

APPENDIX C  
WASTEWATER LIFT STATIONS

## **Collection System Lift Stations**

There are currently fourteen collection system lift stations, C-1 thru C-14, that serve the collection system in Lincoln. These stations are all maintained by staff in the Lincoln Wastewater System. The location, service area, and drainage basin served is listed for each of the stations below. There are also brief summary sheets for each lift station, describing the lift station, identifying deficiencies, listing equipment, and providing other pertinent information as a future reference when needed.

<b><u>Lift Station</u></b>	<b><u>Location</u></b>	<b><u>Service Area (acres)</u></b>	<b><u>Basin</u></b>
C-1	North of NW 44 <sup>th</sup> & Cuming	7	Oak Creek
C-2	952 N. Lakeshore Dr.	4	Oak Creek
C-3	412 W. Lakeshore Dr.	20	Oak Creek
C-4	52 W. Lakeshore Dr.	54	Oak Creek
C-5	1721 Surfside Dr.	70	Oak Creek
C-6	550 W. Industrial Lake Dr.	300	Oak Creek
C-7	1598 E. Lakeshore Dr.	300	Oak Creek
C-8	Sun Valley Blvd & West "P" Street	1,042	West "O"
C-9	West "E" & SW 6 <sup>th</sup> Street	1,389	Middle Creek
C-10	3 <sup>rd</sup> & Rose Street	43	Salt Creek
C-11	31 <sup>st</sup> & Salt Creek	2,000	Little Salt
C-12	66 <sup>th</sup> & Burlington Avenue	10	Havelock
C-13	NW 3 <sup>rd</sup> & West Charleston	10	Oak Creek
C-14	South Coddington & West Millstone Rd.	37	Middle Creek

All of the stations are currently in good mechanical condition. Of the fourteen lift stations, there are only five stations (C-6, C-7, C-8, C-9, C-11) that serve 300 or more acres. The remaining stations are quite small and serve very small areas.

### **Capital Beach and Lift Stations C-6 and C-7**

These two lift stations serve the residential area around Capital Beach. They are similar in design and were both constructed in the same time period (early 70's). Lift stations C-2 thru C-7 operate in series, one station pumping to a gravity main that feeds the next station until all wastewater from the Capital Beach service area is pumped to station C-6. Lift Station C-6 pumps directly to station C-7 which in turn pumps all flows across Oak Creek and into a receiving interceptor.

### **Lift Stations C-8 and C-9**

Lift stations C-8 and C-9 serve the West "O" Street and Middle Creek drainage basins. Both stations were built in the 60's and each is in need of replacement due to the physical size of the drywells and wetwells (especially C-9) and limited room for increasing pump capacity. There have been some preliminary analyses on the feasibility of constructing one new lift station which would serve both the Middle Creek and West "O" drainage

basins, thus allowing abandonment of the existing stations (C-8 & C-9). This project is identified in the Capital Improvements Program for the Lincoln Wastewater System.

### **Lift Station C-11**

Lift Station C-11 is currently the largest remote pumping station serving approximately 2,900 acres. A new outlet sewer, with higher carrying capacity, has been recently constructed and work is currently proceeding to install two new dry-pit submersible pumps which will increase the pumping capacity of the station. Following construction, this station will be prepared to serve the Little Salt Creek basin for some time.

### **Station Telemetry**

At the present time, all of the stations communicate with the Lincoln Wastewater SCADA system via phone lines. The telemetry provides alarms to SCADA for power loss, pump overloads, high wetwell level, and in some cases, seal failure, high sump pump pit levels, and alternate power activation. The LWWS is currently involved in a project to replace many of the phone lines with radio system telemetry. This project will provide more reliable communications and reduce costs associated with leasing data-grade phone lines. Eventually, flow measuring instrumentation will be added to the major pumping stations so that remote monitoring can occur (through SCADA) along with logging of historical flow data in the SCADA file server.

### **Operation & Maintenance**

The stations have been well maintained and are all in good mechanical condition. Over the last 25 years, there have been very few incidences where wastewater collection services were interrupted or where property damage has occurred. The routine maintenance and inspection of the lift stations is largely fulfilled using 1 to 2 maintenance staff. Current funding levels for lift station maintenance and equipment replacement range from \$ 150,000 to \$ 200,000 per year.

### **New Pump Stations Anticipated**

At the present time, there are two additional wastewater pumping stations that are planned for the Lincoln area. One is located near the intersection of Warlick Road and Hwy 77 serving the Cardwell Branch drainage area and the other will be located within the Stevens Creek watershed near 105<sup>th</sup> & Holdrege Street. It is anticipated that both stations will be in operation within the next 12-24 months.

## Information Fact Sheet for Lift Station C-1

### Location: NW 44<sup>th</sup> & West Cummings



**Description:** Lift Station C-1 is a small duplex submersible pump station. The station serves two warehouse facilities and a Police Dog Training facility located in the industrial park of the Lincoln Airport authority. Originally, the station was designed as a pneumatic ejector pumping system. It has been redesigned as a wetwell-mounted submersible station. This station is scheduled to have the pumps and check valves replaced in the near future. The Wastewater Division currently has this equipment in storage. The controls and control cabinet are in good condition.

**Deficiencies:** There are currently no significant deficiencies with this pumping station.

**Drainage Basin:** Oak Creek

**Current Service Area:** 7 acres

**Avg Daily Flow gpm/cfs/acre:** not available

**Peak Flow gpm/cfs/acre :** not available

**Configuration:** Duplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-C101	Flygt Model CP-3085.180	250 gpm, 20 TDH	2.5/230/7.4
RWPS-C102	Flygt Model CP-3085.180	250 gpm, 20 TDH	2.5/230/7.4
LC-1	Level Controller		
MBP-C101	Main Breaker Panel		
MCC-C101	Motor Control Center		
TM-C101	Telemetry Panel (OL-49-663)		

**Standby Power:** None

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Seal Failure, Telemetry Circuit OL-49-663

**Planned Capital Improvements:** None planned. Future improvements funded through capital outlay budget(s).

**Information Fact Sheet for Lift Station C-2**  
**Location: 952 North Lakeshore Drive**



**Description:** Lift Station C-2 is located on the north side of Capital Beach Lake behind the south curb line of North Lakeshore Drive. The station serves approximately 12 homes located around the lake perimeter. A new access hatch was recently installed. The station is equipped with only one submersible pump (simplex) and the wetwell has an overflow pipe that allows wastewater to enter the downstream collection system if the wetwell level gets too high. Due to the location of this station, the potential for additional service area is limited.

**Deficiencies:** The station has been reliable and no service interruptions have been experienced. Plants and shrubbery around the station have been the only inconvenience.

**Drainage Basin:** Oak Creek

**Current Service Area:** 4 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Simplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-1C	Flygt Model CP-3085.181	100 gpm, 20 TDH	2/230/6.4
MCC-C201	Motor Control Center		
MTF-1	Mercury Tilt Float Switch		
SG-1	Electrical Switch Gear		
TM-C201	Telemetry Panel (OL-49-694)		

**Standby Power:** None

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Seal Failure, Telemetry Circuit OL-49-694

**Planned Capital Improvements:** None planned. Future improvements funded through capital outlay budget(s).

## Information Fact Sheet for Lift Station C-3

### Location: 412 West Lakeshore Drive



**Description:** Lift Station C-3 is a submersible simplex pump station located on the west side of Capital Beach Lake behind the east curblin. The lower portion of the station is made of precast concrete while the upper portion, above the operating water level is made of steel.

**Deficiencies:** The station is experiencing corrosion problems in the control panel and the access hatch. There is a large maple tree adjacent to the station and the roots from this tree have intruded into the surrounding vitrified clay sewer line. These roots have been responsible for plugging of the sewer line and property damage to the house shown in the background of the photograph above. The Wastewater Division is currently working with the home owner to have the tree removed so that rehabilitation of the station can occur.

**Drainage Basin:** Oak Creek

**Current Service Area:** 20 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Simplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-2C	Flygt Model CP-3085.181	120 gpm, 10 TDH	2/230/6.6
MCC-C301	Motor Control Center		
MTF-2	Mercury Tilt Float Switch		
SG-2	Electrical Switch Gear		
TM-C301	Telemetry Panel (OL-49-693)		

**Standby Power:** None.

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Seal Failure, Telemetry Circuit OL-49-693

**Planned Capital Improvements:** The Wastewater Division is currently planning to reconstruct the upper barrel of the wetwell and replace the access hatch and control panel.

**Information Fact Sheet for Lift Station C-4**  
**Location: 52 West Lakeshore Drive**



**Description:** Lift Station C-4 is a simplex pumping station located on the west side of Capital Beach Lake behind the east curb of West Lakeshore Drive. The station is scheduled to have the pump and check valve replaced in the fall of 2006. The access hatch, control panel and vault cover are relatively new.

**Deficiencies:** There have been no operating problems associated with this station.

**Drainage Basin:** Oak Creek

**Current Service Area:** 54 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Simplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-3C	Flygt Model CP-3085.181	150 gpm, 14 TDH	2/230/6.8
MCC-C401	Motor control Center		
MTF-3	Mercury Tilt Float Switch		
SG-3	Electrical Switch Gear		
TM-C401	Telemetry Panel (OT-49-692)		

**Standby Power:** None

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Seal Failure, Telemetry Circuit OL-49-692

**Planned Capital Improvements:** There are no improvements identified in the Capital Improvements program at this time.

## Information Fact Sheet for Lift Station C-5

### Location: 1721 Surfside Drive



**Description:** Lift Station C-5 is a duplex pumping station located on the south curblane of Surfside Drive adjacent to Capital Beach Lake. It is the only pump station equipped with a retractable below-grade control panel which provides for a nice unobtrusive appearance. The station has provided reliable service.

**Deficiencies:** The station tends to get covered with snow and ice from street snowplowing during the winter months which can create extra work when station entry is required.

**Drainage Basin:** Oak Creek

**Current Service Area:** 70 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Duplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-C501	Flygt Model CP-3085.092-0007U	150 gpm, 15 TDH	3/230/8.7
RWPS-C502	Flygt Model CP-3085.092-0007U	150 gpm, 15 TDH	3/230/8.7
LC-5	Level Controller		
MCC-C501	Motor Control Center		
MTF-4	Mercury Tilt Float Switch		
SC-4	Electrical Switch Gear		
TM-C501	Telemetry Panel (OL-49-691)		

**Standby Power:** None

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, High Sump, Telemetry Circuit OL-49-691

**Planned Capital Improvements:** There are no improvements identified in the Capital Improvements program at this time.

## Information Fact Sheet for Lift Station C-6

### Location: 550 West Industrial Lake Drive



**Description:** Lift Station C-6 was constructed in 1978 and is located on the east side of Capital Beach Lake on West Industrial Lake Drive. The station is equipped with a separate drywell accommodating 2 dry pit submersible pumps. Standby generation is also provided. Lift Stations C-2, C-3, C-4, and C-5 are all located in a sequential manner around Capital Beach upstream of Lift Station C-6. The 8” forcemain from Station C-6, in turn, pumps directly to Lift Station C-7. The wastewater pumps are currently being replaced. The wetwell is equipped with a mixer.

**Deficiencies:** The main priority at the present time is to repair exterior deficiencies in the lift station structure such as masonry, exposed metals, and a large sinkhole on the north side of the building. There have been a few complaints associated with generator noise when in operation.

**Drainage Basin:** Oak Creek

**Current Service Area:** 300 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Wetwell/Drywell

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWP-C601	Flygt Model CT 3102.180	350 gpm, 18 TDH	3.4/460/5
RWP-C602	Flygt Model CT 3102.180	350 gpm, 18 TDH	3.4/460/5
AHU-C601	Air Handling Unit		
AHU-C602	Air Handling Unit		
APG-C601	Auxiliary Power Generator	105KW/131KVA	480/3
ETS-1	Electric Transfer Switch		
FS-1	Fuel Storage Tank (diesel)	150 gal	
HWH-1C	Water Heater		
LC-6	Level Controller		
MCC-C601	Motor Control Center		
MXR-C601	Mechanical Mixer (MM-1C)		

PPMS-1	Power Panel Metering Station		
SG-5	Electrical Switch Gear		
SUP-C601	Sump Pump		
TM-C601	Telemetry Panel (OL-49-664)		
UH-C601	Unit Heater		

**Standby Power:** Yes, EquipID APG-C601, 50KW, Olympian Model: 95A047675S, Caterpillar Diesel, Fuel Tank 200 gal.

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, High Sump, Alternate Power, Telemetry Circuit OL-49-664

**Planned Capital Improvements:** No improvements planned at the present time.

**Information Fact Sheet for Lift Station C-7**  
**Location: 1598 East Lakeshore Drive**



**Description:** Lift Station C-7 (C-6 is an identical design) was built in the early 70's. Lift Station C-6 pumps directly to lift station C-7 which in turn pumps all flows across Oak Creek to the interceptor. This station is a duplex station with separate drywell and wetwell housing 2 dry pit submersible pumps rated at 350 gpm each. Standby power (50 KW) is provided at this station.

**Deficiencies:** The lift station is in good condition and performing satisfactorily. The wetwell was provided with a dividing wall. This dividing wall essentially reduces the operating volume of the lift station. It is recommended that this dividing wall be removed. There has been some concern about vagrants who camp or sleep outdoors near the station and possible vandalism that could occur.

**Drainage Basin:** Oak Creek

**Current Service Area:** 300 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Configuration:** Wetwell/Drywell

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWP-C701	Flygt Model CT 3102.180	350 gpm, 18 TDH	6.8/460/5
RWP-C702	Flygt Model CT 3102.180	350 gpm, 18 TDH	6.8/460/5
AHU-C701	Air Handling Unit (wetwell)		
AHU-C702	Air Handling Unit		
APG-C701	Auxiliary Power Generator	50kw (62.5KVA)	
ETS-2	Electric Transfer Switch		
FS-2	Fuel Storage Tank	300 gal. (diesel)	
HWH-2C	Hot Water Heater		
LC-7	Level Controller		
MCC-C701	Motor Control Center		
MXR-C701	Mechanical Mixer		
PPMS-2	Power Panel Metering Station		
SG-6	Electrical Switch Gear		

SUP-C701	Sump Pump		
TF-C701	Tube Fan		
TM-C701	Telemetry Panel (OL-49-695)		
UH-C701	Unit Heater		
UH-C702	Heating Ventilating Unit		

**Standby Power:** Yes, EquipID APG-C701, 50KW, Olympian Model: D40P-40kw/50kw, Caterpillar Diesel, Fuel Tank 300 gal.

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, High Sump, Alternate Power, Telemetry Circuit OL-49-695

**Planned Capital Improvements:** No capital improvements are currently planned.

## Information Fact Sheet for Lift Station C-8

### Location: Sun Valley Blvd & West “P” Street



**Description:** Lift Station C-8 was built in 1964 and is located on the west bank of Salt Creek, just north of west “O” Street. It serves the West “O” street and Burlington Northern Railroad Yards. The station has a separate drywell housing 2 pumps. The original wetwell was too small and a larger wetwell was installed using circular pre-cast concrete risers. Much of the discharge piping in the drywell has been replaced with reinforced fiberglass pipe. The pumps are suction-lift pumps. Mechanically, the station is in good condition. In 199x, the 8” discharge force main across Salt Creek was reconstructed due to corrosion of the original pipe. A standby power generator was installed in 1997.

**Deficiencies:** The lift station is too small, both structurally and equipment wise. There is only room for two pumps and in general the floor plan is so small that future expansion is not possible. There is high potential for growth in the service area and ultimately this facility will not meet the needs for providing reliable service. The station is experiencing long run pump times even during dry diurnal flow periods. At times, the waste characteristics involve petroleum grease, petroleum vapors, plastic pop bottles, and sticks. This wastewater often plugs the suction lift pipes to the pumps. Due to the potential for growth in the West “O” street basin and the station’s relatively small size, this station will not be able to provide reliable service.

**Drainage Basin:** West “O” Street

**Current Service Area:** 1,253 acres

**Avg Daily Flow gpm/cfs/acre:** 264 gpm, 0.00132 cfs/acre

**Peak Flow gpm/cfs/acre :** 944 gpm, 0.00472 cfs/acre

**Configuration:** Wetwell/Drywell

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWP-7C	Gorman Rupp Model T6A3S-B	900 gpm, 35 TDH	20/230/54
RWP-8C	Gorman Rupp Model T6A3S-B	900 gpm, 35 TDH	20/230/54
APG-C801	Auxiliary Power Unit	100KW/125KVA	240V

LC-8	Level Controller		
MCC-C801	Motor Control Center		
MCC-C802	Motor Control Center		
PV-2	Power Ventilator		
SG-7	Electrical Switch Gear		
SUP-C801	Sump Pump		
TM-C801	Telemetry Panel (OT-49-666)		
UH-C801	Unit Heater		

**Standby Power:** Yes, EquipID APG-C801, 100 KW, Cummins/Onan 100ENBA Generator Set, Natural Gas, fuel rate 1,482 CF/Hr.

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, High Sump, Alternate Power, Telemetry Circuit OL-49-666

**Planned Capital Improvements:** There is some discussion and planning efforts to consider construction of a new lift station which would serve both the Middle Creek and West "O" Street drainage basins. The project is identified in the Capital Improvements Program in later years. As the service area in west Lincoln increases, it may be more economical to serve this area with one larger station. This would be located in what is now the Burlington RR Yards.

**Information Fact Sheet for Lift Station C-9**  
**Location: West “E” Street & SW 6<sup>th</sup> Street**



**Description:** Lift Station C-9 was built in 1964 and is located on the west bank of Salt Creek. The station has a separate drywell housing 3 pumps. Much of the discharge piping in the drywell has been replaced with reinforced fiberglass pipe. The HVAC system, electrical control wiring, and valves have also been replaced. The original 150 KW standby diesel driven generator housed interior to the building has been replaced with a 40 KW unit in 1998. Mechanically, the station is in good condition. Staff are currently in the process of replacing the last remaining Fairbanks model pump with a Flygt model CT. The 12” discharge force main (approx. 1,084 L.F.) which crosses Salt Creek, was reconstructed in 1990’s using HDPE pipe material.

**Deficiencies:** The predominant operating problem has been clogging of the suction piping on the pumps. The plugging problems have been attributed to excessive debris discharged into the collection system from the NE. State Correctional Center on West Pioneers Ave. To help prevent pump plugging from debris, a grinder system has been installed and is in operation (2007). This recent project also involved restoration of concrete walls (hydrogen sulfide corrosion) in the station wetwell. This station is too small for the future needs of the drainage basin as development continues to move west along the West “A” Street corridor. There is little room in the station for installing higher capacity pumps, valves, and piping. Installation of variable frequency drives and a larger wetwell is needed.

**Drainage Basin:** Middle Creek

**Current Service Area:** 1,483 acres

**Avg Daily Flow gpm/cfs/acre:** 646 gpm, 0.00119 cfs/acre

**Peak Flow gpm/cfs/acre :** 3,229 gpm, 0.00594 cfs/acre

**Configuration:** Wetwell/Drywell

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWP-C901	Flygt Model NT 3127 LT	800 gpm, 28 TDH	10/230/28
RWP-C902	Flygt Model CT 3127.180	800 gpm, 28 TDH	10/230/28

RWP-C903	Flygt Model CT 3127.180	600 gpm, 22.5 TDH	7.4/230/19
AC-C901	Air Compressor Unir		
APG-C901	Auxiliary Power Generator	40KW/50KVA	240V
ARV-C901	Air Relief Valve		
CHKV-C901	Check Valve		
CHKV-C902	Check Valve		
CHKV-C903	Check Valve		
FIT-C901	Flow Meter		
ETS-3	Electric Transfer Switch		
FS-3	Fuel Storage Tank (diesel)	200 gal.	
GDR-C901	Grinder		
LC-9	Level Controller		
MCC-C901	Motor Control Center		
PRV-1C	Power Roof Ventilator		
PRV-2C	Power Roof Ventilator		
SG-8	Electrical Switch Gear		
SUP-C901	Sump Pump		
TM-C901	Telemetry Panel (OT-49-665)		
UH-C901	Unit Heater (E)		

**Standby Power:** Yes, EquipID APG-C901, 40KW, Olympian Model: 95A047675S, Caterpillar Diesel, Fuel Tank 200 gal.

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, High Sump, Alternate Power, Low Flow, Telemetry Circuit OL-49-665

**Planned Capital Improvements:** There is some discussion and planning efforts to consider construction of a new lift station which would serve both the Middle Creek and West "O" Street drainage basins. The project is identified in our Capital Improvements Program in later years. As the service area in west Lincoln increases, it may be more economical to serve this area with one larger station. This would be located in what is now the Burlington RR Yards.

## Information Fact Sheet for Lift Station C-10

### Location: 3<sup>rd</sup> & Rose Street



**Description:** Lift Station C-10 is a duplex pumping station located just south of 3<sup>rd</sup> & “A” Street and serves several square block area of largely industrial/commercial buildings. The wastewater pumps have recently been replaced and the control panel is scheduled to be replaced soon.

**Deficiencies:** No significant deficiencies have been identified.

**Drainage Basin:** Salt Creek

**Current Service Area:** 43 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Duplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-4C	Flygt Model CP-3085.180	170 gpm, 20 TDH	3/230/9.6
RWPS-5C	Flygt Model CP-3085.180	170 gpm, 20 TDH	3/230/9.6
MCC-C1001	Motor Control Center		
MTF-5	Mercury Tilt Float Switch		
SG-9	Electrical Switch Gear		
TM-C1001	Telemetry Panel (OT-49-667)		

**Standby Power:** No

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Seal Failure, Telemetry Circuit OL-49-667

**Planned Capital Improvements:** There are no capital improvements identified as of this date.

**Information Fact Sheet for Lift Station C-11**  
**Location: 3700 North 31st Street & Salt Creek**



**Description:** Lift station C-11 was constructed in 1997 and is the largest remote wastewater pumping station. The station has a separate drywell housing 2 pumps with provisions to add two additional pumps. Mechanically the station is in good condition. A 200 kw generator and automatic transfer switch were installed in 1997 for emergency standby power. Recently a new flow metering structure and 36” outlet sanitary sewer have been constructed to accommodate increased flows and provide capacity for the future. Recently, (Feb 2007), a project has replaced the original pumps with VFD driven, dry pit submersible pumps, with increased capacity. Additionally, motor control center equipment, pump control, and HVAC systems are being replaced. The service area for this station is rapidly growing to the north and the potential for additional growth is high.

**Deficiencies:** The wetwell has experienced accumulation of grease and debris. A wetwell mixer needs to be installed in the near future.

**Drainage Basin:** Little Salt Creek

**Current Service Area:** 3,151 acres

**Avg Daily Flow gpm/cfs/acre:** gpm, 0.00119 cfs/acre

**Peak Flow gpm/cfs/acre :** gpm, 0.00594 cfs/acre

**Configuration:** Wetwell/Drywell

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWP-11C	Flygt Model 3202.0590	4000 gpm, 40.6 TDH	60/460
RWP-12C	Flygt Model 3202.0590	4000 gpm, 40.6 TDH	60/460
AC-C1101	Air Compressor Unit		
AC-C1102	Air Compressor Unit		
APG-C1101	Auxiliary Power Unit	200KW/250KVA	480V
AT-1C	Air Compressor Tank		
ELT-1	Emergency Line Transfer		
ETS-4	Electric Transfer Switch		
FS-4	Fuel Storage Tank (diesel)	200 gal.	
HVU-C1101	Heating Ventilating Unit		

LC-11	Level Controller		
LSFM-C1101	Flow Meter		
LSTC-C1101	Traveling Crane		
MCC-C1101	Motor Control Center		
MXR-C1101	Mechanical Mixer		
PRV-3C	Power Roof Ventilator		
PRV-4C	Power Roof Ventilator		
PRV-5C	Power Roof Ventilator		
PRV-6C	Power Roof Ventilator		
PRV-7C	Power Roof Ventilator		
SG-C1101	Sluice Gate		
SG-C1102	Sluice Gate		
SWGR-C1101	Electrical Switch Gear		
SUP-C1101	Sump Pump		
SUP-C1102	Sump Pump		
TM-C1101	Telemetry Panel (OT-49-697)		

**Standby Power:** Yes, EquipID APG-C1101, 200KW, Cummins/Onan Model: 200DGFC, Diesel, Fuel Tank 200 gal.

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, High Sump, Alternate Power, Telemetry Circuit OL-49-697

**Planned Capital Improvements:** Following the installation of the new dry-pit submersible pumps and controls, the lift station will be adequately upgraded for the foreseeable future.

## Information Fact Sheet for Lift Station C-12

### Location: 66<sup>th</sup> & Burlington Avenue



**Description:** Lift Station C-12 is located in a Havelock alley near 66<sup>th</sup> & Burlington Avenue. This station has a very small 3 block service area. New pumps and controls were installed in 2002.

**Deficiencies:** Alley access only and access cover rated for truck loads.

**Drainage Basin:** Havelock

**Current Service Area:** 10 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Simplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-6C	Flygt Model DP-3085	157 gpm, 14 TDH	3/230/6.8
MCC-C1201	Motor Control Center		
MTF-6	Multi-Trode Level Sensor		
SG-11	Electrical Switch Gear		
TM-C1201	Telemetry Panel		

**Standby Power:** No

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Telemetry Circuit  
NEBANA-043-656

**Planned Capital Improvements:** None at this time.

## Information Fact Sheet for Lift Station C-13

### Location: NW 3<sup>rd</sup> & West Charleston



**Description:** Lift Station C-13 is a duplex station located near Oak Lake on West Charleston Street. The station serves a complex of apartments. The station has recently undergone improvements with new pumps, piping, and control panel. The precast barrel of the station has also been raised.

**Deficiencies:** There is some concern about station capacity with the potential of additional apartment complexes in the area.

**Drainage Basin:** Oak Creek

**Current Service Area:** 10 acres

**Avg Daily Flow gpm/cfs/acregpm,** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Duplex

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-7C	Flygt Model NP-3127.180.7861	281 gpm, 63.4 TDH	10/230/26
RWPS-8C	Flygt Model NP-3127.180.7861	281 gpm, 63.4 TDH	10/230/26
MCC-C1301	Motor Control Center		
MTF-9	Mercury Tilt Float Switch		
SG-12	Electrical Switch Gear		
TM-C1301	Telemetry Panel (OL-49-690)		

**Standby Power:** No

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Seal Failure, Telemetry Circuit OL-49-690

**Planned Capital Improvements:** None

## Information Fact Sheet for Lift Station C-14

### Location: Coddington Mills



**Description:** Operation and maintenance of lift station C-14 was assumed by the Lincoln Wastewater system in 1999. The station was privately built to serve the Coddington Mills housing development which surrounds a small lake (originally a sand pit). Equipment in the duplex station has been totally replaced since take-over by City staff. At the present time, the station is adequately sized for service area.

**Deficiencies:** The station is prone to receiving relatively high amounts of biodegradable grease and constant background infiltration from the collection system. Cracked vitrified clay pipe is common around the circumference of the lake. There are no other known deficiencies at this time

**Drainage Basin:** Middle Creek

**Current Service Area:** 37 acres

**Avg Daily Flow gpm/cfs/acre:** Not available

**Peak Flow gpm/cfs/acre :** Not available

**Configuration:** Duplex Submersible

**Equipment:**

EquipId	Manufacturer/Description	Rated Capacity	HP/Volts/Amps
RWPS-14C	Flygt Model CP 3085.182-436	100 gpm, 22.8 TDH	2.2/230/6.7
RWPS-15C	Flygt Model CP 3085.182-436	100 gpm, 22.8 TDH	2.2/230/6.7
MCC-C1401	Motor Control Center		
TM-C1401	Telemetry Panel (OL-49-403)		

**Standby Power:** None

**Remote Monitoring:** Yes, Power Off, Pump Overload, High Level, Seal Failure, Telemetry Circuit OL-49-403

**Planned Capital Improvements:** None identified at this time.