAL FUGITIVE DUST CONTROL REPORT DEFINED IN SECTION 19 OF THIS PLAN.
- THIS PLAN WILL BE REVISED AND SUBMITTED TO EPD FOR APPROVAL IF CHANGES IN THE OPERATIONAL PROCEDURES OR FACILITY DESIGN ARE REQUIRED DUE TO CHANGES IN THE CCR WASTE STREAM.
- THE OWNER OR OPERATOR WILL PROVIDE WRITTEN NOTIFICATION INFORMING CHATHAM COUNTY THAT THE FACILITY IS PLANNING TO ACCEPT CCR WASTE. ADDITIONALLY, CHATHAM COUNTY WILL BE PROVIDED WITH WRITTEN NOTIFICATION FROM THE OWNER OR OPERATOR IF THE CCR MANAGEMENT PLAN IS AMENDED AND APPROVED BY FPD.



ACO

ATLANTIC COAST
CONSULTING, INC.
630 Colonial Park Drive
Suite 110
Roswell, GA 30075
o 770.594.5998
f 770.594.5967

www.atlcc.net



PROJECT:

SUPERIOR LANDFILL & RECYCLING CENTER SITE No. 2 MSWL EXPANSION D&O PLANS

PERMIT No.: 025-070D (MSWL)



WM of Georgia, Inc. 3001 Little Neck Road Savannah, Ga 31419

REVISIONS	
O. Initial Issue.	12/09/2009
1. Response to Comments	11/05/2010
2. Response to Comments	03/16/2011
3. Minor Modification	10/12/2015
4. CCR Management	04/03/2017
5. Responses to EPD Comments	05/18/2017
-	
	O. Initial Issue. 1. Response to Comments 2. Response to Comments 3. Minor Modification

rawn by: JS

PROJECT NUMBER:

I010-215

February 2014

Checked by:

LANDFILL OPERATIONAL PROCEDURES (CONTINUED)

SHEET 22A OF 36

GEORGIA
Environmental Protection Division
Solid Waste Management Program

MINOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 025-070D (MSWL)

APPROVED BY: DATE: 05/22/2017

CLOSURE PLAN

THE CLOSURE PLAN DESCRIBES THE STEPS NECESSARY TO CLOSE THE DISPOSAL FACILITY AT ANY POINT DURING ITS INTENDED OPERATING LIFE, IN A MANNER THAT MINIMIZES THE NEED FOR FURTHER MAINTENANCE AND MINIMIZES THE POST-CLOSURE RELEASE OF LEACHATE TO THE GROUND OR SURFACE WATERS, OR OTHER POLLUTANTS TO THE EXTENT NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT. THE FOLLOWING ITEMS WILL BE ACCOMPLISHED AT ANY TIME THAT THE DIRECTOR OF THE GEORGIA EPD DETERMINES THAT THE SITE WILL BE CLOSED:

- 1. WRITTEN NOTICE OF FINAL CLOSURE SHALL BE PROVIDED TO THE DIRECTOR OF THE GEORGIA EPD WITHIN THIRTY (30) DAYS OF RECEIVING THE FINAL LOAD OF WASTE. NOTICE OF CLOSURE MUST INCLUDE THE DATE OF FINAL WASTE RECEIPT AND AN ACCURATE LEGAL DESCRIPTION OF THE BOUNDARIES OF THE LANDFILL.
- 2. FINAL COVER/GRADING: A UNIFORM COMPACTED LAYER OF CLEAN EARTH COVER IN ACCORDANCE WITH FINAL COVER DETAIL, SHALL BE PLACED OVER THE FINAL LIFT OF WASTE NOT LATER THAN ONE MONTH FOLLOWING PLACEMENT OF SOLID WASTE WITHIN THAT LIFT. THE LANDFILL AREA SHALL BE FINAL GRADED TO MINIMIZE RUNOFF ONTO THE DISPOSAL SITE AND TO PREVENT EROSION. ALL AREAS SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE FROM THE SITE. THE GRADE OF THE FINAL SURFACE OF THE LANDFILL MAY NOT BE LESS THAN 3% NOR GREATER THAN 33% . ALL WASTE AREAS SHALL BE COVERED IN ACCORDANCE WITH THE FINAL COVER DETAILS.
- 3. VEGETATION METHODS: AFTER APPLICATION OF FINAL COVER, THE SITE WILL BE GRASSED IN ACCORDANCE WITH THE VEGETATIVE PLAN CITED IN THE OPERATIONAL PROCEDURES.
- 4. THE DEED FOR THE PROPERTY WHICH WAS USED FOR LANDFILLING SHALL INCLUDE NOTICE OF THE LANDFILL OPERATIONS, THE DATE THE LANDFILL OPERATION COMMENCED AND TERMINATED, AN ACCURATE LEGAL DESCRIPTION OF THE ACTUAL LOCATION OF THE LANDFILL, AND A DESCRIPTION OF THE TYPE OF SOLID WASTES WHICH HAVE BEEN DEPOSITED IN THE LANDFILL. CONCURRENT WITH THE SUBMISSION OF NOTICE OF FINAL CLOSURE TO EPD, THE OWNER OR OPERATOR MUST SUBMIT TO THE EPD CONFIRMATION THAT THE INFORMATION REQUIRED IN THIS SECTION HAS BEEN NOTICED ON THE PROPERTY DEED.
- 5. EQUIPMENT NEEDED: THE SITE EQUIPMENT DESCRIBED IN THE OPERATIONAL PROCEDURES WILL BE AVAILABLE TO CLOSE THE SITE. IF NECESSARY, A THIRD PARTY COULD OBTAIN A GRADING CONTRACTOR TO CLOSE THE SITE UNDER CONTRACT. THE EQUIPMENT NEEDED IS TYPICALLY OWNED BY MOST GRADING CONTRACTORS OR EASILY RENTED.
- EROSION AND SEDIMENTATION CONTROLS: EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED UNTIL A SUITABLE STAND OF GRASS HAS BEEN ESTABLISHED. WHEN A SUITABLE STAND OF GRASS HAS BEEN ESTABLISHED. SILT FENCE AND OTHER TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED. THE SEDIMENTATION PONDS SHALL BE CLEANED OUT AT CLOSURE. DOWNDRAINS REQUIRED TO PROPERLY DRAIN THE FINAL COVER SHALL BE INSTALLED AT CLOSURE.
- 7. IF THE LANDFILL IS CLOSED PRIOR TO REACHING APPROVED FINAL ELEVATIONS, AN AS-BUILT PLAN SHALL BE SUBMITTED TO EPD FOR REVIEW WITHIN 30 DAYS OF CLOSING.
- 8. A PROFESSIONAL ENGINEER REGISTERED TO PRACTICE IN THE STATE OF GEORGIA SHALL PROVIDE A WRITTEN CERTIFICATION THAT THE FACILITY HAS BEEN CLOSED IN ACCORDANCE WITH THE APPROVED CLOSURE PLAN.

CLOSURE COST ESTIMATE

IT IS ASSUMED THAT THE SITE 2 DISPOSAL AREA WILL BE CLOSED USING THE SEQUENCE SHOWN ON THIS DRAWING. THE COST ESTIMATES ARE PROVIDED FOR THE ANTICIPATED WORST CASE SCENARIO. THE FOLLOWING UNIT PRICES WERE OBTAINED FROM RECENT CONTRACTOR BIDS ON SIMILAR PROJECTS. IT IS ALSO ASSUMED THAT THE SITE HAS AN ACTIVE LANDFILL GAS COLLECTION SYSTEM IN ALL AREAS EXCEPT FOR 20 ACRES. A PERMANENT RECORD WILL BE MAINTAINED OF

ALL C	LOSURE ACTIVITIES.	OND W	MEL DE MAINTAINE
Α.	MOBILIZATION:	\$	250,000
В.	FINAL COVER: 12" COMPACTED SOIL = 104.1 AC X 43560 SF/AC X 1 FT X CY/27 CF X \$3.75/CY 50-MIL HDPE AGRU SUPER GRIPNET = 104.1 AC X 43560 SF/AC X \$0.70/SF 8 oz GEOTEXTILE = 104.1 AC X 43560 SF/AC X \$0.20/SF 18" GENERAL FILL = 104.1 AC X 43560 SF/AC X 1.5 FT X CY/27 CF X \$3.75/CY	⇔ ⇔ ⇔	629,805 3,174,218 906,919 944,708
C.	GRASSING COSTS: TOTAL GRASSING COST INCLUDES AT LEAST 400 LBS/AC. OF FERTILIZER, 25 LBS/AC. OF SEED, AND 2.5 TONS/AC OF STRAW OR HAY COST = 104.1 AC X \$1,750/AC	\$	182,175
D.	DOWN DRAINS: (ASSUME RIP RAP MUST BE REPLACED) DRAINAGE STRUCTURE COST = $2,340$ LF X $$80/\text{LF} = $187,200$ (INSTALLATION ONLY) RIP RAP COST = 392 TN X $$20/\text{TN} = 7.840	\$	195,040
E.	GAS EXTRACTION SYSTEM EXPANSION INSTALLATION = 20 X \$25,000/AC	\$	500,000
F.	SEDIMENT POND CLEANOUT: ASSUME THE AMOUNT OF SILT TO BE REMOVED IS EQUAL TO THE ANNUAL AMOUNT OF SEDIMENT EROSION. AMOUNT OF SILT TO BE REMOVED = 104.1 AC X 67 CY/AC = 6,974.1 CY COST = 6,974.7 CY X \$2/CY	\$	13,949
G.	SOLIDIFICATION PIT REMOVAL: CLEANUP AND REMOVAL OF SOLIDIFICATION PIT	\$	30,000
Н.	ENGINEERING	\$	100,000
l.	CQA COST = 104.1 AC X \$7,800/AC	\$	728,700
J.	CLOSURE CONSTRUCTION MANAGEMENT	\$	25,000 4

POST-CLOSURE CARE

THE POST-CLOSURE CARE PLAN DESCRIBES THE STEPS THAT WILL BE TAKEN FOR AT LEAST THIRTY YEARS AFTER COMPLETION OF CLOSURE TO ADEQUATELY PROTECT HUMAN HEALTH AND THE ENVIRONMENT. THE FACILITY CONTACT DURING POST-CLOSURE CARE IS:

TOTAL COST

\$ 7,680,514

WASTE MANAGEMENT CLOSED SITE GROUP 1000 PARKWOOD CIRCLE, SUITE 700 ATLANTA, GA 30339 (770) 805 - 3520

POST-CLOSURE CARE SHALL INCLUDE THE FOLLOWING:

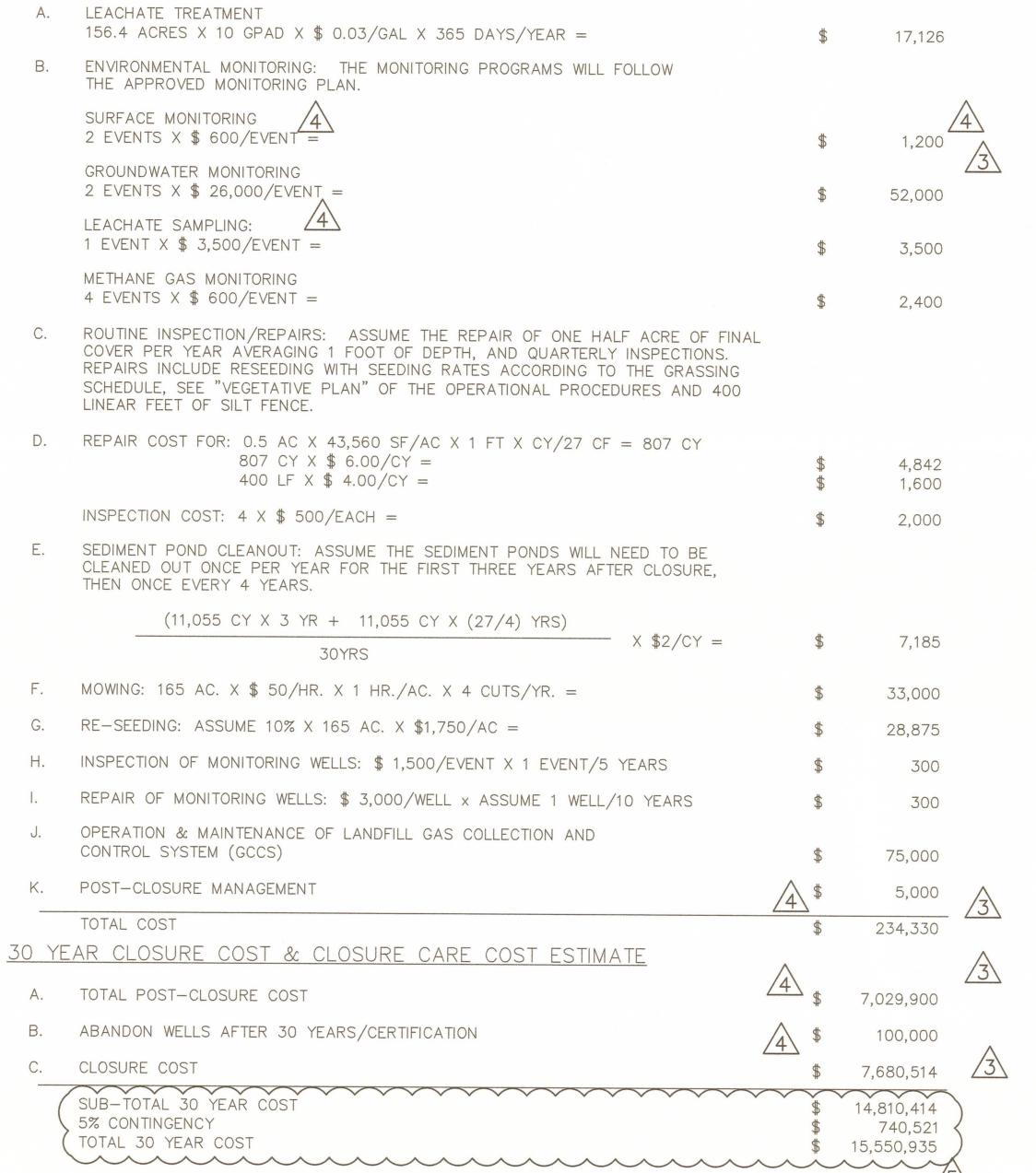
- 1. POST CLOSURE USE: CURRENTLY, THERE ARE NO PLANS FOR DEVELOPMENT OF THE SITE DURING POST-CLOSURE. ANY POST CLOSURE USE OF THE PROPERTY WILL NOT DISTURB THE INTEGRITY OF THE FINAL COVER, LINER(S), OR ANY OTHER COMPONENTS OF THE CONTAINMENT SYSTEM, OR THE FUNCTION OF THE MONITORING SYSTEMS, UNLESS EPD DETERMINES THAT:
- A. THE ACTIVITIES WILL NOT INCREASE THE POTENTIAL THREAT TO HUMAN HEALTH OR THE ENVIRONMENT;
- B. THE ACTIVITIES ARE NECESSARY TO REDUCE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT.
- 2. SURFACE AND GROUNDWATER MONITORING SCHEDULE: THE SAMPLING AND ANALYSIS PROGRAM IDENTIFIED IN THE EPD APPROVED WATER MONITORING PLAN WILL BE MAINTAINED AND OPERATED THROUGHOUT THE POST-CLOSURE CARE PERIOD. AFTER FIVE YEARS AND AFTER EACH FIVE YEAR INTERVAL THEREAFTER, THE OWNER MUST PROVIDE TO EPD AN ANALYSIS OF THE GROUNDWATER MONITORING DATA AND A RECOMMENDATION AS TO THE NEXT FIVE YEAR POST-CLOSURE CARE PROCEDURES.
- METHANE GAS MONITORING: THE SAMPLING AND ANALYSIS PLAN IDENTIFIED IN THE EPD APPROVED METHANE GAS MONITORING PROGRAM WILL BE MAINTAINED AND OPERATED THROUGHOUT THE POST-CLOSURE PERIOD. METHANE GAS MONITORING WILL BE CONDUCTED QUARTERLY PRIOR TO CLOSURE AND QUARTERLY FOR A MINIMUM OF 30 YEARS DURING POST-CLOSURE CARE OR UNTIL DEMONSTRATION IS MADE TO THE GEORGIA ENVIRONMENTAL PROTECTION DIVISION THAT IT IS NO LONGER REQUIRED.
- ROUTINE INSPECTION OF VEGETATIVE/FINAL COVER/DRAINAGE SYSTEMS: THE SITE SHALL BE INSPECTED ON A QUARTERLY BASIS DURING THE POST-CLOSURE CARE PERIOD. THE SITE WILL BE INSPECTED TO EVALUATE THE INTEGRITY AND EFFECTIVENESS OF THE FINAL COVER AND DRAINAGE SYSTEMS. REPAIRS SHALL BE MADE TO THE COVER SYSTEMS, AS NECESSARY, TO CORRECT THE EFFECTS OF SETTLING, SUBSIDENCE, EROSION, OR OTHER EVENTS. IF DRAINAGE STRUCTURES ARE CLOGGED OR DAMAGED SO THAT PROPER DRAINAGE IS IMPEDED, THE STRUCTURES SHALL BE CLEANED OR REPLACED. PERMANENT RECORDS WILL BE MAINTAINED AT THE LANDFILL OFFICE OF ALL INSPECTIONS, REPAIRS AND SEDIMENT POND CLEANOUTS.
- SEDIMENT BASIN MAINTENANCE/CLEANOUT: THE SEDIMENT POND SHALL BE INSPECTED QUARTERLY WHILE IT IS IN SERVICE. THE SEDIMENT POND SHALL BE KEPT IN SERVICE AND PROPERLY MAINTAINED UNTIL AN ADEQUATE VEGETATIVE COVER HAS BEEN ESTABLISHED AND EPD APPROVES THE REMOVAL OF THE SEDIMENT POND. FOR THE POST CLOSURE CARE COST ESTIMATE, IT IS ASSUMED THAT THE SEDIMENT POND WILL BE CLEANED ONCE PER YEAR FOR THE FIRST THREE YEARS AFTER CLOSURE THEN ONCE EVERY FOUR YEARS, OR AS NEEDED.

- LIMITED ACCESS: ACCESS TO THE CLOSED SITE WILL BE LIMITED TO ONLY THOSE PERSONS PERFORMING POST-CLOSURE CARE. THE ACCESS WILL BE LIMITED BY THE USE OF SECURITY GATE AT THE SITE ENTRANCE, WHICH WILL REMAIN LOCKED AT ALL TIMES.
- 7. IF THE OWNER AND/OR OPERATOR OR ANY SUBSEQUENT OWNER OR OPERATOR OF THE LAND UPON WHICH A LANDFILL IS LOCATED WISHES TO REMOVE WASTES AND WASTE RESIDUES OR CONTAMINATED SOILS, THE OWNER OR OPERATOR MUST REQUEST AND RECEIVE WRITTEN APPROVAL FROM EPD PRIOR TO REMOVAL OF WASTE.
- THE OWNER AND/OR OPERATOR WILL BE RESPONSIBLE FOR CONDUCTING ALL MONITORING ACTIVITIES. AT ANY TIME THE MONITORING RESULTS INDICATE EXCEEDING OF ESTABLISHED STANDARDS OR INDICATE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT, THE OWNER AND/OR OPERATOR SHALL NOTIFY EPD WITHIN 5 DAYS OF SUCH DETERMINATION AND SHALL PROVIDE A PLAN FOR REMEDIATION WITHIN 30 DAYS OF SUCH NOTICE. THE PLAN SHALL BE SUBMITTED TO EPD FOR APPROVAL. UPON APPROVAL, THE OWNER/AND OR OPERATOR SHALL IMPLEMENT THE APPROVED PLAN.
- THE OWNER AND/OR OPERATOR WILL BE RESPONSIBLE FOR ALL MOWING ACTIVITIES ON THE SITE. A COMPLETE MOWING OF THE SITE SHALL TAKE PLACE APPROXIMATELY FOUR (4) TIMES DURING THE YEAR (OR AS REQUIRED).
- 10. THE OWNER AND/OR OPERATOR WILL BE RESPONSIBLE FOR CONDUCTING ALL RE-SEEDING AND FERTILIZING ACTIVITIES TO MAINTAIN VEGETATION ON THE SITE. RE-SEEDING AND FERTILIZING RATES SHALL FOLLOW GUIDELINES STATED IN THE OPERATIONAL PROCEDURES.

FINANCIAL ASSURANCE

THE OWNER IS RESPONSIBLE FOR PROVIDING A FINANCIAL ASSURANCE MECHANISM FOR THE CLOSURE AND POST-CLOSURE COSTS. THE FINANCIAL ASSURANCE MECHANISM SHALL BE IN EFFECT PRIOR TO INITIAL PLACEMENT OF WASTE.

ANNUAL POST-CLOSURE CARE COST ESTIMATE

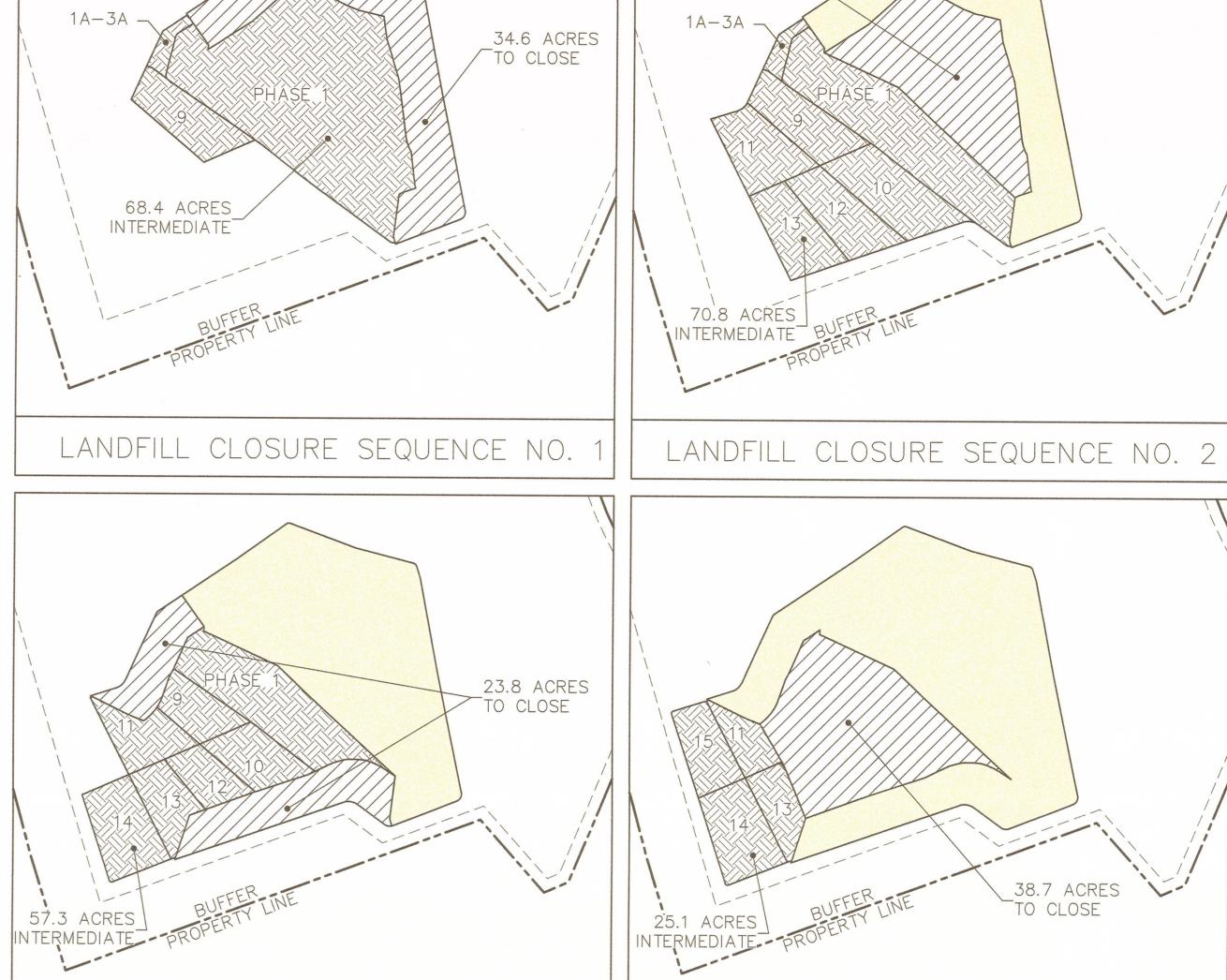


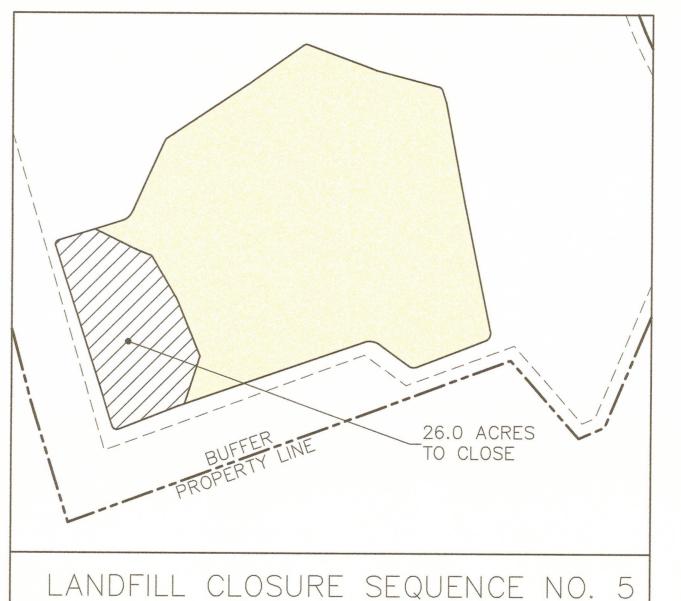
LEGAL DESCRIPTION FOR LIMIT OF FINAL COVER

Beginning at a Property Corner Monument Located at N 737053.9628, E 932406.1795 and proceeding N 34° 27' 7.9" W

for a distance of 290.5493 feet to arrive at the POINT OF BEGINNING. From the POINT OF BEGINNING; Said curve turning to the right through an angle of 78° 16' 00.3", having a radius of 65.6447 feet, and whose long chord bears S 22° 02' 36.3" W for a distance of 82.8604 feet to a point of intersection with a non-tangential line. Thence, S 67° 37' 02.8" W for a distance of 30.1009 feet to a point on a line. Thence, S 68° 27' 30.6" W for a distance of 200.1478 feet to a point on a line. Thence, S 68° 52' 55.4" W for a distance of 376.2713 feet to the beginning of a non-tangential curve, Said curve turning to the right through an angle of 38° 23' 10.4", having a radius of 71.3696 feet, and whose long chord bears N 87° 14' 34.7" W for a distance of 46.9260 feet to a point of intersection with a non-tangential line. Thence, N 54° 38' 53.6" W for a distance of 40.5761 feet to a point on a line. Thence, N 53° 55' 35.3" W for a distance of 247.5765 feet to the beginning of a non-tangential curve, Said curve turning to the left through an angle of 55° 17' 21.7", having a radius of 144.2875 feet, and whose long chord bears N 75° 52' 25.5" W for a distance of 133.8951 feet to a point of intersection with a non-tangential line. Thence, S 70° 57' 03.8" W for a distance of 1587.1549 feet to the beginning of a curve, Said curve turning to the left through an angle of 02° 35' 40.5", having a radius of 133.5000 feet, and whose long chord bears S 69° 39' 13.6" W for a distance of 6.0449 feet to a point of intersection with a non-tangential line. Thence, S 68° 21' 23.3" W for a distance of 511.9353 feet to the beginning of a non-tangential curve, Said curve turning to the right through an angle of 93° 47' 58.1", having a radius of 37.3224 feet, and whose long chord bears N 64° 15' 03.4" W for a distance of 54.5026 feet to a point of intersection with a non-tangential line. Thence, N 17° 50' 38.6" W for a distance of 1520.8717 feet to the beginning of a non-tangential curve, Said curve turning to the right through an angle of 90° 07' 32.5", having a radius of 37.0945 feet, and whose long chord bears N 27° 13' 58.7" E for a distance of 52.5171 feet to a point of intersection with a non-tangential line. Thence, N 72° 38' 43.6" E for a distance of 536.5043 feet to the beginning of a non-tangential curve, Said curve turning to the left through an angle of 48° 12' 06.8", having a radius of 128.5000 feet, and whose long chord bears N 48° 32' 40.2" E for a distance of 104.9448 feet to a point of intersection with a non-tangential line. Thence, N 24° 26' 36.8" E for a distance of 634.3659 feet to the beginning of a non—tangential curve, Said curve turning to the right through an angle of 31° 41' 10.1", having a radius of 41.5000 feet, and whose long chord bears N 40° 17' 11.9" E for a distance of 22.6593 feet to a point of intersection with a non—tangential line. Thence, N 56° 07' 39.0" E for a distance of 803.2390 feet to a point on a line. Thence, N 54° 39' 02.7" E for a distance of 524.1569 feet to the beginning of a non-tangential curve, Said curve turning to the right through an angle of 56° 31' 23.8", having a radius of 42.1355 feet, and whose long chord bears N 82° 27' 31.0" E for a distance of 39.9022 feet to a point of intersection with a non-tangential line. Thence, S 69° 44' 00.7" E for a distance of 587.8370 feet to the beginning of a curve, Said curve turning to the left through an angle of 05° 37' 20.4", having a radius of 123.0033 feet, and whose long chord bears S 72° 32′ 40.9″ E for a distance of 12.0652 feet to a point of intersection with a non-tangential line. Thence, S 75° 21' 21.0" E for a distance of 506.8988 feet to the beginning of a non-tangential curve, Said curve turning to the right through an angle of 66° 15′ 57.4", having a radius of 42.1131 feet, and whose long chord bears S 42° 39 15.4" E for a distance of 46.0366 feet to a point of intersection with a non-tangential line. Thence, S 17° 46' 33.2" E for a distance of 99.3217 feet to a point on a line. Thence, S 12° 22' 03.6" E for a distance of 17.8436 feet to a point on a line. Thence, S 10° 36' 45.8" E for a distance of 800.1123 feet to a point on a line. Thence S 11° 35' 06.6" E a distance of 1050.2126 feet to the POINT OF BEGINNING; Containing 156.38 Acres

<u>CLOSURE SEQUENCING</u>





LANDFILL CLOSURE SEQUENCE NO. 3

LEGEND AREA PREVIOUSLY CLOSED AREA TO BE CLOSED INTERMEDIATE AREA

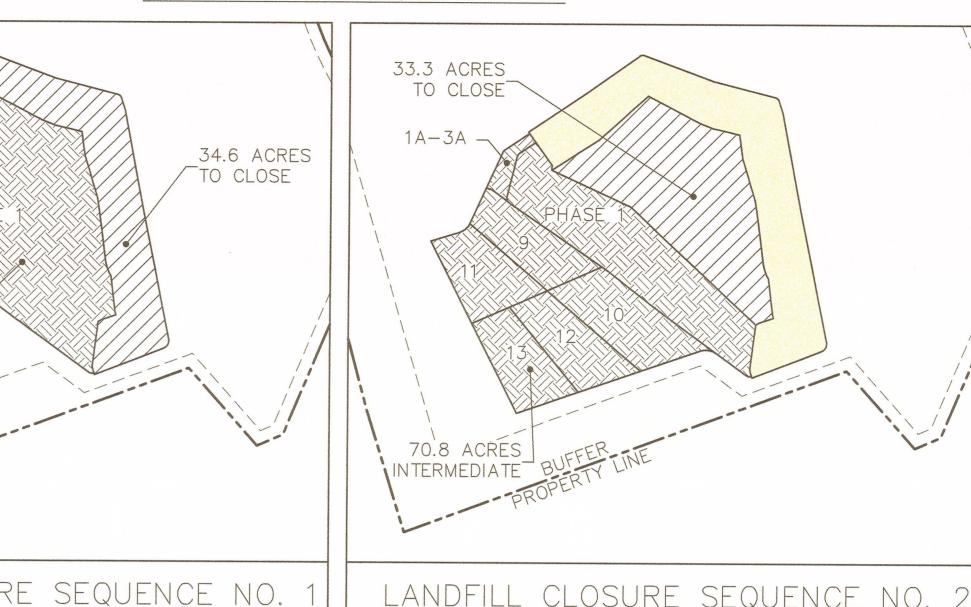
1. WORST CASE CLOSURE IS IMMEDIATELY PRIOR TO CLOSURE SEQUENCE NO. 2 WHEN 104.1 ACRES WILL BE COVERED WITH INTERMEDIATE COVER (SEE CLOSURE COST ESTIMATE). 2. ACREAGES MAY VARY SLIGHTLY DEPENDING ON ACTUAL CLOSURE AREAS.

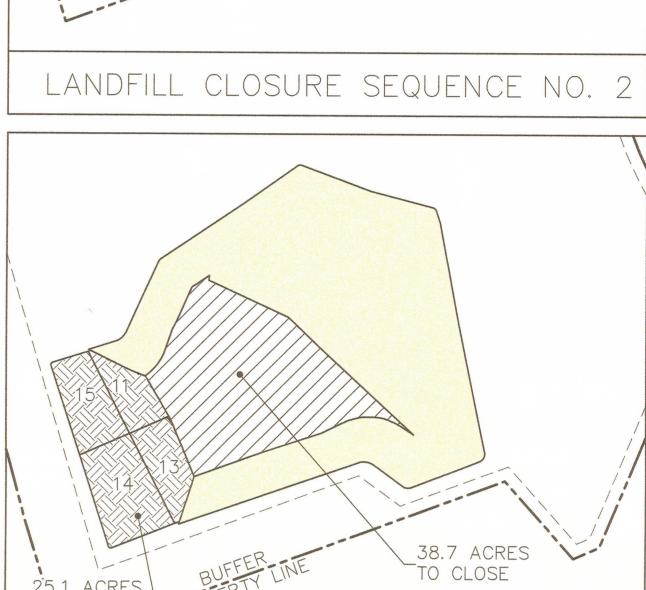
3. ALL COST CALCULATIONS ARE FOR BASE YEAR 2017.

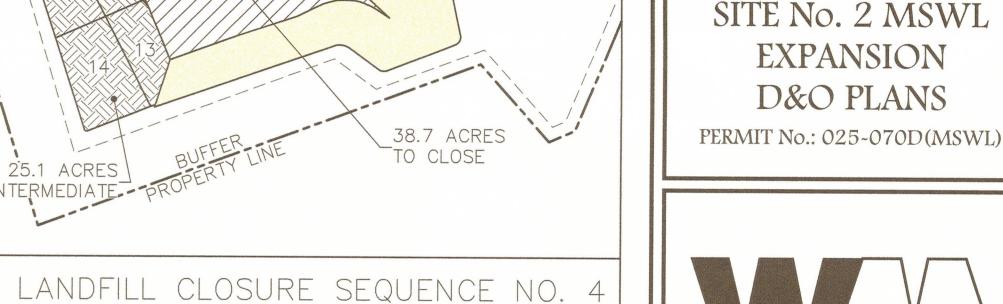
GEORGIA **Environmental Protection Division** Solid Waste Management Program MINOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 025-070D (MSWL) APPROVED BY: ______ DATE: 05/22/2017

PLAN









LEVEL II CERTIFICATION

PROJECT:

SUPERIOR LANDFILL &

RECYCLING CENTER

ATLANTIC COAST

Roswell, GA 30075

0770.594.5998

f 770.594.5967

www.atlcc.net

Suite 110

CONSULTING, INC.

630 Colonial Park Drive

WM of Georgia, Inc. 3001 Little Neck Road Savannah, Ga 31419

REVISIONS	
O. Initial Issue.	12/09/2009
1. Response to Comments	11/05/2010
2. Response to Comments	03/16/2011
3. CCR Management	04/03/2017
4. Response to EPD Comments	05/18/2017
5. Added 5% Contingency	05/22/2017

Checked by: /

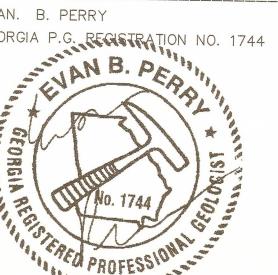
PROJECT NUMBER:

I010~215 February 2014

CLOSURE/ POST-CLOSURE

COAL COMBUSTION RESIDUAL GROUNDWATER, SURFACE WATER & UNDERDRAIN MONITORING ANALYTE REQUIREMENTS
ALL GROUNDWATER, SURFACE WATER & UNDERDRAIN MONITORING POINTS AT THE FACILITY WILL BE SAMPLED SEMI—ANNUALLY FOR THE LIST OF PARAMETERS INCLUDED IN APPENDIX III OF 40 CFR 257 (IN ADDITION TO THE PARAMETERS INCLUDED IN APPENDIX I/II OF THE RULES FOR SOLID WASTE MANAGEMENT AND/OR GEORGIA TABLE 1 AS APPLICABLE. PARAMETERS INCLUDED IN APPENDIX III OF 40 CFR 257 ARE SHOWN IN TABLE 3. APPENDIX III DATA WILL BE EVALUATED IN ACCORDANCE WITH THE STATISTICAL ANALYSIS PLAN. IN THE EVENT OF A VERIFIED SSI FOR AN APPENDIX III OF STATISTICAL ANALYSIS
GROUNDWATER MONITORING WELL SAMPLE, THE LIST OF ANALYTES WILL BE EXPANDED TO INCLUDE THOSE LISTED IN APPENDIX IV OF 40 CFR 257.
TABLE 3 40 CFR 257 APPENDIX III ANALYTICAL REQUIREMENTS CONTAINER TEST PARAMETER SUITE TYPE METHODS* PRESERVATIVES HOLD TIME BORON, CALCIUM P 6010 OR 6020 HNO ₃ 180 DAYS CHLORIDE, FLUORIDE, SULFATE P 300 4 C 28 DAYS
TOTAL DISSOLVED SOLIDS P SM 2540C 4 C 7 DAYS
NOTES: P = POLYETHYLENE NOTE: ASSESSMENT MONITORING ANALYTES ARE INCLUDED IN APPENDIX IV OF 40 CFR 257. THE NELAP CERTIFIED LABORATORY PERFORMING THE ANALYSIS SHOULD BE CONSULTED REGARDING ANALYTICAL REQUIREMENTS FOR THE APPLICABLE PARAMETER SUITES.
* ANALYSIS METHODS FROM "TEST METHODS FOR EVALUATING COUR
USED AND REFERENCED FOR MEETING ENVIRONMENTAL TESTING REQUIREMENTS EVOLVE OVER TIME DUE TO CHANGES IN TECHNOLOGY, UPDATES AND ADDITIONS TO PUBLISHED METHODOLOGY, AND WHEN REGULATIONS CHANGE TO REQUIRE REFERENCE TO DIFFERENT METHODS. IN MANY INSTANCES THERE ARE EQUIVALENT METHODS FOR THE SAME ANALYTE PUBLISHED BY DIFFERENT AUTHORITIES ON METHOD DEVELOPMENT; E.G. THE U.S. EPA OFFICE OF WATER, U.S. EPA OFFICE OF SOLID WASTE, STANDARD METHODS, AND ASTM. ANALYTICAL
METHODS ARE GENERALLY APPROVED FOR USE, PROVIDE TECHNICALLY DEFENSIBLE DATA, AND ARE APPROPRIATE FOR THE MEDIA BEING TESTED. THE USE OF ALTERNATIVE APPROVED METHODS IS CONSIDERED AN ACCEPTABLE DEVIATION FROM THE PRESCRIBED METHODS IN THE COMMPAND WILL NOT BE CONSIDERED A MOLATION OF THE REQUIREMENTS OF THE COMMP.
I, EMAN B. PERRY, CERTIFY THAT I AM A QUALIFIED GROUNDWATER SCIENTIST DEMONSTRATED BY A GEORGIA STATE REGISTERED PROFESSIONAL SECLOGIST CERTIFICATION. I HAVE SUFFICIENT TRAINING AND EMPERENCE IN GROUNDWATER LOOK AND RELATED FIELDS TO MAKE SOUND PROFESSIONAL JUDGMENTS RECARDING GROUNDWATER MONITORING AND CONTAMINANT FATE AND TRANSPORT. I COMPLIANCE WITH THAT THE DESIGN OF THE GROUNDWATER MONITORING SYSTEM WAS DESIGNED IN [391–3–4.14(11)2(b)]. EVAN. B. PERRY GEORGIA P.G. REGISTRATION NO. 1744 B. PERRY GEORGIA P.G. REGISTRATION NO. 1744
Environ Solid V
MINOR

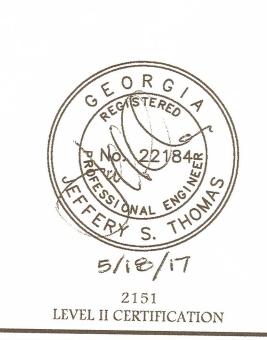
		TABLE 3		
40 (FR 257 APPENDIX	III ANALYTICAL REQ	UIREMENTS	
PARAMETER SUITE	CONTAINER TYPE	TEST METHODS*	PRESERVATIVES	HOLD TIME
BORON, CALCIUM	Р	6010 OR 6020	HNO_3	180 DAYS
CHLORIDE, FLUORIDE, SULFATE	Р	300	4 C	28 DAYS
рН	NONE	EPA 150.1	NONE	NONE
TOTAL DISSOLVED SOLIDS	Р	SM 2540C	4 C	7 DAYS



GEORGIA
Environmental Protection Division
Solid Waste Management Program MINOR MODIFICATION APPROVAL SOLID WASTE PERMIT NO. 075-070 D (MSWL)

APPROVED BY JULY DATE: 5/22/17

ATLANTIC COAST CONSULTING, INC. 630 Colonial Park Drive Suite 110 Roswell, GA 30075 0 770.594.5998 f 770.594.5967 www.atlcc.net



PROJECT:

SUPERIOR LANDFILL & RECYCLING CENTER SITE No. 2 MSWL **EXPANSION** D&O PLANS

PERMIT No.: 025-070D (MSWL)

WASTE MANAGEMENT

WM of Georgia, Inc. 3001 Little Neck Road Savannah, Ga 31419

	REVISIONS	
	1. CCR Management	05/18/201
Elec-		

PROJECT NUMBER:

I010~215

February 2014

Checked by:

GROUNDWATER MONITORING PLAN

SHEET 25D OF 36

REOL	URED PHYSICAL PROF	TABLE 4 PERTIES OF HIGH DENSIT	TY POLYETHYLENE (HDP	F)
		EXTURED GEOMEMBRANE	`	
PROPERTIES	TEST METHOD	REQUIRED TEST VALUES 40 MIL ⁽¹¹⁾	REQUIRED TEST VALUES 50 MIL STRUCTURED ⁽¹¹⁾	REQUIRED TEST VALUE 60 MIL ⁽¹¹⁾
THICKNESS (MIN.)	ASTM D-5994 OR D-5199	40 mil	50 mil	60 mil
ASPERITY HEIGHT (MIN. AVE.) ⁽¹⁾	GM 12	10 mil	10 mil	10 mil
SHEET DENSITY (MIN. AVE.)	ASTM D-792 OR ASTM D-1505	0.940 g/cc	0.940 g/cc	0.940 g/cc
TENSILE PROPERTIES ⁽²⁾ (MIN. AVE.) • YIELD STRENGTH • BREAK STRENGTH • YIELD ELONGATION • BREAK ELONGATION	ASTM D-6693 TYPE IV 2 IN/MIN 5 SPECIMENS IN EACH DIRECTION	84 lb/in 60 lb/in 12% 100%	95 lb/in 75 lb/in 12% 100%	126 lb/in 90 lb/in 12% 100%
TEAR RESISTANCE (MIN. AVE.)	ASTM D-1004 DIE C	28 lbs	35 lbs	42 lbs
PUNCTURE RESISTANCE (MIN. AVE.)	ASTM D-4833	60 lbs	75 lbs	90 lbs
STRESS CRACK RESISTANCE ⁽³⁾	ASTM D-5397 (App.)	300 hours	300 hours	300 hours
CARBON BLACK CONTENT (RANGE)	ASTM D-1603 ⁽⁴⁾	2-3%	2-3%	2-3%
CARBON BLACK DISPERSION (5)	ASTM D-5596	Category 1 or 2	Category 1 or 2	Category 1 or 2
MELT INDEX	ASTM D-1238	0.1 to 1 g/10min	0.1 to 1 g/10 min.	0.1 to 1 g/10 min.
OXIDATIVE INDUCTION TIME (OIT) (MIN. AVE.)(6)(7) • STD. OIT, or • HIGH PRESSURE OIT	ASTM D-3895 ASTM D-5885	100 min. 400 min.	100 min. 400 min.	100 min. 400 min.
OVEN AGING AT 85°C ⁽⁶⁾⁽⁷⁾ • STD. OIT (MIN. AVE.), % RETAINED AFTER 90 DAYS	ASTM D-5721 ASTM D-3895	55%	55%	55%
OR • HIGH PRESSURE OIT (MIN. AVE.), % RETAINED AFTER 90 DAYS	ASTM D-5885	80%	80%	80%
UV RESISTANCE ⁽¹⁾ • STD. OIT (MIN. AVE.), OR	GM 11 ASTM D-3895	NR ⁽⁹⁾	NR ⁽⁹⁾	NR ⁽⁹⁾
 HIGH PRESSURE OIT (MIN. AVE.) % RETAINED AFTER 1600 HRS⁽¹⁰⁾ 	ASTM D-5885	50%	50%	50%
LOW TEMPERATURE BRITTLENESS (MAX.)	ASTM D 746	-60°C	-60°C	-60°C
DIMENSIONAL STABILITY	ASTM D 1204 Mod.	±2%, 212°F, 60 minutes	±2%, 212°F, 60 minutes	±2%, 212°F, 60 minute
NON-DESTRUCTIVE TESTING	GRI GM 6	SEE CQA PLAN TEXT	SEE CQA PLAN TEXT	SEE CQA PLAN TEXT
DRAINAGE STUD THICKNESS			0.18 in	
DRAINAGE STUD DISTRIBUTION		-	450/ft ²	
TRANSMISSIVITY ⁽¹³⁾	ASTM D-4716		$1 \times 10^{-3} \text{ m}^2/\text{s}$	
DESTRUCTIVE TESTING (MIN)	ASTM D-6392			
• SHEAR STRENGTH (10)(12)		80 lb/in	100 lb/in	108 lb/in
• PEEL ADHESION ⁽¹¹⁾ (12)		60 lb/in FUSION 52 lb/in EXTRUSION	760 lb/in FUSION 65 lb/in EXTRUSION	90 lb/in FUSION 78 lb/in EXTRUSION

- (1) TEST EACH SIDE OF THE TEXTURED GEOMEMBRANE RECORDING A MEASUREMENT EVERY LINEAL FOOT OF TEXTURED ROLL WIDTH.
- (2) MACHINE DIRECTION (MD) AND CROSS MACHINE DIRECTION (XMD) AVERAGE VALUES SHOULD BE ON THE BASIS OF 5 TEST SPECIMENS EACH DIRECTION.
 - YIELD ELONGATION IS CALCULATED USING A GAGE LENGTH OF 1.3 INCHES.
- BREAK ELONGATION IS CALCULATED USING A GAGE LENGTH OF 2.0 INCHES. (1) THE SP-NCTL TEST IS NOT APPROPRIATE FOR TESTING GEOMEMBRANES WITH TEXTURED OR IRREGULAR ROUGH SURFACES. TEST SHOULD BE CONDUCTED ON SMOOTH EDGES OF TEXTURED ROLLS OR ON
- SMOOTH SHEETS MADE FROM THE SAME FORMULATION AS BEING USED FOR THE TEXTURED MATERIALS. (2) OTHER METHODS SUCH AS D 4218 (MUFFLE FURNACE) OR MICROWAVE METHODS ARE ACCEPTABLE IF AN
- APPROPRIATE CORRELATION TO D-1603 (TUBE FURNACE) CAN BE ESTABLISHED. (3) CARBON BLACK DISPERSION (ONLY NEAR SPHERICAL AGGOMERATES) FOR 10 DIFFERENT VIEWS:
- (4) THE MANUFACTURER HAS THE OPTION TO SELECT EITHER ONE OF THE OIT METHODS LISTED TO EVALUATE THE ANTIOXIDANT CONTENT IN THE GEOMEMBRANE.
- (5) IT IS ALSO RECOMMENDED TO EVALUATE SAMPLES AT 30 AND 60 DAYS TO COMPARE WITH THE 90 DAY RESPONSE.
- (6) THE CONDITION OF THE TEST SHOULD BE 20 HR. UV CYCLE AT 75° C FOLLOWED BY 4 HR. CONDENSATION
- (7) NOT RECOMMENDED SINCE THE HIGH TEMPERATURE OF THE STD-OIT TEST PRODUCES AN UNREALISTIC
- RESULT FOR SOME OF THE ANTIOXIDANTS IN THE UV EXPOSED SAMPLES. (8) UV RESISTANCE IS BASED ON PERCENT RETAINED VALUE REGARDLESS OF THE ORIGINAL HP-OIT VALUE.
- (9) BASED ON GRI GM13, REV. 6, 6/23/03.\
- (10) THE SHEAR STRENGTH VALUE IS AT MATERIAL YIELD POINT. (11) FOR PEEL ADHESION, SEAM SEPARATION SHALL NOT EXCEED MORE THAN 10% INTO THE SEAM.
- (12) VALUE LISTED FOR SHEAR AND PEEL STRENGTHS ARE FOR 4 OUT OF 5 TEST SPECIMENS; THE 5TH SPECIMEN CAN BE AS LOW AS 80% OF THE LISTED VALUES.
- (13) TRANSMISSIVITY SHALL BE MEASURED USING WATER AT 20°F WITH A GRADIENT OF 0.33, UNDER A VERTICAL STRESS OF 250 PSF, AFTER 1 HOUR. TEST CONFIGURATION FROM TOP TO BOTTOM SHALL MATCH THE FINAL COVER.

	NONWOVEN GEO	TABLE 5 DTEXTILE CONFORMAN	CE TESTING SUMM	ARY	
PROPERTIES	TEST METHOD	MANUFACTURER QC TEST FREQUENCY ⁽²⁾	CONFORMANCE QA TEST FREQUENCY	REQUIRED TEST VALUES 8 oz/sy	REQUIRED TEST VALUES 16 oz/sy
MASS/UNIT AREA (MIN. AVE.)	ASTM D-3776/D-5261	1 PER 100,000 SF	1 PER 100,000 SF	8 oz/sy	16 oz/sy
APPARENT OPENING SIZE (MAX.)	ASTM D-4751	1 PER 540,000 SF	1 PER PROJECT ⁽¹⁾	0.212 mm	0.180 mm
GRAB STRENGTH (MIN. AVE.)	ASTM D-4632	1 PER 100,000 SF	1 PER 100,000 SF	215 lbs	325 lbs
TRAPEZOIDAL TEAR STRENGTH (MIN. AVE.)	ASTM D-4533	1 PER 100,000 SF	1 PER 100,000 SF	85 lbs.	130 lbs.
PUNCTURE STRENGTH (MIN. AVE.)	ASTM D-4833	1 PER 100,000 SF	1 PER 100,000 SF	90 lbs	170 lbs
BURST STRENGTH (MIN. AVE.)	ASTM D-3786	1 PER 100,000 SF	1 PER 100,000 SF	375 psi	675 psi
UV RESISTANCE	ASTM D-4355/G53	CERTIFY	N/A	70% ⁽³⁾	70% ⁽³⁾
PERMITTIVITY (MIN.)	ASTM D-4491	1 PER 540,000 SF	1 PER PROJECT ⁽¹⁾	1.0 sec ⁻¹	0.5 sec ⁻¹

- (1) AOS AND PERMITTIVITY SHALL ONLY BE TESTED FOR GEOTEXTILES USED IN FILTER APPLICATIONS.
- (2) MANUFACTURER MAY ELECT TO PROVIDE CERTIFICATION VALUES FOR GEOTEXTILES.
- (3) AFTER 500 HOURS OF EXPOSURE.
- (4) THERE IS NO REQUIRED CONFORMANCE TESTING FOR THE FINAL CLOSURE GEOSYNTHETICS. ONLY MANUFACTURER'S QUALITY CONTROL (MQC) DATA IS REQUIRED.

LINER S	YSTEM GEONET -	TABLE 6 - 200 mil CONFORMA	NCE TESTING SUMM	ARY
PROPERTIES	TEST METHOD	MANUFACTURER QC TEST FREQUENCY	CONFORMANCE QA TEST FREQUENCY	REQUIRED TEST VALUES
GEONET THICKNESS (MIN. AVE.)	ASTM D-751 OR ASTM D-5199	1 PER 50,000 SF	1 PER 100,000 SF	200 mil
GEONET MASS/UNIT AREA (MIN. AVE.)	ASTM D-5261	1 PER 50,000 SF	1 PER 100,000 SF	8oz/yd ²
GEONET DENSITY (AVE.)	ASTM D-1505	1 PER RESIN BATCH	1 PER 100,000 SF	0.94 g/cm ³
GEONET CARBON BLACK CONTENT (RANGE)	ASTM D-1603 ⁽²⁾	1 PER 50,000 SF	N/A	2-3%
GEONET TENSILE STRENGTH (MIN. AVE.)	ASTM D-5035 Mod.	1 PER 50,000 SF	N/A	45 lbs/in
COMPOSITE TRANSMISSIVITY ⁽¹⁾ (MIN. AVE.)	ASTM D-4716	1 PER LOT OR 100,000 SF	1 PER LOT	SEE NOTE 1

- 1. TRANSMISSIVITY SHALL BE MEASURED IN A 12-INCH X 12-INCH BOX WITH ADJACENT CONDITIONS MATCHING DETAIL, 100 HOUR DURATION AND 0.1 GRADIENT. FOR MSW CELL BASE LINER GEOCOMPOSITE THE VALUE SHALL BE AT LEAST 4.5 X 10^{-4} M²/SEC AT 790 PSF, 1.52 X 10^{-4} M²/SEC AT 3,950 PSF AND 2.89 X 10^{-5} M²/SEC AT 9,362 PSF. THE TRANSMISSIVITY OF THE MATERIALS INSTALLED SHALL BE EQUAL TO OR GREATER THAN THE CONDITIONS STATED ABOVE BASED ON THE SPECIFIC CONDITION LOADING EXPECTED AT EACH LANDFILL AREA.
- 2. OTHER METHODS SUCH AS D-4218 (MUFFLE FURNACE) OR MICROWAVE METHODS ARE ACCEPTABLE IF AN
- APPROPRIATE CORRELATION TO D-1603 (TUBE FURNACE) CAN BE ESTABLISHED.
- 3. THERE IS NO REQUIRED CONFORMANCE TESTING FOR THE FINAL CLOSURE GEOSYNTHETICS. ONLY MANUFACTURER'S QUALITY CONTROL (MQC) DATA IS REQUIRED.

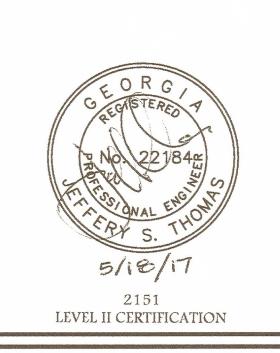
WOV	EN GEOTEXTILE (TABLE 7 Conformance testin	NG SUMMARY	
PROPERTIES	TEST METHOD	MANUFACTURER QC TEST FREQUENCY	CONFORMANCE QA TEST FREQUENCY	REQUIRED TEST VALUES
GRAB TENSILE STRENGTH (MIN. AVE.)	ASTM D-4632	CERTIFY	N/A	250 lbs
GRAB TENSILE ELONGATION (MIN. AVE.)	ASTM D-4632	CERTIFY (2)	N/A	34%
TRAPEZOIDAL TEAR STRENGTH (MIN. AVE.)	ASTM D-4533	CERTIFY	N/A	65 lbs.
PUNCTURE STRENGTH (MIN. AVE.)	ASTM D-4833	CERTIFY	N/A	140 lbs
BURST STRENGTH (MIN. AVE.)	ASTM D-3786	CERTIFY	N/A	500 psi
PERMITTIVITY (MIN.)	ASTM D-4491	CERTIFY	N/A	0.02 sec ⁻¹
WATER FLOW RATE (MIN.)	ASTM D-4491	CERTIFY	N/A	5 gal/min/ft ²
UV RESISTANCE	ASTM D-4355	CERTIFY	N/A	90% ⁽³⁾
PERCENT OPEN AREA (POA) (MIN.)	OPENING AREA TOTAL AREA x 100	CERTIFY	N/A	10 to 20%

- (1) POA AND PERMITTIVITY SHALL ONLY BE TESTED FOR GEOTEXTILES USED IN FILTER APPLICATIONS.
- (2) MANUFACTURER MAY ELECT TO PROVIDE CERTIFICATION VALUES FOR GEOTEXTILES.
- (3) AFTER 500 HOURS OF EXPOSURE.
- (4) THERE IS NO REQUIRED CONFORMANCE TESTING FOR THE FINAL CLOSURE GEOSYNTHETICS. ONLY MANUFACTURER'S QUALITY CONTROL (MQC) DATA IS REQUIRED.

GEORGIA Environmental Protection Division Solid Waste Management Program MINOR MODIFICATION APPROVAL SOLID WASTE PERMIT NO. 025-070D (MSWL)



ATLANTIC COAST CONSULTING, INC. 630 Colonial Park Drive Suite 110 Roswell, GA 30075 0 770.594.5998 f 770.594.5967 www.atlcc.net



PROJECT:

SUPERIOR LANDFILL & RECYCLING CENTER SITE No. 2 MSWL **EXPANSION** D&O PLANS

PERMIT No.: 025~070D (MSWL)



WM of Georgia, Inc. 3001 Little Neck Road Savannah, Ga 31419

5.00	REVISIONS	REVISIONS		
	1. CCR Management	05/18/2017		

vn by:		Checked
	JST	

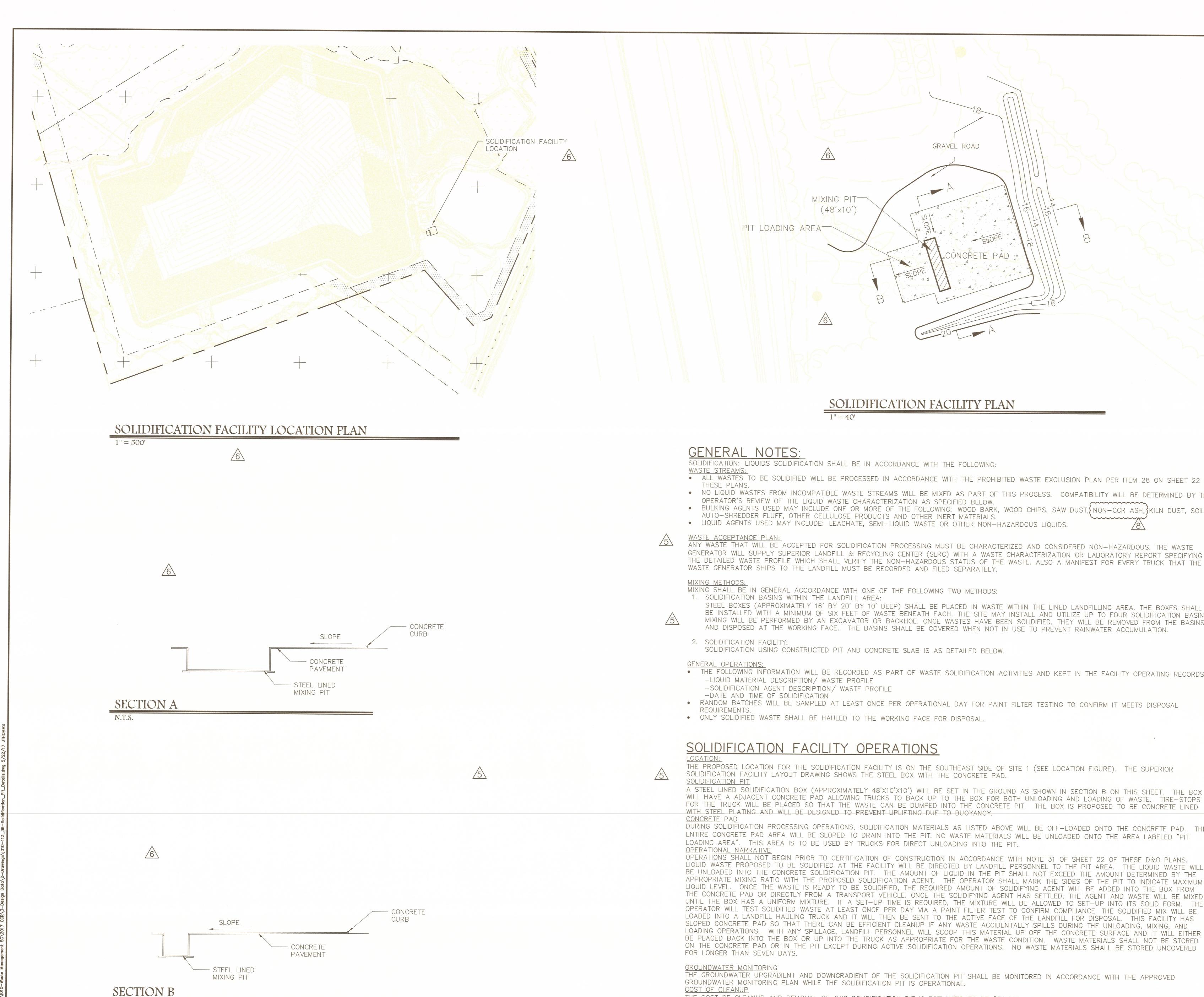
PROJECT NUMBER:

I010~215

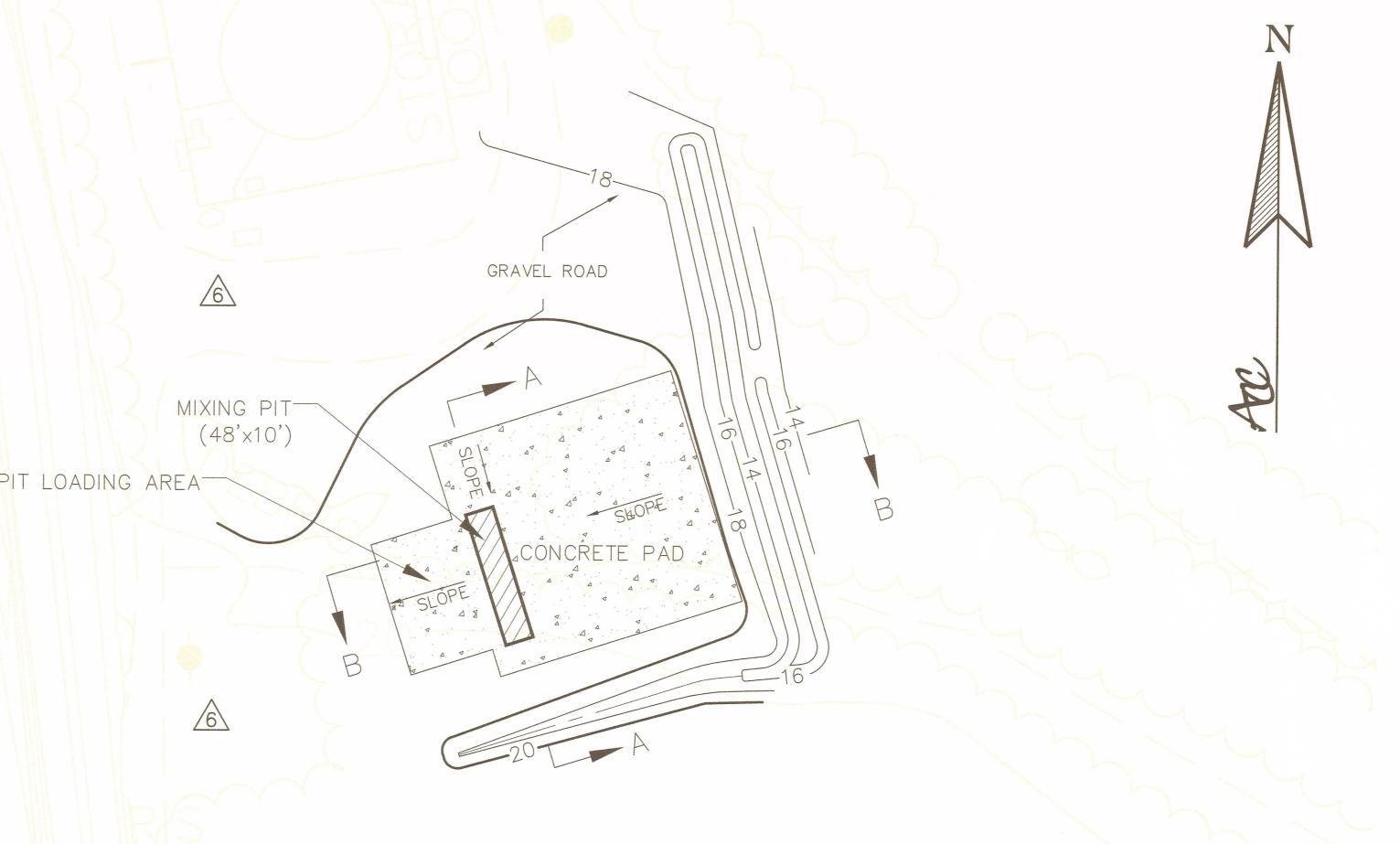
February 2014

CONSTRUCTION QUALITY ASSURANCE PLAN

SHEET 26D OF 36



N.T.S.



SOLIDIFICATION FACILITY PLAN

• ALL WASTES TO BE SOLIDIFIED WILL BE PROCESSED IN ACCORDANCE WITH THE PROHIBITED WASTE EXCLUSION PLAN PER ITEM 28 ON SHEET 22 OF

• NO LIQUID WASTES FROM INCOMPATIBLE WASTE STREAMS WILL BE MIXED AS PART OF THIS PROCESS. COMPATIBILITY WILL BE DETERMINED BY THE

OPERATOR'S REVIEW OF THE LIQUID WASTE CHARACTERIZATION AS SPECIFIED BELOW. • BULKING AGENTS USED MAY INCLUDE ONE OR MORE OF THE FOLLOWING: WOOD BARK, WOOD CHIPS, SAW DUST, NON-CCR ASH, KILN DUST, SOILS,

AUTO-SHREDDER FLUFF, OTHER CELLULOSE PRODUCTS AND OTHER INERT MATERIALS. LIQUID AGENTS USED MAY INCLUDE: LEACHATE, SEMI-LIQUID WASTE OR OTHER NON-HAZARDOUS LIQUIDS.

ANY WASTE THAT WILL BE ACCEPTED FOR SOLIDIFICATION PROCESSING MUST BE CHARACTERIZED AND CONSIDERED NON-HAZARDOUS. THE WASTE

STEEL BOXES (APPROXIMATELY 16' BY 20' BY 10' DEEP) SHALL BE PLACED IN WASTE WITHIN THE LINED LANDFILLING AREA. THE BOXES SHALL BE INSTALLED WITH A MINIMUM OF SIX FEET OF WASTE BENEATH EACH. THE SITE MAY INSTALL AND UTILIZE UP TO FOUR SOLIDIFICATION BASINS. MIXING WILL BE PERFORMED BY AN EXCAVATOR OR BACKHOE. ONCE WASTES HAVE BEEN SOLIDIFIED, THEY WILL BE REMOVED FROM THE BASINS

SOLIDIFICATION USING CONSTRUCTED PIT AND CONCRETE SLAB IS AS DETAILED BELOW.

• THE FOLLOWING INFORMATION WILL BE RECORDED AS PART OF WASTE SOLIDIFICATION ACTIVITIES AND KEPT IN THE FACILITY OPERATING RECORDS:

• RANDOM BATCHES WILL BE SAMPLED AT LEAST ONCE PER OPERATIONAL DAY FOR PAINT FILTER TESTING TO CONFIRM IT MEETS DISPOSAL

ONLY SOLIDIFIED WASTE SHALL BE HAULED TO THE WORKING FACE FOR DISPOSAL.

THE PROPOSED LOCATION FOR THE SOLIDIFICATION FACILITY IS ON THE SOUTHEAST SIDE OF SITE 1 (SEE LOCATION FIGURE). THE SUPERIOR SOLIDIFICATION FACILITY LAYOUT DRAWING SHOWS THE STEEL BOX WITH THE CONCRETE PAD.

A STEEL LINED SOLIDIFICATION BOX (APPROXIMATELY 48'X10'X10') WILL BE SET IN THE GROUND AS SHOWN IN SECTION B ON THIS SHEET. THE BOX WILL HAVE A ADJACENT CONCRETE PAD ALLOWING TRUCKS TO BACK UP TO THE BOX FOR BOTH UNLOADING AND LOADING OF WASTE. TIRE-STOPS FOR THE TRUCK WILL BE PLACED SO THAT THE WASTE CAN BE DUMPED INTO THE CONCRETE PIT. THE BOX IS PROPOSED TO BE CONCRETE LINED WITH STEEL PLATING AND WILL BE DESIGNED TO PREVENT UPLIFTING DUE TO BUOYANCY.

DURING SOLIDIFICATION PROCESSING OPERATIONS, SOLIDIFICATION MATERIALS AS LISTED ABOVE WILL BE OFF-LOADED ONTO THE CONCRETE PAD. THE ENTIRE CONCRETE PAD AREA WILL BE SLOPED TO DRAIN INTO THE PIT. NO WASTE MATERIALS WILL BE UNLOADED ONTO THE AREA LABELED "PIT LOADING AREA". THIS AREA IS TO BE USED BY TRUCKS FOR DIRECT UNLOADING INTO THE PIT.

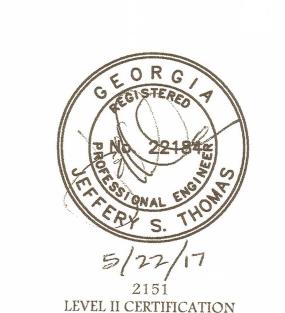
OPERATIONS SHALL NOT BEGIN PRIOR TO CERTIFICATION OF CONSTRUCTION IN ACCORDANCE WITH NOTE 31 OF SHEET 22 OF THESE D&O PLANS. LIQUID WASTE PROPOSED TO BE SOLIDIFIED AT THE FACILITY WILL BE DIRECTED BY LANDFILL PERSONNEL TO THE PIT AREA. THE LIQUID WASTE WILL BE UNLOADED INTO THE CONCRETE SOLIDIFICATION PIT. THE AMOUNT OF LIQUID IN THE PIT SHALL NOT EXCEED THE AMOUNT DETERMINED BY THE APPROPRIATE MIXING RATIO WITH THE PROPOSED SOLIDIFICATION AGENT. THE OPERATOR SHALL MARK THE SIDES OF THE PIT TO INDICATE MAXIMUM LIQUID LEVEL. ONCE THE WASTE IS READY TO BE SOLIDIFIED, THE REQUIRED AMOUNT OF SOLIDIFYING AGENT WILL BE ADDED INTO THE BOX FROM THE CONCRETE PAD OR DIRECTLY FROM A TRANSPORT VEHICLE. ONCE THE SOLIDIFYING AGENT HAS SETTLED, THE AGENT AND WASTE WILL BE MIXED UNTIL THE BOX HAS A UNIFORM MIXTURE. IF A SET-UP TIME IS REQUIRED, THE MIXTURE WILL BE ALLOWED TO SET-UP INTO ITS SOLID FORM. THE OPERATOR WILL TEST SOLIDIFIED WASTE AT LEAST ONCE PER DAY VIA A PAINT FILTER TEST TO CONFIRM COMPLIANCE. THE SOLIDIFIED MIX WILL BE LOADED INTO A LANDFILL HAULING TRUCK AND IT WILL THEN BE SENT TO THE ACTIVE FACE OF THE LANDFILL FOR DISPOSAL. THIS FACILITY HAS SLOPED CONCRETE PAD SO THAT THERE CAN BE EFFICIENT CLEANUP IF ANY WASTE ACCIDENTALLY SPILLS DURING THE UNLOADING, MIXING, AND LOADING OPERATIONS. WITH ANY SPILLAGE, LANDFILL PERSONNEL WILL SCOOP THIS MATERIAL UP OFF THE CONCRETE SURFACE AND IT WILL EITHER BE PLACED BACK INTO THE BOX OR UP INTO THE TRUCK AS APPROPRIATE FOR THE WASTE CONDITION. WASTE MATERIALS SHALL NOT BE STORED ON THE CONCRETE PAD OR IN THE PIT EXCEPT DURING ACTIVE SOLIDIFICATION OPERATIONS. NO WASTE MATERIALS SHALL BE STORED UNCOVERED

THE GROUNDWATER UPGRADIENT AND DOWNGRADIENT OF THE SOLIDIFICATION PIT SHALL BE MONITORED IN ACCORDANCE WITH THE APPROVED GROUNDWATER MONITORING PLAN WHILE THE SOLIDIFICATION PIT IS OPERATIONAL.

THE COST OF CLEANUP AND REMOVAL OF THIS SOLIDIFICATION PIT IS ESTIMATED TO BE \$30,000. THIS AMOUNT HAS BEEN ADDED TO THE CLOSURE COSTS FOR SLRC.

ATLANTIC COAST

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PROJECT:

SUPERIOR LANDFILL & RECYCLING CENTER SITE No. 2 MSWL EXPANSION D&O PLANS PERMIT No.: 025-070D (MSWL)



WM of Georgia, Inc. 3001 Little Neck Road Savannah, Ga 31419

REVISIONS	
O. Initial Issue	12/08/2009
1. Response to comments	11/05/2010
2. Response to comments	3/16/2011
3. General Revisions	12/19/2012
4. Silo Size	01/29/2013
5. General Revisions	12/23/2014
6. Response to Comments	02/17/2015
7. CCR Management	04/03/2017
8. Response to Comments	05/22/2017
•	

Checked by:

Environmental Protection Division

Solid Waste Management Program

MINOR MODIFICATION APPROVAL

SOLID WASTE PERMIT NO. 025-070D (MSWL)

APPROVED BY: ______ DATE: 05/22/2017

PROJECT NUMBER:

I010~215 February 2014

SOLIDIFICATION PLAN