

Hazardous Waste Section  
File Room Document Transmittal Sheet

Your Name: Carl Utterback  
EPA ID: NCD982093783  
Facility Name: The University of North Carolina at Chapel Hill  
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Description: Final revised RCRA Permit Renewal Application updated by UNC in response to onsite discussions and phone conversations.  
Date of Doc: 4/7/2016  
Author of Doc: Duncklee & Dunham

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**RCRA Part B Permit Renewal Application**

**For**

**The University of North Carolina At Chapel Hill  
Chapel Hill, North Carolina**

**April 24, 2015**

*Prepared by*

**Duncklee & Dunham, P.C.  
Cary, North Carolina**



UNC  
ENVIRONMENTAL  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

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April 24, 2015

Mr. Carl Utterback  
North Carolina Department of Environment and Natural Resources  
Division of Waste Management  
Hazardous Waste Section  
1646 Mail Service Center  
Raleigh, North Carolina, 27699-1646

Subject: RCRA Permit Renewal Application Submittal  
EPA ID Number 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Mr. Utterback:

As requested in your April 15, 2014 letter, please find enclosed one original and six electronic copies of The University of North Carolina at Chapel Hill's RCRA Permit Renewal Application.

If you have any questions concerning the submitted information, please contact me at (919) 843-5913.

Sincerely,

Mary Beth Koza, Director

Enclosures

cc: Mr. Malachy Donohue  
Ms. Sharon Myers  
Mr. Steve Parker

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# Checklists

**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility	Permit Review Team	_____
EPA ID Number	NCD982093783		_____
Address	1120 Estes Drive Extension		_____
Contact Name	Mary Beth Koza	Date Application Received	_____
Contact Telephone No.	919-843-5913	Date Review Completed	_____

Guidance Documents for Part A

- (1) RCRA Part A Permit Application Form, November 2009.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<b>PART A – APPLICATION</b> RCRA Subtitle C Site Identification Form {270.10, 270.11 and 270.13}	RCRA Subtitle C Site Identification Form page 1 of 4
1. Reason for Submittal (Check one of the following) [Guidance(1) - pages 13 and 14]	
<ul style="list-style-type: none"> <li>- As a component of a First RCRA Hazardous Waste Part A Permit Application.</li> <li>- As a component of a Revised RCRA Hazardous Waste Part A Permit Application (provide amendment number).</li> </ul>	
2. EPA ID Number {270.13(g)} [Guidance(1) - page 14]	RCRA Subtitle C Site Identification Form page 1 of 4
3. Site Name {270.13(b)} [Guidance(1) - page 14]	RCRA Subtitle C Site Identification Form page 1 of 4
4. Site Location {270.13(b)} [Guidance(1) - pages 14]	RCRA Subtitle C Site Identification Form page 1 of 4
<ul style="list-style-type: none"> <li>- Street Address</li> </ul>	
<ul style="list-style-type: none"> <li>- City, Town, or Village</li> </ul>	RCRA Subtitle C Site Identification Form page 1 of 4
<ul style="list-style-type: none"> <li>- County</li> </ul>	RCRA Subtitle C Site Identification Form page 1 of 4
<ul style="list-style-type: none"> <li>- State</li> </ul>	RCRA Subtitle C Site Identification Form page 1 of 4
<ul style="list-style-type: none"> <li>- Country Name</li> </ul>	RCRA Subtitle C Site Identification Form page 1 of 4
<ul style="list-style-type: none"> <li>- Zip Code</li> </ul>	RCRA Subtitle C Site Identification Form page 1 of 4
5. Site Land Type (Check one of the following) {270.13(b)} [Guidance(1) - page 14]	RCRA Subtitle C Site Identification Form page 1 of 4
<ul style="list-style-type: none"> <li>- Private</li> <li>- County</li> <li>- District</li> <li>- Federal</li> <li>- Indian</li> <li>- Municipal</li> <li>- State</li> <li>- Other</li> </ul>	
6. NAICS Code	RCRA Subtitle C Site Identification Form page 1 of 4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
(can be found at <a href="http://www.census.gov/epcd/naics/naicscod.txt">www.census.gov/epcd/naics/naicscod.txt</a> ) [Guidance(1) - page 14]	
7. Site Mailing Address {270.13(b)} [Guidance(1) - page 15]  - Street or P.O. Box	RCRA Subtitle C Site Identification Form page 1 of 4
- City, Town, or Village	RCRA Subtitle C Site Identification Form page 1 of 4
- State	RCRA Subtitle C Site Identification Form page 1 of 4
- County Name	Not required on form
- Zip Code	RCRA Subtitle C Site Identification Form page 1 of 4
8. Site Contact Person [Guidance(1) - page 16] (The facility contact should be someone located at the facility.)  - First Name	RCRA Subtitle C Site Identification Form page 1 of 4
- Middle Initial	RCRA Subtitle C Site Identification Form page 1 of 4
- Last Name	RCRA Subtitle C Site Identification Form page 1 of 4
- Title	RCRA Subtitle C Site Identification Form page 1 of 4
- Street or P.O. Box	RCRA Subtitle C Site Identification Form page 1 of 4
- City, Town, or Village	RCRA Subtitle C Site Identification Form page 1 of 4
- State	RCRA Subtitle C Site Identification Form page 1 of 4
- Country	RCRA Subtitle C Site Identification Form page 1 of 4
- Zip Code	RCRA Subtitle C Site Identification Form page 1 of 4
- Email	RCRA Subtitle C Site Identification Form page 1 of 4
- Telephone number	RCRA Subtitle C Site Identification Form page 1 of 4
- Telephone Extension	RCRA Subtitle C Site Identification Form page 1 of 4
- Fax Number	RCRA Subtitle C Site Identification Form page 1 of 4
9. A. Legal Owner and Operator of Site {270.13(d)} [Guidance(1) - pages 16 and 17]  - Name of Site's Legal Owner	RCRA Subtitle C Site Identification Form page 1 of 4
- Date Became Owner	RCRA Subtitle C Site Identification Form page 1 of 4
- Owner Type (Check one of the following) {270.13(b)} [Guidance(1) - page 16] · Private · County · District · Federal · Indian · Municipal · State · Other	RCRA Subtitle C Site Identification Form page 1 of 4
- Street or P.O. Box	RCRA Subtitle C Site Identification Form page 1 of 4
- City, Town, or Village	RCRA Subtitle C Site Identification Form page 1 of 4
- Telephone Number	RCRA Subtitle C Site Identification Form page 1 of 4
- State	RCRA Subtitle C Site Identification Form page 1 of 4
- Country	RCRA Subtitle C Site Identification Form page 1 of 4
- Zip Code	RCRA Subtitle C Site Identification Form page 1 of 4
B. Legal Owner and Operator of Site {270.13(d)} [Guidance(1) - pages 16 and 17]	RCRA Subtitle C Site Identification Form page 1 of 4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
- Name of Site's Operator	
- Date Became Operator	RCRA Subtitle C Site Identification Form page 1 of 4
- Operator Type (Check one of the following) {270.13(b)} [Guidance(1) - page 26] <ul style="list-style-type: none"> <li>· Private</li> <li>· County</li> <li>· District</li> <li>· Federal</li> <li>· Indian</li> <li>· Municipal</li> <li>· State</li> <li>· Other</li> </ul>	RCRA Subtitle C Site Identification Form page 1 of 4
10. Type of Regulated Waste Activity [Guidance(1) - pages 19 to 24] <ul style="list-style-type: none"> <li>a) Hazardous Waste Activities                             <ul style="list-style-type: none"> <li>1) Generator of Hazardous Waste                                      (Check one of the following three)                                     <ul style="list-style-type: none"> <li>a) LQG</li> <li>b) SQG</li> <li>c) CESQG</li> </ul>                                     (Check all that apply)                                     <ul style="list-style-type: none"> <li>d) Short Term Generator (If yes, provide an explanation in the Comments section.)</li> <li>e) US Importer of Hazardous Waste</li> <li>f) Mixed Waste Generator</li> </ul> </li> </ul> </li> </ul>	RCRA Subtitle C Site Identification Form page 2 of 4
(For items 2 through 6, check all that apply) <ul style="list-style-type: none"> <li>2) Transporter of Hazardous Waste                             <ul style="list-style-type: none"> <li>a) Transporter</li> <li>b) Transfer Facility (at your site)</li> </ul> </li> <li>3) Treater, Storer or Disposer of Hazardous Waste</li> <li>4) Recycler of Hazardous Waste</li> <li>5) Exempt BIF                             <ul style="list-style-type: none"> <li>a) Small Quantity On-Site Burner Exemption</li> <li>b) Smelting, Melting, and Refining Furnace Exemption</li> </ul> </li> <li>6) Underground Injection Control</li> <li>7) Receives Hazardous Waste From Off-Site</li> </ul>	RCRA Subtitle C Site Identification Form page 2 of 4
<ul style="list-style-type: none"> <li>b) Universal Waste Activities                              (Check all that apply)                             <ul style="list-style-type: none"> <li>1) Large Quantity Handler of Hazardous Waste                                     <ul style="list-style-type: none"> <li>a) Batteries</li> <li>b) Pesticides</li> <li>c) Mercury containing Equipment</li> <li>d) Lamps</li> <li>e) Other (Specify)</li> <li>f) Other (Specify)</li> <li>g) Other (Specify)</li> </ul> </li> <li>2) Destination Facility for Universal Waste</li> </ul> </li> </ul>	RCRA Subtitle C Site Identification Form page 2 of 4
<ul style="list-style-type: none"> <li>c) Used Oil Activities                              (Check all that apply)                             <ul style="list-style-type: none"> <li>1) Used Oil Transporter                                     <ul style="list-style-type: none"> <li>c) Transporter</li> <li>d) Transfer Facility (at your site)</li> </ul> </li> <li>2) Used Oil Processor and/or Refiner                                     <ul style="list-style-type: none"> <li>a) Processor</li> </ul> </li> </ul> </li> </ul>	RCRA Subtitle C Site Identification Form page 2 of 4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
b) Re-refiner 3) Off-Specification Used Oil Burner 4) Used Oil Marketer a) Directs Shipment b) First Claims meets Used Oil Specifications	
d) Eligible Academic Entities with Laboratories— Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K 5) Opting into or currently operating under 40 CFR 262 Subpart K a) College or University b) Teaching Hospital c) Non-profit Institute d) Withdrawing from 40 CFR 262 Subpart K	RCRA Subtitle C Site Identification Form page 3 of 4
11. Description of Hazardous Waste [Guidance(1) - pages 24 and 25]	RCRA Subtitle C Site Identification Form page 3 of 4
12. Notification of Hazardous Secondary Material Activity [Guidance(1) - page 25]	RCRA Subtitle C Site Identification Form page 4 of 4
13. Comments [Guidance(1) - page 25]	RCRA Subtitle C Site Identification Form page 4 of 4
14. Certifications {270.11(a), 270.11(b), 270.11(d)} [Guidance(1) - page 26]  - Owner Certification (Signature, Name and Official Title, Date)	RCRA Subtitle C Site Identification Form page 4 of 4
- Operator Certification (Signature, Name and Official Title, Date)	RCRA Subtitle C Site Identification Form page 4 of 4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
PART A – APPLICATION Hazardous Waste Permit Information Form {270.10, 270.11 and 270.13}  1. Facility Permit Contact [Guidance(1) - page 33] (The facility contact should be someone located at the facility.)  - First Name	Hazardous Waste Permit Information Form page 1 of 17
- Middle Initial	Hazardous Waste Permit Information Form page 1 of 17
- Last Name	Hazardous Waste Permit Information Form page 1 of 17
- Telephone number	Hazardous Waste Permit Information Form page 1 of 17
- Telephone Extension	Hazardous Waste Permit Information Form page 1 of 17
- Fax Number	Hazardous Waste Permit Information Form page 1 of 17
2. Facility Permit Contact Mailing Address {270.13(b)} [Guidance(1) - page 33]  - Street or P.O. Box	Hazardous Waste Permit Information Form page 1 of 17
- City, Town, or Village	Hazardous Waste Permit Information Form page 1 of 17
- State	Hazardous Waste Permit Information Form page 1 of 17
- Country	Hazardous Waste Permit Information Form page 1 of 17
- Zip Code	Hazardous Waste Permit Information Form page 1 of 17
3. Operator Mailing Address {270.13(b)} [Guidance(1) - page 33]  - Street or P.O. Box	Hazardous Waste Permit Information Form page 1 of 17
- City, Town, or Village	Hazardous Waste Permit Information Form page 1 of 17
- State	Hazardous Waste Permit Information Form page 1 of 17
- Phone Number	Hazardous Waste Permit Information Form page 1 of 17
- Country	Hazardous Waste Permit Information Form page 1 of 17
- Zip Code	Hazardous Waste Permit Information Form page 1 of 17
4. Facility Existence Date {270.13(b)} [Guidance(1) - page 33]	Hazardous Waste Permit Information Form page 1 of 17
5. Other Environmental Permits {270.13(k)} [Guidance(1) - pages 33 and 34]  - Permit type (N, P, R, U, F or E)	Hazardous Waste Permit Information Form page 1 of 17
- Permit number	Hazardous Waste Permit Information Form page 1 of 17
- Description	Hazardous Waste Permit Information Form page 1 of 17
6. Nature of the Business {270.13(m)} [Guidance(1) - page 34]	
7. Process - Codes and Design Capacities {270.13(a), 270.13(i)} [Guidance(1) - page 34]  - Process codes	Hazardous Waste Permit Information Form page 3 of 17
- Amount	Hazardous Waste Permit Information Form page 3 of 17
- Unit of measure (See table at end of checklist)	Hazardous Waste Permit Information Form page 3 of 17
- Process total number of units	Hazardous Waste Permit Information Form page 3 of 17

Subject Requirement and 40 CFR Reference	Location in Application and Comments
8. Other Processes {270.13(a), 270.13(i)} [Guidance(1) - page 34]  - Line Number	Hazardous Waste Permit Information Form page 3 of 17
- Process Code	Hazardous Waste Permit Information Form page 3 of 17
- Amount	Hazardous Waste Permit Information Form page 3 of 17
- Unit of measure (See table at end of checklist)	Hazardous Waste Permit Information Form page 3 of 17
- Process total number of units	Hazardous Waste Permit Information Form page 3 of 17
9. Description of Hazardous Wastes {270.13(j), 270.13(n)} [Guidance(1) – pages 34 and 35]  - EPA hazardous waste number	Hazardous Waste Permit Information Form page 4 of 17
- Estimated annual quantity	Hazardous Waste Permit Information Form page 4 to 5k of 17
- Unit of measure (P, T, K or M)	Hazardous Waste Permit Information Form page 4 to 5k of 17
- Process code	Hazardous Waste Permit Information Form page 4 to 5k of 17
- Process description	Hazardous Waste Permit Information Form page 4 to 5k of 17
10. Map {270.13(l)} [Guidance(1) - pages 35]  - Topographic map	Hazardous Waste Permit Information Form page 17 of 17, Figure A-1a
- One mile beyond property line	Hazardous Waste Permit Information Form page 17 of 17, Figure A-1a
- Legal boundaries of facility	Hazardous Waste Permit Information Form page 17 of 17, Figures A-1a and A-1b
- Location and serial number of each existing and proposed intake and discharge structures	No existing or proposed intake or discharge structures
- Hazardous waste treatment, storage, and disposal units listed in Items XII and XIII identified by process code	Hazardous waste storage units only. Buildings 531 and 488 depicted on Figure A-2.
- Each underground injection well	No injection wells
- Wells, springs, rivers, and other surface water bodies	Figure A-1a
- Drinking water wells within 1/4 mile of the facility property boundary.	No known drinking water wells within ¼ mile of facility.
11. Facility Drawing {270.13(h)(1)} [Guidance(1) - page 36]  - Property boundaries of the facility	Hazardous Waste Permit Information Form page 17 of 17; Figure A-2
- Areas occupied by all storage, treatment, or disposal operations	Hazardous Waste Permit Information Form page 17 of 17; Figure A-2
- The name of each operation	Hazardous Waste Permit Information Form page 17 of 17; Figure A-2
- Areas of past storage, treatment, or disposal operations	None
- Areas of future storage, treatment, or disposal operations	None
- The approximate dimensions of the property boundaries and all storage, treatment, and disposal areas	Hazardous Waste Permit Information Form page 17 of 17; Figures A-1b and A-2
12. Photographs {270.13(h)(2)} [Guidance(1) - page 36]  Photographs should clearly delineate: - all existing structures - all existing areas for storing, treating, or disposing of hazardous waste	Hazardous Waste Permit Information Form page 17 of 17; Figure A-2  Figure A-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
- all known sites of future storage, treatment, or disposal operations	No know sites of future TSD operations
Process codes should be used to indicate the location of all storage, treatment, or disposal areas	Hazardous Waste Permit Information Form page 17 of 17; Figure A-2
The date each photograph was taken should be provided	2015 aerial photo used as base of Figure A-2.
13. Comments [Guidance(1) - page 36]	Hazardous Waste Permit Information Form page 17 of 17

## PROCESS CODES AND ACCEPTABLE UNITS OF MEASURE

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
D79	<u>Disposal:</u> Underground Injection Well-Disposal	G, L, U, V
D80	Landfill	Y, C, B, A, Q, F
D81	Land Application	B, Q
D82	Ocean Disposal	U, or V
D83	Surface Impoundment-Disposal	G, L, Y, C
D99	Other Disposal	G, E, U, L, H, V, D, W, N, S, J, R, Y, C, B, A, Q, F, I, X
S01	<u>Storage:</u> Container	G, L, Y, C
S02	Tank-Storage	G, L, Y, C
S03	Waste Pile	Y, C
S04	Surface Impoundment-Storage	G, L, Y, C
S05	Drip Pad	G, L, Y, C, B, Q
S06	Containment Building-Storage	Y, C
S99	Other Storage	G, E, U, L, H, V, D, W, N, S, J, R, Y, C, B, A, Q, F, I, X
T01	<u>Treatment:</u> Tank-Treatment	E, U, H, V, D, W, N, S, J, R
T02	Surface Impoundment-Treatment	E, U, H, V, D, W, N, S, J, R
T03	Incinerator	E, U, H, V, D, W, N, S, J, R
T04	Other Treatment	E, U, H, V, D, W, N, S, J, R
T80	Boiler	G, E, L, H, I, X
T81	Cement Kiln	E, U, H, V, D, W, N, S, J, R, I, X
T82	Lime Kiln	E, U, H, V, D, W, N, S, J, R, I, X
T83	Aggregate Kiln	E, U, H, V, D, W, N, S, J, R, I, X
T84	Phosphate Kiln	E, U, H, V, D, W, N, S, J, R, I, X
T85	Coke Oven	E, U, H, V, D, W, N, S, J, R, I, X
T86	Blast Furnace	E, U, H, V, D, W, N, S, J, R, I, X
T87	Smelting, Melting or Refining Furnace	E, U, H, V, D, W, N, S, J, R, I, X
T88	Titanium Dioxide Chloride Process Oxidation Reactor	E, U, H, V, D, W, N, S, J, R, I, X
T89	Methane Forming Furnace	E, U, H, V, D, W, N, S, J, R, I, X
T90	Pulping Liquor Recovery Furnace	E, U, H, V, D, W, N, S, J, R, I, X
T91	Combustion Device Used in Recovery of Sulfur Values from Spent Sulfuric Acid	E, U, H, V, D, W, N, S, J, R, I, X
T92	Halogen Acid Furnace	E, U, H, V, D, W, N, S, J, R, I, X
T93	Other Industrial Furnaces	E, U, H, V, D, W, N, S, J, R, I, X
T94	Containment Building-Treatment	E, U, H, V, D, W, N, S, J, R, Y, C
X01	<u>Miscellaneous (Subpart X):</u> Open Burning/Open Detonation	G, E, U, L, H, V, D, W, N, S, J, R, Y, C, B, A, Q, F, I, X
X02	Mechanical Processing	E, U, H, V, D, W, N, S, J, R
X03	Thermal Unit	U, V, J, D, R, W, S, N, I, X
X04	Geologic Repository	G, L, Y, C, A, F
X99	Other Subpart X	G, E, U, L, H, V, D, W, N, S, J, R, Y, C, B, A, Q, F, I, X

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Documents for Part B

(2) Permit Applicants' Guidance Manual for the General Facility Standards of 40 CFR 264, SW-968, October 1983.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<b>PART B - FACILITY DESCRIPTION</b>	B-1
<b>B-1     <u>General Description</u></b>	
A general description of the facility. This description should include: {270.14 (b)(1) and 15A NCAC 13A .0113(c)(6)} [Guidance(2) - page 5-3]	
- Facility Name;	
- Name of owner;	B-1
- Location/address;	B-1
- New or existing;	B-1
- Size (acres, number of units);	B-1
- Type of facility (on-site, off-site; storage, treatment, disposal);	B-1
- Nature of the business;	B-1
- Waste types and quantities stored, treated, and/or disposed; and	B-1 through B-5
- For off-site facilities, the types of industry served;	B-2 through B-4
- For on-site facilities, a description of the process(es) involved in the generation of hazardous waste.	B-1 and -2
<b>B-2     <u>Topographic Map</u></b>	B-6, Figure B-1
<b>B-2a    <u>General Requirements</u></b>	
A topographic map showing the facility and a distance of 1000 feet around it. The following information is required: {270.14(b)(19) and 15A NCAC 13A .0113(c)(6)}	
- Scale 1 in = 200 ft; {270.14(b)(19)}	
- Contours sufficient to show surface water flow; {270.14(b)(19)}	B-6, Figure B-1, -3
- Extend 1000 ft. beyond property; {270.14(b)(19)}	B-6, Figure B-1, -3
- Map scale; {270.14(b)(19)(i)}	B-6, Figure B-1, -3
- Map date; {270.14(b)(19)(i)}	B-6, Figure B-1 (1981)
- 100-yr floodplain;	B-9, Figure B-7

Subject Requirement and 40 CFR Reference	Location in Application and Comments
{270.14(b)(19)(ii)}	
- Surface waters (including intermittent streams); {270.14(b)(19)(iii)}	B-6, Figure B-1
- Surrounding land uses; {270.14(b)(19)(iv) and 15A NCAC 13A .0113(c)(4)}	B-7, Figure B-4
- Wind rose; {270.14(b)(19)(v)}	B-7, Figure B-5
- Map orientation; {270.14(b)(19)(vi)}	B-6, Figures B-1 and -3
- Legal boundaries; {270.14(b)(19)(vii)}	B-6, Figure B-1 and -3
- Location of access control; {270.14(b)(19)(viii)}	B-6, Figure B-2 and -6
- Injection and withdrawal wells both on-site and off-site; {270.14(b)(19)(ix)}	B-6
- Buildings and structures; {270.14(b)(19)(x)}	B-6, Figures B-2 and D-1
- Storm, sanitary and process sewers; {270.14(b)(19)(x)}	B-6, Figure B-2
- Loading and unloading areas; {270.14(b)(19)(x)}	B-6, Figure B-2
- Fire control facilities; {270.14(b)(19)(x)}	B-6, Figures B-2 and D-1
- Flood control or drainage barriers; {270.14(b)(19)(xi)}	B-6, Figure B-2
- Run-off control systems; {270.14(b)(19)(x)}	B-6, Figure D-1
- Location of hazardous waste units; {270.14(b)(19)(xii)}	B-6, Figure B-2
- Location of solid waste management units; and {270.14(d)(1)(i)}	B-6
- Access and internal roads. {270.14(b)(19)(x)}	B-6, Figure B-6
For large facilities, the use of other scales may be acceptable on a case-by-case basis. {Note following 270.14(b)(19)}	B-6
B-2b <u>Additional Topographic Requirements for Land Storage, Treatment and Disposal Facilities</u>  (See Checklist Module E for Topographic Map Requirements.) {270.14(c)(3), and (c)(4)(i), 264.95, and 264.97}	B-7
B-3 <u>Traffic Information</u>  A description of the means of transporting hazardous wastes.  All facilities should describe movement of waste on the facility. Description must include: {270.14(b)(10)}  - Estimated volume - Traffic pattern - Traffic control - Access road(s) surfacing and load-bearing capacity.	B-8
Off-site facilities should also describe movement of waste to the facility from the point to where it leaves the nearest major highway.	

Subject Requirement and 40 CFR Reference	Location in Application and Comments
{15A NCAC 13A .0113(c)(5)} [Guidance(2) - page 5-136]	
B-4 <u>Location Information</u>  B-4a <u>Seismic Considerations</u>  For new facilities only, the applicant must identify the political jurisdiction (county, township, or election district) in which the facility will be located. If the facility is proposed to be located in any of the political jurisdictions specified in Part 264 Appendix VI, the applicant must prove that the facility is located at least 3000 ft from any fault where movement has taken place in Holocene time or that no such faults pass within 200 ft of the portions of the facility used for treatment, storage, or disposal of hazardous waste. Proof may come from geologic studies, aerial photographs, field observations, or subsurface investigations. All information gathered must be acceptable by a geologist experienced in evaluating seismic activity. {270.14(b)(11)(i) and (ii), 264.18(a), and 264 Appendix VI} [Guidance(2) pages 5-144 and 145]	B-9
B-4b <u>Floodplain Standard</u>  Documentation of whether or not the facility is located within a 100-yr floodplain including the source of data (Federal Insurance Administration Map or other maps and calculations). If a map other than a FIA map is used, demonstration of equivalent mapping technique should be provided. If located in a 100-yr floodplain include: {270.14(b)(11)(iii) and Comment following 270.14(b)(11)(iii)}  - 100-yr floodplain level, {270.14(b)(11)(iii)}	B-9, Figure B-7
- Other special flooding factors (e.g., wave action) that must be considered to withstand washout. {270.14(b)(11)(iii)}	B-9
B-4b(1) <u>Demonstration of Compliance</u>  For facilities located within the 100-yr floodplain, a description of how the facility is designed, constructed, operated, and maintained to prevent washout of any hazardous waste during a flood. Either of the following may be used: {270.14(b)(11)(iv) and 264.18(b)}	B-9
B-4b(1)(a) <u>Flood Proofing and Flood Protection</u>  A structural or other engineering study showing how design of the tanks, containers, or waste piles and the flood proofing and protection devices at the facility will prevent washout including: {270.14(b)(11)(iv)}  - Engineering analysis of hydrodynamic and hydrostatic forces, {270.14(b)(11)(iv)(A)}	B-9
- Structural or other engineering studies of hazardous waste units and flood protection devices. {270.14(b)(11)(iv)(B)}	B-9
B-4b(1)(b) <u>Flood Plan</u>	B-9

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>Description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. The plan must address the following: {270.14(b)(11)(iv)(C)}</p> <ul style="list-style-type: none"> <li>- Timing of waste movement related to flood levels; {270.14(b)(11)(iv)(C)(1)}</li> </ul>	
<ul style="list-style-type: none"> <li>- Estimated time to move the waste; {270.14(b)(11)(iv)(C)(1)}</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Description of the location to which the waste will be moved and proof of the receiving facility's eligibility to receive hazardous waste; {270.14(b)(11)(iv)(C)(2)}</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Procedures, equipment, and personnel to be used and the means to ensure that these resources will be available; {270.14(b)(11)(iv)(C)(3)}</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Potential for accidental discharge of waste during movement of waste. {270.14(b)(11)(iv)(C)(4)}</li> </ul>	B-9
<p>B-4b(2) <u>Plan for Future Compliance with Floodplain Standard</u></p> <p>For facilities located within the 100-yr floodplain that do not comply with the floodplain standard, a plan showing how and when the facility will be brought into compliance. A compliance schedule must be included. {270.14(b)(11)(v)}</p>	B-9
<p>B-4b(3) <u>Waiver for Land Storage and Disposal Facilities (Existing Facilities Only)</u></p> <p>If a waiver from the Floodplain Standard is requested, the owner or operator must demonstrate that there will be no adverse effects on human health or the environment if washout occurs. The following factors must be considered in this demonstration: {264.18(b)(1)(ii)}</p> <ul style="list-style-type: none"> <li>- Volume and physical and chemical characteristics of the waste; {264.18(b)(1)(ii)(A)}</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Concentration of hazardous constituents that would potentially affect surface waters; {264.18(b)(1)(ii)(B)}</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Impact of such concentration on the current or potential uses of and water quality standard established for the affected surface waters; and {264.18(b)(1)(ii)(C)}</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Impact of hazardous constituents on the sediments of affected surface waters or the soils or the 100-yr floodplain. {264.18(b)(1)(ii)(D)}</li> </ul>	B-9
<p>B-4c <u>Additional North Carolina Location Standards</u></p> <p>The following minimum separation distances shall be required of all hazardous waste management facilities except that existing facilities shall be required to meet these distances to the maximum extent feasible. {15A NCAC 13A .0109(r)(2), .0113(c)(3) and .0113(c)(5)}</p>	B-9

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- Hazardous waste management facilities shall be located at least 0.25 miles from institutions such as schools, hospitals, prisons, etc. { 15A NCAC 13A .0109(r)(2)(A) and .0113(c)(5) }</li> </ul>	
<ul style="list-style-type: none"> <li>- Hazardous waste treatment and storage facilities shall:                             <ul style="list-style-type: none"> <li>• store and/or treat all hazardous waste a minimum of 50 feet from the property line of the facility; and</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• store and/or treat all ignitable, incompatible, or reactive wastes a minimum of 200 feet from the facility property line if the area adjacent to the facility is zoned for any use other than industrial or is not zoned. { 15A NCAC 13A .0109(r)(2)(B) }</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Hazardous waste landfills, long-term storage facilities, land treatment facilities, and surface impoundments shall be located 200 feet from the facility property line. { 15A NCAC 13A .0109(r)(2)(C)(i) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Hazardous waste landfills, long-term storage facilities, and surface impoundments shall be constructed so that the bottom of the facility is 10 feet or more above the historical high ground water level. { 15A NCAC 13A .0109(r)(2)(C)(ii) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Hazardous waste landfills, long-term storage facilities, land treatment facilities, and surface impoundments shall be located at least 1,000 feet from the zone of influence of any existing off-site ground water well used for drinking water. { 15A NCAC 13A .0109(r)(2)(C)(iii) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Hazardous waste landfills, long-term storage facilities, land treatment facilities, and surface impoundments shall be located outside the zone of influence of any existing or planned on-site drinking water well. { 15A NCAC 13A .0109(r)(2)(C)(iii) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>- Hazardous waste treatment and storage facilities for liquid waste that is TC toxic, toxic, or acutely toxic and is stored in tanks or containers shall not be located:                             <ul style="list-style-type: none"> <li>• in the recharge area of an aquifer which is designated as an existing sole drinking water source unless an adequate secondary containment system is constructed and the facility can demonstrate no unreasonable risk to public health; { 15A NCAC 13A .0109(r)(2)(D)(i) }</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• Within 200 feet of surface water impoundments or surface water streams with continuous flow; { 15A NCAC 13A .0109(r)(2)(D)(ii) }</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• In an area that will allow direct surface or subsurface discharge to WS-I, WS-II, or SA waters or a Class III Reservoir as defined in 15A NCAC 2B .0200 and 15A NCAC 18C .0102; { 15A NCAC 13A .0109(r)(2)(D)(iii) }</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• In an area that will allow direct surface or subsurface discharge to the watershed for a Class I or Class II Reservoir as defined in 15A NCAC 18C .0102; { 15A NCAC 13A .0109(r)(2)(D)(iv) }</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• Within 200 feet horizontally of a 100-year floodplain elevation; { 15A NCAC 13A .0109(r)(2)(D)(v) }</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• Within 200 feet of a seismically active area; and</li> </ul> </li> </ul>	B-9

Subject Requirement and 40 CFR Reference	Location in Application and Comments
{ 15A NCAC 13A .0109(r)(2)(D)(vi) }	
<ul style="list-style-type: none"> <li>• Within 200 feet of a mine cave or cavernous bedrock. { 15A NCAC 13A .0109(r)(2)(D)(vii) and .0113(c)(3) }</li> </ul>	B-10
<ul style="list-style-type: none"> <li>- A hazardous waste landfill, long-term storage, or a surface impoundment facility shall not be located: <ul style="list-style-type: none"> <li>• In the recharge area of an aquifer which is an existing sole drinking water source; { 15A NCAC 13A .0109(r)(4)(A)(i) }</li> </ul> </li> </ul>	B-9
<ul style="list-style-type: none"> <li>• Within 200 feet of a surface water stream with continuous flow as defined by the United States Geological Survey; { 15A NCAC 13A .0109(r)(4)(A)(ii) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>• In an area that will allow direct surface or subsurface discharge to WS-I, WS-II or SA waters or a Class III Reservoir as defined in 15A NCAC 2B .0200 and 15A NCAC 18C .0102; { 15A NCAC 13A .0109(r)(4)(A)(iii) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>• In an area that will allow direct surface or subsurface discharge to a watershed for a Class I or II Reservoir as defined in 15A NCAC 18C .0102; { 15A NCAC 13A .0109(r)(4)(A)(iv) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>• Within 200 feet horizontally of a 100-year flood hazard elevation; { 15A NCAC 13A .0109(r)(4)(A)(v) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>• Within 200 feet of a seismically active area as defined in (c) of this Rule; and { 15A NCAC 13A .0109(r)(4)(A)(vi) }</li> </ul>	B-9
<ul style="list-style-type: none"> <li>• Within 200 feet of a mine, cave or cavernous bedrock. { 15A NCAC 13A .0109(r)(4)(A)(vii) }</li> </ul>	B-10
B-5 <u>Additional North Carolina Requirements</u>	B-10
<p>B-5a <u>Monitoring Wells for New Facilities</u></p> <p>The owners and operators of all new hazardous waste management facilities shall construct and maintain a minimum of two observation wells, one upgradient and one downgradient of the proposed facility; and shall establish background groundwater concentrations and monitor annually for all hazardous wastes that the owner or operator proposes to store, treat, or dispose at the facility. { 15A NCAC 13A .0109(r)(6) }</p>	
B-5b <u>Public Participation for New Facilities</u>	B-10
<p>The owners and operators of all new hazardous waste facilities shall demonstrate that the community has had an opportunity to participate in the siting process by complying with 15A NCAC 13A .0109(r)(7) and providing the following with the permit application: { 15A NCAC 13A .0109(r)(7) and .0113(c)(1) }</p> <ul style="list-style-type: none"> <li>- Copies of the public notices for the two public meetings. { 15A NCAC 13A .0109(r)(7)(A) and (C) }</li> </ul>	
<ul style="list-style-type: none"> <li>- Copies of the transcripts from both of the public meetings. { 15A NCAC 13A .0109(r)(7)(A) and (C) }</li> </ul>	B-10
<ul style="list-style-type: none"> <li>- Copies of all other relevant written material distributed or</li> </ul>	B-10

Subject Requirement and 40 CFR Reference	Location in Application and Comments
used at the meeting. { 15A NCAC 13A .0109(r)(7)(C)}	

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Document for Part C

(3) 'Waste Analysis At Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes'; A Guidance Manual. US EPA; Solid Waste and Emergency Response (OS-520); PB94-963603; OSWER 9938.4-03; April 1994.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p><b>PART C - WASTE ANALYSIS PLAN</b></p> <p>The Waste Analysis Plan (WAP) should describe the chemical and physical properties of the wastes managed and the procedures implemented to obtain detailed chemical and physical data on the wastes in order to insure proper storage, treatment, and disposal as well as compliance with the land disposal restriction (LDR) program. Requirements of the WAP include: {270.14(b)(2)&amp;(3), 264.13, 268.7}</p>	C-1
<p><b>C-1 <u>Waste Management and Identification</u></b></p> <p>Provide a general description of the waste management activities and a description of the wastes managed at the facility. Include sufficient, yet succinct information on the following: {264.13(a)} [Guidance(3) - Section 2.1 &amp; Appendix A]</p>	C-1
<p><b>C-1a <u>Waste Management Processes and Activities</u></b></p> <p>Provide a brief description of the processes and activities that are used to manage wastes. This information may include facility diagrams, narrative process descriptions, and other data relevant to the waste management processes subject to waste analysis; or reference applicable sections of the application. For off-site TSDFs, the WAP should include a brief description of each generator's process contributing wastes to the facility. A statement that a brief description will be obtained, updated, and kept on file as part of the operating record may be provided along with a brief description of the generator's processes for the categories of wastes managed at the facility. (see C-5a) {264.13(a) &amp; (b)(5)} [Guidance(3) - Section 2.1.1]</p>	C-1
<p><b>C-1b <u>Waste Identification/Classification</u></b></p> <p>A detailed chemical and physical analysis of a representative sample of each waste managed at the facility must be obtained. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with Part 264 and Part 268 requirements; or conditions of the permit issued under Part 270. A laboratory report of the results of the analysis should be provided. Clearly</p>	C-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
identify and describe the following: {270.14(b)(2), 264.13(a)(1)} [Guidance(3) - Section 2.1.2]	
- Each hazardous waste managed,	
- Each process generating these wastes,	C-2
- Rationale for identifying each waste as hazardous,	C-2
- Appropriate EPA waste classifications including EPA waste code and classification under LDR regulations as wastewater or non- waste water,	C-2
- If necessary, any wastes or waste properties that will not be managed by the facility (i.e. inappropriate waste).  (For facilities which manage a large number of waste streams, sufficient information must be provided for each waste type/category in order to treat, store, or dispose of the wastes properly.)	C-2
For new facilities, existing published or documented data on the hazardous waste or on hazardous waste from a similar process may be provided. {264.13(a)(2)}	C-2
C-1c <u>Description of Hazardous Waste Management Units (HWMU)</u>  In order to adequately identify all appropriate waste analysis parameters (see C-2) for each waste, a brief description of the specific operating conditions and process constraints for each HWMU may be required. The following information should be evaluated and included in the WAP as necessary: {264.13(a)(1)} [Guidance(3) - Section 2.1.3 & Appendix E]	C-3
- A physical description of each HWMU, the waste types managed in each unit, and the management methods for each waste or unit,	C-3
- Ignitable, reactive, or incompatible wastes managed,	C-3
- Process/design considerations and limitations necessary to ensure that waste management units are operated in a safe manner and meet applicable performance standards,	C-3
- Prohibitions that apply to the facility (e.g. PCB's in incinerator feed, storage of corrosive basic waste, unpermitted RCRA hazardous waste codes).	C-3
C-1c(1) <u>Containers</u>  Provide the following specific information for wastes managed in container management units:	C-6
- Describe the compatibility of the hazardous wastes to be managed with respect to the containers used. {264.172}	C-6
- For each waste to be managed, identify ignitable, reactive, and incompatible wastes. {264.13(a)(1), 264.176, 264.177}	C-6
- For storage areas that store containers holding wastes that do not contain free liquids, describe test procedures and results or provide other documentation or information which show	C-6

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>that wastes do not contain free liquids. The test for free liquids is the Paint Filter Liquids, Test Method 9095 in SW-846. {270.15(b)(1)}</p>	
<p>C-1c(2) <u>Tanks</u></p> <p>Provide the following specific information for wastes managed in tanks:</p> <ul style="list-style-type: none"> <li>- Specify the specific gravity of the wastes to be managed in each tank system. {264.191(a)&amp;(b), 264.192(a)}</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- For each waste to be managed, identify ignitable, reactive, and incompatible wastes. {264.13(a)(1), 264.198, 264.199}</li> </ul>	C-6
<p>C-1c(3) <u>Waste Piles</u></p> <p>For waste piles that are inside or under a structure when an exemption from 264.251 is requested, the following must be provided:</p> <ul style="list-style-type: none"> <li>- Test procedures and results, or other documentation or information, which shows that the wastes do not contain free liquids when placed on the pile. The test for free liquids is the Paint Filter Liquids Test, Method 9095 in SW-846. {264.250(c)(1)}</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- Demonstration that the wastes will not generate leachate through decomposition or other reactions while being stored. {264.250(c)(4)}</li> </ul>	C-6
<p>C-1c(4) <u>Surface Impoundments</u></p> <p>Provide the following specific information for wastes managed in surface impoundments:</p> <ul style="list-style-type: none"> <li>- Describe the compatibility of the hazardous wastes to be managed with respect to the liner. {264.221(a)(1)}</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- If applicable, provide test data to verify that wastes are exempt from the land disposal restrictions under Section 268.4(a). {264.13(b)(7)}</li> </ul>	C-6
<p>C-1c(5) <u>Landfills</u></p> <p>Provide the following specific information for wastes managed in landfills:</p> <ul style="list-style-type: none"> <li>- Results of the Paint Filter Liquids Test, Method 9095 in SW-846, showing that containerized or bulk wastes do not contain free liquids. {264.314(c)}</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- Describe the compatibility of the hazardous wastes to be managed with respect to the liner. {264.301(a)(1)(i)}</li> </ul>	C-6
<p>C-1c(6) <u>Land Treatment</u></p> <p>Provide the following specific information for wastes managed in</p>	C-6

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>land treatment units:</p> <ul style="list-style-type: none"> <li>- For each waste that will be applied to the treatment zone, provide a demonstration that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone. {264.272(a)}</li> </ul>	
<ul style="list-style-type: none"> <li>- Concentration of Appendix VIII constituents. {264.272(c)(1)(i)}</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- Cadmium concentration when foodchain crops are grown in the treatment zone. {264.276(b)}</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- The following additional information should be provided: <ul style="list-style-type: none"> <li>• percent moisture</li> <li>• specific gravity or bulk density</li> <li>• conductivity</li> <li>• acidity or alkalinity</li> <li>• TOC</li> <li>• concentration and identification of VOCs</li> </ul> </li> </ul> <p>[Guidance(3) - Section 2.2.4]</p>	C-6
<p>C-1c(7) <u>Drip Pads</u></p> <p>Provide the following specific information for wastes managed on drip pads:</p> <ul style="list-style-type: none"> <li>- Describe the compatibility of the hazardous wastes to be managed with respect to the liner. {264.573(b)(1)(i)&amp;(2)(i)}</li> </ul>	C-6
<p>C-1c(8) <u>Containment Buildings</u></p> <p>Provide the following specific information for wastes managed in containment buildings:</p> <ul style="list-style-type: none"> <li>- If applicable, provide results of the Paint Filter Liquids Test, Method 9095 in SW-846, showing that wastes do not contain free liquids. {264.1101(b)}</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- Describe the compatibility of the hazardous wastes to be managed with respect to the materials of construction. {264.1101(b)(3)(iii)}</li> </ul>	C-6
<p>C-1c(9) <u>Incinerators</u></p> <p>For each waste or mixture of wastes to be burned, the following must be provided as applicable:</p> <ul style="list-style-type: none"> <li>- Identification and quantification of Appendix VIII constituents which are reasonably expected to be in the waste. The constituents excluded from analysis must be identified and the basis for exclusion stated.</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- heat content</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- viscosity or physical form</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- chlorine content</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- ash content</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- percent moisture</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- pH</li> </ul>	C-6
<ul style="list-style-type: none"> <li>- total metals</li> </ul>	C-6

Subject Requirement and 40 CFR Reference	Location in Application and Comments
{264.341(a), 270.62(b)(2)(i)}	
<p>C-1c(10) <u>Boilers and Industrial Furnaces</u></p> <p>For each feed stream, including hazardous waste, other fuels, and industrial furnace feed stocks as fired, the following must be provided as applicable:</p> <ul style="list-style-type: none"> <li>- Identification and quantification of Appendix VIII constituents which are reasonably expected to be in the waste. The constituents excluded from analysis must be identified and the basis for exclusion stated.</li> </ul>	C-6
- heat content	C-6
- viscosity or physical form	C-6
- chlorine content	C-6
- ash content	C-6
- percent moisture	C-6
- pH	C-6
<ul style="list-style-type: none"> <li>- total metals(antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, in addition to nickel and selenium)</li> </ul> <p>{266.102(b)(1), 270.66(c)(1)&amp;(c)(2)(i)&amp;(ii)}</p>	C-6
<ul style="list-style-type: none"> <li>- If blending is to occur prior to firing, provide a detailed analysis of the hazardous waste prior to blending and of the material with which it is blended, the blending ratios, and a description of blending procedures.</li> </ul> <p>{270.66(c)(2)(iii)}</p>	C-6
<p>C-1d <u>Waste Re-Evaluation Frequencies</u></p> <p>Specify the frequency with which the initial analysis (see C-1b) will be reviewed or repeated which is sufficient to ensure that the waste analysis information is accurate and up-to-date. At a minimum, each type of waste must be analyzed on at least an annual basis. In addition, the analysis must be repeated:</p> <p>{264.13(a)(3), 264.13(b)(4)}</p> <p>[Guidance(3) - Section 2.5]</p> <ul style="list-style-type: none"> <li>- When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed, and</li> </ul> <p>{264.13(a)(3)(i)}</p>	C-6
<ul style="list-style-type: none"> <li>- For off-site facilities, when the results of an inspection indicate that the waste does not match the waste on the accompanying manifest or shipping paper.</li> </ul> <p>{264.13(a)(3)(ii)}</p>	C-6
<p>C-2 <u>Parameter Selection and Rationale</u></p> <p>The WAP must include procedures for initial and annual waste analysis, as well as procedures for fingerprint analysis to be implemented when wastes are received from off-site. (see C-5) Provide a list of parameters chosen for initial, annual and fingerprint analysis and an explanation of how these parameters will provide sufficient information on the chemical and physical properties of the waste to ensure safe and effective waste management. The chosen parameters must provide sufficient information in the following categories:</p> <p>{264.13(b)(1), 268.7}</p>	C-6

Subject Requirement and 40 CFR Reference	Location in Application and Comments
[Guidance(3) - Section 2.2]	
<p>C-2a <u>Waste Identification</u></p> <p>Specify parameters necessary to ensure that wastes generated and/or accepted are accurately identified. Include provisions to ensure applicable LDR requirements are fulfilled. {264.13(b)(1)} [Guidance(3) - Section 2.2.1]</p>	C-7
<p>C-2b <u>Identification of Incompatible and Inappropriate Wastes</u></p> <p>Specify parameters to identify ignitable, reactive, or incompatible wastes or wastes that are inappropriate given the type of management practices used by the facility. {264.13(b)(1)} [Guidance(3) - Section 2.2.1 &amp; 2.6.2]</p>	C-8
<p>C-2c <u>Process and Design Considerations</u></p> <p>Specify parameters to ensure that wastes accepted for management will not exceed process and design operating limitations and that process performance standards can be met. {264.13(b)(1)} [Guidance(3) - Section 2.2.1]C-8</p>	C-8
<p>C-2d <u>TSDF Process Vents and Equipment</u></p> <p>Wastes must be analyzed in accordance with methods specified (SW-846 Methods 9060 or 8240) in order to identify and verify the total organic concentration of wastes managed in units subject to 264, Subpart AA. Wastes with a total organic concentration equal to or greater than 10 ppmw and which are managed in specific units are subject to Subpart AA. Wastes with a total organic concentration equal to or greater than 10% by weight are subject to Subpart BB. {264.1034(d); 264.1063(d)}</p>	C-8
<p>C-2e <u>Exemption from Subpart CC</u></p> <p>For facilities seeking an exemption to the air emission standards of Subpart CC, provide the following: {264.13(b)(8)}</p> <ul style="list-style-type: none"> <li>- The procedures and schedules for waste sampling and analysis, and the analysis of test data to verify the exemption. {264.13(b)(8)(i)}</li> </ul>	C-8
<ul style="list-style-type: none"> <li>- Each generator's notice and certification of the volatile organic concentration in the waste if the waste is received from off-site. {264.13(b)(8)(ii)}</li> </ul>	C-8
<p>C-2f <u>Unit Specific Parameters</u></p> <p>Examples of parameters for complying with waste management requirements for specific hazardous waste management units are: {264.13(b)(1)&amp;(6)} [Guidance(3) - Table 2-5]</p>	C-9
<ul style="list-style-type: none"> <li>- Containers             <ul style="list-style-type: none"> <li>• PH</li> <li>• Flash Point</li> <li>• Total and Amenable Cyanide/Sulfide</li> </ul> </li> </ul>	C-9

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>• Appropriate Hazardous Constituents</li> </ul>	
<ul style="list-style-type: none"> <li>- Tanks                             <ul style="list-style-type: none"> <li>• Specific gravity</li> <li>• pH</li> <li>• Flash Point</li> <li>• Halogens</li> <li>• Total and Amenable Cyanide/Sulfide</li> <li>• Oxidizing Potential</li> <li>• Appropriate Hazardous Constituents</li> </ul> </li> </ul>	C-9
<ul style="list-style-type: none"> <li>- Waste Piles                             <ul style="list-style-type: none"> <li>• PH</li> <li>• Total and Amenable Cyanide/Sulfide</li> <li>• Oxidizing Potential</li> <li>• Ketones</li> <li>• Total Chlorine</li> <li>• Liner Compatibility Tests</li> <li>• Appropriate Hazardous Constituents</li> </ul> </li> </ul>	C-9
<ul style="list-style-type: none"> <li>- Surface Impoundments                             <ul style="list-style-type: none"> <li>• pH</li> <li>• Total Suspended Solids(TSS)</li> <li>• Flash Point</li> <li>• Total and Amenable Cyanide/Sulfide</li> <li>• Oxidizing Potential</li> <li>• Total Chlorine</li> <li>• Liner Compatibility Tests</li> <li>• Total Petroleum Hydrocarbons</li> <li>• Appropriate Hazardous Constituents</li> </ul> </li> </ul>	C-9
<ul style="list-style-type: none"> <li>- Landfills                             <ul style="list-style-type: none"> <li>• Free Liquid Content</li> <li>• pH</li> <li>• Total Chlorine</li> <li>• Total Nitrogen</li> <li>• Liner Compatibility Tests</li> <li>• Total and Amenable Cyanide/Sulfide</li> <li>• Chemical Compatibility Evaluations</li> <li>• Appropriate Hazardous Constituents</li> </ul> </li> </ul>	C-9
<ul style="list-style-type: none"> <li>- Land Treatment                             <ul style="list-style-type: none"> <li>• pH</li> <li>• Total Metals</li> <li>• Total and Amenable Cyanide/Sulfide</li> <li>• Electrical Conductivity</li> <li>• Appropriate Hazardous Constituents</li> </ul> </li> </ul>	C-9
<ul style="list-style-type: none"> <li>- Incinerators                             <p>Throughout normal operation, sufficient waste analysis must be conducted to verify that the waste feed to the combustion unit is within the physical and chemical limits to be specified in the permit based on the results of the Trial Burn. The following analysis must be conducted as applicable:</p> <ul style="list-style-type: none"> <li>• Appendix VIII constituents</li> <li>• heat content</li> <li>• viscosity or physical form</li> <li>• chlorine content</li> <li>• ash content</li> <li>• percent moisture</li> <li>• pH</li> <li>• total metals</li> </ul> </li> </ul> <p>{264.341(b)}</p>	C-9

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>[Guidance(3) - Section 2.6.1.1]</p> <p>- Boilers and Industrial Furnaces Throughout normal operation, sufficient waste analysis must be conducted to verify that the waste feed to the combustion unit is within the physical and chemical limits to be specified in the permit based on the results of the Trial Burn. For each feed stream, including hazardous waste, other fuels, and industrial furnace feed stocks as fired, the following analysis must be conducted as applicable:</p> <ul style="list-style-type: none"> <li>• Appendix VIII constituents</li> <li>• heat content</li> <li>• viscosity or physical form</li> <li>• chlorine content</li> <li>• ash content</li> <li>• percent moisture</li> <li>• pH</li> <li>• total metals(Ag, As, Ba, Be, Cd, Cr, Pb, Hg, Sb, Ti, Se, Ni)</li> </ul> <p>{266.102(b)(2)}</p> <p>[Guidance(3) - Section 2.6.1.1]</p>	C-9
<p>C-3 <u>Sampling Procedures</u></p> <p>Specify the sampling method which will be used to obtain a representative sample of each waste or waste type to be analyzed. A representative sample may be obtained using either one of the sampling methods described in Appendix I of Part 261 or an equivalent method. Required information includes:</p> <p>{264.13(b)(3)}</p> <p>[Guidance(3) - Section 2.3]</p>	C-9
<p>C-3a <u>Sampling Methods and Equipment</u></p> <p>- Identify the sampling procedures and techniques (e.g. grab, composite) that will be used to obtain a representative sample of each type of waste to be analyzed. Specify the method number. Provide a description of and justification for any modified or non-standard procedures which are proposed.</p> <p>{264.13(b)(3) &amp; 260.21}</p> <p>[Guidance(3) - Section 2.3.1]</p>	C-9
<p>- Identify all sampling equipment and discuss applicability of equipment considering the chemical and physical characteristics of the wastes, as applicable.</p> <p>{264.13(b)(3)}</p> <p>[Guidance(3) - Section 2.3.2]</p>	C-9
<p>- Identify procedures for maintenance and decontamination of all sampling equipment.</p> <p>{264.13(b)(3)}</p> <p>[Guidance(3) - Section 2.3.3]</p>	C-9
<p>C-3b <u>Sampling Preservation and Storage</u></p> <p>Specify sample containers, preservation methods(if applicable), and maximum holding times. Specify procedures for proper packing and shipping, if applicable.</p> <p>{264.13(b)(3)}</p> <p>[Guidance(3) - Section 2.3.4]</p>	C-10
<p>C-3c <u>Sampling QA/QC Procedures</u></p>	C-10

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>Describe the QA/QC procedures implemented to insure that technically valid data are obtained, including collecting blanks and duplicates, and chain-of-custody procedures. {264.13(b)(3)} [Guidance(3) - Section 2.3.5]</p>	
<p>C-3d <u>Health and Safety Protocols</u></p> <p>Specify procedures implemented for the protection of sampling personnel. OSHA requirements specified in 29 CFR 1910.120 should be followed. (Inclusion of health and safety procedures in the WAP enhances its use as a hands-on operating manual.) [Guidance(3) - Section 2.3.6]</p>	C-10
<p>C-4 <u>Laboratory Testing and Analytical Methods</u></p> <p>Specify the test methods which will be used to test for each parameter for each waste type managed at the facility. Provide a description of and justification for any modified or non-standard methods. {264.13(b)(2) &amp; 260.21} [Guidance(3) - Sections 2.4 &amp; 2.4.2]</p>	C-10
<p>C-4a <u>On-site Laboratory Procedures</u></p> <p>Describe the procedures implemented to ensure that technically valid data are obtained. Facilities with on-site laboratories must provide a description of their Standard Operating Procedures and QA/QC program. {264.13(b)(2)} [Guidance(3) - Section 2.4.1]</p>	C-11
<p>C-4b <u>Off-site Laboratory Selection</u></p> <p>For facilities that use an off-site laboratory, provide information that the laboratory selected has comprehensive QA/QC programs, technical analytical expertise, and an effective information management system. At a minimum, state that appropriate SW-846 procedures are followed by the lab and that analytical results will include appropriate QA/QC information. {264.13(b)(2)} [Guidance(3) - Section 2.4.1]</p>	C-11
<p>C-5 <u>Additional Requirements for Facilities Receiving Waste Generated Off-site</u></p> <p>C-5a <u>Waste Information for Facilities Receiving Waste Generated Off-site</u></p> <p>For off-site facilities, specify the waste analysis information that generators will supply. Waste information should be provided on a "Waste Profile Sheet" for each waste accepted. A discussion of the following should be provided: {264.13(b)(5)} [Guidance(3) - Sections 2.5 &amp; 2.6.1, Figure 2-11, and Table 2-11]</p> <ul style="list-style-type: none"> <li>- Specify how information provided by the generator is confirmed;</li> </ul>	C-11
<ul style="list-style-type: none"> <li>- Specify sampling procedures for acceptance of a shipment of waste(i.e. the percentage of containers sampled per shipment);</li> </ul>	C-11
<ul style="list-style-type: none"> <li>- Provide specific criteria for the acceptance and rejection of</li> </ul>	C-11

Subject Requirement and 40 CFR Reference	Location in Application and Comments
wastes received from off-site generators;	
- Describe acceptance and rejection procedures.	C-11
<p>C-5b <u>Procedures for Receiving Waste Generated Off-site</u></p> <p>For off-site facilities, the WAP must specify procedures used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that the waste matches the identity of the waste on the accompanying manifest or shipping paper. At a minimum, the plan must describe:                      {264.13(a)(4)&amp;(c)}                      [Guidance(3) - Section 2.6.1]</p> <p>- The procedures which will be used to determine the identity of each movement of waste;                      {264.13(c)(1)}</p>	C-11
- The sampling method which will be used to obtain a representative of the waste; and {264.13(c)(2)}	C-11
- The procedures an off-site landfill receiving containerized hazardous waste will use to determine whether a biodegradable sorbant has been added. {264.13(c)(3)}	C-11
<p>C-6 <u>Provisions for Complying with LDR Requirements</u></p> <p>Generators and TSDFs must conduct waste analysis to determine the regulatory status of wastes with respect to the treatment standards in Part 268, Subpart D. Supporting documentation must be submitted and maintained in the operating record.                      {268.7, 264.13(a)(1), 264.13(b)(6), 268 Subpart C-Prohibitions on Land Disposal}                      [Guidance(3) - Section 2.6.3]</p> <p>- All wastes restricted under the LDRs should be identified.</p>	C-11
- Procedures to ensure that wastes meet applicable LDR treatment standards prior to land disposal should be in place.	C-11

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Documents for Part D-1

(4) 'Manual for Preparing RCRA Part B Permit Applications for Storage in Tanks and Containers'; Prepared by Industrial Extension Service, North Carolina State University and Solid & Hazardous Waste Management Branch, State of North Carolina; January 1983.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<b>PART D - PROCESS INFORMATION</b>	D-1
D-1 <u>Container Storage Area</u>	
D-1a <u>Description of System for Containers with Free Liquids and/or F020, F021, F022, F023, F026, and F027 Wastes</u>  A description of the containment system to demonstrate compliance with 264.175. Show at least the following: {270.15(a)}	
D-1a(1) <u>Basic Design Parameters, Dimensions, and Materials of Construction</u>  Base underlying containers must be capable of containing all liquids until the liquid is collected and removed. Information which should be provided to demonstrate this includes the following: {270.15(a)(1)}	D-1 for Building 488, D-2 for Building 531
- Statement that the base is free of cracks or gaps; {264.175(b)(1)}	
- Demonstration of imperviousness of base to wastes and precipitation; {264.175(b)(1)}	D-1 for Building 488, D-2 for Building 531
- Base design parameters, dimensions, and materials of construction; {270.15(a)(1)} [Guidance(4) - page B-40]	D-1 for Building 488, D-2 for Building 531
- Engineering evaluation of structural integrity of the base (This evaluation should be sufficient to verify that the base material and thickness are adequate to support the weight of the containers, vehicles, etc.); and {270.15(a)(1)} [Guidance(4) - page B-40]	D-1 for Building 488, D-2 for Building 531
- Discussion of compatibility of base with wastes. [Guidance(4) - page B-40]	D-1 for Building 488, D-2 for Building 531
D-1a(2) <u>Description of How Design Promotes Drainage or How Containers Are Kept From Contact With Standing Liquids in Containment System</u>	D-3

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>Base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or otherwise protected from contact with accumulated liquids. For this requirement, the applicant should address where applicable: {270.15(a)(2)}</p> <ul style="list-style-type: none"> <li>- Stacking of containers on pallets, plywood sheets, and/or racks; or [Guidance(4) - page B-41]</li> </ul>	
<ul style="list-style-type: none"> <li>- Grading of base; and {264.175(b)(2)}</li> </ul>	D-3
<ul style="list-style-type: none"> <li>- Drainage design and removal system, including trenches and sumps. {264.175(b)(2)} [Guidance(4) - page B-41]</li> </ul>	D-3
<p>D-1a(3) <u>Capacity of the Containment System Relative to the Number and Volume of Containers To Be Stored</u></p> <p>Sufficient capacity to contain 10 percent of the volume of containers or the volume of the largest container, whichever is greater. Information that should be included to satisfy this requirement is: {270.15(a)(3)}</p> <ul style="list-style-type: none"> <li>- Volume of largest container, {264.175(b)(3)}</li> </ul>	D-3
<ul style="list-style-type: none"> <li>- Total volume of containers, {270.15(a)(3) and 264.175(b)(3)}</li> </ul>	D-4, -5, and -6 for Building 488, D-6, -7, and -8 for Building 531
<ul style="list-style-type: none"> <li>- Containment structure capacity, {264.175(b)(3)}</li> </ul>	D-4, -5, and -6 for Building 488, D-7 and -8 for Building 531
<ul style="list-style-type: none"> <li>- Capacity of run-off collection system, and {264.175(b)(4)} [Guidance(4) - page B-41]</li> </ul>	D-4, -5, and -6 for Building 488, D-7 and -8 for Building 531
<ul style="list-style-type: none"> <li>- Geographic storm intensity/frequency data. [Guidance(4) - page B-41]</li> </ul> <p>Note that the Hazardous Waste Section considers an extreme precipitation event to be a 25-year, 24-hour rainfall event.</p>	
<p>D-1a(4) <u>Provisions for Preventing or Managing Run-on</u></p> <p>Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to the 10 percent minimum to contain any run-on which might enter the system. {270.15(a)(4)}</p> <ul style="list-style-type: none"> <li>- The applicant should discuss structures used to control run-on such as: <ul style="list-style-type: none"> <li>• Containment system auxiliary structures (curbs, dikes, etc.), and</li> <li>• Engineering grading design.</li> </ul> </li> </ul> <p>[Guidance(4) - pages B-41 through B-42]</p>	D-9

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>- Otherwise, the applicant should provide a description of the</p> <ul style="list-style-type: none"> <li>• Potential run-on, and</li> <li>• Capacity of the collection and removal system design to contain the run-on.</li> </ul> <p>{264.175(b)(4)}</p>	D-9
<p>D-1a(5) <u>How Accumulated Liquids Can Be Analyzed and Removed to Prevent Overflow</u></p> <p>Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in a timely manner as is necessary to prevent overflow of the collection system. Information that must be included is: {270.15(a)(5)}</p> <p>- Removal methods and equipment (sump pump design, piping specifications, location, discharge point, and capacity); {264.175(b)(5)} [Guidance(4) - page B-42]</p>	D-9
<p>- How liquids will be analyzed; and [Guidance(4) - page B-42]</p>	D-9
<p>- Management of accumulated liquid including prevention of overflow. {264.175(b)(5)} [Guidance(4) - page B-42]</p>	D-9
<p>D-1b <u>Containers Without Free Liquids or F020, F021, F022, F023, F026, and F027 Wastes</u></p> <p>For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with 264.175(c) including: {270.15(b)}</p>	D-9
<p>D-1b(1) <u>Test for Free Liquids</u></p> <p>Test procedures and results or other documentation or information to show that the wastes do not contain free liquids. Use of the Paint Filter Test, Method 9095 in SW-846, is recommended. {270.15(b)(1)}</p>	D-9
<p>D-1b(2) <u>Description of Storage Area Design and Operation to Drain and Remove Liquids or How Containers Are Kept From Contact With Standing Liquids</u></p> <p>Containment system not required for containers that do not contain free liquids if: {270.15(b)(2)}</p> <p>- Storage area sloped or otherwise designed and operated to drain and remove liquid resulting from precipitation, or {264.175(c)(1)}</p>	D-9
<p>- Containers elevated or otherwise protected from contact with accumulated liquid. {264.175(c)(2)}</p>	D-9
<p>D-1b(3) <u>Containers With F020, F021, F022, F023, F026, and F027 Wastes</u></p>	D-9

Subject Requirement and 40 CFR Reference	Location in Application and Comments
Containers holding F020, F021, F022, F023, F026, and F027 wastes must be managed in a secondary containment system which meets the requirements of 264.175(b) even if they contain no free liquids. {264.175(d)(1)}	
D-1c <u>Container Management Practices</u>  Description of container management practices. Information that must be included is:  - Type of containers and construction material should include liners (if applicable) manufacturer specifications, dimensions; [Guidance(4) - Pages B-37 through 38]	D-10
- Markings and labels placed on containers; [Guidance(4) - Page B-38]	D-10
- Containers must be made of or lined with materials which are compatible with the hazardous waste to be stored; {264.172}	D-10
- Procedures for handling to avoid rupturing or leaking; {264.173(b)}	D-10, -11
- Waste container always kept closed during storage except when adding or removing waste; {264.173(a)}	D-10
- Weekly inspections of deterioration caused by corrosion or other factors; {264.174}	D-10
- Adequate aisle space for machinery, inspections, and to meet applicable codes (i.e., fire). "Sufficient aisle space" is determined by storage area configuration and corresponding emergency response and inspection procedures. A good rule of thumb is three (3) feet, a minimum of two (2) feet, and four (4) feet between rows which are two pallets wide. However, each facility must be evaluated individually to determine the minimum aisle space necessary for that facility's operation. {264.35} [Guidance(4) - Page B-39]	D-10
- Maximum number, height, volume, and stacking procedures of containers in storage area; [Guidance(4) - Page B-39]	D-10
- Machinery, equipment, procedures used to move containers; and [Guidance(4) - Page B-39]	D-10
- Location of ignitable, reactive and incompatible waste. Note that all hazardous wastes must be located at least 50 feet from the facility's property line, except that ignitable, reactive or incompatible wastes must be located at least 200 feet from the property line if the adjacent area is zoned for any use other than industrial. {270.15(c), 264.176 and 15A NCAC 13A .0109(r)(2)(B)} [Guidance(4) - Page B-39]	D-11
D-1d <u>Special Requirements for Incompatible Wastes</u> {270.15(d)}  - Provide statements that indicate:	D-11

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>• Incompatible wastes or incompatible wastes and materials will not be placed in the same container; and {264.177(a)}</li> <li>• Hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material. {264.177(b)}</li> </ul> <p>This should be elaborated on further in Part F - Procedures to Prevent Hazards.</p>	
<ul style="list-style-type: none"> <li>- A storage container holding a waste that is incompatible with any waste or other materials stored nearby must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. {264.177(c)}</li> </ul>	D-11
<p>D-1e <u>Air Emission Standards</u></p> <p>All hazardous waste placed in containers must be managed in accordance with the requirements of Subpart CC. See Module CC for details. {264.179}</p>	D-11
<p>D-1f <u>Container Labels</u></p> <p>All containers must be labeled with the following information:</p> <ul style="list-style-type: none"> <li>- The words “Hazardous Waste,</li> <li>- The accumulation date</li> <li>- The Hazardous Waste Codes</li> <li>- Generator’s Name</li> <li>- Generator’s Address</li> <li>- Manifest Document Number</li> </ul> <p>Other useful information</p> <ul style="list-style-type: none"> <li>- Description of waste</li> </ul> <p>{262.34(a)(2), (a)(3) and (d)(4)}</p>	D-11

**Checklists Part D-2 through D-9 are Not Applicable.**

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name UNC-CH  
Hazardous Materials Facility  
 EPA ID Number NCD982093783  
 Permit Review Team \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Date Review Completed \_\_\_\_\_

The regulatory checklists are currently undergoing revision. While this checklist has been reformatted, it has not been reviewed for technical content.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
PART E - GROUNDWATER MONITORING	N/A
E-1 <u>Interim Status monitoring Data</u>  Summary of groundwater monitoring data obtained during interim status period. {270.14(c)(1) and 265.90-265.94}	
E-1a <u>Description of Wells</u> {265.91}	N/A
- Number of wells;	
- Locations;	N/A
- Depths and screened intervals;	N/A
- Casing description;	N/A
- Other well construction details;	N/A
- Identifications of upgradient wells and downgradient wells; and	N/A
- Water levels at time of drilling and any changes within 24 hours.	N/A
E-1b <u>Description of Sampling/Analysis Procedures</u> {265.92}	N/A
- Sample Collection;	
- Sample preservation and shipment;	N/A
- Analytical procedures; and	N/A
- Chain-of-custody control.	N/A
E-1c <u>Monitoring Data</u>  All interim status monitoring results must be provided, including the following: {265.92}	N/A
- Copies of each quarterly (from first year) analytical results for each well; {265.92(c)(1)}	
- Copies of subsequent (annual or semi-annual) analytical results for each well; {265.92(d)}	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
- Results of groundwater surface elevation measurements for each sampling event; and {265.92(e)}	N/A
- Initial background arithmetic mean and variance for each indicator parameter based on replicate measurements from upgradient wells during first year. {265.92(c)}	N/A
E-1d <u>Statistical Procedures</u> {265.93}  - Description of the statistical procedures employed to make the required statistical comparisons; and	N/A
- Results of statistical comparisons between upgradient and downgradient well sampling results and first year background values for each indicator parameter.	N/A
E-1e <u>Groundwater Assessment Plan</u>  If required, based on statistical comparison results, the specific plan for a groundwater quality assessment program, along with the results obtained from implementation of the plan. include results of the following determinations, considering (at a minimum) the hazardous constituents listed in Appendix VIII to 40 CFR Part 261. {265.93(d)(2)}  - Whether hazardous waste or hazardous constituents have entered the groundwater;	N/A
- The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater; and	N/A
- Concentrations of hazardous waters or hazardous waste constituents in the groundwater.	N/A
E-2 <u>General Hydrogeologic Information</u>  Identification of uppermost aquifer and aquifers hydraulically interconnected beneath facility, including: {270.14(c)(2)}  - Groundwater flow direction and rate; and	N/A
- Basis for identification.	N/A
E-3 <u>Topographic Map Requirements</u>  Unless exempt from groundwater monitoring requirements, surface impoundments, waste piles, land treatment, and landfill facilities must include the following information on the topographic map: {270.14(c)(2),(3),(4),(i)}  - Groundwater flow direction and rate (isometric graph);	N/A
- Point of compliance;	N/A
- Groundwater monitoring wells;	N/A
- The extent of any plume (horizontal and vertical);	N/A
- Hazardous waste management area; and	N/A
- Property boundary.	N/A
The following required information may be incorporated into the topographic map if possible, or at least should be discussed in the text:	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
- Groundwater flow rate;	
- Boundaries of uppermost aquifer;	N/A
- Underlying interconnection between uppermost aquifer and lower aquifer;	N/A
- Hydraulic downgradient;	N/A
- Waste management area; and	N/A
- Uppermost aquifer.	N/A
(Although many of these items can be shown on a single map, it is allowable to use additional maps to display some of the information. Presentation of all of this information on a single map may sacrifice clarity.)	N/A
E-4 <u>Contaminant Plume Description</u>  Description of any plume of contamination that has already entered groundwater from a regulated unit: {270.14(c)(4) and 261, Appendix VIII}	N/A
- Delineation of extent of the plume on the topographic map;	
- Identification and concentrations of Appendix VIII constituents throughout the plume or maximum concentrations of these constituents in the plume; and	N/A
- Delineation of the vertical extent of the plume in a cross-section. {270.14(c)(2) and 270.14(c)(7)(ii)}	N/A
E-5 <u>General Monitoring Program Requirements</u>  Waiver request - applicant must certify that there will be no migration of liquid to uppermost aquifer during active life and postclosure. If waiver is not requested, applicant must provide detailed plans and an engineering report describing proposed groundwater monitoring program to meet general groundwater monitoring requirements. The following information is required: {270.14(c)(5), 264.97 and 264.90(b)(4)}	N/A
E-5a <u>Description of Wells</u> {264.97(a),(b) and 264.97(c)}	N/A
- Number of wells;	
- Locations;	N/A
- Depths;	N/A
- Casing description;	N/A
- Assurance of unaffected background water measurement; and	N/A
- Assurance of compliance point ground-water measurement.	N/A
E-5b <u>Description of Sampling/Analysis Procedures</u> {264.97(d) and 264.97(e)}	N/A
- Sample collection methods {264.97(f)}	
- Sample preservation/shipment;	N/A
- Analytical procedures;	N/A
- Chain-of-custody control;	N/A
- Documentation of proper sampling and analysis procedures; and	N/A
- Procedure for determination of ground-water elevation with each sample.	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
E-5c <u>Procedures for Establishing Background Quality</u> {264.97(a)(1) and 264.97(g)}  - Representative of background quality not affected by the unit;	N/A
- Each hazardous constituent, or monitoring parameters and other constituents;	N/A
- May include wells not hydraulically upgradient of the waste management area where:	N/A
1. upgradient cannot be determined due to hydrogeologic conditions, and	N/A
2. other wells provide background groundwater quality that is representative or more representative of background than upgradient wells.	N/A
E-5d <u>Statistical Procedures</u>  Use one of following statistical methods (E-5d(1) - (5)) to evaluate groundwater monitoring data for each hazardous constituent, consistent with the following: {264.97(h), 264.97(i)(1),(5) and (6)}  - Conduct test separately for each hazardous constituent in each well;	N/A
- Appropriate for distribution of chemical parameters or hazardous constituents. More than one method necessary if distributions differ;	N/A
- Account for data below the detection limit;	N/A
- Any practical quantification limit (PQL) shall be lowest concentration level within levels of precision and accuracy for routine lab operations; and	N/A
- Procedures to control or correct for seasonal and spatial variability and temporal correlation in data.	N/A
E-5d(1) <u>Parametric Analysis of Variance (ANOVA):</u>  ANOVA followed by multiple comparisons procedures: {264.97(h)(1) and 264.97(i)(2)}  - Include estimation and testing of contrasts between each compliance well's mean and the background mean levels for each constituent.	N/A
- If using individual well comparison procedure, Type 1 error level of no less than 0.01 shall be maintained. If using multiple comparison procedure, Type 1 error level no less than 0.05 for each testing period must be used.	N/A
E-5d(2) <u>Non-parametric ANOVA (Based on Ranks):</u>  ANOVA based on Ranks followed by multiple comparisons procedures: {264.97(h)(2) and 264.97(i)(2)}  - Estimation and testing of each compliance well's median and background median levels for each constituent.	N/A
- If using individual well comparison procedure, Type 1 error level of no less than 0.01 shall be maintained. If using multiple comparison procedure, Type 1 error level no less than 0.05 for each testing period must be used.	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
E-5d(3) <u>Tolerance or Prediction Interval Procedure:</u> - Establish interval for each constituent based on distribution of background data. {264.97(h)(3) and 264.97(i)(4)}	N/A
- Compare level of each constituent in each compliance well to the upper tolerance or prediction limit.	N/A
- Prepare levels of confidence and/or percentage of the population that the interval must contain considering number of samples in the background data base, data distribution, and range of concentration values for each constituent of concern.	N/A
E-5d(4) <u>Control Chart Approach:</u> {264.97(h)(4) and 264.97(i)(3)} - Control limits for each constituent;	N/A
- Specify type of control chart and associated parameter values.	N/A
E-5d(5) <u>Alternative Approach:</u> An alternative approach can be proposed which complies with all performance standards set in 264.97(i). {264.97(h)(5) and 264.97(i)(3)}	N/A
E-6 <u>Description of Detection Monitoring Program for Facilities not Detecting the Presence of Hazardous Constituents, Including:</u> {270.14(c)(6), 264.91(a)(4) and 264.98}	N/A
E-6a <u>List of Indicator Parameters, Waste Constituents, Reaction Products to be Monitored for, Including:</u> {270.14(c)(6)(i), 264.93 and 264.98(a)}	
- Type, quantities, concentrations expected wastes;	
- Mobility, stability, persistence in unsaturated zone;	N/A
- Detectability in groundwater; and	N/A
- Concentration or values and coefficients of variation of proposed parameters in the groundwater background.	N/A
E-6b <u>Description of Groundwater Monitoring System</u> {270.14(c)(6)(ii), 264.98(b), 264.95, and 264.97}	N/A
- Hydraulic downgradient limit;	
- Waste management area; and {(a)(2),(b),(c)}	N/A
- Uppermost aquifer.	N/A
E-6c <u>Background Groundwater Concentration Values for Proposed Parameters</u> {270.14(c)(6)(iii), 264.98(c), 264.97(g)(1) and (2)}	N/A
- Use of an appropriate groundwater monitoring system, to establish background per E-5d specifying number and type of samples for each hazardous constituent appropriate to form of statistical test employed;	
- Sampling procedure shall be a sequence of at least four samples from each well in the entire system at an interval assuring an independent sample relative to the uppermost aquifer's effective porosity, hydraulic conductivity, hydraulic	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
gradient and fate and transport characteristics of the potential contaminants but at least semi-annually; or	
- Alternative sampling procedure to be approved.	N/A
E-6d <u>Description of proposed Sampling and Analysis Procedures</u> {270.14(c)(6)(iv), 264.97(f), 264.98(f), and 264.98(d)}	N/A
- Documentation of proper sampling and analysis procedures;	
- Procedures for determining groundwater elevation; {264.98(e)}	N/A
- Procedures for determining statistically significant increase for any monitored parameter;	N/A
- At least four samples from each compliance and background well semi-annually	N/A
- Procedure for annual determination of uppermost aquifer flow rate and direction. {264.98(e)}	N/A
E-6e <u>Procedure to be Implemented if a Statistically Significant Increase in Any Constituent or Parameter is Identified at Any Compliance Point Monitoring Well</u> {270.14(c)(7) and 264.98(g)}	N/A
- Notify RA within seven days;	
- Sample all wells for Appendix IX list (Part 264) constituents;	N/A
- Establish compliance monitoring program;	N/A
- Submit engineering feasibility plan for a corrective action program or request RA approval to submit permit schedule for development of plan.	N/A
- May demonstrate that a source other than the regulated unit caused the contamination.	N/A
E-7 <u>Compliance Monitoring Program for Facilities Which Have Detected Presence of Hazardous Constituents</u> {270.14(c)(7) and 264.99}	N/A
E-7a <u>Description of Monitoring Program</u>	
E-7a(1) <u>Description of Wastes Previously Handled at Facility</u> {270.14(c)(7)(i)}	
E-7a(2) <u>Characterization of Contaminated Groundwater</u> {270.14(c)(7)(ii)}	N/A
- Hazardous constituents identified;	
- Hazardous constituents concentrations.	N/A
E-7a(3) <u>List of Hazardous Constituents to be Monitored in Compliance Program</u>  May resample within one month and repeat analysis for compounds detected. Constituents identified in both analysis will form basis for compliance monitoring plan. {270.14(c)(7)(iii), 264.99(a)(1), and 264.98(g)(3)}	N/A
E-7a(4) <u>Proposed Concentration Limits for Each Constituent</u> {270.14(c)(7)(iv) and 264.99(a)(2)}	N/A
- Justification for establishing alternative limits; {264.94}	
- Conditions warranting special sampling procedures;	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
- Importance of statistically significant values; and	N/A
- Procedures for establishing background concentration values for constituents that are based on: {264.99(c)(3), 264.97(g) and (h)} <ul style="list-style-type: none"> <li>• use of any appropriate ground-water monitoring system;</li> <li>• data that is available prior to permit issuance;</li> <li>• data that accounts for measurement errors in sampling analysis;</li> <li>• data that accounts for seasonal groundwater quality fluctuations; and</li> <li>• data from a minimum of four samples per well collected at least semiannually.</li> </ul>	N/A
E-7a(5) <u>Detailed Plans of an Engineering Report Describing Groundwater Monitoring System</u> {270.14(c)(7)(v) and 264.99(b)}  - Represent quality of groundwater passing point of compliance; {264.97(a)(2)}	N/A
- Proposed compliance point; {264.95}	N/A
- Number of wells; {264.97(a)(2)}	N/A
- Location and depths of wells; and {264.97(a)(2)}	N/A
- Casing and construction of wells. {264.97(c)}	N/A
E-7a(6) <u>Description of Proposed Sampling and Statistical Analysis Procedures for Groundwater Data</u> {270.14(c)(7)(vi), 264.99(c), (d), (e), (f) and (g)}	N/A
- Compliance period	
- Sample collection methods {264.97(d)}	N/A
- Sample preservation/shipment {264.97(d)}	N/A
- Analytical procedures {264.97(d)}	N/A
- Chain-of-custody control {264.97(d)}	N/A
- Documentation of proper sampling and analysis procedures {264.97(e)}	N/A
- Procedures for determining ground-water elevation {264.97(f)}	N/A
- Procedures for annual determination of uppermost aquifer flow rate and direction {264.99(e)}	N/A
- Annual testing procedures for Appendix IX constituents. {264.99(g)}	N/A
Procedures for determining a statistically significant increase for any monitored parameters or hazardous constituent: {264.99(d) and (f)}	N/A
- Comparing compliance point using the procedure in 264.97(h) to the concentration limit developed in accordance with 264.94.	N/A
- At least four samples from each well (compliance and	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
background) must be collected at least semi-annually.	
E-7a(7) <u>Procedures to be Implemented if Groundwater Protection Standard is Exceeded at Compliance Point Monitoring Well</u> {264.99(i) and 264.99(h)}	N/A
- Written notification to Regional Administrator	
- An application for permit modification to establish a corrective action program, including details of the program to comply with groundwater protection standard and details of groundwater monitoring to demonstrate effectiveness of the corrective action program, or	N/A
- Submit demonstration that concentration limits were exceeded due to source other than regulated unit, or due to statistical error.	N/A
E-7b <u>An Engineering Feasibility Plan for Corrective Action Program</u> {270.14(c)(7), 270.14(c)(8)(v), and 264.98(g)(5)(ii)}	N/A
- Engineering feasibility plan for a corrective action program to meet requirements of 264.100, or	
- Request authorization from RA to submit schedule for a submittal plan.	N/A
E-8 <u>Corrective Action Program</u> {270.14(c)(8)(i)}	N/A
E-8a <u>Characterization of Contamination</u>	
- Identification of hazardous constituents detected in groundwater	
- Concentrations of hazardous constituents.	N/A
E-8b <u>Concentration Limits</u> {270.14(c)(8)(ii), 264.100(a), and 264.97(a)}	N/A
E-8b(1) <u>Concentration Limits Established Under 264.94(a)</u>	
E-8b(2) <u>Alternate Concentration Limits</u> {264.94(b)}	N/A
- Proposed alternate concentration limits	
- Justification for proposed alternate limits, including assessment of potential adverse effects on groundwater quality and on the quality of hydraulically connected surface waters, and assessment of the potential for health risks caused by human exposure to waste constituents.	N/A
E-8c <u>Corrective Action Plan</u>	N/A
A corrective action program must prevent hazardous constituents from exceeding their respective concentration limits at the compliance point, and between the compliance point and the downgradient facility property boundary. The corrective action plan must consist of detailed engineering plans and report, and must address the following: {270.14(c)(8)(iii) and 264.100}	
- Identification of compliance point	
- Plans for removing and handling of hazardous wastes (if	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
proposed)	
- Design and construction plans and specifications for any proposed features to contain groundwater or redirect its flow (e.g., drains, engineered barriers, wells)	N/A
- A description of the treatment technologies to be employed to remove hazardous constituents from contaminated groundwater	N/A
- Description of the operation and maintenance plans for the corrective action measures	N/A
- Description of any additional hydrogeologic data collected for use in designing the corrective action measures	N/A
- Schedule for implementation the corrective action measures.	N/A
E-8d <u>Groundwater Monitoring Program</u>  In conjunction with a corrective action program, a groundwater monitoring program must be implemented to determine compliance with the concentration limits established under 264.94, and to determine the effectiveness of the corrective action program. {270.14(c)(8) and 264.100(d)}	N/A
E-8d(1) <u>Description of Monitoring System</u> {270.14(c)(8) and 270.14(c)(7)(v)}	N/A
- Number of wells	
- Locations	N/A
- Depths and screened intervals	N/A
- Casing descriptions	N/A
- Other well construction details	N/A
- Description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action.	N/A
E-8d(2) <u>Description of Sampling and Analysis Procedures</u> {270.14(c)(8) and 270.14(c)(7)(vi)}	N/A
- Sampling frequency	
- Sample collection	N/A
- Sample preservation and shipment	N/A
- Analytical procedures	N/A
- Chain-of-custody control	N/A
- Procedures for determining ground-water elevations	N/A
- Procedures for annual determination of groundwater flow rate and direction.	N/A
E-8d(3) <u>Monitoring Data and Statistical Analysis Procedures</u> {270.14(c)(8) and 270.14(c)(7)(vi)}	N/A
- Procedure for establishing background concentration values	
- Statistical procedures for comparing compliance point data to the concentration limits	N/A
- Statistical procedures for evaluating effectiveness of the corrective action program between the compliance point and the property boundary.	N/A
E-8d(4) <u>Reporting Requirements</u>	N/A
- Semi-annual report to Regional Administrator evaluating the effectiveness of the corrective action program. {264.100(g)}	

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Documents for Part F

- (2) Permit Applicants' Guidance Manual for the General Facility Standards of 40 CFR 264, SW-968, October 1983.
- (7) Guidance on Setting Permit Conditions and Reporting Trial Burn Results - Volume II of the Hazardous Waste Incineration Guidance Series, EPA/625/6-89/019, January 1989.
- (10) Hazardous Waste Incinerator Inspection Manual, OSWER Directive No. 9938.6, April 1989.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<b>PART F - PROCEDURES TO PREVENT HAZARDS</b>  F-1 <u>Security</u>  F-1a <u>Security Procedures and Equipment</u>  The Part B must include a description of the security procedures and equipment required by 264.14 as detailed below, unless a waiver is granted: (See section F-1b of this checklist for waiver requirements) {264.14(a) and 270.14(b)(4)}	F-1
F-1a(1) <u>24-Hour Surveillance System</u>  A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) that continuously monitors and controls entry onto the active portion of the facility: {264.14(b)(1)}  - Procedures and personnel to be used [Guidance(2) - pg 5-67]	F-1
- Location and description of equipment. [Guidance(2) - pg 5-67]	F-1
F-1a(2) <u>Barrier and Means to Control Entry</u>  In lieu of a 24-hour surveillance system, the applicant may elect to use a barrier and other means to control entry. {264.14(b)(2)}	F-2
F-1a(2)(a) <u>Barrier</u>  An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff) that completely surrounds the active portion of the facility. Description should include: {264.14(b)(2)(i)} [Guidance(2) - pg 5-68]  - Height, and	F-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- Material of construction.</li> </ul>	
<p>F-1a(2)(b) <u>Means to Control Entry</u></p> <p>A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).                      {264.14(b)(2)(ii)}                      [Guidance(2) - pg 5-68]</p> <ul style="list-style-type: none"> <li>- Description should include:                             <ul style="list-style-type: none"> <li>• Procedure and personnel to be used, and</li> <li>• Location and description of equipment.</li> </ul> </li> </ul>	F-2
<ul style="list-style-type: none"> <li>- The requirements of sections F-1a(1) and F-1a(2) of this checklist are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and means to control entry, which complies with the requirements of 264.14(b)(1) or 264.14(b)(2).                      {Comment following 264.14(b)(2)(ii)}</li> </ul>	F-2
<p>F-1a(3) <u>Warning Signs</u></p> <p>The facility must have a sign with the legend, "Danger - Unauthorized Personnel Keep Out," which must:</p> <ul style="list-style-type: none"> <li>- Be posted at each entrance to the active portion of the facility                      {264.14(c)}</li> </ul>	F-2
<ul style="list-style-type: none"> <li>- Be in sufficient numbers to be seen from any approach to the active portion of the facility                      {264.14(c)}</li> </ul>	F-2
<ul style="list-style-type: none"> <li>- Be in English and any other language predominating in the area                      {264.14(c)}</li> </ul>	F-2 F-1a(3) - Written in English
<ul style="list-style-type: none"> <li>- Be legible from a distance of at least 25 feet.                      {264.14(c)}</li> </ul> <p>Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion and that entry onto the active portion can be dangerous.                      {264.14(c)}</p>	F-2
<p>F-1b <u>Waiver</u></p> <p>If a waiver of these requirements is requested, the owner or operator must demonstrate the following:                      {264.14(a)}</p>	F-2
<p>F-1b(1) <u>Injury to Intruder</u></p> <p>Physical contact with the waste, structure, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock that may enter the active portion of a facility; and                      {264.14(a)(1)}</p>	F-2
<p>F-1b(2) <u>Violation Caused by Intruder</u></p> <p>Disturbance of the waste or equipment by the unknowing or</p>	F-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>unauthorized entry of persons or livestock onto the active portion of a facility will not cause a violation of the requirements of 40 CFR Part 264. {264.14(a)(2)}</p> <p>Note: To address F-1b(1) and F-1b(2), the applicant should include:</p> <ul style="list-style-type: none"> <li>- Nature and duration of hazard potential from wastes, [Guidance(2) - page 5-70]</li> </ul>	
<ul style="list-style-type: none"> <li>- Equipment and structures to minimize potential for an intruder to 1) cause a spill; 2) mix incompatible wastes; 3) ignite ignitable or reactive wastes; 4) damage containment or monitoring systems, [Guidance(2) - page 5-70]</li> </ul>	F-2
<ul style="list-style-type: none"> <li>- Features that prevent contact with waste and prevent equipment and structures from unauthorized access and tampering. [Guidance(2) - page 5-70]</li> </ul>	F-2
<p>F-2 <u>Inspection Schedule</u></p> <p>A copy of the general inspection schedule required by 264.15(b) and as detailed below including, where applicable, specific requirements for</p> <ul style="list-style-type: none"> <li>- containers [264.174];</li> <li>- tanks [264.193(h)(4)(i), 264.195];</li> <li>- surface impoundments [264.226];</li> <li>- waste piles [264.254];</li> <li>- land treatment [264.273(g)];</li> <li>- landfills [264.303];</li> <li>- incinerators [264.347];</li> <li>- drip pads [264.574];</li> <li>- miscellaneous units [264.602];</li> <li>- process vents [264.1033];</li> <li>- equipment leaks [264.1052, 264.1053, 264.1057, 264.1058];</li> <li>- air emission controls for tanks, surface impoundments, and containers [264.1101(c)(4)];</li> <li>- boilers and industrial furnaces [266.102(e)(8), and 266.103(j)].</li> </ul> <p>{270.14(b)(5) and 264.15}</p>	F-2
<p>F-2a <u>General Inspection Requirements</u></p> <p>A description of the facility inspection schedule (schedule must be kept at the facility) for the following equipment: {270.14(b)(5), 264.15(a), 264.15(b)(1), 264.15(b)(2), 264.15(b)(4) and 264.33}</p> <ul style="list-style-type: none"> <li>- Monitoring equipment;</li> <li>- Emergency and safety equipment;</li> <li>- Security devices;</li> <li>- Operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards;</li> <li>- Testing as necessary of communications or alarm systems, fire protection equipment, and decontamination equipment;</li> <li>- Containers;</li> <li>- Tank systems;</li> <li>- Waste piles;</li> </ul>	F-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- Surface Impoundments;</li> <li>- Incinerators;</li> <li>- Landfills;</li> <li>- Land treatment units;</li> <li>- Miscellaneous Units;</li> <li>- Boilers and Industrial Furnaces;</li> <li>- Drip Pads; and</li> <li>- Containment buildings.</li> </ul>	
<p>F-2a(1) <u>Types of Problems</u></p> <p>The schedule must identify the types of problems to look for during the inspection (e.g., leaks, deterioration, readings out of specified range, missing items or materials, inoperative equipment, etc.). {264.15(b)(3)}</p>	F-3
<p>F-2a(2) <u>Frequency of Inspection</u></p> <p>A description of the inspection frequency must be provided for items on the schedule. The frequency of inspection should be based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. {264.15(b)(4)}</p>	F-3
<p>F-2b Facility Inspection Requirements</p> <p>F-2b(1) Monitoring Equipment</p> <p>Examples of monitoring equipment to be inspected at TSD facilities may include, but are not limited to: [Guidance(2) - page 5-77]</p> <ul style="list-style-type: none"> <li>- Liquid level transmitters</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Conservation vents</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Leak detection/collection system</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Ground water monitoring system</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Liquid flow meters</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Scales</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Hazardous gas detectors</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- pH monitors</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Pressure sensors</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Temperature gauges</li> </ul>	F-3
<p>F-2b(2) <u>Emergency Equipment</u></p> <p>Examples of emergency equipment to be inspected at TSD facilities are: [Guidance(2) - page 5-77]</p> <ul style="list-style-type: none"> <li>- Fire detection/control equipment <ul style="list-style-type: none"> <li>• Fire blankets</li> <li>• Fire extinguishers</li> <li>• Fire alarm system</li> <li>• Smoke detectors</li> <li>• Fire fighting wagon/hoses</li> <li>• Alarm system (other than fire)</li> </ul> </li> </ul>	F-3

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- Emergency backup equipment                             <ul style="list-style-type: none"> <li>▪ Generators</li> <li>▪ Emergency lights</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Spill control equipment                             <ul style="list-style-type: none"> <li>▪ Portable pumps/hoses</li> <li>▪ Absorbants</li> <li>▪ Containment booms</li> <li>▪ Shovels</li> <li>▪ Brooms</li> <li>▪ Sump pumps</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Emergency Personal Protective Equipment                             <ul style="list-style-type: none"> <li>▪ Face shields</li> <li>▪ Protective glasses/goggles</li> <li>▪ Protective clothing (overalls, boots)</li> <li>▪ Gas masks</li> <li>▪ Chemical respirators</li> <li>▪ Self-contained breathing apparatus</li> </ul> </li> </ul>	F-3
<p>F-2b(3) <u>Safety Equipment</u></p> <p>Examples of safety equipment to be inspected at TSD facilities are: [Guidance(2) - page 5-77]</p> <ul style="list-style-type: none"> <li>- Emergency shower/eyewash</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Decontamination equipment                             <ul style="list-style-type: none"> <li>▪ Detergents</li> <li>▪ Cleaning solvents</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Personal Protective Equipment                             <ul style="list-style-type: none"> <li>▪ Face shields</li> <li>▪ Protective glasses/goggles</li> <li>▪ Protective clothing (overalls, boots)</li> <li>▪ Gas masks</li> <li>▪ Chemical respirators</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- First aid/equipment supplies</li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Signs                             <ul style="list-style-type: none"> <li>▪ Warning</li> <li>▪ No smoking</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Communication equipment                             <ul style="list-style-type: none"> <li>▪ Telephones</li> <li>▪ Radios</li> <li>▪ Intercoms</li> <li>▪ Public address system</li> <li>▪ Television monitoring system</li> <li>▪ Pagers</li> <li>▪ Cellular telephones</li> </ul> </li> </ul>	F-3
<p>F-2b(4) <u>Security Equipment</u></p> <p>Examples of security equipment to be inspected at TSD facilities are: [Guidance(2) - page 5-77]</p> <ul style="list-style-type: none"> <li>- Surveillance system                             <ul style="list-style-type: none"> <li>▪ Video cameras</li> <li>▪ Television monitors</li> <li>▪ Alarm systems</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Barrier</li> </ul>	F-3

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>• Fences-facility/area</li> <li>• Gates</li> <li>• Locks</li> </ul>	
- Warning signs	F-3
- Lighting	F-3
<p>F-2b(5) <u>Operating and Structural Equipment</u></p> <p>Examples of operating and structural equipment to be inspected at TSD facilities are: [Guidance(2) - page 5-77]</p> <ul style="list-style-type: none"> <li>- Structural equipment                             <ul style="list-style-type: none"> <li>• Dikes</li> <li>• Berms</li> <li>• Ramps</li> <li>• Tank supports</li> <li>• Bases/foundations</li> <li>• Roofs</li> <li>• Walls</li> <li>• Fire and explosion barriers</li> <li>• Ventilation equipment</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Operating equipment                             <ul style="list-style-type: none"> <li>• Lifts (elevators)</li> </ul> </li> </ul>	F-3
<ul style="list-style-type: none"> <li>- Other areas (as applicable to hazardous waste management)                             <ul style="list-style-type: none"> <li>• Loading/unloading areas</li> <li>• Storage areas</li> <li>• Main roadways</li> <li>• Gate areas</li> <li>• Periphery</li> </ul> </li> </ul>	F-3
<p>F-2b(6) <u>Testing of Equipment</u></p> <p>Examples of equipment requiring testing at TSD facilities are: {264.33} [Guidance(2) - page 5-104]</p> <ul style="list-style-type: none"> <li>- Communication systems</li> </ul>	F-3
- Alarm systems	F-3
- Fire control equipment	F-3
- Spill control equipment	F-3
- Decontamination equipment	F-3
- Emergency water supply system	F-3
<p>F-2c <u>Specific Process Inspection Requirements</u></p> <p>At a minimum, the inspection schedule must include the terms and frequencies called for in 264.174, 264.195, 264.226, 264.254, 264.273(g), 264.303, 264.347 and 266.102, where applicable as detailed below. {270.14(b)(5) and 264.15(b)}</p>	F-4
<p>F-2c(1) <u>Container Inspection</u></p> <p>A description of the weekly inspection of containers and container storage areas for leaks in containers or deterioration of containers and the containment system caused by corrosion or other factors. {264.174}</p>	F-4
F-2c(2) <u>Tank System Inspection</u>	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>- A description of the inspection each operating day of overfilling control equipment, monitoring equipment and levels of waste. These may include: {264.195(a)} [Guidance(2) - Section 5.5.2.3]</p> <ul style="list-style-type: none"> <li>• Temperature gauges,</li> <li>• Pressure gauges,</li> <li>• Liquid level monitors,</li> <li>• Waste feed cut-off systems,</li> <li>• Overfill alarm systems.</li> </ul>	
<p>- A description of the daily inspection of aboveground portions of the tank system, if any, to detect corrosion or releases of waste. These may include: {264.195(b)(1)} [Guidance(2) - Section 5.5.2.3]</p> <ul style="list-style-type: none"> <li>• Ancillary equipment,</li> <li>• Seals at manholes, gauge locations, etc.,</li> <li>• Inlet/outlet nozzles and flanges.</li> </ul>	F-4
<p>- A schedule describing the inspection each operating day of data from monitoring and leak detection equipment (e.g., pressure and temperature gauges) where present to ensure that the tank is operated according to design specifications. These may include: {264.195(b)(2)} [Guidance(2) - Section 5.5.2.3]</p> <ul style="list-style-type: none"> <li>• Temperature,</li> <li>• Pressure,</li> <li>• Liquid level.</li> </ul>	F-4
<p>- A description of the daily inspection of tank construction materials and the area surrounding the tank including secondary containment system (e.g., dikes) to detect erosion or signs of release. {264.195(b)(3)}</p>	F-4
<p>- A schedule and procedure for assessing the condition of the tank, including detection of leaks, cracks, or wall thinning to less than minimum shell thickness. [Guidance(2) - page 5-82]</p>	F-4
<p>- A procedure for emptying a tank to allow entry and inspection when necessary to detect corrosion or erosion of the tank sides and bottom. [Guidance(2) - page 5-82]</p>	F-4
<p>- Confirm proper operation of cathodic protection system (if present) within six months after installation and at least annually thereafter. {264.195(c)(1)}</p>	F-4
<p>- Schedule showing all sources of impressed current for cathodic protection system are inspected and/or tested at least bimonthly. {264.195(c)(2)}</p>	F-4
<p>F-2c(3) <u>Waste Pile Inspection</u>  Waste pile owners or operators must provide a description of</p>	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>procedures for: {270.18(d), and 264.254}</p> <ul style="list-style-type: none"> <li>- For new facilities, inspection of liners/covers during and immediately after installation {264.254(a)} <ul style="list-style-type: none"> <li>• Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures and blisters, and {264.254(a)(1)}</li> <li>• Soil-based and admixed liners and covers must be inspected for imperfections, including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in permeability. {264.254(a)(2)}</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>- Inspections should also include: [Guidance(2) - pages 5-86 and 5-92] <ul style="list-style-type: none"> <li>• Raw materials prior to construction,</li> <li>• Construction equipment,</li> <li>• Construction procedures,</li> <li>• Post construction inspection.</li> </ul> </li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Inspections weekly and after storms to detect: <ul style="list-style-type: none"> <li>• deterioration, malfunctions, or improper operation of run-on and run-off control systems; {264.254(b)(1)}</li> <li>• proper functioning of wind dispersal control systems, where present; {264.254(b)(2)}</li> <li>• the presence of leachate in and proper functioning of leachate collection and removal systems, where present; and {264.254(b)(3)}</li> <li>• the presence of liquids in and proper functioning of leak detection systems, where installed. The amount of liquid removed must be recorded. {264.254(c)}</li> </ul> </li> </ul>	F-4
<p>F-2c(4) <u>Surface Impoundment Inspection</u></p> <p>Surface impoundment owners or operators must provide a description of procedures for: {270.17(c) and 264.226(a)}</p> <ul style="list-style-type: none"> <li>- For new facilities, inspection of liners/covers during and immediately after installation {264.226(a)} <ul style="list-style-type: none"> <li>• Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures and blisters, and {264.226(a)(1)}</li> <li>• Soil-based and admixed liners and covers must be inspected for imperfections, including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in permeability. {264.226(a)(2)}</li> </ul> </li> </ul> <p>Inspections should also include:</p>	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>[Guidance(2) - page 5-86]</p> <ul style="list-style-type: none"> <li>• Raw materials prior to construction,</li> <li>• Construction equipment,</li> <li>• Construction procedures,</li> <li>• Post construction inspection.</li> </ul>	
<ul style="list-style-type: none"> <li>- Inspections weekly and after storms for: {264.226(b)} <ul style="list-style-type: none"> <li>• Deterioration, malfunctions, or improper operation of overtopping control systems; {264.226(b)(1)}</li> <li>• Sudden drops in the level of the impoundment's contents {264.226(b)(2)}</li> <li>• Severe erosion or other signs of deterioration in dikes or other containment devices. {264.226(b)(3)}</li> <li>• the presence of liquids in and proper functioning of leak detection systems, where installed. The amount of liquid removed must be recorded. {264.226(d)(1)}</li> </ul> </li> </ul>	F-4
<p>F-2c(5) <u>Incinerator Inspection</u></p> <ul style="list-style-type: none"> <li>- Incinerator and associated equipment must be inspected visually at least daily for leaks, spills, fugitive emissions and signs of tampering. {264.347(b)}</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Emergency waste feed cut-off system and associated alarms must be tested weekly unless the applicant demonstrates that weekly inspection is unduly restrictive and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted monthly. {264.347(c)}</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Specific operating and monitoring equipment which should be inspected include: [Guidance(7) - page 80] <ul style="list-style-type: none"> <li>- Incinerator equipment</li> <li>- Waste/fuel feed systems <ul style="list-style-type: none"> <li>• Liquid waste feed systems, including flow meters, pumps and mixing devices;</li> <li>• Solid waste feed systems, including conveyor system and waste feed measurement system (scales);</li> <li>• Fuel feed systems, including flow meters, pumps and mixing devices.</li> </ul> </li> </ul> <p>[Guidance(10) - pages II-23 - II-26]</p> <ul style="list-style-type: none"> <li>- Monitoring equipment <ul style="list-style-type: none"> <li>• Waste flow monitors and recorders</li> <li>• Temperature monitors</li> <li>• O2 and CO monitors</li> <li>• Combustion gas flow monitors</li> <li>• Pressure monitors</li> <li>• Flame sensors</li> <li>• Pressure differential indicators</li> <li>• Ammeters for measuring blower current draw.</li> </ul> </li> </ul> <p>[Guidance(10) - pages II-57 - II-73]</p> <ul style="list-style-type: none"> <li>- Air Pollution Control Equipment <ul style="list-style-type: none"> <li>• Wet scrubbers (venturi, packed bed, ionizing)</li> </ul> </li> </ul> </li> </ul>	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>• Dry scrubbers (rotary atomization, and dual-fluid nozzle atomization)</li> <li>• Fabric filters</li> </ul> <p>APCE support systems and performance instrumentation should also be included in the inspection. [Guidance(10) - pages II-26 - II-57]</p>	
<p>F-2c(6) <u>Landfill Inspection</u></p> <p>Landfill owners or operators must provide a description of procedures for: {270.21(d), 264.15(a), and 264.303}</p> <ul style="list-style-type: none"> <li>- For new facilities, inspection of liners/covers during and immediately after installation {264.303(a)} <ul style="list-style-type: none"> <li>• Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures and blisters, and {264.303(a)(1)}</li> <li>• Soil-based and admixed liners and covers must be inspected for imperfections, including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in permeability. {264.303(a)(2)}</li> </ul> </li> </ul> <p>Inspections should also include: [Guidance(2) - page 5-86]</p> <ul style="list-style-type: none"> <li>• Raw materials prior to construction,</li> <li>• Construction equipment,</li> <li>• Construction procedures,</li> <li>• Post construction inspection.</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Inspections weekly and after storms for: {264.303(b)} <ul style="list-style-type: none"> <li>• Deterioration, malfunctions, or improper operation of run-on/run-off controls; {264.303(b)(1)}</li> <li>• Proper functioning of wind dispersal control systems, where present; {264.303(b)(2)}</li> <li>• Leachate in and proper operation of leachate collection/removal system; and {264.303(b)(3)}</li> <li>• Presence of liquids in and proper operation of leak detection system. The amount of liquid removed must be recorded. {264.303(c)(1)}</li> </ul> </li> </ul>	F-4
<p>F-2c(7) <u>Land Treatment Inspection</u></p> <p>Provide a description of how the unit will be inspected weekly and after storms for: {270.20(c)(5) and 264.273(g)}</p> <ul style="list-style-type: none"> <li>- Deterioration, malfunctions, or improper operation of run-on and run-off control systems; {264.273(g)(1)}</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Improper functioning of wind dispersal control measures;</li> </ul>	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
and {264.273(g)(2)}	
- Wind breaks around unit for gaps or breakage. [Guidance(2) - page 5-96]	F-4
F-2c(8) <u>Miscellaneous Unit Inspections</u>  Provide an inspection program which ensures compliance with the standards specified in F-2b(1) through F-2b(5), where applicable. Check other similar units for equipment and inspection examples. {264.602}	F-4
F-2c(9) <u>Boilers and Industrial Furnaces Inspections</u>  - The boiler or industrial furnace and associated equipment must be inspected visually at least daily for leaks, spills, fugitive emissions and signs of tampering. {266.102(e)(8)(iii)}	F-4
- The automatic hazardous waste feed cut-off system and associated alarms must be tested weekly when hazardous waste is burned unless the applicant demonstrates that weekly inspection is unduly restrictive and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted monthly. {266.102(e)(8)(iv)}	F-4
- Specific operating and monitoring equipment which should be inspected include: [Guidance(7) - page 80]  - Boiler and/or industrial furnace	F-4
- Waste/fuel feed systems <ul style="list-style-type: none"> <li>• Liquid waste feed systems, including flow meters, pumps and mixing devices;</li> <li>• Solid waste feed systems, including conveyor system and waste feed measurement system (scales);</li> <li>• Fuel feed systems, including flow meters, pumps and mixing devices</li> <li>• Raw material feed systems.</li> </ul> [Guidance(10) - pages II-23 - II-26]	F-4
- Monitoring equipment <ul style="list-style-type: none"> <li>• Waste flow monitors and recorders</li> <li>• Temperature monitors</li> <li>• O<sub>2</sub>, CO and HC monitors</li> <li>• Combustion gas flow monitors</li> <li>• Pressure monitors</li> <li>• Flame sensors</li> <li>• Pressure differential indicators</li> <li>• Ammeters for measuring blower current draw.</li> </ul> [Guidance(10) - pages II-57 - II-73]	F-4
- Air Pollution Control Equipment <ul style="list-style-type: none"> <li>• Wet scrubbers (venturi, packed bed, ionizing)</li> <li>• Dry scrubbers (rotary atomization, and dual-fluid nozzle atomization)</li> <li>• Fabric filters</li> </ul> APCE support systems and performance instrumentation	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>should also be included in the inspection. [Guidance(10) - pages II-26 – II-57]</p>	
<p><b>F-2c(10) <u>Drip Pad Inspections</u></b></p> <ul style="list-style-type: none"> <li>- Drip pad owners or operators of new facilities must provide a description of procedures for: {264.547(a)} <ul style="list-style-type: none"> <li>• Inspection of liners/covers during installation for uniformity, damage and imperfections.</li> <li>• Inspection immediately after construction to certify that the drip pad was constructed in accordance with 264.573.</li> <li>• Inspection of liners and covers after installation to ensure tight seams and joints and the absence of tears, punctures and blisters.</li> </ul> </li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Inspections weekly and after storms for: <ul style="list-style-type: none"> <li>• Deterioration, malfunctions, or improper operation of run-on and run-off control systems; {264.574(b)(1)}</li> <li>• Presence of leakage in or proper functioning of leak detection system; and {264.574(b)(2)}</li> <li>• Deterioration or cracking of the drip pad surface. {264.574(b)(3)}</li> </ul> </li> </ul>	F-4
<p><b>F-2c(11) <u>Containment Building Inspections</u></b></p> <p>A description of the inspection procedures. Specifically the unit must be inspected at least once every seven days. The inspection must include; {264.1101(c)(4)}</p> <ul style="list-style-type: none"> <li>- data gathered from the monitoring equipment and leak detection equipment, and</li> <li>- the containment building and surrounding area for signs of release of hazardous waste.</li> </ul>	F-4
<p><b>F-2c(12) <u>Subpart AA - Air Emission Standards for Process Vents</u></b></p> <p>The inspection requirements for these units will be covered under the Subpart AA checklist (Module AA).</p>	F-4
<p><b>F-2c(13) <u>Subpart BB - Air Emission Standards for Equipment Leaks</u></b></p> <p>The inspection requirements for these units will be covered under the Subpart BB checklist (Module BB).</p>	F-4
<p><b>F-2c(14) <u>Subpart CC - Air Emission Standards for Tanks, Surface Impoundments, and Containers</u></b></p> <p>The inspection requirements for these units will be covered under the Subpart CC checklist (Module CC).</p>	F-4
<p><b>F-2d <u>Remedial Action</u></b></p> <p>A description of procedures for taking remedial actions when inspections reveal problems or when problems are imminent. These may alternately be described in the contingency plan (see 264.194(c), 264.227, and 264.171). {264.15(c)}</p>	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>F-2e <u>Inspection Log</u></p> <p>A copy or description of the inspection log or summary form including the following: {264.73(b)(5) and 264.15(d)}</p> <ul style="list-style-type: none"> <li>- Dates and times of inspections,</li> <li>- Name(s) of the inspector(s),</li> <li>- Observations made,</li> <li>- Date and nature of repairs or remedial actions taken.</li> </ul>	F-4
<p>F-3 <u>Waiver of Preparedness and Prevention Requirements</u></p> <p>A justification of any request for a waiver of preparedness and prevention requirements of Part 264, Subpart C. {270.14(b)(6)}</p>	F-4
<p>F-3a <u>Equipment Requirements</u></p> <p>Unless it can be demonstrated that none of the hazards posed by waste handled at the facility would require a particular kind of equipment specified below, the facility must have the following equipment: {264.32}</p>	F-4
<p>F-3a(1) <u>Internal Communications</u></p> <p>An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel. {264.32(a)}</p>	F-4
<p>F-3a(2) <u>External Communications</u></p> <p>A device such as telephone (immediately available at the scene of operations) or a handheld two-way radio, for summoning emergency assistance from local police departments, or state or local emergency response teams. {264.32(b)}</p>	F-4
<p>F-3a(3) <u>Emergency Equipment</u></p> <ul style="list-style-type: none"> <li>- Portable fire extinguishers {264.32(c)}</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals, and portable fire extinguishers) {264.32(c)}</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Spill control equipment {264.32(c)}</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Decontamination equipment. {264.32(c)}</li> </ul>	F-4
<p>F-3a(4) <u>Water for Fire Control</u></p> <p>One of the following:</p> <ul style="list-style-type: none"> <li>- Water at adequate volume and pressure to supply water hose streams, or {264.32(d)}</li> </ul>	F-4
<ul style="list-style-type: none"> <li>- Foam-producing equipment, or {264.32(d)}</li> </ul>	F-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>- Automatic sprinklers or water spray systems. {264.32(d)}</p>	F-4
<p>F-3b <u>Aisle Space Requirements</u></p> <p>Sufficient aisle space is needed to allow the unobstructed movement of personnel, fire protection equipment, or spill control equipment to any area of facility operation in an emergency. "Sufficient" aisle space is determined by storage area configuration and corresponding emergency response and inspection procedures. A good rule of thumb is three (3) feet, a minimum of two (2) feet, and four (4) feet between rows which are two pallets wide. However, each facility must be evaluated individually to determine the minimum aisle space necessary for that facility's operation. {264.35}</p> <p>Requests for a waiver of this requirement must be accompanied by a demonstration that the aisle space is not needed.</p>	F-5
<p>F-4 <u>Preventive Procedures, Structures, and Equipment</u></p> <p>A description of procedures, structures, or equipment used at the facility for the following must be included: {270.14(b)(8)}</p>	F-5
<p>F-4a <u>Loading and Unloading Operations</u></p> <p>Prevention of hazards in unloading operations (e.g., use of ramps or special forklifts). {270.14(b)(8)(i)}</p>	F-5
<p>F-4b <u>Run-Off</u></p> <p>Prevention of runoff from hazardous waste handling areas to other areas of the facility or environment, or prevention of flooding (e.g., berms, dikes, trenches). {270.14(b)(8)(ii)}</p>	F-5
<p>F-4c <u>Water Supplies</u></p> <p>Prevention of contamination of water supplies. {270.14(b)(8)(iii)}</p>	F-6
<p>F-4d <u>Equipment and Power Failure</u></p> <p>Mitigation of effects of equipment failure and power outages. {270.14(b)(8)(iv)}</p>	F-6
<p>F-4e <u>Personal Protection Equipment</u></p> <p>Prevention of undue exposure of personnel to hazardous waste (e.g., protective clothing). {270.14(b)(8)(v)}</p>	F-6
<p>F-4f <u>Ventilation Equipment</u></p> <p>Prevention of release to atmosphere. {270.14(b)(8)(vi)}</p>	F-6
<p>F-5 <u>Prevention of Reaction of Ignitable, Reactive and Incompatible Wastes</u></p> <p>F-5a <u>Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes</u></p>	F-6

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>A description of the precautions taken by a facility that handles ignitable, reactive, or incompatible waste to demonstrate compliance with 264.17 including documentation demonstrating compliance with 264.17(c). Precautions to prevent actual ignition, including separation from sources of ignition such as: {270.14(b)(9) and 264.17(a) and (c)}</p> <ul style="list-style-type: none"> <li>- Open flames</li> <li>- Smoking</li> <li>- Cutting and welding</li> <li>- Hot surfaces</li> <li>- Frictional heat</li> <li>- Sparks (static, electrical, or mechanical)</li> <li>- Spontaneous ignition (heat producing chemical reactions)</li> <li>- Radiant heat.</li> </ul> <p>{264.17(a)}</p>	
<p>Demonstrations that when ignitable or reactive waste is being handled, the owner or operator confines smoking and open flames to specially designated locations. "No Smoking" signs must be conspicuously placed wherever a hazard exists for ignitable or reactive waste.</p> <p>{264.17(a)}</p>	F-6
<p>F-5b <u>General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste</u></p> <p>A description of the precautions taken by a facility that treats, stores, or disposes of ignitable or reactive waste, or accidentally mixes incompatible waste or incompatible wastes or other materials, to prevent reactions which: {270.14(b)(9) and 264.17(b) and (c)}</p> <ul style="list-style-type: none"> <li>- generate extreme heat or pressure, fire or explosions, or violent reactions; {264.17(b)(1)}</li> </ul>	F-7
<ul style="list-style-type: none"> <li>- produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment; {264.17(b)(2)}</li> </ul>	F-7
<ul style="list-style-type: none"> <li>- produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions; {264.17(b)(3)}</li> </ul>	F-7
<ul style="list-style-type: none"> <li>- damage the structural integrity of the device or facility; {264.17(b)(4)}</li> </ul>	F-7
<ul style="list-style-type: none"> <li>- by similar means threaten human health or the environment. {264.17(b)(5)}</li> </ul>	F-7
<p>Documentation to meet requirements of 264.17(a) or (b) may be based on references to published scientific or engineering literature, data from trial tests, waste analyses, or results of treatment of similar wastes by similar treatment processes and under similar operating conditions.</p> <p>{264.17(c)}</p>	F-7
<p>F-5c <u>Management of Ignitable or Reactive Wastes in Containers</u></p> <p>Sketches, drawings, or data demonstrating that containers of</p>	F-7

Subject Requirement and 40 CFR Reference	Location in Application and Comments
ignitable or reactive waste are located at least 15 meters (50 feet) from the facility's property line or at least 60 meters (200 feet) from the property line if the area adjacent to the facility is not zoned for industrial use. {270.15(c), 264.176, and 15A NCAC 13A .0009(r)(2)(B)}	
F-5d <u>Management of Incompatible Wastes in Containers</u>  A description of procedures to demonstrate compliance with 264.177(a) and (b) and 264.17(b) and (c): {270.15(d) and 264.177}  - The procedures used to ensure that incompatible wastes and materials are not placed in the same container (unless 264.17(b) is complied with) or in an unwashed container that previously held an incompatible waste {264.177(a) and 264.177(b)}	F-8
- Dikes, berms, walls, or other devices used to separate containers, holding wastes which are incompatible with wastes or materials stored nearby. {264.177(c)}	F-8
F-5e <u>Management of Ignitable or Reactive Wastes in Tanks</u>  A description of the procedures for handling incompatible, ignitable, or reactive wastes, including the use of buffer zones. {270.16(j)}  - Waste must be treated, rendered, or mixed before or immediately after placement in the tank so that <ul style="list-style-type: none"> <li>• it is no longer considered ignitable and complies with 264.17(b);                              {264.198(a)(1)}</li> <li>• or the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite;                              {264.198(a)(2)}</li> <li>• or the tank is used solely for emergencies.                              {264.198(a)(3)}</li> </ul>	F-8
- Facilities that treat or store ignitable or reactive waste in covered tanks must comply with the National Fire Protection Association's buffer zone requirements for tanks. {264.198(b)}	F-8
F-5f <u>Incompatible Wastes in Tanks</u>  A statement that incompatible wastes and materials are not stored in the same tank or in an unwashed tank that previously held an incompatible waste or material (unless 264.17(b) is complied with). {270.16(j) and 264.199}	F-8
F-5g <u>Ignitable or Reactive Wastes in Waste Piles</u>  The application must include a description of the procedures for handling ignitable or reactive wastes, including the use of buffer zones. {270.18(f)}	F-8
- Waste must be treated, rendered, or mixed before or immediately after placement in the waste pile so that it is no longer considered ignitable or reactive and complies with	F-8

Subject Requirement and 40 CFR Reference	Location in Application and Comments
264.17(b); or {264.256(a)}	
- The waste is managed in such a way that it is protected from any material or conditions that may cause the waste to react or ignite. {264.256(b)}	F-8
F-5h <u>Incompatible Wastes in Waste Piles</u>  The applicant must include: {270.18(g)}  - A statement that incompatible wastes or incompatible materials are not stored in the same waste pile unless 264.17(b) is complied with. {264.257(a)}	F-8
- A description of the procedures (dikes, beams, walls, distances) utilized to separate a waste pile of hazardous waste that is incompatible with any waste or other material stored nearby. {264.257(b)}	F-8
- A statement that hazardous wastes are not placed on the same base that previously held an incompatible waste or material unless 264.17(b) is complied with. {264.257(c)}	F-8
F-5i <u>Ignitable or Reactive Wastes in Surface Impoundments</u>  The application must include a description of the procedures for handling ignitable or reactive wastes, including the use of buffer zones. {270.17(g)}	F-8
- Waste must be treated, rendered, or mixed before or immediately after placement in the surface impoundment so that it is no longer considered ignitable or reactive and complies with 264.17(b); or {264.229(a)}	F-8
- The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite; or {264.229(b)}	F-8
- The impoundment is used only for emergencies. {264.229(c)}	F-8
F-5j <u>Incompatible Wastes in Surface Impoundments</u>  The application must include:  - A statement that incompatible wastes and materials are not placed in the same surface impoundments or in the impoundments that previously held an incompatible waste or material unless 264.17(b) is complied with. {270.17(h) and 264.230}	F-8
F-5k <u>Ignitable or Reactive Wastes in Landfills</u>  The application must include a description of the procedures for handling ignitable or reactive wastes, including the use of buffer zones. {270.21(f)}	F-8

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- Waste must not be placed in a landfill cell unless the resulting waste, mixture, or dissolution of material is no longer considered ignitable or reactive and complies with 264.17(b); or {264.312(a)}</li> </ul>	F-8
<ul style="list-style-type: none"> <li>- A description of how ignitable and/or reactive waste will be landfilled in such a way that they are protected from any material which may cause them to ignite. As a minimum this should include placement in non-leaking containers, careful handling and placement to avoid any condition which might cause ignition, daily covering of containers with soil, and disposal in cells which do not contain other wastes which generate sufficient heat to cause ignition. {264.312(b)}</li> </ul>	F-8
<p>F-5l     <u>Incompatible Wastes in Landfills</u></p> <p>Applicant must provide procedures for insuring that incompatible wastes will not be disposed of in the same landfill cell, unless 264.17(b) is complied with. {270.21(g) and 264.313}</p>	F-8
<p>F-5m     <u>Ignitable or Reactive Wastes in Land Treatment</u></p> <p>A description of the management of ignitable or reactive wastes which will be placed in or on the treatment zone, if applicable, and an explanation of how the following requirements will be complied with: {270.20(g)}</p> <ul style="list-style-type: none"> <li>- The waste is immediately incorporated into the soil so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste and the requirements of 264.17(b) are complied with, or {264.281(a)}</li> </ul>	F-8
<ul style="list-style-type: none"> <li>- The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react. {264.281(b)}</li> </ul>	F-8
<p>F-5n     <u>Incompatible Wastes in Land Treatment</u></p> <p>A description of the management of incompatible wastes must be submitted if incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, including an explanation of how the requirements of 264.17(b) are complied with. {270.20(h) and 264.282}</p>	F-8

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Document for Part G

(2) Permit Applicants' Guidance Manual for the General Facility Standards of 40 CFR 264, SW-968, October 1983.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p><b>PART G - CONTINGENCY PLAN</b></p> <p>A copy of the contingency plan required in Part 264, Subpart D. Include, where applicable, specific requirements in 246.196, 264.227, 264.253, and 264.304. {270.14(b)(7) and 264.50 through 264.56}</p> <p>Note that an existing spill prevention control plan can be amended to incorporate hazardous waste management provisions sufficient to comply with 264, Subpart D requirements. {264.52(b)}</p>	G-1
<p><b>G-1 <u>General Information</u></b></p> <p>The contingency plan must be a stand alone document as it must be submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon in the event of an emergency. Therefore the following information must be included in the contingency plan: {264.53(b)}</p> <ul style="list-style-type: none"> <li>- Facility name and location and owner or operator name,</li> <li>- Site plan, and</li> <li>- Description of facility operations.</li> </ul>	G-1
<p><b>G-2 <u>Emergency Coordinators</u></b></p> <ul style="list-style-type: none"> <li>- An up-to-date list of emergency coordinators which should also be posted on site in various locations. This list must include names, addresses, office and home phone numbers, and duties of primary and alternate coordinators. The names on this list must be in the order in which they will assume responsibility. {264.52(d)} [Guidance(2) - page 5-116]</li> </ul>	G-3
<ul style="list-style-type: none"> <li>- A statement authorizing designated coordinators to commit the necessary resources to implement the contingency plan. {264.55}</li> </ul>	G-3
<ul style="list-style-type: none"> <li>- A statement indicating that the emergency coordinators can reach the facility in a short period of time. {264.55}</li> </ul>	G-3
<p><b>G-3 <u>Implementation</u></b></p>	G-5

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>Criteria for implementation of contingency plan for any potential emergency:</p> <ul style="list-style-type: none"> <li>- Fires,</li> <li>- Explosions,</li> <li>- Unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. {264.52(a)}</li> </ul>	
<p>G-4 <u>Emergency Response Procedures</u></p> <p>G-4a <u>Notification</u></p> <p>Procedures for immediate notification of facility personnel and necessary state or local agencies in the event of an imminent or actual emergency. {264.56(a)}</p>	G-6
<p>G-4b <u>Identification of Hazardous Materials</u></p> <ul style="list-style-type: none"> <li>- Available data and/or procedures for identification of hazardous materials involved in the emergency and quantity and areal extent of release. Include information on: <ul style="list-style-type: none"> <li>• Characteristics of waste,</li> <li>• Exact source,</li> <li>• Amount, and</li> <li>• Areal extent of release. {264.56(b)}</li> </ul> </li> </ul>	G-8
<ul style="list-style-type: none"> <li>- This information may be obtained by: <ul style="list-style-type: none"> <li>• observation,</li> <li>• review of facility records or manifests, and</li> <li>• if necessary, by chemical analysis. {264.56(b)}</li> </ul> </li> </ul>	G-8
<p>G-4c <u>Hazard Assessment</u></p> <ul style="list-style-type: none"> <li>- Procedure for assessment of possible hazards to the environment and human health. This assessment must consider both direct and indirect effects of the release, fire or explosion. {264.56(c)}</li> </ul>	G-8
<ul style="list-style-type: none"> <li>- Procedures for determining the need for evacuation and notification of appropriate local authorities. {264.56(d)(1)}</li> </ul>	G-8
<ul style="list-style-type: none"> <li>- The authorities to be notified must include the On-Scene-Coordinator for that area or the National Response Center. A report to these authorities must include: <ul style="list-style-type: none"> <li>• Name and telephone number of the reporter;</li> <li>• Name and address of the facility;</li> <li>• Time and type of incident;</li> <li>• Name and quantity of material(s) involved, to the extent known;</li> <li>• The extent of injuries, if any; and</li> <li>• The possible hazards to human health, or the environment, outside the facility. {264.56(d)(2)}</li> </ul> </li> </ul>	G-8 and G-9
<p>G-4d <u>Control Procedures</u></p>	G-10

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- Specific responses and control procedures to be taken in the event of a fire, explosion, or release of hazardous waste or hazardous waste constituents to air, land, or water. {264.52(a)}</li> </ul>	
<ul style="list-style-type: none"> <li>- Procedures for deployment of these resources. {264.52(a)}</li> </ul>	G-10
<ul style="list-style-type: none"> <li>- Methods to contain, treat, and clean up a hazardous release and decontaminate the affected area. {264.52(a) and 264.56(g)}</li> </ul>	G-11
<p>G-4d(1) <u>Prevention of Recurrence or Spread of Fires, Explosions, or Releases</u></p> <p>During an emergency situation, a description of the necessary steps to be taken to ensure that fires, explosions, or releases do not occur, recur, or spread to other hazardous waste at the facility. Steps must include, where applicable:</p> <ul style="list-style-type: none"> <li>- Shut-down of processes and continued monitoring of them; {264.56(e)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Collecting, containing, and treating released wastes; {264.56(e)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Removing and isolating containers; and {264.56(e)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Proper use of fire control structures (e.g., fire doors), systems (e.g., sprinkler systems), and equipment (e.g., extinguishers). [Guidance(2) - page 5-123]</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Provisions to monitor for leaks, pressure buildup, gas generation, or ruptures as appropriate if operations at the facility are stopped in response to a release, fire, or explosion. {264.56(f)}</li> </ul>	G-13
<p>G-4d(2) <u>Container Spills and Leakage</u></p> <p>Procedures for responding to container spills or leakage including removal of spilled waste and repair or replacement of containers. {264.171}</p>	G-13
<p>G-4d(3) <u>Tank Spills and Leakage</u></p> <ul style="list-style-type: none"> <li>- Procedures for responding to tank spills or leakage including: <ul style="list-style-type: none"> <li>• Cessation of use of tanks, {264.196(a)}</li> <li>• Removal of waste from the tank system within 24 hours of leak or spill detection (if possible), {264.196(b)(1)}</li> <li>• Removal of waste from secondary containment within 24 hours of leak or spill detection (if possible), {264.196(b)(2)}</li> <li>• Prevention of further migration of leak or spill to soils or surface water, {264.196(c)(1)}</li> <li>• Removal and disposal of visibly contaminated soil or surface water. {264.196(c)(2)}</li> </ul> </li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Any release must be reported to the Department within 24 hours of its detection except for leaks or spills which are: <ul style="list-style-type: none"> <li>• Less than or equal to a quantity of one (1) pound, and</li> </ul> </li> </ul>	G-13

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>• Immediately contained and cleaned up. {264.196(d)(1) and (2)}</li> </ul>	
<ul style="list-style-type: none"> <li>- Within 30 days of detection of a release to the environment, a report must be submitted to the Department. This report must contain the following information:               <ul style="list-style-type: none"> <li>• Likely route of migration of the release;</li> <li>• Characteristics of the surrounding soil;</li> <li>• Results of any sampling or monitoring conducted in connection with the release (submit as soon as available);</li> <li>• Proximity to downgradient drinking water, surface water, and populated areas; and</li> <li>• Description of the response actions taken or planned. {264.196(d)(3)}</li> </ul> </li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Indicate that damaged tanks will be repaired or closed per the requirements of 40 CFR 264.196(e). {264.196(e)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Indicate that a certification of major repairs by an independent, qualified, registered, professional engineer will be provided to the Department within 7 days after returning the tank system to use. {264.196(f)}</li> </ul>	G-13
<p>G-4d(4) <u>Waste Piles</u></p> <p>The owner/operator of waste piles must have an approved response action plan. The action plan must set forth the actions to be taken if the action leakage rate has been exceeded. {264.253}</p>	G-13
<p>G-4d(5) <u>Surface Impoundments Spills, Leakage, and Sudden Drops</u></p> <p>A surface impoundment must be removed from service when the liquid level suddenly drops or the dike leaks. The following must be provided in the contingency plan: {264.227}</p> <ul style="list-style-type: none"> <li>- Procedures for stopping waste additions, {264.227(b)(1)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Procedures for containing any leakage, {264.227(b)(2)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Procedures for stopping leaks and preventing sudden drops and preventing catastrophic failure, {264.227(b)(3) and 264.227(b)(4)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Procedures and criteria for emptying impoundment, {264.227(b)(5)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Notification of the Department in writing within 7 days after detecting the problem, {264.227(b)(6)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with 264.266(c), {264.227(d)(1)}</li> </ul>	G-13
<ul style="list-style-type: none"> <li>- Procedures for installing a liner in existing portions of the impoundment or procedures for certification of the liner in other than existing portions when the impoundment is</li> </ul>	G-13

Subject Requirement and 40 CFR Reference	Location in Application and Comments
removed from service as the result of a sudden drop in liquid level, {264.227(d)(2)}	
- Obtain independent, qualified, NC registered, professional engineer's certification of repairs and probability of leakage or failure. {264.227(d)(2)(ii)}	G-13
G-4d(6) <u>Landfills</u>  The owner/operator of landfills must have an approved response action plan. The action plan must set forth the actions to be taken if the action leakage rate has been exceeded. {264.304}	G-13
G-4e <u>Incompatible Waste</u>  Provisions for preventing waste which is incompatible with the released material from being treated, stored, or located in the affected areas until cleanup procedures are completed. {264.56(h)(1)}	G-14
G-4f <u>Storage and Treatment of Released Material</u>  Provisions for treatment, storage, or disposal of any hazardous waste, contaminated soil, contaminated surface water or any other material resulting from a release, fire, or explosion at the facility. {264.56(g)}	G-14
G-4g <u>Post-Emergency Equipment Maintenance</u>  Procedures for ensuring that all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed. Appropriate State and local authorities must be notified before operations are resumed in the affected areas of the facility. {264.56(h)(2) and 264.56(i)}	G-14
G-5 <u>Emergency Equipment</u>  An up-to-date list of emergency equipment available at the facility. This list must be kept on site and contain the following information for each piece of emergency equipment:  - Location, - Physical description, and - A description of the capabilities. {264.52(e)}	G-15
The list should include the following equipment: {264.52(e)} [Guidance(2) - page 5-116]	G-17
- Spill control equipment,	G-16
- Fire control equipment,	G-16
- Personal protective items such as respirators and protective clothing,	G-16
- First aid and medical supplies,	G-16
- Emergency decontamination equipment,	G-17
- Emergency communication and alarm systems.	G-16
G-6 <u>Coordination Agreements</u>	G-18

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- A description of coordination agreement with local police and fire departments, hospitals, contractors, and state and local emergency response teams to familiarize them with the facility and actions needed in case of emergency. {264.37, 264.52(c) and 264.53}</li> </ul>	
<ul style="list-style-type: none"> <li>- A statement indicating that a copy of the contingency plan has been submitted to these organizations. {264.53(b)}</li> </ul>	G-18
<ul style="list-style-type: none"> <li>- If applicable, document of refusal to enter into a coordination agreement. {264.37(b)}</li> </ul>	Not applicable
<p>G-7 <u>Evacuation Plan</u></p> <p>The plan must include: {264.52(f)}</p> <ul style="list-style-type: none"> <li>- Criteria for evacuation,</li> </ul>	G-18
<ul style="list-style-type: none"> <li>- A description of signal(s) to be used to begin evacuation,</li> </ul>	G-18
<ul style="list-style-type: none"> <li>- Primary and alternate evacuation routes.</li> </ul>	G-18
<p>G-8 <u>Required Reports</u></p> <ul style="list-style-type: none"> <li>- Provisions for submission of reports of emergency incidents within 15 days of occurrence. {264.56(j)}</li> </ul>	G-19
<ul style="list-style-type: none"> <li>- The report must include: <ul style="list-style-type: none"> <li>• Name, address, and telephone number of the owner or operator;</li> </ul> </li> </ul>	G-19
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• Name, address, and telephone number of the facility;</li> </ul> </li> </ul>	G-19
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• Date, time, and type of incident;</li> </ul> </li> </ul>	G-19
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• Name and quantity of material(s) involved;</li> </ul> </li> </ul>	G-19
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• The extent of injuries, if any;</li> </ul> </li> </ul>	G-19
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• An assessment of actual or potential hazards to human health or the environment, where this is applicable, and</li> </ul> </li> </ul>	G-19
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>• Estimated quantity and disposition of recovered material that resulted from the incident. {264.56(j)}</li> </ul> </li> </ul>	G-19
<ul style="list-style-type: none"> <li>- Notation of such incidents in the operating record identifying the time, date, and details of these emergency incidents. {264.56(j)}</li> </ul>	G-19
<p>G-9 <u>Amendment to Contingency Plan</u></p> <p>Indicate that the contingency plan will be reviewed and amended whenever:</p> <ul style="list-style-type: none"> <li>- The facility permit is revised;</li> <li>- The plan fails in an emergency;</li> <li>- The facility changes in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;</li> <li>- The list of emergency coordinators changes; or</li> <li>- The list of emergency equipment changes. {264.54}</li> </ul>	G-19

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Document for Part H

(2) Permit Applicants' Guidance Manual for the General Facility Standards of 40 CFR 264, SW-968, October 1983.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p><b>PART H - PERSONNEL TRAINING</b></p> <p><b>H-1 <u>Training Program</u></b></p> <p>Describe the training programs provided by owners or operators to prepare the personnel to operate and maintain the facility in a safe manner as required to demonstrate compliance with 264.16. This description should include the following topics. {264.16 and 270.14(b)(12)} [Guidance(2) - Section 5.12.2]</p>	H-1
<p><b>H-2 <u>Job Titles and Duties</u></b></p> <p>For each employee whose position at the facility is related to hazardous waste management, provide the following information: {264.16(d) and comment following 264.16(a)(1)} [Guidance(2) - Sections 5.12.2.2 and 5.12.2.7]</p> <ul style="list-style-type: none"> <li>- Job title {264.16(d)(1)}</li> </ul>	H-1
<ul style="list-style-type: none"> <li>- Written job description to include requisite skill, education or other qualifications, and job duties of employees assigned to each position. {264.16(d)(2)}</li> </ul>	H-1
<p><b>H-3 <u>Training Content</u></b></p> <ul style="list-style-type: none"> <li>- Provide an outline of both the introductory and continuing training programs (including annual review of the initial training) and/or a table of contents of the training manual (if applicable). {270.14(b)(12), 264.16(c), 264.16(d)(3) and comment following 264.16(a)(1)}</li> </ul>	H-1
<ul style="list-style-type: none"> <li>- Provide a brief description of how training of facility personnel in hazardous waste management procedures (including contingency plan implementation) is relevant to each employee's position. {264.16(a)(2) and comment following 264.16(a)(1)}</li> </ul>	H-1, Appendix D
<ul style="list-style-type: none"> <li>- Documentation that the training program trains facility personnel to respond effectively to emergencies and trains them to be familiar with emergency procedures, emergency equipment, and emergency systems, include where applicable:</li> </ul>	H-1, Appendix D

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>{264.16(a)(3)}</p> <ul style="list-style-type: none"> <li>• Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment; {264.16(a)(3)(i)}</li> <li>• Key parameters for automatic waste feed cut-off systems; {264.16(a)(3)(ii)}</li> <li>• Communications or alarm systems; {264.16(a)(3)(iii)}</li> <li>• Response to fires or explosions; {264.16(a)(3)(iv)}</li> <li>• Response to groundwater contamination incidents; and {264.16(a)(3)(v)}</li> <li>• Shutdown of operations. {264.16(a)(3)(vi)}</li> </ul>	
<p>H-4 <u>Training Frequency</u></p> <ul style="list-style-type: none"> <li>- Provide the frequency at which training will be provided. Indicate that facility personnel will take part in an annual review of the initial training including a review of emergency procedures, the contingency plan, and any facility procedural revisions. {264.16(c)}</li> </ul>	H-3
<ul style="list-style-type: none"> <li>- Indicate the amount of training that each employee will receive. {264.16(d)(3)}</li> </ul>	H-3
<ul style="list-style-type: none"> <li>- Indication that training has been and will be successfully completed by facility personnel within 6 months of their employment or assignment to a facility, or transfer to a new position at a facility, whichever is later. {264.16(b)}</li> </ul>	H-3
<p>H-5 <u>Training Techniques</u></p> <p>Describe the various techniques used to provide both the introductory and continuing training. This may include, but is not limited to:</p> <ul style="list-style-type: none"> <li>- In-house class room training,</li> <li>- On-the-job training, and</li> <li>- Formal training courses.</li> </ul> <p>{264.16(d)(3)}</p>	H-4
<p>H-6 <u>Training Director</u></p> <p>Demonstration that the program is directed by a person trained in hazardous waste management procedures. Formal training programs should be instructed by hazardous waste management experts. On-the-job (performance) training should be provided by supervisors skilled in the actual operations of the facility. {264.16(a)(2)} [Guidance(2) - Section 5.12.2.1]</p>	H-4
<p>H-7 <u>Recordkeeping</u></p> <ul style="list-style-type: none"> <li>- For each employee whose position is related to hazardous waste management, indicate that the following documentation will be maintained at the facility: <ul style="list-style-type: none"> <li>• Job title,</li> </ul> </li> </ul>	H-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>{264.16(d)(1)}</p> <ul style="list-style-type: none"> <li>• Name of employee, {264.16(d)(1)}</li> <li>• Job description and duties, and {264.16(d)(2)}</li> <li>• Documentation that the required training has been given to and completed by facility personnel. {264.16(d)(4)}</li> </ul>	
<p>- Indicate that personnel records will be kept for current employees until facility closure or, for former employees, for three (3) years from the last date of employment at the facility. Personnel training records may accompany personnel transferred within the same company. {264.16(e)}</p>	<p>H-4</p>

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

The regulatory checklists are currently undergoing revision. While this checklist has been reformatted, it has not been reviewed for technical content.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p><b>PART I - CLOSURE PLANS, POSTCLOSURE PLANS, AND FINANCIAL REQUIREMENTS</b> {270.14(b)(13), 270.14(b)(15), 270.14(b)(16), 270.14(b)(17), 270.14(b)(18), 264.110-264.151, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, and 264.351}</p> <p>I-1 <u>Closure Plans</u></p> <p>A copy of the written closure plan required by 264.112 and consistent with Items I-1a through I-1e. {270.14(b)(13) and 264.112}</p>	I-1
<p><u>I-1a Closure Performance Standard</u></p> <p>A description of how closure: {264.111 (264.112 requires consistency with 264.111)}</p> <ul style="list-style-type: none"> <li>- Minimizes the need for further maintenance</li> </ul>	I-1
<ul style="list-style-type: none"> <li>- Controls, minimizes, or eliminates post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.</li> </ul>	I-1
<ul style="list-style-type: none"> <li>- Complies with the closure requirements of Subpart G and unit-specific closure requirements.</li> </ul>	I-1
<ul style="list-style-type: none"> <li>- Estimated expected year of closure for facilities that use trust funds to establish financial assurance and that are expected to close prior to the expiration of the permit.</li> </ul>	I-1
<p><u>I-1b Partial Closure and Final Closure Activities</u></p> <p>Fully describe time and all activities required for: {264.112(b) (264.112(b)(1) through 264.112(b)(7) outline minimum acceptable plan elements)}</p> <ul style="list-style-type: none"> <li>- Partial closure, if applicable</li> </ul>	I-1
<ul style="list-style-type: none"> <li>- Final closure</li> </ul>	I-1
<ul style="list-style-type: none"> <li>- Maximum extent of operation which will be active during life of facility</li> </ul>	I-1
<p>Description must identify how requirements of 264.111, 264.113, 264.114, 264.115 and applicable requirements of 264.178,</p>	I-1

Subject Requirement and 40 CFR Reference	Location in Application and Comments
264.197, 264.228, 264.258, 264.280, 264.310, and 264.351 will be met.	
<p>I-1c <u>Maximum Waste Inventory</u></p> <p>A description of the maximum inventory of wastes that could be in storage, treatment, and disposal at any time during the life of the facility. {264.112(b)(3)}</p> <p>Methods for removing, transporting, treating, storing, or disposing of all hazardous wastes. Identification of the type(s) of off-site hazardous waste management units to be used.</p>	I-2
<p>I-1d <u>Schedule for Closure</u></p> <p>A schedule for final closure including: {264.112(b)(6)}</p> <ul style="list-style-type: none"> <li>- Each HWMU and final closure of the facility</li> </ul>	I-2
<ul style="list-style-type: none"> <li>- Closure schedule with total time to close, time for intervening closure activities, and inspection schedule during closure.</li> </ul>	I-2
<ul style="list-style-type: none"> <li>- Estimated expected year of closure for facilities that use trust funds to establish financial assurance and that are expected to close prior to the expiration of the permit.</li> </ul>	I-2
<p>I-d1(1) <u>Time Allowed for Closure</u></p> <p>The schedule for closure must show: {264.112(b)(2), 264.113(a) and (b)}</p> <ul style="list-style-type: none"> <li>- All hazardous wastes will be treated, removed off-site, or disposed of on-site within 90 days from receipt of final volume of waste at the unit or facility</li> </ul>	I-2
<ul style="list-style-type: none"> <li>- All closure activities will be completed within 180 days from receipt of final volume of waste at the unit or facility.</li> </ul>	I-2
<p>I-1d(1)(a) <u>Extensions for Closure Time</u></p> <p>A petition made to the Regional Administrator for a schedule for closure which exceeds the 90 days for treatment, removal, or disposal of wastes and/or the 180 days for completion of closure activities made to the Regional Administrator. One of the following must be demonstrated. {264.113(a) and 264.113(b)}</p> <ul style="list-style-type: none"> <li>- Closure activities require longer than 90 or 180 days,</li> </ul>	I-2
<ul style="list-style-type: none"> <li>- Unit or facility has capacity to receive additional wastes,</li> </ul>	I-2
<ul style="list-style-type: none"> <li>- There is a reasonable likelihood that another person other than owner or operator will recommence operation of the site within one year, and</li> </ul>	I-2
<ul style="list-style-type: none"> <li>- Closure would be incompatible with continued operation. Demonstrate that all steps have and will be taken to prevent threats to human health and environment from unclosed but inactive facility.</li> </ul>	I-2
<p>I-1e <u>Closure Procedures</u></p> <p>I-1e(1) <u>Inventory Removal, Disposal, or Decontamination of Equipment</u></p>	I-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>A description of how all facility equipment and structures will be decontaminated or disposed of when closure is completed. The following should be included: {264.112, 264.112(b)(4) and 264.114}</p>	
<ul style="list-style-type: none"> <li>- Decontamination procedures</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Criteria for determining decontamination</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- List of equipment, structures, and soils</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Disposal of contaminated soil and residues</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Decontamination of clean-up materials and equipment</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Demonstrate decontamination has been effective.</li> </ul>	I-3
<p>A demonstration that any hazardous constituents left will not impact environmental media in excess of agency established exposure levels, and direct contact will not pose a threat to human health and the environment. {264.111(b)} [Guidance (Preamble 51 FR 16444, May 2, 1986)]</p>	This seems to be out of place for this heading, which is for decon of equipment, not contamination left at site
<p>I-1e(2) <u>Closure of Disposal Units</u></p> <p>Closure plans for all piles, landfills, surface impoundments, and miscellaneous disposal units in which wastes or contaminated materials are to remain at closure must describe how the unit will be closed, including a description of the final cover to be established and its expected performance. Contingent closure plans for tanks, surface impoundments, and waste piles also must provide these descriptions. {270.14(b)(13), 270.17(f), 270.18(h), 270.21(e), 264.228(a)(2), 264.228(c)(1)(i), 264.258(c), 264.310(a), and 264.601}</p>	I-3
<p>I-1e(3) <u>Closure of Containers</u></p> <p>A description of how at closure, all hazardous waste residues will be removed from the containment system, and how remaining containers, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed. {264.178}</p> <p>The description should address the following:</p> <ul style="list-style-type: none"> <li>- Hazardous waste removal and disposal [Guidance]</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Container decontamination and disposal [Guidance]</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Site decontamination and disposal including linings, soil, and washes [Guidance]</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Verification of decontamination [Guidance]</li> </ul>	I-3
<ul style="list-style-type: none"> <li>- Maximum inventory {264.112(b)(3)}</li> </ul>	I-3
<p>I-1e(4) <u>Closure of Tanks</u></p> <p>A description of how at closure, all hazardous waste residues will be removed from tanks, discharge control equipment, and secondary containment structures, and the facility will be decontaminated. The description should address the following:</p>	I-3

Subject Requirement and 40 CFR Reference	Location in Application and Comments
{264.197(a)} - Waste removal from tanks and equipment [Guidance]	
- Decontamination of all components [Guidance]	I-3
- Verification of decontamination [Guidance]	I-3
- Disposal of wastes and residues [Guidance]	I-3
- Maximum inventory {264.112(b)(3)}	I-3
If not all contaminated soils can be removed or decontaminated at closure, a closure and post-closure plan for a landfill must be included. If the tank systems do not have secondary containment or are not exempt, then a contingent closure and post-closure plan for a landfill must be provided. {264.197(b) and 264.197(c)}	I-3
I-1e(5) <u>Closure of Waste Piles</u>  The application must describe how all hazardous waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate will be removed or decontaminated at closure and managed as hazardous waste. {270.18(h), 264.258 and 264.112(b)(4)}	I-4
If any wastes, waste residues, or contaminated materials or soils will remain after closure, provide plans for closing the pile as a landfill [I-1f(6)] and provide postclosure plan [I-2]. Piles without liners or with liners that do not meet the requirement of D-3e must also provide contingent plans for closing the facility as a landfill {I-1d(6)} and a contingent post-closure [I-2], except for dry, enclosed piles meeting the requirements of D-3b or piles for which a liner exemption is sought in accordance with D-3c.  The description should address the following:  - Procedure and criteria for determining whether or not decontamination has been successful	I-4
- Sampling and analytical techniques	I-4
I-1e(6) <u>Closure of Surface Impoundments</u>  A description of how all hazardous waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate will be removed or decontaminated at closure and managed as hazardous waste. {270.17(f), 264.228(a)(1) and (2), and 264.228(b)}  The description should address the following:  - Procedure and criteria for determining whether or not decontamination has been successful [Guidance]	I-4
- Sampling and analytical techniques [Guidance]	I-4
- Continuance of treatment during closure (if appropriate).	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
[Guidance]	
<p>If any wastes, waste residues or contaminated materials or soils will remain after closure, provide plans for closing the surface impoundment in place and provide post-closure plans [I-2]. Plans for closing a surface impoundment in place must address the following:</p> <ul style="list-style-type: none"> <li>- Elimination of liquids by removal or solidification</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Stabilization of wastes to sufficient bearing capacity</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Final cover designed and constructed to provide long-term minimization of migration of liquids through the closed impoundment, function with minimal maintenance, promote drainage, and minimize erosion of final cover, accommodate settling and subsidence, and have a permeability less than or equal to that of the bottom liner system or natural subsoils present.</li> </ul>	I-4
<p>Surface impoundments without liners or with liners that do not meet requirements of D-4c must also provide contingent plans for closure in place and a contingent post-closure plan [I-2], except for impoundments requesting a liner exemption in accordance with D-4b.</p>	I-4
<p>I-1e(7) <u>Closure of Incinerators</u></p> <p>Description of how at closure all hazardous waste and hazardous waste residues including ash, scrubber waters, and scrubber sludges will be removed from the incinerator, associated duct work, piping, air pollution control equipment, sumps, and any other structures or operating equipment such as pumps, valves, etc., that have come into contact with the hazardous waste. Alternatively, a description of how the incinerator and associated units and equipment will be dismantled and disposed of as a hazardous waste will suffice. {264.351}</p>	I-4
<p>I-1e(8) <u>Closure for Landfills</u></p> <p>Provide detailed plans and an engineering report which describes the final cover components in detail. Cover installation and construction quality assurance procedures should be thoroughly described. These detailed plans and engineering reports must describe how the final cover will: {270.21(e), 264.310(a) and 264.280(b)}</p> <ul style="list-style-type: none"> <li>- Provide long-term minimization of migration of liquids through closed landfill</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Function with minimum maintenance</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Promote drainage and minimize erosion/abrasion</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Settle/subside without losing integrity</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Be less permeable than bottom liners or subsoils</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Withstand freeze/thaw cycles.</li> </ul>	I-4
<p>I-1e(9) <u>Closure of Land Treatment</u></p> <p>During closure of land treatment facilities, the owner or operator must comply with the following: {270.20(f) and 264.280(a)}</p> <ul style="list-style-type: none"> <li>- Continue all operations (including pH control) necessary to</li> </ul>	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required, except to the extent such measures are inconsistent with 264.280(a)(8)</p>	
<p>- Continue all operations in the treatment zone to minimize run-off of hazardous constituents</p>	I-4
<p>- Maintain the run-on control system</p>	I-4
<p>- Maintain the run-off management system</p>	I-4
<p>- Control wind dispersal of hazardous waste if required</p>	I-4
<p>- Continue to comply with any prohibitions or conditions concerning growth of food-chain crops</p>	I-4
<p>- Continue unsaturated zone monitoring except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone</p>	I-4
<p>- Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.</p>	I-4
<p>When closure is complete the owner-operator may submit to the Regional Administrator certification by an independent qualified soil scientist, in lieu of an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.</p>	I-4
<p>I-1e(10) <u>Closure of Miscellaneous Units</u></p> <p>Show that at closure, all hazardous waste and hazardous waste residues will be removed from the treatment process or equipment, discharge control equipment, and discharge confinement structures, and that the facility will be decontaminated. Description of the sampling/test procedures or other means used to ensure that no contamination remains on, in, or around the units and associated equipment and structures. If any wastes, waste residues, or contaminated materials or soils will remain after closure, provide plans for closing the miscellaneous unit as a disposal unit [I-1e(2)] and provide post-closure plans [I-2]. {264.601 and 270.23(a)(2)}</p>	I-4
<p>I-2 <u>Post-Closure Plan</u></p> <p>An owner/operator of a disposal facility must have a written post-closure plan, or, if applicable, a contingent post-closure plan. A copy of the approved plan and all revisions to the plan must be kept at the facility until the post-closure care begins. Landfill, surface impoundment, waste pile, and tank post-closure plans should address items I-2a, b, c, f, g, h; land treatment unit post-closure plan, items I-2d f, g, and h; miscellaneous units should address items I-2a, b, c, e, f, g, and h. {270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(3), 264.118, 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.280(c), 264.310(b), and 264.603}</p>	I-4
<p>I-2a <u>Inspection Plan</u></p> <p>A description of the inspections to be conducted during the post-</p>	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
closure care period, their frequency, the inspection procedure, I-4 and the logs to be kept. The following items, as applicable, should be included in the inspection plan: {264.118(a), 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), and 264.310(b)}  - Security control devices	
- Erosion damage	I-4
- Cover settlement, subsidence, and displacement	I-4
- Vegetative cover condition	I-4
- Integrity of run-on and run-off control measures	I-4
- Cover drainage system function	I-4
- Leachate collection/detection and removal system maintenance	I-4
- Gas venting system	I-4
- Well condition	I-4
- Benchmark integrity	I-4
The rationale to be used to determine the need for corrective maintenance activities.	I-4
<u>I-2b Monitoring Plan</u>  A description of the monitoring to be conducted during the post-closure care period, including, as applicable, the procedures for conducting the following operations and evaluating the data gathered should include: {264.118(b)(1), 264.228(b), 264.197(b), 264.197(c)(2), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), and 264.310(b)}  - Groundwater monitoring	I-4
- Leachate collection/detection and removal.	I-4
<u>I-2c Maintenance Plan</u>  A description of preventative and corrective maintenance procedures, equipment procedures, equipment requirements, and material needs. Include the following items in the maintenance plan, as applicable: {264.118(b)(2), 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), and 264.310(b)}  - Repair of security control devices	I-4
- Erosion damage repair	I-4
- Correction of settlement, subsidence, and displacement	I-4
- Mowing, fertilization, and other vegetative cover maintenance	I-4
- Repair of run-on and run-off control structures	I-4
- Leachate collection/detection system maintenance	I-4
- Well replacement	I-4
- The rationale to be used to determine the need for corrective maintenance activities.	I-4
<u>I-2d Land Treatment</u>  A description of the operation, inspection, and maintenance programs to be used at the closed facility. Include descriptions of the procedures for conducting the following activities and identify frequencies at which they are to be conducted: {264.280(c)}	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
- Continuance of land treatment	
- Vegetative cover maintenance	I-4
- Maintenance of run-on control systems and run-off management systems	I-4
- Wind dispersal control	I-4
- Control of food chain crops	I-4
- Unsaturated zone monitoring	I-4
<p><u>I-2e Post-Closure Care for Miscellaneous Units</u></p> <p>A detailed description of the plans to ensure protection of human health and the environment. Include the prevention of any releases to groundwater or subsurface environment; surface water or wetlands or on the soil surface; or to air. This will include providing related information form [D-8]. {270.23(a)(3) and 264.603}</p>	I-4
<p><u>I-2f Post-Closure Security</u></p> <p>Indicate which security provisions will continue during closure when hazardous waste will remain exposed after completion of partial or final closure or access by the public or domestic livestock may pose a hazard to human health. {264.117(b)}</p>	I-4
<p><u>I-2g Post-Closure Contact</u></p> <p>Provide the name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period. {264.118(b)(3)}</p>	I-4
<p><u>I-3 Notices Required for Disposal Facilities</u></p> <p><u>I-3a Certification of Closure</u></p> <p>A statement by the applicant which indicates that within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, closure certification will be submitted to the Regional administrator. The certification must certify that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications of the approved closure plan. The certification must be signed by the owner/operator and by an independent registered professional engineer (or by an independent qualified soil scientist in the case of a land treatment closure). {264.115 and 264.280(b)}</p>	I-4
<p><u>I-3b Survey Plat</u></p> <p>A statement by the applicant which indicates that no later than the submission of certification of closure of each hazardous waste disposal unit, a survey plat indicating the location and dimensions of landfill cells or other disposal units with respect to permanently surveyed benchmarks, will be submitted to the local zoning authority (or authority with jurisdiction over local land use) and to the Regional Administrator. The plat must be prepared and certified by a professional land surveyor and must contain a note, prominently displayed, which states the owner-</p>	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
operator's obligation to restrict disturbance of the disposal unit in accordance with applicable 40 CFR 264 Subpart G regulations. {264.116}	
<p>I-3c <u>Notice to Local and Authority</u></p> <p>Documentation by applicant that within 60 days after closure, a record of the type, location, and quantity of hazardous waste within each cell or disposal area will be submitted to the appropriate local land use authority and to the Regional Administrator. {264.119}</p>	I-4
<p>I-3d <u>Post-Closure Certification</u></p> <p>Provide a statement which indicates that within 60 days of completion of the post-closure care period for each hazardous waste disposal unit, certification will be submitted to the Regional Administrator. The certification must certify that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications of the approved post-closure plan. The certification must be signed by the owner/ operator and by an independent registered professional engineer. {264.120}</p>	I-4
<p>I-3e <u>Notice in Deed to Property</u></p> <p>Documentation by applicant that s/he has or will record a notation on the facility deed, or other instrument examined during a title search, that notifies any potential purchase of the property that: {270.14(b)(14) and 264.119}</p> <ul style="list-style-type: none"> <li>- The property has been used to manage hazardous wastes</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Use of the land is restricted to activities that will not disturb integrity of final cover system, or monitoring system during post-closure care period</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Requirements stated under I-3a above have been complied with.</li> </ul>	I-4
<p>I-4 <u>Closure Cost Estimate</u></p> <p>A copy of the most recent closure or contingent closure cost estimate, prepared in accordance with 264.142. {270.14(b)(15)}</p> <ul style="list-style-type: none"> <li>- Cost estimate based on third party costs {264.142(a)(2)}</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Fully loaded (most costly) [Guidance]</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- No salvage credits {264.142(a)(3) and (4)}</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Current year costs {264.142(a)}</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Cost adjusted annually from anniversary date of first cost estimate {264.142(b)}</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Based on point in operating life when extent and manner of operation would make closure most expensive. {264.142(a)}</li> </ul>	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>I-5 <u>Financial Assurance Mechanism for Closure</u></p> <p>A copy of the established financial assurance mechanism for facility closure adopted in compliance with 264.143. The mechanism must be one of the following [I-5(a) through I[5(f)] and include due dates and use standard wording. {270.14(b)(15), 264.143 and 264.151 }</p>	I-4
<p>I-5a <u>Closure Trust Fund</u></p> <p>A copy of the closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgement. {264.143(a) and 264.151(a)(1)}</p> <ul style="list-style-type: none"> <li>- Bank or approval institution</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Mechanics: <ul style="list-style-type: none"> <li>· pay-in period; life of permit or remaining life of facility, whichever is shorter,</li> <li>· annual payment; unfunded liability divided by years left in pay-in period.</li> </ul> </li> </ul>	I-4
<p>I-5b <u>Surety Bond</u></p> <p>A surety bond from a federally acceptable surety company meeting one of the following requirements: {264.143(b) and(c), 264.151(b) and (c)}</p> <ul style="list-style-type: none"> <li>- Surety bond guaranteeing payment into a closure trust fund. A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund agreement {264.143(b) and 264.151(b)}</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Surety bond guaranteeing performance of closure. A copy of the surety bond with the wording required in Part 264.151(c), Guaranteeing that the owner/operator will perform closure according to the closure plan and the requirements of Subpart G. {264.143(c) and 264.151(c)}</li> </ul>	I-4
<p>I-5c <u>Closure Letter of Credit</u></p> <p>A copy of a closure letter of credit with the wording required in 264.151(d): {264.143(d) and 264.151(d)}</p> <ul style="list-style-type: none"> <li>- Irrevocable letter of credit</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- At least one year period, automatic renewal</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Standby trust fund</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Amount reflects current cost estimate.</li> </ul>	I-4
<p>I-5d <u>Closure Insurance</u></p> <p>To demonstrate that the owner/operator has closure insurance, s/he must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(e). {264.143(e) and 264.151(e)}</p> <ul style="list-style-type: none"> <li>- Non-cancelable policy, automatic renewal</li> </ul>	I-4
<ul style="list-style-type: none"> <li>- Insurer licensed or eligible surplus lines carrier</li> </ul>	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
- Certificate of insurance	I-4
- Funds available whenever final closure occurs.	I-4
<p><u>I-5e Financial Test and Corporate Guarantee for Closure</u></p> <p>To demonstrate that this test is met, an owner/operator must submit a letter signed by the company's chief financial officer that is worded as specified in 264.151(f) and meets the following criteria: {264.143(f), 264.151(f), and 264.151(h)}</p> <ul style="list-style-type: none"> <li>- Tangible net worth \$10 million</li> </ul>	I-4
- Tangible net worth 6 x all closure and post-closure costs	I-4
- U.S. assets at least 90% of total assets or at least six times all closure and post-closure costs	I-4
- Bond rating requirement or alternative financial ratio tests	I-4
<ul style="list-style-type: none"> <li>- Application must include: <ul style="list-style-type: none"> <li>· copy of a report from the owner's/ operator's independent CPA to the owner/operator stating that s/he has examined the data in the letter from the chief financial officer and that it is consistent with the amounts in the independently-audited year-end financial statements for the latest fiscal year and that no matters came to attention to cause her/him to believe that the data should be adjusted.</li> </ul> </li> </ul>	I-4
<p>In lieu of the above items, the owner/ operator may submit a corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor must be the parent company of the owner/ operator. A copy of these items should be submitted with the Part B for review by the permit writer. {264.143(f)(10)}</p>	I-4
<p><u>I-5f Combinations</u></p> <p><u>I-5f(1) Use of Multiple Financial Mechanisms</u></p> <p>A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a closure trust fund, letter of credit, or insurance, and state assumption of responsibility, which provide financial assurance for the amount of closure. Combined financial assurance must be at least equal to the adjusted closure cost estimate. Financial assurance instruments must meet requirements 264.143(a),(b),(d), or (e) which include closure trust fund, surety bond guaranteeing payment into a closure trust fund, closure letter of credit, and closure insurance, respectively. {264.143(g)}</p>	I-4
<p><u>I-5f(2) Use of Financial Mechanism for Multiple Facilities</u></p> <p>A copy of a financial assurance mechanism for more than one facility showing for each facility, the EPA ID number, name, address, and amount of closure funds assured by the mechanism. {264.143(h)}</p> <p>Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each Region where facilities are located. Financial test applies to sum of closure and post-closure costs for all facilities. {264.143(h)}</p>	I-4

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>I-6 <u>Post-Closure Cost Estimate</u></p> <p>If landfill, land treatment, surface impoundments, or waste piles are utilized, the application must include a post-closure or a contingent post-closure cost estimate prepared in accordance with 264.144: {270.14(b)(16) and 264.144}</p> <ul style="list-style-type: none"> <li>- Fully loaded labor rate (third party) [Guidance]</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- No salvage values [Guidance]</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- No operation credits (gas, crops, livestock) [Guidance]</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Current year [Guidance]</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Based on the extent of operation most likely to make post-closure most expensive [Guidance]</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Inspection costs [Guidance]</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Administration [Guidance]</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Transportation [Guidance]</li> </ul>	I-5
<p>I-7 <u>Financial Assurance Mechanism for post-Closure</u></p> <p>A copy of the established financial assurance mechanism for post-closure care adopted in compliance with 264.145. The mechanism must be one of the following: {270.14(b)(16), 264.145 and 264.151}</p> <p>[I-7(a) through I-7(f)] and include due dates and use standard wording.</p>	I-5
<p>I-7a <u>Post-Closure Trust Fund</u></p> <p>A copy of the post-closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgement: {264.145(a) and 264.151(a)(1)}</p> <ul style="list-style-type: none"> <li>- Bank or approval institution</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Mechanics                             <ul style="list-style-type: none"> <li>• pay-in period; life of permit or remaining life of facility, whichever is shorter</li> <li>• annual payment; unfunded liability divided by years left in pay-in period.</li> </ul> </li> </ul>	I-5
<p>I-7b <u>Surety Bond</u></p> <p>A surety bond from a federally acceptable surety company meeting one of the following requirements: {264.145(b) and (c), 264.151(b) and (c)}</p> <ul style="list-style-type: none"> <li>- Surety bond guaranteeing payment into a post-closure trust fund. A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund agreement.</li> </ul>	I-5

Subject Requirement and 40 CFR Reference	Location in Application and Comments
{264.145(b) and 264.151(b)}	
<ul style="list-style-type: none"> <li>- Surety bond guaranteeing performance of post-closure activities. A copy of the surety bond with the wording required in Part 264.151(c), guaranteeing that the owner/operator will perform post-closure plan and the requirements of Subpart H. {264.145(c) and 264.151(c)}</li> </ul>	I-5
<u>I-7c Post-Closure Letter of Credit</u>	I-5
<p>A copy of post-closure letter of credit with the wording required in 264.151(d): {264.145(d) and 264.151(d)}</p>	
<ul style="list-style-type: none"> <li>- Irrevocable letter of credit</li> </ul>	
<ul style="list-style-type: none"> <li>- At least one year period, automatic renewal</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Standby trust fund</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Amount reflects current cost estimate</li> </ul>	I-5
<u>I-7d Post-Closure Insurance</u>	I-5
<p>To demonstrate that the owner/operator has post-closure insurance, s/he must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(e): {264.145(e) and 264.151(e)}</p>	
<ul style="list-style-type: none"> <li>- Noncancellable policy, automatic renewal</li> </ul>	
<ul style="list-style-type: none"> <li>- Insurer licensed or eligible surplus lines carrier</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Certificate of insurance</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Funds available whenever final post-closure occurs.</li> </ul>	I-5
<u>I-7e Financial Test and Corporate Guarantee for Post-Closure</u>	I-5
<p>To demonstrate that this test is met, an owner/operator must submit a letter signed by the company's chief financial officer that is worded as specified in 264.151(f) and meets the following criteria: {264.145(f), 264.151(f) and 264.151(h)}</p>	
<ul style="list-style-type: none"> <li>- Tangible net worth \$10 million</li> </ul>	
<ul style="list-style-type: none"> <li>- Tangible net worth 6 x all closure and post-closure costs</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- U.S. assets at least 90 percent of total assets or at least six times all closure and post-closure costs</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Bond rating requirements or alternative</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Application must include:                             <ul style="list-style-type: none"> <li>• copy of a report on the company's latest financial statements drafted by an independent certified public accountant (CPA)</li> <li>• copy of a report from the owner's/ operator's independent CPA to the owner/operator stating that s/he has examined the data in the letter from the chief financial officer and that it is consistent with the amounts in the independently-audited year-end financial statements for the latest fiscal year and that no matters came to attention to cause him to believe that the data should be adjusted.</li> </ul> </li> </ul>	I-5
<p>In lieu of the above items, the owner/ operator may submit a</p>	I-5

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor, which must be the parent company of the owner/operator, will perform post-closure activities in accordance with the post-closure plan if the owner/operator fails to do so or will establish a post-closure trust fund for the owner/operator. A copy of these items should be submitted with the Part B for review by the permit writer. {264.145(f)(10)}</p>	
<p><u>I-7f Combinations</u></p> <p>I-7f(1) <u>Use of Multiple Financial Mechanisms</u></p> <p>A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a post-closure trust fund or letters of credit, insurance, and state assumption of responsibility, which provide financial assurance for the amount of post-closure. Combined financial assurance must be at least equal to the adjusted post-closure cost estimate. Financial assurance instruments must meet requirements of 264.143(a),(b), (d), or (e) which include post-closure trust fund, surety bond guaranteeing payment into a post-closure trust fund, post-closure letter of credit, and post-closure insurance, respectively. {264.145(g)}</p>	I-5
<p>I-7f(2) <u>Use of Financial Mechanism for Multiple Facilities</u></p> <p>A copy of a financial assurance mechanism for more than one facility showing for each facility, the EPA ID number, name, address, and amount of closure funds assured by the mechanism. Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each Region where facilities are located. Financial test applies to the sum of closure and post-closure costs for all facilities. {264.145(h)}</p>	I-5
<p><u>I-8 Liability Requirements</u></p> <p>Where applicable, a copy of the insurance policy or other documentation which comprise compliance with the requirements of 264.147. (Coverage is for all facilities owned and operated and applies until certification for closure and post-closure is completed. For facilities in Phase I authorized states, originally signed duplicates of executed instruments or certificates of insurance are not required until the time of permit issuance, except as required by state law.) {270.147(b)(17), 264.147(a) and (b)}</p>	I-5
<p><u>I-8a Sudden Insurance</u></p> <p>Hazardous waste treatment, storage, or disposal facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences. {264.147(a), 264.147(g), and 264.151(g, i, j)}</p>	I-5
<p>- Amount of at least \$1 million per occurrence</p>	I-5
<p>- An annual total of at least \$2 million, exclusive of legal costs</p>	I-5
<p>- A signed duplicate original of the Hazardous Waste Facility Liability Endorsement worded as specified in ?????</p>	I-5
<p>- A Certificate of Liability Insurance worded as specified in</p>	I-5

Subject Requirement and 40 CFR Reference	Location in Application and Comments
264.151(j), or	
<ul style="list-style-type: none"> <li>- Financial test                             <ul style="list-style-type: none"> <li>• letter from CFO</li> <li>• auditor report</li> <li>• auditor opinion</li> <li>• other information requested by R.A.</li> <li>• acceptable ratios</li> <li>• notification to EPA by Attorneys General or insurance commissioner of guarantor's state and facility state that corporate guarantee is legally valid and enforceable.</li> </ul> </li> </ul>	I-5
<ul style="list-style-type: none"> <li>- A combination of endorsement of certification and financial test or a combination of endorsement or certification and corporate guarantee. Amounts of coverage must total at least the minimum amounts required by 264.147(a).</li> </ul>	I-5
<p><u>I-8b Nonsudden Insurance</u></p> <p>This applies to high risk storage facilities (designated by Regional Administrator), surface impoundments, land disposal and land treatment. {264.147(b) and (d), 264.151(i) and (j), and 264.147(f)}</p>	I-5
<ul style="list-style-type: none"> <li>- A least \$3 million per occurrence</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- An annual total of at least \$6 million is required, exclusive of legal costs</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Same endorsement or certification requirements as for sudden insurance coverage, or</li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Financial test                             <ul style="list-style-type: none"> <li>• letter from CFO (264.151(g))</li> <li>• auditor's report</li> <li>• auditor's opinion</li> <li>• other information requested by R.A.</li> </ul> </li> </ul>	I-5
<ul style="list-style-type: none"> <li>- Corporate guarantee</li> <li>- {264.147(b)(2), 264.147(g)(2)(i), and 264.151(h)(2)}                             <ul style="list-style-type: none"> <li>• guarantor must be parent corporation</li> <li>• certified copy of corporate guarantee with wording as specified in 264.151(h)(2)</li> <li>• financial test for guarantor</li> </ul> </li> </ul>	I-5
<p><u>I-8c Variance Procedures and R.A. Adjustments</u></p> <p>Evaluation of degree and duration of risk sufficient to allow R.A. to make a judgment on reduction of required liability. The financial responsibility levels specified above for liability insurance for sudden accidental occurrences may be adjusted downward if the owner/operator can prove to the Regional Administrator that these levels are not consistent with the degree and duration of risk at the owner's/operator's facility. Conversely, the Regional Administrator may adjust the levels of financial responsibility up or down, based on the administrator's assessment of the degree and duration of risk associated with the facility. {264.147(c) and (d)}</p>	I-5
<p><u>I-9 State Financial Mechanism</u></p> <p>Where appropriate, proof of coverage by a state financial mechanism in compliance with 264.149 or 264.150. {270.14(b)(18)}</p>	I-5
<p><u>I-9a Use of State-Required mechanisms</u></p>	I-5

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>Where a state has hazardous waste regulations with equivalent or greater liability requirements for financial assurance for closure and post-closure care, evidence of establishment of the state-required financial mechanisms, including the facility EPA ID number, name, address, and required mechanism do not satisfy amount of funds required, funds may be made available through the state-required mechanisms or by using additional mechanisms specified in 264.143. {264.149(a) and 264.149(b)}</p>	
<p><u>I-9b State Assumption of Responsibility</u></p> <p>If a state assumes legal responsibility for compliance with closure, post-closure, or liability requirements or the state assures that state funds are available to cover those requirements, then facility is in compliance and must include a copy of a letter from the state describing the state assumption of responsibility and a letter from the owner/operator requesting that the state's assumption of responsibility be considered acceptable in meeting the financial coverage requirements, and including the facility EPA ID number, name, address, and amounts of liability coverage or funds for closure or post-closure care that are assured by the state. {264.150}</p>	<p>I-5</p>

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093793
Permit Review Team	_____
	_____
Date Review Completed	_____

Certification - Module K

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<b>PART K - CERTIFICATION</b>  <b>K-1 <u>Application Signature</u></b>  For a corporation, certification of the application by a responsible corporate officer meaning: <ul style="list-style-type: none"> <li>- a president, secretary, treasurer, vice-president, or any other person who performs similar policy or decisionmaking functions for the corporation, or</li> <li>- the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million.</li> </ul> {270.11(a)(1)(i)and (ii)}	N/A
For a partnership or sole proprietorship, certification by a general partner or the proprietor, respectively. {270.11(a)(2)}	N/A
For a municipality, State, Federal, or other public agency, certification by a principal executive officer or ranking elected official. {270.11(a)(3)}	K-1
<b>K-2 <u>Certification Statement</u></b>  The person signing the application shall make the following certification statement:  "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." {270.11(d)}	K-1

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Documents for Part L

- (12) RCRA Facility Assessment Guidance, EPA-OSW, October 1986.
- (13) RFA Checklist - produced in conjunction with the RCRA Facility Assessment Guidance.
- (14) Confirmatory Sampling Workplan Guidance.

For information about SWMUs and AOCs a facility can submit the RCRA Facility Assessment and all subsequently identified SWMUs or AOCs reported or submit the information listed in the following checklist.

<b>PART L - INFORMATION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS</b>	
Provide a tabular listing of all SWMUs and AOCs. For each SWMU and AOC provide the following in the table: <ul style="list-style-type: none"> <li>- SWMU Number</li> <li>- SWMU name</li> <li>- Current status of SWMU; (No Further Action, Under Assessment, Remedy Selected, Remedy Construction Complete (include selected remedy), etc.)</li> <li>- Date current status achieved</li> </ul>	L-1
For SWMUs and AOCs that are NOT listed as No Further Action provide the following information	
L-1 <u>Minimum Information Requirements for Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)</u>	L-2
L-1a <u>Description of Solid Waste Management Units and Areas of Concern:</u>  A description of each solid waste management unit or area of concern that was not listed as No Further Action at the facility including:  <ul style="list-style-type: none"> <li>- Location of the unit on the topographic map and a facility site map required under 270.14(b)(19), {270.14(d)(1)(i)}</li> </ul>	L-4
<ul style="list-style-type: none"> <li>- General Description of the SWMU or AOC (e.g. concrete sump, land disposal area, spill, etc.), {270.14(d)(1)(ii)}</li> </ul>	L-4

- General dimensions and structural description (provide drawings if available), {270.14(d)(1)(iii)}	L-6 through L-36
- Dates of operation of the unit, and {270.14(d)(1)(iv)}	L-6 through L-36
- Specification of all wastes that have been managed at the unit. {270.14(d)(1)(v)}	L-6 through L-36
L-1b <u>Information Pertaining to Releases:</u>  The applicant must provide a summary of all available information pertaining to releases of hazardous wastes or hazardous constituents from solid waste management units and areas of concern at the facility. {270.14(d)(2)}	L-3
L-1c <u>Sampling and Analysis:</u>  The applicant must provide a summary of the results of sampling and analysis of groundwater, land surface and subsurface strata, surface water, and air. (270.14(d)(3))	L-3

Additional Requirements	Location in Application and Comments
<p>Sampling frequency and constituents sampled for SWMUs or AOC where long term monitoring is part of the selected remedy or is used to demonstrate remedy effectiveness.</p> <p>Identify on a facility site map the locations of monitoring points (wells, indoor air, soil samples, etc) where long term monitoring is part of the selected remedy or is used to demonstrate remedy effectiveness.</p> <p>Cost Estimate for the assessment and remediation of all SWMUs and AOC. [Note: this estimate can be combined with the cost estimate for closure or post-closure of the regulated unit.]</p>	L-3

**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<b>PART M - CLOSURE EQUIVALENCY DETERMINATION</b>  Owners or operators of surface impoundments, land treatment units, and waste piles that received wastes or certified closure according to 265.115 after January 26, 1983 may submit a request for a Clean Closure Equivalency Determination to demonstrate that the closure met Part 264 standards for closure by removal or decontamination. { 15A NCAC 13A .0113(a), 270.1(c), and 270.1(c)(5)&(6) }	N/A
<b>M-1 Closure by Removal</b>  The following basic information should be included as part of the Clean Closure Equivalency Demonstration: { 270.1(c)(5) }	N/A
- List of contaminants that were managed in the closed unit,	
- List of the cleanup levels for each contaminant which were achieved under a 265 closure, and	N/A
- List of 40 CFR Part 264 acceptable cleanup levels for each contaminant.	N/A
<b>M-1a <u>Requirement for Clean Closure Equivalency Demonstration</u></b>  Demonstrate that the closure met the standards for closure by removal or decontamination in 264.228, 264.258, or 264.280(e). Requirements for 264 closure may be found in Module I. The demonstration may be made in either of the following ways: { 270.1(c)(5) }	N/A
- If a Part B application for a post-closure permit has been submitted, the applicant may request a determination, based on information in the application, that the 264 closure standards were met. { 270.1(c)(5)(i) }	
- If a Part B application for a post-closure permit has not been submitted, the owner/operator may submit a petition for a determination that the closure met the 264 standards and a permit is not required. The petition must include data demonstrating that the unit closed under standards that are equal to or more stringent than 264 closure standards. { 270.1(c)(5)(ii) }	N/A
<b>M-1b <u>Schedule for Review of Closure Equivalency Demonstration</u></b>	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>If a clean closure equivalency determination is requested, a very tight regulatory schedule applies:</p> <ul style="list-style-type: none"> <li>- The Agency must provide the public, through a newspaper notice, the opportunity to submit written comments on the Equivalency Demonstration within 30 days of the notice. A public hearing may be held at the Agency's discretion. A public notice of the hearing of at least 30 days must be provided. {270.1(c)(6)(i)}</li> </ul>	
<ul style="list-style-type: none"> <li>- Within 90 days of receipt of the clean closure equivalency demonstration, the Agency must determine whether the 264 closure standards were met. If the Agency determines that the closure does not meet 264 standards, a written statement of the reasons why the closure failed to meet 264 standards must be provided. {270.1(c)(6)(ii)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- The owner/operator has 30 days to submit additional supporting information after receiving the notice of the reasons for failure to meet 264 standards. The Agency will review any additional information submitted and make final determination within 60 days. {270.1(c)(6)(ii)}</li> </ul>	N/A
<p><u>M-2 Post-Closure Permit Application Requirements</u></p> <p>If the Agency determines that the facility did not close in accordance with Part 264 closure by removal standards, the facility is subject to the post-closure permit requirements and must submit a Part B application. See Module I for post-closure requirements and Module E for groundwater monitoring requirements. {270.1(c)(6)(iii)}</p>	N/A

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**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

Guidance Document for Part N

(15) Guidelines for Documentation of Substantial Compliance and Financial Qualification, North Carolina Hazardous Waste Section, July 26, 1991.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p><b>PART N - SUBSTANTIAL COMPLIANCE AND FINANCIAL QUALIFICATION</b></p> <p>The following requirements apply to any applicant for a hazardous waste management permit, including certain modifications to existing permits and transfer of permit ownership. { 15A NCAC 13A .0113(l) and GS 130A-295 }</p>	N-1
<p><u>N-1 General Information</u> [Guidance(15) - Instructions]</p> <ul style="list-style-type: none"> <li>- A brief description of the form of the business (e.g., partnership, corporation, etc.)</li> </ul>	N-1
<ul style="list-style-type: none"> <li>- The names, addresses, and titles of all officers, directors, or partners of the applicant and of any parent or subsidiary corporation if the applicant is a corporation.</li> </ul>	N-1
<ul style="list-style-type: none"> <li>- The name and address of any hazardous waste facilities constructed or operated after October 21, 1976, by the applicant or any parent or subsidiary corporation if the applicant is a corporation.</li> </ul>	N-1
<p><u>N-2 Substantial Compliance</u></p> <p>Documentation that the facilities in the list required by N-1 above have been operated in accordance with sound management practices and in substantial compliance with federal and state laws, regulations, and rules. { 15A NCAC 13A .0113(l)(1) and GS 130A-295(a)(1) }</p>	N-1
<p><b>N-2a In-State Facilities</b></p> <p>The documentation must include the following information for each environmental program at each in-state facility listed above: [Guidance(15) - In-state Form]</p> <ul style="list-style-type: none"> <li>- General facility information;             <ul style="list-style-type: none"> <li>• Applicant name,</li> <li>• Facility name,</li> <li>• Facility EPA ID number,</li> <li>• Facility location,</li> <li>• Environmental program, and</li> <li>• Permit type and number (if permitted).</li> </ul> </li> </ul>	N-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- Specific compliance information; Date of violation,                             <ul style="list-style-type: none"> <li>• Description of violation (including violation class),</li> <li>• Amount of penalty assessed,</li> <li>• Amount of penalty paid, and</li> <li>• Court docket number.</li> </ul> </li> </ul>	N-2
<ul style="list-style-type: none"> <li>- Compliance information summary;                             <ul style="list-style-type: none"> <li>• Total number of inspections,</li> <li>• Total number of violations,</li> <li>• Total amount of penalties assessed, and</li> <li>• Total amount of penalties paid.</li> </ul> </li> </ul>	N-2
<ul style="list-style-type: none"> <li>- Whether the facility has ever been denied an environmental permit (include explanation if yes); and</li> </ul>	N-2
<ul style="list-style-type: none"> <li>- If there is a pending enforcement action against the facility which has not already been described.</li> </ul>	N-2
<p>N-2b <u>Out-of-State Facilities</u></p> <p>The documentation must include the following information for each environmental program: [Guidance(15) - Out-of-State Form]</p> <ul style="list-style-type: none"> <li>- Applicant name;</li> </ul>	N-2
<ul style="list-style-type: none"> <li>- Environmental program;</li> </ul>	N-2
<ul style="list-style-type: none"> <li>- Permit type and number (if permitted).</li> </ul>	N-2
<p>For each out-of-state facility in each program: [Guidance(14) - Out-of-State Form]</p> <ul style="list-style-type: none"> <li>- Facility information;                             <ul style="list-style-type: none"> <li>• Facility name,</li> <li>• Facility location,</li> <li>• Facility EPA ID number,</li> <li>• Interim status period,</li> <li>• Permit issue date, and</li> <li>• Permit expiration date.</li> </ul> </li> </ul>	N-2
<ul style="list-style-type: none"> <li>- Compliance history;                             <ul style="list-style-type: none"> <li>• Number of state/EPA inspections,</li> <li>• Total number of violations,</li> <li>• Number of violations with penalties, and</li> <li>• Total amount of penalties assessed.</li> </ul> </li> </ul>	N-2
<ul style="list-style-type: none"> <li>- List of facilities which have been denied a permit (including EPA ID number and date of denial).</li> </ul>	N-2
<p>N-3 <u>Financial Qualification</u></p> <p>Documentation that the applicant, or any parent or subsidiary corporation if the applicant is a corporation, is financially qualified to operate the proposed facility. This documentation may consist of a financial statement, auditor's report, or other document that addresses the applicant's financial qualification to operate the proposed facility. { 15A NCAC 13A .0113(1)(2) and GS 130A-295(a)(2) } [Guidance(15) - instructions]</p>	N-2
<p>N-4 <u>Justification of Need</u></p> <p>All applicants for commercial hazardous waste management permits must satisfy the Department that there is a need for a new facility or modifications to an existing permitted commercial</p>	N-2

Subject Requirement and 40 CFR Reference	Location in Application and Comments
facility based on the current or projected hazardous waste management needs of this State. { 15A NCAC 13A .0113(m) and GS 130A-295(c)}	

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# Section A

<p><b>SEND COMPLETED FORM TO:</b> The Appropriate State or Regional Office.</p>	<p><b>United States Environmental Protection Agency</b> <b>RCRA SUBTITLE C SITE IDENTIFICATION FORM</b></p>		
<p><b>1. Reason for Submittal</b></p> <p>MARK ALL BOX(ES) THAT APPLY</p>	<p><b>Reason for Submittal:</b></p> <p><input type="checkbox"/> To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location)</p> <p><input type="checkbox"/> To provide a Subsequent Notification (to update site identification information for this location)</p> <p><input type="checkbox"/> As a component of a First RCRA Hazardous Waste Part A Permit Application</p> <p><input checked="" type="checkbox"/> As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment # <u>15-1</u>)</p> <p><input type="checkbox"/> As a component of the Hazardous Waste Report (If marked, see sub-bullet below)</p> <p><input type="checkbox"/> Site was a TSD facility and/or generator of <math>\geq 1,000</math> kg of hazardous waste, <math>&gt;1</math> kg of acute hazardous waste, or <math>&gt;100</math> kg of acute hazardous waste spill cleanup in <u>one or more months</u> of the report year (or State equivalent LQG regulations)</p>		
<p><b>2. Site EPA ID Number</b></p>	<p>EPA ID Number <input type="text" value="N"/><input type="text" value="C"/><input type="text" value="D"/><input type="text" value="9"/><input type="text" value="8"/><input type="text" value="2"/><input type="text" value="0"/><input type="text" value="9"/><input type="text" value="3"/><input type="text" value="7"/><input type="text" value="8"/><input type="text" value="3"/></p>		
<p><b>3. Site Name</b></p>	<p>Name: The University of North Carolina at Chapel Hill</p>		
<p><b>4. Site Location Information</b></p>	<p>Street Address: 1000-A Estes Drive Extension, Building 488 &amp; 531</p> <p>City, Town, or Village: Chapel Hill</p> <p>County: Orange</p> <p>State: NC</p> <p>Country: USA</p> <p>Zip Code: 27599-1650</p>		
<p><b>5. Site Land Type</b></p>	<p><input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input checked="" type="checkbox"/> State <input type="checkbox"/> Other</p>		
<p><b>6. NAICS Code(s) for the Site (at least 5-digit codes)</b></p>	<p>A. <input type="text" value="6"/><input type="text" value="1"/><input type="text" value="1"/><input type="text" value="3"/><input type="text" value="1"/></p> <p>B. <input type="text" value=""/><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/></p> <p>C. <input type="text" value=""/><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/></p> <p>D. <input type="text" value=""/><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/><input type="text" value=""/></p>		
<p><b>7. Site Mailing Address</b></p>	<p>Street or P.O. Box: 1120 Estes Drive Extension, CB 1650</p> <p>City, Town, or Village: Chapel Hill</p> <p>State: NC</p> <p>Country: USA</p> <p>Zip Code: 27599-1650</p>		
<p><b>8. Site Contact Person</b></p>	<p>First Name: Mary Beth</p> <p>MI: <input type="text"/></p> <p>Last: Koza</p> <p>Title: Director, Department of Environment, Health and Safety</p> <p>Street or P.O. Box: 1120 Estes Drive Extension</p> <p>City, Town or Village: Chapel Hill</p> <p>State: NC</p> <p>Country: USA</p> <p>Zip Code: 27599-1650</p> <p>Email: mbkoza@ehs.unc.edu</p> <p>Phone: 9198435913</p> <p>Ext.: <input type="text"/></p> <p>Fax: 9199620227</p>		
<p><b>9. Legal Owner and Operator of the Site</b></p>	<p>A. Name of Site's Legal Owner: University of North Carolina at Chapel Hill</p> <p>Date Became Owner: 12/11/1789</p> <p>Owner Type: <input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input checked="" type="checkbox"/> State <input type="checkbox"/> Other</p> <p>Street or P.O. Box: 1120 Estes Drive Extension, CB 1650</p> <p>City, Town, or Village: Chapel Hill</p> <p>Phone: 9199625507</p> <p>State: NC</p> <p>Country: USA</p> <p>Zip Code: 27599-1650</p> <p>B. Name of Site's Operator: The University of North Carolina at Chapel Hill</p> <p>Date Became Operator: 06/15/1983</p> <p>Operator Type: <input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input checked="" type="checkbox"/> State <input type="checkbox"/> Other</p>		

**10. Type of Regulated Waste Activity (at your site)**  
 Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

**A. Hazardous Waste Activities; Complete all parts 1-10.**

- Y  N  **1. Generator of Hazardous Waste**  
 If "Yes", mark only one of the following – a, b, or c.
- a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.
- b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.
- c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.

If "Yes" above, indicate other generator activities in 2-4.

- Y  N  **2. Short-Term Generator** (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.
- Y  N  **3. United States Importer of Hazardous Waste**
- Y  N  **4. Mixed Waste (hazardous and radioactive) Generator**

- Y  N  **5. Transporter of Hazardous Waste**  
 If "Yes", mark all that apply.
- a. Transporter
- b. Transfer Facility (at your site)

- Y  N  **6. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste Part B permit is required for these activities.

- Y  N  **7. Recycler of Hazardous Waste**

- Y  N  **8. Exempt Boiler and/or Industrial Furnace**  
 If "Yes", mark all that apply.
- a. Small Quantity On-site Burner Exemption
- b. Smelting, Melting, and Refining Furnace Exemption

- Y  N  **9. Underground Injection Control**

- Y  N  **10. Receives Hazardous Waste from Off-site**

**B. Universal Waste Activities; Complete all parts 1-2.**

- Y  N  **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.**
- a. Batteries
- b. Pesticides
- c. Mercury containing equipment
- d. Lamps
- e. Other (specify) \_\_\_\_\_
- f. Other (specify) \_\_\_\_\_
- g. Other (specify) \_\_\_\_\_

- Y  N  **2. Destination Facility for Universal Waste**  
 Note: A hazardous waste permit may be required for this activity.

**C. Used Oil Activities; Complete all parts 1-4.**

- Y  N  **1. Used Oil Transporter**  
 If "Yes", mark all that apply.
- a. Transporter
- b. Transfer Facility (at your site)

- Y  N  **2. Used Oil Processor and/or Re-refiner**  
 If "Yes", mark all that apply.
- a. Processor
- b. Re-refiner

- Y  N  **3. Off-Specification Used Oil Burner**

- Y  N  **4. Used Oil Fuel Marketer**  
 If "Yes", mark all that apply.
- a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- b. Marketer Who First Claims the Used Oil Meets the Specifications

**D. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K**

❖ You can **ONLY** Opt into Subpart K if:

- you are at least one of the following: a college or university; a teaching hospital that is owned by or has a formal affiliation agreement with a college or university; or a non-profit research institute that is owned by or has a formal affiliation agreement with a college or university; AND
- you have checked with your State to determine if 40 CFR Part 262 Subpart K is effective in your state

Y  N  1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories  
**See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:**

- a. College or University
- b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university
- c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

Y  N  2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

**11. Description of Hazardous Waste**

**A. Waste Codes for Federally Regulated Hazardous Wastes.** Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	D002	D003	D004	D005	D006	D007
D008	D009	D010	D011	D012	D013	D014
D015	D016	D017	D018	D019	D020	D021
D022	D023	D024	D025	D026	D027	D028
D029	D030	D031	D032	D033	D034	D035
D036	D037	D038	D039	D040	D041	D042
D043	F001	F002	F003	F004	F005	F027
P001	P002	P003	P004	P005	P006	P007
P008	P009	P010	P011	P012	P013	P014

**B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes.** Please list the waste codes of the State-Regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.


**12. Notification of Hazardous Secondary Material (HSM) Activity**

Y  N  Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

**13. Comments**

See attached sheet for additional codes for inclusion under 11. Description of Waste Codes.

**14. Certification.** I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	Matthew M. Fajack, Vice Chancellor for Finance and Administration	4/22/2015

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**7. Process Codes and Design Capacities – Enter information in the Section on Form Page 3**

- A. PROCESS CODE** – Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For “other” processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 8.
- B. PROCESS DESIGN CAPACITY** – For each code entered in Item 7.A; enter the capacity of the process.
- AMOUNT** – Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.
  - UNIT OF MEASURE** – For each amount entered in Item 7.B(1), enter the code in Item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.
- C. PROCESS TOTAL NUMBER OF UNITS** – Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity	Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
<b>Disposal</b>			<b>Treatment (Continued)</b>		
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day	T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
D80	Landfill	Acre-feet; Hectares-meter; Acres; Cubic Meters; Hectares; Cubic Yards	T82	Lime Kiln	
D81	Land Treatment	Acres or Hectares	T83	Aggregate Kiln	
D82	Ocean Disposal	Gallons Per Day or Liters Per Day	T84	Phosphate Kiln	
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards	T85	Coke Oven	
D99	Other Disposal	Any Unit of Measure Listed Below	T86	Blast Furnace	
<b>Storage</b>			T87	Smelting, Melting, or Refining Furnace	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards	T88	Titanium Dioxide Chloride Oxidation Reactor	
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards	T89	Methane Reforming Furnace	
S03	Waste Pile	Cubic Yards or Cubic Meters	T90	Pulping Liquor Recovery Furnace	
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards	T91	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards	T92	Halogen Acid Furnaces	
S06	Containment Building Storage	Cubic Yards or Cubic Meters	T93	Other Industrial Furnaces Listed in 40 CFR 260.10	
S99	Other Storage	Any Unit of Measure Listed Below	T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTU Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million BTU Per Hour
<b>Treatment</b>			<b>Miscellaneous (Subpart X)</b>		
T01	Tank Treatment	Gallons Per Day; Liters Per Day	X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
T02	Surface Impoundment	Gallons Per Day; Liters Per Day	X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour	X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour	X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour	X99	Other Subpart X	Any Unit of Measure Listed Below
<b>Unit of Measure</b>		<b>Unit of Measure Code</b>	<b>Unit of Measure</b>		<b>Unit of Measure Code</b>
Gallons.....	G	Short Tons Per Hour.....	D	Cubic Yards.....	Y
Gallons Per Hour.....	E	Short Tons Per Day.....	N	Cubic Meters.....	C
Gallons Per Day.....	U	Metric Tons Per Hour.....	W	Acres.....	B
Liters.....	L	Metric Tons Per Day.....	S	Acre-feet.....	A
Liters Per Hour.....	H	Pounds Per Hour.....	J	Hectares.....	Q
Liters Per Day.....	V	Kilograms Per Hour.....	X	Hectare-meter.....	F
		Million BTU Per Hour.....	X	BTU Per Hour.....	I

**7. Process Codes and Design Capacities (Continued)**

**EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.**

Line Number	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
	(1) Amount (Specify)	(2) Unit of Measure									
X 1	S	0	2	533.788	G	001					
1 1	S	0	1	10745	G	010					
2	S	0	1	600	G	001					
3											
4											
5											
6											
7											
8											
9											
1 0											
1 1											
1 2											
1 3											

**Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the line sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04, and X99) in Item 8.**

**8. Other Processes (Follow instructions from Item 7 for D99, S99, T04, and X99 process codes)**

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
	(1) Amount (Specify)	(2) Unit of Measure									
X 2	T	0	4	100.00	U	001					
X 3	T	3	1	30	G	001					
X 4	T	5	0	110	G	001					



**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
	(1) PROCESS CODES (Enter Code)						(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))										
	1	D	0	0	1	34500	K	S	0	1	T	5	0	T	3	1	
	2	D	0	0	2	2000	K	S	0	1	T	5	0	T	3	1	
	3	D	0	0	3	200	K	S	0	1	T	5	0				
	4	D	0	0	4	100	K	S	0	1	T	5	0				
	5	D	0	0	5	200	K	S	0	1	T	5	0				
	6	D	0	0	6	200	K	S	0	1	T	5	0				
	7	D	0	0	7	200	K	S	0	1	T	5	0				
	8	D	0	0	8	10500	K	S	0	1	T	5	0				
	9	D	0	0	9	500	K	S	0	1	T	5	0				
1	0	D	0	1	0	100	K	S	0	1	T	5	0				
1	1	D	0	1	1	500	K	S	0	1	T	5	0				
1	2	D	0	1	2	020	K	S	0	1	T	5	0				
1	3	D	0	1	3	020	K	S	0	1	T	5	0				
1	4	D	0	1	4	020	K	S	0	1	T	5	0				
1	5	D	0	1	5	020	K	S	0	1	T	5	0				
1	6	D	0	1	6	020	K	S	0	1	T	5	0				
1	7	D	0	1	7	020	K	S	0	1	T	5	0				
1	8	D	0	1	8	100	K	S	0	1	T	5	0				
1	9	D	0	1	9	100	K	S	0	1	T	5	0				
2	0	D	0	2	0	020	K	S	0	1	T	5	0				
2	1	D	0	2	1	100	K	S	0	1	T	5	0				
2	2	D	0	2	2	7000	K	S	0	1	T	5	0				
2	3	D	0	2	3	050	K	S	0	1	T	5	0				
2	4	D	0	2	4	050	K	S	0	1	T	5	0				
2	5	5	D	0	5	050	K	S	0	1	T	5	0				
2	6	D	0	2	6	050	K	S	0	1	T	5	0				
2	7	D	0	2	7	050	K	S	0	1	T	5	0				
2	8	D	0	2	8	050	K	S	0	1	T	5	0				
2	9	D	0	2	9	050	K	S	0	1	T	5	0				
3	0	D	0	3	0	050	K	S	0	1	T	5	0				
3	1	D	0	3	1	020	K	S	0	1	T	5	0				
3	2	D	0	3	2	020	K	S	0	1	T	5	0				
3	3	D	0	3	3	020	K	S	0	1	T	5	0				
3	4	D	0	3	4	020	K	S	0	1	T	5	0				
3	5	D	0	3	5	500	K	S	0	1	T	5	0				
3	6	D	0	3	6	050	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter Code)										(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)						
3	7	D	0	3	7	050	K	S	0	1	T	5	0				
3	8	D	0	3	8	200	K	S	0	1	T	5	0				
3	9	D	0	3	9	500	K	S	0	1	T	5	0				
4	0	D	0	4	0	500	K	S	0	1	T	5	0				
4	1	D	0	4	1	020	K	S	0	1	T	5	0				
4	2	D	0	4	2	020	K	S	0	1	T	5	0				
4	3	D	0	4	3	020	K	S	0	1	T	5	0				
4	4	F	0	0	1	400	K	S	0	1	T	5	0				
4	5	F	0	0	2	7200	K	S	0	1	T	5	0				
4	6	F	0	0	3	34500	K	S	0	1	T	5	0				
4	7	F	0	0	4	050	K	S	0	1	T	5	0				
4	8	F	0	0	5	34500	K	S	0	1	T	5	0				
4	9	F	0	2	7	020	K	S	0	1	T	5	0				
5	0	P	0	0	1	020	K	S	0	1	T	5	0				
5	1	P	0	0	2	020	K	S	0	1	T	5	0				
5	2	P	0	0	3	020	K	S	0	1	T	5	0				
5	3	P	0	0	4	020	K	S	0	1	T	5	0				
5	4	P	0	0	5	020	K	S	0	1	T	5	0				
5	5	P	0	0	6	020	K	S	0	1	T	5	0				
5	6	P	0	0	7	020	K	S	0	1	T	5	0				
5	7	P	0	0	8	020	K	S	0	1	T	5	0				
5	8	P	0	0	9	020	K	S	0	1	T	5	0				
5	9	P	0	1	0	020	K	S	0	1	T	5	0				
6	0	P	0	1	1	020	K	S	0	1	T	5	0				
6	1	P	0	1	2	020	K	S	0	1	T	5	0				
6	2	P	0	1	3	020	K	S	0	1	T	5	0				
6	3	P	0	1	4	020	K	S	0	1	T	5	0				
6	4	P	0	1	5	020	K	S	0	1	T	5	0				
6	5	P	0	1	6	020	K	S	0	1	T	5	0				
6	6	P	0	1	7	020	K	S	0	1	T	5	0				
6	7	P	0	1	8	020	K	S	0	1	T	5	0				
6	8	P	0	2	0	020	K	S	0	1	T	5	0				
6	9	P	0	2	1	020	K	S	0	1	T	5	0				
7	0	P	0	2	2	020	K	S	0	1	T	5	0				
7	1	P	0	2	3	020	K	S	0	1	T	5	0				
7	2	P	0	2	4	020	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
	(1) PROCESS CODES (Enter Code)								(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)							
7	3	P	0	2	6	020	K	S	0	1	T	5	0			
7	4	P	0	2	7	020	K	S	0	1	T	5	0			
7	5	P	0	2	8	020	K	S	0	1	T	5	0			
7	6	P	0	2	9	020	K	S	0	1	T	5	0			
7	7	P	0	3	0	050	K	S	0	1	T	5	0			
7	8	P	0	3	1	020	K	S	0	1	T	5	0			
7	9	P	0	3	3	020	K	S	0	1	T	5	0			
8	0	P	0	3	4	020	K	S	0	1	T	5	0			
8	1	P	0	3	6	020	K	S	0	1	T	5	0			
8	2	P	0	3	7	020	K	S	0	1	T	5	0			
8	2	P	0	3	8	020	K	S	0	1	T	5	0			
8	4	P	0	3	9	020	K	S	0	1	T	5	0			
8	5	P	0	4	0	020	K	S	0	1	T	5	0			
8	6	P	0	4	1	020	K	S	0	1	T	5	0			
8	7	P	0	4	2	020	K	S	0	1	T	5	0			
8	8	P	0	4	3	020	K	S	0	1	T	5	0			
8	9	P	0	4	4	020	K	S	0	1	T	5	0			
9	0	P	0	4	5	020	K	S	0	1	T	5	0			
9	1	P	0	4	6	020	K	S	0	1	T	5	0			
9	2	P	0	4	7	020	K	S	0	1	T	5	0			
9	3	P	0	4	8	020	K	S	0	1	T	5	0			
9	4	P	0	4	9	020	K	S	0	1	T	5	0			
9	5	P	0	5	0	020	K	S	0	1	T	5	0			
9	6	P	0	5	1	020	K	S	0	1	T	5	0			
9	7	P	0	5	4	020	K	S	0	1	T	5	0			
9	8	P	0	5	6	020	K	S	0	1	T	5	0			
9	9	P	0	5	7	020	K	S	0	1	T	5	0			
0	0	P	0	5	8	020	K	S	0	1	T	5	0			
0	1	P	0	5	9	020	K	S	0	1	T	5	0			
0	2	P	0	6	0	020	K	S	0	1	T	5	0			
0	2	P	0	6	2	020	K	S	0	1	T	5	0			
0	4	P	0	6	3	020	K	S	0	1	T	5	0			
0	5	P	0	6	4	020	K	S	0	1	T	5	0			
0	6	P	0	6	5	020	K	S	0	1	T	5	0			
0	7	P	0	6	6	020	K	S	0	1	T	5	0			
0	8	P	0	6	7	020	K	S	0	1	T	5	0			

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
								(1) PROCESS CODES (Enter Code)					(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)				
0	9	P	0	6	8	020	K	S	0	1	T	5	0				
1	0	P	0	6	9	020	K	S	0	1	T	5	0				
1	1	P	0	7	0	020	K	S	0	1	T	5	0				
1	2	P	0	7	1	020	K	S	0	1	T	5	0				
1	3	P	0	7	2	020	K	S	0	1	T	5	0				
1	4	P	0	7	3	020	K	S	0	1	T	5	0				
1	5	P	0	7	4	020	K	S	0	1	T	5	0				
1	6	P	0	7	5	020	K	S	0	1	T	5	0				
1	7	P	0	7	6	020	K	S	0	1	T	5	0				
1	8	P	0	7	7	020	K	S	0	1	T	5	0				
1	9	P	0	7	8	020	K	S	0	1	T	5	0				
2	0	P	0	8	1	020	K	S	0	1	T	5	0				
2	1	P	0	8	2	020	K	S	0	1	T	5	0				
2	2	P	0	8	4	020	K	S	0	1	T	5	0				
2	3	P	0	8	5	020	K	S	0	1	T	5	0				
2	4	P	0	8	7	100	K	S	0	1	T	5	0				
2	5	P	0	8	8	020	K	S	0	1	T	5	0				
2	6	P	0	8	9	020	K	S	0	1	T	5	0				
2	7	P	0	9	2	020	K	S	0	1	T	5	0				
2	8	P	0	9	3	020	K	S	0	1	T	5	0				
2	9	P	0	9	4	020	K	S	0	1	T	5	0				
3	0	P	0	9	5	020	K	S	0	1	T	5	0				
3	1	P	0	9	6	020	K	S	0	1	T	5	0				
3	2	P	0	9	7	020	K	S	0	1	T	5	0				
3	3	P	0	9	8	050	K	S	0	1	T	5	0				
3	4	P	0	9	9	020	K	S	0	1	T	5	0				
3	5	P	1	0	1	020	K	S	0	1	T	5	0				
3	6	P	1	0	2	020	K	S	0	1	T	5	0				
3	7	P	1	0	3	020	K	S	0	1	T	5	0				
3	8	P	1	0	4	020	K	S	0	1	T	5	0				
3	9	P	1	0	5	050	K	S	0	1	T	5	0				
4	0	P	1	0	6	050	K	S	0	1	T	5	0				
4	1	P	1	0	8	020	K	S	0	1	T	5	0				
4	2	P	1	0	9	020	K	S	0	1	T	5	0				
4	3	P	1	1	0	020	K	S	0	1	T	5	0				
4	4	P	1	1	1	020	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter Code)										(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)						
4	5	P	1	1	2	020	K	S	0	1	T	5	0				
4	6	P	1	1	3	020	K	S	0	1	T	5	0				
4	7	P	1	1	4	020	K	S	0	1	T	5	0				
4	8	P	1	1	5	020	K	S	0	1	T	5	0				
4	9	P	1	1	6	020	K	S	0	1	T	5	0				
5	0	P	1	1	8	020	K	S	0	1	T	5	0				
5	1	P	1	1	9	020	K	S	0	1	T	5	0				
5	2	P	1	2	0	020	K	S	0	1	T	5	0				
5	3	P	1	2	1	020	K	S	0	1	T	5	0				
5	4	P	1	2	2	020	K	S	0	1	T	5	0				
5	5	P	1	2	3	020	K	S	0	1	T	5	0				
5	6	P	1	2	7	020	K	S	0	1	T	5	0				
5	7	P	1	2	8	020	K	S	0	1	T	5	0				
5	8	P	1	8	5	020	K	S	0	1	T	5	0				
5	9	P	1	8	8	020	K	S	0	1	T	5	0				
6	0	P	1	8	9	020	K	S	0	1	T	5	0				
6	1	P	1	9	0	020	K	S	0	1	T	5	0				
6	2	P	1	9	1	020	K	S	0	1	T	5	0				
6	3	P	1	9	2	020	K	S	0	1	T	5	0				
6	4	P	1	9	4	020	K	S	0	1	T	5	0				
6	5	P	1	9	6	020	K	S	0	1	T	5	0				
6	6	P	1	9	7	020	K	S	0	1	T	5	0				
6	7	P	1	9	8	020	K	S	0	1	T	5	0				
6	8	P	1	9	9	020	K	S	0	1	T	5	0				
6	9	P	2	0	1	020	K	S	0	1	T	5	0				
7	0	P	2	0	2	020	K	S	0	1	T	5	0				
7	1	P	2	0	3	020	K	S	0	1	T	5	0				
7	2	P	2	0	4	020	K	S	0	1	T	5	0				
7	3	P	2	0	5	020	K	S	0	1	T	5	0				
7	4	U	0	0	1	050	K	S	0	1	T	5	0				
7	5	U	0	0	2	050	K	S	0	1	T	5	0				
7	6	U	0	0	3	050	K	S	0	1	T	5	0				
7	7	U	0	0	4	020	K	S	0	1	T	5	0				
7	8	U	0	0	5	020	K	S	0	1	T	5	0				
7	9	U	0	0	6	020	K	S	0	1	T	5	0				
8	0	U	0	0	7	050	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter Code)								(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)								
8	1	U	0	0	8	020	K	S	0	1	T	5	0				
8	2	U	0	0	9	020	K	S	0	1	T	5	0				
8	3	U	0	1	0	300	K	S	0	1	T	5	0				
8	4	U	0	1	1	020	K	S	0	1	T	5	0				
8	5	U	0	1	2	050	K	S	0	1	T	5	0				
8	6	U	0	1	4	020	K	S	0	1	T	5	0				
8	7	U	0	1	5	020	K	S	0	1	T	5	0				
8	8	U	0	1	6	020	K	S	0	1	T	5	0				
8	9	U	0	1	7	020	K	S	0	1	T	5	0				
9	0	U	0	1	8	020	K	S	0	1	T	5	0				
9	1	U	0	1	9	100	K	S	0	1	T	5	0				
9	2	U	0	2	0	020	K	S	0	1	T	5	0				
9	3	U	0	2	1	020	K	S	0	1	T	5	0				
9	4	U	0	2	2	020	K	S	0	1	T	5	0				
9	5	U	0	2	3	020	K	S	0	1	T	5	0				
9	6	U	0	2	4	020	K	S	0	1	T	5	0				
9	7	U	0	2	5	020	K	S	0	1	T	5	0				
9	8	U	0	2	6	020	K	S	0	1	T	5	0				
9	9	U	0	2	7	020	K	S	0	1	T	5	0				
0	0	U	0	2	8	020	K	S	0	1	T	5	0				
0	1	U	0	2	9	020	K	S	0	1	T	5	0				
0	2	U	0	3	0	020	K	S	0	1	T	5	0				
0	3	U	0	3	1	050	K	S	0	1	T	5	0				
0	4	U	0	3	2	020	K	S	0	1	T	5	0				
0	5	U	0	3	3	020	K	S	0	1	T	5	0				
0	6	U	0	3	4	020	K	S	0	1	T	5	0				
0	7	U	0	3	5	020	K	S	0	1	T	5	0				
0	8	U	0	3	6	020	K	S	0	1	T	5	0				
0	9	U	0	3	7	050	K	S	0	1	T	5	0				
1	0	U	0	3	8	020	K	S	0	1	T	5	0				
1	1	U	0	3	9	020	K	S	0	1	T	5	0				
1	2	U	0	4	1	020	K	S	0	1	T	5	0				
1	3	U	0	4	2	020	K	S	0	1	T	5	0				
1	4	U	0	4	3	020	K	S	0	1	T	5	0				
1	5	U	0	4	4	200	K	S	0	1	T	5	0				
1	6	U	0	4	5	020	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter Code)								(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)								
1	7	U	0	4	6	020	K	S	0	1	T	5	0				
1	8	U	0	4	7	020	K	S	0	1	T	5	0				
1	9	U	0	4	8	020	K	S	0	1	T	5	0				
2	0	U	0	4	9	020	K	S	0	1	T	5	0				
2	1	U	0	5	0	020	K	S	0	1	T	5	0				
2	2	U	0	5	1	020	K	S	0	1	T	5	0				
2	3	U	0	5	2	020	K	S	0	1	T	5	0				
2	4	U	0	5	3	020	K	S	0	1	T	5	0				
2	5	U	0	5	5	020	K	S	0	1	T	5	0				
2	6	U	0	5	6	050	K	S	0	1	T	5	0				
2	7	U	0	5	7	020	K	S	0	1	T	5	0				
2	8	U	0	5	8	300	K	S	0	1	T	5	0				
2	9	U	0	5	9	300	K	S	0	1	T	5	0				
3	0	U	0	6	0	020	K	S	0	1	T	5	0				
3	1	U	0	6	1	020	K	S	0	1	T	5	0				
3	2	U	0	6	2	020	K	S	0	1	T	5	0				
3	3	U	0	6	3	020	K	S	0	1	T	5	0				
3	4	U	0	6	4	020	K	S	0	1	T	5	0				
3	5	U	0	6	6	020	K	S	0	1	T	5	0				
3	6	U	0	6	7	020	K	S	0	1	T	5	0				
3	7	U	0	6	8	020	K	S	0	1	T	5	0				
3	8	U	0	6	9	020	K	S	0	1	T	5	0				
3	9	U	0	7	0	020	K	S	0	1	T	5	0				
4	0	U	0	7	1	020	K	S	0	1	T	5	0				
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4	3	U	0	7	4	020	K	S	0	1	T	5	0				
4	4	U	0	7	5	020	K	S	0	1	T	5	0				
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4	6	U	0	7	7	020	K	S	0	1	T	5	0				
4	7	U	0	7	8	020	K	S	0	1	T	5	0				
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4	9	U	0	8	0	100	K	S	0	1	T	5	0				
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5	1	U	0	8	2	020	K	S	0	1	T	5	0				
5	2	U	0	8	3	020	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
	(1) PROCESS CODES (Enter Code)						(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)										
5	3	U	0	8	4	020	K	S	0	1	T	5	0				
5	4	U	0	8	5	020	K	S	0	1	T	5	0				
5	5	U	0	8	6	020	K	S	0	1	T	5	0				
5	6	U	0	8	7	020	K	S	0	1	T	5	0				
5	7	U	0	8	8	020	K	S	0	1	T	5	0				
5	8	U	0	8	9	020	K	S	0	1	T	5	0				
5	9	U	0	9	0	020	K	S	0	1	T	5	0				
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6	1	U	0	9	2	020	K	S	0	1	T	5	0				
6	2	U	0	9	3	020	K	S	0	1	T	5	0				
6	3	U	0	9	4	020	K	S	0	1	T	5	0				
6	4	U	0	9	5	020	K	S	0	1	T	5	0				
6	5	U	0	9	6	020	K	S	0	1	T	5	0				
6	6	U	0	9	7	020	K	S	0	1	T	5	0				
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7	7	U	1	1	0	020	K	S	0	1	T	5	0				
7	8	U	1	1	1	020	K	S	0	1	T	5	0				
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8	1	U	1	1	4	020	K	S	0	1	T	5	0				
8	2	U	1	1	5	020	K	S	0	1	T	5	0				
8	3	U	1	1	6	020	K	S	0	1	T	5	0				
8	4	U	1	1	7	100	K	S	0	1	T	5	0				
8	5	U	1	1	8	020	K	S	0	1	T	5	0				
8	6	U	1	1	9	020	K	S	0	1	T	5	0				
8	7	U	1	2	0	020	K	S	0	1	T	5	0				
8	8	U	1	2	1	020	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
								(1) PROCESS CODES (Enter Code)							(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)		
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9	0	U	1	2	3	020	K	S	0	1	T	5	0	T	3	1	
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9	2	U	1	2	5	020	K	S	0	1	T	5	0				
9	3	U	1	2	6	020	K	S	0	1	T	5	0				
9	4	U	1	2	7	020	K	S	0	1	T	5	0				
9	5	U	1	2	8	020	K	S	0	1	T	5	0				
9	6	U	1	2	9	020	K	S	0	1	T	5	0				
9	7	U	1	3	0	020	K	S	0	1	T	5	0				
9	8	U	1	3	1	020	K	S	0	1	T	5	0				
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0	2	U	1	3	5	020	K	S	0	1	T	5	0				
0	3	U	1	3	6	060	K	S	0	1	T	5	0				
0	4	U	1	3	7	020	K	S	0	1	T	5	0				
0	5	U	1	3	8	020	K	S	0	1	T	5	0				
0	6	U	1	4	0	020	K	S	0	1	T	5	0				
0	7	U	1	4	1	020	K	S	0	1	T	5	0				
0	8	U	1	4	2	020	K	S	0	1	T	5	0				
0	9	U	1	4	3	020	K	S	0	1	T	5	0				
1	0	U	1	4	4	020	K	S	0	1	T	5	0				
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1	2	U	1	4	6	020	K	S	0	1	T	5	0				
1	3	U	1	4	7	020	K	S	0	1	T	5	0				
1	4	U	1	4	8	020	K	S	0	1	T	5	0				
1	5	U	1	4	9	020	K	S	0	1	T	5	0				
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1	7	U	1	5	1	100	K	S	0	1	T	5	0				
1	8	U	1	5	2	020	K	S	0	1	T	5	0				
1	9	U	1	5	3	020	K	S	0	1	T	5	0				
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2	2	U	1	5	6	020	K	S	0	1	T	5	0				
2	3	U	1	5	7	020	K	S	0	1	T	5	0				
2	4	U	1	5	8	020	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter Code)								(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)								
2	5	U	1	5	9	050	K	S	0	1	T	5	0				
2	6	U	1	6	0	020	K	S	0	1	T	5	0				
2	7	U	1	6	1	020	K	S	0	1	T	5	0				
2	8	U	1	6	2	020	K	S	0	1	T	5	0				
2	9	U	1	6	3	020	K	S	0	1	T	5	0				
3	0	U	1	6	4	020	K	S	0	1	T	5	0				
3	1	U	1	6	5	100	K	S	0	1	T	5	0				
3	2	U	1	6	6	020	K	S	0	1	T	5	0				
3	3	U	1	6	7	020	K	S	0	1	T	5	0				
3	4	U	1	6	8	020	K	S	0	1	T	5	0				
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3	6	U	1	7	0	050	K	S	0	1	T	5	0				
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3	9	U	1	7	3	020	K	S	0	1	T	5	0				
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5	4	U	1	8	9	020	K	S	0	1	T	5	0				
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5	6	U	1	9	1	020	K	S	0	1	T	5	0				
5	7	U	1	9	2	020	K	S	0	1	T	5	0				
5	8	U	1	9	3	020	K	S	0	1	T	5	0				
5	9	U	1	9	4	100	K	S	0	1	T	5	0				
6	0	U	1	9	6	020	K	S	0	1	T	5	0				

**9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)**

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter Code)								(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)								
6	1	U	1	9	7	020	K	S	0	1	T	5	0				
6	2	U	2	0	0	020	K	S	0	1	T	5	0				
6	3	U	2	0	1	020	K	S	0	1	T	5	0				
6	4	U	2	0	2	020	K	S	0	1	T	5	0				
6	5	U	2	0	3	020	K	S	0	1	T	5	0				
6	6	U	2	0	4	020	K	S	0	1	T	5	0				
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6	8	U	2	0	6	020	K	S	0	1	T	5	0				
6	9	U	2	0	7	020	K	S	0	1	T	5	0				
7	0	U	2	0	8	020	K	S	0	1	T	5	0				
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7	2	U	2	1	0	020	K	S	0	1	T	5	0				
7	3	U	2	1	1	050	K	S	0	1	T	5	0				
7	4	U	2	1	3	050	K	S	0	1	T	5	0				
7	5	U	2	1	4	050	K	S	0	1	T	5	0				
7	6	U	2	1	5	020	K	S	0	1	T	5	0				
7	7	U	2	1	6	020	K	S	0	1	T	5	0				
7	8	U	2	1	7	020	K	S	0	1	T	5	0				
7	9	U	2	1	8	020	K	S	0	1	T	5	0				
8	0	U	2	1	9	100	K	S	0	1	T	5	0				
8	1	U	2	2	0	020	K	S	0	1	T	5	0				
8	2	U	2	2	1	020	K	S	0	1	T	5	0				
8	3	U	2	2	2	020	K	S	0	1	T	5	0				
8	4	U	2	2	3	020	K	S	0	1	T	5	0				
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8	6	U	2	2	6	020	K	S	0	1	T	5	0				
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8	8	U	2	3	3	020	K	S	0	1	T	5	0				
8	9	U	2	3	4	020	K	S	0	1	T	5	0				
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9	3	U	2	3	8	100	K	S	0	1	T	5	0				
9	4	U	2	3	9	020	K	S	0	1	T	5	0				
9	5	U	2	4	0	020	K	S	0	1	T	5	0				
9	6	U	2	4	3	020	K	S	0	1	T	5	0				



**10. Map**

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

**11. Facility Drawing**

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

**12. Photographs**

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas (see instructions for more detail).

**13. Comments**

Item # 10. For maps refer to Figure A-1a: Site Topographic Map 1" = 1,000' to show area extending to at least one mile beyond property boundaries and Figure A-1b: Site Topographic Map 1" = 500' to show details of facility.

Item# 11. For facility drawings refer to: Figure D-1 (plan view) Hazardous Materials Facility General Arrangement, 1" = 12' and Figure D-2 (cross sectional view) Hazardous Materials Facility Section A-A, 1" = 10'.

Item # 12. For the photograph refer to Figure A-2, Hazardous Materials Facility Operational Layout on an aerial photo base, 1" = 30' delineating all required areas.

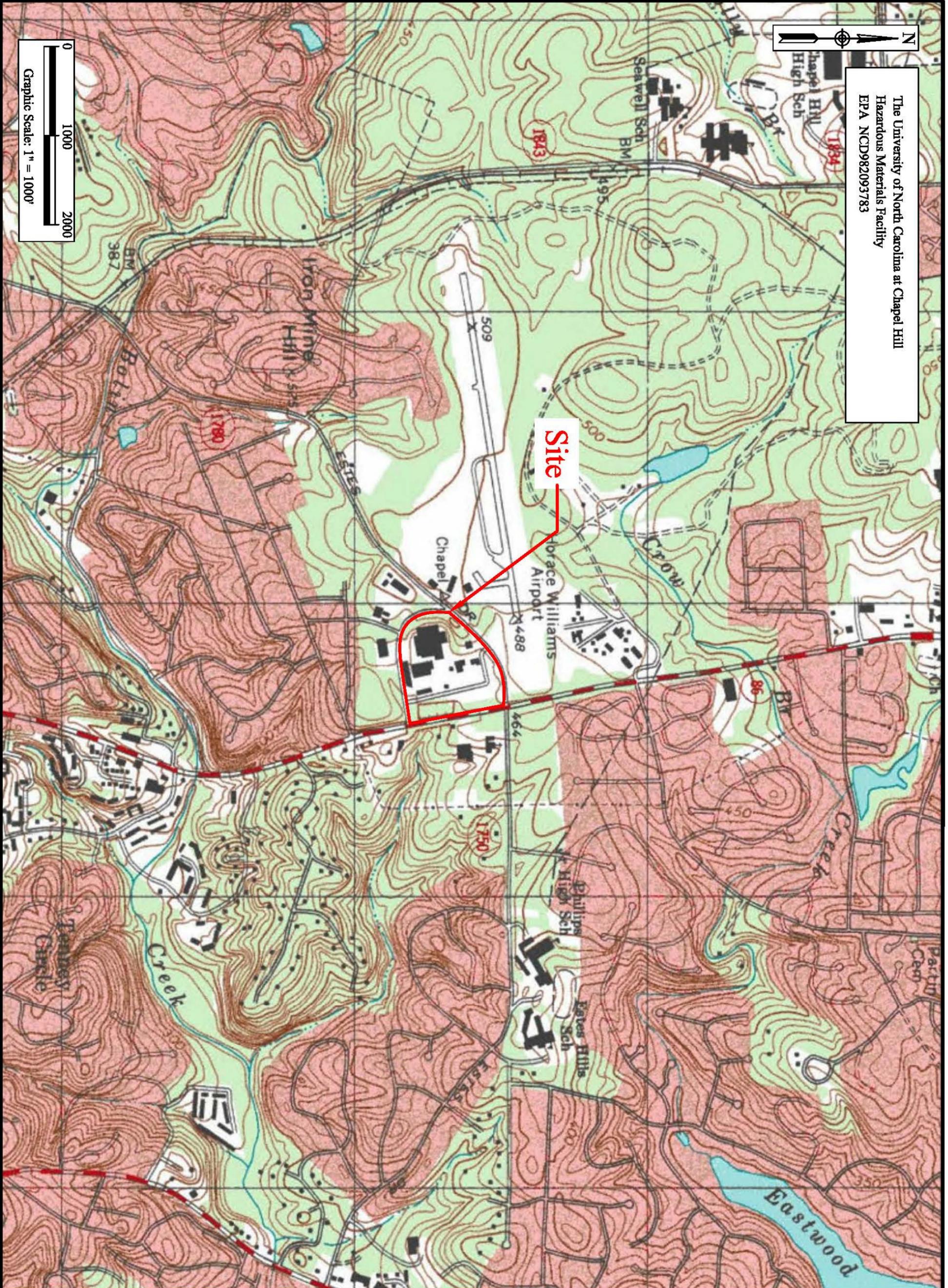
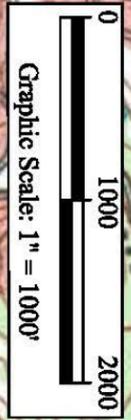
**EPA ID Number: NCD982093783**

11. Description of Hazardous Wastes (Continued from page 3 of EPA Form 8700)

A. Waste Codes for Federally Regulated Hazardous Wastes.

P015	P016	P017	P018	P020	P021	P022	PO23	PO24	P026	P027	P028
P029	P030	P031	P033	P034	P036	P037	P038	P039	P040	P041	P042
P043	P044	P045	P046	P047	P048	P049	P050	P051	P054	P056	P057
P058	P059	P060	P062	P063	P064	P065	P066	P067	P068	P069	P070
P071	P072	P073	P074	P075	P076	P077	P078	P081	P082	P084	P085
P087	P088	P089	P092	P093	P094	P095	P096	P097	P098	P099	P101
P102	P103	P104	P105	P106	P108	P109	P110	P111	P112	P113	P114
P115	P116	P118	P119	P120	P121	P122	P123	P127	P128	P185	P188
P189	P190	P191	P192	P194	P196	P197	P198	P199	P201	P202	P203
P204	P205	U001	U002	U003	U004	U005	U006	U007	U008	U009	U010
U011	U012	U014	U015	U016	U017	U018	U019	U020	U021	U022	U023
U024	U025	U026	U027	U028	U029	U030	U031	U032	U033	U034	U035
U036	U037	U038	U039	U041	U042	U043	U044	U045	U046	U047	U048
U049	U050	U051	U052	U053	U055	U056	U057	U058	U059	U060	U061
U062	U063	U064	U066	U067	U068	U069	U070	U071	U072	U073	U074
U075	U076	U077	U078	U079	U080	U081	U082	U083	U084	U085	U086
U087	U088	U089	U090	U091	U092	U093	U094	U095	U096	U097	U098
U099	U101	U102	U103	U105	U106	U107	U108	U109	U110	U111	U112
U113	U114	U115	U116	U117	U118	U119	U120	U121	U122	U123	U124
U125	U126	U127	U128	U130	U131	U132	U133	U134	U135	U136	U137
U138	U140	U141	U142	U143	U144	U145	U146	U147	U148	U149	U150
U151	U152	U153	U154	U155	U156	U157	U158	U159	U160	U161	U162
U163	U164	U165	U166	U167	U168	U169	U170	U171	U172	U173	U174
U176	U177	U178	U179	U180	U181	U182	U183	U184	U185	U186	U187
U188	U189	U190	U191	U192	U193	U194	U196	U197	U200	U201	U202
U203	U204	U205	U206	U207	U208	U209	U210	U211	U213	U214	U215
U216	U217	U218	U219	U220	U221	U222	U223	U225	U226	U227	U228
U234	U235	U236	U237	U238	U239	U240	U243	U244	U246	U247	U248
U249	U271	U278	U279	U280	U328	U353	U359	U364	U367	U372	U373
U387	U389	U394	U395	U404	U408	U409	U410	U411			

The University of North Carolina at Chapel Hill  
 Hazardous Materials Facility  
 EPA NCD982093783



**Topographic Site Map**  
 RCRA Part B Permit Renewal Application  
 The University of North Carolina at Chapel Hill

Drawn By: baj	Checked By: 	Project Number: 201449	Date: January 2015	References: MapCard: Chapel Hill, 2002; Field Data
Scale: 1" = 1000'	Size: 11" x 17"	Layers: 0,1	Filename: F:\UNC-Chapel Hill\RCRA Part B Renewal - 201449\CAD	

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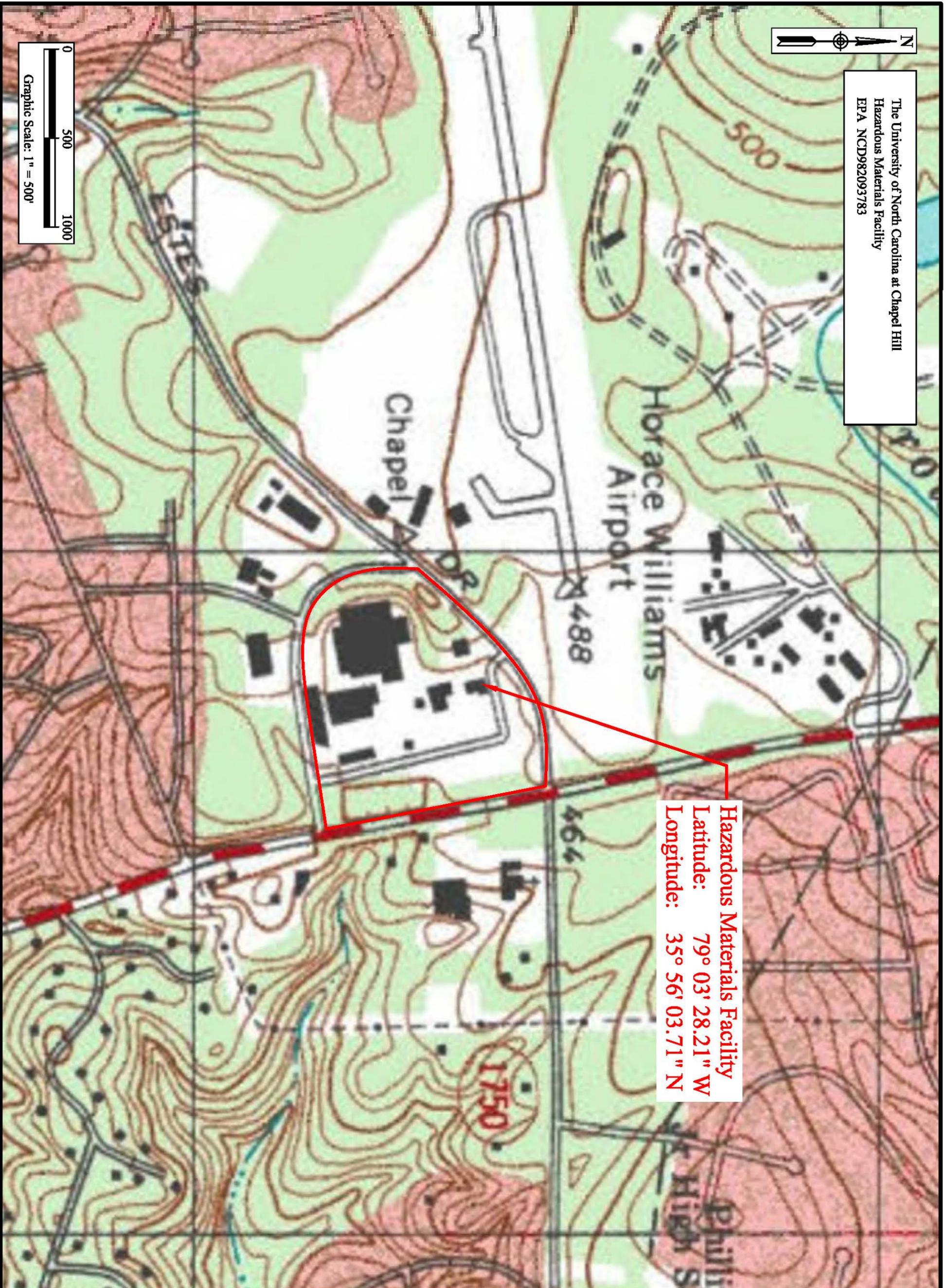
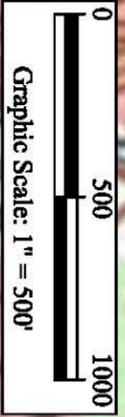
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A-1a

Figure



The University of North Carolina at Chapel Hill  
 Hazardous Materials Facility  
 EPA NCD982093783



**Hazardous Materials Facility**  
 Latitude: 79° 03' 28.21" W  
 Longitude: 35° 56' 03.71" N

**Topographic Site Map**  
 RCRA Part B Permit Renewal Application  
 The University of North Carolina at Chapel Hill

<b>Drawn By:</b> baj	<b>Checked By:</b> 	<b>Project Number:</b> 201449	<b>Date:</b> January 2015	<b>References:</b> MapCard: Chapel Hill, 2002; Field Data
<b>Scale:</b> 1" = 500'	<b>Size:</b> 11" x 17"	<b>Layers:</b> 0,1	<b>Filename:</b> F:\UNC-Chapel Hill\RCRA Part B Renewal - 201449\CAD	

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A-1b

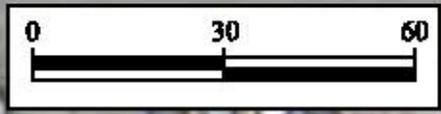
Figure



**Hazardous Materials Facility  
Buildings 531 and 488**



Legend	
1	Flammable Storage Room
2	Container Storage Area
3	Non-Hazardous Waste Storage Area
4	Staging Area
5	Compressed Gas Cylinder Storage Area
6	Consolidation Area
7	Waste Receiving Area
8	Office
9	Supply Room
10	Loading Dock
11	Bulking Area
12	Neutralization Area



**Hazardous Materials Facility Operational Layout**

RCRA Part B Permit Renewal Application  
The University of North Carolina at Chapel Hill

Drawn By: cjk	Checked By:	Project Number: 201449	Date: January 2015	Reference: 2015 DigitalGlobe USGS Imagery
Scale: 1" = 30'	Size: 8.5" x 11"	Layers: 0,1,2,3	File name: PA UNC-Chapel Hill RCRA Part B Renewal - 201449 Figures	

**DUNCKLEE & DUNHAM**  
ENVIRONMENTAL, GEOLOGISTS & ENGINEERS

511 Kessler Drive Suite 102  
Cary, North Carolina 27515  
NC Eng. License No. C-8599

(919) 836-9696  
www.dunckleeanddunham.com  
NC Geo. License No. C-261

A-2

Figure

# Section B

## SECTION B

### **FACILITY DESCRIPTION**

The University of North Carolina at Chapel Hill (UNC-CH or the University) is submitting this application as a formal request for renewal of its current Resource Conservation and Recovery Act (RCRA) Part B Permit (Permit No. NCD982093783) dated October 26, 2005.

This section provides a general description of the University's existing Hazardous Materials Facility (HMF), as required by 40 CFR 270.14(b). This description is intended to give the permit application reviewer an overview of the facility.

The HMF is an existing facility owned by UNC-CH located at:  
1085 Facilities Drive  
Buildings 488 and 531  
Chapel Hill, NC 27599-1650

The HMF mailing address is:  
The University of North Carolina at Chapel Hill  
1120 Estes Drive Extension, CB #1650  
Chapel Hill, North Carolina 27599-1650

The facility contact is:  
Mary Beth Koza  
Director, Department of Environment, Health and Safety  
919-843-5913

#### **B-1 GENERAL DESCRIPTION [40 CFR 270.14 (b)(1)]**

The University is a multidisciplinary research university located in Chapel Hill, Orange County, North Carolina. The main campus currently consists of approximately 576 acres with over 370 buildings of various sizes located on geographically contiguous properties, separated by public roads. There are approximately 2,570 laboratories on campus and more are in the construction and planning stages. Although research is conducted by essentially all academic departments, the majority of the hazardous wastes and mixed wastes (low-level radioactive wastes that also meet the definition of a hazardous waste) are generated by faculty who use hazardous materials in their research and their other activities related to University technology. Among the more active users of hazardous materials are the departments of Chemistry and Biology and the Schools of Dentistry, Medicine, Pharmacy, Public Health and UNC Health Care.

During the 10-year period from 2005 through the end of 2014, an average of approximately 38,600 kilograms of hazardous waste was managed at the HMF annually.

The majority of UNC-CH’s hazardous waste is generated in about 30 of the campus buildings and consists mostly of laboratory generated wastes. Hazardous wastes are also generated at University-related facilities that are not contiguous to the main campus or to the HMF. University off-site generator locations are provided in Table B-1.

Types of wastes generated on campus and at off-site locations and stored at the HMF include both listed and characteristic hazardous wastes, mixed waste, universal waste and non-hazardous solid wastes.

<b>Table B-1</b>			
<b>UNC-CH Affiliated Off-Site Generator Locations</b>			
<b>FACILITY NAME</b>	<b>ADDRESS</b>	<b>WASTE GENERATED</b>	<b>EPA ID #</b>
Co-Generation	555 W. Cameron Ave. Chapel Hill, NC 27516	Both EPA regulated & Non-regulated material, Universal Waste	NCR000010272
Horace Williams Airport	1003 Estes Dr. Chapel Hill, NC 27516	Both EPA regulated & Non-regulated material	NCR000007773
UNC Medical Air Operations – RDU Airport	1050 Meridian Dr. Morrisville, NC 27560	Both EPA regulated & Non-regulated material, Universal Waste	Conditionally Exempt Small Quantity Generator (CESQG)
UNC Athletic Grounds	220 Finley Golf Course Rd. Chapel Hill, NC 27514	Both EPA regulated & non-regulated material	CESQG
Hospital Printing	4800 NC Hwy 54 Chapel Hill, NC 27516	Both EPA regulated & non-regulated material	CESQG
Bingham Facility	1907 Orange Chapel Clover Garden Rd. Chapel Hill, NC 27516	Both EPA regulated & non-regulated material	CESQG
Southern Village (UNC Health Care Dermatology)	410 Market St. Chapel Hill, NC 27517	Both EPA regulated & non-regulated material	CESQG
FOBRL (Francis Owen Blood Research Lab)	125 University Lake Rd, Chapel Hill, NC 27516	Both EPA regulated & non-regulated material	CESQG

<b>Table B-1</b>			
<b>UNC-CH Affiliated Off-Site Generator Locations</b>			
<b>FACILITY NAME</b>	<b>ADDRESS</b>	<b>WASTE GENERATED</b>	<b>EPA ID #</b>
Frank Porter Graham	101 Smith Level Rd. Chapel Hill, NC 27516	Universal Waste	CESQG
UNC Health Care	1101 Weaver Dairy Rd. Chapel Hill, NC 27514	Universal Waste	CESQG
ITS - Franklin St.	440 West Franklin St. Chapel Hill, NC 27516	Universal Waste	CESQG
Art Lab	108 Airport Dr. Chapel Hill, NC 27516	Both EPA regulated & non-regulated material, Universal Waste	CESQG
Airport Road Waste Disposal Area	235 Municipal Dr. Chapel Hill, NC 27516	Both EPA regulated & non-regulated material, Universal Waste	NCD980557623
The Friday Center	100 Friday Center Dr. Chapel Hill, NC 27517	Universal Waste	CESQG
WUNC- TV	10 T.W. Alexander Dr. Research Triangle Park, NC 27709	Universal Waste	CESQG
Carolina Crossing	2226 Nelson Highway Suite 102 Chapel Hill, NC 27517	Both EPA regulated & non-regulated material, Universal Waste	CESQG
Carolina Advanced Health	6101 Quadrangle Dr. Chapel Hill, NC 27517	Both EPA regulated & non-regulated material, Universal Waste	CESQG
Institute of Marine Sciences	3431 Arendell St. Morehead City, NC 28557	Both EPA regulated & non-regulated material, Universal Waste	CESQG
North Carolina Research Campus at Kannapolis	N. Research Campus Dr. Kannapolis, NC 28081	Both EPA regulated & non-regulated material, Universal Waste	NC0991303677

<b>Table B-1</b>			
<b>UNC-CH Affiliated Off-Site Generator Locations</b>			
<b>FACILITY NAME</b>	<b>ADDRESS</b>	<b>WASTE GENERATED</b>	<b>EPA ID #</b>
North Carolina School of Science and Mathematics	1219 Broad St. Durham, NC 27705	Both EPA regulated & non-regulated material, Universal Waste	CESEQG
Mason Farm Low Level Radioactive Waste Site	Old Mason Farm Rd. Chapel Hill, NC 27514	Both EPA regulated & non-regulated material	CESQG
Carolina Living and Learning Center	325 Russet Run Pittsboro, NC 27312	Both EPA regulated & non-regulated material, Universal Waste	CESQG
UNC Health Care – Hillsborough Hospital	460 Waterstone Dr. Hillsborough, NC 27278	Both EPA regulated & non-regulated material	CESQG
UNC Horizons Program	127 Kingston Dr. Chapel Hill, NC 27514	Both EPA regulated & non-regulated material, Universal Waste	CESQG
UNC Rizzo Conference Center	150 DuBose Home Ln. Chapel Hill, NC 27517	Both EPA regulated & non-regulated material, Universal Waste	CESQG
UNC Health Care – Meadowmont	300 Meadowmont Village Circle Chapel Hill, NC 27517	Both EPA regulated & non-regulated material	CESQG
The Farm	1 Alice Ingram Circle Chapel Hill, NC 27517	Both EPA regulated & non-regulated material, Universal Waste	CESQG
Carolina North	1089 Municipal Dr. Chapel Hill, NC 27516	Both EPA regulated & non-regulated material, Universal Waste	CESQG
UNC Finley Golf Course	500 Finley Golf Course Rd. Chapel Hill, NC 27514	Both EPA regulated & non-regulated material, Universal Waste	CESQG

Hazardous and non-hazardous wastes and universal wastes are also generated from operations and maintenance activities. The majority of these wastes are generated at the University's Cogeneration Facility and the Facilities Services Area (Figure B-1).

The Cogeneration Facility generates steam using circulating fluidized bed boilers. Electricity is produced as a by-product of steam generation. The facility generates various operational and maintenance-related hazardous wastes such as spent parts washer solvent, used aerosol cans and waste paint.

The Facility Services area is located off Estes Drive Extension, near the intersection of Estes Drive and Martin Luther King, Jr. Boulevard. Facility Services' operations include Facility Service maintenance shops and an automotive service station. Examples of wastes generated by Facility Services' operations include used aerosol cans, paint waste, solder dross, used oil and universal waste.

The Facility Services area also includes the HMF. Hazardous waste treatment and storage operations are confined to HMF buildings 488 and 531. The majority of the wastes managed at the HMF are generated on the main campus.

A low-level radioactive liquid disposal building (650) is located adjacent to building 488 (Figure B-2). Low-level radioactive liquid waste is discharged to the local sanitary sewer system in accordance with the UNC-CH radioactive material license (#068-0214-1) issued by the North Carolina Department of Health and Human Services Division of Health Service Regulation, Radiation Protection Section.

The individual waste containers brought to the HMF are handled in one of four ways:

- Solvents are bulked into either a 55-gallon U. S. Department of Transportation (DOT)-certified plastic drum or a grounded 55-gallon DOT-certified steel drum located in Building 488 within a walk-in fume hood.
- Small containers are placed into plastic containment trays on storage shelves along the east wall of Building 488 and segregated by waste type. Individual containers are then placed into plastic lab pack drums located in front of the shelving units.
- Large containers (containing used oil, paint waste, paint scrapings, etc.) are inventoried and transferred to Building 531.
- Elementary neutralization may be performed under one of the fume hoods in Building 488 and the neutralized waste discharged to the sanitary sewer via the adjacent sink.

All bulked or lab-packed wastes are inventoried and entered into a database as described in Section C. Full containers are then moved to Building 531 and placed in the appropriate storage areas (see Section D). Hazardous wastes are periodically transported by a licensed transporter to an off-site, permitted treatment, storage or disposal (TSD) facility.

## **B-2 Topographic Map [40 CFR.270.14(b)(19)]**

### **B-2a General Requirements**

Figure B-1 is a U. S. Geologic Survey topographic map that shows the location of the HMF, UNC-CH's Main Campus, the Cogeneration facility and airport as well as the Town of Chapel Hill and surrounding area.

Figure B-2 is a site plan that shows buildings, roadways, utilities (storm, sanitary and process sewers) and other pertinent details associated with the HMF. Hazardous wastes are treated (bulked) or consolidated (repackaged) in Building 488 and stored in Building 531.

Figure B-3 is a topographic map that shows the facility property boundary and general layout of the surrounding area. Topography is shown for an area extending approximately 1,000 feet in all directions from the HMF. The map is at a scale of 1 inch equals 200 feet (1" = 200'). This map presents site topography with 2-foot contour intervals.

Figure D-1 depicts the locations of hazardous waste storage areas and emergency equipment (Section D for drawing). There are no injection wells, withdrawal wells or monitoring wells located on or within close proximity to the HMF.

Figure L-1 provides the locations of all Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) (Section L for drawing). UNC-CH received a No Further Action status letter for SWMU 21 from the North Carolina Department of Environment and Natural Resources (NCDENR) Hazardous Waste Section (HWS) on March 15, 2013. The four monitoring wells that were associated with SWMU-21 were closed by Quantex, Inc., a North Carolina licensed driller (#3106). The wells were abandoned in accordance with North Carolina well abandonment standards 15A NCAC 02C.0113 on April 20, 2013. .

### **Site Access**

The principal routes for accessing the HMF are I-40 to NC Route 86 to Estes Drive Extension and US Route 15-501 South to Estes Drive, across Martin Luther King, Jr. Boulevard to Estes Drive Extension. All visitors must enter through the main gate and check in at the HMF office.

### **Access to Waste Management Facilities**

The HMF is located north of the main campus. Access to the facility is limited by a 5-foot, 6-inch high perimeter chain-link fence, topped with three strands of barbed wire. Vehicular access is from a driveway off Estes Drive Extension on the west side of the buildings. Access gates consist of a 30-foot long and 6-foot high, one-piece electronic aluminum slider gate on the west side of Building 488, a 4-foot wide personnel gate adjacent to the left of the electronic gate, a 6-foot wide personnel gate between Building 650 and Building 488 and a 3-foot wide personnel gate on the east side of Building 488. Only authorized personnel have access to the HMF and all gates are padlocked when UNC-CH Department of Environment, Health & Safety (EHS) personnel are not at the facility.

## **Loading/Unloading**

The loading/unloading area for the HMF is capable of accommodating tractor-trailer trucks and tanker trucks. It is located on the west side of the facility, as shown on Figure D-1 in Section D.

## **Water Supply**

The potable and process water for the facility is supplied by the Orange Water and Sewer Authority (OWASA). Hydrants are located strategic to the facility site to combat any potential fires (Figure B-2).

## **Surface Waters**

An unnamed tributary to Bolin Creek is the closest continuously flowing surface water to the HMF that actually receives water draining from the site. This unnamed tributary to Bolin Creek is located approximately 600 feet to the southeast (Figure B-1). The predominant site drainage is toward the southeast, ultimately discharging to Bolin Creek, which is tributary to Little Creek and ultimately to B. Everett Jordan Lake.

## **Surrounding Land Use**

Figure B-4 shows the current surrounding land use areas. The HMF facility property is bounded on the north and west by Estes Drive Extension, the south by Airport Drive and the east by Martin Luther King, Jr. Boulevard. The immediate area surrounding the HMF is zoned office/institutional. The closest residential area is located off of Martin Luther King, Jr. Boulevard approximately 720 feet southeast of the HMF.

## **Wind Rose**

Figure B-5 provides the annual wind rose data collected at the nearest weather station between 1999 and 2015. The closest weather station to the UNC-CH HMF is located at the UNC-CH Horace Williams Airport. The prevailing wind direction for the Chapel Hill area is generally from the westerly direction. This wind rose data is an annual distribution and does not take into account seasonal, monthly or daily variations in wind speed and direction.

### **B-2b Additional Topographic Requirements for Land Storage, Treatment and Disposal Facilities**

Additional topographic requirements are not applicable as UNC-CH HMF does not have a land storage, treatment and disposal facility.

### **B-3 TRAFFIC INFORMATION [40 CFR 270.14(b)(10)]**

Most hazardous wastes generated by UNC-CH consist of laboratory wastes and wastes related to maintenance and service activities. Wastes are accumulated in appropriate waste containers located in satellite accumulation areas (SAAs) at waste generation points across campus and at UNC-CH-affiliated off-site locations. Prior to transport to the HMF, small-volume containers are typically packaged in larger DOT-certified plastic containers at each SAA to provide containment. At UNC Hospitals located on the main campus, satellite area-accumulated wastes may be transported by trained personnel to a less than 90-day storage area located at UNC Hospitals. Wastes from SAAs and less than 90-day storage areas are then transported to the respective loading dock in a 4-wheel cart by a HMF Hazardous Materials Specialist. Larger waste containers are transported to the loading dock individually with a hand truck. At the loading dock, hazardous waste containers are transferred to a vehicle, manifested and then transported to the HMF. Hazardous wastes are transported by box bed or closed bed trucks using the most direct route to the HMF. The box bed waste transportation vehicle is equipped with a power-lift tailgate. The total quantity in any one shipment is limited so as not to exceed the Gross Vehicle Weight Rating.

Upon arrival at the HMF, wastes (including mixed wastes) are moved via 4-wheel hand cart or hand truck into the Consolidation Room area (easternmost room) of Building 488 (Figure D-1), where the transport containers are opened and processed according to the bulleted description in Section B-1.

Traffic can approach the HMF facility by traveling several alternative routes (see Figures B-1 and B-3). The principal routes include:

- Martin Luther King, Jr. Boulevard (NC Route 86) to Estes Drive Extension
- US Route 15-501 to Estes Drive Extension

Hazardous waste transport truck traffic volume leaving the HMF is estimated to average approximately four tractor-trailers per quarter.

The roads over which the wastes are moved are maintained by the Town of Chapel Hill, the North Carolina DOT or the University. Road access to the facility is shown on Figure B-6. The access road between Estes Drive Extension and the HMF, approximately 300 feet long, is paved and also serves as the entrance to the University's Central Storeroom and Surplus Property Facility. The road has at least eight-inches of stone base with two-inches of hot mix asphalt surface. The access road is maintained in good condition by the University. Past use has demonstrated that all roads serving the HMF should be capable of handling the traffic expected. Traffic within the facility area is limited, and no traffic controls are deemed necessary other than stop signs.

Movement of wastes from UNC-CH affiliated off-site generator locations to the HMF also occurs on publically owned and maintained roadways.

## **B-4 LOCATION INFORMATION [40 CFR 270.14(b)(11); 40 CFR 264.18]**

### **B-4a Seismic Considerations**

This facility is not located in an area listed in 40 CFR 264, Appendix VI, which lists sensitive seismic areas.

### **B-4b Flood Plain Standard**

The UNC-CH facility is not located within the 100-year flood plain, as shown on Figure B-7. The flood plain information was taken from the Orange County GIS website (<http://server2.co.orange.nc.us/OrangeNCGIS/default.aspx>).

### **B-4c Additional North Carolina Location Standards**

As an existing facility, UNC-CH must describe how the following minimum separation distances are met to the maximum extent feasible.

- The HMF is located greater than 0.25 miles from institutions such as schools, hospitals, prisons, etc. The nearest school is located approximately one-half mile from the HMF.
- Hazardous waste storage is a minimum of 50 feet from the property line as indicated on Figure B-2. Ignitable wastes are stored approximately 120 feet from the property line.

The HMF is not a hazardous waste landfill, long-term storage facility, land treatment facility nor does it have surface impoundments.

The HMF is not located:

- In the recharge area of an aquifer which is designated as an existing sole drinking water source.
- Within 200 feet of surface water impoundments or surface water streams with continuous flow.
- In an area that will allow direct discharge or subsurface discharge to WS-I, WS-II or SA waters or a Class III reservoir. Bolin Creek ultimately receives stormwater from the area surrounding the HMF. Bolin Creek has a WS-IV water quality classification.
- In an area that will allow direct surface or subsurface discharge to the watershed for a Class I or Class II Reservoir. Bolin Creek is a tributary to Little Creek, which flows into Jordan Lake. Bolin Creek, Little Creek and Jordan Lake are all classified as WS-IV waters.
- Within 200 feet horizontally of a 100-year floodplain elevation (Figure B-7).
- Within 200 feet of a seismically active area.

- Within 200 feet of a mine or cavernous bedrock (See attached correspondence from the NCDENR). Based on a recent review of the database of permitted and inactive mines on NCDENR's Division of Energy, Mineral and Land Resources website, no new mines have been permitted in Orange County since 1988.

## **B-5 ADDITIONAL NORTH CAROLINA REQUIREMENTS**

### **B-5a Monitoring Wells for New Facilities**

The requirements for groundwater monitoring are not applicable to the existing HMF.

### **B-5b Public Participation for New Facilities**

The requirements for public meetings are not applicable to the existing HMF.

**MINE LOCATION CORRESPONDENCE**



THE UNIVERSITY OF NORTH CAROLINA  
AT  
CHAPEL HILL

University  
Health and Safety Office  
(919) 962-5507  
FAX (919) 962-0227

The University of North Carolina at Chapel Hill  
212 Finley Golf Course Road  
Chapel Hill, North Carolina 27514

July 20, 1999

Mr. Tracy Davis, P.E.  
Land Quality Section  
Division of Land Resources  
North Carolina Department of Environment &  
Natural Resources  
Post Office Box 27687  
Raleigh, North Carolina 27611-7687

Dear Mr. Davis:

The University of North Carolina at Chapel Hill is applying for renewal of our Resource Conservation and Recovery Act Part B Permit for hazardous waste treatment and storage. The North Carolina Hazardous Waste Section rules require that we determine our proximity and potential impact to mines in the surrounding area.

Our hazardous waste management facility is located in Chapel Hill, North Carolina as indicated on the attached topographic map. In order to meet regulatory requirements for permit renewal, we are requesting assistance from your office. Please provide us with information on the location of mines in the Chapel Hill area and potential impacts that operation of our hazardous waste facility might have on mining operations. In order to meet our permit renewal submittal date, we request that you provide us with the required information by September 1, 1999.

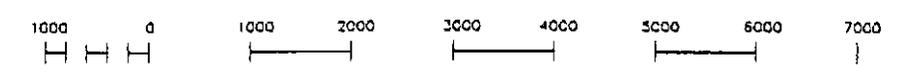
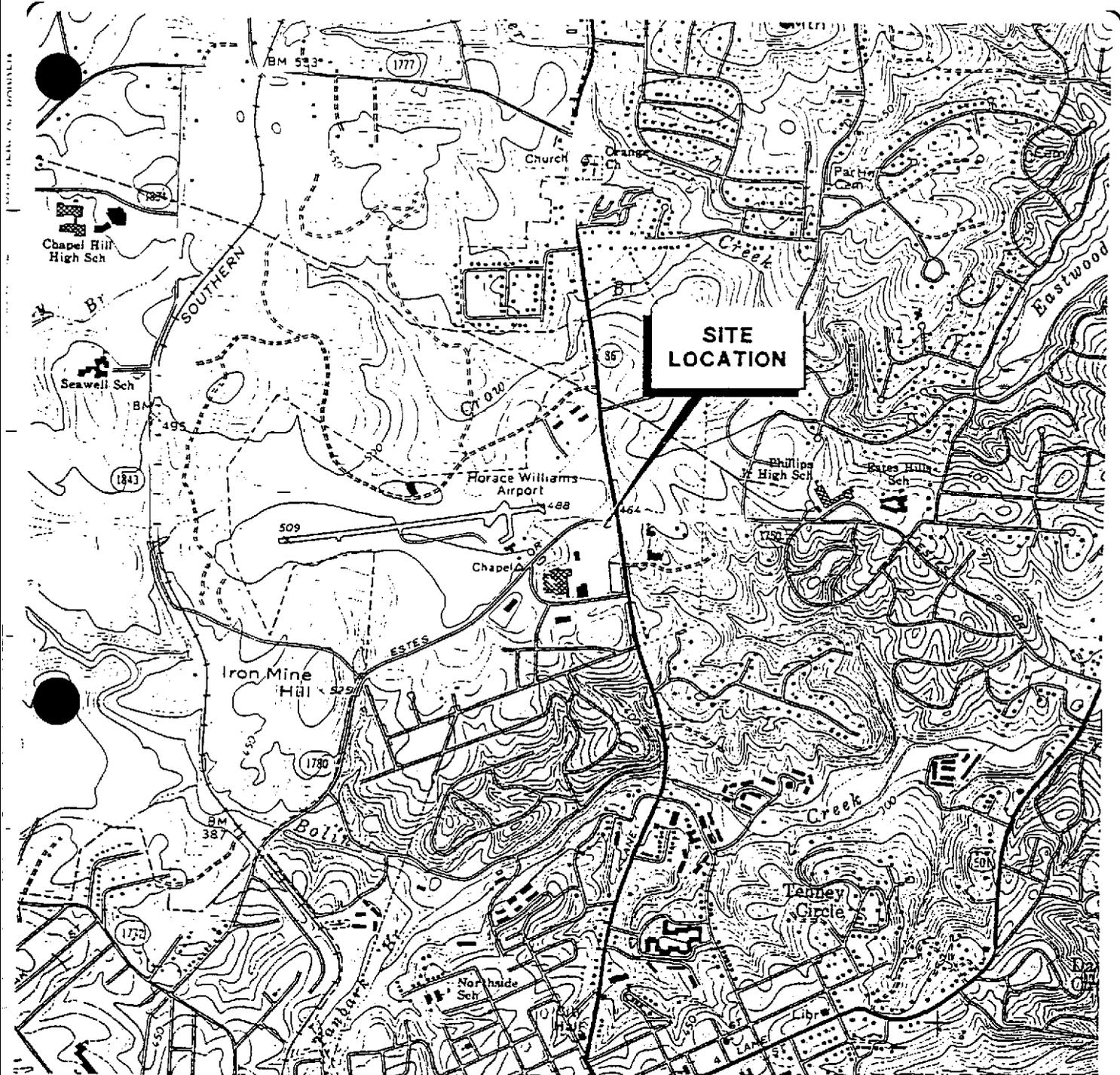
We appreciate your assistance in this matter. If you have any questions or need any additional information please call me at (919) 962-9752.

Sincerely,

Sharon A. Myers P.G.  
Environmental Specialist/Geologist

Attachments

Cc: Mr. Terry Bradham, P.E. - Earthtech  
Dr. Rich Miller - UNC-CH



SCALE 1:24000

Contour Interval 10 Feet Datum is Mean Sea Level  
 U.S.G.S. 7.5 Minute Series Chapel Hill, N.C. Topographic Quadrangle.



**GERAGHTY & MILLER, INC.**  
*Environmental Services*

**SITE LOCATION AND TOPOGRAPHY**

FIGURE

1

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL  
 CHAPEL HILL, NORTH CAROLINA

NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF LAND RESOURCES



July 27, 1999

JAMES B. HUNT JR.  
GOVERNOR

Ms. Sharon A. Myers, P.E.  
Environmental Specialist, Geologist  
UNC - Chapel Hill  
University Health and Safety Office  
212 Finley Golf Course Road  
Chapel Hill, North Carolina 27514

WAYNE McDEVITT  
SECRETARY

Re: Location of Mines near Chapel Hill

CHARLES H. GARDNER  
P.G., P.E. DIRECTOR  
AND STATE GEOLOGIST

Dear Ms. Myers:

Please find attached, location and contact information for the three closest mine sites to the area of concern.

Because of the distance between the area of concern and the permitted mine sites, I believe the potential for any adverse affects to the mine sites would be very small.

I hope this information is adequate for your renewal. If additional information is needed please contact Me at (919)733-4574.

Sincerely,

Tony L. Sample, C.P.E.S.C.  
Assistant State Mining Specialist  
Land Quality Section

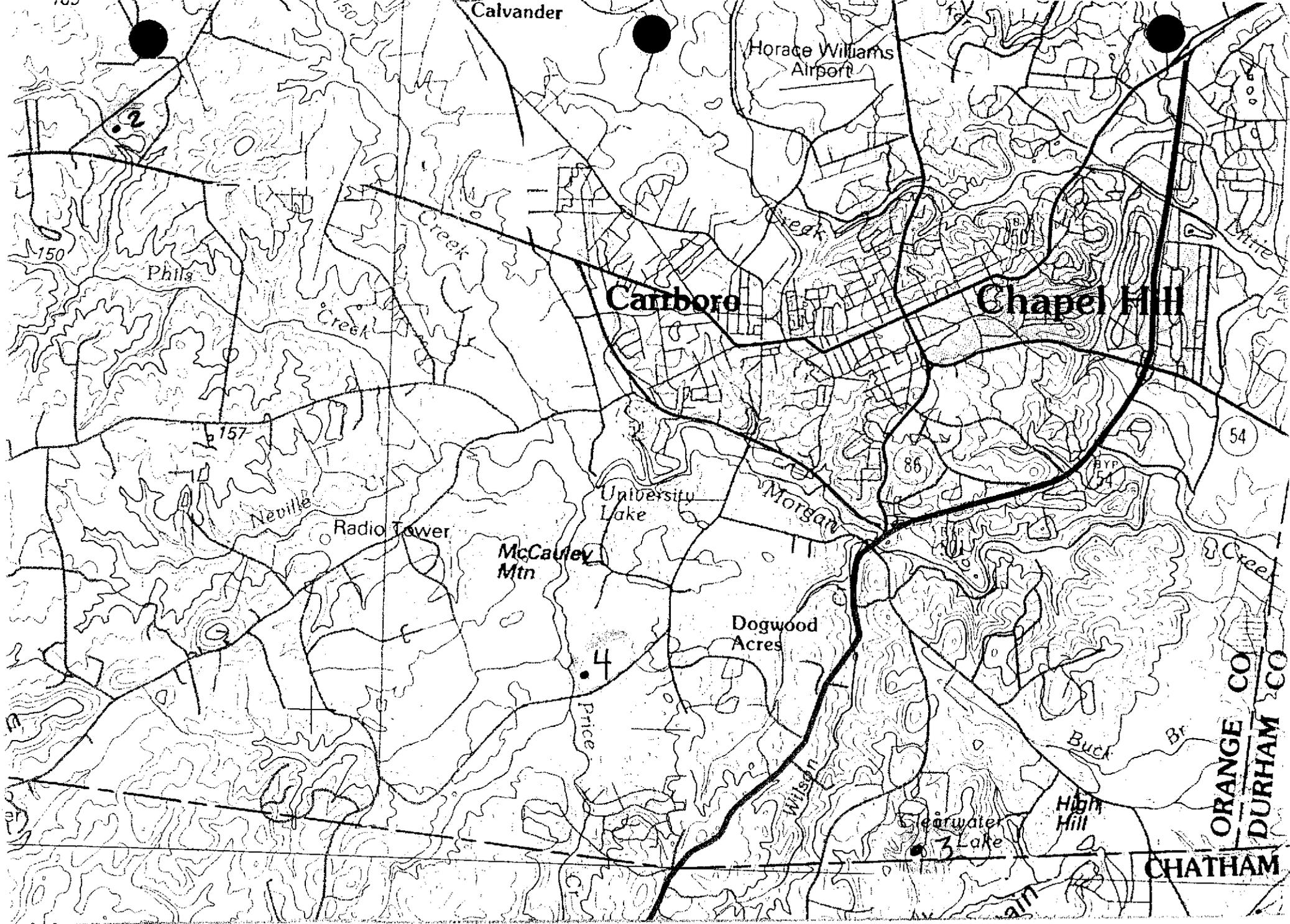
TLS

Attachment

LAND QUALITY SECTION (919) 733-4574 FAX (919) 733-2676  
GEOLOGICAL SURVEY SECTION (919) 733-2423 FAX (919) 733-0900

Permit No.	Mine Name	Owner	Contact Person	Phone	Total Acres Permitted
68-01	HILLSBOROUGH MINE	PIEDMONT MINERALS	GARY L HESTER	336-292-0949	161.00
68-02	CHAPEL HILL QUARRY	AMERICAN STONE CO	HORACE WILLSON	919-781-4550	118.00
68-03	MELLOTT GRAVEL PIT	MELLOTT TRUCKING & SUPPLY	CALVIN MELLOTT	919-967-2241	10.00
68-04	BILLY C. MERRITT GRA	BILLY C MERRITT	BILLY C MERRITT	919-942-1445	27.20
68-06	NORTH ORANGE QUARRY	HANSON AGGREGATES	CAROL NIGEL WILLE	843-537-7883	169.00

*Chapel Hill Quarry - 68-02 is a Crushed Stone Quarry  
Mellott Gravel Pit (68-03) and Billy C Merritt (68-04) are both Sand & Gravel Operations.*



Calvander

Horace Williams  
Airport

Carboro

Chapel Hill

Phillis

University  
Lake

Radio Tower

McCauley  
Mtn

Dogwood  
Acres

ORANGE CO  
DURHAM CO

CHATHAM

157

150

86

54

4

3

2

Price

Clearwater  
Lake

High  
Hill

Buck  
Br

Wilson

Creeks

Little  
Creek

Creek

Creek

Creek

Neville

Morgan

Br

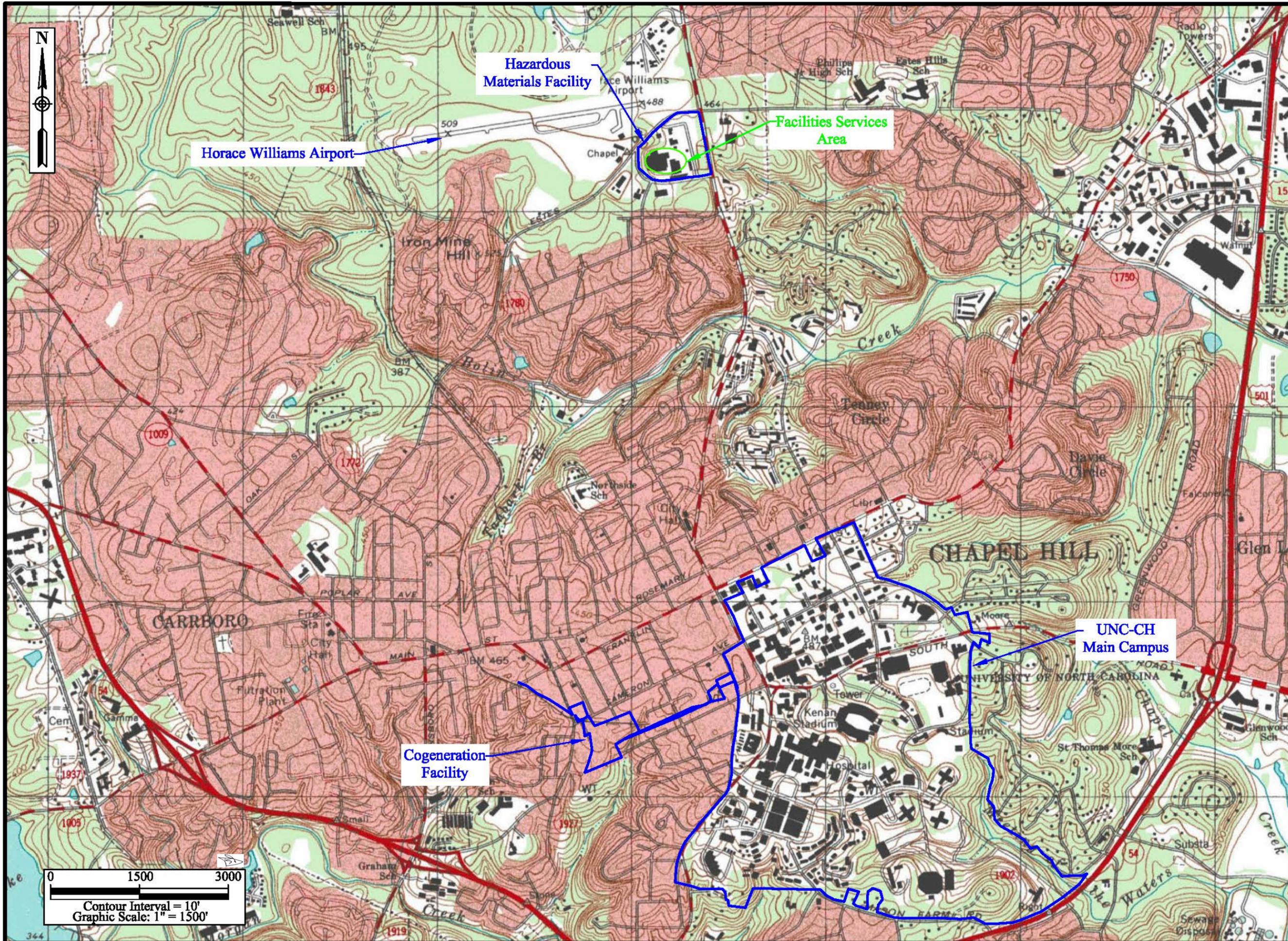
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North Carolina Department of Land Resources, Land Quality Mining Permit Inventory Report

PERMIT_NUMBER	Permittee_Bus_Name	LOCATION_NAME	FIPS_COUNTY_DESC	REGION_NAME	River_Basin_Name
68-01	Piedmont Minerals Co Inc	Hillsborough Mine	Orange	Raleigh Regional Office	Neuse
68-02	Martin Marietta Materials, Inc.	American Stone Quarry	Orange	Raleigh Regional Office	Cape Fear
68-03	Mellott Trucking & Supply Co	Mellott Gravel Pit	Orange	Raleigh Regional Office	Cape Fear
68-04	Merritt's Gravel Pit Inc.	Tony Merritt's Gravel Pit	Orange	Raleigh Regional Office	Cape Fear
68-06	Hanson Aggregates Southeast LLC	North Orange Quarry	Orange	Raleigh Regional Office	Neuse

ORIG_ISSUE_DATE	EXPIRATION_DATE	Select Contact Person	Select Addr, City, State, Zip	Phone
07/25/1972	06/07/2012	William K. Brown	P O Box 566 Hillsborough, NC 27278	919-732-3981
09/11/1972	06/12/2023	Nuwan Wijesuriya, Mr.	P O Box 30013 Raleigh, NC 27622-0013	9197814550
05/29/1973	04/20/2022	Calvin Mellott	405 Jones Ferry Road Carrboro, NC 27510	919-967-2241
08/01/1973	07/09/2020	Tony Merritt	3200 Damascus Church Road Chapel Hill, NC 27514	9199325263
02/05/1988	06/03/2018	Hanson Aggregates Southeast LLC	2300 Gateway Centre Blvd. Morrisville, NC 27560	

MINE_STATUS	COMMODITY_CODE	TOTAL_ACRES_PERMITTED	BONDED_ACRES	LATITUDE_MEASURE	LONGITUDE_MEASURE
Active	Pyrophyllite	161	61	36.0736	-79.1078
Active	Crushed Stone	157	131	35.9321	-79.1504
Active	Sand and Gravel	5	5	35.8624	-79.0605
Active	Sand and Gravel	26	18	35.8783	-79.0937
Active	Crushed Stone	194	100	36.2231	-78.9601



Location Map			
RCRA Part B Renewal Application The University of North Carolina at Chapel Hill			
Drawn By:	Checked By:	Project Number:	References:
crk	201449	201449	Map/Cut: Chapel Hill 1961
Scale:	Size:	Layers:	Filename:
1" = 1500'	11" x 17"	0,1	Filepath P:\UNC-Chapel Hill\RCRA Part B Renewal - 201449\Maperial CAD_Word

Figure

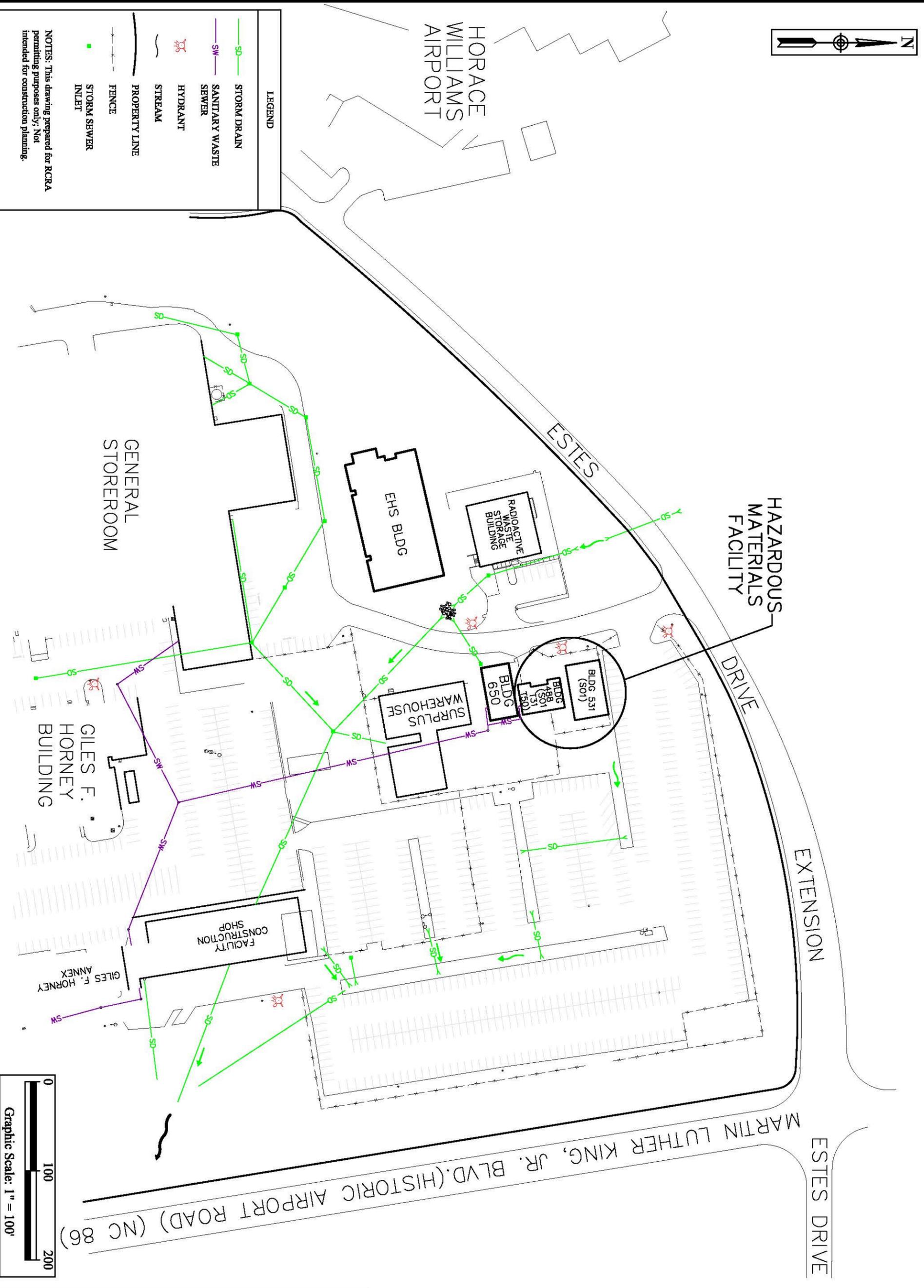


HORACE  
WILLIAMS  
AIRPORT

LEGEND

- SD STORM DRAIN
- SW SANITARY WASTE SEWER
- HYDRANT
- STREAM
- PROPERTY LINE
- FENCE
- STORM SEWER INLET

NOTES: This drawing prepared for RCRA permitting purposes only; Not intended for construction planning.



**Site Map**  
RCRA Part B Permit Renewal Application  
The University of North Carolina at Chapel Hill

<b>Drawn By:</b> crk	<b>Checked By:</b> 	<b>Project Number:</b> 201449	<b>Date:</b> January 2015	<b>References:</b> Source: UNC-CH CADD files hw0498.dgn, horney.dwg and radfac.dwg, Field Data
<b>Scale:</b> 1" = 100'	<b>Size:</b> 11" x 17"	<b>Layers:</b> 0,1	<b>Filename:</b> Filepath: \\bosse\files\Projects\UNC-Chapel Hill\RCRA Part B Renewal - 201449\CAD	

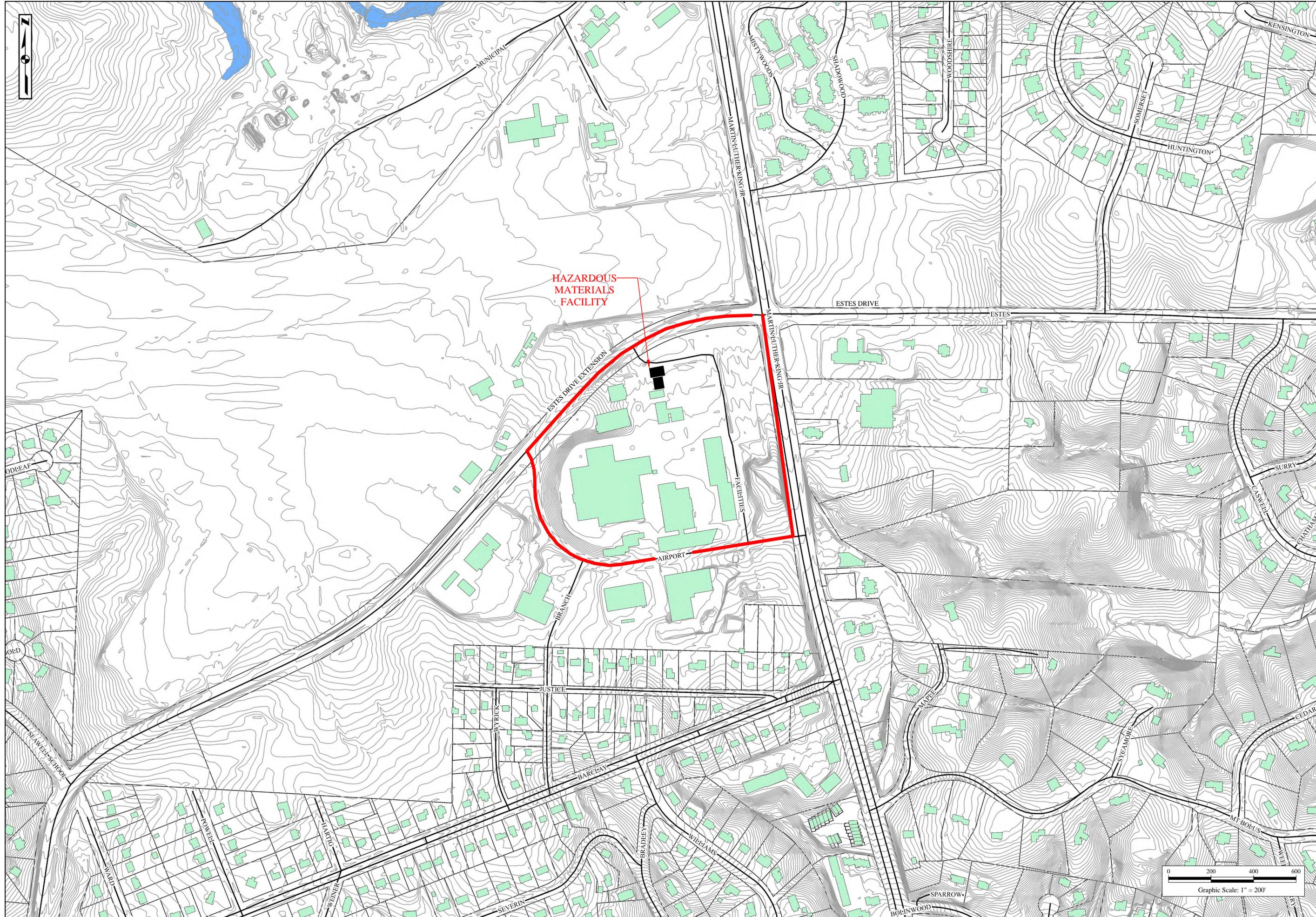


511 Keisler Drive Suite 102  
Cary, North Carolina 27518  
NC Eng. License No. C-3559

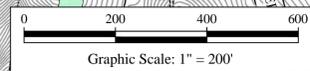
(919) 858-9898  
www.dunckleedunham.com  
NC Geo. License No. C-261

B-2

Figure



HAZARDOUS MATERIALS FACILITY



 <b>DUNCKLEE &amp; DUNHAM</b> ENVIRONMENTAL GEOLOGISTS & ENGINEERS 511 Kessler Drive Suite 102 Cary, North Carolina 27518 www.dunckleedunham.com NC Eng. License No. C-3559		<b>Topographic Site Map</b> RCRA Part B Permit Renewal Application The University of North Carolina at Chapel Hill
Drawn By: baj	Checked By: 	Project Number: 201449
Date: January 2015	References: <a href="http://server2.sorange.nc.gov/OrangeNCGIS/default.aspx">http://server2.sorange.nc.gov/OrangeNCGIS/default.aspx</a>	Scale: 1" = 200'
Size: 22" x 34"	Layers:	

Figure  
B-3



**Hazardous Materials Facility**

U-1

OI-3

OI-2

OI-2 R-2

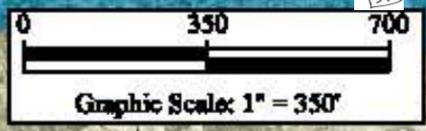
R-2

R-1

R-4

U-1

Legend	
OI-2	Office and Industrial 2
OI-3	Office and Industrial 3
R-1	Residential 1
R-2	Residential 2
R-4	Residential 4
R-5	Residential 5
U-1	University
	Boundary of Hazardous Materials Facility




**DUNKLEE & DUNHAM**  
 ENVIRONMENTAL GEOLOGISTS & ENGINEERS  
 511 Kessler Drive Suite 102  
 Cary, North Carolina 27518  
 NC Eng. License No. C-3559  
 (919) 858-9885  
 www.dunkleedunham.com  
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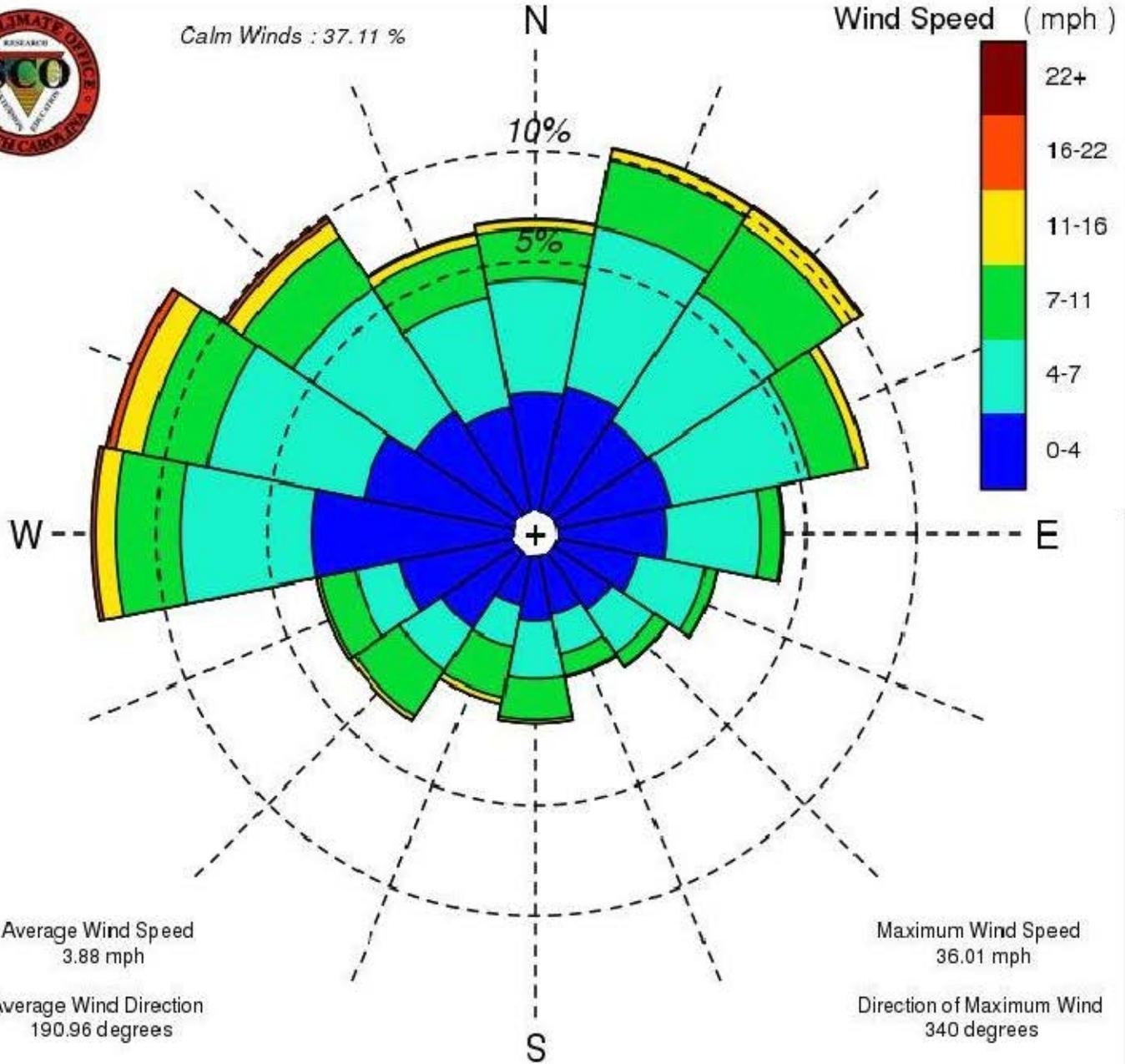
Land Use Map			
RCRA Part B Permit Renewal Application The University of North Carolina at Chapel Hill			
Checked By:	Project Number:	Date:	Reference:
ju	201449	January 2015	map04landuseapp
Scale:	Size:	Layers:	Filename:
1" = 350'	11" x 17"	0,1	map04landuseapp

Figure  
**B-4**



Calm Winds : 37.11 %

Wind Speed ( mph )



Average Wind Speed  
3.88 mph

Maximum Wind Speed  
36.01 mph

Average Wind Direction  
190.96 degrees

Direction of Maximum Wind  
340 degrees

**Time Period: January 17, 1999 to January 13, 2015**

**DUNCKLEE & DUNHAM**  
ENVIRONMENTAL GEOLOGY & ENGINEERS

311 Kolar Drive Suite 102  
Cary, North Carolina 27518  
NC Eng. License No. C-34529

(919) 439-0800  
www.dunckleeanddunham.com  
NC Gen. License No. C-361

**Wind Rose for Horace Williams Airport (KIGX)**

RCRA Part B Permit Renewal Application  
The University of North Carolina at Chapel Hill

Drawn By: jm	Checked By:	Project Number: 201449	Date: January 2015	References: http://www.dunckleeanddunham.com
Scale: No Scale	Size: 8.5" x 11"	Layers: 0.1	Filename: PUBS-Chapel Hill RCRA Part B Renewal - KIGX.WRD	

Figure

B-5



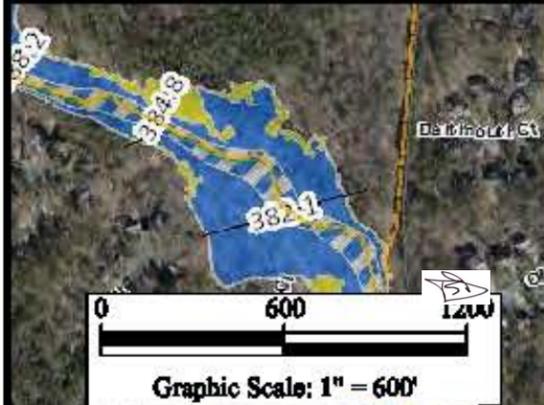
**Legend** x

**Flood Hazard Areas**

- Zone A, AH, AO, A99, V
- Zone AE, Zone AE 1% Annual Chance Flood Hazard Contained In Structure
- Zone AE Floodway Zone X, 1% Annual Chance Flood Hazard Contained In Channel, Floodway
- Zone AE, Community Encroachment Area
- Zone VE
- Zone X, 0.2% Annual Chance Flood Hazard, 0.2% Annual Chance Flood Hazard Contained In Channel
- Zone X, 1% Annual Chance Future Conditions, 1% Annual Chance Contained In Structure
- Zone X, 1% Future Conditions Contained In Channel, Community Encroachment Area
- Zone D
- Open Water
- Zone X

**Stream Centerlines**

- Boundary of Hazardous Materials Facility



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511 Kehler Drive Suite 102  
 Cary, North Carolina 27518  
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(919) 856-9888  
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<b>Flood Insurance Rate Map</b>			
<b>RCRA Part B Permit Renewal Application</b>			
<b>The University of North Carolina at Chapel Hill</b>			
<b>Drawn By:</b>	<b>Checked By:</b>	<b>Project Number/Date:</b>	<b>Reference:</b>
JS	201449	January 2014	http://www.duncklee.com
<b>Scale:</b>	<b>Size:</b>	<b>Layer:</b>	<b>Filename:</b>
1" = 600'	11" x 17"	0,1	HAZMAT-CHAP-RENEWAL-Part B-1-2014.dwg

**Figure**

**B-7**

# Section C

## SECTION C

### WASTE ANALYSIS PLAN

This section describes the chemical and physical properties of the hazardous wastes managed at the HMF and the waste analysis plan for evaluating and characterizing the wastes to ensure that sufficient information is available for their safe handling and storage.

#### **C-1 WASTE MANAGEMENT AND IDENTIFICATION [40 CFR 264.139a]**

As described in Section B of this application, the primary hazardous waste generating operations at UNC-CH are research, maintenance and facility service activities. Numerous individual laboratories at the University generate research-related wastes. University operations also include the Cogeneration facility, the Horace Williams Airport and various facility services (e.g. paint shop, sheet metal shop, service station, etc.).

Hazardous wastes are transferred from generation points to the HMF where they are treated, bulked or packaged for shipment to a permitted off-site disposal facility. Treatment at the facility is limited to elementary neutralization and solvent bulking.

#### **C-1a Waste Management Processes and Activities [40 CFR 270.14, 40 CFR 264.13(a), (b)(5)]**

There are four general categories of hazardous wastes that are handled at the HMF - (i) assorted waste solvents, (ii) discarded commercial chemical products, (iii) low-level radioactive mixed wastes, and (iv) general chemical wastes.

- (i) Waste solvents are primarily generated in the laboratories. These wastes are generated from teaching and research laboratory formulations containing mixtures of laboratory grade solvents; these solvent wastes include non-specific source waste solvents F001, F002, F003, F004 and F005; as well as waste solvents which are considered hazardous waste because they exhibit a hazardous waste characteristic, e.g., ignitability or toxicity.

These waste solvents are managed in SAAs and UNC Health Care's less than 90-day storage areas in containers ranging in size from less than one pint to 5 gallons. These containers are then manifested and transported to the HMF and bulked into 55-gallon drums at the HMF.

- (ii) The research laboratories at UNC-CH use many chemical products which are listed on the P and U hazardous waste lists. In the event any of these chemical products are discarded or spilled, the waste becomes a P or U listed hazardous waste and is managed accordingly. Generally, these discarded, commercial chemical products are in their original containers and are lab-packed at the HMF.

- (iii) Low-level radioactive mixed wastes are also handled at the HMF. Mixed wastes are hazardous wastes which contain one or more radionuclides. These radionuclides are authorized for use at the University by a radioactive material license issued by the North Carolina Department of Health and Human Services, Division of Health Service Regulation, Radiation Protection Section.

UNC-CH has notified the NCDENR HWS of its claim of an individual exemption to allow mixed wastes to be stored for decay at hazardous waste facilities pursuant to 40 CFR 266.230(a). Short-lived mixed wastes contain radionuclides with half-lives of 275 days or less. These mixed wastes are held for longer than 365 days in order to allow for decay-in-storage which is specified as the Best Demonstrated Available Technology (BDAT) in the Joint Nuclear Regulatory Commission/EPA Guidance on the Storage of Mixed Radioactive and Hazardous Waste, Federal Register Vol. 60, No.151, pp. 40204-40211, August 7, 1995. Once the short-lived radionuclides have radioactively decayed for a period greater than 10 half-lives, the mixed waste can be shipped offsite for treatment and disposal.

Long-lived mixed wastes are stored at the HMF for less than 365 days prior to transport, treatment and disposal at commercially available facilities. Typical chemical constituents in mixed wastes include ethanol, methanol, toluene, xylene, chloroform, potassium and sodium hydroxides and mineral acids.

- (iv) The fourth category of hazardous waste generated at UNC-CH includes general chemical wastes that are generated through a variety of maintenance or facility service-related activities. These are usually mixtures of spent materials, and may be solid, liquid or semi-solid. Examples include spent parts washer solvent, waste paint and solder dross. These hazardous wastes are managed in containers of various sizes and types.

**C-1b Waste Identification/Classification [40 CFR 270.14(b)(2), 40 CFR 264.13(a)(1)]**

Wastes stored at the HMF are classified and segregated according to the following EPA and DOT Hazardous Materials categories.

1. Non-Hazardous Wastes
2. Universal Wastes
3. Recyclable materials
4. DOT Class 2.1, Flammable gases
5. DOT Class 2.2, Non-flammable, non-toxic compressed gases
6. DOT Class 2.3, Gases toxic by inhalation
7. DOT Class 3, Flammable and combustible liquids
8. DOT Class 4.1 Flammable solids
9. DOT Class 4.2 Spontaneously combustible materials
10. DOT Class 4.3 Dangerous when wet materials
11. DOT Class 5.1 Oxidizers

12. DOT Class 5.2 Organic peroxides
13. DOT Class 6.1, Toxic materials
14. DOT Class 7, Radioactive materials (mixed waste)
15. DOT Class 8, Corrosive materials (alkaline)
16. DOT Class 8, Corrosive materials (acid)
17. DOT Class 9, Miscellaneous hazardous materials

**C-1c Description of Hazardous Waste Management Units (HWMU) [40 CFR 264.13(a) (1)]**

Hazardous wastes generated at UNC-CH are diverse and include almost every hazard class. However, the majority of the hazardous waste, approximately 80 percent, generated at UNC-CH is described by six waste codes including: D001 (ignitable), F002 (spent halogenated solvents), F003 (spent non-halogenated solvents), F005 (spent non-halogenated solvents), D008 (toxicity characteristic for lead) and D022 (toxicity characteristic for chloroform). The remaining 20 percent of the waste may include toxicity characteristic (D-listed) wastes and discarded commercial chemical products (P- and U-listed) waste. Table C-3, included at the end of Section C, lists the hazardous wastes that may be generated at UNC-CH and the associated EPA waste code identification numbers according to the waste classifications.

These wastes consist primarily of laboratory wastes, mixed wastes and general chemical wastes produced by laboratories, maintenance and facility service activities. Solvent wastes and radioactive mixed solvent waste are typically accumulated in 5-gallon carboys and 4-liter bottles. Scintillation vials are collected in 30-gallon drums. Discarded chemicals are in their original containers and may be packaged individually or into lab packs prior to transport offsite. These wastes are transported to the HMF which was designed and constructed to treat and store the types of hazardous wastes generated at UNC-CH facilities. Treatment consists of bulking and elementary neutralization.

The initial characterization of waste begins in the research laboratories, teaching laboratories, shops and other facilities that generate waste. Each Principal Investigator (PI), lab manager or shop manager is responsible for specifying the constituents of the waste in each container based on generator knowledge. In order to request a waste pickup, the PI, lab manager, shop supervisor or other designated person familiar with the waste must complete a Hazardous Waste Pickup Form e-510 (Appendix A) and submit the Form e-510 electronically to UNC-CH EHS for review, determination of completeness and scheduling of a pickup of the waste.

Form e-510 requires the generator to provide contact information, building and room number where the waste is located, material type (i.e., liquid, solid or gas), pH when applicable, whether the material is new or has been used, the list of constituents and percent composition, container size, container type and weight of the container contents.

Form e-510 is submitted via the EHS website for evaluation and assignment of EPA waste codes and DOT hazard classes. Upon receipt of a Form e-510 at the EHS, the information is reviewed by EHS Environmental Affairs personnel (typically the HMF Manager) to determine if sufficient information is available to specify the waste classification, DOT hazard class and the best means of treatment and disposal for the material. In the event that the information contained on Form e-510 is insufficient, the necessary information is obtained by contacting the generator via telephone or email. Once the Form e-510 is evaluated and determined to be complete by Environmental Affairs Staff, an electronic container label Form e-501, Hazardous Material Transfer Form, (Appendix A) is emailed to the generator. The waste generator prints the container label and affixes the label to the waste container to await pickup and transfer to the HMF.

The EPA Hazardous Waste Code is determined by the EHS Environmental Affairs personnel based on review of the information provided on Form e-510, the original container label and by referring to various resource materials, such as, chemical dictionaries, manufacturer's catalogs and Safety Data Sheets.

Form e-102, Radioactive Waste Disposal Record, is used for documenting radioactive mixed waste constituents in laboratory containers and for requesting mixed waste pickups (See Appendix A). This form includes information on the type of waste, chemical constituents, radionuclides, activity, scintillation media, type, handling precautions, date, location, and authorized user of the radionuclides.

To request a radioactive waste pickup, Form e-102 is submitted electronically via the EHS website. Upon receipt of Form e-102, the information is reviewed by EHS Environmental Affairs staff. Once the e-102 form is evaluated and determined to be complete by Environmental Affairs staff, an electronic container label (also called Form e-102) (See Appendix A) is emailed to the generator. The waste generator prints the container label and affixes the label to the waste container to await pickup and transfer to the HMF.

Mixed wastes are manifested and transferred to the HMF. The information on Form e-102 is reviewed to determine the necessary storage period for radioactive decay to below regulated levels.

Information from forms e-501 and e-102 is maintained in a computerized database for tracking, efficient retrieval of waste information and records retention. A computerized waste pick-up list is generated weekly to inform Hazardous Materials Specialists of waste pick-up locations, waste types and weights.

As described in Section B, a Hazardous Materials Specialist collects hazardous wastes from the various SAAs and the less than 90-day storage area(s). Small-volume containers are typically packaged in larger plastic containers at each collection point to provide secondary containment during transport. The Hazardous Materials Specialist visually inspects the materials for consistency with the Form e-501 information before transport to the HMF.

Wastes are initially transported to Building 488 of the HMF where wastes are segregated, treated and/or consolidated. Treatment consists of bulking and elementary neutralization. Waste consolidation is also achieved using lab packs. The procedures for bulking, neutralization and use of lab packs are described below:

**Solvent Bulking (T50)** - Flammable solvents are bulked into one of two DOT-certified, 55-gallon containers located within a walk-in fume hood on the south end of the Consolidation Room of Building 488 (see Figure D-1). A grounded steel drum is used for bulking halogenated solvents and a plastic drum is used for non-halogenated solvents. When a drum is full it is moved to an appropriate storage location in Building 531.

**Elementary Neutralization (T31)** – Neutralization of mineral acids and bases is accomplished in secondary containment under a hood in the Consolidation Room of Building 488 (see Figure D-1). A suitable mineral acid or base is used to neutralize the waste. The mixture is tested for appropriate pH range of 5 to 9 and released to the sanitary sewer.

**Lab Packs** - Wastes that are highly toxic, reactive, potentially reactive or of such volume or physical state to preclude bulk packing are put into lab packs. Lab packs are filled on the east side of the Consolidation Room. Small containers are removed from the transport drums and stored in plastic secondary containment trays on wall mounted shelves along the east wall of Building 488. Wastes are segregated into DOT Hazardous Materials classes, prior to placement into lab packs. Lab pack drums are placed in front of the shelves and packed with containers of compatible materials. Absorbent material is added to each lab pack as required by DOT Hazardous Materials regulations. The contents of each lab pack are itemized by name, quantity and appropriate EPA waste codes on a Drum Packing List which is attached to the drum to help with waste manifest preparation prior to off-site shipment.

Form e-501 serial numbers for items bulked and placed in lab packs are entered into virtual lab packs in the computerized database. In this way, UNC-CH maintains a record of the contents of any lab pack or bulk drum, as well as the source of all contributing wastes.

After consolidation, full containers are moved to Building 531 for storage prior to off-site shipment and disposal. Wastes are segregated in Building 531 with respect to EPA guidance and DOT hazard classes. Distance or physical barriers, such as secondary containment walls and sumps, separate incompatible wastes in storage. Specifically, Building 531 has nine isolated storage bays and a flammable storage room. The remainder of the building is separated from the bays and flammable storage room by a containment trench running the length of the building.

Because waste inventory varies, most storage bays are not assigned permanent hazard classifications. As discussed in Section D (see Figure D-1), hazardous wastes are segregated according to compatibility in Building 531 of the HMF.

All hazardous waste storage areas have secondary containment systems of sufficient capacity to contain at least 10 percent of the total volume of waste stored or the volume of the largest container.

### **C-1c(1) Containers**

Containers used for waste transport and storage are compatible with the waste stored and conform to DOT certification specifications.

### **C-1c(2) through C-1c(10)**

Wastes are not managed in tanks, waste piles, surface impoundments, landfills, land treatment units, drip pads, containment buildings, incinerators, boilers or industrial furnaces.

### **C-1d Waste Re-Evaluation Frequencies**

Based on operating experience over the almost twenty-five year term since the issuance of the original permit in June 1990, UNC-CH has determined that the detailed records of waste constituents based on generator knowledge or original container labels provide the information necessary to safely classify, manage and store the wastes at the facility. However, UNC-CH will perform sampling and analyses to confirm waste characteristics when process or operational changes warrant such characterization, e.g., in the event of managing spill cleanup waste where container labels are rendered illegible or if an unknown waste is discovered.

## **C-2 PARAMETER SELECTION AND RATIONALE**

As previously stated in Section C-1, the generator provides information on the constituents of each waste container either through knowledge of the process that generated the waste or by review of the manufacturer's container label. This provides an accurate, detailed description of the container contents and all the information needed to properly transport, store and dispose of the waste.

This section describes the procedures for waste characterization analysis that would be performed when a significant change occurs in a generated waste process or a spill occurs from a container with an illegible label. This will consist initially of a fingerprint analysis of pH and flammability. A more comprehensive waste characterization will be performed when an unknown liquid or solid waste is discovered where little or no generator knowledge is available. The first step in this characterization utilizes some of the methods of the HazCat® Chemical Identification System (HazCat® Abridged Manual For Field Use, 1995). If the waste cannot be classified in this manner, then samples of the unknown material are analyzed using the appropriate testing methods of SW-846.

Table C-1 identifies the SW-846 parameters for analysis which may be selected, rationale for their selection and methods of analysis.

<b>Table C-1 Laboratory Test Parameters, Methods and Rationale</b>			
<b>WASTE STREAM</b>	<b>PARAMETERS</b>	<b>TEST METHODS<sup>3</sup></b>	<b>RATIONALE</b>
Unknown Liquid	Volatile Organic Compounds	TCLP <sup>2</sup> GC/MS (8260B) <sup>1</sup>	Identification of Toxicity Characteristics
	Semivolatile Organic Compounds	TCLP <sup>2</sup> GC/MS (8270D) <sup>1</sup>	Identification of Toxicity Characteristics
	Pesticides	TCLP <sup>2</sup> GC/MS (8081B) <sup>1</sup>	Identification of Toxicity Characteristics
	RCRA Metals	TCLP <sup>2</sup> 6010C <sup>1</sup>	Identification of Toxicity Characteristics
	Flash Point	Pensky-Martens (1010)	Identification of Characteristic of Ignitability, F003 Solvents
	PH	pH Meter Method 9045D <sup>1</sup>	Identification of Characteristic of Corrosivity
Unknown Solid	Volatile Organic Compounds	TCLP <sup>2</sup> GC/MS (8260B) <sup>1</sup>	Identification of Toxicity Characteristics
	Semivolatile Organic Compounds	TCLP <sup>2</sup> GC/MS (8270D) <sup>1</sup>	Identification of Toxicity Characteristics
	Pesticides	TCLP <sup>2</sup> GC/MS (8081B) <sup>1</sup>	Identification of Toxicity Characteristics
	RCRA Metals	TCLP <sup>2</sup> 6010C <sup>1</sup>	Identification of Toxicity Characteristics

<sup>1</sup> Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. SW-846, Revision 6, dated February 2007. U.S.E.P.A., Washington, D.C. or most current edition.

<sup>2</sup> Method 1311, Toxicity Characteristic Leaching Procedure, SW-846.

<sup>3</sup> The methods listed above or equivalent will be used.

### **C-2a Waste Identification**

Procedures to ensure that wastes are accurately identified are discussed in Section C-1b and C-1c. All hazardous wastes generated at UNC-CH are neutralized or shipped off-site to RCRA-permitted disposal facilities. A Land Disposal Notification and Certification Form is completed and attached to each waste manifest for wastes transported for off-site disposal.

### **C-2b Identification of Incompatible and Inappropriate Wastes**

Potentially incompatible materials managed at the HMF include acids/bases, oxidizers/organic materials and reactive wastes. The individual generators are responsible for ensuring that incompatible or reactive materials are not placed into the same container. Similarly, the Hazardous Materials Specialist is responsible for ensuring that incompatible materials are not placed in the same lab pack or bulk drum. UNC-CH personnel and Hazardous Materials Specialists use published information sources to evaluate waste compatibility including SDSs, 40 CFR 264 Appendix V – Examples of Potentially Incompatible Waste, Condensed Chemical Dictionary, the Merck Index and other reference materials. Whenever there is any doubt about mixing wastes that are potentially reactive or incompatible, a small aliquot from each of the wastes to be mixed is tested for reactivity in a fume hood.

As described in Section D, incompatible wastes are segregated by a combination of physical barriers and secondary containment. Nine designated hazardous waste storage areas and one flammable storage room are identified in Building 531. Each of these is separated from the others by a wall and/or containment trench. Posted signs specify the DOT hazard class that may be stored in a particular storage area at any given time.

### **C-2c Process and Design Considerations**

Process and design considerations for the storage of materials in the HMF at UNC-CH are discussed in Section C-1c and Section D.

### **C-2d TSDF Process Vents and Equipment**

The requirements of 40 CFR 264 Subpart AA - Air Emission Standards for Process Vents, do not apply to the HMF because the facility does not have process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes.

The requirements of 40 CFR 264 Subpart BB - Air Emission Standards for Equipment Leaks, do not apply to the HMF because the facility does not have equipment (i.e., pumps, valves, compressors, pressure relief valves, sampling connections) that contacts hazardous wastes.

### **C-2e Exemption from Subpart CC**

In accordance with 40 CFR 264.1086, UNC-CH controls air emissions from containers by storing wastes with significant volatile organic content in accordance with the specified “Container Level 1 Standards.” As discussed in Section C-1c(1), the containers used to store the solvent wastes meet the applicable DOT regulatory requirements for hazardous material packaging. As required, the containers remain closed except when waste is added or removed. After waste has been added or removed, a Hazardous Materials Specialist promptly secures closure devices in the closed position. Subpart CC documentation is included in Appendix B. UNC-CH will inspect the containers in accordance with the procedures described in Section F.

**C-2f Unit Specific Parameters**

UNC-CH uses containers for the storage of hazardous wastes. The analytical parameters described in Section C-2 are deemed appropriate for complying with waste characterization and management requirements for container storage areas. As stated previously, this analytical characterization would typically only be necessary in the event of a significant process change, a container spill where labeling was rendered illegible, or if an unknown waste is discovered. The waste tracking database system used by UNC-CH provides the characterization information necessary to properly manage and dispose of the waste.

**C-3 SAMPLING PROCEDURES [40 CFR 264.13(b) (3)]****C-3a Sampling Methods and Equipment**

All liquid solvent waste requiring analysis will be sampled by a glass Coliwasa® Sampler or equivalent. Composite samples will be obtained following the methods described in “Test Methods for Evaluating Solid Waste” (SW-846). The glass samplers are disposable, negating the need for maintenance or decontamination. Sampling methods for other materials are described in Table C-2.

<b>TABLE C-2 SAMPLING METHODS AND EQUIPMENT</b>		
<u>MATERIAL</u>	<u>METHOD</u>	<u>EQUIPMENT</u>
Containerized liquids	ASTM E300 <sup>a</sup> or SW-846 <sup>b</sup>	Coliwasa®, tubing <sup>c</sup>
Extremely viscous Liquid	ASTM E300 <sup>a</sup>	Tubing <sup>c</sup> , thief or Coliwasa®
Crushed or powdered Material	ASTM E300 <sup>a</sup>	Tubing <sup>c</sup> , trier, scoop or shovel
Soil-like material	ASTM E300 <sup>a</sup>	Tubing <sup>c</sup> , trier, scoop or shovel
<sup>a</sup> American Society for Testing Materials. Annual Book of ASTM Standards. Philadelphia, PA. Most recent edition. <sup>b</sup> U.S. Environmental Protection Agency. Test Method for Evaluating Solid Waste. SW-846. Office of Solid Waste and Emergency Response, Washington, D.C., Most recent edition. <sup>c</sup> Personal Protection and Safety Training Manual (Cincinnati, OH: USEPA National Training and Operational Technology Center 1981), pp. 3-1 and 3-4.		

### **C-3b Sample Preservation and Storage**

Unknown liquid waste samples will be transferred directly from the Coliwasa® Sampler or equivalent to appropriate sample bottles, supplied by the contract analytical laboratory. The sample bottles will be completely filled to exclude air bubbles to the extent practical and will be tightly capped. Unknown solid wastes will be sampled using a decontaminated spoon or similar instrument. Solid samples will also be placed in the appropriate sample containers supplied by the analytical laboratory.

Samples will be marked, labeled and cooled to 4°C by placement on ice in a transportation case (cooler) provided by the laboratory performing the analyses. The sample containers will be cushioned with packing materials. The coolers will be sealed, marked, labeled and hand delivered to the laboratory or shipped in accordance with DOT procedures and regulations. For samples not hand delivered to the laboratory, or shipped by courier, air bills will be properly completed and copies retained and placed in the facility files. A chain-of-custody sample log sheet will be completed and will accompany the samples until their final delivery to the laboratory. The information included on the chain-of-custody log sheet includes: (1) the analyses to be performed; (2) the names and signatures of samplers; (3) sample identification number, date, time of collection, sample type (i.e., grab or composite); (4) names and signatures of any persons involved in transferring the samples; and (5) if applicable, the air bill number for samples shipped to the laboratory.

### **C-3c Sampling QA/QC Procedures**

As stated in Section C-1c, a detailed waste tracking database system is used at UNC-CH such that a complete inventory of the constituents in a container is documented. If confirmation analysis is warranted due to a significant process change or a spill from a container with an illegible label, collection of field blanks, trip blanks, split samples or field duplicates is not warranted as the wastes are highly concentrated.

### **C-3d Health and Safety Protocols**

EHS Environmental Affairs personnel will perform the sampling activities described in this plan. EHS Environmental Affairs personnel are trained in accordance with the requirements of the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations Standard, 29 CFR 1910.120. This training includes an initial 24-hour training course and a minimum of 8-hour annual refresher training conducted on site by UNC-CH.

## **C-4 LABORATORY TESTING AND ANALYTICAL METHODS**

Testing and analytical methods for the waste generated and stored at UNC-CH are presented in Section C-2. As stated in this section, methods including HazCat®, American Society of Testing Materials (ASTM) or SW-846 methods are used.

#### **C-4a On-Site Laboratory Procedures**

No on-site laboratory procedures pertaining to hazardous waste management are performed. As stated in Section C-2, on-site testing of waste may be performed to determine pH (paper) or flammability.

#### **C-4b Off-Site Laboratory Selection**

The SW-846 test methods for organic compounds specified in Section C-2 are common analyses that can be performed by a number of commercial laboratories. UNC-CH will determine that the analytical laboratory that provides the required services has the following:

- a comprehensive Quality Assurance/Quality Control (QA/QC) program,
- required technical analytical expertise,
- an effective information system, and
- NCDENR certification.

UNC-CH will request the laboratory to provide the appropriate QA/QC information for the SW-846 test methods along with the analytical results.

#### **C-5 ADDITIONAL REQUIREMENTS FOR FACILITIES RECEIVING WASTE GENERATED OFF-SITE**

This section does not apply because UNC-CH's HMF does not receive waste from off-site generators that are not affiliated with either the University or UNC Health Care.

#### **C-6 PROVISIONS FOR COMPLYING WITH LDR REQUIREMENTS**

All hazardous wastes generated at UNC-CH are shipped off-site to RCRA-permitted TSD facilities. The wastes are characterized at the point of generation by EHS personnel using generator knowledge and the regulatory status of the wastes with respect to the treatment standards in Part 268, Subpart D. Wastes are subsequently transported to the HMF by EHS personnel with a Land Disposal Notification and Certification Form attached and copies of the documentation are maintained in the operating record. All wastes restricted under the Land Disposal Restrictions (LDRs) are identified prior to off-site shipment. A Land Disposal Notification and Certification Form is completed and attached to each waste manifest and copies of this documentation are maintained in the operating record.

# Section D

## SECTION D

### PROCESS INFORMATION

This section describes the process information for the HMF.

#### **D-1 CONTAINER STORAGE AREA [40 CFR 270.15]**

##### **D-1a Description of System for Containers with Free Liquids**

The HMF is located northwest of UNC-CH's main campus as shown on Figure B-2. The HMF, consisting of two buildings (Building 488 and 531), includes a container unloading/loading dock, a consolidation room, liquid waste bulking and neutralization areas, a flammable storage room, nine (9) hazardous waste storage bays, a safety cabinet for spill response supplies and several non-hazardous waste storage areas (see Figure D-1).

##### (1) Basic Design Parameters, Dimensions, and Materials of Construction

###### **BUILDING 488**

Hazardous wastes are received, inventoried, packaged or bulked/blended for storage or neutralized in Building 488 (see Figures D-1 and D-2). The building is approximately 50 feet (ft.) long x 36 ft. wide, constructed of spread footings, slab on grade floor, exterior 8-inch concrete block and 4-inch brick load bearing walls, long span 24-inch deep open web steel joists and a 1.5-inch metal roof deck. The concrete slab is free of cracks and gaps and is sufficiently impervious to contain leaks and/or spills until the collected material is detected and removed. The entire floor has been coated with an epoxy sealer that is compatible with the stored wastes. The floor has been designed to support the weight of stored materials and other activities described herein. A copy of the engineering evaluation of this building is included in Appendix A.

The Consolidation Room within Building 488 is approximately 17 ft. x 48 ft. and is used for the following functions:

- Waste Receiving
- Bulking/Blending
- Shelf Containment and Lab packs
- Neutralization

Secondary containment for shelf storage is provided by plastic pans of varying dimensions. The pans will accommodate 6 to 12, 4-liter bottles, depending on the size of the pan.

Wastes in the lab pack packaging area are consolidated in 2-gallon, 5-gallon, 15-gallon, 30-gallon or 55-gallon DOT-certified lab pack drums that provide secondary containment.

An epoxy coated, raised-sill floor containment system serves as secondary containment for the containers associated with the bulking/blending wastes in the Consolidation Room.

A room located west of the Consolidation Room is used for the storage of non-hazardous waste materials such as film, light ballasts, circuit boards and universal waste.

After being inventoried and packaged, bulked or treated, hazardous waste containers are transported to Building 531 via hand truck for storage prior to off-site disposal.

## **BUILDING 531**

Building 531 is a pre-engineered steel structure, 65.33 ft. x 40 ft., supported on individual column and wall footings at the perimeter (see Figures D-1 and D-2). The floor slab is reinforced six-inch thick concrete. The floor slab contains internally formed trenches for the retention of spilled liquids. The entire floor, including the integral trenches has been coated with an epoxy sealer that is compatible with the stored wastes. A small portion of the floor near the Flammable Storage Room was re-coated with epoxy sealer in 2015 as part of routine maintenance.

The concrete slab is free of cracks and gaps and is sufficiently impervious to contain leaks and/or spills until the collected material is detected and removed. It has been designed to support the weight of the stored materials and other activities described herein. A copy of the engineering evaluation of this building is included in Appendix A. Secondary containment is provided by a combination of sloped concrete floors and grated trench drains. Perimeter curbing provides tertiary containment.

The Flammable Storage Room, located in the northwest corner of Building 531 consists of 8-inch concrete masonry unit walls, an epoxy sealer coated floor, explosion proof lighting and ventilation and a concrete roof.

Hazardous waste storage areas within Building 531 consist of a flammable waste storage room, seven small hazardous waste storage bays on the north side of the building, and two large storage bays on the south side of the building, where hazardous wastes, solid wastes and DOT hazardous materials are sometimes stored. Mixed wastes can also be stored in any of these areas depending on the hazardous characteristics of the mixed waste to be stored. The dimensions of the separate storage areas of the building are as follows:

Location	Dimensions	Storage Area	Largest Container
Flammable Storage Room	12 ft. x 15.5 ft.	186 sq. ft.	55 gallons
Storage Bays 1 – 7	6.5 ft. x 10.1 ft.	66 sq. ft.	55 gallons
Storage Bay 8	19 ft. x 15.5 ft.	295 sq. ft.	55 gallons
Storage Bay 9	19 ft. x 15 ft.	285 sq. ft.	55 gallons

Up to 75 compressed gas cylinders can be stored in the designated area in the southwest corner of Building 531 (Figures D-1 and D-2). The compressed gas cylinders are stored in secured, upright positions and are segregated according to type.

(2) Description of How Design Promotes Drainage

The floors of Building 488 are sloped toward the middle of the rooms from the perimeter block walls and raised sills to promote drainage. Each container storage section in Building 531 has a dedicated trench drain with grated covering. The storage sections slope from the back of the section to the trench drain at the front of the section. The sloped floor prevents accumulation of leaked/spilled waste outside the confines of a trench and will aid in the early detection of a leak/spill if waste is observed flowing into the trench drain. A portable sump pump or absorbent material will be used to remove the waste from the trench drain and transfer it into another container. See cleanup and control procedures in Subsection G-4d(2).

(3) Capacity of the Containment System

All hazardous waste storage areas in the waste storage facility have containment systems of sufficient capacity to contain at least ten percent of the total volume stored or the largest single container.

## **BUILDING 488 – CONSOLIDATION ROOM**

### a. Waste Receiving Area

Incoming waste is taken to the Waste Receiving Area of the Consolidation Room. The most common containers received are 35-gallon, 27-gallon, 15-gallon and 5-gallon drums used to transport smaller, lab-pack sized containers and 5-gallon solvent carboys. Wastes removed from the transport containers are stored in plastic pans on shelves prior to being bulked in lab pack drums and the solvents from the carboys are blended into 55-gallon drums beneath the fume hood at the south end of the Consolidation Room. The containment volume required and provided for the Waste Receiving Area is provided below.

#### Containment Volume Required for the Waste Receiving Area

20 carboys x 5 gallon/carboy x 10% = 10 gallons

10 drums x 10 gallon/drum x 10% = 10 gallons

### b. Bulking Area

Waste solvents from 5-gallon carboys and small containers are bulked into one of two 55-gallon steel drums, located inside the walk-in fume hood. One drum receives halogenated waste solvent and the other receives non-halogenated waste solvent. The containment volume required and provided for the Bulking area is provided below.

#### Containment Volume Required for Bulking Area

2 x 55 gallons/drum x 10% = 11 gallons

Largest single container = 55 gallons

The Consolidation Room, which encompasses the Waste Receiving and Bulking areas, has a spill containment volume as shown below. The 507-gallon spill containment volume of the Consolidation Room exceeds that required by the combination of Waste Receiving (20 gallon) and Bulking (55 gallon) or 75 gallons total.

#### Consolidation Room Spill Containment Volume Provided

17 ft. x 48 ft. x 0.083 ft. x 7.48 gallons/cu. ft. = 507 gallons

### c. Shelf Containment

A variety of wastes are segregated for reconsolidation into lab packs in plastic containment pans on wall mounted shelves along the east wall of the Consolidation Room. This area has a maximum storage capacity of 48-gallons on approximately 75 sq. ft. of shelf space.

Each pan will accommodate up to eight, 4-liter (1.06 gallon) bottles. When the bottles are in the pans, the net liquid containment capacity of the pan is reduced by the cross sectional area of the bottles multiplied by the depth of the pan. The dimensions of a typical pan are 15" x 29.5" x 2.5" resulting in a net containment capacity of 2.1 gallons. The net containment capacity was calculated by subtracting the volume of liquid that would be displaced by the 4-liter containers from the volume of the pan. The bottles are approximately 6.25 inches in diameter, resulting in a displacement of 0.13 gallon per inch of depth per container. The containment volume required and provided for the shelf pans is provided below.

Containment Volume Required Per Pan

$$8 \text{ bottles} \times 4 \text{ liters/bottle} \div 3.785 \text{ liters/gallon} \times 10\% = 0.85 \text{ gallons/pan}$$

$$\text{Largest container} = 4 \text{ liter} \div 3.785 \text{ liters /gallon} = 1.06 \text{ gallons/pan}$$

Spill Containment Volume Provided

$$(15 \text{ in.} \times 29.5 \text{ in.} \times 2.5 \text{ in.}) - (8 \text{ bottles} \times (6.25 \text{ in.})^2 \times 0.785 \times 2.5 \text{ in.}) = 1106 \text{ in}^3 - 614 \text{ in}^3 = 492 \text{ in}^3 \text{ per pan}$$

$$492 \text{ in}^3 \times 0.0043 \text{ gallons/in}^3 = 2.1 \text{ gallons/pan}$$

A maximum of 48 gallons will be stored in pans on the shelves. Although not required, the containment volume provided by the Consolidation Room concrete sill system described above is more than adequate as tertiary containment for 4.8 gallons.

d. Lab Pack Packaging Area

The small containers in the containment pans on the storage shelves are removed and placed in lab packs.

Fifteen 55-gallon lab pack drums, each with a maximum liquid capacity of approximately 40 gallons, are located in the approximate center of the Consolidation Room.

Secondary containment is provided by the lab-pack containers. The secondary containment volume required and provided for the lab pack packaging area is provided below.

Containment Volume Required Per Lab Pack

$$40 \text{ gallons/lab pack} \times 10\% = 4 \text{ gallons}$$

Spill Containment Volume Per Lab Pack

15 gallons per lab pack

The tertiary containment volume required for the lab packs is provided below.

The Consolidation Room has a containment capacity of 507 gallons as presented in Section b. above, which is more than adequate to contain the 60 gallons required for the 15 lab packs.

e. Neutralization

Neutralizations may be performed in the bench hood or the walk-in hood as volumes dictate. Small volumes may be neutralized in the bench hood in glass or plastic beakers ranging in size from 200 ml to 2,000 ml. Large volumes may be neutralized in the walk-in hood in open-head drums ranging in size from 5 gallons to 30 gallons. The largest amount of liquid in process at any one time would not exceed 30 gallons. The containment volume required and provided for the Neutralization Area is provided below.

Containment Volume Required for Neutralization

30 gallons x 10% = 3.0 gallons

Largest single container = 30 gallons

Spill Containment Volume Provided

The Consolidation Room has a containment capacity of 507 gallons as presented in Section b. above, which is more than adequate to contain the 30 gallons.

f. Reactive Waste Storage

Reactive wastes are lab-packed in Building 488 and stored in appropriate hazardous waste storage areas of Building 531.

**Building 531**

a. Flammable Storage Room

Ignitable liquids are primarily stored in the Flammable Storage Room of Building 531 (See Figure D-1). Containment is provided by a grate covered trench drain on the south end of the room. The concrete floor upon which the containers are placed is sloped to drain any leakage into the adjacent trench drain.

The Flammable Storage Room has a maximum storage capacity of 1,295 gallons including a maximum of nineteen 55-gallon containers. Stacking of containers is limited to small containers, each generally containing less than 5 gallons of liquid waste. The containment volume required and provided for the Flammable Storage Room is provided below.

Containment Volume Required for Flammable Storage Room

1,295 gallons x 10% = 129.5 gallons

Trench Drain Containment Volume Provided

11.54 ft. x 1.5 ft. x 1 ft. = 17.31 cu. ft.

17.31 cu. ft. x 7.48 gallons/cu. ft. = 129.48 gallons

The 129.48-gallon spill containment volume is adequate.

a. North-side Storage Bays

A variety of hazardous wastes are stored in the seven Container Storage Bays located on the north side of Building 531 (Bays 1-7). Containment is provided by a combination of concrete curbing and a grate covered trench drain on the south end of each bay. The concrete floor upon which the containers are placed is sealed with an epoxy coating compatible with the wastes stored and sloped to drain any liquid spills or leaks into the trench drain. Separation from other bays is accomplished with concrete block walls that are approximately 3.5 feet high. Each bay has a total maximum storage capacity of 590 gallons including a maximum of ten 55-gallon drums. Stacking is limited to small containers, each generally containing 10 gallons or less of liquid waste.

Incompatible wastes are not stored in the same bay. Posted, portable DOT placarding specifies the waste type(s) that may be stored in a particular storage area at any given time. This provides the flexibility of storing different quantities of a particular waste type at any given time yet assures the separation of incompatible wastes. However, the two bays immediately adjacent to the Flammable Storage Room (Bays 1 and 2) are preferentially designated as flammable storage. The containment volume required and provided for the North-side Storage Bays is provided below.

Containment Volume Required for each North-side Storage Bay

590 gallons x 10% = 59.0 gallons

Trench Drain Containment Volume Provided

5.85 ft. x 2.5 ft. x 0.57 ft. = 8.34 cu. ft.

8.34 cu. ft. x 7.48 gallons/cu.ft. = 62.38 gallons

The 62 gallon spill containment volume is adequate.

b. South-side Storage Bays

A variety of compatible wastes may be stored in each of two storage areas located in the southeast portion of Building 531, designated as Bays 8 and 9. Containment is provided by a combination of concrete curbing, a concrete block bay wall, sloped floor and a grate-covered trench drain. Each area has a total maximum storage capacity of 2,660 gallons, including a maximum of thirty-six 55-gallon drums. Fifty-five gallon drums are not stacked. Stacking is limited to small containers, each generally containing 15 gallons or less. The containment volume required and provided for the South-side Storage Bays is provided below.

Containment Volume Required for Bay No. 8

2,660 gallons x 10% = 266 gallons

Trench Drain Containment Volume Provided

15.46 ft. x 2.5 ft. x 0.92 ft. = 35.56 cu. ft.

35.6 cu. ft. x 7.48 gallons/cu.ft. = 265.98 gallons

The 266-gallon spill containment is adequate.

Containment Volume Required for Bay No. 9

2,660 gallons x 10% = 266 gallons

Trench Drain Containment Volume Provided

15.71 ft. x 2.5 ft. x 0.92 = 36.13 cu. ft.

36.13 cu. ft. x 7.48 gallons/cu.ft. = 270.25 gallons

The 270-gallon spill containment is adequate.

d. Truck Loading Area

The load/unloading dock area includes spill containment/retention provisions (see Figure D-1). The concrete drive slopes to the west towards a spill containment barrier at the entrance gate. The barrier is designed so that rainwater can drain from the loading/unloading area. During loading/unloading operations, the gap to allow precipitation runoff on each side of the spill containment barrier is blocked with spill containment booms and monitored by HMF personnel. Spills that may occur during normal loading operations will therefore be adequately contained.

e. Tertiary Containment

Perimeter curbing provides tertiary containment for wastes stored inside Building 531. This curbing also would collect trench overflow during a fire event in which the sprinkler system is activated.

- (4) Provisions for Preventing Run-on: Run-on is prevented, as all hazardous waste is stored inside the HMF. The entire HMF rests on an elevated concrete slab floor (See Figures D-1 and D-2.)
- (5) Removal and Analysis of Accumulated Liquids to Prevent Overflow: Spilled or leaked waste will be removed from the containment areas upon discovery.

The collected spill waste will be identified by the label information on the container from which it came. If necessary, the spill waste will be analyzed according to the waste analysis plan (see Section C).

The collected spill waste will be transferred by a compatible, portable pump to an empty waste container. Small quantities will be removed using absorbent materials.

#### **D-1b Containers Without Free Liquids**

Containers without free liquids are stored using the same compatibility protocol and methods as containers with free liquids.

- (1) Test for Free Liquids

No tests are conducted for free liquids as all storage areas in Building 531 include secondary containment. These materials will be stored in the appropriate area according to the hazard classification.

- (2) Storage Area Design and Operations to Drain and Remove Liquids

Dry hazardous waste will be stored in Building 531 in DOT-certified containers such that contact with any free liquids will be prevented. All floors in Building 531 slope toward the internal trench drains.

- (3) Containers with F020, F021, F022, F023, F026 and F027 Wastes

UNC-CH does store F027 wastes in accordance with the storage prohibitions contained in 40 CFR 268.50(a)(2)(i) because there are no commercial disposal facilities available. Each container is clearly marked to identify its contents and the date each period of accumulation began. Therefore Section D-1b(3) is applicable and secondary containment is provided as required. UNC-CH keeps an inventory of this waste, along with documentation of attempts to find a commercial disposal site. This inventory will be submitted to NC DENR by written report on an annual basis.

### **D-1c Container Management Practices**

All containers meet DOT certification specifications as addressed in Subpart CC documentation in Appendix B. All containers are compatible with the hazardous wastes placed in them.

Wastes are properly identified and labeled prior to removal from each laboratory or work area - this includes a Hazardous Material Transfer Form (Form e-501) or Radioactive Waste Disposal Record (Form e-102), which is attached to the waste container as described in Section C. Upon receipt at Building 488, waste containers are inspected and condition integrity is verified. Wastes received in containers that are in poor condition will be transferred to a suitable container. After entering Building 488, hazardous wastes are inventoried, treated and/or consolidated. Treatment consists of bulking or elementary neutralization. Waste consolidation is also achieved via reconsolidation into lab packs. A drum packing list (using information from each Form e-501) is prepared for each lab-pack drum or bulk drum with appropriate data entered into a database. After consolidation, full containers, are moved to Building 531 via hand truck.

Wastes are stored in Building 531 and Building 488 in accordance with EPA waste codes and DOT hazard classes. As described in Section D-1d, distance, trench drains or physical barriers separate incompatible wastes.

Large containers will be positioned within the appropriate storage area using a hand truck, drum truck, pallet jacks or other manually operated devices. Stacking is limited to small drums and boxes, generally containing less than 125 pounds (15 gallons) of liquid waste.

The maximum height from the floor to top of any stored drum or box will be approximately 76 inches. All metal or plastic drums will be secured with bung caps or lids/closure rings and securely closed during transportation and storage except when adding or removing waste. Fiber drums and boxed wastes will also be closed and sealed during storage and transportation.

Each container of hazardous waste (including mixed wastes) generated on-site will be labeled appropriately as to contents, hazardous waste ID number, generator information, DOT shipping information, accumulation start date and the warning "Hazardous Waste: Federal Law Prohibits Improper Disposal." Each container will be entered in the operating record per 40 CFR 264.73. Waste shipped off-site for disposal will be appropriately manifested.

Hazardous wastes will only be stored in the appropriately designated storage areas. Floor space allotments are noted on Figure D-1. The maximum waste inventory of hazardous wastes, which may be stored in these areas at the facility, is presented in Section D-1.

Weekly inspections of the container storage areas will be performed and records maintained. Safety and personal protective equipment will be used to minimize exposure to personnel. See the inspection log sheets in Appendix C for the frequency of inspection and inspection procedures for all areas.

Sufficient aisle space in the storage areas will be maintained to allow access without the risk of damaging the containers by scraping, puncturing or dropping. A minimum of two and one-half feet of aisle space will be maintained for all designated aisles to allow for personnel access and inspection (See Figure D-1).

The HMF is located more than 50 feet from the site property line (See Figure B-2)

#### **D-1d Special Requirements for Incompatible Wastes**

Incompatible wastes or incompatible materials will not be placed in the same container.

Hazardous waste will not be placed in unwashed containers that previously held incompatible waste or material. Waste solvents may be placed in empty steel (for halogenated solvents) or plastic (for non-halogenated solvents) drums. Discarded chemical products typically remain in their original containers.

Physical barriers or distance separates incompatible wastes. See Section F for further discussion.

#### **D-1e Air Emission Standards**

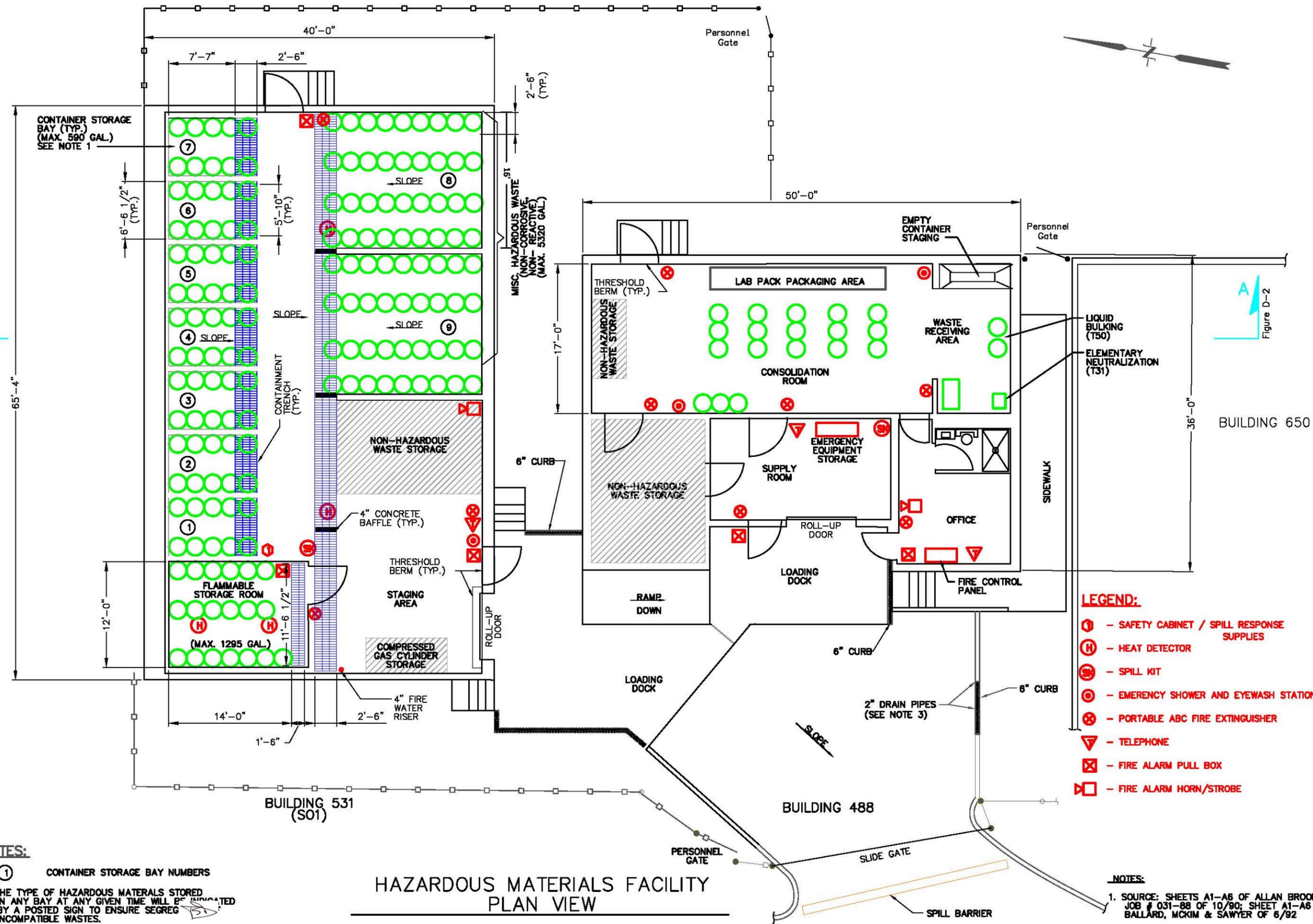
Hazardous waste placed in containers with a design capacity greater than 0.1 cubic meters ( $m^3$ ) (approximately 26 gallons) are managed in accordance with the requirements of Subpart CC. Specifically these containers meet the applicable DOT requirements of 49 CFR Part 178.

#### **D-1f Container Labels**

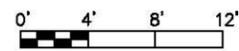
All container labels contain the following information:

- the words "Hazardous Waste"
- the accumulation date
- the Hazardous Waste Codes
- the generator's name and address
- a manifest document number when prepared for shipment

Figure D-2



**HAZARDOUS MATERIALS FACILITY  
PLAN VIEW**



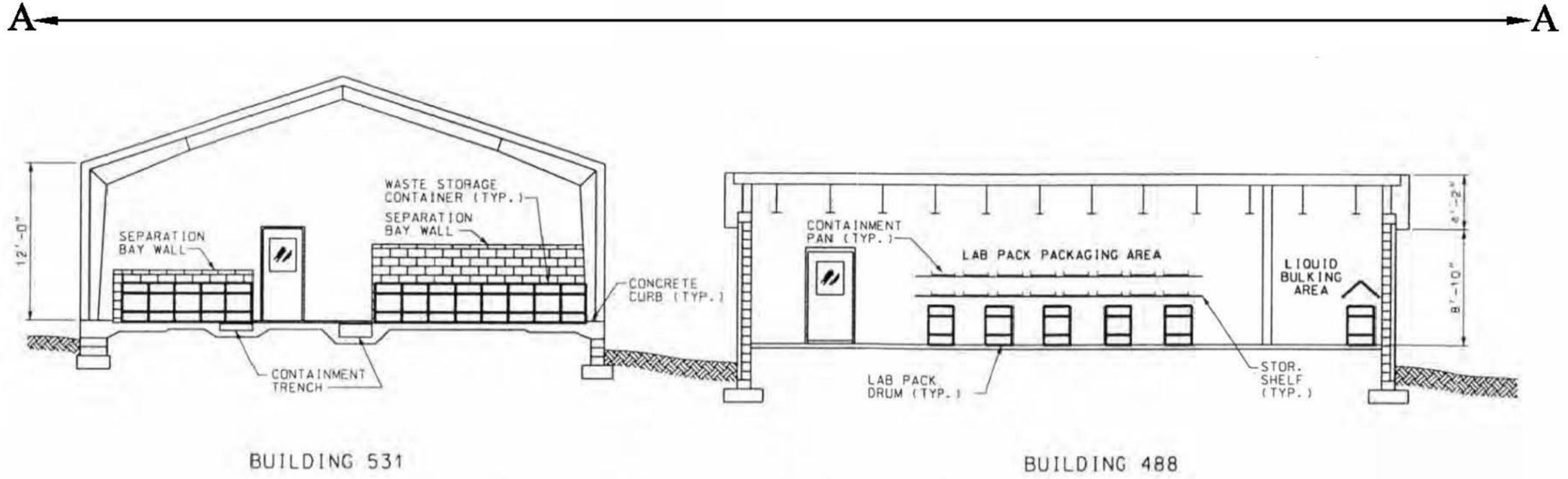
- NOTES:**
- ① CONTAINER STORAGE BAY NUMBERS
  - THE TYPE OF HAZARDOUS MATERIALS STORED IN ANY BAY AT ANY GIVEN TIME WILL BE INDICATED BY A POSTED SIGN TO ENSURE SEGREGATION OF INCOMPATIBLE WASTES.

- LEGEND:**
- ① - SAFETY CABINET / SPILL RESPONSE SUPPLIES
  - Ⓜ - HEAT DETECTOR
  - Ⓢ - SPILL KIT
  - Ⓞ - EMERGENCY SHOWER AND EYEWASH STATION
  - ⓧ - PORTABLE ABC FIRE EXTINGUISHER
  - ▽ - TELEPHONE
  - ⓧ - FIRE ALARM PULL BOX
  - ⓧ - FIRE ALARM HORN/STROBE

- NOTES:**
- SOURCE: SHEETS A1-A6 OF ALLAN BROOKS JOB # 031-88 OF 10/90; SHEET A1-A6 OF BALLARD, MCKIM & SAWYER OF 6/92
  - THIS DRAWING PREPARED FOR RCRA PERMITTING PURPOSES ONLY; NOT INTENDED FOR CONSTRUCTION PLANNING.
  - STORM WATER DRAINS, PLUGGED EXCEPT TO DRAIN STORM WATER.

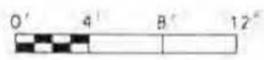
**Hazardous Materials Facility General Arrangement**  
 RCRA Part B Permit Renewal Application  
 The University of North Carolina at Chapel Hill

Drawn By:	crk	Project Number:	201449	Date:	January 2015	References:	Field Data
Scale:	1" = 12'	Size:	11" x 17"	Layers:	0,1	Filename:	Filepath: P:\UNC - Chapel Hill\RCRA Part B Renewal - 201449\Hazardous CAD_Word



HAZARDOUS MATERIALS FACILITY  
SECTION A-A

FOR PLAN SEE FIGURE D-1



NOTES:

1. SOURCE: SHEETS A1-A6 OF ALLAN BROOKS JOB # 031-88 OF 10/90; SHEET A1-A6 OF BALLARD, MCKIM & SAWYER OF 6/92
2. THIS DRAWING PREPARED FOR RCRA PERMITTING PURPOSES ONLY; NOT INTENDED FOR CONSTRUCTION PLANNING.

<b>Hazardous Materials Facility Section A-A</b>		<b>References:</b>	
RCRA Part B Permit Renewal Application		Field Data	
The University of North Carolina at Chapel Hill			
<b>Checked By:</b>	<b>Project Number:</b>	<b>Date:</b>	<b>November 2014</b>
<b>Drawn By:</b> crk	<b>201449</b>		
<b>Scale:</b> 1" = 10'	<b>Layers:</b> 0,1	<b>Filename:</b>	
		V:\epc\Waste\Gis\hazmat\UNCC-Chapel Hill\RCRA Part B Renewal - 2014\RCRA.DWG	

Figure

D-2

# Section E

**SECTION E**

**GROUNDWATER MONITORING SYSTEMS**

The requirements for groundwater monitoring are not applicable to a storage facility such as that managed by UNC-CH.

# Section F

## SECTION F

### **PROCEDURES TO PREVENT HAZARDS**

The information provided in this section is submitted in accordance with the requirements of 40 CFR Part 270.14(b)(4), (5), (6), (8) and (9), which address the following subject areas:

1. General Security Provisions [40 CFR 270.14(b)(4)]
2. Inspection Schedule [40 CFR 270.14(b)(5)]
3. Request for Waiver of Preparedness and Prevention Requirements [40 CFR 270.14(b)(6)]
4. Preventive Procedures, Structures and Equipment [40 CFR 270.14 (b)(8)]
5. Prevention of Accidental Ignition or Reaction of Ignitable, Reactive or Incompatible Wastes [40 CFR 270.14(b)(9)]

#### **F-1 SECURITY**

##### **F-1a Security Procedures and Equipment**

In addition to the general security provided by the UNC-CH Department of Public Safety (DPS or University police), several other features contribute to the safety and security of HMF operations. Ample lighting is provided around the circumference of the HMF. An internal telephone system with telephones located throughout the site provides instant communication. The telephone system provides a direct link to DPS's communication system (police, fire and medical). A man down system (which notifies DPS) is also used by the Senior Hazardous Materials Specialist. Intrusion alarms are provided on all doorways into the HMF; motion detectors are provided in the HMF office (Building 488) and Building 531.

##### **F-1a(1) Twenty-Four Hour Surveillance System**

The University police patrol the entire campus, including the HMF, by automobile on a 24-hour basis, 365 days per year. Through the DPS Dispatcher, a call-back list is used to summon personnel for after-hour problems.

**F-1a(2) Barrier and Means to Control Entry**

**F-1a(2)(a) Barrier**

A metal chain link fence completely surrounds all active portions of the facility. The fence is five and one-half feet high, topped with three strands of barbed wire and is constructed of 12-gauge steel.

**F-1a(2)(b) Means to Control Entry**

Access to the HMF is limited by EHS identification card activated magnetic locks on the fence gates and by locked building doors. All gates and buildings are locked when personnel are not on the premises. Only authorized personnel have access to the HMF.

**F-1a(3) Warning Signs**

Signs, which are legible from a distance of 25 feet, are posted in the vicinity of the HMF. These signs are visible from all angles of approach and bear the words “DANGER-UNAUTHORIZED PERSONNEL KEEP OUT.” Also, “NO SMOKING” signs have been placed at the HMF. These signs are posted at the entrance gate and exterior doors of Buildings 488 and 531.

**F-1b Waiver**

UNC-CH does not request a waiver of the requirements stated in Part 264.14(a)(1) and (2) regarding injury to intruder and violation by intruder.

**F-1b (1) Injury to Intruder**

The wastes are stored in locked buildings that are surrounded by a fence topped with barbed wire. This prevents unknowing and unauthorized entry into the HMF.

**F-1b (2) Violation Caused by Intruder**

The wastes are stored in locked buildings that are surrounded by a fence topped with barbed wire. This prevents unknowing and unauthorized entry and disturbance of the waste or equipment.

**F-2 INSPECTION SCHEDULE [40 CFR 270.14(b)(5)]**

**F-2a General Inspection Requirements**

The HMF staff conducts daily, weekly and semiannual inspections of the facility for equipment malfunctions, operator error, security, fire prevention and discharges that could cause or lead to the release of hazardous wastes and adversely affect the environment or threaten human health.

The items inspected daily and weekly are listed on Inspection Forms 511A and 511B, respectively, and the items inspected semi-annually are listed on Inspection Form 512 (Appendix C).

### **F-2a(1) Types of Problems**

Inspection Forms 511A, 511B and 512 address inspections of the HMF and safety and emergency equipment. The items listed on the forms are considered important because of their role in preventing, detecting or responding to environmental or human health hazards.

### **F-2a(2) Frequency of Inspection**

Inspection Form 511A lists the items inspected on a daily basis, while Form 511B lists the items inspected on a weekly basis. Form 512 addresses semi-annual fire safety inspections.

### **F-2b Facility Inspection Requirements**

Inspections at the HMF are conducted and the results are recorded according to the inspection forms provided in Appendix C. Information requested on the inspection forms includes the inspector's name, date of inspection, item of inspection, typical problems encountered, status of the item, observations and the date and nature of repairs and remedial action.

The inspector is required to check the status of each item and indicate whether its condition is acceptable or unacceptable. If the status of a particular item is unacceptable, appropriate and complete information is recorded, including the nature of remedial actions or repairs. When the inspection forms are completed, they are placed in a three-ring binder and kept in the HMF office in Building 488.

#### **F-2b(1) Monitoring Equipment**

This section is not applicable to the HMF as process equipment requiring monitoring is not used.

#### **F-2b(2) - F2b(5) Emergency, Safety, Security, Operating and Structural Equipment**

Emergency, safety, security, operating and structural equipment are inspected according to the inspection forms provided in Appendix C. Results of each inspection are recorded and inserted in the inspection log three-ring binder previously discussed in Section F-2b.

#### **F-2b(6) Testing of Equipment**

Testing of fire protection equipment, communication and alarm systems is addressed in the inspection forms provided in Appendix C.

## **F-2c Specific Process Inspection Requirements**

### **F-2c(1) Container Inspection**

The weekly inspection of waste containers and waste container storage areas is addressed in Section F-2b.

### **F-2c(2) through F-2c(14)**

The types of storage/treatment systems listed in F-2c(2) through F-2c(14) do not apply to the HMF.

### **F-2d Remedial Action**

If inspections reveal that non-emergency maintenance is needed, it is completed as soon as possible to preclude further damage and eliminate the need for emergency repairs. If a hazard is imminent or has already occurred during the course of an inspection or any time between inspections, remedial action is to be taken immediately. The Emergency Coordinator is to notify the appropriate authorities as designated in the Contingency Plan (see Section G), and initiate remedial actions. In the event of an emergency involving the release of hazardous substances to the environment, efforts are directed towards containing the hazard and then decontaminating the affected area. Refer to the Contingency Plan for further details.

### **F-2e Inspection Log**

An inspection log is maintained, for each calendar year, in a three-ring binder. After an inspection, each inspection form is filed in the binder to provide a case history of inspection results. The inspection log notebook is kept in the HMF office located in Building 488. As required by 40 CFR 264.15(d), records of inspections are kept for at least three years from the date of inspection. A copy of the inspection forms may be found in Appendix C.

## **F-3 WAIVER of PREPAREDNESS AND PREVENTION REQUIREMENTS [40 CFR [270.14(b)(6)]**

UNC-CH does not request a waiver of the requirements stated in Part 264.14(b)(6).

### **F-3a Equipment Requirements**

Internal and external communications, emergency equipment and fire control equipment are discussed in Section G-5 of the Contingency Plan.

### **F-3b Aisle Space Requirements**

Aisle space between rows of pallets or containers is maintained as indicated on Figure D-1. Adequate aisle space in the storage areas is maintained to allow access without the risk of damaging the containers by scraping, puncturing or dropping. Adequate aisle space is maintained for all designated aisles to allow for personnel access and inspection. Operating experience during the term of the initial and subsequent permits have demonstrated that the aisle space is adequate to allow for unobstructed movement of personnel, fire protection equipment and spill control equipment to any area of the HMF in the event of emergency.

## **F-4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT [40 CFR 270.14(b)(8)]**

### **F-4a Loading/Unloading Operations**

Hazardous waste loading operations on campus primarily take place within the laboratory and maintenance buildings. Hazardous waste is transferred from SAAs using the general personnel corridors in each of the buildings. Freight elevators are preferentially used. Waste movement within each building is toward the building's loading dock where waste is loaded by hand trucks into UNC-CH waste transportation trucks and transferred to the HMF.

The HMF truck loading/unloading dock area is located on the west side of the HMF. Hand trucks are used to unload waste containers from trucks and into the HMF and to take waste containers from the HMF for loading into tractor trailers. The truck loading/unloading dock area can accommodate tractor trailers and is also used to stage waste drums for waste solvent transfer to a receiving tank truck.

The loading/unloading dock area includes spill containment/retention provisions (see Figure D-1). From the loading dock, the concrete drive slopes to the west towards a spill containment barrier at the entrance gate. The barrier is designed so that rainwater can drain from the loading/unloading area. During loading/unloading operations, the gap on either side of the spill containment barrier is blocked with spill booms and monitored by HMF personnel.

### **F-4b Run-Off**

Buildings 488 and 531 are totally enclosed, constructed on elevated slabs and have perimeter concrete curbs or threshold sills. These containment measures will prevent waste run-off in case of a release event.

#### **F-4c Water Supplies**

There are no surface water supply intakes in the vicinity of the HMF. Groundwater contamination is prevented by eliminating the discharge of hazardous waste onto unprotected ground. The HMF has an impervious epoxy floor coating and secondary containment structures. All on-site movement of hazardous waste takes place on paved surfaces.

#### **F-4d Equipment and Power Failure**

No operations occur nor is electrically powered equipment used that would create a hazard in the event of a power failure. Normal operating hours are 8:00 a.m.–5:00 p.m., Monday–Friday. Buildings 488 and 531 have emergency exit lighting to allow personnel to exit the building safely in the event of a power failure. In addition, Building 531 is equipped with skylights to allow shut down of operations prior to exiting the facility.

#### **F-4e Personal Protection Equipment**

Available personal protection equipment is presented under Section G-5 (Emergency Equipment) of the Contingency Plan. Use of personal protection equipment is covered in the initial and annual personnel training program (see Section H).

General information on the major chemical components of the waste stored at the HMF as well as personal protection equipment recommendations and first aid is available in reference documents available online and at the HMF and EHS.

#### **F-4f Ventilation Equipment**

The HMF (Buildings 488 and 531) has a conventional HVAC system except for the Consolidation Room in Building. 488, where an independent exhaust fan is associated with the fume hoods (see Figure D-1). Compliance with Subpart CC requirements, as addressed in Section C-2e and Appendix B, minimizes release of hazardous waste to the atmosphere. As required, the containers remain closed except when adding or removing waste or obtaining a waste sample. Waste containers are promptly closed after addition or removal of waste.

### **F-5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES [40 CFR 270.14(b)(9)]**

#### **F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes**

Ignitable and reactive wastes are stored in the HMF as shown on Figure D-1. These wastes are kept separate to eliminate the potential for reaction. The waste containers are compatible with the contained wastes and, therefore, any possible source of ignition would be external to the containers. The waste containers remain closed at all times, except when reactive or ignitable waste is transferred into or out of the containers.

During waste transfer, close supervision of the operation is maintained to ensure that there are no sources of open flames, spontaneous ignition or radiant heat in the area. Non-sparking wrenches, grounding cables and special funnels are used when consolidating solvents. To help prevent a possible source of ignition, warning signs clearly marked “NO SMOKING” and “DANGER-UNAUTHORIZED PERSONNEL KEEP OUT” have been placed around the perimeter of the HMF. “NO SMOKING” signs have also been conspicuously placed throughout the HMF.

#### **F-5b General Precautions for Handling Ignitable or Reactive Wastes and Mixing of Incompatible Wastes**

General precautions for handling ignitable or reactive wastes, discussed above, are also observed for incompatible wastes. Sections C-1c and C-2b address procedures to prevent the mixing of incompatible wastes to prevent reactions which can generate extreme heat or pressure and could cause fire, explosions or violent reactions, produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment, produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions or damage the structural integrity of the waste containers. As mentioned previously, waste containers remain closed except when waste is transferred. Close supervision is maintained during transfer operations to ensure that the time the containers are open is kept to a minimum. Potentially incompatible wastes are separated from other wastes by concrete block walls and secondary containment trench sumps. Small waste containers are sorted and segregated in secondary containment pans on shelving units according to chemical characteristics and compatibilities.

#### **F-5c Management of Ignitable or Reactive Wastes in Containers**

Precautions that are taken in the HMF to prevent accidental fires include the storage of waste in compatible containers, keeping waste containers closed except to add or remove waste, the presence of containment sumps in waste storage bays and appropriate warning signs to prevent smoking or possible ignition sources in the facility. There are no open flames or ignition sources in the buildings at the facility. The facility is equipped with explosion proof electrical lighting to further prevent any ignition of a flammable or combustible gas.

Prior to storage, each container is closed, marked and labeled. The marking and labeling identify the contents of the containers as hazardous waste, including ignitable or reactive waste (if appropriate).

The HMF is located more than 50 feet from the closest UNC-CH property line (see Figure B-3).

#### **F-5d Management of Incompatible Wastes in Containers**

The procedures used to ensure that incompatible wastes are not placed in the same container are addressed in Sections F-5a and F-5b. To prevent the mixture of incompatible wastes, ignitable wastes are placed in new drums or empty product drums that contained products having similar chemical composition. Concrete block walls or containment trenches segregate potentially incompatible wastes while in storage.

#### **F-5e Management of Ignitable or Reactive Wastes in Tanks**

These requirements are not applicable to the HMF as UNC-CH does not manage waste in tanks.

#### **F-5f – F-5n**

These requirements are not applicable to the HMF as UNC-CH does not manage hazardous waste in tanks, waste piles, surface impoundments or landfills nor does it practice land treatment.

# Section G

## SECTION G

### CONTINGENCY PLAN

The following information is submitted in accordance with the requirements for a Contingency Plan contained in 40 CFR 270.14(b)(7) as adopted in 15A NCAC 13A.0113. The intent of 40 CFR 264, Subpart D (Contingency Plan and Emergency Procedures) of the Resource Conservation and Recovery Act (RCRA) regulations is to ensure that facilities treating, storing or disposing of hazardous wastes have established the necessary procedures to follow in the event of an emergency.

#### **G-1 GENERAL INFORMATION [40 CFR 264.53(b)]**

Name of Facility:	Hazardous Materials Facility The University of North Carolina at Chapel Hill
Location:	1085 Facilities Drive Chapel Hill, North Carolina 27599
Hazardous Materials Manager:	Steve Parker
Telephone Number:	(919) 962-5509

The University of North Carolina at Chapel Hill (UNC-CH or the University) is a multi-disciplinary research university. The primary operations that generate hazardous waste include research laboratories, healthcare operations and maintenance and facility service activities. University operations also include a cogeneration facility, an airport, hospitals and various facility services (e.g., paint shop, sheet metal shop and service station).

Hazardous wastes are transported from accumulation points throughout the University to the Hazardous Materials Facility (HMF or Facility) where they are treated, bulked or packaged for shipment to an off-site disposal facility. Treatment at the HMF is limited to elementary neutralization and solvent bulking. Facility location and site layout drawings are provided as Figures B-1, B-2, D-1 and D-2.

The HMF consists of two buildings (Building 488 and 531) and includes a container unloading/loading dock, a waste packaging area, liquid waste bulking and neutralization areas, a flammable storage room, nine hazardous waste storage areas and several non-hazardous waste storage areas (Figure D-1).

Four general categories of hazardous wastes are handled at the University's HMF: (1) waste solvents, (2) discarded commercial chemical products, (3) radioactive mixed wastes and (4) general chemical wastes. The hazardous waste categories are described below.

**Waste Solvents:** Waste solvents are primarily generated in the research laboratories. This waste consists of research formulations containing mixtures of laboratory-grade solvents which can include solvents listed under the F001, F002, F003, F004 and F005 designations; discarded, unused solvents contained in the U and P hazardous waste lists; and solvents that are hazardous because they exhibit the characteristic of ignitability (i.e., D001 solvents such as cyclohexane and heptane). Used solvents are accumulated near their points of generation in containers ranging in size from less than one pint to five gallons and are bulked into 55-gallon drums at the HMF prior to disposal.

**Discarded Commercial Chemical Products:** Research laboratories use many commercial chemical products. When these products are no longer needed or when their shelf life has expired, they by definition may become P- or U-listed hazardous wastes or D- listed hazardous wastes ( i.e., discarded chemical products that exhibit a hazardous waste characteristic). Generally, these chemicals are in their original containers, with some having never been opened. These waste materials are either bulked into 55-gallon drums or put into lab packs at the HMF prior to disposal.

**Radioactive Mixed Wastes:** Radioactive mixed wastes are also handled at the HMF. Mixed wastes by definition are EPA hazardous wastes, either characteristic or listed, that contain one or more radionuclides. The radionuclides in the waste are authorized for use in research at UNC-CH under the auspices of the North Carolina Department of Health and Human Services Division of Health Service Regulation – Radiation Protection Section. Short-lived mixed wastes contain radionuclides with half-lives of 165 days or less. These materials are treated by decay-in-storage, specified as the best demonstrated available technology in the Joint Nuclear Regulatory Commission-Environmental Protection Agency Guidance on the Storage of Mixed Low-Level Radioactive and Hazardous Waste, Federal Register Vol. 60, No. 151, pp. 40204-40211, August 7, 1995. These short lived wastes are stored at the HMF while decaying, prior to disposal.

Long-lived mixed wastes are typically stored at the HMF for less than 365 days prior to transport, treatment and disposal at commercially-available facilities. Typical chemical constituents in mixed wastes include ethanol, methanol, toluene, xylene, chloroform, potassium and sodium hydroxides and mineral acids.

**General Chemical Wastes:** General chemical wastes are generated through a variety of maintenance or facility service related activities. These usually consist of spent materials, and may be gas, solid, liquid or semi-solid. Examples include spent parts washer solvent, waste paint, solder dross and aerosol cans. These waste materials are accumulated in containers of various sizes and types. These waste materials are either bulked into 55-gallon drums or put into lab packs at the HMF prior to disposal.

This Contingency Plan supplements UNC-CH's Emergency Operations Plan (Emergency Operations Plan) and the UNC-CH Environment, Health and Safety (EHS) Department's Emergency Response Manual.

The Emergency Operations Plan and the EHS Emergency Response Manual define emergency classifications and associated response levels on a campus-wide basis. They also describe the emergency communication system, establish Emergency Management Team member roles and responsibilities, describe how the incident command system is established for emergency events and clarify how emergency response to emergency events is coordinated with off-campus agencies.

As described in the Emergency Operations Plan and the EHS Emergency Response Manual, the EHS Fire Safety Officer will lead the Emergency Management Team for emergencies occurring at the HMF. This Contingency Plan constitutes a “Department Plan” under the University’s Emergency Operations Plan and is established as an annex to that plan.

## **G-2 EMERGENCY COORDINATORS [40 CFR 264.52(d)]**

If an emergency occurs at the HMF, the person who discovers the emergency event will assess the situation, immediately call 911 (if warranted by the severity of the emergency) and then contact the primary HMF Emergency Coordinator. If the primary HMF Emergency Coordinator is not available, one of the alternate HMF Emergency Coordinators will be contacted. Either the primary HMF Emergency Coordinator or one of the alternate HMF Emergency Coordinators will be on call at all times by telephone and will be able to reach the Facility in a short period of time. Table G-1 lists the home addresses and telephone numbers for each HMF Emergency Coordinator.

The primary HMF Emergency Coordinator and alternates have complete authority to commit the necessary resources of the University in an emergency.

**TABLE G-1**  
**EMERGENCY COORDINATORS**

Primary: Steve Parker  
415 Chaplin Street  
Wendell, NC 27591  
Telephone: (919) 962-5509 (Office)  
(919) 883-7026 (Mobile)

1<sup>st</sup> Alternate: Sharon Myers  
121 Viburnum Way  
Carrboro, NC 27510  
Telephone: (919) 962-9752 (Office)  
(919) 618-3836 (Home/Mobile)

2<sup>rd</sup> Alternate: Malachy Donohue  
1913 Fairwinds Drive  
Graham, NC 27253  
Telephone: (919) 962-5718 (Office)  
(314) 591-5009 (Home)  
(919) 428-5408 (Mobile)

3<sup>rd</sup> Alternate: Larry Daw  
355 Ridge View Road  
Pittsboro, NC 27312  
Telephone: (919) 962-6666 (Office)  
(919) 542-6812 (Home)  
(919) 883-7019 (Mobile)

**G-3 IMPLEMENTATION OF THE CONTINGENCY PLAN [40 CFR 264.51(b)]**

The purpose of this section is to describe the basis of decision-making to be used by the Emergency Coordinator in deciding to implement the plan. The decision to implement the Contingency Plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. More specifically, the Contingency Plan for the HMF will be implemented in the following situations:

1. Fire and/or Explosion
  - a. If a fire causes or could cause the release of toxic gases, vapors or fumes.
  - b. If a fire spreads and could ignite flammable or combustible materials at other locations on-site or could cause heat-induced explosions.
  - c. If a fire could spread to off-site areas.
  - d. If use of water or water and chemical fire suppressant could result in contaminated runoff.
  - e. If an imminent danger exists where an explosion could occur.
  - f. If an imminent danger exists where an explosion could ignite flammable or combustible materials at the Facility.
  - g. If an imminent danger exists where an explosion could result in release of toxic materials to the environment.
  
2. Spills or Releases of Hazardous Waste or Hazardous Waste Constituents to Air, Soil or Surface Water
  - a. If a spill or release results or could result in discharge of flammable liquids, vapors or gases thus causing a fire or gas explosion hazard.
  - b. If a spill or release causes or could cause the release of toxic liquids, vapors, gases or fumes.
  - c. If a spill or release can be contained on-site, but the potential exists for ground water contamination.
  - d. If a spill or release cannot be contained on-site and results in off-site soil contamination and/or ground water or surface water contamination.
  
3. Floods
  - a. If the potential exists for surface water contamination.

**G-4 EMERGENCY RESPONSE PROCEDURES [40 CFR 264.56]**

**G-4a Notification**

In the event personnel working at the HMF discover a release, spill, fire or any potentially dangerous situation, those personnel will immediately assess the situation, call 911 (if warranted by the severity of the situation) and then notify the HMF Emergency Coordinator. Those personnel will then respond as instructed. This response may involve activating one of the pull fire alarms at the HMF.

Any employees hearing the alarm must close down and secure their equipment and proceed immediately along designated evacuation routes (see Figure G-1). Employees will remain in the designated evacuation assembly areas and await further instructions.

The HMF is equipped with heat sensors and an automatic sprinkler system. When activated, whether automatically or from one of the manual fire alarm pull stations, the fire detection system sends a signal, by dedicated telephone line, to the Department of Public Safety's (DPS's) enhanced 911 communications system. When the alarm is activated DPS personnel will be dispatched along with the EHS Fire Safety Officer, Facilities Services and other University personnel. This system is connected to the Orange County Emergency Services 911 communications system for dispatching fire and rescue services. The HMF fire alarm system also sounds a local, audible alarm.

As appropriate, the HMF Emergency Coordinator will notify other organizations identified in Table G-2.

**TABLE G-2**  
**EMERGENCY CONTACTS**

<u>Emergency</u>	<u>Organization/Agency</u>	<u>Emergency No.</u>
All	Internal (includes all relevant UNC-CH personnel)	911
Injury	Rescue Squad	911
	Hospital - UNC Health Care	911
Fire/Explosion	Chapel Hill and Carrboro Fire Departments	911
	Chapel Hill and Carrboro Police Departments	911
Hazardous Material Release	North Carolina Hazardous Waste Section	(919) 707-8200
	North Carolina Division of Water Resources - RRO	(919) 791-4200
	North Carolina Division of Public Safety – Emergency Operations Center	(800) 858-0368 (24 hours)
	National Response Center	(800) 424-8802
	US EPA, Region IV Atlanta Federal Center 61 Forsyth Street Atlanta, GA 30365-3415	(800) 241-1754
	Orange County Emergency Services	(919) 732-5063
If Spill Reaches Sanitary Sewer	Orange Water and Sewer Authority (OWASA)	(919) 968-4421
Natural Disaster	Chapel Hill and Carrboro Police Departments	911

#### **G-4b Identification of Hazardous Materials**

Upon arrival at the scene, the HMF Emergency Coordinator will immediately attempt to identify the characteristics, exact source, amount and areal extent of a spill or release if it can be done safely. This may be done by visual observation, review of records, and, if necessary, by chemical analysis. Spills or releases of containerized hazardous materials, in general, will be identified by determining the contents of the container(s) in question through a check of the inventory in the operating record.

#### **G-4c Hazard Assessment**

- 1) Concurrent with hazardous material identification, the HMF Emergency Coordinator in conjunction with other members of the Emergency Management Team, as defined in the University's Emergency Operations Plan, will assess any potential hazards to human health and the environment. The HMF Emergency Coordinator will make this assessment based upon the following information:
  - Type of material released, spilled, exploded or burning.
  - Location of the release, spill or fire/explosion.
  - Quantity and rate of release or intensity of fire/explosion.
  - Direction in which the spill, release or fire (smoke) is heading.
  - Location of on-site personnel who might have been in the area.
  - Potential for fire, explosion or toxic gas, vapor or fume release.
  - Potential for the situation (fire, explosion, leak, etc.) to intensify or spread.
  - Potential for off-site migration.
  
- 2) The HMF Emergency Coordinator will assess the need for evacuation of the site and immediately notify all appropriate local authorities based upon the Facility's ability to manage the situation.

If the situation can be controlled by use of the Facility's safety equipment and/or spill response materials, the HMF Emergency Coordinator will instruct appropriate trained personnel to contain the situation and minimize environmental damage.

If it is determined the situation is too hazardous for Facility personnel to manage safely, the appropriate response organizations and/or agencies, including the National Response Center, (Table G-2) will be immediately contacted by the HMF Emergency Coordinator. The information that must be provided to the response agencies is listed in the following Table G-3.

**TABLE G-3**

**REPORTING FORM FOR EMERGENCY EVENTS**

---

Name and phone number of person making the report

---

Name, address and phone number of owner or operator

---

Name and address of facility

---

Date, time and type of incident (e.g., fire, explosion, spill, etc.)

---

Name and quantity of material(s) involved, to the extent known

---

Extent of injuries (if any)

---

Assessment of actual or potential hazards to human health or the environment

---

Estimated quantity and disposition of material recovered from the incident

---

Send to:

North Carolina Department of Environment and Natural Resources  
Division of Waste Management  
Hazardous Waste Section  
1646 Mail Service Center  
Raleigh, NC 27699-1646

#### **G-4d Control Procedures**

Potential incidents fall under three general classifications:

- Fire and/or Explosions
- Spills or Releases of Hazardous Waste or Hazardous Waste Constituents to Air, Soil or Surface Water
- Floods

##### **1) Fire and/or Explosion**

In the event a fire is discovered or there is an explosion while an employee is working at the HMF, the employee should:

- Immediately cease work in the affected area.
- Sound a verbal/air horn warning to other employees.
- Set off the fire alarm system.
- Close doors in the building.
- Evacuate the building to a safe distance and notify the HMF Emergency Coordinator.
- Wait for the HMF Emergency Coordinator, the UNC-CH Emergency Management Team, Chapel Hill Fire Department and Orange County Emergency Services to arrive. Direct the Fire Department to fire area.

In addition, the HMF Emergency Coordinator will direct the following as necessary:

- Any injured personnel will be removed from the area and medical treatment will be administered by qualified personnel.
- The area will be cleared of all outside personnel by establishing a perimeter control area. The HMF employee reporting the emergency or HMF Emergency Coordinator will be responsible for accounting for all personnel.
- The ventilation system will be shut down.
- An “all clear” signal will be given by the Fire Department when the fire has been extinguished and the safety of personnel is no longer endangered.
- All equipment used in the emergency will be properly evaluated and disposed of or, if possible, cleaned, and made suitable for reuse prior to the resumption of operations in the affected area.

2) Spills or Releases of Hazardous Waste or Hazardous Waste Constituents to Air, Soil or Surface Water

In the event of a major emergency involving a chemical spill, the following general procedures will be used for rapid and safe response and control of the situation.

If an employee discovers a chemical spill or storage area problem resulting in a material release to air, soil or surface water, they will immediately assess the situation and contact the HMF Emergency Coordinator. When contacted, the HMF Emergency Coordinator will obtain the following information:

- Identity of the material spilled or released.
- Location of the release or spillage.
- Estimate of quantity released and/or the rate at which it is being released.
- Direction in which the spill is heading.
- Identification of any injuries involved.
- Determination if fire and/or explosion has occurred or is possible.

This information will help the HMF Emergency Coordinator and/or other members of the University Emergency Management Team to assess the magnitude and potential seriousness of the spill or release. If the incident is determined to be within the Facility's emergency response capabilities, the HMF Emergency Coordinator will contact and deploy the necessary HMF and UNC-CH personnel. If the emergency conditions resulting from the incident are beyond the Facility's emergency response capabilities, the HMF Emergency Coordinator will dial 911 to activate the University's Emergency Response Plan. Table G-2 lists the appropriate contacts and the corresponding phone numbers.

Next, the HMF Emergency Coordinator will:

- Initiate evacuation of the hazard area. For small spills or leaks to the environment, isolate at least 50 feet in all directions. For large spills to the environment, initially isolate at least 100 feet in all directions and keep all persons upwind of the spill.
- Obtain medical attention for any injured persons.

- Contact the proper authorities (Table G-2) if the spill or release is large. Contact local authorities first so that, if necessary, downstream water users (including sanitary sewer) and/or persons downwind of any gas, fume or vapor releases can be notified and, if necessary, evacuated.

Once it has been determined that the release area is safe to enter, clean-up personnel will:

- Ensure that all persons not participating in the emergency response are removed from the hazard area.
- Use personal protective equipment as required by OSHA.
- Remove all ignition sources and use spark and explosion proof equipment and clothing in containment and clean-up if flammable wastes are involved. Also, vehicular traffic and work in the area will cease until the spill is contained and safety is restored.
- If it is possible and can be performed safely, try to stop the leak. Special materials (including an overpack drum) are kept on hand for temporary re-containerization and spill control.
- Remove all surrounding materials that could be especially reactive with materials in the waste. Determine the major components in the waste at the time of the spill by consulting container labels and MSDSs.
- Use absorbent pads, booms, sandbags, sand and other inert materials to contain, divert and clean up a spill.
- If wastes flow toward the stormwater drainage ditches, containment dams will be put in place at strategic locations to prevent the wastes from escaping the site.
- After the waste is contained, corrective action will be taken to remove the contaminated water, soil and spilled material from the area. Absorbent booms and sweeps may be used around outfalls to contain and absorb water insoluble organics.
- Place all containment and clean-up materials in containers for proper disposal in an off-site permitted treatment, storage or disposal (TSD) facility. Place all recovered liquid wastes and contaminated soil in containers for disposal at an off-site permitted TSD facility.
- Replace used emergency response equipment and supplies.

### 3) Flood

The HMF is not located in a 100-year flood classification zone. This subsection is not applicable.

**G-4d(1) Prevention of Recurrence of Spread of Fires, Explosions, or Releases.**

The actions that will be carried out to prevent the recurrence or spread of fires, explosions or releases include:

- The HMF Emergency Coordinator will visually monitor problems in a manner parallel to the control procedures discussed in Subsection G-4d. Once it is safe to re-enter the area, containers will be monitored for leaks, pressure build-up, gas generation or rupture.
- The collection, containment and treatment of released wastes will be performed after the safety of all involved personnel is assured and the material release has been identified. See Subsection G-4d for procedures and equipment that will be used to quickly and safely collect and contain the released material. The contained waste will be sent to an off-site permitted TSD facility.
- Employees are trained on how to respond to an emergency (e.g., close fire doors, shut off ventilation system, etc.) and on the location and proper use of all emergency abatement equipment.

**G-4d(2) Container Spills and Leakage.**

Refer to Subsection G-4d for a discussion of emergency response procedures for container spills and leakage.

**G-4d(3) Tank Spills and Leakage**

UNC-CH will not operate any hazardous waste storage tanks at this Facility; therefore, this subsection is not applicable.

**G-4d(4) Waste Pile Spills and Leakage**

UNC-CH will not operate any hazardous waste piles at this Facility; therefore, this subsection is not applicable.

**G-4d(5) Surface Impoundment Spills, Leakage and Sudden Drops**

UNC-CH will not operate any surface impoundments at this Facility; therefore, this subsection is not applicable.

**G-4d(6) Landfill Leakage**

UNC-CH will not operate a hazardous waste landfill at this Facility; therefore, this subsection is not applicable.

**G-4e Incompatible Waste**

The HMF Emergency Coordinator with assistance from the HMF staff will identify the characteristics of any spilled or released waste material and will ensure that stored wastes which may be incompatible with the released material are not located in the affected area(s) until clean-up procedures are completed. The disposition of the released material will depend on the material's characteristics. See Subsection G-4f for more information on the handling of spilled materials.

**G-4f Storage and Treatment of Released Material**

- 1) The HMF has a supply of collection equipment, collection media and storage containers on-site for storage of any released material.
- 2) See Subsection G-5 and Table G-4 for the emergency equipment that is available at the HMF.
- 3) Immediately after assessing the magnitude of the emergency, the HMF Emergency Coordinator will deploy the appropriate and necessary resources to abate the released material. See Subsection G-4c (Hazard Assessment) for these procedures.
- 4) See Subsection G-4d (Control Procedures - Spills or Releases of Hazardous Waste or Hazardous Waste Constituents to Air, Soil or Surface Water) for methods to contain and clean-up a hazardous release and decontaminate the affected area.

**G-4g Post-Emergency Equipment Maintenance**

After an emergency event, the HMF Emergency Coordinator will oversee the post-emergency equipment maintenance at the Facility. Reusable equipment will be cleaned/decontaminated so it is suitable for future use. Rinsate will be collected, sampled and analyzed. If laboratory analysis indicates the rinse water is hazardous, it will be sent off-site for disposal at a TSD facility. If laboratory analysis indicates the rinsate meets OWASA discharge limits, it may be discharged to the OWASA sanitary sewer system. Emergency equipment and supplies will be replaced, as needed.

Before operations are resumed, an inspection of all safety equipment will be conducted. The appropriate state and local authorities will be notified when the post-emergency equipment maintenance has been performed and before operations are resumed.

**G-5 EMERGENCY EQUIPMENT**

The location of emergency equipment at the HMF is shown on Figure D-1. A list of fire control equipment, personal protective equipment and spill control clean-up equipment readily accessible to HMF personnel is provided in Table G-4.

**TABLE G-4****EMERGENCY EQUIPMENT LIST**

<u>DESCRIPTION</u>	<u>BLDG/LOCATION</u>	<u>FUNCTION</u>
<b>Fire Control/Emergency Communication Equipment</b>		
Overhead Sprinkler System	488/531	Extinguish fire
Fire alarm central panel	488	Emergency response organization notification
Fire alarm pull stations (2)	488	Emergency response organization notification
Fire alarm pull stations (3)	531	Emergency response Organization notification
10 lb. ABC fire extinguishers (6)	488	Extinguish small fires
10 lb. ABC fire extinguishers (3)	531	Extinguish small fires
10 lb. ABC fire extinguishers (1)	Emergency Response Van	Extinguish small fires
Heat detectors (4)	531	Fire detection
Telephones (2)	488	Internal/external comm.
Telephones (1)	531	Internal/external comm.
<b>Personal Protective Equipment</b>		
Self-contained breathing units (4)	488	Respiratory protection
Full-face respirators (1-2)	488	Respiratory protection
Full-face respirators (1-2)	Emergency Response Van	Respiratory protection
Respirator cartridges (2-4)	488	Respiratory protection
Respirator cartridges (2-4)	Emergency Response Van	Respiratory protection
Tyvex suits (1 box)	488	Personnel protection
Tyvex suits (1 box)	Emergency Response Van	Personnel protection
Level B suits (2-4)	EHS	Personnel protection
Level B suits (1 box)	488	Personnel protection
Boots (1-2 pr.)	488	Personnel protection
Boots (2 pr.)	Emergency Response Van	Personnel protection
Protective gloves (1-2 pr.)	488	Personnel protection
Protective gloves (2-4 pr.)	Emergency Response Van	Personnel protection
Shower/eye wash stations (2)	488	Personnel protection
Shower/eye wash stations (1)	531	Personnel protection
First Aid Kit	488/531	Minor medical response

**TABLE G-4 (Cont.)**

**EMERGENCY EQUIPMENT LIST**

<u>DESCRIPTION</u>	<u>BLDG/LOCATION</u>	<u>FUNCTION</u>
<b>Spill Control and Clean-up Equipment</b>		
Spill Control Kit (1)	488	Spill response
Spill Control Kit (1)	531	Spill response
Acid Neutralizer (1 container)	488	Acid spill response
Acid Neutralizer (1 container)	Emergency Response Van	Acid spill response
Caustic Neutralizer (1 container)	488	Acid spill response
Caustic Neutralizer (1 container)	Emergency Response Van	Acid spill response
Calcium Gluconate	488/531	Hydrofluoric acid spill response
Standard Industrial Absorbent	488/531 Emergency Response Van	Spill response
Overpack Drum	488/531	Contain leaking drum
Shovels	488/531/Emergency Response Van	Clean-up spills
Squeegee	488/531/EHS	Clean-up spills
Portable Containment Pump	531	Remove liquid from containment trench
Drum Pump/Containment Pump	488/531	Transfer liquid from leaking drum/Remove liquid from containment trenches
Pressure Cleaner	Rental	Decontamination of reusable emergency equipment, containment trenches or building floor.
Containment Booms	531	Ditch or secondary containment clean-up
Empty Drums	531	Transfer liquid from leaking drum
Wet Vacuum	EHS	Clean-up Spills

**Note: See Figure D-1 for Emergency Equipment locations.**

**G-6 COORDINATION AGREEMENTS**

UNC-CH has made arrangements with the following agencies to assist in response to emergency situations. Copies of this Contingency Plan were provided to the local police and fire departments, DPS, UNC Health Care and local Emergency Response Teams. These agencies have been asked to review and comment on the plan and detail the actions they will take in response to an emergency.

Orange County Emergency Services

Regional Response Team 4

Town of Carrboro Fire Department

Town of Carrboro Police Department

Town of Chapel Hill Fire Department

Town of Chapel Hill Police Department

UNC-CH Department of Public Safety

UNC Health Care

The University implements the additional requirements for hazardous waste facilities in compliance with North Carolina General Statute (NCGS) 130A-295, including verification each two-year interval that the resources and equipment of each local government and emergency response agency are available and adequate to respond to an emergency per NCGS130A-295(g).

**G-7 EVACUATION PLAN [40 CFR 264.52(f)]**

All emergencies require prompt and deliberate action. In the event of any major emergency, it will be necessary to follow an established set of procedures. However, in specific emergency situations, the HMF Emergency Coordinator may deviate from the procedures to bring the situation under control more effectively. The HMF Emergency Coordinator is responsible for determining which emergency situations require evacuation of an affected area.

All persons located in the HMF will immediately evacuate the building upon hearing an emergency alarm. The HMF has five exits (see Figure G-1). An emergency exit sign is located above each exit door. In the event of an emergency, the primary evacuation route will be through the door(s) indicated on Figure G-1. If evacuation via these exits is prohibited due to the nature of the emergency, the secondary evacuation routes and exits will be utilized. As part of the initial training program, employees are informed of the exit locations.

Once outside the building, personnel will assemble at the front gate on the west side of the HMF to await further instructions from the HMF Emergency Coordinator. An alternate assembly area is located in the Surplus Warehouse parking lot southeast of the HMF. Both assembly areas are indicated on Figure G-1.

The assembly areas may change, at the discretion of the HMF Emergency Coordinator, based on the prevailing wind direction.

The HMF will be evacuated under the following conditions:

- Fire or explosion of any nature. Activate the nearest fire alarm pull station and evacuate the building. Call 911 immediately.
- Chemical spill. Since chemicals are generally handled in small quantities, chemical spills may only require evacuation of a limited area with the HMF.
- Power interruption. In the event of a power loss, containers should be closed, and no transfer operations are to be conducted inside the building. Personnel must determine if a significant hazard exists that would require evacuation due to safety concerns.

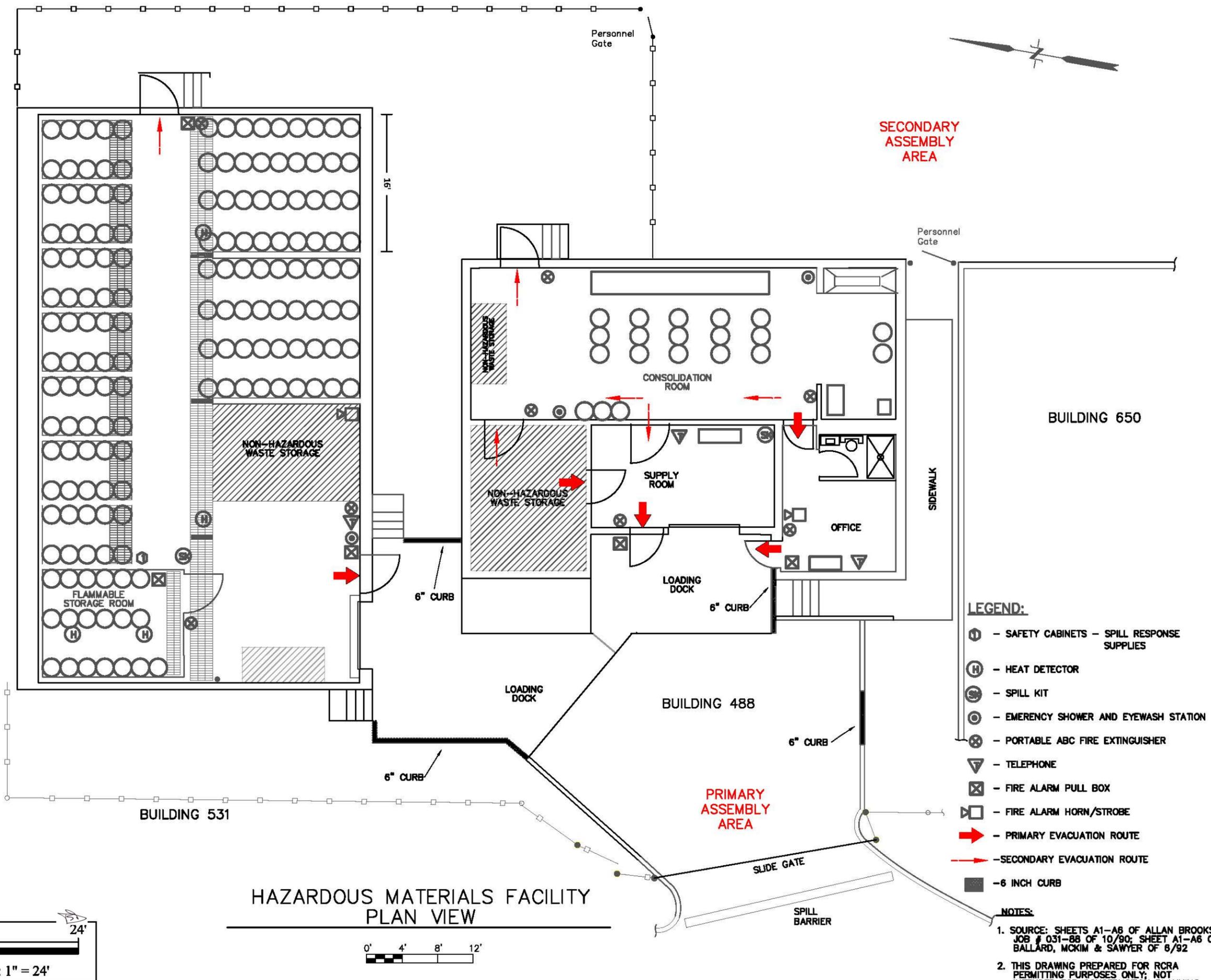
#### **G-8 REQUIRED REPORTS [40 CFR 264.56(i)]**

Any emergency event (e.g., fire, explosion) that requires implementing the Contingency Plan will be reported in writing within 15 days to the Director of the North Carolina Division of Waste Management. A *Reporting Form for Emergency Events* is provided in Table G-3. The completed form will be filed at the Facility as a part of the operating record in compliance with 40 CFR 264.73(b)(4).

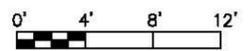
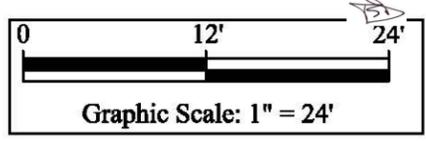
#### **G-9 AMENDMENTS TO THE CONTINGENCY PLAN**

The Contingency Plan will be reviewed and amended as necessary, whenever:

- 1) The Facility permit is revised.
- 2) After an emergency event, opportunities for improving the plan are identified through review of the plan's effectiveness.
- 3) The Facility changes in its design, construction, operation, maintenance or other circumstances in a way that materially increases the potential for fires, explosions or releases of hazardous materials or changes in the response necessary in emergency.
- 4) The list of emergency coordinators changes.
- 5) The list of emergency equipment changes.



HAZARDOUS MATERIALS FACILITY  
PLAN VIEW



- LEGEND:**
- ⊕ - SAFETY CABINETS - SPILL RESPONSE SUPPLIES
  - ⊕ - HEAT DETECTOR
  - ⊕ - SPILL KIT
  - ⊕ - EMERGENCY SHOWER AND EYEWASH STATION
  - ⊕ - PORTABLE ABC FIRE EXTINGUISHER
  - ▽ - TELEPHONE
  - ⊕ - FIRE ALARM PULL BOX
  - ⊕ - FIRE ALARM HORN/STROBE
  - ➔ - PRIMARY EVACUATION ROUTE
  - ➔ - SECONDARY EVACUATION ROUTE
  - - 6 INCH CURB

- NOTES:**
1. SOURCE: SHEETS A1-A6 OF ALLAN BROOKS JOB # 031-88 OF 10/90; SHEET A1-A6 OF BALLARD, MCKIM & SAWYER OF 8/92
  2. THIS DRAWING PREPARED FOR RCRA PERMITTING PURPOSES ONLY; NOT INTENDED FOR CONSTRUCTION PLANNING.

<p><b>Hazardous Materials Facility Evacuation Plan</b> RCRA Part B Permit Renewal Application The University of North Carolina at Chapel Hill</p>		Project Number:	201449	References:	Field Data
		Checked By:	crk	Date:	January 2015
Drawn By:	crk	Size:	11" x 17"	Layers:	0,1
Scale:	1" = 12'	Filename:	Filepath: P:\UNC-Chapel Hill\RCRA Part B Renewal - 201449\Historical CAD_Word		

# Section H

## **SECTION H** **PERSONNEL TRAINING**

The information contained in this section outlines the personnel training program for UNC-CH's HMF according to the requirements of 40 CFR 270.14(b)(12) and 264.16.

### **H-1 TRAINING PROGRAM**

The training program provided by UNC-CH for all employees involved in hazardous waste management prepares personnel to operate and maintain the HMF in a safe manner. The following sections describe the training program and include:

- Job Titles and Duties
- Training Content
- Training Frequency
- Training Techniques
- Training Director
- Recordkeeping

In addition to this training program, employees involved in hazardous waste management are trained in accordance with the OSHA requirements in 29 CFR 1910.120 (p). The OSHA regulations require that new employees participate in an initial 24-hour training program. Both current and new employees, after completing the initial 24-hour training, receive eight hours of refresher training annually as required by 29 CFR 1910.120 (p) (7).

### **H-2 JOB TITLES AND DUTIES**

Personnel involved in hazardous waste management are/will be trained according to the training program described below. Job titles and job descriptions for employees involved with hazardous waste management operations are included in Appendix D.

### **H-3 TRAINING CONTENT**

The program developed at UNC-CH for training employees in the safe handling of hazardous wastes has been organized into training modules. Examples of modules that may be used are listed in Appendix D. These modules are subject to updating or revision to more effectively communicate the subject matter to employees, to ensure compliance with the terms of the RCRA Permit or to reflect changing regulatory conditions.

These modules form the basis for initial and annual update training of UNC-CH personnel in the proper procedures, equipment, and systems to be used in managing hazardous wastes.

### **Introductory Training:**

All personnel who are involved with hazardous waste management operations at the HMF shall undergo introductory training prior to conducting any actual transfer and storage operations. Such introductory training shall ensure that the employee is aware of the following:

1. Content and implementation of the HMF Contingency Plan.
2. The proper use and location of personal protective and emergency equipment, as well as procedures for inspecting, repairing, cleaning and replacing this equipment.
3. Emergency response coordination with EHS and emergency response personnel via communication systems and alarms and emergency shutdown and evacuation procedures.
4. The proper emergency response procedures for fires, explosions, and/or spills.
5. The shutdown of operations

In addition to the training listed above, employees will also receive training related to their specific job duties at the facility as described below.

### **Continuing Training:**

Since both the introductory training and the continuing training will include on-the-job training, the Environmental Affairs Manager will spot-check to ensure that the employees understand the items listed above. If difficulties are observed, he or she will conduct additional training. Continued training will also emphasize any change in the characteristics in the waste material being stored and any other changes in operations or equipment. Once a year, a review of all operations will be conducted by the Environmental Affairs Manager. Areas will be identified where there appears to be a need for additional training.

### **Relevance of Training to Job Position:**

All personnel involved with hazardous waste management have been thoroughly trained regarding the hazards of the materials used and waste generated at UNC-CH and with hazardous waste management operations at the HMF. Personnel are also trained in the proper use of fire extinguishers and in emergency procedures for various situations, as set out in the Contingency Plan.

Specifically, job position related training of employees at the HMF relates to the following emergency procedures and facility operations:

1. Contingency Plan implementation.

2. Determination of waste characteristics and types, packaging, manifesting and transport of waste to the HMF.
3. Receipt, segregation/sorting and transfer of wastes to designated storage or processing areas.
4. Processing of wastes according to disposal methodology, i.e. bulking, lab packing and neutralization.
5. Marking, labeling, segregating/sorting containers for storage at HMF
6. Preparing waste for transport to permitted disposal facility.
7. Monitoring, reporting and recordkeeping.

The training program consists of modules designed to address the training needs of each employee and his/her duties in each of the functional areas described above. Examples of modules that may be used are listed in Appendix D. An index, relating module number to the title of the training program, is also provided in Appendix D.

#### **Training for Emergency Response:**

This training program is designed to ensure that personnel not only handle hazardous wastes in a safe manner but also respond properly to emergency situations. The program trains hazardous waste-handling/management personnel to maintain compliance under both normal operating conditions and emergency conditions. Training for emergency response is conducted using introductory or on-the-job training methods previously described.

#### **H-4 TRAINING FREQUENCY**

All current waste-handling personnel have been fully trained at the time of this submittal. New personnel will complete the training program within six months of assignment to the HMF, or within six months of their date of employment, or transfer to a new position, whichever is later. No employee assigned to perform waste-handling operations will work unsupervised prior to completion of the introductory training program.

In accordance with 40 CFR 264.16(c), employees are required to meet annually (within a period of one year from the date of previous training) for a review and update of this training program and to discuss and study topics such as:

1. Hazardous wastes currently being handled at the facility, noting any changes in waste type, volume, source, characteristics, or location that have occurred during the past year.
2. The status of storage and operating conditions and procedures, noting any areas where there are problems or the potential for problems. Employees participate in developing effective solutions.

3. The requirements contained in the facility's RCRA Permit, noting any changes that have occurred during the past year. Areas where maintenance or compliance is a problem are identified and discussed, and effective solutions are sought.
4. Incidents that have occurred in the past year that warranted use of contingency plans and/or emergency action. This review focuses on the cause of the incident and identification of steps to be taken to prevent or to ensure better handling of such events in the future.

#### **H-5 TRAINING TECHNIQUES**

As described in Section H-3, the training techniques include in-house classroom training and on-the-job training. The training program has been organized into modules. Example outlines of these modules are included in Appendix D.

#### **H-6 TRAINING DIRECTOR**

Mr. Malachy Donohue, Environmental Affairs Manager, is the Training Director. Relevant experience and training for Mr. Donohue include the following:

- One and a half years of experience with UNC-CH and 25 years in hazardous waste and hazardous materials management in Federal agencies, municipal governments, heavy manufacturing and consulting engineering
- Member of the American Society of Safety Engineers, Alliance of Hazardous Materials Professionals, American Society for Quality and American Industrial Hygiene Association
- Attends hazardous waste management training seminars taught by NC DENR and maintains certification continuing education requirements.

#### **H-7 RECORDKEEPING**

Records documenting the job title for each position, job description, names of employees, and completed training programs (both introductory and review), are kept on-site in Building 488. These records will be kept until closure of the facility or, in the case of former employees, for three years from the date of the individual employee's termination in compliance with 40 CFR 264.16(d) and (e) requirements.

# Section I

## SECTION I

### **CLOSURE PLAN, POST-CLOSURE PLAN, AND FINANCIAL REQUIREMENTS**

This section is submitted according to the requirements of 40 CFR 270.14(b) 264.112 through 115. This plan identifies the steps to be implemented to completely close the HMF at the end of its intended operating life. All waste materials will be removed from the site at closure; therefore, a Post-Closure Plan is not required.

UNC-CH will maintain a copy of the following approved Closure Plan and all revisions to the plan on-site until final closure is completed and certification of complete closure has been submitted to and accepted by the HWS. UNC-CH will notify the Section Chief at least 45 days prior to the date that final closure is expected to begin. Upon completion of closure, UNC-CH will submit to the Section Chief a certification by both UNC-CH and an independent Registered Professional Engineer that the facility has been closed according to the specifications in the approved closure plan.

#### **I-1 CLOSURE PLAN [40 CFR 270.14(b) (13)]**

##### **I-1a Closure Performance Standard**

The basic premise for the facility closure is to minimize the need for future maintenance and to prevent any impact to the environment during closure activities at the site. The facility will be completely closed at the end of its intended operating life and all waste will be removed from the site at closure. Removal of all waste at closure will eliminate the need for further site maintenance or controls to minimize or eliminate post-closure escape of hazardous waste or hazardous constituents to the ground, surface water or the atmosphere. The HMF is not projected to close prior to expiration of the Hazardous Waste Permit. The following sections discuss, in detail, the measures that will be taken to satisfy the closure performance standards of Subpart G.

##### **I-1b Final Closure Activities**

Section I-1e(1) of the Closure Plan presents procedures for final closure of the HMF. If any modifications to existing facility equipment, structures, instruments, or procedures related to the management of this area are anticipated, UNC-CH will revise the Closure Plan accordingly.

Upon facility closure, UNC-CH will arrange for the transportation and disposal of containerized waste to a permitted TSD.

The HMF is the one permitted hazardous waste management unit at the UNC-CH facility. Closure of the Vyleater™, a former treatment unit at the HMF, was completed in 2005.

### **I-1c Maximum Waste Inventory**

The maximum amount of hazardous waste that will be stored in the HMF during normal operations for the life of the facility is as follows:

Building 488	638 gallons
Building 531	10,745 gallons

The majority of the hazardous waste, approximately 80 percent, generated at UNC-CH is described by six waste codes including: D001 (ignitable), F002 (spent halogenated solvents), F003 (spent non-halogenated solvents), F005 (spent non-halogenated solvents), D008 (toxicity characteristic for lead), and D022 (toxicity characteristic for chloroform). The remaining 20 percent of the waste may include toxicity characteristic (D-listed) wastes and discarded commercial chemical products (P- and U-listed) waste.

### **I-1d Schedule for Closure**

A closure schedule is shown on Figure I-1. UNC-CH will maintain the inspection schedule and log sheets located in Appendix C during the closure period.

#### **I-1d(1) Time Allowed for Closure**

All hazardous wastes will be removed and shipped off-site for disposal within 90 days from receipt of the final volume of hazardous waste at the HMF. All closure activities will be completed within 180 days from receipt of the final volume of hazardous waste. An extension may be requested at least 30 days prior to the expiration of either the 90-day or 180-day period, if warranted.

##### **I-1d(1)(a) Extensions for Closure Time**

UNC-CH does not anticipate that closure activities will exceed 180 days.

### **I-1e Closure Procedures**

#### **I-1e(1) Inventory Removal and Disposal or Decontamination of Equipment**

Removal of waste containers and decontamination of equipment will be supervised and performed by qualified personnel. Personnel will be equipped with appropriate personal protective equipment. Spill control absorbent will be available for use in the event of a spill during the waste removal process. Used spill control absorbent will be placed in DOT-certified containers located in the HMF and will be transported and disposed at a permitted TSD facility. Strict supervision will include a prohibition of open flames, hot surfaces, or smoking in the work areas. The University will take all steps necessary to prevent threats to human health and the environment while closure activities are being conducted.

The concrete floor, walls, and trenches in the HMF will be decontaminated by a combination of soap, water and steam cleaning. All wash waters, generated as a result of the cleaning process, will be collected in the trench drains and pumped by a portable pump into DOT-certified containers or a tank truck, sampled, analyzed, and sent off-site for disposal at a TSD facility. Alternatively, the wash water may be pumped to the sanitary sewer system if analyses demonstrate acceptability of such discharge to OWASA. The portable sump pump, safety cabinets, containment pans, funnels and other equipment will be decontaminated internally and externally with a detergent solution and rinsed with water. The wash water will be collected and disposed as described above.

If necessary, decontamination of personal protective equipment will be accomplished using a high pressure cleaner. A detergent solution will be utilized to clean the outside of all reusable protective clothing items. Water will be used to rinse these items and will be collected and properly disposed as described above.

After decontamination, equipment, protective clothing, floors and walls will be rinsed with water. The rinse water will be collected and a sample analyzed for the hazardous constituents managed in the units being closed to verify that decontamination was effective. The criteria for determining the effectiveness of decontamination will be the absence of hazardous constituents at concentrations that exceed the analytical method detection limit. At the time of closure, a decontamination workplan will be submitted to the NC DENR that may include other appropriate EPA or NC DENR clean-up levels applicable at the time of closure. However, at the time of closure, a workplan will be submitted to the NC DENR that may include other appropriate EPA or NC DENR clean-up levels applicable at the time of closure.

The decontamination process will be continued until the rinse water analytical results demonstrate that the HMF and associated equipment are not contaminated or meet approved cleanup levels.

#### **I-1e(2) Closure of Disposal Units**

This section is not applicable, as the HMF does not include waste piles, landfills, surface impoundments or miscellaneous disposal units in which wastes or contaminated materials are to remain at closure.

#### **I-1e(3) Closure of Containers**

All hazardous waste containers will be transported off-site to a permitted TSD facility by a licensed transporter. The HMF, personal protective equipment, and other equipment and supplies will be decontaminated, as described in I-1e(1).

#### **I-1e(4) Closure of Tanks**

This section is not applicable, as the HMF does not have tanks.

**I-1e(5) Closure of Waste Piles**

This section is not applicable, as the HMF does not have waste piles.

**I-1e(6) Closure of Surface Impoundments**

This section is not applicable, as the HMF does not have a surface impoundment.

**I-1e(7) Closure of Incinerators**

This section is not applicable, as the HMF does not have an incinerator.

**I-1e(8) Closure of Landfills**

This section is not applicable, as the HMF does not have a landfill.

**I-1e(9) Closure of Land Treatment**

This section is not applicable, as the HMF does not have land treatment areas.

**I-1e(10) Closure of Miscellaneous Units**

Removal, disposal and decontamination of the HMF will be performed as described in I-1e(1).

**I-2 POST-CLOSURE PLANS [40 CFR 270.14(b)(13)]**

A Post-Closure Plan is not required for this facility. All waste materials will be removed from the site at closure.

**I-3 NOTICES REQUIRED FOR DISPOSAL FACILITIES [40 CFR 270.14(b)(14)]**

Notice in the deed is not required. All waste materials will be removed from the site at closure.

**I-4 CLOSURE COST ESTIMATE [40 CFR 270.14(b)(15)]**

A closure cost estimate is not required with this application as 264.140(c) exempts State and Federal Government agencies from the financial requirements of 264 Subpart H.

**I-5 FINANCIAL ASSURANCE MECHANISM FOR CLOSURE [40 CFR 270.14(b)(15)]**

UNC-CH is not required to demonstrate financial assurance for closure as 264.140(c) exempts State and Federal Government agencies from the Financial Requirements of 264 Subpart H.

**I-6 POST-CLOSURE COST ESTIMATE [40 CFR 270.14(b)(16)]**

UNC-CH is not required to prepare a post-closure cost estimate, as all waste materials will be removed from the site at closure.

**I-7 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE [40 CFR 270.14(b)(16)]**

UNC-CH is not required to provide a financial assurance mechanism for post closure as 264.140(c) exempts State and Federal Government agencies from the financial requirements of 264 Subpart H.

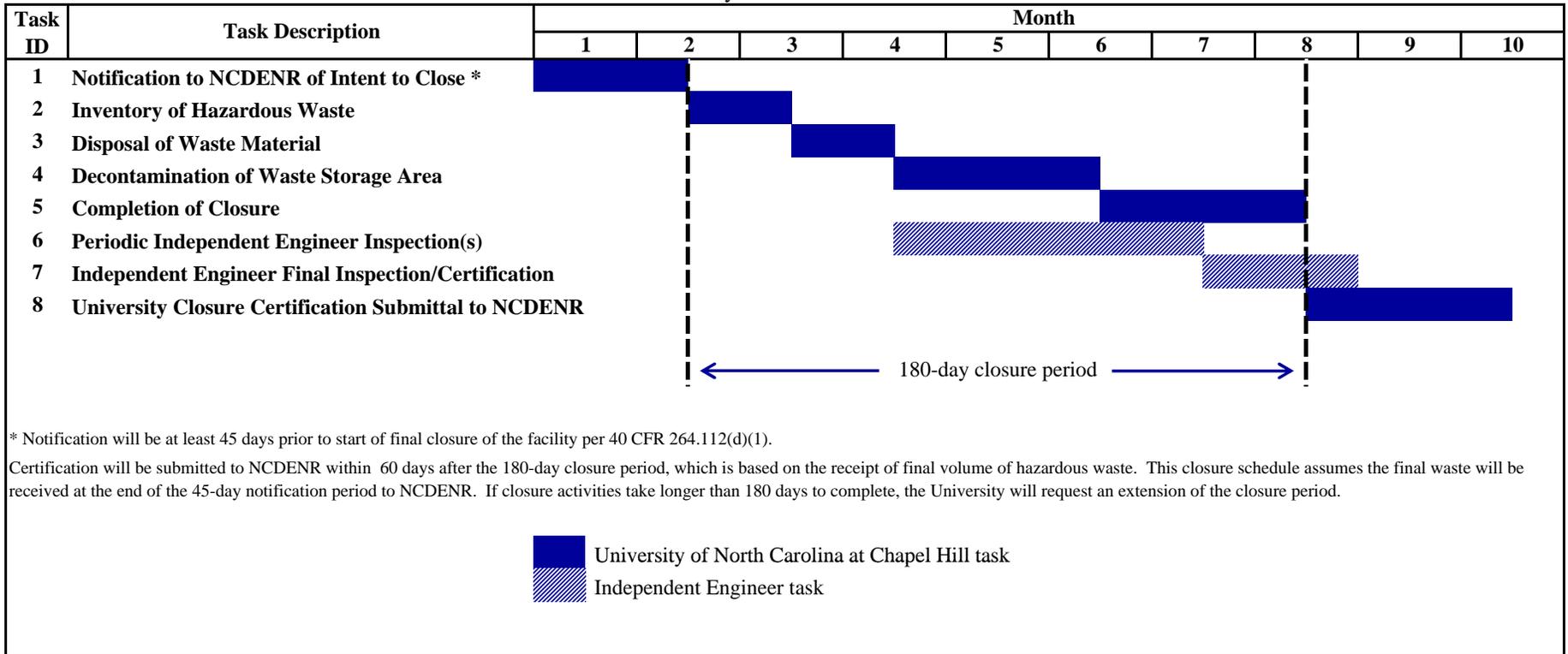
**I-8 LIABILITY REQUIREMENTS [40 CFR 270.14(b)(17)]**

UNC-CH is not required to demonstrate liability coverage as 264.140(c) exempts State and Federal Government agencies from the financial requirements of 264 Subpart H.

**I-9 STATE FINANCIAL MECHANISM [40 CFR 270.14(b)(18)]**

The use of an alternative State-required financial mechanism is not applicable as EPA does not administer 264 Subpart H in North Carolina.

**Figure I-1**  
 University of North Carolina at Chapel Hill  
 Facility Closure Schedule



# Section J

**SECTION J**

**OTHER FEDERAL LAWS**

The Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, and Fish and Wildlife Coordination Act do not apply to the existing HMF operated by UNC-CH.

# Section K

**SECTION K**

**CERTIFICATION**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Date:  Signature: 4/22/15

Title: Matthew M. Fajack, Vice Chancellor for Finance and Administration

# Section L

**SECTION L**

**INFORMATION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS**

This section is submitted according to the requirements of 40 CFR 270.14 (d) and presents facility information pertaining to SWMUs (Figure L-1). The following table lists all of the SWMUs and their current status. All of the SWMUs have been granted no further action status with the exception of SWMU #25. SWMU #25 (Building 531) is the facility’s RCRA-permitted storage unit and will be assessed during final closure.

SWMU Number	SWMU Name	Status	Date Status Achieved
1	Art Lab Storage Annex	No Further Action	December 7, 1989
2	Art Lab Wooden Shed		December 7, 1989
3	Art Lab Solid Waste Pile Area		December 7, 1989
4	Vehicle Service Station Oil Recovery System		September 2, 1992
5	Varnish Stripper/Recovery System		July 23, 1990
6	Paint Spray Booth and Vapor Recovery System		December 7, 1989
7	Former Varsol Storage Area		September 2003
8	Asbestos Waste Storage Drum		December 7, 1989
9	Container Storage Area		December 7, 1989
10	Masonry Shop Waste Area		September 2, 1992
11	HMF Pooling Room		July 23, 1990
12	HMF Storage Room		December 7, 1989
13	Former Mixed Waste Storage Area		December 7, 1989
14	HMF Compaction Room		December 7, 1989
15	Waste Pick-up Area		September 2, 1992
16	Empty Drum Storage Area		July 23, 1990
17	Lead Salvage Storage Area		December 7, 1989
18	University Surplus Property Storage Area		September 2, 1992
19	General Storeroom Waste Pickup Area		December 7, 1989
20	Art Lab Mixing Room		December 7, 1989
21	Inactive Solid Waste Landfill		March 15, 2013
22	Secondary Containment Catch Tank		September 2002
23	Surplus Property Former Underground Heating Oil Tank		March 6, 1992
24	Gasoline Underground Storage Tanks at the Service Station		January 30, 1996
25	Building 531	Operating; to be assessed during closure activities	May 14, 2003

**L-1 MINIMUM INFORMATION REQUIREMENTS FOR SWMUs AND AREAS OF CONCERN (AOCs)**

Prior to the issuance of the initial RCRA Part B Permit for this facility, a RCRA Facility Assessment (RFA) dated July 12, 1989, was conducted by NUS Corporation to identify SWMUs and AOCs. This report presented detailed information on SWMUs and AOCs and provided recommendations for further investigation.

The RFA identified and documented 20 SWMUs in the vicinity of the HMF. Four additional SWMUs (SWMUs 21 through 24) were later identified by UNC-CH personnel. SWMUs 21 and 25 (Building 531) were the only units that did not have a no further action (NFA) status at the time the last RCRA Part B Permit was issued in October 2005. Based on groundwater analytical results, SWMU 21 was reclassified as NFA by the Hazardous Waste Section on March 15, 2013. Building 531 is the facility's RCRA-permitted storage unit and will be assessed during final closure. Table L-1 provides a history of SWMU activities, and Table L-2 provides the SWMU/AOC summary.

Table L-1

## History of SWMU Related Events

RFA Report Completed by NUS on July 12, 1989.
On December 7, 1989 EPA requests additional information on SWMUs 4, 5, 11, 15, 16 and 18. EPA also requests that an RFI be done for SWMUs 7 and 10. No further action was required for SWMUs 1, 2, 3, 6, 8, 9, 12, 13, 14, 17, 19, and 20.
UNC provided additional information on SWMUs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 on December 19, 1989.
Confirmatory Sampling Work Plan for SWMUs 4, 10, 15, and 18 submitted on July 23, 1990. No further action required on SWMUs 5, 11, and 16.
EPA provides comments on the Confirmatory Sampling Workplan on May 3, 1991.
Revised Confirmatory Workplan submitted on July 9, 1991.
EPA provides comments on Revised Confirmatory Workplan.
Revised Confirmatory Sampling Workplan submitted on June 18, 1992.
Confirmatory Sampling Workplan approved by EPA on September 2, 1992. No further action was required for SWMUs 4, 10, 15, and 18.
Confirmatory Sampling Report submitted on October 23, 1992.
Confirmatory Sampling Report approved by EPA on December 4, 1992.
RFI Workplan submitted to EPA in late 1992 for SWMUs 7 and 21.
RFI Workplan approved by EPA on September 10, 1993.
RFI Report submitted to EPA on May 26, 1994.
NOTI on the RFI report issued to UNC-CH on December 12, 1994.
Second RFI report submitted to EPA on May 10, 1995.
NOTI on the second RFI report issued to UNC-CH on December 30, 1996.
In response to the NOTI, the Phase II RFI Addendum Groundwater Assessment at SWMU #21 Workplan was submitted to EPA on March 31, 1997.
The Phase II RFI Addendum Groundwater Assessment at SWMU #21 Workplan was approved on August 28, 1997.
Results of the Phase II RFI Groundwater Assessment at SWMU #21 submitted to NCDENR on December 15, 1997.
NCDENR provided comments on the RFI Report (Phase II RFI Groundwater Assessment) for SWMU #21 on November 30, 1998.
Expanded Phase II RFI Workplan for SWMU #21 submitted to NCDENR on January 15, 1999.
Interim Measures Workplan for SWMU #7 was submitted to EPA in April 1997.
Comments from NCDENR on Interim Corrective Measures Workplan for SWMU #7 sent to UNC-CH on September 14, 1998. Final Assessment and Closure Report for SWMU #7 was completed in 2004.
Revised Interim Corrective Measures Workplan for SWUM #7 submitted to NDENR on October 14, 1998.
Tank Closure Report submitted to NCDENR in November 1992 and Site Remediation Report submitted on April 2, 1998 for SWMU #23.
Comprehensive Site Assessment Report submitted October 31, 1995 for SWMU #24.
SWMU #16 closed by excavating soils and performing confirmatory sampling during September 2002.
SWMU #22 closed by excavation of three underground concrete tanks and adjacent soils and performing confirmatory sampling during September 2002.
SWMU #7 closed by performing confirmatory sampling during September 2003.
Groundwater Monitoring Report for SWMU #21 was submitted to NCDENR on August 1, 2006.

**Table L-2**  
**Solid Waste Management Unit and**  
**Area of Concern Summary**

1. List of Solid Waste Management Units that required an RFI and have subsequently received no further action status.

<u>SWMU No.</u>	<u>Description</u>
7	Former Varsol Storage Area
21	Inactive Solid Waste Landfill

2. List of Solid Waste Management Units and Areas of Concern that Required Confirmatory Sampling that have subsequently received no further action status.

<u>SWMU No.</u>	<u>Description</u>
4	Vehicle Service Station Oil Recovery System
10	Masonry Shop Waste Area
15	Waste Pick-up Area
18*	University Surplus Property Storage Area

3. List of Solid Waste Management Units and Areas of Concern with No Known Releases.

<u>SWMU No.</u>	<u>Description</u>
1	Art Lab Storage Annex
2	Art Lab Wooden Shed
3*	Art Lab Solid Waste Pile Area
5*	Varnish Stripper/Recovery System
6	Paint Spray Booth and Vapor Recovery System
8	Asbestos Waste Storage Drum
9	Container Storage Area
11	HMF Pooling Room
12	HMF Storage Room
13	Former Mixed Waste Storage Area (HMF Distillation Room in RFA Report)
14	HMF Compaction Room
16*	Empty Drum Storage Area
17*	Lead Salvage Storage Area
19	General Storeroom Waste Pickup Area
20	Art Lab Mixing Room
22	Secondary Containment Catch Tank
23	Surplus Property Former Underground Heating Oil Tank
24	Gasoline Underground Storage Tanks at the Service Station
25	Building 531

\* For simplification, areas of concern have been titled with SWMU numbers.

The SWMU Data Sheets at the end of this section present information on all 24 SWMUs associated with the UNC-CH HMF.

**L-2 RFA Report Requirements**

The SWMU Data Sheets for all SWMUs are presented below.

**SWMU DATA SHEET**

Page 1 of 1

SWMU NUMBER: **1**

NAME: Art Lab Storage Annex

TYPE OF UNIT: This unit is a prefabricated metal trailer building used as general storage for Building 462, the Art Laboratory Building.

PERIOD OF OPERATION: 1987 to the present.

PHYSICAL DESCRIPTION AND CONDITION: This unit is approximately 10 x 80 feet and is located south of the Art Laboratory Building. There are two door entries, no windows and no ventilation. During the RFA, all potentially hazardous materials were contained within plastic, glass, or metal containers that were capped and topped. The metallic building protects wastes from direct exposure to outdoor elements. The building sits on an asphalt lot.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: At the time of the RFA, the building contained photographic chemicals, 2-thiobarbituric acid, acetic acid, boric acid, sodium dithronate, balanced alkali, propanol, antifreeze, concrete mix, gasoline, and propane. Maintenance equipment and furniture were also present.

RELEASE PATHWAYS: Air ( ) Surface Water ( ) Soil ( )

Groundwater ( ) Subsurface Gas ( )

HISTORY AND/OR EVIDENCE OF RELEASE(S): UNC-CH officials knew of no past releases from this unit. There is no documented evidence among EPA or state of North Carolina file material stating that a release has occurred.

RECOMMENDATIONS:

No Further Action	(X)
Confirmatory Sampling	( )
RFI Necessary	( )

REFERENCES: NUS Corporation, 1989, Final Environmental Priorities Initiative Preliminary Assessment of University of North Carolina – Chapel Hill, Estes Drive, Chapel Hill, North Carolina, EPA ID # NCD982093783

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

COMMENTS: EPA concurred on December 7, 1989 that no further action was required for this SWMU.





**SWMU DATA SHEET**

Page 1 of 1

**SWMU NUMBER: 4**

**NAME:** Vehicle Service Station Oil Recovery System

**TYPE OF UNIT:** This unit consists of an indoor funnel drain that directs used oil via gravity flow to a 550-gallon underground storage tank.

**PERIOD OF OPERATION:** This unit was first installed in 1982 and was replaced with a new tank in 1996. SWMU # 4 is currently in operation.

**PHYSICAL DESCRIPTION AND CONDITION:** The 550-gallon used oil tank is fed via gravity flow from inside the Service Station. The tank meets NCDENR's requirements for underground storage tanks. Removal of oil from the tank is accomplished by vacuum suction from a recovery vehicle on an on-call basis. The oil is recovered for recycling.

**WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:**

The tank contains used oil for recycling.

**RELEASE PATHWAYS:** Air ( )      Surface Water ( )      Soil (X)  
Groundwater ( )      Subsurface Gas ( )

**HISTORY AND/OR EVIDENCE OF RELEASE(S):** During the RFA, visual observation noted a small stained area of soil approximately 16 square inches around the intake/recovery line of the storage tank. The discolored soil on the ground surface at the fill pipe was removed in 1992 and the soil was disposed of as hazardous waste. There is no documentation among EPA or state of North Carolina file material concerning other releases from this unit.

The 1982 used oil tank was replaced with a new 550-gallon used oil tank in 1996. During tank closure and replacement activities, no evidence of a release was present.

**RECOMMENDATIONS:**  
No Further Action (X)  
Confirmatory Sampling ( )  
RFI Necessary ( )

**REFERENCES:** NUS Corporation, 1989, Final Environmental Priorities Initiative Preliminary Assessment of University of North Carolina – Chapel Hill, Estes Drive, Chapel Hill, North Carolina, EPA ID # NCD982093783.

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

University of North Carolina at Chapel Hill, 1992, Confirmatory Sampling Report, EPA ID/Permit No. NCD982093783.

**COMMENTS:** EPA concurred on September 2, 1992 that no further action was required for this SUMU.

**SWMU DATA SHEET**

Page 1 of 2

**SWMU NUMBER: 5**

**NAME:** Varnish Stripper/Recovery System

**TYPE OF UNIT:** This unit was an indoor metal dip tank containing varnish stripper into which furniture was placed and stripped. An underground tank beneath this unit collected and held the varnish stripper when the dip tank was not being used.

**PERIOD OF OPERATION:** The unit was in use from 1978 until 1989.

**PHYSICAL DESCRIPTION AND CONDITION:** The unit included a dip tank that was used to strip varnish from classroom chairs and desks. The top of the tank was open with a hinged cover that was closed when the unit was not in operation. The dip tank was approximately 6 feet by 5 feet by 3 feet deep. Within the tank, the furniture was lowered for immersion into the varnish stripper solution on a 6 by 5 foot open metal tray. When the dip tank was not being used, the stripper solution was transferred via an electric pump to a 500-gallon underground storage tank. The tank held the stripper between uses. Gases associated with the stripping process were vented to the outside air.

In 1989 the metal dipping structure and the electric pump were removed and the varnish stripper was pumped from the underground tank. The underground tank was closed in place.

**WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:**

The material used was paint stripper, Wash-Off Thinner #YYT0018 manufactured by Valspar Corporation.

**RELEASE PATHWAYS:** Air  Surface Water  Soil   
Groundwater  Subsurface Gas

**HISTORY AND/OR EVIDENCE OF RELEASE(S):** UNC-CH personnel acknowledged that the ventilation of gases from this unit to the outdoor ambient air was typical of the stripping process. No tests of the air are documented for the unit. There is no documented evidence among EPA or state of North Carolina file material stating that a release had occurred.

**RECOMMENDATIONS:**

No Further Action	<input checked="" type="checkbox"/>
Confirmatory Sampling	<input type="checkbox"/>
RFI Necessary	<input type="checkbox"/>

**REFERENCES:** NUS Corporation, 1989, Final Environmental Priorities Initiative Preliminary Assessment of University of North Carolina – Chapel Hill, Estes Drive, Chapel Hill, North Carolina, EPA ID # NCD982093783

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

**SWMU DATA SHEET**

Page 2 Of 2

SWMU NUMBER: **5**

NAME: Varnish Stripper/Recovery System

COMMENTS: The underground tank was tightness tested as part of closure activities and was found to be in good condition. Soil samples were collected from below the underground tank and analyzed for volatile organic compounds by Method 8240 plus ethyl alcohol and dimethyl ketone. All analytes were below quantitation limits. A contractor cut the underground tank open, removed the sludge, and abandoned the tank in place. The sludge was disposed of as hazardous waste.

No further action was deemed appropriate by EPA in accordance with the Confirmatory Sampling Work Plan of July 23, 1990.



**SWMU DATA SHEET**

Page 1 of 2

SWMU NUMBER: 7

NAME: Former Varsol Storage Area

TYPE OF UNIT: This unit consisted of a 250-gallon above ground tank used to store liquid paint wastes generated by the Facility Services Paint Shop.

PERIOD OF OPERATION: University employees estimate that this unit began operation in 1986. The date that the unit ceased operation is not known.

PHYSICAL DESCRIPTION AND CONDITION: The 250-gallon tank formerly located northeast of building 477 was used for storage of paint wastes. The tank sat on a concrete pad. The tank was subsequently moved to another area and the procedures for varsol use and disposal were modified. The former varsol storage area is now covered by grass.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: Wastes associated with this unit were varsol, paint sludge, and solvents generated during painting activities. Results from the RFI investigation indicated that varsol was present in soil samples collected at SWMU #7.

RELEASE PATHWAYS: Air ( )      Surface Water ( )      Soil (X)  
Groundwater ( )      Subsurface Gas ( )

HISTORY AND/OR EVIDENCE OF RELEASE(S): Some spillage may have occurred during the manual waste input process. Results from the RFI investigation indicated that varsol was present in four soil samples collected at SWMU #7. RFI Soil samples collected at depths greater than 10 feet below land surface did not contain detectable petroleum hydrocarbons and ground water was not detected in any of the soil borings.

RECOMMENDATIONS:      No Further Action (after Confirmatory Sampling)      (X)  
   Confirmatory Sampling      ( )  
   RFI Necessary      ( )

**SWMU DATA SHEET**

Page 2 of 2

SWMU NUMBER: 7

NAME: Former Varsol Storage Area

REFERENCES: NUS Corporation, 1989, Final Environmental Priorities Initiative Preliminary Assessment of University of North Carolina – Chapel Hill, Estes Drive, Chapel Hill, North Carolina, EPA ID # NCD982093783.

Geraghty & Miller, Inc., 1995, RCRA Facility Investigation (RFI) Report for the University of North Carolina at Chapel Hill.

Geraghty & Miller, Inc., 1997, Interim Corrective Measures Workplan, The Former Varsol Tank Area – SWMU #7 at the University of North Carolina at Chapel Hill.

Arcadis Geraghty & Miller, 1998, Interim Corrective Measures Workplan, The Former Varsol Tank Area – SWMU #7 at The University of North Carolina at Chapel Hill.

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

COMMENTS: The closure of the SWMU #7 was performed during September 2003 at which time confirmatory soil sampling was performed showing no residual contamination.









**SWMU DATA SHEET**

Page 2 of 2

**SWMU NUMBER: 11**

NAME: HMF Pooling Room

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

COMMENTS: No further action was deemed appropriate by EPA in accordance with the Confirmatory Sampling Work Plan of July 23, 1990.



**SWMU DATA SHEET**

Page 2 of 2

**SWMU NUMBER: 12**

NAME: HMF Storage Room

REFERENCES: NCDENR, 1993, Class 2 RCRA Permit Modification Approval.

NUS Corporation, 1989, Final Environmental Priorities Initiative Preliminary Assessment of University of North Carolina – Chapel Hill, Estes Drive, Chapel Hill, North Carolina, EPA ID # NCD982093783

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

COMMENTS: EPA concurred on December 7, 1989 that no further action was required for this SWMU.

**SWMU DATA SHEET**

Page 1 of 1

**SWMU NUMBER: 13**

**NAME:** Former Mixed Waste Storage Area (HMF Distillation Room in RFA Report)

**TYPE OF UNIT:** Prior to construction of the Hazardous Waste Storage building, this area was used for storage of mixed wastes.

**PERIOD OF OPERATION:** The area was used for mixed waste storage from 1983 until 1991. From 1991 to the present the area has been used for bulking and lab-packing.

**PHYSICAL DESCRIPTION AND CONDITION:** During the RFA the unit was a 6 by 8 foot room with a concrete floor. In 1993 this room was remodeled and combined with the HMF Storage Room (SWMU 12). At the time of the RFA one floor drain led to a concrete catch tank. The tank was connected to the sanitary sewer system via a gate valve that was normally kept in the closed position. The floor drain to the underground containment tank was closed permanently in 1993 as a Class 2 permit modification. The building's sills were also raised to provide necessary secondary containment at Building 488. The area has no direct pathway to the outdoor environment other than building exits.

**WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:** At the time of the RFA, mixed wastes were stored in this room. Following remodeling in 1993, the entire array of wastes handled at the HMF facility may be present in this area at any given time.

**RELEASE PATHWAYS:** Air ( )      Surface Water ( )      Soil ( )  
Groundwater ( )      Subsurface Gas ( )

**HISTORY AND/OR EVIDENCE OF RELEASE(S):** University officials were unaware of past release incidents from this unit. There was no documentation among EPA or state of North Carolina file material stating that a release to the environment has occurred from this unit. Visual observation also failed to reveal evidence of a threat to the environment.

**RECOMMENDATIONS:**

No Further Action	(X)
Confirmatory Sampling	( )
RFI Necessary	( )

**REFERENCES:** NCDENR, 1993, Class 2 RCRA Permit Modification Approval.

NUS Corporation, 1989, Final Environmental Priorities Initiative Preliminary Assessment of University of North Carolina – Chapel Hill, Estes Drive, Chapel Hill, North Carolina, EPA ID # NCD982093783

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

**COMMENTS:** EPA concurred on December 7, 1989 that no further action was required for this SWMU.





**SWMU DATA SHEET**

Page 2 of 2

**SWMU NUMBER: 15**

NAME: Waste Pick-up Area

REFERENCES: NUS Corporation, 1989, Final Environmental Priorities Initiative Preliminary Assessment of University of North Carolina – Chapel Hill, Estes Drive, Chapel Hill, North Carolina, EPA ID # NCD982093783

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

University of North Carolina at Chapel Hill, 1992, Confirmatory Sampling Report, EPA ID/Permit No. NCD982093783.

COMMENTS: EPA concurred on September 2, 1992 that no further action was required for this SWMU.







**SWMU DATA SHEET**

Page 2 of 2

**SWMU NUMBER: 18**

**NAME:** University Surplus Property Storage Area

University of North Carolina at Chapel Hill, 1989, Appendix to the Part B Application, EPA ID Number NCD982093783.

**REFERENCES:** University of North Carolina at Chapel Hill, 1992, Confirmatory Sampling Report, EPA ID/Permit No. NCD982093783.

Letter from Donald G. Willhoit to Mr. James Scarborough providing notification of a pump oil spill, 1990.

**COMMENTS:** EPA concurred on September 2, 1992 that no further action was required for this SWMU.

















Estes Drive Extension

Radioactive Waste Storage Building

Hazardous Materials Facility

Building 650

EHS Building

Surplus Warehouse

Facilities Drive

Facility Construction Shop

General Storeroom

Giles F. Horney Building

Giles F. Horney Annex

Service Station

Facilities Support

Airport Drive

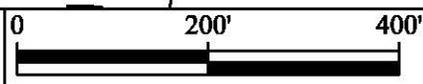
Martin Luther King, Jr. Blvd.

Art Classroom Lab Building 462

Storage Annex

**Legend**

- ① SWMU Locations
- Outline of On-site Buildings
- Site Property Boundary
- Parcel Boundaries
- Outline of Off-site Buildings



**Solid Waste Management Unit (SWMU) Location Map**  
The University of North Carolina - Chapel Hill  
Chapel Hill, North Carolina

Figure

**DUNCKLEE & DUNHAM**  
ENVIRONMENTAL GEOLOGISTS & ENGINEERS

Drawn By: jak	Checked By:	Project Number: 201449	Date: March 2015	References: <small>Orange County GIS; Surface Figure L-1 (2005)</small>
Scale: 1" = 200'	Size: 8.5" x 11"	Layers: 0,1,5,6,7	Filename: P:\UNC-Chapel Hill\CRA Part B Removal - 201449\CAD	

L-1

# Section M

**SECTION M**

**CLOSURE EQUIVALENCY DETERMINATION**

The requirements of this section do not apply because UNC-CH does not manage hazardous wastes in surface impoundments, land treatment units or waste piles.

# Section N

## SECTION N

### **SUBSTANTIAL COMPLIANCE AND FINANCIAL QUALIFICATION**

The requirements of this section do not apply because UNC-CH does not manage hazardous wastes in surface impoundments, land treatment units or waste piles.

#### **N-1 GENERAL INFORMATION**

The University of North Carolina at Chapel Hill is a public institution of higher learning.

The title and addresses of offices as they relate to operations of the HMF are:

Office of the Chancellor  
The University of North Carolina at Chapel Hill  
103 South Building  
Chapel Hill, North Carolina 27599

Vice Chancellor for Finance and Administration  
The University of North Carolina at Chapel Hill  
302 South Building  
Chapel Hill, North Carolina 27599

Associate Vice Chancellor for Campus Safety  
The University of North Carolina at Chapel Hill  
3<sup>rd</sup> Floor South Building  
Chapel Hill, North Carolina 27599

Environmental Affairs Manager  
The University of North Carolina at Chapel Hill  
1120 Estes Drive Extension  
Chapel Hill, North Carolina 27599

The HMF is an existing facility owned by UNC-CH and located at:  
1085 Facilities Drive  
Buildings 488 and 531  
Chapel Hill, NC 27599-1605.

#### **N-2 SUBSTANTIAL COMPLIANCE**

The HMF has operated in accordance with sound management practices and in substantial compliance with federal and state laws, regulations, and rules. A Detailed Facility Report for UNC-CH from the Enforcement and Compliance History Online (ECHO) website is included at the end of this section.

**N2a In-state Facilities**

The ECHO report for UNC-CH is included at the end of this section.

**N2b Out-of-state Facilities**

Not applicable.

**N-3 FINANCIAL QUALIFICATIONS**

The *2014 Comprehensive Annual Financial Report* for the University of North Carolina at Chapel Hill is included at the end of this section.

**N-4 JUSTIFICATION OF NEED**

UNC-CH is not a commercial facility.

## **COMPLIANCE HISTORY**

Menu



# Detailed Facility Report

## Facility Summary

**UNIVERSITY OF NORTH CAROLINA CHAPEL HILL  
488 ESTES DRIVE, CHAPEL HILL, NC 27514** ⓘ

### Facility Information (FRS)

FRS ID: 110001103001  
EPA Region: 04  
Latitude: 35.935027  
Longitude: -79.044009  
Locational Data Source: FRS  
Industry:  
Indian Country: N

### Regulatory Interests

Clean Air Act: No Information  
Clean Water Act: No Information  
Resource Conservation and Recovery Act: Active (HPA ) LQG Operating TSDF TSDF Transporter  
(NCD982093783)  
Safe Drinking Water Act: No Information

### Also Reports

Air Emissions Inventory (EIS): No Information  
Greenhouse Gas Emissions (eGGRT): No Information  
Toxic Releases (TRI): No Information

## Enforcement and Compliance Summary

Statute	Insp (5 Years)	Date of Last Inspection	Current Compliance Status	Qtrs in NC (of 12)	Qtrs in Significant Violation	Informal Enforcement Actions (5 years)	Formal Enforcement Actions (5 years)	Penalties from Formal Enforcement Actions (5 years)	EPA Cases (5 years)	Penalties from EPA Cases (5 years)
RCRA 8		09/16/2014	<b>No Violation</b>	0	0					

## Facility/System Characteristics

### Facility/System Characteristics

Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
	110001103001					N	35.935027	-79.044009
RCRA	NCD982093783	LQG Operating TSDF TSDF Transporter	Active (HPA )			N	35.934526	-79.043047

### Facility Address

System	Identifier	Facility Name	Facility Address
FRS	110001103001	UNIVERSTIY OF NORTH CAROLINA CHAPEL HILL	488 ESTES DRIVE, CHAPEL HILL, NC 27514
RCR	NCD982093783	THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	1000 -A ESTES DRIVE EXTENSION, CHAPEL HILL, NC 27599-1650

### Facility SIC Codes

System	Identifier	SIC Code	SIC Desc
No data records returned			

### Facility NAICS Codes

System	Identifier	NAICS Code	NAICS Desc
RCR	NCD982093783	61131	

### Facility Tribe Information

Tribal Name	EPA Tribal ID	Distance to Tribe (miles)
No data records returned		

## Enforcement and Compliance

### Compliance Monitoring History (5 years)

Statute	Source ID	System	Inspection Type	Lead Agency	Date	Finding
RCRA	NCD982093783	RCR	NON-FINANCIAL RECORD REVIEW	State	11/07/2012	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	EPA	05/26/2010	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	NON-FINANCIAL RECORD REVIEW	State	07/31/2012	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	State	08/23/2013	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	EPA	09/16/2014	Undetermined, Agency May Still be Determining
RCRA	NCD982093783	RCR	NON-FINANCIAL RECORD REVIEW	State	04/20/2012	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	State	09/13/2011	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	EPA	09/13/2011	Undetermined, Agency May Still be Determining
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	State	09/06/2012	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	State	05/26/2010	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	NON-FINANCIAL RECORD REVIEW	State	02/25/2011	No Violations Or Compliance Issues Were Found

Statute	Source ID	System	Inspection Type	Lead Agency	Date	Finding
RCRA	NCD982093783	RCR	NON-FINANCIAL RECORD REVIEW	State	06/20/2012	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	NON-FINANCIAL RECORD REVIEW	State	01/30/2013	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	NON-FINANCIAL RECORD REVIEW	State	11/01/2011	No Violations Or Compliance Issues Were Found
RCRA	NCD982093783	RCR	COMPLIANCE EVALUATION INSPECTION ON-SITE	EPA	09/06/2012	No Violations Or Compliance Issues Were Found

Entries in italics are not considered inspections in official counts.

## Compliance Summary Data

Statute	Source ID	Current SNC/HPV	Description	Current As Of	Qtrs in NC (of 12)
RCRA	NCD982093783	No		03/01/2015	0

## Three Year Compliance Status by Quarter

Statute	Program/Pollutant/Violation Type	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12
	<b>RCRA (Source ID: NCD982093783)</b>	04/01-06/30 2012	07/01-09/30 2012	10/01-12/31 2012	01/01-03/31 2013	04/01-06/30 2013	07/01-09/30 2013	10/01-12/31 2013	01/01-03/31 2014	04/01-06/30 2014	07/01-09/30 2014	10/01-12/31 2014	01/01-03/31 2015
RCRA Facility-Level Status													

## Informal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date
No data records returned				

## Formal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date	Penalty	Penalty Description
No data records returned						

## ICIS Case History (5 years)

Primary Law/Section	Case No.	Case Type	Lead Agency	Case Name	Issued/Filed Date	Settlement Date	Federal Penalty	State/Local Penalty	SEP Cost	Comp Action Cost
No data records returned										

## Environmental Conditions

### Water Quality

Permit ID	Watershed (HUC 8)	Watershed Name (HUC 8)	Watershed (HUC 12)	Watershed Name (HUC 12)	Receiving Waters	Impaired Waters	Combined Sewer System?
11000110300103030002		HAW	030300020603	Little Creek		No	

### Air Quality

Non-Attainment Area?	Pollutant(s)
Yes	Ozone
No	Lead
No	Particulate Matter

## Pollutants

## TRI History of Reported Chemicals Released in Pounds per Year at Site

TRI Facility ID	Year	Total Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs	Underground Injections	Releases to Land	Total On-site Releases	Total Off-site Releases
-----------------	------	---------------------	--------------------------	-----------------------------	------------------------	------------------	------------------------	-------------------------

No data records returned

## TRI Total Releases and Transfers in Pounds by Chemical and Year

Chemical Name
---------------

No data records returned

## Demographic Profile

### Demographic Profile of Surrounding Area (3 Miles)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 US Census and American Community Survey data, and are accurate to the extent that the facility latitude and longitude listed below are correct. The latitude and longitude are obtained from the EPA Locational Reference Table (LRT) when available.

Radius of Area:	3	Land Area:	99%	Households in Area:	24,274
Center latitude:	35.934526	Water Area:	1%	Housing Units in Area:	26,254
Center Longitude:	-79.043047	Population Density:	2,331/sq.mi.	Households on Public Assistance:	179
Total Persons:	65,603	Percent Minority:	32%	Persons Below Poverty Level:	19,601
Race Breakdown		Persons (%)		Age Breakdown	
White:	47,203 (71.95%)	Child 5 years and younger:		2,862 (4.36%)	
African-American:	6,759 (10.3%)	Minors 17 years and younger:		11,349 (17.3%)	
Hispanic-Origin:	5,398 (8.23%)	Adults 18 years and older:		54,255 (82.7%)	
Asian/Pacific Islander:	7,053 (10.75%)	Seniors 65 years and older:		5,770 (8.8%)	
American Indian:	226 (.34%)				
Other/Multiracial:	4,362 (6.65%)				
Education Level (Persons 25 & older)		Persons (%)		Income Breakdown	
Less than 9th Grade:	1,212 (3.54%)	Less than \$15,000:		4,694 (19.06%)	
9th through 12th Grade:	1,035 (3.03%)	\$15,000 - \$25,000:		2,364 (9.6%)	
High School Diploma:	3,141 (9.18%)	\$25,000 - \$50,000:		5,256 (21.34%)	
Some College/2-yr:	4,579 (13.39%)	\$50,000 - \$75,000:		2,932 (11.91%)	
B.S./B.A. or More:	24,231 (70.86%)	Greater than \$75,000:		9,380 (38.09%)	

**2014 COMPREHENSIVE ANNUAL FINANCIAL REPORT**



The University of North Carolina at Chapel Hill

# 2014 Comprehensive Annual Financial Report

**FISCAL YEAR ENDED  
JUNE 30, 2014**

**CHAPEL HILL,  
NORTH CAROLINA**

A CONSTITUENT INSTITUTION  
OF THE UNIVERSITY OF  
NORTH CAROLINA SYSTEM,  
A COMPONENT UNIT OF  
THE STATE OF NORTH CAROLINA



The University of North Carolina at Chapel Hill

## 2014 Comprehensive Annual Financial Report

**FISCAL YEAR ENDED  
JUNE 30, 2014**

**CHAPEL HILL,  
NORTH CAROLINA**

PREPARED BY THE  
CONTROLLER'S OFFICE



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# Introductory Section

# Message from the Chancellor

November 14, 2014



**IN CAROLINA'S 21ST YEAR, ONE THING IS VERY CLEAR: WE HAVE MUCH TO BE THANKFUL FOR.**

The accomplishments of our faculty, students and staff continue to reflect the enterprising ambitions of Tar Heels who truly work to make the world a better place for a new generation.

We are proud that this summer a column in the *New York Times* cited us as the third most economically

diverse university, a national recognition of our bedrock principles of accessibility and affordability.

Indeed, Carolina remains one of the few American public universities that is both need-blind and meets 100 percent of demonstrated need. This commitment stems from our roots as the nation's first public university and respect for the investment our state has made in us, and we intend to honor it for decades to come.

Faculty brought in nearly \$783 million in research contracts and grants in fiscal 2014, up nearly \$15 million from 2013. Such research excellence drives significant economic growth and job creation in North Carolina, and allows major funding partners to continue to make investments in our faculty. Our researchers create technologies and innovations that are catalysts for new industries, accelerate progress toward a cure for diseases such as AIDS, and help target U.S. spending on global health threats. These funding partnerships and our expanding portfolio are part of a new era at Carolina that will help define us as a leading 21st century public research university.

The past year was our second best ever for fundraising. Gifts increased by 9 percent to \$297.5 million. New commitments were up 9 percent. As a result, we added five new endowed professorships, plus 58 undergraduate scholarships and graduate fellowships. This success reflects the confidence that students, parents, alumni and other loyal supporters have in the University's future.

We are balancing these accomplishments with the challenges posed by the results of an independent investigation conducted by former federal prosecutor Kenneth Wainstein into past academic irregularities. We have already implemented many reforms to address the issues identified by Mr. Wainstein's report, and will continue to focus on ensuring nothing like this ever happens again. This is a significant chapter in our history, but we will not let it define us—and we will increase our efforts to support the daily mission of our University and focus on the experiences and success of our students, faculty and staff.

We appreciate the General Assembly's hard work during the 2014 short session to provide University employees with a much-needed pay increase, as well as the flexibility to reward deserving faculty with existing funds. State support has always been a critical part of our ability to attract and retain the best and brightest scholars who will educate the next generation of leaders and inventors.

UNC-Chapel Hill is committed to delivering excellent and affordable public higher education to its students, and supporting its outstanding faculty and staff, regardless of fiscal climate. Our campus community stands ready to work with the General Assembly and Governor McCrory in the 2015 long session to ensure that Carolina—and the entire university system—remains competitive in the state, national and global environment.

It is the privilege of my career to be chancellor of one of the greatest universities in America. I am prouder than ever to be a Tar Heel and excited about what our campus community is accomplishing—and where we are headed.

Carol L. Folt

# Letter of Transmittal

November 14, 2014



**TO CHANCELLOR FOLT, MEMBERS OF THE BOARD OF TRUSTEES, AND FRIENDS OF THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL:**

This Comprehensive Annual Financial Report (CAFR) includes the financial statements for the year ended June 30, 2014, as well as other useful information that helps ensure the University's accountability to the public. Responsibility for the accuracy of the information and for the

completeness and fairness of its presentation, including all disclosures, rests with the University's management. We believe the information is accurate in all material respects and fairly presents the University's financial position, revenues, expenses, and other changes in net position.

We believe our system of internal controls is sound and sufficient to disclose material deficiencies in controls to the auditors and the audit committee and to provide management with reasonable, although not absolute, assurance that assets are safeguarded against loss from unauthorized use or disposition. Because the cost of a control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance, that the financial statements are free of any material misstatements. The University is a participant in the Business Compliance Program. This program is a collaborative project sponsored by the UNC System's General Administration that seeks to strengthen internal controls in the finance areas to ensure financial integrity and accountability and meet the requirements of *Enhancing Accountability in Government through Leadership and Education (EAGLE)*. EAGLE is the State's internal control program that was established by the Office of the State Controller to meet the requirements of House Bill 1551, Chapter 14SD "State Governmental Accountability and Internal Control Act."

State law, federal guidelines, and certain bond covenants require that the University's accounting and financial

records be audited by the Office of the State Auditor each year. The University's internal auditors also perform fiscal, compliance, and performance audits. The reports resulting from these audits are shared with University management. Internal and external audit reports are provided to the Finance and Infrastructure Committee of the Board of Trustees. The audit of the University's federal financial assistance programs is performed by the Office of the State Auditor in conjunction with the statewide Single Audit.

The CAFR includes Management's Discussion and Analysis and all disclosures necessary for the reader to gain a broad understanding of the University's financial position and results of operations for the fiscal year ended June 30, 2014.

## Profile of the University

The University of North Carolina was anticipated by the first state constitution drawn up in 1776 directing the establishment of "one or more universities" in which "all useful learning shall be duly encouraged and promoted." The American Revolution intervened and it was not until 1789, the year that George Washington became president of the new nation, that the University was chartered by the General Assembly. On October 12, 1793, the cornerstone was laid for the first campus building.

Now in its third century, UNC Chapel Hill belongs to the select group of American and Canadian campuses forming the Association of American Universities. The University's academic offerings span more than 100 fields, including bachelor's, master's and doctoral degrees as well as professional degrees in dentistry, medicine, pharmacy and law. Five health schools which, with UNC Hospitals (a separate component unit of the State of North Carolina), comprise one of the nation's most complete academic medical centers are integrated with liberal arts, basic sciences and high-tech academic programs.

The accompanying financial statements present all funds belonging to the University and its component units. While the multi-campus University of North Carolina System's

Board of Governors has ultimate responsibility, the chancellor, the University's Board of Trustees, and the Board of Trustees of the Endowment Fund have both delegated and statutory responsibilities for financial accountability of the University's funds. For the fiscal year ended June 30, 2014, the University implemented Governmental Accounting Standards Board (GASB) Statement No. 65, *Items Previously Reported as Assets and Liabilities*, Statement No. 60, *Technical Corrections—2012—an amendment of GASB Statements No. 10 and No. 62*, Statement No. 67, *Financial Reporting for Pension Plans—an amendment of GASB Statement No. 25*, and Statement No. 70, *Accounting and Financial Reporting for Nonexchange Financial Guarantees*. GASB Statement No. 65 establishes accounting and financial reporting standards that reclassify, as deferred outflows and deferred inflows of resources, certain items that were previously reported as assets and liabilities and recognizes, as outflows of resources or inflows of resources, certain items that were previously reported as assets and liabilities. GASB Statement No. 66 resolves conflicting guidance that resulted from the issuance of Statement No. 54, *Fund Balance Reporting and Governmental Fund Type* and No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. GASB Statement No. 67 revises existing guidance for the financial records of most pension plans for state and local governments that are administered through trusts or equivalent arrangements. GASB Statement No. 70 provides new recognition, measurement, and disclosure guidance for state and local governments that extend or receive nonexchange financial guarantees.

The financial reporting entity for the financial statements is comprised of the University and 11 component units. Eight of these, although legally separate, are reported as if they were part of the University. These include The University of North Carolina at Chapel Hill Foundation Investment Fund, Inc. (Chapel Hill Investment Fund), UNC Investment Fund, LLC (UNC Investment Fund), UNC Intermediate Pool, LLC (UNC Intermediate Fund), UNC Management Company, Inc. (Management Company), The University of North Carolina at Chapel Hill Foundation, Inc. (UNC-CH Foundation), The Kenan-Flagler Business School Foundation (Business School Foundation), The School of Education Foundation, Inc. (School of Education Foundation), and U.N.C. Law



The University of North Carolina at Chapel Hill has received the award for reporting excellence for the past 19 years.

School Foundation, School of Education Foundation, Law Foundation, Arts and Sciences Foundation, Medical Foundation, Educational Foundation Trust, WUNC Radio, and the Athletic Department are each audited by a public accounting firm in addition to the State Auditor review. All audit reports are available for public inspection.

Other related foundations and similar non-profit corporations for which the University is not financially accountable are not part of the accompanying financial statements. The University of North Carolina at Chapel Hill is a constituent institution of the 17-campus University of North Carolina System, which is a component unit of the State of North Carolina and an integral part of the State's Comprehensive Annual Financial Report.

The University is responsible for controlling its budget and using the funds to fulfill its educational, research, and public service missions. It is also responsible for planning, developing, and controlling budgets and expenditures within authorized allocations in accordance with University, state, and federal policies and procedures. The University maintains budgetary controls to ensure compliance with provisions embodied in the annual appropriated budget approved by the North Carolina General Assembly, and as further directed by the Board of Governors. Project-length financial plans are adopted for capital projects.

After the budget has been approved by the chancellor and the Board of Governors, the University follows an established system of budgetary controls. Finance and Administration issues periodic interim budget statements to department heads to guide them in managing their

Foundation, Inc. (Law Foundation).

Separate financial statements for three other component units are reported based on GASB Statement No. 39. The Medical Foundation of North Carolina, Inc. (Medical Foundation), The Educational Foundation Scholarship Endowment Trust (Educational Foundation Trust), and The University of North Carolina at Chapel Hill Arts and Sciences Foundation, Inc. (Arts and Sciences Foundation) are legally separate, non-profit, tax-exempt organizations and are reported as discretely presented component units based on the nature and significance of their relationship to the University.

The accounting and financial records of the Chapel Hill Investment Fund, UNC-CH Foundation, UNC Investment Fund, UNC Intermediate Fund, Management Company, Business



budget allocations. Monthly financial reports are provided on each fund to individual managers responsible for the fund. Financial reports are also provided to the state. When actual conditions require changes to the budget, revisions are prepared and these revisions are appropriately approved and communicated to those affected. Changes to the budget are approved at the University level and/or the state level as required. Based on the state's management flexibility legislation, the University has received delegated authority for designated budget changes. The University maintains an encumbrance accounting system as another method to ensure that imposed expenditure constraints are observed.

#### Economic Condition

As noted in this letter last year, the economic improvement most forecasters were then expecting for North Carolina and the entire US during fiscal year 2013-2014 turned out to be fairly accurate. According to the Bureau of Labor Statistics, there were 4,398,480 people employed in North Carolina in June 2014, which represents an increase of 77,387 people or 1.8 percent on a seasonally adjusted basis from a year earlier. Over the same period, the unemployment rate in our state fell from 8.3 percent to 6.4 percent.

Non-farm payroll jobs also rose substantially over the year and increased by 79,300 jobs or 2.0 percent on a seasonally

adjusted basis from June 2013 to June 2014.

As would be expected from these healthy gains reported for both measures of employment, the overall income of North Carolina residents also posted strong growth over the fiscal year. The Bureau of Economic Analysis reported that total personal income in North Carolina reached a record high of \$384.3 billion at a seasonally adjusted annual rate in the second quarter of 2014, which represents an increase of \$14.5 billion or 3.8 percent from the second quarter of 2013. The growth only falls slightly below the national increase of 4.1 percent over the same time frame. Total personal income in North Carolina in the second quarter of 2014 made up 2.7 percent of the US total.

The Census Bureau reported on July 1, 2014 that the total population of North Carolina was a record 9,848,060 on July 1, 2013. There were 2,285,605 people under age 18, indicating an ample supply of applicants for admission for years to come. North Carolina's total population was 10th in the US, between Michigan and New Jersey.

Gross domestic product (GDP) for the state, the total value of all goods and services produced within the borders of North Carolina for final demand, was a record \$471.4 billion in 2013 according to the Bureau of Economic Analysis. That was 9th in the US, below New Jersey but a little ahead of both, Georgia (\$454.5 billion) and Virginia (\$452.6 billion).



As released by Bloomberg on October 10, 2014, the consensus among economic forecasters was for real GDP growth of 3.0 percent in the US over the four quarters from July 1, 2014 through June 30, 2015. If realized, that would be the highest growth rate since 2004-2005 and excellent news for the US, North Carolina and the University of North Carolina at Chapel Hill.

#### *Awards and Acknowledgements*

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the University for its CAFR for the fiscal year ended June 30, 2013. This was the 19th consecutive year that the University has been honored with this prestigious award. To receive a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized CAFR. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for one year. We believe our current CAFR continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Preparation of this CAFR in a timely manner would not have been possible without the coordinated efforts of the University community, with special assistance from the Chancellor's Office, the Office of the Executive Vice Chancellor and Provost, the Office of Sponsored Research, Student Affairs, Information Technology Services, University Development, University Communications, Institutional Research and Assessment, the Office of Scholarships and Student Aid, the Department of Athletics, and Dr. James F. Smith, Adjunct Professor of Business Administration in the Kenan-Flagler Business School. In addition, the Office of the State Auditor provided invaluable assistance.

**Matthew M. Fajack**  
*Chief Financial Officer and  
 Vice Chancellor for Finance Administration*

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

## Progress and Major Initiatives

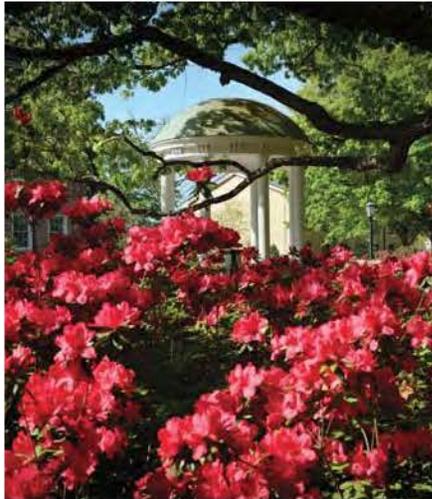
Fiscal Year 2013-2014

CAROLINA HAS EARNED A PLACE AMONG THE WORLD'S MOST RESPECTED PUBLIC UNIVERSITIES. EVERY DAY, STUDENTS, FACULTY AND STAFF IMPROVE THE LIVES OF PEOPLE ACROSS NORTH CAROLINA, THE NATION AND THE WORLD.



**Recent highlights include the following:**

- 1 Carolina enrolled almost 4,000 first-year students from a record 31,331 applicants. Nearly 18 percent were the first in their families to attend college.
- 2 Carolina ranked as the No. 1 value in U.S. public higher education for the 18th consecutive time based on academic excellence and affordability, according to Kiplinger's Personal Finance. The University was the only school on the magazine's list to meet 100 percent of financial need. Kiplinger's also designated Carolina "best in class" for lowest percentage of students who borrowed and for out-of-state value.
- 3 For the 14<sup>th</sup> consecutive year, UNC-Chapel Hill placed fifth among top public universities, as ranked in U.S. News and World Report's 2015 "America's Best Colleges Guidebook."
- 4 Carolina ranked 32<sup>nd</sup> among the world's top 500 research universities, according to the inaugural U.S. News and World Report "Best Global Universities" rankings.
- 5 Faculty brought in \$792.7 million in research contracts and grants in fiscal 2014, up \$14.9 million from 2013. Such research excellence continues to drive significant economic growth and job creation in North Carolina at the same time the faculty accelerate progress toward cures for diseases such as AIDS.
- 6 Carolina dedicated Muncie Hall, a 340,000-square-foot building that houses world-class imaging equipment, including a hybrid MRI/PET whole body scanner, a 7 Tesla MRI whole body scanner, and a cyclotron—a machine used to create the isotopes that researchers and clinicians use in cutting-edge imaging techniques.
- 7 Two internationally recognized faculty members—Joseph DeSimone, Chancellor's Eminent Professor of Chemistry, and Bryan Roth, Michael Hooker Distinguished Professor of Protein Therapeutics and Translational Proteomics—were elected to the Institute of Medicine, among the highest honors a U.S. scientist can receive in health and medicine.



- 8 Licensing technologies created at UNC-Chapel Hill generated more than \$7.9 million in fiscal 2014—more than double the highest amount of royalty income previously received in a single year. That number reflects licensing revenues by companies that use UNC-created technology and from the sale of stock held in successful start-ups.
- 9 The University attracted \$287.5 million in private gifts and grants in fiscal 2014. The total marked the second-best year in UNC history and was 8 percent higher than in 2013. Commitments (pledges and gifts) also were up 8 percent. These results helped create five endowed professorships as well as 68 undergraduate scholarships and graduate fellowships.
- 10 The Carolina Center for Public Service celebrated 15 years of connecting students, faculty and staff with communities across the state and far beyond. The center's initial task was to organize the campus response to Hurricane Floyd in 1999, and now its activities support service in 62 North Carolina counties.

## Accessibility/Affordability

### *New class, new faces: Meet the Class of 2018*

They've built schools around the world, published books, conducted research and apprenticed in family businesses. This year's incoming first-year class of 3,988 enrollees at UNC, coming from as far away as Singapore and as close to home as Chapel Hill, features award-winning scientists, artists, champion athletes—and the recipient of a Purple Heart. They are diverse, and they are talented.

Chosen from a record 31,331 applicants, they hail from 94 North Carolina counties, 38 states and the District of Columbia and 24 countries. An additional 800 students are joining the Carolina community as transfer students.

More than 77 percent graduated in the top 10 percent of their high school class, and just over 43 percent ranked within

the top 10 students in that class. More than 13 percent were valedictorian or salutatorian. The incoming class scored an average of 1320 on the SAT (critical reading and math).

Students who will be the first in their families to graduate from a four-year college or university comprise almost 18 percent of the class. Thirteen percent of those in the incoming class are Carolina Covenant Scholars, students from low-income backgrounds who earned a place at UNC and will have the opportunity to graduate debt-free.

Ninety-three percent participated in community service; 74 percent played a sport; 54 percent participated in music, drama or other arts; 48 percent held a position as president of their class or a club; and 28 percent conducted research outside the classroom.



- A After graduating from the North Carolina School of Science and Mathematics, **Ryan Katherine McCard** spent 5 months in Kenya on a Global Gap Year Fellowship.
- B **Carlos Cordero**—a veteran, husband and father of five sons—transferred to Carolina through Carolina Student Transfer Excellence Program (C-STEP) to major in peace, war and defense with a goal of becoming a military intelligence officer.
- C Passionate about public policy, **Andrew Brennan** chose Carolina for opportunities to make a difference through the Robertson Scholars Leadership Program.

**Carolina celebrates economic diversity**

Carolina ranked among the top three most economically diverse colleges nationally, further highlighting Carolina's commitment to providing an accessible education.

To measure top colleges' efforts on economic diversity, "The Upshot" column of The New York Times calculated a College Access Index based on the share of first-year students in recent years receiving a Pell Grant, as well as the net price of attendance for low- and middle-income families.

UNC was No. 1 among public universities and among an elite group including Vassar and Grinnell in the top two positions.



Above: Student Malcolm Wilkins, member Barbara Lucido and graduate Charles Harde celebrate the 10th anniversary of the Carolina Covenant Scholars Program. Below: students descend the staircase at the Karen-Flegler Business School.

**10 years and counting of Carolina Covenant**

In October, the Carolina Covenant Scholars Program celebrated 10 years of helping students from low-income families to fulfill their dreams of attending UNC without borrowing a penny.

One of the first—and among the last remaining—such programs in the nation, the Carolina Covenant promises that UNC will meet 100 percent of an eligible student's financial need with a combination of grants, scholarships and federal work-study funds.

Since 2004, the program has brought more than 5,300 students to Carolina and provided millions of dollars in tuition. The four-year graduation rate of low-income students has dramatically improved. Most notably, the rate for males climbed from 40 percent to 67.3 percent. The greatest improvement has been among African-American males, whose graduation rate jumped by 35 percent.

**Research/Innovation**

**Carolina research drives economic growth and job creation**

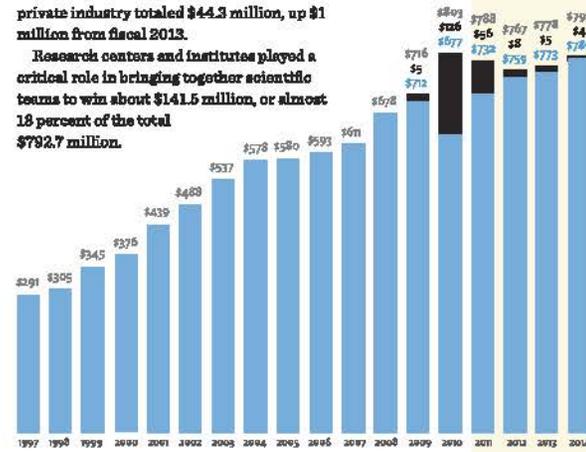


Carolina faculty brought in \$792.7 million in research contracts and grants in fiscal 2014, up \$14.9 million from the \$777.8 million total in fiscal 2013.

The largest sources of funding for Carolina's research enterprise in 2014 came from the federal government, business and industry, and foundations.

The federal government awarded Carolina research about \$670 million, or almost 72 percent of the fiscal 2014 total. The National Institutes of Health was the largest of those federal funders, awarding more than \$428 million. Awards from private industry totaled \$44.3 million, up \$1 million from fiscal 2013.

Research centers and institutes played a critical role in bringing together scientific teams to win about \$141.5 million, or almost 18 percent of the total \$792.7 million.



(Dollars in black denote American Recovery and Reinvestment Act of 2009 to jump-start economic growth and save jobs.) Dollars in millions

**CAROLINA RESEARCH DOLLARS ON THE RISE**

**EXAMPLES OF MAJOR RESEARCH AWARDS FROM FISCAL 2014**

MEASURE Evaluation, led by the Carolina Population Center, won the University's second-largest research grant ever of about \$180 million, to be awarded over five years, from USAID. The award will be used to continue the research required to optimally target U.S. spending on global health threats such as malaria and HIV.

The UNC Energy Frontier Research Center developed a way to convert the sun's energy into hydrogen fuel. The U.S. Department of Energy, Office of Basic Energy Sciences, has awarded the center another \$10.8 million to continue work on a complete system to store solar energy.

Carolina's N.C. Translational and Clinical Sciences Institute partnered with N.C. A&T State University and EIT International to bring in \$54.6 million from the NIH to help speed up the process of translating research from the laboratory into real-world applications.

Eastman Chemical Co. funded about \$1.7 million in chemistry and materials-science research at Carolina to help bring new technologies to market more quickly.

Researchers at the School of Medicine found a possible environmental cause of autism in a group of enzymes called topoisomerases. Their work, funded by the NIH, was named a 2013 top advance in autism research by the autism science and advocacy organization Autism Speaks.

School of Medicine researchers also discovered a way to find and kill cells that have pieces of HIV hidden inside them. The method, which has been shown to work in mice, might someday become a part of standard HIV treatment. Their work was funded by programs at the NIH and its National Cancer Center.

Carolina's Environmental Finance Center was awarded \$3 million from the U.S. Environmental Protection Agency to help small communities in North Carolina and across the country improve their water systems.

## Service to the state and beyond



### Carolina science in service of communities

The Department of Biomedical Engineering—a joint department with North Carolina State University—applies the rigorous methods of physics, chemistry, mathematics and engineering to solve important and urgent biological and biomedical problems.

This year one of the department's students used his education to make one lucky child's dream come true. Using a 3-D printer in the basement of Phillips Hall, senior biomedical engineering student Jeff Powell spent part of his summer designing and developing a prosthetic hand for seven-year-old Holden Mora.

Because of his background in design, research associate professor in biomedical engineering Richard Goldberg put Powell in touch with the Mora family. Goldberg said matching students with projects like this helps put their skills to the test.

The hand consists of 12 parts, each taking from 40 minutes to five hours to print. Powell turned to the Internet to learn how to design each piece, meeting obstacles using the printer throughout the way.

Powell's work has sparked the interest among his peers. With their help, Powell hopes to continue helping families in need.

The Research Hub, a new UNC Library initiative to make the entire research life cycle at UNC more connected, collaborative and technology-enabled, is making 3-D printing more accessible on campus. A Kenan Science Library Hub features a new 3-D printing facility.



Top: Jeff Powell poses with the prosthetic hand he created using a 3-D printer in the Biomedical Engineering Lab. Bottom: Steven King, assistant professor of the School of Journalism and Mass Communication, works on ebola.nlberia.org with Casey Miller, a May 2014 graduate who now works as a news app developer at *The Wall Street Journal*.

### UNC responds to Ebola crisis

Last summer, Carolina's William Fischer worked in an isolation area in West Africa as part of a team from Doctors Without Borders to try to help combat the Ebola virus, providing medical treatment and comfort first-hand to ailing patients. Fischer, associate program director for research in the School of Medicine's Division of Pulmonary Diseases and Critical Care, was recruited by the World Health Organization because of his critical care medicine expertise. Since returning, he has helped educate the public about the true risks of Ebola.

In September, the School of Journalism and Mass Communication answered the call of Liberia's Minister of Information to help track real-time information about the Ebola crisis with [ebola.nlberia.org](http://ebola.nlberia.org) which helps officials at the Centers for Disease Control and on the ground in West Africa. The site contains graphs that include cumulative total cases of Ebola and cumulative total deaths as a result of Ebola. A map feature gives site users a color-coded view of number of cases and deaths by Liberian county. The hope is the site will help Liberian officials make better-informed decisions to help contain the spread of Ebola while providing the public with a transparent view of the country's Ebola statistics.



Top: A student enjoys Carolina in fall. North Carolina Governor Pat McCrory gives the University Day address, students sign the "Thank You UNC" wall and visitors rest on the South Building steps.

## World-class education

### *Flipped classrooms narrow achievement gaps and accelerate learning*

At Carolina, more and more instructors—particularly in STEM (science, technology, engineering and math) disciplines—are “flipping” the classroom: making available lectures outside of class that free up class time for the kinds of activities that will drive those lessons home.

Programs like the Chancellor’s Science Scholars and UNC-BEST have been in place at Carolina to nurture students and future teachers interested in the sciences. Now, grants from the Association of American Universities (AAU) and the National Science Foundation (NSF) are giving Carolina the opportunity

**THE CLASSROOM CHANGES MAKE...EFFICIENT USE OF THE AVAILABLE TIME TO ALLOW STUDENTS TO APPLY THE KNOWLEDGE THROUGH ACTIVITIES, WHICH WILL HELP THEM RETAIN IT AND BETTER PREPARE THEM FOR WHAT’S NEXT.**

to transform the large lecture class and to allow the enterprising teaching and learning techniques of some of Carolina’s most innovative faculty to lead the way.

Teaching methods include pre-class reading assignments and participatory classroom exercises that focus on applying knowledge rather than listening to lectures, with supplemental instruction sessions led

by undergraduate mentors offered. Funding will help expand active-learning methods for STEM courses in the College of Arts and Sciences and, eventually, redesigned classroom space. The classroom changes aren’t about cramming more into a class, or overloading young scholars with more work, but making more efficient use of the available time to allow students to apply the knowledge through activities, which will help them retain it and better prepare students to study advanced materials and apply concepts thereafter.

As a result, the model has helped dramatically narrow the achievement gaps for first-generation and African-American students in introductory biology and chemistry courses while raising the overall achievement level for students in the classes.



Above, Students Keenan McElriss (left) and Caleb Jadrich learn about wave behavior using an interactive simulation in a flipped physics classroom.



# Board of Trustees

June 30, 2014

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# Chancellor's Cabinet

June 30, 2014

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& MULTICULTURAL AFFAIRS

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VICE CHANCELLOR FOR MEDICAL AFFAIRS  
AND DEAN, SCHOOL OF MEDICINE

**David Routh**  
VICE CHANCELLOR FOR UNIVERSITY  
ADVANCEMENT

**Leslie Chambers Strohm**  
VICE CHANCELLOR AND  
GENERAL COUNSEL

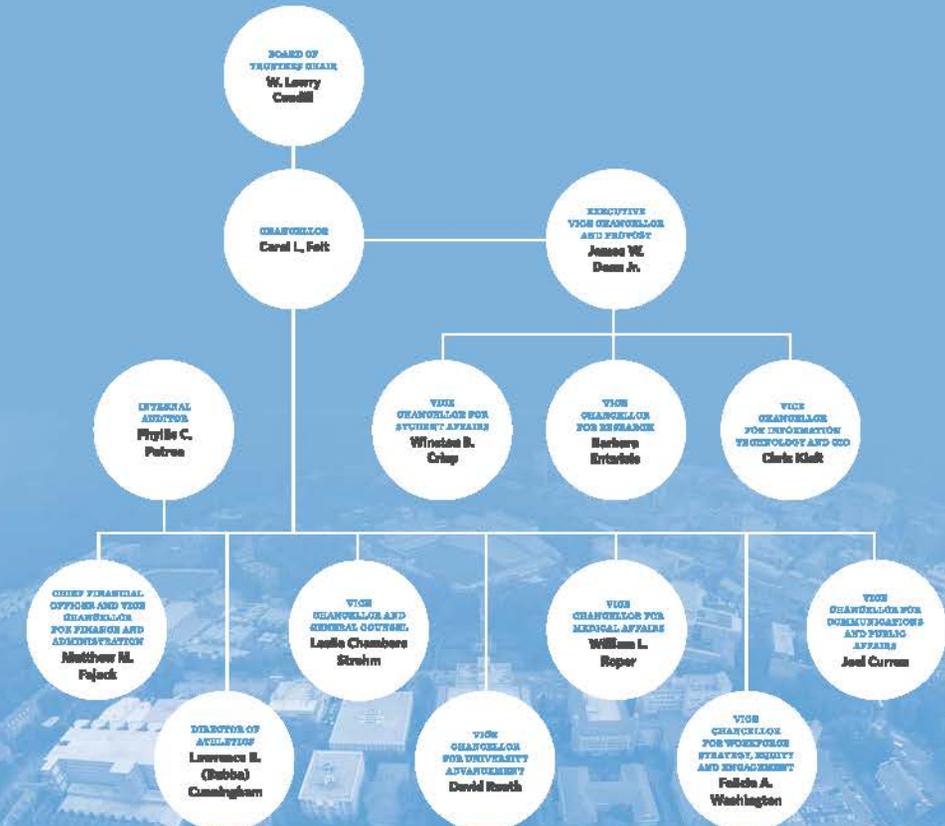
**Felicia A. Washington**  
VICE CHANCELLOR FOR WORKFORCE  
STRATEGY, EQUITY AND ENGAGEMENT

**Jennifer Willis**  
DIRECTOR OF STATE RELATIONS

\*Effective August 11, 2014. Positions were vacant at  
June 30, 2014.

# Organization Chart

June 30, 2014





# Financial Section



Beth A. Wood, CPA  
State Auditor

STATE OF NORTH CAROLINA  
**Office of the State Auditor**

2 S. Salisbury Street  
20601 Mail Service Center  
Raleigh, NC 27699-0601  
Telephone: (919) 807-7500  
Fax: (919) 807-7647  
Internet  
<http://www.ncauditor.net>

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**INDEPENDENT AUDITOR'S REPORT**

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Board of Trustees  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Report on the Financial Statements

We have audited the accompanying financial statements of The University of North Carolina at Chapel Hill, a constituent institution of the multi-campus University of North Carolina System, which is a component unit of the State of North Carolina, and its discretely presented component units, as of and for the year ended June 30, 2014, and the related notes to the financial statements, which collectively comprise the University's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We did not audit the financial statements of the UNC Investment Fund, LLC, which represent 42 percent, 39 percent, and 10 percent, respectively, of the assets, net position, and revenues of the University; nor the financial statements of The Medical Foundation of North Carolina, Inc., The Educational Foundation Scholarship Endowment Trust, and the University of North Carolina at Chapel Hill Arts and Sciences Foundation, Inc., the University's discretely presented component units. Those statements were audited by other auditors, whose reports have been furnished to us, and our opinions, insofar as they relate to the amounts included for those entities, are based solely on the report of the other auditors.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance

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**INDEPENDENT AUDITOR'S REPORT (CONTINUED)**

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about whether the financial statements are free from material misstatement. The financial statements of the UNC Investment Fund, LLC, The Medical Foundation of North Carolina, Inc., The Educational Foundation Scholarship Endowment Trust, and the University of North Carolina at Chapel Hill Arts and Sciences Foundation, Inc. were not audited in accordance with *Government Auditing Standards*.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the University's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, based on our audit and the reports of the other auditors, the financial statements referred to above present fairly, in all material respects, the financial position of The University of North Carolina at Chapel Hill, and its discretely presented component units, as of June 30, 2014, and the changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters – Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We, and other auditors, have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do

## INDEPENDENT AUDITOR'S REPORT (CONCLUDED)

not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### Other Information

The introductory and supplementary sections are presented for purposes of additional analysis and are not required part of the basic financial statements. This information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The introductory and supplementary sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

### Other Reporting Required by Government Auditing Standards

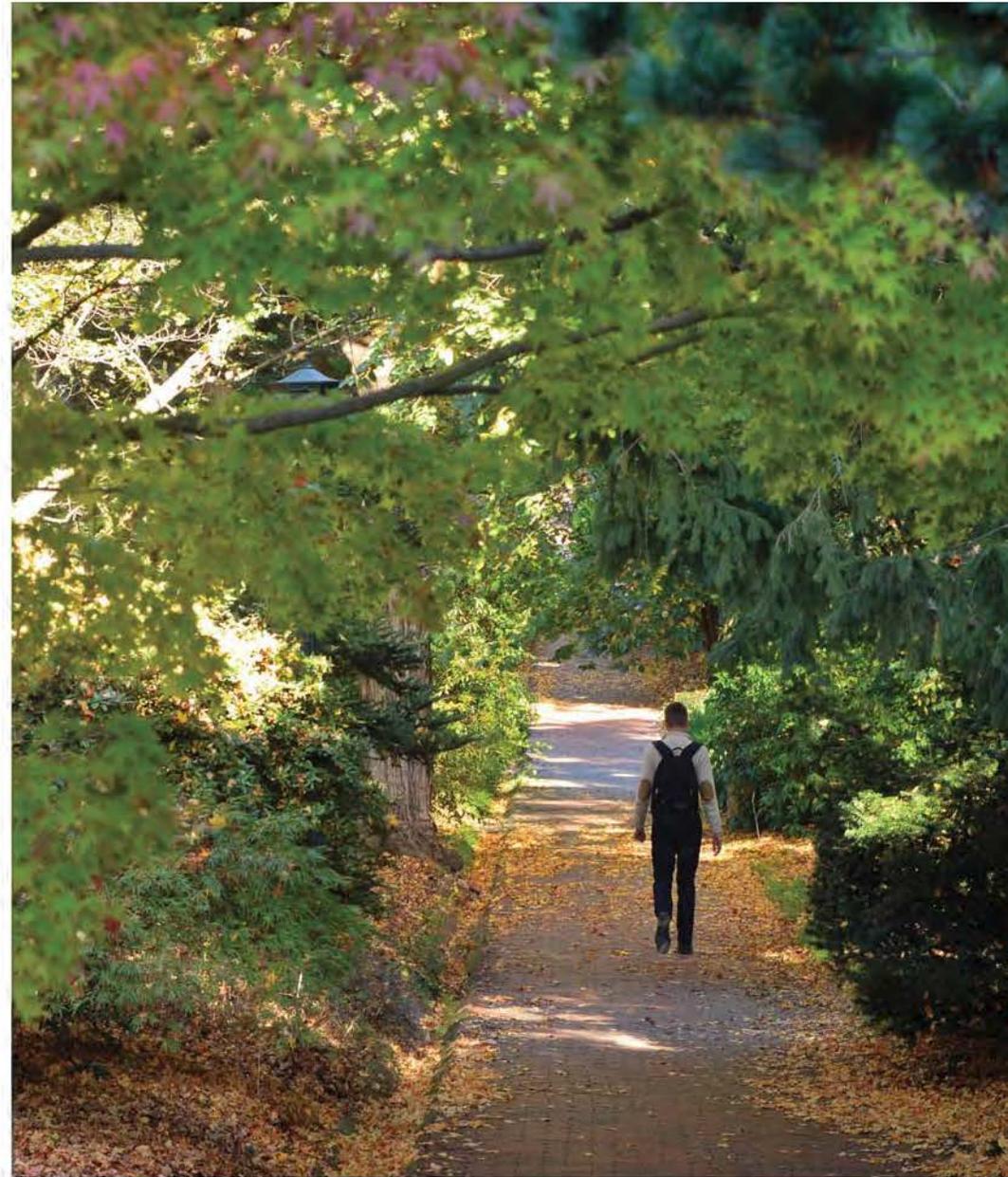
In accordance with *Government Auditing Standards*, we have also issued our report dated November 14, 2014 on our consideration of the University's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control over financial reporting and compliance. The report on internal control and compliance has been issued under separate cover in the Financial Statement Audit Report of The University of North Carolina at Chapel Hill published by this office.

*Beth A. Wood*

Beth A. Wood, CPA  
State Auditor

Raleigh, North Carolina

November 14, 2014



# Management's Discussion And Analysis (Unaudited)

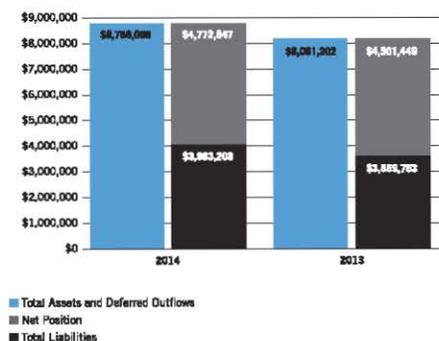
## Introduction

Management's Discussion and Analysis provides an overview of the financial position and activities of The University of North Carolina at Chapel Hill (the University) for the fiscal year ended June 30, 2014, with comparative information for the fiscal year ended June 30, 2013. Management has prepared the discussion and analysis to be read in conjunction with the financial statements and accompanying notes to the financial statements.

The University is a constituent institution of the 17-campus University of North Carolina System (UNC System), a component unit of the State of North Carolina, and an integral part of the State's *Comprehensive Annual Financial Report (CAFR)*. The financial reporting entity for the financial statements is comprised of the University and 11 component units. Eight component units are reported as if they were part of the University, and three are reported as discretely presented component units based on the nature and significance of their relationship to the University. Note 1A of the financial statements provides detailed information on the financial reporting entity.

## STATEMENT OF NET POSITION

(dollars in thousands)

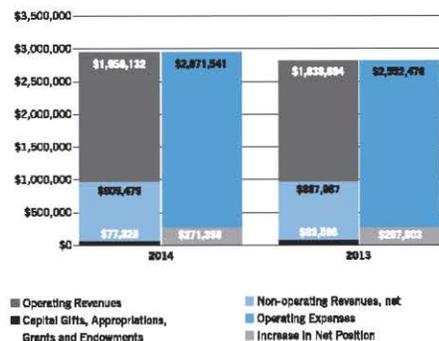


## Financial Highlights

The University maintained its solid financial position at June 30, 2014 as the growth in operating revenues surpassed increases in operating expenses, and investment income grew substantially from the prior year. The University's total assets and deferred outflows were \$8.8 billion at June 30, 2014. Net position, which represents the residual interest in the University's assets and deferred outflows after deducting liabilities and deferred inflows, was \$4.8 billion at June 30, 2014. The University's net position increased by \$271 million in fiscal year 2013-2014 as a result of operating, non-operating, and other changes in net position. A comparison of the total assets and deferred outflows, liabilities and deferred inflows, and net position at June 30, 2014 and June 30, 2013, along with the major components of the changes in net position for the two fiscal years are presented below:

## STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(dollars in thousands)



Net position improved 6.0 percent at June 30, 2014 over the prior year. Total assets increased 8.6 percent from the prior year and total liabilities rose 11.9 percent for the same period. The percentage increase of total operating revenues for fiscal year 2013-2014 over the prior year was greater than the corresponding increase for operating expenses: 6.4 percent and 4.7 percent, respectively. Net non-operating revenues and expenses increased 2.4 percent in fiscal year 2013-2014 over the prior year, reflecting higher investment income mitigated by slightly lower state appropriations and non-capital gifts and grants. As a major research university, funding from contracts and grants continues to be of key importance to the University's success in fulfilling its mission. In addition to the foregoing, fund raising for operational needs, sales and services, and tuition and fees likewise continued to provide important resources for the University.

## Using the Financial Statements

The financial statements have been prepared in accordance with generally accepted accounting principles as prescribed by the Governmental Accounting Standards Board (GASB), which establishes standards for external financial reporting for public colleges and universities. The financial statements are presented on a consolidated basis to focus on the University as a whole. The full scope of the University's activities is considered to be a single business-type activity and accordingly, is reported within a single column in the basic financial statements.

The University's CAFR includes the following three financial statements.

- Statement of Net Position
- Statement of Revenues, Expenses, and Changes in Net Position
- Statement of Cash Flows

Management's Discussion and Analysis provides information regarding the Statement of Net Position and the Statement of Revenues, Expenses, and Changes in Net Position.

## Condensed Statement of Net Position

The Statement of Net Position presents the financial position of the University at the end of the fiscal year, includes all assets and deferred outflows, all liabilities and deferred inflows, and segregates the assets and liabilities into current and non-current components. The subsequent table summarizes the University's assets and deferred outflows, liabilities and deferred inflows, and net position on June 30, 2014 and June 30, 2013.

## Current Assets and Liabilities

The Statement of Net Position reflects that working capital, which is current assets less current liabilities, was \$1.2 billion at June 30, 2014 as well as the previous year. One of the factors contributing to a substantial working capital margin is that many operating funds are invested in the State Treasurer's

## ASSETS, LIABILITIES, DEFERRED RESOURCES, AND NET POSITION

(dollars in thousands)

	2014	2013	Percent Change
<b>Assets:</b>			
Current assets	\$1,697,814	\$1,586,409	(9.1)
<b>Non-current assets:</b>			
Endowment, restricted, and other investments	9,574,709	3,129,647	14.2
Capital assets, net	3,117,129	3,112,151	0.2
Other non-current assets	282,036	182,568	54.5
<b>Total Assets</b>	<b>8,671,188</b>	<b>7,960,775</b>	<b>8.7</b>
Deferred Outflows of Resources	84,868	80,427	5.5
<b>Liabilities:</b>			
Current liabilities	437,861	310,154	41.2
<b>Non-current liabilities:</b>			
Funds held in trust for pool participants	1,973,240	1,661,608	18.8
Long-term liabilities	1,457,757	1,476,481	(1.3)
Other non-current liabilities	114,970	111,560	2.5
<b>Total Liabilities</b>	<b>3,983,828</b>	<b>3,589,783</b>	<b>11.9</b>
Deferred Inflows of Resources	0	0	0
<b>Net Position:</b>			
Net investment in capital assets	1,662,931	1,632,515	1.9
Restricted	2,189,083	1,896,046	15.5
Unrestricted	920,833	972,888	(5.4)
<b>Total Net Position</b>	<b>\$4,772,847</b>	<b>\$4,301,449</b>	<b>8.0</b>

Short-term Investment Fund in order to maintain a high degree of liquidity while also earning interest. Such funds are reported as cash equivalents in the Statement of Net Position which details other current asset and current liability categories.

## Endowment, Restricted and Other Investments

Endowment investments increased 13.9 percent during 2013-2014 and were \$1.7 billion at June 30, 2014 and \$1.5 billion at June 30, 2013, and include permanent endowments, funds internally designated as endowments and similar funds such as gift annuities and charitable trusts.

The endowment assets are invested with The University of North Carolina at Chapel Hill Foundation Investment Fund, Inc. (Chapel Hill Investment Fund, or CHIF), which is reported as a governmental external investment pool in the financial statements. The Chapel Hill Investment Fund is a 501(c)(3) non-profit corporation established to support the University by operating an investment pool for charitable, non-profit foundations, associations, trusts, endowments, and funds that are organized and operated primarily to support the University.

It is expected that all or substantially all of the assets of the Chapel Hill Investment Fund will be invested in the UNC Investment Fund, LLC (UNC Investment Fund, or UNCIF), an investment pool organized by the Chapel Hill Investment Fund to allow the University, along with other constituent institutions of the UNC System and affiliated organizations, to pool investment resources.

The CHIF investment objective is to earn a long-term real rate of return exceeding 5.5 percent. This objective is intended to support the Chapel Hill Investment Fund's distribution policy providing a stable source of spending support that is sustainable over the long-term while preserving the purchasing power of the invested funds. The distribution rate is determined annually by its Board of Directors and for the past 5 years has ranged between 5 percent and 6 percent based on the beginning market value of the Chapel Hill Investment Fund.

As reported by UNC Management Company, Inc. (Management Company), the manager of the UNC Investment Fund, the endowment assets invested in the UNC Investment Fund recorded a 15.7 percent return for fiscal year 2013-2014, exceeding both the Strategic Investment Policy Portfolio (SIPP) return of 15.0 percent and the primary objective of earning a real rate of return exceeding 5.5 percent. All seven major asset classes used in managing the portfolio produced positive returns for the fiscal year 2013-2014.

Over the long term, UNCIF's 10-year annualized performance of 9.2 percent has surpassed its primary objective of providing a real rate of return exceeding 5.5 percent. UNCIF's ten year return exceeds both the SIPP benchmark and the Global 70/30 Index (comprised of 70 percent invested in the MSCI All Country World Index and 30 percent in the Barclay's U.S. Aggregate Bond Index) which returned 8.7 percent and 7.0 percent, respectively.

Over the intermediate term, UNCIF's performance reflects recovery from the sharp decline in financial markets witnessed in 2007-2008 with a 5-year annualized return of 10.3 percent. During this period, the Global 70/30 Index and the SIPP benchmark had returns of 11.7 percent and 12.1 percent, respectively.

Recognizing that severe market declines periodically occur, a University Statutory Endowment policy (established pursuant to NC General Statute 116-36) addresses the provisions of the Uniform Prudent Management of Institutional Funds Act (UPMIFA). The policy indicates that campus departments shall examine the endowment-supported activity for the upcoming fiscal year for possible deferral of program expenses, and if appropriate, pursue alternative funding for essential activities, and consult with donors regarding other funding options for program support. Invasion of endowment principal is an option of last resort and will only be done consistent with approved limitations to preserve the endowment principal's value. The distribution of investment earnings for fiscal years 2013-2014 and 2012-2013 provided for

a full distribution without reduction to principal value.

Non-current restricted investments of \$1.8 billion at June 30, 2014 include funds of affiliated entities that are neither part of the University's reporting entity nor reported discretely but invested through UNCIF.

#### Capital Assets and Debt Management

The University completed Maraico Hall, an imaging research building, the University's largest capital project to date, in March 2014. A significant portion of \$245.6 million in funding for this 343,000 square foot building came from state debt in the form of COPS, Certificate of Participation. Current projects in design include: a comprehensive renovation to Mary Ellen Jones research building, Student Housing Phase III—a 250 bed undergraduate suite style residence hall which will replace units in Odum Village scheduled for decommissioning in 2017; and an addition to the Manning Plant for generators and a chilled water plant to meet capacity needs. All these projects are funded by the University through cash and debt financing. Looking forward through 2019 in light of the fact that capital renewal needs are ongoing, the University six-year capital plan includes \$210 million worth of projects for possible state funding subject to the financial climate. The University's six-year capital plan for non-appropriated funding identifies \$475 million worth of projects funded from a variety of sources, including debt.

In 2015, the University will initiate a University Master Plan that reflects the campus' strategic plan for sustainability and will guide future development of University properties. The plan will develop land use principles to support the University's academic and research priorities and include examination of facility utilization and needs, infrastructure, environmental resources, and economic impact.

A summary of changes in capital assets is disclosed in Note 5. Capital assets, net of accumulated depreciation and amortization, at June 30, 2014 and June 30, 2013, were as follows:

#### CAPITAL ASSETS

(dollars in thousands)

	2014	2013	Percent Change
<b>Capital Assets:</b>			
Construction in progress	\$44,257	\$291,972	(80.9)
Land and other non-depreciable assets	216,892	189,531	14.2
Buildings	2,014,192	1,869,324	7.7
General infrastructure	610,646	588,089	3.8
Machinery, equipment, and computer software	231,142	232,835	(0.7)
<b>Total</b>	<b>\$3,117,129</b>	<b>\$3,112,151</b>	<b>0.2</b>

During fiscal year 2013-2014, the University funded capital improvement projects with proceeds from the Board of

Governors of the University of North Carolina System General Revenue Series 2012AB bond issue. After those funds are exhausted, the University will continue to use its commercial paper program to provide low-cost bridge financing for capital projects until gifts are received or in anticipation of an external bond issue. As such, outstanding commercial paper debt was \$18.0 million at both June 30, 2014 and at June 30, 2013.

On behalf of the University, the Board of Governors for the University of North Carolina System issued General Revenue Bonds Series 2014 in the amount of \$265.6 million during October 2014 to advance refund a portion of its General Revenue Bonds Series 2005A. (See Subsequent Events Note 20 for additional information.)

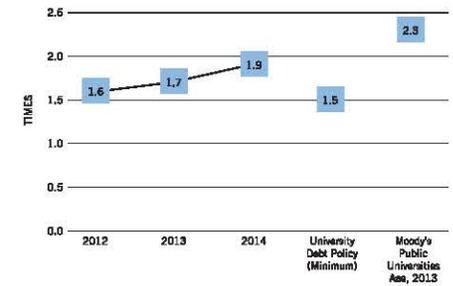
On February 14, 2014, a University unit that is blended for financial reporting purposes restructured a bank note, paying down \$4.25 million in principal and extending the duration of the remaining \$5.0 million with a final maturity date of February 14, 2024. In addition, on October 3, 2013, another University blended unit closed on a bank note that provides up to \$30.0 million in funding for the construction of a capital project. The note expires on October 2, 2016. At June 30, 2014, the total amount of draws against the note was \$4.705 million.

The University maintains a combination of variable and fixed rate debt, consistent with its debt management policy. The interest rate on the commercial paper program for fiscal year 2013-2014 ranged from 0.07 to 0.20 percent and for fiscal 2012-2013 ranged from 0.13 to 0.23 percent. Interest rates on the University's variable rate, long-term bonds ranged from 0.02 to 0.88 percent for fiscal year 2013-2014 and from 0.04 to 0.92 percent for fiscal year 2012-2013. Interest rates on fixed rate, long-term bonds are disclosed in Note 8B of the financial statements. These rates reflect direct interest rates and do not reflect any impact from the interest rate swaps as referenced in Note 9.

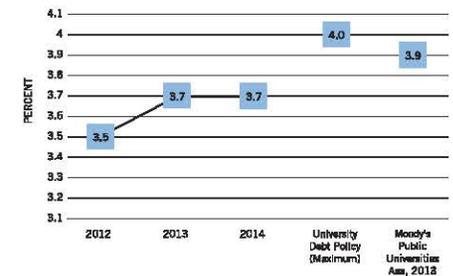
The University's debt policy uses two key ratios to measure debt capacity, financial health, and credit quality. The *expendable resources to debt ratio* measures unrestricted, expendable restricted, and temporarily restricted net position to funded debt and serves as a relative indicator of financial health or cushion. The *debt service to operations ratio* provides an indicator of the University's ability to repay annual principal and interest relative to its overall operating expenses. Each ratio is compared to the University's debt policy standard and the appropriate peer group comparison for fiscal year 2012-2013 (the latest available comparative statistics). At June 30, 2014, the *expendable resources to debt ratio* was 1.9 times, and the *debt service to operations ratio* was 3.7 percent.

The *Summary of Ratios*, as included in the *Statistical Section*, includes the actual measures for both of these ratios, as well as other ratios, for the last ten fiscal years. The University continues to maintain its long-term bond ratings of Aaa/AA+/AAA from Moody's Investor Services, Standard & Poor's and Fitch Ratings, respectively.

#### EXPENDABLE RESOURCES TO DEBT



#### DEBT SERVICE TO OPERATIONS



#### Other Non-current Assets and Liabilities

Total other non-current assets were \$282.0 million at June 30, 2014 and \$182.6 million at June 30, 2013, a 54.5 percent increase. Non-current restricted cash increased principally due to decrease in foundations' participation in the Temporary Investment Pool, shifting cash from other funds.

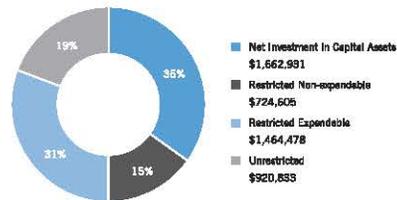
Non-current liabilities were \$3.6 billion at June 30, 2014 and \$3.2 billion at June 30, 2013, and include funds held in trust for the University's affiliated foundations and other campuses in the UNC System and their affiliates of \$2.1 billion and \$1.7 billion, respectively. These entities are not part of the University's financial reporting entity and are not discretely presented, but the entities do invest in the UNC Investment Fund. The increase in funds held in trust of 18.8 percent over the prior year resulted from additional participant contributions and net investment gains.

### Net Position

Net position represents the value of the University's assets and deferred outflows after liabilities and deferred inflows are deducted. The University's net position was \$4.8 billion at June 30, 2014, an increase of \$271.4 million over the prior year. Net investment in capital assets represents the University's total investment in capital assets, net of outstanding debt obligations related to those capital assets. To the extent debt has been incurred but not yet expended for capital assets, such amounts are not included. Non-expendable restricted net position includes endowment and similar assets whose use is limited by donors or other outside sources and as a condition of the gift, the principal is to be maintained in perpetuity. Expendable restricted net position includes resources in which the University is legally obligated to spend the resources in accordance with restrictions provided by external parties. Unrestricted net position is not subject to externally imposed stipulations; however, most of these resources have been designated for particular academic, research, or other programs, as well as capital projects.

### 2014 NET POSITION: \$4,772,847

(dollars in thousands)



### Condensed Statement of Revenues, Expenses, and Changes in Net Position

The Statements of Revenues, Expenses, and Changes in Net Position present the University's results of operations and other changes in net position. The statements for the fiscal year ended June 30, 2014 and the prior year are summarized as follows:

### UNIVERSITY OPERATIONS AND OTHER CHANGES

(dollars in thousands)

	2014	2013	Percent Change
<b>Operating Revenues:</b>			
Student tuition and fees, net	\$361,771	\$348,049	3.9
Grants and contracts	820,154	761,196	7.7
Sales and services, net	770,512	720,520	6.9
Other	3,695	8,929	(58.6)
<b>Total Operating Revenues</b>	<b>1,956,132</b>	<b>1,838,694</b>	<b>6.4</b>
<b>Operating Expenses:</b>			
	<b>2,871,841</b>	<b>2,882,476</b>	<b>4.7</b>
<b>Operating Loss</b>	<b>(718,409)</b>	<b>(713,782)</b>	<b>0.2</b>
<b>Non-operating Revenues (Expenses):</b>			
State appropriations	482,728	515,121	(6.3)
Non-capital gifts and grants	238,649	250,442	(4.7)
Investment income	258,372	191,969	34.6
Interest and fees on debt	(66,218)	(70,119)	(5.6)
Federal interest subsidy on debt	2,109	2,174	(3.0)
Other net non-operating expenses	(6,161)	(1,600)	285.1
<b>Net Non-operating</b>	<b>908,478</b>	<b>887,887</b>	<b>2.4</b>
<b>Income Before Other Changes</b>	<b>194,070</b>	<b>174,205</b>	<b>11.4</b>
Capital appropriations	4,313	2,285	88.8
Capital grants	41,507	44,177	(6.0)
Capital gifts	5,899	23,182	(74.6)
Additions to permanent endowments	26,609	23,964	6.9
<b>Increase in Net Position</b>	<b>271,398</b>	<b>267,803</b>	<b>1.3</b>
<b>Net Position—July 1</b>	<b>4,501,448</b>	<b>4,233,646</b>	<b>6.3</b>
<b>Net Position—June 30</b>	<b>\$4,772,847</b>	<b>\$4,501,449</b>	<b>6.0</b>

Fiscal year 2013-2014 revenues and other changes total \$3,015,316 and expenses total \$2,743,920. Fiscal year 2012-2013 revenues and other changes total \$2,891,998 and expenses total \$2,624,195.

### Operating Revenues

The operating revenues represent resources generated by the University in fulfilling its instruction, research, and public service missions. Net student tuition and fees for fiscal year 2013-2014 increased 3.9 percent over the prior year total. Student tuition and fees are reported net of scholarship discounts, which totaled \$96.0 million for fiscal year 2013-2014 and \$84.8 million for the prior year. Tuition

rates increased for fiscal year 2013-2014 by 10.3 percent for undergraduate residents, 6.1 percent for undergraduate non-residents, 6.5 percent for graduate residents, and 6.8 percent for graduate non-residents.

Revenues from operating grants and contracts increased 7.7 percent over the prior year. Discussion of grants and contracts in terms of awards provides another useful perspective. Faculty secured \$792.7 million in research funding during fiscal year 2013-2014, as compared to \$777.8 million the previous year. The funding comes in contracts and grants awarded by federal and state agencies, foundations, nonprofit organizations, corporations and associations, with the federal government providing the majority of the awards. Securing research funding has become an increasingly competitive endeavor, particularly as the portion of the federal government budget allocable to research is constrained. A key factor in dealing with such competitive pressures is diversifying funding sources and bringing in more awards from foundations and private industry and business.

The National Institutes of Health (NIH) remained the University's largest funding source, with awards exceeding \$428 million. NIH's strong and ongoing support reflects positively on the University's health-related professional schools (dentistry, medicine, nursing, pharmacy and public health), UNC Health Care and its teaching hospitals, and basic and social science units in the College of Arts and Sciences.

The University's other top funders were the National Science Foundation at \$37.4 million; the Department of Health and Human Services, \$22.2 million; and U.S. Agency for International Development, \$21.5 million. The University's multidisciplinary research centers and institutes continue to play a growing role in bringing research funding to North Carolina, accounting for approximately \$141.5 million of total awards in fiscal year 2013-2014, almost 18 percent of the total \$792.7 million. New, innovative research facilities and infrastructure have made possible ground-breaking interdisciplinary scientific research, which contributes to obtaining research awards.

Sales and services include the revenues of campus auxiliary operations such as student housing, student stores, student health services, the utilities system, and parking and transportation, as well as revenues from patient services provided by the professional health-care clinics. Other revenues represent operating resources not separately identified and include, for example, an assessment received from the Chapel Hill Investment Fund to support University administrative services.

### Operating Expenses

The University's operating expenses were \$2.7 billion for the fiscal year ended June 30, 2014, an increase of 4.7 percent over the prior year. The operating expenses are reported by natural classification in the financial statements and by functional

classification in Note 12. The following tables illustrate the University's operating expenses by natural classification and by functional classification.

### OPERATING EXPENSES BY NATURE

(dollars in thousands)

	2014	2013	Percent Change
Salaries and benefits	\$1,467,756	\$1,435,472	2.2
Supplies and materials	159,907	160,698	(0.5)
Services	715,833	660,516	10.0
Scholarships and fellowships	112,450	104,557	7.5
Utilities	85,157	83,265	2.3
Depreciation and amortization	130,438	117,968	10.6
<b>Total Operating Expenses</b>	<b>\$2,671,541</b>	<b>\$2,582,476</b>	<b>4.7</b>

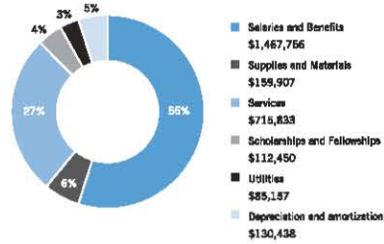
### OPERATING EXPENSES BY FUNCTION

(dollars in thousands)

	2014	2013	Percent Change
Instruction	\$675,822	\$684,692	(2.7)
Research	546,752	529,102	3.3
Public service	194,917	183,069	1.4
Academic support	118,680	114,371	3.8
Student services	32,807	27,565	19.0
Institutional support	100,238	93,852	6.8
Operations and maintenance of plant	160,013	195,314	(10.9)
Student financial aid	112,450	104,557	7.5
Auxiliary enterprises	669,423	601,996	11.2
Depreciation and amortization	130,439	117,968	10.6
<b>Total Operating Expenses</b>	<b>\$2,671,541</b>	<b>\$2,582,476</b>	<b>4.7</b>

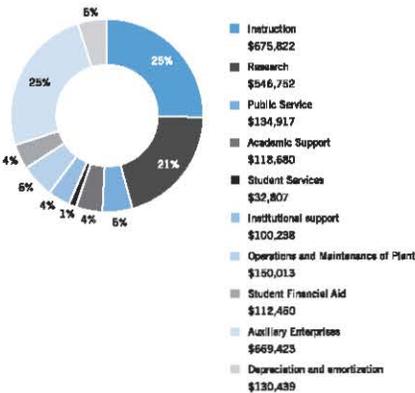
The following graph illustrates the University's operating expenses by nature.

**2014 OPERATING EXPENSES BY NATURE: \$2,671,541**  
(dollars in thousands)



The following graph illustrates the University's operating expenses by function.

**2014 OPERATING EXPENSES BY FUNCTION: \$2,671,541**  
(dollars in thousands)



Operating expense categories changed at varying rates, although the overall rate of increase was 4.7 percent. Depreciation and amortization incurred the highest increase of 10.6 percent, followed by expenses for services and scholarships and fellowships at 10.0 percent and 7.5 percent, respectively. The other operating expense categories by natural classification incurred minimal changes. Operating expenses by functional classification recorded the same increases for depreciation and amortization and for student financial aid as the natural classification categories previously noted. For the other functional classifications, student services recorded the highest increase, 19.0 percent over the prior year.

**Non-operating Revenues and Expenses**

State appropriations, non-capital gifts and grants, and investment income are considered non-operating because they were not generated by the University's principal, ongoing operations. For example, state appropriations were not generated by the University but were provided to help fund operating expenses.

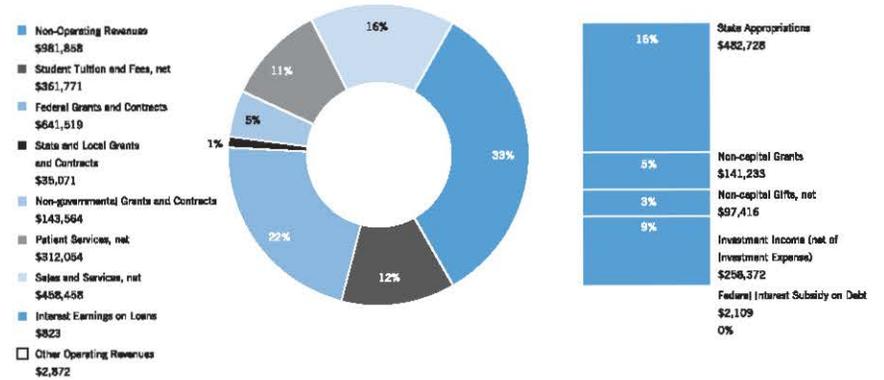
State appropriations totaled \$482.7 million for fiscal year 2013-2014, a net decrease of 6.3 percent, or \$32.4 million, from the state appropriations of \$515.1 million received during the prior year. The appropriations for fiscal 2013-2014 reflected a \$15 million reduction to the School of Medicine along with \$21 million campus-wide decline absorbed by postponed strategic and operational initiatives. Partially offsetting increases of \$6.5 million for operating new buildings and \$1.5 million for student enrollment growth along with various other less significant individual adjustments aggregated to the overall net decline for the year.

Non-capital gifts and grants decreased 4.7 percent to \$238.6 million and include expendable gifts and federal and other awards that are not considered to be operating revenues. Investment income for fiscal year 2013-2014 was \$258.4 million, an increase of 34.6 percent from the prior year. Investment income includes income and realized and unrealized gains, net of investment management fees.

**Total Operating and Non-operating Revenues**

Operating and non-operating revenues such as state appropriations, non-capital grants, non-capital gifts, and investment income are used to fund University operations. The following chart illustrates the University's operating and non-operating revenues, which total \$2.9 billion for fiscal year 2013-14.

**2014 TOTAL REVENUES BY SOURCE: \$2,937,990**  
(dollars in thousands)



**Other Changes in Net Position**

Capital grants of \$41.5 million for fiscal year 2013-2014 and \$44.2 million for fiscal year 2012-2013 are for capital construction projects. Capital gifts of \$5.9 million for fiscal year 2013-2014 and \$23.2 million for the prior year include funding for construction projects and contributed improvements to facilities. Non-expendable gifts and funds from the state's program to match gifts for distinguished professorship endowments resulted in additions to permanent endowments of \$25.6 million during fiscal year 2013-2014 and \$24.0 million during fiscal year 2012-13.

**Economic Outlook**

The University's state appropriations budget for fiscal year 2014-2015 is \$490.5 million, a net increase of \$7.8 million from the prior year, essentially stabilizing after recent significant reductions that have been challenging to ensure did not materially negatively impact the University's core mission.

Tuition rates for fiscal year 2014-2015 for undergraduate residents remained stable, and increased 11.7 percent for undergraduate non-residents, 4.2 percent for graduate residents, and 1.4 percent for graduate non-residents. The University continues to return a portion of tuition revenue to students in the form of need-based aid and continues to provide 100 percent of documented need-based aid to students.

Consistency and growth in sponsored awards is a proven and reliable source in support of the University's research mission. Philanthropic efforts continue to demonstrate success. Invested endowment funds provide an important distribution of earnings in support of the University's operating budget. The University's strong debt credit ratings of Aaa, AA+, and AAA allow it to obtain competitive financing for capital construction.

Fund-raising has been a cornerstone resource for the University. Fiscal year 2013-2014 marked another strong fund-raising year—the second best in University history—with a total of \$297.5 million in private gifts and grants, over a 9 percent increase compared to the prior fiscal year.

The University's investment management operation is separately organized as the UNC Management Company, Inc. (Management Company), the non-profit corporation organized and operated as a 501(c)(3) entity, to provide investment management services and administrative services to the University and to the other campuses of the UNC System and their affiliated non-profit foundations as appropriate. As of June 30, 2014, the Management Company managed invested assets of \$4.2 billion in the UNC Investment Fund.

**STATEMENT OF NET POSITION**

June 30, 2014

Assets	
<b>Current Assets:</b>	
Cash and cash equivalents	\$41,779,972
Restricted cash and cash equivalents	427,804,306
Short-term investments	682,104,783
Restricted short-term investments	201,630,037
Receivables, net (Note 4)	293,749,498
Due from State of North Carolina component units	22,009,984
Inventories	23,783,217
Notes receivable, net (Note 4)	4,200,091
Other assets	252,528
<b>Total current assets</b>	<b>1,897,314,416</b>
<b>Non-Current Assets:</b>	
Restricted cash and cash equivalents	228,049,004
Receivables, net (Note 4)	13,939,674
Restricted due from primary government	327,656
Endowment investments	1,701,042,103
Restricted investments	1,846,016,944
Other investments	27,650,614
Notes receivable, net (Note 4)	31,501,326
Investment in joint venture (Note 18)	8,318,917
Capital assets - non-depreciable (Note 5)	261,149,673
Capital assets - depreciable, net (Note 5)	2,855,979,488
<b>Total non-current assets</b>	<b>6,978,874,498</b>
<b>Total assets</b>	<b>\$8,876,188,914</b>

Deferred Outflows Of Resources	
Deferred Loss on Refunding	\$1,676,332
Accumulated decrease in fair value of hedging derivatives	83,190,081
<b>Total deferred outflows of resources</b>	<b>\$84,866,413</b>

Liabilities	
<b>Current Liabilities:</b>	
Accounts payable and accrued liabilities (Note 6)	\$117,183,298
Due to primary government	4,409
Due to State of North Carolina component units	27,494,148
Deposits payable	4,648,142
Funds held for others	91,505,631
Unearned revenue	36,066,600
Interest payable	12,675,667
Short-term debt (Note 7)	18,000,000
Long-term liabilities - current portion (Note 8)	130,383,639
<b>Total current liabilities</b>	<b>437,961,418</b>
<b>Non-Current Liabilities:</b>	
U. S. Government grants refundable	31,180,116
Funds held in trust for pool participants	1,973,289,781
Hedging derivatives liability (Note 9)	83,190,081
Long-term liabilities, net (Note 8)	1,457,737,081
<b>Total non-current liabilities</b>	<b>3,545,347,058</b>
<b>Total liabilities</b>	<b>\$3,983,208,476</b>

Net Position	
Net investment in capital assets	\$1,662,931,222
<b>Restricted for:</b>	
<b>Non-expendable:</b>	
Scholarships and fellowships	157,705,678
Research	19,708,735
Library acquisitions	31,361,277
Endowed professorships	334,311,889
Departmental uses	130,565,006
Loans	20,909,901
Other	30,042,769
<b>Total non-expendable</b>	<b>724,804,552</b>
<b>Expendable:</b>	
Scholarships and fellowships	238,069,838
Research	94,369,077
Library acquisitions	59,758,859
Endowed professorships	431,223,609
Departmental uses	409,311,578
Instruction and educational agreements	920,709
Plant improvements	26,600,714
Capital projects	127,289,735
Debt service	76,935,465
<b>Total expendable</b>	<b>1,464,477,878</b>
Unrestricted	820,833,487
<b>Total net position</b>	<b>\$4,772,846,949</b>

The accompanying notes to the financial statements are an integral part of this statement.

**STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION**

For the Fiscal Year Ended June 30, 2014

Revenues	
<b>Operating Revenues:</b>	
Student tuition and fees, net (Note 11)	\$361,770,560
Patient services, net (Note 11)	312,054,448
Federal grants and contracts	641,618,512
State and local grants and contracts	35,071,213
Non-governmental grants and contracts	143,564,204
Sales and services, net (Note 11)	458,456,394
Interest earnings on loans	822,910
Other operating revenues	2,871,956
<b>Total operating revenues</b>	<b>1,986,132,197</b>

Expenses	
<b>Operating Expenses:</b>	
Salaries and benefits	1,467,756,494
Supplies and materials	159,906,582
Services	715,832,709
Scholarships and fellowships	112,449,587
Utilities	86,156,899
Depreciation and amortization	130,438,445
<b>Total operating expenses</b>	<b>2,671,540,716</b>
<b>Operating loss</b>	<b>(715,408,519)</b>

Non-Operating Revenues (Expenses)	
State appropriations	482,727,867
Non-capital grants—student financial aid	18,621,786
Other non-capital grants	122,610,959
Non-capital gifts, net (Note 11)	97,416,148
Investment income (net of investment expense of \$4,894,702)	258,372,237
Interest and fees on debt	(66,217,726)
Federal interest subsidy on debt	2,109,311
<b>Other non-operating expenses</b>	<b>(6,161,644)</b>
<b>Net non-operating revenues</b>	<b>908,478,938</b>
<b>Income before other revenues, expenses, gains, or losses</b>	<b>184,070,419</b>
Capital appropriations	4,313,926
Capital grants	41,506,762
Capital gifts	5,898,596
Additions to endowments	25,608,504
<b>Increase in net position</b>	<b>271,897,607</b>

Net Position	
Net position - July 1, 2013	4,501,448,342
<b>Net position - June 30, 2014</b>	<b>\$4,772,846,949</b>

The accompanying notes to the financial statements are an integral part of this statement.

## STATEMENT OF CASH FLOWS

For the Fiscal Year Ended June 30, 2014

Cash Flows From Operating Activities	
Received from customers	\$1,857,863,611
Payments to employees and fringe benefits	(1,455,707,818)
Payments to vendors and suppliers	(952,271,422)
Payments for scholarships and fellowships	(112,449,587)
Loans issued	(6,365,062)
Collection of loans	5,869,711
Interest earned on loans	767,178
Other receipts	7,992,826
<b>Net cash used by operating activities</b>	<b>(654,290,553)</b>
Cash Flows From Non-Capital Financing Activities	
State appropriations	482,727,867
Non-capital grants - student financial aid	18,621,786
Other non-capital grants	122,610,959
Non-capital gifts	99,249,901
Additions to endowments	25,608,504
William D. Ford direct lending receipts	174,298,609
William D. Ford direct lending disbursements	(170,498,028)
Related activity agency receipts	722,062,881
Related activity agency disbursements	(481,015,627)
Receipts from UNC Health Care System for School of Medicine	15,400,040
<b>Net cash provided by non-capital financing activities</b>	<b>1,038,026,895</b>
Cash Flows From Capital Financing And Related Financing Activities	
Proceeds from capital debt	4,708,000
Capital grants	43,919,188
Capital appropriations	4,313,326
Capital gifts	680,085
Acquisition and construction of capital assets	(136,583,340)
Principal paid on capital debt and leases	(15,065,855)
Interest and fees paid on capital debt and leases	(72,030,668)
Federal interest subsidy on debt received	2,109,511
<b>Net cash used by capital financing and related financing activities</b>	<b>(167,952,973)</b>
Cash Flows From Investing Activities	
Proceeds from sales and maturities of investments	3,443,758,282
Investment income	114,673,403
Purchases of investments and related fees	(4,149,192,320)
<b>Net cash used by investing activities</b>	<b>(590,860,635)</b>
<b>Net decrease in cash and cash equivalents</b>	<b>(374,077,266)</b>
<b>Cash and cash equivalents - July 1, 2013</b>	<b>1,071,710,548</b>
<b>Cash and cash equivalents - June 30, 2014</b>	<b>\$697,633,282</b>

The accompanying notes to the financial statements are an integral part of this statement.

Reconciliation Of Net Operating Loss To Net Cash Used By Operating Activities	
Operating loss	(\$716,408,519)
<b>Adjustments to Reconcile Operating Loss to Net Cash Used by Operating Activities:</b>	
Depreciation and amortization expense	130,438,445
Allowances, write-offs, and amortizations	6,382,113
<b>Changes in assets and liabilities:</b>	
Receivables, net	(89,097,394)
Inventories	278,080
Notes receivable, net	(478,352)
Other assets	228,953
Accounts payable and accrued liabilities	8,829,417
Due to primary government	(1,462)
U.S. government grants refundable	46,728
Unearned revenue	(454,905)
Compensated absences	4,956,333
<b>Net cash used by operating activities</b>	<b>(\$654,290,553)</b>
Non-Cash Investing, Capital, And Financing Activities	
Assets acquired through a gift	\$5,218,511
Change in fair value of investments	\$144,090,836
Loss on disposal of capital assets	(\$6,385,046)
Amortization of bond premium/discouts	\$5,474,828
Reconciliation Of Cash And Cash Equivalents	
<b>Current assets:</b>	
Cash and cash equivalents	\$41,779,972
Restricted cash and cash equivalents	427,804,906
<b>Non-current assets:</b>	
Restricted cash and cash equivalents	228,049,004
<b>Total cash and cash equivalents - June 30, 2014</b>	<b>\$697,633,282</b>

The accompanying notes to the financial statements are an integral part of this statement.

DISCRETELY PRESENTED COMPONENT UNITS

**STATEMENT OF FINANCIAL POSITION**

June 30, 2014

Assets	UNC-CH Arts and Sciences Foundation, Inc.	The Educational Foundation Scholarship Endowment Trust	The Medical Foundation of North Carolina, Inc.
<b>Current assets</b>			
Cash and cash equivalents	\$17,753,531	\$10,559,908	\$56,332,857
Promises to give, net	6,559,330	2,407,577	3,047,221
Contributions receivable from split-interest agreements		3,890,245	
Accounts receivable	357,043		
Funds held in trust	1,461,169		
Other current assets			314,128
<b>Total current assets</b>	<b>26,161,073</b>	<b>16,857,730</b>	<b>61,694,206</b>
<b>Property and equipment</b>			
Capital assets			957,600
Leasehold interest - building	3,750,483		
Furniture and equipment	594,558		
Allowance for depreciation	(1,448,033)		(606,154)
<b>Total property and equipment</b>	<b>2,897,008</b>		<b>351,446</b>
<b>Other assets</b>			
Investments	185,259,559	202,410,713	185,812,350
Real estates	199,000		
Promises to give, net	5,959,477		4,877,242
Split-interest agreements	1,831,200		
Cash surrender value of life insurance		1,943,600	
Other assets			3,883,991
<b>Total other assets</b>	<b>193,248,236</b>	<b>204,354,313</b>	<b>194,573,583</b>
<b>Total non-current assets</b>	<b>196,146,244</b>	<b>204,354,313</b>	<b>194,925,029</b>
<b>Total assets</b>	<b>\$222,307,317</b>	<b>\$221,212,043</b>	<b>\$256,619,235</b>
<b>Liabilities and Net Assets</b>			
<b>Current Liabilities</b>			
Accounts payable and accrued expenses	\$135,838		\$367,545
Annuities payable		\$60,023	
<b>Total current liabilities</b>	<b>135,838</b>	<b>60,023</b>	<b>367,545</b>
<b>Long-term Liabilities</b>			
Deferred revenue			1,703
Charitable remainder trusts			35,512
<b>Total long-term liabilities</b>			<b>37,215</b>
<b>Total liabilities</b>	<b>135,838</b>	<b>60,023</b>	<b>404,760</b>
<b>Net assets</b>			
Unrestricted	35,887,551		9,813,649
Temporarily restricted	89,482,787	109,518,963	163,592,811
Permanently restricted	95,861,141	111,633,067	82,838,016
<b>Total net assets</b>	<b>222,171,479</b>	<b>221,182,020</b>	<b>216,244,476</b>
<b>Total liabilities and net assets</b>	<b>\$222,307,317</b>	<b>\$221,212,043</b>	<b>\$256,619,235</b>

The accompanying notes to the financial statements are an integral part of this statement.

DISCRETELY PRESENTED COMPONENT UNITS

**STATEMENT OF ACTIVITIES**

For the Fiscal Year Ended June 30, 2014

Support and Revenue	UNC-CH Arts and Sciences Foundation, Inc.	The Educational Foundation Scholarship Endowment Trust	The Medical Foundation of North Carolina, Inc.
<b>Support</b>			
Contributions	\$13,296,014	\$2,309,487	\$19,500,029
Development assessment fee	2,517,439		
Change in value of split-interest agreements	58,700		567,915
Contributed services and facilities	82,675		1,969,153
Actuarial adjustment of annuities payable		2,065	
Endowment investment return designated for current operations		9,968,515	
<b>Total support</b>	<b>15,954,828</b>	<b>11,880,067</b>	<b>22,037,097</b>
<b>Revenue</b>			
Interest and dividends			2,421,005
Net unrealized and realized gains on investments	24,634,650		24,741,178
Investment income	1,696,149		
Other expense	(5,616)		1,117,509
<b>Total revenue</b>	<b>24,828,183</b>		<b>28,279,692</b>
<b>Total support and revenue</b>	<b>42,480,011</b>	<b>11,880,067</b>	<b>50,316,789</b>
<b>Expenses</b>			
<b>Program services</b>			
Grants	10,068,874		16,773,381
Scholarship expense distribution		9,560,990	
Annuity payments		7,525	
<b>Total program services</b>	<b>10,068,874</b>	<b>9,568,515</b>	<b>16,773,381</b>
<b>Supporting services</b>			
Fundraising expenses	3,138,585		3,474,221
Management, administrative, and general	1,174,724		1,993,119
<b>Total supporting services</b>	<b>4,313,309</b>		<b>5,467,340</b>
<b>Total program and supporting services</b>	<b>14,382,183</b>	<b>9,568,515</b>	<b>22,240,721</b>
Bad debt expense	2,270,806		
<b>Total expenses</b>	<b>16,653,989</b>	<b>9,568,515</b>	<b>22,240,721</b>
<b>Changes in Net Assets from Operations</b>	<b>25,826,022</b>	<b>2,311,552</b>	<b>28,076,068</b>
<b>Other Changes</b>			
Endowment investment return in excess of amounts designated for current operations		18,501,099	
<b>Changes in Net Assets</b>	<b>5,141,919</b>		<b>1,485,225</b>
Unrestricted	5,141,919		1,485,225
Temporarily restricted	15,597,871	18,503,164	21,446,953
Permanently restricted	5,086,832	2,309,487	5,143,890
<b>Total changes in net assets</b>	<b>25,826,022</b>	<b>20,812,651</b>	<b>28,076,068</b>
<b>Net Assets—Beginning of Year</b>	<b>196,345,457</b>	<b>200,339,369</b>	<b>228,168,407</b>
<b>Net Assets—End of Year</b>	<b>\$222,171,479</b>	<b>\$221,152,020</b>	<b>\$256,244,475</b>

The accompanying notes to the financial statements are an integral part of this statement.

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**NOTE 1**

### Significant Accounting Policies

#### **A Financial Reporting Entity**

The concept underlying the definition of the financial reporting entity is that elected officials are accountable to their constituents for their actions. As required by accounting principles generally accepted in the United States of America (GAAP), the financial reporting entity includes both the primary government and all of its component units. An organization other than a primary government serves as a nucleus for a reporting entity when it issues separate financial statements. The University of North Carolina at Chapel Hill (University) is a constituent institution of the multi-campus University of North Carolina System (UNC System), which is a component unit of the State of North Carolina and an integral part of the State's *Comprehensive Annual Financial Report*.

The accompanying financial statements present all funds belonging to the University and its component units. While the Board of Governors of the University of North Carolina System has ultimate responsibility, the chancellor, the Board of Trustees, and the Board of Trustees of the Endowment Fund have delegated responsibilities for financial accountability of the University's funds. The University's component units are either blended or discretely presented in the University's financial statements. The blended component units, although legally separate, are, in substance, part of the University's operations and, therefore, are reported as if they were part of the University. Discretely presented component units' financial data are reported in separate financial statements because of their use of different GAAP reporting models and to emphasize their legal separateness.

**Blended Component Units** - Although legally separate, The University of North Carolina at Chapel Hill Foundation Investment Fund, Inc. (Chapel Hill Investment Fund), UNC Investment Fund, LLC (UNC Investment Fund), UNC Intermediate Pool, LLC (UNC Intermediate Fund), UNC Management Company, Inc. (Management Company), The University of North Carolina at Chapel Hill Foundation, Inc. (UNC-Chapel Hill Foundation), The Kenan-Flagler Business School Foundation (Business School Foundation), U.N.C. Law Foundation, Inc. (Law Foundation), and The University of North Carolina at Chapel Hill School of Education Foundation, Inc. (School of Education Foundation), component units of the University, are reported as if they were part of the University.

The Chapel Hill Investment Fund is governed by a board consisting of eight to 11 ex-officio directors and two to four elected directors. Ex-officio directors include all of the members of the Board of Trustees of the Endowment Fund of the University, which includes the chair of the University Board of Trustees and the chancellor, the vice chancellor for finance

and administration, and the vice chancellor for university advancement. The UNC-Chapel Hill Foundation Board may, in its discretion, elect one or two of its at-large members to the Chapel Hill Investment Fund Board. The ex-officio directors of the Chapel Hill Investment Fund may elect one or two directors by unanimous written consent. The Chapel Hill Investment Fund supports the University by operating an investment fund for certain eligible charitable, non-profit foundations, associations, trusts, endowments, and funds that are organized and operated primarily to support the University. Because members of the Board of Directors of the Chapel Hill Investment Fund are officials or appointed by officials of the University and the Chapel Hill Investment Fund's primary purpose is to benefit the University and other organizations operated primarily to support the University, its financial statements have been blended with those of the University.

The UNC Investment Fund was organized by the Chapel Hill Investment Fund to allow the University, the UNC System, other constituent institutions of the UNC System, and certain eligible affiliated foundations, associations, trusts, and endowments that support the University and the UNC System, to pool their resources and invest collectively in investment opportunities identified, structured and managed by the Management Company. The membership interests are offered only to eligible government entities or tax-exempt organizations that are controlled by or support the University, the UNC System, or other constituent institutions of the UNC System. The Chapel Hill Investment Fund contributed and assigned all of its assets to the UNC Investment Fund effective January 1, 2003, in exchange for its membership interest in the UNC Investment Fund. Upon such contribution and assignment, and in consideration thereof, the UNC Investment Fund has assumed all liabilities and obligations of the Chapel Hill Investment Fund in respect of such contributed assets. At June 30, 2014, the Chapel Hill Investment Fund membership interest was approximately 64% of the UNC Investment Fund total membership interests. Because the Chapel Hill Investment Fund is the organizer and controlling member of the UNC Investment Fund, the financial statements of the UNC Investment Fund have been blended with those of the University.

The UNC Intermediate Fund was organized by the University to make available an intermediate-term investment fund for eligible participants. The University is the controlling member. Eligible participants in the fund include not only the University but also the UNC System, its constituent institutions, and/or affiliates and supporting organizations of the UNC System or such constituent institutions. The University has retained the Management Company to serve as the investment manager of the fund. Because the University is the organizer and controlling member of the UNC Intermediate Fund, the financial statements of the UNC Intermediate Fund have been blended with those of the University.

The Management Company is a North Carolina non-profit

corporation organized and operated exclusively to support the educational mission of the University. The Management Company provides investment management and administrative services to the University, UNC System, and institutions and affiliated tax-exempt organizations, and performs other functions for and generally carries out the purposes of the University. The Management Company is governed by five ex-officio directors and one to three additional directors as fixed or changed from time to time by the board, elected by the ex-officio directors. The ex-officio directors consist of the chancellor, the vice chancellor for finance and administration, the chair of the University Board of Trustees, the chair of the Board of Directors of the Chapel Hill Investment Fund, and the president of the Management Company. Because members of the Board of Directors of the Management Company are officials or appointed by officials of the University and the Management Company's primary purpose is to benefit the University and other organizations operated primarily to support the University, its financial statements have been blended with those of the University.

The UNC-Chapel Hill Foundation is governed by a 17-member board consisting of nine ex-officio directors and eight elected directors. Ex-officio directors include the chair of the University Board of Trustees, the chancellor, the vice chancellor for finance and administration, and the vice chancellor for university advancement (non-voting). In addition, the Board of Trustees elects two ex-officio directors from among its own members as well as three ex-officio directors from the Board of Trustees of the Endowment Fund who have not otherwise been selected. The eight remaining directors are elected as members of the UNC-Chapel Hill Foundation Board of Directors by action of the ex-officio directors. The UNC-Chapel Hill Foundation aids, supports, and promotes teaching, research, and service in the various educational, scientific, scholarly, professional, artistic, and creative endeavors of the University. Because members of the Board of Directors of the UNC-Chapel Hill Foundation are officials or appointed by officials of the University and the UNC-Chapel Hill Foundation's sole purpose is to benefit the University, its financial statements have been blended with those of the University.

The Business School Foundation is governed by a board consisting of four ex-officio directors and four or more elected directors. Ex-officio directors include the dean of the Kenan-Flagler Business School (Business School), as well as the school's chief financial officer, associate dean of academic affairs, and associate dean for MBA Programs. The remaining directors are elected to the Business School Foundation Board of Directors by action of the ex-officio directors. The Business School Foundation aids, promotes, and supports the Kenan-Flagler Business School at the University. Because members of the Board of Directors of the Business School Foundation are officials or appointed by officials of the University, the financial statements of the Business School Foundation have been

blended with those of the University.

The Law Foundation is governed by a board consisting of one ex-officio director, six appointed directors, and six elected directors. The ex-officio director is the dean of the School of Law of the University. The ex-officio director appoints six directors and the Board of Directors of the Law Alumni Association of UNC, Inc. elects the other six directors. The Law Foundation provides support, fosters, and encourages the study and teaching of law at the University's Law School. Because a majority of the members of the Board of Directors of the Law Foundation are officials or appointed by officials of the University, the financial statements of the Law Foundation have been blended with those of the University.

The School of Education Foundation is governed by a board consisting of seven ex-officio directors and up to 15 elected directors. Ex-officio directors include the dean of the School of Education, as well as the school's associate dean for academic programs, assistant dean for external relations, assistant dean for administration and finance, director of alumni relations, president of the alumni council, and president-elect of the alumni council. The remaining directors are elected to the School of Education Foundation Board of Directors by action of the ex-officio directors. The School of Education Foundation aids, supports and promotes teaching, research, and service at the School of Education. Because members of the Board of Directors of the School of Education Foundation are officials or appointed by officials of the University, the financial statements of the School of Education Foundation have been blended with those of the University.

Separate financial statements for the Chapel Hill Investment Fund, UNC Investment Fund, UNC Intermediate Fund, the Management Company, and blended foundations may be obtained from the University Controller's Office, Campus Box 1270, Chapel Hill, NC 27599-1270, or by calling (919) 962-1370.

Condensed combining information regarding blended component units is provided in Note 19.

**Discretely Presented Component Units**—The Medical Foundation of North Carolina, Inc. (Medical Foundation), The University of North Carolina at Chapel Hill Arts and Sciences Foundation, Inc. (Arts and Sciences Foundation), and The Educational Foundation Scholarship Endowment Trust (Educational Foundation Trust) are legally separate, nonprofit, tax-exempt organizations and are reported as discretely presented component units based on the nature and significance of their relationship to the University.

The Medical Foundation is governed by a board consisting of one ex-officio director, the Dean of the UNC School of Medicine, and up to 33 elected directors, which serve staggered terms. Two other ex-officio directors, the President of UNC Health Care and the President of the Medical Foundation, have no voting rights on any matters. Its purpose is to support educational, scientific, and public service efforts of

the University's School of Medicine and UNC Health Care System. Historically, the University's School of Medicine has been the major recipient of financial support from the Medical Foundation rather than UNC Health Care System. Although the University does not control the timing or amount of receipts from the Medical Foundation, the majority of resources or income that the Medical Foundation holds and invests is restricted to the University by the donors. Because these restricted resources held by the Medical Foundation can only be used by, or for the benefit of the University, the Medical Foundation is considered a component unit of the University.

The Arts and Sciences Foundation is governed by a board consisting of five ex-officio directors, 30 elected directors and such number of emeritus directors determined from time to time by the Board of Directors. The 30 elected directors are elected for staggered terms by the Board of Directors in office at the time of election. The purpose of the Arts and Sciences Foundation is to promote and support the University's College of Arts and Sciences. Although the University does not control the timing or amount of receipts from the Arts and Sciences Foundation, the majority of resources or income that the Arts and Sciences Foundation holds and invests is restricted to the activities of the University by the donors. Because these restricted resources held by the Arts and Sciences Foundation can only be used by, or for the benefit of the University, the Arts and Sciences Foundation is considered a component unit of the University.

The Educational Foundation Trust is governed by The Educational Foundation Scholarship Endowment Trust Agreement which designates the voting members of the Investment Committee of The Educational Foundation, Inc. as trustees. The Investment Committee consists of five members elected from the membership of The Educational Foundation, Inc. The Educational Foundation Trust operates solely to assist the University in providing financial assistance to students at the University. On an annual basis, the Board of Trustees of the Educational Foundation Trust appropriates a portion of the net appreciation on its assets to The Educational Foundation, Inc. in its capacity as agent for the Educational Foundation Trust. The distribution from the Educational Foundation Trust to The Educational Foundation, Inc. is then forwarded by The Educational Foundation, Inc. to the University to provide financial assistance to students at the University. Although the University does not control the timing or amount of receipts from the Educational Foundation Trust, the majority of resources or income that the Educational Foundation Trust holds and invests is restricted to the students of the University by the donors. Because these restricted resources held by the Educational Foundation Trust can only be used for the benefit of the students of the University, the Educational Foundation Trust is considered a component unit of the University.

The Medical Foundation, the Arts and Sciences Foundation, and the Educational Foundation Trust are private, non-profit

organizations that report their financial results under Financial Accounting Standards Board (FASB) Statements. As such, certain revenue recognition criteria and presentation features are different from Governmental Accounting Standards Board (GASB) revenue recognition criteria and presentation features. No modifications have been made to the financial information in the University's financial statements for these differences.

During the year ended June 30, 2014, the Medical Foundation, the Arts and Sciences Foundation, and the Educational Foundation Trust distributed in total \$36,404,245 to the University for both restricted and unrestricted purposes. Complete financial statements for the Medical Foundation, Arts and Sciences Foundation, and Educational Foundation Trust can be obtained from the University Controller's Office, Campus Box 1270, Chapel Hill, NC 27599-1270, or by calling (919) 962-1370.

Other related foundations and similar non-profit corporations for which the University is not financially accountable are not part of the accompanying financial statements.

## **B** Basis of Presentation

The accompanying financial statements are presented in accordance with accounting principles generally accepted in the United States of America as prescribed by the GASB.

Pursuant to the provisions of GASB Statement No. 34, *Basic Financial Statements— and Management's Discussion and Analysis— for State and Local Governments*, as amended by GASB Statement No. 35, *Basic Financial Statements— and Management's Discussion and Analysis— for Public Colleges and Universities*, the full scope of the University's activities is considered to be a single business-type activity and, accordingly, is reported within a single column in the basic financial statements.

## **C** Basis of Accounting

The financial statements of the University have been prepared using the economic resource measurement focus and the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned, and expenses are recorded when an obligation has been incurred, regardless of the timing of the cash flows.

Non-exchange transactions, in which the University receives (or gives) value without directly giving (or receiving) equal value in exchange includes state appropriations, certain grants, and donations. Revenues are recognized, net of estimated uncollectible amounts, as soon as all eligibility requirements imposed by the provider have been met, if probable of collection.

#### D Cash and Cash Equivalents

This classification includes undeposited receipts, petty cash, cash on deposit with private bank accounts, cash on deposit with fiscal agents, and deposits held by the State Treasurer in the Short-Term Investment Fund (STIF). The STIF maintained by the State Treasurer has the general characteristics of a demand deposit account in that participants may deposit and withdraw cash at any time without prior notice or penalty.

#### E Investments

Investments are generally reported at fair value. The fair values of all debt and equity securities with readily determinable fair market values are based on quoted market prices. Investments for which a readily determinable fair value does not exist include investments in certain commingled funds and limited partnerships. These investments are carried at estimated fair values as provided by the respective fund managers of these investments or third party administrators. The Management Company reviews and evaluates the values provided by the fund managers as well as the valuation methods and assumptions used in determining the fair value of such investments. Those estimated fair values may differ significantly from the values that would have been used had a ready market for these investments existed. The net increase or decrease in the fair value of investments is recognized as a component of investment income. The majority of private equity limited partnerships and real assets limited partnerships are subject to fair value estimation, which includes discounted cash flow and transaction comparison. The estimated fair value of these investments is \$1.42 billion.

Money market funds, real estate not held by a governmental external investment pool, and other asset holdings are reported at cost, if purchased, or at fair value or appraised value at date of gift, if donated.

Short-term investments include marketable securities representing the investment of cash that is available for current operations. A majority of this available cash is invested in the University's Temporary Pool, a governmental external investment pool.

Endowment investments include the principal amount of gifts and bequests that, according to donor restrictions, must be held in perpetuity, along with any accumulated investment earnings on such amounts. Further, endowment investments also include amounts internally designated by the University for investment in an endowment capacity (i.e., quasi-endowments), along with accumulated investment earnings on such amounts. Land and other real estate held as investments by endowments are reported at fair value, consistent with how investments are generally reported.

#### F Receivables

Receivables consist of tuition and fees charged to students and charges to patients for services provided by the UNC Faculty Physicians and the Dental Faculty Practices. Receivables also include amounts due from the federal government, state and local governments, private sources in connection with reimbursement of allowable expenditures made pursuant to contracts and grants, pledges that are verifiable, measurable, and expected to be collected and available for expenditures for which the resource provider's conditions have been satisfied, and notes receivables from loans to students. Students, patients, pledges, and notes receivables are recorded net of an allowance for doubtful accounts. The accounts and other receivables are shown at book value with no provision for doubtful accounts considered necessary.

#### G Inventories

Inventories held by the University are priced at cost or average cost except for the Student Stores inventory, which is valued at the lower of cost or market. Inventories consist of expendable supplies, postage, fuel held for consumption, textbooks, and other merchandise for resale.

#### H Capital Assets

Capital assets are stated at cost at date of acquisition or fair value at date of donation in the case of gifts. The value of assets constructed includes all material direct and indirect construction costs. Interest costs incurred are capitalized during the period of construction.

The University capitalizes assets that have a value or cost in excess of \$5,000 at the date of acquisition and an expected useful life of more than one year except for intangible assets which are capitalized when the value or cost is \$100,000 or greater and internally generated software which is capitalized when the value or cost is \$1,000,000 or greater.

Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally 10 to 75 years for general infrastructure, 12 to 75 years for buildings, and 3 to 30 years for equipment. Amortization is computed using the straight-line method over the estimated useful lives of the assets, from 3 to 20 years for computer software.

The University's historic property, artworks, and literary collections are capitalized at cost or fair value at the date of donation. These properties and collections are considered inexhaustible and are therefore not depreciated.

#### I Restricted Assets

Certain resources are reported as restricted assets because restrictions on asset use change the nature or normal

understanding of the availability of the asset. Resources that are not available for current operations and are reported as restricted include resources restricted for the acquisition or construction of capital assets and resources legally segregated for the payment of principal and interest as required by debt covenants, unspent debt proceeds, and endowment and other restricted investments.

#### J Funds Held in Trust for Pool Participants

Funds held in trust for pool participants represent the external portion of the University's governmental external investment pools more fully described in Note 2. The assets associated with this liability are included in restricted investments, cash, and other similar asset accounts.

#### K Funds Held in Trust by Others

Funds held in trust by others are resources neither in the possession nor the control of the University, but held and administered by an outside organization, with the University deriving income from such funds. Such funds established under irrevocable trusts where the University has legally enforceable rights or claims have not been recorded on the accompanying financial statements. The value of these assets at June 30, 2014 is \$33.8 million.

#### L Non-current Long-term Liabilities

Non-current long-term liabilities include principal amounts of revenue bonds payable, notes payable, capital lease obligations, annuity and life income payable, and compensated absences that are not scheduled to be paid within the next fiscal year.

Revenue bonds payable are reported net of unamortized premiums or discounts. The University amortizes bond premiums/discounts over the life of the bonds using the straight-line method. Deferred charges on refundings are amortized over the life of the old debt or new debt (whichever is shorter) using the straight-line method, and are included as Deferred Outflows of Resources on the Statement of Net Position. Issuance costs are expensed.

#### M Compensated Absences

The University's policy is to record the cost of vacation leave when earned. The policy provides for a maximum accumulation of unused vacation leave of 30 days which can be carried forward each January 1 or for which an employee can be paid upon termination of employment. Also, any accumulated vacation leave in excess of 30 days at year-end is converted to sick leave. Under this policy, the accumulated vacation leave for each employee at June 30 equals the leave carried forward at

the previous December 31 plus the leave earned, less the leave taken between January 1 and June 30.

In addition to the vacation leave described above, compensated absences include the accumulated unused portion of the special annual leave bonuses awarded by the North Carolina General Assembly. The bonus leave balance on December 31 is retained by employees and transferred into the next calendar year. It is not subject to the limitation on annual leave carried forward described above and is not subject to conversion to sick leave.

When classifying compensated absences into current and noncurrent, leave is considered taken using a last-in, first-out (LIFO) method.

There is no liability for unpaid accumulated sick leave because the University has no obligation to pay sick leave upon termination or retirement. However, additional service credit for retirement pension benefits is given for accumulated sick leave upon retirement.

#### N Net Position

The University's net position is classified as follows:

**Net Investment in Capital Assets**—This represents the University's total investment in capital assets, net of outstanding debt obligations related to those capital assets. To the extent debt has been incurred but not yet expended for capital assets, such amounts are not included as a component of Net Investment in Capital Assets. Additionally, deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of capital assets or related debt are also included in this component of net position.

**Restricted Net Position—Non-expendable**—Non-expendable restricted net position includes endowments and similar type assets whose use is limited by donors or other outside sources, and, as a condition of the gift, the principal is to be maintained in perpetuity.

**Restricted Net Position—Expendable**—Expendable restricted net position includes resources for which the University is legally or contractually obligated to spend in accordance with restrictions imposed by external parties.

**Unrestricted Net Position**—Unrestricted net position includes resources derived from student tuition and fees, sales and services, unrestricted gifts, royalties, and interest income.

Restricted and unrestricted resources are tracked using a fund accounting system and are spent in accordance with established fund authorities. Fund authorities provide rules for the fund activity and are separately established for restricted and unrestricted activities. When both restricted and unrestricted funds are available for expenditure, the decision

for funding is transactional based within the departmental management system in place at the University. For projects funded by tax-exempt debt proceeds and other sources, the debt proceeds are always used first. Both restricted and unrestricted net position includes consideration of deferred inflows and outflows of resources.

#### **D** Scholarship Discounts

Student tuition and fees revenues and certain other revenues from University charges are reported net of scholarship discounts in the accompanying Statement of Revenues, Expenses, and Changes in Net Position. The scholarship discount is the difference between the gross charge for goods and services provided by the University and the actual amount that is paid by students or by third parties on the students' behalf. Student financial assistance grants, such as Pell grants, and other federal, state, or non-governmental programs, are recorded as non-operating revenues in the accompanying Statement of Revenues, Expenses, and Changes in Net Position. To the extent that revenues from these programs are used to satisfy tuition, fees, and other charges, the University has recorded a scholarship discount.

#### **F** Revenue and Expense Recognition

The University classifies its revenues and expenses as operating or non-operating in the accompanying Statement of Revenues, Expenses, and Changes in Net Position. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the University's principal ongoing operations. Operating revenues include activities that have characteristics of exchange transactions, such as (1) student tuition and fees, (2) sales and services of auxiliary enterprises, (3) certain federal, state and local grants and contracts that are essentially contracts for services, and (4) interest earned on loans. Operating expenses are all expense transactions incurred other than those related to capital and non-capital financing or investing activities as defined by GASB Statement No. 9, *Reporting Cash Flows of Proprietary and Nonexpendable Trust Funds and Governmental Entities That Use Proprietary Fund Accounting*.

Non-operating revenues include activities that have the characteristics of non-exchange transactions. Revenues from non-exchange transactions and state appropriations that represent subsidies or gifts to the University, as well as investment income, are considered non-operating since these are either investing, capital or non-capital financing activities. Capital contributions are presented separately after non-operating revenues and expenses.

#### **C** Internal Sales Activities

Certain institutional auxiliary operations provide goods and services to University departments, as well as to its customers. These institutional auxiliary operations include activities such as utility services, telecommunications, central stores, printing and copy centers, postal services, and repairs and maintenance services. In addition, the University has other miscellaneous sales and service units that operated either on a reimbursement or charge basis. All internal sales activities to University departments from auxiliary operations and sales and service units have been eliminated in the accompanying financial statements. These eliminations are recorded by removing the revenue and expense in the auxiliary operations and sales and service units and, if significant, allocating any residual balances to those departments receiving the goods and services during the year.

#### **NOTE 8**

### Deposits and Investments

#### **A** Deposits

Unless specifically exempt, the University is required by *North Carolina General Statute 147-77* to deposit moneys received with the State Treasurer or with a depository institution in the name of the State Treasurer. However, the University of North Carolina Board of Governors, pursuant to G.S. 116-36.1, may authorize the University to deposit its institutional trust funds in interest-bearing accounts and other investments authorized by the Board of Governors, without regard to any statute or rule of law relating to the investment of funds by fiduciaries. Although specifically exempted, the University may voluntarily deposit institutional trust funds, endowment funds, special funds, revenue bond proceeds, debt service funds, and funds received for services rendered by health care professionals with the State Treasurer. Special funds consist of moneys for intercollegiate athletics and agency funds held directly by the University.

At June 30, 2014, the amount shown on the Statement of Net Position as cash and cash equivalents includes \$579,344,554 which represents the University's equity position in the State Treasurer's STIF. The STIF (a portfolio within the State Treasurer's Investment Pool, an external investment pool that is not registered with the Securities and Exchange Commission and does not have a credit rating) had a weighted average maturity of 1.3 years as of June 30, 2014. Assets and shares of the STIF are valued at amortized cost, which approximates fair value. Deposit and investment risks associated with the State Treasurer's Investment Pool (which includes the State Treasurer's STIF) are included in the State

of North Carolina's *Comprehensive Annual Financial Report*. An electronic version of this report is available by accessing the North Carolina Office of the State Controller's Internet home page <http://www.osc.nc.gov/> and clicking on "Reports" or by calling the State Controller's Financial Reporting Section at (919) 707-0500.

Cash on hand at June 30, 2014 was \$133,907. The carrying amount of the University's deposits not with the State Treasurer was \$118,154,821 and the bank balance was \$94,877,881. Custodial credit risk is the risk that in the event of a bank failure, the University's deposits may not be returned to it. The University does not have a deposit policy for custodial credit risk. As of June 30, 2014, \$92,524,541 of the University's bank balance was exposed to custodial credit risk as uninsured and uncollateralized.

#### **B** Investments

The University is authorized by The University of North Carolina Board of Governors pursuant to G.S. 116-36.2 and Section 600.2.4 of the Policy Manual of the University of North Carolina, to invest its special funds and funds received for services rendered by health care professionals in the same manner as the State Treasurer is required to invest, as discussed below.

G.S. 147-69.1(c), applicable to the State's General Fund, and G.S. 147-69.2, applicable to institutional trust funds, authorize the State Treasurer to invest in obligations of or fully guaranteed by the United States; obligations of certain federal agencies; repurchase agreements; obligations of the State of North Carolina; time deposits of specified institutions; prime quality commercial paper; and asset-backed securities with specified ratings. Also, G.S. 147-69.1(c) authorizes specified bills of exchange or time drafts and corporate bonds and notes with specified ratings. G.S. 147-69.2 authorizes general obligations of other states; general obligations of North Carolina local governments; and obligations of certain entities with specified ratings.

Bond proceeds and debt service funds are invested in obligations that will by their terms mature on or before the date funds are expected to be required for expenditure or withdrawal, in accordance with the bond resolutions.

G.S. 116-36(e) provides that the trustees of the Endowment Fund shall be responsible for the prudent investment of the fund in the exercise of their sound discretion, without regard to any statute or rule of law relating to the investment of funds by fiduciaries but in compliance with any lawful condition placed by the donor upon that part of the Endowment Fund to be invested.

Investments of the University's component units, UNC-Chapel Hill Foundation, UNC Management Company, Chapel Hill Investment Fund, UNC Intermediate Fund, UNC Investment Fund, Business School Foundation, Law Foundation, School of Education Foundation, Medical

Foundation, Arts and Sciences Foundation, and Educational Foundation Trust, are subject to and restricted by G.S. 36E "Uniform Prudent Management of Institutional Funds Act" (UPMIFA) and any requirements placed on them by contract or donor agreements. The Management Company does not hold endowment funds.

Investments of various funds may be pooled unless prohibited by statute or by terms of the gift or contract. The University utilizes investment pools to manage investments and distribute investment income.

Investments are subject to the following risks.

**Interest Rate Risk:** Interest rate risk is the risk the University may face should interest rate variances affect the fair value of investments. The University does not have a formal policy that addresses interest rate risk.

**Credit Risk:** Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The University does not have a formal policy that addresses credit risk.

**Foreign Currency Risk:** Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The University does not have a formal policy for foreign currency risk.

**Temporary Investment Pool (Temporary Pool)**—The Temporary Pool is a fixed income portfolio managed by the Management Company and Novant Asset Management, LLC. It operates in conjunction with the University's Bank of America disbursing account for all special funds, funds received for services rendered by health care professionals, and endowment revenue funds (internal portion) and funds of affiliated foundations (external portion). Because of participation in the Temporary Pool by affiliated foundations, it is considered a governmental external investment pool. The external portion of the Temporary Pool is presented in the accompanying financial statements as Funds Held in Trust for Pool Participants. Fund ownership of the University's Temporary Pool is measured using the unit value method. Under this method, participant activity is recorded on a cost basis in the UNC-Chapel Hill Money Market System. This is the official means of recording activity in the Temporary Pool. The Temporary Pool is not registered with the U.S. Securities and Exchange Commission and is not subject to any formal oversight other than that provided by the University Board of Trustees. The University has not provided legally binding guarantees during the period to support the value of the pool's investments. There are no involuntary participants in the Temporary Pool.

The Bank of New York Mellon is the custodian for the Temporary Pool and provides the University with monthly statements defining income and market value information. Investments of the Temporary Pool are generally highly liquid

and include U.S. government securities, collateralized mortgage obligations, asset-backed securities, corporate bonds, and mutual funds. The University has elected to invest a portion of the Temporary Pool assets in the Chapel Hill Investment Fund.

Participants may purchase and sell shares in the Temporary Pool at a fixed value of \$1 per share. Generally, the purchase and sale of participation shares occur only at the beginning of the month. Income distribution is determined each quarter by multiplying the distribution rate by the average of the invested fund balance. Statements are provided via internet website to each participating account or group of accounts on a quarterly basis reflecting the participants' balance and income distribution. The rate earned by an account is dependent upon its account classification and investable fund balance. The rates are set by policy and approved by the vice chancellor for finance and administration.

The following table presents the fair value of the Temporary Pool investments by type and investments subject to interest rate risk at June 30, 2014.

## TEMPORARY POOL INVESTMENTS

Investment Type	Fair Value	Investment Maturities (in Years)			
		Less Than 1	1 to 5	5 to 10	More than 10
<b>Debt Securities</b>					
U.S. Treasuries	\$125,152,800	\$40,073,850	\$85,078,950		
U.S. Agencies	124,280,330	12,717,032	19,512,216	\$2,670,022	\$89,381,060
Mortgage Pass Throughs	29,233	29,233			
Collateralized Mortgage Obligations	9,337,973	2,960,574	77,314		6,300,085
Asset-backed Securities	1,007,785	1,007,785			
Money Market Mutual Funds	48,726,939	48,726,939			
Domestic Corporate Bonds	31,189,902	9,718,301	17,376,892	493,505	3,601,204
<b>Total Debt Securities</b>	<b>\$39,724,962</b>	<b>\$115,233,714</b>	<b>\$122,045,372</b>	<b>\$3,163,527</b>	<b>\$99,282,349</b>
<b>Other Securities</b>					
Domestic Stocks	30,000				
<b>Total Temporary Pool Investments</b>	<b>\$39,754,962</b>				

The University has elected to invest \$47.7 million of asset of the Temporary Pool in the UNC Chapel Hill Investment Fund. The disclosures for these investments are not included in the preceding table. Rather, the disclosures for this portion of the Temporary Investment Pool are included in those for UNC Chapel Hill Investment Fund, Inc.

At June 30, 2014, investments in the Temporary Pool had the following credit quality distribution for securities with credit exposure:

	Fair Value	AAA Aaa	AA Aa	A	BBB Baa	BB, Ba and below	Unrated
U.S. Agencies	\$124,280,330	\$15,683	\$124,264,647				
Collateralized Mortgage Obligations	9,337,973				\$5,175,522	\$4,162,451	
Asset-backed Securities	1,007,785					1,007,785	
Mortgage Pass Throughs	29,233				\$29,233		
Money Market Mutual Funds	48,726,939	48,726,939					
Domestic Corporate Bonds	31,189,902	4,961,841	10,158,388	\$15,222,338	493,505	363,830	
<b>Total</b>	<b>\$214,572,182</b>	<b>\$63,694,463</b>	<b>\$134,423,035</b>	<b>\$15,222,338</b>	<b>\$822,738</b>	<b>\$8,947,137</b>	<b>\$4,162,451</b>

Rating Agency: Moody's/Standard & Poor's/Fitch (lowest rating reported above)

Since a separate annual financial report of the Temporary Investment Pool is not issued, the following additional disclosures are being provided in the University's financial statements.

The Temporary Investment Pool's Statement of Net Position and Statement of Operations and Changes in Net Position as of and for the period ended June 30, 2014, are as follows:

## STATEMENT OF NET POSITION

June 30, 2014

	Amount
<b>Assets:</b>	
State Treasurer Investment Fund	\$80,000,000
Accounts Receivable	24
Accrued Investment Income	754,148
Deferred Loss	61,227
Chapel Hill Investment Fund	47,719,183
Investments	339,754,962
<b>Total Assets</b>	<b>\$468,289,544</b>
<b>Liabilities:</b>	
Accounts Payable	2,090,806
<b>Total Liabilities</b>	<b>2,090,806</b>
<b>Net Position As Held in Trust for All Pool Participants:</b>	
Internal Portion	275,675,323
External Portion	190,523,415
<b>Total Net Position</b>	<b>466,198,738</b>
<b>Total Liabilities and Net Position</b>	<b>\$468,289,544</b>

## Intermediate Investment Pool (Intermediate Pool) -

Established in October 2007, the Intermediate Pool is a portfolio managed by the Management Company, comprised of fixed income investments and investments with the UNC-Chapel Hill Foundation Investment Fund, Inc. (Chapel Hill Investment Fund). Participation in the Intermediate Pool is open to all participants that are eligible for the UNC Chapel Hill Temporary Investment Pool; currently, the University is the only member. Fund ownership of the University's Intermediate Pool is measured using the unit value method. Under this method, each participant's investment balance is determined on a market value basis. The Intermediate Pool is not registered with the SEC and is not subject to any formal oversight other than that provided by the University Board of Trustees. The University has not provided legally binding guarantees during the period to support the value of the pool's investments. There are no involuntary participants in the Intermediate Pool.

The Bank of New York Mellon is the custodian for the Intermediate Pool and provides the University with monthly

## STATEMENT OF OPERATIONS AND CHANGES IN NET POSITION

For the Fiscal Year Ended June 30, 2014

	Amount
<b>Increase in Net Position from Operations:</b>	
Revenue: Investment Income	\$3,086,064
Expenses: Investment Management	(504,058)
<b>Net Increase in Net Position Resulting from Operations</b>	<b>2,582,006</b>
<b>Distributions to Participants:</b>	
Distributions Paid and Payable	(2,582,006)
<b>Share Transactions:</b>	
Net Share Purchases	(13,981,610)
<b>Total Decrease in Net Position</b>	<b>(13,931,610)</b>
<b>Net Position:</b>	
Beginning of Year	480,130,348
<b>End of Year</b>	<b>\$466,198,738</b>

statements defining income and market value information. Generally a minimum of 45 percent and a maximum of 65 percent of the market value of the Intermediate Pool will be invested in the Chapel Hill Investment Fund. The remaining assets of the Intermediate Pool will be invested primarily (at least 80 percent) in cash, money market instruments, high quality bonds, and other high quality fixed income instruments in accordance with investment guidelines.

Purchase and sale of participation shares occur at the beginning of the month. As calculated by the Management Company, returns net of fees and expenses will be allocated 85 percent to the Intermediate Pool participants and 15 percent to the University. Statements are provided by the Management Company to each participant on a monthly basis reflecting the participants' balance and investment activity.

The table on the following page presents the fair value of the investments by type and investments subject to interest rate risk at June 30, 2014.

## INTERMEDIATE POOL INVESTMENTS

Investment Type	Fair Value	Investment Maturities (In Years)			
		Less Than 1	1 to 5	6 to 10	More than 10
<b>Debt Securities</b>					
Debt Mutual Funds	\$7,468,132		\$7,468,132		
Money Market Mutual Funds	6,642,984	\$6,642,984			
<b>Total Intermediate Pool Investments</b>	<b>\$14,111,116</b>	<b>\$6,642,984</b>	<b>\$7,468,132</b>	<b>\$0</b>	<b>\$0</b>

At June 30, 2014, investments in the Intermediate Pool had the following credit quality distribution for securities with credit exposure:

Investment Type	Fair Value	AAA, Aaa	A
Debt Mutual Funds	\$7,468,132	\$7,393,891	\$6,074,241
Money Market Mutual Funds	6,642,984	6,642,984	
<b>Total</b>	<b>\$14,111,116</b>	<b>\$9,036,875</b>	<b>\$6,074,241</b>

Rating Agency: Moody's/Standard & Poor's/Fitch (lowest rating reported above)

At June 30, 2014, the Intermediate Investment Pool had investments of \$19,204,795 in the Chapel Hill Investment Fund. The disclosures for these investments are not included here. The disclosures for this portion of the Intermediate Investment Pool can be found under the heading UNC Chapel Hill Investment Fund, Inc.

**UNC Intermediate Pool, LLC (UNC Intermediate Fund)** - The UNC Intermediate Fund was organized by the University in May 2013 as a partnership to make available an intermediate-term investment fund for eligible participants with the University being the controlling member. The UNC Intermediate Fund received initial contributions on January 1, 2014; it is classified as a governmental external investment pool. Eligible participants in the fund include not only the University but also the University of North Carolina System (UNC System), its constituent institutions, and/or affiliates and supporting organizations of the UNC System or such constituent institutions. The University has retained the Management Company to serve as the investment manager of the fund. Because the University is the organizer and controlling member of UNC Intermediate Fund, its financial statements have been blended with those of the University.

Fund ownership of the UNC Intermediate Fund is measured using the unit value method. Under this method, each participant's investment balance is determined on a market value basis. The UNC Intermediate Fund is not registered with the SEC and is not subject to any formal oversight beyond that provided by UNC Management Company as well as an

Oversight Committee of University employees appointed by the Chancellor of the University. The University has not provided legally binding guarantees during the period to support the value of the pool's investments. There are no involuntary participants in the Intermediate Pool. The University has not provided or obtained any legally binding guarantees during the period to support the value for the Chapel Hill Investment Fund. The audited financial statements for the UNC Intermediate Fund may be obtained from the University Controller's Office, Campus Box 1270, Chapel Hill, NC 27599-1270, or by calling (919) 962-1370.

The Bank of New York Mellon is the custodian for the UNC Intermediate Fund and provides the University with monthly statements providing income and market value information. UNC Intermediate Fund investments are comprised of shares in mutual funds, money market accounts, and the UNC Investment Fund.

As of June 30, 2014, the University's membership interest was approximately 98% of the UNC Intermediate Fund's total membership interests. An affiliated organization, not included in the University's reporting entity, held the remaining 2% membership interest. This external portion of the UNC Intermediate Fund is presented in the accompanying financial statements as Funds Held in Trust for Pool Participants.

The following table presents the fair value of the UNC Intermediate Fund investments by type and investments subject to interest rate risk at June 30, 2014.

## UNC INTERMEDIATE FUND INVESTMENTS

Investment Type	Fair Value	Investment Maturities (In Years)			
		Less Than 1	1 to 5	6 to 10	More than 10
<b>Debt Securities</b>					
U.S. Treasuries	\$3,358,101		\$3,358,101		
U.S. Agencies	1,263,846				\$1,263,846
Mortgage Pass Throughs	8,679,274	\$6,575,986			2,103,288
Collateralized Mortgage Obligations	17,994,184	3,902,443		\$672,893	13,419,148
Asset-backed Securities	16,127,207	16,127,207			
Debt Mutual Funds	200,169,658		11,535,468	188,634,190	
Money Market Mutual Funds	27,494,134	27,494,134			
Domestic Corporate Bonds	11,259,874		5,401,766	5,507,848	350,260
Foreign Corporate Bonds	23,011,852	1,739,920	10,210,625	9,178,600	1,882,707
Foreign Government Bonds	419,000		202,000	217,000	
<b>Total Debt Securities</b>	<b>\$69,772,130</b>	<b>\$26,839,692</b>	<b>\$30,702,960</b>	<b>\$204,210,281</b>	<b>\$19,019,247</b>
<b>Other Securities</b>					
Real Estate Investment Trusts	172,571				
<b>Total Temporary Pool Investments</b>	<b>\$309,944,701</b>				

The University has elected to invest \$72.0 million of assets of the UNC Intermediate Fund in the UNC Investment Fund. The disclosures for these investments are not included in the preceding table. Rather, the disclosures for this portion of UNC Intermediate Fund investments are included in those for UNC Investment Fund.

At June 30, 2014, investments in UNC Intermediate Fund had the following credit quality distribution for securities with credit exposure:

	Fair Value	AAA, Aaa	AA, Aa	A	BBB, Baa	BB, Bb and below	Unrated
U.S. Agencies	\$1,263,846		\$1,263,846				
Collateralized Mortgage Obligations	17,994,184	\$463,867	863,391	\$500,607		\$15,125,637	\$1,040,742
Asset-backed Securities	16,127,207	4,811,958	1,367,414	3,001,765	\$3,937,862	1,745,100	1,263,118
Debt Mutual Funds	200,169,658	71,233,166	117,401,024			11,535,468	
Mortgage Pass Throughs	8,679,274	289,892			\$1,681,709	6,707,673	
Money Market Mutual Funds	27,494,134	27,494,134					
Domestic Corporate Bonds	11,259,874		498,325	1,527,835	3,154,801	6,078,913	
Foreign Corporate Bonds	23,011,852		400,093	1,385,369	8,063,082	13,173,306	
Foreign Government Bonds	419,000				202,000	217,000	
<b>Total</b>	<b>\$306,419,029</b>	<b>\$104,293,017</b>	<b>\$121,794,033</b>	<b>\$6,415,576</b>	<b>\$17,029,444</b>	<b>\$34,583,099</b>	<b>\$2,303,860</b>

Rating Agency: Moody's/Standard & Poor's/Fitch (lowest rating reported above)

**UNC Chapel Hill Foundation Investment Fund, Inc. (Chapel Hill Investment Fund)**—Chapel Hill Investment Fund is a North Carolina non-profit corporation exempt from income tax pursuant to Section 501(c)(3). It was established in January 1997 and is classified as a governmental external investment pool. The pool is utilized to manage the investments for charitable, non-profit foundations, associations, trusts, endowments, and funds that are organized and

operated primarily to support the University. The University's Endowment, UNC-Chapel Hill Foundation, Business School Foundation, School of Education Foundation, Law Foundation, Medical Foundation, Arts and Sciences Foundation, and Educational Foundation Trust are participants in the Chapel Hill Investment Fund and are included in the University's reporting entity (internal portion). Other affiliated organizations (external portion) in the Chapel Hill Investment Fund

are not included in the University's reporting entity. Fund ownership of the Chapel Hill Investment Fund is measured using the unit value method. Under this method, each participant's investment balance is determined on a market value basis. The external portion of the Chapel Hill Investment Fund is presented in the accompanying financial statements as Funds Held in Trust for Pool Participants.

The Chapel Hill Investment Fund is not registered with the SEC and is not subject to any formal oversight other than that provided by the Chapel Hill Investment Fund Board of Directors (See Note 1A).

The Chapel Hill Investment Fund is the primary participant of UNC Investment Fund, LLC (UNC Investment Fund) and on a monthly basis receives a unitization report from the Management Company providing change in book and market values, applicable realized gains and losses and expenses. The Chapel Hill Investment Fund uses a unit basis to determine each participant's market value and to distribute the fund's earnings according to the fund's spending policy. There are no involuntary participants in the Chapel Hill Investment Fund. The University has not provided or obtained any legally binding guarantees during the period to support the value for the Chapel Hill Investment Fund. The audited financial statements for the Chapel Hill Investment Fund may be obtained from the University Controller's Office, Campus Box 1270, Chapel Hill, NC 27599-1270, or by calling (919) 962-1370.

The Chapel Hill Investment Fund consists of an approximate 64 percent membership in the UNC Investment Fund categorized below.

**UNC Investment Fund, LLC (UNC Investment Fund)**—The UNC Investment Fund is a non-profit limited liability company exempt from income tax pursuant to Section 501(c)(3) organized under the laws of the State of North Carolina. It was established in December 2002 by the Chapel Hill Investment Fund and is classified as a governmental external investment pool. The pool is utilized to manage the investments for The University of North Carolina, its constituent institutions, and affiliates of the constituent institutions. This includes charitable, non-profit foundations, associations, trusts, endowments,

and funds that are organized and operated primarily to support these institutions. As previously noted, the Chapel Hill Investment Fund, with an approximate 64 percent membership interest as of June 30, 2014, is the predominant member of the UNC Investment Fund.

The University's reporting entity portion of the Chapel Hill Investment Fund and the Management Company's portion of the UNC Investment Fund are characterized as the internal portion. Other affiliated organizations in the Chapel Hill Investment Fund, in addition to other members of the UNC Investment Fund not included in the University's reporting entity, are characterized as the external portion. The external portion of the UNC Investment Fund is presented in the accompanying financial statements as Funds Held in Trust for Pool Participants. Membership interests of the UNC Investment Fund are measured using the unit value method. Under this method, each member's investment balance is determined on a market value basis.

The UNC Investment Fund is not registered with the SEC and is not subject to any formal oversight other than that provided by the Chapel Hill Investment Fund as the controlling member (See Note 1A). Effective January 1, 2003, the Management Company entered into an investment management services agreement with the UNC Investment Fund and provides investment management and administrative services.

The Bank of New York Mellon is the custodian for the UNC Investment Fund and provides the University with monthly statements defining income and market value information. The UNC Investment Fund uses a unit basis to determine each member's market value and to distribute the fund's earnings. The University has not provided or obtained any legally binding guarantees during the period to support the value for the UNC Investment Fund investments. The audited financial statements for the UNC Investment Fund may be obtained from UNC Management Company, Inc., 1400 Environ Way, Chapel Hill, NC 27517.

The following table presents the fair value of the UNC Investment Fund investments by type and investments subject to interest rate risk at June 30, 2014.

## UNC INVESTMENT FUND INVESTMENTS

Investment Type	Fair Value	Investment Maturities (in Years)			
		Less Than 1	1 to 5	6 to 10	More than 10
<b>Debt Securities</b>					
U.S. Treasuries	\$14,729,425		\$7,102,180	\$7,627,245	
U.S. Agencies	7,315,268	\$873,600	1,869,963	1,449,224	\$3,132,481
Mortgage Pass Throughs	1,687,258	1,687,258			
Collateralized Mortgage Obligations	32,567,235				30,571
Asset-backed Securities	13,550,772	13,550,772			
Debt Mutual Funds	78,788,815		1,819,372	77,269,443	
Money Market Mutual Funds	170,575,707		170,575,707		
Domestic Corporate Bonds	4,522,773	1,265,273	2,109,685	505,540	642,275
<b>Total Debt Securities</b>	<b>\$22,737,254</b>	<b>\$222,008,647</b>	<b>\$11,071,828</b>	<b>\$86,851,462</b>	<b>\$3,805,327</b>
<b>Other Securities</b>					
International Equity Index Funds	39,542,380				
Equity Index Funds	11,583,114				
Real Estate Investment Trust	33,734,977				
Long/Short Hedge Funds	789,695,974				
Diversifying Hedge Funds	376,319,235				
Hedge Funds In Liquidation	18,083,494				
Long Only Equity Funds	1,034,289,312				
Private Equity Limited Partnerships	895,050,209				
Real Assets Limited Partnerships	523,267,641				
Domestic Stocks	168,695,095				
<b>Total UNC Investment Fund Pool Investments</b>	<b>\$4,213,998,655</b>				

At June 30, 2014, investments in the UNC Investment Fund had the following credit quality distribution for securities with credit exposure:

	Fair Value	AAA Am	AA Am	A	BBB Am	BB, B+ and Below
U.S. Agencies	\$7,315,269		\$7,315,269			
Mortgage Pass Throughs	1,687,258					\$1,687,258
Collateralized Mortgage Obligations	32,567,234	\$11,681				32,555,353
Asset-backed Securities	13,550,772				\$1,688,930	11,661,842
Debt Mutual Funds	78,788,815				78,788,815	
Money Market Mutual Funds	170,575,708		170,575,708			
Domestic Corporate Bonds	4,522,773		500,990	\$3,761,805		259,978
<b>Total</b>	<b>\$309,007,829</b>	<b>\$170,587,589</b>	<b>\$7,816,259</b>	<b>\$3,761,805</b>	<b>\$80,477,745</b>	<b>\$46,164,431</b>

Rating Agency: Moody's/Standard & Poor's/Fitch (lowest rating reported above)

**Foreign Currency Risk:** At June 30, 2014, the UNC Investment Fund exposure to foreign currency risk is as follows:

Investment	Currency	Fair value (U.S. dollars)
Private equity limited partnerships	Euro	\$97,027,892
Real assets limited partnerships	Euro	21,916,101
Other hedge funds	Euro	30,847,091
Private equity limited partnerships	British Pound Sterling	11,464,104
Real assets limited partnerships	British Pound Sterling	8,607,988
Real assets limited partnerships	Canadian Dollar	9,850,080
Private equity limited partnerships	Australian Dollar	5,790,081
<b>Total</b>		<b>\$185,502,337</b>

**Investment Derivatives:** At June 30, 2014, the UNC Investment Fund is invested in futures contracts with a fair value of \$80.5 million. Additional information is provided in Note 9 Derivative Instruments.

**Non-Pooled Investments -** The following table presents the fair value of investments by type and investments subject to interest rate risk at June 30, 2014.

#### NON-POOLED INVESTMENTS

Investment Type	Fair Value	Investment Maturities (in Years)			
		Less Than 1	1 to 5	6 to 10	More than 10
<b>Debt Securities</b>					
U.S. Treasuries	\$125,231	\$125,231			
U.S. Agencies	426	426			
Mortgage Pass Throughs	204				
Collateralized Mortgage Obligations	48,630	48,630			
State and Local Government	7,693,565	504,669	\$3,315,380	\$3,485,291	\$388,225
Money Market Mutual Funds	52,443,331	52,443,331			
Domestic Corporate Bonds	577,830	484,325		93,505	
Foreign Corporate Bonds	1,479,386	90,279	1,389,107		
Foreign Government Bonds	33,220	33,220			
<b>Total Debt Securities</b>	<b>82,401,823</b>	<b>\$53,730,315</b>	<b>\$3,315,380</b>	<b>\$4,967,903</b>	<b>\$388,225</b>
<b>Other Securities</b>					
International Mutual Funds	670,890				
Equity Mutual Funds	713,174				
Investments in Real Estate	418,223				
Real Estate Investment Trust	2,720,635				
Private Equity Limited Partnerships	2,769,766				
Real Assets Limited Partnerships	3,237,911				
Domestic Stocks	15,577,796				
Foreign Stocks	4,229,812				
Other	13,465,139				
<b>Total Non-Pooled Investments</b>	<b>\$106,185,169</b>				

At June 30, 2014, the University's Non-Pooled investments had the following credit quality distribution for securities with credit exposure:

	Fair Value	AAA Aaa	AA Aa	A	BBB Baa	BB, Ba and below	Unrated
U.S. Agencies	\$426		\$426				
Mortgage Pass Throughs	204						\$204
Collateralized Mortgage Obligations	48,630						48,630
Debt Mutual Funds	7,693,565	\$388,225	3,268,142	\$1,074,818	\$2,183,864	\$273,847	504,669
Money Market Mutual Funds	52,443,331	52,381,428		61,903			
Domestic Corporate Bonds	577,830				93,505	484,325	
Foreign Corporate Bonds	1,479,386	1,366,398	32,709	22,046			68,233
Foreign Government Bonds	33,220						33,220
<b>Total</b>	<b>\$62,276,892</b>	<b>\$84,126,081</b>	<b>\$3,301,277</b>	<b>\$1,188,767</b>	<b>\$2,277,269</b>	<b>\$788,172</b>	<b>\$884,986</b>

Rating Agency: Moody's/Standard & Poor's/Fitch (lowest rating reported above)

**Foreign Currency Risk:** At June 30, 2014, the University had nominal direct exposure to foreign currency risk in Non-Pooled Investments. In terms of indirect exposure, the University had approximately \$5.7 million of Non-Pooled investments in foreign domains where the investments were denominated in U.S. dollars. Additionally, the University has indirect exposure via mutual funds.

**Total Investments—**The following table presents the fair value of the University's total investments at June 30, 2014.

Investment Type	Fair Value
<b>Debt Securities</b>	
U.S. Treasuries	\$143,360,557
U.S. Agencies	132,859,871
Mortgage Pass Throughs	10,395,970
Collateralized Mortgage Obligations	89,948,022
Asset-backed Securities	30,685,765
Debt Mutual Funds	294,120,169
Money Market Mutual Funds	305,883,096
Domestic Corporate Bonds	47,650,379
Foreign Corporate Bonds	24,491,237
Foreign Government Bonds	452,219
<b>Total Debt Securities</b>	<b>1,049,747,285</b>
<b>Other Securities</b>	
International Equity Index Funds	39,542,380
International Equity Mutual Funds	670,890
Equity Index Funds	11,583,114
Equity Mutual Funds	713,174
Investments in Real Estate	418,223
Real Estate Investment Trust	36,628,183
Long/Short Hedge Funds	737,513,922
Diversifying Hedge Funds	376,319,235
Hedge Funds in Liquidation	94,268,889
Long Only Hedge Funds	1,010,295,969
Private Equity Limited Partnerships	897,819,976
Real Assets Limited Partnerships	525,505,561
Domestic Stocks	184,302,891
Foreign Stocks	4,229,812
Other	13,465,140
<b>Total Investments</b>	<b>\$4,984,004,633</b>

Total investments are reported in the University's financial statements:

University Statement of Net Position	Amount
Short-term Investments	\$682,104,789
Restricted short-term Investments	201,630,037
Endowment Investments	1,701,042,108
Restricted Investments	1,846,015,944
Other Investments	27,650,514
<b>Subtotal</b>	<b>4,488,443,881</b>
Investments of UNC Investment Fund held for component units that are discretely presented in accompanying financial statements	525,561,252
<b>Total Investments</b>	<b>\$4,884,004,833</b>

The University's reporting entity, including the three discretely presented component units, comprises approximately 86 percent of the UNC Investment Fund.

**Component Units** - Investments of the University's discretely presented component unit, the Medical Foundation of North Carolina, Inc., are subject to and restricted by G.S. 36E "Uniform Prudent Management of Institutional Funds Act" (UPMIFA) and any requirements placed on them by contract or donor agreements. Because the Medical Foundation reports under the FASB reporting model, disclosures of the various investment risks are not required. A summary of such investments not held by the University as of June 30, 2014:

Investment Type	Carrying Value
International Equity Fund	\$7,991,606
Common Stock	73,043
Mutual Funds—Equity Oriented	29,569,173
Mutual Funds—Credit Oriented	7,831,966
Certificate of Deposit	256,747
Money Market Funds	1,645,976
<b>Total Investments</b>	<b>\$47,968,511</b>

### NOTE 3

## Endowment Investments

Substantially all of the investments of the University's endowment funds are pooled in the Chapel Hill Investment Fund. Under the "Uniform Prudent Management of Institutional Funds Act" (UPMIFA), authorized by the North Carolina General Assembly on March 19, 2009, the Board may appropriate expenditures from eligible non-expendable balances if deemed prudent and necessary to meet program outcomes and for which such spending is not specifically prohibited by the donor agreements. During the year, the Board did not appropriate expenditures from eligible non-expendable endowment funds. Investment return of the University's pooled endowment funds is predicated on the total return concept (yield plus appreciation). Annual distributions from the Chapel Hill Investment Fund to the University's pooled endowment funds are generally based on an adopted distribution policy. Under this policy, the prior year distribution is increased by the rate of inflation as measured by the Consumer Price Index (CPI) unless the Board determines otherwise. Each year's distribution, however, is subject to a minimum of 4 percent and a maximum of 7 percent of the pooled endowment fund's average market value for the previous year.

To the extent that the total return for the current year exceeds the distribution, the excess is added to principal. If current year earnings do not meet the distribution requirements, the University uses accumulated income and appreciation to make up the difference. At June 30, 2014, accumulated income and appreciation of \$687,061,349 was available in the University's pooled endowment funds of which \$825,663,203 was restricted to specific purposes including scholarships and fellowships, research, library acquisitions, professorships, departmental and other uses. The remaining portion of net appreciation available to be spent is classified as unrestricted net position.

### NOTE 4

## Receivables

Receivables at June 30, 2014, were as follows:

	Gross Receivables	Less Allowance for Doubtful Accounts	Net Receivables
<b>Current Receivables</b>			
Students	\$5,229,681	\$2,522,512	\$2,707,169
Student Sponsors	219,954		219,954
Patients	187,960,113	135,417,693	52,542,420
Accounts	39,806,417		39,806,417
Auxiliary	16,422,269		16,422,269
Intragovernmental	169,732,754		169,732,754
Pledges	10,613,589	241,542	10,372,047
Investment Earnings	831,161		831,161
Interest on Loans	1,060,483		1,060,483
Other	54,824		54,824
<b>Total Current Receivables</b>	<b>\$431,931,245</b>	<b>\$138,181,747</b>	<b>\$293,749,498</b>
<b>Non-current Receivables</b>			
Pledges	\$14,194,538	\$354,864	\$13,839,674
<b>Notes Receivable</b>			
<b>Notes Receivable - Current:</b>			
Institutional Student Loan Programs	\$4,563,185	\$363,094	\$4,200,091
<b>Notes Receivable - Non-current:</b>			
Federal Loan Programs	\$26,109,881	\$1,982,262	\$24,127,619
Institutional Student Loan Programs	7,867,503	493,797	7,373,706
<b>Total Notes Receivable - Non-current</b>	<b>\$33,977,384</b>	<b>\$2,476,059</b>	<b>\$31,501,325</b>

Pledges are receivable over varying time periods ranging from one to 10 years, and have been discounted based on a projected interest rate of 0.036 percent for the outstanding periods, and allowances are provided for the amounts estimated to be uncollectible.

Scheduled receipts, the discounted amount under these pledge commitments, and allowances for uncollectible pledges are as follows:

Fiscal Year	Amount
2015	\$10,613,589
2016	4,967,946
2017	1,545,134
2018	1,195,024
2019	869,607
2020-2024	5,648,459
<b>Total Pledge Receipts Expected</b>	<b>24,833,753</b>
Less Discount Amount Representing Interest (0.036% Rate of Interest)	25,626
<b>Present Value of Pledge Receipts Expected</b>	<b>24,808,127</b>
Less Allowance for Doubtful Accounts	596,406
<b>Pledges Receivable</b>	<b>\$24,211,721</b>

**NOTE 5**

**Capital Assets**

A summary of changes in the capital assets for the year ended June 30, 2014, is presented as follows:

	Balance 07/01/13	Increases	Decreases	Balance 06/30/14
<b>Capital Assets, Non-depreciable</b>				
Land	\$63,488,953			\$63,488,953
Art, Literature, and Artifacts	86,277,115	\$2,270,044	\$1,396	88,545,763
Construction in Progress	231,972,478	29,650,060	217,305,218	44,267,307
Computer Software in Development	39,164,977	27,630,576	2,837,702	63,857,850
Other Intangible Assets	1,000,000			1,000,000
<b>Total Capital Assets, Non-depreciable</b>	<b>421,903,620</b>	<b>59,590,660</b>	<b>220,144,316</b>	<b>261,149,873</b>
<b>Capital Assets, Depreciable</b>				
Buildings	2,694,714,426	220,414,929		2,915,129,355
Machinery and Equipment	394,298,363	29,769,602	19,300,852	404,767,103
General Infrastructure	904,706,404	49,483,266		954,189,670
Computer Software	49,196,387	2,897,702		52,094,089
<b>Total Capital Assets, Depreciable</b>	<b>4,042,912,570</b>	<b>302,555,499</b>	<b>19,300,852</b>	<b>4,326,167,217</b>
<b>Less Accumulated Depreciation/Amortization, for</b>				
Buildings	825,390,668	75,647,082		900,937,750
Machinery and Equipment	202,368,056	24,910,635	12,915,806	214,357,885
General Infrastructure	316,017,251	26,926,252		343,543,503
Computer Software	8,294,115	3,054,476		11,348,591
<b>Total Accumulated Depreciation/Amortization</b>	<b>1,352,668,090</b>	<b>130,438,445</b>	<b>12,915,806</b>	<b>1,470,187,229</b>
<b>Total Capital Assets, Depreciable, Net</b>	<b>2,690,247,480</b>	<b>172,117,054</b>	<b>6,385,046</b>	<b>2,855,979,488</b>
<b>Capital Assets, Net</b>	<b>\$3,112,151,000</b>	<b>\$231,507,723</b>	<b>\$226,529,362</b>	<b>\$3,117,129,361</b>

**NOTE 6**

**Accounts Payable and Accrued Liabilities**

Accounts payable and accrued liabilities at June 30, 2014, are as follows:

Current Accounts Payable and Accrued Liabilities	Amount
Accounts Payable	\$52,454,443
Accrued Payroll	41,136,623
Contract Retainage	11,912,488
Intergovernmental Payables	7,851,260
Investment Derivatives Liability	3,828,479
<b>Total Accounts Payable and Accrued Liabilities</b>	<b>\$117,188,293</b>

**NOTE 7**

**Short-term Debt**

Short-term debt activity for the year ended June 30, 2014, is presented as follows:

	Balance 07/01/13	Draws	Repayments	Balance 06/30/14
Commercial Paper Program	\$18,000,000	\$0	\$0	\$18,000,000

The University manages a commercial paper ("CP") program under the issuer name of the Board of Governors of the University of North Carolina that provides up to \$500,000,000 in short-term financing for the University's and North Carolina State University's ("NCSU") capital improvement programs. Under this CP program, the University is authorized to issue up to \$400,000,000 and NCSU is authorized to issue up to \$100,000,000. Contingent liquidity needs for the entire CP program are provided by the University of North Carolina at Chapel Hill and supported by a pledge of the University's available funds.

The University will typically utilize the commercial paper program for construction financing and will periodically issue long-term bonds to refund the outstanding balances under this program in order to provide permanent financing for these capital improvement projects.

At its June 2012 meeting, the Board of Governors for the University of North Carolina issued a resolution to limit the cumulative amount of outstanding commercial paper for the University of North Carolina at Chapel Hill under this program to \$250,000,000. This resolution does not impact NCSU.

**NOTE 8**

**Long-term Liabilities**

**A Changes in Long-term Liabilities**

A summary of changes in the long-term liabilities for the year ended June 30, 2014, is presented as follows:

	Balance 07/01/13 (As Restated)	Additions	Reductions	Balance 06/30/14	Current Portion
Revenue Bonds Payable	\$1,403,975,000		\$30,205,000	\$1,373,770,000	\$119,984,746
Plus: Unamortized Premium	30,061,279		1,297,758	28,763,521	
Less: Unamortized Discount	(15,187,901)		(3,838,675)	(11,649,226)	
<b>Total Revenue Bonds Payable, Net</b>	<b>1,418,848,378</b>		<b>27,664,063</b>	<b>1,390,884,315</b>	<b>119,984,746</b>
Notes Payable	45,256,992	\$4,705,000	5,133,031	44,828,961	966,219
Capital Leases Payable	764,902		280,038	484,864	293,191
Compensated Absences	134,740,072	75,080,233	70,123,901	139,696,404	7,683,222
Annuity and Life Income Payable	13,882,106	1,169,311	2,828,241	12,226,176	1,436,261
<b>Total Long-Term Liabilities</b>	<b>\$1,613,492,450</b>	<b>\$60,954,544</b>	<b>\$106,926,274</b>	<b>\$1,568,120,720</b>	<b>\$180,383,639</b>

Additional information regarding capital lease obligations is included in Note 10.

## B Revenue Bonds Payable

The University was indebted for revenue bonds payable for the purposes shown in the following table:

Purpose	Series	Interest Rate/Range	Final Maturity Date	Original Amount of Issue	Principal Paid Through 06/30/14	Accrual on Capital Appreciation Bonds	Principal Outstanding 06/30/14	See Table Below
<b>General Revenue Bonds Payable</b>								
	2001B	4.638%*	12/01/2025	\$64,970,000	\$28,018,000		\$26,965,000	
	2001C	3.270%*	12/01/2025	54,970,000	26,018,000		26,965,000	
	2003	5.000%	12/01/2013	107,960,000	107,960,000		0	
	2005A	4.250 - 5.000%	12/01/2034	404,960,000	16,595,000		388,405,000	
	2007	4.450 - 5.000%	12/01/2036	298,475,000			298,475,000	
	2009A	3.000 - 5.000%	12/01/2028	97,735,000	18,160,000		82,585,000	
	2009B	5.757%**	12/01/2039	112,805,000			112,805,000	
	2012A	4.295%*	12/01/2018	100,000,000			100,000,000	
	2012B	5.125%*	12/01/2020	100,000,000			100,000,000	
	2012C	0.617 - 3.596%	12/01/2033	127,095,000	2,020,000		125,075,000	
	2012D	1.400%*	08/18/2016	41,000,000			41,000,000	
<b>Total General Revenue Bonds</b>				<b>1,499,970,000</b>	<b>197,718,000</b>		<b>1,302,252,000</b>	
Utilities System	1997	5.400 - 5.500%	08/01/2021	30,379,142	16,830,000	\$42,337,582	56,886,524	(1)
U.S. EPA Project	1991	9.050%	02/15/2013	36,676,921	53,913,000	21,219,329	3,979,250	
<b>Total Revenue Bonds Payable (principal only)</b>				<b>\$1,567,026,063</b>	<b>\$268,460,000</b>	<b>\$63,552,711</b>	<b>1,362,120,774</b>	
Less: Unamortized Discount							(92,299)	
Plus: Unamortized Premium							29,855,840	
<b>Total Revenue Bonds Payable, Net</b>							<b>\$1,390,884,315</b>	

\* For variable rate debt, interest rates in effect at June 30, 2014 are included. For variable rate debt with interest rate swaps, the synthetic fixed rates are included.

\*\* The University has elected to treat these bonds as federally taxable "Build America Bonds" for the purposes of the American Recovery and Reinvestment Act and to receive a cash subsidy from the U.S. Treasury equal to 32% of the interest payable on these bonds. For these bonds, the interest rate included is the taxable rate, which does not factor in the cash subsidy from the U.S. Treasury.

The University has pledged future revenues, net of specific operating expenses, to repay revenue bonds as shown in the table below:

Ref	Revenue Source	Current Year				Estimate of % of Revenues Pledged
		Total Future Revenues Pledged	Revenues Net of Expenses	Principal	Interest	
(1)	Utilities Revenues	\$67,305,000	\$43,886,801	\$8,415,000	\$0	6%

## C Demand Bonds

Included in bonds payable are several variable rate demand bond issues. Demand bonds are securities that contain a "put" feature that allows bondholders to demand payment before the maturity of the debt upon proper notice to the University's remarketing or paying agents.

With regards to the following demand bonds, the University has not entered into legal agreements which would convert the demand bonds not successfully remarketed into another form of long-term debt.

### General Revenue, Series 2001B and 2001C

In 2001 the University issued two series of variable rate demand bonds in the amount of \$54.97 million (2001B) and \$54.97 million (2001C) that each has a final maturity date of December 1, 2025. The bonds are subject to mandatory sinking fund redemption on the interest payment date on or immediately preceding each December throughout the term of the bonds. The proceeds of these issuances were used to provide funds to refund in advance of their maturity the following issues: Ambulatory Care Clinic, Series 1990; Athletic Facilities, Series 1998; Carolina Inn, Series 1994; School of

Dentistry, Series 1995; Kenan Stadium, Series 1996; Housing System, Series 2000; and Parking System, Series 1997C. While bearing interest at a weekly rate, the bonds are subject to purchase on demand with seven days notice and delivery to the University's Remarketing Agents; J.P. Morgan Securities, Inc. (2001B) and Banc of America Securities, LLC (2001C). Effective September 23, 2008, J.P. Morgan Securities, Inc. replaced Lehman Brothers, Inc.

The University entered into line of credit agreements in the amount of \$200 million with Wells Fargo Bank, N.A. ("the Bank") and \$200 million with J.P. Morgan Chase, N.A. ("the Bank") on September 21, 2011. Under each line of credit agreement, the University is entitled to draw amounts sufficient to pay the principal and accrued interest on Variable Rate Demand Bonds (or Commercial Paper Bonds) delivered for purchase. Under each line of credit agreement, the University may, at any time and for any reason, reduce the commitment by any amount upon 30 days prior written notice to the Bank.

The University is required to pay a quarterly facility fee for each line of credit in the amount of 0.38% per annum based on the size of the commitment. If a long-term debt rating assigned by Standard & Poor's (S&P), Fitch Ratings (Fitch) or Moody's Investors Service (Moody's) is lowered, the facility fee assigned to the rating in the below table shall apply. In the event of a split rating (i.e., one or more of the rating agency's ratings is at a different level than the rating of either of the other rating agencies), the facility fee rate shall be determined as follows: (i) if two of the three ratings appear in the same level, the facility fee rate shall be based on that level; (ii) if no two ratings appear in the same level, the facility fee rate shall be based on the level which includes the middle of the three ratings.

S&P	Fitch	Moody's	Facility Fee
AA	AA	Aa2	0.48%
AA-	AA-	Aa3	0.56%
A+	A+	A1	0.68%
A	A	A2	0.78%
A- or lower	A- or lower	A3 or lower	1.78%

The University will pay an accrued interest fee equal to the amount of accrued interest, at the time of purchase of the bonds, multiplied by the bank rate multiplied by the ratio of the number of days from the date of purchase of the bonds until the date of payment of the accrued interest to 365 days.

Under each line of credit agreement, draws to purchase bonds will accrue interest at the bank rate payable on the same interest date as provided in the Series Indenture for the original bonds. The University is required to begin making a series of six fully amortizing semiannual principal payments on bonds held by the Bank six months after the date of funding. Commercial Paper Bonds held by the Bank may be rolled over for a period of 180 days and must be reduced by 1/8th of the

original amount of the Commercial Paper Bonds for a period of up to five rollovers. All outstanding principal and accrued but unpaid interest is due in full at the maturity of the line of credit.

Each line of credit agreement expires on September 21, 2014 and is subject to covenants customary to this type of transaction, including a default provision in the event that the University's long-term bond ratings were lowered to below a BBB- for S&P, BBB- for Fitch, and Baa3 for Moody's. At June 30, 2014, no purchase drawings had been made under the line of credit. On September 19, 2014, the University entered into new line of credit agreements, maintaining an aggregate coverage amount of \$400 million, with \$200 million from Wells Fargo Bank, N.A., \$100 million from Royal Bank of Canada, and \$100 million from U.S. Bank, N.A.

### General Revenue, Series 2012D

On December 14, 2012, the University issued a bond to be designated "The University of North Carolina at Chapel Hill General Revenue Bond (Kenan Stadium Improvements Phase II), Series 2012D" to The Educational Foundation, Inc. (the "Owner") in exchange for certain improvements to Kenan Stadium on the University's campus known as "Kenan Stadium Improvements, Phase 2 - Carolina Student Athlete Center for Excellence". The 2012D Bond was issued in the amount of \$41,000,000 and matures on August 18, 2016.

Interest will be payable on the 2012D Bond on the maturity date or, if sooner, the prepayment date of the bond as permitted under the tender option or the prepayment options as referenced below. The unpaid principal balance of the 2012D Bond, together with all accrued and unpaid interest thereon will be due and payable in full on the maturity date in the event that the tender option or prepayment option is not exercised in advance of the maturity date.

The University shall be responsible for calculating the interest due on the 2012D Bond and reporting such amount to the Owner and The Bank of New York Mellon Trust Company, N.A. (the "Trustee"). Payments of principal and interest on the bond shall be made directly by the University to the Owner under the terms of the bond documents and the Trustee shall have no responsibility for making such payments. The University shall promptly notify the Trustee in writing of any such payments. Any payments of principal of and interest on the 2012D Bond made directly by the University to the Owner will be credited against The Board of Governors of the University of North Carolina's (the "Board") obligation to cause payments to be made with respect to the 2012D Bond to the Debt Service Fund under the General Indenture.

The 2012D Bond may be tendered by the Owner for payment by the University, on behalf of the Board, in whole or in part without premium or penalty on any business day on or after 90 days prior written notice to the University and the Trustee.

The 2012D Bond may be prepaid by the University, on behalf of the Board, in whole or in part without premium or penalty on

any business day on or after 90 days prior written notice to the Owner and the Trustee.

When payment is due at maturity or upon exercise of the tender or prepayment options, the University may use proceeds from a long-term bond issue or proceeds from the issuance of Commercial Paper at the time of the payment to fund the obligation under the bond.

The unpaid principal balance of the 2012D Bond outstanding from time to time will bear interest at the Adjusted LIBOR Rate. "Adjusted LIBOR Rate" means a rate of interest per annum equal to the sum obtained (rounded upwards, if necessary, to the next higher 1/16 of 1.0%) by adding (1) the One Month LIBOR plus (2) 1.0% per annum, which shall be adjusted monthly on the first day of each LIBOR Interest Period; provided, however, for any particular LIBOR Interest Period, the Adjusted LIBOR Rate will not be less than 1.4% per annum.

With respect to other terms and conditions, this bond is not supported by any other letters of credit or standby liquidity agreements and does not contain any take-out agreements.

#### D Capital Appreciation Bonds

The University's Series 1997 Utility System and the Series 1991 U.S. Environmental Protection Agency Project bond issues include capital appreciation bonds with an original issue amount of \$30,379,142 and \$3,828,921, respectively. These bonds are recorded in the amounts of \$55,886,524 (\$84,135,000 ultimate maturity less \$11,418,476 discount less \$16,830,000 principal paid) and \$3,979,250 (\$25,275,000 ultimate maturity less \$20,750 accreted principal less \$21,065,000 principal paid), respectively, which is the accreted value at June 30, 2014. These bonds mature in the years from 2014 to 2021.

#### E Annual Requirements

The annual requirements to pay principal and interest on the long-term obligations at June 30, 2014, are as follows:

Fiscal Year	Revenue Bonds Payable		Notes Payable		
	Principal	Interest	Interest Rate Swap, Net*	Principal	Interest
2015	\$30,840,000	\$48,960,669	\$9,981,083	\$986,219	\$1,803,849
2016	43,881,667	48,470,078	9,498,740	1,244,534	1,901,464
2017	102,293,333	47,329,838	6,585,135	5,856,345	1,831,328
2018	77,645,000	46,484,462	6,488,101	1,182,624	1,764,850
2019	78,360,000	46,694,488	4,381,373	1,236,076	1,711,298
2020-2024	199,295,000	216,354,729	5,473,588	34,343,269	4,206,639
2025-2029	171,205,000	189,821,533	321,961		
2030-2034	378,930,000	136,575,920			
2035-2039	285,850,000	25,478,755			
2040-2044	11,850,000	\$41,102			
<b>Total Requirements</b>	<b>\$1,873,770,000</b>	<b>\$808,497,868</b>	<b>\$44,829,971</b>	<b>\$44,828,961</b>	<b>\$18,219,428</b>

Interest on the variable rate General Revenue Bonds 2001B is calculated at 0.03% at June 30, 2014.

Interest on the variable rate General Revenue Bonds 2001C is calculated at 0.06% at June 30, 2014.

Interest on the variable rate General Revenue Bonds 2002A is calculated at 0.55% at June 30, 2014.

Interest on the variable rate General Revenue Bonds 2002B is calculated at 0.85% at June 30, 2014.

Interest rates on General Revenue Bonds 2001 Series B and Series C are reset each week by the remarketing agent based upon a combination of the University's credit rating and market conditions.

Interest rates on General Revenue Bonds 2012 Series A and Series B are based on the 1-month LIBOR Index rate plus an interest rate spread of 45 and 75 basis points for 2012 Series A and Series B, respectively.

This schedule also includes the debt service requirements for debt associated with interest rate swaps.

More detailed information about interest rate swaps is presented in Note 9 Derivative Instruments.

\*Computed using (5.240% - 0.066%) x (\$22,000,000 - annual swap reduction); (3.314% - 0.1040%) x \$86,145,000 notional amount; and, (4.375% - 0.1040%) x \$150,000,000 notional amount.

The fiscal year 2015 principal requirements include demand bonds principal payments due for 2015 only. This differs from the amount disclosed as current in Note 8A Changes in Long-term Liabilities as the current portion of bonds payable includes all outstanding principal for the demand bonds. See Note 8C Demand Bonds.

The 2012AB Bonds have a maturity date of December 1, 2041. However, the bonds are issued initially in the Index Mode extending to the initial index tender dates of December 1, 2015 for Series 2012A and December 1, 2017 for Series 2012B. While in this mode, the bonds will bear interest at the index rate, which will be the rate per annum determined monthly equal to

67.0% of One Month LIBOR plus an applicable spread of 0.45% (45 basis points) for the 2012A Bonds and 0.75% (75 basis points) for the 2012B Bonds.

The 2012AB Bonds of each series in an Index Mode are subject to redemption, at the option of the University, in whole or in part, on any business day during the period beginning six months prior to the index tender date for such 2012AB Bonds, to and including such index tender date, at a redemption price equal to 100% of the principal amount of 2012AB Bonds called for redemption, plus accrued interest, if any, to the date of redemption. In addition, and also at the discretion of the University during the period beginning six months prior to the index tender date for such 2012AB Bonds, the interest rate can be reset which would trigger a redemption requirement and a remarketing.

If the funds available to purchase 2012AB Bonds of a series tendered on an index tender date are not sufficient to pay the purchase price of all such 2012AB Bonds, a Delayed Remarketing Period will commence on such index tender date and the failure to purchase such tendered 2012AB Bonds will not constitute an event of default under the Indentures. The Delayed Remarketing Period will continue to (but not include) the earlier of (a) the date on which all such 2012AB Bonds are successfully remarketed or (b) the date on which all of such 2012AB Bonds have been deemed to have been paid and are no longer outstanding.

During a Delayed Remarketing Period for a Series of 2012AB Bonds, unless the 2012AB Bonds of such Series have been remarketed, the 2012AB Bonds of such Series shall be subject to special mandatory redemption. Beginning with the

first such June 1 or December 1 that occurs not less than six months following the date of commencement of the applicable Delayed Remarketing Period and ending on the sixth June 1 or December 1, the 2012AB Bonds shall be repaid in six equal (or as equal as possible) semiannual installments on the special mandatory redemption date established herein. The final installment will be due and payable no later than the sixth special mandatory redemption date after the commencement of the applicable Delayed Remarketing Period.

The Annual Requirements presents the 2012AB Bonds as amortizing in six semiannual payments as set forth in the Delayed Remarketing Period, to be fully paid off in a period of three years after the respective index tender date established herein. If the bonds are successfully remarketed or refunded into a new bond in the future, and, therefore, not subject to the three-year amortization schedule after the initial index tender date, the total principal payments due in 2016 will reduce by \$16,666,667 to \$27,215,000, total principal payments in 2017 will reduce by \$33,333,333 to \$68,960,000, total principal payments in 2018 will reduce by \$50,000,000 to \$27,645,000, total principal payments in 2019 will reduce by \$50,000,000 to \$28,360,000, total principal payments in 2020 will reduce by \$33,333,333 to \$27,985,000, and total principal payments in 2021 will reduce by \$16,666,667 to \$27,865,000.

#### F Notes Payable

The University was indebted for notes payable for the purposes shown in the following table:

Purpose	Financial Institution	Interest Rate	Final Maturity Date	Original Amount of Issue	Principal Paid Through 06/30/14	Principal Outstanding 06/30/14
Real Property Purchase	Bank of America	3.550%	02/14/2024	\$9,250,000	\$4,390,172	\$4,859,828
Real Property Purchase	Bank of America	1.300%	05/30/2015	411,896	249,396	162,500
Real Property Purchase	Aviva	5.000%	01/01/2022	36,500,000	1,398,367	35,101,633
Real Property Purchase	Wells Fargo	0.755%	10/02/2016	4,705,000		4,705,000
<b>Total Notes Payable</b>				<b>\$50,866,896</b>	<b>\$6,037,935</b>	<b>\$44,828,961</b>

The UNC-Chapel Hill Foundation, part of the University's reporting entity, has a line of credit agreement issued by Bank of America with a commitment amount of up to \$3,000,000 to finance the costs of projects benefiting the Foundation and/or the University, subject to the approval of the Board of Directors of the Foundation. Prior to the maturity date of June 30, 2013, the Foundation renewed the line of credit in the same commitment amount and with a new maturity date of June 30, 2015. Under the commitment, advances under the line of credit accrue interest at the variable rate of the LIBOR Market Index plus 1.15 percent. An unused commitment fee is due each quarter calculated as 0.24 percent of the difference between the commitment amount and the average balance outstanding for the quarter and paid in arrears on a quarterly basis. If the Foundation utilizes the line of credit to purchase an asset on behalf of the University, and later sells such asset to the University, the University reimburses the Foundation the principal amount of the draw and all accrued interest and associated transaction expenses.

On July 1, 2009, the UNC Chapel Hill Foundation, Inc. and Chapel Hill Foundation Real Estate Holdings Inc. (collectively, the "Borrowers"; individually, the "Foundation", former, or "Real Estate Holdings", the latter), entered into a loan agreement with the Bank of America, N.A. for \$45,750,000 to fund the acquisition of student housing and rental real property.

On December 15, 2011, Real Estate Holdings transferred the condominiumized unit of Granville Towers to a newly established single asset limited liability corporation Granville Towers LLC of which Real Estate Holdings is the sole member. On the same date, Granville Towers LLC obtained a loan from Aviva Life and Annuity Company in the amount of \$36,500,000 (Aviva Loan) for which the proceeds were used to pay down the referenced purchase financing with Bank of America in the original amount of \$45,750,000. This Aviva loan is secured by a first deed of trust on the condominium unit of Granville Towers. In general, the loan is non-recourse to both Real Estate Holdings and the Foundation, except for in the following instances: fraud, misrepresentation; delinquent taxes or other assessments; misapplication of potential condemnation awards or loss between the difference in the loan amount and insurance proceeds; environmental issue on the property; and a bankruptcy filing. Loan payments are based upon a 30-year amortization, but the loan carries an actual maturity date of January 1, 2022. During the committed term of this loan, the interest rate is fixed at 5%, and the monthly payments of principal and interest in the combined amount of \$195,939.89; all outstanding principal and accrued but unpaid interest is due at said maturity.

On December 15, 2011, the Borrowers executed a modification agreement with Bank of America with respect to the above loan in the original amount of \$45,750,000. The original principal balance of \$45,750,000 was paid down by \$36,500,000 with proceeds from the Aviva loan; the original

maturity date of July 1, 2012, was extended to December 15, 2014; and the interest rate was changed to LIBOR plus 1.37 percent. Interest payments were made quarterly, and the principal balance of the loan is due at maturity. The loan is unsecured, but is governed by a loan agreement with financial and other covenants on the Borrowers.

On February 14, 2014, the Borrowers executed another modification agreement with Bank of America with respect to the above loan in the original amount of \$45,750,000. The original principal balance of \$45,750,000 was paid down by \$36,500,000 with proceeds from the Aviva loan; the original maturity date of July 1, 2012, was extended to December 15, 2014; and the interest rate was changed to LIBOR plus 1.37 percent. This loan was then paid down by \$4,250,000. The remaining \$5,000,000 was then refinanced with a fixed interest rate of 3.550% and a final maturity date of February 14, 2024. Interest and principal payments are made monthly.

In addition, on October 3, 2013, the Kenan-Flagler Business School Foundation, part of the University's reporting entity, entered into a line of credit agreement with Wells Fargo Bank, N.A. in the aggregate principal amount up to \$30,000,000 to finance the construction of the Paul J. Rizzo Conference Center Phase III addition. Advances under the line of credit note accrue interest at the variable rate of the LIBOR Market Index Rate plus 0.60 percent. The line of credit note has a maturity date of October 2, 2016. At June 30, 2014, the total amount of draws against the line of credit note was \$4,705,000.

### • Annuities Payable

The University participates in split-interest agreements with donors that require benefits payments for a specified period to a designated beneficiary out of assets held in trust for this purpose. At the end of the predetermined period (e.g., the lifetime of the beneficiary specified by the donor), the remaining assets of the trust revert to the University for its use potentially for a purpose specified by the donor. At the end of each fiscal year, annuities and life income payable to the beneficiaries are estimated based on actuarial considerations such as beneficiary's age using IRS issued Life Table 90CM.

### NOTE 9

## Derivative Instruments

Derivative instruments held at June 30, 2014, are as follows:

Type	Notional Amount	Classification	Change in Fair Value		Fair Value
			Increase (Decrease)	Classification	
<b>Hedging Derivative Instruments</b>					
<i>Cash Flow Hedges</i>					
Pay-fixed interest rate swap	\$100,000,000	Deferred outflow of resources	\$(1,060,537)	Hedging derivative liability	\$(2,565,757)
Pay-fixed interest rate swap	\$150,000,000	Deferred outflow of resources	(1,702,852)	Hedging derivative liability	(62,624,324)
			<b>\$(2,763,389)</b>		<b>\$(83,190,081)</b>
<b>Investment Derivative Instruments</b>					
Pay fixed interest rate swap		Investment income	\$375,299	Accounts payable	\$(3,828,479)
2001B bonds	\$17,765,000				
Foreign equities futures	(a)	Investment income	487,542	Other investments	21,615,531
U.S. dollar equity futures	\$58,474,380	Investment income	19,010,656	Other investments	58,905,483
			<b>\$19,873,597</b>		<b>\$76,692,535</b>

(a) 2 billion yen

Hedging derivative instruments held at June 30, 2014, are as follows:

Type	Objective	Notional Amount	Effective Start Date	Termination End Date	Terms
Pay-Fixed Interest Rate Swap	Hedge changes in cash flows on variable rate debt.	\$100,000,000	12/01/07	12/01/16	Pay 3.314%, Receive 67% 1 Mo. LIBOR
Pay-Fixed Interest Rate Swap	Hedge changes in cash flows on variable rate debt.	\$150,000,000	12/01/11	12/01/14	Pay 4.375%, Receive 67% 1 Mo. LIBOR

The fair values of interest rate swaps at the University of North Carolina at Chapel Hill were provided by its financial advisor. The method used by the financial advisor calculated the future net settlement payments required by the swap assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments were then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement on the swap.

### Hedging Derivative Risks

**Interest rate risk:** The University is exposed to interest rate risk on its interest rate swaps which is largely offset (or expected to be offset) by rates paid on variable-rate debt. In addition, the fair values of these instruments are highly sensitive to changes in interest rates. Because rates have declined significantly since the effective dates of the swaps, both of the swaps have a negative fair value as of June 30, 2014. The fair

values are calculated as of June 30, 2014. As rates rise, the value of the swaps will increase, and as rates fall the fair value of the swaps will decrease.

**Basis risk:** The University is exposed to basis risk on the swaps to the extent there is a mismatch between variable bond rates paid and swap index rates received.

**Termination risk:** The swap agreements use the International Swaps and Derivatives Association (ISDA) Master Agreement, which includes standard termination events, such as failure to pay and bankruptcy. Termination could result in the University being required to make an unanticipated termination payment. The swaps may mandatorily terminate if the University fails to perform under terms of the contract.

**Rollover risk:** The University is not exposed to rollover risk on its hedging derivatives since the termination date of the hedging derivatives extends beyond the maturity date of the hedged debt.

## Investment Derivative Risks

**Interest Rate Risk:** The University is exposed to interest rate risk on its interest rate swap. The fair value of this instrument is highly sensitive to interest rate changes. Because rates have changed since the effective date of the swap, the swap has a negative fair value of \$3,828,479 as of June 30, 2014. The negative fair value may be countered by a reduction in total interest payments required under the variable-rate bonds, creating lower synthetic interest rates. Because the coupons on the University's variable-rate bonds adjust to changing interest rates, the bonds do not have corresponding fair value increases. The negative fair value is the calculated value as of June 30, 2014. As the yield curve rises, the value of the swap will increase and as rates fall, the value of the swap decreases. The University pays 5.24% and receives the Securities Industry and Financial Markets Association (SIFMA) Swaps Index rate. On June 30, 2014, SIFMA was 0.06%. The interest rate swap has a notional amount of \$17,765,000 and matures November 1, 2025.

**Foreign Currency Risk:** Futures contracts based in foreign currency obligate the buyer to purchase an asset (or seller to sell an asset), such as a physical commodity or a financial instrument, at a predetermined future date and price. See Note 2 Deposits and Investments for further information about the University's exposure to foreign currency risk.

## NOTE 10

### Lease Obligations

#### A Capital Lease Obligations

Capital lease obligations for machinery and equipment are recorded at the present value of the minimum lease payments. Future minimum lease payments under capital lease obligations consist of the following at June 30, 2014:

Fiscal Year	Amount
2015	\$916,229
2016	200,937
<b>Total Minimum Lease Payments</b>	<b>517,166</b>
Amount Representing Interest (4.380% - 4.834% Rate of Interest)	32,302
<b>Present Value of Future Lease Payments</b>	<b>\$484,864</b>

Machinery and equipment acquired under capital lease amounted to \$722,214 at June 30, 2014. Depreciation for the capital assets associated with capital leases is included in depreciation expense, and accumulated depreciation for assets acquired under capital lease totaled \$176,943 at June 30, 2014.

#### B Operating Lease Obligations

Future minimum lease payments under non-cancelable operating leases for equipment, buildings and land consist of the following at June 30, 2014:

Fiscal Year	Amount
2015	\$7,976,744
2016	5,163,382
2017	3,869,871
2018	2,846,339
2019	1,750,672
2020-2024	3,928,971
<b>Total Minimum Lease Payments</b>	<b>\$23,526,979</b>

Rental expense for all operating leases during the year was \$26,079,719.

## NOTE 11

### Revenues

A summary of eliminations and allowances by revenue classification is presented as follows:

	Gross Revenues	Internal Sales Eliminations	Less Scholarship Discounts	Less Allowance for Uncollectibles*	Less Indigent Care and Contractual Adjustments	Net Revenues
<b>Operating Revenues</b>						
Student Tuition and Fees	\$457,408,097		\$96,034,750	(\$397,213)		\$361,770,580
Patient Services	\$821,049,513			\$43,082,418	\$466,802,648	\$312,064,448
<b>Sales and Services</b>						
Professional Income	\$143,703,045	\$5,052,886				\$138,650,089
Residential Life	78,839,069	74,852	\$10,560,647			68,203,470
Athletic	55,116,675	28,782				55,087,893
Dining	34,882,475	500				34,881,975
Utilities	135,215,065	105,201,053				30,014,002
Parking	27,068,406	369,730				26,698,676
Other	61,438,662	36,359,819				25,078,843
Student Stores	25,888,283	4,091,869	1,016,219			20,780,195
Telecommunications	21,148,510	10,476,393				10,672,117
UNC Management Company	9,157,062					9,157,062
Health, Physical Education, and Recreation Services	8,544,926	2,100	200,784			8,342,042
Tredemerk License Program	7,030,001					7,030,001
School of Government	5,688,358					5,688,358
Rental Property	4,609,131					4,609,131
Gene Therapy Center	3,192,802	297,406				2,895,396
KFBS Center	2,330,784					2,330,784
Printing/Carolina Copy	3,050,269	1,312,519				1,737,756
Performing Arts Series	1,651,091					1,651,091
Doubletree Carolina Inn	1,640,400					1,640,400
Repairs and Maintenance	30,285,476	28,686,370				1,599,106
ERP Student Fees	1,416,481					1,416,481
Student Union Services	502,185	234,843				267,342
Materials Management and Distribution	20,362,928	20,306,743				56,185
<b>Total Sales and Services</b>	<b>\$682,732,073</b>	<b>\$212,486,028</b>	<b>\$11,777,650</b>	<b>\$0</b>	<b>\$0</b>	<b>\$458,468,394</b>
<b>Non-operating - Non-capital Gifts</b>	<b>\$97,442,914</b>			<b>\$26,786</b>		<b>\$97,416,148</b>

\*Note: The Allowance for Uncollectibles is equivalent to the change in the Allowance for Doubtful Accounts, excluding items such as direct write-offs.

## Operating Expenses by Function

The University's operating expenses by functional classification are presented as follows:

	Salaries and Benefits	Supplies and Materials	Services	Scholarships and Fellowships	Utilities	Depreciation and Amortization	Total
Instruction	\$635,722,605	\$23,293,360	\$116,650,268		\$156,227		\$675,822,460
Research	301,616,103	46,163,724	198,955,564		16,863		546,752,254
Public Service	64,717,636	6,409,031	63,541,804		248,563		134,917,034
Academic Support	76,317,132	11,299,240	30,928,380		136,766		118,680,517
Student Services	17,589,377	1,070,914	14,146,236		545		32,807,072
Institutional Support	66,078,406	7,733,448	26,385,208		42,611		100,237,673
Operations and Maintenance of Plant	44,897,626	11,564,574	19,969,303		73,605,231		150,012,734
Student Financial Aid				\$112,449,587			112,449,587
Auxiliary Enterprises	360,817,609	52,382,291	245,271,946		10,951,094		669,422,940
Depreciation and Amortization						\$130,438,445	130,438,445
<b>Total Operating Expenses</b>	<b>\$1,467,756,494</b>	<b>\$159,906,582</b>	<b>\$715,832,709</b>	<b>\$112,449,587</b>	<b>\$85,158,899</b>	<b>\$130,438,445</b>	<b>\$2,671,540,716</b>

## Pension Plans

**Retirement Plans** – Each permanent full-time employee, as a condition of employment, is a member of either the Teachers' and State Employees' Retirement System or the Optional Retirement Program. Eligible employees can elect to participate in the Optional Retirement Program at the time of employment; otherwise they are automatically enrolled in the Teachers' and State Employees' Retirement System.

The Teachers' and State Employees' Retirement System (TSERS) is a cost-sharing, multiple-employer defined benefit pension plan established by the State to provide pension benefits for employees of the State, its component units, and local boards of education. The TSERS is administered by a 14-member Board of Trustees, with the State Treasurer serving as Chair of the Board.

Benefit and contribution provisions for the TSERS are established by *North Carolina General Statutes* 135-5 and 135-8 and may be amended only by the North Carolina General Assembly. Employer and member contribution rates are set each year by the North Carolina General Assembly based on annual actuarial valuations. For the year ended June 30, 2014, these rates were set at 8.69 percent of covered payroll for employers and 6 percent of covered payroll for members.

For the current fiscal year, the University had a total payroll of \$1,214,902,099, of which \$457,366,996 was covered under the TSERS. Total employer and employee contributions for pension benefits for the year were \$39,745,192 and \$27,442,020, respectively.

Required employer contribution rates for the years ended June 30, 2013, and 2012, were 8.33 percent and 7.44 percent, respectively, while employee contributions were 6 percent each year. The University made 100 percent of its annual required contributions for the years ended June 30, 2014, 2013, and 2012, which were \$39,745,192, \$38,341,462, and \$33,975,872, respectively.

The Teachers' and State Employees' Retirement System's financial information is included in the State of North Carolina's *Comprehensive Annual Financial Report*. An electronic version of this report is available by accessing the North Carolina Office of the State Controller's Internet home page <http://www.osc.nc.gov/> and clicking on "Reports" or by calling the State Controller's Financial Reporting Section at (919) 707-0500.

The Optional Retirement Program (Program) is a defined contribution retirement plan that provides retirement benefits with options for payments to beneficiaries in the event of the participant's death. Administrators and eligible faculty of the University may join the Program instead of the TSERS. The Board of Governors of The University of North Carolina is responsible for the administration of the Program and designates the companies authorized to offer investment products or the trustee responsible for the investment of contributions under the Program and approves the form and contents of the contracts and trust agreements.

Participants in the Program are immediately vested in the value of employee contributions. The value of employer contributions is vested after five years of participation in the Program. Participants become eligible to receive distributions

when they terminate employment or retire.

Participant eligibility and contributory requirements are established by General Statute 135-5.1. Employer and member contribution rates are set each year by the North Carolina General Assembly. For the year ended June 30, 2014, these rates were set at 6.84 percent of covered payroll for employers and 6 percent of covered payroll for members. The University assumes no liability other than its contribution.

For the current fiscal year, the University had a total payroll of \$1,214,902,099, of which \$528,702,624 was covered under the Optional Retirement Program. Total employer and employee contributions for pension benefits for the year were \$36,163,259 and \$31,722,157, respectively.

## Other Postemployment Benefits

### A Health Benefits

The University participates in the Comprehensive Major Medical Plan (the Plan), a cost-sharing, multiple-employer defined benefit health care plan that provides postemployment health insurance to eligible former employees. Eligible former employees include long-term disability beneficiaries of the Disability Income Plan of North Carolina and retirees of the Teachers' and State Employees' Retirement System or the Optional Retirement Program. Coverage eligibility varies depending on years of contributory membership service in their retirement system prior to disability or retirement.

The Plan's benefit and contribution provisions are established by the State Treasurer and the Board of Trustees of the State Health Plan for Teachers and State Employees as authorized by Chapter 135, Article 3B, of the General Statutes. The Plan does not provide for automatic post-retirement benefit increases.

By General Statute, a Retiree Health Benefit Fund (the Fund) has been established as a fund in which accumulated contributions from employers and any earnings on those contributions shall be used to provide health benefits to retired and disabled employees and applicable beneficiaries. By statute, the Fund is administered by the Board of Trustees of the Teachers' and State Employees' Retirement System and contributions to the Fund are irrevocable. Also by law, Fund assets are dedicated to providing benefits to retired and disabled employees and applicable beneficiaries and are not subject to the claims of creditors of the employers making contributions to the Fund. Contribution rates to the Fund, which are intended to finance benefits and administrative expenses on a pay-as-you-go basis, are established by the General Assembly.

For the current fiscal year, the University contributed 5.4% of the covered payroll under the Teachers' and State Employees' Retirement System and the Optional Retirement Program to the Fund. Required contribution rates for the years ended June 30, 2013, and 2012, were 5.3% and 5.0%, respectively. The University made 100% of its annual required contributions to the Plan for the years ended June 30, 2014, 2013, and 2012, which were \$53,247,759, \$51,582,373, and \$47,027,478, respectively. The University assumes no liability for retiree health care benefits provided by the programs other than its required contribution.

Additional detailed information about these programs can be located in the State of North Carolina's *Comprehensive Annual Financial Report*. An electronic version of this report is available by accessing the North Carolina Office of the State Controller's Internet home page <http://www.osc.nc.gov/> and clicking on "Reports" or by calling the State Controller's Financial Reporting Section at (919) 707-0500.

### B Disability Income

The University participates in the Disability Income Plan of North Carolina (DIPNC), a cost-sharing, multiple-employer defined benefit plan, to provide short-term and long-term disability benefits to eligible members of the Teachers' and State Employees' Retirement System and the Optional Retirement Program. Benefit and contribution provisions are established by Chapter 135, Article 6, of the General Statutes, and may be amended only by the North Carolina General Assembly. The Plan does not provide for automatic post-retirement benefit increases.

Disability income benefits are funded by actuarially determined employer contributions that are established by the General Assembly. For the fiscal year ended June 30, 2014, the University made a statutory contribution of 0.44% of covered payroll under the Teachers' and State Employees' Retirement System and the Optional Retirement Program to the DIPNC. Required contribution rates for the years ended June 30, 2013, and 2012, were 0.44% and 0.52%, respectively. The University made 100% of its annual required contributions to the DIPNC for the years ended June 30, 2014, 2013, and 2012, which were \$4,338,706, \$4,282,310, and \$4,890,858, respectively. The University assumes no liability for long-term disability benefits under the Plan other than its contribution.

Additional detailed information about the DIPNC is disclosed in the State of North Carolina's *Comprehensive Annual Financial Report*.

## Risk Management

The University is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. These exposures to loss are handled via a combination of methods, including participation in state-administered insurance programs, purchase of commercial insurance, and self-retention of certain risks. There have been no significant reductions in insurance coverage from the previous year and settled claims have not exceeded coverage in any of the past three fiscal years.

**Public Officers and Employees Liability Insurance**—The risk of tort claims of up to \$1,000,000 per claimant is retained under the authority of the State Tort Claims Act. In addition, the state provides excess public officers' and employees' liability insurance up to \$10,000,000 per employee through a contract with a private insurance company. The University pays the premium, based on a composite rate, directly to the private insurer.

**UNC Investment Fund, LLC (blended component unit) Liability Insurance**—The UNC Investment Fund, LLC (UNC Investment Fund) is exposed to various risks of loss related to torts, theft of assets, and errors and omissions. The UNC Management Company, Inc. (Management Company) is a separate legal entity from The University of North Carolina System and the University. However, the Management Company's employees conduct UNC Investment Fund's affairs. Therefore, exposures to loss are handled by the purchase of commercial insurance by the Management Company. This insurance is independent of the risk management programs of The University of North Carolina System and the University.

**Fire and Other Property Loss**—The University is required to maintain fire and lightning coverage on all state-owned buildings and contents through the State Property Fire Insurance Fund (Fund), an internal service fund of the state. Such coverage is provided at no cost to the University for operations supported by the state's General Fund. Other operations not supported by the state's General Fund are charged for the coverage. The University has opted to purchase additional coverages offered by the Fund. Examples of this additional coverage include special form (all-risk) and business interruption insurance for certain property exposures. Losses covered by the Fund are subject to a \$5,000 per occurrence deductible.

**Automobile Liability Insurance**—All state-owned vehicles are covered by liability insurance through a private insurance company and handled by the North Carolina Department of Insurance. The liability limits for losses are \$1,000,000 per claim and \$10,000,000 per occurrence. The University pays premiums to the North Carolina Department of Insurance for the coverage.

**Employee and Computer Fraud**—The University is protected for losses from employee dishonesty and computer fraud. This coverage is with a private insurance company and is handled by the North Carolina Department of Insurance. Universities are charged a premium by the private insurance company. Coverage limit is \$5,000,000 per occurrence. The private insurance company pays 90% of each loss less a \$75,000 deductible.

Other authorized coverage not handled by the North Carolina Department of Insurance is purchased through the state's insurance agent of record. Examples include, but are not limited to, fine arts, boiler and machinery, medical professional liability, athletic accident and revenues, and study abroad health insurance.

**Comprehensive Major Medical Plan**—University employees and retirees are provided comprehensive major medical care benefits. Coverage is funded by contributions to the State Health Plan (Plan), a discretely presented component unit of the State of North Carolina. The Plan has contracted with third parties to process claims.

The North Carolina Workers' Compensation Program provides benefits to workers injured on the job. All employees of the state and its component units are included in the program. When an employee is injured, the University's primary responsibility is to arrange for and provide the necessary treatment for work related injury. The University is responsible for paying medical benefits and compensation in accordance with the North Carolina Workers' Compensation Act. The University retains the risk for workers' compensation.

**Liability Insurance Trust Fund**—The University participates in the Liability Insurance Trust Fund (Trust Fund), a claims-servicing public entity risk pool for healthcare professional liability protection. The Trust Fund services professional liability claims, managing separate accounts for each participant from which the losses of that participant are paid. Although participant assessments are determined on an actuarial basis, ultimate liability for claims remains with the participants and, accordingly, the insurance risks are not transferred to the Trust Fund.

The Trust Fund is an unincorporated entity created by Chapter 116, Article 28, of the *North Carolina General Statutes* and The University of North Carolina Board of Governors Resolution of June 9, 1978. The Trust Fund is a self-insurance program established to provide professional medical malpractice liability covering The University of North Carolina Hospitals at Chapel Hill (UNC Hospitals) and The University of North Carolina at Chapel Hill Faculty Physicians (UNC Faculty Physicians), the program participants. The Trust Fund provides coverage for program participants and individual health care practitioners working as employees,

agents, or officers of program participants. The Trust Fund is exempt from federal and state income taxes, and is not subject to regulation by the North Carolina Department of Insurance.

Participation in the Trust Fund is open to the University of North Carolina, any constituent institution of the University of North Carolina, the UNC Hospitals, and any health care institution, agency or entity that has an affiliation agreement with the University of North Carolina, with a constituent institution of the University of North Carolina, or with the UNC Hospitals. Only UNC Faculty Physicians and UNC Hospitals have participated in the Trust Fund to date. Participants provide management and administrative services to the Trust Fund at no cost.

The Trust Fund is governed by the Liability Insurance Trust Fund Council (the Council). The Council consists of 13 members as follows: one member each appointed by the State Attorney General, the State Insurance Commissioner, the Director of the Office of State Budget and Management, the State Treasurer (each serving at the pleasure of the appointer); and nine members appointed by the UNC System's Board of Governors.

The Trust Fund establishes claim liabilities based on estimates of the ultimate cost of claims (including future expenses and claim adjustment expenses) that have been reported but not settled and of claims incurred but not reported. Claim liabilities are recomputed annually based on an independent actuary's study to produce current estimates that reflect recent settlements, claims frequency, inflation, and other factors. Participant assessments are determined at a level to fund claim liabilities, discounted for future investment earnings. Each participant is required by statute to maintain a fund balance of \$100,000 at all times. Participants are subject to additional premium assessments in the event of deficiencies.

For the period July 1, 2013 through June 30, 2014, the Trust Fund provided coverage on an occurrence basis of \$3,000,000 per individual and \$7,000,000 in the aggregate per claim. Effective July 1, 2006, the Trust Fund entered into an excess of loss agreement with an unaffiliated reinsurer.

For the fiscal year ending June 30, 2014, the Trust Fund purchased a direct insurance policy to cover the first \$1,000,000 per occurrence and \$3,000,000 in the aggregate for dental residents. North Carolina General Statutes Chapter 116 was amended during 1987 to authorize the Trust Fund to borrow necessary amounts up to \$30,000,000, in the event that the Trust Fund may have insufficient funds to pay existing and future claims. Any such borrowing would be repaid from the assets and revenues of program participants. No line of credit or borrowing has been established pursuant to this authorization. The Council believes adequate funds are on deposit in the Trust Fund to meet estimated losses based upon the results of the independent actuary's report.

The Trust Fund has purchased annuity contracts to settle claims for which the claimant has signed an agreement releasing the Fund from further obligation. The related claim liabilities have been removed from estimated malpractice costs.

The Council may choose to terminate the Trust Fund, or the respective participants may choose to terminate their participation. In the event of such termination by either the Council or a participant, an updated actuarial study will be performed to determine amounts due to or from the participants based on loss experience up to the date of termination.

At June 30, 2014, University assets in the Trust Fund totaled \$28,053,080 while University liabilities totaled \$21,595,850 resulting in net assets of \$6,457,230.

Additional disclosures about the funding status and obligations of the Trust Fund are set forth in the Audited Financial Statements of the Liability Insurance Trust Fund. Copies of this report may be obtained from The University of North Carolina Health Care System, 211 Friday Center Drive, Hedrick Building, Room 2039, Chapel Hill, NC 27517.

Term life insurance (death benefits) of \$25,000 to \$50,000 is provided to eligible workers. This Death Benefit Plan is administered by the State Treasurer and funded via employer contributions. The employer contribution rate was 0.16% for the current fiscal year.

Additional details on the state-administered risk management programs are disclosed in the State's *Comprehensive Annual Financial Report*, issued by the Office of the State Controller.

## NOTE 16

### Commitments and Contingencies

#### A Commitments

The University has commitments of \$85,016,077 for various capital improvements projects that include construction and completion of new buildings, and renovations of existing buildings.

The UNC Investment Fund, LLC (UNC Investment Fund) has entered into agreements with limited partnerships to invest capital. These agreements represent the funding of capital over a designated period of time and are subject to adjustments. As of June 30, 2014, the UNC Investment Fund had approximately \$705,910,512 unfunded committed capital.

#### B Pending Litigation and Claims

The University is a party to litigation and claims in the ordinary course of its operations. Since it is not possible to predict the ultimate outcome of these matters, no provision for any liability has been made in the financial statements. University

management believes that the liability, if any, for any of these matters will not have a material adverse effect on the financial position of the University.

### C Other Contingent Receivables

The University has received notification of other gifts and grants for which funds have not been disbursed by the resource provider and for which conditions attached to the gift or grant have not been satisfied or, in the case of permanent endowments, cannot begin to be satisfied. In accordance with accounting principles generally accepted in the United States of America, these amounts have not been recorded on the accompanying financial statements. Contingent pledges to permanent endowments were \$32.8 million at June 30, 2014.

### NOTE 17

## Related Parties

There are 14 separately incorporated non-profit foundations associated with the University. These foundations are the Botanical Garden Foundation, Inc., The Dental Alumni Association, Inc., The Dental Foundation of North Carolina, Inc., The Educational Foundation, Inc., The General Alumni Association, The School of Government Foundation, Inc., The Morehead-Cain Scholarship Fund, UNC Eshelman School of Pharmacy Foundation, The School of Journalism and Mass Communication Foundation of North Carolina, Inc., The University of North Carolina at Chapel Hill Public Health Foundation, Inc., The University of North Carolina at Chapel Hill School of Nursing Foundation, Inc., The School of Social Work Foundation, Inc., James B. Hunt, Jr. Institute for Educational Leadership and Policy Foundation, Inc. and Carolina for Kibera, Inc. Some of these organizations serve, in conjunction with the University's component units (See Note 1A), as the primary fundraising arm of the University through which individuals, corporations, and other organizations support University programs by providing scholarships, fellowships, faculty salary supplements, and unrestricted funds to specific colleges and the University's overall academic environment. The alumni associations provide educational opportunities or other services to alumni. The University's financial statements do not include the assets, liabilities, net position, or operational transactions of these organizations, except for support from each organization to the University. This support totaled \$30,526,004 for the year ended June 30, 2014.

### NOTE 18

## Investment in Joint Venture

The University is a member of the Southern Observatory for Astronomical Research Consortium (SOAR), a joint venture accounted for under the equity method. The University is partners with Michigan State University, the Association of Universities for Research in Astronomy, and the Ministry of Science and Technology of the Federal Republic of Brazil. SOAR designed, constructed, and now operates a 4.2-meter telescope with instrumentation and related support buildings located at Cerro Pachon, a mountain in central Chile. The SOAR agreement allocates the University 16.7 percent of observing time until 2023. The audited financial statements for SOAR may be obtained from the University Controller's Office, Campus Box 1270, Chapel Hill, NC 27599-1270, or by calling (819) 962-1370.

### NOTE 19

## Blended Component Units

Condensed combining information for the University's blended component units for the year ended June 30, 2014, is presented as follows:

### CONDENSED STATEMENT OF NET POSITION

June 30, 2014

	University of North Carolina at Chapel Hill**	UNC Investment Fund, LLC	The University of North Carolina at Chapel Hill Foundation Investment Fund, Inc.	The University of North Carolina at Chapel Hill Foundation, Inc.	UNC Intermediate Pod, LLC	Other Blended Component Units*	Eliminations	Total
<b>Assets</b>								
Current Assets	\$1,528,609,909	\$14,085,731	\$29,639,962	\$86,797,759	\$29,211,085			\$1,697,314,416
Capital Assets	3,060,872,144			48,271,125			7,986,092	3,117,129,361
Other Non-current Assets	(846,008,728)	4,213,998,686	\$2,641,333,671	329,641,289	\$81,967,410	136,008,567	(\$2,999,185,967)	3,856,745,137
<b>Total Assets</b>	<b>3,743,473,325</b>	<b>4,228,084,416</b>	<b>2,641,333,671</b>	<b>407,662,376</b>	<b>477,765,149</b>	<b>172,205,714</b>	<b>(2,999,185,967)</b>	<b>8,671,188,914</b>
Deferred Outflows of Resources	84,866,413							84,866,413
<b>Liabilities</b>								
Current Liabilities	414,281,604	5,464,410	1,299,382	7,513,933	7,989,464	2,612,008	(1,299,382)	437,661,419
Non-current Liabilities	2,017,174,064			82,124,563		10,612,378	1,435,436,054	3,545,347,059
<b>Total Liabilities</b>	<b>2,431,455,668</b>	<b>5,464,410</b>	<b>1,299,382</b>	<b>89,638,496</b>	<b>7,989,464</b>	<b>13,224,386</b>	<b>1,434,136,672</b>	<b>3,963,208,478</b>
Deferred Inflows of Resources								
<b>Net Position</b>								
Net Investment in Capital Assets	1,637,669,699			23,641,117		1,620,406		1,662,931,222
Restricted - Non-expendable	(2,413,056,761)	4,222,590,006	2,640,034,489	134,826,154	469,765,706	109,767,588	(4,433,322,629)	724,604,552
Restricted - Expendable	1,317,363,799			119,010,633		34,063,146		1,464,477,578
Unrestricted	854,887,333			46,435,976		19,510,188		920,833,497
<b>Total Net Position</b>	<b>\$1,299,694,070</b>	<b>\$4,222,590,006</b>	<b>\$2,640,034,489</b>	<b>\$317,913,880</b>	<b>\$469,765,706</b>	<b>\$188,981,328</b>	<b>(\$4,433,322,629)</b>	<b>\$4,772,646,849</b>

\*Other Blended Component Units Include UNC Management Company, Inc., The Kanan-Hagler Business School Foundation, UNC Law Foundation, Inc., and The University of North Carolina at Chapel Hill School of Education Foundation, Inc.

\*\*Negative balances for the University reflect net inter-entity receivables for blended entities where such balances are not separately tracked and reported on.

## CONDENSED STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

For the Fiscal Year Ended June 30, 2014

	University of North Carolina at Chapel Hill**	UNC Investment Fund, LLC	The University of North Carolina at Chapel Hill Foundation Investment Fund, Inc.	The University of North Carolina at Chapel Hill Foundation, Inc.	UNC Intermediary Pool, LLC	Other Blended Component Units*	Eliminations	Total
<b>Operating Revenues</b>								
Sales and Services	\$1,098,796,809			\$12,026,924		\$21,459,669		\$1,132,283,402
Other Operating Revenues	819,412,164			3,994,606		442,036		823,848,798
<b>Total Operating Revenues</b>	<b>1,918,208,973</b>			<b>16,021,530</b>		<b>21,901,705</b>		<b>1,956,132,197</b>
<b>Operating Expenses</b>								
Operating Expenses	2,488,627,020			25,176,824		27,298,427		2,541,102,271
Depreciation	130,438,445							130,438,445
<b>Total Operating Expenses</b>	<b>2,619,065,465</b>			<b>25,176,824</b>		<b>27,298,427</b>		<b>2,671,540,716</b>
Operating Income (Loss)	(700,856,502)			(9,155,295)		(8,396,722)		(718,408,519)
<b>Non-Operating Revenues (Expenses)</b>								
Investment Income, Net	(128,476,980)	\$669,659,258	\$374,578,140	40,766,970	\$9,875,630	18,807,146	(\$716,727,827)	268,372,287
Other, Net	235,774,400	19,259,859	(72,438,022)	(6,028,715)	459,890,075	(6,079,228)	72,438,022	702,825,385
<b>Net Non-operating Revenues</b>	<b>107,297,420</b>	<b>678,818,111</b>	<b>302,140,118</b>	<b>34,738,255</b>	<b>469,765,705</b>	<b>12,727,918</b>	<b>(644,289,805)</b>	<b>961,197,622</b>
Additions to Endowments	13,423,866			10,183,768		2,000,548		25,608,182
<b>Increase in Net Position</b>	<b>(580,135,194)</b>	<b>678,818,111</b>	<b>302,140,118</b>	<b>35,739,128</b>	<b>469,765,705</b>	<b>9,338,044</b>	<b>(644,289,805)</b>	<b>271,397,607</b>
<b>Net Position</b>								
Net Position, July 1, 2013	1,977,018,264	3,848,770,898	2,387,894,871	282,184,782	0	149,648,284	(3,789,033,204)	4,801,449,242
<b>Net Position, June 30, 2014</b>	<b>\$1,396,884,070</b>	<b>\$4,222,890,006</b>	<b>\$2,640,034,489</b>	<b>\$317,913,880</b>	<b>\$469,766,705</b>	<b>\$168,981,328</b>	<b>(\$4,433,322,629)</b>	<b>\$4,772,848,849</b>

\*Other Blended Component Units include UNC Management Company, Inc., The Kenan-Flagler Business School Foundation, U.N.C. Law Foundation, Inc., and The University of North Carolina at Chapel Hill School of Education Foundation, Inc.

\*\*Negative balances for the University reflect net inter-entity receivables for blended entities where such balances are not separately tracked and reported on.

## CONDENSED STATEMENT OF CASH FLOWS

June 30, 2014

	The University of North Carolina at Chapel Hill	The University of North Carolina at Chapel Hill Foundation, Inc.	Other Blended Component Units*	Total
Net Cash Provided by Operating Activities	(\$643,753,114)	(\$7,472,834)	(\$3,064,608)	(\$654,290,556)
Net Cash Used by Non-capital Financing Activities	1,031,686,056	9,332,805	(1,991,966)	1,039,026,895
Net Cash Used by Capital and Related Financing Activities	(188,608,786)	(7,971,198)	(1,372,992)	(197,952,976)
Net Cash Provided by Investing Activities	(601,646,800)	5,581,990	5,209,775	(590,865,035)
<b>Net Increase (Decrease) in Cash and Cash Equivalents</b>	<b>(372,322,644)</b>	<b>(529,834)</b>	<b>(1,226,788)</b>	<b>(374,079,266)</b>
Cash and Cash Equivalents, July 1, 2013	1,018,714,444	29,923,296	23,072,808	1,071,710,548
<b>Cash and Cash Equivalents, June 30, 2014</b>	<b>\$646,392,800</b>	<b>\$29,393,462</b>	<b>\$21,847,020</b>	<b>\$697,633,282</b>

\*Other Blended Component Units include UNC Management Company, Inc., The Kenan-Flagler Business School Foundation, U.N.C. Law Foundation, Inc., and The University of North Carolina at Chapel Hill School of Education Foundation, Inc.

## NOTE 20

### Subsequent Events

On October 9, 2014, the Board of Governors of the University of North Carolina System issued \$265,600,000 in Series 2014 taxable, fixed-rate bonds. These bonds will bear interest from that date. Interest on the bonds will be payable semiannually on each December 1 and June 1, commencing on December 1, 2014. The structure contains serial bonds that will mature from December 1, 2016 to December 1, 2020 issued with coupon rates ranging from 0.759 percent to 2.365 percent, and term bonds that with a final maturity of December 1, 2034 issued at a coupon rate of 3.847 percent. The bonds were issued to provide for the advance refunding of \$250,000,000 in par value of the General Revenue Bonds, Series 2005A. The all-in true interest cost of the refunding bonds is 3.87 percent, representing a net present value savings to the University of \$21,800,783, or 8.76 percent savings on the refunded bonds.



# Statistical Section

# Table of Contents: Narrative to the Statistical Section

June 30, 2014

## 81 FINANCIAL TRENDS

These schedules contain trend information to help the reader understand how the University's financial performance has changed over time.

- Net Position by Component*
- Changes in Net Position*
- Changes in Net Position Adjusted for Inflation*
- Operating Expenses by Function*

## 88 REVENUE CAPACITY

These schedules contain information to help the reader assess the University's revenue sources.

- Revenue Base*
- Academic Year Tuition and Required Fees*
- Principal Revenue Payers*

## 90 DEBT CAPACITY

These schedules present information to help the reader assess the University's current levels of outstanding debt.

- Long-term Debt*
- Summary of Ratios*
- Specific Revenue and General Revenue Bond Coverage*

## 100 DEMOGRAPHIC AND ECONOMIC INFORMATION

These schedules offer demographic and economic indicators to help the reader understand the environment within which the University's financial activities take place.

- Annual Undergraduate Educational Costs Per Student*
- Admissions, Enrollment, and Degrees Earned*
- Demographic Data*
- Principal Employers*

## 105 OPERATING INFORMATION

These schedules contain service and infrastructure data to help the reader understand how the University's financial information relates to the activities it performs.

- Faculty and Staff*
- Capital Assets (Number of Facilities)*

## NET POSITION BY COMPONENT

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	(as restated)									
Net Investment in Capital Assets	\$1,662,931	\$1,632,616	\$1,645,959	\$1,587,446	\$1,420,104	\$1,338,833	\$1,290,034	\$1,211,806	\$1,119,040	\$1,017,383
Restricted, Non-expendable	724,605	702,225	700,687	656,723	621,879	586,175	548,151	499,205	430,316	378,234
Restricted, Expendable	1,464,478	1,193,821	990,906	1,007,936	891,182	857,154	1,199,280	1,086,253	853,133	796,631
Unrestricted	920,833	972,888	896,092	861,254	778,439	700,280	671,970	617,573	625,613	475,631
<b>Total Net Position</b>	<b>\$4,772,847</b>	<b>\$4,901,449</b>	<b>\$4,233,646</b>	<b>\$4,102,999</b>	<b>\$3,711,998</b>	<b>\$3,462,442</b>	<b>\$3,709,433</b>	<b>\$3,409,036</b>	<b>\$2,928,002</b>	<b>\$2,607,879</b>

expressed as a percent of the total

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	%	%	%	%	%	%	%	%	%	%
Net Investment in Capital Assets	34.8	36.3	38.9	38.7	38.3	38.7	34.8	35.5	38.2	39.0
Restricted, Non-expendable	15.2	15.6	16.5	16.0	16.7	16.9	14.8	14.6	14.7	14.5
Restricted, Expendable	30.7	26.6	23.4	24.6	24.0	24.2	32.3	31.9	29.2	28.2
Unrestricted	19.3	21.6	21.2	20.7	21.0	20.2	18.1	18.1	17.9	18.3
<b>Total Net Position</b>	<b>100.0</b>									

percentage increase (decrease) from prior year

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	%	%	%	%	%	%	%	%	%	%
	(as restated)									
Net Investment in Capital Assets	1.9	(0.8)	3.7	11.8	6.1	3.8	6.5	8.3	10.0	n/a
Restricted, Non-expendable	3.2	0.2	6.7	5.6	6.1	6.9	11.1	14.6	13.8	n/a
Restricted, Expendable	22.7	20.6	(1.7)	13.1	6.6	(30.2)	10.4	27.3	15.8	n/a
Unrestricted	(5.4)	8.6	5.3	9.4	11.2	4.2	8.8	17.5	10.5	n/a
<b>Total Net Position</b>	<b>6.0</b>	<b>6.3</b>	<b>3.2</b>	<b>10.5</b>	<b>7.2</b>	<b>(8.7)</b>	<b>8.8</b>	<b>16.4</b>	<b>12.3</b>	<b>n/a</b>

**CHANGES IN NET POSITION**

Last ten fiscal years

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	In thousands									
	(as restated)									
<b>Revenues</b>										
<b>Operating Revenues</b>										
Student tuition and fees, net	\$361,771	\$348,049	\$320,535	\$289,897	\$249,083	\$236,960	\$218,763	\$210,651	\$195,882	\$164,457
Patient services, net	312,054	291,277	280,671	280,035	242,757	237,966	214,706	197,221	184,324	172,063
Federal grants and contracts	641,519	587,220	678,702	671,288	530,368	471,680	447,793	423,069	422,229	403,100
State and local grants and contracts	35,071	41,471	41,953	38,251	37,679	29,091	51,207	45,256	41,842	39,816
Non-governmental grants and contracts	143,564	132,506	105,191	146,081	120,674	123,649	115,513	92,572	89,976	81,560
Sales and services, net	458,458	429,243	400,480	373,706	354,439	321,505	349,372	324,432	301,303	290,397
Interest earnings on loans	823	730	849	842	790	801	666	679	672	1,441
Other operating revenues	2,872	8,198	8,148	4,886	6,485	7,835	6,232	4,574	5,283	4,167
<b>Total operating revenues</b>	<b>1,956,132</b>	<b>1,838,694</b>	<b>1,736,529</b>	<b>1,704,936</b>	<b>1,542,276</b>	<b>1,428,487</b>	<b>1,404,252</b>	<b>1,304,444</b>	<b>1,261,511</b>	<b>1,157,001</b>
<b>Expenses</b>										
<b>Operating Expenses</b>										
Salaries and benefits	1,467,756	1,435,472	1,375,758	1,379,178	1,340,749	1,309,862	1,210,787	1,122,269	1,042,452	966,623
Supplies and materials	159,907	160,898	164,839	162,999	156,404	174,501	161,219	165,704	182,911	148,440
Services	715,833	660,516	617,589	614,928	538,784	533,023	526,646	462,093	432,212	407,690
Scholarships and fellowships	112,450	104,567	96,871	91,140	69,089	58,557	58,058	56,682	54,105	51,170
Utilities	85,157	83,265	80,832	81,471	81,210	77,636	66,197	60,727	56,277	47,870
Depreciation and amortization	130,438	117,968	113,830	102,724	90,861	70,747	66,413	80,827	64,475	60,102
<b>Total operating expenses</b>	<b>2,671,341</b>	<b>2,552,476</b>	<b>2,449,479</b>	<b>2,432,440</b>	<b>2,277,091</b>	<b>2,224,326</b>	<b>2,099,290</b>	<b>1,848,382</b>	<b>1,802,432</b>	<b>1,681,901</b>
Operating loss	(715,409)	(713,782)	(712,950)	(727,504)	(734,816)	(794,839)	(685,038)	(643,838)	(560,921)	(524,900)
<b>Non-Operating Revenues (Expenses)</b>										
State appropriations	482,728	515,121	486,492	520,198	509,691	518,276	543,292	492,471	440,070	406,673
State aid - federal recovery funds	0	0	0	14,480	32,062	20,051	0	0	0	0
Non-capital grants - federal student financial aid	18,622	18,011	17,899	18,946	17,099	10,170	0	0	0	0
Non-capital grants	122,611	164,790	163,440	175,600	156,014	143,846	102,982	62,669	67,368	62,544
Non-capital gifts, net	97,416	67,841	99,446	93,166	75,881	87,226	113,094	73,637	68,824	73,693
Investment income (loss), net	258,372	191,969	33,134	208,184	109,606	(296,904)	146,680	317,767	207,423	154,900
Interest and fees on debt	(66,217)	(70,118)	(64,321)	(56,765)	(64,261)	(52,465)	(53,311)	(42,926)	(39,921)	(21,823)
Federal interest subsidy on debt	2,109	2,174	2,274	2,273	1,130	0	0	0	0	0
Other non-operating revenues (expenses)	(6,162)	(1,600)	(6,053)	(2,670)	(14,219)	2,359	851	146	(230)	8,374
<b>Net non-operating revenues</b>	<b>909,479</b>	<b>887,988</b>	<b>732,311</b>	<b>973,412</b>	<b>816,002</b>	<b>492,559</b>	<b>893,508</b>	<b>903,764</b>	<b>743,554</b>	<b>684,361</b>
<b>Income before other revenues</b>	<b>194,070</b>	<b>174,206</b>	<b>19,361</b>	<b>245,908</b>	<b>81,186</b>	<b>(362,280)</b>	<b>188,470</b>	<b>259,926</b>	<b>182,633</b>	<b>159,461</b>
Capital appropriations	4,313	2,285	0	0	0	12,539	47,206	52,888	15,776	5,166
Refund of prior years capital appropriations	0	0	0	(81)	(444)	(3,317)	0	0	0	0
Capital grants	41,507	44,177	78,133	91,864	86,117	27,124	12,885	118,860	52,277	152,844
Capital gifts	5,899	23,182	5,630	9,149	50,688	94,686	11,596	15,662	13,968	11,521
Additions to endowments	25,609	23,958	27,563	44,521	31,609	44,255	60,242	39,442	56,069	37,688
<b>Increase (Decrease) in Net Position</b>	<b>\$271,398</b>	<b>\$267,803</b>	<b>\$130,687</b>	<b>\$391,361</b>	<b>\$349,156</b>	<b>(\$246,993)</b>	<b>\$300,399</b>	<b>\$486,768</b>	<b>\$320,123</b>	<b>\$366,680</b>

**CHANGES IN NET POSITION (CONTINUED)**

Last ten fiscal years

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	In thousands									
<b>Total Revenues</b>	<b>\$3,015,918</b>	<b>\$2,891,998</b>	<b>\$2,650,540</b>	<b>\$2,883,917</b>	<b>\$2,605,171</b>	<b>\$2,330,019</b>	<b>\$2,443,000</b>	<b>\$2,477,976</b>	<b>\$2,162,706</b>	<b>\$2,070,404</b>
<b>Total Expenses</b>	<b>2,743,920</b>	<b>2,624,195</b>	<b>2,519,853</b>	<b>2,491,956</b>	<b>2,356,015</b>	<b>2,577,012</b>	<b>2,142,601</b>	<b>1,991,208</b>	<b>1,842,883</b>	<b>1,703,724</b>
<b>Increase (Decrease) in Net Assets</b>	<b>\$271,998</b>	<b>\$267,803</b>	<b>\$130,687</b>	<b>\$391,361</b>	<b>\$249,156</b>	<b>(\$246,993)</b>	<b>\$300,399</b>	<b>\$486,768</b>	<b>\$320,123</b>	<b>\$366,680</b>
	Expressed as a percent of total revenues/total expenses									
Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	%	%	%	%	%	%	%	%	%	%
<b>Revenues</b>										
<b>Operating Revenues</b>										
Student tuition and fees, net	12.0	12.0	12.1	10.1	9.6	10.2	9.0	8.5	9.1	7.9
Patient services, net	10.3	10.1	10.6	9.7	9.3	10.2	8.8	8.0	8.5	8.3
Federal grants and contracts	21.3	20.4	21.8	19.8	20.5	20.4	18.3	17.3	19.6	19.6
State and local grants and contracts	1.2	1.4	1.6	1.3	1.4	1.2	2.1	1.8	1.9	1.9
Non-governmental grants and contracts	4.8	4.6	4.0	5.1	4.6	5.3	4.7	3.7	4.2	3.9
Sales and services, net	15.2	14.8	15.1	13.0	13.6	13.8	14.3	13.1	13.9	14.0
Interest earnings on loans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Other operating revenues	0.1	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2
<b>Total operating revenues</b>	<b>64.9</b>	<b>63.6</b>	<b>68.8</b>	<b>69.1</b>	<b>69.2</b>	<b>61.4</b>	<b>67.8</b>	<b>62.6</b>	<b>67.4</b>	<b>68.9</b>
<b>Expenses</b>										
<b>Operating Expenses</b>										
Salaries and benefits	53.5	54.7	54.6	55.3	56.9	50.8	56.5	56.4	56.6	56.7
Supplies and materials	5.8	6.1	6.3	6.5	6.6	6.8	7.5	6.3	6.3	6.7
Services	26.1	24.8	24.5	24.7	22.9	20.7	24.6	23.2	23.5	23.9
Scholarships and fellowships	4.1	4.0	3.8	3.7	2.9	2.3	2.7	2.8	2.9	3.0
Utilities	3.1	3.2	3.2	3.3	3.4	3.0	3.1	3.0	3.1	2.8
Depreciation and amortization	4.8	4.5	4.5	4.1	3.9	2.7	3.1	4.1	3.5	3.5
<b>Total operating expenses</b>	<b>88.6</b>	<b>88.3</b>	<b>92.4</b>	<b>84.4</b>	<b>87.4</b>	<b>95.5</b>	<b>85.5</b>	<b>78.6</b>	<b>83.3</b>	<b>81.3</b>
Operating loss	(23.7)	(24.7)	(26.9)	(25.3)	(28.2)	(34.1)	(28.0)	(26.0)	(25.9)	(25.4)
<b>Non-Operating Revenues (Expenses)</b>										
State appropriations	16.0	17.8	18.4	18.0	19.6	22.2	22.4	19.9	20.3	19.6
State aid - federal recovery funds	0.0	0.0	0.0	0.5	1.2	0.9	0.0	0.0	0.0	0.0
Non-capital grants - federal student financial aid	0.6	0.6	0.7	0.7	0.7	0.4	0.0	0.0	0.0	0.0
Non-capital grants	4.1	5.7	6.2	6.1	6.0	6.2	4.2	2.5	3.1	3.0
Non-capital gifts, net	3.2	2.3	3.8	3.2	2.9	3.7	4.6	3.0	3.2	3.6
Investment income (loss), net	8.6	6.6	1.3	7.2	4.0	(11.5)	6.0	12.8	9.6	7.5
Interest and fees on debt	(2.4)	(2.7)	(2.6)	(2.3)	(2.7)	(2.0)	(2.5)	(2.2)	(2.2)	(1.5)
Federal interest subsidy on debt	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Other non-operating revenues (expenses)	(0.2)	(0.1)	(0.2)	(0.1)	(0.6)	0.1	0.0	0.0	0.0	0.4
<b>Net non-operating revenues</b>	<b>30.1</b>	<b>30.7</b>	<b>27.8</b>	<b>33.9</b>	<b>31.3</b>	<b>18.8</b>	<b>34.9</b>	<b>36.5</b>	<b>34.3</b>	<b>33.1</b>
<b>Income before other revenues</b>	<b>6.4</b>	<b>6.0</b>	<b>0.7</b>	<b>8.6</b>	<b>3.1</b>	<b>(15.5)</b>	<b>8.9</b>	<b>10.5</b>	<b>8.4</b>	<b>7.7</b>
Capital appropriations	0.1	0.1	0.0	0.0	0.0	0.5	1.9	2.1	0.7	0.2
Refund of prior years capital appropriations	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0
Capital grants	1.5	1.6	3.0	3.2	3.3	0.9	0.4	4.8	2.5	7.4
Capital gifts	0.2	0.8	0.2	0.3	1.9	1.6	0.5	0.6	0.6	0.6
Additions to endowments	0.8	0.8	1.0	1.5	1.2	1.9	2.5	1.6	2.6	1.8
<b>Increase (Decrease) in Net Position</b>	<b>9.0</b>	<b>9.3</b>	<b>4.9</b>	<b>13.6</b>	<b>9.6</b>	<b>(10.6)</b>	<b>12.3</b>	<b>19.6</b>	<b>14.8</b>	<b>17.7</b>

**CHANGES IN NET POSITION (CONTINUED)**

Last ten fiscal years

percentage increase (decrease) from prior year

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	%	%	%	%	%	%	%	%	%	%
(as restated)										
<b>Revenues</b>										
<b>Operating Revenues</b>										
Student tuition and fees, net	3.9	8.6	10.6	16.4	5.1	8.3	3.9	7.5	19.1	n/a
Patient services, net	7.1	3.8	0.2	15.4	2.0	10.8	8.9	7.0	7.1	n/a
Federal grants and contracts	9.2	1.5	1.3	7.7	12.4	5.3	4.4	1.6	4.7	n/a
State and local grants and contracts	(15.4)	(1.1)	9.7	1.5	29.5	(43.2)	13.1	8.2	5.1	n/a
Non-governmental grants and contracts	8.3	26.0	(28.0)	21.1	(2.4)	7.0	24.8	2.9	10.3	n/a
Sales and services, net	6.8	7.2	7.2	5.4	10.2	(8.0)	7.7	7.7	3.8	n/a
Interest earnings on loans	12.7	(14.0)	0.8	6.6	(1.4)	20.3	(1.9)	1.0	(55.4)	n/a
Other operating revenue	(65.0)	0.6	68.5	(25.4)	(17.2)	25.7	36.2	(13.4)	26.8	n/a
<b>Total operating revenues</b>	<b>6.4</b>	<b>5.9</b>	<b>1.9</b>	<b>10.5</b>	<b>7.9</b>	<b>1.9</b>	<b>7.7</b>	<b>5.1</b>	<b>7.3</b>	<b>n/a</b>
<b>Expenses</b>										
<b>Operating Expenses</b>										
Salaries and benefits	2.2	4.3	(0.2)	2.9	2.4	8.2	7.9	7.7	7.8	n/a
Supplies and materials	(0.5)	(2.5)	1.2	4.2	(10.4)	8.2	(2.7)	8.4	3.0	n/a
Services	10.0	5.9	0.4	14.1	1.1	1.2	14.0	5.9	6.0	n/a
Scholarships and fellowships	7.5	7.9	6.3	31.9	18.0	0.9	2.5	4.7	5.7	n/a
Utilities	2.3	3.0	(0.8)	0.3	4.6	17.3	9.0	7.9	17.6	n/a
Depreciation and amortization	10.6	3.9	10.5	13.1	28.4	6.5	(17.8)	25.4	7.3	n/a
<b>Total operating expenses</b>	<b>4.7</b>	<b>4.2</b>	<b>0.7</b>	<b>6.8</b>	<b>3.4</b>	<b>6.5</b>	<b>7.2</b>	<b>8.1</b>	<b>7.2</b>	<b>n/a</b>
<b>Operating loss</b>	<b>0.2</b>	<b>0.1</b>	<b>(2.0)</b>	<b>(1.0)</b>	<b>(7.6)</b>	<b>16.0</b>	<b>6.4</b>	<b>14.8</b>	<b>6.9</b>	<b>n/a</b>
<b>Non-Operating Revenues (Expenses)</b>										
State appropriations	(6.5)	5.9	(6.5)	2.1	(1.7)	(4.6)	10.3	11.9	8.2	n/a
State aid - federal recovery funds	0.0	0.0	(100.0)	(54.8)	59.9	n/a	n/a	n/a	n/a	n/a
Non-capital grants - federal student financial aid	3.4	0.6	(6.5)	10.8	68.1	n/a	n/a	n/a	n/a	n/a
Non-capital grants	(25.6)	0.8	(6.9)	13.3	7.8	39.7	64.2	(7.0)	7.7	n/a
Non-capital gifts, net	44.0	(82.0)	6.7	22.8	(13.0)	(22.9)	53.6	7.0	(6.6)	n/a
Investment income (loss), net	34.6	479.4	(84.1)	100.9	134.9	(302.5)	(53.8)	53.2	33.9	n/a
Interest and fees on debt	(5.6)	9.0	13.3	(11.7)	22.5	(1.6)	24.2	7.5	82.9	n/a
Federal interest subsidy on debt	(3.0)	(4.4)	0.0	101.2	n/a	n/a	n/a	n/a	n/a	n/a
Other non-operating revenues (expenses)	285.1	(73.6)	126.7	(81.2)	(702.8)	177.2	482.9	163.5	(102.7)	n/a
<b>Net non-operating revenues</b>	<b>2.4</b>	<b>21.3</b>	<b>(24.8)</b>	<b>19.3</b>	<b>88.6</b>	<b>(49.3)</b>	<b>(6.6)</b>	<b>21.8</b>	<b>8.6</b>	<b>n/a</b>
<b>Income before other revenues</b>	<b>11.4</b>	<b>799.5</b>	<b>(92.1)</b>	<b>202.9</b>	<b>122.4</b>	<b>(315.0)</b>	<b>(38.2)</b>	<b>42.3</b>	<b>14.5</b>	<b>n/a</b>
Capital appropriations	88.8	0.0	0.0	0.0	(100.0)	(75.4)	(10.7)	235.2	205.4	n/a
Refund of prior years capital appropriations	0.0	0.0	(100.0)	(81.8)	(86.6)	n/a	n/a	n/a	n/a	n/a
Capital grants	(6.0)	(43.5)	(14.9)	6.7	217.5	110.5	(89.2)	127.3	(55.8)	n/a
Capital gifts	(74.6)	311.8	(38.5)	(82.0)	45.1	199.1	(25.0)	17.2	16.1	n/a
Additions to endowments	6.9	(13.1)	(38.1)	40.8	(28.6)	(26.5)	52.7	(29.7)	48.8	n/a
<b>Increase (Decrease) in Net Position</b>	<b>1.3</b>	<b>104.9</b>	<b>(66.6)</b>	<b>87.1</b>	<b>200.9</b>	<b>(182.2)</b>	<b>(38.3)</b>	<b>82.1</b>	<b>(12.7)</b>	<b>n/a</b>

**CHANGES IN NET POSITION ADJUSTED FOR INFLATION**

Last ten fiscal years (2005 dollars)

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Revenues</b>										
<b>Operating Revenues</b>										
Student tuition and fees, net	\$266,648	\$263,469	\$248,364	\$229,091	\$201,095	\$193,270	\$182,599	\$185,439	\$178,167	\$157,613
Patient services, net	230,003	220,494	217,476	221,298	195,987	194,091	179,213	175,616	167,654	164,902
Federal grants and contracts	472,840	444,519	448,403	451,460	428,187	384,714	373,768	377,707	384,043	385,324
State and local grants and contracts	25,850	31,993	32,507	30,228	30,420	23,727	42,742	39,840	38,058	38,199
Non-governmental grants and contracts	105,816	100,306	81,506	115,441	97,425	100,851	96,417	81,492	81,839	78,166
Sales and services, net	337,912	324,932	310,309	295,321	286,153	262,227	291,617	285,602	274,053	278,311
Interest earnings on loans	607	553	658	665	638	653	556	598	611	1,381
Other operating revenues	2,117	6,206	6,313	3,822	5,236	6,390	5,202	4,027	4,806	3,994
<b>Total operating revenues</b>	<b>1,441,793</b>	<b>1,291,872</b>	<b>1,348,536</b>	<b>1,347,326</b>	<b>1,248,141</b>	<b>1,188,923</b>	<b>1,172,114</b>	<b>1,148,821</b>	<b>1,139,220</b>	<b>1,106,890</b>
<b>Expenses</b>										
<b>Operating Expenses</b>										
Salaries and benefits	1,081,828	1,086,637	1,065,996	1,089,896	1,082,440	1,068,355	1,010,605	987,950	948,173	926,400
Supplies and materials	117,951	121,647	127,771	128,810	126,271	142,327	134,568	145,872	139,082	142,262
Services	527,614	492,434	478,534	485,947	434,982	434,746	439,585	406,787	393,123	390,723
Scholarships and fellowships	82,883	79,149	75,060	72,023	55,773	47,760	48,460	49,880	49,212	49,040
Utilities	62,766	63,031	62,632	64,382	65,964	63,322	55,254	53,459	51,187	45,878
Depreciation and amortization	96,141	89,301	87,968	81,178	73,356	57,703	55,434	71,153	58,544	57,601
<b>Total operating expenses</b>	<b>1,989,085</b>	<b>1,832,199</b>	<b>1,897,951</b>	<b>1,822,236</b>	<b>1,836,385</b>	<b>1,814,213</b>	<b>1,743,806</b>	<b>1,715,101</b>	<b>1,639,421</b>	<b>1,611,904</b>
<b>Operating loss</b>	<b>(547,300)</b>	<b>(540,327)</b>	<b>(552,425)</b>	<b>(574,910)</b>	<b>(588,245)</b>	<b>(644,290)</b>	<b>(571,792)</b>	<b>(566,780)</b>	<b>(510,191)</b>	<b>(505,054)</b>
<b>Non-Operating Revenues (Expenses)</b>										
State appropriations	355,801	309,941	376,956	411,087	411,494	422,718	453,480	433,629	400,270	389,748
State aid - federal recovery funds	0	0	0	11,443	25,885	16,354	0	0	0	0
Non-capital grants - federal student financial aid	13,726	13,634	13,869	14,972	13,805	8,295	0	0	0	0
Non-capital grants	90,372	124,744	126,640	138,768	125,149	117,324	85,916	55,168	61,293	59,941
Non-capital gifts, net	71,802	51,204	77,055	73,624	61,262	71,144	94,398	64,824	62,600	70,626
Investment income (loss), net	190,436	145,318	25,674	164,517	83,644	(242,162)	122,407	279,735	188,664	148,453
Interest and fees on debt	(48,806)	(53,079)	(49,839)	(44,859)	(51,880)	(42,792)	(44,498)	(37,788)	(36,311)	(20,915)
Federal interest subsidy on debt	1,554	1,646	1,762	1,796	912	0	0	0	0	0
Other non-operating revenues (expenses)	(4,542)	(1,211)	(4,690)	(2,110)	(11,480)	1,924	710	129	(209)	8,025
<b>Net non-operating revenues</b>	<b>670,343</b>	<b>672,197</b>	<b>567,426</b>	<b>769,238</b>	<b>698,791</b>	<b>352,805</b>	<b>712,413</b>	<b>795,997</b>	<b>676,307</b>	<b>655,878</b>
<b>Income before other revenues</b>	<b>143,043</b>	<b>131,870</b>	<b>16,001</b>	<b>194,328</b>	<b>85,546</b>	<b>(291,485)</b>	<b>140,621</b>	<b>229,217</b>	<b>166,116</b>	<b>152,824</b>
Capital appropriations	3,179	1,730	0	0	0	10,227	39,402	46,956	14,349	4,951
Refund of prior years capital appropriations	0	0	0	(64)	(358)	(2,705)	0	0	0	0
Capital grants	30,533	33,442	60,541	72,596	69,526	22,123	10,755	104,625	47,549	146,483
Capital gifts	4,348	17,849	4,362	7,230	40,922	28,291	9,679	13,787	12,189	11,042
Additions to endowments	18,875	18,132	21,357	35,183	25,519	36,095	50,263	34,721	50,998	36,119
<b>Increase (Decrease) in Net Position</b>	<b>\$200,038</b>	<b>\$202,723</b>	<b>\$101,251</b>	<b>\$309,273</b>	<b>\$201,155</b>	<b>(\$201,454)</b>	<b>\$250,740</b>	<b>\$428,506</b>	<b>\$291,171</b>	<b>\$351,419</b>
<b>Higher Education Price Index (HEPI)</b>	<b>384.3</b>	<b>325.5</b>	<b>318.0</b>	<b>311.8</b>	<b>306.2</b>	<b>302.1</b>	<b>285.2</b>	<b>279.9</b>	<b>270.8</b>	<b>257.1</b>

**CHANGES IN NET POSITION ADJUSTED FOR INFLATION (CONTINUED)**

Last ten fiscal years (2005 dollars)

Percentage increase (decrease) from prior year

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	%	%	%	%	%	%	%	%	%	%
(in millions)										
<b>Revenues</b>										
<b>Operating Revenues</b>										
Student tuition and fees, net	1.2	6.1	8.4	13.9	4.0	5.8	(1.5)	4.1	13.0	n/a
Patient services, net	4.3	1.4	(1.7)	12.9	1.0	8.3	3.2	3.6	1.7	n/a
Federal grants and contracts	6.4	(0.9)	(0.7)	5.4	11.3	2.9	(1.0)	(1.6)	(0.6)	n/a
State and local grants and contracts	(17.7)	(3.4)	7.6	(0.6)	28.2	(44.5)	7.3	4.7	(0.3)	n/a
Non-governmental grants and contracts	8.5	23.1	(29.4)	18.5	(3.4)	4.6	18.3	(0.4)	4.7	n/a
Sales and services, net	4.0	4.7	5.1	3.2	9.1	(10.1)	2.1	4.2	(1.5)	n/a
Interest earnings on loans	9.8	(16.0)	(1.1)	4.2	(2.3)	17.4	(7.0)	(2.1)	(55.8)	n/a
Other operating revenues	(65.9)	(1.7)	65.2	(27.0)	(18.1)	22.8	29.2	(16.2)	20.3	n/a
<b>Total operating revenues</b>	<b>3.6</b>	<b>3.4</b>	<b>(0.1)</b>	<b>8.2</b>	<b>6.8</b>	<b>(0.9)</b>	<b>2.1</b>	<b>1.7</b>	<b>1.8</b>	<b>n/a</b>
<b>Expenses</b>										
<b>Operating Expenses</b>										
Salaries and benefits	(0.4)	1.9	(2.2)	0.7	1.3	5.7	2.3	4.2	2.4	n/a
Supplies and materials	(8.1)	(4.8)	(0.8)	2.0	(11.3)	5.8	(7.7)	4.9	(2.2)	n/a
Services	7.1	2.9	(1.5)	11.7	0.1	(1.1)	8.1	3.5	0.5	n/a
Scholarships and fellowships	4.7	5.4	4.2	29.1	16.8	(1.4)	(2.8)	1.4	0.4	n/a
Utilities	(0.4)	0.6	(2.7)	(1.8)	3.5	14.6	3.4	4.4	11.6	n/a
Depreciation and amortization	7.7	1.5	8.4	10.7	27.1	4.1	(22.1)	21.3	1.8	n/a
<b>Total operating expenses</b>	<b>1.9</b>	<b>1.8</b>	<b>(1.3)</b>	<b>4.8</b>	<b>1.3</b>	<b>4.0</b>	<b>1.7</b>	<b>4.6</b>	<b>1.7</b>	<b>n/a</b>
<b>Operating loss</b>	<b>(2.4)</b>	<b>(2.2)</b>	<b>(3.9)</b>	<b>(3.1)</b>	<b>(8.8)</b>	<b>13.4</b>	<b>0.9</b>	<b>11.1</b>	<b>1.4</b>	<b>n/a</b>
<b>Non-Operating Revenues (Expenses)</b>										
State appropriations	(8.8)	3.4	(8.3)	(0.1)	(2.7)	(5.8)	4.6	6.3	2.7	n/a
State aid - federal recovery funds	0.0	0.0	(100.0)	(55.8)	58.3	100.0	n/a	n/a	n/a	n/a
Non-capital grants - federal student financial aid	0.7	(1.7)	(7.4)	8.5	66.4	100.0	n/a	n/a	n/a	n/a
Non-capital grants	(27.6)	(1.5)	(8.7)	10.9	6.7	36.6	55.7	(10.0)	2.3	n/a
Non-capital gifts, net	40.2	(33.5)	4.7	20.2	(13.9)	(24.6)	45.6	3.6	(11.4)	n/a
Investment income (loss), net	31.0	466.0	(84.4)	96.7	(134.6)	(297.8)	(56.2)	48.3	27.1	n/a
Interest and fees on debt	(8.1)	6.5	11.1	(13.5)	21.2	(3.8)	17.8	4.1	73.6	n/a
Federal interest subsidy on debt	(6.6)	(6.6)	(1.9)	96.9	n/a	n/a	n/a	n/a	n/a	n/a
Other non-operating revenues (expenses)	275.1	(74.2)	122.3	(81.6)	(696.7)	171.0	450.4	(161.7)	(102.6)	n/a
<b>Net non-operating revenues</b>	<b>(0.3)</b>	<b>18.5</b>	<b>(26.2)</b>	<b>16.7</b>	<b>96.7</b>	<b>(50.5)</b>	<b>(10.5)</b>	<b>17.6</b>	<b>3.1</b>	<b>n/a</b>
<b>Income before other revenues</b>	<b>2.8</b>	<b>779.1</b>	<b>(92.1)</b>	<b>196.8</b>	<b>122.2</b>	<b>(310.1)</b>	<b>(38.8)</b>	<b>37.7</b>	<b>8.7</b>	<b>n/a</b>
Capital appropriations	83.8	0.0	0.0	0.0	(100.0)	(74.0)	(15.4)	224.5	189.8	n/a
Refund of prior years capital appropriations	0.0	0.0	(100.0)	(82.1)	(86.8)	(100.0)	n/a	n/a	n/a	n/a
Capital grants	(8.5)	(44.8)	(16.6)	4.4	214.3	105.7	(89.7)	120.0	(67.3)	n/a
Capital gifts	(76.2)	302.3	(39.7)	(82.3)	44.6	192.3	(29.8)	13.4	10.1	n/a
Additions to endowments	4.1	(15.1)	(39.3)	37.9	(29.3)	(28.2)	44.8	(31.9)	41.2	n/a
<b>Increase (Decrease) in Net Position</b>	<b>(1.3)</b>	<b>100.2</b>	<b>(67.3)</b>	<b>82.7</b>	<b>199.9</b>	<b>(180.3)</b>	<b>(41.8)</b>	<b>47.2</b>	<b>(17.1)</b>	<b>n/a</b>

**OPERATING EXPENSES BY FUNCTION**

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
<b>Operating Expenses by Function</b>										
Instruction	\$675,822	\$694,692	\$682,857	\$698,770	\$684,836	\$674,942	\$662,228	\$624,128	\$595,319	\$575,951
Research	646,752	529,102	472,102	468,685	431,317	398,754	358,199	312,160	285,646	271,208
Public Service	134,917	133,059	122,589	137,279	138,044	126,427	95,618	90,025	85,330	83,005
Academic Support	118,680	114,371	111,719	105,883	107,806	107,371	106,613	97,776	86,229	75,384
Student Services	32,807	27,565	25,992	28,320	26,961	27,967	28,434	25,865	23,967	21,653
Institutional Support	100,238	95,852	84,400	91,558	83,962	89,954	86,549	76,188	71,609	67,426
Operations and Maintenance of Plant	190,013	135,314	140,417	145,270	136,008	145,590	133,031	124,991	111,720	92,860
Student Financial Aid	112,450	104,557	96,871	91,140	69,083	58,557	58,058	56,662	54,105	51,170
Auxiliary Enterprises	669,423	601,996	598,602	662,811	508,213	524,067	494,147	469,660	424,042	383,142
Depreciation and amortization	130,439	117,968	113,330	102,724	90,861	70,747	66,413	80,827	64,475	60,102
<b>Total Operating Expenses by Function</b>	<b>\$2,671,541</b>	<b>\$2,552,478</b>	<b>\$2,449,479</b>	<b>\$2,432,440</b>	<b>\$2,277,091</b>	<b>\$2,224,326</b>	<b>\$2,069,290</b>	<b>\$1,948,282</b>	<b>\$1,802,432</b>	<b>\$1,661,901</b>

expressed as a percent of the total

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	%	%	%	%	%	%	%	%	%	%
Instruction	25.3	27.2	27.9	28.7	30.1	30.4	31.7	32.2	33.1	34.3
Research	20.5	20.7	19.3	19.3	18.9	17.9	17.2	16.0	15.8	16.1
Public Service	5.1	5.2	5.0	5.6	6.1	5.7	4.6	4.6	4.7	4.9
Academic Support	4.4	4.5	4.6	4.4	4.7	4.8	5.1	5.0	4.8	4.5
Student Services	1.2	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.3
Institutional Support	3.8	3.7	3.4	3.8	3.7	4.0	4.1	3.9	4.0	4.0
Operations and Maintenance of Plant	5.6	5.3	5.7	6.0	6.0	6.5	6.4	6.4	6.2	5.5
Student Financial Aid	4.2	4.1	4.0	3.7	3.0	2.6	2.8	2.9	3.0	3.0
Auxiliary Enterprises	25.1	23.6	24.4	23.1	22.3	23.6	23.6	23.6	23.5	22.8
Depreciation and amortization	4.8	4.6	4.6	4.2	4.0	3.2	3.2	4.1	3.6	3.6
<b>Total Operating Expenses by Function</b>	<b>100.0</b>									

percentage increase (decrease) from prior year

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	%	%	%	%	%	%	%	%	%	%
Instruction	(2.7)	1.7	(2.3)	2.0	1.5	1.9	6.1	4.8	3.4	n/a
Research	3.3	12.1	0.7	8.7	8.2	11.3	14.7	9.3	5.3	n/a
Public Service	1.4	8.2	(10.4)	(0.6)	9.2	32.2	6.2	5.5	2.8	n/a
Academic Support	3.8	2.4	5.5	(1.8)	0.4	0.7	9.0	13.4	14.4	n/a
Student Services	19.0	6.1	(8.2)	5.0	(3.6)	(1.6)	9.9	8.0	10.6	n/a
Institutional Support	6.8	11.2	(7.8)	9.0	(5.7)	3.9	13.6	6.4	6.2	n/a
Operations and Maintenance of Plant	10.9	(3.6)	(3.3)	5.8	(6.6)	9.4	6.4	11.9	20.3	n/a
Student Financial Aid	7.5	7.9	6.3	31.9	18.0	0.9	2.5	4.7	5.7	n/a
Auxiliary Enterprises	11.2	0.6	6.4	10.7	(3.0)	6.1	7.5	8.4	10.7	n/a
Depreciation and amortization	10.6	3.9	10.5	13.1	28.4	6.5	(17.8)	25.4	7.3	n/a
<b>Total Operating Expenses by Function</b>	<b>4.7</b>	<b>4.2</b>	<b>0.7</b>	<b>6.8</b>	<b>2.4</b>	<b>6.5</b>	<b>7.2</b>	<b>8.1</b>	<b>7.2</b>	<b>n/a</b>

## REVENUE BASE

Last ten fiscal years

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
<b>National Institutes of Health</b>										
Total Appropriations (000's)	\$30,075,730	\$29,181,462	\$30,689,990	\$30,986,200	\$31,246,200	\$30,653,298	\$29,465,000	\$28,626,000	\$28,886,617	\$28,495,157
percent increase from prior year	3.17%	(5.01%)	(0.96%)	(0.83%)	2.27%	3.69%	2.93%	0.14%	0.32%	2.18%
<b>National Science Foundation</b>										
Total Appropriations (000's)	\$7,171,920	\$6,884,110	\$7,033,000	\$6,859,870	\$6,926,400	\$6,490,400	\$6,064,900	\$6,917,160	\$6,880,000	\$6,472,820
percent increase from prior year	4.18%	(2.12%)	2.52%	(0.96%)	6.72%	7.02%	2.90%	6.04%	1.96%	(1.88%)

Sources: National Institutes of Health, National Science Foundation.

## ACADEMIC YEAR TUITION AND REQUIRED FEES

Last ten fiscal years

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
<b>UNC-Chapel Hill vs Association Of American Universities (AAU)</b>										
Resident Undergraduate - UNC-CH	\$8,340	\$7,699	\$7,009	\$6,666	\$5,625	\$5,397	\$5,340	\$5,033	\$4,613	\$4,461
percent increase from prior year	8.41%	9.76%	5.15%	18.50%	4.23%	1.07%	6.10%	9.11%	3.64%	9.31%
AAU Public Universities (mean)	\$11,318	\$11,142	\$10,642	\$9,786	\$8,806	\$8,283	\$7,771	\$7,321	\$6,906	\$6,458
percent increase from prior year	1.58%	4.70%	8.75%	11.13%	6.31%	6.69%	6.15%	6.01%	6.94%	7.99%
<b>Non-Resident Undergraduate - UNC-CH</b>										
	\$30,122	\$26,445	\$26,834	\$25,280	\$23,513	\$22,295	\$20,988	\$19,681	\$18,411	\$17,549
percent increase from prior year	5.90%	6.00%	6.14%	7.82%	5.46%	6.23%	6.64%	6.90%	4.91%	10.23%
AAU Public Universities (mean)	\$29,668	\$28,991	\$28,031	\$26,577	\$24,775	\$23,104	\$21,821	\$20,652	\$19,579	\$18,471
percent increase from prior year	2.34%	3.42%	5.47%	7.27%	7.23%	5.88%	5.66%	5.48%	6.00%	9.63%
<b>Resident Graduate - UNC-CH</b>										
	\$10,248	\$9,692	\$8,546	\$8,202	\$7,162	\$6,693	\$6,236	\$5,680	\$5,014	\$4,651
percent increase from prior year	5.74%	12.10%	5.42%	14.52%	7.01%	7.33%	9.79%	13.27%	7.80%	8.95%
AAU Public Universities (mean)	\$13,189	\$12,849	\$12,364	\$11,367	\$10,795	\$10,133	\$9,432	\$8,913	\$8,379	\$7,812
percent increase from prior year	2.65%	5.92%	8.77%	5.30%	6.53%	7.43%	5.82%	6.37%	7.26%	7.60%
<b>Non-Resident Graduate - UNC-CH</b>										
	\$27,459	\$25,752	\$24,335	\$22,952	\$21,560	\$21,091	\$20,234	\$19,678	\$19,012	\$17,899
percent increase from prior year	6.49%	5.95%	6.11%	6.36%	2.22%	4.23%	2.83%	3.50%	6.22%	10.03%
AAU Public Universities (mean)	\$26,793	\$26,146	\$25,381	\$24,085	\$23,002	\$21,912	\$20,618	\$20,067	\$19,295	\$18,367
percent increase from prior year	2.48%	3.01%	5.38%	4.71%	4.97%	6.28%	2.75%	4.00%	5.06%	11.40%

Sources: "Academic Year Tuition and Required Fees, AAU Public Universities," Univ. of Missouri System, Sept. 2011; The University of North Carolina at Chapel Hill Fact Book Office of Institutional Research and Assessment.

## PRINCIPAL REVENUE PAYERS

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
State and local grants and contracts	\$35,071	\$41,471	\$41,953	\$38,251	\$37,679	\$29,091	\$51,207	\$45,256	\$41,842	\$39,816
State appropriations and state aid	482,728	515,121	486,492	534,676	541,753	558,327	543,292	492,471	440,070	405,673
Capital appropriations	4,313	2,285	0	0	0	12,539	47,206	52,888	15,776	5,166
Capital grants	41,507	44,177	75,133	91,864	86,117	27,124	12,865	118,550	82,277	152,344
NC State Government	\$963,619	\$605,054	\$606,578	\$664,793	\$665,549	\$607,061	\$654,990	\$709,465	\$349,965	\$604,499
percent increase (decrease) from prior year	(6.54%)	(0.38%)	(8.76%)	(0.11%)	0.53%	(7.26%)	(7.73%)	29.00%	(9.02%)	n/a
Federal grants and contracts	\$641,519	\$587,220	\$678,702	\$571,288	\$530,368	\$471,680	\$447,793	\$429,059	\$422,229	\$403,100
Non-capital grants	141,233	182,801	181,339	194,546	172,113	154,016	102,932	62,669	67,388	62,544
Federal Government	\$782,782	\$770,021	\$760,041	\$765,834	\$702,481	\$625,696	\$580,725	\$491,728	\$489,617	\$468,644
percent increase (decrease) from prior year	1.65%	1.31%	(0.78%)	9.02%	12.27%	13.61%	12.00%	0.43%	3.13%	n/a

**LONG TERM DEBT**

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
General Revenue Debt	\$1,302,255	\$1,319,835	\$1,068,320	\$1,112,480	\$1,135,545	\$943,585	\$961,280	\$678,960	\$694,575	\$338,210
Plus Unamortized Discount/ Premium	28,855	30,189	34,312	36,068	37,824	30,458	31,898	26,821	28,050	8,098
Less Unamortized Loss on Refunding	0	(3,234)	(1,829)	(2,281)	(2,635)	(3,034)	(3,495)	(3,836)	(4,240)	(2,280)
<b>Net General Revenue Debt</b>	<b>1,331,110</b>	<b>1,346,790</b>	<b>1,120,803</b>	<b>1,146,317</b>	<b>1,170,735</b>	<b>\$70,988</b>	<b>\$89,742</b>	<b>701,963</b>	<b>718,385</b>	<b>\$44,028</b>
Revenue Bonds	59,866	68,932	77,449	77,903	82,944	79,734	81,480	83,502	85,642	112,895
Plus Unamortized Discount/ Premium	(92)	(128)	(164)	(200)	(243)	(287)	(333)	(158)	(181)	(330)
<b>Net Revenue Bonds</b>	<b>59,774</b>	<b>68,804</b>	<b>77,285</b>	<b>77,703</b>	<b>82,701</b>	<b>79,447</b>	<b>\$1,147</b>	<b>\$3,344</b>	<b>\$5,461</b>	<b>112,065</b>
Total Bonds Payable	1,390,884	1,415,614	1,198,088	1,224,020	1,253,437	1,050,436	1,070,889	785,307	803,846	456,093
Notes Payable	44,829	45,257	46,941	45,750	46,100	675	1,037	1,362	21,054	33,519
Capital Leases Payable	485	765	54	814	3,462	1,710	2,804	2,404	379	970
<b>Total</b>	<b>\$1,436,198</b>	<b>\$1,461,636</b>	<b>\$1,244,083</b>	<b>\$1,270,584</b>	<b>\$1,302,999</b>	<b>\$1,052,821</b>	<b>\$1,074,730</b>	<b>\$789,073</b>	<b>\$825,279</b>	<b>\$490,682</b>
<i>Long Term Debt (whole dollars)</i>										
per Student FTE	\$53,214	\$53,997	\$46,357	\$47,022	\$48,789	\$39,946	\$41,503	\$30,966	\$32,954	\$19,835
per Dollar of Total Grants and Contracts	\$1.49	\$1.55	\$1.37	\$1.34	\$1.51	\$1.35	\$1.50	\$1.26	\$1.33	\$0.84
per Dollar of State Appropriations and State Aid	\$2.98	\$2.84	\$2.56	\$2.38	\$2.41	\$1.96	\$1.98	\$1.60	\$1.88	\$1.21

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Net General Revenue Debt	\$1,331,110	\$1,346,790	\$1,120,803	\$1,146,317	\$1,170,735	\$970,989	\$899,742	\$701,963	\$718,385	\$344,028
Commercial Paper Program	18,000	18,000	132,650	73,650	69,784	148,291	101,167	192,414	117,414	141,141
<b>Total General Revenue Debt</b>	<b>\$1,349,110</b>	<b>\$1,364,790</b>	<b>\$1,253,453</b>	<b>\$1,219,967</b>	<b>\$1,240,519</b>	<b>\$1,119,280</b>	<b>\$1,090,899</b>	<b>\$894,377</b>	<b>\$835,799</b>	<b>\$485,169</b>
<i>General Revenue Debt (whole dollars)</i>										
per Student FTE	\$49,987	\$50,419	\$46,706	\$45,149	\$46,075	\$42,468	\$42,128	\$35,098	\$33,375	\$19,616
per Dollar of Total Grants and Contracts	\$1.40	\$1.45	\$1.38	\$1.28	\$1.43	\$1.44	\$1.52	\$1.42	\$1.34	\$0.88
per Dollar of State Appropriations and State Aid	\$2.79	\$2.65	\$2.58	\$2.28	\$2.27	\$2.08	\$2.01	\$1.82	\$1.90	\$1.19

<i>Data Used in the Above Calculations</i>										
Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total Student FTE	26,989	27,069	26,837	27,021	26,707	26,356	25,895	25,482	25,043	24,733
State appropriations and State aid	\$482,728	\$515,121	\$486,492	\$534,678	\$541,763	\$538,327	\$543,292	\$492,471	\$440,070	\$406,673
Federal grants and contracts	\$641,519	\$587,220	\$578,702	\$571,288	\$530,368	\$471,680	\$447,793	\$429,059	\$422,229	\$403,100
State and local grants and contracts	35,071	41,471	41,953	38,251	37,679	29,091	51,207	45,256	41,842	39,816
Non-governmental grants and contracts	149,564	132,505	105,191	146,081	120,674	123,649	115,513	92,572	89,976	81,560
Non-capital grants	141,233	182,801	181,339	194,846	172,113	154,016	102,932	62,669	67,588	62,544
<b>Total Grants and Contracts</b>	<b>\$961,387</b>	<b>\$943,998</b>	<b>\$907,185</b>	<b>\$950,166</b>	<b>\$880,834</b>	<b>\$778,436</b>	<b>\$717,445</b>	<b>\$629,558</b>	<b>\$621,435</b>	<b>\$687,020</b>

**SUMMARY OF RATIOS**

Last ten fiscal years

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
<i>(as restated)</i>										
<i>Composite Financial Index</i>										
+ Primary Reserve Ratio	1.02 x	0.96 x	0.87 x	0.87 x	0.83 x	0.79 x	1.06 x	1.06 x	0.92 x	0.86 x
/ Strength Factor	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139	0.139
= Ratio / Strength Factor	7.65	7.20	6.51	6.54	6.24	5.94	7.97	7.89	6.92	6.47
* Weighting Factor	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
= Ratio Subtotal	2.68	2.58	2.29	2.29	2.18	2.08	2.79	2.76	2.42	2.26
= Ratio 10.00 Cap Subtotal	2.68	2.59	2.29	2.29	2.18	2.08	2.79	2.76	2.42	2.26
+ Return on Net Position Ratio	6.0%	6.3%	3.2%	10.5%	7.2%	(6.7%)	8.8%	16.7%	12.3%	16.4%
/ Strength Factor	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
= Ratio / Strength Factor	3.00	3.15	1.60	5.25	3.60	(3.35)	4.40	8.35	6.15	8.20
* Weighting Factor	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
= Ratio Subtotal	0.60	0.63	0.32	1.05	0.72	(0.67)	0.88	1.67	1.23	1.64
= Ratio 10.00 Cap Subtotal	0.60	0.63	0.32	1.05	0.72	(0.67)	0.88	1.67	1.23	1.64
+ Net Operating Revenue Ratio	6.6%	6.2%	0.8%	9.0%	3.3%	(18.9%)	7.3%	11.5%	9.0%	8.6%
/ Strength Factor	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
= Ratio / Strength Factor	9.43	8.86	1.14	12.86	4.71	(27.00)	10.43	16.43	12.86	12.29
* Weighting Factor	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
= Ratio Subtotal	0.94	0.89	0.11	1.29	0.47	(2.70)	1.04	1.64	1.29	1.23
= Ratio 10.00 Cap Subtotal	0.94	0.89	0.11	1.00	0.47	(2.70)	1.00	1.00	1.00	1.00
+ Viability Ratio	1.9 x	1.7 x	1.6 x	1.6 x	1.4 x	1.5 x	1.9 x	2.1 x	1.8 x	2.3 x
/ Strength Factor	0.417	0.417	0.417	0.417	0.417	0.417	0.417	0.417	0.417	0.417
= Ratio / Strength Factor	4.56	4.07	3.84	3.84	3.36	3.60	4.56	5.04	4.32	5.52
* Weighting Factor	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
= Ratio Subtotal	1.60	1.49	1.34	1.34	1.18	1.26	1.60	1.76	1.51	1.93
= Ratio 10.00 Cap Subtotal	1.60	1.49	1.34	1.34	1.18	1.26	1.60	1.76	1.51	1.93
<b>Composite Financial Index</b>	<b>5.82</b>	<b>5.48</b>	<b>4.06</b>	<b>5.97</b>	<b>4.55</b>	<b>(0.03)</b>	<b>6.31</b>	<b>7.83</b>	<b>6.45</b>	<b>7.06</b>
<b>Composite Financial Index with 10.00 Cap</b>	<b>5.82</b>	<b>5.48</b>	<b>4.06</b>	<b>5.88</b>	<b>4.88</b>	<b>(0.03)</b>	<b>6.27</b>	<b>7.19</b>	<b>6.16</b>	<b>6.83</b>

The Composite Financial Index (CFI) provides a methodology for a single overall financial measurement of the institution's health based on the four core ratios. The CFI uses a reasonable weighting plan and allows a weakness or strength in a specific ratio to be offset by another ratio result, which provides a more balanced measure. The CFI provides a more holistic approach to understanding the financial health of the institution. The CFI scores are not intended to be precise measures; they are indicators of ranges of financial health that can be indicators of overall institutional well-being when combined with non-financial indicators. Ratio/Strength area capped at a maximum of 10 before the weighting factors are applied so that a higher CFI does not unduly mask a weakness in a component ratio.

**SUMMARY OF RATIOS (CONTINUED)**

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Primary Reserve Ratio</b>										
Unrestricted Net Position	\$920,833	\$972,888	\$896,092	\$851,264	\$778,439	\$700,280	\$671,970	\$617,573	\$626,513	\$476,631
Unrestricted Net Assets - Component Units *	46,701	40,075	35,661	37,848	26,543	23,334	28,897	28,627	23,709	20,653
Expendable Restricted Net Position	1,464,478	1,195,821	990,908	1,007,536	891,182	837,154	1,199,280	1,086,359	858,133	736,632
Temporarily Restricted Net Assets - Component Units *	362,695	307,147	269,856	275,740	245,187	237,867	363,803	361,559	284,351	238,745
Expendable Net Position and Net Assets	\$2,794,707	\$2,613,931	\$2,192,507	\$2,175,378	\$1,941,351	\$1,798,635	\$2,263,950	\$2,094,112	\$1,682,355	\$1,471,661
Operating Expenses	\$2,671,541	\$2,652,476	\$2,449,479	\$2,432,440	\$2,277,091	\$2,224,326	\$2,089,290	\$1,948,282	\$1,802,432	\$1,681,901
Interest and Fees on Debt	66,218	70,119	64,321	56,765	64,261	52,465	53,911	42,925	39,921	21,823
Total Expenses	\$2,737,759	\$2,622,595	\$2,513,800	\$2,489,205	\$2,341,352	\$2,276,791	\$2,142,601	\$1,991,208	\$1,842,355	\$1,703,724
Expendable Net Position and Net Assets	\$2,794,707	\$2,613,931	\$2,192,507	\$2,175,378	\$1,941,351	\$1,798,635	\$2,263,950	\$2,094,112	\$1,682,355	\$1,471,661
Total Expenses	\$2,737,759	\$2,622,595	\$2,513,800	\$2,489,205	\$2,341,352	\$2,276,791	\$2,142,601	\$1,991,208	\$1,842,355	\$1,703,724
Ratio	1.02 x	0.96 x	0.87 x	0.87 x	0.83 x	0.79 x	1.06 x	1.05 x	0.92 x	0.86 x

Measures the financial strength of the Institution by indicating how long the Institution could function using its expendable reserves to cover operations should additional net assets not be available. A positive ratio and an increasing amount over time denotes strength.

\*For the fiscal year ended June 30, 2004, the University Implemented Governmental Accounting Standards Board Statement No. 39, Determining Whether Certain Organizations are Component Units. This Statement amends GASB Statement No. 14, The Financial Reporting Entity, to provide additional guidance to determine whether certain organizations for which the University is not financially accountable should be reported as component units based on the nature and significance of their relationship to the University. The component units of the University are discretely presented in the Financial Section.

In thousands

For the Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Return On Net Assets Ratio</b>										
Change in Net Position	\$271,398	\$267,803	\$130,687	\$391,361	\$249,156	(\$246,933)	\$300,999	\$486,768	\$320,123	\$366,680
Total Net Position (Beginning of Year)	\$4,801,449	\$4,233,646	\$4,102,959	\$3,711,598	\$3,462,442	\$3,709,435	\$3,409,036	\$2,922,268	\$2,607,879	\$2,241,199
Ratio	6.0%	6.3%	3.2%	10.8%	7.2%	(8.7%)	8.8%	16.7%	12.3%	16.4%

Measures total economic return. While an increasing trend reflects strength, a decline may be appropriate and even warranted if it represents a strategy on the part of the Institution to fulfill its mission.

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Net Operating Revenue Ratio</b>										
Total Operating Revenues	\$1,956,132	\$1,838,694	\$1,736,529	\$1,704,936	\$1,542,275	\$1,429,487	\$1,404,252	\$1,304,444	\$1,241,511	\$1,157,001
State Appropriations and State Aid	482,728	515,121	486,492	534,678	541,763	538,327	543,292	492,471	440,070	406,673
Non-capital Gifts and Grants, net	238,649	250,442	280,785	287,712	247,994	241,242	216,026	136,306	136,212	136,237
Investment Income (Loss), net	258,372	191,969	33,134	208,184	103,606	(296,904)	146,650	31,767	207,423	154,900
Adjusted Net Operating Revenues	\$2,935,881	\$2,796,226	\$2,536,940	\$2,735,510	\$2,435,627	\$1,912,152	\$2,310,220	\$2,250,988	\$2,025,216	\$1,854,811
Income (Loss) Before Other Revenues, Expenses, Gains, or Losses	\$194,070	\$174,205	\$19,361	\$245,908	\$81,186	(\$362,280)	\$168,470	\$259,926	\$182,633	\$159,462
Adjusted Net Operating Revenues	\$2,935,881	\$2,796,226	\$2,536,940	\$2,735,510	\$2,435,627	\$1,912,152	\$2,310,220	\$2,250,988	\$2,025,216	\$1,854,811
Ratio	6.6%	6.2%	0.8%	8.0%	3.3%	(18.9%)	7.3%	11.5%	9.0%	8.6%

Measures whether the Institution is living within available resources. A positive ratio and an increasing amount over time, generally reflects strength.

**SUMMARY OF RATIOS (CONTINUED)**

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Liability Ratio</b>										
Unrestricted Net Position	\$920,833	\$972,888	\$896,092	\$851,264	\$778,439	\$700,280	\$671,970	\$617,573	\$626,513	\$476,631
Unrestricted Net Assets - Component Units *	46,701	40,075	35,661	37,848	26,543	23,334	28,897	28,627	23,709	20,653
Expendable Restricted Net Position	1,464,478	1,195,821	990,908	1,007,536	891,182	837,154	1,199,280	1,086,359	858,133	736,632
Temporarily Restricted Net Assets - Component Units *	362,695	307,147	269,856	275,740	245,187	237,867	363,803	361,559	284,351	238,745
Expendable Net Position and Net Assets	\$2,794,707	\$2,613,931	\$2,192,507	\$2,175,378	\$1,941,351	\$1,798,635	\$2,263,950	\$2,094,112	\$1,682,355	\$1,471,661
Bonds	\$1,390,884	\$1,415,614	\$1,198,088	\$1,224,020	\$1,253,437	\$1,050,436	\$1,070,889	\$785,307	\$803,846	\$456,098
Commercial Paper	18,000	18,000	132,650	73,650	59,784	148,291	101,157	192,414	117,414	141,141
Capital Leases	485	765	54	814	3,452	1,710	2,804	2,404	379	970
Notes	44,829	45,257	45,941	45,750	46,100	675	1,037	1,362	21,064	33,519
Notes - Component Units *	-	420	625	850	850	1,400	1,500	2,100	3,000	263
Total Adjusted University Debt	\$1,464,198	\$1,480,056	\$1,377,358	\$1,346,084	\$1,363,633	\$1,202,512	\$1,177,387	\$983,587	\$946,693	\$631,986
Expendable Net Position and Net Assets	\$2,794,707	\$2,613,931	\$2,192,507	\$2,175,378	\$1,941,351	\$1,798,635	\$2,263,950	\$2,094,112	\$1,682,355	\$1,471,661
Total Adjusted University Debt	\$1,464,198	\$1,480,056	\$1,377,358	\$1,346,084	\$1,363,633	\$1,202,512	\$1,177,387	\$983,587	\$946,693	\$631,986
Ratio	1.9 x	1.7 x	1.6 x	1.6 x	1.4 x	1.5 x	1.9 x	2.1 x	1.8 x	2.3 x

Measures the ability of the Institution to cover its debt as of the statement of net position date, should the Institution need to do so. A positive ratio of greater than 1:1 generally denotes strength.

\*For the fiscal year ended June 30, 2004, the University Implemented Governmental Accounting Standards Board Statement No. 39, Determining Whether Certain Organizations are Component Units. This Statement amends GASB Statement No. 14, The Financial Reporting Entity, to provide additional guidance to determine whether certain organizations for which the University is not financially accountable should be reported as component units based on the nature and significance of their relationship to the University. The component units of the University are discretely presented in the Financial Section.

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Operating Margin, Excluding Gifts</b>										
Income (Loss) Before Other Revenues, Expenses, Gains, or Losses	\$194,070	\$174,205	\$19,361	\$245,908	\$81,186	(\$362,280)	\$168,470	\$259,926	\$182,633	\$159,462
Less: Non-capital Gifts and Grants, net	(238,649)	(250,442)	(280,785)	(287,712)	(247,994)	(241,242)	(216,026)	(136,306)	(136,212)	(136,237)
Adjusted Income (Loss) Before Other Revenues, Expenses, Gains or Losses	(\$44,579)	(\$76,237)	(\$261,424)	(\$41,804)	(\$166,806)	(\$603,522)	(\$47,556)	\$129,620	\$46,420	\$23,225
Total Operating Revenues	\$1,956,132	\$1,838,694	\$1,736,529	\$1,704,936	\$1,542,275	\$1,429,487	\$1,404,252	\$1,304,444	\$1,241,511	\$1,157,001
State Appropriations and State Aid	482,728	515,121	486,492	534,678	541,763	538,327	543,292	492,471	440,070	406,673
Investment Income (Loss), net	258,372	191,969	33,134	208,184	103,606	(296,904)	146,650	31,767	207,423	154,900
Adjusted Net Operating Revenues less Gifts	\$2,697,232	\$2,545,784	\$2,256,155	\$2,447,798	\$2,187,633	\$1,670,910	\$2,094,194	\$2,114,682	\$1,889,004	\$1,718,574
Adjusted Income (Loss) Before Other Revenues, Expenses, Gains or Losses	(\$44,579)	(\$76,237)	(\$261,424)	(\$41,804)	(\$166,806)	(\$603,522)	(\$47,556)	\$129,620	\$46,420	\$23,225
Adjusted Net Operating Revenues less Gifts	\$2,697,232	\$2,545,784	\$2,256,155	\$2,447,798	\$2,187,633	\$1,670,910	\$2,094,194	\$2,114,682	\$1,889,004	\$1,718,574
Ratio	(1.7%)	(3.0%)	(11.6%)	(1.7%)	(7.6%)	(36.1%)	(2.3%)	5.8%	2.5%	1.4%

A more restrictive measure of whether the Institution is living within available resources. A positive ratio and an increasing amount over time generally reflects strength.

**SUMMARY OF RATIOS (CONTINUED)**

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Respendable Resources To Debt</b>										
Unrestricted Net Position	\$920,833	\$972,888	\$896,092	\$851,254	\$778,439	\$700,280	\$671,970	\$617,573	\$626,513	\$476,631
Unrestricted Net Assets - Component Units *	46,701	40,075	35,661	37,848	26,543	23,334	28,897	28,627	23,709	20,653
Expendable Restricted Net Position	1,464,478	1,193,821	990,908	1,007,536	891,182	837,154	1,199,280	1,086,359	858,133	736,632
Temporarily Restricted Net Assets - Component Units *	362,696	307,147	269,856	275,740	245,187	237,867	363,803	361,569	284,351	235,746
Expendable Net Position and Net Assets	\$2,794,707	\$2,613,931	\$2,192,607	\$2,175,378	\$1,941,351	\$1,798,635	\$2,263,950	\$2,094,112	\$1,686,706	\$1,471,661
Total Notes, Bonds, Capital Leases and Commercial Paper	\$1,454,198	\$1,479,636	\$1,376,733	\$1,344,233	\$1,362,783	\$1,201,112	\$1,175,887	\$981,487	\$942,693	\$631,723
Long-Term Debt - Component Units *	-	420	625	950	850	1,400	1,500	2,100	3,000	268
Less: U.S. EPA Project Bonds **	(3,979)	(7,614)	(10,935)	(13,974)	(21,060)	(19,286)	(21,478)	(23,496)	(25,349)	(27,317)
Total Adjusted University Debt	\$1,450,219	\$1,472,442	\$1,366,423	\$1,331,109	\$1,342,573	\$1,183,226	\$1,155,909	\$960,092	\$920,344	\$604,669
Expendable Net Position and Net Assets	\$2,794,707	\$2,613,931	\$2,192,607	\$2,175,378	\$1,941,351	\$1,798,635	\$2,263,950	\$2,094,112	\$1,686,706	\$1,471,661
Total Adjusted University Debt	\$1,450,219	\$1,472,442	\$1,366,423	\$1,331,109	\$1,342,573	\$1,183,226	\$1,155,909	\$960,092	\$920,344	\$604,669
Ratio	1.9 x	1.7 x	1.6 x	1.6 x	1.4 x	1.5 x	2.0 x	2.2 x	1.8 x	2.4 x

A broader measure of the ability of the institution to cover its debt as of the statement of net position date.

\* For the fiscal year ended June 30, 2004, the University Implemented Governmental Accounting Standards Board Statement No. 39, Determining Whether Certain Organizations are Component Units. This Statement amends GASB Statement No. 14, The Financial Reporting Entity, to provide additional guidance to determine whether certain organizations for which the University is not financially accountable should be reported as component units based on the nature and significance of their relationship to the University. The component units of the University are discretely presented in the Financial Section.

\*\* U.S. EPA Project Bonds are secured by an irrevocable lease from the U.S. government. This lease covers the debt service requirements for the term of the bonds.

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Total Financial Resources To Direct Debt</b>										
Unrestricted Net Position	\$920,833	\$972,888	\$896,092	\$851,254	\$778,439	\$700,280	\$671,970	\$617,573	\$626,513	\$476,631
Non-expendable Restricted Net Position	724,605	702,225	700,687	656,723	621,873	586,175	548,151	493,305	430,316	378,234
Expendable Restricted Net Position	1,464,478	1,193,821	990,908	1,007,536	891,182	837,154	1,199,280	1,086,359	858,133	736,632
Total Financial Resources	\$3,109,916	\$2,868,934	\$2,587,687	\$2,515,519	\$2,291,494	\$2,123,609	\$2,419,401	\$2,197,231	\$1,808,962	\$1,590,497
Total Financial Resources	\$3,109,916	\$2,868,934	\$2,587,687	\$2,515,519	\$2,291,494	\$2,123,609	\$2,419,401	\$2,197,231	\$1,808,962	\$1,590,497
Total Notes, Bonds, Capital Leases and Commercial Paper	\$1,454,198	\$1,479,636	\$1,376,733	\$1,344,233	\$1,362,783	\$1,201,112	\$1,175,887	\$981,487	\$942,693	\$631,723
Ratio	2.1 x	1.9 x	1.9 x	1.9 x	1.7 x	1.8 x	2.1 x	2.2 x	1.9 x	2.5 x

A broader measure of the ability of the institution to cover its debt as of the statement of net position date.

**SUMMARY OF RATIOS (CONTINUED)**

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Direct Debt To Adjusted Cash Flows</b>										
Net Cash Used by Operating Activities	(\$654,291)	(\$658,046)	(\$608,177)	(\$698,111)	(\$626,420)	(\$679,012)	(\$641,134)	(\$670,342)	(\$492,016)	(\$460,046)
State Appropriations and State Aid	482,728	515,121	486,492	534,678	541,759	538,327	543,292	492,471	440,070	406,679
Grants for Other than Capital Purposes	141,233	182,801	181,339	194,546	172,118	154,015	102,932	62,669	67,388	62,544
Non-capital Gifts	97,416	67,641	99,446	93,166	75,881	87,226	113,094	73,637	68,824	73,693
Adjusted Cash Flow from Operations	\$67,086	\$107,515	\$159,100	\$224,279	\$163,227	\$100,557	\$118,184	\$58,435	\$84,266	\$82,864
Total Notes, Bonds, Capital Leases and Commercial Paper	\$1,454,198	\$1,479,636	\$1,376,733	\$1,344,233	\$1,362,783	\$1,201,112	\$1,175,887	\$981,487	\$942,693	\$631,723
Adjusted Cash Flow from Operations	\$67,086	\$107,515	\$159,100	\$224,279	\$163,227	\$100,557	\$118,184	\$58,435	\$84,266	\$82,864
Ratio	21.7 x	18.6 x	8.7 x	6.0 x	8.3 x	11.9 x	8.9 x	16.8 x	11.2 x	7.8 x

Measures the financial strength of the institution by indicating how long the institution would take to repay the debt using the cash provided by its operations. A decreasing ratio over time denotes strength.

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Debt Burden Ratio</b>										
Interest and Fees Paid on Debt and Leases	\$72,031	\$67,685	\$58,903	\$55,699	\$59,180	\$58,010	\$52,779	\$49,676	\$40,390	\$22,644
Principal Paid on Debt and Leases	35,618	273,156	66,730	47,647	148,637	46,462	238,672	43,344	228,037	39,608
Less: Principal Paid from Gifts and Excess Funds	(5,133)	(684)	(221)	(16,484)	(17,639)	(20,866)	(15,732)	0	0	0
Less: Principal Paid from Refinancing Activities	0	(241,645)	(36,900)	0	(104,858)	0	(198,244)	(19,719)	(206,539)	(19,910)
Debt Service	\$102,516	\$96,511	\$88,912	\$86,862	\$79,320	\$78,606	\$77,475	\$67,301	\$61,888	\$42,342
Operating Expenses	\$2,671,541	\$2,552,476	\$2,449,479	\$2,432,440	\$2,277,091	\$2,224,326	\$2,089,290	\$1,946,282	\$1,802,432	\$1,681,901
Interest and Fees on Debt	66,218	70,119	64,321	56,765	64,261	52,465	53,311	42,926	39,921	21,823
Fixed Asset Write-downs (if not included in Operating Expenses)	0	0	0	0	0	0	0	0	0	2,635
Less: Depreciation and Amortization Expense	(190,439)	(117,968)	(113,630)	(102,724)	(90,861)	(70,747)	(66,413)	(80,827)	(64,475)	(60,102)
Plus: Principal Paid on Debt and Leases	35,618	273,156	66,730	47,647	148,637	46,462	238,672	43,344	228,037	39,608
Less: Principal Paid from Gifts and Excess Funds	(5,133)	(684)	(221)	(16,484)	(17,639)	(20,866)	(15,732)	0	0	0
Less: Principal Paid from Refinancing Activities	0	(241,645)	(36,900)	0	(104,858)	0	(198,244)	(19,719)	(206,539)	(19,910)
Total Expenditures	\$2,637,805	\$2,535,453	\$2,430,279	\$2,417,644	\$2,276,631	\$2,231,640	\$2,100,884	\$1,934,006	\$1,799,376	\$1,665,955
Debt Service	\$102,516	\$96,511	\$88,912	\$86,862	\$79,320	\$78,606	\$77,475	\$67,301	\$61,888	\$42,342
Total Expenditures	\$2,637,805	\$2,535,453	\$2,430,279	\$2,417,644	\$2,276,631	\$2,231,640	\$2,100,884	\$1,934,006	\$1,799,376	\$1,665,955
Ratio	3.8%	3.9%	3.7%	3.6%	3.5%	3.5%	3.7%	3.5%	3.4%	2.9%

Measures the institution's dependence on borrowed funds as a source of financing its mission and the relative cost of borrowing to overall expenditures.

**SUMMARY OF RATIOS (CONTINUED)**

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Debt Service To Operations</b>										
Interest and Fees Paid on Debt and Leases	\$72,031	\$67,686	\$58,903	\$56,699	\$53,180	\$53,010	\$52,779	\$43,676	\$40,390	\$22,644
Less: Interest and Fees Paid - U.S. EPA Project Bonds *	(5)	(5)	(5)	(5)	(5)	(360)	(883)	(977)	(1,264)	(1,534)
Principal Paid on Debt and Leases	35,618	273,155	66,790	47,647	148,637	46,462	238,672	43,344	228,057	39,608
Less: Non-contractual Principal Paid from Gifts and Cross Funds	(5,133)	(684)	(221)	(16,484)	(17,639)	(20,866)	(15,732)	0	0	0
Less: Principal Paid from Refinancing Activities	0	(241,645)	(86,500)	0	(104,858)	0	(198,244)	(19,719)	(206,538)	(19,910)
Less: Principal Paid - U.S. EPA Project Bonds *	(4,210)	(4,210)	(4,215)	(4,215)	(4,215)	(3,860)	(3,540)	(3,245)	(3,240)	(3,065)
Debt Service	\$96,301	\$94,296	\$84,692	\$82,642	\$75,099	\$74,386	\$73,252	\$63,079	\$57,384	\$37,743
Operating Expenses	\$2,671,541	\$2,652,476	\$2,449,479	\$2,432,440	\$2,277,091	\$2,224,326	\$2,089,290	\$1,948,282	\$1,802,432	\$1,681,901
Debt Service	\$96,301	\$94,296	\$84,692	\$82,642	\$75,099	\$74,386	\$73,252	\$63,079	\$57,384	\$37,743
Operating Expenses	\$2,671,541	\$2,652,476	\$2,449,479	\$2,432,440	\$2,277,091	\$2,224,326	\$2,089,290	\$1,948,282	\$1,802,432	\$1,681,901
Ratio	3.7%	3.7%	3.5%	3.4%	3.3%	3.3%	3.5%	3.2%	3.2%	2.2%

Measures the financial strength of the Institution.

\*U.S. EPA. Project Bonds are secured by an irrevocable lease from the U.S. government. This lease covers the debt service requirements for the term of the Bonds.

**SUMMARY OF RATIOS (CONTINUED)**

Last ten fiscal years

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>State Appropriations And State Aid Per Student</b>										
State Appropriations and State Aid	\$482,728	\$516,121	\$486,492	\$534,678	\$541,753	\$638,327	\$643,292	\$492,471	\$440,070	\$406,673
Undergraduate, Graduate and Professional FTE	26,989	27,069	26,837	27,021	26,707	26,356	26,896	25,482	25,043	24,733
State Appropriation per Student (whole dollars)	\$17,886	\$19,080	\$18,128	\$19,787	\$20,281	\$20,428	\$20,981	\$19,328	\$17,873	\$16,443

Measures the Institution's dependency on state appropriations.

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Research Expenses To Total Operating Expenses</b>										
Operating Expenses	\$2,671,541	\$2,652,476	\$2,449,479	\$2,432,440	\$2,277,091	\$2,224,326	\$2,089,290	\$1,948,282	\$1,802,432	\$1,681,901
Interest and Fees on Debt	66,218	70,119	64,321	56,766	64,261	52,465	53,311	42,926	39,921	21,823
Fixed Asset Withdrawals (if not included in Operating Expenses)	0	0	0	0	0	0	0	0	0	2,636
Total Adjusted Operating Expenses	\$2,737,759	\$2,622,595	\$2,513,800	\$2,489,206	\$2,341,352	\$2,276,791	\$2,142,601	\$1,991,208	\$1,842,353	\$1,706,359
Research Expenses	\$346,752	\$629,102	\$472,102	\$466,685	\$431,317	\$398,759	\$358,199	\$312,160	\$285,646	\$271,206
Total Adjusted Operating Expenses	\$2,737,759	\$2,622,595	\$2,513,800	\$2,489,206	\$2,341,352	\$2,276,791	\$2,142,601	\$1,991,208	\$1,842,353	\$1,706,359
Ratio	20.0%	20.2%	18.8%	18.8%	18.4%	17.5%	16.7%	15.7%	15.5%	15.9%

Measures the institution's research expense to the total operating expenses.

In thousands

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(as restated)										
<b>Net Tuition Per Student</b>										
Student Tuition and Fees, net	\$361,771	\$348,049	\$320,535	\$289,897	\$249,083	\$236,960	\$218,763	\$210,651	\$196,882	\$164,457
Less: Scholarships and Fellowships	(112,449)	(104,956)	(96,871)	(91,140)	(89,083)	(88,557)	(88,059)	(86,662)	(84,105)	(81,170)
Net Tuition and Fees	\$249,322	\$243,493	\$223,664	\$198,757	\$180,000	\$178,403	\$160,703	\$153,989	\$141,777	\$113,287
Net Tuition and Fees	\$249,322	\$243,493	\$223,664	\$198,757	\$180,000	\$178,403	\$160,703	\$153,989	\$141,777	\$113,287
Undergraduate, Graduate and Professional FTE	26,989	27,069	26,837	27,021	26,707	26,356	26,896	25,482	25,043	24,733
Net Tuition per Student (whole dollars)	\$9,238	\$8,995	\$8,334	\$7,356	\$6,740	\$6,789	\$6,208	\$6,043	\$5,661	\$4,580

Measures the institution's net student tuition and fees received per student.

## SPECIFIC REVENUE AND GENERAL REVENUE BOND COVERAGE

Last Ten Fiscal Years

The University of North Carolina at Chapel Hill has issued General Revenue Bonds, which are repaid from Available Funds. Available Funds are defined as any unrestricted Net Position remaining after satisfying obligations of the University under trust indentures, trust agreements or bond resolutions (Specific Revenue Bonds), but excluding State Appropriations, Tuition, and certain special facilities revenues. Specific Revenue Bonds have a pledged revenue stream as the repayment source.

	In thousands				
Fiscal Year Ended June 30,	2014	2013	2012	2011	2010
<b>Specific Revenue Bond Coverage</b>					
Gross Operating Revenues	\$134,421	\$131,607	\$186,062	\$213,554	\$204,725
Direct Operating Expenses	90,534	91,321	121,734	182,525	129,049
Net Revenue Available for Debt Service	\$43,887	\$40,286	\$64,318	\$31,029	\$75,676
Principal	\$12,625	\$12,625	\$6,090	\$5,450	\$5,690
Interest	0	0	22	84	168
Specific Revenue Debt Service Requirements	\$12,625	\$12,625	\$6,112	\$5,534	\$5,858
Coverage	3.48	3.19	12.58	14.64	12.49
<b>Available Funds General Revenue Bonds</b>					
Total Unrestricted Revenue	\$1,830,170	\$1,796,035	\$1,708,396	\$1,670,027	\$1,572,416
Less:					
State Appropriations and State Aid	(\$482,728)	(\$515,121)	(\$486,492)	(\$34,678)	(\$41,753)
Tuition and Fees	(\$361,771)	(\$348,049)	(\$320,535)	(289,897)	(249,083)
Specific Revenue Debt Service Requirements	(\$12,625)	(\$12,625)	(\$5,112)	(5,534)	(6,058)
Plus:					
Adjusted Beginning Unrestricted Net Position	972,868	896,092	851,294	778,439	699,458
Total Available Funds	\$1,845,934	\$1,816,332	\$1,747,511	\$1,618,357	\$1,474,980
Annual Increase	\$129,602	\$66,821	\$128,154	\$145,577	\$100,793
% Increase	7.1%	3.9%	8.0%	9.7%	7.3%
<b>General Revenue Bond Coverage</b>					
Total Available Funds	\$1,948,934	\$1,816,332	\$1,747,511	\$1,618,357	\$1,474,980
Principal	\$17,580	\$49,265	\$24,160	\$23,065	\$16,580
Interest	48,764	49,204	52,385	59,310	48,596
General Revenue Debt Service Requirements	\$66,344	\$98,469	\$76,545	\$76,375	\$67,176
Coverage	29.33	18.46	22.83	21.19	21.96

General Revenue Bond Debt Service includes debt service for specific revenue bonds refunded or defeased by issuance of general revenue debt during the year of refunding.

	In thousands				
For The Fiscal Year Ended June 30,	2009	2008	2007	2006	2005
<b>Specific Revenue Bond Coverage</b>					
Gross Operating Revenues	\$195,265	\$177,705	\$160,112	\$143,900	\$125,968
Direct Operating Expenses	144,364	114,352	115,450	105,885	90,218
Net Revenue Available for Debt Service	\$50,901	\$63,353	\$44,662	\$38,015	\$35,750
Principal	\$5,515	\$6,340	\$6,180	\$5,635	\$5,700
Interest	588	1,090	1,527	2,325	3,669
Specific Revenue Debt Service Requirements	\$6,103	\$7,430	\$7,707	\$7,960	\$9,369
Coverage	8.34	8.53	5.79	4.78	3.82
<b>Available Funds General Revenue Bonds</b>					
Total Unrestricted Revenue	\$1,483,607	\$1,539,517	\$1,447,939	\$1,316,160	\$1,191,976
Less:					
State Appropriations and State Aid	(538,327)	(543,292)	(492,471)	(440,070)	(406,673)
Tuition and Fees	(236,960)	(218,763)	(210,652)	(195,882)	(164,457)
Specific Revenue Debt Service Requirements	(6,103)	(7,430)	(7,707)	(7,960)	(9,369)
Plus:					
Adjusted Beginning Unrestricted Net Position	671,970	617,573	525,513	475,631	410,110
Total Available Funds	\$1,374,187	\$1,387,605	\$1,262,622	\$1,147,879	\$1,021,587
Annual Increase	(\$13,418)	\$124,983	\$114,743	\$126,292	\$46,232
% Increase	(1.0%)	9.9%	10.0%	12.4%	4.7%
<b>General Revenue Bond Coverage</b>					
Total Available Funds	\$1,374,187	\$1,387,605	\$1,262,622	\$1,147,879	\$1,021,587
Principal	\$17,695	\$16,175	\$15,595	\$15,285	\$13,220
Interest	44,876	38,970	32,814	28,373	14,459
General Revenue Debt Service Requirements	\$62,571	\$55,145	\$48,409	\$43,658	\$27,679
Coverage	21.96	25.16	26.08	26.29	36.81

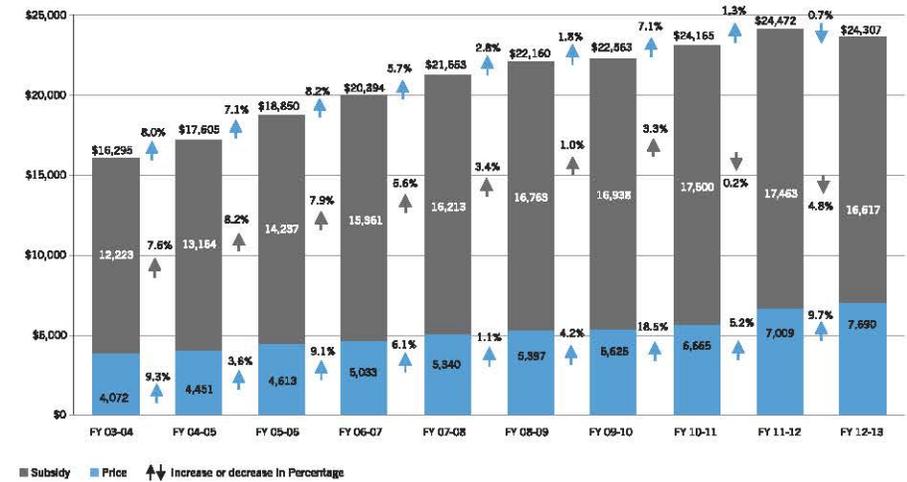
General Revenue Bond Debt Service includes debt service for specific revenue bonds refunded or defeased by issuance of general revenue debt during the year of refunding.

# Annual Undergraduate Educational Costs Per Student

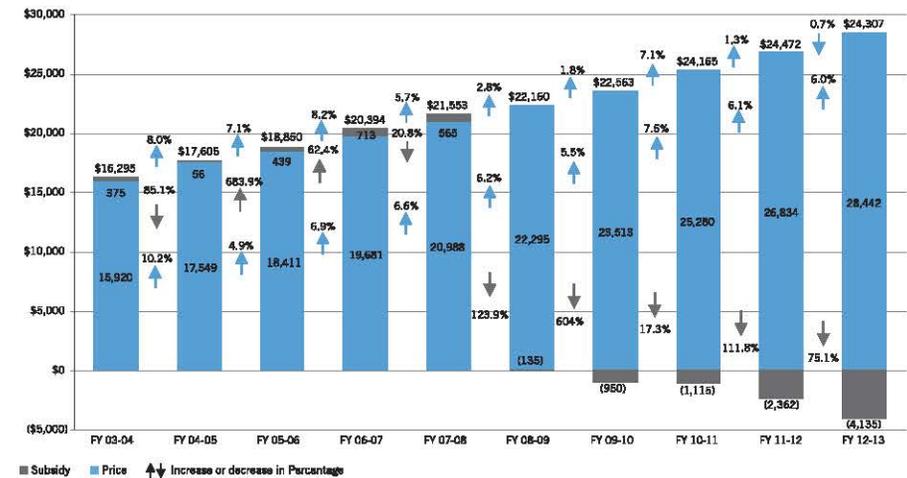
Public concern over tuition prices at colleges and universities led in 1997 to the establishment by Congress of the National Commission on the Cost of Higher Education. The task of the commission was to investigate the college cost-price conundrum and recommend ways to address it. In response, the National Association of College and University Business Officers (NACUBO) developed the Cost of College Project. The goal was to create a uniform methodology that any college or university could use to explain and present how much it costs to provide one year of undergraduate education and related services. The criteria governing the project include: simplicity of use and understanding; basis should be on existing data from annual financial statements; should be applicable to all types of colleges and universities; and should produce reasonable results when compared with more detailed cost data derived from the institution's internal accounting methods.

After more than two years in development and testing by almost 150 colleges and universities, the final project report was delivered in November 2002. Carolina was one of those testing sites. A single-page template was developed by NACUBO to be used to record the necessary information. The template shows annual costs per resident undergraduate student at the University. The graphs displayed on the next page show historical trends in the total annual costs per resident and non-resident undergraduate student at the University, and the difference between the price the student pays (i.e., tuition and fees) and state/university support (i.e., "subsidy"). The methodology was created to help individual institutions calculate and report the annual cost of providing an undergraduate education. It was not designed to be a mechanism for collecting national data on college costs or creating industry benchmarks. It is also not a measure of the value or quality of the education provided by the institution.

## COST OF COLLEGE FOR RESIDENT UNDERGRADUATE STUDENTS



## COST OF COLLEGE FOR NON-RESIDENT UNDERGRADUATE STUDENTS

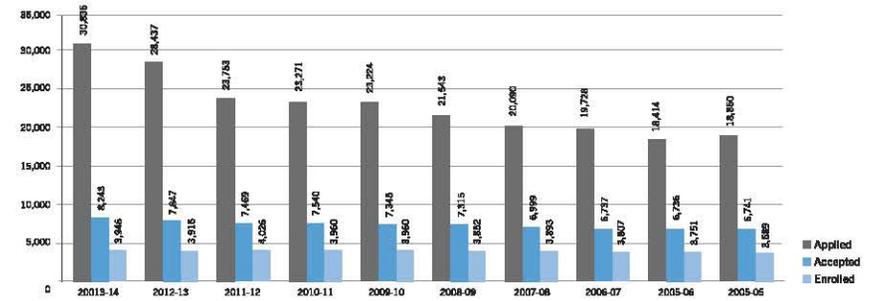


## ADMISSIONS, ENROLLMENT, AND DEGREES EARNED

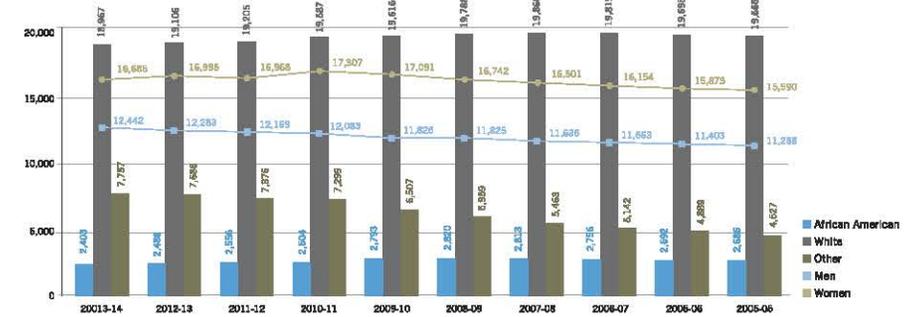
	2013-14	2012-13	2011-12	2010-11	2009-10	2008-09	2007-08	2006-07	2005-06	2004-05
<b>Admissions - Freshmen</b>										
Applications	30,835	28,437	23,753	23,271	23,224	21,549	20,090	19,728	18,414	18,850
Accepted	8,243	7,847	7,469	7,540	7,345	7,315	6,999	6,737	6,736	6,741
Enrolled	3,946	3,916	4,026	3,960	3,960	3,852	3,893	3,807	3,751	3,689
Accepted as a Percentage of Applications	26.7%	27.6%	31.4%	32.4%	31.6%	34.0%	34.8%	34.1%	36.6%	35.8%
Enrolled as a Percentage of Accepted	47.9%	49.9%	53.9%	52.5%	53.9%	52.7%	55.6%	56.5%	55.7%	53.2%
Average SAT Scores - Total	1,901	1,900	1,900	1,904	1,902	1,901	1,902	1,292	1,299	1,287
Critical Reading	644	642	642	644	642	643	646	638	643	638
Math	657	658	658	660	660	658	656	654	658	649
<b>Enrollment</b>										
Undergraduate, Graduate and Professional FTE	26,989	27,069	26,837	27,021	26,707	26,366	25,895	25,482	25,043	24,739
Undergraduate, Graduate and Professional Headcount	29,127	29,278	29,137	29,390	28,916	28,567	28,156	27,717	27,276	26,878
Men (Headcount)	12,442	12,283	12,169	12,083	11,825	11,825	11,635	11,563	11,403	11,288
Percentage of Total	42.7%	42.0%	41.8%	41.1%	40.9%	41.4%	41.4%	41.7%	41.8%	42.0%
Women (Headcount)	16,685	16,995	16,968	17,307	17,091	16,742	16,501	16,154	15,873	15,590
Percentage of Total	57.3%	58.0%	58.2%	58.9%	59.1%	58.6%	58.6%	58.3%	58.2%	58.0%
African American (Headcount)	2,409	2,486	2,556	2,504	2,793	2,820	2,813	2,796	2,692	2,686
Percentage of Total	8.3%	8.5%	8.6%	8.6%	9.8%	9.9%	10.0%	9.9%	9.9%	10.0%
White (Headcount)	18,967	19,106	19,206	19,587	19,616	19,788	19,860	19,819	19,695	19,665
Percentage of Total	65.1%	65.3%	65.9%	66.6%	67.8%	69.3%	70.6%	71.5%	72.2%	73.2%
Other (Headcount)	7,757	7,686	7,376	7,299	6,507	5,959	5,463	5,142	4,889	4,527
Percentage of Total	26.6%	26.2%	25.3%	24.8%	22.4%	20.8%	19.4%	18.6%	17.9%	16.8%
<b>Degrees Earned</b>										
Bachelor's	4,625	4,426	4,622	4,595	4,444	4,302	4,131	3,787	3,773	3,888
Master's	1,961	1,930	1,981	1,918	1,840	1,832	1,836	1,871	1,914	1,847
Doctoral	563	499	479	495	513	485	600	512	490	459
Professional	671	686	668	668	643	618	604	608	608	610

Source: The University of North Carolina at Chapel Hill Fact Book.

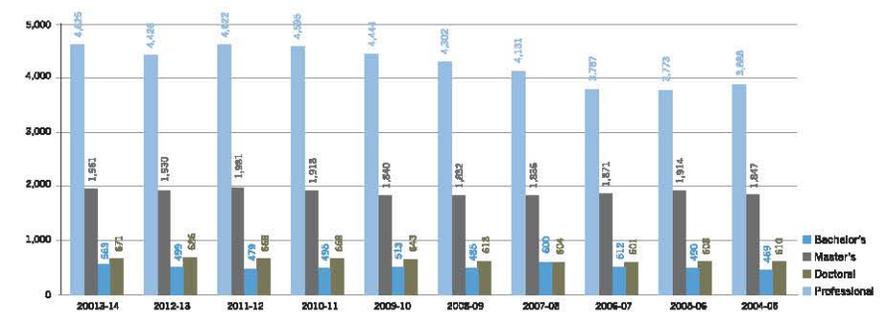
## FRESHMAN APPLIED, ACCEPTED, AND ENROLLED



## HEADCOUNT TOTAL



## DEGREES EARNED



## DEMOGRAPHIC DATA

Last ten fiscal years

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
North Carolina Population	9,944,571	9,854,470	9,779,037	9,692,818	9,635,483	9,380,684	9,222,414	9,061,032	8,856,505	8,683,242
North Carolina Population - 18 year olds	137,652	138,538	139,387	136,156	134,940	142,644	131,240	126,722	122,281	120,352
North Carolina Personal Income (in millions)	\$589,509	\$575,051	\$368,994	\$348,602	\$335,528	\$319,963	\$317,611	\$305,022	\$286,402	\$265,299
North Carolina Per Capita Income	\$39,168	\$38,059	\$37,727	\$35,966	\$34,977	\$34,108	\$34,439	\$33,663	\$32,338	\$30,953
North Carolina Unemployment Rate	6.40%	8.80%	9.40%	10.50%	10.00%	11.02%	5.95%	4.94%	4.56%	5.33%

Sources: Office of the State Controller, North Carolina State Data Center, U.S. Census Bureau.

## PRINCIPAL EMPLOYERS

Fiscal year	2014				2005				
	Employees	Rank	Percentage of Total State Employment	Employees	Rank	Percentage of Total State Employment	Employees	Rank	Percentage of Total State Employment
State of North Carolina	180,000-184,999	1	4.16%	166,000-170,000	1	4.11%			
Federal Government	65,000-69,999	2	1.84%	60,000-64,999	2	1.63%			
Wal-Mart Associates, Inc.	45,000-59,999	3	1.20%	45,000-49,999	3	1.16%			
Charlotte-Mecklenburg Hospital	30,000-34,999	4	0.74%	15,000-19,999	9	0.43%			
Duke University	30,000-34,999	5	0.74%	25,000-29,999	4	0.67%			
Food Lion, LLC	25,000-29,999	6	0.63%	20,000-24,999	5	0.55%			
Wells Fargo Bank NA	25,000-29,999	7	0.63%	20,000-24,999	6	0.55%			
Charlotte-Mecklenburg Board of Education	20,000-24,999	8	0.51%	15,000-19,999	7	0.43%			
Bank of America NA	20,000-24,999	9	0.51%	—	—	—			
Wake County Public Schools	20,000-24,999	10	0.51%	15,000-19,999	8	0.43%			
IBM Corporation	—	—	—	15,000-19,999	10	0.43%			
<b>Total</b>	<b>460,000-819,999</b>		<b>11.17%</b>	<b>398,000-444,991</b>		<b>10.29%</b>			

Notes: All figures are based on 1st quarter average. Percentage of total state employment is based on the average of the ranges given.  
Source: Office of the State Controller (North Carolina Employment Security Commission).

## FACULTY AND STAFF

Last ten fiscal years

Full Employment of Fiscal Year	2013-14	2012-13	2011-12	2010-11	2009-10	2008-09	2007-08	2006-07	2005-06	2004-05
<b>Faculty</b>										
Full-time	3,406	3,316	3,291	3,234	3,221	3,147	3,000	2,919	2,885	2,844
Part-time	290	290	293	284	285	303	296	303	323	330
<b>Total Faculty</b>	<b>3,696</b>	<b>3,606</b>	<b>3,584</b>	<b>3,518</b>	<b>3,506</b>	<b>3,450</b>	<b>3,296</b>	<b>3,222</b>	<b>3,208</b>	<b>3,174</b>
Percentage Tenured	38.3%	39.8%	40.2%	41.4%	41.2%	41.1%	42.0%	42.9%	43.2%	43.7%
<b>Staff and EPA Non-Faculty</b>										
Full-time	1,815	1,780	1,726	1,738	1,771	1,710	1,610	1,501	1,374	1,307
Part-time	126	131	132	138	139	146	146	155	131	132
<b>EPA Non-Faculty</b>	<b>1,941</b>	<b>1,911</b>	<b>1,857</b>	<b>1,876</b>	<b>1,910</b>	<b>1,856</b>	<b>1,756</b>	<b>1,656</b>	<b>1,505</b>	<b>1,439</b>
Full-time	6,069	6,133	6,197	6,385	6,484	6,453	6,174	6,104	6,005	6,004
Part-time	247	248	271	273	303	323	308	317	318	321
<b>SFA</b>	<b>6,316</b>	<b>6,381</b>	<b>6,468</b>	<b>6,658</b>	<b>6,787</b>	<b>6,776</b>	<b>6,482</b>	<b>6,421</b>	<b>6,323</b>	<b>6,325</b>
<b>Total Full-time</b>	<b>7,914</b>	<b>7,913</b>	<b>7,922</b>	<b>8,123</b>	<b>8,255</b>	<b>8,163</b>	<b>7,784</b>	<b>7,605</b>	<b>7,379</b>	<b>7,311</b>
<b>Total Part-time</b>	<b>373</b>	<b>379</b>	<b>403</b>	<b>411</b>	<b>442</b>	<b>469</b>	<b>454</b>	<b>472</b>	<b>449</b>	<b>453</b>
<b>Total Staff and EPA Non-Faculty</b>	<b>8,287</b>	<b>8,292</b>	<b>8,325</b>	<b>8,534</b>	<b>8,697</b>	<b>8,632</b>	<b>8,238</b>	<b>8,077</b>	<b>7,828</b>	<b>7,764</b>
<b>Total Faculty, Staff, and EPA Non-Faculty</b>	<b>11,983</b>	<b>11,900</b>	<b>11,909</b>	<b>12,052</b>	<b>12,203</b>	<b>12,082</b>	<b>11,533</b>	<b>11,299</b>	<b>11,036</b>	<b>10,938</b>

Note: SFA denotes employees subject to the State Personnel Act. EPA denotes employees exempt from the State Personnel Act.  
Source: The University of North Carolina at Chapel Hill Fact Book.

## CAPITAL ASSETS (NUMBER OF FACILITIES)

Last ten fiscal years

Fiscal Year Ended June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Academic/Administrative buildings	135	134	135	133	131	129	127	125	122	122
Dormitories/Auxiliary buildings	91	91	91	90	90	90	90	90	88	83
Art/Library collections	6	6	6	6	6	6	6	6	6	6





**THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL**

## 2014 Comprehensive Annual Financial Report

FISCAL YEAR ENDED JUNE 30, 2014 • CHAPEL HILL, NORTH CAROLINA

# Appendix A

# **APPENDIX A**

## **WASTE TRANSFER FORMS/ MISCELLANEOUS DOCUMENTATION**

1. Form e-510 – Hazardous Waste Pickup Form
2. Form e-501 – Hazardous Material Transfer Form
3. Form e-102 – Radioactive Waste Disposal Record Container Content Form
4. Form e-102 – Radioactive Waste Disposal Record Pickup Form
5. Structural Certification Letters
6. Flood Certification Letter

## Form e-510

### EHS Waste Pickup

- To make new Request, Please fill this form and click on Submit Button
- To View all the Waste Pickup Requests made by you, Click [Here](#)
- Search Waste Pickup Request by Serial Number, Click [Here](#)

### USER INFORMATION

<b>Name:</b>	<input type="text"/>	DOE, JANE
<b>PID:</b>	<input type="text"/>	000000000
<b>Phone Number:</b>	<input type="text"/>	
<b>Email:</b>	<input type="text"/>	Email is required.
<b>Building:</b>	<input type="text"/>	
<b>Room:</b>	<input type="text"/>	
<b>Your Name:</b>	<input type="text"/>	<input type="text"/> JANE DOE
<b>Date:</b>	<input type="text"/>	

### WASTE TYPE

*All information must be provided*

<b>Contents:</b>	<b>Composition</b>
	<input type="radio"/> Liquid
	<input type="radio"/> Aqueous Solutions
	<input type="radio"/> Organic Solvents
<input type="radio"/> Other Liquids	
<input type="radio"/> Solid	
<input type="radio"/> Compressed Gas	
<b>Date:</b> <input type="text"/>	(If more than a year old, then contact EHS)
<b>Valve Cover:</b> <input type="radio"/> Yes <input type="radio"/> No	

## Form e-510

<b>pH Value:</b>	<input style="width: 100px;" type="text"/> Must be specified for liquids containing corrosives.	
<b>Mixed Chemicals:</b>	<input type="radio"/> New <input type="radio"/> Used <input style="width: 100px;" type="text"/>	
<b>Chemical:</b>	<b>Composition</b> <i>(No Formulas or Abbreviations)</i>	<b>Percent</b>
	1. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	2. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	3. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	4. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	5. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	6. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	7. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	8. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	9. <input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
	10. <input style="width: 150px;" type="text"/> Water (if present)	<input style="width: 100px;" type="text"/>
	<b>Must Total (100%)</b>	
<b>Container Size:</b>	<input style="width: 100px;" type="text"/> Example: 4L (L for Litre).	
<b>Container Type:</b>	<input style="width: 150px;" type="text"/> ▼	
<b>Weight:</b>	<input style="width: 100px;" type="text"/> in Kg (Assume 1Litre Bottle = 1Kg).	
<b>No. of Containers:</b>	<input style="width: 100px;" type="text"/> (All containers identical in type, size, and contents.)	
<b>Notes:</b>	<div style="border: 1px solid gray; height: 60px; width: 100%; position: relative;"> <div style="position: absolute; top: -15px; right: -15px; text-align: center;"> <input type="button" value="↑"/>  <input type="button" value="↓"/>  <input type="button" value="↕"/> </div> <div style="position: absolute; bottom: -15px; left: -15px; text-align: center;"> <input type="button" value="←"/>  <input type="button" value="→"/> </div> </div>	

**THIS FORM MUST BE ATTACHED TO THE CONTAINER****HAZARDOUS MATERIAL TRANSFER FORM****SERIAL# E081474**

<b>Principal Investigator:</b>	DOE, JANE	<b>Telephone No:</b>	(919) 962-0000
<b>Email:</b>	JDOE@EHS.UNC.EDU A	<b>Room:</b>	1234
<b>Waste in:</b>	Any Bldg	<b>Date Requested:</b>	10/31/2014
<b>Requested by:</b>	DOE, JOHN		

**MATERIAL DESCRIPTION**

<b>Container Size:</b>	10	<b>Container Type:</b>	POLYTHYLENE	<b>No. of Containers:</b>	1
<b>Weight:</b>	10.0	<b>Chemical Mixed:</b>	USED	<b>pH Value:</b>	7
<b>Contents:</b>	SOLID				

**CHEMICAL COMPOSITION(S)**

<b>Chemical Description</b>	<b>Percent</b>
LITHIUM BATTERIES	100.0

**ADDITIONAL INFO**

<b>Formaldehyde:</b>	NO	<b>Non-PCB Ballast:</b>	NO	<b>Chemotherapy:</b>	NO
<b>Used Oil:</b>	NO	<b>Used Jet Fuel:</b>	NO	<b>Pharmaceutical:</b>	NO
<b>Recycled:</b>	YES	<b>Pesticide:</b>	NO	<b>Mercury:</b>	NO
<b>Battery(s):</b>	NO	<b>Universal Waste:</b>	NO	<b>Bulbs:</b>	NO
<b>Cylinders:</b>	NO	<b>Cylinder High Hazard:</b>	NO	<b>Cylinder Reactive:</b>	NO
<b>Cylinder PIH:</b>	NO	<b>Cylinder Zone:</b>		<b>High Hazard Handling:</b>	NO
<b>High Hazard PIH:</b>	NO	<b>Peroxide Former:</b>	NO	<b>High Hazard Zone:</b>	
<b>Container Integrity:</b>		<b>SADT:</b>		<b>High Hazard Date:</b>	
<b>EPA:</b>	NON				
<b>DOT Hazard Class:</b>	0				

**Notes:****CONTACT ME FOR ACCESS TO ROOM**





# engineers lasater hopkins

CONSULTING STRUCTURAL ENGINEERS

614 GLENWOOD AVE.  
RALEIGH, N. C. 27603  
(919) 832-5587

January 19, 1989

Dr. Donald G. Willhoit, Director  
University Health and Safety  
University of North Carolina  
212 Finley Golf Course Rd.  
Chapel Hill, N. C. 27514

Re: Hazardous Material Facility  
Physical Plant Complex  
Airport Road  
Chapel Hill, N. C.

Dear Dr. Willhoit:

On January 17, 1989, we accompanied your Mr. Jerry Shirley and Facilities Planning's Mr. Bob Brooks on an inspection of the existing hazardous material storage facility. The purpose of our inspection was to ascertain the structural condition of the building with particular regard to its ability to retain spilled liquids.

The building is approximately 50 feet x 36 feet, constructed of spread footings, exterior 8 inch concrete block and 4 inch brick load bearing walls, long span 24 inch deep open web steel joist; and 1½ inch metal roof deck. The slab-on-grade floor appears to 4 inch thick; probably reinforced nominally with welded wire fabric.

Our inspection indicated a structurally sound building with no cracks and/or gaps in the floor construction which would be susceptible to transmission of spilled liquids.

If you need further information in this matter, please contact us.

Yours truly,

LASATER-HOPKINS, ENGINEERS



Robert P. Hopkins, P. E.

RPH:bs

cc: Bob Brooks

ROBERT E LASATER, PE

ROBERT P HOPKINS, PE



30 April 1991

Facilities Planning & Design  
University of North Carolina at Chapel Hill  
CB #1090, Giles F. Horney Bldg.  
Chapel Hill, N. C. 27599-1090

Attention: A. Robert Brooks  
Supervisor, A/E Services

Re: New Hazardous Materials  
Storage Building  
University of North Carolina  
Chapel Hill

Dear Mr. Brooks:

On April 22, 1991, we accompanied you and Donald G. Willhoit, Director of Health and Safety, on an inspection of the recently completed Hazardous Materials Storage Building. Additionally, we reviewed the construction documents for the structure.

Both our inspection and document review disclosed a building which complies with The North Carolina Building Code and the North Carolina Hazardous Waste Management rules 40 CFR 264.175.

The building is a pre-engineered steel structure 65'-4" x 40'-0" supported on individual column and wall footings at the perimeter. The floor slab is nominally reinforced 6-inch thick concrete. The floor slab contains internally formed trenches for the retention of spilled liquids. Furthermore, the entire floor slab, including the integral trenches, have been coated with an epoxy floor sealer.

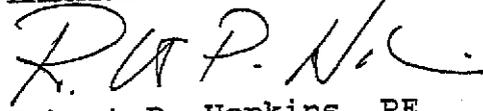
A. Robert Brooks  
30 April 1991  
Page 2

Our inspection indicated a structurally sound building without cracks and/or gaps in the floor construction which would be susceptible to transmission of spilled liquids.

If you need further information in this matter, please contact us.

Yours very truly

LASATER-HOPKINS, ENGINEERS



Robert P. Hopkins, PE  
Partner

RPH:bs

cc: Dr. Donald G. Willhoit

January 6, 1989

David A. Graffunder  
Registered Land Surveyor  
P.O. Box 1301  
Chapel Hill, North Carolina  
27514

Donald G. Willhoit, Director  
Health and Safety Office  
University of North Carolina at Chapel Hill  
212 Finley Golf Course Road 493A, CB# 1650  
Chapel Hill, North Carolina 27599-1650

Re: Flood Hazard Report for  
UNC Hazardous Waste  
Materials Facility

Gentlemen:

I have reviewed the Flood Insurance Rate Maps prepared by the Federal Insurance Management Agency Federal Insurance Administration and do hereby certify that no portion of referenced property lies in an area declared a special hazard area by the above mentioned maps. See attached drawing.



Sincerely,

*David A. Graffunder*  
Land Surveyor

Date

*6 January 1989*

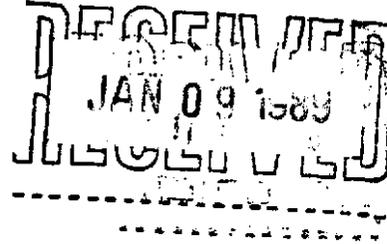


# TOWN OF CHAPEL HILL

306 NORTH COLUMBIA STREET  
CHAPEL HILL, NORTH CAROLINA 27516

Telephone (919) 968-2700

January 6, 1989



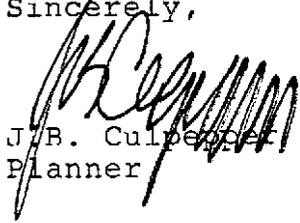
Mr. Donald G. Willhoit, Director  
Health and Safety Office  
212 Finley Golf Course Road  
UNC-CH  
Chapel Hill, N.C. 27514

Dear Mr. Willhoit:

We have received the Health and Safety Office request regarding the Hazardous Materials Facility at the Airport Drive location. Town Engineering and Planning Department staff have reviewed the Federal Emergency Management Agency Flood Boundary and Floodway Map and the Flood Insurance Rate Map (latest revision date for both maps - August 1, 1983). The property, bound by Airport Drive and Airport Road, appears to be located outside a regulatory floodplain.

Should you need additional information, please advise.

Sincerely,

  
J.B. Culpepper  
Planner

JBC:hps

# Appendix B

## **APPENDIX B**

### **SUBPART CC DOCUMENTATION**

1. Certification Statement
2. Enclosure 2
3. Subpart CC. Regulatory Completeness Checklist for Hazardous Waste Storage, Treatment and Disposal Facilities

## **Appendix B**

### **Subpart CC Certification Statement**

**CERTIFICATION**

The University of North Carolina at Chapel Hill uses DOT-compliant containers to comply with Subpart CC under 264.1086(f). As such, the Hazardous Materials Facility at the University of North Carolina at Chapel Hill hereby certifies that all containers are in compliance with 49 CFR Parts 178 and 179 and the facility is in compliance with 49 CFR Parts 107 Subpart B 172, 173, 178 and 180.

Date:

4/22/15

Signature:



Printed Name and Title: Matthew M. Fajack, Vice Chancellor for Finance and Administration

## ENCLOSURE 2

**Table AB-1**  
**Summary of Container Management Units Subject to Subpart CC**  
 University of North Carolina at Chapel Hill, NC  
 EPA I.D. Number NCD 982 093 783

HAZARDOUS WASTE MANAGEMENT UNIT	LOCATION OF HAZARDOUS WASTE MANAGEMENT UNIT	EPA HAZARDOUS WASTE CODES MANAGED	BRIEF WASTE DESCRIPTION	AVERAGE VOLATILE ORGANIC CONCENTRATION OF The HAZARDOUS WASTE	IF DOT – COMPLIANT Claim, DOT Performance Packaging Std ID Code used for each waste managed	CONTAINER TYPE (SEE NOTE 1)	SUBPART CC STATUS	CONTROL OPTION (See Table AB-2)
Flammable Storage Areas	Building 488/531: See Figure B-1 & D-1	F001-F005	Waste solvents	>500 ppmw	1A1, 1H1, 1H2	Container Type A <sup>1</sup>	Subject to Container Level 1 standards per 264.1086(c)	11, 12
Flammable Storage Areas	Building 488/531: See Figures B-1 & D-1	D001	Ignitable wastes		1A1, 1G, 1H1, 1H2			
Flammable Storage Areas	Building 488/531 See Figures B-1 & D-1	U Wastes	Discarded Products		1G, 1H1, 1H2			
Corrosive Storage Areas	Building 488/531: See Figures B-1 & D-1 (Bays 3-7)	D002	Corrosive Wastes		1G, 1H1, 1H2			
Reactive Storage Areas	Building 488/531: See Figures B-1 & D-1	D003	Reactive Wastes		1A1, 1G, 1H1, 1H2			
Mixed Wastes	Building 488/531: See Figures B-1 & D-1	Various	Mixed Wastes		1A1, 1A2, 1G, 1H1, 1H2			
Misc. Storage Areas	Building 488/531 See Figures B-1 & D-1	Various	Various		1A1, 1A2, 1G, 1H1, 1H2			
<90 Day Storage Area	Morehead Labs	Various	Various		1A1, 1A2, 1G, 1H1, 1H2			
Notes: 1. Container Type A: All containers subject to Subpart CC which have a design capacity greater than 0.1 m <sup>3</sup> (26gal) and less than or equal to 0.46 m <sup>3</sup> (121 gal).								

**TABLE AB-2**

**METHODS OF COMPLIANCE WITH SUBPART CC STANDARDS**

**Tanks**

1. These tanks shall comply with Level 1 controls which require tanks to have a fixed roof with no visible cracks, holes, gaps, or other spaces in accordance with 264.1084(c). The tank shall be visually inspected for defects initially prior to the tank becoming subject to the requirements and at least once every year thereafter. 40C.F.R. 264.1084(c)
2. These tanks are fixed-roof tanks equipped with an internal floating roof and shall comply with Tank Level 2 controls in accordance with 264.1084(e). The internal floating roof shall be visually inspected for defects at least once every 12 months after initial fill unless complying with the alternative inspection procedures in 40 C.F.R. 264.1084(e)(3)(iii). [40 C.F.R. 264.1084(d)(1)].
3. These tanks are equipped with an external floating roof and shall comply with Tank Level 2 controls in accordance with 264.1084(f). The external floating roof seal gaps shall be measured in accordance with the procedures contained in 264.1084(f)(3)(1) within 60 days and at least once every 5 years thereafter. The external floating roof shall be visually inspected for defects at least once every 12 months after initial fill. [40 C.F.R. 264.1084(d)(2)].
4. These tanks are vented through a closed-vent system to a control device and shall comply with Tank Level 2 controls in accordance with 264.1084(g). The tank shall be equipped with a fixed roof and closure devices which shall be visually inspected for defects initially and at least once every year. The closed-vent system and control device shall be inspected and monitored in accordance with 264.1087. [40 C.F.R. 264.1084(d)(3)].
5. These tanks are pressure tanks which shall comply with Tank Level 2 controls in accordance with 264.1084(h). [40 C.F.R. 264.1084(d)(4)]
6. These tanks are located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device and shall comply with Tank Level 2 controls in accordance with 264.1084(1). The closed-vent system and control device shall be inspected and monitored in accordance with 264.1087. [40 C.F.R. 264.1084(d)(5)]
7. These tanks have covers which have been specified as “unsafe to inspect and monitor” and shall comply with the requirements of 264.1084(1)(1). [40 C.F.R. 264.1084(f) & (g)]

**Surface Impoundments**

8. These surface impoundments shall have a floating membrane cover in accordance with 264.1085(c). The floating membrane cover shall be visually inspected for defects initially and at least once each year. [40 C.F.R. 264.1085(b)(1)]
9. These surface impoundments shall have a cover that is vented through a closed-vent system to a control device in accordance with 264.1085(d). The surface impoundment cover and its closure devices shall be visually inspected for defects initially and at least once each year. The closed-vent system and control device shall be inspected and monitored in accordance with 264.1087. [40 C.F.R. 264.1085(b)(2)]
10. These Surface impoundments have covers which have been designated as “unsafe to inspect and monitor” and shall comply with the requirements of 264.1085(g). [40 C.F.R. 264.1085(c) & (d)]

## Containers

11. These containers have a design capacity greater than 0.1 m<sup>3</sup> and less than or equal to 0.46 m<sup>3</sup> and meet the applicable U.S. DOT regulations under the Container Level 1 standards. The container shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086 (b)(1)(i) & (c) (1)(i)]
12. These containers have a design capacity greater than 0.1 m<sup>3</sup> and less than or equal to 0.46 m<sup>3</sup> and are equipped with a cover and closure devices which form a continuous barrier over container openings. The container and its cover and closure devices shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more, it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086(b)(1)(i) & (c)(1)(ii)]
13. These containers have a design capacity greater than 0.1 m<sup>3</sup> and less than or equal to 0.46 m<sup>3</sup> and are open-top containers in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container. The container and its cover and closure devices shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at facility for 1 year or more, it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086(b)(1)(i) & c(i)(iii)]
14. These containers have a design capacity greater than 0.46 m<sup>3</sup>, are not in light material service and meet the applicable U.S. DOT regulations under the Container Level 1 standards. The container shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more, it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086(b)(1)(ii) & (c)(1)(i)]
15. These containers have a design capacity greater than 0.46 m<sup>3</sup>, are not in light material service and are equipped with a cover and closure devices which form a continuous barrier over container openings. The container and its cover and closure devices shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more, it shall be visually inspected for defects at least once every 12 month. [40 C.F.R. 264.1086(b)(1)(ii) & (c)(1)(ii)]
16. These containers have a design capacity greater than 0.46m<sup>3</sup>, are not in light material service and are open-top containers in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container. The container and its cover and closure devices shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more, it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086(b)(1)(ii) & c(1)(iii)]
17. These containers have a design capacity greater than 0.46 m<sup>3</sup>, are in light material service and meet the applicable U.S. DOT regulations under the Container Level 2 standards. The container shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more it shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086(b)(1)(iii) & (d)(1)(i)]
18. These containers have a design capacity greater than 0.45 m<sup>3</sup>, are in light material service and operate with no detectable organic emissions as defined in 40 C.F.R. 265.1081. The container

Enclosure 2 (Cont'd.)

and its cover and closure devices shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086(b)(1)(iii) & (d)(1)(ii)]

19. These containers have a design capacity greater than 0.46 m<sup>3</sup>, are in light material service and that have been demonstrated within the preceding 12 months to be vapor-tight using 40 C.F.R. Part 60, Appendix A, Method 27. The container and its cover and closure devices shall be visually inspected for defects at the time the container first manages hazardous waste or is accepted at a facility. If a container remains at a facility for 1 year or more, it shall be visually inspected for defects at least once every 12 months. [40 C.F.R. 264.1086(b)(1)(iii) & (d)(1)(iii)]
20. These containers have a design capacity greater than 0.1 m<sup>3</sup> that are used for treatment of a hazardous waste by a waste stabilization process and are vented directly through a closed-vent system to a control device in accordance with 264.1086(e)(2)(ii). The closed-vent system and control devices shall be inspected and monitored as specified in 264.087. [40 C.F.R. 264.1086(b)(2) & (e)(1)(i)]
21. These containers have a design capacity greater than 0.1 m<sup>3</sup> that are used for treatment of a hazardous waste by a waste stabilization process and are vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with 264.1086 (e)(2)(1) & (ii). The closed-vent system and control devices shall be inspected and monitored as specified in 264.1087. [40 C.F.R. 264.1086(b)(2) & (e)(1)(ii)]

**REGULATORY COMPLETENESS CHECKLIST FOR  
HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES**

Facility Name	UNC-CH Hazardous Materials Facility
EPA ID Number	NCD982093783
Permit Review Team	_____
	_____
Date Review Completed	_____

The regulatory checklists are currently undergoing revision. While this checklist has been reformatted, it has not been reviewed for technical content.

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>PART CC - AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS AND CONTAINERS</p> <p>CC-1 <u>General Applicability</u></p> <p>Standards apply to all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to 40 CFR Part 264, Subparts I, J, or K except as provided otherwise. {246.1080(a)}</p>	C-6, C-8, D-10, D-11, Appendix C
<p>CC-2 <u>Exemptions from 40 CFR 264.1084 -264.1087 Standards</u></p> <p>Following is a list of units that are exempt from 40 CFR 264.1084 - 264.1087 standards: {264.1082(c)}</p> <ul style="list-style-type: none"> <li>- A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average volatile organic concentration at the point of waste origination of less than 500 parts per million by weight (ppmw) {264.1082(c)(1)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves the specified criteria in 264.1082(c)(2)(i) through (ix). {264.1082(c)(2)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- A tank used for biological treatment of hazardous waste that destroys or degrades the organics contained in the hazardous waste such that the requirements of 40 CFR 264.1082 (c)(2)(iv) are met. {264.1082(c)(3)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- A tank, surface impoundment or container for which all hazardous waste placed in the unit meets applicable organic concentration limits or has been treated by appropriate treatment technology. {264.1082(c)(4)}</li> </ul>	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>- A tank used for bulk feed of hazardous waste to a waste incinerator that meets all of the specified criteria in 264.1082(c)(5)(i) through (iii). {264.1082(c)(5)}</li> </ul>	N/A
<p>CC-3 <u>Standards: Tanks</u></p> <p>CC-3a <u>Applicability of Tank Standards: Tank Level 1 and Tank Level 2</u></p> <p>Tanks that satisfy the conditions below (specified in 40 CFR 264.1084(b)(1)(i-iii)) can use Tank Level 1 or Tank Level 2 controls. Tanks that do not satisfy these conditions shall use Tank Level 2 controls. {264.1084(b)(1) and (2)}</p>	N/A
<ul style="list-style-type: none"> <li>1. Have maximum organic vapor pressure which is less than maximum organic vapor pressure limit for tanks design capacity category. {264.1084(b)(1)(i)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>1. Not be heated to temperature greater than temperature at which maximum organic vapor pressure of waste is determined for purposes of compliance. {264.1084(b)(1)(ii)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Not be treated using a waste stabilization process, as defined in 40 CFR 265.1081. {264.1084(b)(1)(iii)}</li> </ul>	N/A
<p>CC-3b <u>Design Standards: Tanks</u></p> <p>CC-3b(1) <u>Tank Level 1</u></p> <p>Owner/operators shall equip tanks with fixed roof and closure devices as needed. {264.1084(c)(2)and(3)}</p>	N/A
<p>CC-3b(2) <u>Tank Level 2</u></p> <p>Owner/operators shall use one of the following tanks: {264.1084(d)}</p>	N/A
<ul style="list-style-type: none"> <li>- Fixed-roof tank equipped with internal floating roof. {264.1084(d)(1) and (e)(1)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Tank equipped with an external floating roof. {264.1084(d)(2) and (f)(1)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Tank vented through closed-vent system to a control device. {264.1084(d)(3) and (g)(1)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Pressure tank. {264.1084(d)(4), (h)(1) and (h)(2)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Tank located inside an enclosure that is vented through a closed-system to an enclosed combustion control device. {264.1084(d)(5), (i)(1), (i)(2) and (i)(3)}</li> </ul>	N/A
<p>CC-3c <u>Operating Standards: Tanks</u></p> <p>CC-3c(1) <u>Tank Level 1</u></p> <p>Owner/operators shall: {264.1084(c)(1) and (3)}</p> <ul style="list-style-type: none"> <li>- Determine maximum organic vapor pressure for hazardous waste at the frequencies specified in 264.1084(c)(1).</li> </ul>	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
{264.1084(c)(1)}	
- Ensure that, whenever hazardous waste is in tank, the fixed roof is installed with each closure device secured in closed position. {264.1084(c)(3)}	N/A
CC-3c(2) <u>Tank Level 2</u>  Owner/operators shall adhere to the following operating procedures for each unit type: {264.1084(e)-(i)}  - Fixed-roof tank equipped with internal floating roof. {264.1084(e)(2)}	N/A
- Tank equipped with an external floating roof. {264.1084(f)(2)}	N/A
- Tank vented through closed-vent system to a control device. {264.1084(g)(2)}	N/A
- Pressure tank. {264.1084(h)(3)}	N/A
- Tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device. {264.1084(i)(1) and (2)}	N/A
CC-3d <u>Transfer of Hazardous Waste from Other Tanks or Surface Impoundments</u>  Transfer of hazardous waste shall be conducted using continuous hard-piping or another closed system that does not allow exposure of hazardous waste to environment. {264.1084(j)(1)}	N/A
CC-4 <u>Surface Impoundments</u>  CC-4a <u>Design Standards</u>  Owner/operators shall install either of the following controls: {264.1085(b)-(d)}  - Floating membrane cover. {264.1085(b)(1) and (c)}	N/A
- Cover that is vented through a closed-vent system to a control device. {264.1085(b)(2) and (d)}	N/A
CC-4b <u>Transfer of Hazardous Waste from Other Tanks or Surface Impoundments</u>  Transfer of hazardous waste shall be conducted using continuous hard-piping or another closed system. {264.1085(e)(1)}	N/A
CC-5 <u>Containers</u>  CC-5a <u>Applicability of Container Standards: Container Levels 1 - 3</u>  Container Level 1 standards apply to: {264.1086(b)(1)}	C-8, D-11

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<ul style="list-style-type: none"> <li>• Containers with design capacity greater than 0.1 m<sup>3</sup> and less than or equal to 0.46 m<sup>3</sup>. {264.1086(b)(1)(i)}</li> <li>• Containers with design capacity greater than 0.46 m<sup>3</sup> that are not in light material service. {264.1086(b)(1)(ii)}</li> </ul>	
- Container Level 2 standards apply to containers with a design capacity greater than 0.46 m <sup>3</sup> that are in light material service. {264.1086(b)(1)(iii)}	N/A
- Container Level 3 standards apply to containers with design capacity greater than 0.1 m <sup>3</sup> that are used for stabilization. {264.1086(b)(2)}	N/A
<p>CC-5b <u>Design Standards: Containers</u></p> <p>CC-5b(1) <u>Container Level 1</u></p> <p>A container using Level 1 controls is defined as one of the following: {264.1086(c)(1)}</p> <ul style="list-style-type: none"> <li>- Container that meets DOT regulations on packaging. {264.1086(c)(1)(i) and (f)}</li> </ul>	C-6, C-8, D-10, D-11
- Container equipped with cover and closure devices. {264.1086(c)(1)(ii) and (2)}	C-8
- Open-top container equipped with organic-vapor suppressing barrier. {264.1086(c)(1)(iii) and (2)}	N/A
<p>CC-5b(2) <u>Container Level 2</u></p> <p>A container using Level 2 controls is defined as one of the following: {264.1086(d)(1),(f), (g) and (h)}</p> <ul style="list-style-type: none"> <li>- Container that meets DOT regulations on packaging. {264.1086(d)(1)(i) and (f)}</li> </ul>	N/A
- Container that operates with no detectable organic emissions. {264.1086(d)(1)(ii) and (g)}	N/A
- Container that has been demonstrated within preceding 12 months to be vapor- tight. {264.1086(d)(1)(iii) and (h)}	N/A
<p>CC-5b(3) <u>Container Level 3</u></p> <p>A container using Level 3 controls is defined as one of the following: {264.1086(e)(1)}</p> <ul style="list-style-type: none"> <li>- Container that is vented directly through a closed-vent system to a control device. {264.1086(e)(1)(i)}</li> </ul>	N/A
- Container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device. {264.1086(e)(1)(ii) and (2)}	N/A
<p>CC-5c <u>Operating Standards: Containers</u></p> <p>CC-5c(1) <u>Container Level 1</u></p>	C-8

Subject Requirement and 40 CFR Reference	Location in Application and Comments
<p>Owner/operators shall install covers and closure devices for the container and secure and maintain each closure device in closed position, except as specified. {264.1086(c)(3)}</p>	
<p>CC-5c(2) <u>Container Level 2</u></p> <p>Owner/operators shall install all covers and closure devices for the container and maintain and secure each closure device in closed position, except as specified. {264.1086(d)(3)}</p>	N/A
<p>CC-5c(3) <u>Container Level 3</u></p> <p>Owner/operators shall operate the system in accordance with 40 CFR 52.741, Appendix B; 40 CFR 264.1087; and 40 CFR 265.1081, as needed. {264.1086(e)(2) and (3)}</p>	N/A
<p>CC-6 <u>Closed-Vent Systems and Control Devices</u></p> <p>Standards apply to each closed-vent system and control device used to control air emissions under 40 CFR Part 264, Subpart CC. {264.1087(a)}</p>	N/A
<p>CC-6a <u>Design and Operating Standards: Closed-Vent Systems</u></p> <p>Closed-vent systems shall: {264.1087(b)}</p> <ul style="list-style-type: none"> <li>- Route gases, vapors, and fumes to control device. {264.1087(b)(1)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Be designed and operated in accordance with 40 CFR 264.1033(k) {264.1087(b)(2)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Meet the requirements for bypass devices, if applicable. {264.1087(b)(3)}</li> </ul>	N/A
<p>CC-6b <u>Design and Operating Standards: Control Devices</u></p> <p>The control device shall be one of the following: {264.1087(c)(1)}</p>	N/A
<ul style="list-style-type: none"> <li>- A control device designed and operated to reduce total organic content on inlet vapor stream vented to the control device by at least 95 percent by weight. {264.1087(c)(1)(i)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- An enclosed combustion device. {264.1087(c)(1)(ii)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- A flare. {264.1087(c)(1)(iii)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Each control device shall be operated and maintained in accordance with 40 CFR 264.1033(j), except for certain devices identified (e.g., flare). {264.1087(c)(4)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- The owner/operators shall demonstrate that a control device achieves the performance requirements using a performance test or design analysis, except for specific devices identified (e.g., flare). {264.1087(c)(5)}</li> </ul>	N/A
<ul style="list-style-type: none"> <li>- Each closed-vent system and control device shall comply</li> </ul>	N/A

Subject Requirement and 40 CFR Reference	Location in Application and Comments
with the operating requirements of 40 CFR 264.1087(c)(2). {264.1087(c)(2)}	
<p>CC-7 <u>Inspection, Monitoring, and Repair</u></p> <p>Each tank, surface impoundment and container shall be inspected, monitored, and repaired in accordance with the 40 CFR Part 264, Subpart CC requirements. {264.1084 - 264.1088}</p>	F-4, Appendix C
<p>CC-8 <u>Recording and Reporting</u></p> <p>- Each owner/operator shall comply with the recordkeeping requirements specified at 40 CFR 264.1089. {264.1089}</p>	F-4
<p>- Each of the following owner/operators shall comply with the reporting requirements at 40 CFR 264.1090. {264.1090}</p>	N/A
<p>- Each owner/operator managing hazardous waste in a tank, surface impoundment, or container exempted from using air emission controls under 40 CFR 264.1082(c). {264.1090(b)}</p>	N/A
<p>- Each owner/operator using a control device in accordance with 40 CFR 264.1087. {264.1090(c) and (d)}</p>	N/A

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# Appendix C

## **APPENDIX C**

### **INSPECTION LOG SHEETS**

1. UNC-CH Hazardous Materials Facility Daily Inspection Form (Form 511A)
2. UNC-CH Hazardous Materials Facility Weekly Inspection Form (Form 511B)
3. UNC-CH Hazardous Materials Facility Semi-Annual Fire Inspection Form (Form 512)

**UNC-CH HAZARDOUS MATERIALS FACILITY**  
**Daily Inspections \***

Mark (✓) if satisfactory, mark (X) if not satisfactory and complete comment section.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	
					DATE
					TIME

MON	TUES	WED	THURS	FRI

- I. Daily Facility Opening
  - a. Absence of foreign odors
  - b. No unusual conditions
  - c. Gate/Access doors secure
  - d. Housekeeping satisfactory
- II. Loading/Unloading Areas
  - a. Absence of cracks, spalling, uneven settlement
  - b. No leaking containers
- III. Communication
  - a. Telephone operable
  - b. Man Down system operable

Describe in detail any remedial/repair actions taken:

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MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	
					INSPECTOR

\* Monday – Friday during regular business hours, not including holidays or other days when the University is closed (e.g. inclement weather, etc).

## UNC-CH HAZARDOUS MATERIALS FACILITY Weekly Inspection

Mark '✓' if satisfactory. Mark 'X' if not satisfactory and complete comment section

WEEKLY																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">I. Security</th> </tr> </thead> <tbody> <tr><td>a. Fence intact, structurally sound</td></tr> <tr><td>b. Gates intact, structurally sound</td></tr> <tr><td>c. Chain &amp; locks in place</td></tr> <tr><td>d. Keys available</td></tr> <tr><td>e. Door locks operable</td></tr> <tr><td>f. Perimeter warning signs in place, legible</td></tr> <tr><td>g. Outdoor lighting</td></tr> <tr><td>h. Alarm system operable</td></tr> </tbody> </table>	I. Security		a. Fence intact, structurally sound	b. Gates intact, structurally sound	c. Chain & locks in place	d. Keys available	e. Door locks operable	f. Perimeter warning signs in place, legible	g. Outdoor lighting	h. Alarm system operable	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">III. Container Storage</th> </tr> </thead> <tbody> <tr><td>a. No leaking containers</td></tr> <tr><td>b. No significant container deterioration</td></tr> <tr><td>c. No liquid in containment trenches</td></tr> <tr><td>d. Containers labeled correctly</td></tr> <tr><td>e. DOT Containers</td></tr> <tr><td>f. Containers closed/sealed</td></tr> <tr><td>g. Segregated by hazard class</td></tr> <tr><td>h. Aisle space adequate</td></tr> <tr><td>i. Stacking Height adequate</td></tr> </tbody> </table>	III. Container Storage		a. No leaking containers	b. No significant container deterioration	c. No liquid in containment trenches	d. Containers labeled correctly	e. DOT Containers	f. Containers closed/sealed	g. Segregated by hazard class	h. Aisle space adequate	i. Stacking Height adequate
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Safety Equipment Check List – Personal Protective Equipment			Facility Emergency Equipment – Visual Check of Condition		
Minimum Quantity	Item	Quantity on Hand	Check if OK	Item	Comments
	Monitoring equipment			Drum Pump (Proper Location, Operable)	
	Half-face respirator			Containment Pump (Proper Location, Operable)	
	Dust filter masks			Grounding Cable for Drum (Connected, Good Condition)	
	Full cover Tyvek			Fume Hood (Operable)	
	Safety Goggles			Fire Extinguishers (Proper Location, Charged)	
	SCBA unit with full tank			Emergency Shower/Eyewash (Operable, Not Leaking, Water Pressure)	
	Gloves			Absorbents (Stocked)	
	Boot Covers			Containment Booms (Stocked)	
				Shovels (Stocked)	
				Squeegee (Stocked)	
				Spill Control Kit Contents (Proper Location, Fully Stocked)	
				First Aid Kit Contents (Proper Location, Fully Stocked)	
				Overpack Drums (Stocked, No Structural damage)	

Describe problems, remedial actions and date completed, if any:

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\_\_\_\_\_  
Inspector

\_\_\_\_\_  
Time/Date

# UNC-CH HAZARDOUS MATERIALS FACILITY

## Semi-Annual Fire Inspection

(Check (✓) if O.K., X - See comments)

Record in detail, all deficiencies and repair/remedial actions taken:

✓ /X	<u>ITEMS</u>	<u>Comments</u>
<b>I-Y Sprinkler System</b>		
	A. Pressure gauge - psig	
	B. Piping condition	
	C. Sprinkler heads, spares, wrench	
	D. Siamese connection	
	E. Post indicator valve (lock, handle, position)	
	F. Water meter gauge, leak test date ____/____/____	
	G. Test connection flow pressure, _____ psig	
	H. Flow switch, last date tested ____/____/____	
<b>II-Y Fire Alarm and Detection System</b>		
	A. Battery emergency power	
	B. Annunciator Panel	
	C. Alarms and strobe lights	
	D. Pull boxes	
	E. OWASA Hydrant	
	F. No Smoking Signs	
	G. Fire dampers - HVAC System	
	H. Heat sensors	
<b>III-Y Fire Extinguishers</b>		
	A. Serviced, Recharged	
<b>IV-Y Fume Hood</b>		
	A. Ventilation System	
	B. Average linear face velocity	
	C. Housekeeping	
<b>V-Y Explosion-Proof Electrical System (at HMF Only)</b>		
	A. Switches	
	B. Motors	
	C. Conduit seals	

\_\_\_\_\_  
**Inspector**

\_\_\_\_\_  
**Time/Date**

# Appendix D

## **APPENDIX D**

### **Position Descriptions**

1. Environmental Affairs Manager
2. Hazardous Materials Facility Manager
3. Senior Hazardous Materials Specialist
4. Hazardous Materials Specialist
5. Senior Radioactive Materials Specialist
6. Radioactive Materials Specialist
7. Primary Emergency Coordinator and Alternate Emergency Coordinator

## **Job Description**

### **ENVIRONMENTAL AFFAIRS MANAGER**

Position No. 1

Duties: The Environmental Affairs Manager has overall responsibility for the hazardous waste management program at the HMF. The Environmental Affairs Manager serves as the training director for the HMF and the hazardous waste program at UNC-CH.

Skills, education, and qualifications: An advanced degree in an environmental related field plus experience in hazardous waste management, environmental permitting, compliance activities, industrial hygiene and radiation safety.

Initial Training: Review of the HMF TSD permit and supporting documents, Contingency Plan, operations, and the duties and responsibilities of other HMF employees. Training modules typically include 1, 2, 3, 4 and 5.

Annual Training: Same as initial training.

## **Job Description**

### **HAZARDOUS MATERIALS FACILITY MANAGER**

Position No. 2

#### Duties:

1. Supervises the Senior Hazardous Materials Specialist, Hazardous Materials Specialist, Senior Radioactive Materials Specialist and the Radioactive Materials Specialist.
2. Classifies hazardous materials for management and disposal according to chemical characteristics and toxicity and evaluates potential for fuels blending, reuse, recycling and reclamation. Uses DOT, RCRA, OSHA regulations and various reference sources as needed.
3. Assists in conducting training sessions to meet RCRA regulations and permit conditions.
4. Responds as Primary Emergency Coordinator to emergencies at the HMF to coordinate the implementation of the Contingency Plan and serves as liaison to emergency response agencies. Provides information on quantities and location of hazardous materials at the HMF to emergency response agencies.

Skills, education, and qualifications: Bachelor's degree in chemistry, industrial hygiene or a closely related field plus two years' experience in hazardous waste management.

Initial Training: Review of the HMF TSD permit and supporting documents, Contingency Plan, operations, and the duties and responsibilities of other HMF employees. Training modules typically include 1, 2, 3, 4 and 5.

Annual Training: Same as initial training.

## **Job Description**

### **SENIOR HAZARDOUS MATERIALS SPECIALIST**

Position No. 3

Duties:

1. Receives hazardous and non-hazardous wastes at the HMF. Conducts quality assurance review of physical appearance of wastes to ascertain correctness of labeling and shipping documents.
2. Segregates waste into containers and designated storage areas according to waste characteristics, DOT hazard class and treatment processes to which the hazardous chemicals will be subject.
3. Prepares waste for off-site disposal.
4. Performs inspections as required by the HMF permit.
5. Responds to hazardous material spills as a member of the UNC-CH Emergency Response Team.

Skills, education, and qualifications: Bachelor's degree in chemistry or equivalent plus one to two years' experience.

Initial Training: Review of the HMF TSD permit and supporting documents, communication and alarm systems, Contingency Plan, emergency response procedures, spill containment and waste processing procedures. Training modules typically include 1, 2, 3, 4 and 5.

Annual Training: Same as initial training.

## **Job Description**

### **HAZARDOUS MATERIALS SPECIALIST**

Position No. 4

#### Duties:

1. Reviews waste pickup requests and determines pickup priorities. Segregates and packages chemical wastes generated on campus for transportation to HMF in accordance with DOT and RCRA regulations
2. Prepares manifests and shipping documents.
3. Safely transports and delivers hazardous chemicals and shipping papers to HMF.
4. Responds to hazardous material spills as a member of the UNC-CH Emergency Response Team.

Skills, education, and qualifications: Bachelor's degree in chemistry or equivalent course work plus one to two years' work experience involving chemicals and hazardous materials.

Initial Training: Review of the HMF TSD permit and supporting documents, DOT regulations, communication and alarm systems, Contingency Plan, emergency response procedures and spill containment. Training modules typically include 1, 2, 3, 4 and 5.

Annual Training: Same as initial training.

## **Job Description**

### **SENIOR RADIOACTIVE MATERIALS SPECIALIST**

Position No. 5

#### Duties:

1. Receives radioactive wastes at the HMF and reviews shipping documents for accuracy.
2. Performs assays of radioactive liquid wastes, segregates wastes according to radiological and chemical characteristics and determines appropriate management processes for the wastes.
2. Performs inspections as required by UNC-CH's Radioactive Material License.
3. Operates and maintains the packaging and storage process for radioactive mixed wastes.
4. Responds to hazardous material spills as a member of the UNC-CH Emergency Response Team.

Skills, education, and qualifications: Bachelor's degree in science or equivalent course work and work experience involving chemicals and/or radioactive materials.

Initial Training: Review of the HMF TSD permit and supporting documents, DOT regulations, communication and alarm systems, Contingency Plan, emergency response procedures and spill containment. Training modules typically include 1, 2, 3, 4 and 5.

Annual Training: Same as initial training.

## **Job Description**

### **RADIOACTIVE MATERIALS SPECIALIST**

Position No. 6

Duties:

1. Reviews radioactive waste pickup requests and determines pickup priorities.
2. Prepares wastes for transportation in accordance with DOT regulations.
3. Maintains transportation records as required by DOT and radiation protection regulations.

Skills, education, and qualifications: Bachelor's degree in science or equivalent course work and work experience involving chemicals and/or radioactive materials.

Initial Training: Review of the HMF TSD permit and supporting documents, DOT regulations, communication and alarm systems, Contingency Plan, emergency response procedures and spill containment. Training modules typically include 1, 2, 3, 4 and 5.

Annual Training: Same as initial training.

## **Job Description**

### **PRIMARY EMERGENCY COORDINATOR AND ALTERNATE EMERGENCY COORDINATOR**

Position No. 7

Duties: The Emergency Coordinator or Alternate Emergency Coordinator is responsible for responding to emergencies at the HMF, coordinating the implementation of the HMF Contingency Plan and serving as liaison to emergency response agencies.

Skills, education, and qualifications: Knowledge of UNC-CH and EHS resources available for emergencies.

Initial Training: Review of the HMF TSD permit and supporting documents, Contingency Plan, information on quantities and location of hazardous materials at the HMF. Training modules to be covered typically include 1, 2, 3, 4 and 5.

Annual Training: Same as initial training.

# Training Modules

## Table of Contents

<b>MODULE#</b>	<b>TOPIC</b>
----------------	--------------

- |    |  |
|----|--|
| 1. | Building 488 Operations                                      |
| 2. | Building 531 Operations                                      |
| 3. | General Hazardous Waste Management Operations                |
| 4. | HMF Contingency Plan   |
| 5. | HMF Hazardous Waste Operations Emergency Response (HAZWOPER) |

## Sample HMF Training Program Outline

### 1. HMF Operations Management

#### 1.1 Building 488 Operations – Module 1

- 1.1.1 Packaging, Manifesting and Transport to Building 488
- 1.1.2 Unloading, Receipt and Segregation
- 1.1.3 Lab Packing, Bulking and Neutralization
- 1.1.4 Marking and Labeling

#### 1.2 Building 531 Operations – Module 2

- 1.2.1 Transfer to Building 531
- 1.2.2 Sorting and Segregation
- 1.2.3 Manifesting and Preparation for Transport
- 1.2.4 Shipping to Permitted Disposal Facility

#### 1.3 General Hazardous Waste Management Operations – Module 3

- 1.3.1 Waste Identification and Characterization
- 1.3.2 Manifesting
- 1.3.3 Inspections
- 1.3.4 Monitoring, Recordkeeping and Reporting

### 2. HMF Emergency Planning

#### 2.1 HMF Contingency Plan – Module 4

- 2.1.1 General Overview of Contingency Plan
- 2.1.2 Emergency Coordinator
- 2.1.3 Contingency Plan Implementation

#### 2.2 HMF Hazardous Waste Operations Emergency Response (HAZWOPER) – Module 5

- 2.2.1 Hazard Communications
- 2.2.2 Emergency Management
- 2.2.3 Emergency Procedures
- 2.2.4 Personnel Decontamination
- 2.2.5 Identification of the Chemical Waste Classes Stored at the HMF
- 2.2.6 Procedures for Inspecting, Repairing and Replacing Facility Emergency Monitoring Equipment
- 2.2.7 Emergency Response to Fires, Explosions or Spill Events

**COMPLIANCE DOCUMENTATION FOR N.C.G.S. 130A-295**

Draft Contingency Plan Comments and Verifications



UNC  
ENVIRONMENT  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

April 24, 2015

Mr. Carl Utterback  
North Carolina Department of Environment and Natural Resources  
Division of Waste Management  
Hazardous Waste Section  
1646 Mail Service Center  
Raleigh, North Carolina, 27699-1646

Subject: Compliance Documentation for N.C.G.S 130A-295  
Draft Contingency Plan Comments and Verifications  
Hazardous Material Facility  
EPA ID Number 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Mr. Utterback:

As requested in your April 15, 2014 letter, The University of North Carolina at Chapel Hill's (UNC-CH's) is providing documentation of compliance with N.C.G.S 130A-295. Attached, please find the following items:

- List of Agencies/Governments Receiving Request for Comment and Verification Letters
- Copy of Signed USPS Return Receipt Requests
- Copy of Signed Verification Letters
- Copy of Comments Received
- Copy of UNC-CH's Response Letters to Commenters

If you have any questions concerning the submitted information, please contact me at (919) 843-5913.

Sincerely,

Mary Beth Koza, Director

Enclosures

cc: Mr. Malachy Donohue  
Ms. Sharon Myers  
Mr. Steve Parker

JAMES GROVES, DIRECTOR  
ORANGE COUNTY EMERGENCY SERVICES  
P. O. BOX 8181  
HILLSBOROUGH, NC 27278

JOHN MCGRATH, CHIEF  
CITY OF RALEIGH FIRE DEPARTMENT  
REGIONAL RESPONSE TEAM 4  
310 WEST MARTIN STREET  
RALEIGH, NC 27601

DAN JONES, CHIEF  
TOWN OF CHAPEL HILL FIRE DEPARTMENT  
403 MARTIN LUTHER KING, JR. BOULEVARD  
CHAPEL HILL, NC 27514

CINDY TAYLOR, DIRECTOR  
UNC HEALTH CARE  
ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT  
CB# 7600  
CHAPEL HILL, NC 27514

CHRIS BLUE, CHIEF  
TOWN OF CHAPEL HILL POLICE DEPARTMENT  
828 MARTIN LUTHER KING, JR. BOULEVARD  
CHAPEL HILL, NC 27514

JEFF MCCRACKEN, CHIEF  
UNC-CH DEPARTMENT OF PUBLIC SAFETY  
CB# 1600  
285 MANNING DRIVE  
CHAPEL HILL, NC 27599-1600

TRAVIS CRABTREE, CHIEF  
TOWN OF CARRBORO FIRE DEPARTMENT  
301 W MAIN STREET  
CARRBORO, NC 27510

WALTER HORTON, CHIEF  
TOWN OF CARRBORO POLICE DEPARTMENT  
100 NORTH GREENSBORO STREET  
CARRBORO, NC 27510

ROGER STANCIL, TOWN MANAGER  
TOWN OF CHAPEL HILL  
405 MARTIN LUTHER KING, JR. BLVD.  
CHAPEL HILL, NC 27514-5705

BONNIE HAMMERSLEY, COUNTY MANAGER  
ORANGE COUNTY MANAGER'S DEPARTMENT  
P. O. BOX 8181  
HILLSBOROUGH, NC 27278

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete Item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

CHRIS BLUE, CHIEF  
TOWN OF CHAPEL HILL POLICE DEPARTMENT  
828 MARTIN LUTHER KING, JR. BOULEVARD  
CHAPEL HILL, NC 27514

2. Article Number  
(Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
*Flora Parrish*  Agent  Addressee

B. Received by (Printed Name) *FLORA PARRISH* C. Date of Delivery *12-17*

D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below: *EHS*

**DEC 18 2014**

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete Item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

TRAVIS CRABTRÉE, CHIEF  
TOWN OF CARRBORO FIRE DEPARTMENT  
301 W MAIN STREET  
CARRBORO, NC 27510

2. Article Number  
(Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
*Travis Crabtree*  Agent  Addressee

B. Received by (Printed Name) *Travis Crabtree* C. Date of Delivery *12-17*

D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete Item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

JAMES GROVES, DIRECTOR  
ORANGE COUNTY EMERGENCY SERVICES  
P. O. BOX 8181  
HILLSBOROUGH, NC 27278

2. Article Number  
(Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
*James Groves*  Agent  Addressee

B. Received by (Printed Name) *James Groves* C. Date of Delivery *12-17*

D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below:  No

*Received by EHS*

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BONNIE HAMMERSLEY, COUNTY MANAGER  
 ORANGE COUNTY MANAGER'S DEPARTMENT  
 P. O. BOX 8181  
 HILLSBOROUGH, NC 27278

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 Agent  
 Addressee

B. Received by (Printed Name)  
 C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

2. Article Number  
 (Transfer from service label)

7009 3410 0001 2432 8596

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

WALTER HORTON, CHIEF  
 TOWN OF CARRBORO POLICE DEPARTMENT  
 100 NORTH GREENSBORO STREET  
 CARRBORO, NC 27510

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 Agent  
 Addressee

B. Received by (Printed Name)  
 C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

2. Article Number  
 (Transfer from service label)

7009 3410 0001 2432 8602

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

DAN JONES, CHIEF  
 TOWN OF CHAPEL HILL FIRE DEPARTMENT  
 403 MARTIN LUTHER KING, JR. BLVD.  
 CHAPEL HILL, NC 27514

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 Agent  
 Addressee

B. Received by (Printed Name)  
 C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

Received by EHS

2. Article Number  
 (Transfer from service label)

7009 3410 0001 2432 8565

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

DEC 18 2014

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

JEFF MCCRACKEN, CHIEF  
 UNC-CH DEPARTMENT OF PUBLIC SAFETY  
 CB# 1600  
 285 MANNING DRIVE  
 CHAPEL HILL, NC 27599-1600

2. Article Number

(Transfer from service label)

7009 3410 0001 2432 8626

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Carol W. Carter* Agent Addressee

B. Received by (Printed Name)

*Carol W. Carter*

C. Date of Delivery

12/17/14

D. Is delivery address different from item 1?  YesIf YES, enter delivery address below:  No

3. Service Type

 Certified Mail  Express Mail Registered  Return Receipt for Merchandise Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)

 Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

JOHN MCGRATH, CHIEF  
 CITY OF RALEIGH FIRE DEPARTMENT  
 REGIONAL RESPONSE TEAM 4  
 310 WEST MARTIN STREET  
 RALEIGH, NC 27601

2. Article Number

(Transfer from service label)

7009 3410 0001 2432 8558

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Steven Perry* Agent Addressee

B. Received by (Printed Name)

*Steven Perry*

C. Date of Delivery

12/17/14

D. Is delivery address different from item 1?  YesIf YES, enter delivery address below:  No

3. Service Type

 Certified Mail  Express Mail Registered  Return Receipt for Merchandise Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)

 Yes**SENDER: COMPLETE THIS SECTION**

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1. Article Addressed to:

ROGER STANCIL, TOWN MANAGER  
 TOWN OF CHAPEL HILL  
 405 MARTIN LUTHER KING, JR. BLVD.  
 CHAPEL HILL, NC 27514-5705

2. Article Number

(Transfer from service label)

7009 3410 0001 2432 8633

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Lynne Moore* Agent Addressee

B. Received by (Printed Name)

*Lynne Moore*

C. Date of Delivery

12/17/14

D. Is delivery address different from item 1?  YesIf YES, enter delivery address below:  No

3. Service Type

 Certified Mail  Express Mail Registered  Return Receipt for Merchandise Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)

 Yes

**SENDER: COMPLETE THIS SECTION**

- Complete Items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

## 1. Article Addressed to:

CINDY TAYLOR, DIRECTOR  
 UNC HEALTH CARE  
 ENVIRONMENTAL HEALTH AND SAFETY  
 CB# 7600  
 CHAPEL HILL, NC 27514

2. Article Number  
(Transfer from service label)

7009 3410 0001 2432 8572

**COMPLETE THIS SECTION ON DELIVERY**

## A. Signature



- 
- Agent
- 
- 
- Addressee

## B. Received by (Printed Name)

Mike Nowicki

## C. Date of Delivery

- D. Is delivery address different from item 1?
- 
- Yes
- 
- If YES, enter delivery address below:
- 
- No

## 3. Service Type

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- Certified Mail
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- Express Mail
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- 
- Registered
- 
- Return Receipt for Merchandise
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- Insured Mail
- 
- C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

Chris Blue, Chief  
Town of Chapel Hill Fire Department  
828 Martin Luther King, Jr. Boulevard  
Chapel Hill, NC 27514

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Chief Blue:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

A copy of our Plan (updated in December 2014) and copies of the most recently revised UNC-CH Emergency Operations Plan and EHS Emergency Response Manual are enclosed for your review. The Plan contains information on the nature and type of operations that occur at HMF, identifies general chemical properties of the hazardous waste managed at HMF and provides information on waste storage locations within HMF.

An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

Sincerely,

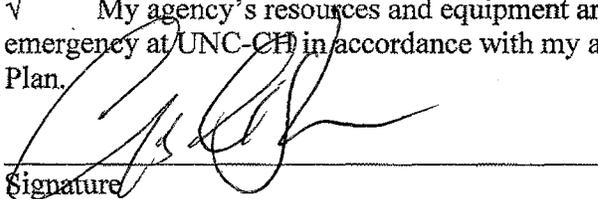


Mary Beth Koza, Director

Enclosures

My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.

Signature



Date

3/17/15

Printed Name

CHRISTOPHER C. BLUE



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

Cindy Taylor, Director  
UNC Health Care  
Environmental Health and Safety Department  
CB# 7600  
Chapel Hill, NC 27599-7600

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Ms. Taylor:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

A copy of our Plan (updated in December 2014) and copies of the most recently revised UNC-CH Emergency Operations Plan and EHS Emergency Response Manual are enclosed for your review. The Plan contains information on the nature and type of operations that occur at HMF, identifies general chemical properties of the hazardous waste managed at HMF and provides information on waste storage locations within HMF.

An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

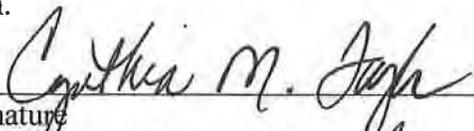
Sincerely,



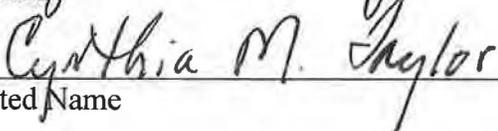
Mary Beth Koza, Director

Enclosures

√ My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.

  
\_\_\_\_\_  
Signature

3/16/2015  
Date

  
\_\_\_\_\_  
Printed Name



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

RECEIVED  
DEC 17 2014

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

Jeff McCracken, Chief  
UNC-CH Department of Public Safety  
CB# 1600  
285 Manning Drive  
Chapel Hill, NC 27599-1600

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Chief McCracken:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

A copy of our Plan (updated in December 2014) and copies of the most recently revised UNC-CH Emergency Operations Plan and EHS Emergency Response Manual are enclosed for your review. The Plan contains information on the nature and type of operations that occur at HMF, identifies general chemical properties of the hazardous waste managed at HMF and provides information on waste storage locations within HMF.

An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

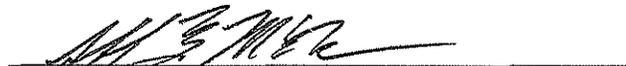
Sincerely,



Mary Beth Koza, Director

Enclosures

√ My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.

  
\_\_\_\_\_  
Signature

12/18/2014  
Date

JEFF B. McCRACKEN  
Printed Name



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

John McGrath, Chief  
City of Raleigh Fire Department  
Regional Response Team 4  
310 West Martin Street  
Raleigh, NC 27601

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Chief McGrath:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

A copy of our Plan (updated in December 2014) and copies of the most recently revised UNC-CH Emergency Operations Plan and EHS Emergency Response Manual are enclosed for your review. The Plan contains information on the nature and type of operations that occur at HMF, identifies general chemical properties of the hazardous waste managed at HMF and provides information on waste storage locations within HMF.

An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

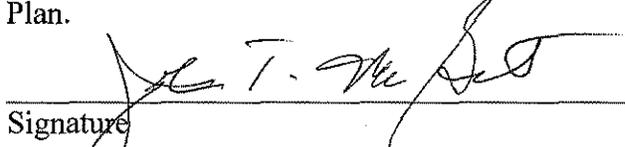
Sincerely,



Mary Beth Koza, Director

Enclosures

√ My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.



Signature

1-5-15  
Date

JOHN T. Mc GASCK

Printed Name



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

Roger Stancil, Town Manager  
Town of Chapel Hill  
405 Martin Luther King Jr. Blvd.  
Chapel Hill, NC 27514-5705

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Mr. Stancil:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

A copy of our Plan (updated in December 2014) and copies of the most recently revised UNC-CH Emergency Operations Plan and EHS Emergency Response Manual are enclosed for your review. The Plan contains information on the nature and type of operations that occur at HMF, identifies general chemical properties of the hazardous waste managed at HMF and provides information on waste storage locations within HMF.

An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

Sincerely,

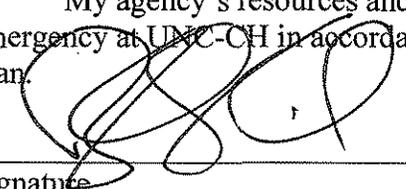


Mary Beth Koza, Director

Enclosures

My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.

Signature

  
ROGELL STANCIL

Printed Name

Date

1/12/2015



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

Travis Crabtree, Chief  
Town of Carrboro Fire Department  
301 West Main Street  
Carrboro, NC 27510

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Chief Crabtree:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

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An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

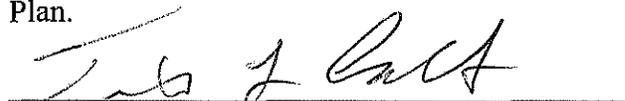
Sincerely,



Mary Beth Koza, Director

Enclosures

My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.

  
\_\_\_\_\_  
Signature

1-30-15  
\_\_\_\_\_  
Date

TRAVIS L. CRABTREE  
\_\_\_\_\_  
Printed Name



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

Walter Horton, Chief  
Town of Carrboro Police Department  
100 North Greensboro Street  
Carrboro, NC 27510

Received by EMS

DEC 22 2014

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Chief Horton:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

A copy of our Plan (updated in December 2014) and copies of the most recently revised UNC-CH Emergency Operations Plan and EHS Emergency Response Manual are enclosed for your review. The Plan contains information on the nature and type of operations that occur at HMF, identifies general chemical properties of the hazardous waste managed at HMF and provides information on waste storage locations within HMF.

An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

Sincerely,



Mary Beth Koza, Director

Enclosures

√ My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.

WALTER HORTON  
Signature

12/18/14  
Date

WALTER HORTON  
Printed Name

## Myers, Sharon A

---

**From:** Taylor, Cindy <Cynthia.Taylor@unchealth.unc.edu>  
**Sent:** Friday, January 02, 2015 1:18 PM  
**To:** Myers, Sharon A  
**Subject:** Draft Contingency Plan

Sharon – I reviewed the draft Contingency Plan and didn't see hardly any references to UNC Health Care and no specific references as to what we are being asked to do. Did I miss something?

I saw a couple of other items I just wanted to bring to your attention. Table G-1 Emergency Coordinators in Contingency Plan list Steve, you, Mal and then Larry. In the Emergency Response Manual, it just lists Steve, you, and Larry. I thought you might want to correct this.

On page 34 of the Emergency Response Manual under Follow Up, it discusses fatalities or hospitalizations. This OSHA requirement changed effective January 1 and now requires employers to notify OSHA of work-related fatalities within eight hours, and work related in-patient hospitalizations, amputations or loss of an eye within 24 hours. It now applies to just one employee and not three or more employees as previously noted in the standard. I thought you might want to change this too.

Thanks.

Cindy Taylor, ARM, CSPHP, Director  
Environmental Health and Safety  
UNC Health Care  
101 Manning Drive  
Chapel Hill, NC 27514  
Office: (919) 966-0691 Pager: (919) 216-2508  
Mobile: (919) 883-7515 Fax: (919) 966-3483  
Email: [ctaylor@unch.unc.edu](mailto:ctaylor@unch.unc.edu)

----- Confidentiality Notice -----

*The information contained in (or attached to) this electronic message may be legally privileged and/or confidential information. If you have received this communication in error, please notify the sender immediately and delete the message.*

**Myers, Sharon A**

---

**From:** Koza, Mary Beth Christine  
**Sent:** Monday, January 12, 2015 12:07 PM  
**To:** Myers, Sharon A  
**Subject:** FW: Draft Contingency Plan Comment and Verification  
**Attachments:** Scan\_20150112\_102302.pdf

FYI

---

**From:** Jason Damweber [<mailto:jdawweber@townofchapelhill.org>]  
**Sent:** Monday, January 12, 2015 10:23 AM  
**To:** Koza, Mary Beth Christine  
**Cc:** MATT SULLIVAN; Lance Norris  
**Subject:** Draft Contingency Plan Comment and Verification

Mary Beth,

I've placed the Request for Comment and Verification letter you sent, signed by the Town Manager, in the mail to your attention (copy attached). The only comment the Town has is that on page 26 of the UNC-CH EOP, the phrase "Code Red" needs to be updated with "OC Alerts."

Please let us know if you need anything else.

Sincerely,

Jason Damweber



[Jason Damweber](#) | Assistant to the Town Manager | [Town of Chapel Hill](#)  
Manager's Office | 405 Martin Luther King Jr. Blvd. | Chapel Hill, NC 27514  
(o) 919-968-2844 | (m) 919-259-2517 | (f) 919-969-2063



UNC  
ENVIRONMENT.  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

April 16, 2015

Ms. Cindy Taylor, Director  
UNC Health Care  
Environmental Health and Safety Department  
CB# 7600  
Chapel Hill, NC, 27514

Subject: Response to Contingency Plan Comments  
Hazardous Material Facility  
EPA ID Number 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Ms. Taylor:

The following University of North Carolina at Chapel Hill (UNC-CH) responses are provided to address your January 2, 2015 email comments on the draft Contingency Plan. UNC Health Care comments are provided in italics and UNC-CH's response to each comment follows.

**Comment**

*The draft Contingency Plan hardly references UNC Health Care and no specific references as to what we are being asked to do. Did I miss something?*

**Response**

The specific reference to UNC Health Care is located in Table G-2 Emergency Contacts. UNC Health Care assistance will only be required in the event of injuries occurring at the Hazardous Materials Facility.

**Comment**

*Table G-1 Emergency Coordinators in the Contingency Plan lists Steve Parker, Sharon Myers, Mal Donohue and Larry Daw. The Emergency Response Manual just lists Steve Parker, Sharon Myers and Larry Daw.*

**Response**

When the Emergency Response Manual is updated during 2015, the manual will list Steve Parker, Sharon Myers, Mal Donohue and Larry Daw in the Outdoor Incidents & Spills table.

**Comment**

*On page 34 of the Emergency Response Manual under Follow Up, it discusses fatalities or hospitalizations. This OSHA requirement changed effective January 1 and now requires employers to notify OSHA of work related fatalities within eight hours and work related in-patient hospitalizations, amputations or loss of an eye within 24 hours. It now applies to just one employee and not three or more employees as previously noted in the standard.*

**Response**

When the Emergency Response Manual is updated during 2015, the language on page 34 will be modified to reflect the most recent OSHA requirements for OSHA notifications in the case of a fatality or hospitalization.

If you have any questions concerning responses to your comments, please contact me at (919) 843-5913.

Sincerely,



Mary Beth Koza, Director

cc: Mr. Malachy Donohue  
Ms. Sharon Myers  
Mr. Steve Parker



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

April 16, 2015

Mr. Roger Stancil, Town Manager  
Town of Chapel Hill  
405 Martin Luther King, Jr. Boulevard  
Chapel Hill, NC 27514-5705

Subject: Response to Contingency Plan Comments  
Hazardous Material Facility  
EPA ID Number 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Mr. Stancil:

The following University of North Carolina at Chapel Hill (UNC-CH) response is provided to address the Town of Chapel Hill's January 12, 2015 email comment on the draft Contingency Plan. The Town of Chapel Hill's comment is provided in italics and UNC-CH's response to the comment follows.

**Comment**

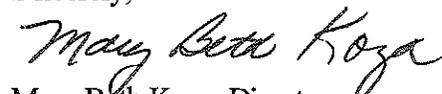
*The only comment the Town has is that on page 26 of the UNC-CH EOP, the phrase "Code Red" needs to be updated with "OC Alerts".*

**Response**

When the UNC-CH Emergency Operations Plan is next updated (most likely in 2015), the phrase "Code Red" will be changed to "OC Alerts" in the Notification and Communications Sequence.

If you have any questions concerning the response to your comment, please contact me at (919) 843-5913.

Sincerely,

  
Mary Beth Koza, Director

cc: Mr. Malachy Donohue  
Ms. Sharon Myers  
Mr. Steve Parker



UNC  
ENVIRONMENT,  
HEALTH & SAFETY

The University of North Carolina at Chapel Hill  
Department of Environment, Health & Safety  
1120 Estes Drive Ext., CB# 1650  
Chapel Hill, North Carolina 27599-1650

---

*Certified Mail*  
*Return Receipt Requested*

December 16, 2015

Dan Jones, Chief  
Town of Chapel Hill Fire Department  
403 Martin Luther King, Jr. Boulevard  
Chapel Hill, NC 27514

Reference: Request for Comment and Verification  
Draft Contingency Plan  
Hazardous Materials Facility  
EPA ID # NCD 982 093 783  
The University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

Dear Chief Jones:

In accordance with North Carolina General Statutes (N.C.G.S.) Section 130A-295(d) related to the application for a hazardous waste management permit, The University of North Carolina at Chapel Hill (UNC-CH) is requesting written comments on the attached Draft Contingency Plan (Plan) for the Hazardous Materials Facility (HMF) and verification that your organization is able to assist UNC-CH in an emergency situation at our HMF located at 1085 Facilities Drive in Chapel Hill, North Carolina.

A copy of our Plan (updated in December 2014) and copies of the most recently revised UNC-CH Emergency Operations Plan and EHS Emergency Response Manual are enclosed for your review. The Plan contains information on the nature and type of operations that occur at HMF, identifies general chemical properties of the hazardous waste managed at HMF and provides information on waste storage locations within HMF.

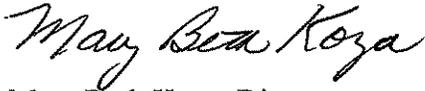
An April, 15 2014 letter from the North Carolina Hazardous Waste Section to UNC-CH which describes the regulatory requirement for these comments and verification is also enclosed for your reference.

If your organization has the resources and equipment that are available and adequate to respond to an emergency at the referenced facility in accordance with your organization's role as described in the attached Plan, please check the box below and sign this letter.

Please provide any written comments on the Draft Contingency Plan and a signed copy of this letter to me no later than February 18, 2015.

If you have any questions concerning this request or would like a site tour of our Hazardous Materials Facility, please contact me at the Department of Environment, Health and Safety at (919) 843-5913.

Sincerely,



Mary Beth Koza, Director

Enclosures

√ My agency's resources and equipment are available and adequate to respond to an emergency at UNC-CH in accordance with my agency's role as set forth in the Contingency Plan.

  
\_\_\_\_\_  
Signature

4/15/15  
Date

Daniel L. Jones  
Printed Name *CHFD Fire Chief*