

# Change Log - Asset Package Version 4

## Information About Previous Releases

[Stormwater Utility Network Foundation Release Notes](#)

## Utility Network Properties

- Network Attribute
  - S:Current Value
    - Removed
  - S:Device Status
    - Changed to P:Device Status
  - Structure Junction Asset Group
    - Added
- Network Category
  - Groundbed
    - Added Anode Bed
  - Manhole Channel
    - Added Directional Manhole Channel
  - Outlet
    - Added Overflow
  - Pipe Connection
    - Removed

## Class

- All classes
  - Spatial Reference
    - Changed to NAD\_1983\_StatePlane\_Illinois\_East\_FIPS\_1201\_Feet
- Nonspatial tables added with attachments and edit tracking enabled
  - StormwaterEdgeObject
  - StormwaterJunctionObject
  - StructureEdgeObject
  - StructureJunctionObject
- StormwaterBMPInspection
  - Fields
    - assetguid
      - Field added
      - Alias set to Asset Guid
    - centralizedbmpguid
      - Field removed

- decentralizedbmpguid
      - Field removed
  - Relationship Classes
    - Structure\_Boundary\_BMP\_To\_Inspection
      - Removed
    - Stormwater\_Device\_BMP\_To\_Inspection
      - Added
- ServiceTerritory
  - Fields
    - name
      - Field added
      - Alias set to Name
- StormwaterAssembly
  - Fields
    - spatialconfidence
      - Default value set to 0
    - spatialsource
      - Default value set to 0
- StormwaterDevice
  - Fields
    - activevol
      - Alias changed to Activate Volume
    - assetid
      - Alias changed to Asset ID
    - bmpclass
      - Field added
      - Alias set to BMP Class
    - confinedspace
      - Field added
      - Alias set to Confined Space
    - depth
      - Field added
      - Alias set to Groundbed Depth
    - currentvol
      - Field removed
    - designtype
      - Field added
      - Alias set to Type
    - diameter
      - Alias changed to Diameter
    - elevation
      - Field added
      - Alias set to Elevation
    - exitsystem
      - Alias changed to Water Exiting System
    - inletcount

- Field added
  - Alias set to Number of Inlets
- inletshape
  - Field added
  - Alias set to Inlet Shape
- installdate
  - Alias changed to Install Date
- invertlev
  - Field removed
- length2
  - Field added
  - Alias set to Length
- lifecyclestatus
  - Alias changed to Lifecycle Status
- location
  - Alias changed to Location
- maintby
  - Alias changed to Maintained By
- material
  - Alias changed to Cleanout Material
- notes
  - Alias set to Notes
- observationport
  - Field added
  - Alias set to Observation Port
- orifice
  - Alias changed to Orifice
- outfall
  - Field added
  - Alias set to Outfall
- outfallid
  - Field added
  - Alias set to Outfall ID
- outletcount
  - Field added
  - Alias set to Number of Outlets
- ownedby
  - Alias changed to Owned By
- permitid
  - Alias changed to Permit ID
- permitted
  - Alias changed to Permitted
- rate
  - Field added
  - Alias set to Treatment Rate
- rate2

- Field added
    - Alias set to Infiltration Rate
  - reuse
    - Field added
    - Alias set to Capture and Reuse
  - signage
    - Field added
    - Alias set to Signage
  - spatialconfidence
    - Alias changed to Spatial Confidence
    - Default value set to 0
  - spatialsources
    - Alias changed to Spatial Source
    - Default value set to 0
  - sump
    - Field added
    - Alias set to Sump
  - surfacewater
    - Alias changed to Receives Surface Water
  - symbolrotation
    - Alias changed to Symbol Rotation
  - terminalconfiguration
    - Alias changed to Terminal Path
  - tiername
    - Alias changed to Tier name
  - validationstatus
    - Field added
    - Alias set to Validation Status
  - volume
    - Field added
    - Alias set to Storage Volume
  - width
    - Field added
    - Alias set to Width
  - wingwall
    - Alias changed to Wingwall
- StormwaterJunction
  - Fields
    - assetid
      - Alias changed to Asset ID
    - diameter
      - Field removed
    - installdate
      - Alias changed to Install Date
    - lifecyclestatus
      - Alias changed to Lifecycle Status

- Default set to 0
  - maintby
    - Alias changed to Maintained By
  - material
    - Alias changed to Material
  - notes
    - Alias changed to Notes
  - ownedby
    - Alias changed to Owned By
  - spatialconfidence
    - Alias changed to Spatial Confidence
    - Default value set to 0
  - spatialsource
    - Alias changed to Spatial Source
    - Default value set to 0
  - symbolrotation
    - Alias changed to Symbol Rotation
- StormwaterLine
  - Fields
    - assetid
      - Alias changed to Asset ID
    - diameter
      - Alias changed to Diameter
    - downelev
      - Alias changed to Downstream Elevation
    - height
      - Field added
      - Alias set to Height
    - installdate
      - Alias changed to Install Date
    - lifecyclestatus
      - Alias changed to Lifecycle Status
      - Default set to 0
    - lined
      - Alias changed to Lined?
    - linermethod
      - Alias changed to Liner Method
    - lineryear
      - Alias changed to Liner Year
    - maintby
      - Alias changed to Maintained By
    - material
      - Alias changed to Material
    - measuredlength
      - Field added
      - Alias set to Measured Length

- notes
  - Alias changed to Notes
- ownedby
  - Alias changed to Owned By
- pipeshape
  - Alias changed to Culvert Shape, Pipe Shape
- sewershedsnetworkname
  - Alias changed to sewershedsnetworkname
- slope
  - Alias changed to Slope
- spatialconfidence
  - Alias changed to Spatial Confidence
  - Default value set to 0
- spatialsource
  - Alias changed to Spatial Source
  - Default value set to 0
- type
  - Alias changed to Type
- upelev
  - Alias changed to Upstream Elevation
- validationstatus
  - Field added
  - Alias set to Validation Status
- wall
  - Field added
  - Alias set to Wall
- width
  - Field added
  - Alias set to Width
- StructureBoundary
  - Fields
    - assetid
      - Field added
      - Alias set to Asset ID
    - bmpclass
      - Field added
      - Alias set to BMP Class
    - depth
      - Alias changed to Depth
    - lifecyclestatus
      - Alias changed to Lifecycle Status
    - spatialconfidence
      - Alias changed to Spatial Confidence
      - Default value set to 0
    - spatialsource
      - Alias changed to Spatial Source

- Default value set to 0
- StructureJunction
  - Fields
    - areatreated
      - Field removed
    - assetid
      - Alias changed to Asset ID
    - bench
      - Alias changed to Bench
    - capacity
      - Field removed
    - capturereuse
      - Field removed
    - channel
      - Alias changed to Channel
    - conetype
      - Alias changed to Cone Type
    - confinedspace
      - Field removed
    - covershape
      - Alias changed to Cover Shape
    - depth
      - Alias changed to Depth
    - drainagearea
      - Field removed
    - drawdown
      - Field removed
    - dryweatherdiversion
      - Field removed
    - exitsystme
      - Alias changed to Water Exiting System
    - footprint
      - Field removed
    - highpipeelev
      - Alias changed to High Pipe Elevation
    - infiltrationrate
      - Field removed
    - installdate
      - Alias changed to Install Date
    - invertelev
      - Alias changed to Invert Elevation
    - lifecyclestatus
      - Alias changed to Lifecycle Status
    - location
      - Alias set to Manhole Location
    - lowflowbypass

- Field removed
- maintby
  - Alias changed to Maintained By
- maintinterval
  - Field removed
- manholetype
  - Field added
  - Alias set to Manhole Type
- material
  - Alias changed to Frame Material
- notes
  - Alias changed to Notes
- numsteps
  - Alias changed to Number of Steps
- obsaccumulation
  - Field removed
- ownedby
  - Alias changed to Owned By
- rate
  - Field removed
- rimelev
  - Alias changed to Rim Elevation
- spatialconfidence
  - Alias changed to Spatial Confidence
  - Default value set to 0
- spatialsource
  - Alias changed to Spatial Source
  - Default value set to 0
- standingwater
  - Field removed
- stepmaterial
  - Alias changed to Step Material
- surface
  - Alias changed to Manhole Surface Type
- surfacewater
  - Alias changed to Receives Surface Water
- symbolrotation
  - Alias changed to Symbol Rotation
- type
  - Field added
  - Alias set to Cover Type
- validationstatus
  - Field added
  - Alias set to Validation Status
- wall
  - Alias changed to Wall



- wetpoolcapacity
    - Field removed
- StructureLine
  - Fields
    - lifecyclestatus
      - Alias changed to Lifecycle Status
    - name
      - Alias changed to Name
    - notes
      - Alias changed to Notes
    - spatialconfidence
      - Alias changed to Spatial Confidence
      - Default value set to 0
    - spatialsource
      - Alias changed to Spatial Source
      - Default value set to 0

## Asset Groups, Asset Types and assignments

- StormwaterDevice
  - Asset Groups
    - Cleanout
      - Added with code 21
        - Asset Types
          - Unknown
            - Added with code 0
          - Cleanout
            - Added with code 1
    - Inlet
      - Removed
    - Catch Basin
      - Added with code 28
        - Asset Types
          - Unknown
            - Added with code 0
          - Infiltration
            - Added with code 204
          - Sediment Trap
            - Added with code 205
          - Drop Inlet
            - Added with code 210
    - Outlet
      - Added with code 22

- Asset Types
    - Unknown
      - Added with code 0
    - Pipe Outlet
      - Added with code 5
      - Categories added
        - Subnetwork Controller
    - Tide Gate Chamber
      - Added with code 9
    - Apron Outlet
      - Added with code 10
      - Categories added
        - Subnetwork Controller
    - Flap Gate
      - Added with code 11
      - Categories added
        - Subnetwork Controller
    - Riser
      - Added with code 12
- BMP Inlet
  - Added with code 30
    - Asset Types
      - Unknown
        - Added with code 0
      - Apron Inlet
        - Added with code 6
      - Pipe Inlet
        - Added with code 7
      - Channel Inlet
        - Added with code 8
- Pipe Connection
  - Changed to Connection
    - Unknown
      - Added with code 0
    - Pipe Connection
      - Added with code 241
    - Open Channel Connection
      - Added with code 242
    - Linear Drain Connection
      - Added with code 245
- BMP Flow Points
  - Changed to BMP Point
    - Unknown
      - Added with code 0
    - Detention Basin
      - Added with code 2

- Dry Basin
      - Added with code 3
    - Treatment Vault
      - Added with code 6
    - Wet Basin
      - Added with code 7
    - Infiltration Basin
      - Added with code 9
    - Media Filter
      - Added with code 10
    - Bio-Filtration
      - Added with code 21
    - Bio-Retention
      - Added with code 22
    - Bioswale
      - Added with code 23
    - Filtration Device
      - Added with code 24
    - Infiltration Feature
      - Added with code 25
    - Pervious Pavement
      - Added with code 26
    - Sediment Trap
      - Added with code 27
    - Settling Basin
      - Added with code 28
    - Green Roof
      - Added with code 29
    - Retention Basin
      - Added with code 30
  - Manhole Channel
    - Added with code 32
      - Asset Types
        - Unknown
          - Added with code 0
        - Manhole Channel
          - Added with code 301
        - Directional Manhole Channel
          - Added with code 302
          - Categories added
            - Subnetwork Controller
- StormwaterJunction
  - Asset Groups
    - Cleanout
      - Removed
    - Fitting

- Removed
- StormwaterLine
  - Asset Groups
    - Linear Drain
      - Added with code 7
        - Asset Types
          - Unknown
            - Added with code 0
          - Trench Drain
            - Added with code 121
          - Slotted Drain
            - Added with code 122
- StructureBoundary
  - Asset Groups
    - Centralized BMP Boundary
      - Changed to BMP Boundary
        - Asset Types
          - Unknown
            - Added with code 0
          - Detention Basin
            - Added with code 2
          - Dry Basin
            - Added with code 3
          - Treatment Vault
            - Added with code 6
          - Wet Basin
            - Added with code 7
          - Infiltration Basin
            - Added with code 9
          - Media Filter
            - Added with code 10
          - Bio-Filtration
            - Added with code 21
          - Bio-Retention
            - Added with code 22
          - Bioswale
            - Added with code 23
          - Filtration Device
            - Added with code 24
          - Infiltration Feature
            - Added with code 25
          - Pervious Pavement
            - Added with code 26
          - Sediment Trap
            - Added with code 27
          - Settling Basin

- Added with code 28
    - Green Roof
      - Added with code 29
    - Retention Basin
      - Added with code 30
  - Storm Lift Station Boundary
    - Added with code 404
      - Asset Types
        - Unknown
          - Added with code 0
  - Decentralized BMP Boundary
    - Removed
  - Storage Boundary
    - Removed
  - Storm Pump Station Boundary
    - Removed
- StructureJunction
  - Asset Groups
    - Sewer Storm Vault
      - Asset Types
        - Diversion Manhole
          - Removed
        - Junction Manhole
          - Removed
        - Drop Manhole
          - Removed
        - Drop Trap Manhole
          - Removed
        - Flush Manhole
          - Removed
        - Offset Manhole
          - Removed
        - Shallow Manhole
          - Removed
        - Siphon Manhole
          - Removed
    - Sewer Storm Access Point
      - Removed
    - Ladder
      - Removed
- StructureLine
  - Asset Groups
    - Roadside Ditch
      - Removed

# Tiers and Subnetworks

- ManagelsDirty set to false for all tiers
- Stormwater Management Areas
  - Added to devices
    - BMP Inlet/Apron Inlet
    - BMP Inlet/Channel Inlet
    - BMP Inlet/Pipe Inlet
    - BMP Inlet/Unknown
    - BMP Point/Bed Filter
    - BMP Point/Bio-Filtration
    - BMP Point/Bio-Retention
    - BMP Point/Bioswale
    - BMP Point/Detention Basin
    - BMP Point/Dry Basin
    - BMP Point/Filtration Device
    - BMP Point/Green Roof
    - BMP Point/Infiltration Basin
    - BMP Point/Infiltration Feature
    - BMP Point/Media Filter
    - BMP Point/Pervious Pavement
    - BMP Point/Retention Basin
    - BMP Point/Sediment Trap
    - BMP Point/Settling Basin
    - BMP Point/Treatment Vault
    - BMP Point/Unknown
    - BMP Point/Wet Basin
    - Catch Basin/Drop Inlet
    - Catch Basin/Infiltration
    - Catch Basin/Sediment Trap
    - Catch Basin/Unknown
    - Cleanout/Cleanout
    - Cleanout/Unknown
    - Connection/Linear Drain Connection
    - Connection/Open Channel Connection
    - Connection/Pipe Connection
    - Connection/Unknown
    - Manhole Channel/Directional Manhole Channel
    - Manhole Channel/Manhole Channel
    - Manhole Channel/Unknown
    - Outlet/Apron Outlet
    - Outlet/Flap Gate
    - Outlet/Pipe Outlet
    - Outlet/Riser
    - Outlet/Tide Gate Chamber

- Outlet/Unknown
- Removed from devices
  - BMP Flow Points/BMP Bypass Outlet
  - BMP Flow Points/BMP Inlet
  - BMP Flow Points/BMP Overflow Outlet
  - BMP Flow Points/BMP Treated Outlet
  - BMP Flow Points/Unknown
  - Discharge/Outfall
  - Discharge/Terminal Discharge Point/True
  - Discharge/Unknown
  - Inlet/Combination Inlet
  - Inlet/Curb Opening Inlet
  - Inlet/Grate Inlet
  - Inlet/Slotted Drain
  - Inlet/Trench Drain
  - Inlet/Unknown
  - Pipe Connection/Open Channel Connection
  - Pipe Connection/Pipe Connection
  - Pipe Connection/Pipe End
  - Pipe Connection/Unknown
  - Pipe Connection/Vertical Drop
  - Pipe Connection/Vertical Pipe
- Added to lines
  - Linear Drain/Slotted Drain
  - Linear Drain/Trench Drain
  - Open Channel/Aqueduct Channel
  - Open Channel/Ditch Channel
  - Open Channel/Natural Channel
  - Open Channel/Roadside Gutter
  - Open Channel/Spillway Channel
- Function Summaries
  - Added
    - ADD,Shape  
length,pipesubnetworklength,NETWORK\_ATTRIBUTE,Line Asset Group,IS\_EQUAL\_TO,SPECIFIC\_VALUE,4
    - ADD,Shape  
length,channelsubnetworklength,NETWORK\_ATTRIBUTE,Line Asset Group,IS\_EQUAL\_TO,SPECIFIC\_VALUE,5
    - COUNT,Device Asset Group,catchbasincnt,NETWORK\_ATTRIBUTE,Device Asset Group,IS\_EQUAL\_TO,SPECIFIC\_VALUE,28
    - COUNT,Device Asset Group,bmpcnt,NETWORK\_ATTRIBUTE,Device Asset Group,IS\_EQUAL\_TO,SPECIFIC\_VALUE,29

- COUNT,Device Asset Group,manholecnt,NETWORK\_ATTRIBUTE,Device Asset Group,IS\_EQUAL\_TO,SPECIFIC\_VALUE,32
- COUNT,Line Asset Group,culvertcnt,NETWORK\_ATTRIBUTE,Line Asset Group,IS\_EQUAL\_TO,SPECIFIC\_VALUE,6
- COUNT,Outfall,outfallcnt,NETWORK\_ATTRIBUTE,Outfall,IS\_EQUAL\_TO,SPECIFIC\_VALUE,1

## Domains

- Changes to the asset type domains are listed in the Utility Network section
- Added
  - BMP\_Class
    - Unknown
      - Added with code 0
    - Centralized
      - Added with code 1
    - Decentralized
      - Added with code 2
  - Event\_Level
    - Unknown
      - Added with code 0
    - Low Event
      - Added with code 1
    - Medium Event
      - Added with code 50
    - High Event
      - Added with code 100
  - Groundbed\_Depth
    - Unknown
      - Added with code 0
    - Shallow
      - Added with code 1
    - Deep
      - Added with code 2
  - Location
    - Unknown
      - Added with code 0
    - Inside
      - Added with code 1
    - Outside
      - Added with code 2
  - Manhole\_Type
    - Unknown
      - Added with code 0



- Diversion Manhole
  - Added with code 2
- Junction Manhole
  - Added with code 3
- Drop Manhole
  - Added with code 6
- Drop Trap Manhole
  - Added with code 7
- Flush Manhole
  - Added with code 8
- Manhole
  - Added with code 9
- Offset Manhole
  - Added with code 10
- Shallow Manhole
  - Added with code 11
- Siphon Manhole
  - Added with code 12
- Stormwater\_BMP\_Material
  - Unknown
    - Added with code 0
  - Amended Soil
    - Added with code 1
  - Biochar
    - Added with code 2
  - Bioretention Soil
    - Added with code 3
  - Brick
    - Added with code 4
  - Concrete
    - Added with code 5
  - Gravel
    - Added with code 6
  - Iron-enhanced Filter
    - Added with code 7
  - Mulch
    - Added with code 8
  - Native Soil
    - Added with code 9
  - Pavers
    - Added with code 10
  - Permeable Pavement
    - Added with code 11
  - Rock
    - Added with code 12
  - Sand Compost Mix

- Added with code 13
  - Sand Filter
    - Added with code 14
  - Spent Lime
    - Added with code 15
- Stormwater\_Catch\_Basin\_Opening\_Type
  - Unknown
    - Added with code 0
  - Curb Opening
    - Added with code 1
  - Grate
    - Added with code 2
  - Combination
    - Added with code 3
- Stormwater\_Inlet\_Shape
  - Unknown
    - Added with code 0
  - Round
    - Added with code 1
  - Square
    - Added with code 2
  - Rectangle
    - Added with code 3
- Stormwater\_Outlet\_Diameter
  - Unknown
    - Added with code 0
  - 1/2"
    - Added with code 0.5
  - 3/4"
    - Added with code 0.75
  - 1"
    - Added with code 1
  - 1 1/2"
    - Added with code 1.5
  - 2"
    - Added with code 2
  - 2 1/2"
    - Added with code 2.5
  - 3"
    - Added with code 3
  - 4"
    - Added with code 4
  - 6"
    - Added with code 6
  - 8"
    - Added with code 8

- 10"
  - Added with code 10
- 12"
  - Added with code 12
- 14"
  - Added with code 14
- 15"
  - Added with code 15
- 16"
  - Added with code 16
- 18"
  - Added with code 18
- 20"
  - Added with code 20
- 24"
  - Added with code 24
- 30"
  - Added with code 30
- 36"
  - Added with code 36
- 40"
  - Added with code 40
- 42"
  - Added with code 42
- 48"
  - Added with code 48
- 54"
  - Added with code 54
- 60"
  - Added with code 60
- 66"
  - Added with code 66
- 72"
  - Added with code 72
- 75"
  - Added with code 75
- Stormwater\_Outlet\_Location
  - Unknown
    - Added with code 0
  - Closed Pipe
    - Added with code 1
  - Open Drainage
    - Added with code 2
  - In-Stream
    - Added with code 3
- Stormwater\_Outlet\_Material

- Unknown
  - Added with code 0
- ABS Plastic - ABS
  - Added with code 1
- Asbestos Cement - AC
  - Added with code 2
- Asphalt - ASP
  - Added with code 3
- Brick - BR
  - Added with code 4
- Cast Iron - CAS
  - Added with code 5
- Clay Tile - CT
  - Added with code 6
- Concrete (Non-Reinforced) - CP
  - Added with code 7
- Concrete Segments (Bolted) - CSB
  - Added with code 8
- Concrete Segments (Unbolted) - CSU
  - Added with code 9
- Cured In Place - CIP
  - Added with code 10
- Ductile Iron - DIP
  - Added with code 11
- Fiberglass Reinforced - FRP
  - Added with code 12
- Galvanized Pipe - GP
  - Added with code 13
- Glass Reinforced Cement - GRC
  - Added with code 14
- High Density Polyethylene - HDPE
  - Added with code 15
- Other - OTH
  - Added with code 16
- Plastic/Steel Composite - PSC
  - Added with code 17
- Polyethylene - PE
  - Added with code 18
- Polypropylene - PP
  - Added with code 19
- Polyvinyl Chloride - PVC
  - Added with code 20
- Pre-Stressed Concrete Cylinder - PCCP
  - Added with code 21
- Reinforced Concrete - RCP
  - Added with code 22

- Reinforced Plastic (Truss) - RMP
    - Added with code 23
  - Segmented Block - SB
    - Added with code 24
  - Steel - SP
    - Added with code 25
  - Vitrified Clay - VCP
    - Added with code 26
- Stormwater\_Pump\_Type
  - Unknown
    - Added with code 0
  - Centerfugal Pump
    - Added with code 1
  - Duplex Pump
    - Added with code 2
  - Simplex Pump
    - Added with code 4
  - Split-case Pump
    - Added with code 5
  - Triplex Pump
    - Added with code 6
  - Turbine Pump
    - Added with code 7
- Structure\_Boundary\_BMP\_Condition
  - Unknown
    - Added with code 0
  - More Data Needed
    - Added with code 1
  - Inspection Due
    - Added with code 2
  - Inspected >4
    - Added with code 3
  - Inspected 3-4
    - Added with code 4
  - Inspected 2-3
    - Added with code 5
  - Inspected <2
    - Added with code 6
- Structure\_Sewer\_Storm\_Materials
  - Unknown
    - Added with code 0
  - ABS Plastic - ABS
    - Added with code 1
  - Cast Iron - CAS
    - Added with code 5
  - Ductile Iron - DIP

- Added with code 11
  - High Density Polyethylene - HDPE
    - Added with code 15
  - Plastic/Steel Composite - PSC
    - Added with code 17
  - Polyethylene - PE
    - Added with code 18
  - Polypropylene - PP
    - Added with code 19
  - Polyvinyl Chloride - PVC
    - Added with code 20
  - Reinforced Plastic (Truss) - RMP
    - Added with code 23
  - Steel - SP
    - Added with code 25
  - Other
    - Added with code 100
- Validation Error
  - Review
    - Added with code 2
  - Correction
    - Added with code 4
  - Verification
    - Added with code 6
- Validation Error Status
  - Reviewed
    - Added with code 1
  - Resolved
    - Added with code 2
  - Mark As Exception
    - Added with code 3
  - Acceptable
    - Added with code 4
  - Unacceptable
    - Added with code 6
  - Exception
    - Added with code 9
- Validation\_Status
  - No calculation required, no validation required, no error
    - Added with code 0
  - No calculation required, no validation required, has error(s)
    - Added with code 1
  - No calculation required, validation required, no error
    - Added with code 2
  - No calculation required, validation required, has error(s)
    - Added with code 3

- Calculation required, no validation required, no error
    - Added with code 4
  - Calculation required, no validation required, has error(s)
    - Added with code 5
  - Calculation required, validation required, no error
    - Added with code 6
  - Calculation required, validation required, has error(s)
    - Added with code 7
- Changed
  - Lifecycle\_Combined
    - 2
      - Description changed to Approved
    - 16
      - Description changed to To Be Retired
  - Lifecycle\_Status
    - 2
      - Description changed to Approved
    - 16
      - Description changed to To Be Retired
  - Stormwater\_Cleanout
    - 10
      - Added
      - Description changed to Cured In Place - CIP
    - 11
      - Description changed to Ductile Iron - DIP
    - 12
      - Added
      - Description changed to Fiberglass Reinforced - FRP
    - 13
      - Description changed to Galvanized Pipe - GP
    - 14
      - Description changed to Glass Reinforced Cement - GRC
    - 15
      - Description changed to High Density Polyethylene - HDPE
    - 16
      - Description changed to Other - OTH
    - 17
      - Added
      - Description changed to Plastic/Steel Composite - PSC
    - 18
      - Description changed to Polyethylene - PE
    - 19
      - Added
      - Description changed to Polypropylene - PP
    - 20
      - Added

- Description changed to Polyvinyl Chloride - PVC
  - 21
    - Added
    - Description changed to Pre-Stressed Concrete Cylinder - PCCP
  - 22
    - Description changed to Reinforced Concrete - RCP
  - 23
    - Added
    - Description changed to Reinforced Plastic (Truss) - RMP
  - 24
    - Description changed to Reinforced Plastic (Truss) - RMP
  - 25
    - Description changed to Steel - SP
  - 26
    - Added
    - Description set to Vitrified Clay - VCP
- Stormwater\_Pipe\_Material
  - 10
    - Added
    - Description changed to Cured In Place - CIP
  - 11
    - Description changed to Ductile Iron - DIP
  - 12
    - Added
    - Description changed to Fiberglass Reinforced - FRP
  - 13
    - Description changed to Galvanized Pipe - GP
  - 14
    - Description changed to Glass Reinforced Cement - GRC
  - 15
    - Description changed to High Density Polyethylene - HDPE
  - 16
    - Description changed to Other - OTH
  - 17
    - Added
    - Description changed to Plastic/Steel Composite - PSC
  - 18
    - Description changed to Polyethylene - PE
  - 19
    - Added
    - Description changed to Polypropylene - PP
  - 20
    - Added
    - Description changed to Polyvinyl Chloride - PVC
  - 21
    - Added



- Description changed to Pre-Stressed Concrete Cylinder - PCCP
  - 22
    - Description changed to Reinforced Concrete - RCP
  - 23
    - Added
    - Description changed to Reinforced Plastic (Truss) - RMP
  - 24
    - Description changed to Reinforced Plastic (Truss) - RMP
  - 25
    - Description changed to Steel - SP
  - 26
    - Added
    - Description set to Vitrified Clay - VCP
- Stormwater\_Wall\_Material
  - 9
    - ABS Plastic - ABS changed to 1
  - 10
    - Asbestos Cement - AC changed to 2
  - 11
    - Asphalt - ASP changed to 3
  - 12
    - Brick - BR changed to 4
  - 13
    - Cast Iron - CAS changed to 5
  - 15
    - Concrete (Non-Reinforced) - CP changed to 7
  - 16
    - Concrete Segments (Bolted) - CP changed to 8
  - 17
    - Concrete Segments (Unbolted) - CP changed to 9
  - 18
    - Corrugated Metal - CMP changed to 27
  - 19
    - Copper - COP removed
  - 20
    - Cured In Place - CIP changed to 10
  - 21
    - Ductile Iron - DIP changed to 11
  - 22
    - Fiberglass Reinforced - FRP changed to 12
  - 23
    - Earth & Geotextile - EARGEO changed to 28
  - 24
    - Earthen - EAR changed to 29
  - 25
    - Geotextile - GEO changed to 30

- 26
    - Galvanized Pipe - GP changed to 13
  - 27
    - Glass Reinforced Cement - GRC changed to 14
  - 28
    - High Density Polyethylene - HDPE changed to 15
  - 29
    - Pitch Fiber (Orangeburg) - OB removed
  - 30
    - Plastic/Steel Composite - PSC changed to 17
  - 31
    - Polyethylene - PE changed to 18
  - 32
    - Polypropylene - PP changed to 19
  - 33
    - Polyvinyl Chloride - PVC changed to 20
  - 34
    - Pre-Stressed Concrete Cylinder - PCCP changed to 21
  - 35
    - Reinforced Concrete RCP changed to 22
  - 36
    - Reinforced Plastic (Truss) - RMP changed to 23
  - 37
    - Segmented Block - SB changed to 24
  - 38
    - Steel - SP changed to 25
  - 39
    - Transite - TTE changed to 31
  - 40
    - Vitrified Clay - VCP changed to 26
  - 41
    - Wood - WD changed to 32
  - 100
    - Other - OTH changed to 16
- Structure\_Sewer\_Storm\_Manhole\_Step\_Material
  - 1
    - Metal - M changed to 33
  - 2
    - Plastic - P changed to 34
  - 3
    - Brick - BR changed to 4
  - 100
    - Other - Z changed to 16
    - Description changed Other - OTH
- Removed
  - Asset\_Type\_Stormwater\_Device\_BMP\_Flow\_Points

- Asset\_Type\_Stormwater\_Device\_Discharge
- Asset\_Type\_Stormwater\_Device\_Inlet
- Asset\_Type\_Stormwater\_Device\_Pipe\_Connection
- Asset\_Type\_Stormwater\_Junction\_Cleanout
- Asset\_Type\_Stormwater\_Junction\_Fitting
- Asset\_Type\_Stormwater\_Line\_Open Channel
- Asset\_Type\_Structure\_Boundary\_Centralized\_BMP\_Boundary
- Asset\_Type\_Structure\_Boundary\_Decentralized\_BMP\_Boundary
- Asset\_Type\_Structure\_Boundary\_Storage\_Boundary
- Asset\_Type\_Structure\_Boundary\_Storm\_Pump\_Station\_Boundary
- Asset\_Type\_Structure\_Junction\_Ladder
- Asset\_Type\_Structure\_Junction\_Sewer\_Storm\_Access\_Point
- Asset\_Type\_Structure\_Line\_Roadside\_Ditch
- Rainfall\_Intensity
- Stormwater\_BMP\_Flow\_Points\_Diameter
- Stormwater\_BMP\_Flow\_Points\_Material
- Stormwater\_Culvert\_Diameter
- Stormwater\_Discharge\_Diameter
- Stormwater\_Discharge\_Location
- Stormwater\_Inlet\_Access\_Diameter
- Stormwater\_Open\_Chanel\_Diameter
- Structure\_Boundary\_Centralized\_BMP\_Condition
- Structure\_Boundary\_Decentralized\_BMP\_Condition
- Structure\_Ladder\_Step\_Material
- Structure\_Sewer\_Storm\_Access\_Point\_Cover\_Shape
- Structure\_Sewer\_Storm\_Manhole\_Frame\_Material

## Attribute Rules

- StormwaterDevice
  - Generate IDs
    - Individual rules replaced by StormwaterDevice\_GenerateIDs
  - Stormwater Device Invert Elevation
    - Replaced with Device \_ Set Attributes from Z
  - Device Symbol Rotation
    - Changed to Device Symbol Rotation
  - Device \_ Check Pipe Connection
    - Added
- StormwaterJunction
  - Generate IDs
    - Individual rules replaced by StormwaterJunction\_GenerateIDs
  - Junction Diameter From Line
    - Removed
  - Junction Lifecycle Status From Line
    - Removed

- Junction Maintain By From Line
  - Removed
- Junction Owned By From Line
  - Removed
- StormwaterLine
  - Generate IDs
    - Individual rules replaced by StormwaterLine\_GenerateIDs
  - Stormwater Line Downstream Elevation for Culvert
    - Replaced with Line \_ Set Attributes from Z
  - Stormwater Line Downstream Elevation for Open Channel
    - Replaced with Line \_ Set Attributes from Z
  - Stormwater Line Downstream Elevation for Pipe
    - Replaced with Line \_ Set Attributes from Z
  - Stormwater Line Upstream Elevation for Culvert
    - Replaced with Line \_ Set Attributes from Z
  - Stormwater Line Upstream Elevation for Pipe
    - Replaced with Line \_ Set Attributes from Z
  - Stormwater Line Upstream Elevation for Open Channel
    - Replaced with Line \_ Set Attributes from Z
  - Stormwater Line Slope for Culvert
    - Replaced with Line \_ Main Slope  
-Stormwater Line Slope for Open Channel
    - Replaced with Line \_ Main Slope
  - Stormwater Line Slope for Pipe
    - Replaced with Line \_ Main Slope
  - Line \_ Snap to Manhole
    - Added
    - Added a batch version
- StructureBoundary
  - Generate IDs
    - Individual rules replaced by StructureBoundary\_GenerateIDs
- StructureJunction
  - Generate IDs
    - Individual rules replaced by StructureJunction\_GenerateIDs
  - Structure Junction Invert Elevation
    - Removed
  - Structure Junction Rim Elevation
    - Replaced with StructureJunction \_ Manhole Elevation Attributes
  - StructureJunction \_ Create Manhole Channel
    - Added
    - Added a batch version