

Wastewater Pump Station Commissioning Checklist - Town of Cary, NC

Version 1.0 - Last Updated: October 28, 2022

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Purpose: The purpose of this document is to be used as a dynamic digital checklist that is updated as the pump station is constructed. Items should be checked off as completed or present and comments shall be well documented. This document is only available to Town staff.

Pump Station Information:

Pump Station Name: _____

Pump Station Address: _____

Contacts:

Station Contractor: _____

Electrical Contractor: _____

Force Main Contractor: _____

General Contractor: _____

Developer: _____

Engineer: _____

Construction Type:

- New
- Modification
- Other: _____

Project Phase:

Project Phase:	Inspector (Print Name)	Date:
<input type="checkbox"/> Construction Inspection #1	_____	___/___/___
<input type="checkbox"/> Construction Inspection #2	_____	___/___/___
<input type="checkbox"/> Construction Inspection #3	_____	___/___/___
<input type="checkbox"/> Preliminary Start-up	_____	___/___/___
<input type="checkbox"/> Official Start-up/Punchlist Walkthrough	_____	___/___/___
<input type="checkbox"/> Follow-up #1	_____	___/___/___
<input type="checkbox"/> Follow-up #2	_____	___/___/___
<input type="checkbox"/> Final Inspection	_____	___/___/___

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Pump Station Equipment and Structures Checklist

Item Checked	Yes	No	N/A	Comments
Wetwell				
Photos Received				
Internal Conduit Inspection, Stainless Steel Kellums Grips				
Transducer/Floats/Level Indicator				
Float Hanger Installed				
Coating Inspection				
Backwater Valves				
Flanged Ductile Iron Vent with Bug Screen				
Hinged and Corrosion Resistant Structure Hatches, H-20 Rated				
Fall Protection (Should Not Rest on Guide Rails)				
Stainless Steel Materials with Transition Coupling for Dissimilar Materials				
Wet Well Should be Flush with Ground				
2-ft Above 100-yr Flood Elevation [OR] Watertight				
Check Spare Parts				
Combination Bypass Connection and Pigging Station				
Photos Received				
Bypass Valve (Gate)				
Bypass Pump Connection				
Pigging Station Tested as part of Force Main Testing				
Bollards				
Valve Vault/Dry Well				
Photos Received				
Plug Valves (Bi-Directional)				
Check Valves (Check Correct Direction)				
Dismantling Joint within Valve Vault				
Pipes (no leaks)				
Isolation Valves				
Pressure Gauges (and connection to SCADA if required)				
Drain Back to Wet Well				
Stainless Steel Pipe Supports				
Hinged and Corrosion Resistant Structure Hatches, H-20 Rated				
Hatch Provides Access to all Valves				
Fall Protection				
Transition Coupling for Dissimilar Materials				
Air Valve not within Valve Vault				
2-ft Above 100-yr Flood Elevation [OR] Watertight				
Installed Power to Fans, Lights, Pump Seal Fan, and Over Temp.				
Pumps				
Pump/Guide Rails				
Piping and Base Elbow				
Stainless Steel Lifting Chain				
Pull Pumps Partially up to Verify Proper Operation				
Pumps Numbered (and Match Numbers in Cabinet)				
Factory Pump Curves Received (Drawdown Test Point Plotted)				
Check Spare Parts				

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Pump Station Equipment and Structures Checklist Cont.

Item Checked	Yes	No	N/A	Comments
Drawdown Test Date: ____/____/____				
Duty Condition - gpm @ ft.				
Drawdown Results:				
Pump 1 (gpm):				
Pump 2 (gpm):				
Pump 3 (gpm):				
Operating Pressure (psi/ft):				
Static Pressure (psi/ft):				
Seal Water Pressure (psi/ft):				
Pump Performance Stable and Free from Cavitation/Noise				
Grinder				
Separate Control Panel Integrated with SCADA				
Integrated High Water Float (On Influent Side and Lower than Bypass)				
Structure Coating Inspection				
Guide Rail and Lifting Chain				
Pull Grinder Partially up to Verify Proper Operation				
Alternate Solids Removal Method				
Grinder Will Fit Through the Hatch				
Dedicated Circuit for Grinder				
Stainless Steel Brackets				
2-ft Above 100-yr Flood Elevation [OR] Watertight				
Check Spare Parts				
Force Main				
Pressure Tested				
Pigging Station Tested				
Coating Inspection on Downstream Manholes				
Confirm Valve Positions				
Air Valves				
Proper Operation of Valve				
Isolation Valve is Open				
Coating Inspection				
Air Valve in Separate Manhole				
Odor Control System Properly Working				
Miscellaneous Items				

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Electrical Checklist

Item Checked	Yes	No	N/A	Comments
Generator				
Generator Size:				
Generator Make:				
Generator Model:				
Filled with Fuel				
All Gauges Operational				
Secured on Pad				
No Fluid Leaks				
Alarm - Generator Running				
Alarm - Generator Failure				
Alarm - On Emergency Power				
Generator Tested with Power Failure				
Sound Attenuation				
Sound Testing				
Load Bank Testing				
LED Light inside the Enclosure				
Dedicated Circuit for Battery and Block Heater				
Generator Runtime Document				
Check Spare Parts				
Pump Control Panel/Disconnect Panel				
Equipment Rack Level and Supported				
All Panels Properly Anchored				
Hood/Weather Shield over Equipment Rack				
Hood/Equipment Rack LED Light				
Hood/Equipment Rack 120V Outlet				
Audible/Visual High Level Alarm (360° Visibility)				
All Fasteners are Stainless Steel				
Control Power Integrated with SCADA Dialer				
Explosion Proof Junction Box				
Proper PCP Set Points				
Proper Operation of Level Control				
Proper PCP OIT Display				
Proper Labeling: (VFD) cabinets, PCP, ATS, Conduit, etc.				
ArcFlash Stickers Present				
Check Spare Parts				
SCADA/RTU				
All Alarms Tested				
Alarm Dialer Tested				
Back-up Float System Tested				
Controller Levels set				
Pump Control System Tested				
Back-up Control Tested				
Pressure Transducer Levels set				
Simulate Power Loss: RTU UPS Keeps Firewall and Modem Powered On				
General				
Overtemp Circuit Terminated, if required				
Sump Pump Conduit Installed				
Cable Tray Installed and Grounded				
Cable Tray Barrier Installed				
Back-up Cellular Unit Installed				
Working Phone Service				
Cellular Strength Check				

Item Checked	Yes	No	N/A	Comments
Fencing				
Min. Height Achieved (8-ft)				
Black UV Resistant Vinyl Coating (entire surface area & gates)				
Slats or Fabric Installed				
Fence 10-12 feet from the Property Boundary				
Gate Opening Correct Width				
Gate Swings/Rolls all the way Open and Closed				
Fence Properly Grounded				
All Mechanical Equipment Located within Fenced Area				
3 lengths of 2-strand Wire Vinyl Coated Barb Arms at 45° angle				
Manual 180° Opening Pedestrian Access Gate, if Vehicular Gate is Automated				
Utility Light and Pole				
LED Light with min. 600-watt Capacity				
Does the Light Operate Correctly				
Pole Properly Grounded				
Manual Override to Dusk-to-Dawn Switch				
Landscaping				
Installed per Design Drawings				
Site Graded to Drain and Direct Runoff away from PS				
No Vegetative Ground Cover within Fence Area				
Water Service				
Freeze Proof Hydrant				
Water Meter Set				
RPZ Installed				
Heat Trace Installed for Water Service				
Field Documentation				
O&M Manuals:				
Misc. Electrical Gear				
Pumps				
Grinder				
Flow Meter				
Valves				
Generator/ATS				
RTU				
Odor Control				
Verify all Permitted Drawings are On-Site				
Other Site Items				
Padlocks				
Station Sign				
Log Book				
Backflow Preventer Test Report				

Item Checked	Yes	No	N/A	Comments
Chemical Feed System				
Tank Full with Chemicals, if Required				
Proper Labeling (OSHA)				
Tank Tied Down				
Spill Containment and Isolation Valve				
Emergency Shower & Eye Wash Station (if Chemical Feed is Present)				
Proper Labeling				
Outside Spill Containment Area				
Tepid Water Heater				
Chemical Feed Pumps Operating Correctly				
No Leaks in Piping Connections				
Heater in Chemical Building				
Material Safety Data Sheet				
Check Spare Parts				
LED Lighting				
Exhaust Louvers Properly Working				
Carbon Adsorption System				
Fiberglass Pipe Expansion Joints				
Pipe Supports				
Fan Operational				
Appropriate Carbon Levels				
Tank Sizing per Plans				
Tank Material: Fiberglass or Cross-linked Polyethelene				
Biofiltration				
Air Balancing to Ensure Negative Pressure, etc.				

