

ATTACHMENT D

(proposed modified pages are designated with a November or December 2013 revision date at the bottom of the respective page)

Application Appendix D-1 – Containers

(proposed modified pages are designated with a December 2013 revision date at the top of the respective page)

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

APPENDIX D-1 CONTAINERS

TABLE OF CONTENTS

A.	CONTAINER STORAGE AREAS.....	1
B.	GENERAL CONTAINER MANAGEMENT PROCEDURES	3
(1).	Acceptance Limitations	4
(2).	Waste Tracking	4
(3).	Off-Specification Wastes	4
(4).	General Container Storage Procedures	4
(a).	Packaging Requirements.....	4
(b).	Containment.....	6
(1).	Modular Units.....	6
(2).	Concrete Curbing.....	7
(c).	Compatibility	8
(d).	Identification.....	9
(5).	General Methods of Container Processing.....	9
(a).	Liquid wastes may be transferred to or from the Front End Aqueous Treatment System.....	9
(b).	Organic Liquids and other liquids may be consolidated for fuels, incineration or other types of waste management offsite.	10
(c).	Solid materials are disposed of in designated landfill areas if and only if land disposal restrictions are met and/or do not apply.	10
(d).	Solid materials may be consolidated for disposal offsite.	10
(e).	Other containerized wastes may be stabilized and landfilled and/or transported to an offsite permitted facility.	10
(f).	Some types of waste can be Macroencapsulated and/or Microencapsulated using permitted debris technology.....	10
(g).	Repacking and decanting wastes and other hazardous materials.	11
(h).	Empty containers may also be accepted from offsite and landfilled or transported offsite for disposal or recycling.....	11
(i).	Transship for recycling or other treatment processes.	12
C.	DRUM MANAGEMENT BUILDING.....	12
(1).	History and Design.....	12
(2).	Operations	12
(a).	Loading/Unloading Areas.....	12
(b).	Container Waste Characterization	13

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(3).	Containment	13
(a).	Base Construction.....	13
(b).	A Procedure for the Containment of Leaking Drums	14
(c).	Control of Run-off and Run-on	14
(4).	Fuels Drum Pumping Station	14
D.	PCB WAREHOUSE	14
(1).	History and Design.....	14
(2).	Operations	15
(3).	Containment	15
(a).	Base Construction.....	16
(b).	A Procedure for the Removal of Liquids from Secondary Containment.....	16
(c).	Control of Run-On and Run-Off.....	16
E.	SOUTH TRAILER PARKING AREA	16
(1).	History and Design.....	16
(2).	Operation	16
(3).	Containment	17
(a).	Base Construction.....	17
(b).	A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	18
F.	STABILIZATION FACILITY	18
(1).	History and Design.....	18
(a).	Trailer Parking Areas	19
(1).	History and Design.....	19
(2).	Operations	19
(3).	Containment.....	20
(a).	Base Construction	20
(b).	Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management.....	20
(b).	North Expansion Building	21
(1).	History and Design.....	21
(2).	Operations	21
(3).	Containment.....	21
(c).	Main Building Stabilization Facility	22
(1).	History and Design.....	22
(2).	Operations	22
(3).	Containment.....	22
(d).	Waste Ash Tanker Unloading Area.....	23
(1).	History and Design.....	23
(2).	Operations	23
(3).	Containment.....	23

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

G.	AQUEOUS WASTE TREATMENT STORAGE AREA.....	23
(1).	History and Design.....	23
(2).	Operations	23
(3).	Containment	24
(a).	Base Construction.....	24
(b).	A Procedure for the Containment of Leaking Drums	24
(c).	Control of Run-off and Run-on	25
H.	TRANSFORMER DECOMMISSIONING BUILDING OR "T.O." BUILDING.....	25
(1).	History and Design.....	25
(2).	Operations	26
(3).	Containment	26
(a).	Control of Run-off and Run-on	27
I.	TRUCK WASH FACILITY	27
(1).	History and Design.....	27
(2).	Operations	27
(3).	Containment	27
J.	T-130 LOADING/UNLOADING AREA	28
(1).	History and Design.....	28
(2).	Operations	28
(3).	Containment	29
(a).	Base Construction.....	29
(b).	Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	29
K.	T-108 LOADING/UNLOADING AREA	29
(1).	History and Design.....	29
(2).	Operation	30
(3).	Containment	31
(a).	Base Construction.....	31
(b).	Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	31
L.	T-109 LOADING/UNLOADING AREA	31
(1).	History and Design.....	31
(2).	Operation	31
(3).	Containment	32
(a).	Base Construction.....	32
(b).	Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	33
M.	T-158 LOADING/UNLOADING AREA	33
(1).	History and Design.....	33

Part 373 Renewal Application

Date: February 2010 (Revised December 2013)

(2).	Operation	33
(3).	Containment	34
(a).	Base Construction.....	34
(b).	Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	34
N.	AIR EMISSION STANDARDS.....	35
O.	NEW DRUM MANAGEMENT BUILDING	36
(1).	Design.....	36
(2).	Operations	36
(a).	Loading/Unloading Areas.....	37
(b).	Container Waste Characterization	38
(3).	Containment	38
(a).	Base Construction.....	38
(b).	A Procedure for the Containment of Leaking Drums.....	38
(c).	Control of Run-off and Run-on	39
(4).	Fuels Drum Pumping Station	39
(5).	Transformer Flush Area.....	39
P.	NEW FULL TRAILER PARKING AREA	40
(1).	Design.....	40
(2).	Operation	40
(3).	Containment	41
(a).	Base Construction.....	41
(b).	A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	41
Q.	NEW STABILIZATION TRAILER PARKING AREA	42
(1).	Design.....	42
(2).	Operation	42
(3).	Containment	43
(a).	Base Construction.....	43
(b).	A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	43
R.	NEW T-109 LOADING/UNLOADING AREA.....	44
(1).	Design.....	44
(2).	Operation	44
(3).	Containment	45
(a).	Base Construction.....	45
(b).	Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management	45

Part 373 Renewal Application

Date: February 2010 (Revised December 2013)

S. NEW T-158 LOADING/UNLOADING AREA.....46

(1). Design..... 46

(2). Operation 46

(3). Containment 47

(a). Base Construction.....47

(b). Procedure for the Removal of Liquids from Secondary
Containment and Precipitation Management47

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

CONTAINERS

This section contains a description of the container storage areas and operations utilized to store and process solid and liquid hazardous wastes received at the CWM Chemical Services, LLC. (CWM) Model City, New York Facility (site). In addition, CWM utilizes these areas to store and process non-hazardous waste.

A. CONTAINER STORAGE AREAS

The site currently maintains the following areas for the permanent storage and handling of containerized solid and liquid hazardous wastes.

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
Drum Management Building					
Area I	Liquid/Solid	drums	688 55-gal drums	4,675	3,784
Area II	Liquid/Solid	drums	320 55-gal drums	1,989	1,760
Area III	Liquid/Solid	drums	36 55-gal drums	251	198
Area IV	Liquid/Solid	drums	36 55-gal drums	251	198
Area V (Floor Trench System)	Liquid	drums	117 55-gal drums	648	644
	Solid	drums	1,376 55-gal drums	NA	NA
Drum Building West Ramp	Liquid	tankers	2-5,500-gal tankers	22,118	10,104
	Solid	drums	160 55-gal drums	22,118	NA
Truck Loading/Unloading Area & Ramp	Solid	drums	1,040 55-gal drums	NA	NA
Area VI, Sections 1, 2 & 3	Solid	drums	956 55-gal drums	NA	NA
PCB Warehouse Building					
Area 1	Solid	drums	1,368 55-gal drums	NA	NA
Area 3/6	Liquid	drums	160 55-gal drums	409 (per pan)	220 (per pan)
	Solid	drums	1,358 55-gal drums	NA	NA
South Trailer Parking Area	Liquid/Solid	tankers/rolloffs	58 rolloffs or 5 tankers & 48 rolloffs	82,481	27,500
Stabilization Facility					
Trailer Parking Area I	Solid	rolloffs	6 rolloffs	NA	NA
Trailer Parking Area II	Solid	rolloffs	14 rolloffs	NA	NA
Trailer Parking Area III	Liquid/Solid	tankers/rolloffs	19 rolloffs or 5 tankers & 9 rolloffs	39,273	27,500
Trailer Parking Area IV	Solid	rolloffs	9 rolloffs	NA	NA
Waste Ash Tanker Unloading Area	Solid	Tanker(dry)/rolloff	1 tanker(dry)/rolloff	NA	NA
Special Client Treatment Room	Solid	rolloffs	4 rolloffs	NA	NA
Macro Room	Solid	rolloffs	18 rolloffs	NA	NA
Lower Drum Shedder Area	Liquid/Solid	rolloffs	2 rolloffs	3,019	NA
Upper Drum Shredder	Solid	drums	300 55-gal drums	NA	NA
North Expansion Building	Solid	rolloffs	15 rolloffs	NA	NA
Aqueous Treatment Building					
AT Drum Dock	Liquid	drums	128 55-gal drums	1,303	704
AT Tanker Unloading Area	Solid	Drums	128 55-gal drums	NA	NA
	Liquid/Solid	Tankers	2-6,000-gal tankers	14,851	9,916
AT Filter Press Room	Solid	Rolloffs	1 rolloff	NA	NA

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
T. O. Building					
Transformer Containment Pan	Liquid/Solid	transformer/drums	11 pans	386 (per pan)	386 (per pan)
T.O. Building Loading Ramp	Liquid/Solid	Tanker	2-6,000-gal tankers	18,269	17,515
Truck Wash Facility	Solid	Rolloffs	3 rolloffs	NA	NA
T-130 Loading/Unloading Area	Liquid/Solid	tanker/rolloff	1-5,500-gal tanker, 1 rolloff	9,895	7,281
T-108 Loading/Unloading Area	Liquid/Solid	tanker/rolloff	1-5,500-gal tanker, 1 rolloff	20,481	7,309
T-109 Loading/Unloading Area	Liquid/Solid	tanker/rolloff	1-5,500-gal tanker, 1 rolloff	20,255	7,281
T-158 Loading/Unloading Area	Liquid/Solid	tanker/rolloff	1-5,500-gal tanker, 1 rolloff	29,422	7,281

Container types other than those listed above are also allowed, provided the secondary containment requirements are satisfied. For drum storage areas, 55 gallon drums and other liquid containers not exceeding 330 gallon capacity which meet the United States Department of Transportation (DOT) definitions of “non-bulk packaging” or “intermediate bulk containers (IBCs)” in 49CFR 171.8 are allowed. Also, containers of solid materials, such as 55 gallon drums and other solid containers not exceeding 330 gallon capacity which meet the DOT definitions of “non-bulk” or “IBCs” in 49CFR 171.8 may be stored in these areas. The number of containers allowed in each drum storage area is based on 55-gallon equivalents. For bulk container storage areas, rolloffs, tankers, flat beds and box vans and other containers which meet the DOT definition of “bulk packaging in 49CFR 171.8 are allowed. Flat beds and box vans are only used in conjunction with storage of non-bulk containers and IBCs, and not for direct storage of un-containerized bulk waste. Precautions are taken for containers that are subject to deterioration from weather (e.g., cubic yard boxes) and such containers are subject to the storage restrictions under Condition B.1.a.iii in Exhibit C of Schedule 1 of Module I of the Permit. The containment pans in the T.O. Building may be used to store transformers, drums and other electrical devices. Only DOT containers listed in the table under Section B.4.(a) or selected using the procedure in Section B.4.(a) of this appendix are allowed to be used for waste storage.

The above-referenced areas are permitted for container storage and management incidental to the operations conducted in that area. Satellite and 90 day accumulation practices are also permitted as per 6 NYCRR Part 372.

CWM manages all container storage areas in a manner to prevent the possibility of a leak or spill from the containers.

According to the National Fire Protection Association (NFPA) 30, 2003 edition, entitled Flammable and Combustible Liquids Code, Chapter 6.4.3, for flammable liquids (DOT Class IA, Class IB and Class IC) and combustible liquids (DOT Class II and Class III) solid pile (containers, rows or groupings of containers) and palletized storage (modules) in warehouses shall be arranged so that piles containing these materials are separated from each other by at least 4 ft. (1.2 m).

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

For all other New York State Department of Environmental Conservation (NYSDEC) regulated waste containers, 6NYCRR 373-2.3(f) maintains that the owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency unless it can be demonstrated to the commissioner that aisle space is not needed for any of these purposes.

For all container storage areas located on the site, maximum storage is based on the following:

- Drums will be staged two wide with at least a 2 foot aisle space (4 foot for flammables) between drum pairs and between drums and building walls;
- Drums will be stacked a maximum of two high (single stacked for flammables, except for small containers, less than or equal to 30 gallons, of flammables which may be stacked two high to a maximum height of 5 feet);
- Drums containing liquids will be managed with a minimum 2 foot distance to the edge of the containment system (i.e., curbing); and
- Bulk containers may be staged end-to-end (maximum of 2) with a separation of 2 feet between rows.

General container management procedures are presented below, followed by a detailed description of each container storage area. Secondary containment calculations and drawings for each container storage area, as indicated by the figure number referenced for each area, are included in figures and calculations.

B. GENERAL CONTAINER MANAGEMENT PROCEDURES

(1). Acceptance Limitations

CWM is permitted by the NYSDEC for the receipt, handling, treatment and disposal of solid and liquid hazardous waste with the following exceptions:

- Shock-Sensitive Waste (for landfill disposal);
- Radioactive waste (slightly above background is acceptable in accordance with the CWM Waste Analysis Plan);
- Explosives; and
- Pyrophoric Waste (for landfill disposal).

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

All waste received in containers at the facility is subject to the procedures outlined in the CWM Waste Analysis Plan.

(2). Waste Tracking

Containerized waste is received at the site through the continuously monitored (i.e., security guard) front gate and directed to the scale/receiving department. All waste is tracked from receipt to treatment, disposal and/or off-site shipment. All completed waste tracking information becomes part of the Daily Operating Record.

(3). Off-Specification Wastes

Off-Specification designation indicates that the waste does not fall within specified waste parameters. The waste may or may not be acceptable for handling at the site. Details concerning off-specification wastes are presented in CWM's Waste Analysis Plan.

A quality control check is performed on each waste shipment received at the site. If a waste is determined to be off-specification, the laboratory or other technical personnel documents this off-specification. The off-specification information is distributed as necessary. If the waste is not acceptable at the site, the generator is notified and arrangements are made to transport the material to an appropriate facility or back to the generator.

Information for off-specification wastes will include operations and laboratory steps necessary to manage the waste. Wastes received off-specification may result in a re-evaluation of the waste profile and/or management decision according to CWM's Waste Analysis Plan.

(4). General Container Storage Procedures

(a). Packaging Requirements

Under USDOT regulations, it is the shipper's responsibility to ensure that waste which is a DOT hazardous material conforms to the container packaging requirements. All waste stored in containers shall conform to these requirements as follows:

- 49 CFR Subpart B - Table of Hazardous Materials and Special Provisions; specifically Part 172.101(i) Packaging Authorizations;
- 49 CFR Part 173 - Shippers - General Requirements for Shipments and Packagings; and
- 49 CFR Part 178 - Specifications for Packagings.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

The following table contains a list of the USDOT specification containers for hazardous material and wastes received, stored and shipped by CWM. This list is not comprehensive and other containers may be selected in accordance with the performance oriented packaging standards in 49 CFR 171-178. Under USDOT, the shipper is responsible for ensuring that the packages are compatible with the hazardous material; Under RCRA, the TSDF becomes the generator when materials are shipped off-site.

USDOT Class/Div.		Waste Type Example	USDOT Packaging Specifications					
2.1	Flammable Gas	Aerosols	1A2	1H2	1G	4G		
2.2	Non-Flammable Gas	Aerosols	1A2	1H2	1G	4G		
3	Flammable liquids	solvents, paints	1A1	1A2	1H1	1H2	31H	Cargo tank
			combination: outer 4G or 1G, inner metal or plastic					
4.1	Flammable Solid	metal powders	1A2	1H2	1G	4G		
4.2	Spontaneously Combustible	oily rags	1A2	1H2	1G	4G		
4.3	Dangerous when wet	sodium cell sweepings	1A2	1H2	1G	4G	11G	
5.1	Oxidizer	liquid - aqueous solution	1A1	1A2	1H1	1H2	31H	Cargo tank
		solid - nitrating salts	1A2	1H2	1G	4G		
5.2	Organic Peroxides	organic peroxide	1A1	1A2	1H1	1H2		
6.1	Toxic	liquid - chlorinated solvent	1A1	1A2	1H1	1H2	31H	Cargo Tank
		combination: outer 4G or 1G, inner metal or glass						
		solid - pesticides/soil	1A2	1H2	1G	4G	6HG	11G
					11H	11H2	Roll-off box	
8	Corrosive	liquid - acid solution	1A1	1A2	1H1	1H2	31H	Cargo tank
		solid - caustic solids	1A2	1H2	1G	4G	6HG	11G
			11H	11H2	Roll-off box			
9	Miscellaneous	liquid - hazardous waste	1A1	1A2	1H1	1H2	6HG	31H
		combination: outer 4G or 1G, inner metal or plastic						Cargo tank
		solid - hazardous waste	1A2	1H2	1G	4G	5L	5M
			6HG	11G	11H			
			11HZ	BK3	13H	13L	Roll-off box	

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

When selecting a container not on this table, CWM will follow the procedure described below:

- Refer to the DOT section of the Waste Profile Sheet to identify the proper shipping name.
- Locate the proper shipping name in column 2 of the Hazardous Materials (HazMat) Table (49 CFR 172.101). and identify the associated hazard class/division, identification number and packing group. Note any special provisions in column 7.
- Using this information, identify permissible packings identified in column 8A (exceptions), 8B non-bulk packages (< or = 119 gallons) and 8C for bulk packages (> 119 gallons). The sections referenced in column 8 as Section 173*** refer to the sections of Part 173 where the permissible packagings are identified and described.

Containers of hazardous materials that arrive at the site which do not meet the USDOT specifications will not be shipped off the site unless the contents of the container are placed into a container which meets USDOT specifications. Containers that arrive at the site which appear to have obvious signs of structural damage or deterioration, or which are found to be leaking shall either be repaired so that the containers meet RCRA & USDOT container specifications, overpacked into containers meeting RCRA & USDOT container standards or will be emptied and their contents placed into containers meeting RCRA & USDOT container standards or processed immediately.

Per 49 CFR, all containers that contain hazardous materials and leave the site for transportation by public highway must meet USDOT standards.

(b). Containment

Secondary containment systems as described below are utilized by CWM to store containerized (i.e., drums, rollofs, etc.) liquid hazardous waste throughout the site. In the areas that only store hazardous waste solids, secondary containment is not required, but outdoor areas will be designed and operated to remove liquid resulting from precipitation or containers will be elevated or otherwise protected from contact with accumulated liquids.

(1). Modular Units

Modular units are currently used by CWM to store drummed liquid hazardous waste within the Aqueous Treatment Building (AT Drum dock). The modular units are constructed of a rectangular steel frame with a corrosion resistant steel grating over the frame which is bonded to

Part 373 Renewal Application

Date: February 2010 (Revised July 2013)

the concrete floor using a solid layer of sealant (i.e., urethane caulk). Containers are positioned on these gratings. Containers holding packaged laboratory chemicals may be stored on floors since the packaging requirements listed under 49 CFR provide adequate primary, secondary and tertiary containment.

(2). Concrete Curbing

Concrete curbing is currently being used as secondary containment by CWM to store containerized liquid hazardous waste throughout the site. In several of the areas, CWM currently utilizes a coating (e.g., epoxy) or sealant (e.g., CHEMTEC One manufactured by CHEMTEC INTL) to improve the impervious quality of the concrete. The existing coating and sealant systems are inspected at least weekly and maintained as needed. For all sealant areas, the sealant will be reapplied annually. The following table lists all container storage areas and use of coatings or sealants.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

LOCATION	COATING/SEALANT
Drum Management Building	
Building Interior	Sealant
West Ramp	Sealant
Truck Loading/Unloading Area & Ramp	No coatings or sealants required
PCB Warehouse Building	
Area 3/6	No coatings or sealants required (use pans for liquid storage)
All other areas	No coatings or sealants required
South Trailer Parking Area	Sealant
Stabilization Facility	
Trailer Parking Area I & II	No coatings or sealants required
Trailer Parking Area III & IV	Sealant
Waste Ash Tanker Unloading Area	Coating
Special Client Treatment Room	No coatings or sealants required
Macro Room	No coatings or sealants required
Lower Drum Shedder Area	Coating
Upper Drum Shredder	No coatings or sealants required
North Expansion Building	No coatings or sealants required
Aqueous Treatment Building	
AT Drum Dock	Coating
AT Tanker Unloading Area	Sealant
AT Filter Press Room	Coating
T. O. Building	No coatings or sealants required (use pans for liquid storage)
T.O. Building Loading Ramp	Sealant
Truck Wash Facility	No coatings or sealants required
T-130 Loading/Unloading Area	Sealant
T-108 Loading/Unloading Area	Sealant
T-109 Loading/Unloading Area	Sealant
T-158 Loading/Unloading Area	Sealant

Secondary containment for all container storage areas is inspected weekly in accordance with the Facility Inspection Plan. If concrete cracks or gaps are found that exhibit separation or if a defect in the coating system exposes the underlying concrete, an Environmental Work Order (EWO) will be issued to schedule the repair unless it is completed by the end of the next business day. The time period for a repair will vary depending on the type, extent and location of the defect. All repairs will be documented. Hairline cracks will be closely monitored and repaired if separation occurs.

(c). Compatibility

Containers are sealed prior to storage and are normally placed in a double row side by side within the same waste category. Containers can be double stacked, except for drummed flammables. Adequate aisle space is maintained to allow daily inspection of the containers.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

In the areas where modular units are used, the modular units are organized by grouping them in sections. Each section stores only compatible materials. Each section may contain both regulated and non-regulated material according to compatibility.

For all containers not being stored on modules (i.e., concrete curbing), the segregation philosophy of 49 CFR Part 177.848 will be followed to avoid comingling of incompatible wastes.

Procedures for verifying compatibility of wastes are presented in CWM's Waste Analysis Plan.

(d). Identification

All hazardous waste containers will be labeled with the following information:

1. Generator name
2. Waste profile/identity
3. DOT labels, where applicable
4. Date Received at CWM for Land Disposal Restricted waste

Additional labeling for PCB items, articles and containers will be required by 40CFR Part 761. In addition, every PCB item, article, and container, which is regulated as hazardous under 6NYCRR Part 371, will have the words "Hazardous Waste" affixed to it because PCBs are a New York State listed Hazardous Waste and must be labeled accordingly.

(5). General Methods of Container Processing

Containerized material at the site is processed by one or more of the following general methods:

(a). Liquid wastes may be transferred to or from the Front End Aqueous Treatment System.

Aqueous wastes are stored in areas designated in Section A and treated at the Aqueous Waste Treatment Facility or they may be staged incidental to final treatment at the Aqueous Waste Treatment Facility.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(b). Organic Liquids and other liquids may be consolidated for BIF fuels blending or incineration offsite.

Liquid containerized wastes may be consolidated for BIF fuels blending or incineration. Liquid bulk materials may be transferred to appropriate tanks for storage. Containers of liquid waste may be transshipped to another facility for treatment/disposal.

(c). Solid materials are disposed of in designated landfill areas if and only if land disposal restrictions are met and/or do not apply.

All containers that contain solid wastes are staged temporarily until quality control measures are performed. Prior to landfilling, drums stored in the Drum Management Building are typically loaded onto flatbed trailers staged at the loading dock entrance. Based on information provided by the laboratory, the solid drummed wastes are delivered to the landfill for disposal.

(d). Solid materials may be consolidated for disposal offsite.

Solid containerized wastes may be consolidated for offsite disposal in a landfill or incinerator. Containers of solid waste may also be transshipped to another facility for treatment or disposal.

(e). Other containerized wastes may be stabilized and landfilled and/or transported to an offsite permitted facility.

Incoming materials will be stabilized to meet land disposal restriction standards or to increase strength prior to landfilling, as necessary. Decharacterized waste may be disposed of in an offsite permitted landfill.

(f). Some types of waste can be Macroencapsulated and/or Microencapsulated using permitted debris technology.

CWM may implement debris immobilization techniques by stabilizing debris utilizing microencapsulation and/or macroencapsulation techniques.

Microencapsulation is a specified technology involving the immobilization of contaminants on the surface of debris by a process similar to stabilization.

Debris that may not be physically suitable for the stabilization equipment, or that contains contamination unsuitable for microencapsulation (e.g., a pump contaminated with oily leachate) may be managed by macroencapsulation.

Part 373 Renewal Application

Date: February 2010 (Revised July 2013)

CWM currently utilizes macroencapsulation containers (i.e., vaults) made of high density polyethylene (HDPE) and the minimum thickness of the containers' bottom, sides, and top is 300 mil. having a capacity of approximately 30 cubic yards. The container shall be the "SUPERLINER XL 0370 Black HDPE" brand or NYSDEC approved equivalent. After the void space is filled with stabilized waste or other approved filler material, the containers are sealed by applying glue to the lip of the container and the lid. The lid is placed on the container and screws are installed at approximately 4 inch to 6 inch intervals. A visual inspection is performed after the container is sealed. Other non-degradable containers, such as a polydrum or other approved encapsulation device, may also be used.

In order to help prevent damage to the macroencapsulation container during off-loading operations, the lip of each container shall be modified to reduce the stress on the container. This modification consists of removing as much of the lip as possible while still leaving sufficient width to secure the container lid. Alternatively, the design of the container may be modified by the manufacturer to reduce the stress produced by the lip. CWM will take all necessary precautions to prevent macroencapsulation container damage and monitor each container's integrity from filling through placement in the landfill. Any observed damage and the repairing of such damage, shall be recorded in the facility's operating record.

(g). Repacking and decanting wastes and other hazardous materials.

Container repackaging can occur in the Drum Management Building or the PCB Warehouse Building and, in certain instances, in the T.O. Building. USDOT packaging standards must be followed for hazardous materials that will be shipped offsite.

(h). Empty containers may also be accepted from offsite and landfilled or transported offsite for disposal or recycling.

Empty containers are accepted at the Drum Management Building for visual inspection to ensure that they are empty in accordance with 6NYCRR Part 371.1(h)(2). Drums determined to be empty may be sent off-site for recycling. Empty drums may be crushed in the landfill. They also may be crushed in the stabilization mixing pits and sent offsite to a permitted landfill.

Hazardous waste containers that, upon inspection, do not meet the definition of RCRA empty (as defined in 6NYCRR Part 371.1(h)(2)) after the liquid has been removed will be treated as hazardous waste. A management method for the waste will be selected as dictated by CWM's Waste Analysis Plan.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(i). Transship for recycling or other treatment processes.

Containers of batteries, light bulbs and other wastes may be transshipped for recycling or other applicable management process.

C. DRUM MANAGEMENT BUILDING

(1). History and Design

Construction of the existing Drum Management Building (DMB) commenced in 1981 and was completed in 1982. The building was opened for use in November, 1982 and includes a loading/unloading dock for the shipment and receiving of wastes. The DMB West Ramp was constructed in 1998 and encompasses 1,700 square feet.

(2). Operations

Based on the types/volumes of wastes received by the site, the DMB is the focal point for most incoming containers. Liquid waste containers were previously managed on modular containment units. In 2006, CWM replaced the existing modular units with a concrete curb secondary containment system. This system provides separation of incompatibles. Solid waste containers may be stored throughout the DMB. Figure D-1A presents the DMB layout and the maximum liquid and/or solid storage capacity for the building based on the previously presented spacing requirements (also see Section A). The arrangements of containers may change depending on storage needs, however, compatibility guidelines will be met. Secondary containment calculations accompany attached Figure D-1A. As previously stated, an approved sealant, (e.g., CHEMTEC One) has been applied to all concrete floor areas in this building which are permitted for liquid waste storage.

Loading/unloading areas at the DMB have ramps allowing equipment to move directly onto transport vehicles from the unloading docks. Containers are removed by use of forklifts that are equipped with drum handling attachments. The attachments generally employed are capable of lifting up to two (2) drums at a time. Other container moving practices may be utilized as technologies improve.

(a). Loading/Unloading Areas

The DMB Loading/Unloading Area & Ramp is permitted for solids container storage only. No secondary containment is required. Incoming and outgoing box trailers containing 55-gallon containers or equivalent of liquids and/or solids may be temporarily staged in this areas. Incoming trailers will be unloaded and a quality control check performed. The dock area is covered, providing protection for personnel during inclement weather.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

After receipt, containers may be staged on a flatbed incidental to the transfer of these containers to other on-site operations, such as aqueous treatment, stabilization, or the landfill. Liquid and incompatible waste containers may be staged on flatbed trailers according to USDOT compatibility requirements in the dock area up until the end of the last DMB personnel work shift on the date placed in the dock area. Containers with solid wastes may be staged on the dock for longer if needed.

Co-mingling of incompatible wastes staged on the trailers in the dock area is prevented by separating these wastes with a buffer such as non-regulated packages or bags of "speedi-dry" or as required by NYSDOT.

The DMB West Ramp (fuel transfer area) is permitted for liquid storage. This ramp is used to transfer compatible liquids from drums inside the DMB to bulk tankers located on the ramp. It is sized to accommodate two tankers to also allow the transfer from tanker to tanker. CWM has applied an approved sealant (e.g., CHEMTEC One) to the entire ramp area.

(b). Container Waste Characterization

The waste characterization procedures described in CWM's Waste Analysis Plan are used to determine the compatibility grouping for a particular waste material.

In addition, each corrosive is specified as either an acid or base for further segregation. All acutely toxic materials (P codes which are not "derived from" treatment residues) will be handled as poisons if they are not specifically listed by USDOT for other hazardous properties. Any D, F, K or U codes for materials not specifically assigned a hazard class will be recognized as Class 9 for storage purposes. In the fuels storage area, flammables, combustible, Class 9 and non-regulated organic liquids will be staged for bulking into a fuel or incineration blend.

(3). Containment

The maximum 55-gallon equivalent containers (solids/liquids) allowed for this building is presented in Section A and on attached Figure D-1A.

(a). Base Construction

The DMB floor, loading/unloading ramp and West Ramp are constructed of concrete and inspected as defined within the Facility Inspection Plan. The base was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(b). A Procedure for the Containment of Leaking Drums

The DMB is inspected at least daily on operating days for leaks or spills. If spills are observed, they will be contained within the building. Spilled materials will generally be absorbed with absorbent and placed into drums for disposal. Upon receipt of a shipment of drums and after unloading, a visual inspection is made for leaking drums.

If a small leak should occur, the contents of a leaking drum are transferred to another appropriate container or the drum is placed in an overpack drum. In the event of major leaks or spills, liquids will be removed by vacuum trucks or absorbed with a compatible absorbent material and placed into containers for disposal.

Spilled material is cleaned up with absorbent materials. Spill control procedures are described in the CWM Contingency Plan.

(c). Control of Run-off and Run-on

Because all container management operations take place within the confines of the existing DMB, no run-off or run-on is expected. However, precipitation may collect in the covered truck unloading area or curbed fuels transfer area ramp. Precipitation may be treated in the Aqueous Treatment System without sampling. If the liquids will be discharged to the surface water drainage system, a water sample will be collected for appropriate characterization prior to the discharge.

(4). Fuels Drum Pumping Station

A separate pumping station is located in a partitioned room at the south end of the DMB. The purpose of this station is to transfer waste organic liquids, such as oils, solvents, lean waters, etc., from drums and oil filled equipment into bulk containers at the DMB West Ramp using a permanently installed pump. This operation provides fuels blending and consolidation for off-site shipments. Containment is provided by the DMB (i.e., concrete floor and trench).

D. PCB WAREHOUSE BUILDING

(1). History and Design

The PCB Warehouse Building was constructed in the 1940's and consists of a single story, brick and frame structure which is approximately 239 feet long by 106 feet wide. There are five major areas within the building which are separated by masonry walls.

Part 373 Renewal Application

Date: February 2010 (Revised July 2013)

The floor consists of a six-inch thick reinforced concrete slab poured on fill material. The floor is smooth and there are no floor drains or other floor openings. A perimeter concrete footing is about four feet above surrounding ground level.

The exterior walls consist of wood frame with aluminum siding on exterior and painted plywood on interior with a frame of 2 x 4's on 16-inch centers. Interior walls consist of brick and mortar construction. The roof is supported by 2" x 8" rafters on 20-inch centers. The rafters are supported by wooden beams on vertical wood columns in Areas 3, 4, and 5 and by longer span wood trusses in Area 1. The roof is covered with tar paper and sealed with roofing tar.

(2). Operations

The PCB Warehouse Building is used for the container storage of solid and liquid materials. Liquid drums must be stored within containment pans. A total of four pans, each 9 feet wide by 50 feet long by 2 inches high, capable of storing up to 40 drums (55 gallons or equivalent) each, are constructed of ¼" thick continuously welded ASTM Grade A36 carbon steel coated with vinyl ester. All containers stored within a pan in the PCB Warehouse pans are compatible with each other and with the pans, as established by the CWM Waste Analysis Plan. Attached Figure D-2 presents the PCB Warehouse Building layout and the maximum liquid and/or solid storage capacity for the building based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-2. No secondary containment will be provided or is required in the areas used for storage of solid waste. Coatings or sealants are not required in the PCB Warehouse Building. Storage of waste within the building will be as follows:

- Areas 1, 3 and 6 are primarily used for container storage of wastes that will be shipped offsite for recycling or disposal and other wastes for onsite management. Area 1 will be used for storage of solids only. Areas 3 and 6 will be used to store compatible liquid and solid waste materials.
- Area 5 will be used to store empty drums and supplies. Areas 2 and 4 will be used to store facility supplies and equipment, including clean overpack drums.

(3). Containment

As previously discussed, no secondary containment will be required in areas 1, 2, 4 and 5 based on only solid storage requirements. Containment within the liquid waste storage area (Areas 3 and 6) is provided by containment pans. In addition, storage areas 3 and 6 are provided with a one-foot high continuous perimeter curb and doors are equipped with elevated ramps to prevent liquids from exiting the building.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(a). Base Construction

The PCB Warehouse Building floor consists of a poured concrete slab and is inspected as defined within the Facility Inspection Plan. The base of the PCB Warehouse Building was designed to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment

The PCB Warehouse Building is inspected daily on operating days for leaks or spills. Spilled materials will generally be absorbed with absorbent and placed into drums for disposal. Upon receipt of a shipment of drums and after offloading, a visual inspection is made for leaking drums.

If a small leak should occur, the contents of a leaking drum are transferred to another appropriate container or the drum is placed in an overpack drum. In the event of major leaks or spills, liquids will be removed by vacuum trucks or absorbed with a compatible absorbent material and placed into containers for disposal.

Spilled material is cleaned up with absorbent materials. Spill control procedures are described in the CWM Contingency Plan.

(c). Control of Run-On and Run-Off

All container management operations will take place within the confines of the existing PCB Warehouse building. Therefore, no run-on and run-off is expected.

E. SOUTH TRAILER PARKING AREA

(1). History and Design

The South Trailer Parking Area encompasses 15,000 square feet, was constructed in 1986, and is used to store full trailers containing solid or liquid materials. The area is 299 feet long and is designed to store liquid and solid materials in containers prior to disposal. The area is constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

(2). Operation

The South Trailer Parking Area may be used for storage of liquid and/or solid hazardous and non-hazardous waste. Containers are typically placed in this area for the following reasons:

- Trailer is delivered to the site after normal operating hours;

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous waste in USDOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;
- Covered roll-off trailers holding solid materials; and
- Flatbed or lowboy trailers holding hazardous and non-hazardous waste in containers or transformers. Cardboard, fiberboard, textile fabric or other non-metal or non-heavy plastic containers meeting USDOT specifications, may be stored on an uncovered flatbed or other open trailer for up to seven (7) days in accordance with Condition B.1.a.iii in Exhibit C of Schedule 1 of Module I in the Permit.

Attached Figure D-3 presents the South Trailer Parking Area layout and the maximum liquid and/or solid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-3. As previously stated, an approved sealant, (e.g., CHEMTEC One) has been applied to the entire concrete slab.

(3). Containment

The South Trailer Parking Area is used for the liquid or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The South Trailer Parking Area is constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad is sloped toward the rear wall and graded toward the center from both sides. Approximately one foot up slope from the rear curb is an 18" high containment wall that is designed to protect the rear containment curb. Precipitation will collect in the containment area until it is removed via vacuum truck. The South Trailer Parking Area consists of a poured

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

concrete slab which was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The South Trailer Parking Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated in the Aqueous Waste Treatment System, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards. It may also be collected and used in lieu of city water in the Stabilization process in accordance with SDP 2124, if analysis indicates compliance with 6 NYCRR Part 376.

F. STABILIZATION FACILITY

(1). History and Design

The Stabilization Facility (CHEM-MATRIX System), a mechanized stabilization process, began operations in 1991. In late 1992, the Main Stabilization Facility was augmented with the Northern and Southern Expansions. The Stabilization Facility also includes the Trailer Parking Area, Waste Ash Tanker Unloading Area, Special Client Treatment Room, Macro Room, Lower Drum Shredder Area and Upper Drum Shredder Area.

The mechanized facility was closed in 1996 and received NYSDEC approval of closure in January 1997. After removal of the CHEM-MATRIX system, the drum shredder was relocated from the Northern Expansion to the Main Stabilization Facility. The drum shredder was removed in May 2009 after receiving NYSDEC approval of the closure certification. The Southern Expansion, originally used as a powdery waste processing system, has not been used for that purpose since 1994 and is now used for reagent and water storage.

The Stabilization Facility is permitted to store solid and liquid containers incidental to the treatment operation. Operational flexibility may require storage or staging of different waste types and quantities. Attached Figure D-4 presents the maximum liquid and/or solid storage capacity for the areas based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-4. As previously stated, an approved sealant, (e.g., CHEMTEC One) has been applied in the areas utilized for liquid storage.

The Stabilization Facility is designed to process hazardous wastes so that the stabilized wastes conform to NYSDEC and Federal Land Disposal Restrictions (LDRs) thereby making wastes amenable to landfill disposal. Hazardous and non-hazardous wastes may be stabilized in order to meet the compressive strength requirements of CWM's Waste Analysis

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

Plan. In addition, equipment may be used to process hazardous and non-hazardous waste into a state acceptable at an on-site or off-site disposal facility. A detailed description of each area within the Stabilization Facility is presented below.

(a) Trailer Parking Areas

(1). History and Design

The Stabilization Trailer Parking Area encompasses four separate areas (Areas I – IV) and is used to store solid or liquid materials. The dimensions of the areas as well as intended storage are as follows:

- Area I (solid waste or compatible liquid/solid non-waste containers) – 70'x35'
- Area II (solid waste or compatible liquid/solid non-waste containers) – 150'x35'
- Area III (solid/liquid waste containers or compatible liquid/solid non-waste containers) – 200'x35'
- Area IV (solid/liquid waste containers or compatible liquid/solid non-waste containers) – 100'x35'

The areas are constructed of reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from an area will be contained.

(2). Operations

Area III and IV of the Stabilization Trailer Parking Area may be used for storage of liquid and/or solid hazardous and non-hazardous waste. Areas I, II & IV may only be used for storage of solid hazardous and non-hazardous waste and liquid non-waste containers. Containers are typically placed in this area for the following reasons:

- Trailer is delivered to the site after normal operating hours;
- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

Units which may be stored or staged incidental to treatment in this area include:

- Box trailers holding hazardous and non-hazardous waste in USDOT approved containers (liquid waste containers in Areas III & IV only);

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids (in Areas III & IV only);
- Covered roll-off trailers holding solid materials; and
- Flatbed or low boy trailers holding hazardous and non-hazardous waste in containers or transformers. Cardboard, fiberboard, textile fabric or other non-metal or non-heavy plastic containers meeting USDOT specifications, may be stored on an uncovered flatbed or other open trailer for up to seven (7) days in accordance with Condition B.1.a.iii in Exhibit C of Schedule 1 of Module I in the Permit.

(3). Containment

(a). Base Construction

All four areas are constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pads are sloped toward the rear wall and graded toward the center from both sides. Approximately one foot up slope from the rear curb is an 18-inch high barrier wall, which is designed to protect the rear curb from trailers backing into the rear containment curb. The base of the Trailer Parking Area was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The Stabilization Trailer Parking Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated in the Aqueous Waste Treatment System, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards. It may also be collected and used in lieu of city water in the Stabilization process in accordance with SDP 2124, if analysis indicates compliance with 6 NYCRR Part 376.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(b). North Expansion Building

(1). History and Design

The North Expansion Building was constructed in 1992 and is located adjacent to the north side of the Main Stabilization Building. The south wall of the facility is also the north wall of the Main Stabilization Building. The North Expansion Building has a control room and a mechanical room. The building contains two mixing pits (i.e., double walled subsurface tanks) on the west end and an overhead crane with a five ton hoist. An overturning frame is located on the west side by the overhead doors leading to the mixing pits to hinder trucks from tipping over while emptying their loads. There are three dust collection system baghouses, located east of the Main Stabilization Building. In addition, there is a make-up air unit on the roof to provide make-up air and heat to the buildings when the baghouses are operating.

(2). Operations

The primary purpose of the North Expansion Building is to stabilize waste material by mixing incoming waste streams with pozzolanic materials, other reagents and water. This will typically consist of waste being dumped into the pits, adding reagents and water, mixing with a backhoe and loading the stabilized material into dump trucks to haul to the site's landfill or to be transported off site. The pits may also be used to improve waste strength or prepare waste material for off site shipment.

The floor of the building is constructed with reinforced concrete. The concrete floor is placed over an HDPE liner to form an impervious barrier against waste migration. Except at the west side doorways, a perimeter curb is constructed around the entire building to further contain waste. The mixing pits are double walled steel tanks recessed into the floor of the North Expansion Building. The floor of the outer tank is sloped to a low point where a monitoring pipe installed within the secondary containment of the pit to provide identification of leaks into the leak detection annulus and to remove any liquids that collect between the tank walls.

Containerized solid wastes associated with the stabilization operations may be stored in the North Expansion Building.

(3). Containment

Other than the mixing pits, the North Expansion Building is only used for solid container storage and so no secondary containment is required.

(c). Main Building Stabilization Facility:

(1). History and Design

The Main Building Stabilization Facility consists of the Special Client Treatment Room, Macro Room, and the Upper/Lower Drum Shredder Areas.

(2). Operations

The Special Client Treatment Room (SCTR) is generally utilized for material storage, such as sandblast grit, road salt and stabilization reagents. It may also be used for storage of containers of solid hazardous and non-hazardous waste.

The Upper/Lower Drum Shredder Areas were previously used in conjunction with the drum shredder which has since been removed. After removal of the drum shredder, these areas continue to provide container storage. The Upper Drum Shredder Area is used for solid container storage only. The Lower Drum Shredder Area may be used for the storage of solid or liquid containers. Air emissions ductwork previously used for the Drum Shredder remains in place to provide general building ventilation, which is potentially part of the stabilization hazardous waste management.

The Macro Room is used for the storage of solid containers only. This area is used to store rollofs containing HDPE boxes (minimum thickness of 300 mils) from the macroencapsulation process, prior to disposing in the landfill or shipping offsite. Macroencapsulation containers are processed in accordance with the procedures presented in Section B.5.f above. Lids for the boxes are typically installed in the Macro Room.

(3). Containment

No secondary containment is required in the SCTR, Macro Room or Upper Drum Shredder Area since these areas are used for solid storage only. The area utilized for liquid storage, i.e., Lower Drum Shredder Area, is constructed of a poured concrete slab and curbed sides which were designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations. The previously installed coating in this area will be maintained.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(d). Waste Ash Tanker Unloading Area:

(1). History and Design

The Waste Ash Tanker Unloading Area was constructed in 1992 with the Southern Expansion and is located south of the Main Stabilization Building. This area consists of a concrete ramp used for unloading waste ash tankers into the stabilization process. CWM will maintain the existing concrete coating system in this area.

(2). Operations

The Waste Ash Tanker Unloading Area is used to store both empty and full waste roll-offs and dry bulk trailers containing solid materials.

(3). Containment

The Waste Ash Unloading Area includes the ramp and sump area. The Waste Ash Unloading Area is constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad is sloped toward the rear wall and graded toward the center from both sides. Approximately one foot up slope from the rear curb is a one-foot high barrier wall, which is designed to protect the rear curb from trailers backing into the rear containment curb. The base of the Waste Ash Unloading Area was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

G. AQUEOUS TREATMENT BUILDING

(1). History and Design

The Aqueous Treatment (AT) Building was designed and constructed in 1985. The AT Building also includes the AT Drum Dock, the AT Tanker Unloading Area, and the AT Filter Press Room.

(2). Operations

The AT Building is permitted for solid and liquid storage and is used in the treatment of leachate and aqueous waste at the site. Attached Figure D-5 presents the current typical storage arrangements for the Building and secondary containment storage volume calculations (also see Section A). Operational flexibility may require moving modular units and/or redesignating modular waste types and drum quantities. As previously stated, an approved sealant, (e.g., CHEMTEC One) or coating has been applied in the areas utilized for liquid storage.

(3). Containment

The AT Drum Dock is permitted for solid and liquid storage with containers stored on modular containment units. The units are designed to manage liquid waste drums. In the event that a drum of liquid should leak or rupture, the modular containment units would provide containment for such an occurrence. Drums are segregated according to compatibility. The beams under the grating are currently bolted to the floor and caulked to provide separation of incompatible spills. The floor and beams under the grating system have been coated with a coating system (i.e., Elasti-Liner). Segregated rows are identified for storage of acids, bases and neutrals. Acids and bases must be separated by a neutral row at least two drums wide.

The AT Filter Press Room is permitted for the storage of solid containers only. However, CWM will maintain the existing floor coating system in this area due to water cleaning of the filter presses and the presence of tanks T-1111 and T-1112.

The AT Tanker Unloading Area is permitted for the storage of solid and liquid containers. CWM will maintain the existing concrete secondary containment system and has applied an approved sealant (e.g., CHEMTEC One) to the entire ramp and sump area.

(a). Base Construction

The AT Building, including the AT Drum Dock, the Filter Press Room and the AT Tanker Unloading Area, floor base is constructed of concrete which was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Containment of Leaking Drums

The AT Building is inspected at least daily on operating days for leaks or spills. If spills are observed, they will be contained within the building. Spilled materials will generally be absorbed with absorbent and placed into drums for disposal. Upon receipt of drums and after unloading, a visual inspection is made for leaking drums.

If a small leak should occur, the contents of a leaking drum are transferred to another appropriate container or the drum is placed in an overpack drum. In the event of major leaks or spills, liquids will be washed down and pumped into a treatment tank from the containment sump or absorbed with a compatible absorbent material and placed into containers for disposal.

Spilled material is cleaned up with absorbent materials. Spill control procedures are described in the CWM Contingency Plan. In the event of major leaks or spills, liquids from the AWT Drum Dock will be contained within the Modular

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

Containment Units and the AT Building. The liquid will be pumped out via vacuum truck or evacuated and placed directly into the AWT tanks.

(c). Control of Run-off and Run-on

Because all container management operations take place within the confines of the existing AT Building, no run-off or run-on is expected. However, precipitation may collect in the ramp and sumps of the AT Tanker Unloading Area. Precipitation will be collected and removed via vacuum truck or equivalent and treated in the aqueous waste treatment system, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards.

H. TRANSFORMER DECOMMISSIONING BUILDING OR "T.O." BUILDING

(1). History and Design

The Transformer Decommissioning Building was in use for over forty years as part of the Lake Ontario Ordinance Works. In the 1970s, this building, which now houses the transformer decommissioning operations at CWM, was formerly used for thermal oxidation (T.O.) processes. The facility name for this building, "T.O. Building", is a result of this former use. The T.O. Building consists of a single-story concrete and sheet metal structure, which is approximately 50 feet long by 41 feet wide. The building has been in use for its present service since 1981. In 1981, the equipment from the defunct T.O. operations was removed and disposed. At that time, the building was cleaned and modified for the transformer decommissioning operation by repair of the roof, construction of concrete berms, addition of a door and sealing of floor joints. The south, east and west walls of the building are constructed of one-foot thick reinforced concrete. The north wall of the building consists of corrugated sheet metal with openings for two roll-up doors. The 13-foot high manual (pull-chain) roll-up was originally included in construction of the building. The second roll-up door (20-foot high) was installed during 1987 building modifications. Movement of the door is controlled by an electrical switch.

The roof of the T.O. Building is constructed of corrugated sheet metal. There is electrical service provided throughout the building. Overhead lights have been installed for lighting the building. Besides being permitted to store waste, the T.O. Building is also used to store equipment which is used for PCB waste management operations.

The T.O. Building Loading Ramp was constructed in 1998 and encompasses 2,100 square feet.

Attached Figure D-6 presents the T.O. Building layout and the maximum liquid storage capacity for the building based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-6.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(2). Operations

The T.O. Building and Loading Ramp are permitted for solid and liquid container storage. The facility receives PCB-contaminated transformers and other electrical equipment for decanting and decommissioning prior to disposal. This equipment is brought to the T.O. Building after completion of the receiving procedures. Regulated activities which may be performed in the T.O. Building include equipment decommissioning, storage, decanting, flushing and miscellaneous activities such as cutting contaminated cable.

Generally, transformers and other electrical devices containing liquids which are delivered to the site are transported in metal drip pans or drums on a flatbed trailer or box van. Pans and drums provide containment for spilled or leaked oil while in route to the site.

PCB contaminated oil and spent flushing solvent from decommissioned transformers, other electrical equipment or tank trucks is removed by vacuum tank truck and placed into tankers located at the T.O. Building Loading Ramp north of the building for bulk shipment and off-site treatment, i.e., incineration or other approved TSCA methods. PCB receiving procedures are outlined in CWM's Waste Analysis Plan. The T.O. Building Loading Ramp is also used as a station for fueling vehicles and unloading fuel oil.

(3). Containment

A concrete berm surrounds the inside of the building, providing containment for spilled or leaked material. However, secondary containment will be provided by the use of steel containment pans within the T.O. Building. All transformers, other electrical equipment and drums will be stored within the containment pans. The floor is a six-inch thick reinforced concrete slab poured on fill material. The floor is smooth, with no floor drains or any other floor openings. Coatings or sealants on the existing concrete floor are not required.

The Loading Ramp is constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad is sloped toward the middle. Precipitation will collect in the containment area until it is removed via vacuum truck. The Loading Ramp was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations. As previously stated, an approved sealant (e.g., CHEMTEC One) has been applied to the entire loading ramp.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(a). Control of Run-On and Run-Off

Since the decommissioning operations are conducted inside the T.O. Building, run-on and run-off is not expected. At the base of each of the two doorways is a ramp, preventing liquids from escaping and precipitation from entering.

The T.O. Building Loading Ramp, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated in the Aqueous Waste Treatment System, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards.

I. TRUCK WASH FACILITY

(1). History and Design

The truck wash facility is a heated, drive-through bay on the north end of the old transportation garage, which was renovated in 1994. Dimensions of the bay are 88 feet in length by 15 feet 9 inches wide by 16 feet high. Overhead doors are located at each end of the bay. Walls are constructed of corrugated metal.

(2). Operations

The Truck Wash Building is permitted to stage solid containers only and is used to wash the exterior of trucks which have not come into contact with hazardous waste or have been previously decontaminated at the RMU-1 truck wash station. It also may be used to temporarily store bulk solid hazardous waste containers, such as to provide heat for thawing frozen loads.

Trucks to be cleaned enter the truck wash facility through the east side and exit through the west. A high pressure water wash is used to clean the vehicles. The wash system has an auxiliary heater to raise the water temperature for winter use. Vehicle wash time varies depending upon its size and the amount of cleaning required.

Attached Figure D-7 presents the maximum solid storage capacity for the area based on the previously presented spacing requirements (also see Section A).

(3). Containment

Since the Truck Wash Building is permitted for the storage of solids only, no secondary containment is required.

J. T-130 LOADING/UNLOADING AREA**(1). History and Design**

The T-130 Loading/Unloading Area was constructed in 1998 and encompasses 700 square feet. It is used to store full trailers containing liquid materials generated from the SLF 1-6 leachate lift station tank T-105 or surge tank T-130. The area is 56 feet long and 13 feet wide with a curb height at the deepest end of 3'-9". The area is constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

(2). Operations

The T-130 Loading/Unloading Area may be used by CWM for storage of aqueous liquid which may contain small quantities of incinerable liquids and/or solid hazardous and non-hazardous waste. Containers are typically placed in this area for the following reasons:

- Transfer of leachate from tank T-105 or T-130;
- Trailer is delivered to the site after normal operating hours;
- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous waste in USDOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding aqueous liquids which may contain small quantities of incinerable liquids;
- Covered roll-off trailers holding solid materials; and
- Flatbed or low boy trailers holding hazardous and non-hazardous waste in containers or transformers. Cardboard, fiberboard, textile fabric and other non-metal or non-heavy plastic containers meeting USDOT specifications, may be stored on an uncovered flatbed or other open trailer for up to seven (7) days in accordance with Condition B.1.a.iii in Exhibit C of Schedule 1 of Module I in the Permit.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

Attached Figure D-25 presents the T-130 Loading/Unloading Area layout and the maximum liquid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-25. As previously stated, an approved sealant, (e.g., CHEMTEC One) has been applied to the entire concrete slab.

(3). Containment

The T-130 Loading/Unloading Area is used for the aqueous liquid which may contain small quantities of incinerable liquids or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The T-130 Loading/Unloading Area is constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad is sloped toward the rear wall and graded toward the center from both sides. Precipitation will collect in the containment area until it is removed via vacuum truck.

The T-130 Loading/Unloading Area consists of a poured concrete slab which was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The T-130 Loading/Unloading Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated in the Aqueous Waste Treatment, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards.

K. T-108 LOADING/UNLOADING AREA

(1). History and Design

The T-108 Loading/Unloading Area was constructed in 1998 and encompasses 700 square feet. It is used to store full trailers containing liquid materials generated from the SLF-7/11 leachate holding tank T-108 or SLF-7 leachate wet well tank T-107. The area is 55 feet long and 13 feet wide with a curb height at the deepest end of 1'-9". The area is constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(2). Operations

The T-108 Loading/Unloading Area may be used by CWM for storage of aqueous liquid and/or solid hazardous and non-hazardous waste. Containers are typically placed in this area for the following reasons:

- Transfer of leachate from tank T-108 or tank T-107;
- Trailer is delivered to the site after normal operating hours;
- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous USDOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding aqueous liquids;
- Covered roll-off trailers holding solid materials; and
- Flatbed or lowboy trailers holding hazardous and non-hazardous containers or transformers. Cardboard boxes and other fiberboard containers may not be stored on an uncovered flatbed or other open trailer.

Attached Figure D-13 presents the T-108 Loading/Unloading Area layout and the maximum liquid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-13. As previously stated, an approved sealant, (e.g., CHEMTEC One) has been applied to the entire concrete slab.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

(3). Containment

The T-108 Loading/Unloading Area is used for the aqueous liquid or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The T-108 Loading/Unloading Area is constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad is sloped toward the rear wall and graded toward the center from both sides. Precipitation will collect in the containment area until it is removed via vacuum truck.

The T-108 Loading/Unloading Area consists of a poured concrete slab which was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The T-108 Loading/Unloading Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated in the Aqueous Waste Treatment, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards.

L. T-109 LOADING/UNLOADING AREA

(1). History and Design

The T-109 Loading/Unloading Area was constructed in 1998 and encompasses 700 square feet. It is used to store full trailers containing liquid materials generated from the SLF-10 leachate holding tank T-109. The area is 55 feet long and 13 feet wide with a curb height at the deepest end of 1'-9". The area is constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

(2). Operations

The T-109 Loading/Unloading Area may be used by CWM for storage of liquid and/or solid hazardous and non-hazardous waste. Containers are typically placed in this area for the following reasons:

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

- Transfer of leachate from tank T-109;
- Trailer is delivered to the site after normal operating hours;
- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous USDOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding aqueous liquids;
- Covered roll-off trailers holding solid materials; and
- Flatbed or lowboy trailers holding hazardous and non-hazardous containers or transformers. Cardboard boxes and other fiberboard containers may not be stored on an uncovered flatbed or other open trailer.

Attached Figure D-12 presents the T-109 Loading/Unloading Area layout and the maximum liquid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-12. As previously stated, an approved sealant, (e.g., CHEMTEC One) has been applied to the entire concrete slab.

(3). Containment

The T-109 Loading/Unloading Area is used for the aqueous liquid or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The T-109 Loading/Unloading Area is constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad is sloped toward the rear wall and graded toward the center from both sides. Precipitation will collect in the containment area until it is removed via vacuum truck.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

The T-109 Loading/Unloading Area consists of a poured concrete slab which was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The T-109 Loading/Unloading Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated in the Aqueous Waste Treatment, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards.

M. T-158 LOADING/UNLOADING AREA

(1). History and Design

The T-158 Loading/Unloading Area was constructed in 1998 and encompasses 700 square feet. It is generally used to store full trailers containing leachate from the SLFs 1-11, biphased gate receipts for transfer to the oil/water separator tank T-158 and organic materials transferred from tank T-158 to tankers. The area is 55 feet long and 13 feet wide with a curb height at the deepest end of 1'-8.5". The area is constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

(2). Operations

The T-158 Loading/Unloading Area may be used by CWM for storage of liquid and/or solid hazardous and non-hazardous waste. Containers are typically placed in this area for the following reasons:

- Transfer of leachate to and from tank T-158, Frac Tank #3 and the tanks in the Leachate Tank Farm or organic materials from tank T-158 to tankers;
- Trailer is delivered to the site after normal operating hours;
- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous waste in USDOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;
- Covered roll-off trailers holding solid materials; and
- Flatbed or low boy trailers holding hazardous and non-hazardous waste in containers or transformers. Cardboard, fiberboard, textile fabric and other non-metal or non-heavy plastic containers meeting USDOT specifications, may be stored on an uncovered flatbed or other open trailer for up to seven (7) days in accordance with Condition B.1.a.iii in Exhibit C of Schedule 1 of Module I in the Permit.

Attached Figure D-14 presents the T-158 Loading/Unloading Area layout and the maximum liquid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-14. As previously stated, an approved sealant, (e.g., CHEMTEC One) has been applied to the entire concrete slab.

(3). Containment

The T-158 Loading/Unloading Area is used for the liquid or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The T-158 Loading/Unloading Area is constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad is sloped toward the rear wall and graded toward the center from both sides. Precipitation will collect in the containment area until it is removed via vacuum truck.

The T-158 Loading/Unloading Area consists of a poured concrete slab which was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The T-158 Loading/Unloading Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and

Part 373 Renewal Application
Date: February 2010 (Revised July 2013)

treated in the Aqueous Waste Treatment, or if appropriate, characterized by sampling and discharged to the surface water drainage system if analysis indicates that it meets surface water standards.

N. AIR EMISSION STANDARDS

Air emission standards for containers are specified in 6NYCRR 373-2.29 and 40 CFR 264/265.1080-1091 (Subpart CC), which became effective on December 6, 1996. RCRA Subpart CC is applicable to owners and operators of a TSDF which treats, stores or disposes of hazardous waste containing greater than 500 ppmw volatile organics in tanks, surface impoundments and containers. If Subpart CC wastes are managed in containers, either Level 1, Level 2 or Level 3 controls must be implemented depending on the container size, organic content and activity performed.

Level 1 controls may be used for all containers less than 119 gallons and containers greater than 119 gallons which are not in light material service (i.e., total concentration of pure organic constituents having a vapor pressure greater than 0.3 kPa (0.04 psi) at 20° C is equal to or greater than 20% by weight). Level 1 controls may be satisfied through use of a container that meets USDOT specifications; use of a cover, such as a tarp, with no visible cracks, holes, gaps or other spaces; or use of an organic vapor barrier, such as a foam or tight fitting tarp.

All drums and other containers less than 119 gallons at CWM drum storage locations which are subject to Subpart CC requirements will have level 1 controls. This requirement may be satisfied by use of a USDOT specification container or a container with no cracks, gaps or holes. Most bulk containers in CWM bulk container storage locations will not be in light material service and thus will only require level 1 controls. This requirement will be satisfied by use of a tarp or equivalent with no cracks, gaps or holes.

Level 2 controls are required for containers greater than 119 gallons in light material service. Level 2 controls may be satisfied through use of a container that meets USDOT specifications; use of a container that operates with no detectable emissions as tested using USEPA Method 21; or use of a container that is vapor tight as tested by USEPA Method 27. On-site tankers and vacuum trucks containing Subpart CC wastes are tested annually by USEPA Method 27 to satisfy the Level 2 requirements. If a rolloff containing Subpart CC waste in light material service is accepted, Level 2 controls will be satisfied by covering with a tarp and testing for no detectable emissions using USEPA Method 21 within 24 hours of receipt.

Level 3 controls are required to perform stabilization of Subpart CC wastes in containers. The container must be placed inside an enclosure and vented to a control device. This operation is not performed at CWM.

O. NEW DRUM MANAGEMENT BUILDING

The location of the existing Drum Management Building (DMB) as described in Section C is located in the proposed footprint of a new landfill designated Residuals Management Unit Number Two (RMU-2). A New Drum Management Building will need to be constructed to replace the existing DMB.

(1). Design

The new DMB is designed with nine (9) areas for management of containers with solid or liquid wastes. Each area is segregated by concrete curbing, interior walls, and/or exterior walls. Areas will typically be connected by overhead doors and concrete ramps. The types of wastes and containers, and the container management procedures for the handling of containers in the new DMB are described in Sections A and B. Permit Design Drawings are attached.

The following areas will be included in the new Drum Management Building for the storage and handling of containerized solid and liquid hazardous wastes.

New Drum Management Building

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
Area 1 Flammable Storage Area	Liquid/Solid	drums	504 55-gal drums	9,011	2,772
Area 2 Acid Storage Area	Liquid/Solid	drums	1008 55-gal drums	6,667	5,544
Area 3 Caustic Storage Area	Liquid/Solid	drums	1008 55-gal drums	6,914.6	5,544
Area 4 Poisons Storage Area	Liquid/Solid	drums	96 55-gal drums	1,244.7	528
Area 5 Oxidizer Storage Area	Liquid/Solid	drums	96 55-gal drums	765.2	528
Area 6 QA/QC Storage Area	Liquid/Solid	drums	336 55-gal drums	8,459.1	1,848
Area 7 Fuels Transfer Ramp	Liquid	tankers	2-5,500-gal tankers	23,338	10,681
Area 8 Transformer Flush Area	Liquid	Drums/ transformers	6-345-gal transformers of 37 55-gal drums	2,065.2	2,065.2
Area 9 Truck Loading/Unloading Area & Ramp	Liquid/Solid	drums	1,040 55-gal drums	95,681	5,720

(2). Operations

Based on the types/volumes of wastes received by the site, the new DMB will be the focal point for most incoming containers after construction and closure of the existing DMB. Separation of incompatibles will be accomplished by placing these waste in separate rooms within the new DMB. Solid waste containers may be stored throughout the new DMB. The

Part 373 Renewal Application

Date: December 2013

table above and Figure D-1B present the new DMB layout and the maximum liquid and/or solid storage capacity for the building based on the previously presented spacing requirements (also see Section A). The arrangements of containers may change depending on storage needs, however, compatibility guidelines will be met. Secondary containment calculations accompany attached Figure D-1B. As previously stated, an approved sealant, (e.g., CHEMTEC One) will be applied to all concrete floor areas in this building which are permitted for liquid waste storage.

Loading/unloading areas at the DMB will have ramps allowing equipment to move directly onto transport vehicles from the unloading docks. Containers will be removed by use of forklifts that are equipped with drum handling attachments. The attachments generally employed are capable of lifting up to two (2) drums at a time. Other container moving practices may be utilized as technologies improve.

(a). Loading/Unloading Areas

The new DMB Loading/Unloading Area & Ramp will be permitted for solids and liquids container storage, excluding flammable. Secondary containment will be provided by the sloped concrete ramp and the truck dock. An approved sealant, (e.g., CHEMTEC One) will be applied to the concrete area of the ramp. Incoming and outgoing box trailers containing 55-gallon containers or equivalent of liquids and/or solids may be staged in this area. Incoming trailers will be unloaded and a quality control check performed. The dock area will be covered, providing protection for personnel during inclement weather.

After receipt, containers may be stored on a flatbed in the dock area incidental to the transfer of these containers to other on-site operations, such as aqueous treatment, stabilization, or the landfill. If DOT incompatible waste containers remain stored on flatbed trailers in the dock area at the end of the work shift they will be separated from each other as required by 6 NYCRR Part 373-2.9(h)(s).

The new DMB Fuels Transfer Ramp will be permitted for liquid storage. This ramp will be used to transfer compatible liquids from drums inside the new DMB Fuels Pumping Area to bulk tankers located on the ramp. The ramp is sized to accommodate two tankers to also allow the transfer from tanker to tanker. As previously stated, an approved sealant (e.g., CHEMTEC One) will be applied to the entire ramp area.

(b). Container Waste Characterization

The waste characterization procedures described in CWM's Waste Analysis Plan will be used to determine the compatibility grouping for a particular waste material in the new DMB.

In addition, each corrosive is specified as either an acid or base for further segregation. All acutely toxic materials (P codes which are not "derived from" treatment residues) will be handled as poisons if they are not specifically listed by DOT for other hazardous properties and will be stored in Area 4 (Poison Area). Any D, F, K or U codes for materials not specifically assigned a hazard class will be recognized as Class 9 for storage purposes. In the fuels storage area, flammables, combustible, Class 9 and non-regulated organic liquids will be stored for bulking into a fuel or incineration blend.

(3). Containment

Containment is provided by a combination of sloping floors, trenches, and/or concrete curbing around the perimeter of the building and individual rooms. The maximum 55-gallon equivalent containers (solids/liquids) allowed for this building is presented in Section O.1 and on attached Figure D-1B.

(a). Base Construction

The DMB floor, loading/unloading ramp and West Ramp will be constructed of concrete and inspected as defined within the Facility Inspection Plan. The base was designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Containment of Leaking Drums

The new DMB will be inspected daily on operating days for leaks or spills. If spills are observed, they will be contained within the building. Spilled materials will generally be absorbed with absorbent and placed into drums for disposal. Upon receipt of a shipment of drums and after unloading, a visual inspection is made for leaking drums.

If a small leak should occur, the contents of a leaking drum are transferred to another appropriate container or the drum is placed in a salvage drum. In the event of major leaks or spills, liquids will be removed by vacuum trucks or absorbed with a compatible absorbent material and placed into containers for disposal.

Spilled material is cleaned up with absorbent materials. Spill control procedures are described in the CWM Contingency Plan.

(c). Control of Run-off and Run-on

Because all container management operations take place within the confines of the DMB, no run-off or run-on is expected. However, precipitation may collect in the covered truck unloading area or covered fuels transfer area ramp. Precipitation may be treated in the Aqueous Treatment System without sampling. If the liquids will be discharged to the surface water drainage system, a water sample will be collected for appropriate characterization prior to the discharge.

(4). Fuels Pumping Area

A separate pumping station is located in a room at the north end of the new DMB. The purpose of this station is to transfer waste organic liquids, such as oils, solvents, lean waters, etc., from drums and oil filled equipment into bulk containers at the new DMB Fuels Transfer Ramp using permanently installed pumps. This operation provides blending and consolidation of liquids for off-site shipments. Drums will be staged in Area 1 of the new DMB and no drums will be staged or stored in the fuels pumping room. Containment will be provided by the new DMB (i.e., concrete floor 2-inch curb around the perimeter of the room).

(5). Transformer Flush Area

The Transformer Flush Area will be used for permitted solid and liquid container storage. The facility receives PCB-contaminated transformers and other electrical equipment for decanting and decommissioning prior to disposal. This equipment will be brought to the Transformer Flush Area after completion of the receiving procedures. Regulated activities which may be performed in the Transformer Flush Area will include equipment decommissioning, storage, decanting, flushing and miscellaneous activities such as cutting contaminated cable.

PCB contaminated oil and spent flushing solvent from decommissioned transformers, other electrical equipment or tank trucks will be removed by vacuum tank truck and placed into tankers located at the Fuels Loading Ramp north of the building for bulk shipment and off-site treatment, i.e., incineration or other approved TSCA methods. PCB receiving procedures are outlined in CWM's Waste Analysis Plan.

P. NEW FULL TRAILER PARKING AREA

The location of the existing South (Full Trailer Parking Area) as described in Section E is partially located in the proposed footprint of a new landfill designated Residuals Management Unit Number Two (RMU-2). A New Full Trailer Parking Area will need to be constructed to replace the existing South Trailer Parking Area.

New Full Trailer Parking Area

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
New Full Trailer Parking Area	Liquid/Solid	tankers/rolloffs	48 rolloffs or 24 tankers	66,583	47,449

(1). Design

A new Full Trailer Parking Area (attached Figure D-3A) will be constructed which encompasses 13,700 square feet, and will be used to store full trailers containing solid or liquid materials. The area is 250 feet long and is designed to store liquid and solid materials in containers prior to disposal or shipment off-site. The area will be constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

(2). Operation

The new Full Trailer Parking Area will be used for storage of liquid and/or solid hazardous and non-hazardous waste. Containers will be typically placed in this area for the following reasons:

- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous DOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;

Part 373 Renewal Application
Date: December 2013

- Covered roll-off trailers or other bulk containers holding solid materials; and
- Flatbed or lowboy trailers holding hazardous and non-hazardous containers or transformers. Storage of cardboard containers with liners (e.g. DOT 11 G) on flatbeds in outdoor CSAs for a maximum of 7 days. Bags of weather resistance fabric such as polypropylene with liners (e.g. DOT 13H) may be stored on flatbeds in outdoor CSAs. A daily inspection will be performed to verify that the containers are not showing signs of deterioration.

Attached Figure D-3A presents the proposed new Full Trailer Parking Area layout and the maximum liquid and/or solid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-3A. An approved sealant, (e.g., CHEMTEC One) will be applied to the entire concrete slab.

(3). Containment

The new Trailer Parking Area will be used for the liquid or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The new Full Trailer Parking Area will be constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad will be sloped toward the rear wall and graded toward two low points. Precipitation will collect in the containment area until it is removed via vacuum truck. The new Full Trailer Parking Area will consist of a poured concrete slab which has been designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The new Full Trailer Parking Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated, or if appropriate, characterized and discharged to the surface water drainage system.

Part 373 Renewal Application
Date: December 2013

Q. NEW STABILIZATION TRAILER PARKING AREA

The location of the Stabilization Trailer Parking Area (Areas III and IV) as described in Section F is partially located in the proposed footprint of a new landfill designated Residuals Management Unit Number Two (RMU-2). A New Stabilization Trailer Parking Area will need to be constructed in the location of Areas I and II to replace the existing Stabilization Trailer Parking Areas.

New Stabilization Trailer Parking Area

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
New Stabilization Full Trailer Parking Area	Liquid/Solid	tankers/rolloffs	37 rolloffs/tankers	56,106	41,977

(1). Design

The new Stabilization Trailer Parking Area (attached Figure D-4A) will be 13,125 square feet, and will be used to store full trailers containing solid or liquid materials. The area is 375 feet long and is designed to store liquid and solid materials in containers prior to disposal. The area will be constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

The new Stabilization Trailer Parking Area will be permitted to store solid and liquid containers incidental to the treatment operation. Operational flexibility may require storage or staging of different waste types and quantities. Attached Figure D-4A presents the maximum liquid and/or solid storage capacity for the new Stabilization Trailer Parking Area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-4A. An approved sealant, (e.g., CHEMTEC One) will be applied to the entire concrete slab.

(2). Operations

The new Stabilization Trailer Parking Area may be used for storage of liquid and/or solid hazardous and non-hazardous waste. Containers may typically be placed in this area for the following reasons:

- The materials delivered are found to be off-specification;

Part 373 Renewal Application
Date: December 2013

- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

Units which may be stored or staged incidental to treatment in this area include:

- Box trailers holding hazardous and non-hazardous DOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;
- Covered roll-off trailers or other bulk containers holding solid materials; and
- Flatbed or lowboy trailers holding hazardous and non-hazardous containers or transformers.

(3). Containment

(a). Base Construction

The new Stabilization Trailer Parking Area will be constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad will be sloped toward the rear wall and graded toward two low points. The base of the new Stabilization Trailer Parking Area has been designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The Stabilization Trailer Parking Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated, or if appropriate, characterized and discharged to the surface water drainage system.

R. NEW T-109 LOADING/UNLOADING AREA

The T-109 Loading/Unloading Area as described in Section L is partially located in the proposed footprint of a new landfill designated Residuals Management Unit Number Two (RMU-2). A New T-109 Loading/Unloading Area will need to be constructed to replace the existing T-109 Loading/Unloading Area.

(1). Design

The new T-109 Loading/Unloading Area (attached Figure D-12A) will encompass approximately 700 square feet. It will be used to store full trailers containing liquid materials generated from the SLF-10 leachate holding tank T-109. The area is 55 feet long and 13 feet wide with a curb height at the deepest end of 2'-3". The area will be constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

(2). Operations

The new T-109 Loading/Unloading Area may be used by CWM for storage of liquid and/or solid hazardous and non-hazardous waste. Containers may typically be placed in this area for the following reasons:

- Transfer of leachate from tank T-109;
- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt; or
- General storage while awaiting disposal approval or off-site transportation.

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous DOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;
- Covered roll-off trailers or other bulk containers holding solid materials; and
- Flatbed or lowboy trailers holding hazardous and non-hazardous containers or transformers.

Attached Figure D-12A presents the new T-109 Loading/Unloading Area layout and the maximum liquid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached

Part 373 Renewal Application
Date: December 2013

Figure D-12A. An approved sealant, (e.g., CHEMTEC One) will be applied to the entire concrete slab.

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
T-109 Loading/Unloading Area	Liquid/Solid	tanker/rolloff	1-5,500-gal tanker, 1 rolloff	21,762	7,294

(3). Containment

The new T-109 Loading/Unloading Area will be used for the liquid or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The new T-109 Loading/Unloading Area will be constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad will be sloped toward the rear wall and graded toward the center from both sides. Precipitation will collect in the containment area until it is removed via vacuum truck.

The new T-109 Loading/Unloading Area will consist of a poured concrete slab which has been designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The new T-109 Loading/Unloading Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated, or if appropriate, characterized and discharged to the surface water drainage system.

S. NEW T-158 LOADING/UNLOADING AREA

The T-158 Loading/Unloading Area as described in Section M is partially located in the proposed footprint of a new landfill designated Residuals Management Unit Number Two (RMU-2). A new T-158 Loading/Unloading Area will need to be constructed to replace the existing T-158 Loading/Unloading Area.

(1). Design

The new T-158 Loading/Unloading Area (attached Figure D-14A) will encompass approximately 700 square feet. It will generally be used to store full trailers containing leachate from SLFs 1-11, biphased gate receipts for transfer to the oil/water separator tank T-158 and organic materials transferred from tank T-158 to tankers. The area will be 55 feet long and 13 feet wide with a curb height at the deepest end of 2'-3". The area will be constructed of a reinforced concrete pad, curbed on three sides and sloped so that all precipitation or potential leakage from any unit will be contained.

(2). Operations

The new T-158 Loading/Unloading Area may be used by CWM for storage of liquid and/or solid hazardous and non-hazardous waste. Containers may typically be placed in this area for the following reasons:

- Transfer of leachate to and from tank T-158, Frac Tank #3 and the closed landfill tank in the Leachate Tank Farm or organic materials from tank T-158 to tankers;
- Trailer is delivered to the site after normal operating hours;
- The materials delivered are found to be off-specification;
- Materials will be processed after the date of receipt;
- Corrective measures are being instituted due to a potential leaking vehicle; or
- General storage while awaiting disposal approval or off-site transportation.

The following units may be used to store materials in this area.

- Box trailers holding hazardous and non-hazardous DOT approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;
- Covered roll-off trailers, covered dump trailers or other bulk containers holding solid materials; and

Part 373 Renewal Application
Date: December 2013

- Flatbed or lowboy trailers holding hazardous and non-hazardous containers or transformers.

Attached Figure D-14A presents the new T-158 Loading/Unloading Area layout and the maximum liquid storage capacity for the area based on the previously presented spacing requirements (also see Section A). Secondary containment calculations accompany attached Figure D-14A attached. An approved sealant, (e.g., CHEMTEC One) has been applied to the entire concrete slab.

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
T-158 Loading/Unloading Area	Liquid/Solid	tanker/rolloff	1-5,500-gal tanker, 1 rolloff	30,929	7,294

(3). Containment

The new T-158 Loading/Unloading Area is used for the liquid or solid storage of the RCRA regulated, TSCA regulated and non-hazardous full or partially full containers mentioned above.

(a). Base Construction

The new T-158 Loading/Unloading Area will be constructed of reinforced concrete with a compacted gravel base layer. The concrete containment pad will be sloped toward the rear wall and graded toward the center from both sides. Precipitation will collect in the containment area until it is removed via vacuum truck.

The new T-158 Loading/Unloading Area will consist of a poured concrete slab which has been designed by a certified professional engineer to support loads and structural stresses in excess of those provided by present operations.

(b). A Procedure for the Removal of Liquids from Secondary Containment and Precipitation Management

The new T-158 Loading/Unloading Area, being outdoors, will collect precipitation. Precipitation will be collected and removed via vacuum truck or equivalent and treated, or if appropriate, characterized and discharged to the surface water drainage system.

NEW DRUM MANAGEMENT BUILDING PERMIT DRAWINGS

C-2 - Site Plan

C-5 - Fuels Transfer Ramp Details

E-8 - Drum Storage - Gas Monitoring System

FP-1 - Floor Plans - Fire Protection

FP-2 - Details - Fire Protection

S-0 - Foundation Notes and Required Inspections

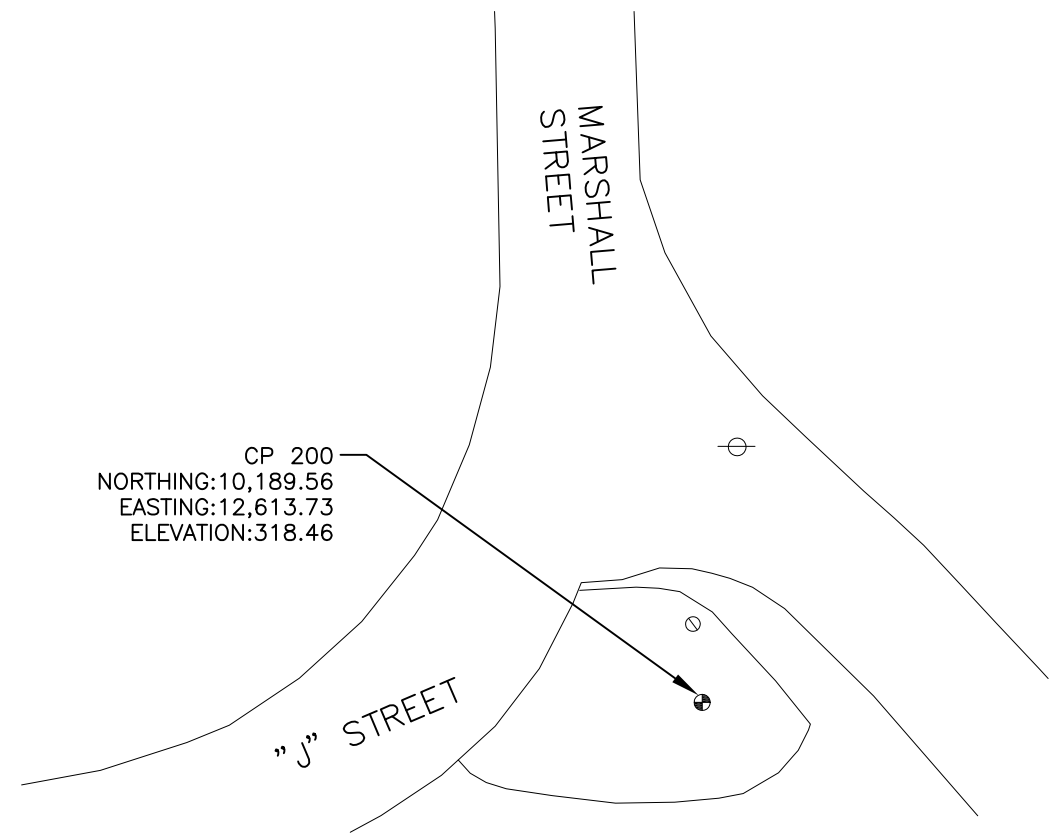
S-1 - Foundation Plan

S-2 - Foundation Details

S-3 - Foundation Details

S-4 - Foundation Details

S-5 - Foundation Details



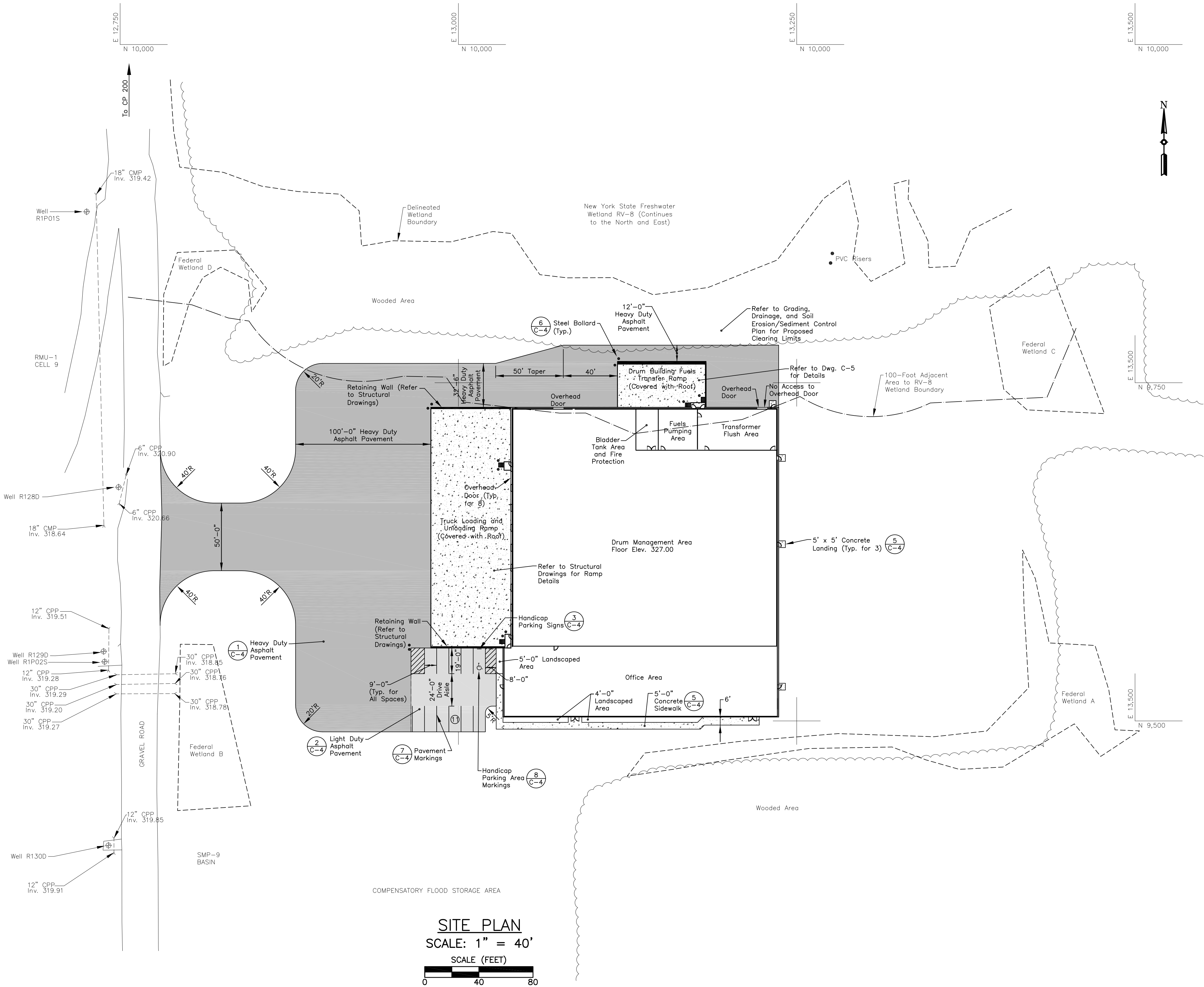
SITE CONTROL POINT 200
SCALE: 1" = 40'

PROJECT INFORMATION



Owner: Chemical Waste Management
1550 Balmer Road
Youngstown, New York 14174
716-286-0325
Tax Account Nos.: 61.00-2-1
Parcel Size: 482.53 acres
Project Area: 5.0 acres
Proposed Development: 45,596 s.f. Drum Management Building

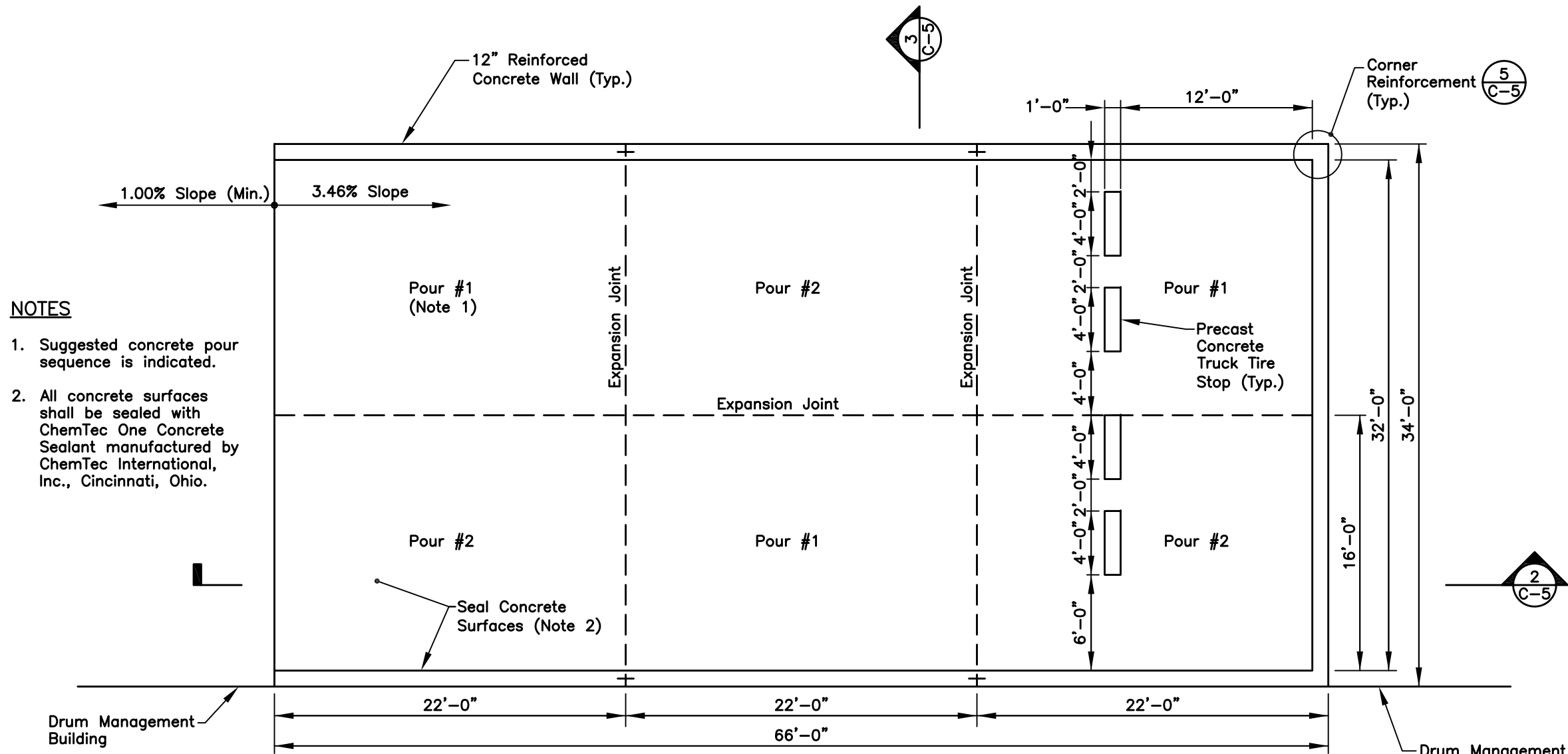
ZONING INFORMATION

District: M-3 Heavy Industrial
Zoning Requirements: Required 2.5 acres, Proposed 482.53 acres, Min. Lot Size 50 l.f., Max. Building Height ?? l.f.
Parking Requirements: 1 space per 100 s.f. net floor area (office, professional, or business). Must be a minimum of 80% and a maximum of 110% of required spaces.
45,596 s.f./100 s.f. = 456 parking spaces
80% x 456 spaces = 365 parking spaces
Proposed Parking: 11 spaces



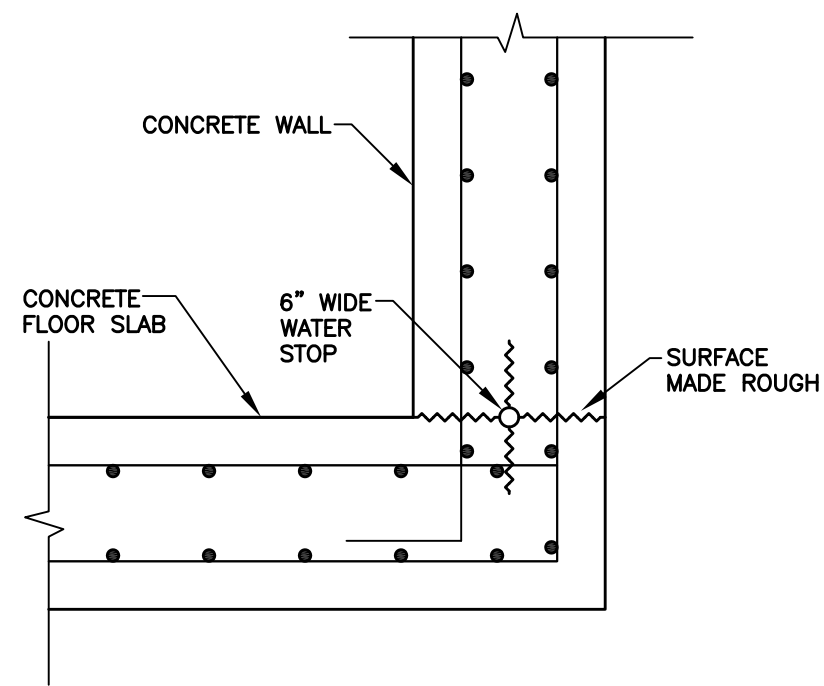
SITE PLAN
SCALE: 1" = 40'
SCALE (FEET)
0 40 80

REVISION				<div><div></div><div>50 RIDGE ROAD BUFFALO, NEW YORK 14218 716-827-0700</div></div>	<div><div></div><div>DRUM MANAGEMENT BUILDING RELOCATION PROJECT CWM CHEMICAL SERVICES, LLC. MODEL CITY FACILITY MODEL CITY, NEW YORK</div></div>	SITE PLAN		DRAWING NO. C-2 <div>REV. NO.</div>		
NO.	DATE	APPR.	CHECKED			DATE				
<div>△</div>	06/10/12	GFT	DESIGN ENGINEER			GFT				
<div>△</div>	05/30/13	GFT	PROJECT ENGINEER			GFT				
<div>△</div>	10/22/13	GFT	PROJECT MANAGER							
			APPROVED							
					DRAWN	HKT	DATE	6-20-12	REVISION DATE	MAY 30, 2013
					SCALE	1" = 40'	JOB NO.	11-406	FILE NAME	SITE PLAN.DWG
									SHEET	OF

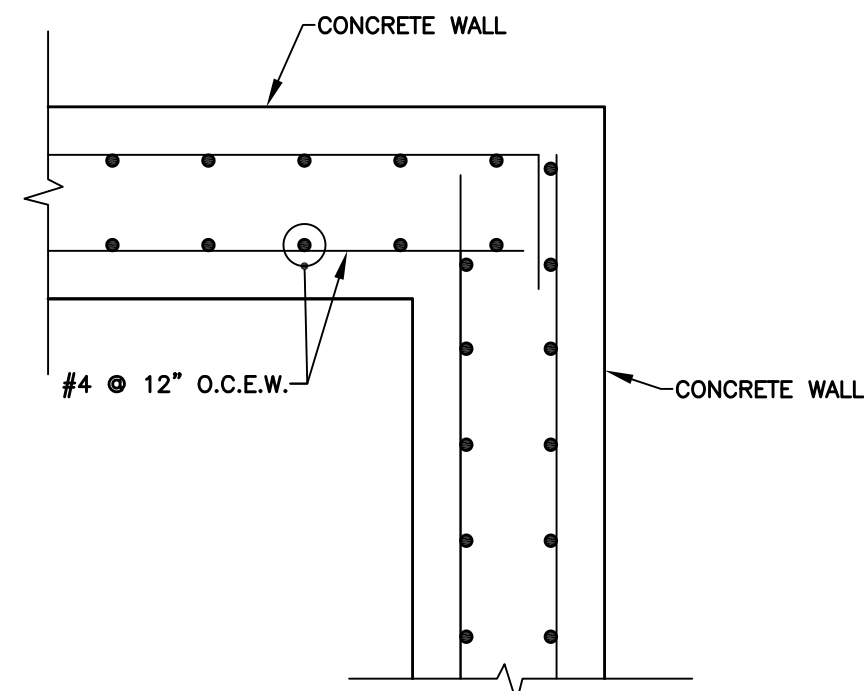


- NOTES**
1. Suggested concrete pour sequence is indicated.
 2. All concrete surfaces shall be sealed with ChemTec One Concrete Sealant manufactured by ChemTec International, Inc., Cincinnati, Ohio.

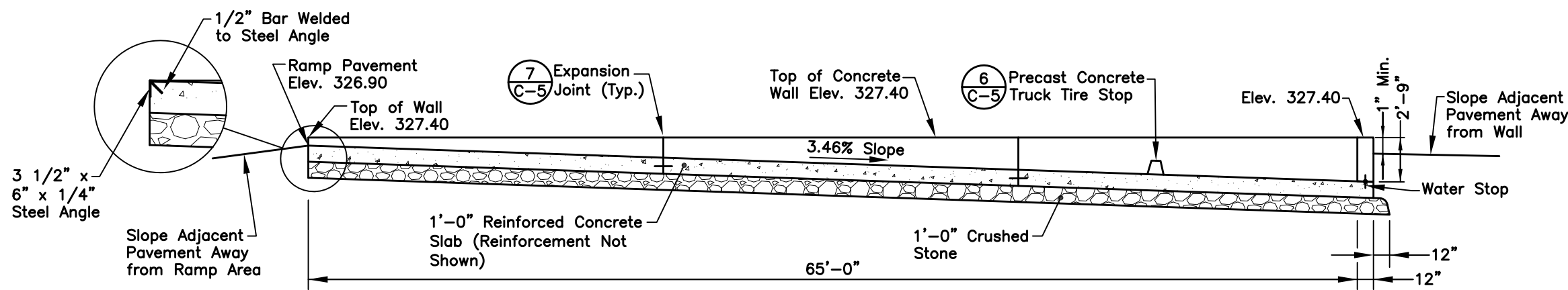
1
C-5
FUELS TRANSFER RAMP
SCALE: 1" = 8'



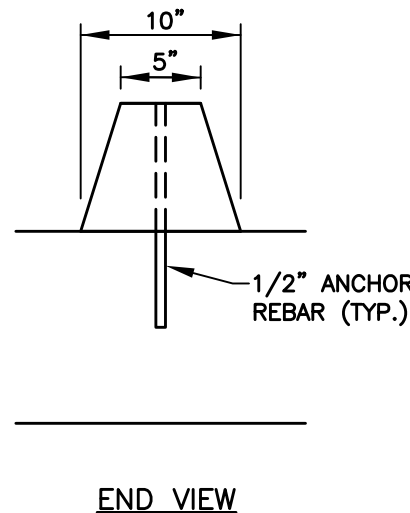
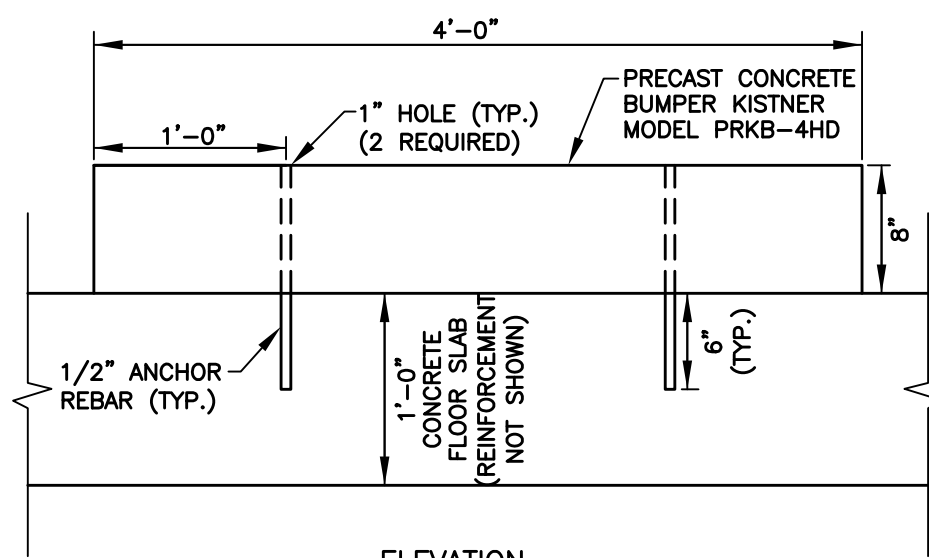
4
C-5
VERTICAL WALL JOINT
NOT TO SCALE



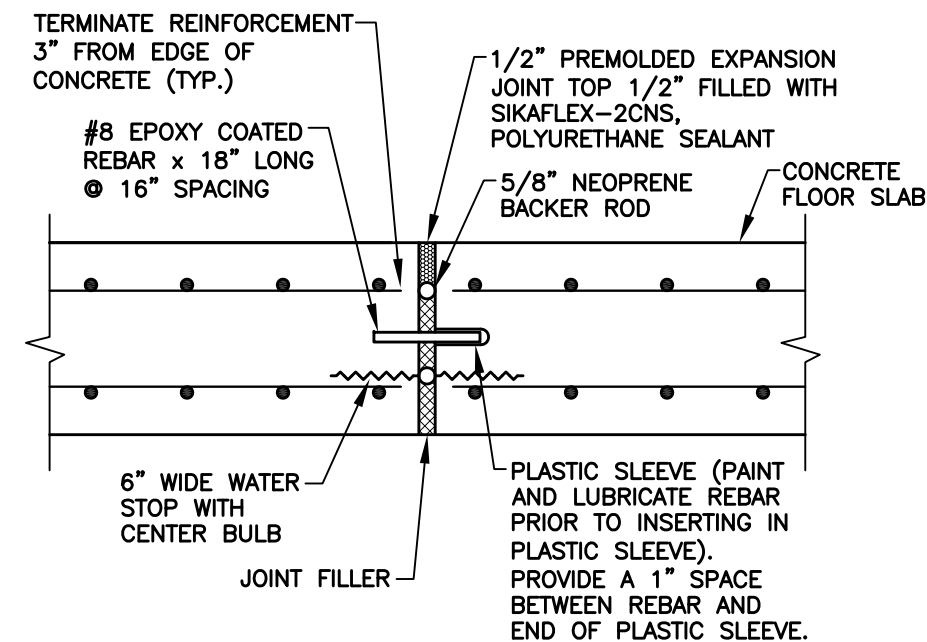
5
C-5
CORNER REINFORCEMENT
NOT TO SCALE



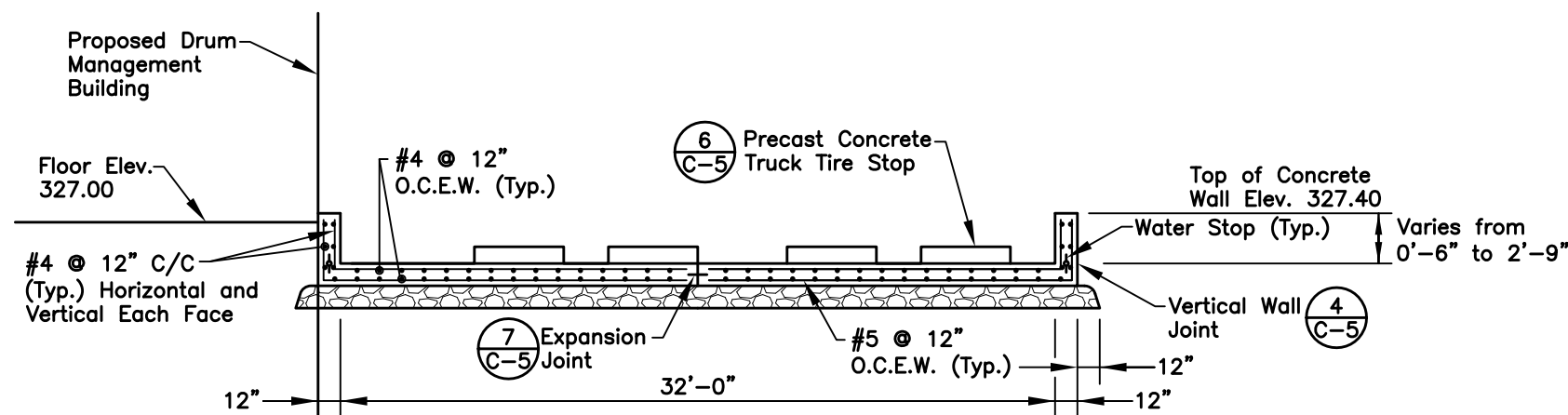
2
C-5
LONGITUDINAL SECTION
SCALE: 1" = 8'



6
C-5
TRUCK TIRE STOP
NOT TO SCALE



7
C-5
TYPICAL EXPANSION JOINT
NOT TO SCALE



3
C-5
TRANSVERSE SECTION
SCALE: 1" = 8'

NO.	DATE	APPR.	REVISION
Δ	06/10/12	GFT	REVISIONS TO ADDRESS 04/23/12 NYSDEC REVIEW COMMENTS
Δ	05/30/13	GFT	REVISIONS TO INCORPORATE WETLAND DELINEATION
Δ	06/11/13	GFT	REVISIONS TO INCORPORATE CWM COMMENTS



50 RIDGE ROAD
BUFFALO, NEW YORK 14218
716-827-0700



DRUM MANAGEMENT BUILDING
RELOCATION PROJECT
CWM CHEMICAL SERVICES, LLC.
MODEL CITY FACILITY
MODEL CITY, NEW YORK

CHECKED	DATE
DESIGN ENGINEER	GFT
PROJECT ENGINEER	GFT
PROJECT MANAGER	
APPROVED	
APPROVED	

FUELS TRANSFER RAMP DETAILS

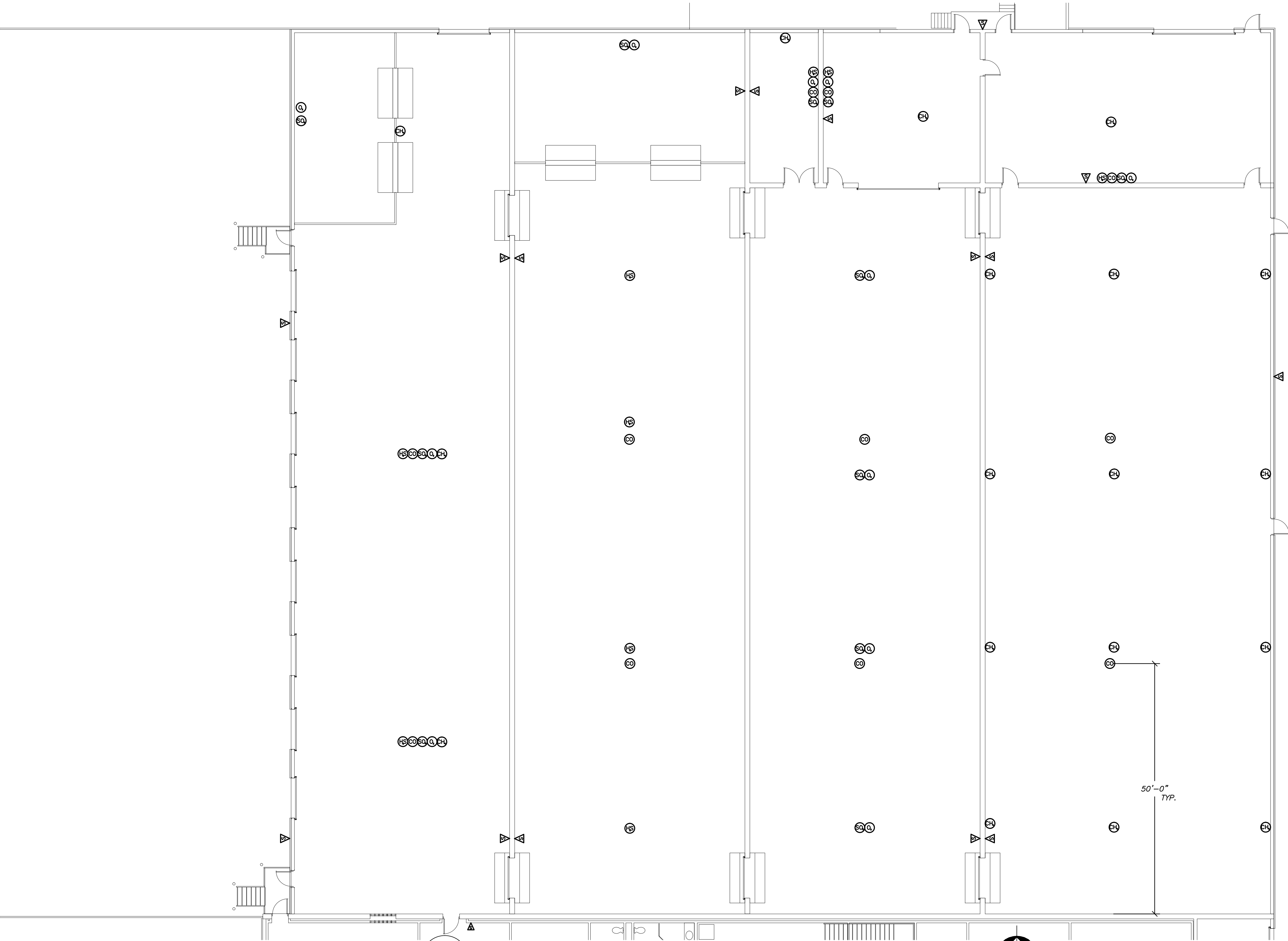
DRAWN	HKT	DATE	6-20-12	REVISION DATE	JUNE 11, 2013
SCALE	NOT TO SCALE	JOB NO.	11-406	FILE NAME	SITE PLAN.DWG

DRAWING NO.

C-5

REV. NO.

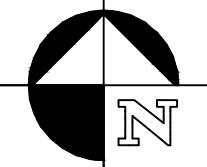
SHEET OF



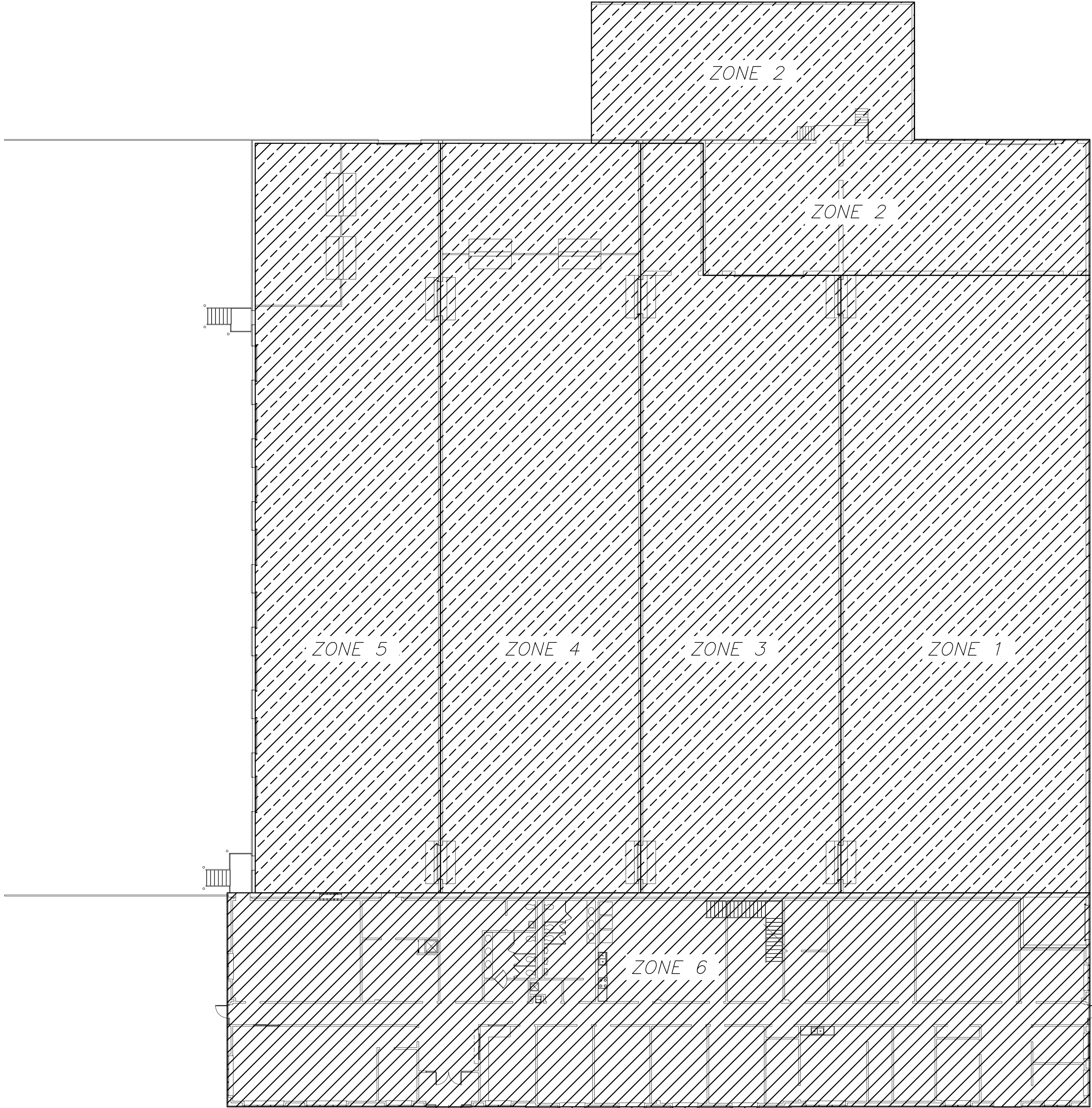
- 14 OXYGEN SENSOR, MOUNTED 3'A.F.F VULCAIN VA301D202 OR APPROVED EQUAL
- 20 CARBON DIOXIDE SENSOR, MOUNTED 3' A.F.F. VULCAIN VA301D260 OR APPROVED EQUAL
- 24 COMBUSTIBLE GAS SENSOR (METHANE), MOUNTED AT CEILING. VULCAIN VA301D2 OR APPROVED EQUAL
- 15 HYDROGEN SULFIDE SENSOR, MOUNTED 3' A.F.F. VULCAIN VA301D2H2S OR APPROVED EQUAL
- 25 SULFUR DIOXIDE SENSOR, MOUNTED 3' A.F.F. VULCAIN 3012D2SD2 OR APPROVED EQUAL
- Multi-tone strobe/horn VULCAIN MT4 OR APPROVED EQUAL

- A. PROVIDE ALL DEVICES, CONDUIT AND FITTINGS AS EXPLOSION PROOF, PER NEC AS CLASS I, DIV. 2. CRITERIA, EXPLOSION PROOF.
- B. PROVIDE ALL SENSORS AT LOCATIONS SHOWN BY TYPICAL DIMENSIONS.
- C. PROVIDE VULCAIN SPLASH GUARD D2SG FOR ALL SENSORS, OR APPROVED EQUAL.
- D. PROVIDE CALIBRATION KITS FOR ALL SENSORS.
- E. PROVIDE (1) SPARE CALIBRATED CIRCUIT BOARD W/ SENSOR FOR EACH SENSOR TYPE.

1
E-8
DRUM STORAGE - GAS MONITORING SYSTEM
SCALE: 3/32" = 1'-0"



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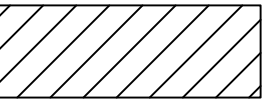



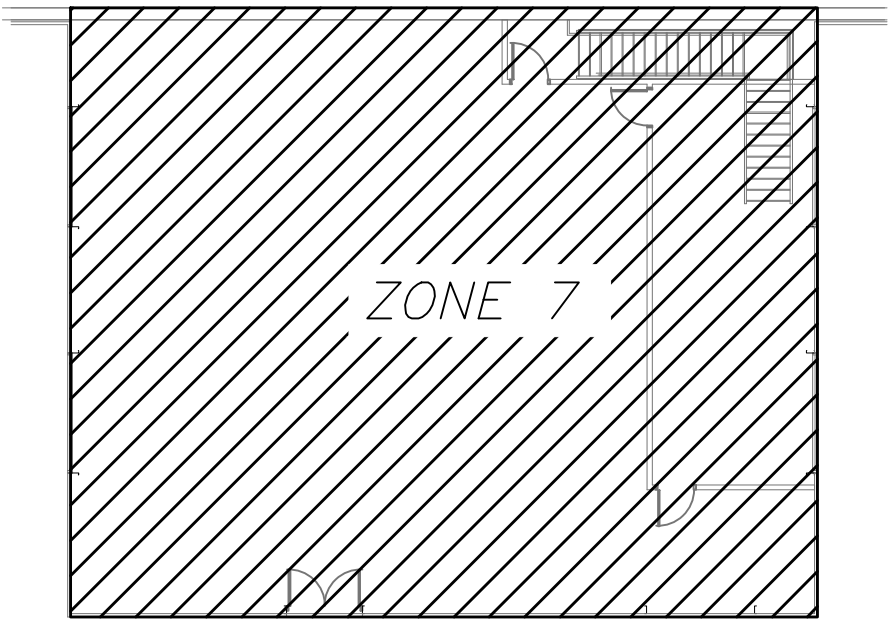
1
FP-1
FIRST FLOOR PLAN – FIRE PROTECTION
SCALE: 1/16" = 1'-0"

FIRE SUPPRESSION SYSTEM NOTES:

1. REFER TO SPECIFICATIONS FOR GENERAL REQUIREMENTS AND PROCEDURES APPLICABLE TO PERFORMANCE REQUIREMENTS AND MATERIALS OF CONSTRUCTION.
2. CONTRACTOR SHALL HIRE A QUALIFIED PROFESSIONAL ENGINEER SPECIALIZING IN THE PERFORMANCE REQUIREMENTS PER N.F.P.A. AND ALL OTHER GOVERNING AUTHORITIES.
3. CONTRACTOR SHALL COORDINATE INSTALLATION OF FIRE PROTECTION SYSTEM WITH OTHER COMPONENTS AND SYSTEMS INCLUDING, BUT NOT LIMITED TO, BUILDING STRUCTURE, DUCTWORK, DIFFUSERS, DUCTWORK APPARATUS, LIGHT FIXTURES, ELECTRICAL CONDUIT AND FITTINGS, CONTROL AND SIGNAL WIRING, AND SUSPENDED CEILING COMPONENTS.
4. ALL WET PIPE SYSTEM PIPING SHALL BE PREPARED WITH GROOVED ENDS TO ALLOW PIPE TO BE FIELD JOINED WITH GROOVED FITTINGS AND COUPLINGS. PIPE FOR WET PIPE SYSTEMS WILL ALSO BE SHOP PREPARED WITH VICTAULIC MECHANICAL TEES TO CREATE OUTLETS FOR SPRINKLER GRID AND BRANCH LINES.
5. ALL FITTINGS ON 1"- 2" WET SYSTEM PIPE SIZES ARE TO BE BLACK CAST IRON, STANDARD WEIGHT, DRY CHEMICAL SYSTEM FITTINGS SHALL BE MALLEABLE, GALVANIZED FOR ALL SIZES.
6. ALL WET PIPE SYSTEM FITTINGS ON PIPE 2 1/2" AND LARGER ARE TO BE VICTAULIC FIRELOCK, U.N.O.
7. ALL GROOVED COUPLINGS ARE TO VICTAULIC FIRELOCK, U.N.O.
8. ALL HANGERS ARE TO BE BLACK STEEL, U.N.O.
9. ALL BRANCH LINE OUTLETS ON MAINS ARE TO BE VIC. MECHANICAL TEES, U.N.O.
10. ALL PIPE, VALVES, FITTINGS AND HANGERS SHALL BE IN ACCORDANCE WITH THE LATEST NFPA-13 AND NFPA-17. SYSTEM DESIGNS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND LOCAL REGULATIONS.


LEGEND


-  SPRINKLER SYSTEM
-  DRY CHEMICAL SUPPRESSION SYSTEM




2
FP-1
SECOND FLOOR PLAN – FIRE PROTECTION
SCALE: 1/16" = 1'-0"

NO.				DATE				APPR.				REVISION			

				50 RIDGE ROAD BUFFALO, NEW YORK 14218 716-827-0700			
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				DRUM MANAGEMENT BUILDING RELOCATION PROJECT CWM CHEMICAL SERVICES, LLC. MODEL CITY FACILITY MODEL CITY, NEW YORK			
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				CHECKED DESIGN ENGINEER PROJECT ENGINEER PROJECT MANAGER APPROVED APPROVED	AJW WAB	DATE
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FLOOR PLANS – FIRE PROTECTION				DRAWN	DATE	REVISION DATE:
SCALE AS NOTED				JOB NO.	6/20/12	FILE NAME:

DRAWING NO. DWG. FP-1				REV. NO.			
SHEET				OF			

EARTHWORK NOTES

- FOUNDATION DESIGNS ARE BASED ON AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
- ALL FOOTINGS ARE TO BE PLACED ON CLEAN, DRY, LEVEL, COMPACTED NATIVE SOIL OR ON ENGINEERED STRUCTURAL FILL. FOR BIDDING PURPOSES, DEPTH TO EXISTING NATIVE SOIL SHALL BE TAKEN AS 4'-0" BELOW FINISHED FLOOR DATUM ELEVATION (0'-0"). THE CONTRACTOR SHALL FIELD DETERMINE THE EXACT DEPTH TO NATIVE SOIL, AND ADJUST REQUIRED FOUNDATION ELEVATIONS ACCORDINGLY. SUBGRADE SOILS SHALL BE COMPACTED TO DENSITIES IN EXCESS OF 95% OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D1557. PLACE 8" LAYERS OF ENGINEERED STRUCTURAL FILL AS REQUIRED TO OBTAIN THE REQUIRED BEARING ELEVATIONS INDICATED ON THE DRAWINGS. ALL ENGINEERED FILL MUST BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D1557.
- IMPORTED ENGINEERED STRUCTURAL FILL PLACED AS FILL BENEATH PROPOSED FOUNDATIONS AND AS BACKFILL AGAINST PROPOSED FOUNDATIONS SHALL BE A MATERIAL CONSISTING OF PREDOMINATELY GRANULAR SOILS, FREE FROM ORGANIC MATTER, CLAY, ICE, DEBRIS, OR OTHER DELETERIOUS MATERIAL. STRUCTURAL FILL SHALL CONSIST OF A WELL-GRADED MATERIAL HAVING A MAXIMUM PARTICLE SIZE OF 3 INCHES AND LESS THAN 7% BY WEIGHT PASSING THE NO. 200 SIEVE.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO ADEQUATELY CONTROL SURFACE RUNOFF AND GROUNDWATER SEEPAGE ON A CONTINUOUS BASIS DURING CONSTRUCTION. NO SURFACE RUNOFF OR GROUNDWATER WILL BE PERMITTED TO ENTER CONSTRUCTION EXCAVATIONS. ALL BACKFILL OPERATIONS SHALL BE CONDUCTED IN DRY AREAS ONLY.
- TAKE ALL NECESSARY PRECAUTIONS WHEN EXCAVATING NEXT TO EXISTING BUILDINGS TO AVOID DAMAGE TO EXISTING FOUNDATIONS. PROVIDE TEMPORARY SHORING IN THESE AREAS AS REQUIRED.
- ALL EXCAVATIONS SHALL FULLY CONFORM TO ALL LOCAL, STATE AND FEDERAL SAFETY REGULATIONS.
- ALL FILL MATERIAL PLACED BENEATH FLOOR SLABS AND FOUNDATIONS, AND AGAINST FOUNDATIONS SHALL BE SPREAD IN MAXIMUM 8" THICK LAYERS AND UNIFORMLY COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D1557). IN OVEREXCAVATED AREAS OR CONFINED AREAS, THE FILL SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS AND COMPACTED TO 95% USING A MANUALLY OPERATED COMPACTOR.
- BACKFILL BOTH SIDES OF FOUNDATION WALLS IN EQUAL, ALTERNATE LIFTS IN ORDER TO AVOID IMPOSING EXCESSIVE UNBALANCED LATERAL PRESSURE ON THE WALLS.
- BACKFILL MATERIALS REQUIRED AS A RESULT OF OVER-EXCAVATION BY THE CONTRACTOR WITHOUT PRIOR APPROVAL SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ALLOW TESTING AGENCY TO INSPECT AND APPROVE ALL COMPACTED SUBGRADE AND FILL LAYERS PRIOR TO FURTHER BACKFILL AND/OR PLACEMENT OF CONCRETE. TEST RESULTS SHALL BE TO THE COMPLETE SATISFACTION OF THE OWNER AND ALL GOVERNING AUTHORITIES. REFER TO PROJECT SPECIFICATIONS FOR BALANCE OF REQUIREMENTS REGARDING SUBMITTALS, STORAGE AND HANDLING, JOB CONDITIONS, MANNER OF EXECUTION AND METHODS OF CONTROL FOR EXCAVATIONS

FOUNDATION NOTES

- TOP OF FOOTING ELEVATIONS ARE REFERENCED FROM FINISHED FLOOR SLAB DATUM ELEV. 0'-0", AND ARE NOTED THUS: [] ON PLAN OR NOTED IN THE TYPICAL FOOTING DESIGNATIONS.
- REFER TO PROJECT SPECIFICATIONS FOR ALL REQUIRED CONCRETE PROPERTIES.
- ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60.
- PROVIDE 2 - #5 BARS x 4 FT. LONG DIAGONALLY AT CORNERS OF ALL OPENINGS IN CONCRETE SLABS.
- PROVIDE #4 DOWELS @ 16" O.C. FROM EXTERIOR SLABS, SIDEWALKS, ETC. INTO FOUNDATION WALLS AT ALL EXTERIOR DOORS.
- PROVIDE CONCRETE COVER OVER REINFORCING IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318.
- ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF ACI 318.
- SECTIONS INDICATED ON PLAN ARE TYPICAL FOR SIMILAR CONDITIONS.

MASONRY NOTES

- ALL MASONRY ASSEMBLIES SHALL HAVE f'm = 1500 PSI
- DESIGN AND PROVIDE TEMPORARY BRACING OF MASONRY WALLS DURING CONSTRUCTION. BRACING SHALL REMAIN IN PLACE UNTIL PERMANENT SUPPORTING ELEMENTS OF THE STRUCTURE HAVE BEEN CONSTRUCTED. BRACING SHALL FULLY CONFORM TO ALL OSHA REQUIREMENTS.
- ALL BLOCK SHALL CONFORM TO ASTM C90.
- REFER TO PROJECT SPECIFICATIONS FOR ALL REQUIRED MORTAR AND GROUT PROPERTIES.

SCHEDULE OF STRUCTURAL SPECIAL INSPECTIONS

THE FOLLOWING TABLES DENOTE THE STRUCTURAL SPECIAL INSPECTION REQUIREMENTS FOR THIS PROJECT IN ACCORDANCE WITH CHAPTER 17 OF THE BUILDING CODE OF NEW YORK STATE. REFER TO THE PROJECT SPECIFICATIONS FOR REQUIRED QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION ACTIVITIES.

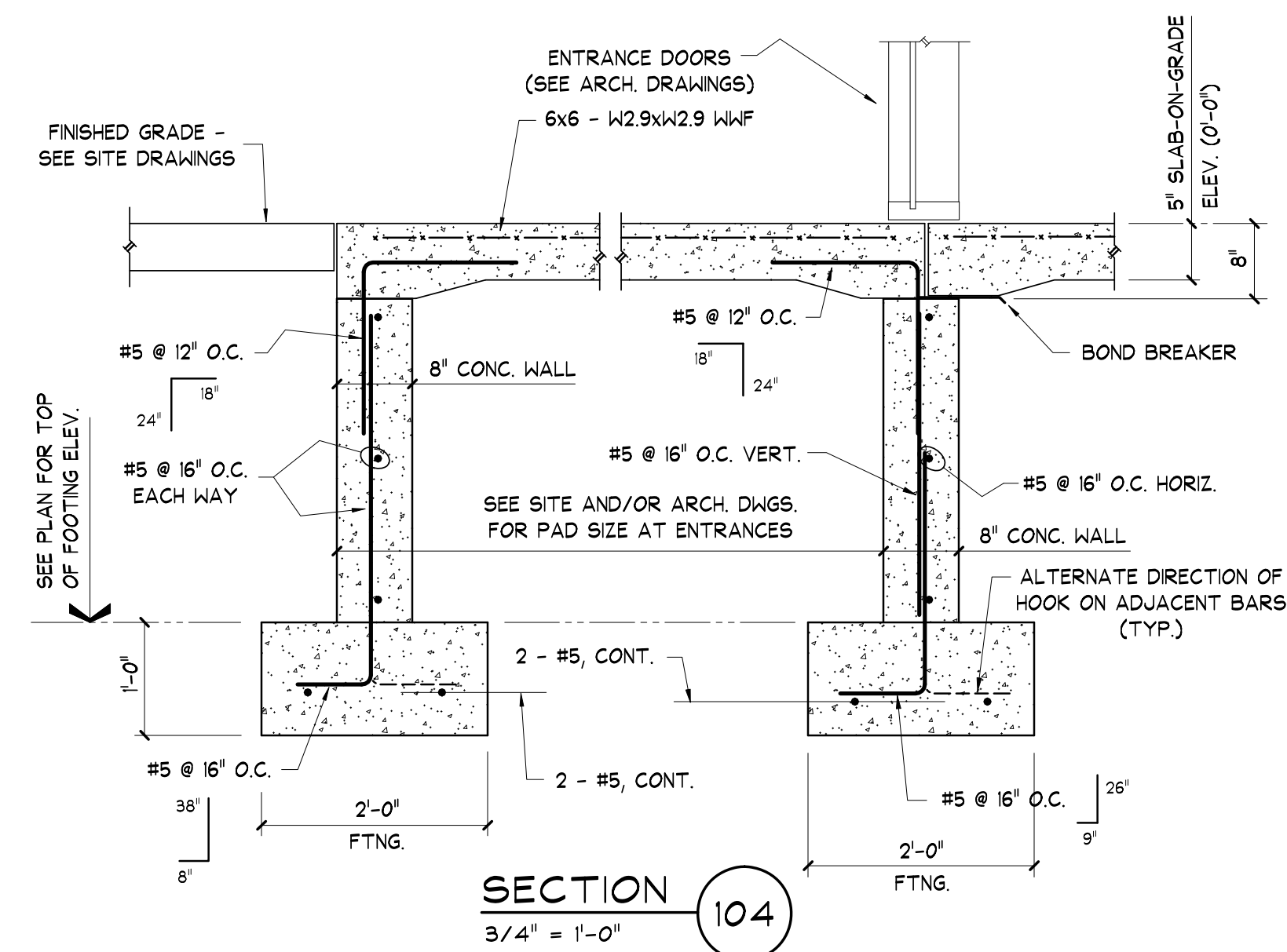
EARTHWORK OPERATIONS - REQUIREMENTS FOR SPECIAL INSPECTION & TESTING				
AREAS OF INSPECTION & TESTING	FREQUENCY OF INSPECTION OR TESTING		REFERENCE STANDARD	BCNYS REFERENCE
	CONTINUOUS	PERIODIC		
1. PRIOR TO PLACEMENT OF ENGINEERED OR ON-SITE FILL MATERIAL, CONFIRM THAT SUBGRADE HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT DOCUMENTS.		X		1704.7.1
2. DURING PLACEMENT AND COMPACTION OF FILL MATERIAL, VERIFY THAT THE MATERIAL AND ITS METHOD OF PLACEMENT AND COMPACTION CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.		X		1704.7.2
3. CONFIRM THAT THE FINAL IN-PLACE DENSITY OF THE FILL MATERIAL MEETS THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.		X		1704.7.3
4. INSPECT FOUNDATION BEARING STRATA PRIOR TO PLACING CONCRETE FOR CONFORMANCE TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.	X			
5. VERIFY THAT UNDERSLAB GRANULAR FILL AND ITS METHOD OF PLACEMENT CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.		X		

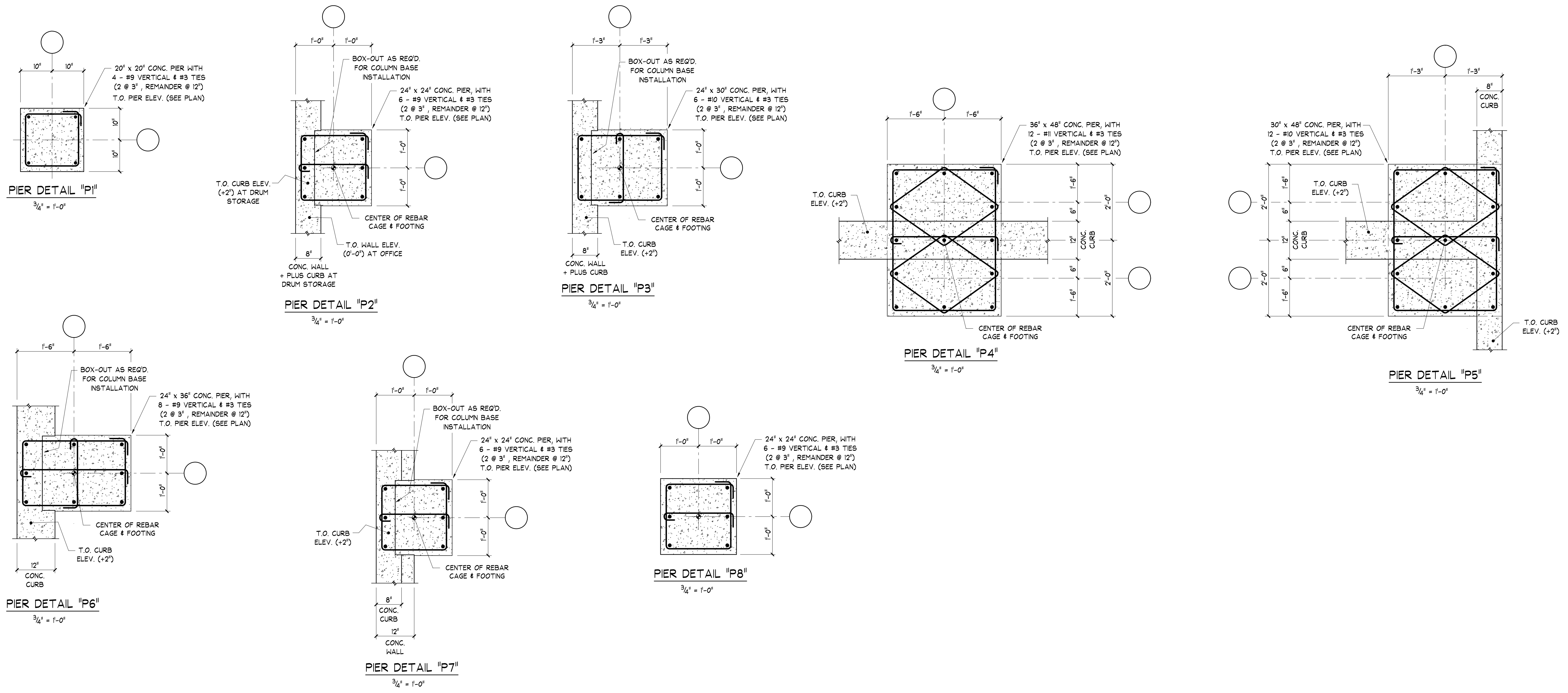
MASONRY CONSTRUCTION - REQUIREMENTS FOR LEVEL 1 SPECIAL INSPECTION & TESTING				
AREAS OF INSPECTION & TESTING	FREQUENCY OF INSPECTION OR TESTING		REFERENCE STANDARD	BCNYS REFERENCE
	CONTINUOUS	PERIODIC		
1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ITEMS ARE IN COMPLIANCE: A. PROPORTIONS OF SITE-PREPARED MORTAR. B. CONSTRUCTION OF MORTAR JOINTS. C. SIZE, LOCATION AND SPACING OF REINFORCEMENT.		X X X	ACI 530.1: ART. 2.6A ACI 530.1: ART. 3.3B ACI 530.1: ART. 3.4 & 3.6A	1903.5, 1907.1, 1907.7, 1914.4
2. VERIFY THE FOLLOWING DURING CONSTRUCTION: A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS. B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION. C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT. D. PROPER WELDING OF REINFORCING BARS. E. PROPER PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F).		X X X X	ACI 530.1: ART. 3.3G ACI 530. SEC. 115.4 & 212 ACI 530. SEC. 112, ACI 530.1: ART. 2.4 & 3.4 ACI 530. SEC. 218.6, 218.6.2 ACI 530.1: ART. 1.8	2108.9.2.11, ITEM 2 2104.3, 2104.4
3. VERIFY THE FOLLOWING PRIOR TO GROUTING: A. GROUT SPACE IS CLEAN. B. PLACEMENT OF REINFORCEMENT AND ANCHORS IS IN ACCORDANCE WITH CONTRACT DOCUMENTS. C. PROPER PROPORTIONS OF SITE-PREPARED GROUT. D. PROPER CONSTRUCTION OF MORTAR JOINTS.	X	X X X	ACI 530.1: ART. 3.2D ACI 530. SEC. 112, ACI 530.1: ART. 3.4 ACI 530.1: ART. 2.6B ACI 530.1: ART. 3.3B	
4. VERIFY THE FOLLOWING DURING GROUTING: A. GROUT PLACEMENT IS IN COMPLIANCE WITH ALL CODE AND CONTRACT DOCUMENT REQUIREMENTS.	X		ACI 530.1: ART. 3.5	
5. OBSERVE THE PREPARATION OF ALL REQUIRED GROUT AND MORTAR SPECIMENS.	X		ACI 530.1: ART. 1.4	2105.3, 2105.4, 2105.5
6. COMPLY WITH ALL REQUIRED INSPECTION PROVISIONS OF THE CONTRACT DOCUMENTS AND APPROVED SUBMITTALS.		X	ACI 530.1: ART. 1.5	

CAST-IN-PLACE CONCRETE - REQUIREMENTS FOR SPECIAL INSPECTION & TESTING				
AREAS OF INSPECTION & TESTING	FREQUENCY OF INSPECTION OR TESTING		REFERENCE STANDARD	BCNYS REFERENCE
	CONTINUOUS	PERIODIC		
1. INSPECT REINFORCING STEEL FOR CORRECT MATERIAL, SIZE, CONDITION AND PLACEMENT.		X	ACI 318: 3.5 ACI 318: 7.1-7.7	1903.5, 1907.1, 1907.7, 1914.4
2. INSPECT REINFORCING STEEL WELDING IN ACCORDANCE WITH BCNYS TABLE 1704.3, ITEM 5B.		X	AWS D1.4 ACI 318: 5.5.2	1903.5.2
3. PRIOR TO AND DURING PLACEMENT OF CONCRETE, INSPECT BOLTS AND ANCHOR RODS INSTALLED IN CONCRETE FOR PROPER LOCATION AND DEPTH OF EMBEDMENT.	X			1912.5
4. VERIFY THAT REQUIRED CONCRETE DESIGN MIX IS USED IN CORRECT LOCATIONS.		X	ACI 318: CH. 4 ACI 318: 5.2-5.4	1904, 1905.2, 1905.3, 1905.4, 1914.2, 1914.3
5. TAKE SAMPLES OF FRESH CONCRETE TO PERFORM SLUMP TESTS AND MEASURE AIR CONTENT AND TEMPERATURE OF THE CONCRETE BEING PLACED. MAKE TEST CYLINDERS FOR STRENGTH TESTS.	X		ASTM C172 ASTM C31 ACI 318: 5.6, 5.8	1905.6, 1914.10
6. VERIFY THAT PROPER INSTALLATION TECHNIQUES ARE BEING USED TO PLACE CONCRETE.	X		ACI 318: 5.9, 5.10	1905.9, 1905.10, 1914.6, 1914.7, 1914.8
7. INSPECT FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X	ACI 318: 5.11-5.13	1905.11, 1905.13, 1914.9
8. VERIFY CONCRETE STRENGTH BY TESTING CYLINDERS CONSTRUCTED OF FRESHLY PLACED CONCRETE.		X		

STEEL CONSTRUCTION - REQUIREMENTS FOR SPECIAL INSPECTION & TESTING (SUBJECT TO CONSTRUCTION DETAILS OF PRE-ENGINEERED BUILDING)				
AREAS OF INSPECTION & TESTING	FREQUENCY OF INSPECTION OR TESTING		REFERENCE STANDARD	BCNYS REFERENCE
	CONTINUOUS	PERIODIC		
1. FABRICATOR'S SHOP TESTING AND QUALITY CONTROL PROGRAM: A. VERIFY FABRICATOR'S CERTIFICATION AND QUALITY CONTROL PROGRAM. B. SPECIAL INSPECTIONS REQUIRED IN FABRICATOR'S SHOP FOR ELEMENTS IDENTIFIED BELOW.	NOT REQ'D IF FABRICATOR IS AISC CERTIFIED	X	AISC PLANT CERTIFICATION PROGRAM	1704.2
2. REVIEW MATERIAL CERTIFICATIONS FOR HIGH-STRENGTH BOLTS, NUTS AND WASHERS: A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS. B. MANUFACTURER'S CERTIFICATES OF COMPLIANCE REQUIRED.		X	APPLICABLE ASTM MATERIAL SPECIFICATIONS, AISC SECT. A3.3	
3. INSPECT HIGH-STRENGTH BOLTED CONNECTIONS: A. BEARING-TYPE CONNECTIONS. B. SLIP-CRITICAL CONNECTIONS.	X X	 X	AISC SECT. M2.5	1704.3.3
4. VERIFY STRUCTURAL STEEL MATERIAL CERTIFICATIONS: A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS. B. MANUFACTURER'S CERTIFIED MILL TEST REPORTS REQUIRED.			ASTM A6 ASTM A6	1708.4
5. VERIFY WELD FILLER MATERIAL CERTIFICATIONS: A. IDENTIFICATION MARKINGS TO CONFORM TO AWS REQUIREMENTS SPECIFIED IN THE CONSTRUCTION DOCUMENTS. B. MANUFACTURER'S CERTIFICATES OF COMPLIANCE REQUIRED.			AISC SECT. A3.5	
6. CONDUCT WELD INSPECTIONS AS FOLLOWS: A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS. B. MULTI-PASS FILLET WELDS. C. SINGLE-PASS FILLET WELDS > 5/16" D. SINGLE-PASS FILLET WELDS <= 5/16" E. FLOOR DECK AND ROOF DECK WELDS.	X X X	 X X	AWS D11 AWS D13	1704.3.1
7. INSPECT STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS: A. DETAILS SUCH AS BRACING AND STIFFENERS. B. MEMBER LOCATIONS. C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.		X		1704.3.2

NO.	DATE	APPR.	REVISION	<div><div>50 RIDGE ROAD BUFFALO, NEW YORK 14218 716-827-0700</div></div>	<div><div>DRUM MANAGEMENT BUILDING RELOCATION PROJECT CWM CHEMICAL SERVICES, LLC. MODEL CITY FACILITY MODEL CITY, NEW YORK</div></div>	<div></div>	CHECKED	DATE	FOUNDATION NOTES AND REQUIRED INSPECTIONS			DRAWING NO.
DESIGN ENGINEER		S-0										
PROJECT ENGINEER		REV. NO.										
PROJECT MANAGER		DRAWN	FMF				DATE	6/20/12	REVISION DATE:			
APPROVED		SCALE	AS NOTED				JOB NO.		FILE NAME:			
APPROVED										SHEET 1 OF 6		





NO.				DATE				APPR.				REVISION			

GREAT LAKES ENVIRONMENTAL & SAFETY CONSULTANTS, INC.		50 RIDGE ROAD BUFFALO, NEW YORK 14218 716-827-0700	
WASTE MANAGEMENT		DRUM MANAGEMENT BUILDING RELOCATION PROJECT CWM CHEMICAL SERVICES, LLC. MODEL CITY FACILITY MODEL CITY, NEW YORK	

STATE OF NEW YORK ALBERT G. LYONS, JR. 074710 PROFESSIONAL ENGINEER		CHECKED	DATE
		DESIGN ENGINEER	
		PROJECT ENGINEER	
		PROJECT MANAGER	
		APPROVED	
		APPROVED	

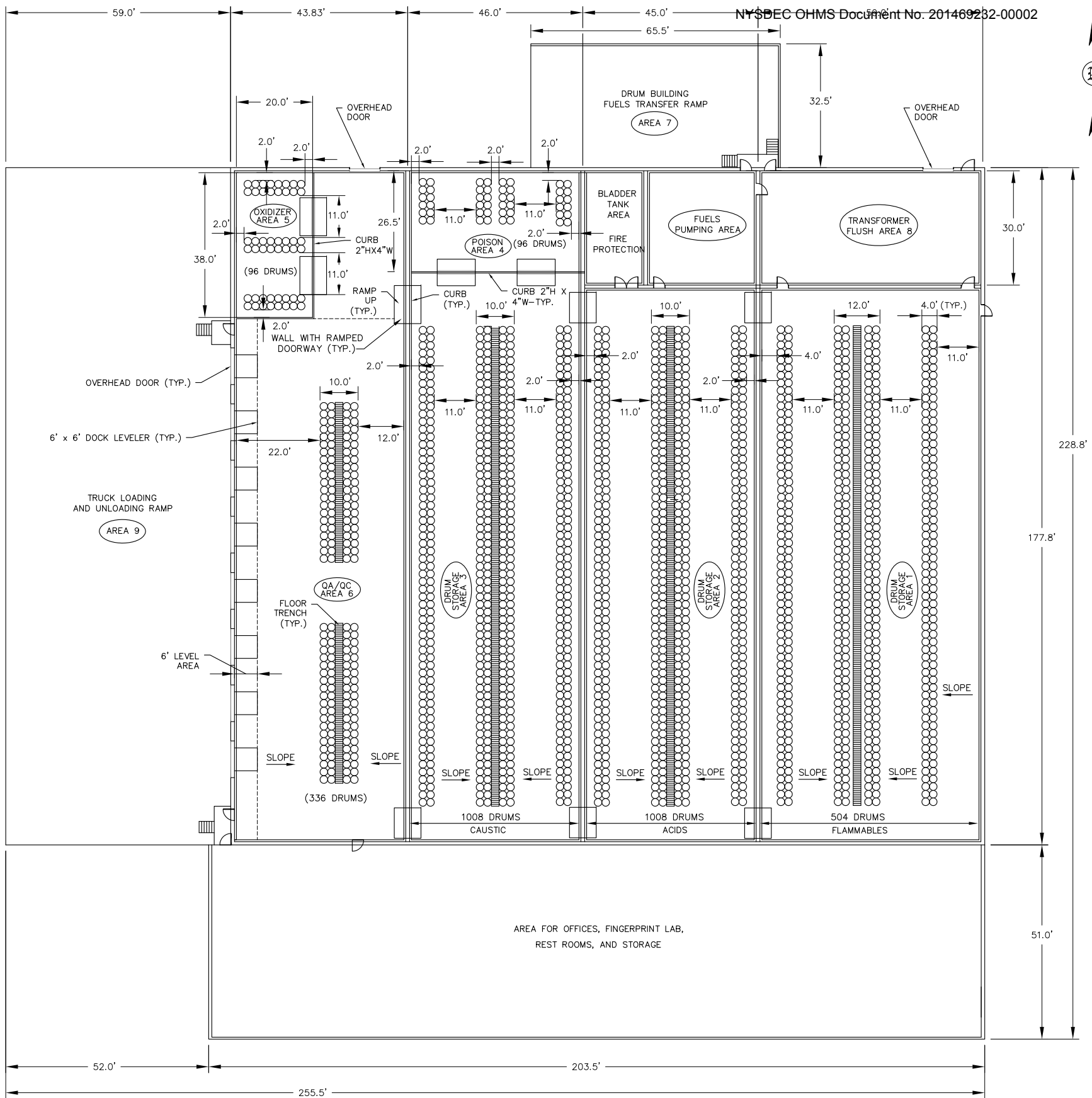
DRAWN		FMF	DATE	6/20/12	REVISION DATE
SCALE		AS NOTED	JOB NO.		FILE NAME

DRAWING NO.		S-3
REV. NO.		
SHEET	4	OF 6

[illegible]

FIGURE D-1B
NEW DRUM MANAGEMENT BUILDING LAYOUT

X:\AAAG\J\CW\09-2009 Projects\09-7011 Drum Mgmt. Bldg Relocation Dwg. & Design (Task 4 & 5)\ACAD\09-7011-D01-Drum Bldg Design Rev 3.dwg, 1/21/2013 1:05:17 PM



NOTES:


1. THE ARRANGEMENT SHOWN MAY BE MODIFIED TO SUIT THE NEEDS OF SPECIFIC STORAGE REQUIREMENTS.
2. A MINIMUM OF TWO FEET BETWEEN ROWS OF DRUM PAIRS (FOUR FEET FOR FLAMMABLES) WILL BE USED AS GUIDANCE FOR AISLE SPACING THROUGHOUT THE FACILITY.
3. DRUMS WILL BE STORED A MINIMUM OF TWO FEET FROM CURBING OR EDGE OF WALLS IF NO CURBING EXISTS (FOUR FEET FOR FLAMMABLES), AND MAY BE STACKED TWO HIGH (ONE HIGH FOR FLAMMABLES).
4. INCOMPATIBLES WILL NOT BE STORED WITHIN THE SAME STORAGE AREA.
5. MAXIMUM STORAGE CAPACITY: CALCULATED AS 55-GALLON DRUMS
AREA 1: FLAMMABLES – 504 (LIQUID OR SOLID)
AREA 2: ACIDS – 1008 (LIQUID OR SOLID)
AREA 3: CAUSTIC – 1008 (LIQUID OR SOLID)
AREA 4: POISONS – 96 (LIQUID OR SOLID)
AREA 5: OXIDIZER – 96 (LIQUID OR SOLID)
AREA 6: QA/QC – 336 (LIQUID OR SOLID)
6. MAXIMUM TOTAL BUILDING STORAGE (55-GALLON DRUMS) – 3,044

AREAS MAY STORE LIQUIDS, SOLIDS, OR A COMBINATION OF LIQUID AND SOLID DRUMS. OTHER COMPATIBLE LIQUIDS AND SOLIDS MAY ALSO BE STORED IN THESE AREAS.
7. THE TRUCK LOADING/UNLOADING RAMP IS PERMITTED FOR SOLIDS OR LIQUIDS CONTAINER STORAGE EXCLUDING FLAMMABLES. MAXIMUM CAPACITY FOR UNLOADING/LOADING AREA IS 13 FLATBEDS OR 13 TRAILERS CONTAINING APPROXIMATELY 80 DRUMS EACH (i.e., 1040 DRUMS MAXIMUM).
8. MAXIMUM CAPACITY FOR FUELS TRANSFER RAMP IS TWO TANKERS CONTAINING UP TO 5,500 GALLONS EACH.
9. MAXIMUM CAPACITY FOR TRANSFORMER FLUSH AREA IS 2,065 GALLONS.
10. FLOOR PLAN SHOWS TYPICAL MAXIMUM LAYOUT USING 55-GALLON DRUMS. OTHER TYPES, SIZES, AND ARRANGEMENT OF CONTAINERS ARE POSSIBLE PROVIDED THE SECONDARY CONTAINMENT CAPACITY IS NOT EXCEEDED.
11. THE DRUM MANAGEMENT BUILDING CONTAINMENT STORAGE AREA LAYOUT CONFORMS TO ALL APPLICABLE PROVISIONS IN THE NFPA CODES.
12. CORROSIVES IN AREAS 2 AND 3 MAY BE EITHER ACIDS OR CAUSTICS, BUT NOT BOTH IN THE SAME AREA AT ANY TIME.

REVISION	BY	DATE
CHANGED SHEET NO. TO FIGURE D-1B	TAS	1/21/13
REVISED NOTE 7 TO EXCLUDE FLAMMABLES. ADDED AREA 9.	JCD	5/10/12
REVISED PER GLE FOUNDATION PLAN S-1 DATED 1/19/12	JCD	2/6/12



EnSol, Inc.
Environmental Solutions
661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

PROJECT NO:		09-7011			
SCALE:					
DWG:		09-7011-D01-Drum Bldg Design Rev 3.dwg			
DES. BY:	MJM	DRW. BY:	AMW	CHK. BY:	BDS
DATE:		SEPTEMBER 2009			

TITLE: PROPOSED DRUM MANAGEMENT BUILDING LAYOUT		
PROJECT: DRUM MANAGEMENT BUILDING RELOCATION		
PREPARED FOR: CWM CHEMICAL SERVICES, LLC.		
TOWN OF LEWISTON	COUNTY OF NIAGARA	STATE OF NEW YORK

FIGURE
D-1B

CALCULATION SHEET**EnSol, Inc.**

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PROJECT NO.: 09-7011

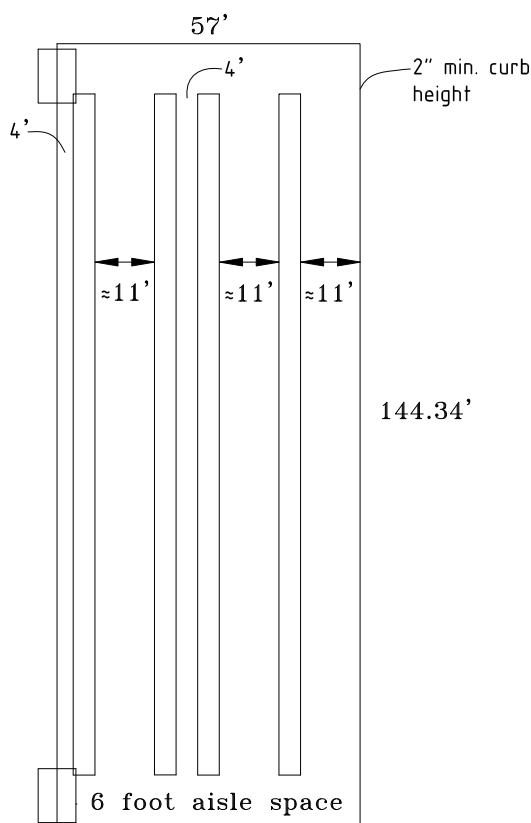
CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

NEW DRUM BUILDING WAREHOUSE**TASK:**

Calculate the total available and required volumes within the secondary containment areas. All dimensions are interior.

CALCULATIONS:**AREA 1 – FLAMMABLE LIQUID STORAGE AREA:**

Dimensions:



There are 4 *sections* in Area 1.

A *section* is defined as 2 *drums* side by side (4.0 feet total) with approximately 11-foot aisle space, and minimum 4-foot from wall; 63 *drums* each row x 2 rows of *drums* (126 *drums* total, Single-Stacked).

4 *sections* x 126 *drums/section* = 504 *drums*

Required Secondary Containment per Area 1:

504 *drums* x 55 *gallons/drum* = 27,720 *gallons* x 10% = 2,772 *gallons*

CALCULATION SHEET

EnSol, Inc.

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 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

Available Secondary Containment per Area 1:

Gross Dimensions and Volume (less floor trench volume):

57' x 144.34' x 0.167' (2-inches curb height)

 $57' \times 144.34' \times 0.167' = 1374 \text{ ft}^3$ 7.48 gallons / ft^3 $7.48 \text{ gallons/ft}^3 \times 1374 \text{ ft}^3 \cong 10,277.5 \text{ gallons}$

Floor Trench System Volume:

 $126' L \times 1.0' W \times 0.75' D = 94.5 \text{ ft}^3$ $7.48 \text{ gallons/ft}^3 \times 94.5 \text{ ft}^3 \cong 706.9 \text{ gallons}$

Total Secondary Containment Volume:

 $10,277.5 \text{ gallons} + 706.9 \text{ gallons} = \underline{10,984.4 \text{ gallons}}$ Reduction in Gross Available Volume Due to Presence of Drums (assume 1 drum leaks): $503 \text{ drums} \times [3.14 \times (2')^2 / 4 \times 0.167'] = 263.8 \text{ ft}^3$ 7.48 gallons / ft^3 $7.48 \text{ gallons/ft}^3 \times 263.8 \text{ ft}^3 \cong \underline{1973.2 \text{ gallons}}$ Net Available Secondary Containment Volume: $10,984.4 \text{ gallons} - 1973.2 \text{ gallons} = \underline{9,011.2 \text{ gallons}}$ **CONCLUSIONS:**Area 1 has sufficient secondary containment for the flammable liquid storage capacity of 504 55-gallon drums.

CALCULATION SHEET

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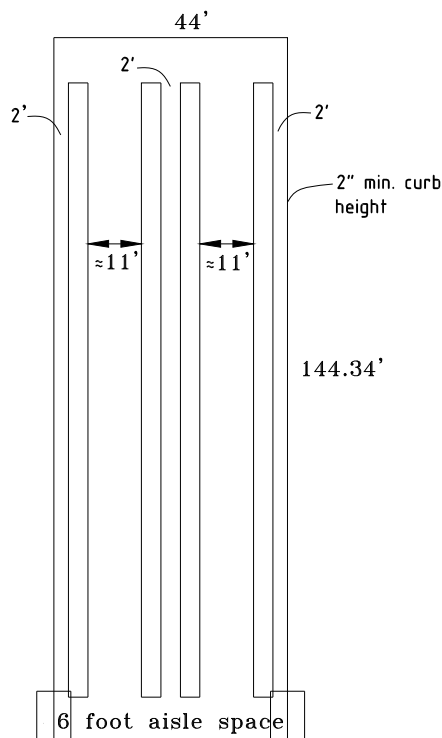
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PROJECT NO.: 09-7011

CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

NEW DRUM BUILDING WAREHOUSE (continued)**AREA 2 – ACIDS LIQUID STORAGE AREA:**

Dimensions:

There are 4 *sections* in Area 2.

A *section* is defined as 2 *drums* side by side (4.0 feet total) with approximately 11-foot aisle space and 2-foot minimum from wall; 63 *drums* each row x 2 rows of *drums* (126 *drums* total, Single-Stacked; 252 *drums* total, Double-Stacked).

$$4 \text{ sections} \times 126 \text{ drums/section} \times 2 \text{ drums/stack} = 1,008 \text{ drums}$$

Required Secondary Containment per Area 2:

$$1,008 \text{ drums} \times 55 \text{ gallons/drum} = 55,440 \text{ gallons} \times 10\% = \underline{5,544 \text{ gallons}}$$

Available Secondary Containment per Area 2 :

Gross Dimensions and Volume (less floor trench volume):

$$44' \times 144.34' \times 0.167' \text{ (2-inches curb height)}$$

$$44' \times 144.34' \times 0.167' = 1,060.6 \text{ ft}^3$$

CALCULATION SHEET

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PROJECT NO.: 09-7011

CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 1,060.6 \text{ ft}^3 \cong 7,933.3 \text{ gallons}$$

Floor Trench System Volume:

$$126' L \times 1.0' W \times 0.75' D = 94.5 \text{ ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 94.5 \text{ ft}^3 \cong 706.9 \text{ gallons}$$

Total Secondary Containment Volume:

$$7,933.3 \text{ gallons} + 706.9 \text{ gallons} = \underline{8,640.2 \text{ gallons}}$$

Reduction in Gross Available Volume Due to Presence of Drums (assume 1 drum leaks):

$$503 \text{ drums} \times [3.14 \times (2')^2 / 4 \times 0.167'] = 263.8 \text{ ft}^3$$

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 263.8 \text{ ft}^3 \cong \underline{1973.2 \text{ gallons}}$$

Net Available Secondary Containment Volume:

$$8,640.2 \text{ gallons} - 1973.2 \text{ gallons} = \underline{6,667 \text{ gallons}}$$

CONCLUSIONS:

Area 2 has sufficient secondary containment for the acids liquid storage capacity of 1,008 55-gallon drums.

CALCULATION SHEET

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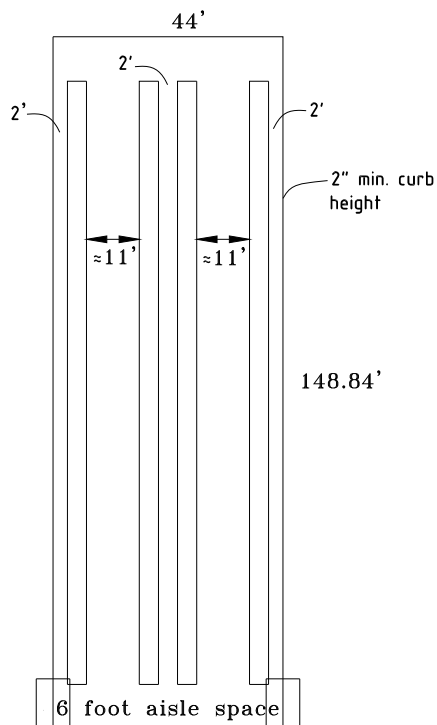
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PROJECT NO.: 09-7011

CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

NEW DRUM BUILDING WAREHOUSE (continued)**AREA 3 – CAUSTICS STORAGE AREA:**

Dimensions:

There are 4 *sections* in Area 3.

A *section* is defined as 2 *drums* side by side (4.0 feet total) with approximately 11-foot aisle space and 2-foot minimum from wall; 63 *drums* each row x 2 rows of *drums* (126 *drums* total, Single-Stacked; 252 *drums* total, Double-Stacked).

$$4 \text{ sections} \times 126 \text{ drums/section} \times 2 \text{ drums/stack} = 1,008 \text{ drums}$$

Required Secondary Containment per Area 3:

$$1,008 \text{ drums} \times 55 \text{ gallons/drum} = 55,440 \text{ gallons} \times 10\% = \underline{5,544 \text{ gallons}}$$

Available Secondary Containment per Area 3:

Gross Dimensions and Volume (less floor trench volume):

$$44' \times 148.84' \times 0.167' \text{ (2-inches curb height)}$$

$$44' \times 148.84' \times 0.167' = 1,093.7 \text{ ft}^3$$

CALCULATION SHEET

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CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 1,093.7 \text{ ft}^3 \cong 8,180.9 \text{ gallons}$$

Floor Trench System Volume:

$$126' L \times 1.0' W \times 0.75' D = 94.5 \text{ ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 94.5 \text{ ft}^3 \cong 706.9 \text{ gallons}$$

Total Secondary Containment Volume:

$$8,180.9 \text{ gallons} + 706.9 \text{ gallons} = \underline{8,887.8 \text{ gallons}}$$

Reduction in Gross Available Volume Due to Presence of Drums (assume 1 drum leaks):

$$503 \text{ drums} \times [3.14 \times (2')^2 / 4 \times 0.167'] = 263.8 \text{ ft}^3$$

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 263.8 \text{ ft}^3 \cong \underline{1973.2 \text{ gallons}}$$

Net Available Secondary Containment Volume:

$$8,887.8 \text{ gallons} - 1973.2 \text{ gallons} = \underline{6,914.6 \text{ gallons}}$$

CONCLUSIONS:

Area 3 has sufficient secondary containment for the caustics storage capacity of 1,008 55-gallon drums.

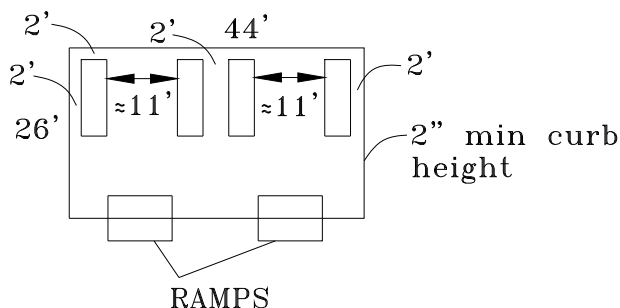
CALCULATION SHEET

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PROJECT NO.: 09-7011CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building WarehousePrepared By: JCD Date: 6/22/2012SUBJECT: Secondary Containment CalculationsReviewed By: BDS Date: 6/22/2012**NEW DRUM BUILDING WAREHOUSE (continued)****AREA 4 – POISONS STORAGE AREA:**

Dimensions:



There are 4 sections in Area 4.

A section is defined as 2 drums side by side (4.0 feet total) with approximately 11-foot aisle space and 2-foot minimum from wall or curb; 6 drums each row x 2 rows of drums (12 drums total, Single-Stacked, 24 drums total Double Stacked).

$$4 \text{ sections} \times 12 \text{ drums/section} \times 2 \text{ drums/stack} = 96 \text{ drums}$$

Required Secondary Containment per Area 4:

$$96 \text{ Drums} \times 55 \text{ gallons/Drum} = 5,280 \text{ gallons} \times 10\% = \underline{528 \text{ gallons}}$$

Available Secondary Containment per Area 4:

Gross Dimensions and Volume:

$$44' \times 26' \times 0.167' \text{ (2-inches curb height)}$$

$$44' \times 26' \times 0.167' = 191 \text{ ft}^3$$

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 191 \text{ ft}^3 \cong \underline{1,428.7 \text{ gallons}}$$

Reduction in Gross Available Volume Due to Presence of Drums (assume 1 drum leaks):

$$47 \text{ drums} \times [3.14 \times (2')^2 / 4 \times 0.167'] = 24.6 \text{ ft}^3$$

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 24.6 \text{ ft}^3 \cong \underline{184 \text{ gallons}}$$

CALCULATION SHEET

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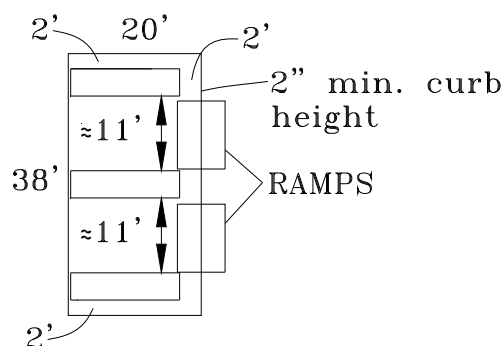
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PROJECT NO.: 09-7011CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building WarehousePrepared By: JCD Date: 6/22/2012SUBJECT: Secondary Containment CalculationsReviewed By: BDS Date: 6/22/2012Net Available Secondary Containment Volume:

$$1,428.7 \text{ gallons} - 184 \text{ gallons} = \underline{1,244.7 \text{ gallons}}$$

CONCLUSIONS:Area 4 has sufficient secondary containment for the poisons storage capacity of 96 55-gallon drums.**AREA 5 - OXIDIZER STORAGE AREA:**

Dimensions:

There are 3 *sections* in Area 5.

A *section* is defined as 2 drums side by side (4.0 feet total) with approximately 11-foot aisle space and 2-foot minimum from wall or curb; 8 drums each row x 2 rows of drums (16 drums total, Single-Stacked, 32 drums total Double Stacked).

$$3 \text{ sections} \times 16 \text{ drums/section} \times 2 \text{ drums/stack} = 96 \text{ drums}$$

Required Secondary Containment per Area 5:

$$96 \text{ Drums} \times 55 \text{ gallons/Drum} = 5,280 \text{ gallons} \times 10\% = \underline{528 \text{ gallons}}$$

Available Secondary Containment per Area 5:

Gross Dimensions and Volume:

$$20' \times 38' \times 0.167' \text{ (2-inches curb height)}$$

$$20' \times 38' \times 0.167' = 126.9 \text{ ft}^3$$

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 126.9 \text{ ft}^3 \cong \underline{949.2 \text{ gallons}}$$

CALCULATION SHEET

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PROJECT NO.: 09-7011

CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

Reduction in Gross Available Volume Due to Presence of Drums (assume 1 drum leaks):

$$47 \text{ drums} \times [3.14 \times (2')^2 / 4 \times 0.167'] = 24.6 \text{ ft}^3$$

$$7.48 \text{ gallons} / \text{ft}^3$$

$$7.48 \text{ gallons/ft}^3 \times 24.6 \text{ ft}^3 \cong 184 \text{ gallons}$$

Net Available Secondary Containment Volume:

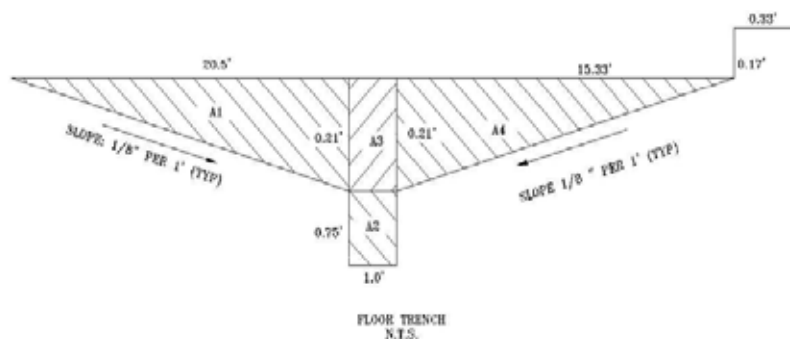
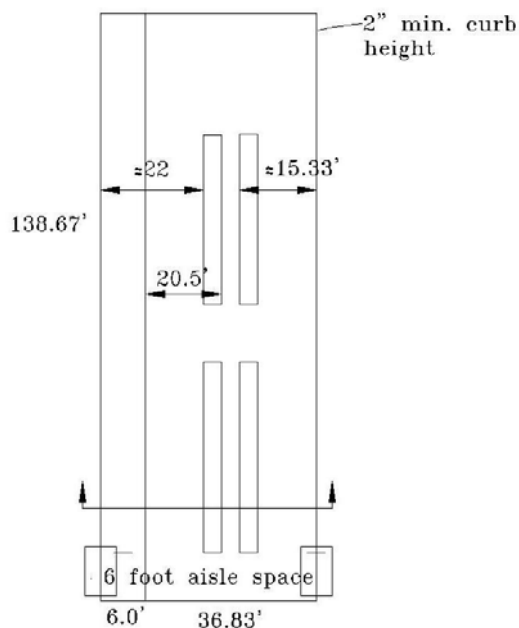
$$949.2 \text{ gallons} - 184 \text{ gallons} = 765.2 \text{ gallons}$$

CONCLUSIONS:

Area 5 has sufficient secondary containment for the oxidizer storage capacity of 96 55-gallon drums.

AREA 6 – QA/QC STORAGE AREA:

Dimensions:



There are 4 sections in Area 6.

A section is defined as 2 drums side by side (4.0 feet total) with a minimum of 11-foot aisle space and 12-foot from closest wall; 21 drums each row x 2 rows of drums (42 drums total, Single-Stacked, 84 drums total, Double Stacked).

CALCULATION SHEET

EnSol, Inc.

Environmental Solutions

PROJECT NO.: 09-7011

CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

4 sections x 42 drums/section x 2 drums/stack = 336 drums

Required Secondary Containment per Area 6:

336 drums x 55 gallons/drum = 18,480 gallons x 10% = 1,848 gallons

Available Secondary Containment per Area 6:

Gross Dimensions and Volume (less floor trench volumes):

A1 + A4 + A3:

$(0.5 \times 20.5' \times 138.67' \times 0.21') + (0.5 \times 15.33' \times 138.67' \times 0.21') + (0.21' \times 1' \times 138.67')$

$(298.49 \text{ ft}^3) + (223.21 \text{ ft}^3) + (29.12 \text{ ft}^3) = 550.82 \text{ ft}^3$

7.48 gallons / ft³

7.48 gallons/ft³ x 550.86 ft³ \cong 4,120.1 gallons

Floor Trench System Volume:

A2: $2 \times 42' L \times 1.0' W \times 0.75' D = 63 \text{ ft}^3$

7.48 gallons/ft³ x 63 ft³ \cong 471.2 gallons

Total Secondary Containment Volume:

4120.1 gallons + 471.2 gallons = 4,591.3 gallons

Reduction in Gross Available Volume Due to Presence of Drums (assume 1 drum leaks):

$167 \text{ drums} \times [3.14 \times (2')^2 / 4 \times 0.21'] = 110.1 \text{ ft}^3$

7.48 gallons / ft³

7.48 gallons/ft³ x 110.1 ft³ \cong 823.7 gallons

Net Available Secondary Containment Volume:

4591.3 gallons – 823.7 gallons = 3,768 gallons

CONCLUSIONS:

Area 6 has sufficient secondary containment for the QA/QC storage capacity of 336 55-gallon drums.

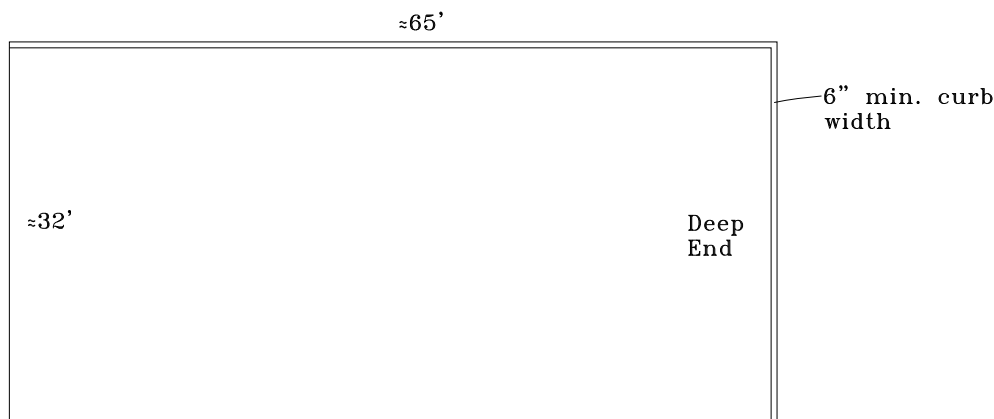
CALCULATION SHEET

EnSol, Inc.

Environmental Solutions

PROJECT NO.: 09-7011

CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

AREA 7 - DRUM BUILDING FUELS TRANSFER RAMP:Dimensions:

32' x 65' x 2'-9" (*Deep End*)

Available Secondary Containment:

$$0.50 \times (32' \times 65' \times 2.75') = 2,860 \text{ ft}^3 \cong \underline{21,392 \text{ gallons}}$$

Required Secondary Containment:

2 tankers; 5,500 gallons each:
 Largest single container equals 5,500 gallons.

25 Year, 24 Hour Precipitation Event:

$$32' \times 65' \times 0.333' = 692.6 \text{ ft}^3 \cong 5,181 \text{ gallons}$$

0.333 feet is equivalent to 4.0 inches of precipitation (i.e., rain).

Required Secondary Containment Including Precipitation Event:

$$5,500 \text{ gallons} + 5,181 \text{ gallons} = \underline{10,681 \text{ gallons}}$$

CONCLUSIONS:

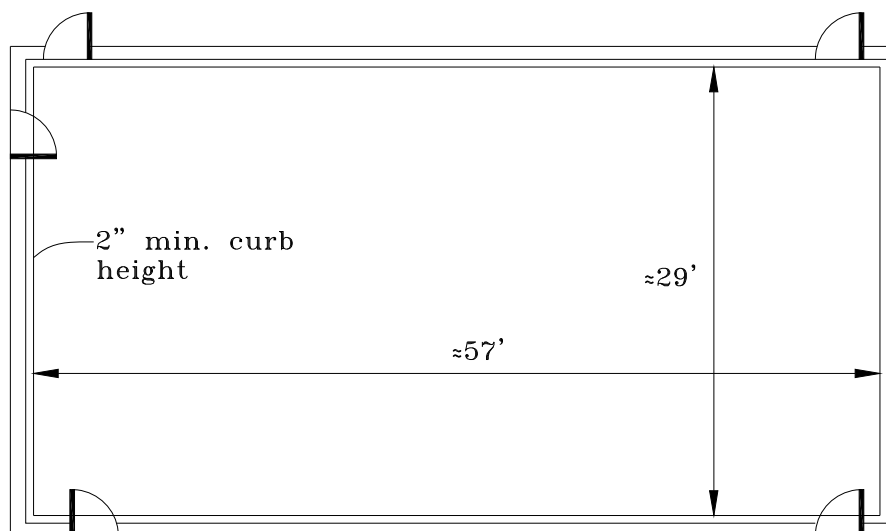
Area 7, the Fuels Transfer Ramp/Drum Building North Ramp, has sufficient secondary containment capacity for (2) 5,500-gallon tankers.

CALCULATION SHEET**EnSol, Inc.**

Environmental Solutions

PROJECT NO.: 09-7011

CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building Warehouse Prepared By: JCD Date: 6/22/2012
 SUBJECT: Secondary Containment Calculations Reviewed By: BDS Date: 6/22/2012

NEW DRUM BUILDING WAREHOUSE (continued)**AREA 8 – TRANSFORMER FLUSH AREA:**Dimensions:

$$29' W \times 57' L \times 0.167' D$$

Available Secondary Containment:

$$(29' \times 57' \times 0.167') = 276.1 \text{ ft}^3 \cong \underline{2,065.2 \text{ gallons}}$$

CONCLUSIONS:

The Transformer Flush Area has secondary containment capacity of 2,065.2 gallons.

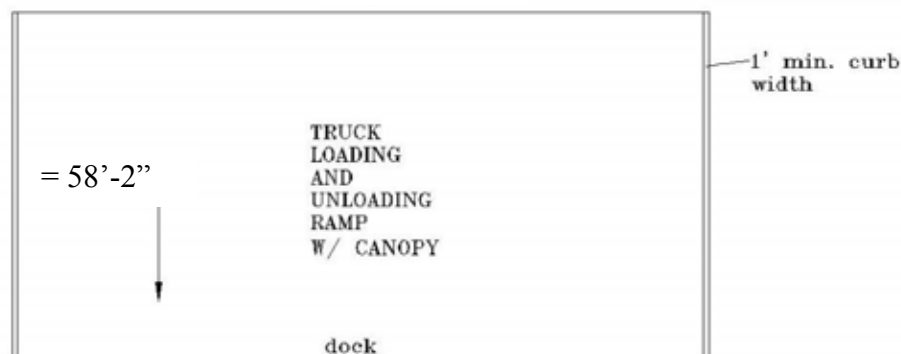
CALCULATION SHEET

EnSol, Inc.

Environmental Solutions

PROJECT NO.: 09-7011CLIENT: CWM Chem. Svcs. PROJECT: New Drum Building WarehousePrepared By: JCD Date: 6/22/2012SUBJECT: Secondary Containment CalculationsReviewed By: BDS Date: 6/22/2012AREA 9 – TRUCK LOADING AND UNLOADING RAMP:Dimensions:

$$= 177'-11''$$



$$58'-2'' \times 175'-11'' \times 2'-6'' \text{ (Deep End)}$$

Available Secondary Containment:

$$0.50 \times (58.17' \times 175.92' \times 2.5') = 12,792 \text{ ft}^3 \cong \underline{95,681 \text{ gallons}}$$

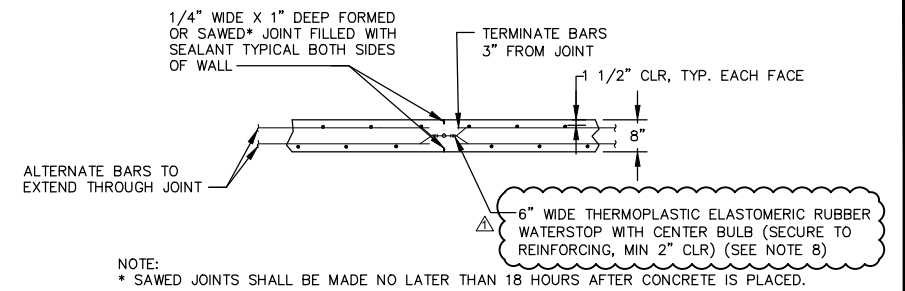
Required Secondary Containment:

$$13 \text{ flatbeds or trailers} \times 80 \text{ drums per trailer} = 1,040 \text{ drums}$$

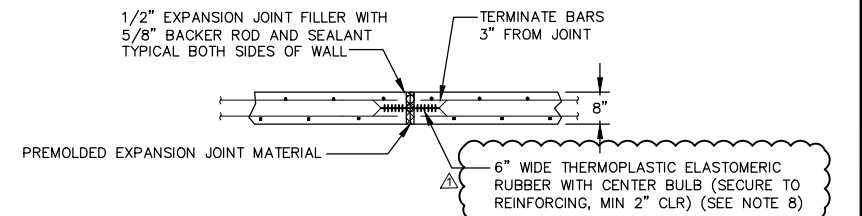
$$1,040 \text{ drums} \times 55 \text{ gallons} = 57,200 \text{ gallons} \times 10\% = \underline{5,720 \text{ gallons}}$$

CONCLUSIONS:The Truck Loading and Unloading Ramp, has sufficient secondary containment capacity of a minimum of 10% of the total volume of all containers.

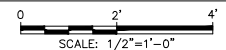
FIGURE D-3A
NEW FULL TRAILER PARKING AREA



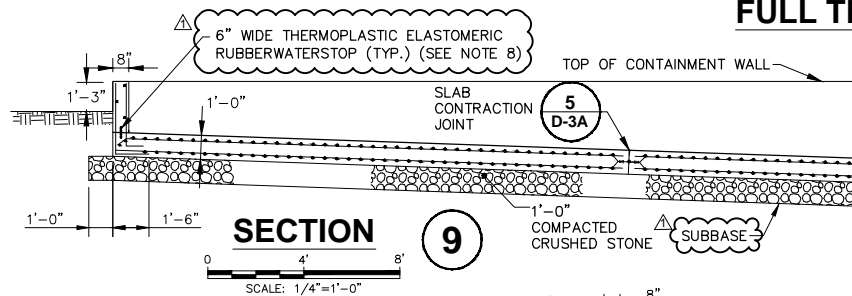
WALL CONTRACTION JOINT DETAIL (6)



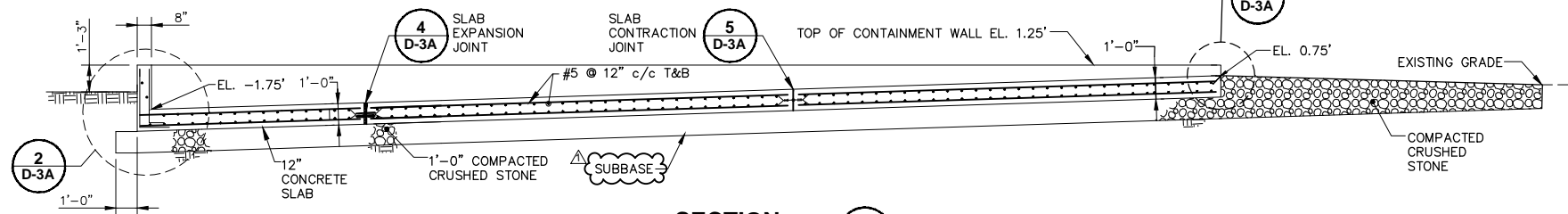
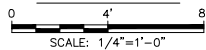
WALL EXPANSION JOINT 7



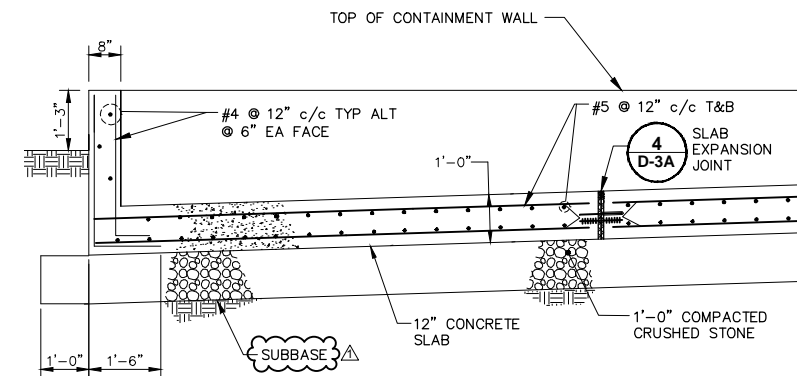
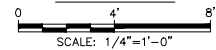
1. CONCRETE MIX SHALL BE 4000 PSI AT 28 DAYS WITH AIR ENTRAINING ADMIXTURE 6±1%. STEEL FIBER REINFORCEMENT SHALL BE ADDED TO MIX AS MANUFACTURED BY MITCHELL FIBERCON, INC., MEETING ASTM A820 TYPE II SPECIFICATIONS.
2. ALL EXPOSED CONCRETE SURFACES TO RECEIVE CHEMTEC ONE CONCRETE PROTECTION SEALANT, OR APPROVED EQUAL.
3. REINFORCED CONCRETE BARS OF NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. LAP REINFORCING BARS MINIMUM 36 BAR DIAMETERS.
4. DESIGN ELEVATIONS ARE RELATIVE. EXISTING GROUND SURFACE IS ASSUMED TO BE ELEVATION 0.0 FOR REFERENCE PURPOSES.
5. STEEL ANGLE SHALL BE FABRICATED IN LENGTHS CORRESPONDING TO JOINT LOCATIONS. STEEL ANGLE SHALL NOT SPAN ANY SLAB JOINT. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A123. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1.
6. SUBBASE SHALL BE PROOF-ROLLED AND INSPECTED BY ENGINEER PRIOR TO PLACING CRUSHED STONE. IF SOFT SOILS OR AREAS OF PUMPING ARE OBSERVED, SOILS WITHIN THESE AREAS SHALL BE REMOVED AND REPLACED WITH CRUSHED STONE OR STRUCTURAL FILL AND PROOF ROLLED.
7. CRUSHED STONE SHALL BE COMPACTED TO A MINIMUM 95% OF MAXIMUM DRY DENSITY BASED ON MODIFIED PROCTOR.
8. WATERSTOP SHALL BE WESTEC'S ENVIROSTOP™ TPE-R (THERMOPLASTIC ELASTOMERIC RUBBER) 600 SERIES OR APPROVED EQUAL.



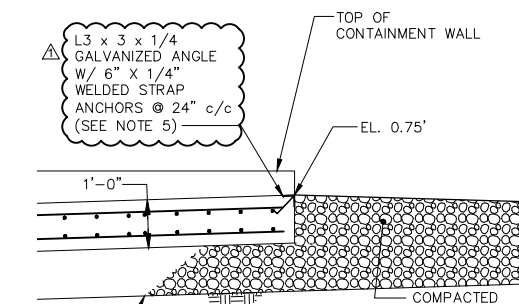
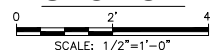
SECTION



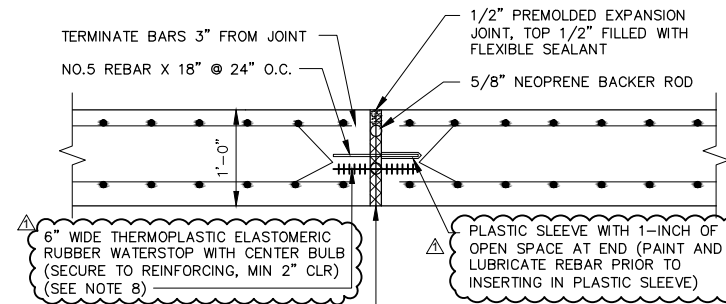
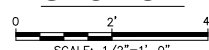
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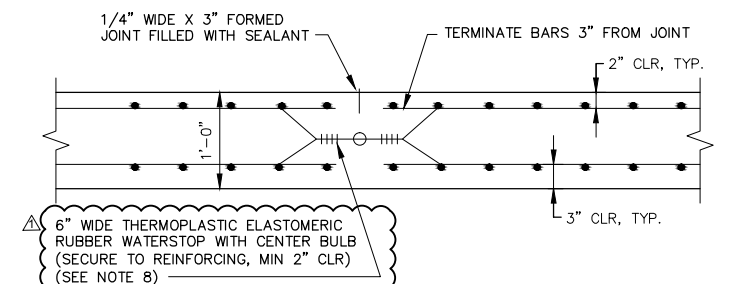
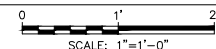
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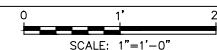
SECTION



SLAB EXPANSION JOINT



SLAB CONTRACTION JOINT



SCALE(S) AS INDICATED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</
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Imagine the result

Calculation Sheet

Client: CWM Chemical Services, LLC

Project Location: Model City, New York

Project: RMU-2 Design Calculations

Project No.: B0023725.2011

Subject: New Full Trailer Parking Area – Secondary Containment Calculations

Prepared By: GNG

Date: August 2013

Reviewed By: BMS

Date: August 2013

Checked By: BMS

Date: August 2013

OBJECTIVE:

Determine the capacity of the new Full Trailer Parking Area (new Parking Area) for solids and liquid storage containers. Demonstrate that adequate secondary containment volume exists for management of free liquids anticipated within the new Parking Area including precipitation.

REFERENCES:

1. Permit Drawing No. D-3A entitled "Full Trailer Parking Area," contained in Attachment D-1 of the Overall Site/RMU-1 Part 373 Permit, ARCADIS, August 2013.
2. New York State Department of Environmental Conservation Regulations, Subpart 373.2.9 (f).

ASSUMPTIONS:

1. The new Parking Area is wide enough (55 ft from the entrance to the back wall) to contain roll-offs (for solids), semi tanker trailers (for liquids), or some combination of these containers. Because roll-offs sit much closer to the pavement, they consume secondary containment volume, whereas semi tanker trailers consume only negligible volume. Thus, when calculating the available secondary containment volume, this analysis assumes that the new Parking Area is filled to capacity with roll-offs. When calculating the required secondary containment volume, this analysis assumes that the new Parking Area is filled to capacity with semi tanker trailers. Although this combination cannot physically occur, it provides the most extreme case in terms of assessing secondary containment volume. Any physically possible combination of roll-offs and semi tanker trailers can therefore be accommodated with adequate secondary containment volume.
2. The secondary containment system must have sufficient capacity to contain 10 percent of the total volume of liquid storage containers or the volume of the largest liquid container, whichever is greater.
3. The precipitation volume considered in this calculation is based on the 25-year, 24-hour storm event which contributes 4-inches or 0.333 feet of runoff.
4. The liquid storage container volume is 5,500 gallons (gal) per container.
5. Roll-offs are assumed to rest on approximately 6-inch-diameter rollers and thus sit 6 inches off the pavement.



Imagine the result

Calculation Sheet

CALCULATIONS:

1. Capacity for Solids and Liquid Storage Containers

The capacity of the new Parking Area for solids and liquid storage containers is based on the geometry of the parking area and the typical size of individual storage containers and is calculated as follows:

Solids Storage Container Dimensions

- Width of a typical container = 8 ft
- Aisle space requirement between containers = 2 ft
- Adjusted width of a typical container = 10 ft (8 ft + 2 ft)
- Length of a typical solids container = 22 ft

Maximum Number of Solids Storage Containers

- Adjusted row length taking into account a required 2 ft distance between the last container in the end row to the edge of the containment area = $250 \text{ ft} - 2 \text{ ft} = 248 \text{ ft}$
- Maximum number of rows = $248 \text{ ft} \div 10 \text{ ft} = 24.8 \approx 24 \text{ rows}$
- Maximum number of solids storage containers end-to-end in each row = $50 \text{ ft} \div 22 \text{ ft}$ (solids storage container length) = $2.3 \approx 2 \text{ containers}$
- Maximum number of solids storage containers = 24 rows x 2 containers per row = 48 containers

Liquid Storage Container Dimensions

- Width of a typical container = 8 ft
- Aisle space requirement between containers = 2 ft
- Adjusted width of a typical container = 10 ft (8 ft + 2 ft)
- Length of a typical liquid container = 50 ft

Maximum Number of Liquid Storage Containers

- Adjusted row length taking into account a required 2 ft distance between the last container in the end row to the edge of the containment area = $250 \text{ ft} - 2 \text{ ft} = 248 \text{ ft}$
- Maximum number of rows = $248 \text{ ft} \div 10 \text{ ft} = 24.8 \approx 24 \text{ rows}$
- Maximum number of liquid storage containers end-to-end in each row = $50 \text{ ft} \div 50 \text{ ft}$ (liquid storage container length) = 1 container
- Maximum number of liquid storage containers = 24 rows x 1 containers per row = 24 containers

2. Secondary Containment Analysis

Total Available Secondary Containment Volume

The new Parking Area consists of a sloped, reinforced concrete pad that measures 55ft wide by 250 ft long. Access to the new Parking Area is from the full length of the southern edge (250 ft) where the concrete pad is approximately flush with surrounding grade. The reinforced concrete pad is sloped toward the center and back of the two drain areas within the new Parking Area. Reinforced concrete curbing and the slope of the reinforced concrete pad provide the secondary containment for the new Parking Area. Due to its complex dimensions, the total available secondary containment volume of the new Parking Area was determined based on 3-dimensional surface computations performed using computer aided design software (Terramodel).



Imagine the result

Calculation Sheet

As discussed in Assumption 1, the new Parking Area is assumed to be filled to capacity with roll-offs for the purposes of determining available secondary containment volume. Because the roll-offs sit approximately 6 inches off the pavement, liquid can spread across the pavement for the first 6 inches within the entire footprint of the new Parking Area, except near the entrance edge where the liquid cannot have an elevation greater than the entrance elevation. This volume was modeled with Terramodel and determined to be 47,380 gal. As confirmation, one can multiply 6 inches by the plan dimensions of the new Parking Area (55 ft by 250 ft) to yield 51429 gal. This slightly larger volume is attributable to the loss at the entrance where liquid cannot be 6 inches above the entrance elevation.

The volume available between rows of containers and above the aforementioned 6-inch-thick layer of storage is calculated manually based on an average depth of 1.63 ft at the back wall, an aisle width of 2 ft, a length of 43 ft, and 25 aisles. Using the area formula for a triangle multiplied by the aisle width and the number of aisles, this volume is estimated to be 13,107 gal. Similarly, the volume available along the back wall and above the 6-inch-thick layer of storage is calculated manually based on an average depth of 1.63 ft at the back wall, an aisle width of 2 ft, and a length of 250 ft. Using the area formula for a rectangle multiplied by the aisle width, this volume is estimated to be 6,096 gal.

Summing the above components, a worst-case available secondary containment volume of 66,583 gal is calculated.

Required Secondary Containment Volume

As discussed in Assumption 1, the new Parking Area is assumed to be filled to capacity with semi tanker trailers for the purposes of determining required secondary containment volume. The required secondary containment volume for liquid storage containers is based on one of two possible conditions. The first condition (Condition 1) provides storage for 10 percent of the total liquid volume of containers stored within the new Parking Area plus the runoff volume resulting from a 25-year, 24-hour storm event. The second condition (Condition 2) provides storage for the entire volume of the single largest liquid container stored within the new Parking Area plus the runoff volume resulting from a 25-year, 24-hour storm event. Calculations for both conditions are presented below.

Condition 1

Total Container Volume (assuming all containers store liquid)

- Total Container Volume: Maximum number of containers x volume per container (Assumption 4) x 0.10 (10 percent) = 24 containers x 5,500 gal/container x 0.10 = 13,200 gal

Precipitation Runoff Volume

- Runoff Volume: 55 ft x 250 ft x 0.333 ft = 4,579 cf or 34,249 gal

Required Secondary Containment Volume

- Total Container Volume + Precipitation Runoff Volume = 13,200 gal + 34,249 gal = 47,449 gal



Imagine the result

Calculation Sheet

Condition 2

Single Largest Liquid Storage Container Volume

- The volume of the largest liquid storage container stored within the secondary containment area = 5,500 gal

Required Secondary Containment Volume

- Largest Liquid Storage Container Volume + Precipitation Runoff Volume (from Condition 1 above) = 5,500 gal + 34,249gal = 39,749 gal

Based on a comparison of the required secondary containment volumes calculated for Conditions 1 and 2 above, the greatest required secondary containment volume is 47,449 gal (Condition 1).

Excess Secondary Containment Volume

The excess secondary containment volume condition is based on the total secondary volume available within the new Parking Area compared with the greatest required secondary containment volume. The resultant volume condition is as follows:

Total Secondary Containment Volume: 66,583 gal
 Required Secondary Containment Volume: 47,449 gal
 Excess Volume: 66,583 gal – 47,449 gal = 19,134 gal

It is noted that this is a worst-case scenario because it is based on extremes of all roll-offs for available volume and all semi tanker trailers for required volume. Any physically possible combination of roll-offs and semi tanker trailers will yield additional reserve capacity beyond this calculated minimum.

SUMMARY:

The new Parking Area has a worst-case secondary containment volume of 66,583 gal. Based on the required secondary containment volume of 47,449 gal, which accounts for 10 percent of the maximum volume in all liquid storage containers within the new Parking Area plus the runoff volume resulting from a 25-year, 24-hour storm event, the new Parking Area provides adequate secondary containment. A maximum of 48 solids storage containers or 24 liquid containers or any combination of the two container types may be stored in the new Parking Area assuming the required aisle spaces considered herein are maintained.