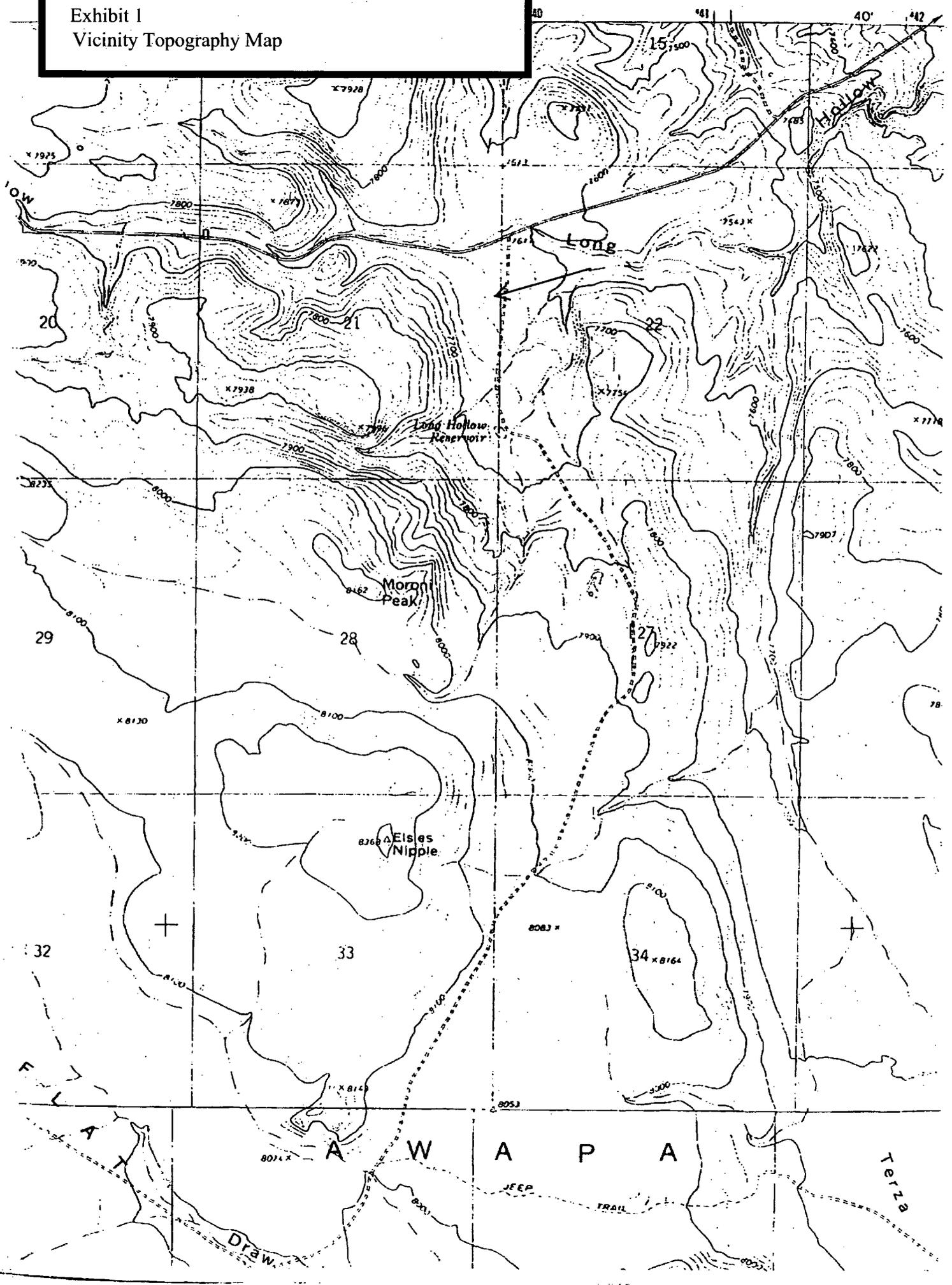
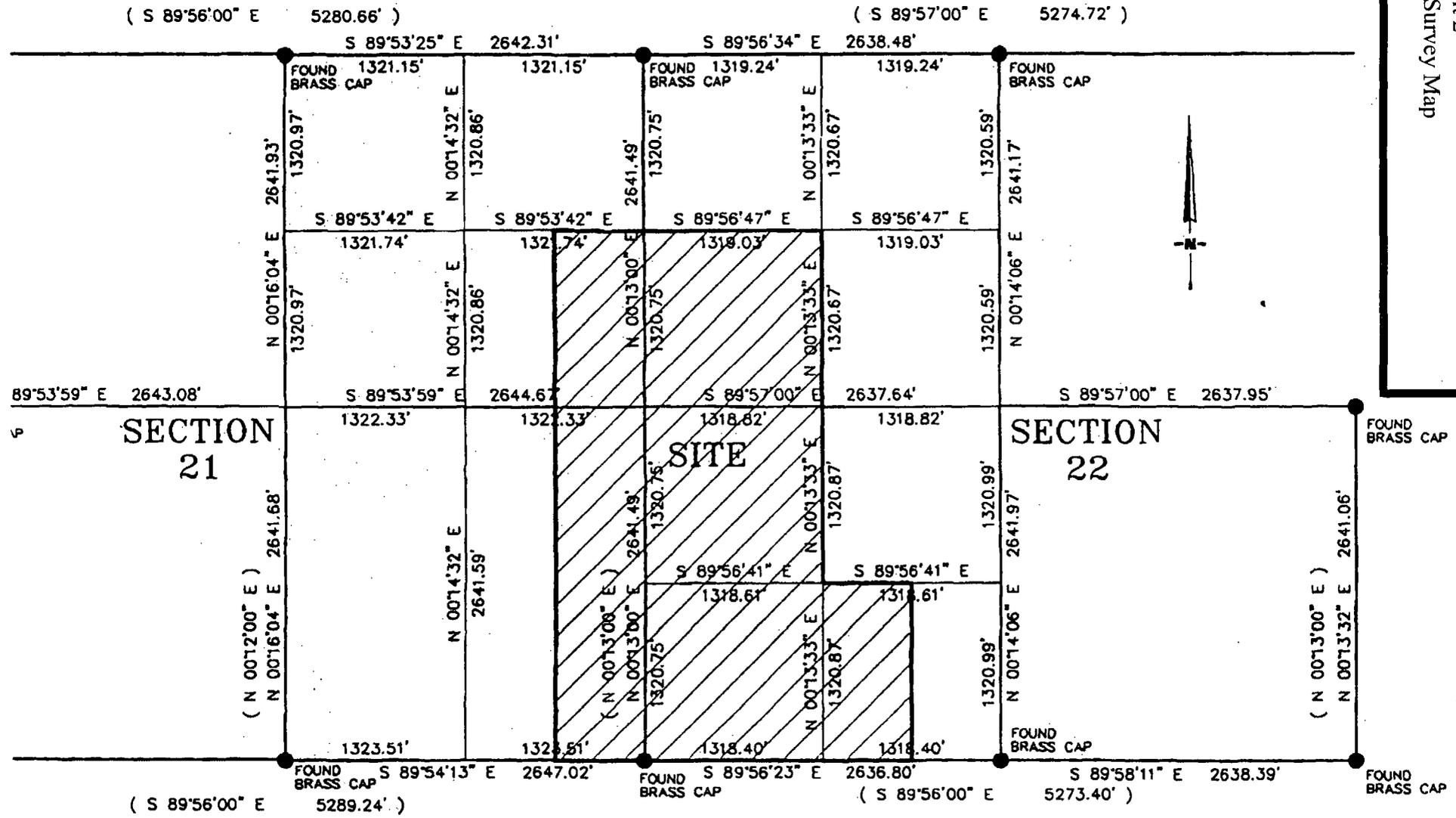


# Attachment 1

## Landfill Design

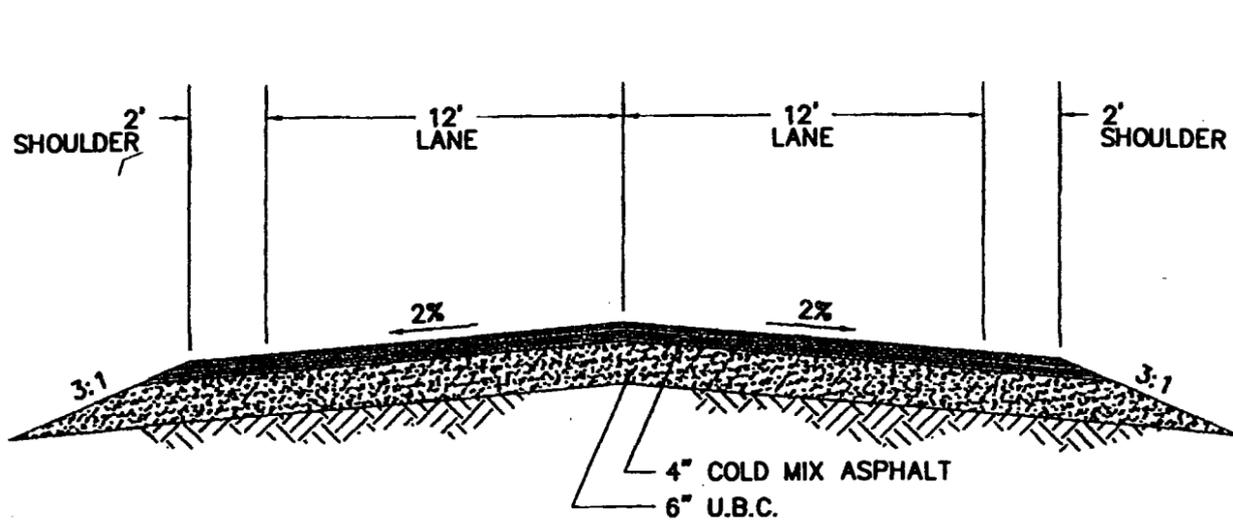
Exhibit I  
Vicinity Topography Map





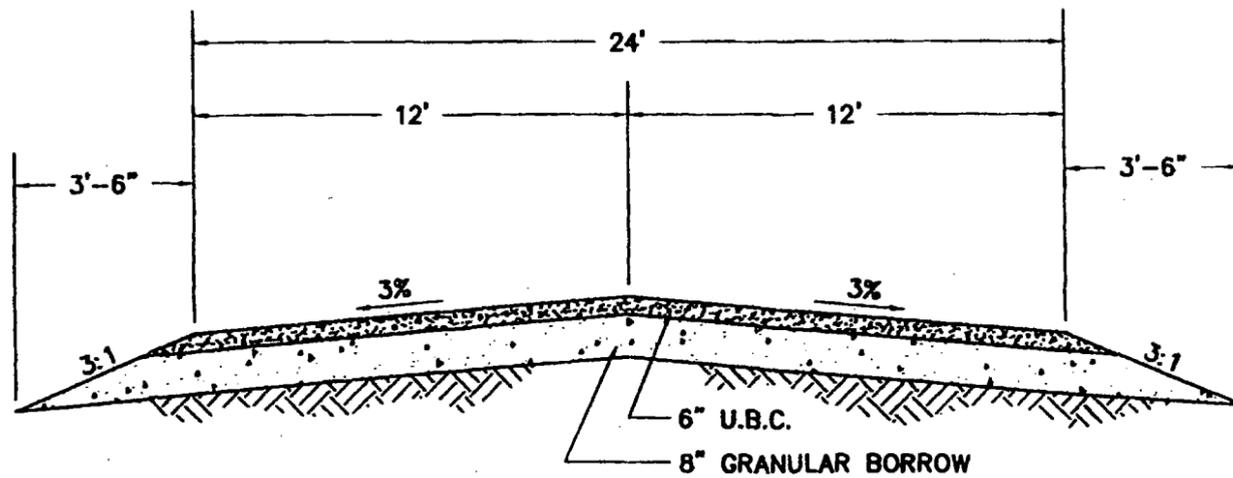
59.30'





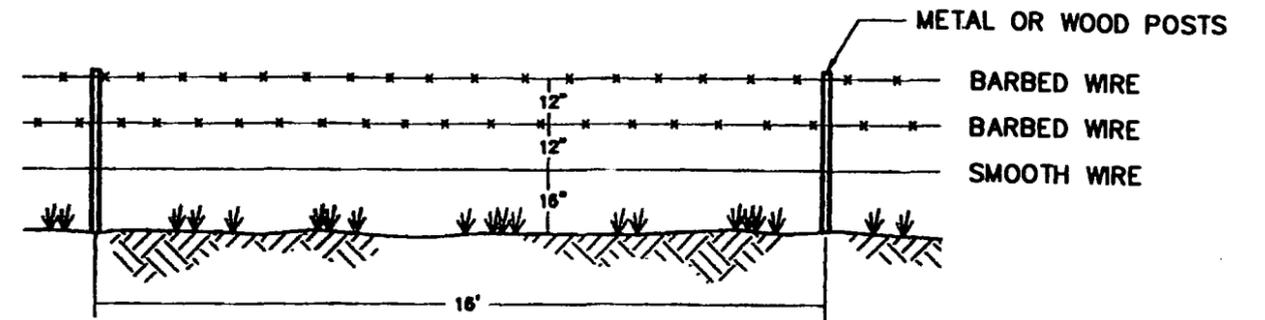
**TYPICAL #1**

LANDFILL ACCESS ROAD  
DESIGN SPEED: 30 mph

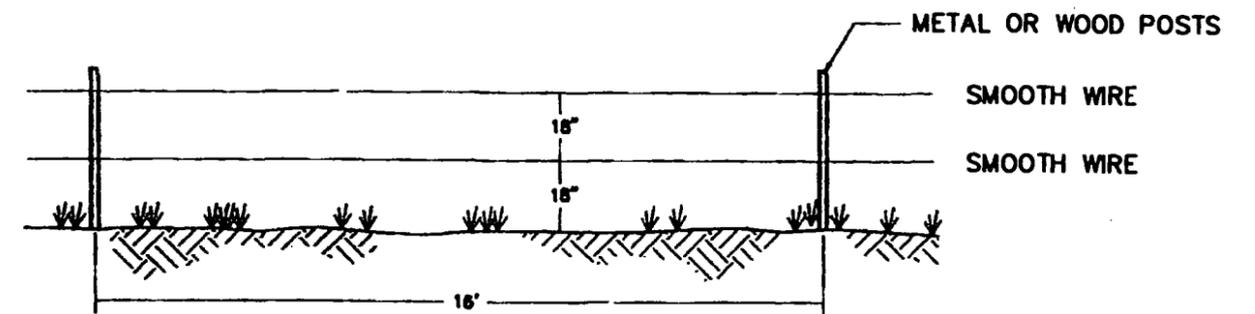


**TYPICAL #2**

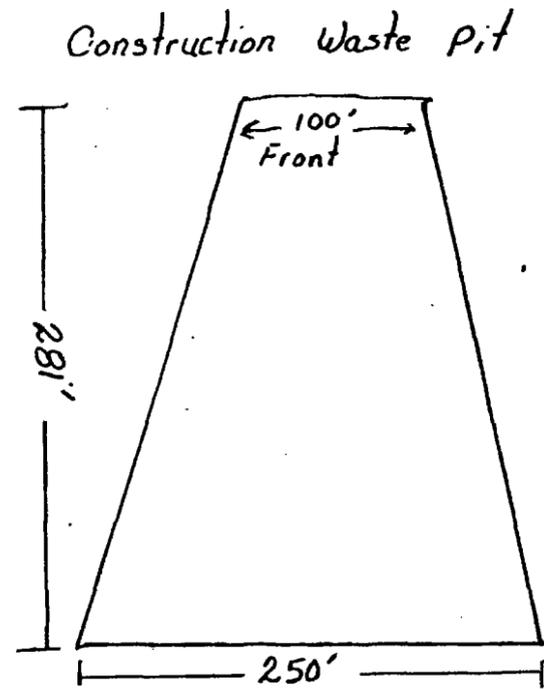
LANDFILL ON-SITE ROADWAY



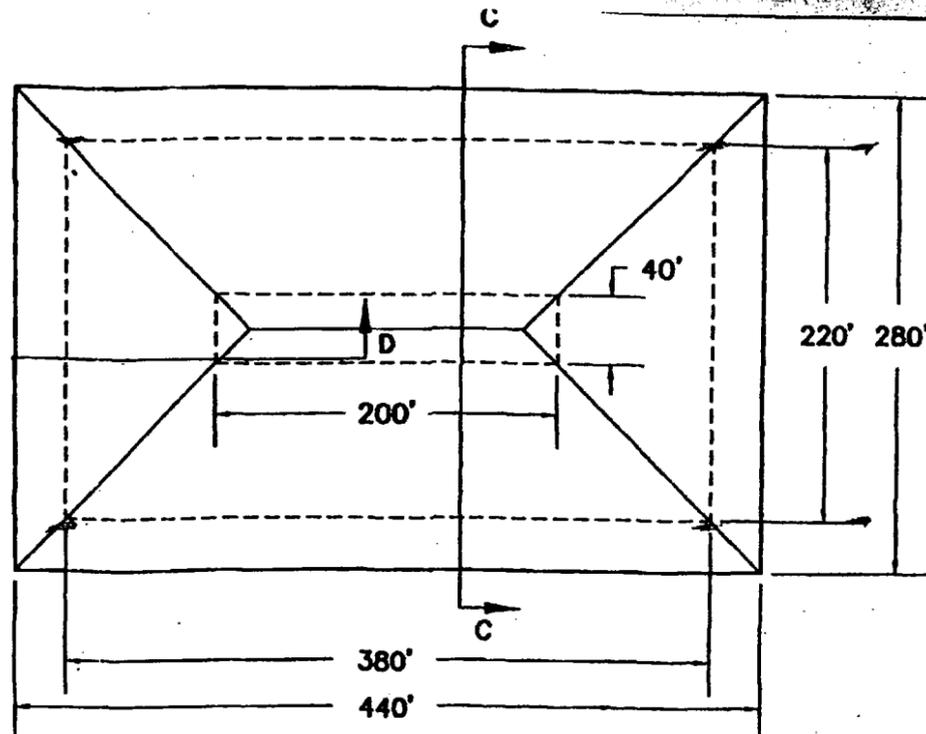
**3-STRAND WIRE  
BIG GAME FENCE**



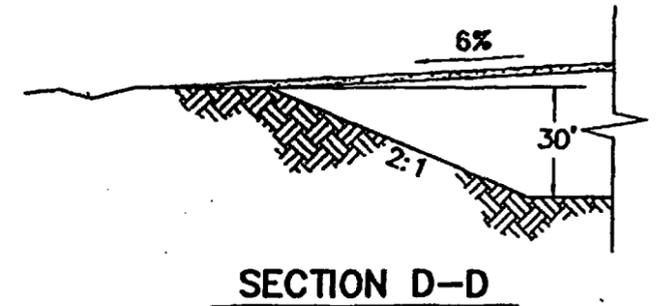
**2-STRAND WIRE FENCE**



18" Compacted  
Top Soil - 6"

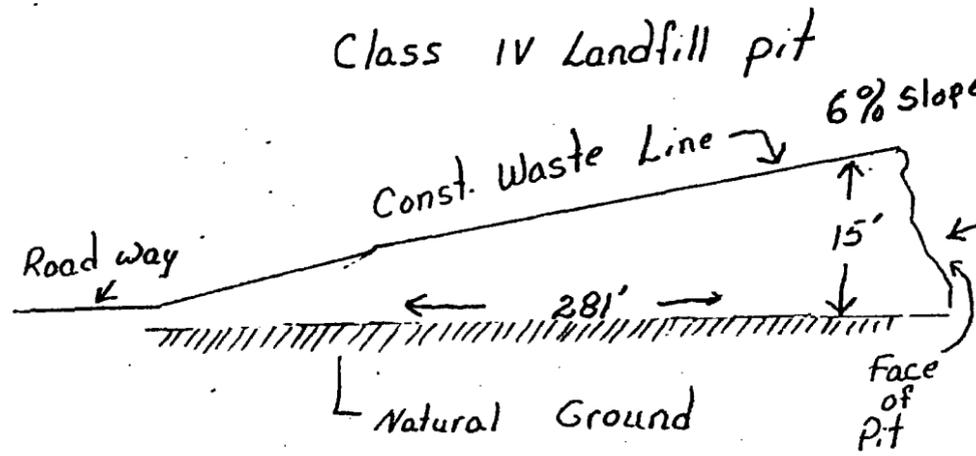


CLASS II LANDFILL PITS

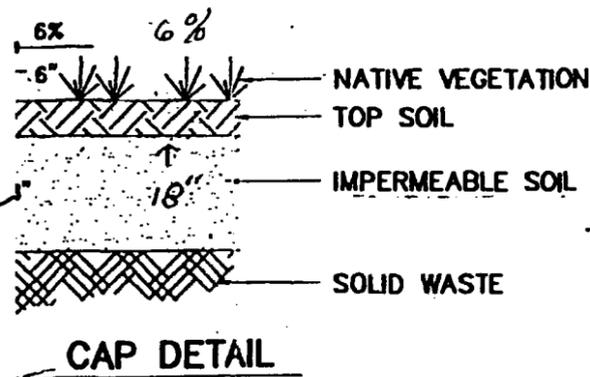


SECTION D-D

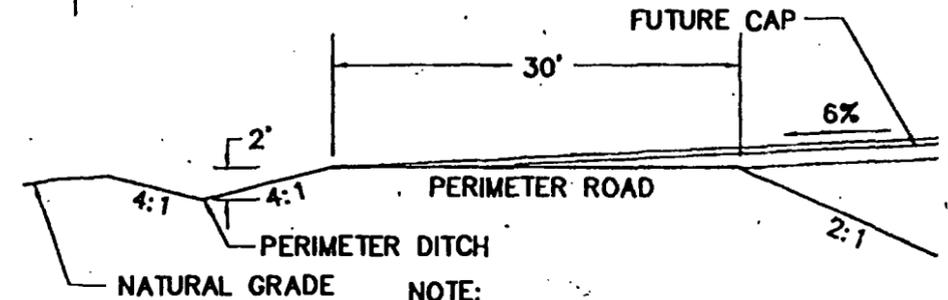
Class IV Landfill pit



WASTE PIT SECTION

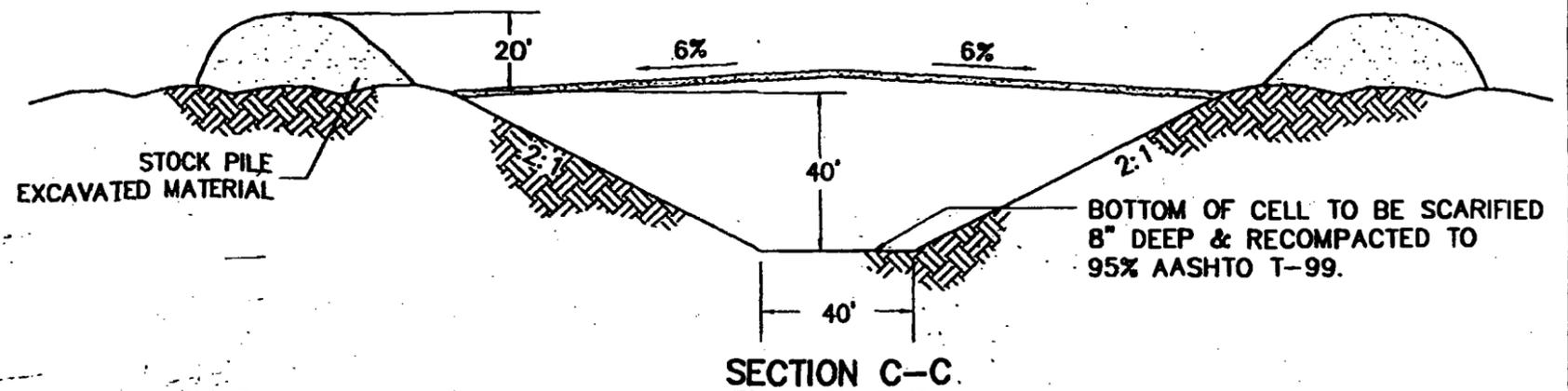


CAP DETAIL



NOTE:  
1. GRADE CELL PERIMETER DITCHES  
TO DRAIN AWAY FROM CELL

CELL BERM DETAIL  
(RUN-ON/RUN-OFF CONTROL)

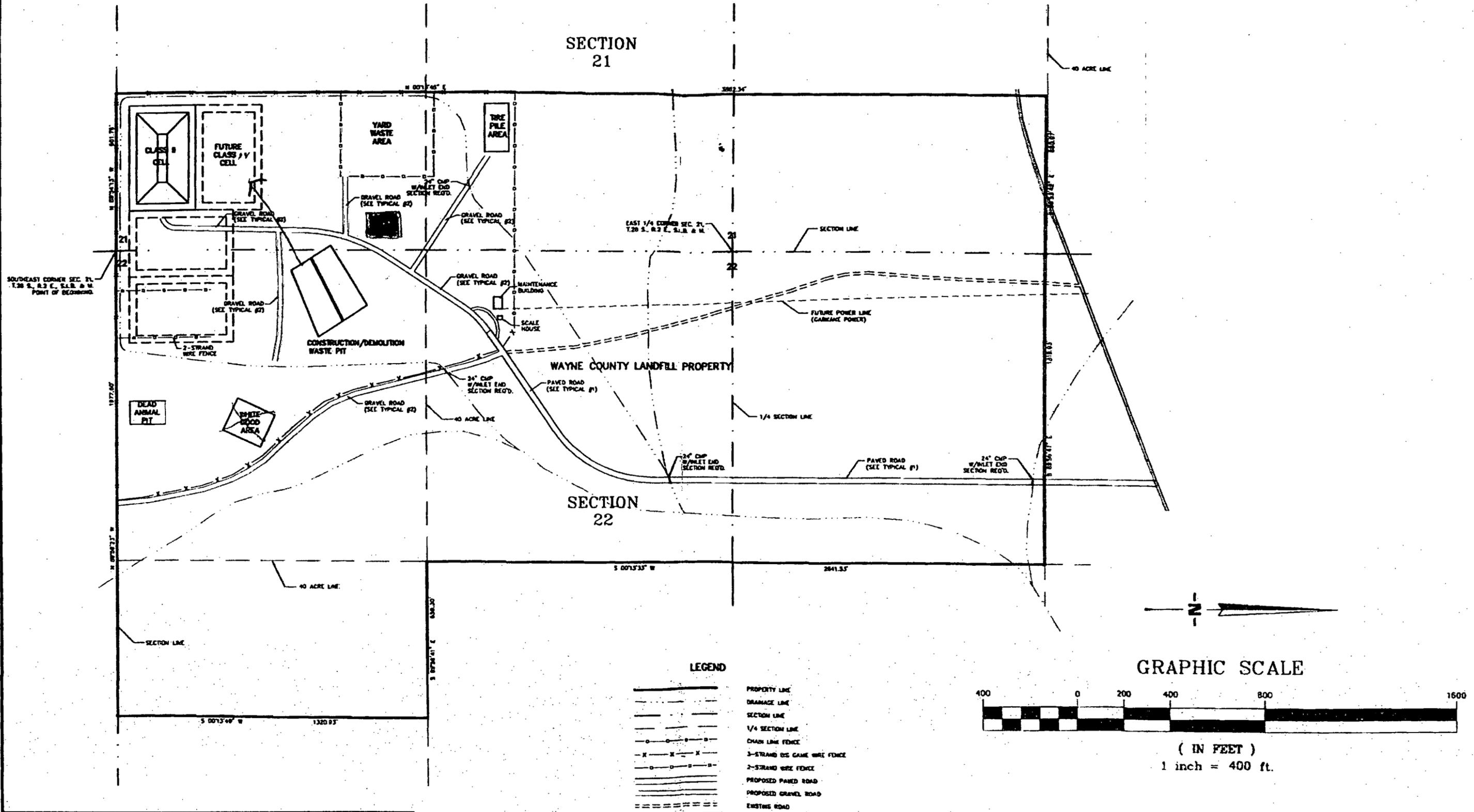


SECTION C-C

Exhibit 3B  
Landfill Cell Cross Sections

WAYNE COUNTY LANDFILL  
CELL CROSS SECTIONS

ENGINEER T.D.D.	DRAWN J.L.A.	SHEET NO. <b>3</b>
CHECKED K.B.M.	PROJ: 0303-041 DWG. NO: CELL-SEC	
SCALE AS NOTED	DATE 03/24/2003	



**LEGEND**

	PROPERTY LINE
	DRAINAGE LINE
	SECTION LINE
	1/4 SECTION LINE
	CHAIN LINK FENCE
	3-STRAND B&B GAME WIRE FENCE
	2-STRAND W&E FENCE
	PROPOSED PAVED ROAD
	PROPOSED GRAVEL ROAD
	EXISTING ROAD

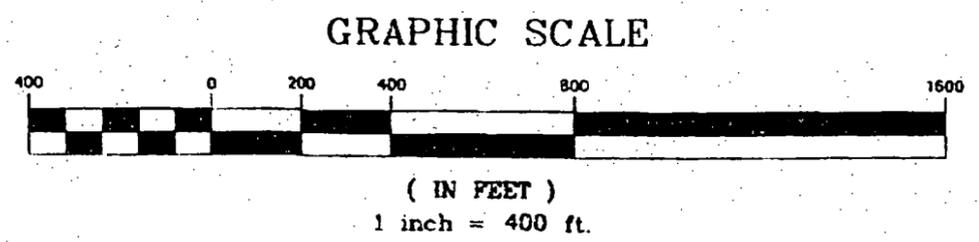
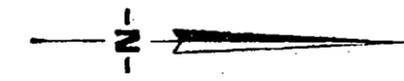


Exhibit 3D  
Landfill Overall Site Plan

**WAYNE COUNTY LANDFILL  
OVERALL SITE PLAN**

ENGINEER T.D.D.	DRAWN J.L.A.	SHEET NO. <b>4</b>
CHECKED K.B.M.	PROJ# 0303-041 DWG NM: OVERALL	
SCALE 1"=400'	DATE 03/25/2003	

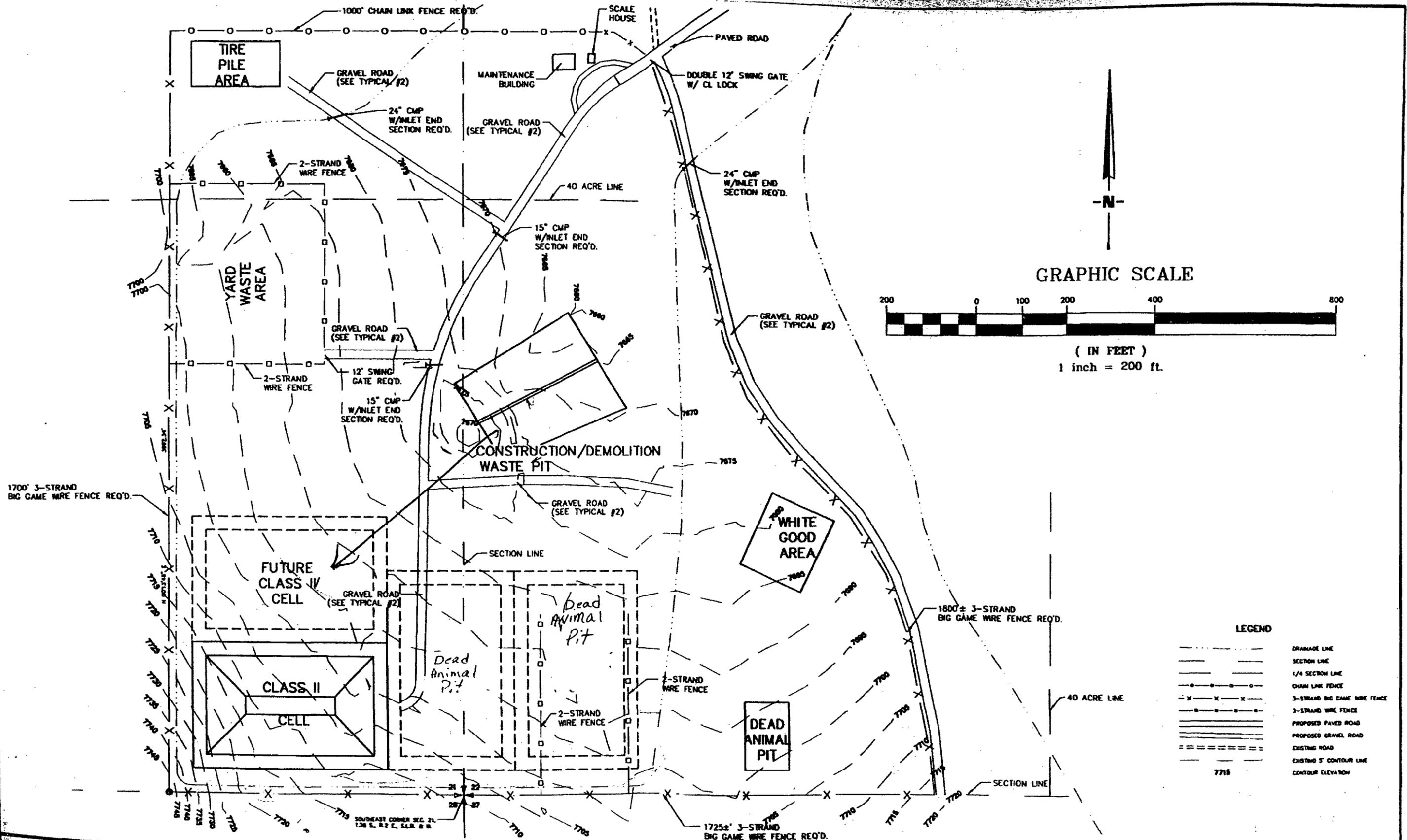


Exhibit 3C  
Landfill Site Development Plan

# WAYNE COUNTY LANDFILL SITE DEVELOPEMENT PLAN

ENGINEER T.D.D.	DRAWN J.L.A.	SHEET NO.  <b>5</b>
CHECKED K.B.M.	PROJ#: 0303-041 DWG. NAME: SITE	
SCALE 1"=200'	DATE 03/25/2003	

Attachment 2  
Geohydrological Assessment

will provide the evapotranspiration needed to prevent water from penetrating the ET cover. Even in the winter months (October thru April) with a total average precipitation of 3 inches, and given a minimum soil porosity of 27.0, the depth of moisture penetration is only anticipated to reach 12 inches. This calculation is conservative as no run off has been considered. A minimum of the top 6 inches of this native soil must be capable of supporting vegetative growth and cover the entire landfill. If it is determined that native vegetation is not establishing on its own and a seed mix of drought tolerant species should be introduced.

Post closure care of inactive sections of the landfill will consist of maintaining the integrity of the final and vegetative covers. Any areas subject to erosion will also be corrected and appropriate measures will be implemented to identify and eliminate the source. Groundwater monitoring, leachate collection, and gas collection have not proposed for the Long Hollow Sanitary Landfill. Therefore, closure and post-closure activities associated with these functions will not be performed.

## **IV. GEOHYDROLOGICAL ASSESSMENT**

### **I. GEOLOGY**

The Long Hollow Landfill is situated in the high desert which makes up much of South Central Utah. The area is characterized by rugged mountains commonly known as the Fish Lake area and deep valleys of the Fremont River Basin. The landfill is located on the interface between the mountains and valleys with the surface made up of flat to rolling slopes of alluvial deposits of variable thickness. The elevation of the landfill is approximately 2,500 meters above sea level. East and down gradient of the landfill is the Fremont Valley near Loa. The valley is approximately 300 feet below the landfill's elevation.

Site specific geology of the landfill indicates the area predominantly covered by interbedded alluvial material. The surface material, characterized by silty sands, ranges in depth from 65 feet to 85 feet, and is slightly resistant to infiltration. Laboratory permeability rates for the material have been determined to be as low  $1.91 \times 10^{-6}$  cm/sec. The surface member is underlain by intermittent silts, sand and clays for a depth of 40 feet to 70 feet. This material overlays a very hard to moderately hard volcanic basalt which onsite drilling indicates is at least 165 feet thick. A detailed description of exploratory drill holes can be found in other sections of this permit application.

There are no apparent faults, unstable slopes and subsidence areas within the boundaries of the landfill.

It should be noted that significant portions of the site are characterized by rolling slopes of alluvial material. Onsite investigations demonstrate natural material will stand at slopes steeper than 2:1.

### **II. HYDROLOGY**

The climate in the area is mainly dry, semi-arid, and continental. The seasons are well defined, and there is a fairly wide daily range in temperature. The average length of the growing season at Loa is assumed to be approximately 138 days. In any given year the length of the growing season may vary considerably from the average. Average annual precipitation at Loa is less than 10 inches. The largest amount of precipitation is during the months of July and August and the least during February and March. Data kept by the weather bureau on the velocity of wind near the landfill are not available for the area. It would appear, however, that the windiest part of the year is in the spring and the early summer. The prevailing winds are usually dry and blow from the southwest.

### **III. ONSITE SOIL PROPERTIES**

In order to determine onsite soil properties samples were obtained throughout the drilling depth of two exploratory drill holes located adjacent to an existing road which runs through the middle third of the active area of the landfill.

Data from the drill holes and topographic information indicate surface soils within the active area range from 65 feet to 85 feet in depth. Mechanical analysis and visual classification results indicate surface material is comprised of silty sands. Permeability of the material was also examined and found to be less than  $2 \times 10^{-5}$  cm/sec at 95% of maximum laboratory density. Exhibit 8 provides additional data concerning onsite soils.

### **IV. GROUNDWATER**

No groundwater was encountered during previous drilling operations. Two drill holes located within active portions of the landfill were drilled to a depth of 300 feet and 200 feet respectively. Information regarding depth to groundwater, aquifers, directional flow rate, and water quality data is not available. A well located in Section 3, Township 28 South, Range 2 East (more than 2 miles from the facility) indicates groundwater at a depth of more than 300 feet.

### **V. WELLS AND WATER RIGHTS**

Information was gathered from the State Engineer's office to determine quantity, location, and construction of any private and public wells within 2,000 feet of the landfill site. No wells were identified within the surveyed area. An expanded search determined the closest wells to the site are located in Section 3, Township 28 South, Range 2 East, 2 miles from active portions of the landfill. The 300 feet deep wells are separated from the landfill by two major drainages and more than 300 feet of topographic relief. Considering 1) the depth of the wells; 2) their distance from the landfill, and; 3) existing drainage patterns, the wells are considered hydraulically isolated from the landfill.

An examination of surface rights in the area was also conducted by the State Engineer's office. Six surface rights were found within the two sections occupied by the landfill. Each of the water rights is owned by the BLM and permits the withdrawal of water from intermittent streams and washes for stock watering. Exhibit 9 contains the documentation obtained from the State Engineer. Information is not available regarding background and surface water quality assessments in the area.

### **VI. SURFACE WATERS**

No perennial streams, rivers, or permanent surface waters exist within close proximity of the landfill. The closest known surface waters are some flowing wells located approximately 2 miles north of the landfill which have a flow line approximately 300 feet below the final elevation of waste. One intermittent wash, Long Hollow Wash, is located at the Northern boundary of the landfill. The drainage flows only during times of heavy precipitation. It should be noted that the wash is located north of an existing road and is hydraulically isolated from the landfill. Other washes in the area are small insignificant drainages that have formed in the native soil. All intermittent washes and surface waters will be prevented from impacting areas of the landfill which have received solid waste for events smaller than the 25 year storm period.

### **VII. WATER BALANCE**

A worst case water balance for the site was performed utilizing the Army Corp of Engineers HELP Model, during the last application period, to assume leachate production. Estimates were developed utilizing temperature and precipitation data obtained from the Loa area and after examining soil properties determined from onsite drilling. Evapotranspiration was generated by the model using mean monthly

temperatures for the area and solarly indices corrected for latitude. Average annual values ranged from 95.6% to 99.5% of precipitation leaving less than 0.3 inches of available water for potential leachate production. In order to insure additional safety factor, onsite soils were given a permeability rate of only  $3.1 \times 10^{-3}$  cm/sec, the life of the cell was extended from 33 years (3 years active life & 30 years post closure) to 50 years (10 years active life & 40 years post closure), and it was assumed that all precipitation falling on the site throughout the 50 year period infiltrated the cover.

Results indicate no leachate was generated in the bottom 10 feet of waste; waste from 10 to 20 feet above the landfill bottom increased in moisture content less than 0.1 % during the 50 year evaluation period. Additional HELP Model simulations indicate more than 110 years are required for leachate to reach the landfill bottom considering the worst case scenario described above. Exhibits 10 and 11A – 11C are summary outputs from the HELP Model Evaluation.

## **VIII. WATER MONITORING SYSTEM**

There is no potential for migration of hazardous constituents from the facility to the groundwater during the active life of the facility and during the post closure period. This conclusion is supported by three separate analysis: onsite geologic and hydrologic conditions; water balance and leachate production modeling, and; operational practices which minimize the amount of water that can come in contact with the waste. Each analysis makes its own strong argument for suspending groundwater monitoring requirements.

Onsite geologic and hydrologic conditions demonstrate a diminimus potential for hazardous constituents reaching groundwater resources. Drilling operations indicate a complete absence of groundwater for a depth of 320 feet. Examination of the closest wells indicates groundwater at elevations 600 feet below the landfill. Permeabilities for the surface material at depths of 20 feet identify laboratory results as low as  $1 \times 10^{-6}$  cm/sec. The permeabilities are for silty sands, and drill logs indicate underlying material to be comprised of intermittent silts, sands and clays with the clays having layers 12 inches to 18 inches thick. These underlying materials are typically more impermeable than the surface material. The intermittent layers of alluvial soils reduce the downward movement of water and dissolved material. Drill holes also indicate consistency, demonstrating a continuous nature of the subsurface material.

In addition to the extreme depth to groundwater and soil conditions which minimize the potential for liquid migration, climatic conditions eliminate the production of significant amounts of leachate. Precipitation is considerably less than 10 inches per year, and potential evapotranspiration exceeds precipitation by more than 500%. The lack of significant moisture passing beyond the vegetative zone is evidenced by the sparsely grown surface plants which are limited by minimum amounts of moisture. Water balance and leachate production modeling also demonstrate a diminimus potential for hazardous constituents reaching groundwater resources. The HELP model analysis described above indicates several centuries of worst case conditions would be required for leachate to be produced in sufficient quantities to result in the migration of any liquid to the groundwater. The worst case scenario was developed with numerous safety factors including extended open operation, a 40 year post closure period, use of free draining materials instead of impermeable onsite materials, containment of all precipitation to infiltrate the cover, bare ground conditions during a 10 year open period, and uncompacted cover material. In spite of these considerable efforts to create leachate production, results indicate the potential for hazardous constituents reaching the groundwater does not exist. Actual conditions will result in a greater level of confidence and a lower production of leachate than identified by the model.

Operational practices also reduce the amount of water that could possibly come in contact with the waste. Surface waters are diverted by a series of ditches roads and berms designed to protect landfill cells from run on water for storms considerably greater than the 25 year event. Neglecting the exterior ditch, the

perimeter road which serves as a berm or a channel, the interior ditch, and any specific channelizing performed by Wayne County, the perimeter dike alone prevents flow resulting from the 500 year event from entering the landfill. The size and progression of the units result in cells being brought to final elevation and closed in the minimum amount of time possible, reducing the amount of water entering the waste. Contouring operations reduce ponding and promote drainage away from active areas; use of alternate daily covers prevent the infiltration of limited precipitation into the waste. The limited working face requires the removal of any snow from the active area, so incoming waste can be deposited. All of these measures result in the reduction of an extremely limited source of moisture.

Considering onsite geologic and hydrologic conditions, water balance and leachate production modeling, and operational practices which reduce the amount of water contacting the waste, groundwater monitoring and vadose zone monitoring are not justified. In fact, installation of monitoring wells may provide a more viable conduit for groundwater contamination. The Executive Secretary is requested to suspend groundwater monitoring requirements in accordance with Subsection R315-303-3(1) of the Solid Waste Rules.

## **V. CLOSURE PLAN**

### **I. CLOSURE SEASON AND YEAR**

Closure operations at the Long Hollow Sanitary Landfill are performed on an ongoing basis. Adequate capacity exists at the landfill to continue operation for many, many years. A final closing date is estimated to be around Fall of 2012 on the existing cell. Ongoing closure operations are generally performed from May through October, the normal frost free construction period, or as weather permits. No area larger than one disposal unit will remain open longer than 6 months after reaching final elevation. For example, the first municipal solid waste disposal cell is 2.78 acres in size.

### **II. FINAL COVER, SEEDING, CONTOURING**

Closure operations will consist of leveling, contouring, placement of 24 inches of appropriate covers and seeding, if necessary, to reduce infiltration and preserve the integrity of the completed areas of the landfill. Areas of the landfill reaching final elevation will be closed within 6 months. Closure operations will include leveling and contouring using intermediate cover to reduce infiltration and ponding. Excess material not meeting permeability requirements may be stripped and utilized in other operations or left in place. Upon completion of the ET cover, 6 inches of native material similar to existing topsoil will be placed. If it is determined that the native vegetation is not establishing a seed mixture shall be developed after consultation with either a BLM or NRCS range specialists and verifying availability of local seed markets. Recently closed sections of the landfill will be evaluated as part of the quarterly inspection process during the first year and then placed on post closure status.

### **III. SITE CAPACITY**

Site capacity for the entire Long Hollow Sanitary Landfill is estimated upon the figures in Exhibit 3C. Assuming the initial 20 acre parcel, trench style operation (40 feet bottom width, 2: 1 side slopes, 40 feet depth), five 8 foot lifts of waste with 1.5 foot intermediate cover, and an average density of 900 lbs. per cubic yard, waste volumes are estimated at 486,000 cubic yards or 218,800 tons.

### **IV. CLOSURE TIMING AND NOTIFICATION**

Closure activities at the Long Hollow Sanitary Landfill will be performed on an ongoing basis. The operator shall notify the Executive Secretary of the intent to implement the closure plan in whole or part, 60 days prior to the projected final receipt of waste at the unit or facility. Closure will be initiated within

Attachment 3  
Plan of Operations

the service area if an appropriate interlocal agreement or memorandum of understanding has been executed with the governmental solid waste manager where the waste is generated.

## **II. PLAN OF OPERATION**

### **I. INTRODUCTION**

This Plan of Operation has been prepared by Wayne County to reflect the operation of the Long Hollow Landfill in compliance with the Utah Solid Waste Permitting and Management Rules, R31 0-301 through 320 of the UAC. This Plan of Operation is an integral part of the application for a permit to operate a Class II facility as set forth in UAC R315-31 0-4, and is submitted to UDEQ as the solid waste management authority for Wayne County.

The Long Hollow Landfill is owned and operated by Wayne County. County offices are located at 18 South Main, Loa, Utah. The original Plan of Operation shall be retained in the County offices, and a copy of the Plan will be maintained at the landfill. All components of the landfill's operating record will be provided to UDEQ upon request for review. The responsibility for compliance with the Plan shall be that of the Landfill Manager. The plan will be available for review by employees involved in the daily operations of the facility, as well as to other parties and regulatory agencies, as requested.

### **II. HOURS OF OPERATION**

Landfill personnel will be onsite during all hours the facility is open to the public. The schedule for operation of the Long Hollow Landfill is:

April 1<sup>st</sup> - October 15<sup>th</sup>

Monday, Wednesday, Friday 2 pm - 7 pm

Saturday 1 pm - 5 pm

October 15<sup>th</sup> - April 1<sup>st</sup>

Monday, Wednesday, Friday 2 pm - 5 pm

Saturday 2 pm - 5 pm

Collection vehicles enter the landfill when the facility is not open to the public. Waste is not accepted from the public during these periods. The schedule is currently in operation at Wayne County's existing facility and is functioning adequately. Wayne County intends to revise the scheduled operation of the landfill as the need arises and solid waste volumes dictate.

### **III. SCHEDULE OF CONSTRUCTION**

The existing layout and facilities are depicted on Exhibits 3A - 3E.

### **IV. WASTE HANDLING PROCEDURES**

All incoming vehicles are stopped by the landfill attendant at the gate where a landfill employee directs all loads to the appropriate disposal area. Commercial vehicles are weighed before and after discharging waste loads. Private haul vehicle load weights are estimated based on type and volume of waste. The date, time, vehicle owner, and origin of the waste are recorded on the "Weighted on a Fairbanks Scale" form for every incoming load. A copy of the form is included as Exhibit 4. A receipt is issued for every incoming load. Daily totals are recorded on the "Daily Operation Record" attached as Exhibit 5.

Commercial and private loads are inspected on a random basis, at a frequency of 1% of all loads, for the presence of prohibited waste. Incoming vehicles are stopped by the attendant at the scale house and

inspected for hazardous materials. A copy of the "Waste Inspection Form" is completed for all accepted and refused loads. A copy of this form is included as Exhibit 6. Inspection records are maintained in the Landfill office.

Landfill signs are positioned to direct incoming traffic to the appropriate disposal areas. Private haulers are directed to discharge their loads in a public discharge area near the base or top of the active face, depending on the configuration of the access road to the disposal area. Commercial haulers dump directly at the active disposal face.

Equipment dedicated to the Long Hollow Sanitary Landfill for waste and soil handling and general site operations are listed below:

- 1991 Kenworth Dump Truck
- 1990 Freightliner
- 1992 Peterbilt Roll-on Truck
- 2005 Sterling Condor Garbage Truck
- 2007 Sterling Condor Garbage Truck
- 816 CAT Compactor
- D8 CAT Dozer
- 544 G John Deere Loader
- 2001 Dodge Ram Pickup Truck
- 2002 Dodge Pickup Truck

Additional heavy equipment is available from the Wayne County Road Department on an as needed basis. Minor vehicle maintenance is performed onsite by landfill personnel. Major repairs are performed either at the County Road Department facilities or by a contractor.

## **V. HOUSEHOLD & COMMERCIAL WASTE**

Most of the waste generated in the County is picked up and hauled to the Landfill by Wayne County Landfill personnel. Incoming waste from commercial and private haulers is discharged at or near the active disposal face. Landfill personnel move discharged loads from the unloading area to the active face. The waste is spread in layers not exceeding two feet in thickness, and compacted using multiple passes of a Caterpillar 816B steel wheeled landfill compactor. Waste is covered daily with six inches of soil. Wind fences are also placed around the working face of the household/commercial waste cell for litter control.

## **VI. INDUSTRIAL WASTES**

The Long Hollow Landfill does not currently accept industrial waste. However, the facility will accept non-hazardous solid waste generated by industrial sources, provided sufficient documentation is submitted to verify the non-hazardous nature of the material.

## **VII. DEAD ANIMALS**

The Long Hollow Landfill accepts dead animals for disposal in a separate monofill within the landfill property. All received dead animals are covered at the end of the working day with a minimum of six inches of soil.

## **VIII. WHITE GOODS AND SCRAP METAL**

White goods and scrap metal are stockpiled in a designated area. A licensed metal recycling service is contracted to remove stockpile no less than once a year. Operating Records contain the date, volume, and tonnage for materials removed from the landfill.

## **IX. TIRES**

Tires are currently stockpiled in a designated area until a sufficient amount is accumulated. At that time, the State of Utah is contacted and arrangements are made for tire pickup through the State funded tire recycling program. Operating Records contain the date, volume, and tonnage for materials removed from the landfill.

## **X. YARD WASTES**

Yard waste is vegetative matter generated from landscaping, lawn maintenance, and land clearing operations and may include tree and brush trimmings, grass clippings, and other discarded material from yards, gardens and parks. Yard waste does not include garbage, paper, plastic, sludge, septage, or manure. Loads containing only stumps, branches, tree clippings, and/or grass clippings are directed to a designated yard waste stockpile. The stockpile is periodically burned after the appropriate permits are obtained from the local fire marshal.

## **XI. CONSTRUCTION/DEMOLITION WASTES**

UAC 315-301-2(16) defines construction/demolition (C&D) waste as waste from building materials, packaging, rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings, and other structures. Typical C&D waste includes bricks, concrete or other masonry materials, soil, rock, untreated lumber, rebar, and tree stumps. Construction waste is deposited in a separate monofill and covered with a minimum of 6" of soil as often as is necessary to reduce the potential for fires and vector harborage.

## **XII. ASBESTOS WASTES**

The Long Hollow Landfill currently accepts only non-friable asbestos for disposal.

## **XIII. HAZARDOUS/PCB WASTE EXCLUSION PROGRAM**

According to UAC R315-303-4(7), an owner or operator shall not knowingly dispose, treat, store, or handle hazardous waste or waste containing PCSs. The following sections describe load inspection, training, and handling procedures employed at the Long Hollow Landfill. All incoming loads are visually inspected at or near the active disposal area. Private haul vehicles are also inspected at the gate for the presence of prohibited materials. The landfill manager is properly trained and certified to identify regulated hazardous or PCB wastes. Landfill employees are trained by the landfill manager in proper screening and identification of hazardous and PCB wastes. Loads which are suspected of containing a high liquid content in accordance with these procedures are sent directly to another landfill which can accept hazardous or PCB wastes.

## **XIV. BULK LIQUIDS**

Bulk liquids may not be disposed in the landfill. Loads which are suspected of containing a high liquid content in accordance with these procedures are sent directly to another facility which can accept bulk liquid wastes.

All vehicles containing nonhazardous sludge are directed to the proper disposal area where the waste is slowly spread on the ground for treatment. The driver is instructed to spread waste while driving slowly to prevent pooling of waste and to promote evaporation. The sludge spreading area is identified on the site development drawings on Exhibits 3D & 3E.

## **XV. TRAINING & SAFETY**

The landfill manager, along with one additional employee, has attended the Manager of Landfill Operations training course provided by the Solid Waste Association of North America (SWANA). His training includes the following courses:

- Operational Issues for Landfill Managers
- Manager of Landfill Operations
- Basic First Aid and Safety Training
- Solid Waste Screening
- Training Sanitary Landfill Operating Personnel

The landfill manager is responsible for disseminating his knowledge regarding landfill operations to other landfill employees. All additional employees have been trained on the identification and exclusion of hazardous wastes. Safety procedures conform to OSHA guidelines and all personnel are encouraged to participate in additional landfill management, waste screening, safety, and first aid workshops.

All new employees are required to read the landfill permit application and permit within the first month of employment. Documentation that the application and plan has been read is included in the operating record. Initial training needed to work onsite is provided by the landfill supervisor. Additional training is provided during employment at the landfill.

Communications at the landfill are facilitated by two-way radios in each county vehicle and a cellular telephone in the landfill gatehouse. As a result, communication capabilities are sufficient to enable contact with emergency services to protect the safety of staff and users of the site.

## **XVI. INSPECTIONS AND MONITORING**

Inspection and monitoring at the Long Hollow Sanitary Landfill on incoming material are performed on a random and routine basis to prohibit receipt of unacceptable wastes. Routine waste inspections are made during deposition, spreading, and covering operations to insure protection of the environment and absence of nuisances. When a vehicle enters the scale house, random loads are inspected and directed to a separate area near the working face. After unloading, a landfill operator spreads the load with equipment, and hand inspects the load using rakes and shovels, looking for hazardous and prohibited waste. Operational inspections are made by supervisory landfill personnel. Random inspections are conducted by the scale house operator on at least 1% of all incoming waste loads. Inspection results are recorded on the "Waste Load Inspection Form" included as Exhibit 6.

Compliance inspections are conducted quarterly by the Landfill supervisor to assess the integrity of cover, the condition of side slopes and vegetative cover, and the impacts of erosion. All structures, roads, fences, and gates, etc. are inspected quarterly and documented on the "Quarterly Landfill Inspection Form" which is attached as Exhibit 9. Any conditions that do not meet with the approval of the inspector are noted in writing. It becomes the responsibility of the landfill manager to correct the unsatisfactory conditions. In addition, a detailed annual inspection is conducted to verify compliance with all permit conditions and state and federal regulations. All inspections are kept on file at the Landfill office for review.

## **XVII. FUGITIVE DUST ABATEMENT**

The landfill access road surface is constructed of cold mix asphalt. Internal landfill access roads are constructed of granulated borrow as shown on Exhibit 3B. Fugitive dust generation from internal site roads is minimal. Internal access roads are watered as necessary to prevent excessive generation of fugitive dust.

## **XVIII. FIRE / EXPLOSION CONTINGENCY PLAN**

During construction of the initial cell, an alternate disposal site capable of storing one month's waste was developed. The alternative disposal site is the soil excavation area used to generate daily cover soil. In the event of a fire or an explosion that prohibits deposition of incoming waste in the existing cell, materials received at the landfill are diverted to the alternate storage site and are covered daily with a minimum of six inches of soil. Upon resolution of the unexpected event, the materials are transported to their final disposal destination and treated as incoming waste.

Landfill fires and explosions are difficult to control and require different techniques than many incidents handled by local volunteer fire departments. For this reason fires and/or explosions at the Long Hollow Sanitary Landfill are managed by landfill personnel. However, local fire departments will respond to and provide assistance if requested by the landfill manager. The outline for procedures to follow in case of fire or explosion is:

1. Secure Affected Area
2. Divert Incoming Waste
3. Isolate Fire / Explosion
4. Suppress Incident if Possible
5. Request Additional Assistance if Needed
6. Report & Record Necessary Information

## **XIX. CORRECTIVE ACTION FOR CONTAMINATED GROUND WATER**

This section describes corrective actions to be taken by owners and operators to regain compliance with protection levels for the Long Hollow Sanitary Landfill in the event concentration limits are exceeded in a down gradient compliance monitoring well.

Currently, there are no monitoring wells at the Long Hollow Landfill. However, if the concentrations of parameters in down gradient wells exceed the concentration limits as substantiated by confirmatory analysis, owners and operators of the Long Hollow Sanitary Landfill will implement a corrective action program as outlined in R315-308.

## **XX. CONTINGENCY PLAN FOR OTHER RELEASES**

This section describes corrective actions to be taken by the Long Hollow Sanitary Landfill to regain compliance with the protection levels of the permit in the event releases are discovered and acceptable concentration limits are exceeded.

When the concentration of parameters exceeds acceptable limits as substantiated by confirmatory analysis, owners and operators of the Long Hollow Sanitary Landfill will implement a corrective action program approved by the Executive Secretary.

## **XXI. EQUIPMENT MAINTENANCE**

Active collection systems for leachate and / or explosive gases were not proposed or installed for the Long Hollow Sanitary Landfill. Therefore, no maintenance is required for these items.

Maintenance procedures for the equipment used in day to day operations are performed by landfill employees or contracted mechanics in accordance with manufacturers' recommendations and industry practices.

## **XXII. RUNON / RUNOFF CONTROL**

Wayne County will control the runon and runoff resulting from the 25 year event from contacting solid waste and leaving the landfill. This will be accomplished through a series of best management practices. Each cell is surrounded with berm style stockpiling of excess excavated soil. The berms are approximately 10 feet nominal height and prevent sides for unit 1. The absence of any roads and existing topography South and West of the unit eliminate the possibility of unauthorized vehicular traffic. Fencing in these areas is intended to discourage unauthorized foot traffic. Fencing in areas which are adjacent to the main road are 6 foot chain link. The lockable access gates are provided in these areas.

## **XXIII. DISEASE VECTOR CONTROL**

The primary method for disease vector control at the Long Hollow Landfill is providing appropriate cover at the close of each day's operation. The cover consists of a 6 inch minimum layer of earthen material.

Rodents and other vermin are not permitted to burrow in the active area of the landfill and trapping or extinction methods are implemented to protect the integrity of the disease vector control program.

## **III. ENGINEERING REPORT**

### **I. SITING CRITERIA**

The Long Hollow Sanitary Landfill complies with siting criteria currently mandated by Subtitle D and recognized by the State of Utah Solid and Hazardous Waste Committee. Specifically, no airport is located within 10,000 feet of the landfill. The site is free from unstable areas and is not located within a 100-year flood plain or in any wetland. In addition to federal mandated criteria, the site is compatible with existing land uses, long term landfill operation and is in a remote area free from dwellings and other incompatible structures such as churches, schools, hospitals, etc. Cultural resources within the landfill are mitigated in accordance with State Historic Preservation Officer requirements. The Long Hollow Sanitary Landfill is not located in a dam failure flood area, above an underground mine, above a salt dome or bed, or adjacent to geologic features which could compromise the structural integrity of the facility. Additionally, the Class II disposal cells and the Class IVB disposal cells have no liners, and the leachate collection systems would not be damaged during a seismic event. Any damage on the surface could be easily repaired with onsite equipment.

### **II. LINER DESIGN**

Current volumes of solid waste disposed, as measured by scales serviced by the Long Hollow Landfill, are well below 20 tons per day, and the facility is eligible for small landfill design exemptions. The landfill meets all the requirements of the small landfill exemption as explained in R315-303-3(3)(e) i.e. the average precipitation is less than 25 inches per year, with no evidence of groundwater contamination, and no reasonable alternative. These exemptions include liner design and groundwater monitoring. When

Attachment 4  
Waste Inspection Form

Exhibit 6:  
Waste Load Inspection Form

**WASTE INSPECTION FORM**

WAYNE COUNTY LANDFILL  
SOLID WASTE DISPOSAL SITE  
WASTE INSPECTION FORM

Date \_\_\_\_\_ Time \_\_\_\_\_ Truck \_\_\_\_\_

Hauler \_\_\_\_\_ License Plate # \_\_\_\_\_

Source of Waste (Generator) \_\_\_\_\_

Type of Waste \_\_\_\_\_

Driver's Name \_\_\_\_\_ Driver's Signature \_\_\_\_\_

Type of recyclable material found in load:

Cardboard  Plastics  Newsprint

Metal  Boxboard  Glass

Office Paper  Other

Is there hazardous waste, dangerous goods or other prohibited waste in the load?

No - no further action, sign form  Yes - record type of waste

Type of hazardous waste prohibited materials found in load:

Propane Cylinders  Oil  Other

Automotive Batteries  Paint Cans  Other

Description of Waste \_\_\_\_\_

\_\_\_\_\_

Actions Taken \_\_\_\_\_

\_\_\_\_\_

Inspector's Signature \_\_\_\_\_ Date \_\_\_\_\_

Any waste suspected to be a regulated hazardous waste will be reported to the Red Deer Regional Health Unit and the Alberta Environment Protection's Pollution Control Division.

Attachment 5  
Daily Operating Record

WAYNE COUNTY LONG HOLLOW LANDFILL

Daily Operating Record:

Date: \_\_\_\_\_

Operator: \_\_\_\_\_

Waste Origin			Total Weight	Total Volume	Waste Type	Total Weight	Total Volume	Total Loads	No Waste Inspection
<b>Loa, Fremont</b>	County Truck				Household				
	No Large Trucks				Construction Debris				
	No Pickups				Yard Waste				
	No Cars				Dead Animals				
					Tires				
				Metals					
<b>Bicknell, Lyman</b>	County Truck				Household				
	No Large Trucks				Construction Debris				
	No Pickups				Yard Waste				
	No Cars				Dead Animals				
					Tires				
				Metals					
<b>Teasdale, Torrey</b>	County Truck				Household				
	No Large Trucks				Construction Debris				
	No Pickups				Yard Waste				
	No Cars				Dead Animals				
					Tires				
				Metals					
<b>Caineville, Haksville</b>	County Truck				Household				
	No Large Trucks				Construction Debris				
	No Pickups				Yard Waste				
	No Cars				Dead Animals				
					Tires				
				Metals					
<b>Capitol Reef National Park</b>	County Truck				Household				
	No Large Trucks				Construction Debris				
	No Pickups				Yard Waste				
	No Cars				Dead Animals				
					Tires				
				Metals					
<b>Other (Fed/State Lands)</b>	County Truck				Household				
	No Large Trucks				Construction Debris				
	No Pickups				Yard Waste				
	No Cars				Dead Animals				
					Tires				
				Metals					

## WAYNE COUNTY LANDFILL QUARTERLY INSPECTION FORM

Performed by \_\_\_\_\_ Date \_\_\_\_\_

		Overall Condition	
		Satisfactory	Needs Work*
<b>I. Structures and Roads</b>			
1.	Buildings	<input type="checkbox"/>	<input type="checkbox"/>
2.	Fences	<input type="checkbox"/>	<input type="checkbox"/>
3.	Gates	<input type="checkbox"/>	<input type="checkbox"/>
4.	Road leading to facility	<input type="checkbox"/>	<input type="checkbox"/>
5.	Inside perimeter road	<input type="checkbox"/>	<input type="checkbox"/>
6.	Gas monitor levels	<input type="checkbox"/>	<input type="checkbox"/>

\*Specify recommended repairs and/or list actions taken: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<b>II. Operations</b>			
1.	Litter and weed control	<input type="checkbox"/>	<input type="checkbox"/>
2.	Excavations	<input type="checkbox"/>	<input type="checkbox"/>
3.	Daily cover	<input type="checkbox"/>	<input type="checkbox"/>
4.	Final cover	<input type="checkbox"/>	<input type="checkbox"/>
5.	Waste Piles		
	A. Appliances	<input type="checkbox"/>	<input type="checkbox"/>
	B. Construction/Demolition	<input type="checkbox"/>	<input type="checkbox"/>
	C. Tires	<input type="checkbox"/>	<input type="checkbox"/>
	D. Inert waste	<input type="checkbox"/>	<input type="checkbox"/>
	E. Car bodies	<input type="checkbox"/>	<input type="checkbox"/>
	F. Yard waste	<input type="checkbox"/>	<input type="checkbox"/>
6.	Recyclables/Furniture storage area	<input type="checkbox"/>	<input type="checkbox"/>

\*Specify recommended repairs and/or list actions taken: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Attachment 6  
Closure Plan

perimeter road which serves as a berm or a channel, the interior ditch, and any specific channelizing performed by Wayne County, the perimeter dike alone prevents flow resulting from the 500 year event from entering the landfill. The size and progression of the units result in cells being brought to final elevation and closed in the minimum amount of time possible, reducing the amount of water entering the waste. Contouring operations reduce ponding and promote drainage away from active areas; use of alternate daily covers prevent the infiltration of limited precipitation into the waste. The limited working face requires the removal of any snow from the active area, so incoming waste can be deposited. All of these measures result in the reduction of an extremely limited source of moisture.

Considering onsite geologic and hydrologic conditions, water balance and leachate production modeling, and operational practices which reduce the amount of water contacting the waste, groundwater monitoring and vadose zone monitoring are not justified. In fact, installation of monitoring wells may provide a more viable conduit for groundwater contamination. The Executive Secretary is requested to suspend groundwater monitoring requirements in accordance with Subsection R315-303-3(1) of the Solid Waste Rules.

## **V. CLOSURE PLAN**

### **I. CLOSURE SEASON AND YEAR**

Closure operations at the Long Hollow Sanitary Landfill are performed on an ongoing basis. Adequate capacity exists at the landfill to continue operation for many, many years. A final closing date is estimated to be around Fall of 2012 on the existing cell. Ongoing closure operations are generally performed from May through October, the normal frost free construction period, or as weather permits. No area larger than one disposal unit will remain open longer than 6 months after reaching final elevation. For example, the first municipal solid waste disposal cell is 2.78 acres in size.

### **II. FINAL COVER, SEEDING, CONTOURING**

Closure operations will consist of leveling, contouring, placement of 24 inches of appropriate covers and seeding, if necessary, to reduce infiltration and preserve the integrity of the completed areas of the landfill. Areas of the landfill reaching final elevation will be closed within 6 months. Closure operations will include leveling and contouring using intermediate cover to reduce infiltration and ponding. Excess material not meeting permeability requirements may be stripped and utilized in other operations or left in place. Upon completion of the ET cover, 6 inches of native material similar to existing topsoil will be placed. If it is determined that the native vegetation is not establishing a seed mixture shall be developed after consultation with either a BLM or NRCS range specialists and verifying availability of local seed markets. Recently closed sections of the landfill will be evaluated as part of the quarterly inspection process during the first year and then placed on post closure status.

### **III. SITE CAPACITY**

Site capacity for the entire Long Hollow Sanitary Landfill is estimated upon the figures in Exhibit 3C. Assuming the initial 20 acre parcel, trench style operation (40 feet bottom width, 2: 1 side slopes, 40 feet depth), five 8 foot lifts of waste with 1.5 foot intermediate cover, and an average density of 900 lbs. per cubic yard, waste volumes are estimated at 486,000 cubic yards or 218,800 tons.

### **IV. CLOSURE TIMING AND NOTIFICATION**

Closure activities at the Long Hollow Sanitary Landfill will be performed on an ongoing basis. The operator shall notify the Executive Secretary of the intent to implement the closure plan in whole or part, 60 days prior to the projected final receipt of waste at the unit or facility. Closure will be initiated within

30 days after receipt of final volume of waste. Closure activities shall be completed within 180 days from their starting time. Within 90 days after closure is completed, as built drawings will be submitted to the Executive Secretary. Considering the ongoing nature of closure operations and the justification for performing closure operations as a cell reaches final elevation, alternate notification procedures may not be feasible.

## **VI. FINANCIAL ASSURANCE PLAN**

### **I. INTRODUCTION**

This section of the permit describes compliance with Subsection R31S-309, Financial Assurance of the Administrative Rules for Solid Waste Permitting and Management. Cost estimates consider the most expensive option during the period and are based on a third party performing closure and post-closure care.

### **II. MECHANISMS**

The mechanism used at the Long Hollow Sanitary Landfill is a dedicated escrow/capital improvement account. The account is established with the State Treasurer's Office, and the Utah State Treasurer serves as the escrow agent. A detailed set of procedures has been established by the Treasurer's office. Funds in excess of the estimate listed below may be used for capital improvements, to offset rate increases, operational expenses and other items deemed necessary by landfill managers. The Long Hollow Sanitary landfill may alter the mechanism to include insurance, surety bonds, trust funds, or other options as they become feasible with Executive Secretary approval.

### **III. COST ESTIMATE**

Cost estimates were developed considering the largest area of the disposal facility requiring final cover during the operating period and using projections for a third party to perform the work. A cost estimate detailing major closure and post closure components is included below. The Executive Secretary is identified as a required signatory on all withdrawals, and transactions affecting the integrity of the account are submitted to the Executive Secretary for approval.

Attachment 7  
Financial Assurance

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