Division 33 Utilities pre-submittal checklist

PROJECT	SPEC SECTION	SUBMITTAL NO.

CHECKED BY	DATE

1. Before you start

These apply to every submittal, whatever the trade.

- [ ] Pull the exact spec section this package answers to, including addenda that changed it.
- [ ] Read the submittal articles in Part 1 and list every item they ask for.
- [ ] Confirm the transmittal names the right section number, and that each product is tagged to the paragraph it answers.
- [ ] Mark any deviation from the spec yourself on the transmittal. A declared deviation gets reviewed; a hidden one gets the package rejected.
- [ ] Keep a copy of exactly what you sent, with the date, for your submittal log.

2. Named manufacturers and products match the spec **Blocker**

Compare every product in the package to the manufacturer and model the spec names. If anything differs, attach the approved substitution or or-equal letter, or swap back before you send. Tick each item once you have checked it and nothing below applies without written approval.

- [ ] Pipe manufacturer substitutions (Hanson, CertainTeed, JM Eagle, Diamond Plastics, ISCO) where local district maintains an approved product list
- [ ] Precast manhole and structure manufacturer swaps (Oldcastle, Jensen Precast, Forterra) - concrete mix and reinforcing must still meet ASTM C478
- [ ] Fire hydrant manufacturer changes (Mueller, American Flow Control, Waterous, Kennedy) where district requires a specific brand for parts interchangeability
- [ ] Gate valve and butterfly valve manufacturer substitutions where operating nut size or end connection differs from district standard
- [ ] Fitting manufacturer changes (Tyler Union, Star, EBAA) especially for restrained joints where deflection angle ratings vary
- [ ] HDPE pipe manufacturer substitutions (Advanced Drainage Systems, CONTECH, Prinsco) where corrugation profile affects pipe stiffness

3. Performance values meet the spec numbers **Blocker**

Put the data sheet next to the spec and compare the actual values, not just the test method. A sheet that says "tested per ASTM" without the number is not proof. Tick each value once it meets or beats the spec.

- [ ] **Water pipe pressure class and material:**
- [ ] Ductile iron pipe (DIP): Class 52 is minimum for most water mains; verify class vs working pressure + surge; AWWA C151
- [ ] PVC pressure pipe: C900 (4-12") or C905 (14"+), pressure class 150, 200, or 235; lower class than spec is a blocker
- [ ] HDPE water main: DR (dimension ratio) rating determines pressure rating; DR 11 = 160 psi, DR 13.5 = 128 psi
- [ ] **Sewer pipe SDR (standard dimension ratio):**
- [ ] PVC gravity sewer: SDR 26 (pipe stiffness 115 psi per ASTM D2412) or SDR 35 (pipe stiffness 46 psi); SDR 35 is weaker and only acceptable at shallower depths
- [ ] Specify which SDR is required and verify submitted product matches
- [ ] **Reinforced concrete pipe (RCP) class:**
- [ ] Classes III, IV, and V correspond to increasing wall thickness and 3-edge bearing strength
- [ ] Class III is minimum for most culverts; higher traffic or deeper burial requires Class IV or V
- [ ] **Storm HDPE pipe corrugation profile** - affects ring stiffness (ADS N-12 SB vs HP Storm); spec may require smooth interior for hydraulic capacity
- [ ] **Manhole wall thickness and reinforcing** per ASTM C478 for 48" diameter; custom sizes require engineered drawings
- [ ] **Trench backfill compaction** requirement (% of ASTM D1557 Proctor) - typically 95% in paved areas, 90% in unpaved; lower compaction causes pavement settlement
- [ ] **Pipe bedding gradation** (Class B, C, or D per ASTM D2321) - affects pipe deflection under load
- [ ] **Hydraulic capacity** - Manning's n coefficient and pipe internal diameter must match hydraulic design; smooth interior HDPE has n = 0.012, corrugated has n = 0.024
- [ ] **Fire hydrant rated working pressure** and flow test GPM - must match fire flow design
- [ ] **Gate valve Cv (flow coefficient)** and operating pressure rating vs system design

4. Certifications and test reports are attached Fix and Resubmit

Reviewers want the report itself, not a line on the data sheet saying one exists. Tick each document that the spec requires and the package actually contains. Skip lines that do not apply to your section.

- [ ] **AWWA C900/C905** certification for PVC water distribution pipe (must be third-party certified, not just manufacturer-claimed)
- [ ] **AWWA C151** compliance for ductile iron pipe (wall thickness and coating)
- [ ] **NSF/ANSI 61** potable water contact certification - required for all pipe, fittings, valves, and coatings in contact with drinking water; absence is always a blocker for water main work
- [ ] **NSF/ANSI 372** lead-free compliance for water fittings and appurtenances
- [ ] **ASTM F679/D3034** for PVC sewer pipe (gravity); ASTM F714 for HDPE sewer
- [ ] **ASTM C76** for reinforced concrete pipe; **ASTM C507** for elliptical RCP
- [ ] **ASTM C478** for precast concrete manhole sections, risers, and cones
- [ ] **ASTM D2513** for HDPE gas distribution pipe (if site gas is included)
- [ ] **Local water/sewer district approved product list** - many districts publish lists of approved manufacturers; submittal of a non-listed product requires district approval letter

- [ ] **Hydrostatic pressure test procedure** - must cite spec-required test pressure (typically 1.5x working pressure) and duration (2 hours minimum per AWWA M23)
- [ ] **Bacteriological test and disinfection procedure** per AWWA C651 - required before any potable water main is placed in service
- [ ] **Mandrel test or pipe deflection test procedure** for flexible sewer pipe (HDPE, PVC) - tests for over-deflection after installation
- [ ] **CCTV inspection procedure** for sewer mains where specified
- [ ] **Infiltration and exfiltration test procedure** for sewer

5. Colors, finishes, and profiles match the selection

Fix and Resubmit

Match each visible attribute to the spec text and the architect's approved sample or color schedule. Tick each one you have confirmed.

- [ ] **Manhole frame and cover pattern** - traffic-rated (AASHTO H-20) vs non-traffic-rated covers; wrong rating in traffic areas is a functional/structural deviation
- [ ] **Utility marking tape color** per APWA (American Public Works Association) color code - blue for water, green for sewer, orange for communications, red for electric; wrong color is a regulatory and safety deviation
- [ ] **Valve box color** or style where district standard specifies a particular pattern for identification
- [ ] **Fire hydrant paint color** where district requires specific color coding by flow rate (NFPA 291 color coding)

6. Details and installation match the spec and drawings

Fix and Resubmit

These are the mismatches reviewers catch most in this division. Check your shop drawings and installation data against the spec and the contract drawings, and tick each line once you have confirmed it does not apply to your package.

- [ ] **Pipe bedding class** differs from spec (e.g., Class B specified, submittal shows Class D native material backfill - significant structural difference)
- [ ] **Trench width** differs from pipe OD plus required clearance (typically 12-18" each side for pipe diameter up to 24")
- [ ] **Manhole spacing** exceeds local sewer standard maximum (typically 400-500 ft for gravity sewer; more frequent access required for smaller pipes)
- [ ] **Drop manhole connection** (outside drop vs inside drop) differs from spec where elevation difference requires energy dissipation
- [ ] **Service lateral slope** below code minimum - 1/4" per foot (2%) for gravity sewer laterals
- [ ] **Pipe cover depth** - minimum cover above pipe crown varies by load condition; highway loading typically requires 2 ft minimum cover for flexible pipe
- [ ] **Thrust block sizing and location** at horizontal bends, tees, and dead ends - must resist unbalanced hydraulic force; size depends on pipe diameter, pressure, and soil bearing capacity
- [ ] **Restrained joint length** at fittings where thrust block is not used - number of restrained pipe lengths differs from design
- [ ] **Valve box placement** must be centered over valve operating nut and plumb - misalignment prevents operation with standard wrench

- [ ] **Tracer wire** continuity and access box placement for non-metallic pipe (PVC, HDPE) - required for pipe locating

7. Every required item is in the package Fix and Resubmit

Open the submittal articles in Part 1 of your spec section (often split into action and informational submittals) and confirm each required item is present. The list below is what this division's specs most often require.

- [ ] Pipe manufacturer data sheet with pressure class, wall thickness, and applicable AWWA/ASTM standard
- [ ] Joint gasket certification (ASTM F477 for PVC, AWWA C111 for ductile iron)
- [ ] Fitting data sheets with pressure rating and end connection details
- [ ] Precast manhole shop drawing showing wall thickness, reinforcing, step locations, and joint detail
- [ ] Fire hydrant performance data sheet with flow rate, hose and pumper connection sizes, and operating nut size
- [ ] Gate valve or butterfly valve data sheet with Cv, operating torque, and pressure rating
- [ ] NSF 61 and NSF 372 certification letter from manufacturer
- [ ] Local utility district approval letter or product list excerpt confirming the submitted product is approved
- [ ] Hydrostatic pressure test procedure citing spec requirements
- [ ] Bacteriological sampling and disinfection plan per AWWA C651 (water mains)
- [ ] Mandrel test procedure with pass/fail criteria (sewer)
- [ ] CCTV inspection plan and reporting format (sewer)
- [ ] Pipe bedding and trench backfill cross-section drawing
- [ ] Trench backfill compaction specification (test frequency, method, target %)

Free checklist from deviationcheck.com/checklists/33-utilities/. Want the package checked against your spec? Deviation Check reviews it for $35 at deviationcheck.com.