

Volume 5

East Storage Area & East Processing Area

DLS10 & DLS11

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FORM EQP 5111 Template

A1: GENERAL FACILITY DESCRIPTION

(Volume 5)

See Volume 1

A1: General Facility Description

FORM EQP 5111 TEMPLATE

A2: CHEMICAL AND PHYSICAL ANALYSES

(Volume 5)

See Volume 1

A2: Chemical and Physical Analysis

FORM EQP 5111 TEMPLATE

A3: WASTE ANALYSIS PLAN (WAP)

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40 CFR §264.14

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A5: INSPECTION REQUIREMENTS

(Volume 5)

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A5: Inspection Requirements

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(Volume 5)

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A6: Preparedness and Prevention or Waiver

FORM EQP 5111 TEMPLATE MODULE A7

A7: CONTINGENCY PLAN

(Volume 5)

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), R 299.9501, R 299.9508(1)(b), R 299.9504(1)(c), **R 299.9521(3)(b)**, R 299.9607, and Title 40 of the Code of Federal Regulations (CFR) §§264.50 through 264.56, and 270.14(b)(7), establish requirements for contingency plans at hazardous waste management facilities. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template addresses requirements for a contingency plan at the hazardous waste management facility for *DLD Environmental Services, Inc* (DLD) in *Plainwell*, Michigan. It is recommended that DLD perform annual drill exercises with the local fire department and emergency responders using the contingency plan to make sure all staff are familiar with the plan and determine whether the plan needs any updating.

(Check as appropriate)

- Applicant for Operating License for Existing Facility
- Applicant for Operating License for New, Altered, Enlarged, or Expanded Facility

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- A7.D.5 Procedures to Be Used to Ensure That Fires, Explosions, and Releases Do Not Occur, Reoccur, or Spread During the Emergency**
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- A7.D.7 Procedures to Provide Proper Treatment, Storage, and Disposal for Any Released Materials**
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A7.G PROCEDURES FOR REVIEWING AND AMENDING THE CONTINGENCY PLAN

Attachment A7.1 DLS-10 Evacuation Route Diagram

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Attachment A7.3 DLS-10 & DLS-11 Emergency Equipment Descriptions

Attachment A7.4 Checklist for Tracking Facility Response Actions During and After a Fire/Explosion Incident

INTRODUCTION

A7.A BACKGROUND INFORMATION

A7.A.1 Purpose of the Contingency Plan [R 299.9607 and 40 CFR §264.51 and 264.53]

See Volume 1, Section A7.A.1

A7.A.2 Description of Facility Operations

Reference is made to Volume 1, Section A7.A.2, with the addition of the following information specific to new hazardous waste management units DLS-10 & DLS-11.

The building housing DLS-10 and DLS-11 will be built of hydrophobic cement and steel, and will have secondary containment in compliance with the containment standards. The entire area will be fully licensed.

DLS-10: This area will be a non-heated storage area. Hazardous and non-hazardous waste will be stored in containers within this area. A racking system will be employed. See Volume 5, Section B6 for engineering drawings applicable to DLS-10.

DLS-11: This area will be a non-heated processing and storage area. Hazardous and non-hazardous waste will be stored in containers. See Volume 5, Section B6 for engineering drawings applicable to DLS-11.

A7.A.3 Identification of Potential Situations

See volume 1, Section A7.A.3

A7.B EMERGENCY COORDINATORS [R 299.9607 and 40 CFR §264.52 and 264.55]

A7.B.1 Identification of Primary and Alternate Emergency Coordinators [R 299.9607 and 40 CFR §264.52 and 264.55]

See Volume 1, Section A7.B.1.

A7.B.2 Qualifications of the Emergency Coordinators
[R 299.9607 and 40 CFR §264.55]

See Volume 1, Section A7.B.2.

Table A7.B.1 Identification of Primary and Alternate Emergency Coordinators

See Volume 1, Table A7.B.1.

A7.B.3 Authority to Commit Resources
[R 299.9607 and 40 CFR §264.55]

See Volume 1, Section A7.B.3.

A7.C IMPLEMENTATION OF THE CONTINGENCY PLAN
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56]

See Volume 1, Section A7.C.

A7.D EMERGENCY PROCEDURES
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56]

A7.D.1 Immediate Notification Procedures for Facility Personnel and State and Local Agencies with Designated Response Roles
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56]

See Volume 1, Section A7.D.1.

A7.D.2 Procedures to Be Used for Identification of Releases
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56]

See Volume 1, Section A7.D.2.

A7.D.3 Procedures to Be Used to Assess Potential Hazards to Human Health and the Environment
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56]

See Volume 1, Section A7.D.3.

A7.D.4 Procedures to Determine if Evacuation Is Necessary and Immediate Notification of Michigan Pollution Emergency Alerting System, and the National Response Center

[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56]

Reference is made to Volume 1, Section A7.D.4, with the addition of the following information specific to DLS-10 & DLS-11:

- Evacuation plans for DLS-10 & DLS-11 are included in this Contingency Plan as Volume 5, Attachment A7-1 & A7-2, respectively.

A7.D.5 Procedures to Be Used to Ensure that Fires, Explosions, and Releases Do Not Occur, Reoccur, or Spread During the Emergency

[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56(e), 264.227, and 264.200]

Reference is made to Volume 1, Section A7.D.4, with the addition of the following information specific to DLS-10 & DLS-11:

- DLS-10 Evacuation Diagrams can be found in Volume 5, Attachment A7-1
- DLS-11 Evacuation Diagrams can be found in Volume 5, Attachment A7-2
- An Emergency Equipment List for both DLS-10 & DLS-11 can be found in Volume 5, Attachment A7-3.

A7.D.6 Procedures to Be Used to Monitor Equipment Should Facility Operations Cease

[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56(f)]

See Volume 1, Section A7.D.6.

A7.D.7 Procedures to Provide Proper Treatment, Storage, and Disposal for Any Released Materials

[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56(g)]

See Volume 1, Section A7.D.7.

A7.D.8 Procedures for Cleanup and Decontamination

[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56(h)]

See Volume 1, Section A7.D.8.

A7.E NOTIFICATION AND RECORD KEEPING REQUIREMENTS
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56(l) and (j)]

A7.E.1 Procedures to Be Used to Notify State and Federal Officials Prior to Commencement of Operations
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56]

See Volume 1, Section A7.E.1.

A7.E.2 Record Keeping Requirements
[R 299.9607 and 40 CFR §264.51, 264.52, and 264.56(j)]

See Volume 1, Section A7.E.2.

A7.E.2(a) Operating Record

See Volume 1, Section A7.E.2(a)

A7.E.2(b) Written Incident Report

See Volume 1, Section A7.E.2(b)

A7.F Procedure for Assessing Offsite Risk During and After a fire/explosion incident or Significant Release
[R 299.9521(3)(b) and R 299.9607 and 40 CFR §264.56(d)]

See Volume 1, Section A7.F

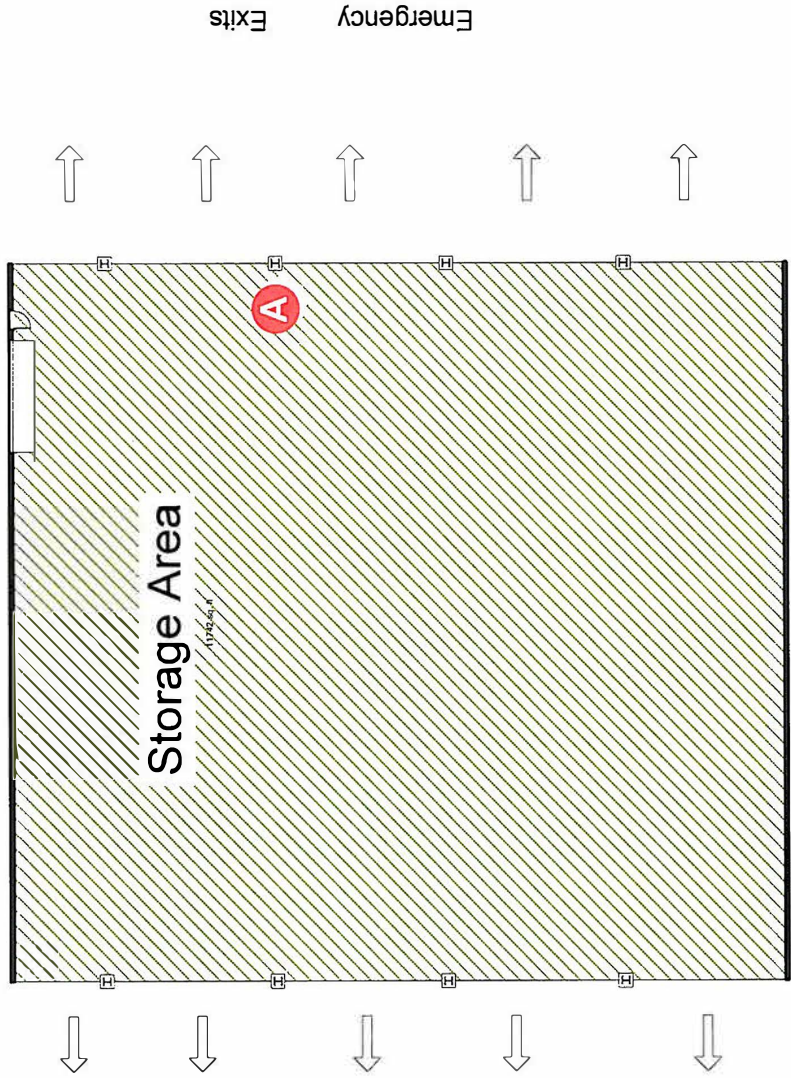
A7.G PROCEDURES FOR REVIEWING AND AMENDING THE CONTINGENCY PLAN
[R 299.9607 and 40 CFR §264.54]

See Volume 1, Section A7.G.

Evacuation Route for Khaki Zone DLS-10

DLD
MID 092 947 928

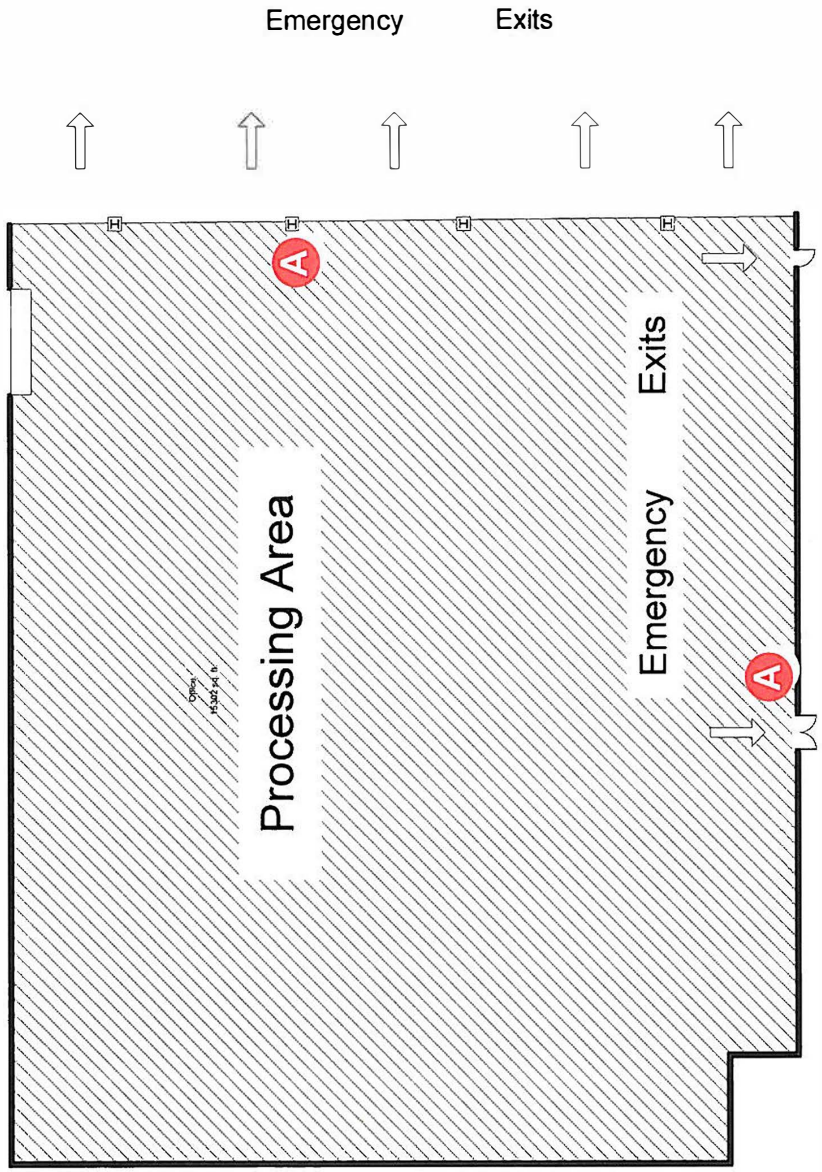
A Emergency Alarm



Existing Building

EVACUATION ROUTES DLS-11 GREY ZONE

A Emergency Alarm



DLD
MID 092 947 928

Attachment A7-3

Emergency Equipment

Emergency equipment that will be available at DLD includes the following:

EQUIPMENT DESCRIPTION	LOCATION	EMERGENCY RESPONSE USAGE
1. Type ABC fire extinguishers Type D-type fire extinguisher	DLS-10 & DLS-11	Extinguishing Type A (e.g. trash, wood, paper), Type B (e.g. liquids and grease), Type C (e.g. electrical equipment) and Type D (e.g. alkaline earth metal) fires.
2. 110 V AC suction Pumps		Suction of liquids from sump area if not served by compressed air.
3. Hand-operated pumps		Suction of small volumes of liquid from areas not served by compressed air or electricity.
4. Air-driven vacuum pumps with 1½" inlet and outlet.		Transfer of liquids, both viscous and non-viscous, as in spill clean-up.
5. Air-driven vacuum pump with 3" inlet and outlet		Transfer of liquids, both viscous and non-viscous, as in spill clean-up.
6. Spill clean-up material: Oil dry, sawdust, brooms, pads, booms		As appropriate to the type of material spilled. Sawdust is not used on spills with potential for oxidation.
7. Personnel equipment—modified Level C (hard hats, face shields, rubber gloves, respirators, coveralls)		Clean-up of spills requiring not higher than Level C protection.
8. Personal equipment—modified Level C (same as # 9 plus supplied air)		Clean-up of spills requiring not higher than Level C protection.
9. Telephone/Intercom <ul style="list-style-type: none"> • Driver's Phones • Two-way radio set • Radio System (5) 		Communication with office via intercom and with emergency responders.

EQUIPMENT DESCRIPTION	LOCATION	EMERGENCY RESPONSE USAGE
10. Alarm system consisting of seven loud horns and seven activation locations		Evacuation signal
11. Visual alarms consisting of flashing red lights		Additional evacuation signal for outside areas when noise is a factor.
12. Mercury Vacuum		Clean-up of mercury spills
13. Decontamination Equipment: bucket, 1A2 drum, brushes, pump		Clean-up of PCB spills
14. Emergency Gate Opener		Emergency evacuation of employees and access to facility by emergency vehicles

FORM EQP 5111 Template

A8: Traffic Information

(Volume 5)

See Volume 1

A8: Traffic Information

A9 - FACILITY LOCATION INFORMATION

40 CFR §270.14(b)(11)

(Volume 5)

See Volume 1

A9: Facility Location Information

A10: PERSONNEL TRAINING PROGRAM

(Volume 5)

See Volume 1

A10: Personnel Training Program

FORM EQP 5111 Template

A11: Closure and Postclosure Plan

(Volume 5)

See Volume 1

A11: Closure and Postclosure Plan

FORM EQP 5111 TEMPLATE

A12: CLOSURE AND POSTCLOSURE CARE COST ESTIMATES

(Volume 5)

(Hazardous Waste Units DLS-10 and DLS-11)

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), R 299.9702 and Title 40 of the Code of Federal Regulations (CFR), Part 264, Subpart H, establishes requirements for providing financial assurance for closure and, if necessary, postclosure care. Specifically, R 299.9702(1) requires the preparation of associated cost estimates. This license application template addresses the requirement for preparing a closure cost estimate and, if necessary, a postclosure care cost estimate. The cost estimates provided in this attachment are based on the closure and postclosure care activities detailed in Template A11. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This template is organized as follows:

A12.A CLOSURE COST ESTIMATE

A12.A.1 Closure Cost Estimate Breakdown

Table A12.A.1	Facility Closure Cost Estimate Breakdown by Unit
Table A12.A.2	Container Storage Areas Closure Cost Estimate
Table A12.A.3	Tank Systems Closure Cost Estimate
Table A12.A.4	Miscellaneous Units Closure Cost Estimate

A12.B POSTCLOSURE COST ESTIMATE

(Since no hazardous waste will be left behind at closure, the following template sections are not applicable)

A12.A CLOSURE COST ESTIMATE
[R 299.9702(1) and 40 CFR §264.142]

Reference is made to Volume 1, Section A12.A, with the addition of the following information specific to DLS-8 & DLS-9:

The cost closure information found in Tables A12.A.2, A12.A.3, and A12.A.4, below, shall be cumulative with those tables found in Volume 1 and any other volumes whose hazardous waste management units are approved and operational.

A12.A.1 Closure Cost Estimate Breakdown

Table A12.A.1 Facility Closure Cost Estimate Breakdown by Unit*

1.	Container Storage Areas	\$ 748,572
2.	Tank Systems	\$ NA
3.	Surface Impoundments	\$ NA
4.	Waste Piles	\$ NA
5.	Landfills	\$ NA
6.	Incinerators	\$ NA
7.	Miscellaneous Units	\$ NA
8.	Boilers and Industrial Furnaces	\$ NA
Total Closure and Postclosure Care Estimate (add lines 1 through 11)		\$ 748,572

* Tables not included at this time for Land Treatment Units, Drip Pads, and Hazardous Waste Munitions and Explosives Storage Units

Table A12.A.2 Container Storage Areas Closure Cost Estimate

Activity If certain activities are not expected to be performed, enter "NA" as the Estimated Cost.		Estimated Cost
1.	Demolition and Removal of Containment	\$ NA
2.	Removal of Soil	\$ NA
3.	Backfill	\$ NA
4.	Decontamination	\$ 10,000
5.	Sampling and Analysis	\$ 10,000
6.	Monitoring Well Installation	\$ NA
7.	Transportation	\$ 132,000
8.	Treatment and Disposal of Waste Inventory and Other Cleanup Wastes	\$ 532,651
9.	Subtotal of Closure Costs (Add lines 1 through 8)	\$ 684,651
10.	Engineering Expenses (typically 10% of closure costs, excluding certification of closure.)	\$ 41,079
11.	Certification of Closure	\$ 1,000
12.	Subtotal (Add Lines 9, 10, and 11])	\$ 726,730
13.	Contingency Allowance (typically 20% of closure costs, engineering expenses, and cost of certification of closure.)	\$ 21,802
14.	Landfill Closure	\$ NA
Total Closure Cost (Add Lines 12, 13, and 14)		\$ 748,532

Table A12.A.3 Tank Systems Closure Cost Estimate

Not applicable to hazardous waste units DLS-10 and DLS-11

Table A12.A.4 Miscellaneous Units Closure Cost Estimate

Not applicable to hazardous waste units DLS-10 and DLS-11

FORM EQP 5111 TEMPLATE

A13: Topographical Map

(Volume 5)

See Volume 1

A13: Topographical map

A14: LIABILITY MECHANISM

40 CFR §270.14(b)(17)

(Volume 5)

To Be Determined

A15: FINANCIAL ASSURANCE INSTRUMENT

40 CFR §270.14(b)(17)

(Volume 5)

To Be Determined

B1: STATUS OF COMPLIANCE WITH OTHER FEDERAL LAWS

40 CFR §270.14(b)(20)

(Volume 5)

See Volume 1

B1: Status of Compliance with Other Federal Laws

FORM EQP 5111 TEMPLATE

B2: CORRECTIVE ACTION INFORMATION

(Volume 5)

See Volume 1

B2: Corrective Action Information

FORM EQP 5111 Template

B3: HYDROGEOLOGICAL REPORT

(Volume 5)

See Volume 1

B3: Hydrogeological Report

FORM EQP 5111 Template

B4: ENVIRONMENTAL ASSESSMENT

(Volume 5)

See Volume 1

B4: Environmental Assessment

B5: ENVIRONMENTAL MONITORING PROGRAMS

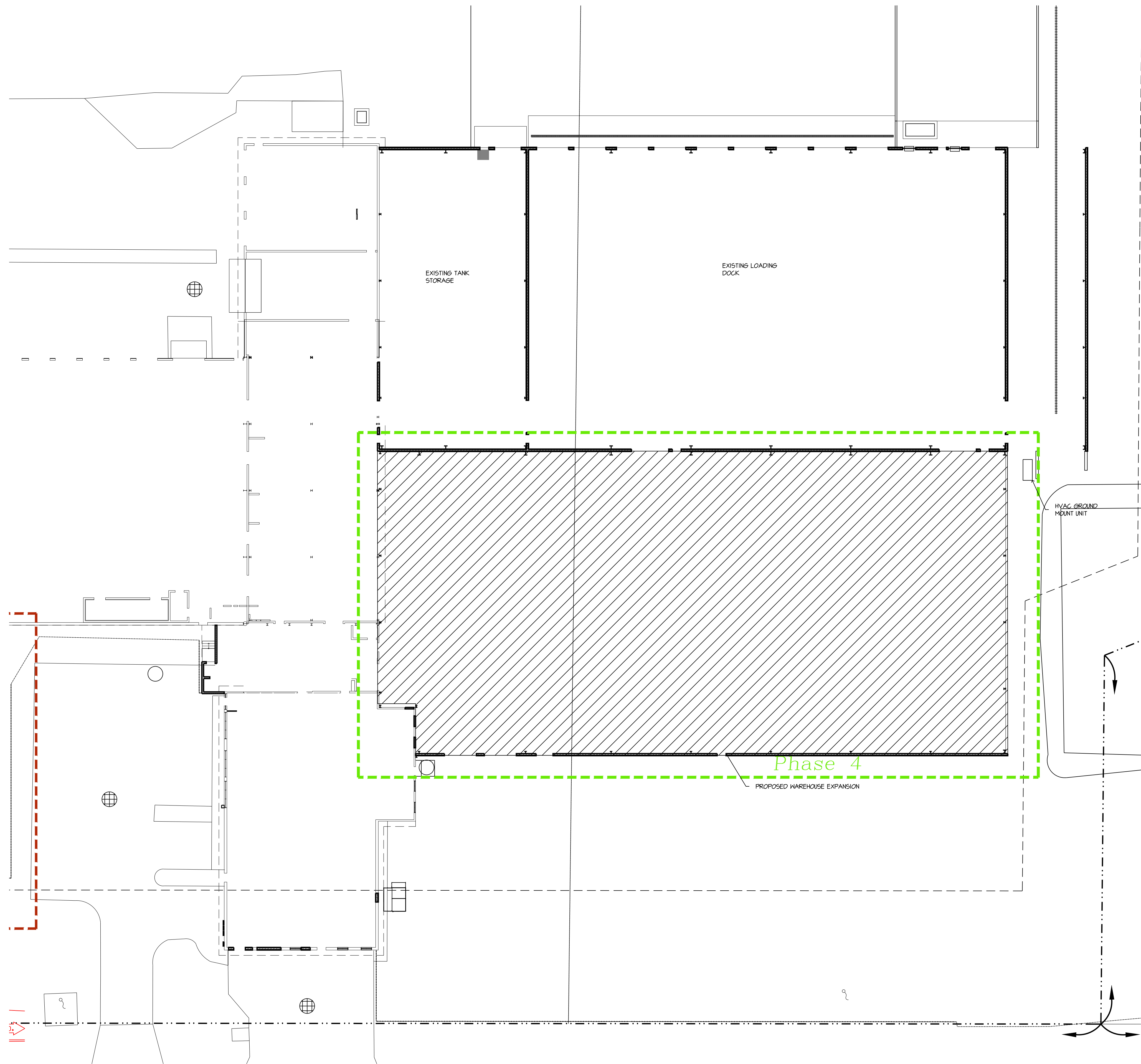
(Volume 5)

As Recommended

B6: ENGINEERING PLANS
(Volume 5)

Index of Attachments

ATTACHMENT	DESCRIPTION
B6-100.0	Sheet Index DLS-10 & DLS-11 Containment Areas
B6-100.1	Drawing C001, Blueprint 21084FC001.dwg Site Development Plan/DLS-10 & DLS-11
B6-100.2	Drawing A101, Blueprint 21084FA101.dwg DLS-10 & DLS-11 Floor Plan
B6-100.3	Drawing A201, Blueprint 21084FA201.dwg DLS-10 & DLS-11 Exterior Elevations
B6-100.4	Drawing S100, Blueprint 21084FS100.dwg DLS-10 & DLS-11 Foundation Plan
B6-100.5	Drawing S501, Blueprint 21084FS501.dwg DLS-10 & DLS-11 Foundation Details
B6-100.6	Drawing E100, Blueprint E100-Phase_6-0803600.dwg DLS-10 & DLS-11 Electrical Symbols and Notes
B6-100.7	Drawing E400, Blueprint E400-Phase_6-0803600.dwg DLS-10 & DLS-11 Lighting Plan
B6-100.8	Drawing E500, Blueprint E500-Phase_6-0803600.dwg DLS-10 & DLS-11 Power Plan

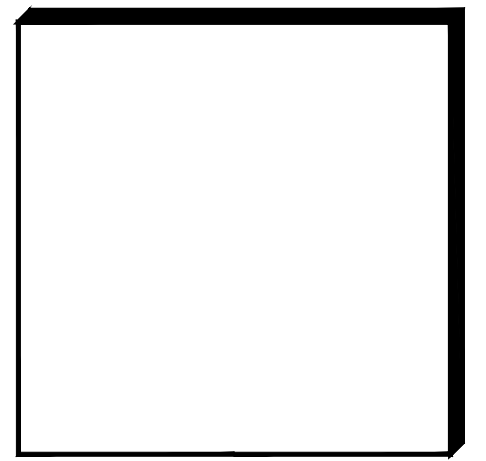


GENERAL NOTES (SITE WORK)

1. THE SOILS INVESTIGATION REPORT IS AVAILABLE TO THE GENERAL CONTRACTOR UPON REQUEST.
2. FOUNDATION DESIGN CAPACITIES:

DESCRIPTION	CAPACITY
A. STRIP FOOTINGS	GR055 1500 PSF
B. SPREAD FOOTINGS	GR055 1500 PSF
3. DEMOLITION
 - A. REMOVAL OF EXISTING UTILITIES, STRUCTURES AND SLABS SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS. IF REMOVAL LIMITS ARE NOT SHOWN, THEY SHALL BE THE MINIMUM REQUIRED TO COMPLETE THE PROJECT.
 - B. DISCONNECTS OF ALL UTILITIES TO BE REMOVED SHALL BE BY THE TRADE INVOLVED OR THE APPROPRIATE UTILITY CO. AS DIRECTED BY THE GENERAL CONTRACTOR.
 - C. DISPOSAL OF MATERIAL REMOVED SHALL BE OFF SITE BY THE GENERAL CONTRACTOR.
4. SITE PREPARATION:
 - A. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PERFORMED BY THE CONTRACTOR IN COMPLIANCE WITH ACT 347.
 - B. ORGANIC TOPSOIL SHALL BE STRIPPED FROM THE CONSTRUCTION AREA TO DEPTHS RANGING FROM APPROXIMATELY 6" TO 30" AND STOCKPILED AS INSTRUCTED BY THE ARCHITECT FOR LATER USE.
 - C. IT IS REQUIRED THAT DENSIFICATION OF THE EXISTING SOILS BE PERFORMED BEFORE ANY FOOTINGS ARE CONSTRUCTED. SEE DIVISION 2 OF THE SPECIFICATION FOR ADDITIONAL INFORMATION.
5. EARTHWORK:
 - A. CALL MISS DIG AT 1-800-482-7171 BEFORE BEGINNING EXCAVATION.
 - B. EXCAVATION SHALL BE LEVEL TO EXACT DEPTHS AND DIMENSIONS INDICATED ON DRAWINGS.
 - C. CONSTRUCTION OF FOUNDATIONS AND SLABS ON GRADE WILL BE ON COMPACTED FILL IN MOST AREAS. LAYERED COMPACTION SHALL BE PERFORMED TO A MINIMUM DENSITY OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM DESIGNATION D 1557 VALUES AND AS OUTLINED IN THE SPECIFICATIONS DIVISION 2.
 - D. EXTREME CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE EXISTING FOOTINGS, FOUNDATIONS, FLOORS, AND UTILITY OR STORM LINES. CONTRACTOR SHALL PROVIDE ALL REQUIRED SHORING AND BRACING TO PREVENT CAVING OR SETTLEMENT OF EXISTING STRUCTURES OR UTILITIES.
 - E. PLACE 6 INCHES OF BANK RUN SAND COMPACTED TO 95% OF MAXIMUM DENSITY UNDER ALL FLOOR SLABS ON GRADE.
 - F. SOIL TESTING WILL BE CONTRACTED AND PAID FOR BY THE GENERAL CONTRACTOR.
 - G. SITE SHALL BE FINE GRADED BEFORE PLACING TOP SOIL OR GRANULAR BASE MATERIAL.
 - H. EXTERIOR SURFACE DRAINAGE SHALL BE AWAY FROM BUILDINGS.
 - I. AFTER BACKFILL IS PLACED AND PRIOR TO PLACING CONCRETE FLOORS, THE SOIL WILL BE TREATED FOR TERMITE CONTROL.

DLD Environmental Services, Inc.
 Phase 4 - DLS 10 East Storage & DLS 11 Processing Area
 Broad Street
 Plainwell, Michigan 49080



ISSUED
01-29-2010 FOR STATE SUBMITTAL
09-08-2022 FOR STATE SUBMITTAL

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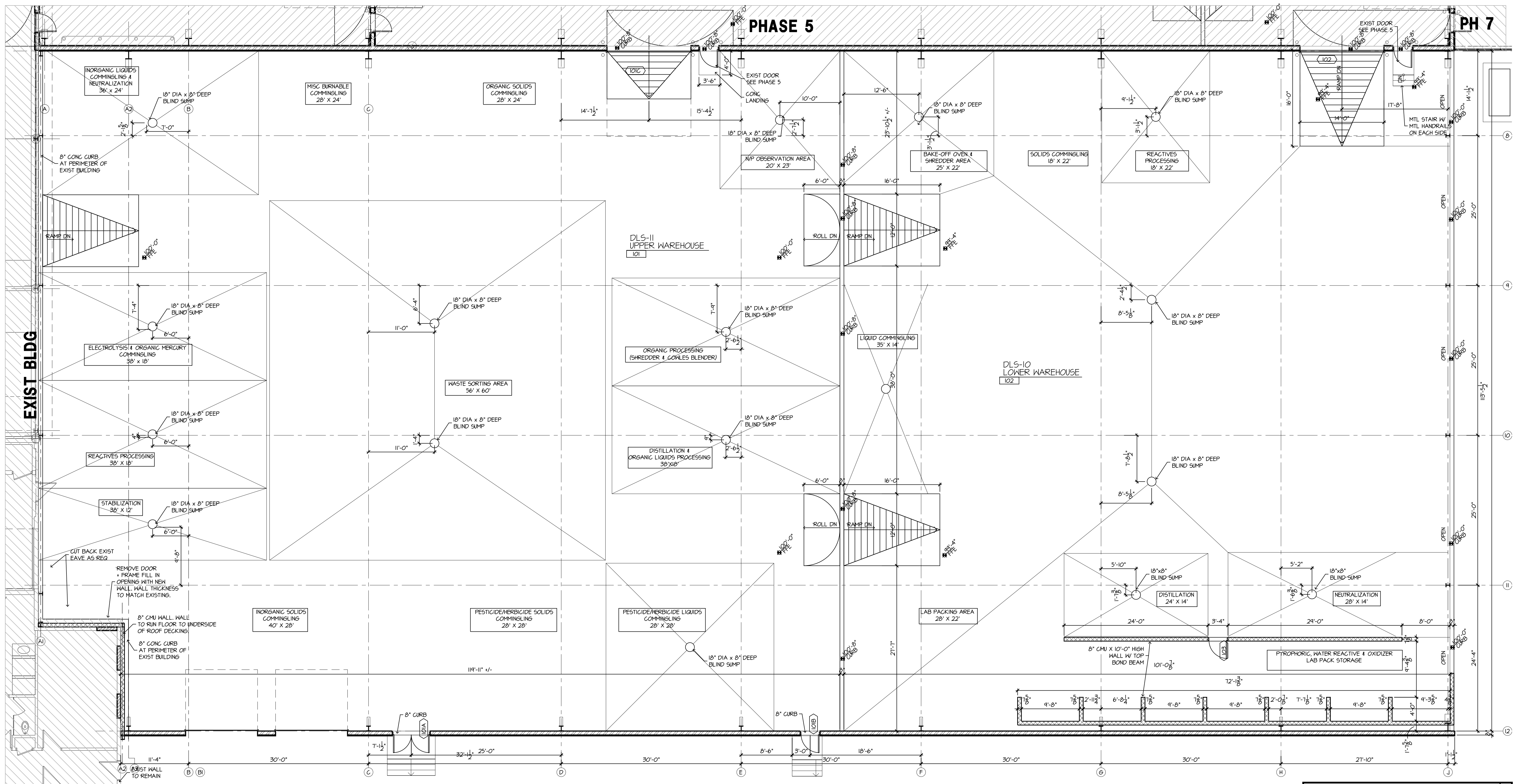
bosch
 ARCHITECTURE
 ENGINEERING
 INTERIOR DESIGN
 8065 Vineyard Parkway
 Kalamazoo, Michigan 49009
 PH: 269-321-5151
 www.boscharch.com
 JOB NUMBER
21084

SITE
 DEVELOPMENT
 PLAN

C001

SITE DEVELOPMENT PLAN
 SCALE: 1" = 20'

C:\Users\1064.DLD\Public\21084 FC001.dwg - East Storage - DLS 10 East Storage - DLS 11 Processing Area - Job 5 PM - 4/22/2022 11:46:33 AM - 11



DLD Environmental Services, Inc.
 Phase 4 - DLS 10 East Storage & DLS 11 Processing Area
 Broad Street
 Plainwell, Michigan 49080

ISSUED
01-29-2010 FOR STATE SUBMITTAL
04-28-2011 FOR STATE RE-SUBMIT
09-08-2022 FOR STATE SUBMITTAL

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bosch
 ARCHITECTURE
 ENGINEERING
 INTERIOR DESIGN
 8065 Vineyard Parkway
 Kalamazoo, Michigan 49009
 ph: 269-321-5151
 www.boscharch.com
 JOB NUMBER
210847

FLOOR PLAN & ROOM & DOOR SCHEDULE
A101

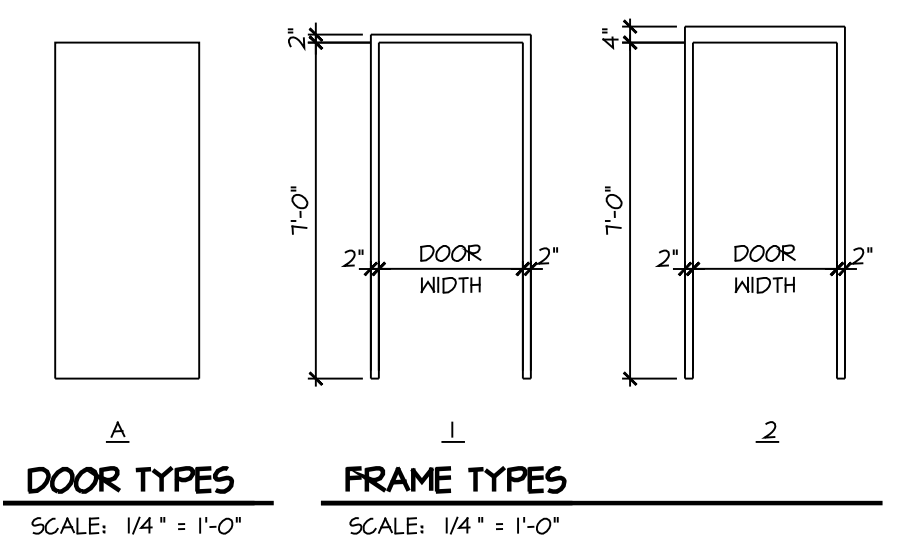
ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	FLOOR	BASE	WALL		CEILING		CLG HGT	REMARKS
				MAT.	FIN.	MAT.	FIN.		
101	DLS-II UPPER WAREHOUSE	CONC	CONC	MTL PNL	----	EXPOSED	----	----	
102	DLS-10 LOWER WAREHOUSE	CONC	CONC	MTL PNL	----	EXPOSED	----	----	

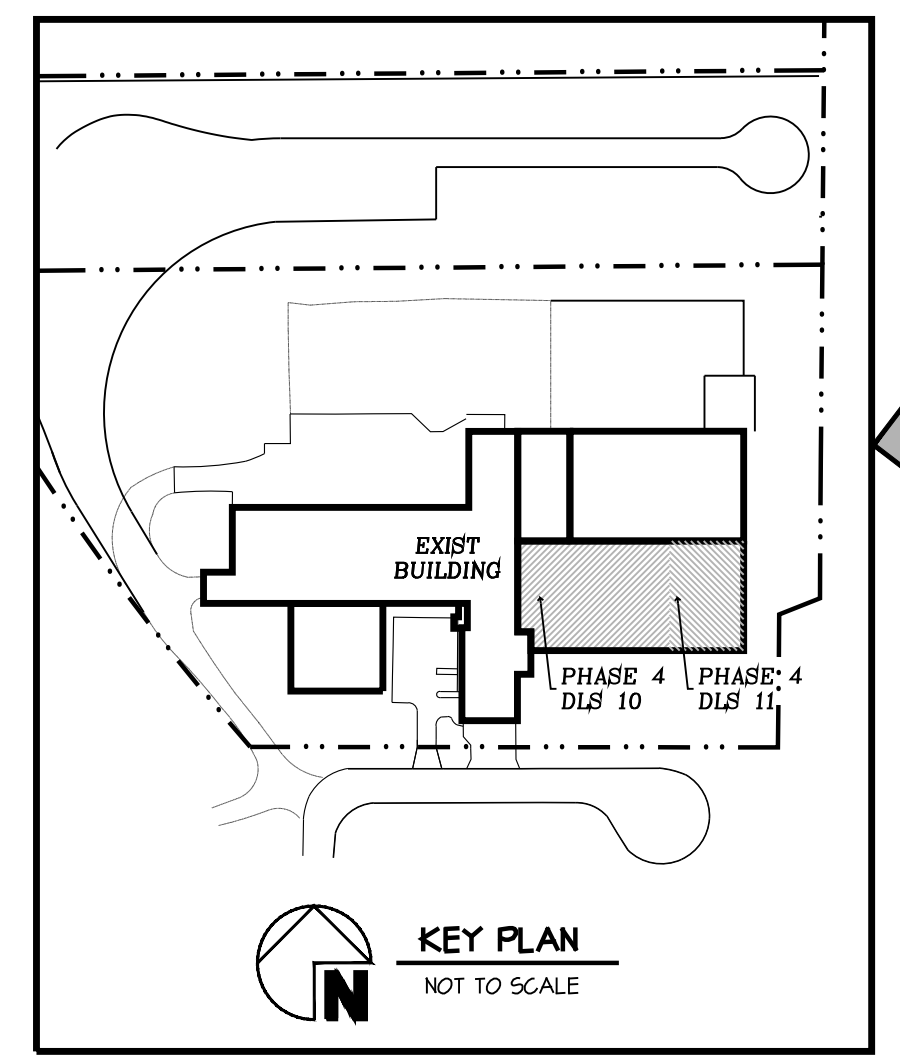
DOOR SCHEDULE

DOOR NUMBER	DOOR SIZE			TYPE	DOOR MAT.	FRAME	HDW GROUP	RATING	DETAILS			REMARKS
	WIDTH	HEIGHT	THICK.						J	J	H	
101A	PR 3'-0"	7'-0"	1 3/4"	A1	HM	HM	I	----				
101B	3'-0"	7'-0"	1 3/4"	A1	HM	HM	I	----				
102	3'-0"	7'-0"	1 3/4"	A1	HM	HM	I	----				
103	3'-0"	7'-0"	1 3/4"	A2	HM	HM	I	----				

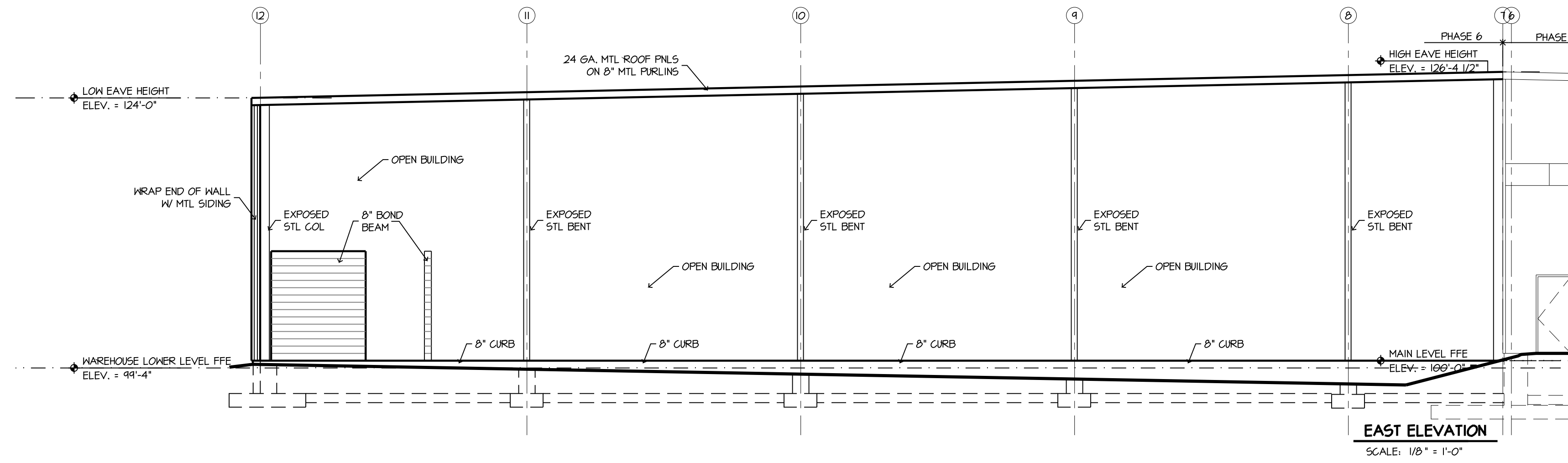
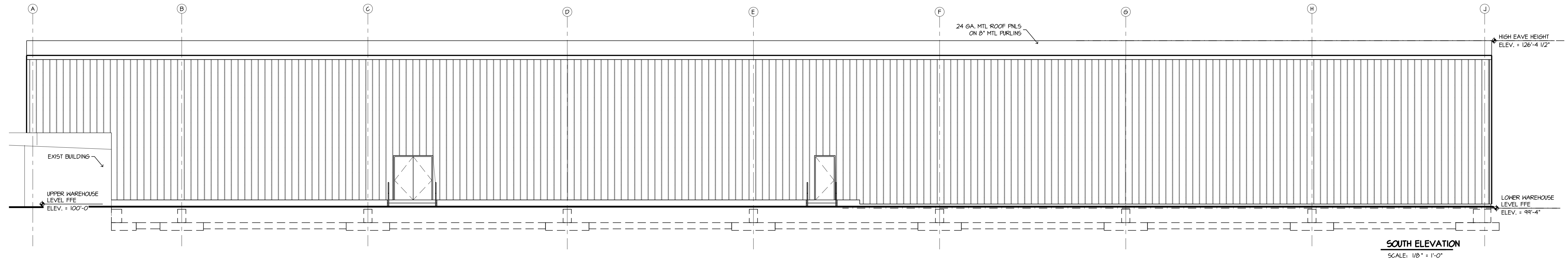
- HARDWARE GROUPS**
 SET NO. 1 (EXTERIOR) (01A, 101B)
 1/2 PR EXITS
 1EA EXIT DEVICE W/ EXTERIOR LEVER
 1EA CLOSER
 1EA THRESHOLD
 1EA WEATHER SEAL + SWEEP
 1EA CYLINDER
 1EA STOP AS REQ



FLOOR PLAN
 SCALE: 1/8" = 1'-0"



KEY PLAN
 NOT TO SCALE



DLI Environmental Services, Inc.

Phase 4 - DLS 10 East Storage & DLS 11 Processing Area
 Broad Street
 Plainwell, Michigan 49080



ISSUED
01-29-2010 FOR STATE SUBMITTAL
09-08-2022 FOR STATE SUBMITTAL

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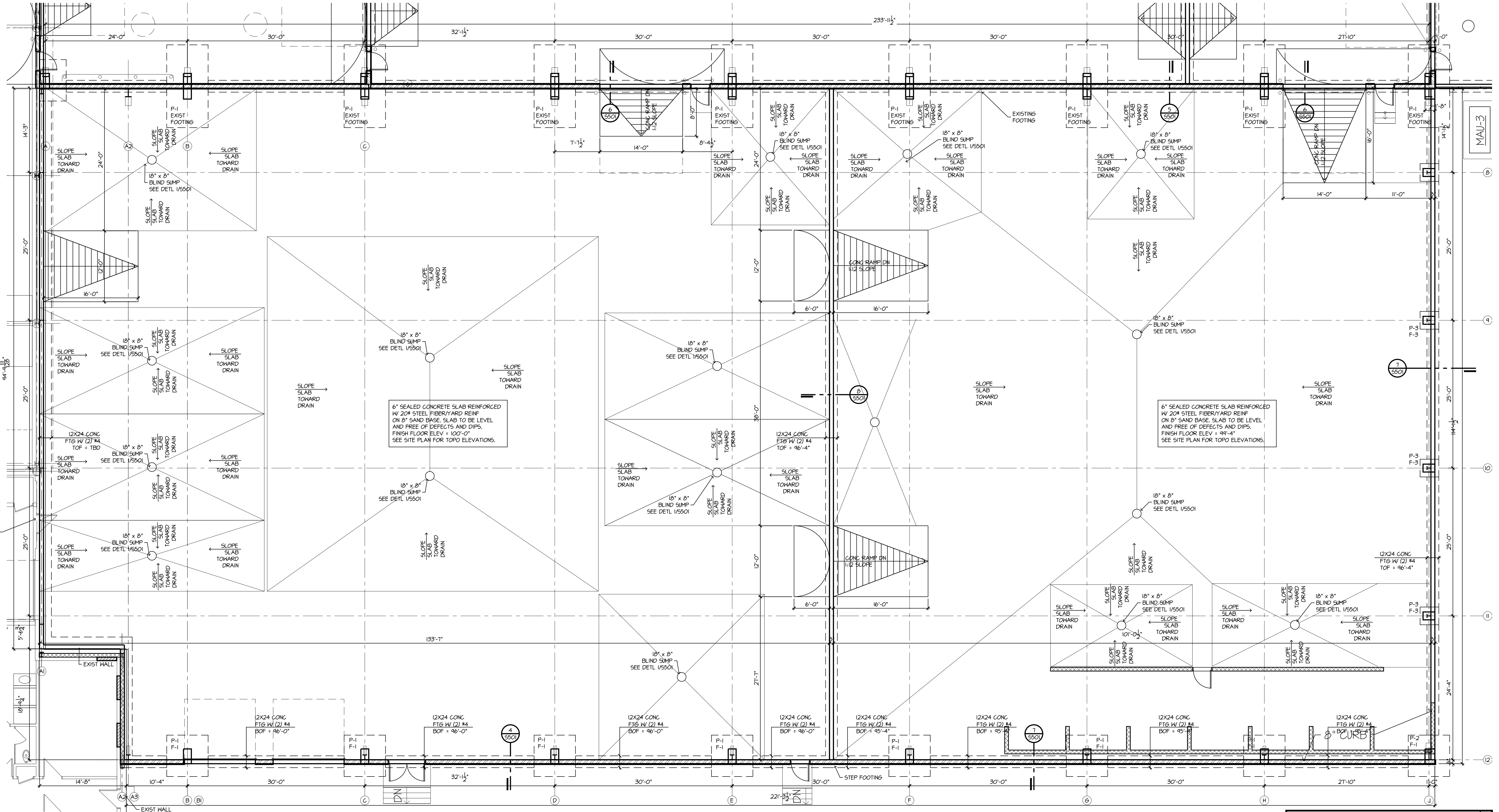
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JOB NUMBER
210847

EXTERIOR
 ELEVATIONS
 + DETAILS

A201

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PIER SCHEDULE			
MARK	MINIMUM PIER SIZE	REINFORCING	REMARKS
P-1	1'-4" X 2'-6"	4-#5 VERT & #3 TIES @ 10" OC	--
P-2	1'-8" X 2'-6"	4-#5 VERT & #3 TIES @ 10" OC	--
P-3	1'-4" X 2'-0"	4-#5 VERT & #3 TIES @ 10" OC	--

FOOTING SCHEDULE			
MARK	FOOTING SIZE	REINFORCING	REMARKS
F-1	1'-0" X 1'-0" X 1'-6"	(1) #5 EA. WAY T4B	--
F-2	NOT USED		
F-3	3'-2" X 3'-0" X 12"	(4) #4 EA. WAY	--

CONCRETE

- CONCRETE STRENGTH SHALL BE 4,000 PSI IN 28 DAYS FOR ALL INTERIOR SLABS, 3,500 PSI FOR FOUNDATION WALLS, 3,000 PSI FOR FOOTINGS. SEE SPECIFICATIONS DIVISION 3 FOR ADDITIONAL INFO.
- MATERIAL PROPERTIES REINFORCING AND CONNECTION STEEL:

	FY	PSI	ASTM
#3 BARS	40,000	A615	
ALL BARS #4 AND LARGER UN WELDED WIRE FABRIC (SMOOTH)	60,000	A615	
	65,000	A615	
- CONCRETE PROTECTION FOR REINFORCEMENT, THE FOLLOWING MINIMUM CONCRETE SHALL BE PROVIDED FOR REINFORCEMENT.

	MIN. COVER (IN)
1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.	3
2. CONCRETE EXPOSED TO EARTH OR WEATHER #6 THROUGH #8 BARS	2
#5 BAR, #31 OR D31 WIRE, AND SMALLER.	1 1/2
3. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND.	3/4
- PROVIDE FOOTING/WALL DOVELLS AND CORNER REBARS AS SHOWN ON THE DRAWINGS.

5. CONCRETE FINISHES:

- EXTERIOR SLABS LIGHT BROOM FINISH.
- INTERIOR SLABS STEEL TROWELED FINISH.
- INTERIOR SLABS THAT DO NOT RECEIVE A FINISHED FLOORING MATERIAL SHALL BE SEALED AFTER CURING.
- RECESS FOUNDATION WALL 8" AT DOORWAYS AND FOUR SLAB THRU OPENINGS.

6. RECESS FOUNDATION WALL 8" AT DOORWAYS AND FOUR SLAB THRU OPENINGS.

- LOCATION OF CONSTRUCTION AND CONTRACTION JOINTS FOR THE SLAB ONGRADE WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL NON BEARING WALLS ON SLABS TO HAVE SILL PLATE ANCHORED WITH POWDER ACTUATED FASTENERS AT 24" O.C. HILTI OR EQUAL.
- SOIL BEARING CAPACITY TO BE A MIN OF 3000 PSI AT THE WALLS AND 4000 PSI AT THE COLUMNS. UNLESS NOTED OTHERWISE

ANCHOR BOLT NOTE:
FOR EXACT SIZE, LOCATION, AND NUMBER OF ANCHOR BOLTS SEE SHOP DRAWINGS BY METAL BUILDING COMPANY

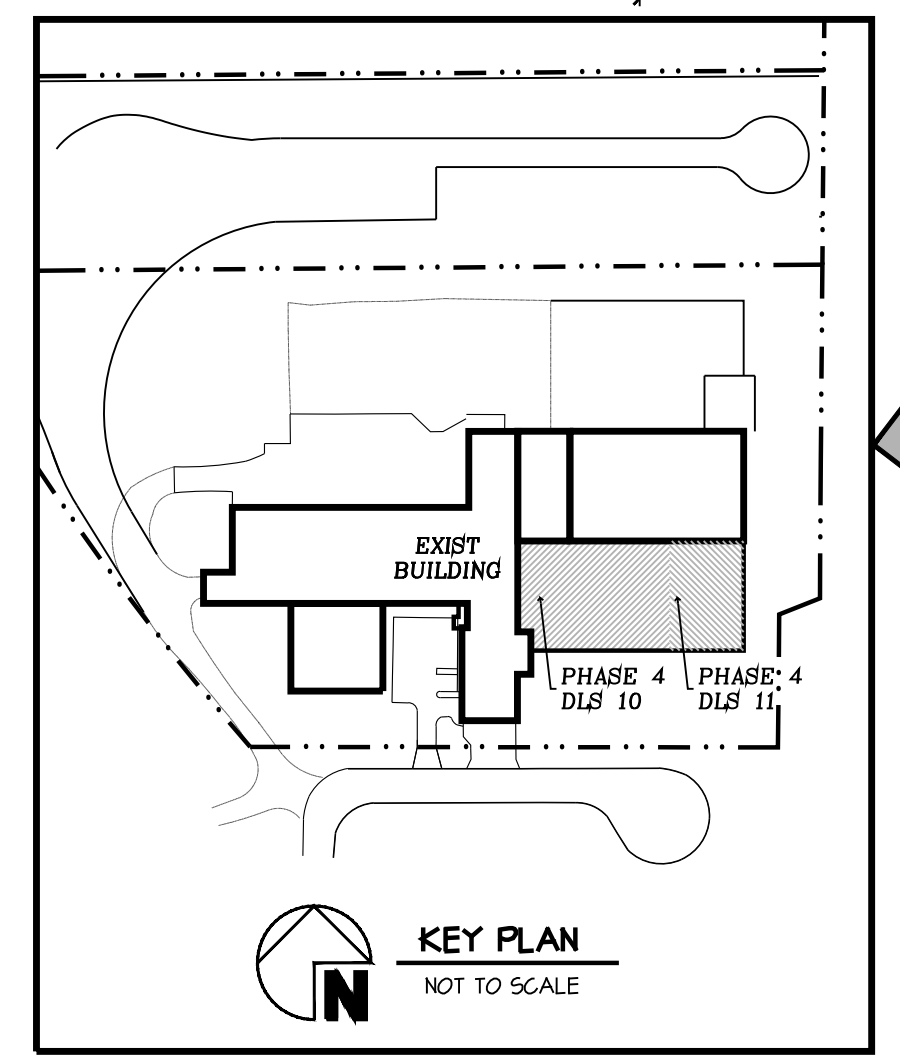
PIER NOTE:
PIER SIZE SHALL BE DETERMINED BY SHOP DRAWINGS FROM METAL BUILDING COMPANY

SCHEDULE OF MINIMUM RECOMMENDED ANCHOR BOLT LENGTHS

DIAMETER	LENGTH
3/4"	1'-3"
7/8"	1'-6"
1"	1'-8"
1-1/8"	2'-0"
1-1/4"	2'-0"

ALL BOLT LENGTH AND DIAMETER TO BE AS SHOWN ON METAL BUILDING COMPANY SHOP DRAWINGS

ALL ANCHOR BOLTS TO PROJECT A MINIMUM OF 3" ABOVE FOOTING



DLD Environmental Services, Inc.
Phase 4 - DLS 10 East Storage & DLS 11 Processing Area
Broad Street
Plainwell, Michigan 49080

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JOB NUMBER
210847

FOUNDATION PLAN

S100

Drug & Laboratory Disposal
 Phase 6 - Warehouse
 Broad Street
 Plainwell, Michigan 49080

GENERAL ELECTRICAL NOTES

- PROVIDE COMPLETE AND ADEQUATE TEMPORARY POWER AND LIGHTS DURING CONSTRUCTION USING APPROVED LAMP HOLDERS AND GFCI CIRCUITING. MAINTAIN ALL LAMPS AS REQUIRED.
- ELECTRICAL CONTRACTOR TO INCLUDE PLAN REVIEW FEES.
- CUTTING AND PATCHING FOR ELECTRICAL ITEMS BY ELECTRICAL CONTRACTOR.
- AS-BUILT DRAWINGS WILL BE REQUIRED TO BE UPDATED ON A WEEKLY BASIS THESE AS-BUILTS WILL BE EXPECTED TO BE IN A LEGIBLE AND NEAT FORM.
- ALL WIRING TO BE COPPER. ALL WIRING ABOVE 50 VOLTS TO BE IN CONDUIT UNLESS NOTED OTHERWISE. PROPER WIRE TYPE AND SIZE AND CONDUIT SIZE IS REQUIRED FOR BRANCH CIRCUITS. AC/AC CABLE IS ACCEPTABLE PER CODE FOR BRANCH CIRCUITS EXCEPT FOR HOME RUNS.
- MAKE SURE THAT EXPOSED CABLE IS RATED FOR THE ENVIRONMENT THAT IT IS IN.
- PROVIDE TYPED DIRECTORIES ON ALL PANELS. LABEL ALL DISCONNECTS AND PANELS.
- EXPOSED CABLE AND CONDUIT TO RUN PARALLEL WITH STRUCTURE AND SECURELY ATTACHED TO BUILDING STEEL.
- CONNECT ALL EXT. SIGNS AHEAD OF LOCAL LIGHTING CIRCUIT
- ELECTRICAL CONTRACTOR TO PROVIDE SUBMITTALS PRIOR TO ORDERING EQUIPMENT FOR LIGHTING, SWITCHGEAR, SPECIAL EQUIPMENT, ETC.
- UNLESS NOTED OTHERWISE, ALL DEVICE ELEVATIONS REFER TO CENTER OF OUTLET BOX. ELECTRICAL CONTRACTOR SHALL VERIFY ALL OUTLET LOCATIONS WITH OTHER TRADES. MINIMUM OF 18" ABOVE FINISHED FLOOR TO MEET BARRIER FREE REQUIREMENTS.
- SHARING NEUTRALS BETWEEN CIRCUITS IS NOT PERMITTED UNLESS WIRING IS COLOR CODED OR LABELED AT PANEL TO IDENTIFY THE PHASE. ALL HOME RUN NEUTRALS FOR ELECTRONIC EQUIPMENT AND FLUORESCENT LIGHTING TO BE #10.
- REFER TO MECHANICAL DRAWINGS FOR ELECTRICAL DATA PERTAINING TO ALL MECHANICAL EQUIPMENT. VERIFY ACTUAL REQUIREMENTS WITH EQUIPMENT ORDERED AND MAKE ADJUSTMENTS ACCORDINGLY. LOCATIONS SHOWN ARE APPROXIMATE. FIELD VERIFY.
- PROVIDE A CONNECTION, SWITCH AND SO FOR ALL SINK DISPOSERS, DISHWASHERS AND SIMILAR EQUIPMENT TO HAVE SSU OR EQUAL.
- WIRING IN AREA SEPARATION WALLS TO COMPLY WITH ARTICLE 300-22 OF THE N.E.C.
- PROVIDE FIRESTOPPING AT ALL REQUIRED PENETRATIONS.
- SLEEVE ELECTRICAL PENETRATIONS FROM FERROUS SLEEVES AND ALL AREA SEPARATION WALLS.
- AN ELECTRICAL PERMIT SHALL BE ACQUIRED BY A STATE LICENSED ELECTRICAL CONTRACTOR.
- PROVIDE GROUNDING AS PER N.E.C. SECTION 250.
- ALL ELECTRICAL WORK IS SUBJECT TO FIELD REVIEW BY THE ELECTRICAL INSPECTOR AND THE PROJECT ENGINEER.
- PROVIDE PROPER WORKING CLEARANCES AT ALL ELECTRICAL EQUIPMENT.
- MAXIMUM OF EIGHT (8) DUPLEX OUTLETS PER 20 AMP CIRCUIT UNLESS NOTED OTHERWISE.
- ALL WORK TO COMPLY WITH STATE AND LOCAL CODES.
- DO NOT LAY WIRES, FLEX, ETC. ON CEILING TILE.
- WHERE A FLOOR COVERING OR FINAL FLOOR FINISH IS OTHER THAN CARPET OR VINYL TILE, CONDUIT SHALL NOT BE RUN WITHIN CONCRETE SLABS. 1" OF CONCRETE OVER THE TOP OF CONDUITS AND SLABS MUST BE MAINTAINED. 1-1/2" OVER IS PREFERRED.
- PROVIDE SEAL-OFFS WHEN PIPING PASSES THROUGH AREAS OF DIFFERENT AMBIENT TEMPERATURES AND/OR HAZARDOUS AREAS.
- PROPER PROTECTION AGAINST CORROSION REQUIRED FOR ALL ELECTRICAL EQUIPMENT. IT SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
- BRANCH CIRCUIT CONDUCTORS SUPPLYING A SINGLE MOTOR SHALL HAVE AN AMPACITY NOT LESS THAN 125% OF THE MOTOR FULL LOAD CURRENT RATING.
- PROPER THERMAL OVERLOAD PROTECTION SHALL BE REQUIRED FOR ALL MOTORS.
- FURNITURE SYSTEM PARTITIONS TO BE FED FROM UNDER FLOOR OR ADJACENT WALL. DO NOT FEED FROM OVERHEAD.
- PROVIDE OPERATION AND MAINTENANCE MANUALS AT PROJECT COMPLETION.
- PROVIDE NECESSARY TRAINING ON ELECTRICAL SYSTEMS TO OWNER.
- PROPER TIME IS TO BE GIVEN TO PRE-CONSTRUCTION COORDINATION OF ALL OTHER SYSTEMS. ELECTRICAL CONTRACTOR TO VERIFY MOUNTING HEIGHTS OF DEVICES WITH FINAL FURNITURE AND CABINET PLANS. FLOOR OUTLETS TO BE FIELD VERIFIED FOR EXACT PLACEMENT.
- PROVIDE PROPER SEPARATION BETWEEN LOW VOLTAGE CONDUCTORS AND HIGHER VOLTAGE CONDUCTORS.
- MAKE SURE THERE ARE RECEPTACLES WITHIN 25 FEET OF MECHANICAL EQUIPMENT FOR SERVICEABILITY.
-

SOUND / SIGNAL

- ⊕ SPEAKER
- ⊕ VOLUME CONTROL
- ⊕ MICROPHONE JACK
- ⊕ INTERCOM JACK
- ⊕ CATV COAX JACK
- ⊕ DOOR CONTACT
- ⊕ MOTION DETECTOR (PROVIDED BY OTHERS)
- ⊕ KEY PAD
- ⊕ CARD READER
- ⊕ MOTION DETECTOR
- ⊕ BEAM DETECTOR
- ⊕ CAMERA
- ⊕ CAMERA LOCATION BOX, AND 3/4" STUB ONLY
- ⊕ INTERCOM STATION BOX, 3/4" STUB ONLY
- SSOP SECURITY SYSTEM CONTROL PANEL
- CCTV CCTV CONTROL PANEL
- GAAP GENERATOR ANNUNCIATOR PANEL

MISCELLANEOUS NOTES

- ⊕ POINT OF CONNECTION BETWEEN NEW AND EXISTING
- ⊕ POINT OF EXISTING TO REMAIN AND EXISTING TO BE REMOVED.
- ① KEY NOTE
- ⊕ DEMOLITION NOTE
- ⊕ REVISION NOTE (ADDENDUM)
- 1 M900 DETAIL BUBBLE
DETAIL NUMBER
PAGE LOCATION
- ⊕ SECTION TAG & DIRECTION OF SECTION VIEW
- ⊕ SECTION ARROW AND SECTION CUT LINE.

NURSE CALL

- ⊕ MASTER CONSOLE
- ⊕ EMERGENCY BATH STATION
- ⊕ DUTY STATION
- ⊕ STAFF STATION
- ⊕ DOOR ALARM
- ⊕ SINGLE PATIENT STATION
- ⊕ EMERGENCY PUSH BUTTON
- ⊕ DOME LIGHT
- ⊕ ZONE LIGHT

FIRE ALARM

- ⊕ SMOKE DETECTOR
- ⊕ SMOKE DETECTOR INTERGATED WITH NURSE CALL
- ⊕ HEAT DETECTOR
- ⊕ DUCT SMOKE DETECTOR
- ⊕ HORN
- ⊕ AUDIOVISUAL DEVICE WITH CANDELA RATING
- ⊕ VISUAL ONLY UNIT WITH CANDELA RATING
- ⊕ PULL STATION
- ⊕ FIRE ALARM CONTROL PANEL
- ⊕ FIRE ALARM ANNUNCIATOR PANEL
- ⊕ INTERCOMMUNICATION CABINET
- ⊕ FIRE ALARM BELL
- ⊕ FLOW SWITCH
- ⊕ OUTSIDE STEM & YOKE VALVE
- ⊕ VISUAL ONLY UNIT WITH CANDELA RATING
- ⊕ TAMPERS (furnished by FP/C)
- ⊕ END OF LINE DEVICE
- ⊕ REMOTE INDICATING LIGHT, WALL MTD.
- ⊕ REMOTE INDICATING LIGHT, CLG. MTD.
- ⊕ MAGNETIC DOOR HOLDER
- ⊕ MONITOR MODULE
- ⊕ CONTROL MODULE
- ⊕ DUCT SMOKE DAMPER

CONTROLS

- ⊕ PHOTOCELL (voltage as required)
- ⊕ TIME CLOCK (24 hour U.O.N.)
- ⊕ PUSHBUTTON STATION (# of buttons indicated)
- ⊕ LIGHTING CONTACTOR
- ⊕ OCCUPANCY SENSOR: WALL MOUNT, WATTSTOPPER WA-200
- ⊕ OCCUPANCY SENSOR: WALL MOUNT, WATTSTOPPER WA-300
- ⊕ OCCUPANCY SENSOR: CLG MOUNT, DUAL TECHNOLOGY WATTSTOPPER UT-300-2
- ⊕ TIME SWITCH SET AT 2HR. MAX. WATTSTOPPER TS-400
- ⊕ OCCUPANCY SENSOR: WALL MOUNT, DIMMER, WATTSTOPPER WD-280
- ⊕ POWER PACK: WATTSTOPPER B120E-P.
- ⊕ LOW VOLTAGE SWITCH
- ⊕ THERMOSTAT
- ⊕ SWITCH BYPASS, BODINE GTD20 OR EQUAL

OUTLETS

- ⊕ SINGLE RECEPTACLE (120 VOLT)
- ⊕ ELECTRIC WATER COOLER RECEPTACLE (LOCATE PER EWC SHOP DRAWINGS)
- ⊕ DUPLEX RECEPTACLE
- ⊕ DOUBLE DUPLEX RECEPTACLE
- ⊕ GFI DUPLEX RECEPTACLE
- ⊕ WEATHER PROOF DUPLEX RECEPTACLE
- ⊕ GFI DUPLEX CONVENIENCE OUTLET MTD "ABOVE COUNTER"
- ⊕ EMERGENCY RECEPTACLE
- ⊕ DUPLEX OUTLET WITH ISOLATED GROUND
- ⊕ DUPLEX W/ ISOLATED GROUND & TVSS
- ⊕ 208 / 240V RECEPTACLE
- ⊕ FLUSH FLOOR BOX
- ⊕ SURFACE FLOOR BOX
- ⊕ SPECIAL EQUIPMENT RECEPTACLE
- ⊕ LOCKING RECEPTACLE
- ⊕ TELEPHONE OUTLET
- ⊕ DATA OUTLET
- ⊕ TELEPHONE / DATA OUTLET
- ⊕ FAX OUTLET
- ⊕ FLUSH FLOOR TELEPHONE OUTLET
- ⊕ SURFACE FLOOR TELEPHONE OUTLET
- ⊕ TELEPHONE POLE (T=telephone, P=power, C=computer)
- ⊕ JUNCTION BOX
- ⊕ WALL JUNCTION BOX
- ⊕ PULL (JUNCTION) BOX
- ⊕ UNDERFLOOR JUNCTION BOX
- ⊕ JUNCTION BOX WITH FLEX PIGTAIL
- ⊕ JUNCTION BOX UNDER CABINET LIGHTING (BY OTHERS)

CIRCUITING

- ELECTRICAL SERVICE
- TELEPHONE SERVICE
- CONDUIT
- UNDERGROUND CONDUIT
- "CONDUIT RUN CONTINUES" INDICATION
- CONDUIT STUB UP
- CONDUIT STUB DOWN
- END OF CONDUIT RUN
- END OF CONDUIT RUN, CAP AND STAKE
- WIREMOLD AS SPECIFIED
- BUS DUCT
- PP.2 CIRCUIT HOME RUN TO PANEL "PP".

POWER EQUIPMENT

- ⊕ SINGLE PHASE MOTOR, # INDICATES HP
- ⊕ THREE PHASE MOTOR, # INDICATES HP
- ⊕ MOTORIZED DAMPER (BY M/C U.O.N.)
- ⊕ TRANSIENT VOLTAGE SURGE SUPPRESSION
- ⊕ VARIABLE FREQUENCY DRIVE
- ⊕ TRANSFORMER, DRY (KVA shown)
- ⊕ TRANSFORMER, PAD MOUNTED
- ⊕ SPECIAL CONNECTION
- ⊕ FUSED P
- ⊕ MAGNETIC STARTER (BY E/C U.O.N.)
- ⊕ COMB. STARTER (BY E/C U.O.N.)
- ⊕ PANELBOARD, 208/120V SURFACE MNT
- ⊕ PANELBOARD, 480/277V SURFACE MNT
- ⊕ PANELBOARD, 208/120V FLUSH MNT
- ⊕ PANELBOARD, 480/277V FLUSH MNT
- ⊕ UTILITY METER, AS REQUIRED
- ⊕ CURRENT TRANSFORMERS
- ⊕ TELEPHONE TERMINAL BOARD
- ⊕ GROUND CONNECTION PER N.E.C.
- ⊕ WEATHERHEAD
- ⊕ WIREWAY
- ⊕ TRANSFER SWITCH
- ⊕ ENCLOSED CIRCUIT BREAKER
- ⊕ CAPACITOR
- ⊕ GENERATOR, KW SHOWN
- ⊕ TRANSFER SWITCH
- ⊕ SWITCHBOARD, SHOWN WITH FUSIBLE SWITCHES
- ⊕ SWITCHBOARD, SHOWN WITH CIRCUIT BREAKERS

SWITCHES

- ⊕ SINGLE-POLE SWITCH
- ⊕ THREE-WAY SWITCH
- ⊕ FOUR-WAY SWITCH
- ⊕ SWITCH WITH PILOT LIGHT
- ⊕ THERMAL OVERLOAD SWITCH
- ⊕ MANUAL MOTOR SWITCH (FUSED)
- ⊕ KEY SWITCH
- ⊕ TIME SWITCH
- ⊕ DOOR-OPERATED SWITCH
- ⊕ WEATHERPROOF SWITCH
- ⊕ DIMMER SWITCH

ELECTRICAL ABBREVIATIONS

A	AMPS	LC	LIGHT CONTROL
AC	ACCESSIBLE CEILING SPACE	LT	LIGHT
ACS	AIR CONDITIONING UNIT	LTG	LIQUID TIGHT FLEX. METAL CONDUIT
ACU	ABOVE FINISHED FLOOR	LT FLEX	LIQUID TIGHT FLEX. METAL CONDUIT
AFF	AUTHORITY HAVING JURISDICTION	MAX	MAXIMUM MECHANICAL CONTRACTOR MOTOR CONTROL CENTER
AHU	AIR HANDLING UNIT	MCC	MINIMUM MAIN LUG ONLY
AHU-	AMPS INTERRUPTING CAPACITY	MIN	MOUNT
AIC	ABOVE SHELF	MLO	MOUNTING
AS	AUTOMATIC TRANSFER SWITCH	MTD	MOUNTING MAKE-UP AIR UNIT
ATS		MTG	MOUNTING
B-	BOILER	MUJU-	MAKE-UP AIR UNIT
BC	BELOW COUNTER BUILDING	NC	NORMALLY CLOSED
BLDG		NIC	NOT IN CONTRACT
CHLR-	CHILLER	NL	NIGHT LIGHT
CND (C)	CONDUIT	NO	NORMALLY OPEN
CKT	CIRCUIT BREAKER	NTS	NOT TO SCALE
CKT BKR	CIRCUIT BREAKER	P	POLE
CT-	COOLING TOWER	PB	PUMP
CJ-	CONDENSING UNIT	PNL	PANEL
CUH-	CABINET UNIT HEATER	PRV-	POWER ROOF VENTILATOR
DFU-	DUCT FURNACE	PVC	POLY VINYL CHLORIDE
DISC	DISCONNECT	PWR	POWER
DWS	DOMESTIC WATER HEATER	RECEPT	RECEPTACLE
DWH-		RCC	RIGID GALVANIZED STEEL CONDUIT
EBB-	ELECTRIC BASEBOARD	RTU-	ROOF TOP UNIT
EC	ELECTRICAL CONTRACTOR	RTU-	RECEPTACLE
EF	EXHAUST FAN	RTU-	RECEPTACLE
EMT	ELECTRICAL METALLIC TUBING	SF-	SUPPLY FAN
EWC	ELECTRIC WATER COOLER	SPEC	SPECIFICATIONS
EXST (E)	EXISTING	SW	SWITCH
FLA	FULL LOAD AMPS	SWBD	SWITCHBOARD
FLEX	FLEXIBLE CONDUIT	TCC	TEMPERATURE CONTROL CONTRACTOR
FLOOR	FLOOR	TR	TAMPER PROOF RECEPTACLE
FLUR	FLUORESCENT FURNACE	TS	TAMPER PROOF SWITCH
FU-	FURNACE	TYP	TYPICAL
GC	GENERAL CONTRACTOR	UF	UNDER FLOOR
GFI	GROUND FAULT INTERRUPTER	UH-	UNIT HEATER
GRD	GROUND	UL	UNDERWRITERS' LABORATORIES, INC.
H-	HUMIDIFIER	UNO	UNLESS NOTED OTHERWISE
HID	HIGH INTENSITY DISCHARGE	V	VOLTS
HOA	HAND-OFF-AUTO SWITCH	VL	VERIFY LOCATION WITH OWNER
HP	HORSEPOWER	W	WITH
HR	HOUR	W/O	WITHOUT
IG	ISOLATED GROUND	WP	WEATHER PROOF
IMC	INTERMEDIATE METAL CONDUIT	XFMR	TRANSFORMER
JB	JUNCTION BOX		

DEMOLITION NOTES

- EXISTING LIGHT FIXTURE TO REMAIN.
- EXISTING DEVICE TO REMAIN.
- EXISTING EQUIPMENT TO REMAIN.
- DISCONNECT & REMOVE EXISTING LIGHT FIXTURE. REMOVE ASSOCIATED CONDUIT & WIRE.
- DISCONNECT & REMOVE EXISTING DEVICE. REMOVE ASSOCIATED CONDUIT & WIRE.
- DISCONNECT & REMOVE EXISTING EQUIPMENT. REMOVE ASSOCIATED CONDUIT & WIRE.
- DISCONNECT EQUIPMENT FOR REMOVAL BY OTHERS. REMOVE ASSOCIATED CONDUIT & WIRE.
- DISCONNECT & RELOCATE EXISTING EQUIPMENT. EXTEND CONDUIT & WIRE TO NEW LOCATION.
- DISCONNECT & RELOCATE EXISTING DEVICES. EXTEND EXISTING CONDUIT & WIRE TO NEW LOCATION.
- DISCONNECT & REMOVE EXISTING LIGHT FIXTURES REINSTALL WHEN MECHANICAL WORK IS COMPLETED.
- DISCONNECT & REMOVE EXISTING CONTROL PANEL. REMOVE ASSOCIATED CONDUIT & WIRE.
-

ELECTRICAL PLAN NOTES:

- JUNCTION BOX IN WALL WITH FLEX CONNECTIONS TO OFFICE FURNITURE. PROVIDE (8) CIRCUITS TO OFFICE FURNITURE. EC TO PROVIDE FINAL ELECTRICAL CONNECTIONS TO OFFICE FURNITURE
- POWER CONNECTION TO SPECIFIED MACHINE. ALL WIRING TO BE CLASS 1, DIVISION 1
- EXHAUST FAN TO OPERATE IN CONJUNCTION WITH LIGHTS
- WALL MOUNT EXIT SIGN TYPE "X2" CENTERED OVER DOORWAY. TIE INTO EXISTING GENERAL LIGHTING AHEAD OF SWITCHING. CLASS 1, DIV. 1, WIRING, 277V.
- WALL MOUNT WALL-PAK TYPE "H" CENTERED OVER OVERHEAD DOOR AT APPROXIMATELY 18'-0" ABOVE GRADE. TIE INTO LIGHTING CIRCUIT, 277V. WALL PACKS NOT OVER DOORWAYS TO MOUNTED TO WALL AT 18'-0" ABOVE GRADE
- PROVIDE 280V, 3 PHASE POWER TO OVERHEAD DOOR OPERATOR CONTROL PANEL. RUN CONTROL WIRING TO DOOR OPERATOR CONTROL SWITCH AT 48" AFF AND TO DOOR INTERLOCK SAFETY DEVICE. CLASS 1, DIV. 1 INSTALLATION.

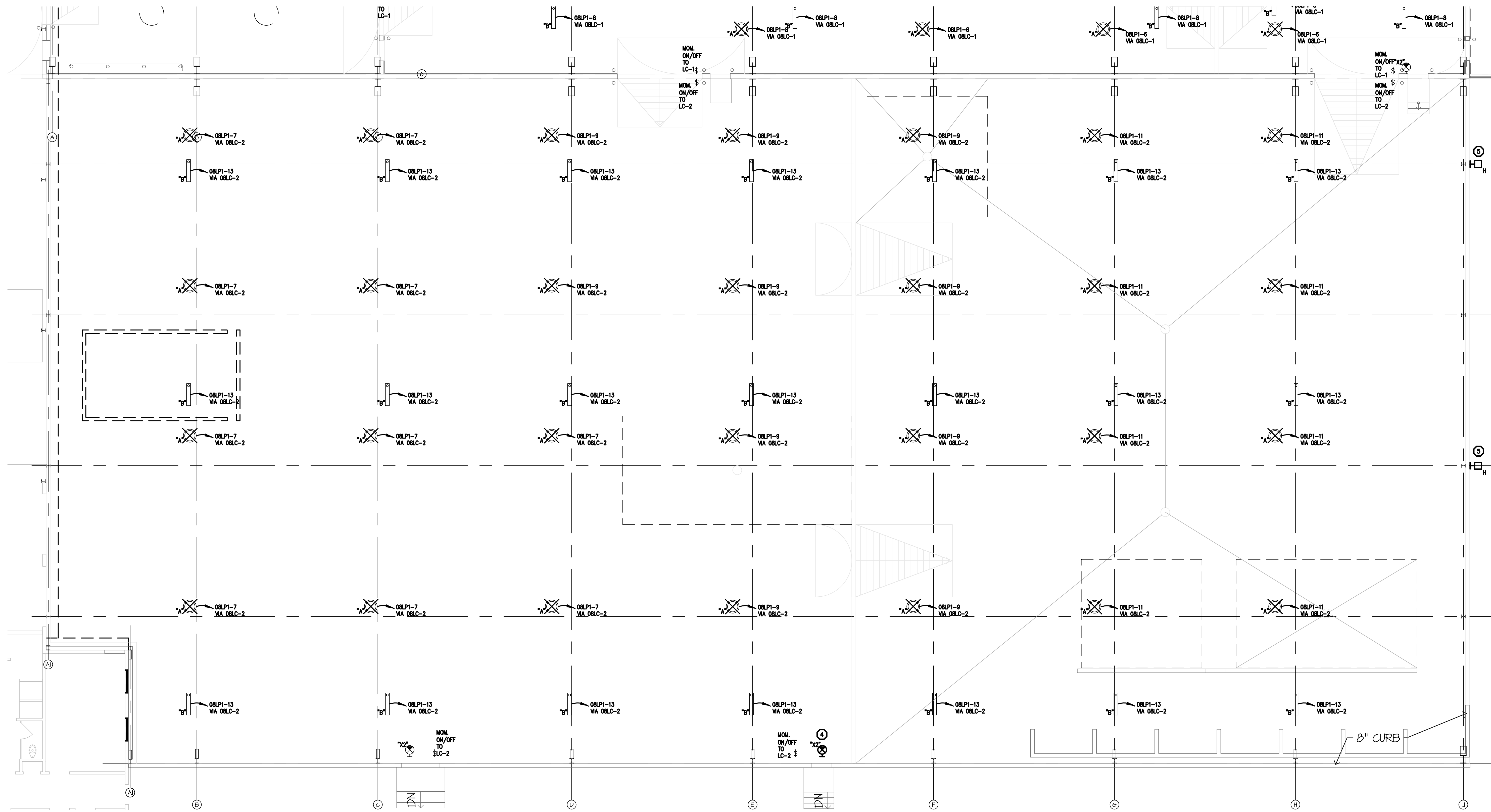
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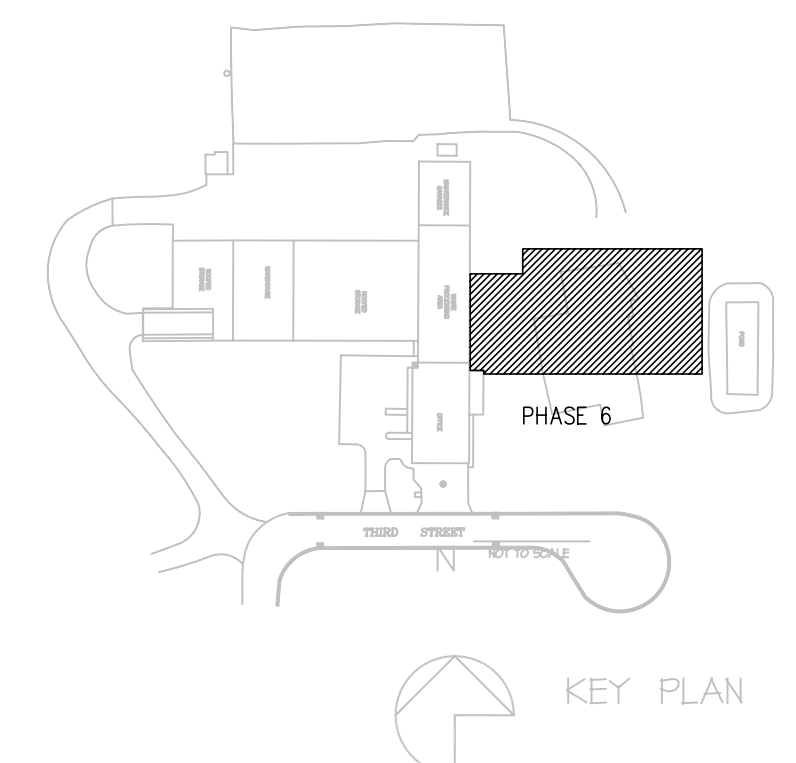
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ELECTRICAL SYMBOLS & NOTES
 JOB NUMBER
 09024J
E100



LIGHT FIXTURE SCHEDULE								
TYPE	MANUFACTURER	MODEL NUMBER	LAMPS	INPUT WATTS	INPUT VOLTS	DESCRIPTION	NOTES	TAG
A	RIG A LITE	SIP40H4-GG-C	M59 400W MH	430	277	METAL HALIDE AREA LIGHT, CLASS 1, DIV. 1 LIGHT FIXTURE		A
B	RIG A LITE	XP285-4-2L-C-EM	(2) F32 TB	72	277	FLUORESCENT (2) F32 TB LAMP CLASS 1, DIV. 1 LIGHT FIXTURE W/ EM BALLAST		B
C	LITHONIA	2SP G B 3 32 A12 MVOLT	(3) F32 TB	108	120	2x4 FLUORESCENT (3) F32 TB LAMP PRISMATIC TROFFER		C
D	LITHONIA	SP G B 2 32 A12 MVOLT	(2) F32 TB	72	120	1x4 FLUORESCENT (3) F32 TB LAMP PRISMATIC TROFFER		D
F	LITHONIA	LFB 2/180TT FBLF3 MVOLT	(2) 18W OTT	36	120	6" SHOWER RECESSED 18W FLUORESCENT		F
G	LITHONIA	WP 2 32 MVOLT	(2) F32 TB	72	120	WALL MOUNT 4" (2) F32 TB LAMP WALL MOUNT		G
H	LITHONIA	TWH-250M-MVOLT-PE	(1) 250W MH	300	120/277	METAL HALIDE WALL PACK		H
J	PHOENIX	DLX-70MH-277	(1) 70W MH	84	277	METAL HALIDE DOCK LITE CLASS 1, DIV. 1		J
X1	LITHONIA	LOC W 1 R EL N	INCLUDED LED	0.7	277			X1
X2	RIG A LITE	XPEX LED sign / exit sign	INCLUDED LED	0.7	277	CLASS 1, DIVISION 1 EXIT SIGN		X2

FLOOR PLAN - LIGHTING - NEW
Scale 1/8" = 1'-0"



Drug & Laboratory Disposal
 Phase 6 - Warehouse
 Broad Street
 Plainville, Michigan 49080

E2W ENGINEERING
 161 East Michigan Ave
 Suite 200
 Kalamazoo, MI 49007
 PHONE: (269) 373-8000
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 E2W JOB # 2008-147

ISSUED	
01/29/10	FOR STATE SUBMITAL

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 8175 Creekside Drive, Ste. 220
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 JOB NUMBER
09024J

PHASE 6
 LIGHTING
 PLAN
E400

FORM EQP 5111 TEMPLATE

C1: USE AND MANAGEMENT OF CONTAINERS

(Volume 5)

This document is an attachment to the Michigan Department of Environment, Great Lakes, and Energy's *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

R 299.9614 of the administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); R 29.4101 to R 29.4505 promulgated pursuant to the provisions of the Michigan Fire Protection Act, PA 207, as amended (Act 207); and Title 40 of the Code of Federal Regulations (CFR) §§270.14(d), 270.15, and Part 264, Subpart I, establish requirements for the use and management of containers. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template addresses requirements for the use and management of containers at the *Drug & Laboratory, Inc. (DLD)* facility in *Plainwell*, Michigan. This template addresses the condition of containers, compatibility of waste with containers, management of containers, inspections, containment, special requirements for ignitable or reactive waste, special requirements for incompatible wastes, and closure.

(Check as appropriate)

Applicant for Operating License for Existing Facility:

R 299.9614 use and management of containers

Applicant for Operating License for New, Altered, Enlarged, or Expanded Facility:

R 299.9614 use and management of containers

Table of Contents

This template is organized as follows:

INTRODUCTION

C1.A DESCRIPTION OF CONTAINERS

C1.B CONDITION OF CONTAINERS

C1.C COMPATIBILITY OF WASTE WITH CONTAINERS

C1.D MANAGEMENT OF CONTAINERS

C1.E INSPECTIONS

C1.F CONTAINMENT

C1.F.1 Secondary Containment System Design and Operation for Containers with Free Liquids

- C1.F.1(a) Requirement for Base or Liner
- C1.F.1(b) Containment System Drainage
- C1.F.1(c) Containment System Capacity
- C1.F.1(d) Control of Run-on
- C1.F.1(e) Removal of Liquids from Containment System

C1.F.2 Secondary Containment System Design and Operation for Containers with No Free Liquids

- C1.F.2(a) Containment System Drainage
- C1.F.2(b) Container Management

C1.G SPECIAL REQUIREMENTS OF IGNITABLE OR REACTIVE WASTE

C1.H SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

C1.I CLOSURE

INTRODUCTION

Reference is made to Volume 1, Attachment "Introduction"

C1.A DESCRIPTION OF CONTAINERS

[R 299.9614 and 40 CFR §264.171]

Reference is made to Volume 1, Attachment C1.A

C1.B CONDITION OF CONTAINERS

[R 299.9614 and 40 CFR §264.171]

Reference is made to Volume 1, Attachment C1.B

C1.C COMPATIBILITY OF WASTE WITH CONTAINERS

[R 299.9614 and 40 CFR §264.172]

Reference is made to Volume 1, Attachment C1.C

C1.D MANAGEMENT OF CONTAINERS

[R 299.9614 and 40 CFR §264.173]

Reference is made to Volume 1, Attachment C1.D

In addition, a provisional layout of the rack system proposed for DLS-10 is provided in Volume 5, Attachment C1-101. As areas in DLS-10 that are designated for treatment become active (see Volume 5, C4.K, Process Area Allocation), the placement of the rack system will be reapportioned to comply with the storage limitations presented in Volume 5, C4.K.2, Storage Within Pods.

A provisional layout of the rack system proposed has also been provided for DLS-11 in Volume 5, Attachment C1-111. The placement of the rack system will be apportioned as needed for equipment and treatment needs (see Volume 5, C4.K, Process Area Allocation).

storage limitations presented in Volume 5, C4.K.2, Storage Within Pods.

C1.E INSPECTIONS

[R 299.9614 and 40 CFR §264.174]

Reference is made to Volume 1, Attachment C1.E

C1.F CONTAINMENT

[R 299.9614 and 40 CFR §§264.175 and 270.15]

C1.F.1 Secondary Containment System Design and Operation for Containers with Free Liquids

[R 299.9614 and 40 CFR §§264.175(a) and 270.15(a)]

Detailed design drawings for the secondary containment systems and container storage areas are provided in Volume 5, Attachments B6-100.1 through B6-100.8.

C1.F.1(a) Requirement for Base or Liner

[R 299.9614 and 40 CFR §§264.175(b)(1) and 270.15(a)(1)]

Reference is made to Volume 1, Attachment C1.F.1(a)

C1.F.1(b) Containment System Drainage

[R 299.9614 and 40 CFR §§264.175(b)(2) and 270.15(a)(2)]

Reference is made to Volume 1, Attachment C1.F.1(b)

C1.F.1(c) Containment System Capacity

[R 299.9614 and 40 CFR §§264.175(b)(3) and 270.15(a)(3)]

DLD proposes to limit the DLS-10 containment area to a maximum of 93,500 gallons of hazardous waste. The total containment capacity for DLS-10 is 97,998 gallons, which exceeds the proposed storage capacity.

DLD proposes to limit the DLS-11 containment area to a maximum of 52,250 gallons of hazardous waste. The total containment capacity for DLS-11 is 54,481, which exceeds the proposed storage limit.

(See DLS-10 & DLS-11 floor plan drawing in Volume 5, Attachment B6-100.2, containment calculations shown in Volume 5, Attachment C1-100, and Volume 5, Attachment C1-110, respectively.)

C1.F.1(d) Control of Run-on

[R 299.9614 and 40 CFR §§264.175(b)(4) and 270.15(a)(4)]

Reference is made to Volume 1, Attachment C1.F.1(d)

C1.F.1(e) Removal of Liquids from Containment System

[R 299.9614 and 40 CFR §§264.175(b)(5) and 270.15(a)(5)]

Reference is made to Volume 1, Attachment C1.F.1(e)

C1.F.2 Secondary Containment System Design and Operation for Containers with No Free Liquids

[R 299.9614 and 40 CFR §§264.175 and 270.15(b)(1)]

DLD shall manage containers with no free liquids using the operating guidelines presented in Volume 5, Section C1.F.1.

C1.F.2(a) Containment System Drainage

[R 299.9614 and 40 CFR §§264.175 and 270.15(b)(2)]

DLD shall manage containers with no free liquids using the operating guidelines presented in Volume 5, Section C1.F.1.

C1.F.2(b) Containment Management

[R 299.9614 and 40 CFR §§264.175 and 270.15(b)(2)]

DLD shall manage containers with no free liquids using the operating guidelines presented in Volume 5, Section C1.F.1.

C1.G SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

[R 299.9614 and 40 CFR §§264.176 and 270.15(b)(2)]

Reference is made to Volume 1, Attachment C1.G

C1.H SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

[R 299.9614 and 40 CFR §§264.177(c) and 270.15(b)(2)]

Reference is made to Volume 1, Attachment C1.H

In addition, Storage areas for pyrophoric and water-reactive wastes and for oxidizing wastes in DLS-10 are indicated in Volume 5, Attachment C4-100.2. The portions of the rack system dedicated for storage of these wastes are enclosed on three sides by cement block walls to protect adjacent storage with a fourth block wall that functions as a fire barrier for the rest of the facility should a reaction take place.

C1.I CLOSURE

[R 299.9614 and 40 CFR §264.178]

Reference is made to Volume 1, Attachment C1.I

C1: CONTAINERS

(Volume 5)

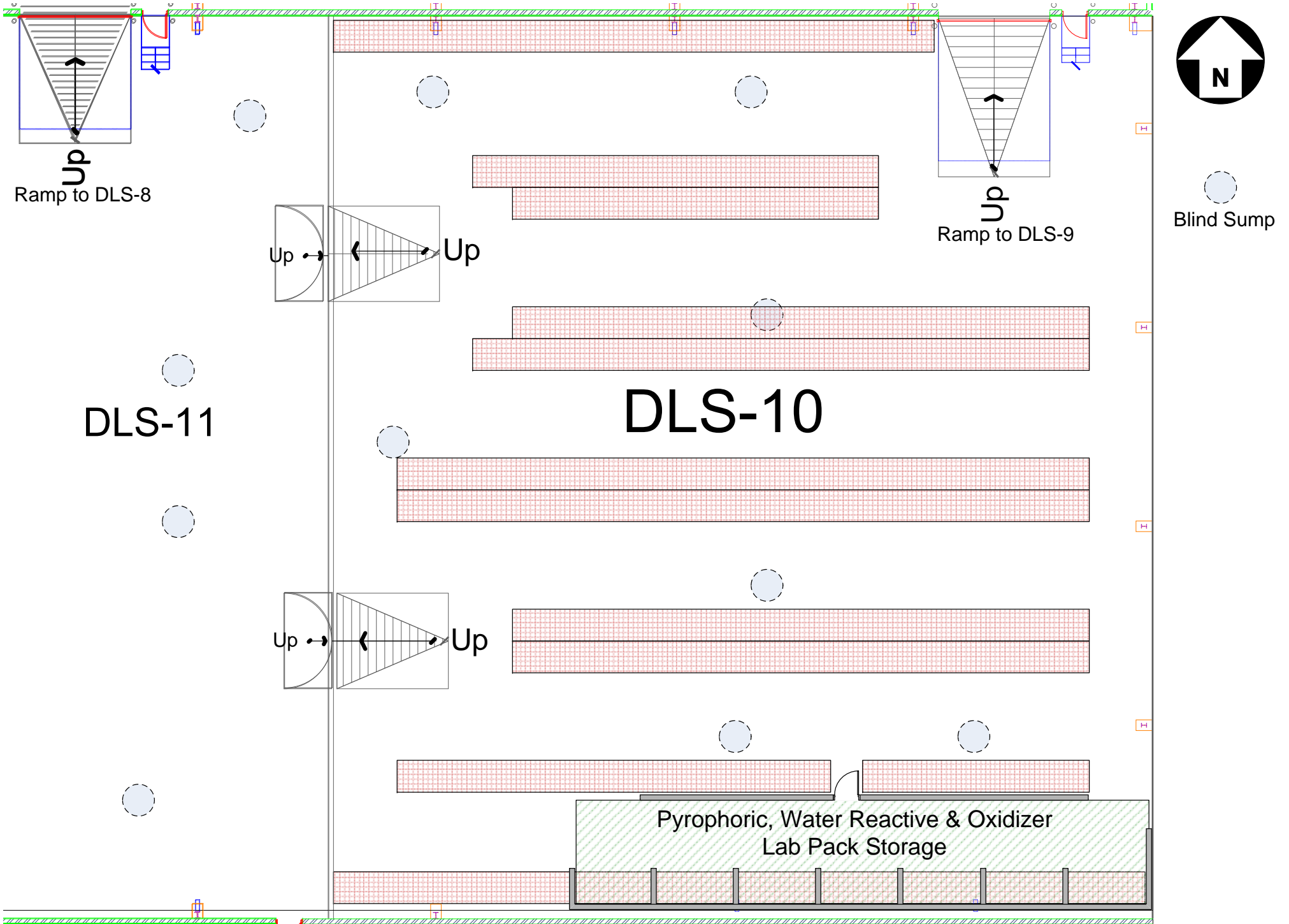
Index Of Attachments

ATTACHMENT	DESCRIPTION
C1-100	Spreadsheet DLS-10 Containment Capacity Calculations
C1-101	DLS-10 Provisional Storage Rack Placement
C1-110	Spreadsheet DLS-11 Containment Capacity Calculations
C1-111	DLS-11 Provisional Storage Rack Placement

DLS - 10 Containment Capacity Calculations

- * All Lengths are East/West Measurements
- * All Widths are North/South Measurements
- **Assuming containment curb built into base of wall

Length (ft)	Width (ft)	Height (ft)	Number of	+ Volume (ft ³)	- Volume (ft ³)	
102.21	113.58	1.17		13544		Floor Space Volume
53.33	1.00	1.17				62 Oxidizer Separation Wall
14	12	1.17	2			196 Ramps to DLS-11
14	16	1.33	1			149 Ramp to DLS-9
14	2	0.17			2	(Section of Ramp not submerged at containment capacity)
				13,546	408	
DLS - 10						
Total Volume (ft ³)				13,139		
Total Volume (gal)				98,285		



DLS - 11 Containment Capacity Calculations

Section 1 = Area North of existing conference room and containment wall to the east

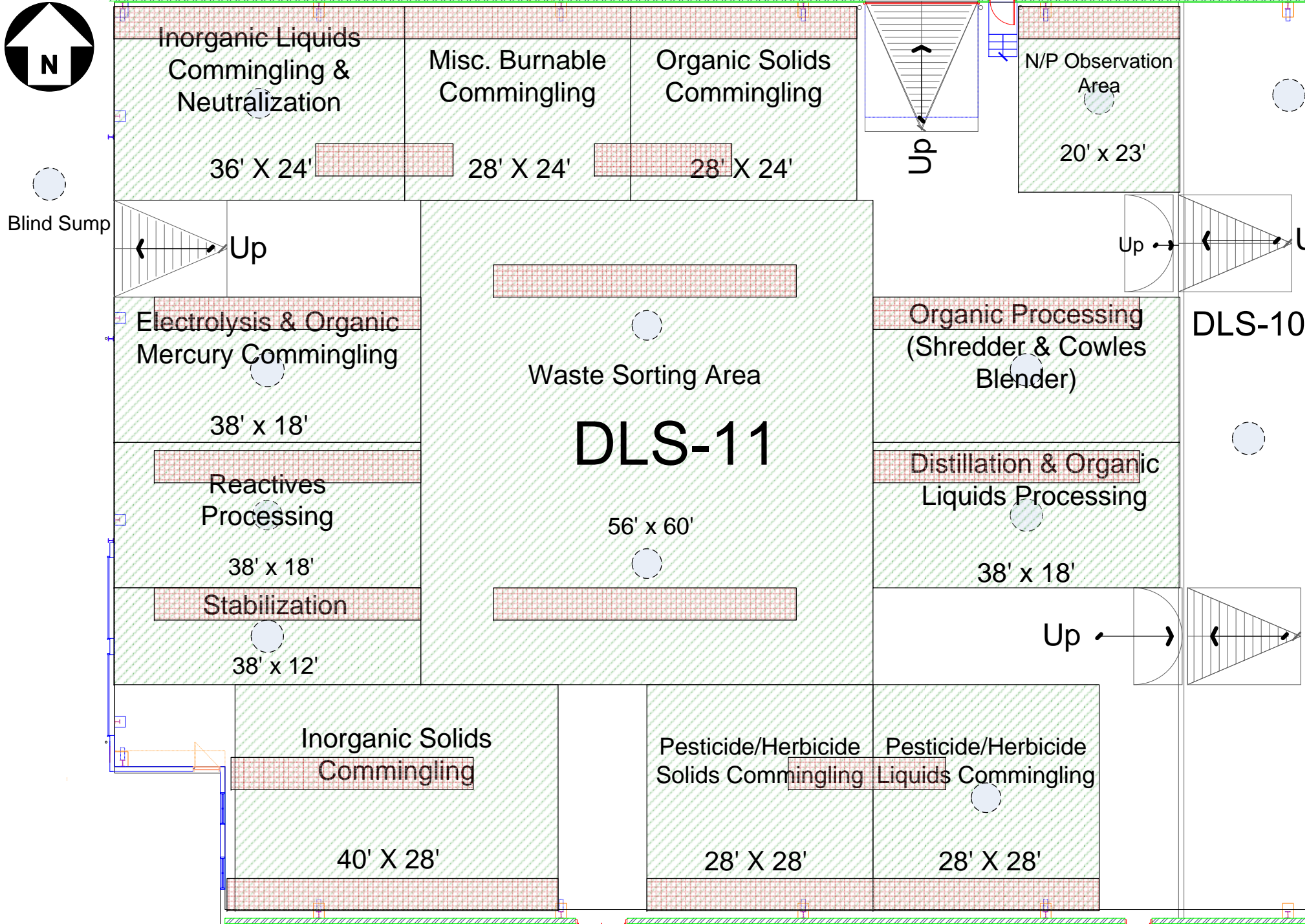
Section 2 = Remaining area

* All Lengths are East/West Measurements

* All Widths are North/South Measurements

**Assuming containment curb built into base of wall

Length (ft)	Width (ft)	Height (ft)	Number of	+ Volume (ft ³)	- Volume (ft ³)	
13.67	94.82	0.50		648		Floor Space Volume Section 1
118.08	113.58	0.50		6706		Floor Space Volume Section 2
6	12	0.50	2			36 Ramps to DLS-10
14	8	0.67	1			37 Ramp to DLS-9
14	2	0.17			2	(Section of Ramp not submerged at containment capacity)
				<u>7,356</u>	<u>73</u>	
DLS - 11						
Total Volume (ft ³)				7,283		
Total Volume (gal)				54,481		



C4: TREATMENT

(Volume 5)

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This template is organized as follows:

C4. A LAB PACKING

C4.B COMMINGLING

C4.C REACTIVES

C4.D HEXAVALENT CHROMIUM TREATMENT

C4.E STABILIZATION

C4.F NEUTRALIZATION

C4.F.4 Neutralization/Precipitation Units

C4.G STORAGE

C4.H TREATMENT CAPACITIES

C4.H.19 Wastes Listed in Part A (DLS-10, DLS-11)

C4.H.20 Solidification (DLS-10, DLS-11)

C4.H.21 Inorganic and Organic Fume Hoods (DLS-10, DLS-11)

C4.H.22 Shredders (DLS-10, DLS-11)

- C4.H.22 Distillation (DLS-10, DLS-11)
- C4.H.23 Neutralization/Precipitation Units (DLS-10, DLS-11)
- C4.H.24 Metals Reclamation (DLS-10, DLS-11)
- C4.H.25 Filter Press Units (DLS-10, DLS-11)
- C4.H.26 Aerosol Recovery/Recycling (DLS-10, DLS-11)
- C4.H.27 Conversion Method (DLS-10, DLS-11)
- C4.H.28 Dissolution Method (DLS-10, DLS-11)
- C4.H.29 Stabilization Method (DLS-10, DLS-11)

C4.I DISTILLATION

C4.J ELECTROLYTIC RECOVERY OF METALS

C4.K PROCESS AREA ALLOCATION

C4.K.1 Pods

C4.K.2 Storage Within Pods

C4: TREATMENT
(Volume 5)

C4.A LAB PACKING

Reference is made to Volume 1, Section C4.A.

C4.B COMMINGLING

Reference is made to Volume 1, Section C4.B.

C4.C REACTIVES

Reference is made to Volume 1, Section C4.C.

C4.D HEXAVALENT CHROMIUM TREATMENT

Reference is made to Volume 1, Section C4.D.

C4.E STABILIZATION

Reference is made to Volume 1, Section C4.E.

C4.F NEUTRALIZATION

Reference is made to Volume 1, Section C4.F with the addition of the following information specific to DLS-10 & DLS-11.

DLD proposes to operate a maximum of three (3) Neutralization/Precipitation Units in the DLS-10 containment area. The Neutralization/Precipitation Unit will be operated in the area designated in Volume 5, Attachment C4-100.

DLD proposes to operate a maximum of two (2) Neutralization/Precipitation Units in the DLS-11 containment area. The Neutralization/Precipitation Unit will be operated in the area designated in Volume 5, Attachment C4-110.

C4.G STORAGE

C4.G.1 General Storage

Reference is made to Volume 1, Section C4.G.1

C4.G.2 Radioactive Storage

Reference is made to Volume 1, Section C4.G.2 with the addition of the following information specific to the DLS-10 storage area.

A radioactive storage unit will be placed in DLS-10 (see Volume 5, Attachment C4-Rad-2)

See Volume 5, Section C1, Containers, for more storage information pertaining to DLS-10.

C4.H TREATMENT CAPACITIES

C4.H.19 Wastes Listed in Part A (DLS-10, DLS-11)

DLD shall treat no more than a total volume of 8,635 gallons (157, 55-gallon drums) at a time of hazardous wastes listed in Volume 1, Part A, pages 5-21, of this license in the containment areas designated as DLS-10 & DLS-11, excluding the treatment capacity of the Neutralization/Precipitation Units in C4.H.35 below.

C4.H.20 Solidification (DLS-10, DLS-11)

DLD shall treat no more than a maximum of 165 gallons (three, 55-gallon drums) at a time in treatment areas in DLS-10 & DLS-11 using the solidification treatment method specified in C4.E.

C4.H.21 Inorganic and Organic Fume Hoods (DLS-10, DLS-11)

DLD shall store or treat no more than 550 gallons (ten, 55-gallon drums) at a time under each of the inorganic or organic fume hoods in the containment areas designated as DLS-10 & DLS-11. DLD proposes to operate a maximum of 10 fume hoods in the containment area designated as DLS-10, and 28 fume hoods in the containment area designated as DLS-11, excluding pollution control devices fitted to miscellaneous units.

C4.H.22 Shredders (DLS-10, DLS-11)

DLD shall treat no more than a maximum throughput capacity of 4,125 gallons (75, 55-gallon drums) per day in each shredder in the containment areas designated as DLS-10 and DLS-11. (see Volume 1, Section C9 shredder unit information). DLD

proposes to operate a maximum of two shredders, in the containment area designated as DLS-10 and two in DLS-11.

C4.H.22 Distillation (DLS-10, DLS-11)

DLD shall treat no more than a maximum throughput capacity of 330 gallons (six, 55-gallon drums) per day in each distillation unit in the containment areas designated as DLS-10 & DLS-11. DLD proposes to operate no more than two (2) distillation units in DLS-10 and two (2) in DLS-11. See Volume 5, Appendix C4-101 and C4-101 for DLS-10 and DLS-11 process area allocations.

C4.H.23 Neutralization/Precipitation Units (DLS-10, DLS-11)

DLD proposes a maximum throughput capacity of 6,160 gallons per day in each Neutralization/Precipitation Unit in the containment areas designated as DLS-10 and DLS-11. DLD proposes to operate a maximum of three (3) Neutralization/Precipitation units in DLS-10 and two (2) units in DLS-11.

C4.H.24 Metals Reclamation (DLS-10, DLS-11)

DLD proposes a maximum throughput capacity of 330 gallons (6, 55-gallon drums) per day per Metals Reclamation (Electrolysis) Unit in the containment areas designated as DLS-10 and DLS-11. DLD proposes to operate two (2) Metals Reclamation Units in DLS-10 and one in DLS-11.

C4.H.25 Filter Press Units (DLS-10, DLS-11)

DLD proposes a throughput capacity of 1,540 gallons (28, 55-gallon drums) per day in each Filter Press Unit in the containment areas designated as DLS-10 & DLS-11. DLD proposes to operate a maximum of three (3) 15 cubic foot Filter Press Units in DLS-10 and two (2) 15 cubic foot Filter Press Units in DLS-11.

C4.H.26 Aerosol Recovery/Recycling (DLS-10, DLS-11)

DLD proposes a maximum throughput capacity of 330 gallons (6, 55-gallon drums) per day in each Aerosol Recovery/Recycling unit. DLD proposes to operate a maximum of four (4) Aerosol Recovery/Recycling units in DLS-10. two (2) units in DLS-11.

C4.H.27 Conversion Method (DLS-10, DLS-11)

DLD proposes to treat no more than one (1) pound at a time of waste fitting the descriptions presented in Volume 1, Sections C4.C.7 and C4.C.8 using the Conversion Method (presented in Sections C4.C.7(c)(i) and C4.C.8(c)(i)).

C4.H.28 Dissolution Method (DLS-10, DLS-11)

In processing areas DLS-10 and DLS-11, DLD proposes to treat no more than one (1) pound of uninhibited waste or five (5) pounds of inhibited or quenched waste at a time fitting the descriptions presented in Sections C4.C.7 and C4.C.8 (above) using the Dissolution Method (presented in Volume 1, Sections C4.C.7(c)(ii) and C4.C.8(c)(ii) above).

C4.H.29 Stabilization Method (DLS-10, DLS-11)

In processing areas DLS-10 and DLS-11, DLS proposes to treat no more than one (1) pound of uninhibited waste or five (5) pounds of inhibited or quenched waste at a time, fitting the descriptions presented in Sections C4.C.7 and C4.C.8 (above) using the Stabilization Method (presented in Volume 1, Sections C4.C.7(c)(iii) and C4.C.8(c)(iii)).

C4.I DISTILLATION

Distillation operations performed in the DLS-10 and DLS-11 Containment Areas will be conducted following the guidelines presented in Volume 1, C4.I, Distillation.

C4.J ELECTROLYTIC RECOVERY OF METALS

Electrolytic recovery of metals performed in the DLS-10 and DLS-11 Containment Areas will be conducted following the guidelines presented in Volume 1, Section C4.J, Electrolytic Recovery of Metals.

Electrolytic recovery of metals will be performed in the neutralization portion of the DLS-10 containment area (see Volume 5, Appendix C4-100, Process Area Allocation diagram).

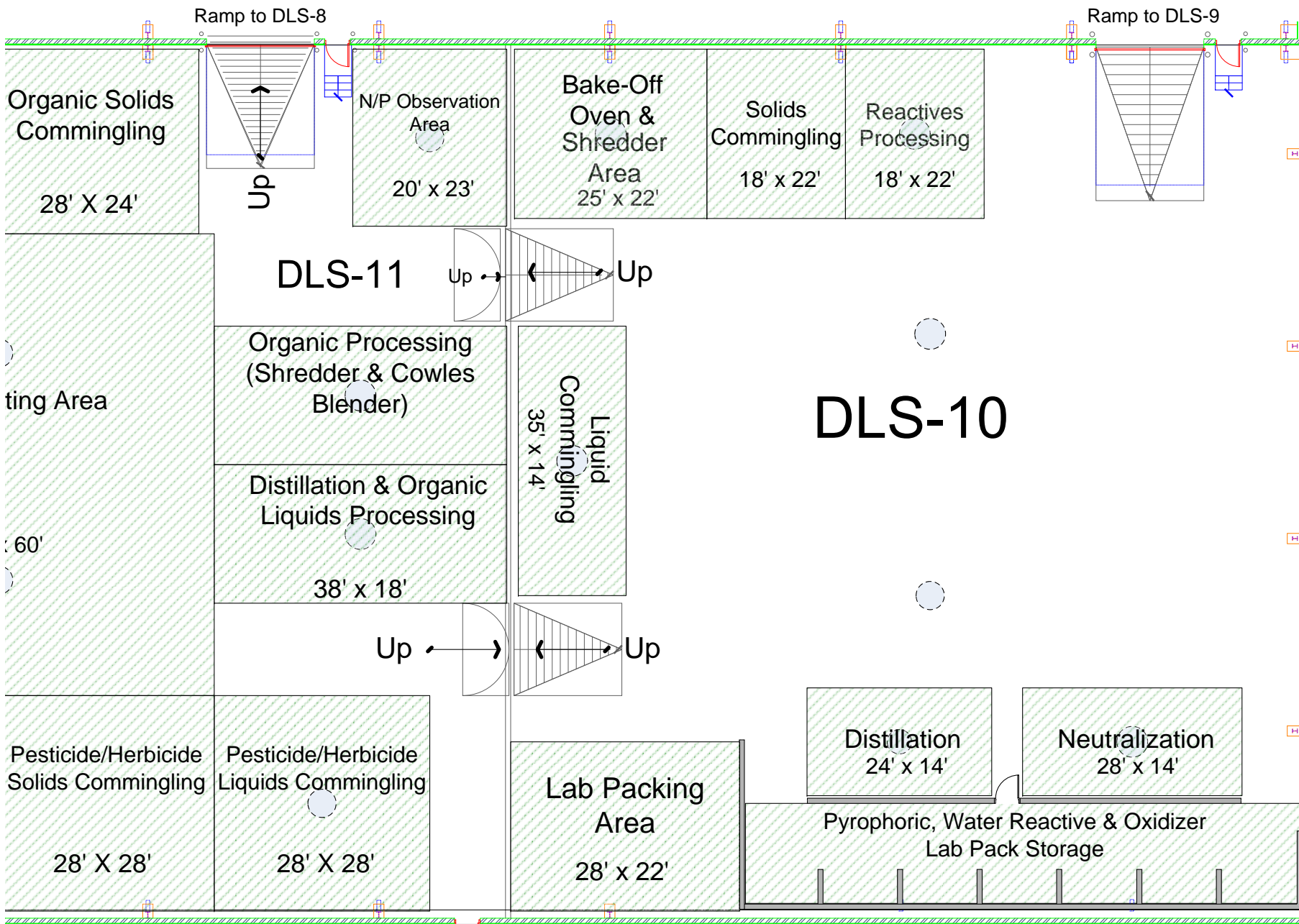
Electrolytic recovery of metals will be performed in the neutralization portion of the DLS-11 containment area (see Volume 5, Appendix C4-110, Process Area Allocation diagram).

C4.K PROCESS AREA ALLOCATION

C4.K.1 Pods

Reference is made to Volume 1, Section C4.K

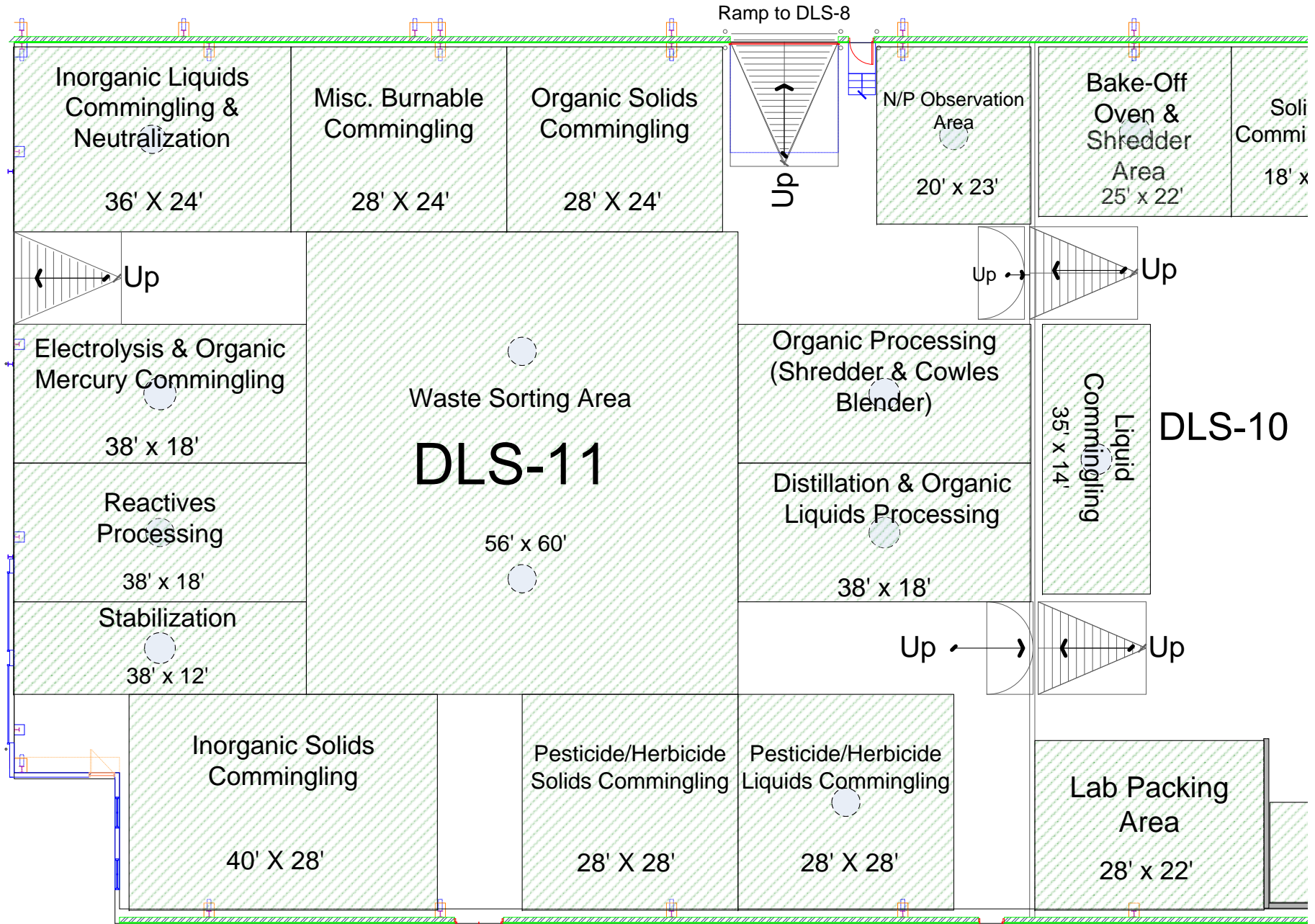
In addition, see Volume 5, Attachments C4-100 and C4-110 for pod boundaries within the DLS-10 & DLS-11 containment areas.



Blind Sump



Blind Sump



FORM EQP 5111 TEMPLATE

C9: MISCELLANEOUS UNITS

40 CFR §264 Subpart X

(Volume 5)

This section is organized as follows:

INTRODUCTION

C9.A SHREDDERS

C9.A.1 Design

C9.A.2 Operation

C9.A.3 Monitoring and Maintenance

C9.B FILTER PRESS

C9.B.1 Design, Operation, and Monitoring

C9.C AEROSOL DISCHARGE AND RECOVERY UNIT

C9.C.1 Design, Operation, and Monitoring

C9.D Extractor – Liquid/Solid Separation Unit

C9.D.1 Design, Operation, and Monitoring

Introduction

Along with the expansion of the physical footprint of its processing facility, Drug & Laboratory Disposal, Inc. proposes to expand its use of processing equipment to the DLS-10 containment area. The proposed processing units will be operated and maintained in accordance with 40 CFR §264 Subpart X – Miscellaneous Units and the provision made in this document.

Engineering drawings for the DLS-10 and DLS-11 containment areas can be found in Volume 5, Attachment B6 and a diagram indicating the allocated processing areas can be found in Volume 5, Attachments C4-100 and C4-110.

C9.A SHREDDERS

In addition to the six (6) currently licensed container shredders, DLD proposes to add up to three (3) more shredders in the proposed DLS-10 containment area & two (2) more shredders in the proposed DLS-11 processing areas.

C9.A.1 Design

Reference is made to Volume 1, Section C9.A.1

C9.A.2 Operation

Reference is made to Volume 1, Section C9.A.2

C9.A.3 Monitoring and Maintenance

Reference is made to Volume 1, Section C9.A.3

C9.B FILTER PRESS

C9.B.1 Design, Operation, and Monitoring

Reference is made to Volume 1, Section C9.B.1

C9.C AEROSOL DISCHARGE AND RECOVERY UNIT

C9.B.1 Design, Operation, and Monitoring

Reference is made to Volume 1, Section C9.C.1

C9.D Extractor – Liquid/Solid Separation Unit

C9.D.1 Design, Operation, and Monitoring

Reference is made to Volume 1, Section C9.D.1

FORM EQP 5111 Template

**C13: AIR EMISSIONS FROM EQUIPMENT LEAKS,
TANKS, AND CONTAINERS**

(Volume 5)

See Volume 1

**C13: Air Emissions from Equipment Leaks,
Tanks, and Containers**