

MATERIALS

ITEM	UNIT	QUANTITY
PRECAST CONCRETE SUMP		
Monolithic bottom	Each	—
— 48" dia., 3" section, 6" base (2.0", 2.6", 3.3", sections)	Each	—
— 60" dia., 2.0" section, 8" base — 72" dia., 3.0" section, 8" base	Each	—
Precast base slab, — dia, — base (pipe dia. 48", 6" base) (pipe dia. 54" to 102", 6" multiples, 6" base) (pipe dia. 120" to 144", 6" multiples, 12" base)	Each	—
Bottom riser section, — dia, — section (48" dia to 120" dia, 6" multiples) (any length section)	Each	—
Intermediate riser sections (48" to 120" dia, 6" multiples)	Each	—
— dia, 1.5" section	Each	—
— dia, 2.7" section	Each	—
— dia, 4.0" section	Each	—
— dia, 5.5" section	Each	—
— dia, 8.0" section	Each	—
Reducing section	Each	—
— 60" to 48" dia, 4.0" section	Each	—
— 72" to 48" dia, 4.0" section	Each	—
Rubber gasket joints, yes — no	—	—
Steps, yes — no	—	—
Flexible sleeve assembly, — dia. influent pipe — dia. discharge pipe	Each	1
Sump cover	Each	—
— Type 2X (pipe dia. 48", 10" cover) — NEMA type 3R (drain cover fit into standard riser connection)	Each	—
— Type 2, — dia, — cover (pipe dia. 48", 6" cover) (pipe dia. 54" to 102", 6" multiples, 6" cover) (pipe dia. 108" and 120", 12" cover)	Each	—
NOTE: If a Type 2 sump cover is used, manufacture top riser section without bell end (48" dia.) or without spigot end (54" to 120" dia.)	—	—
ELECTRICAL CONTROL PANEL	Each	1
Type of panel	—	—
— Indoor	—	—
— Outdoor	—	—
— Mounting stand on cover	—	—
— Remote from sump	—	—
Power supply	—	—
— Phase	—	—
— Volts	—	—
Livestock wastes in sump,	—	—
— yes, hydraulically safe valves required	—	—
— no	—	—
SUMMERSIBLE PUMP	Each	1
Type of pump	—	—
— Maximum solids size — in	—	—
— Bedding, yes — no	—	—
— Livestock wastes in sump,	—	—
— yes, explosion protection required	—	—
— Explosion proof motor	—	—
— Submersible entire motor or all times	—	—
— no	—	—
Size of pump	—	—
— Minimum capacity — gpm	—	—
— Static + friction head — ft	—	—
— Discharge size — in	—	—
Power chord length	ft	—
Check valve	—	—
— yes	—	—
— none required, (Drain back discharge pipe into sump)	—	—
Gate valve, yes — no	—	—
SUMP LEVEL CONTROL SYSTEM (With mounting hardware)	Each	1
Type of control	—	—
— Suspended	—	—
— Pipe mounted	—	—
— Wide angle	—	—
Chord length	ft	—
Alarm, yes — no	—	—
— Alarm float switch	—	—
— Pump run light (mounted so it can be seen in the distance)	—	—

DESIGN NOTES

1. Size sump and pump according to National Engineering Handbook, Section 16, and MN Technical Release 5.
2. Check sump on sump due to water table.

SPECIFICATIONS

GENERAL
The same representative should supply the pump, control panel, level control(s), pump removal system, and access frame and door for compatibility.

All materials within the sump shall be corrosion resistant.

The inside diameter of the discharge pipe from the sump to the outlet shall be greater than or equal to the inside diameter of the discharge plumbing inside the sump.

PRECAST CONCRETE SUMP

The concrete sump shall be manufactured in accordance with ASTM C-473.

Either a rubber gasket joint conforming to ASTM C-473 or mortise shall be used as joints.

Plastic steps shall comply with ASTM C-478.

ELECTRICAL CONTROL PANEL

The panel enclosure shall be constructed in conformance with applicable sections of NEMA.

A UL 508 Listing is required.

The control panel shall contain a nonsparking, plastic coated wiring diagram, warning label against electric shock and a padlock provision.

All wiring shall be in accordance with N.E.C. and local codes, and only qualified electricians should make the installations.

A dead front inner door shall be provided and all switches and reset buttons shall be operable through the inner door.

A pump circuit breaker, and a control circuit breaker shall be provided.

The magnetic motor starters (3 phase) shall be NEMA rated and equipped with overload protection. Horsepower rated conductors (single phase) shall also be NEMA rated.

Automatic pump operation shall be provided.

A pump run light (or speed time meter) and an oil tight hand-off-automatic switch shall be provided.

Continuous cords (without splices or junctions) shall run from the pump and level controls to the control panel. If a junction box is absolutely necessary, it shall not be located in the sump.

Corrosive fumes shall not be allowed to enter the control panel.

A lightning arrester shall be installed at the control panel.

SUMMERSIBLE PUMP

The pump shall be capable of 24 hours of continuous operation without failure.

The motor shall meet the requirements of NEMA L (single phase) or NEMA B (3 phase).

The pump motors shall have thermal overload protection.

SUMP LEVEL CONTROLS

The level controls shall consist of mercury switches sealed in solid polypropylene floats. The cords shall be neoprene.

The level controls shall be located so they are not affected by influent flow.

PUMP REMOVAL SYSTEM

The removal system shall allow removal and reconnection of the pump without entering the sump.

The disconnected flange shall be pressure tight, when the pump is activated.

Show drawings of the pump removal system shall be supplied to the land owner and SCS technical representative for review and approval.

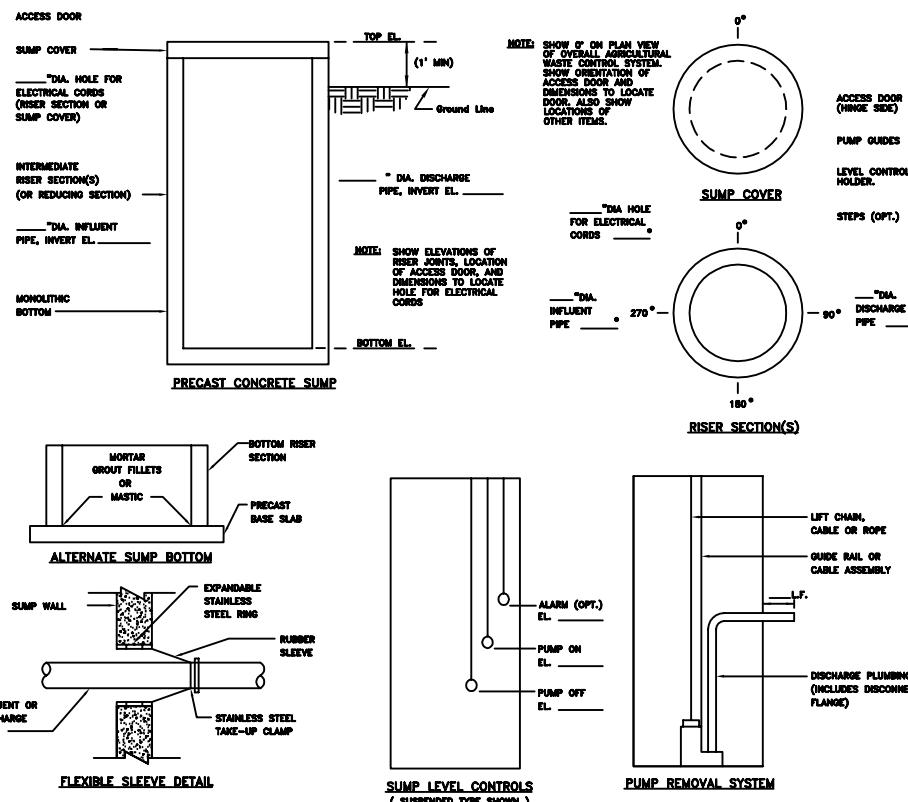
Follow the manufacturer's recommendations for installation of pump removal system.

ACCESS FRAME AND COVER

The access assemblies shall contain stainless steel hinges and hardware, a skid proof surface and locking provisions.

Coating of the access frame or the hole for the access frame in the concrete sump cover shall be reviewed and approved by the supplier.

The aluminum and steel access frame assemblies may be drilled and tapped for pump guides, level control holder, cable holder and other hardware.



Date
(2-22)
(2-22)

Designed (MAP)
Drawn (JAA)
Approved

PRECAST CONCRETE SUMP, SUBMERSIBLE PUMP & PUMP REMOVAL SYSTEM

USDA NRCS
Natural Resources Conservation Service

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