

## Quality Review Form

<b>Project Name:</b>	2021 Revision to the Hillsborough County Technical Specifications & Tech Manual	<b>Review Date:</b>	7/27/2021 - 10/29/2021
<b>Project Phase:</b>	Final	<b>Reviewer/s:</b>	Kathryn L. McAuliffe
<b>Document:</b>	Technical Specifications / Pump Station Drawings	<b>Project No.:</b>	

**INSTRUCTIONS:** Critical issues may have a significant impact on rework, schedule, cost or risk and require immediate resolution. All comments need to be back-checked and approved by the reviewers.

Comments						
Comment No.	Submitter	Critical Issue	Originator		Reviewer	Reviewer
			Reference Dwg, Spec, Page, Sec, Det, etc	Review Comments / Questions	Name	Back-Checked & Approved
1	County	yes	330523	The minimum pipe size for directional drill is 6 inches.	klm	klm
2	County	no	330524	Specified that installation of casing and insertion of pipe within the casing must be done under the observation of the County Inspector.	klm	klm
3	County	no	031000, 032000, 033000, 330524	Added Hillsborough County Inspector as having authority to require information and make decisions.	klm	klm
4	County	no	032000, 3.2.2	Specify that slabs on grade shall have reinforcement supported by chairs or bolsters. The max spacing of chairs is 3 feet for WWF, with guideline to reduce spacing if reinforcement deflects more than 1/2 inch	klm	klm
5	County	no	033000, 3.4.4	Slabs installed on grade shall have the surface compacted and leveled prior to setting the forms and reinforcing.	klm	klm
6	County	no	033000, 3.10	Add note on Finishes, and acceptance at discretion of PM or County Inspector.	klm	klm
7	County	no	331001, 333002, & 339001	Define transmission mains, connections to transmission mains, and restrictions.	klm	klm
8	County	no	331001, 333002, & 339001	Clarify pipe information required to be included on the mill certification sticker supplied n every ductile iron pipe and fitting.	klm	klm
9	County	yes	331001, 333001,333002, 339001.	Clarify compaction/density test requirements. Define structure, and list point of connection requirements.	klm	klm
10	County	no	331001, 2.2.2	Points of Connection to existing transmission mains (line sizes greater than 16 inches in diameter) require special review and consideration. Refer to Part 4.17 listing requirements for all connections to existing water mains	klm	klm
11	County	no	331001, 2.2.6	Clarified casing location/length.	klm	klm
12	County	yes	331001, 2.6.1	Add reference to AMI compliant meters and meter boxes	klm	klm
13	County	no	331001, 2.6.5	Meters 3" and larger must be evaluated by use whether strainers to be installed	klm	klm
14	County	no	331001, 2.6.6	Clarify that an access road or driveway for a master meter assembly is required and must allow a truck to have access along the entire length of the meter assembly.	klm	klm
15	County	no	331001, 2.6.7	Meter assemblies shall be located so there is no sheet flow over the slab.	klm	klm
16	County	no	331001, 2.6.11	Dedicated fire service assemblies shall be painted with one coat of rust prohibitive primer and one coat of Safety Red (SAE-AMS-STD-595 #11120) high-grade finish paint.	klm	klm
17	County	no	331001, 2.7.10	Clarify that non-residential services that are re-located or require replacement, or where a service changes from residential to non-residential, the service and tap shall be upsized to 2" (min.)	klm	klm
18	County	no	331001, 2.8.5.5	Clarify that Hydrants must be a minimum of 4' from the face of the curb to the front nozzle of the hydrant per FDOT Design Manual	klm	klm
19	County	no	331001, 2.8.5.6	Clarify lateral offsets of hydrants on flush shoulder roadways must be outside the clear zone per FDOT Design Manual	klm	klm
20	County	yes	331001, 2.10.9.2	Add: When designing for restraint, valves shall be considered as a "dead end plug"	klm	klm
21	County	no	331001, 2.10.10.2	For Transmission Mains and Limited Access Mains a locate ball and above grade locate signage is to be installed so the manual ARV's can be readily located.	klm	klm
22	Consultant/County	no	331001, 2.11	Renumber 2.11 Blow-offs and include it as 2.10.11	klm	klm
23	County	yes	331001, 2.11	Add Dedicated sampling taps (DST's) be installed as determined by WRD.	klm	klm
24	County	no	331001, 4.3.2	Clarify depth of bury for pipes greater than 12", when they fall within a road or ROW of FDOT road or County Collector or arterial roads.	klm	klm
25	County	yes	331001, 4.3.13	All pipe must be installed with tracer wire.	klm	klm
26	County	yes	331001, 4.3.13.2	Tees and crosses must have continuous connections utilizing underground splices on the primary run	klm	klm
27	County	yes	331001, 4.3.13.3	Locate/tracer wire must terminate at a ground level magnetized access point. No more than 6 splices off the primary run between access points	klm	klm

**Project Name:** 2021 Revision to the Hillsborough County Technical Specifications & Tech Manual **Review Date:** 7/27/2021 - 10/29/2021  
**Project Phase:** Final **Reviewer/s:** Kathryn L. McAuliffe  
**Document:** Technical Specifications / Pump Station Drawings **Project No.:** \_\_\_\_\_

*INSTRUCTIONS: Critical issues may have a significant impact on rework, schedule, cost or risk and require immediate resolution. All comments need to be back-checked and approved by the reviewers.*

Comments						
Originator				Reviewer	Reviewer	
Comment No.	Submitter	Critical Issue	Reference Dwg, Spec, Page, Sec, Det, etc	Review Comments / Questions	Name	Back-Checked & Approved
28	County	yes	331001, 4.3.13.4	Tees and crosses must have continuous connections utilizing underground splices on the primary run	klm	klm
29	County	yes	331001, 4.3.13.5	Access points must be installed at least every 1000 lineal ft. Ground rods must be installed at every access point	klm	klm
30	County	yes	331001, 4.3.13.7	Clarify that tracer/locate wire will be installed on all fire hydrant leads and must terminate at an above grade access point on the hydrant flange.	klm	klm
31	County	yes	331001, 4.3.13.8	The Contractor is required to submit Certification (signed and sealed by the EOR, or their representative) that a passing locate test has been performed on the installed tracer/locate wire. The locates must be done by either the Contractor or a SUE firm	klm	klm
32	County	no	331001, 4.9.5.2	Specify that water meter assemblies will comply with the requirements in 031000, 032000, & 033000	klm	klm
33	County	no	331001, 4.12.4 and 4.12.6	Clarify Backfill and density/compaction test requirements.	klm	klm
34	County	no	331001, 4.17.6.3	After paying the tapping fee, the Contractor shall contact WRD Inspection confirming they are ready to perform the tap and requesting Inspection contact Field Maintenance Services to authorize scheduling the tap	klm	klm
35	County	yes	331001, 4.17.8	Require Commercial Master Meters to be tested after installation and before Project acceptance.	klm	klm
36	County	no	333001, 2.4.1	Corrected minimum depth of cover for an 8" gravity line	klm	klm
37	County	no	333001, 2.8.7	Laterals to be run straight, no horizontal bends	klm	klm
38	County	no	333001, 2.8.10	The maximum lateral length is 71 feet in cul-de-sacs, and no more than 2 vertical bends.	klm	klm
39	County	no	333001, 2.9.2	Conditions that trigger a 60 inch diameter manhole	klm	klm
40	County	no	333001, 2.9.10	Specify the Riser block are acceptable for outside drops on pre-cast manholes	klm	klm
41	County	no	333001, 4.8.1	Clarify base of manhole to have sub-base compacted to 98% maximum dry density prior to setting the manhole into a leveling course of crushed stone.	klm	klm
42	County	no	333001, 4.10	Clarify that structures in wastewater service include manholes, wetwells, and ARV's.	klm	klm
43	County	no	333001, 4.13.2	Clarify that video of mainlines require the full diameter and length of the pipe must be included in the video inspection	klm	klm
44	County	no	333001, 4.13.3	Clarify that testing for water tightness are air-testing; water infiltration testing, or water exfiltration testing.	klm	klm
45	County	no	333001, 4.13.4	Deflection testing of PVC pipe has been reduced to 5% allowable in line with the 10 States Standards.	klm	klm
46	County	no	333001, 5.1.10	Dips in gravity mains must be less than 1/2 inch.	klm	klm
47	County	no	333002, 2.3.4	Clarify casings across road comply with UAG.	klm	klm
48	County	no	333002, 2.8.2	Transmission mains are greater than 16 inches in diameter.	klm	klm
49	County	yes	333002, 2.8.8.2	When designing for restraint, valves shall be considered as a "dead end plug"	klm	klm
50	County	yes	333002, 4.3.14	<b>All pipe</b> must be installed with tracer wire.	klm	klm
51	County	yes	333002, 4.3.14.2	Tracer wire must start at point of connection to the County and terminate at all ends/stubs	klm	klm
52	County	yes	333002, 4.3.14.3	Locate/tracer wire must terminate at a ground level magnetized access point. No more than 6 splices may be made between access points	klm	klm
53	County	yes	333002, 4.3.14.5	Access points must be installed at least every 1000 lineal ft. Ground rods must be installed at every access point	klm	klm
54	County	no	333002, 4.11.4 & 4.11.6	Clarify Backfill and Compaction requirements	klm	klm
55	County	no	333003, 2.10.2	Clarify location of Isolation valves at pump stations on the discharge piping, at ROW & at point of connection	klm	klm
56	County	no	333003, 2.14.6	Specify electrical feed to infill PS is 460-volt, 3-phase	klm	klm
57	County	no	333003, 4.2.2	Clarify that the wet well sub-base must be compacted to 98% of maximum dry density before setting the wet well base in a leveling course of crushed stone.	klm	klm

**Project Name:** 2021 Revision to the Hillsborough County Technical Specifications & Tech Manual **Review Date:** 7/27/2021 - 10/29/2021  
**Project Phase:** Final **Reviewers:** Kathryn L. McAuliffe  
**Document:** Technical Specifications / Pump Station Drawings **Project No.:** \_\_\_\_\_

*INSTRUCTIONS: Critical issues may have a significant impact on rework, schedule, cost or risk and require immediate resolution. All comments need to be back-checked and approved by the reviewers.*

Comments						
Originator				Reviewer	Reviewer	
Comment No.	Submitter	Critical Issue	Reference Dwg, Spec, Page, Sec, Det, etc	Review Comments / Questions	Name	Back-Checked & Approved
58	County	no	333003, 4.5.6	Add requirement that Free standing panels must be anchored to the pump station slab with (3) three 316 SS, 1/2 inch x 6-1/2 inch wedge anchors in each foot. Anchors are to be embedded in the slab 4 inches.	klm	klm
59	County	no	333003, 4.6.1	Add note that changes to pump station slab reinforcement is a design exception and requires review and approval.	klm	klm
60	County	no	333003, 5.1	Remove requirement that the Inspector is responsible for getting the punchlist items completed, or establishing the warranty date.	klm	klm
61	County	no	339001, 2.2.2	Points of Connection to existing transmission mains (line sizes greater than 16 inches in diameter) require special review and consideration. Refer to Part 4.19 listing requirements for all connections to existing reclaimed water mains	klm	klm
62	County	no	339001, 2.2.6	Specify casing requirements under roads as specified in the UAG	klm	klm
64	County	no	339001, 2.7.1	Add reference to AMI compliant meters and meter boxes	klm	klm
65	County	no	339001, 2.7.5	Meters three inch and larger must have a manufacturer recommended strainer installed.	klm	klm
66	County	no	339001, 2.7.6	Access Road must allow the County to drive a truck alongside the length of the meter assembly.	klm	klm
67	County	no	339001, 2.7.7	Meter assemblies must be located so there is no sheet flow over the slab.	klm	klm
68	County	no	339001, 2.10.2	Redefine transmission mains as greater than 16 inches	klm	klm
69	County	yes	339001, 2.10.9.2	When designing for length of restraint, valves must be considered as a "dead end plug".	klm	klm
70	County	no	339001, 2.10.10.2	Transmission mains & Limited access mains require a locate ball and above grade locate signage to be installed so manual ARV's can be readily located.	klm	klm
71	County	no	339001, 4.3.2	Depth of bury is increased to a minimum of four feet (48 inches) for pipes greater than 12 inches, or if the pipe falls within the road or right of way of a FDOT road or a County arterial or collector road.	klm	klm
72	County	yes	339001, 4.3.13	<b>All pipe</b> must be installed with tracer wire.	klm	klm
73	County	yes	339001, 4.3.13.2	Tracer wire must start at the point of connection to existing County infrastructure, and terminate at the end of all mains/branches	klm	klm
74	County	yes	339001, 4.3.13.3	Locating wires must terminate at a ground level magnetized access point. The wires must be spliced together with a waterproof, corrosion proof, connector with a dielectric non-hardening silicone sealant.	klm	klm
75	County	yes	339001, 4.2.13.4	Tees and crosses must have continuous connections utilizing underground splices on the primary run	klm	klm
76	County	yes	339001, 4.3.13.5	Access points must be installed a minimum of every 1000 lineal ft. Ground rods must be installed at every access point.	klm	klm
77	County	yes	339001, 4.3.13.7	The Contractor is required to submit Certification (signed and sealed by the EOR, or their representative) that a passing locate test has been performed on the installed tracer/locate wire. The locates must be done by either the Contractor or a SUE firm	klm	klm
78	County	no	339001, 4.15.4 & 4.15.6	Clarify Backfill and density/compaction test requirements.	klm	klm
79	County	yes	333006	Revise PS minimum slab and lot dimensions	klm	klm
80	Engineering firm	yes	Pump station Mechanical drawings	Correct the pump station slab minimum dimensions	klm	klm