BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

Nathan Wiegand Farm	)	
(Property Identification Number	)	PCB No. 22-____
11-33-100-002)	)	(Tax Certification)
	)	

NOTICE OF FILING

TO: See attached Certificate of Service.

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Illinois Pollution Control Board Illinois EPA's NOTICE OF FILING, APPEARANCE, RECOMMENDATION, and CERTIFICATE OF SERVICE, copies of which are herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Gabriel H. Neibergall
Gabriel H. Neibergall
Assistant Counsel
Division of Legal Counsel
Gabriel.Neibergall@illinois.gov

DATED: May 10, 2022

1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

Nathan Wiegand Farm	)	
(Property Identification Number	)	PCB No. 22-____
11-33-100-002)	)	(Tax Certification)
	)	

APPEARANCE

The undersigned, as one of its attorneys, hereby enters an Appearance on behalf of the Illinois Environmental Protection Agency.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: _/s/ Gabriel H. Neibergall_____

Gabriel H. Neibergall
Assistant Counsel
Division of Legal Counsel
Gabriel.Neibergall@illinois.gov

DATED: May 10, 2022

Gabriel H. Neibergall, #6323183
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

Nathan Wiegand Farm (Property Identification Number 11-33-100-002)	))))	PCB No. 22-____ (Tax Certification)

RECOMMENDATION

The Illinois Environmental Protection Agency ("Illinois EPA") hereby files its Recommendation pursuant to Section 125.204 of the regulations of the Illinois Pollution Control Board ("Board"), 35 Ill. Adm. Code 125.204.

1. On April 12, 2021, the Illinois EPA received a request from Nathan Wiegand Farm (log number TC-145696, **Exhibit A**) for an Illinois EPA recommendation regarding the tax certification of water pollution control facilities pursuant to 35 Ill. Adm. Code 125.204.

2. The facility's address is: Nathan Wiegand Farm
2157 County Highway 5
Roanoke, IL 61561

The proposed water pollution control facilities in this request are located in the NW ¼ of Section 33, T27N, R1E of the 3rd P.M. in Woodford County, at the above street address and consist of the following:

> Livestock waste handling facilities consisting of two adjacent and interconnected reinforced concrete pits that are located below an open pen and stall swine gestation operation and an adjacent swine farrowing operation room floor. The two adjacent concrete pits (cumulatively approximately 158.5 ft. x 141.83 ft. x 10 ft.; 22,250 sq. ft. concrete slatted flooring supported by reinforced concrete columns) have four pump out pits (each approximately 8 ft. x 6 ft. x 10 ft.) to allow manure removal from the manure pit(s), and approximately 650 linear feet of 10 inch Form-A-Drain tile around the perimeter to prevent flotation of the pit(s). The swine farrowing room reinforced concrete floor (approximately 140.83 ft. x 68.5 ft.) has six concrete pits (each approximately 132 ft. x 7.5 ft. x 2 ft.) with approximately 160 linear feet of 8 inch schedule 40 PVC piping to convey waste and wash water into the adjacent deep pits.

These livestock waste management facilities are used to collect, transport, and/or store livestock waste prior to cropland application, and are further described in Exhibit A.

3. Section 11-10 of the Property Tax Code, 35 ILCS 200/11-10 (2018), and Section 125.200(a) of the Board's regulations, 35 Ill. Adm. Code 125.200(a), define "pollution control facilities" as:

> any system, method, construction, device or appliance appurtenant thereto or any portion of any building or equipment, that is designed, constructed, installed or operated for the primary purpose of: eliminating, preventing, or reducing air or water pollution …or treating, pretreating, modifying or disposing of any potential solid, liquid or gaseous pollutant which if released without treatment, pretreatment modification or disposal might be harmful, detrimental or offensive to human, plant or animal life, or to property.

4. In order to receive preferential tax treatment as pursuant to 35 ILCS 200/11-5 (2018), pollution control facilities must be certified as such by the Board, 35 ILCS 200/11-20 (2018) and 35 Ill. Adm. Code 125.200(a).

5. Upon receipt of a tax certification application, the Illinois EPA must file a recommendation on the application with the Board, 35 Ill Adm. Code 125.204(a).

6. Based on the information in the application and the purpose of the facility, it is the Illinois EPA's engineering judgment that the described facilities may be considered "pollution control facilities," pursuant to 35 Ill. Adm. Code 125.200(a), with the primary purpose of eliminating, preventing, or reducing water pollution, or as otherwise provided in 35 Ill. Adm. Code 125.200, and are eligible for tax certification from the Board.

WHEREFORE, the Illinois EPA recommends that the Board issue the requested tax certification.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Gabriel H. Neibergall

Gabriel H. Neibergall
Assistant Counsel
Division of Legal Counsel
Gabriel.Neibergall@illinois.gov

DATED: May 10, 2022

Gabriel H. Neibergall, #6323183
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-5544
Gabriel.Neibergall@illinois.gov

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 · (217) 782-3397
JB Pritzker, Governor
John J. Kim, Director

Memorandum

To: Mike Roubitchek, Division of Legal Counsel

From: Darin E. LeCrone, P.E., Manager, Permit Section, Division of Water Pollution Control, Illinois Environmental Protection Agency

Date:

Re: Nathan Wiegand Farm - Roanoke
Recommendation of Tax Certification
Log No.: TC-145696
BOW ID No.: W2038010001
Property Index Number: 11-33-100-002

The Bureau of Water received a request on April 12, 2021 from Nathan Wiegand Farm, having a principal place of business at 2157 County Highway 5, Roanoke, IL 61561, for an Illinois EPA recommendation regarding the tax certification of water pollution control facilities pursuant to 35 Il. Adm. Code 125.204. We offer the following recommendation.

The water pollution control facilities in this request include the following:

Nathan Wiegand Farm
2157 County Highway 5
Roanoke, IL 61561

NW 1/4 of Section 33, Township 27-North, Range 1-East of the East 3rd PM in Woodford County.

Livestock waste management facilities consisting of two (2) adjacent and interconnected reinforced concrete pits which are located below an open pen and stall swine gestation operation and an adjacent swine farrowing operation room floor as further described below:

Two (2) adjacent and interconnected concrete livestock waste pits cumulatively measuring 158.5 ft. (length) x 141.83 ft. (width) x 10 ft. (depth) with 4 concrete pump out pits measuring 8 ft. (length) x 6 ft. (width) x 10 ft. (depth) and approximately 22,250 sq. ft. of concrete slatted flooring over these manure pits with supporting 14 inch diameter reinforced concrete columns and supporting precast concrete beams approximately 650 linear feet of 10 inch Form-a-Drain foundation perimeter drain tile.

One (1) livestock farrowing room reinforced concrete floor measuring 140.83 ft. (length) x 68.5 ft. (width) with six (6) reinforced concrete livestock waste pits each measuring approximately 132 ft. (length) x 7.5 ft. (width) x 2 ft. (depth) with approximately 160 linear feet of 8 inch diameter schedule 40 PVC piping to convey waste and wash water into the adjacent deep pits.

These facilities are further described in the enclosed applications and supporting documents.

Based on the information included in this submittal, it is our engineering judgment that the above proposed facilities may be considered "Pollution Control Facilities" under 35 IAC 125.200(a), with the primary purpose of eliminating, preventing, or reducing water pollution, or as otherwise provided in this section, and therefore

eligible for tax certification from the Illinois Pollution Control Board. The Bureau of Water therefore recommends that the Board issue the requested tax certification for these facilities.

If you have any questions regarding the above, please contact Darren Gove at 217/782-0610.

DRG:TC-145696_Tax Cert Recommendation_10Nov21.docx

cc: Tax Cert File

Illinois EPA - Bureau of Water - Division of Pollution Control
Title 35 Subtitle A Part 125 Tax Certifications
Illinois EPA Review Notes for:

Agency Recommendation of Pollution Control Facilities.

BOW ID #: W2038010001

Project Name: Nathan Wiegand Farm

Date application received: April 12, 2021

Reviewer: DRG

Log number: TC-145696

Legal Description:
NW 1/4 of Section 33 Twp: 27-North Range: 1-East PM: East 3rd

County: Woodford

Facility Contact:

Phone: _Laura Wiegand 309-261-2753

Pollution Control Facility Type:
Swine Livestock Waste Management Facility

Property ID: 11-33-100-002

Applicant: Nathan Wiegand Farm
2157 County Highway 5
Roanoke, IL 61561

Facility: Nathan Wiegand Farm
2157 County Highway 5
Roanoke, IL 61561

Date Control Devices installed: Summer 2020

Application Signature by: Nathan Wiegand
4/12/21

Title: Owner

Contents of Application: Old three page form. Plan and cross section drawings 13-pages. USDA memo/letter 1-page (not used for review). CNMP 5-pages (not used for review). Building Agreement (manifest) 6-pages (not used for review)

Is there a pollutant control flow diagram? **No A pollutant control flow diagram was not necessary**

Is there sufficient diagrams showing the pollution control facilities? **Yes**

This facility generates the following pollutants and prevents their discharge as indicated:
Livestock waste is collected and land applied to cropland.

Physical description of pollution control facilities that ARE recommended:

Livestock waste management facilities consisting of two (2) adjacent and interconnected reinforced concrete pits which are located below an open pen and stall swine gestation operation and an adjacent swine farrowing operation room floor as further described below:

Two (2) adjacent and interconnected concrete livestock waste pits cumulatively measuring 158.5 ft. (length) x 141.83 ft. (width) x 10 ft. (depth) with 4 concrete pump out pits measuring 8 ft. (length) x 6 ft. (width) x 10 ft. (depth) and approximately 22,250 sq. ft. of concrete slatted flooring over these manure pits with supporting 14 inch diameter reinforced concrete columns and supporting precast concrete beams approximately 650 linear feet of 10 inch Form-a-Drain foundation perimeter drain tile.

One (1) livestock farrowing room reinforced concrete floor measuring 140.83 ft. (length) x 68.5 ft. (width) with six (6) reinforced concrete livestock waste pits each measuring approximately 132 ft.

(length) x 7.5 ft. (width) x 2 ft. (depth) with approximately 160 linear feet of 8 inch diameter schedule 40 PVC piping to convey waste and wash water into the adjacent deep pits.

Notes:

The application was mishandled, and initial logbook entry did not occur until 11/10/2021

Nothing follows – DRG - (November 16, 2021)

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Application for Certification (Property Tax Treatment)
Pollution Control Facility

FOR AGENCY USE ONLY			
File Number:		Date Rec'd:	
Certification Number:		Date:	

Facility Type (check one): ○ Air ⊘ Water

This form is to be used for any application for certification of property tax treatment for a pollution control facility for air or water from the Illinois EPA. Separate applications must be completed for each control facility claimed. Do not mix types (air and water). Where both air and water operations are related, file two applications.

If attachments are needed, record them consecutively on an index sheet.

You may complete this form online, save a copy locally, print, sign and submit it to:

Illinois EPA
Attention: Al Keller, Permit Section
Division of Water Pollution Control
1021 North Grand Avenue East, P.O. Box 19276
Springfield, IL 62794-9276

I. Applicant Information:

Company Name: Nathan Wiegand

Person Authorized to Receive Certification	Nathan Wiegand	Person to Contact for Additional Details	Laura Wiegand
Street Address:	2157 County Highway 5	Street Address:	2157 County Highway 5
City:	Roanoke State: IL	City:	Roanoke State: IL
Zip:	61561 Phone: 309-303-2381	Zip:	61561 Phone: 309-261-2753
Email Address:	nathanwiegandfarm@gmail.com	Email Address:	nathanwiegandfarm@gmail.com

II. Facility Information:

Facility Location: Quarter Section: NW1/4-33 Township: T27N Range: 1 East

Municipality: Township: Greene

Note: A plat map location is requested for facilities located outside of municipal boundaries.

Address: 2157 County Highway 5 City: Roanoke

State: IL Zip Code: 61561 County: Woodford Book Number:

Property Index Number: 11-33-100-002

Note: The Property Index Number is the numerical reference used to identify a parcel of real property for assessment and taxation purposes.

Manufacturing Operations Information:

Nature of Operations Conducted at the Above Location:

Swine Production

Permit Information:

WPC Construction Permit Number:	18126-20	Date Issued:	6/8/2020
NPDES Permit Number:		Date Issued:	Exp. Date:
APC Construction Permit Number:		Date Issued:	
APC Operating Permit Number:		Date Issued:	Exp. Date:

Note: Submit copies of all relevant permits issued by local pollution control agencies. (e.g. MSD Construction Permit)

This Agency is authorized to request this information under 415 ILCS 5/4(b)(2012). Disclosure of this information is voluntary and no penalties will result from the failure to provide the information. However, the absence of the information could prevent your application from being processed or could result in denial of your application.

Manufacturing Process Information:
Please provide information on the manufacturing process and materials on which pollution control facility is used, including each major piece of equipment associated with the pollution control facility (or low sulfur dioxide emission coal fueled device).
Description of the Process:

This pollution control facility, a livestock waste storage, was constructed the summer of 2020. Frank & West Environmental Engineers designed the facility. They also made a CNMP plan for proper manure handling and application. Lorghorn Cattle & Swine Confinements built the facility. The detailed description of concrete, rebar, epoxy, and other materials are listed on the attached sheets from Frank & West. The IL Dept of Ag reviewed and approved the plans.

Materials Used in the Process:

Concrete forms, beams, pillars and slats
Rebar & steel reinforcing components
Waterproof epoxy that is resistant to animal waste

Pollution Control Facility Information:
Please provide a narrative description of the pollution control facility (or low sulfur dioxide emission coal fueled device), and an explanation of why its primary purpose is to eliminate, prevent or reduce pollution. State the type of control facility, as well as a narrative description and a process flow diagram describing the pollution control facility. Include an average analysis of the influent and effluent of the control facility stating the collection efficiency, if applicable.

Describe the Pollution Control Facility (or Low Sulfur Dioxide Emission Coal Fueled Device):

Detailed prints of the facility plans are attached.

Describe the Primary Purpose of the Pollution Control Facility (or Low Sulfur Dioxide Emission Coal Fueled Device):

The primary purpose of this pollution control facility is to contain 100% of the animal waste produced in the above building until it is applied to farmland as a source of crop fertilizer.

Identify the statute or regulation (federal or state), or local ordinance, if any, requiring the installation of the subject pollution control facility (or low sulfur dioxide emission coal fueled device).

IL Dept of Ag
35 Illinois Administrative Code 506.304 , Livestock Management Facilities Act (510 ILCS 77/13), Livestock Management Facilities Act (Act) (510 ILCS 77/1 et seq.) **See attached approval notification from IL Dept of Ag**

Nature of Contaminants or Pollutants:
List air contaminants or water pollution substances released as effluents to the manufacturing processes. Also list the final disposal of any contaminants removed from the manufacturing processes.

	Material Retained, Captured or Recovered	
Contaminant or Pollutant	Description	Disposal or Use
Swine manure	See attached Midwest Lab analysis	Incorporated to cropland as fertilizer

Note: Contaminant or pollutant means that which is removed from the process by the pollution control facility.

Point(s) of Waste Water Discharge:

Identify the location of the discharge to the receiving stream. This will typically refer to a source of water pollution but can include water-carried wastes from air pollution control facilities. NONE

Plans and Specifications Attached ○ Yes ⊘ No

Submit Drawings, which clearly show: NONE
(a) Point(s) of discharge to receiving stream; and
(b) Sewers and process piping to and from the control facility.

Are contaminants (or residues) collected by the control facility? ○ Yes ⊘ No

Note: If the collected contaminants are disposed of other than as wastes, state the disposition of the materials, and the value dollars reclaimed by the sale or reuse of the collected substances. State the cost of reclamation and related expense.

Project Status:

Date Installation Completed: October 2020

Provide the date the pollution control facility was first placed into service and operated. If not, explain.

Animals were placed in the facility in October, 2020.

Status of installation on date of application:

Complete.

III. Verification and Signature:

The following information is submitted in accordance with the Illinois Property Tax Code, as amended, and to the best of my knowledge is true and correct.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Nathan Wiegand — Printed Name:

Owner — Title:

For incorporated entities, signature should be from an authorized corporate representative.

Nathan Wiegand — Signature:

4/12/21 — Date:

NATHAN WIEGAND

INDEX OF PAGES

THE DRAWINGS INCLUDED WITH THIS PACKET ARE FOR USE BY THE FACILITY NAMED ABOVE. THE DRAWINGS MAY NOT BE USED FOR ANY PURPOSE AT ANY OTHER FACILITY. NO REVISIONS, ADDITIONS OR MODIFICATIONS TO THESE DRAWINGS MAY OCCUR WITHOUT WRITTEN CONSENT AND PERMISSION FROM THE LICENSED PROJECT ENGINEER OF THE COMPANY LISTED IN THE TITLE BLOCK.

IT IS INTENDED THAT ALL PLANS CONFORM TO MWPS-36 OR TR-9 AS APPROPRIATE.
IN ADDITION ANY CONSTRUCTION OUTSIDE THE PERVUE OF THIS DOCUMENT SHALL CONFORM TO THE APPROPRIATE ACI CODE.

Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

COVER PAGE

DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-171CP

GENERAL NOTES:

A. CONSTRUCTION OF LIVESTOCK FACILITIES:

1.) CONTACT JULIE (JOINT UTILITY LOCATING FOR EXCAVATORS) BEFORE BEGINNING ANY EXCAVATION OF SOIL FOR PROJECT (PH 811).

B. STORAGE OF STEEL REINFORCEMENT:

1.) SCHEDULE DELIVERY TO MINIMIZE LONG TERM STORAGE AT JOB SITE.
2.) STORE BUNDLES ABOVE GROUND ON TIMBERS OR OTHER CRIBBING.
3.) SPACE SUPPORT CRIBBING CLOSE ENOUGH TOGETHER TO PREVENT EXCESSIVE SAGGING OF THE BUNDLES.
4.) BLOCK MATERIAL AND STORE ON A SLANT TO ALLOW FOR WATER DRAINAGE AND AIR FLOW.
5.) CONTRACTOR SHALL CONFIRM THAT ALL STEEL REINFORCEMENT DOCUMENTATION MEETS PROJECT REQUIREMENTS.

C. PREPARATION OF CONCRETE SUBGRADES:

1.) ALL ORGANIC TOPSOIL INSIDE THE CONSTRUCTION AREA AND AT SITE FILL AREAS SHALL BE REMOVED. CONTRACTOR SHALL VERIFY TOPSOIL DEPTHS PRIOR TO CONSTRUCTION PER THE GENERAL CONDITIONS.
2.) TOPSOIL SHALL BE STRIPPED FROM THE FOUNDATION AREA AND STOCKPILED FOR USE AS TOP DRESSING FOR VEGETATION ESTABLISHMENT UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
3.) PROOF ROLL SUBGRADES BELOW FLOOR, BEFORE FILLING OR PLACING AGGREGATE COURSES, WITH HEAVY PNEUMATIC-TIRED EQUIPMENT, SUCH AS A FULLY LOADED TANDEM AXLE DUMP TRUCK, TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. DO NOT PROOF ROLL WET OR SATURATED SUBGRADES.
4.) AGGREGATE BEDDING SUBGRADE SHALL BE PLACED TO A THICKNESS OF 3 TO 6 INCHES, AS NECESSARY, TO LEVEL THE FOUNDATION EXCAVATION TO FINISHED GRADE.
5.) RECONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURES, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES.
6.) WHEN SUBSURFACE DRAINS ARE ENCOUNTERED DURING ANY EXCAVATION, THEY SHALL BE REMOVED TO A MINIMUM DISTANCE OF 50' AWAY FROM EXTERIOR HORIZONTAL EXTENT OR EXTERIOR BERM TOE OF ANY WASTE STORAGE STRUCTURE AND REROUTED AROUND THE FACILITY.

D. FILL PLACEMENT FOR CONCRETE SUBGRADES:

1.) FILL SHALL NOT BE PLACED UNTIL THE REQUIRED EXCAVATION AND PREPARATION OF THE UNDERLYING FOUNDATION IS COMPLETED AND APPROVED BY THE TESTING AND INSPECTION AGENCY. FILL SHALL BE PLACED BEGINNING AT THE LOWEST ELEVATION OF THE FOUNDATION. NO FILL SHALL BE PLACED ON A FROZEN SURFACE.
2.) IF THE SURFACE OF ANY LAYER BECOMES TOO HARD AND SMOOTH FOR PROPER BOND WITH THE SUCCEEDING LAYER, IT SHALL BE SCARIFIED PARALLEL TO THE AXIS OF THE FILL TO A DEPTH NOT LESS THAN 2 INCHES BEFORE THE NEXT LAYER IS PLACED.
3.) ALL FILL UNDER CONSTRUCTION AREAS SHALL BE PIT RUN GRAVEL, OR APPROVED ENGINEERED GRANULAR MATERIAL, PLACED IN 8" MAXIMUM LIFTS, AND COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DENSITY. GRAVEL BASE BENEATH ALL CONCRETE SLABS SHALL BE 6" OF CLEAN SAND OR 3/4" CURED STONE WITH FINES COMPACTED. FILL MAY NOT BE PLACED ON FROZEN GROUND AND NO FROZEN MATERIALS MAY BE USED AS BACK FILL.
4.) EXCAVATION CONTRACTOR MAY HIRE SOIL TESTING FIRM AND ALLOW TESTING OF SUBGRADES AND EACH FILL LAYER. PROVIDE (1) TEST FOR EVERY 2,500 SQ. FEET OF SUBGRADE AREA AND ONE TEST FOR EVERY 100 LINEAR FEET OF WALL FOOTING. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS PREVIOUSLY COMPLETED WORK COMPLY WITH COMPACTION REQUIREMENTS.

E. PREPARATION OF COMPACTED AND/OR INSITU CLAY LINER

1.) ALL ORGANIC TOPSOIL INSIDE THE CONSTRUCTION AREA AND AT SITE FILL AREAS SHALL BE REMOVED. CONTRACTOR SHALL VERIFY TOPSOIL DEPTHS PRIOR TO CONSTRUCTION PER THE GENERAL CONDITIONS.
2.) ALL ORGANIC TOPSOIL SHALL BE STRIPPED FROM CONSTRUCTION AREA AND STOCKPILED FOR USE AS TOP DRESSING FOR FINISHED AREAS OUTSIDE OF THE PROPOSED COMPACTED CLAY LINER.
3.) CONSTRUCTED CLAY LINER THICKNESS SHALL BE AS FOLLOWS FROM NRCS CPS 520:
   A. FOR DESIGN STORAGE DEPTH ≤ 16'; THE LINER THICKNESS SHALL BE 12"
   B. FOR DESIGN STORAGE DEPTH 16.'–24'; THE LINER THICKNESS SHALL BE 18"
   C. FOR DESIGN STORAGE DEPTH 24.1–30'; THE LINER THICKNESS SHALL BE 24"
4.) INSITU CLAY LINER THICKNESS SHALL BE AT LEAST 2 FEET OF NATURAL SOIL BELOW THE BOTTOM AND SIDES OF THE PROPOSED STRUCTURE. AWMFH PART 651 APPENDIX 10D
5.) INSITU CLAY LINER THICKNESS SHALL BE AT LEAST 2 FEET OF NATURAL SOIL BELOW THE BOTTOM AND SIDES OF THE PROPOSED STRUCTURE. AWMFH PART 651 APPENDIX 10D
6.) CONSTRUCTION OF A COMPACTED CLAY LINER SHALL BEGIN WITH PLACING LOOSE LIFTS IN THICKNESS OF A MAXIMUM OF 9 INCHES AS IS COMMONLY USED BY NRCS SPECIFICATIONS.
7.) ONCE CONSTRUCTION OF THE LINER HAS REACHED THE DESIRED THICKNESS, A SAMPLE FOR LABORATORY TESTING OF COMPACTED AND/OR INSITU CLAY LINER WILL BE OBTAINED BY PROJECT ENGINEER OF THE COMPANY LISTED IN THE TITLE BLOCK OF THIS PAGE. THE SAMPLE WILL BE COLLECTED UTILIZING A SHELBY TUBE TYPE OF SAMPLE CONTAINER. THE SHELBY TUBE CAN BE PLACED DIRECTLY IN A FLEXIBLE WALL PERMEAMETER FOR TESTING, AFTER EXTRUSION IN THE LABORATORY. THIS TESTING IS AN APPROVED METHOD WITHIN AWMFH PART 651 APPENDIX 10D.
8.) LINER PERMEABILITY SHALL BE AS FOLLOWS FROM IL 35 IAC CODE 506.304 & 35 IAC CODE 506.307
   A. FOR EARTHEN STORAGES THAT COME INTO CONTACT WITH LIQUID WASTE SHALL HAVE A HYDRAULIC CONDUCTIVITY OF EQUAL TO OR LESS THAN 1X10–7 CM/SEC.
   B. FOR EARTHEN STORAGES THAT COME INTO CONTACT WITH POULTRY WASTE IN A DRY OR SOLID FORM SHALL HAVE A HYDRAULIC CONDUCTIVITY OF EQUAL TO OR LESS THAN 1X10–6 CM/SEC.
   C. THE EARTHEN FLOOR OF ENCLOSED DEEP BEDDED LIVESTOCK SYSTEMS THAT HANDLE WASTE IN A DRY OR SOLID FORM SHALL HAVE A HYDRAULIC CONDUCTIVITY OF EQUAL TO OR LESS THAN 1X10–6 CM/SEC

F. PREPARATION OF FORMS:

1.) PRIOR TO THE PLACEMENT OF CONCRETE, THE FORMS AND SUBGRADE SHALL BE FREE OF CHIPS, SAWDUST, DEBRIS, WATER, ICE, SNOW, EXTRANEOUS, OIL, MORTAR, OR OTHER HARMFUL SUBSTANCES OR COATINGS. ANY OIL IN THE REINFORCING STEEL OR OTHER SURFACES REQUIRED TO BE BONDED TO THE CONCRETE SHALL BE REMOVED. ROCK SURFACES SHALL BE CLEANED BY AIR–WATER CUTTING, WET SANDBLASTING, OR WIRE BRUSH SCRUBBING AS NECESSARY.
2.) THE SITE SHALL BE GRADED TO THE DIMENSIONS AND ELEVATIONS AS SPECIFIED IN THE CONSTRUCTION PLANS.
3.) ALL SURFACES SHALL BE FIRM AND DAMP PRIOR TO PLACING CONCRETE. CONCRETE SHALL NOT BE PLACED IN THE MUD, DRIED EARTH, UNCOMPACTED FILL OR FROZEN SUBGRADE OR IN STANDING WATER. THE USE OF PLASTIC SHEETING TO ISOLATE THE CONCRETE FROM UNSUITABLE FOUNDATIONS WILL NOT BE PERMITTED.
4.) THE FORMS AND ASSOCIATED FALSE–WORK SHALL BE SUBSTANTIAL AND UNYIELDING AND SHALL BE CONSTRUCTED SO THAT THE FINISHED CONCRETE WILL CONFORM TO THE SPECIFIED DIMENSIONS AND CONTOURS. METAL CHAIRS, FORMS SHALL BE MORTAR TIGHT. FORMS WITH TORN SURFACES, WORN EDGES, DENTS OR OTHER DEFECTS WILL NOT BE USED. FORMS SHALL BE COATED WITH A FORM RELEASE AGENT BEFORE BEING SET INTO PLACE. EXCESS FORM COATING MATERIAL SHALL NOT COME IN CONTACT WITH THE STEEL REINFORCEMENT OR WITH HARDENED CONCRETE AGAINST WHICH FRESH CONCRETE IS TO BE PLACED.
5.) REINFORCEMENT SHALL BE ACCURATELY PLACED AS SHOWN ON THE DRAWINGS AND SECURED IN POSITION IN A MANNER THAT WILL PREVENT ITS DISPLACEMENT DURING THE PLACEMENT OF CONCRETE. METAL CHAIRS, METAL HANGERS, METAL SPACERS, PLASTIC CHAIRS, OR CONCRETE CHAIRS SHALL BE USED TO SUPPORT THE REINFORCEMENT. PRECAST CONCRETE CHAIRS SHALL BE MANUFACTURED FROM CONCRETE EQUAL IN QUALITY TO THE CONCRETE BEING PLACED. PRECAST CONCRETE CHAIRS SHALL BE MOIST AT THE TIME CONCRETE IS PLACED.
6.) REINFORCEMENT FOR FLATWORK SHALL BE BY A MINIMUM OF 1 SUPPORT EVERY THIRD BAR OR EVERY 4 FEET IN EACH DIRECTION, WHICHEVER SPACING IS SMALLER. SUPPORT CHAIRS SHALL HAVE A MINIMUM BASE AREA OF 4 SQUARE INCH IN CONTACT WITH THE SUB GRADE.
7.) STEEL TYING AND FORM CONSTRUCTION ADJACENT TO NEW CONCRETE SHALL NOT BE STARTED UNTIL CONCRETE HAS CURED FOR AT LEAST 12 HOURS.
8.) CONCRETE JOINTS SHALL BE OF THE TYPE SHOWN ON THE CONSTRUCTION DRAWINGS.
9.) WATERSTOPS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS AND SECURED IN POSITION SO THAT DISPLACEMENT DOES NOT OCCUR DURING CONCRETE PLACEMENT. WATERSTOPS MAY BE SECURED TO REINFORCEMENT USING WIRE OR "HOG RING" TYPE FASTENERS.

G. EPOXY GROUTING OF REBAR OR INSTALLATION OF OTHER APPURTENANCES:

1.) DRILL HOLE IN CONCRETE NO MORE THAN ½ THE THICKNESS OF THE SLAB OR WALL BEING PREPPED.
2.) DRILL HOLE ¼" LARGER THAN REBAR TO BE INSTALLED.
3.) CLEAN HOLE BY BLOWING COMPRESSED AIR INTO HOLE TO REMOVE ALL LOOSE PARTICLES.
4.) HOLE MUST BE FREE OF WATER
5.) THE EPOXY MUST HAVE A PULLOUT STRENGTH GREATER THAN 5,000 LBS.
6.) THE EPOXY MUST BE CHEMICALLY RESISTANT TO LIVESTOCK MANURE.
7.) USE EPOXY APPROVED BY PROJECT ENGINEER OF THE COMPANY IN THE TITLE BLOCK OF THIS DRAWING.
8.) ANY BOLT OR ANY OTHER ANCHORING TYPE DEVICES SHALL BE TIED TO STRUCTURAL STEEL AT THE DEPTH RECOMENDED BY THE MANUFACTURER.

Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

GENERAL NOTES

DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-171CP

GENERAL NOTES:

H. PLACEMENT AND CONSOLIDATION OF CONCRETE:

1.) NO CONCRETE SHALL BE PLACED ON ICE, SNOW, OR FROZEN FOUNDATION MATERIAL.

2.) THE METHOD AND MANNER OF PLACING CONCRETE SHALL BE SUCH AS TO AVOID SEGREGATION OR SEPARATION OF THE AGGREGATES OR THE DISPLACEMENT OF THE REINFORCEMENT. THE EXTERNAL SURFACE OF ALL CONCRETE SHALL BE THOROUGHLY WORKED DURING THE OPERATIONS OF PLACING IN SUCH A MANNER AS TO WORK THE MORTAR AGAINST THE FORMS TO PRODUCE A SMOOTH FINISH FREE OF HONEYCOMB AND WITH A MINIMUM OF WATER AND AIR POCKETS.

3.) OPEN TROUGHS AND CHUTES SHALL EXTEND AS NEARLY AS PRACTICABLE TO THE POINT OF DEPOSIT. DROPPING THE CONCRETE A DISTANCE OF MORE THAN 5' (1.5m) OR DEPOSITING A LARGE QUANTITY AT ANY POINT AND RUNNING OR WORKING IT ALONG THE FORMS WILL NOT BE PERMITTED. THE CONCRETE FOR WALLS WITH AN AVERAGE THICKNESS OF 12 in. (300 m) OR LESS SHALL BE PLACED WITH TUBES SO THAT DROP IS NOT GREATER THAN 5' (1.5 m).

4.) THE CONCRETE SHALL BE CONSOLIDATED BY INTERNAL VIBRATION, EXCEPT IN THIN SECTIONS OR INACCESSIBLE LOCATIONS WHERE CONSOLIDATION BY INTERNAL VIBRATION IS NOT PRACTICABLE.

5.) THE CONTRACTOR SHALL PROVIDE AND USE A SUFFICIENT NUMBER OF VIBRATORS TO ENSURE THAT CONSOLIDATION CAN BE STARTED IMMEDIATELY AFTER THE CONCRETE HAS BEEN DEPOSITED IN THE FORMS.

6.) THE VIBRATORS SHALL BE INSERTED INTO THE CONCRETE IMMEDIATELY AFTER IT IS DEPOSITED AND SHALL BE MOVED THROUGHOUT THE MASS SO AS TO THOROUGHLY WORK THE CONCRETE AROUND THE REINFORCEMENT, EMBEDDED FIXTURES, AND INTO THE CORNERS AND ANGLES OF THE FORMS. VIBRATORS SHALL NOT BE ATTACHED TO THE FORMS, REINFORCEMENT BARS, OR THE SURFACE OF THE CONCRETE.

7.) APPLICATION OF VIBRATORS SHALL BE AT POINTS UNIFORMLY SPACED AND NOT FARTHER APART THAN TWICE THE RADIUS OVER WHICH THE VIBRATION IS VISIBLY EFFECTIVE. THE DURATION OF THE VIBRATION AT THE POINTS OF INSERTION SHALL BE SUFFICIENT TO THOROUGHLY CONSOLIDATE THE CONCRETE INTO PLACE BUT SHALL NOT BE CONTINUED SO AS TO CAUSE SEGREGATION.

8.) CONCRETE SHALL BE PLACED IN CONTINUOUS HORIZONTAL LAYERS. WHEN IT IS NECESSARY BY REASON OF AN EMERGENCY TO PLACE LESS THAN A COMPLETE HORIZONTAL LAYER IN ONE OPERATION, SUCH LAYER SHALL TERMINATE IN A VERTICAL BULKHEAD, SEPARATE BATCHES SHALL FOLLOW EACH OTHER CLOSELY AND IN NO CASE SHALL THE INTERVAL OF TIME BETWEEN THE PLACING OF SUCCESSIVE BATCHES BE GREATER THAN 20 MINUTES.

9.) DO NOT ADD EXTRA MIX WATER TO THE MIX AT JOB SITE.

10.) PLACE CONCRETE WITHIN 90 MINUTES OF BATCHING AT THE PLANT.

I. TESTING:

1.) THE CONCRETE CONTRACTOR SHALL PERFORM AT LEAST 1 SLUMP TEST PER DAY, 1 EVERY MINIMUM 100 CUBIC YARDS, OR AT TIMES NOT MEETING DESIGN SPECIFICATIONS ARE SUSPECTED.
2.) SPECIFY THAT CONTRACTOR OR PROJECT ENGINEER OR HIS REPRESENTATIVE MAY REJECT MATERIALS DEEMED UNSUITABLE, NOT MEETING SPECIFICATIONS.
3.) THE CONCRETE CONTRACTOR SHALL PERFORM AT LEAST 1 BREAK TEST PER SECTION(S) OF STRUCTURE POURED.
4.) ALL TEST RESULTS WILL BE PROVIDED TO FWI AS SOON AS RECEIVED.

VIBRATION SPECEFICATIONS:

DIAMETER OF HEAD (inches)	RECOMENDED FREQUENCY (vibrations per minute)	AVERAGE AMPLITUDE (inches)	CENTRIFUGAL FORCE (lbs.)	RADIUS OF ACTION (inches)	RATE OF CONCRETE PLACEMENT (yds. per hr.)
1¼ – 2½	8,500–12,500	0.02–0.04	300–1000	20–32	12–45

K. REMOVAL OF FORMS:

1.) REMOVAL OF CONCRETE FORMS ARE SUBJECT TO THE EXERCISE OF GOOD JUDGMENT AND OBSERVATION OF THE CONCRETE WHEN STRIPPING OF THE FORMS START.
2.) AT A MINIMUM, OBSERVE THE FOLLOWING:
- 24 HOURS SLABS ON GRADE
- 48 HOURS WALLS AND COLUMNS
- 144 HOURS BEAMS AND SUSPENDED SLABS
- FOR FURTHER CONSTRUCTION TYPES NOT LISTED ABOVE, SEE ACI 347.

L. REPAIRS TO CONCRETE:

1.) ALL REPAIRS TO CONCRETE BECAUSE OF CRACKING, HONEYCOMBING, OR ANY OTHER DEFORMITY WILL BE COMPLETED ACCORDING TO: (NRCS NATIONAL ENGINEERING HANDBOOK CONSTRUCTION SPECIFICATION 31–CONCRETE FOR MAJOR TRUCTURES DATED JANUARY 2009)

M. BACKFILLING:

1.) ONCE THE CONCRETE IS PROPERLY CURED, BACK FILL CAN BE PLACED. AVOID BACK FILL CONTAINING LARGE ROCKS, HARD OR FROZEN SOIL LUMPS, OR CONSTRUCTION DEBRIS. BACK FILL SHOULD BE PLACED NO HIGHER THAN 12" FROM THE TOP OF THE WALL.

2.) DO NOT PLACE BACKFILL UNTIL PRECAST SLATS ARE PROPERLY IN PLACE.

3.) ADJACENT TO STRUCTURES AND PIPES WITHIN 2 FEET OF STRUCTURES OR PIPES, EARTH FILL SHALL BE PLACED IN 4–INCH LIFTS (PRIOR TO COMPACTION) IN A MANNER ADEQUATE TO PREVENT DAMAGE TO THE STRUCTURE AND TO ALLOW THE STRUCTURE OR PIPE TO GRADUALLY AND UNIFORMLY ASSUME THE BACK FILL LOADS. COMPACTION SHALL BE ACCOMPLISHED BY MEANS OF MANUALLY DIRECTED POWER TAMPERS OR PLATE VIBRATORS OR HAND TAMPING UNLESS OTHERWISE SPECIFIED. HEAVY EQUIPMENT SHALL NOT BE OPERATED WITHIN 5 FEET OF ANY STRUCTURE OR PIPE. COMPACTION BY MEANS OF DROP WEIGHTS OPERATING FROM A CRANE OR HOIST OF ANY TYPE WILL NOT BE PERMITTED.

4.) LENSES OR POCKETS OF UNSUITABLE SOIL SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIALS AS DIRECTED BY THE TESTING AND INSPECTION AGENCY. THE EXTENT OR REMOVAL AND THE QUALITY OF REPLACEMENT MATERIALS WILL BE DETERMINED BY THE TESTING AND INSPECTION AGENCY.

5.) THE SITE SHALL BE GRADED TO PROVIDE DRAINAGE AWAY FROM THE STRUCTURE AT A MINIMUM OF 1% SLOPE.

Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

GENERAL NOTES

DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-171CP

CONSTRUCTION NOTES

CONCRETING IN HOT WEATHER:

A. HOT WEATHER DEFINITION:

1.) FOR THE PURPOSE OF THIS SPECIFICATION, HOT WEATHER IS DEFINED AS ANY COMBINATION OF HIGH TEMPERATURE, (GENERALLY ABOVE 80 DEGREES F), HIGH CONCRETE TEMPERATURE, LOW RELATIVE HUMIDITY, AND WIND VELOCITY TENDING TO IMPAIR THE QUALITY OF FRESH OR HARDENED CONCRETE OR OTHERWISE RESULTING IN ABNORMAL PROPERTIES.

2.) SPECIAL PROVISIONS SHALL BE MADE TO IMMEDIATELY PROTECT AND CURE THE CONCRETE DUE TO RAPID DRYING CONDITIONS. CONCRETE SURFACES SHALL NOT BE ALLOWED TO DRY AFTER PLACEMENT AND DURING THE CURING PERIOD.

3.) IN EXTREME CONDITIONS, IT MAY BE NECESSARY TO (1) RESTRICT PLACEMENT TO LATE AFTERNOON OR EVENING, (2) RESURRECT THE DEPTH OF LAYERS TO ASSURE COVERAGE OF THE PREVIOUS LAYER WHILE IT WILL STILL RESOUND READILY VIBRATION, (3) SUSPEND PLACEMENT UNTIL CONDITIONS IMPROVE.

B. PREPARATIONS FOR PLACING AND CURING:

1.) PLANING HOT WEATHER PLACEMENTS:
UNDER HOT WEATHER CONDITIONS, SCHEDULING CONCRETE PLACEMENTS AT OTHER-THAN-NORMAL HOURS MAY BE ADVISABLE. PERTINENT CONSIDERATIONS INCLUDE EASE OF HANDLING AND PLACING, AND MINIMIZING THE RISK OF PLASTIC SHRINKAGE AND THERMAL CRACKING.

2.) EXPEDITING PLACEMENT:
PREPARATIONS SHOULD BE MADE TO TRANSPORT, PLACE, CONSOLIDATE, AND FINISH THE CONCRETE AT THE FASTEST POSSIBLE RATE. CONCRETE DELIVERY TO THE JOB SHOULD BE SCHEDULED SO THAT IT IS PLACED PROMPTLY ON ARRIVAL, PARTICULARLY THE FIRST BATCH.

3.) PLACING EQUIPMENT:
EQUIPMENT FOR PLACING THE CONCRETE SHOULD BE OF SUITABLE DESIGN AND HAVE AMPLE CAPACITY TO PERFORM EFFICIENTLY.

4.) CONSOLIDATION EQUIPMENT:
THERE SHOULD BE AMPLE VIBRATION EQUIPMENT AND WORKERS TO CONSOLIDATE THE CONCRETE IMMEDIATELY AS IT IS RECEIVED IN THE FORM. (SEE PAGE 3 ITEM H)

5.) PREPARATIONS FOR PROTECTING AND CURING THE CONCRETE:
AMPLE WATER SHOULD BE AVAILABLE AT THE PROJECT SITE FOR MOISTENING THE SUBGRADE, AS WELL AS FOR FOGGING FORMS AND REINFORCEMENT BEFORE CONCRETE PLACEMENT. FOR MOIST CURING, USE WATER WITH A TEMPERATURE NO MORE THAN 20°F (11°C) COOLER THAN THE CONCRETE TEMPERATURE TO AVOID THERMAL SHOCK.

C. PLACEMENT AND FINISHING:

1.) GENERAL:
EXPEDITIOUS PLACEMENT AND FINISHING MATERIALLY REDUCES HOT WEATHER DIFFICULTIES. DELAYS INCREASE SLUMP LOSS AND INVITE THE ADDITION OF WATER OFFSETS TO OFFSET THOSE LOSSES. THE CONCRETE SHOULD NOT BE PLACED FASTER THAN IT CAN BE PROPERLY CONSOLIDATED AND FINISHED.

2.) PLACEMENT OF FLATWORK:
WHEN CONCRETE IS DEPOSITED FOR FLATWORK ON THE GROUND, THE SUBGRADE SHOULD BE MOIST, BUT FREE OF STANDING WATER.

D. CURING AND PROTECTION:

1.) GENERAL:
IMMEDIATELY FOLLOWING COMPLETION OF FINISHING OPERATIONS, EFFORTS SHOULD BE MADE TO PROTECT THE CONCRETE FROM LOW HUMIDITY, DRYING WINDS, AND EXTREME AMBIENT TEMPERATURE DIFFERENTIAL. WHENEVER POSSIBLE, THE CONCRETE AND SURROUNDING FORMWORK SHOULD BE KEPT IN A UNIFORM MOISTURE AND TEMPERATURE CONDITION TO ALLOW THE CONCRETE TO DEVELOP ITS MAXIMUM POTENTIAL STRENGTH AND DURABILITY. PROCEDURES FOR KEEPING EXPOSED SURFACES FROM DRYING SHOULD BEGIN PROMPTLY AND CONTINUE WITHOUT INTERRUPTION. FAILURE TO DO SO CAN RESULT IN EXCESSIVE DRYING SHRINKAGE AND RELATED CRACKING. AN APPROVED CURING METHOD SHOULD BE CONTINUED FOR AT LEAST 7 DAYS. IN ADDITION, CONCRETE SURFACES SHOULD NOT BE ALLOWED TO BECOME SURFACE-DRY AT ANY POINT DURING THE TRANSITION. CONCRETE SHOULD ALSO BE PROTECTED AGAINST THERMAL SHRINKAGE CRACKING DUE TO RAPID TEMPERATURE DROPS, PARTICULARLY DURING THE FIRST 24 HOURS. THERMAL SHRINKAGE CRACKING IS ASSOCIATED WITH A COOLING RATE OF MORE THAN 5°F (3°C) PER HOUR, OR MORE THAN 50°F (28°C) IN A 24 HOUR PERIOD FOR CONCRETE WITH A LEAST DIMENSION LESS THAN 12 IN. HOT WEATHER PATTERNS INCREASE THE POTENTIAL FOR THERMAL CRACKING DUE TO VAST DAY AND NIGHT TEMPERATURE DIFFERENCES.

2.) MOIST CURING OF FLATWORK:
A COMMON PRACTICAL METHOD OF MOIST CURING IS TO COVER THE CONCRETE WITH IMPERVIOUS SHEETING OR FABRIC MATS KEPT CONTINUOUSLY WET WITH A SOAKER HOSE OR SIMILAR MEANS. THE TEMPERATURE OF WATER USED FOR INITIAL CURING SHOULD BE AS CLOSE AS POSSIBLE TO THAT OF THE CONCRETE TO AVOID THERMAL SHOCK.

3.) MEMBRANE CURING OF FLATWORK:
CONCRETE SURFACES EXPOSED TO DIRECT SUNLIGHT SHOULD USE HEAT-REFLECTING, WHITE-PIGMENTED COMPOUNDS WHERE APPLICABLE. FOR USE IN HOT WEATHER CONDITIONS, A MATERIAL SHOULD BE SELECTED THAT ENSURES EQUAL OR GREATER MOISTURE RETENTION THAN REQUIRED BY ASTM C309. APPLICATION OF AN APPROVED MOISTURE-RETENTIVE MATERIAL SHOULD IMMEDIATELY FOLLOW THE DISAPPEARANCE OF SURFACE WATER SHEEN AFTER THE FINAL FINISHING PASS. MOST CURRYING COMPOUNDS SHOULD NOT BE USED ON ANY SURFACE AGAINST WHICH ADDITIONAL CONCRETE OR OTHER MATERIALS ARE TO BE BONDED.

CONCRETING IN COLD WEATHER:

A. COLD WEATHER DEFINITION:

1.) WHEN AIR TEMPERATURE HAS FALLEN TO, OR IS EXPECTED TO FALL BELOW, 40°F (4°C) DURING THE PROTECTION PERIOD; PROTECTION PERIOD IS DEFINED AS THE TIME REQUIRED TO PREVENT CONCRETE FROM BEING AFFECTED BY EXPOSURE TO COLD WEATHER.

2.) WHEN THE MINIMUM DAILY ATMOSPHERIC TEMPERATURE IS LESS THAN 40 DEGREES F, CONCRETE SHALL BE INSULATED OR HOUSED AND HEATED IMMEDIATELY AFTER PLACEMENT. THE TEMPERATURE OF THE CONCRETE AND AIR ADJACENT TO THE CONCRETE SHALL BE MAINTAINED AT NO LESS THAN 50 DEGREES F NOR MORE THAN 90 DEGREES F FOR THE DURATION OF THE CURING PERIOD.

3.) THE CURING PERIOD MAY BE REDUCED TO 3 DAYS WHEN TYPE III CEMENT IS USED. AN ADDITIONAL 100 POUNDS OF TYPE I CEMENT AND A MAXIMUM OF 6 GALLONS OF ADDED WATER PER CUBIC YARD MAY BE USED IN LIEU OF TYPE III CEMENT.

4.) COMBUSTION HEATERS SHALL HAVE EXHAUST FLUE GASES VENTED OUT OF THE CONCRETE PROTECTION ENCLOSURE AND SHALL NOT BE PERMITTED TO DRY THE CONCRETE.

B. OBJECTIVES PRINCIPLES, AND PLANNING:

1.) OBJECTIVES:
-PREVENT DAMAGE TO CONCRETE DUE TO EARLY AGE FREEZING. AT 50°F (10°C), MOST WELL-PROPORTIONED CONCRETE MIXTURES REACH A COMPRESSIVE STRENGTH OF 500 psi WITHIN 48 HOURS.
-ENSURE THAT THE CONCRETE DEVELOPS THE REQUIRED STRENGTH FOR SAFE REMOVAL OF FORMS, SHORES AND RESHORES, AND FOR SAFE LOADING OF THE STRUCTURE DURING AND AFTER CONSTRUCTION.

2.) PRINCIPLES:
CONCRETE PROTECTED FROM FREEZING UNTIL IT ATTAINS A COMPRESSIVE STRENGTH OF 500 psi WILL NOT BE DAMAGED BY EXPOSURE TO A SINGLE FREEZING CYCLE (POWERS 1962).

3.) PLANNING:
PLANS TO PROTECT FRESH CONCRETE FROM FREEZING AND TO MAINTAIN TEMPERATURES ABOVE THE RECOMMENDED MINIMUM VALUES SHOULD BE MADE WELL BEFORE FREEZING ARE EXPECTED TO OCCUR. EQUIPMENT AND MATERIALS SHOULD BE AT THE WORK SITE BEFORE COLD WEATHER IS LIKELY TO OCCUR, NOT AFTER CONCRETE IS PLACED AND ITS TEMPERATURE APPROACHES THE FREEZING POINT.

4.) SUBGRADE CONDITION:
CONCRETE SHOULD NOT BE PLACED ON FROZEN SUBGRADE. REMOVE ALL FROST BEFORE PLACING THE CONCRETE AND RECOMPACT THAWED SOIL DISTURBED BY FROST. PLACEMENT OF INSULATION OVER THE SUBGRADE, OR PROVISION OF HEAT, IS REQUIRED TO REMOVE ANY FROST IN THE SOIL AND RAISE THE SUBGRADE TEMPERATURE ABOVE 32°F. WHEN THE CONCRETE TEMPERATURE IS MORE THAN 10°F COOLER OR 5°F WARMER THAN THE SUBGRADE, DIFFERENTIAL RATES OF SETTING BETWEEN THE TOP AND BOTTOM OF THE SLAB MAY RESULT IN VARIOUS SURFACE DEFECTS INCLUDING PLASTIC SHRINKAGE CRACKING, BLISTERING, AND DELAMINATIONS.

C. TEMPERATURE DROP AFTER REMOVAL OF PROTECTION:

1.) AT THE END OF THE PROTECTION PERIOD, CONCRETE SHOULD BE COOLED GRADUALLY TO REDUCE CRACK-INDUCING DIFFERENTIAL STRAINS BETWEEN THE INTERIOR AND EXTERIOR OF THE STRUCTURE. THE TEMPERATURE DROP OF CONCRETE SURFACES SHOULD NOT EXCEED THE RATES INDICATED IN TABLE 1.

D. EQUIPMENT, MATERIALS, AND METHODS OF TEMPERATURE PROTECTION:

1.) INTRODUCTION:
THE TEMPERATURE OF CONCRETE PLACED DURING COLD WEATHER SHOULD BE MAINTAINED AS CLOSE AS POSSIBLE TO THE RECOMMENDED TEMPERATURES IN LINE 1 OF TABLE 1 AND FOR THE LENGTHS OF TIME RECOMMENDED IN TABLE 2 UNTIL THE IN-PLACE STRENGTH HAS REACHED A PREVIOUSLY ESTABLISHED TARGET VALUE.

2.) INSULATING MATERIALS:
HEAT OF HYDRATION IS RETAINED BY USING INSULATING BLANKETS ON UNFORMED SURFACES AND BY USING INSULATING FORMS. TO BE EFFECTIVE, KEEP INSULATION IN CLOSE CONTACT WITH THE CONCRETE OR THE FORM SURFACE.

TABLE 1 RECOMMENDED CONCRETE TEMPERATURES

LINE	AIR TEMPERATURE	SECTION SIZE MINIMUM >72 in.(1800 mm)
1	-	40°F(5°C)
2	ABOVE 30°F(-1°C)	45°F(7°C)
3	0°-30°F(-18°to-1°C)	50°F(10°C)
4	BELOW 0°F(-18°C)	55°F(13°C)
5	-	20°F(11°C)

TABLE 2 LENGTH OF PROTECTION PERIOD FOR CONCRETE PLACED DURING COLD WEATHER

LINE	SERVICE CONDITION	PROTECTION PERIOD AT MINIMUM TEMPERATURE INDICATED IN LINE 1 OF TABLE 5.1, DAYS* (NORMAL SET CONCRETE)
1	NO LOAD, NOT EXPOSED	2
2	NO LOAD, EXPOSED	3
3	PARTIAL LOAD, EXPOSED	6
4	FULL LOAD	-

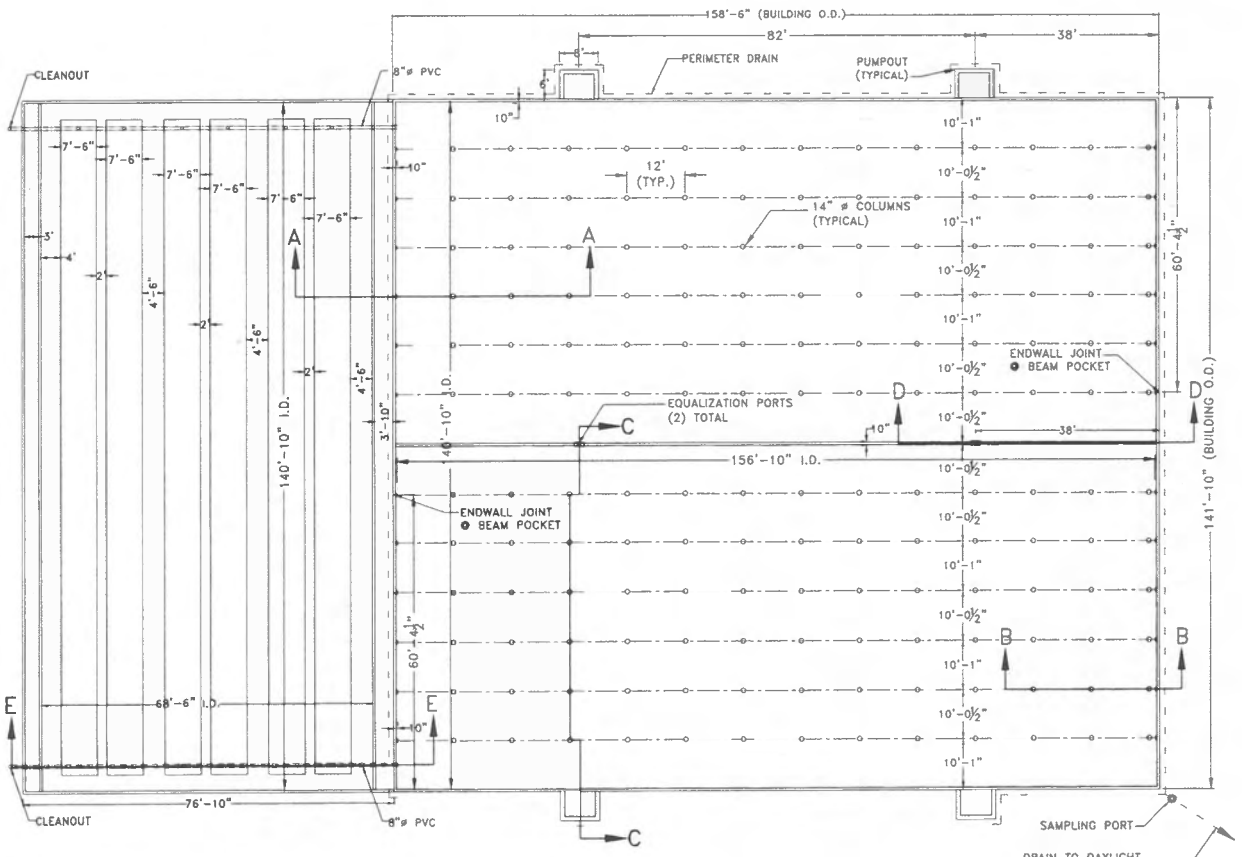
*A DAY IS A 24 HOUR PERIOD.

Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

CONSTRUCTION NOTES

DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-171CP



GENERAL NOTES

1.) ANY REVISIONS TO THESE DRAWINGS MUST BE APPROVED BY THE PROJECT ENGINEER OF THE COMPANY LISTED IN THE TITLE BLOCK.

2.) CONCRETE CONSTRUCTION SHALL MEET WITH MIDWEST PLAN SERVICE-36, CONCRETE MANURE STORAGES UNLESS NOTED OTHERWISE.

3.) NO CONCRETE SHALL BE PLACED ON ICE, SNOW OR FROZEN FOUNDATION MATERIAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONCRETE DAMAGED BY LOW TEMPERATURES AND SHALL REMOVE AND REPLACE ANY CONCRETE SO DAMAGED AT HIS/HER EXPENSE.

4.) THE METHOD AND MANNER OF PLACING CONCRETE SHALL BE SUCH AS TO AVOID SEGREGATION OR SEPARATION OF THE AGGREGATES OR THE DISPLACEMENT OF THE REINFORCEMENT.

5.) THE FOOTINGS ARE TO BE CONSTRUCTED WITH A MINIMUM OF 3,000 PSI CONCRETE.

6.) ALL WALLS, COLUMNS, AND FLOORS ARE TO BE CONSTRUCTED OF 4,000 PSI CONCRETE.

7.) CONCRETE SLATS WILL BE UTILIZED FOR FLOORING.

8.) THE CONCRETE PAD WILL BE A CONTINUOUS POUR.

9.) EXTERIOR WALL CONSTRUCTION JOINTS WILL BE INSTALLED AT 100' O.C. MAXIMUM. UNLESS OTHERWISE NOTED.

10.) NO VEHICLE LOADS ALLOWED WITHIN 5' OF PIT/GUTTER WALLS.

11.) ALL BEAMS SHALL BE BUTTED TIGHT AND/OR GROUTED TIGHT THE FULL WIDTH AND HEIGHT OF THE BEAM. GROUT WILL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,500 PSI.

12.) ALL SLATS SHALL BE BUTTED TIGHT AND/OR GROUTED TIGHT THE FULL LENGTH AND DEPTH OF THE SLAT. GROUT WILL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,500 PSI.

13.) NO PIPE PENETRATIONS OTHER THAN THE TYPES IDENTIFIED ON THESE DRAWINGS ARE ALLOWED. ALL WALL AND FLOOR PENETRATIONS, INCLUDING PIPE PENETRATIONS MUST BE APPROVED BY THE PROJECT ENGINEER.

14.) THE PRESUMED SOIL BEARING CAPACITY IS 2,000 LBS./SQ. FT., BASED ON NRCS CODE 313-3 TABLE 2.

15.) THE DESIGN OF THIS BUILDING IS BASED ON THE 2,000 LBS./SQ. FT. SOIL BEARING.

16.) WATERSTOP SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

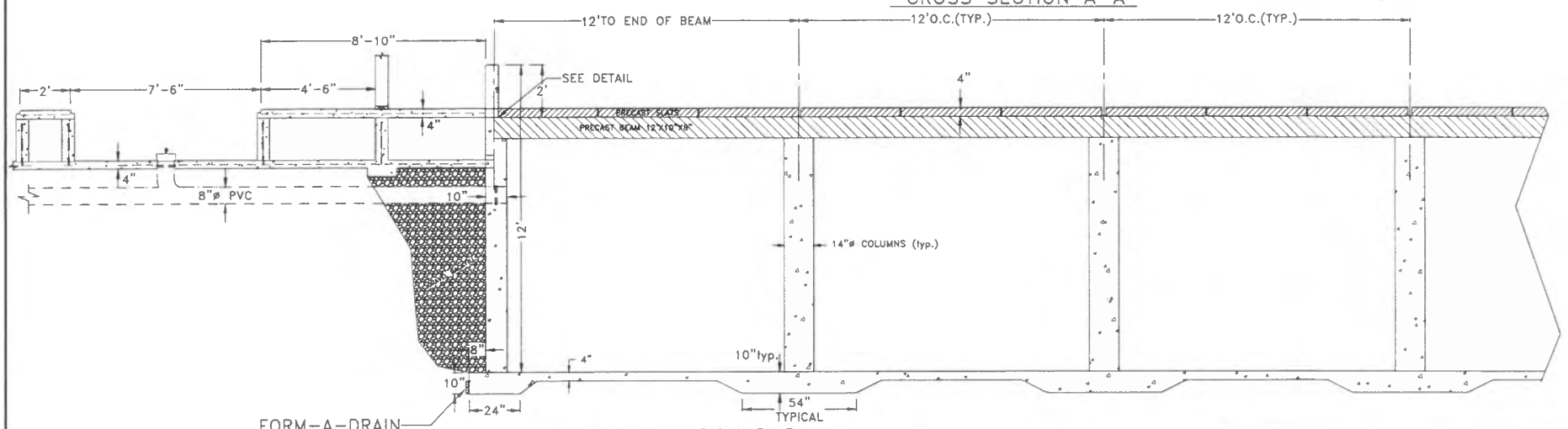
Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

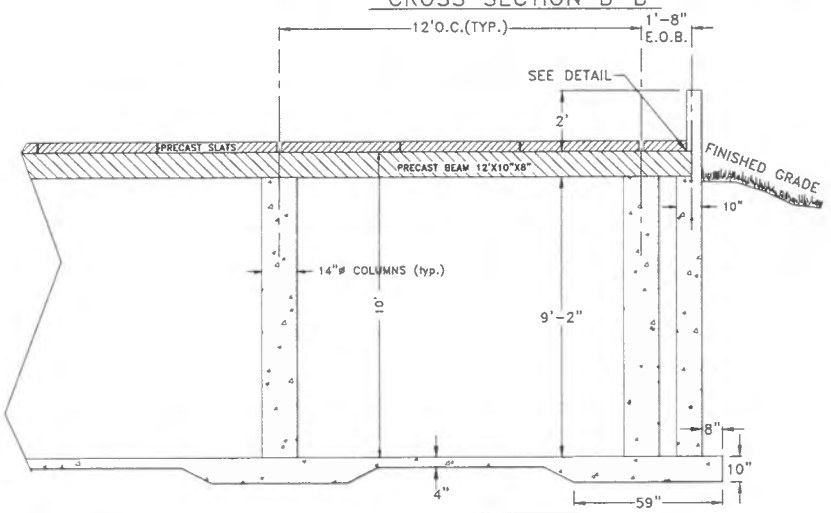
PLAN VIEW

DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 02/11/20 | REVISED ON: 04/01/20 | DRAWING NO. 19-17115

CROSS SECTION A–A

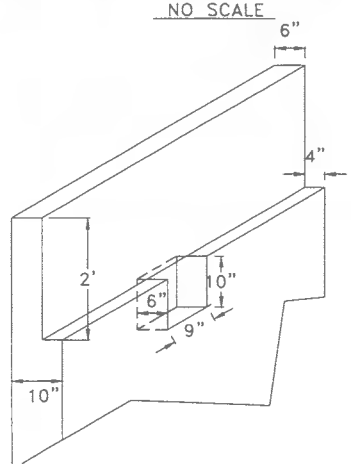


CROSS SECTION B–B



TYPICAL BEAM POCKET DETAIL

NO SCALE



CONCRETE POURED ON SITE | PRECAST BEAMS | PRECAST SLATS

4'

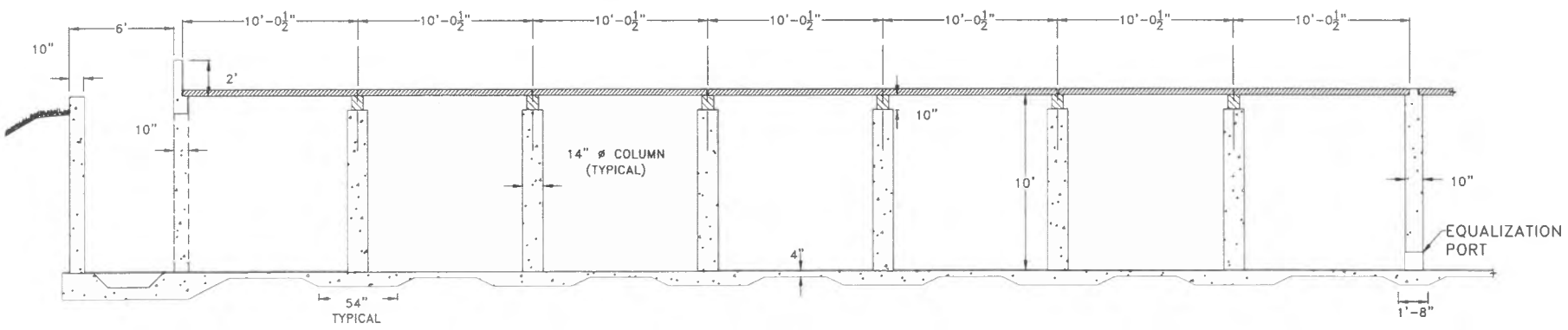
Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

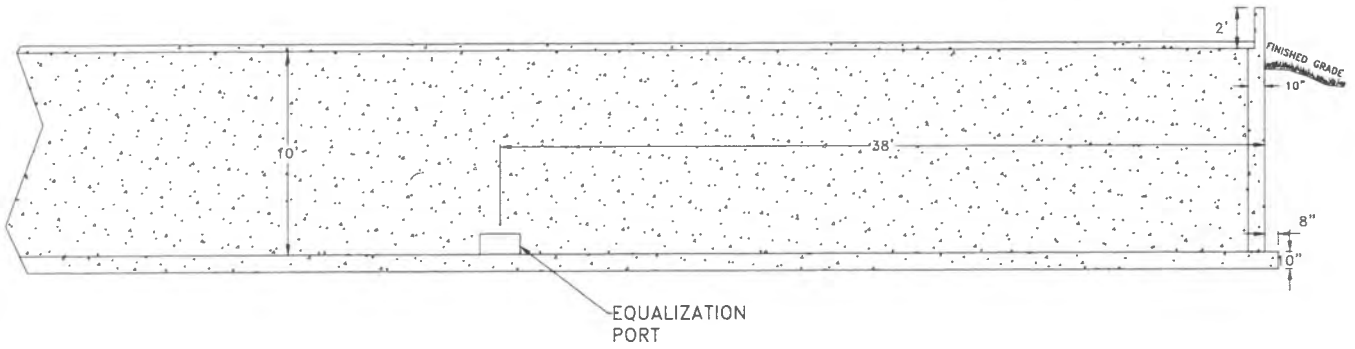
CROSS SECTIONS A–A & B–B

DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 03/23/20 | REVISED ON: 04/01/20 | DRAWING NO. 19-17116

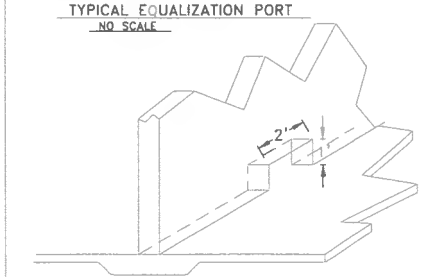
CROSS SECTION C–C



CROSS SECTION D–D



TYPICAL EQUALIZATION PORT
NO SCALE



SOLID PRECAST SLATS
PRECAST BEAMS
CONCRETE POURED ON SITE

6'

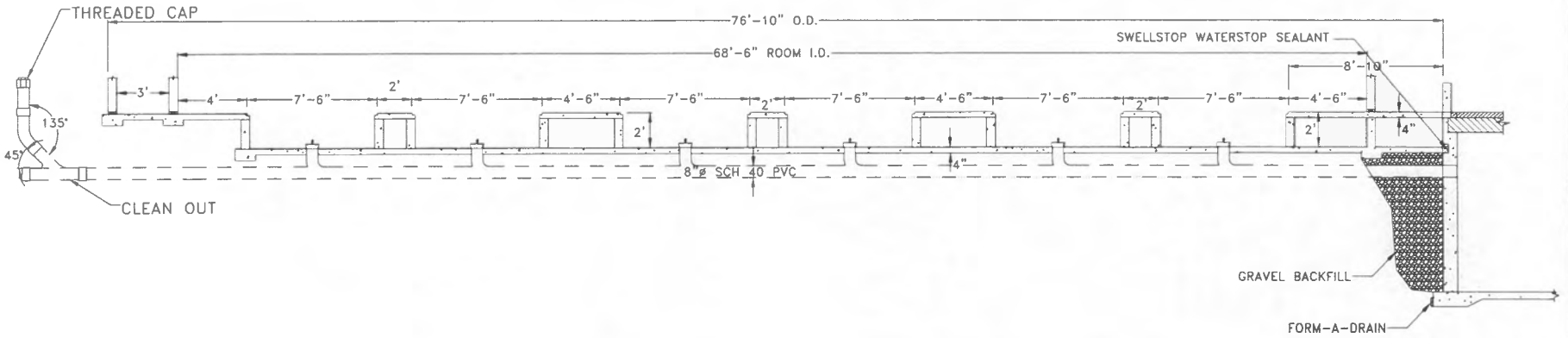
Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

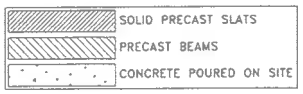
NATHAN WIEGAND

CROSS SECTIONS C–C & D–D

DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 03/23/20 | REVISED ON: 04/01/20 | DRAWING NO. 19-17117

CROSS SECTION E-E





6'

Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

CROSS SECTION E-E

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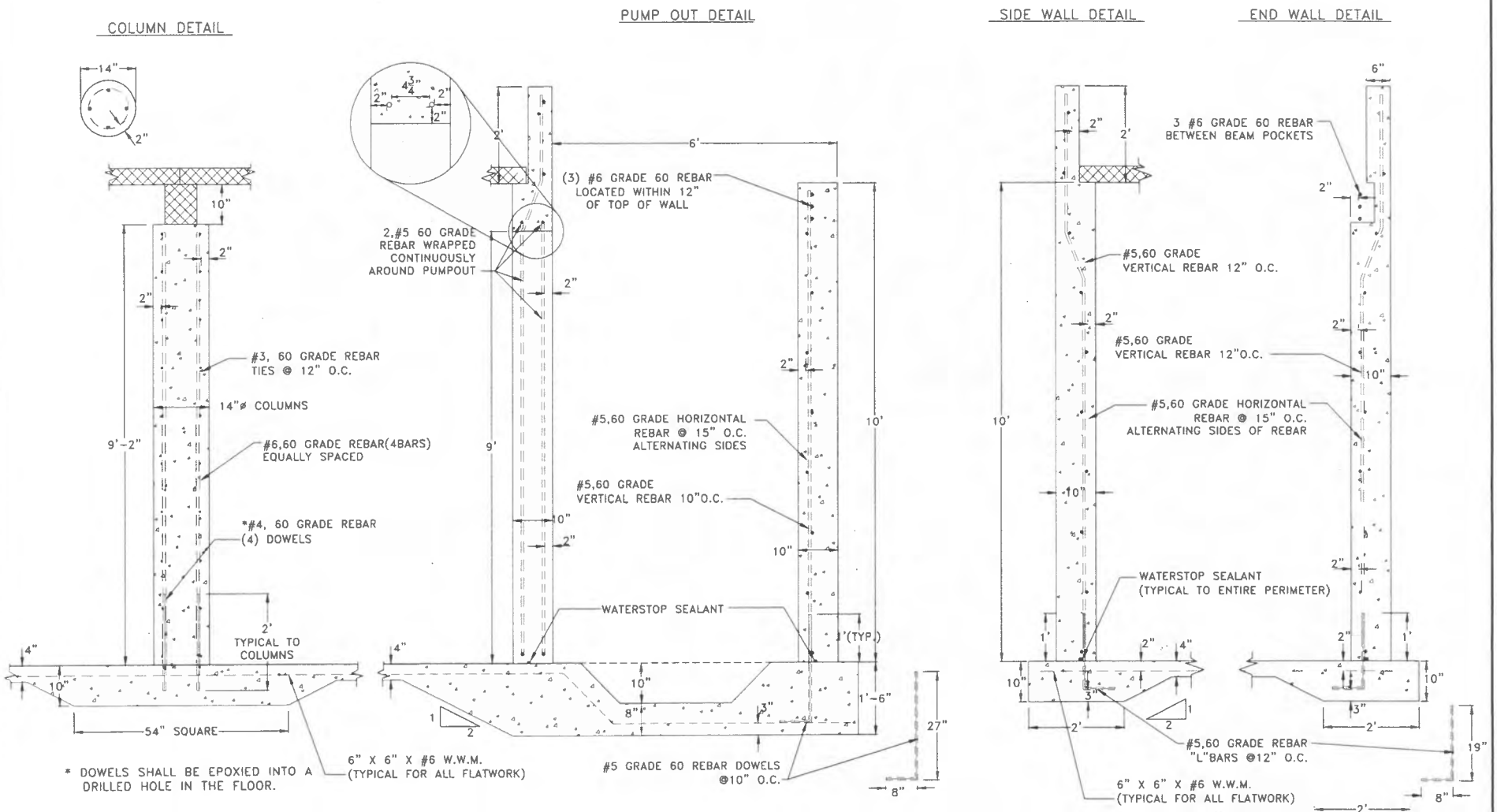


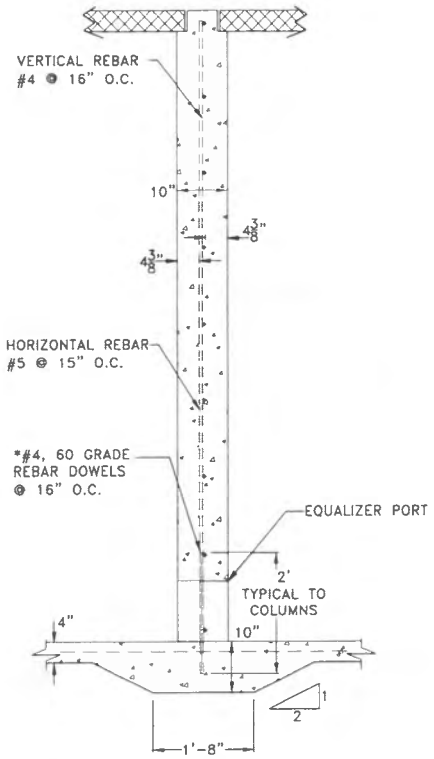
Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

DETAIL SHEET #1

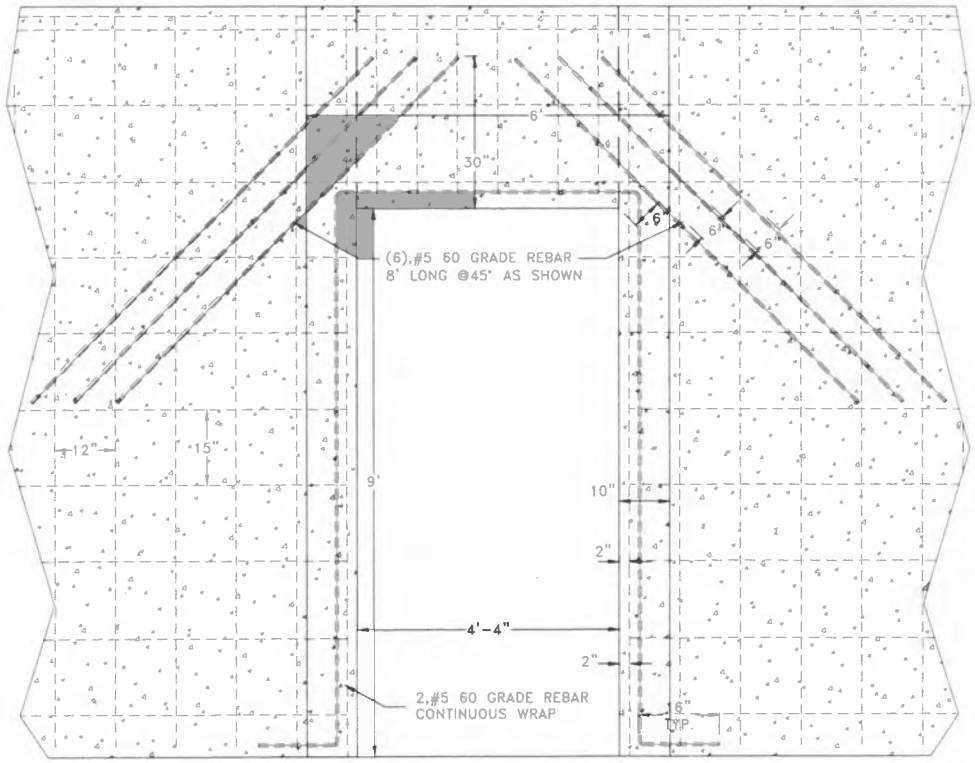
DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-17118

PARTITION WALL DETAIL



* DOWELS SHALL BE EPOXIED INTO A DRILLED HOLE IN THE FLOOR.

PUMPOUT OPENING DETAIL



2'

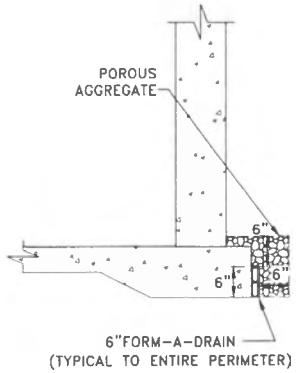
Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

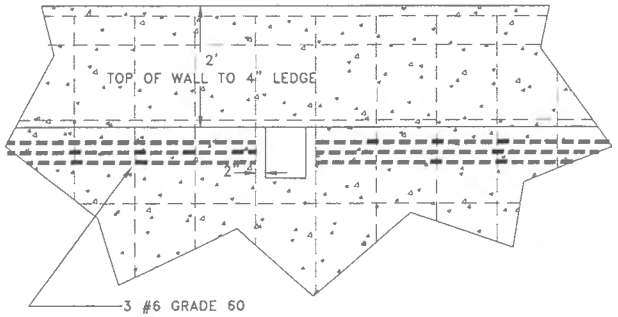
DETAIL SHEET #2

DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-17118

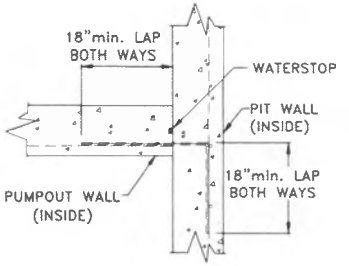
FOUNDATION DRAIN DETAIL



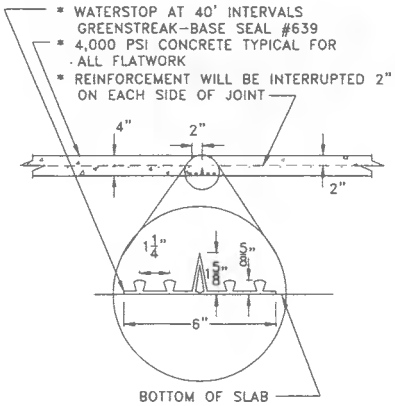
REINFORCEMENT DETAIL AT BEAM POCKET



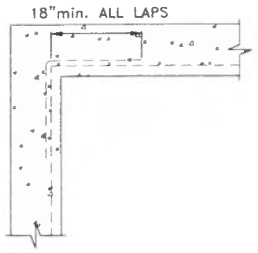
PUMPOUT TIE-IN PLAN VIEW



FLOOR CONTROL JOINT



CORNER TIE-IN



2'

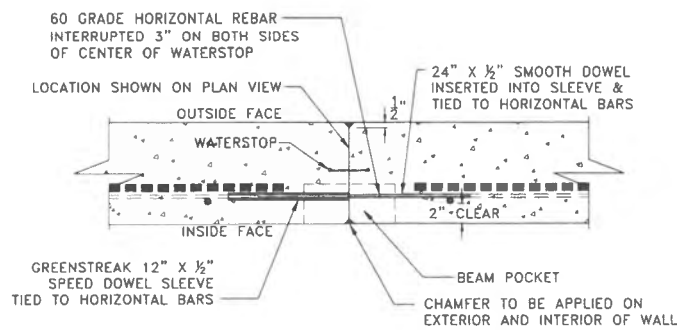
Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

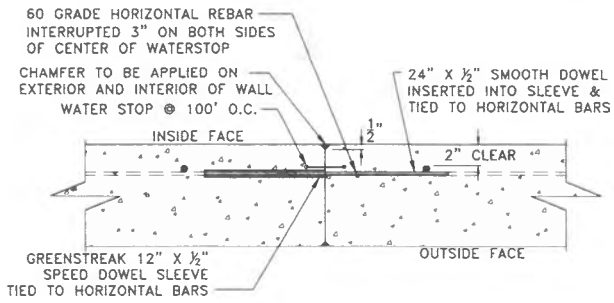
DETAIL SHEET #3

DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-17118

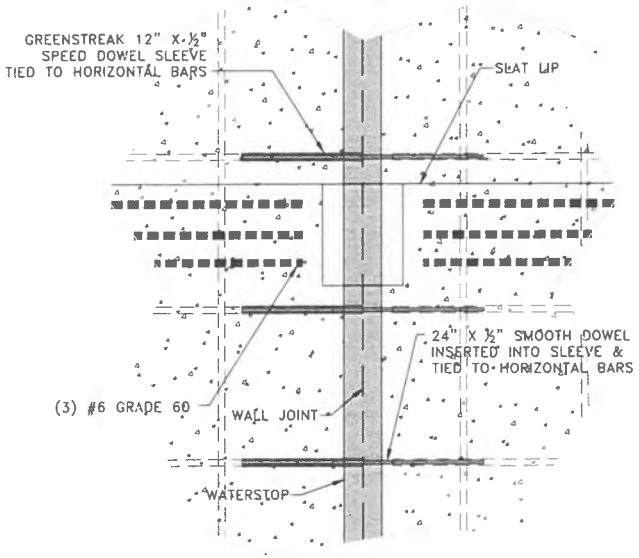
ENDWALL JOINT TOP VIEW
(NO SCALE)



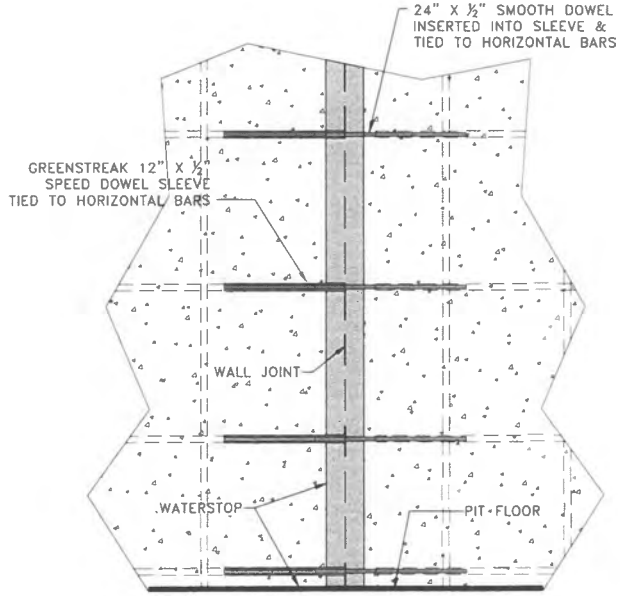
SIDEWALL JOINT TOP VIEW
(NO SCALE)



ENDWALL JOINT SIDE VIEW
(NO SCALE)



SIDEWALL JOINT SIDE VIEW
(NO SCALE)



2'

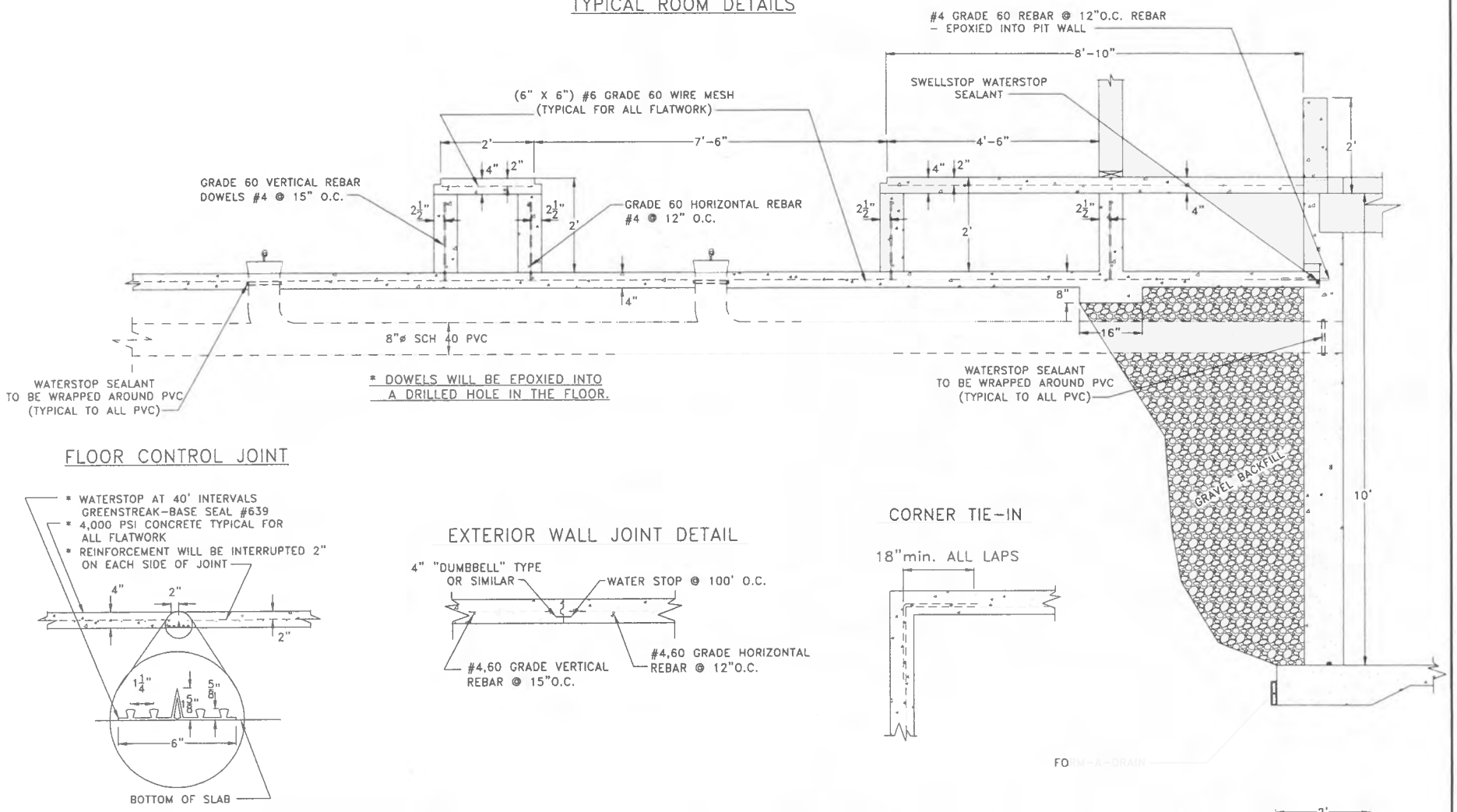
Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

DETAIL SHEET #4

DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 03/23/20 | REVISED ON: XX/XX/XX | DRAWING NO. 19-17118

TYPICAL ROOM DETAILS



FLOOR CONTROL JOINT

EXTERIOR WALL JOINT DETAIL

CORNER TIE–IN

Frank & West
Environmental Engineers, Inc.
1032 S. 2nd Street
Springfield, IL 62704
Phone: 217/679-7361
Fax: 217/679-8362

NATHAN WIEGAND

DETAIL SHEET #5

DRAWN BY: CEO | SCALE: AS SHOWN | DATE: 03/23/20 | REVISED ON: 04/01/20 | DRAWING NO. 19–17118

Gove, Darren

From: Nathan Wiegand <nathanwiegandfarm@gmail.com>
Sent: Monday, April 12, 2021 9:44 AM ← Actual Rec'd date
To: Gove, Darren
Subject: [External] Nathan Wiegand Farm application attachments
Attachments: 20 Wiegand 141 x_Farrow-Gestation.docx; LF2030140003 cpfinal.docx; Weigand 2nd Design Review By A Ramirez 6-13-20.pdf; WIEGAND FULL 6.11.2020.pdf; Weigand_Nathan_CNMPSupport_NutrientManagement-6-10-20 (1).pdf; Wiegand IDOA approved plans2020.pdf

Darren,
This email should contain all necessary documents and files from the building process.

Thank you,
Laura Wiegand

USDA

United States Department of Agriculture

6/13/2020

Mr. Jake Nims
Frank & West Environmental Engineers, Inc.
1032 S. 2nd St.
Springfield, IL 62704

Jake,
The NRCS engineering staff has completed the 2nd review of the designs and drawings submitted by Frank & West Inc. on Tuesday, June 11, 2020. These designs included details regarding the construction of your proposed waste storage facility. All noted concerns have been addressed and the design has passed technical review. Please use this report as documentation of the design approval.

Items to be addressed:

1. Please include a general location map of the facility with the proposed building location identified.
   This concern has been addressed.
2. The general notes on page 2 of the provided design references preparation for a compacted clay liner. This design appears to be solely for a deep pit barn. Is there any proposed installation for a compacted clay liner? If no such practice is proposed, please remove the details from the design.
   This concern has been addressed.
3. Please include more details on the slat and beam requirement for the structure.
   This concern has been addressed.
4. The pumpout wall tie-in detail shows the L-bars connecting the port to the wall of the structure oriented inward. This will likely conflict with the pumpout opening in the exterior wall and result in exposed rebar. Please review this detail and make any necessary changes.
   This concern has been addressed.
5. Please provide more detail on the required dimensions of the notches in the flooring of the shallow pit area.
   This concern has been addressed.

If you have any questions regarding the review process or the information presented in this report, please contact myself or your local field office.

AUSTIN RAMIREZ

Digitally signed by AUSTIN RAMIREZ
Date: 2020.06.13 13:08:24 -05'00'

Austin Ramirez
NRCS, Agricultural Engineer

Section 4. Nutrient Management

4.1a Proposed Management –

Resource Concern: To address nutrient loss due to applying manure to crop fields at all times of the year and to minimize the negative impacts on the environment.

4.1b Existing Management - See Producer CNMP

4.2 Field Information and Manure Application Setbacks - See Producer CNMP

4.3 Manure Inventory Annual Summary – See Producer CNMP

4.4 N & P Risk Assessments – See Producer CNMP

4.5 Soil Test Data – See Producer CNMP

4.6 Manure Nutrient Analysis – See Producer CNMP

4.7 Winter Application of Manure

Application to frozen or snow-covered soils is not recommended. However, if manure application is necessary, only small amounts shall be applied that adequately address waste storage concerns until non-frozen land is available. These instances must be documented in the CNMP records. If winter application is deemed necessary, applications are to be applied only if ALL the following criteria are met:

1. No practical measures are available (such as but not limited to the transfer of waste to another waste handling facility or sewage treatment plant, rental or acquisition of a storage tank, reduction of herd size or depopulation, and protection of the facility from direct precipitation and clean stormwater runoff) to handle the livestock waste within the storage facilities or to dispose of the livestock waste at other sites
2. No liquid livestock waste can be injected or incorporated within 24 hours after application due to soil conditions.
3. Prior to December 1, the owner or operator has taken steps to provide 120 days of available storage capacity of manure storage areas. The calculations must include runoff and direct precipitation plus the volume of livestock excreta, wash water and other process wastewater generated and expected to enter the storage structure during the period of Dec 1 to April 1.
    a. Runoff calculation must be based on the runoff transferred into the storage structure under frozen conditions.
    b. Direct precipitation that will reduce the available storage volume must be based on normal precipitation for December 1 to April 1 period for the nearest weather station.
    c. The owner or operator shall keep a record of the precipitation value used and the source form which the value was obtained.
    d. Calculation must allow for a freeboard of two feet.
4. The owner or operator has complied with ensuring 120 days of available storage before December 1of that winter season and yet the available storage on December 1 is less than 120 days for that winter season.
5. The owner or operator has notified the Agency in writing on December 1 of that winter season that the CAFO has less than 120 days of storage available.
6. The discharge of livestock waste from the structure to the surface waters is expected to occur due to shortage of storage capacity.
7. In the event winter land application is necessary, it must be conducted pursuant to a winter application plan.

Winter Application Plan:

1. No land application may occur within ¼ mile of a non-farm residence.
2. No discharge may occur during land application of livestock waste.
3. Surface application on frozen ground shall not occur within 24 hours preceding a forecast of 0.25 inches or more of precipitation in a 24 hour period as measured in liquid form.
4. Surface application on ice-covered or snow covered land shall not occur within 24 hours preceding a forecast of 0.1 inches or more of precipitation in a 24 hour period as measured in liquid form.
5. If the land application of livestock waste is on ice covered or snow covered land, surface land application shall not occur when the predicted high temperature exceeds 32 degrees F on the day of land application or on any of the 7 days following land application as predicted by the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325East West Highway, Silver Spring MD 20910 for the location nearest to the land application area.
6. The owner and operator shall maintain a record of the forecast from the source used.
7. If the surface land application of livestock waste is on ice covered or snow covered land, the CAFO owner or operator shall visually monitor for runoff from the site. The owner or operator must daily monitor each ice covered or snow covered field where land application has been conducted when the

ambient temperature is 32 degrees F or greater following winter land application until all the ice or snow melts.

8. If the surface land application of livestock waste is on ice covered or snow covered land and a runoff from the land application area occurs, the CAFO owner or operator shall report any discharge of livestock waste within 24 hours after the discovery of the discharge. See Section 3 of this CNMP.

Availability of Individual Fields for Winter Application:
If livestock waste is to be surface applied on frozen ground, ice covered land or snow covered land, the land application may only be conducted on land that meets the following:

1. Adequate erosion and runoff control practices exist.
2. A crop stubble, crop residue or vegetative buffer of 200 feet exists between the land application area and surface waters, water ways, open tile line intake structures, sinkholes, agricultural wellheads, or other conduits to surface water and the vegetative buffer zone is down gradient of the livestock waste application area.
3. Application on land with slopes greater than 5% is prohibited
4. Application may only occur on sites that have field specific soil erosion loss calculated using Revised Universal Soil Loss Equation less than Erosion Factor T and have a median Bray P1 or a Mehlich 3 soil level of phosphorus, in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35Ill. Adm. Code 501.200, equal to or less than 300 pounds per acre.
5. Application rate is limited to 10 wet tons/acre for solid manure more than 50% moisture and 5 wet tons for manure less than 50% moisture. Applications are to be made on land with at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue remaining after harvest, all wheat residue cover remaining after harvest).
6. Manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break of at least 200 feet. Utilize those areas for manure application that are furthest from streams, ditches, waterways, surface water, etc. (areas that present the least runoff potential and are furthest from surface water).
7. Increase the application setback distance to 200 feet "minimum" from all grassed waterways, surface drainage ditches, streams, surface inlets, water bodies. This setback distance may need to be further increased due to local conditions.

Manure Application on Steep Fields
Waste shall not be applied to land with slopes over 15%.

Manure Application on Fields Subject to Flooding
Manure is not to be land-applied on soils that are frequently flooded during the period when flooding is expected unless incorporated immediately.

Manure application on Pasture and Hay.
The disadvantages and risks associated with manure application on pasture and hay are primarily due to method, timing and rate of application. Broadcasting manure on actively grazed pastures may result in livestock refusal to graze fouled forage. This is more of an issue with liquid manure than solid. Crop smothering can occur if high rates (in excess of 50 to 60 tons/acre) of solid manure are applied or if application is not uniform and large clumps are deposited. Uniform application can be especially difficult when long-stemmed bedding is used in large quantities.

Whether the N source is manure or commercial inorganic fertilizer, application of more N than the crop can use for growth and convert to organic forms will cause accumulation of high levels of nitrate (NO_3) in the crop and the potential for nitrate poisoning. Therefore, care must be taken that N application rates do not exceed crop requirements. If in doubt, test the forages for nitrate levels.

Potassium concentrations in grasses that receive manure applications may also be an issue. Very high K

concentrations in a ration can cause reduced absorption of calcium (Ca) and magnesium (Mg), which in turn can cause metabolic disorders in cattle including milk fever and calving problems. Urine output is greatly increased and therefore the risk of kidney failure is increased when cattle are on a ration very high in K. Potassium content of grasses appears to generally increase as a result of manure application. However, the K concentration alone may not be the only factor in such animal health issues. Low Mg:Ca ratios and Mg:(K+Ca) ratios can cause grass tetany. There are species differences in these ratios even when K concentrations are similar. Forage testing can indicate potential problems.

Species composition of mixed forage stands (native and tame) is altered by increasing fertility levels. Because species that are more responsive to higher fertility tend to become dominant, forage production may increase due to the change in species mix but biodiversity is lost.

Weed infestations originating from seeds in manure are another possible drawback to applying manure on forage. These infestations are generally more difficult to deal with in forage crops than in annuals. Weeds in hay can decrease its quality and value especially in horse-hay or dairy-quality alfalfa. If weeds are a concern, then consider composting manure. Proper composting will kill most weed seeds.

General Manure Applications

For liquid wastes, the application rate is to be adjusted to the most limiting factor to avoid ponding, surface runoff, subsurface drainage (tile) discharge, the nutrient needs of the field, or the nitrogen or phosphorus risks of the field. The total application is not to exceed the field capacity of the upper 8 inches of soil. See the guide for determining soil moisture content below. No applications should be made when the field reaches 100% of its available capacity. The actual application rate shall be adjusted during application to avoid ponding or runoff. Bare/crusted soils may require some tillage to improve infiltration.
Livestock waste shall not be applied during precipitation when runoff of livestock waste will be produced. Surface land application of livestock waste shall not occur within 24 hours preceding a forecast of 0.5 inches or more of precipitation in a 24-hour period as measured in liquid form.

4.8 Projected Soil P And K Levels – See Producer CNMP

Longhorn Cattle & Swine Confinements, Inc
39637 260th Ave Pittsfield, Il 62363
217-285-6379

Nathan Wiegand
Secor, Il
Feb 28, 2020

141' x 269' Stall Gestation Building Agreement

Contractor, Longhorn Cattle & Swine Confinements, Inc, agrees to furnish the following material & labor for the construction of a 141'x 269' Farrowing- Gestation unit for NathanWiegand, Owner

144 Crate 69 x 140' Farrowing Room

Sidewall Specifications

1. 2 x 6 WW Studs 24" o.c. on fan side
2. 2 x 6 ACQ bottom plates
3. 2 x 6 ACQ Studs 24" o.c. next to evap pad
4. 2 x 6 WW top plates
5. 1/2" SS anchor bolts
6. White steel on interior walls
7. 29ga G90 white steel trim & siding installed horizontally on exterior walls
8. 4ml vapor barrier
9. R19 insulation
10. (1) 3 x 4 vinyl sliding window

Endwall

1. 2 x 6 ACQ bottom plate
2. 2 x 6 WW studs 2' o.c.
3. (2) 2 x 6 WW top plate
4. 1/2" SS anchor bolts
5. White steel on interior walls
6. 29ga G90 white steel siding and trim
7. 4ml vapor barrier
8. R19 insulation

Room Divider Wall

1. 2 x 4 ACQ bottom plate
2. 2 x 4 WW top plate
3. 2 x 4 WW Studs 2' o.c.
4. White steel on interior wall
5. 3/8 x 3 3/4 SS anchor bolts

Roof & Ceiling

1. 25/5/8 Load bearing gambrel truss 4' o.c.
2. 29ga G100 white steel metal
3. 2 1/2"lose white SS neoprene fasteners
4. 4 ml vapor barrier
5. R30 blownm cellu insulation and stops
6. 1" Blue dow under roof metal

Doors & Trim

1. (2) 36" Plyco doors Series 35 exterior
2. White aluminum fascia cover
3. PVC coated hex wire over eave in front of evap pad

Plumbing

1. 1 1/2" Main line to cool cell supply lines
2. 3/4 PVC water lines in room with 1/2" blue hose drops to water sticks & nipples
3. (1) Hand spigot
4. 3/4" Black Sch80 line with (2) drops in middle of room

Electrical

1. All electrical is run in PVC conduit
2. (4) rows of 23w fluorescent lights 11' o.c. (48) total
3. (1) 20 amp water tight double heat lamp receptacle per crate

Equipment

1. Farmweld 5'6" x 7'6" cast/plastic flooring on fiberglass rails
2. (144) 5'6" x 7'6" Farmweld crates with SS dividers

Ventilation Equipment by Munters Specs

1. (2) 51" Fans
2. (2) 24" Fans

3. (4) 36" Fans
4. 36. ACI 4000 air inlets
5. Maximus control
6. Alarm will monitor controller and temperature through room probes
7. (1) Munters cool cell pad on end wall
8. 13oz Cool cell curtain on curtain machine with weighted hem pockets

Heat

1. (4) 250,000 BTU heaters

Feed System

1. AP chain disc system to each crate
2. (2) 8ton Schuld bulk bins

Concrete according to Frank & West and the Il Dept of Ag specs

1. 2' Deep pit
2. 4" Reinforced floors
3. (2) 8" x 8' x 8' bulk bin pads

141' x 167' Cross ventilated Gestation

Sidewall Specs

1. 2 x 6 ACQ studs 24" o.c.
2. 2 x 6 ACQ bottom single plate
3. Double 2 x 6 WW top plate
4. 1/2" x 8" SS anchor bolts
5. White steel on interior walls
6. 13oz non insulated curtain on sidewalls with SS cable, clamps, pulleys and cup hooks on west side
7. 5/16 Black poly wind rope and aluminum batten strips
8. White painted aluminum fascia

Endwalls

1. 2 x 6 ACQ bottom single plate
2. (2) 2 x 6 WW top plates
3. 2 x 6 WW studs 2' o.c. on fan side
4. 2 x 6 ACQ studs 2' o.c. on cool cell side
5. 1/2" x 8" SS anchor bolts
6. White steel interior walls

7. 29ga G100 White painted steel installed vertically on exterior gable walls
8. White trim
9. 4 ml vapor barrier
10. R19 insulation

Roof & Ceiling

1. 25/5/8 Load bearing gambriel truss 4' o.c. engineered to meet all local load requirements
2. 12" overhang on east side and 30" overhang on west side
3. 2 x 4 Purlins 2' o.c.
4. 29ga G100 White painted steel installed with white painted SS head fasteners
5. (6) Low-pro ridge vents
6. 4 ml vapor barrier
7. R30 blown cellulose insulation stopping near eaves to prevent insulation movement

Door

1. 4 x 8 x 1" Fluted panel door

Plumbing

1. 1 1/2" Main line
2. (1) hand spigot by each door
3. (1) 3/4" water line for each row of crates fastened to ceiling with PVC coated steel
4. 1/2" Blue hose to trough
5. (2) 3/4" Sch80 all pipes for HP lines with drop placement for a 50' hose to reach all areas of barn

Electrical

1. Back up theremostats hanging from ceiling mounted in center of building
2. (1) Backup thermostat on each side of building for each curtain drop
3. (1) Backup thermostat for big fan
4. All electrical cords have water tight connectors
5. All electrical wiring is in PVC conduit
6. (10) Rows of 23w lights 16' o.c. (100) total
7. (1) Light switch at hallway entry door

Equipments

1. (4) rows of 22" x 7' gestation crates (328) total
2. (30) pens 27'6" x 15'2" with stanchions
3. (6) pens 12'10" x 15'2" with (11) stanchion

4. Owner furnishes (180) used stalls

Ventilation by Munters

1. (4) 24" Pit fans
2. (2) 36" Wall fans
3. (10) 51" Wall fans
4. (42) Air inlets on curtain machines
5. Alarm will be connected to currenct Agri Alert system in Farrowing
6. Controller monitored by the alarm
7. Alarm monitors temperature through room probes
8. (1) Munters cool cell on west side
9. 13oz Curtains with hem weigh pockets
10. SS Cable, clamps, pulleys and cup hooks
11. 5/16 Black poly wind rope and aluminum batten strips

Feed system

1. (2) 12 ton Schuld bins
2. Chain disc feed delivery system
3. Econo drops in stanchions
4. Ultra drops in stalls

Concrete by Frank & West specs

1. (4) 6 x 8 Pumpouts
2. (1) 10" x 10' x 20' Bulk bin pad
3. 141' x 167' x 10' Pit
4. Concrete Gang slats

Miscellaneous

1. Builders Risk insurance not provided
2. Building and equipment are warranted for one year after animals are in the building
3. Extra winter time expenses not included
4. (1) Hallway to connect south building and new unit

Owner, Nathan Wiegand, agrees to:

1. Furnish map to construction site with road names and numbers
2. Furnish dumpster for cleanup
3. Not bring animals into building until contract is complete and paid in full
4. Assume all responsibility for animals in incomplete facility

5. Pay for all labor and materials provided if damage occurs to the building prior to completion
6. Unsigned contract expires 30 days from contract date
7. Vendor lien waivers will be given when received
8. Pay Contractor $1,477,678.00 upon receipt of invoice in the following manner:

    - 5% Down payment when agreement is signed
    - 94% as materials are delivered and labor performed
    - 1% Final payment upon completion of building

Signature Page

_____

Owner Signature **Date**

_____ Bil

ling Address **Phone**

_____

Construction Address **Fax/email**

_____

Financial Instution **Phone**

_____

Contact Person **email/fax**

_____

Longhorn Cattle & Swine Confinements, Inc **Date**

STATE OF ILLINOIS)
)
COUNTY OF SANGAMON)

CERTIFICATE OF SERVICE

I, the undersigned attorney at law, hereby certify that I have served on the date of May 10, 2022, the attached **NOTICE OF FILING**, **APPEARANCE**, and **RECOMMENDATION,** upon the following persons by causing to be mailed a true copy thereof in an envelope duly addressed, bearing proper first class postage, and deposited in the United States mail at Springfield, Illinois:

Nathan Wiegand Farm
2157 County Highway 5
Roanoke, IL 61561

Copies also provided electronically as follows:

Illinois Department of Revenue
via email at REV.PropTaxApp@illinois.gov
101 West Jefferson
P.O. Box 19033
Springfield, Illinois 62794

[Electronic Filing]

Illinois Pollution Control Board
Don Brown, Clerk
State of Illinois Center
100 West Randolph, Suite 11-500
Chicago, Illinois 60601
don.brown@illinois.gov

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: _/s/ Gabriel H. Neibergall_____

Gabriel H. Neibergall
Assistant Counsel
Division of Legal Counsel
Gabriel.Neibergall@illinois.gov

DATED: May 10, 2022

1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-5544