Section 36 - Standard Details

A. **Introduction** – Standard Details have been developed to provide uniformity throughout HRSD. These details can be provided in electronic format. The FIRM must review all the Standard Details and select the ones that are appropriate for any given project. The FIRM must develop other details as required to incorporate into Bid Documents.

B. **Listing of Standard Details** – These standard details are available in AutoCAD format upon request. These listed Standard Details are included as PDF files in this manual.

1. Series 100: Miscellaneous
   - 100 - Standard Cover Sheet
   - 101 - Easement Plat
   - 102 - Exterior Bollard Detail
   - 103 - Bollard Location Detail
   - 104 - Load Test Hinged Bank Box
   - 105A/B - Flush-mount Groundwater Monitoring Well
   - 106 - Recovery Sheet Template

2. Series 200: Collection Systems and Appurtenances
   - 200A/B - Precast Concrete Manhole with Extended Monolithic Base
   - 201 - Precast Concrete Shallow Manhole with Extended Base
   - 202A/B - Sanitary Sewer Straddle Manhole
   - 203 - Connection into Existing Manholes
   - 204 - Manhole Invert Shaping
   - 205 – Precast Concrete or Brick Manhole Inside Gravity Drop Connection to Existing Manhole
   - 206 – Precast Concrete Outside Drop Manhole
   - 207 - Precast Concrete or Brick Manhole Inside Force Main Drop Connection to Existing Manhole
   - 208 – Precast Concrete Sanitary Sewer Manhole Adjustment
   - 209 - Manhole Insert
   - 226 – Stub-out Connection for Existing Manholes
   - 227 - Standard Manhole Frame and Cover
   - 228 - Manhole Frame and Cover – Watertight
   - 229A/B – Sanitary Sewer Lateral Installation
   - 230 – Sanitary Sewer Service Connection for New Developments
   - 231 – Deactivation at HRSD Gravity Main
   - 232 – Alternate Service Lateral Connection to Existing Gravity Sewer Main
   - 233 – Permanent Sewer Lateral Deactivation at HRSD Manhole
   - 251 – Sanitary Sewer Service Clean Out Frame and Cover (Non-Traffic Rated)
   - 252 – Sanitary Sewer Service Clean Out Frame and Cover (Traffic Rated)
   - 253 – Tracer Wire Locator Box
   - 276 – Vacuum Air Intake Valve
   - 277 – Lateral Connection to Existing Vacuum Valve Pit
   - 278 – Vacuum System Division Valve
3. Series 300: Interceptors and Appurtenances
   300 - Connection to Existing HRSD Valve (No Potential for Additional Development)
   301 - Connection to Existing HRSD Valve (Additional Development Possible)
   302 - Connection to Existing HRSD Valve (Additional Development Imminent)
   303 – New Wet Taps (No Potential for Additional Development)
   304 – New Wet Taps (Additional Development Possible)
   305 – New Wet Taps (Additional Development Imminent)
   306A – 2” Private Connection to Existing 2” HRSD Stub
   306B – Valve Vault for 2” HRSD Valve
   306C – Vault Lid for 2” HRSD Valve
   307 – Lawnes Point Private Connection Detail
   308 – Private Force Main to HRSD Asset
   309 – New Grinder Pit Connection to Existing HRSD Force Main
   326 – Horizontal Gate Valve
   327 – Vertical Gate Valve
   328 – Valve Box and Riser for Mainline Valve
   329 – Valve Box and Riser for Bypass Valves
   330 – Valve Riser Adjustment
   331A/B - Roadside Ditch – Valve Box
   351 - Air Vent
   352A/B - Air Release Valve Box Adjustment
   353 - Roadside Ditch – Air Vent
   354 - Air Vent Frame and Cover
   376 - Tapping Saddle for Cast Iron, Ductile Iron, Reinforced Concrete and PVC Pipes
   377 - Tapping Saddle for Concrete Cylinder Pipe
   378A/B - Steel Casing Detail
   379 - Ductile Iron MJ Spigot to Concrete Transition Adaptor (Male)
   380 - Ductile Iron MJ Spigot to Concrete Transition Adaptor (Female)
   381 - Pressure Sensor Installation
   382 – Concrete Cylinder Pipe Line Stop Detail
   383 – Ductile / Cast Iron Line Stop Detail

4. Series 400: Pump Stations and PRS
   400A/B – Small Communities Sample Design Detail – Submersible Pump Station
   401A/B – Underground Storage Tank
   402A/B – Underground Fuel Tank

5. Series 500: Cathodic Protection for Pipes
   500 - Cathodic Protection Test Station
   501 - Cathodic Protection Isolation Detail
   502 – Anode Test Station
   503 – Monitoring Test Station
   504 – Monitoring Test Station (with Riser)
   505 – Isolation Flange Test Station
   506 – Isolation Flange Test Station (with Riser)
507 – Anode Header Cable Splice
508 – Thermite Weld
509 – Isolating Flange Kit
521 – Ductile Iron Pipe Galvanic System AC Ground Mat
522 – Ductile Iron Pipe Galvanic System Insulating Corporation
523 - Ductile Iron Pipe Galvanic System Main Bonding

6. Series 600: Cathodic Protection for Buildings
600 – Installation of Discrete Galvanic Anodes
601 – Installation of Distributed Galvanic Anodes
602 – Distributed Galvanic Anodes at Top of Wall
603 – Installation of Drilled-in Galvanic Anodes
604 – Conductive Mortar Bridge for use with High Resistivity Repair Mortars
605 – Typical Galvanic Anode Layout
606 – Typical Galvanic Anode Connections
626 – Removal of Unsound Concrete Typical Section
627 – Concrete Rebuild Typical Section
628 – Concrete Rebuild to Provide Minimum Cover Typical Section
629 – Removal of Unsound Concrete Typical Corner Section
630 – Concrete Rebuild Typical Corner Section
631 – Reinforcing Section Loss Table
632 – Lap Splice – Option 1
633 – Lap Splice Lengths – Option 1
634 – Mechanical Splice – Option 2 Typical Removal Section
635 – Mechanical Splice – Option 2 Typical Rebuild Section
636 – Weld Splice – Option 3
637 – Weld Splice Details A – Option 3
638 – Weld Splice Details B – Option 3
639 – Supplemental Reinforcement Requirements
640 – Adhesive Grouted Dowel Layout
641 – Typical Concrete Rebuild Section at Embed Plate
642 – Shallow Depth (2” Max) Concrete Rebuild Horizontal
643 – Shallow Depth (2” Max) Concrete Rebuild Vertical
644 – Partial Depth Core Hole Concrete Rebuild
645 – Full Depth Core Hole Concrete Rebuild
646 A/B – Typical Spall Repair with Exposed Reinforcing Steel
651 – Typical Sealant Details