

# AV F&I Civil Standards Revision Record

Revision Date: December 2022



## Standard Specifications:

Section	Title	Previous	Current
	Table of Contents	N/A	New Details added
	General Provisions	N/A	Utility Layout Requirements updated to reference F&I structure lids and covers requirements
01 57 13	Temporary Erosion and Sediment Control (TESC) BMPs	No TESC specification included previously in F&I Civil Standards. Only TESC Guide Specifications for Construction Contract Templates were included previously.	Section 01 57 13 was added to provide direction for TESC BMPs.
02 41 13	SITE DEMOLITION	No demolition of pavement or joint sealant included previously.	Sections 3.06 & 3.07 added to provide direction for pavement & joint sealant demolition.
02 41 13.23	UTILITY DEMOLITION AND ABANDONING	No water main branch information	4.01A updated to capture additions made to 3.06 1.01 D added for clarification on water main branch demolition
32 23 33	UTILITY TRENCHING AND BACKFILL	2.01 A - 5/8" and no verbiage on recycled concrete aggregate 2.02 B - 6" layer thickness	2.01 A update to crushed surfacing top course table to 3/4" and added language regarding recycled concrete aggregate. 2.02 B update to backfill layer thickness to 12"
33 10 00	WATER DISTRIBUTION SYSTEM REQUIREMENTS	1.04 E - 40,000 pound requirement	1.04 E - increased loading on castings to 50,000 pound requirement with additional requirements
33 11 10	WATER DISTRIBUTION PIPING AND FITTINGS	No requirements about pipes under taxilanes 1.03 M - referenced 331217 2.01.A.2.b - joints to be soldered 2.01.A.3.c - fittings shall be butt fused to pipe 2.01.B.2.ii - pressure of 250 psi required 2.02 - referenced 331217 2.05.B - coating requirements included	1.01 F - added language about requirements for piping under taxilanes 1.03 M - updated to reference 331216B 2.01.A.2.b - joints in copper pipe are not allowed and further clarification 2.01.A.3.a - HDPE material requirement incorporated 2.01.A.3.b - no joints allowed in HDPE pipe and further clarifications 2.01.B.2.ii - specific pressure requirement removed and Ansi/AWWA C153/A21.53 references 2.02 - updated to reference 331216B 2.05.A - updated coatings to include NSF-61 and removed 2.05.B
33 12 16	WATER VALVES	1.01.B.1 - information about vales 2.02.A.1 - Crane (Class 150) 2.02.B.3-8 - removed and replaced 2.02.F - no information on curb stop requirements	1.01.B.1 - removed 1.01.B.7 - clarification added to indicate valves in vaults 2.02.A.1 - removed Crane (Class 150) 2.02.B. - modified several items to update to M&H specifications 2.02.F.2 - Curb stop valve boxes requirements added 2.02.G.3 - Valve extension stems for curb stop valves shall be stainless steel
33 12 16B	WATER COMBINATION AIR VALVES	2.02.A - no air release or vacuum requirements included for new detail drawing in landside and unpaved areas	2.02.A.6 - Requirements for new detail for air release and air vacuum landside and in unpaved areas added
33 12 19	FIRE HYDRANTS	2.02.A.i - Style 929 "Reliant"	2.02.A.i - updated M&H hydrant to 5-1/4" MVO 129S, 3-way Model
33 31 00	SANITARY SEWER SYSTEM REQUIREMENTS	1.02.D - new pipe capacity limits flow depth to 25% of pipe diameter	1.02.D - updated to 50% of pipe diameter

33 31 11	SANITARY SEWER PIPING	1.01.C - no reference to ductile iron or cover below 3 feet 1.01 - no information for pipes under taxilanes 2.01 - Sanitary Sewer Pipes - Under Paved Areas 2.01 - no information for PVC Sewer Pipes 2.02 - Sanitary Sewer Pipes - No Paved Areas 2.02.A.2 - ASTM D3034 PVC standard dimension ratio is 23.5 2.03.B - Ductile Iron Fittings for inside drop connections 2.03.C - mechanical joint requirements for inside drop connections	1.01.C - reference to ductile iron added along with requirements for pipe class for cover below 3 feet 1.01.M - added to include requirements for pipes located under taxilanes 2.01 - updated section heading to Sanitary Sewer Pipes - Aircraft Operations Areas 2.01.B - added requirements for PVC Sewer Pipes 2.02 - updated section heading to Sanitary Sewer Pipe - All Other Areas 2.02.A.2 - updated ASTM D3034 PVC standard dimension ratio to 35 2.03.B - updated inside drop connections to PVC Fittings 2.03.C - inside drop joint requirements changed to push-on joints and requirements
33 31 20	GREASE INTERCEPTOR VAULTS	2.02.B - polypropylene materials for grease waste piping items 1-3	2.02.B - updated materials and requirements for grease waste piping to be CI Soil pipe from building and C900 PVC out of interceptor vaults
33 42 00	STORM AND IWS SYSTEM REQUIREMENTS	Part 1.C - minimum cover requirement shown as below finished grade Part 1 no information for pipes under taxilanes	Part 1.C - minimum cover requirement updated as to top of subgrade Part 1.G - added to include requirements for pipes located under taxilanes
33 42 11	STORM AND IWS PIPING AND VALVES	2.06 - NON-PERFORATED PIPE, UNDER 12-INCH DIA 2.06.D - no specification on type of pavement in sub-bullets 2.06.D.3.b - SDR required 23.5 and pipe stiffness 153 psi	2.06 - section heading updated to NON-PERFORATED PIPE, UNDER 12-INCH DIA. (UNDERDRAINS, ROOF DOWNSPOUTS, AND VAULT DRAINS) 2.06.D - PCCP added to bullet 2 and asphalt added to bullet 3 2.06.D.3.b - update DR required to 26 and pipe stiffness 115 psi
33 42 16	SEWER, STORM AND IWS FORCE MAINS	2.01 - Storm Drainage, Sanitary Sewer and IWS Pipe for Force mains requirements allows only ductile iron pipe	2.01 - updated Storm Drainage, Sanitary Sewer and IWS Pipe for Force mains requirements updated Storm drainage and sewer force mains to allow C900 PVC and HDPE pipe, updated thrust block, pig launcher, and air-vac requirements
33 42 36	CHANNEL DRAINS	2.01.H - locking was allowed 2.01.J.2 - ABT TrenchFormer - XHD channel drain system allowed	2.01.H - removed locking 2.01.J - minimum proof load requirements added 2.01.J.2 - removed - ABT TrenchFormer - XHD channel drain system
33 42 41	FRAMES, COVERS AND GRATES	1.01.A - Metal castings minimum proof load 40,000 pounds	1.01.A - traffic rating requirement added and minimum proof load increased to 50,000 pounds with additional sizing requirements included
33 44 19B	OIL/WATER SEPARATOR VAULTS - COALESCING PLATE	No coalescing plate oil/water separator specification included previously. Only baffle oil/water separator section was included previously.	Section 19B was added to provide direction for coalescing plate oil/water separators BMPs.
33 80 00	COMPOST AMENDED BMPS	No compost amended BMP specification included previously.	Section 33 80 00 added to provide direction for compost amended BMPs.

#### Standard Details:

SD No.	Title	Previous	Current
001	TYPICAL UTILITY DEMOLITION	Wording was confusing for some unpaved areas	Updated detail to include unpaved areas within 10ft of pavement
003	MANHOLE ABANDONMENT	Wording was confusing for some unpaved areas	Updated detail to include unpaved areas within 10ft of pavement
004	PIPE BEDDING AND TRENCH BACKFILL	Utility marking tape was 12" typ from top of subgrade	Utility marking tape 12" typ from top of utility
114	AIRCRAFT RATED CHANNEL DRAIN PLAN	No standard for distance from panel joint to channel drain edge	Standard 18" distance from panel joint to channel drain edge
115	CHANNEL DRAIN CONNECTION PROFILE	Channel drain outlet pipe went from 6" to 12". This had constructability issues with high clearance for this side reducer, elbow, and pipe.	Revised channel drain outlet pipe sizes. Show 6" minimum from bottom of crushed aggregate subgrade to top of 8" drain pipe, and 12" target/6" minimum clearance between 8" pipe and 6" NPP from subdrain.

116	AIRCRAFT RATED CHANNEL DRAIN SECTION IN PCCP	Better define required dimensions for rebar spacing and depth, clarify rebar dims from slab dims.	Added clarity to detail and simplified callouts.
117	AIRCRAFT RATED CHANNEL DRAIN CATCH BASIN TOP	Need to provide distance from pavement joint to End of Channel drain.	Added channel drain clearance and added rebar at panel edges.
120	CAST-IN-PLACE CONCRETE MANHOLE COLLAR	SD 120 Aluminum Outlet Trap is complicated and expensive design, when is this used? Decided to delete detail.	Added new replacement SD 120 for cast-in-place concrete manhole collar. Standardizes rebar details with the valve box concrete collar. Added clarity for the concrete collar in paved areas vs. ACP erosion pad in unpaved areas.
121	INSIDE DROP CONNECTION	Inside drop connection had a lot of fittings and came up to the surface with a cleanout.	Simplified this detail by removing the DI cross connection and cleanout and putting in a modified PVC tee that is cut on top to allow for maintenance
122	STRUCTURE LADDER AND STEPS	Rename Structure Ladder and Steps. Ladder is missing required size details for rungs, stringers, brackets, anchors. Structure Steps or ladder, 1" diameter rungs,	Renamed detail and added additional information regarding, dimensions, materials, and anchoring.
124A	GREASE INTERCEPTOR	Provide minimum pipe sizes and modify flow plate dimensions.	Added minimum pipe sizes, standardized flow plate size, added information regarding vent riser location, and modified vent connection points to vaults.
124B	GREASE INTERCEPTOR (DETAILS)	Used 2" concrete bolts spaced 6" apart to anchor the flow plates.	Using 1/2" anchor bolts spaced 6" on center, with minimum 2" embedment. Also added greater clarity to the details, simplified notes and callouts, modified open area at base of concrete baffles, and noted paint color on gooseneck vent.
125B	OIL/WATER COALESCING PLATE SEPARATOR	New detail.	Detail 125B was added to provide direction for coalescing plate oil/water separator BMPs.
127	BIORETENTION PRESETTLING ZONE	New detail.	Detail was added to provide direction for bioretention presettling zones.
128	BIORETENTION CURB CUT	New detail.	Detail was added to provide direction for bioretention curb cuts.
129	INFILTRATING BIORETENTION WITH UNDERDRAIN (LANDSIDE ONLY)	New detail.	Detail was added to provide direction for infiltrating bioretention with underdrain (landside only) BMPs.
130	INFILTRATING BIORETENTION (LANDSIDE ONLY)	New detail.	Detail was added to provide direction for infiltrating bioretention (landside only) BMPs.
131	NON-INFILTRATING BIORETENTION WITH UNDERDRAIN (LANDSIDE ONLY)	New detail.	Detail was added to provide direction for non-infiltrating bioretention with underdrain (landside only) BMPs.
132	SOIL AMENDMENT	New detail.	Detail was added to provide direction for soil amendment for BMP installations.
133	COMPOST AMENDED VEGETATED FILTER STRIP (CAVFS)	New detail.	Detail was added to provide direction for compost amended vegetated filter strip (CAVFS) BMPs.
200	HIGH VISIBILITY FENCE (LANDSIDE ONLY)	New detail.	Detail was added to provide direction for high visibility fence (landside only)
202	TREE PROTECTION (LANDSIDE ONLY)	New detail.	Detail was added to provide direction for tree protection (landside only)
203	STRUCTURE INLET PROTECTION	New detail.	Detail was added to provide direction for structure inlet protection
204	STRAW WATTLE/ COMPOST/ SILT SOCK INLET PROTECTION	New detail.	Detail was added to provide direction for straw wattle/ compost/ silt sock inlet protection
205	STRAW WATTLE/ COMPOST SOCK	New detail.	Detail was added to provide direction for straw wattle/ compost sock
206	CHANNEL DRAIN PROTECTION	New detail.	Detail was added to provide direction for channel drain protection
207	ASPHALT BERM	New detail.	Detail was added to provide direction for asphalt berm
208	COMPOST BERM	New detail.	Detail was added to provide direction for compost berm
209	DEWATERING BAG	New detail.	Detail was added to provide direction for dewatering bag
600	FIRE HYDRANT	Look to update, simplify design and materials for shoe drain goose neck piping, talk to suppliers regarding hydrant drain hole piping options.	Modified detail to reduce cluttered callouts, simplified detail drawing, modified drain hole piping details, added pad below frangible points, added paint to gooseneck, and eliminated redundant information.

601	REMOTE FDC & VAULT ASSEMBLY	Megalug midspan restraint and concrete thrust block 2' min from FDC vault	Removed midspan restraint
602A	FIRE HYDRANT VAULT ASSEMBLY	Update Name to Fire Hydrant Vault Assembly, Look to update, simplify design and materials for shoe drain goose neck piping, talk to suppliers regarding hydrant drain hole piping options.	Modified detail to reduce cluttered callouts, simplified detail drawing, modified drain hole piping details, added paint to gooseneck, and eliminated redundant information.
603A	CONCRETE THRUST BLOCKING HORIZONTAL FITTINGS	Update table to match WSDOT per NFPA/DIPRA calculations	Updated table per NFPA guidelines and eliminated blocking for cut-in valves smaller than 16" diameter.
603B	CONCRETE THRUST BLOCKING VERTICAL FITTINGS	Update table to match WSDOT per NFPA/DIPRA calculations, include 18" and 24" sizes	Updated table per NFPA guidelines, added 18" and 24" bends and modified steel anchor rods to include pipe clamps to facilitate pipe to block connection.
603C	PIPE CLAMP AND ANCHOR RODS FOR CONCRETE BLOCKING	New detail.	Added new detail with anchor rod and pipe clamp information.
604	VALVE BOX & OP NUT EXT	Update valve box collar and make similar to the new manhole concrete collar detail.	Added concrete collar/erosion pad detail and removed redundant detail of valve box lid.
606	BOLLARD	4' bollard height, 8" diameter	3' bollard height, 6" diameter
607A	1" COMBINED AIR RELEASE AND AIR VACUUM VALVE - LANDSIDE AND UNPAVED	Original detail for aircraft rated area was SD 607. Review detail consider an additional version with a vertical Service Saddle for small diameter A/Vs	Rename SD 607 to be 607A.
607C	1" COMBINED AIR RELEASE AND AIR VACUUM VALVE - LANDSIDE AND UNPAVED	Review detail SD 607 consider an additional version with a vertical Service Saddle for small diameter A/Vs	Add new detail 607B for 1" Combined Air/Vac Valve for use in landside unpaved areas. Utilized vertical tap off of main with a service saddle and corp stop and a water meter box to house the air/vac valve.
608	WATER BLOW OFF VALVE	Used an RFCA on the blow off valve.	RFCA changed to MJ. Rearranged and reworded some callouts.
609	IRRIGATION CONNECTION	6" slab for above grade RPBA box.	Slab size decreased to 4". Showed a thrust block similar to other details. Standard 6" connection to main, reduced to 4" gate valve to ductile iron
609A	IRRIGATION CONNECTION	Create two Water and Irrigation Service details: (Water Services shall have Water meter and RPBA inside of building) Under Non - PCCP or paved areas. etc. 1) Tee for 4" and larger irrigation and water services 2) 3" and smaller use a double strap service saddle and corp stop 3) Identify POC on Utility Plan	Rename SD 609 to be 609A. Add minimum R-value to insulated enclosure. Add provision to use HDPE pipe instead of copper for service lines over 50' long.
609B	IRRIGATION CONNECTION (LANDSIDE AND UNPAVED AREAS ONLY)	New detail.	Add new detail 609B for irrigation connection with service saddle connection to the water main. Include a curb stop to shut off water supply to backflow assembly enclosure.
609C	IRRIGATION CONNECTION (4" AND LARGER)	New detail.	Add new detail 609C for irrigation service that is 4" diameter and larger. Utilizes a tee and gate valve connection to the water main.
609D	WATER SERVICE CONNECTION (2" AND SMALLER IN PCCP AREAS)	New detail.	Add new detail 609D for domestic water service 2" and smaller in portland cement concrete pavement areas. Utilizes a tee and gate valve connection to the water main.
609E	WATER SERVICE CONNECTION (3" AND LARGER)	New detail.	Add new detail 609E for domestic water service 3" and larger. Utilizes a tee and gate valve connection to the water main.
610	WATER VALVE CLUSTER WITH TEE	Used dismantling joints for valve connections to TEE	Deleted Dismantling Joints between Tee and Gate Valves
801	AIRFIELD PAVEMENT TYPICAL SECTIONS	New detail.	New details for airfield pavement typical sections.
802	AIRFIELD PAVEMENT TYPICAL SECTIONS	New detail.	New details for specification references and pavement demolition.
803	AIRFIELD PAVEMENT TYPICAL SECTIONS	New detail.	New details for concrete jointing typical sections.
804	AIRFIELD PAVEMENT TYPICAL SECTIONS	New detail.	New details for concrete jointing typical sections and concrete/asphalt pavement transition.

805	PCCP JOINT DETAILS	New detail.	New details for concrete joint details for new cement concrete pavement.
806	PCCP JOINT DETAILS	New detail.	New details for concrete joint details for new cement concrete pavement adjacent to existing cement concrete pavement.
807	DOWEL BAR DETAILS	New detail.	New details for dowels for cement concrete pavement.
808	TYPICAL DOWEL BAR LAYOUTS	New detail.	New details for typical dowel layout for cement concrete pavement.
809	CONCRETE PAVEMENT REINFORCING	New detail.	New details for concrete pavement reinforcing.
810	TYPICAL CONCRETE JOINT LAYOUTS	New detail.	New details for methods of jointing concrete pavements around structures or other obstacles in concrete pavement.