MONITORING WELL WORKPLAN AND MONITORING WELL INSTALLATION REPORT REQUIREMENTS
SK FOODS AND COLUSA COUNTY CANNING COMPANY
WILLIAMS TOMATO PROCESSING FACILITY
COLUSA COUNTY

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing the minimum listed information. Wells may be installed after staff approves the workplan. Upon installation of the monitoring wells, the Discharger shall submit a report of results, as described below. All workplans and reports must be signed by a registered geologist, certified engineering geologist, or civil engineer registered or certified by the State of California.

SECTION 1 - Monitoring Well Installation Workplan
A. General Information:
   - Purpose of well installation project
   - Copies of County Well Construction Permits (to be submitted after workplan review)
   - Monitoring well locations and rationale
   - Survey details
   - Equipment decontamination procedures
   - Health and safety plan
   - Topographic map showing any existing wells, proposed wells, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details:
   - Describe drilling technique
   - Sampling intervals, and logging methods

C. Monitoring Well Design:
   - Casing diameter and centralizer spacing (if needed)
   - Borehole diameter
   - Depth of surface seal
   - Well construction materials
   - Diagram of proposed well construction details
   - Type of well cap, bottom cap either screw on or secured with stainless steel screws
   - Size of perforations and rationale
   - Grain size of sand pack and rationale
   - Thickness and position of bentonite seal and sand pack
   - Depth of well, length and position of perforated interval

D. Well Development:
   - Method of development to be used
   - Method of determining when development is complete
   - Parameters to be monitored during development
   - Method of development water storage and disposal

E. Well Survey:
   - Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
   - Describe what well features will be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)
Vertical accuracy shall be to at least 0.01 foot

G. Well Sampling:
   Minimum time after development before sampling (48 hours)
   Well purging method and amount of purge water
   Sample containers, collection method, and preservation method
   Table describing sample volumes, sample containers, preservation agents, and hold times
   QA/QC procedures

H. Water Level Measurement:
   The elevation reference point at each monitoring well shall be within 0.01 foot. Ground surface
   elevation at each monitoring well shall be within 0.01 foot.
   Method and time of water level measurement shall be specified.

I. Proposed time schedule for work.

SECTION 2 – Groundwater Sampling and Analysis Plan
A. General Information:
   Site Location
   Monitoring well locations
   Monitoring well construction details including elevation, well depth, casing material and size,
   and screen interval
   Equipment decontamination procedures
   Health and safety plan
   Topographic map showing any existing wells, proposed wells, waste handling facilities, utilities,
   and other major physical and man-made features.

B. Water Level Measurement:
   Ground surface elevation at each monitoring well shall be within 0.01 foot.
   Method and time of water level measurement shall be specified
   Water level in well shall be allowed to equilibrate prior to measuring the depth to water

C. Well Sampling:
   Well purging method and amount of purge water, purge water storage
   Sample containers, collection method, and preservation method
   Table describing sample volumes, sample containers, preservation agents, and hold times
   Identification of analytical laboratory
   Chain of custody procedures
   QA/QC procedures

D. Proposed time schedule for work.

SECTION 3 - Monitoring Well Installation Report
A. Well Construction:
   Number and depth of wells drilled
   Date(s) wells drilled and completed
   Description of drilling and construction
Scaled map of facility site features including monitoring wells, buildings, storage ponds, waste piles, etc.
A well construction diagram for each well must be included in the report, and must contain the following details:

- Drilling Contractor and driller name
- Depth of open hole (same as total depth drilled if no caving occurs)
- Method and materials of grouting excess borehole
- Footage of hole collapsed
- Length of slotted casing installed
- Depth of bottom of casing
- Depth to top of sand pack
- Thickness of sand pack
- Depth to top of bentonite seal
- Thickness of bentonite seal
- Thickness of concrete grout
- Boring diameter
- Casing diameter
- Casing material
- Size of perforations
- Well elevation at top of casing
- Stabilized depth to groundwater
- Date of water level measurement
- Monitoring well number
- Date drilled
- Location

B. Well Development:
   - Date(s) of development of each well
   - Method of development
   - Volume of water purged from well
   - How well development completion was determined
   - Method of effluent disposal
   - Field notes from well development should be included in report.

C. Well Survey:
   - Identify the coordinate system or reference points
   - Survey the well casing with the cap removed (horizontal and vertical coordinates)
   - Registered Engineer or Licensed Surveyor’s report and field notes in appendix
   - Describe the measuring points (i.e. ground surface, top of casing, etc.)
   - Tabular survey data