

DRAWING – BLUEPRINT GUIDE

I. PURPOSE

This is a guide for preparing drawings or blueprints, supplemental information, and room specifications which are to be submitted for approval as outlined in 0 CFR 592.140, Regulations Governing the inspection of Eggs and Egg Products.

Plant drawings are for the purpose of establishing the area of the new official plant, plant layout, types of construction, floor drainage, location and types of equipment, air systems and description of other principal facilities at the location. There are specific facility and equipment requirements provided throughout the regulations and in applicable 3-A and E-3-A Sanitary Standards and Accepted Practices.

II. SUBMITTAL OF PLANS

The applicant is to submit drawings and supplemental information for approval to the Frontline Supervisor responsible for oversight of the new official egg products plant as part of the Application for Federal Inspection Service for egg products. The drawings are to consist of complete floor plans and a plot plan. Supplemental information and room specifications are to accompany the drawings.

Upon receipt of the submitted drawings, the supervisor will make a preliminary review to determine their accuracy and completeness. Any necessary changes or corrections will be requested by the supervisor. The supervisor will return drawings to the applicant for corrections before a final review.

A final review and approval of the submitted drawings will be determined by the Frontline Supervisor. A final survey of the finished facility will also be conducted by the supervisor or a designee followed by the communication of conformance with provisions of the approval and the regulations by the Frontline Supervisor.

III. GENERAL REQUIREMENTS

The drawings may be regular blueprints or ink drawings on durable-weight drawing paper. The sheet size of the print should not exceed 34 by 44 inches. The wording on each print is to be legible, all lines sharp and clear, and drawings properly drawn to scale.

When blueprints are prepared, we recommend the plant keep the original drawings for future use. If revisions then become necessary at a later date, changes can be made on the original drawing and new copies prepared and submitted. This would eliminate the need for preparing complete new drawings and also reduce the use of overlays.

Each individual prints is to show: (1) the scale used; (2) the north point of the compass; and (3) the firm name, street, city, State, and ZIP code, or an accurate description of the location.

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IV. PLOT PLAN

The plot plan of the entire premises is to include:

- A. The location of all buildings, roadways, alleys, drains, catch basins, wells, reservoirs, storage tanks, and any other major structure.
- B. Nearby buildings and types of businesses located on adjoining property.
- C. The drainage and slope of terrain.
- D. The character and surfacing of roadways, driveways, streets, and loading areas (including the loading area for a refuse room), and the paved tanker truck bays (with drainage) for shipping and receiving tankers.

The plot plan may be drawn to scale of 1/32 inch per foot.

V. FLOOR PLAN

- A. The floor plan drawings are to include the entire plant. a drawing is required for each floor of the plant and should accurately illustrate and describe the facilities. Each room is to be identified. Detailed prints for processing rooms should be drawn to a scale of 1/4 inch per foot. If a print includes only non-processing areas, it may be drawn to a scale of 1/8 inch per foot.

Include the names of other firms, if any, occupying the building, their type of business, and the space occupied by them.

If any rooms of the official plant will be used for purposes other than ones related to operation of the egg products plant, indicate this on the drawing and include a statement of explanation.

- B. Essential items to show on floor plans are the location of:
 - 1. Walls, doors, hallways, stairways;
 - 2. Intake and exhaust systems;
 - 3. Hand washing facilities, floor drains, channel drains, toilet facilities, hose connections with hot and cold water for cleanup purposes; and
 - 4. Storage tanks, conveyors, equipment racks, and other principal pieces of equipment.
- C. The prints should indicate the slope of floors to drains openings or channel drains by either grade lines or arrows. Floors which require drains shall slope more than 1/8 inch per foot to drains. Channel drains should have concave bottoms and must be self-draining. Channels should be at least 10 inches wide. They are to be provided with grates or covers designed for safety and efficient recovery of water.

Prints for newly-constructed plants are to include the approximate location of all under floor or underground drainage lines. This may be added to the plot plan or floor plan of the entire plant.

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D. Air systems for providing a positive flow of filtered air to breaking rooms, product packaging rooms (except for dried egg white packaging rooms), and blending rooms are to be shown with the following detail:

1. Pickup points of outside air;
2. Locations of fans;
3. Locations of air filters; and
4. Air distribution points in the room
5. Including pickup points for return air

The air system is to be designed to supply filtered, outside air at a reasonable working temperatures. An adequate volume of air is needed to “pressurize” each processing room so that the air would move outward through any openings in the room. The filtered air should enter the room at a location which is opposite from the side where most of the air is expected to flow out of the room.

Indicate the efficiency of the air filtration system.

The location of all exhaust fans is to be shown. If the exhausts are ducted, the ducts are to be shown.

E. Show the location of air compressors supplying air to breaking machines, packaging equipment, vacuum systems, and all pickup points of outside air. This requirement is related only to product contact air or air for product contact surfaces. *New* installations (air compressors, air filters, etc.) are to meet the standards set forth in E-3-A accepted practices.

F. The following require detailed drawing of equipment and facilities. Special items to be shown are:

1. Transfer rooms
 - a. Shell egg washers connected directly to drains or piped to drains so waste water does not flow over the floor.
 - b. Shell egg washers ducted or exhausted to the outside.
2. Egg breaking rooms
 - a. The number of stations at hand breaking tables or individual breaking machines model numbers.
 - b. Individual hand washing facilities.
 - c. A detailed drawing of the pumping and reexamination system if liquid egg is pumped from the breaking machines. The drawing may be shown a supplemental print.
 - d. The shell disposal system.
 - e. Churns, strainers, and other principal pieces of equipment.
3. Equipment washing rooms or areas
 - a. All wash tanks and the number of compartments of each which are used for cleaning equipment or containers. Indicate that these are provided with hot

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and cold water and have drain lines trapped and connected to the plant drainage system.

b. Utensil and equipment drain and aeration racks.

4. Mixing, blending, and fermentation rooms

a. The capacity of each liquid egg storage tank; whether each is insulated or refrigerated; horizontal or upright; whether each is equipped with an agitator, covers, and thermometers.

b. The layout of pasteurizing system (press holding tubes, etc.).

5. Egg products packaging rooms

a. Principal pieces of equipment (draw off tank, scales, etc.), hand washing facilities, floor drains, and hot and cold water outlets for cleanup purposes.

6. Edible ingredient area where ingredients are weighed and mixed

7. Egg product drier rooms

a. Drier(s) and all component parts

b. The locations of air inlets to the drier, air filters, exhaust, and heater. The type of head, i.e., steam, direct or indirect gas.

c. The powder conveying system. If a pneumatic system, the source of air pickup, location of air filters, and type of powder cooling facilities if included as part of the system.

8. Dried egg products heat treatment room

a. The location of heat sources, fans, and air distribution points.

b. Temperature recording instrument data

9. Laboratory

A11 air intake and exhaust systems and drains. The drainage system for bacteriological laboratories is not to be connected with other drainage lines within the plant. Describe briefly how laboratory wastes (dry and liquid) are handled for bacteriological laboratories. This can be added as supplemental information. (see section VI of this guide)

10. Rooms for handling and packaging of inedible egg

The straining, mixing, and packing areas including hot and cold water connections for cleanup, floor drains, and a forced exhaust to the outside.

11. Shell and refuse disposal rooms

Location of floor drains, hot and cold water connections for cleanup, and forced exhausts to the outside. These rooms are not to open directly into processing rooms.

12. Toilet facilities

Exhaust fans, drainage lines, lockers, location of toilet bowls, etc. in new or remodeled construction, the drainage system from toilets is not to be connected with other

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drainage systems within the confines of the plant. Other acceptable sewage line safety devices may be acceptable in lieu of this requirement.

13. Office space for USDA inspector

- G. Rooms and areas requiring only layout drawing;
 - 1. Empty egg case storage,
 - 2. Shell egg cooler,
 - 3. Freezer,
 - 4. Dried product holding room or area,
 - 5. Edible ingredient storage room,
 - 6. Cleaning compound storage room or area,
 - 7. Insecticide and rodenticide storage room or area,
 - 8. Packaging material and can storage room,
 - 9. Hallways,
 - 10. Maintenance shop,
 - 11. Dressing rooms and lunchrooms.

VI. SUPPLEMENTAL INFORMATION

The following are examples of information which may be submitted as descriptive side notations on the prints or on supplemental enclosures. This is recommended as a means of clarifying the prints and to minimize information on the drawings so they can be easily read:

- A. Kind and description of pasteurizer and flow-diversion valve.
- B. Description of product contact surfaces of drying system or a statement that the product contact surfaces meet E-3-A standards for spray drying systems.
- C. Methods of adding free flowing ingredients and other edible ingredients to dried egg products.
- D. Type of temperature recording devices used for recording the temperature of dried products and heat treatment rooms.
- E. A statement that an ample supply of hot water is available for cleanup and full operation of the plant.
- F. Indicate that all floor drains are trapped.
- G. A statement that all lighting fixtures in processing rooms are fitted with protective devices.
- H. Indicate all doors of processing rooms are self-closing.
- I. Hand washing facilities in processing areas are operated by other than hand controls.
- J. For new facilities only. Submit the original and two copies of a water potability certification showing municipal water and/or each private well has been tested and found to be satisfactory under the authority of a State of municipal health agency, or by USDA.
- K. Forms will be provided for reporting information on sewage disposal and compliance with the Federal Water Pollution Control Act.
- L. Capacity of fans (CFM) for the air systems.

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- M. A statement that the air compressor system meets E-3-A standards for product contact air.
- N. Describe what heating or air-condition facilities are provided for the plant.
- O. A statement that the drier systems meet E-3-A standards.
- P. Method of shell disposal.
- Q. Any other reference to E-3-A standards that may aid in the review of the blueprints.

VII. ROOM SPECIFICATION SHEET

The following information is to be submitted in tabular form for each room and a copy attached to each set of prints (see enclosed sample);

- A. The height and type of ceilings.
- B. The type of floor and wall construction. If more than one type, show each type of construction. Include any appropriate information of sealing or painting of wall surfaces.
- C. The number of men and women employed at the plant for each shift and toilet facilities available.

VIII. CHANGES AND REVISIONS OF OFFICIAL PLANT

When changes in plant construction, facilities, and equipment are planned, the proposed changes are to be discussed with a representative of the Frontline Supervisor and revised prints submitted and approved prior to making the changes. Failure to comply with this requirement can be costly to a plant in terms of operating delays or corrections to unacceptable facility changes.

Proposed changes and revisions may be submitted in draft form for review by:

- A. A completely revised sheet showing existing construction, equipment, and facilities with the proposed alterations and additions, or
- B. An overlay print drawn to the same scale as existing print covering the area to be modified or revised.

IX. APPROVAL OF PRINTS AND PLANS

If the examination of the drawings, supplemental information and room specification show that they meet regulatory requirements, approval will be given. The set of the approved prints will be maintained by the plant submitting the prints. Plant management is to make their file of approved blueprints readily available to the egg products inspector and the Frontline Supervisor when requested.

A final review and approval of the submitted drawings will be determined by the Frontline Supervisor. A final survey of the finished facility will also be conducted by the supervisor or designee followed by the communication of conformance with provisions of the approval and the regulations by the Frontline Supervisor.

Approved prints of a new plant requesting inspection service, or for changes in an existing plant, does not constitute operating approval. A final survey must be made by the Frontline Supervisor or

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a designee to determine if the plant construction and facilities are in accordance with the approved prints and the regulations. On new and existing plants, a written communication to that effect will then be provided to the applicant by the Frontline Supervisor.

