Regional Engineers

 Jack A. Elston

 Special Provision for Corrugated Plastic Pipe (Culvert and Storm Sewer)

 September 25, 2020

This special provision was developed to implement a qualified product list (QPL) for corrugated plastic polyvinyl chloride, polyethylene, and polypropylene pipes with a smooth interior when used for culvert or storm sewer applications. The QPL shows the pre-qualified corrugated plastic pipe producers with the pipe diameters and permissible fill types for each product name. This special provision replaces the applicable pipe tables in Sections 542 and 550 of the Standard Specifications which now refer to the QPL.

This special provision should be inserted in contracts using Class C or Class D pipe culverts, or Class B storm sewers.

The districts should include the BDE Check Sheet marked with the applicable special provisions for the January 15, 2021 and subsequent lettings. The Project Coordination and Implementation Section will include a copy in the contract.

This special provision will be available on the transfer directory
September 25, 2020.

80434m

# CORRUGATED PLASTIC PIPE (CULVERT AND STORM SEWER) (BDE)

Effective: January 1, 2021

Revise Tables IIIA and IIIB of Article 542.03 and the storm sewers tables of Article 550.03 of the Standard Specifications to read:

*(SEE TABLES ON NEXT 10 PAGES)*

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| “PIPE CULVERTSTABLE IIIA: PLASTIC PIPE PERMITTEDFOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE |
| Nominal Diameter (in.) | Type 1 | Type 2 | Type 3 | Type 4 |
| Fill Height: 3' and less,with 1' min | Fill Height: Greater than 3',not exceeding 10' | Fill Height: Greater than 10',not exceeding 15' | Fill Height: Greater than 15', not exceeding 20' |
| PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | CPE | CPP |
| 10 | X | QPL | X | QPL | NA | X | QPL | X | QPL | NA | X | QPL | X | QPL | NA | X | QPL | X | QPL | NA |
| 12 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL |
| 15 | X | QPL | NA | QPL | QPL | X | QPL | NA | QPL | QPL | X | QPL | NA | QPL | QPL | X | QPL | NA | QPL | QPL |
| 18 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL |
| 21 | X | QPL | NA | QPL | NA | X | QPL | NA | QPL | NA | X | QPL | NA | QPL | NA | X | QPL | NA | NA | NA |
| 24 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | NA | QPL |
| 27 | X | NA | NA | NA | NA | X | NA | NA | NA | NA | X | NA | NA | NA | NA | X | NA | NA | NA | NA |
| 30 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | NA | QPL |
| 36 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | NA | QPL |
| 42 | X | NA | X | QPL | QPL | X | NA | X | QPL | QPL | X | NA | X | NA | QPL | X | NA | X | NA | NA |
| 48 | X | NA | X | QPL | QPL | X | NA | X | QPL | QPL | X | NA | X | NA | QPL | X | NA | X | NA | NA |
| 54 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 60 | NA | NA | NA | QPL | QPL | NA | NA | NA | QPL | QPL | NA | NA | NA | NA | QPL | NA | NA | NA | NA | NA |

Notes: PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

|  |
| --- |
| PIPE CULVERTS (metric)TABLE IIIA: PLASTIC PIPE PERMITTEDFOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE |
| Nominal Diameter (mm) | Type 1 | Type 2 | Type 3 | Type 4 |
| Fill Height: 1 m and less,with 0.3 m min. cover | Fill Height: Greater than 1 m,not exceeding 3 m | Fill Height: Greater than 3 m,not exceeding 4.5 m | Fill Height: Greater than 4.5 m, not exceeding 6 m |
| PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | CPE | CPP |
| 250 | X | QPL | X | QPL | NA | X | QPL | X | QPL | NA | X | QPL | X | QPL | NA | X | QPL | X | QPL | NA |
| 300 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL |
| 375 | X | QPL | NA | QPL | QPL | X | QPL | NA | QPL | QPL | X | QPL | NA | QPL | QPL | X | QPL | NA | QPL | QPL |
| 450 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL |
| 525 | X | QPL | NA | QPL | NA | X | QPL | NA | QPL | NA | X | QPL | NA | QPL | NA | X | QPL | NA | NA | NA |
| 600 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | NA | QPL |
| 675 | X | NA | NA | NA | NA | X | NA | NA | NA | NA | X | NA | NA | NA | NA | X | NA | NA | NA | NA |
| 750 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | NA | QPL |
| 900 | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | QPL | QPL | X | QPL | X | NA | QPL |
| 1050 | X | NA | X | QPL | QPL | X | NA | X | QPL | QPL | X | NA | X | NA | QPL | X | NA | X | NA | NA |
| 1200 | X | NA | X | QPL | QPL | X | NA | X | QPL | QPL | X | NA | X | NA | QPL | X | NA | X | NA | NA |
| 1350 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1500 | NA | NA | NA | QPL | QPL | NA | NA | NA | QPL | QPL | NA | NA | NA | NA | QPL | NA | NA | NA | NA | NA |

Notes: PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

|  |
| --- |
| PIPE CULVERTSTABLE IIIB: PLASTIC PIPE PERMITTEDFOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE |
| Nominal Diameter (in.) | Type 5 | Type 6 | Type 7 |
| Fill Height: Greater than 20', not exceeding 25' | Fill Height: Greater than 25', not exceeding 30' | Fill Height: Greater than 30', not exceeding 35' |
| PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | PVC | CPVC | PE |
| 10 | X | QPL | X | QPL | NA | X | QPL | X | X | QPL | X |
| 12 | X | QPL | X | QPL | QPL | X | QPL | X | X | QPL | X |
| 15 | X | QPL | NA | NA | QPL | X | QPL | NA | X | QPL | NA |
| 18 | X | QPL | X | NA | NA | X | QPL | X | X | QPL | X |
| 21 | X | QPL | NA | NA | NA | X | QPL | NA | X | QPL | NA |
| 24 | X | QPL | X | NA | NA | X | QPL | X | X | QPL | X |
| 27 | X | NA | NA | NA | NA | X | NA | NA | X | NA | NA |
| 30 | X | QPL | X | NA | QPL | X | QPL | X | X | QPL | X |
| 36 | X | QPL | X | NA | NA | X | QPL | X | X | QPL | X |
| 42 | X | NA | X | NA | NA | X | NA | X | X | NA | X |
| 48 | X | NA | X | NA | NA | X | NA | X | X | NA | X |
| 54 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 60 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes: PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

|  |
| --- |
| PIPE CULVERTS (metric)TABLE IIIB: PLASTIC PIPE PERMITTEDFOR A GIVEN PIPE DIAMETER AND FILL HEIGHT OVER THE TOP OF THE PIPE |
| Nominal Diameter (mm) | Type 5 | Type 6 | Type 7 |
| Fill Height: Greater than 6 m, not exceeding 7.5 m | Fill Height: Greater than 7.5 m, not exceeding 9 m | Fill Height: Greater than 9 m, not exceeding 10.5 m |
| PVC | CPVC | PE | CPE | CPP | PVC | CPVC | PE | PVC | CPVC | PE |
| 250 | X | QPL | X | QPL | NA | X | QPL | X | X | QPL | X |
| 300 | X | QPL | X | QPL | QPL | X | QPL | X | X | QPL | X |
| 375 | X | QPL | NA | NA | QPL | X | QPL | NA | X | QPL | NA |
| 450 | X | QPL | X | NA | NA | X | QPL | X | X | QPL | X |
| 525 | X | QPL | NA | NA | NA | X | QPL | NA | X | QPL | NA |
| 600 | X | QPL | X | NA | NA | X | QPL | X | X | QPL | X |
| 675 | X | NA | NA | NA | NA | X | NA | NA | X | NA | NA |
| 750 | X | QPL | X | NA | QPL | X | QPL | X | X | QPL | X |
| 900 | X | QPL | X | NA | NA | X | QPL | X | X | QPL | X |
| 1000 | X | NA | X | NA | NA | X | NA | X | X | NA | X |
| 1200 | X | NA | X | NA | NA | X | NA | X | X | NA | X |
| 1350 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1500 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes: PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

|  |
| --- |
| STORM SEWERSKIND OF MATERIAL PERMITTED AND STRENGTH REQUIREDFOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE |
| NominalDiameterin. | Type 1 | Type 2 |
| Fill Height: 3' and less,with 1' min. | Fill Height: Greater than 3',not exceeding 10' |
| RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP | RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP |
| 10 | NA | 3 | X | X | QPL | X | QPL | NA | NA | 1 | \*X | X | QPL | X | QPL | NA |
| 12 | IV | NA | X | X | QPL | X | QPL | QPL | II | 1 | \*X | X | QPL | X | QPL | QPL |
| 15 | IV | NA | NA | X | QPL | NA | QPL | QPL | II | 1 | \*X | X | QPL | NA | QPL | QPL |
| 18 | IV | NA | NA | X | QPL | X | QPL | QPL | II | 2 | X | X | QPL | X | QPL | QPL |
| 21 | III | NA | NA | X | QPL | NA | QPL | NA | II | 2 | X | X | QPL | NA | QPL | NA |
| 24 | III | NA | NA | X | QPL | X | QPL | QPL | II | 2 | X | X | QPL | X | QPL | QPL |
| 27 | III | NA | NA | X | NA | NA | NA | NA | II | 3 | X | X | NA | NA | NA | NA |
| 30 | IV | NA | NA | X | QPL | X | QPL | QPL | II | 3 | X | X | QPL | X | QPL | QPL |
| 33 | III | NA | NA | NA | NA | NA | NA | NA | II | NA | X | NA | NA | NA | NA | NA |
| 36 | III | NA | NA | X | QPL | X | QPL | QPL | II | NA | X | X | QPL | X | QPL | QPL |
| 42 | II | NA | X | X | NA | X | QPL | QPL | II | NA | X | X | NA | X | QPL | QPL |
| 48 | II | NA | X | X | NA | X | QPL | QPL | II | NA | X | X | NA | X | QPL | QPL |
| 54 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 60 | II | NA | NA | NA | NA | NA | QPL | QPL | II | NA | NA | NA | NA | NA | QPL | QPL |
| 66 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 72 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 78 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 84 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 90 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 96 | II | NA | NA | NA | NA | NA | NA | NA | III | NA | NA | NA | NA | NA | NA | NA |
| 102 | II | NA | NA | NA | NA | NA | NA | NA | III | NA | NA | NA | NA | NA | NA | NA |
| 108 | II | NA | NA | NA | NA | NA | NA | NA | III | NA | NA | NA | NA | NA | NA | NA |

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

CSP Concrete Sewer, Storm drain, and Culvert Pipe (number in column indicates strength class)

ESCP Extra Strength Clay Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

\* May also use Standard Strength Clay Pipe

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| STORM SEWERS (metric)KIND OF MATERIAL PERMITTED AND STRENGTH REQUIREDFOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE |
| NominalDiametermm | Type 1 | Type 2 |
| Fill Height: 1 m and less,with 300 mm min, | Fill Height: Greater than 1 m,not exceeding 3 m |
| RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP | RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP |
| 250 | NA | 3 | X | X | QPL | X | QPL | NA | NA | 1 | \*X | X | QPL | X | QPL | NA |
| 300 | IV | NA | X | X | QPL | X | QPL | QPL | II | 1 | \*X | X | QPL | X | QPL | QPL |
| 375 | IV | NA | NA | X | QPL | NA | QPL | QPL | II | 1 | \*X | X | QPL | NA | QPL | QPL |
| 450 | IV | NA | NA | X | QPL | X | QPL | QPL | II | 2 | X | X | QPL | X | QPL | QPL |
| 525 | III | NA | NA | X | QPL | NA | QPL | NA | II | 2 | X | X | QPL | NA | QPL | NA |
| 600 | III | NA | NA | X | QPL | X | QPL | QPL | II | 2 | X | X | QPL | X | QPL | QPL |
| 675 | III | NA | NA | X | NA | NA | NA | NA | II | 3 | X | X | NA | NA | NA | NA |
| 750 | IV | NA | NA | X | QPL | X | QPL | QPL | II | 3 | X | X | QPL | X | QPL | QPL |
| 825 | III | NA | NA | NA | NA | NA | NA | NA | II | NA | X | NA | NA | NA | NA | NA |
| 900 | III | NA | NA | X | QPL | X | QPL | QPL | II | NA | X | X | QPL | X | QPL | QPL |
| 1050 | II | NA | X | X | NA | X | QPL | QPL | II | NA | X | X | NA | X | QPL | QPL |
| 1200 | II | NA | X | X | NA | X | QPL | QPL | II | NA | X | X | NA | X | QPL | QPL |
| 1350 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 1500 | II | NA | NA | NA | NA | NA | QPL | QPL | II | NA | NA | NA | NA | NA | QPL | QPL |
| 1650 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 1800 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 1950 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 2100 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 2250 | II | NA | NA | NA | NA | NA | NA | NA | II | NA | NA | NA | NA | NA | NA | NA |
| 2400 | II | NA | NA | NA | NA | NA | NA | NA | III | NA | NA | NA | NA | NA | NA | NA |
| 2550 | II | NA | NA | NA | NA | NA | NA | NA | III | NA | NA | NA | NA | NA | NA | NA |
| 2700 | II | NA | NA | NA | NA | NA | NA | NA | III | NA | NA | NA | NA | NA | NA | NA |

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

CSP Concrete Sewer, Storm drain, and Culvert Pipe (number in column indicates strength class)

ESCP Extra Strength Clay Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

\* May also use Standard Strength Clay Pipe

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| --- |
| STORM SEWERSKIND OF MATERIAL PERMITTED AND STRENGTH REQUIREDFOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE |
| NominalDiameterin. | Type 3 | Type 4 |
| Fill Height: Greater than 10'not exceeding 15' | Fill Height: Greater than 15'not exceeding 20' |
| RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP | RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP |
| 10 | NA | 2 | X | X | QPL | X | QPL | NA | NA | 3 | X | X | QPL | X | QPL | NA |
| 12 | III | 2 | X | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | QPL | QPL |
| 15 | III | 3 | X | X | QPL | NA | QPL | QPL | IV | NA | NA | X | QPL | NA | QPL | QPL |
| 18 | III | NA | X | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | QPL | QPL |
| 21 | III | NA | NA | X | QPL | NA | QPL | NA | IV | NA | NA | X | QPL | NA | NA | NA |
| 24 | III | NA | NA | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | NA | QPL |
| 27 | III | NA | NA | X | NA | NA | NA | NA | IV | NA | NA | X | NA | NA | NA | NA |
| 30 | III | NA | NA | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | NA | QPL |
| 33 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 36 | III | NA | NA | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | NA | QPL |
| 42 | III | NA | NA | X | NA | X | NA | QPL | IV | NA | NA | X | NA | X | NA | NA |
| 48 | III | NA | NA | X | NA | X | NA | QPL | IV | NA | NA | X | NA | X | NA | NA |
| 54 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 60 | III | NA | NA | NA | NA | NA | NA | QPL | IV | NA | NA | NA | NA | NA | NA | NA |
| 66 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 72 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 78 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 84 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 90 | III | NA | NA | NA | NA | NA | NA | NA | 1680 | NA | NA | NA | NA | NA | NA | NA |
| 96 | III | NA | NA | NA | NA | NA | NA | NA | 1690 | NA | NA | NA | NA | NA | NA | NA |
| 102 | III | NA | NA | NA | NA | NA | NA | NA | 1700 | NA | NA | NA | NA | NA | NA | NA |
| 108 | 1360 | NA | NA | NA | NA | NA | NA | NA | 1710 | NA | NA | NA | NA | NA | NA | NA |

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (RCCP with a number instead of a Roman numeral shall be furnished
according to AASHTO M170 Section 6. This number represents the D-load to produce a 0.01 in crack.)

CSP Concrete Sewer, Storm drain, and Culvert Pipe (number in column indicates strength class)

ESCP Extra Strength Clay Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

|  |
| --- |
| STORM SEWERS (metric)KIND OF MATERIAL PERMITTED AND STRENGTH REQUIREDFOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE |
| NominalDiametermm | Type 3 | Type 4 |
| Fill Height: Greater than 3 m,not exceeding 4.5 m | Fill Height: Greater than 4.5 m,not exceeding 6 m |
| RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP | RCCP | CSP | ESCP | PVC | CPVC | PE | CPE | CPP |
| 250 | NA | 2 | X | X | QPL | X | QPL | NA | NA | 3 | X | X | QPL | X | QPL | NA |
| 300 | III | 2 | X | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | QPL | QPL |
| 375 | III | 3 | X | X | QPL | NA | QPL | QPL | IV | NA | NA | X | QPL | NA | QPL | QPL |
| 450 | III | NA | X | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | QPL | QPL |
| 525 | III | NA | NA | X | QPL | NA | QPL | NA | IV | NA | NA | X | QPL | NA | NA | NA |
| 600 | III | NA | NA | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | NA | QPL |
| 675 | III | NA | NA | X | NA | NA | NA | NA | IV | NA | NA | X | NA | NA | NA | NA |
| 750 | III | NA | NA | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | NA | QPL |
| 825 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 900 | III | NA | NA | X | QPL | X | QPL | QPL | IV | NA | NA | X | QPL | X | NA | QPL |
| 1050 | III | NA | NA | X | NA | X | NA | QPL | IV | NA | NA | X | NA | X | NA | NA |
| 1200 | III | NA | NA | X | NA | X | NA | QPL | IV | NA | NA | X | NA | X | NA | NA |
| 1350 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 1500 | III | NA | NA | NA | NA | NA | NA | QPL | IV | NA | NA | NA | NA | NA | NA | NA |
| 1650 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 1800 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 1950 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 2100 | III | NA | NA | NA | NA | NA | NA | NA | IV | NA | NA | NA | NA | NA | NA | NA |
| 2250 | III | NA | NA | NA | NA | NA | NA | NA | 80 | NA | NA | NA | NA | NA | NA | NA |
| 2400 | III | NA | NA | NA | NA | NA | NA | NA | 80 | NA | NA | NA | NA | NA | NA | NA |
| 2550 | III | NA | NA | NA | NA | NA | NA | NA | 80 | NA | NA | NA | NA | NA | NA | NA |
| 2700 | 70 | NA | NA | NA | NA | NA | NA | NA | 80 | NA | NA | NA | NA | NA | NA | NA |

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (RCCP with a number instead of a Roman numeral shall be furnished
according to AASHTO M170 Section 6. This number represents the D-load to produce a 25.4 micro-meter crack.)

CSP Concrete Sewer, Storm drain, and Culvert Pipe (number in column indicates strength class)

ESCP Extra Strength Clay Pipe

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

|  |
| --- |
| STORM SEWERSKIND OF MATERIAL PERMITTED AND STRENGTH REQUIREDFOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE |
| NominalDiameterin. | Type 5 | Type 6 | Type 7 |
| Fill Height: Greater than 20',not exceeding 25' | Fill Height: Greater than 25',not exceeding 30' | Fill Height: Greater than 30',not exceeding 35' |
| RCCP | PVC | CPVC | PE | CPE | CPP | RCCP | PVC | CPVC | PE | RCCP | PVC | CPVC | PE |
| 10 | NA | X | QPL | X | QPL | NA | NA | X | QPL | X | NA | X | QPL | X |
| 12 | IV | X | QPL | X | QPL | QPL | V | X | QPL | X | V | X | QPL | X |
| 15 | IV | X | QPL | NA | NA | QPL | V | X | QPL | NA | V | X | QPL | NA |
| 18 | IV | X | QPL | X | NA | NA | V | X | QPL | X | V | X | QPL | X |
| 21 | IV | X | QPL | NA | NA | NA | V | X | QPL | NA | V | X | QPL | NA |
| 24 | IV | X | QPL | X | NA | NA | V | X | QPL | X | V | X | QPL | X |
| 27 | IV | X | NA | NA | NA | NA | V | X | NA | NA | V | X | NA | NA |
| 30 | IV | X | QPL | X | NA | QPL | V | X | QPL | X | V | X | QPL | X |
| 33 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 36 | IV | X | QPL | X | NA | NA | V | X | QPL | X | V | X | QPL | X |
| 42 | IV | X | NA | X | NA | NA | V | X | NA | X | V | X | NA | X |
| 48 | IV | X | NA | X | NA | NA | V | X | NA | X | V | X | NA | X |
| 54 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 60 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 66 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 72 | V | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 78 | 2020 | NA | NA | NA | NA | NA | 2370 | NA | NA | NA | 2730 | NA | NA | NA |
| 84 | 2020 | NA | NA | NA | NA | NA | 2380 | NA | NA | NA | 2740 | NA | NA | NA |
| 90 | 2030 | NA | NA | NA | NA | NA | 2390 | NA | NA | NA | 2750 | NA | NA | NA |
| 96 | 2040 | NA | NA | NA | NA | NA | 2400 | NA | NA | NA | 2750 | NA | NA | NA |
| 102 | 2050 | NA | NA | NA | NA | NA | 2410 | NA | NA | NA | 2760 | NA | NA | NA |
| 108 | 2060 | NA | NA | NA | NA | NA | 2410 | NA | NA | NA | 2770 | NA | NA | NA |

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (RCCP with a number instead of a Roman numeral shall be furnished
according to AASHTO M170 Section 6. This number represents the D-load to produce a 0.01 in crack.)

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable

|  |
| --- |
| STORM SEWERS (metric)KIND OF MATERIAL PERMITTED AND STRENGTH REQUIREDFOR A GIVEN PIPE DIAMETERS AND FILL HEIGHTS OVER THE TOP OF THE PIPE |
| NominalDiametermm | Type 5 | Type 6 | Type 7 |
| Fill Height: Greater than 6 m,not exceeding 7.5 m | Fill Height: Greater than 7.5 m,not exceeding 9 m | Fill Height: Greater than 9 m,not exceeding 10.5 m |
| RCCP | PVC | CPVC | PE | CPE | CPP | RCCP | PVC | CPVC | PE | RCCP | PVC | CPVC | PE |
| 250 | NA | X | QPL | X | QPL | NA | NA | X | QPL | X | NA | X | QPL | X |
| 300 | IV | X | QPL | X | QPL | QPL | V | X | QPL | X | V | X | QPL | X |
| 375 | IV | X | QPL | NA | NA | QPL | V | X | QPL | NA | V | X | QPL | NA |
| 450 | IV | X | QPL | X | NA | NA | V | X | QPL | X | V | X | QPL | X |
| 525 | IV | X | QPL | NA | NA | NA | V | X | QPL | NA | V | X | QPL | NA |
| 600 | IV | X | QPL | X | NA | NA | V | X | QPL | X | V | X | QPL | X |
| 675 | IV | X | NA | NA | NA | NA | V | X | NA | NA | V | X | NA | NA |
| 750 | IV | X | QPL | X | NA | QPL | V | X | QPL | X | V | X | QPL | X |
| 825 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 900 | IV | X | QPL | X | NA | NA | V | X | QPL | X | V | X | QPL | X |
| 1050 | IV | X | NA | X | NA | NA | V | X | NA | X | V | X | NA | X |
| 1200 | IV | X | NA | X | NA | NA | V | X | NA | X | V | X | NA | X |
| 1350 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 1500 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 1650 | IV | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 1800 | V | NA | NA | NA | NA | NA | V | NA | NA | NA | V | NA | NA | NA |
| 1950 | 100 | NA | NA | NA | NA | NA | 110 | NA | NA | NA | 130 | NA | NA | NA |
| 2100 | 100 | NA | NA | NA | NA | NA | 110 | NA | NA | NA | 130 | NA | NA | NA |
| 2250 | 100 | NA | NA | NA | NA | NA | 110 | NA | NA | NA | 130 | NA | NA | NA |
| 2400 | 100 | NA | NA | NA | NA | NA | 120 | NA | NA | NA | 130 | NA | NA | NA |
| 2550 | 100 | NA | NA | NA | NA | NA | 120 | NA | NA | NA | 130 | NA | NA | NA |
| 2700 | 100 | NA | NA | NA | NA | NA | 120 | NA | NA | NA | 130 | NA | NA | NA |

RCCP Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (RCCP with a number instead of a Roman numeral shall be furnished
according to AASHTO M170 Section 6. This number represents the D-load to produce a 25.4 micro-meter crack.)

PVC Polyvinyl Chloride Pipe

CPVC Corrugated Polyvinyl Chloride Pipe with a Smooth Interior

PE Polyethylene Pipe

CPE Corrugated Polyethylene Pipe with a Smooth Interior

CPP Corrugated Polypropylene Pipe with a Smooth Interior

X Permitted

QPL Permitted for the producers approved for that diameter in the Department’s qualified product list

NA Not Acceptable”

Revise the first paragraph of Article 1040.03 of the Standard Specifications to read:

“ **1040.03** **Polyvinyl Chloride (PVC) Pipe.** Acceptance testing of PVC pipe and fittings shall be accomplished during the same construction season in which they are installed. The pipe shall meet the following additional requirements.”

Revise Article 1040.04(b) of the Standard Specifications to read:

“ (b) Corrugated PE Pipe with a Smooth Interior. The manufacturer shall be listed as

compliant through the NTPEP program and the pipe shall be according to AASHTO M 294 (nominal size – 12 to 60 in. (300 to 1500 mm)). The pipe shall be Type S or D.”

Revise the first paragraph of Article 1040.04(d) of the Standard Specifications to read:

“ (d)PE Pipe with a Smooth Interior. The pipe shall be according to ASTM F 714 (DR 32.5) with a minimum cell classification of PE 335434 as defined in ASTM D 3350.”

Revise the first paragraph of Article 1040.08 of the Standard Specifications to read:

“ **1040.08 Polypropylene (PP) Pipe.** Storage and handling shall be according to the manufacturer's recommendations, except in no case shall the pipe be exposed to direct sunlight for more than six months. Acceptance testing of the pipe shall be accomplished during the same construction season in which it is installed. The pipe shall meet the following additional requirements.”

80434