


## **UTILITY STANDARDS**

(Water, Wastewater, Irrigation)

### **Volume 4 of 4: STANDARD UTILITY DRAWINGS AND DETAILS**

**ADOPTED AUGUST 17 2022**

CITY OF CAPE CORAL  
1015 Cultural Park Blvd  
Cape Coral, FL 33990

Fiber Optics																																																																																																																																																																																																											
<table><tr><th><u>Drawing No.</u></th><th><u>Description</u></th><th></th><th></th></tr><tr><td>FO-401</td><td>FIBER OPTIC GENERAL NOTES</td><td></td><td></td></tr><tr><td>FO-402</td><td>FIBER OPTIC CONDUIT DIRECTIONAL BORE</td><td></td><td></td></tr><tr><td>FO-403</td><td>FIBER OPTIC UTILITY MARKER</td><td></td><td></td></tr><tr><td>FO-404</td><td>FIBER OPTIC PULL BOX</td><td></td><td></td></tr><tr><td>FO-405</td><td>TYPICAL SECTION FIBER OPTIC CONDUIT SEPARATION FROM UTILITIES</td><td></td><td></td></tr></table>				<u>Drawing No.</u>	<u>Description</u>			FO-401	FIBER OPTIC GENERAL NOTES			FO-402	FIBER OPTIC CONDUIT DIRECTIONAL BORE			FO-403	FIBER OPTIC UTILITY MARKER			FO-404	FIBER OPTIC PULL BOX			FO-405	TYPICAL SECTION FIBER OPTIC CONDUIT SEPARATION FROM UTILITIES																																																																																																																																																																																		
<u>Drawing No.</u>	<u>Description</u>																																																																																																																																																																																																										
FO-401	FIBER OPTIC GENERAL NOTES																																																																																																																																																																																																										
FO-402	FIBER OPTIC CONDUIT DIRECTIONAL BORE																																																																																																																																																																																																										
FO-403	FIBER OPTIC UTILITY MARKER																																																																																																																																																																																																										
FO-404	FIBER OPTIC PULL BOX																																																																																																																																																																																																										
FO-405	TYPICAL SECTION FIBER OPTIC CONDUIT SEPARATION FROM UTILITIES																																																																																																																																																																																																										
Utilities Construction - General Details																																																																																																																																																																																																											
<table><tr><th><u>Drawing No.</u></th><th><u>Description</u></th><th></th><th></th></tr><tr><td>UG-101</td><td>TYPICAL ROADWAY AND UTILITY SECTIONS</td><td></td><td></td></tr><tr><td>UG-102</td><td>UTILITY SEPARATION REQUIRMENTS</td><td></td><td></td></tr><tr><td>UG-103</td><td>PIPE LOCATION TAPE, STRIPING AND MARKERS</td><td></td><td></td></tr><tr><td>UG-104</td><td>UTILITY CROSSING FOR IRRIGATION AND FORCE MAINS AND FOR WATER MAINS</td><td></td><td></td></tr><tr><td>UG-105</td><td>RESTRAINED JOINT SCHEDULE</td><td></td><td></td></tr><tr><td>UG-106</td><td>SERVICE LATERAL LAYOUT</td><td></td><td></td></tr><tr><td>UG-107</td><td>SINGLE SERVICE WITH AND WITHOUT HYDRANT LAYOUT IN RIGHT OF WAY</td><td></td><td></td></tr><tr><td>UG-108</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-109</td><td>DOUBLE SERVICE WITH AND WITHOUT HYDRANT LAYOUT IN RIGHT OF WAY</td><td></td><td></td></tr><tr><td>UG-110 - 208</td><td>RESERVED</td><td></td><td></td></tr><tr><td>UG-209</td><td>2" TEMPORARY JUMPER</td><td></td><td></td></tr><tr><td>UG-210</td><td>VALVE BOX</td><td></td><td></td></tr><tr><td>UG-211</td><td>MECHANICAL JOINT TAPPING SLEEVE AND VALVE</td><td></td><td></td></tr><tr><td>UG-212</td><td>GATE VALVE</td><td></td><td></td></tr><tr><td>UG-213</td><td>BUTTERFLY VALVE</td><td></td><td></td></tr><tr><td>UG-214</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-215</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-216</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-217</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-218</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-219</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-220</td><td>PIPE CASING</td><td></td><td></td></tr><tr><td>UG-221</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-222</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-223</td><td>DIRECTIONAL DRILLING LEAKAGE DETECTION ASSEMBLY SUBAQUEOUS VALVE VAULT</td><td></td><td></td></tr><tr><td>UG-224</td><td>AIR RELEASE VALVE - STANDARD INSTALLATION</td><td></td><td></td></tr><tr><td>UG-225</td><td>AIR RELEASE VALVE - STANDARD INSTALLATION WITH MANHOLE RING AND COVER</td><td></td><td></td></tr><tr><td>UG-225B</td><td>AIR RELEASE VALVE - ALTERNATE MINIMUM COVER VAULT WITH INLET GRATE</td><td></td><td></td></tr><tr><td>UG-226</td><td>AIR RELEASE VALVE OFFSET INSTALLATION</td><td></td><td></td></tr><tr><td>UG-227</td><td>AIR RELEASE VALVE OFFSET INSTALLATION WITH MANHOLE RING AND COVER</td><td></td><td></td></tr><tr><td>UG-228</td><td>AIR RELEASE VALVE - ALTERNATE MINIMUM COVER VAULT WITH MANHOLE RING AND COVER</td><td></td><td></td></tr><tr><td>UG-228B</td><td>AIR RELEASE VALVE - ALTERNATE MINIMUM COVER OFFSET VAULT WITH MANHOLE RING AND COVER</td><td></td><td></td></tr><tr><td>UG-229</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-230</td><td>TYPICAL SECTION TRENCH OVER-EXCAVATION</td><td></td><td></td></tr><tr><td>UG-231</td><td>TYPICAL SECTION BACKFILL - UNPAVED AREAS</td><td></td><td></td></tr><tr><td>UG-232</td><td>TYPICAL SECTION PIPE BEDDING DETAIL</td><td></td><td></td></tr><tr><td>UG-233</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-234</td><td>TYPICAL SECTION TRENCH SHORING</td><td></td><td></td></tr><tr><td>UG-235</td><td>TYPICAL SECTION SDR 9 POLYETHYLENE POTABLE WATER SERVICE BEDDING</td><td></td><td></td></tr><tr><td>UG-236</td><td>TYPICAL SECTION BACKFILL WITH PAVEMENT PATCHING</td><td></td><td></td></tr><tr><td>UG-237 - 300</td><td>RESERVED</td><td></td><td></td></tr><tr><td>UG-301</td><td>MANHOLE RING AND COVER</td><td></td><td></td></tr><tr><td>UG-302</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-303</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-304</td><td>RESTRAINED PIPE PLUG</td><td></td><td></td></tr><tr><td>UG-305</td><td>PIPE TO HDPE TRANSITION</td><td></td><td></td></tr><tr><td>UG-306</td><td>NOT USED</td><td></td><td></td></tr><tr><td>UG-307</td><td>STEEL CRAWL GUARD</td><td></td><td></td></tr><tr><td>UG-308</td><td>PIPE SUPPORT</td><td></td><td></td></tr></table>				<u>Drawing No.</u>	<u>Description</u>			UG-101	TYPICAL ROADWAY AND UTILITY SECTIONS			UG-102	UTILITY SEPARATION REQUIRMENTS			UG-103	PIPE LOCATION TAPE, STRIPING AND MARKERS			UG-104	UTILITY CROSSING FOR IRRIGATION AND FORCE MAINS AND FOR WATER MAINS			UG-105	RESTRAINED JOINT SCHEDULE			UG-106	SERVICE LATERAL LAYOUT			UG-107	SINGLE SERVICE WITH AND WITHOUT HYDRANT LAYOUT IN RIGHT OF WAY			UG-108	NOT USED			UG-109	DOUBLE SERVICE WITH AND WITHOUT HYDRANT LAYOUT IN RIGHT OF WAY			UG-110 - 208	RESERVED			UG-209	2" TEMPORARY JUMPER			UG-210	VALVE BOX			UG-211	MECHANICAL JOINT TAPPING SLEEVE AND VALVE			UG-212	GATE VALVE			UG-213	BUTTERFLY VALVE			UG-214	NOT USED			UG-215	NOT USED			UG-216	NOT USED			UG-217	NOT USED			UG-218	NOT USED			UG-219	NOT USED			UG-220	PIPE CASING			UG-221	NOT USED			UG-222	NOT USED			UG-223	DIRECTIONAL DRILLING LEAKAGE DETECTION ASSEMBLY SUBAQUEOUS VALVE VAULT			UG-224	AIR RELEASE VALVE - STANDARD INSTALLATION			UG-225	AIR RELEASE VALVE - STANDARD INSTALLATION WITH MANHOLE RING AND COVER			UG-225B	AIR RELEASE VALVE - ALTERNATE MINIMUM COVER VAULT WITH INLET GRATE			UG-226	AIR RELEASE VALVE OFFSET INSTALLATION			UG-227	AIR RELEASE VALVE OFFSET INSTALLATION WITH MANHOLE RING AND COVER			UG-228	AIR RELEASE VALVE - ALTERNATE MINIMUM COVER VAULT WITH MANHOLE RING AND COVER			UG-228B	AIR RELEASE VALVE - ALTERNATE MINIMUM COVER OFFSET VAULT WITH MANHOLE RING AND COVER			UG-229	NOT USED			UG-230	TYPICAL SECTION TRENCH OVER-EXCAVATION			UG-231	TYPICAL SECTION BACKFILL - UNPAVED AREAS			UG-232	TYPICAL SECTION PIPE BEDDING DETAIL			UG-233	NOT USED			UG-234	TYPICAL SECTION TRENCH SHORING			UG-235	TYPICAL SECTION SDR 9 POLYETHYLENE POTABLE WATER SERVICE BEDDING			UG-236	TYPICAL SECTION BACKFILL WITH PAVEMENT PATCHING			UG-237 - 300	RESERVED			UG-301	MANHOLE RING AND COVER			UG-302	NOT USED			UG-303	NOT USED			UG-304	RESTRAINED PIPE PLUG			UG-305	PIPE TO HDPE TRANSITION			UG-306	NOT USED			UG-307	STEEL CRAWL GUARD			UG-308	PIPE SUPPORT		
<u>Drawing No.</u>	<u>Description</u>																																																																																																																																																																																																										
UG-101	TYPICAL ROADWAY AND UTILITY SECTIONS																																																																																																																																																																																																										
UG-102	UTILITY SEPARATION REQUIRMENTS																																																																																																																																																																																																										
UG-103	PIPE LOCATION TAPE, STRIPING AND MARKERS																																																																																																																																																																																																										
UG-104	UTILITY CROSSING FOR IRRIGATION AND FORCE MAINS AND FOR WATER MAINS																																																																																																																																																																																																										
UG-105	RESTRAINED JOINT SCHEDULE																																																																																																																																																																																																										
UG-106	SERVICE LATERAL LAYOUT																																																																																																																																																																																																										
UG-107	SINGLE SERVICE WITH AND WITHOUT HYDRANT LAYOUT IN RIGHT OF WAY																																																																																																																																																																																																										
UG-108	NOT USED																																																																																																																																																																																																										
UG-109	DOUBLE SERVICE WITH AND WITHOUT HYDRANT LAYOUT IN RIGHT OF WAY																																																																																																																																																																																																										
UG-110 - 208	RESERVED																																																																																																																																																																																																										
UG-209	2" TEMPORARY JUMPER																																																																																																																																																																																																										
UG-210	VALVE BOX																																																																																																																																																																																																										
UG-211	MECHANICAL JOINT TAPPING SLEEVE AND VALVE																																																																																																																																																																																																										
UG-212	GATE VALVE																																																																																																																																																																																																										
UG-213	BUTTERFLY VALVE																																																																																																																																																																																																										
UG-214	NOT USED																																																																																																																																																																																																										
UG-215	NOT USED																																																																																																																																																																																																										
UG-216	NOT USED																																																																																																																																																																																																										
UG-217	NOT USED																																																																																																																																																																																																										
UG-218	NOT USED																																																																																																																																																																																																										
UG-219	NOT USED																																																																																																																																																																																																										
UG-220	PIPE CASING																																																																																																																																																																																																										
UG-221	NOT USED																																																																																																																																																																																																										
UG-222	NOT USED																																																																																																																																																																																																										
UG-223	DIRECTIONAL DRILLING LEAKAGE DETECTION ASSEMBLY SUBAQUEOUS VALVE VAULT																																																																																																																																																																																																										
UG-224	AIR RELEASE VALVE - STANDARD INSTALLATION																																																																																																																																																																																																										
UG-225	AIR RELEASE VALVE - STANDARD INSTALLATION WITH MANHOLE RING AND COVER																																																																																																																																																																																																										
UG-225B	AIR RELEASE VALVE - ALTERNATE MINIMUM COVER VAULT WITH INLET GRATE																																																																																																																																																																																																										
UG-226	AIR RELEASE VALVE OFFSET INSTALLATION																																																																																																																																																																																																										
UG-227	AIR RELEASE VALVE OFFSET INSTALLATION WITH MANHOLE RING AND COVER																																																																																																																																																																																																										
UG-228	AIR RELEASE VALVE - ALTERNATE MINIMUM COVER VAULT WITH MANHOLE RING AND COVER																																																																																																																																																																																																										
UG-228B	AIR RELEASE VALVE - ALTERNATE MINIMUM COVER OFFSET VAULT WITH MANHOLE RING AND COVER																																																																																																																																																																																																										
UG-229	NOT USED																																																																																																																																																																																																										
UG-230	TYPICAL SECTION TRENCH OVER-EXCAVATION																																																																																																																																																																																																										
UG-231	TYPICAL SECTION BACKFILL - UNPAVED AREAS																																																																																																																																																																																																										
UG-232	TYPICAL SECTION PIPE BEDDING DETAIL																																																																																																																																																																																																										
UG-233	NOT USED																																																																																																																																																																																																										
UG-234	TYPICAL SECTION TRENCH SHORING																																																																																																																																																																																																										
UG-235	TYPICAL SECTION SDR 9 POLYETHYLENE POTABLE WATER SERVICE BEDDING																																																																																																																																																																																																										
UG-236	TYPICAL SECTION BACKFILL WITH PAVEMENT PATCHING																																																																																																																																																																																																										
UG-237 - 300	RESERVED																																																																																																																																																																																																										
UG-301	MANHOLE RING AND COVER																																																																																																																																																																																																										
UG-302	NOT USED																																																																																																																																																																																																										
UG-303	NOT USED																																																																																																																																																																																																										
UG-304	RESTRAINED PIPE PLUG																																																																																																																																																																																																										
UG-305	PIPE TO HDPE TRANSITION																																																																																																																																																																																																										
UG-306	NOT USED																																																																																																																																																																																																										
UG-307	STEEL CRAWL GUARD																																																																																																																																																																																																										
UG-308	PIPE SUPPORT																																																																																																																																																																																																										
		<table><tr><td>REVISION DATE</td></tr><tr><td>4-29-2022</td></tr><tr><td>ADOPTED DATE</td></tr><tr><td>8-17-2022</td></tr><tr><td></td></tr></table>	REVISION DATE	4-29-2022	ADOPTED DATE	8-17-2022			<div>CITY OF CAPE CORAL</div> <div>UTILITIES DEPARTMENT</div> <div>P.O. BOX 150027</div> <div>CAPE CORAL, FLORIDA 33915-0027</div>	<div>SHEET NO.</div> <div>SI-1</div>																																																																																																																																																																																																	
REVISION DATE																																																																																																																																																																																																											
4-29-2022																																																																																																																																																																																																											
ADOPTED DATE																																																																																																																																																																																																											
8-17-2022																																																																																																																																																																																																											

Standard Water Details	
<u>Drawing No.</u>	<u>Description</u>
W-201	HYDRANT ASSEMBLY
W-202	POTABLE WATER BLOW-OFF ASSEMBLY
W-203	HYDRANT ASSEMBLY PARALLEL TO MAIN
W-204-239	RESERVED
W-240	¾" TO 2" REDUCED PRESSURE BACKFLOW ASSEMBLY (MULTI-FAMILY/COMMERCIAL)
W-241	3" AND UP POTABLE WATER METER AND BACKFLOW ASSEMBLY
W-242	NOT USED
W-243	3" AND UP STANDARD FIRE LINE ASSEMBLY DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY
W-244	4" AND UP COMPACT FIRE LINE ASSEMBLY DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY
W-245	2" FIRE LINE ASSEMBLY DOUBLE CHECK DETECTOR BACKFLOW PREVENTER
W-246-248	NOT USED
W-249	2" MULTIPLE METER MANIFOLD INSTALLATION
W-250	2" TO 1" LONG RUN POTABLE WATER RESIDENCE SERVICE CONNECTION
W-251	1" POTABLE WATER (SHORT & LONG SIDE) RESIDENTIAL SINGLE SERVICE CONNECTION IMPROVED PROPERTY
W-252	1" POTABLE WATER (SHORT & LONG SIDE) RESIDENTIAL DOUBLE (BRANCH) SERVICE CONNECTION - IMPROVED PROPERTY
W-253	1" POTABLE WATER (SHORT & LONG SIDE) RESIDENTIAL DOUBLE (WHIP) SERVICE CONNECTION - IMPROVED PROPERTY
W-254	NOT USED
W-255	2" POTABLE WATER (SHORT & LONG SIDE) COMMERCIAL/MULTI-FAMILY - HDPE - OPTION - IMPROVED PROPERTY
W-256	1" POTABLE WATER (SHORT & LONG SIDE) RESIDENTIAL SINGLE SERVICE CONNECTION - UNIMPROVED PROPERTY
W-257	1" POTABLE WATER (SHORT & LONG SIDE) RESIDENTIAL DOUBLE SERVICE CONNECTION - UNIMPROVED PROPERTY
W-258	2" POTABLE WATER (SHORT & LONG SIDE) COMMERCIAL/MULTI-FAMILY - HDPE - OPTION - UNIMPROVED PROPERTY
W-259	TYPICAL CUL-DE-SAC/END OF LINE
W-260	A.C. WATER MAIN CONNECTION

Standard Irrigation Details	
<u>Drawing No.</u>	<u>Description</u>
I-201	LARGE IRRIGATION BLOW-OFF ASSEMBLY
I-202	2-1/2" IRRIGATION BLOW-OFF
I-203-241	RESERVED
I-242	3" AND UP IRRIGATION METER ASSEMBLY
I-243-249	RESERVED
I-250	2" TO 1" LONG RUN IRRIGATION RESIDENTIAL SERVICE CONNECTION
I-251	1" IRRIGATION WATER (SHORT & LONG SIDE) RESIDENTIAL SINGLE SERVICE CONNECTION IMPROVED PROPERTY
I-252	NOT USED
I-253	1" IRRIGATION WATER (SHORT & LONG SIDE) RESIDENTIAL DOUBLE (WHIP) SERVICE CONNECTION IMPROVED PROPERTY
I-254	NOT USED
I-255	2" IRRIGATION WATER (SHORT & LONG SIDE) COMMERCIAL/MULTI-FAMILY SINGLE SERVICE CONNECTION - HDPE - OPTION- IMPROVED PROPERTY
I-256	1" IRRIGATION WATER (SHORT & LONG SIDE) RESIDENTIAL SINGLE SERVICE CONNECTION UNIMPROVED PROPERTY
I-257	1" IRRIGATION WATER (SHORT & LONG SIDE) RESIDENTIAL DOUBLE SERVICE CONNECTION UNIMPROVED PROPERTY
I-258	2" IRRIGATION WATER (SHORT & LONG SIDE) COMMERCIAL/MULTI-FAMILY SINGLE SERVICE CONNECTION - HDPE - OPTION- UNMPROVED PROPERTY
I-259	TYPICAL CUL-DE-SAC/END OF LINE

REVISION DATE		CITY OF CAPE CORAL UTILITIES DEPARTMENT P.O. BOX 150027 CAPE CORAL, FLORIDA 33915-0027	SHEET NO.
4-29-2022			SI-2
ADOPTED DATE			
8-17-2022			

Standard Wastewater Details	
-----------------------------	--

Drawing	
No.	Description
S-212	PLUG VALVE
S-213-260	RESERVED
S-261	TYPICAL SERVICE LATERAL - PLAN
S-262	TYPICAL SERVICE LATERAL - SECTION
S-263	6" SEWER CLEAN-OUT COMMERCIAL/MULTI-FAMILY
S-264-269	NOT USED
S-270	MANHOLE AND DROP MANHOLE SCHEDULE AND GENERAL NOTES
S-271	TYPICAL MANHOLE JOINT
S-272	TYPICAL WET WELL JOINT
S-273	WALL PENETRATION
S-274	PENETRATION SEAL - LINK SEAL (CORE-DRILLED)
S-274A	SMALL PIPE/CONDUIT PENETRATION
S-275	TERMINAL MANHOLE
S-276	TYPICAL SHALLOW MANHOLE (TERMINAL)
S-277	TYPICAL SHALLOW MANHOLE (IN-LINE)
S-278	SECTIONAL INVERT PLAN - 90° CHANGE
S-279	SECTIONAL INVERT PLAN - VARIED ANGLE CHANNEL
S-280	FORCE MAIN TO GRAVITY MANHOLE CONNECTION
S-281	TYPICAL MANHOLE
S-282	FORCE MAIN CONNECTION TO MANHOLE GREATER THAN 6' WITH INSIDE DROP
S-283	FORCE MAIN CONNECTION TO MANHOLE UNDER 6' WITH EXTERIOR DROP
S-284	GRAVITY SEWER CONNECTION TO MANHOLE WITH INTERNAL DROP
S-284A	NEW GRAVITY SEWER CONNECTION TO EXISTING MANHOLE WITH INTERNAL DROP
S-285A	EXISTING MANHOLE RING AND COVER ADJUSTMENT - PAVEMENT OVERLAY
S-285B	EXISTING MANHOLE RING AND COVER INSTALLATION - MANHOLE REHAB
S-285C	EXISTING MANHOLE RING AND COVER REPLACEMENT - MANHOLE REHAB - SWALE LOCATION
S-286	MANHOLE RING AND COVER INSTALLATION
S-287	MANHOLE CHIMNEY REPLACEMENT - MANHOLE REHAB
S-288-300	RESERVED
S-301	MANHOLE RING AND COVER - STANDARD SANITARY SEWER
S-302	MANHOLE RING AND DOUBLE COVER - MASTER SANITARY SEWER
S-303	MANHOLE RING AND COVER - PRIVATE SANITARY SEWER
S-303-308	NOT USED
S-309	MANHOLE OFFSET PIPE SUPPORT
S-310	OFFSET PIPE CLAMP

[illegible]

Standard Wastewater Lift Station Details			
Drawing No.	Description		
S-501	DUPLEX LIFT STATION STRUCTURAL, MECHANICAL, ELECTRICAL AND GENERAL NOTES		
S-502	DUPLEX LIFT STATION ELECTRICAL SYMBOLS, LEGEND AND GENERAL NOTES		
S-503-504	NOT USED		
S-505	DUPLEX LIFT STATION WITH VAULT - STRUCTURAL SECTIONS		
S-506	DUPLEX LIFT STATION WITH VAULT - STRUCTURAL PLAN		
S-507	DUPLEX LIFT STATION HATCH/LIDS CASTING DETAILS		
S-508-509	NOT USED		
S-510	DUPLEX LIFT STATION WITH VAULT - SECTIONS		
S-510A	DUPLEX LIFT STATION SECTION - WITHOUT VALVE VAULT		
S-511	DUPLEX LIFT STATION WITH VAULT - PLAN AND OPTIONAL PIPING LAYOUT - PLAN		
S-511A	DUPLEX LIFT STATION WITHOUT VAULT - PLAN		
S-512	DUPLEX LIFT STATION - PIPE SUPPORT DETAILS		
S-513	DUPLEX LIFT STATION - CABLE RACK DETAIL		
S-514	DUPLEX LIFT STATION - VALVE VAULT FLOOR DRAIN DETAIL		
S-515	DUPLEX LIFT STATION - HATCH INTRUSION ALARM DETAIL		
S-516	DUPLEX LIFT STATION - BASE EL. ANCHOR PLATE DETAIL		
S-517	DUPLEX LIFT STATION - HDPE VENT DETAIL		
S-518-528	RESREVED		
S-529	DUPLEX LIFT STATION - GROUND ROD DETAIL		
S-530	3 PHASE 208V DUPLEX LIFT STATION WITH VAULT - ELECTRICAL PLAN		
S-530A	3 PHASE 208V DUPLEX LIFT STATION WITHOUT VAULT - ELECTRICAL PLAN		
S-531	3 PHASE 208V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS LESS THAN 25 HP		
S-531A	3 PHASE 208V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS LESS THAN 25 HP W/ PRESSURE TRANSDUCER		
S-532	3 PHASE 208V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS 25 HP TO 35 HP		
S-532A	3 PHASE 208V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS 25 HP TO 35 HP W/ PRESSURE TRANSDUCER		
S-533	3 PHASE 208V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS GREATER THAN 35 HP		
S-533A	3 PHASE 208V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS GREATER THAN 35 HP W/ PRESSURE TRANSDUCER		
S-534	3 PHASE 208V CONTROL CONTROL PANEL DETAILS FOR DUPLEX LIFT STATION		
S-534A	3 PHASE 208V CONTROL DIAGRAM FOR DUPLEX LIFT STATION W/ PRESSURE TRANSDUCER		
S-535	3 PHASE 240V DUPLEX LIFT STATION WITH VAULT - ELECTRICAL PLAN		
S-535A	3 PHASE 240V DUPLEX LIFT STATION WITHOUT VAULT - ELECTRICAL PLAN		
S-536	3 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS LESS THAN 25 HP		
S-536A	3 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS LESS THAN 25 HP W/ PRESSURE TRANSDUCER		
S-537	3 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS 25 HP TO 35 HP		
S-537A	3 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS 25 HP TO 35 HP W/ PRESSURE TRANSDUCER		
S-538	3 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS GREATER THAN 35 HP		
S-538A	3 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS GREATER THAN 35 HP W/ PRESSURE TRANSDUCER		
S-539	3 PHASE 240V CONTROL CONTROL PANEL FOR DUPLEX LIFT STATION		
S-539A	3 PHASE 240V CONTROL CONTROL PANEL FOR DUPLEX LIFT STATION W/ PRESSURE TRANSDUCER		
S-540	3 PHASE 480V DUPLEX LIFT STATION WITH VAULT - ELECTRICAL PLAN		
S-540A	3 PHASE 480V DUPLEX LIFT STATION WITHOUT VAULT - ELECTRICAL PLAN		
S-541	3 PHASE 480V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS LESS THAN 25 HP		
S-541A	3 PHASE 480V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS LESS THAN 25 HP W/ PRESSURE TRANSDUCER		
S-542	3 PHASE 480V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS 25 HP TO 35 HP		
S-542A	3 PHASE 480V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS 25 HP TO 35 HP W/ PRESSURE TRANSDUCER		
S-543	3 PHASE 480V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS GREATER THAN 35 HP		
S-543A	3 PHASE 480V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - PUMPS GREATER THAN 35 HP W/ PRESSURE TRANSDUCER		
S-544	3 PHASE 480V CONTROL CONTROL PANEL DETAILS FOR DUPLEX LIFT STATION		
S-544A	3 PHASE 480V CONTROL CONTROL PANEL DETAILS FOR DUPLEX LIFT STATION W/ PRESSURE TRANSDUCER		
S-545	1 PHASE 240V DUPLEX LIFT STATION WITH VAULT - ELECTRICAL PLAN		
S-546	1 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - FOR PUMPS 5 HP OR LESS ONLY		
S-546A	1 PHASE 240V CONTROL DIAGRAM FOR DUPLEX LIFT STATION - FOR PUMPS 5 HP OR LESS ONLY W/ PRESSURE TRANSDUCER		
S-547	1 PHASE 240V CONTROL CONTROL PANEL DETAILS FOR DUPLEX LIFT STATION		
S-547A	1 PHASE 240V CONTROL CONTROL PANEL DETAILS FOR DUPLEX LIFT STATION W/ PRESSURE TRANSDUCER		