Inspection / Testing Summary

As the Engineer of Record for the _____ project, I have reviewed and concur with the test results of that attached inspection testing reports that were performed under my supervision. It is my opinion these reports meet the City of Port St. Lucie Utility Systems Department standard for passing test results.

(Check all applicable reports and attach the original Inspection Testing Report.)

Water:

- ☐ Flushing
- ☐ Pressure testing
- ☐ Chlorination
- ☐ Disinfection
- ☐ Fire Hydrant Flow Test
- ☐ Wire trace continuity and EMS marker verification
- ☐ Final Deficiency Inspection
- ☐ Final Inspection
- ☐ Density testing

Wastewater:

- ☐ Flushing
- ☐ Pressure testing
- ☐ Tele-inspections
- ☐ Infiltration/exfiltration testing
- ☐ Deflection testing
- ☐ Pump station start up
- ☐ Wire trace continuity and EMS marker verification
- ☐ Final Deficiency Inspection
- ☐ Final Inspection
- ☐ Density testing

Re-claimed Water:

- ☐ Flushing
- ☐ Pressure testing
- ☐ Chlorination
- ☐ Wire trace continuity and EMS marker verification
- ☐ Final Deficiency Inspection
- ☐ Final Inspection
- ☐ Density testing

Interceptors:

- ☐ Infiltration/Exfiltration testing

Other:

- ☐ _____
- ☐ _____

_____
Signature and Seal of Engineer

Date _____

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
CHLORINATION TEST REPORT

Project Name

PSLUSD Project Number

Engineer of Record

Project Contractor

Inspector Signature

Description of disinfectant:

Disinfectant meets AWWA criteria: Yes ☐ No ☐

All sample point locations have been verified
to match the approved plans prior to chlorination: Yes ☐ No ☐

Sample points meet spacing requirements: Yes ☐ No ☐

Limits of test:

All services, fire hydrants, blow-offs,
and sample points chlorinated per specifications: Yes ☐ No ☐

Chlorination completed for entire project: Yes ☐ No ☐

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
DEFLECTION TEST REPORT

Equipment Used Mandrel ☐
Calibrated Laser Camera ☐ Date Calibrated: _____

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Date Tested _____

Main Diameter	Main Length	From Structure	To Structure	Pass or Fail

Date _____ 30 Days after backfill? _____

Start Time: _____ End Time: _____

Engineer _____

Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
DISINFECTION TEST REPORT

Project Name

PSLUSD Project Number

Engineer of Record

Project Contractor

Inspector Signature

Main Diameter/ Length	Type of Disinfectant	Test Locations	Disinfectant residual after flushing in ppm	Initial Disinfectant Residual	24 Hour Disinfectant Residual	Pass/Fail	Comments

Flushing Start Date:

Flushing End Time

Initial Date Start Time End Time

24 Hour Date Start Time End Time

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
FINAL INSPECTION REPORT - DEFICIENCY LIST

Project Name: _____

PSLUSD Project Number: _____

Engineer of Record: _____

Project Contractor _____

Date of Inspection: _____

Deficiency:

_____

_____

_____

_____

_____

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_____

_____

_____

_____

_____

_____

_____

Engineer _____

Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
FINAL INSPECTION REPORT

Project Name: _____ Engineer: _____

Project #: _____ Utility Contractor: _____

Initial Inspection Date: _____ Reinspection Date: _____

	Y	N	N/A		Y	N	N/A
All grading complete	☐	☐	☐	RPZ plumb and stable	☐	☐	☐
Valve pads are level	☐	☐	☐	Meters set	☐	☐	☐
Discs are correct	☐	☐	☐	Meters locked	☐	☐	☐
Valve lids painted correct color	☐	☐	☐	All meters have separate curb stop	☐	☐	☐
Valves turn freely	☐	☐	☐	Meters over 3" have hi/lo flow setup	☐	☐	☐
Electronic Marker System balls in place	☐	☐	☐	Blow off assemblies correct	☐	☐	☐
Sample points removed and plugged	☐	☐	☐	Fire hydrants paint not scufffed	☐	☐	☐
Fire Service has hi/lo flow setup	☐	☐	☐	Fire hydrant meets clearances	☐	☐	☐
Fire service has chains and locks	☐	☐	☐	Hydrant chains intact	☐	☐	☐
Mains have cover in swale areas	☐	☐	☐	Air Release Valve (ARV)	☐	☐	☐
Reflective PavementMarker's in place	☐	☐	☐	ARV lid painted correct color	☐	☐	☐
All necessary valves opened or closed	☐	☐	☐	ARV lid doesn't hit valve	☐	☐	☐
Pumpstation fence has no damage	☐	☐	☐	Landscape/Tree issues	☐	☐	☐
Fence Gates open/close smoothly	☐	☐	☐	Concrete work has no damage	☐	☐	☐
All pad locks in place	☐	☐	☐	Manholes at correct elevation	☐	☐	☐
Interceptors at grade	☐	☐	☐	Manholes are clean	☐	☐	☐
Interceptors have correct lids	☐	☐	☐	Manholes have correct lids	☐	☐	☐
Interceptor lids are labeled correctly	☐	☐	☐	Clean outs in place with covers	☐	☐	☐
_____	☐	☐	☐	_____	☐	☐	☐
_____	☐	☐	☐	_____	☐	☐	☐

Final Inspection Pass _____ Final Re-Inspection Pass _____

Comments _____

Attendees _____

Engineer _____ _____
Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT

HYDRANT FLOW TEST FORM

PROJECT NAME: _____

PSLUSD FILE NUMBER: _____

ENGINEER OF RECORD: _____

PROJECT CONTRACTOR: _____

HYDRANT REPAIR KIT RECEIVED: ☐ YES ☐ NO

IF NOT, TEST FAILS UNTIL KIT RECEIVED

COEFFICIENT NUMBER* _____

COEFFICIENT NUMBER REMAINS AT 0.88

DIAMETER _____

DIAMETER OF HYDRANT DISCHARGE (TYPICALLY 2.5")

STATIC PRESSURE _____

PRESSURE PRIOR TO FLUSHING HYDRANT

RESIDUAL PRESSURE _____

PRESSURE DURING FLUSHING OF HYDRANT

PITOT PRESSURE _____

PRESSURE READING ON PITOT GUAGE

RESIDUAL FLOW _____ GPM AT RESIDUAL PSI

RF=29.83 X (CN X DIA TO THE 2 POWER) X (√PP)

FIRE FLOW _____ GPM AT 20 PSI

FF=RF X ((SP-20)÷(SP-RP)) TO THE 0.54 POWER

COMMENTS: (INCLUDE LOCATION OF RESIDUAL PRESSURE AND PITOT PRESSURE)

_____

_____

_____

_____

_____

*COEFFICIENT NUMBER IS BASED ON SHARP SQUARE EDGE INLET TYPES

CN = COEFFICIENT NUMBER

DIA = DIAMETER

SP = STATIC PRESSURE

RP = RESIDUAL PRESSURE

PP = PITOT PRESSURE

RF = RESIDUAL FLOW

FF = FIRE FLOW

_____

(SIGNATURE / DATE)

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
FLUSHING REPORT

Project Name:

PSLUSD Project Number:

Engineer of Record:

Project Contractor

Date of Inspection:

Inspector: Signature:

Date	Location of Test	Gallons Per Minute	Minutes Flushed	Gallons Flushed

Number of pigs used:

Total Gallons Flushed

Number of pigs retreived:

☐ Water
☐ Sewer
☐ Reclaimed

No residue in bucket: ☐ Yes ☐ No

Effective 071714

PSLUSD Doc No 48

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
GRAVITY SEWER / INTERCEPTOR / WET WELL
INFIL / EXFIL TEST REPORT

Project Name _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Allowable Leakage Formula:

Gravity Sewer - 50 Gallons / per day (24 hours) / per inch diameter / per mile (5280 feet)

Wet Well & Interceptor - 0 loss

Structures Tested	Structure Diameter/Gal.	Structure Depth	Allowable Per Hour	Test Allowable

Main Tested	Main Diameter	Main Length	Allowable Per Hour	Test Allowable

Services Tested	Service Diameter	Service Length	Allowable Per Hour	Test Allowable
			Total Test Allowable	
			Actual Leakage	

Infil ☐
Exfil ☐

Start Time:
End Time:

Passed ☐
Failed ☐

Engineer _____ _____

Signature Date

Effective Date10/01/2010 PSLUSD Form No. 109

Port St Lucie Utility Systems Department
Pressure Test

Project Name:

Project File Number:

ENGINEER OF RECORD:

PROJECT CONTRACTOR:

ALLOAWABLE LEAKAGE FORMULA: $L = \frac{S \times D \times \sqrt{P}}{148000}$

S = LENGTH PIPE (FEET)	D = PIPE DIAMETER (INCHES)	P = $\sqrt{}$ TEST PRESSURE (PSI)	ALLOWABLE LEAKAGE (1 HOUR)	ALLOWABLE LEAKAGE (2 HOURS)
		TOTAL ALLOWABLE LEAKAGE		
		ACTUAL LEAKAGE		

LOCATION / LIMITS OF TEST:

WATER ☐ SEWER ☐ PASSED ☐ FAILED ☐

DATE:

START TIME: END TIME:

SIGNATURE:

PORT ST. LUCIE UTILITY SYSTEM DEPARTMENT
PUMP STATION START UP TEST REPORT

Project Name

PSLUSD Project Number

Engineer of Record

Project Contractor

Diameter

Depth

Voltage

Phasing

Full Load Amps

Pump HP

FPL Meter

Design GPM

Design TDH

	PUMP # 1	PUMP # 2
Actual GPM		
Actual TDH		

Pump Manf/Model

Generator on site	YES ☐	NO ☐	
Repair Kit turned over	YES ☐	NO ☐	Start Up Fails until Kit turned over
Plant able to communicate	YES ☐	NO ☐	
Plant can read guages	YES ☐	NO ☐	

Attendees:

Deficiencies:

☐ Passed ☐ Failed

Inspector Signature Date

PUMP STATION START-UP WORKSHEET

A = The measurement from the top of the water to the rim of the station after ending the pump draw down test.

B = The measurement from the top of the water to the rim of the station before starting the pump draw down test.

C = The measurement from the rim of the station to the center of the pressure gauge.

D = The diameter of the station.

PSI = Reading of pressure gauge.

Formula: 1. (A ft – B ft) x (D ft x D ft) x 7.481 x 0.7854 = Volume Displaced in gallons
2. A ft – C ft = Total Static Lift (TSL)
3. PSI x 2.31 = Dynamic Head Pressure (DHP)
4. TSL + DHP = Total Dynamic Head Pressure (TDHP)

Pump #1

A = _____ inches _____ feet

B = _____ inches _____ feet

C = _____ inches _____ feet

D = _____ inches _____ feet

PSI = _____

Pump #2

A = _____ inches _____ feet

B = _____ inches _____ feet

C = _____ inches _____ feet

D = _____ inches _____ feet

PSI = _____

PUMP #1

1.((A ft) _____ – (B ft) _____) x (D ft) _____ x (D ft) _____) x 7.481 x 0.7854 = Volume Displaced

(A-B ft) _____ x (DxD ft) _____ x 7.481 x 0.7854 = _____ Volume Displaced

2. (A ft) _____ –/+ (C ft) _____ = _____ Total Static Lift (A-C if pressure gauge is below rim, A+C if pressure gauge above rim.)

3. (PSI) _____ x 2.31 = _____ Dynamic Head Pressure

4. (TSL) _____ + (DHP) _____ = _____ Total Dynamic Head Pressure

5. (PSI) _____ x 2.31 = _____ + Static Lift _____ = _____ Shutoff Head (Not for low pressure)
(after start up, close valves in valve pit and pump against them for PSI)

PUMP #2

1.((A ft) _____ – (B ft) _____) x (D ft) _____ x (D ft) _____) x 7.481 x 0.7854 = Volume Displaced

(A-B ft) _____ x (DxD ft) _____ x 7.481 x 0.7854 = _____ Volume Displaced

2. (A ft) _____ –/+ (C ft) _____ = _____ Total Static Lift (A-C if pressure gauge is below rim, A+C if pressure gauge above rim.)

3. (PSI) _____ x 2.31 = _____ Dynamic Head Pressure

4. (TSL) _____ + (DHP) _____ = _____ Total Dynamic Head Pressure

5. (PSI) _____ x 2.31 = _____ + Static Lift _____ = _____ Shutoff Head (Not for low pressure)
(after start up, close valves in valve pit and pump against them for PSI)

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
TELESPECTION TEST REPORT

Project Name _____ Date Tested: _____

PSLUSD Project Number _____

Engineer of Record _____

Project Contractor _____

Telespection Company: _____

Verified running water downstream for each test Yes ☐ No ☐

Beginning MH #	End MH #	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	SVC L/R FT	DIP	Footage	Other Problem	Pass	Fail

Other Problem(s):

A Excessive Sand/Silt
B Leaking Service
C Damaged Pipe
D Bad Joint

Engineer _____
Signature Date

PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT
WIRE CONTINUITY & ELECTRONIC MARKER VERIFICATION
TEST REPORT

Project Name

PSLUSD Project Number

Engineer of Record

Project Contractor

Inspector Signature

Length/size of WM tested

Length/size of FM tested

Length/size of Re-Claimed tested

All trace wire tested ☐ Yes ☐ No ☐ Pass ☐ Fail

All electronic markers verified ☐ Yes ☐ No ☐ Pass ☐ Fail

If not completed, list limits of test

Problem(s) found