



# LEE'S SUMMIT MISSOURI

## DESIGN AND CONSTRUCTION MANUAL DESIGN MODIFICATION REQUEST

PROJECT NAME: Downtown Lee's Summit Apartments

PREMISE ADDRESS: 114 S.E. Douglas Street

PERMIT NUMBER: PL2020024

OWNER'S NAME: DTLS Apartments, LLC

TO: The City Engineer

In accordance with the Lee's Summit Design and Construction Manual (DCM) Section 1002.A, I wish to apply for a modification to one or more specification (s). The following articulates my request for your review and action. (NOTE: Cite specific code sections and engineering justification and drawings.)

This modification request is to allow for private storm sewer pipes to connect to public storm sewer pipes using inserta tees on the public storm sewer pipes. This modification request is being made to allow connections of the intermittent roof drain locations from the building without a concrete structure. This request is due to the downtown development with the building that is constructed with little setback from the right-of-way. Information on the inserta tees is attached.

SUBMITTED BY:

NAME: Doug Ubben, Jr., P.E.

( ) OWNER ☒ OWNER'S AGENT

ADDRESS: 1270 N. Winchester

Tel.# (913) 393-1155

CITY, STATE, ZIP: Olathe, KS 66061

Email: dougubben@phelpsenengineering.com

SIGNATURE: 

FORWARDING MANAGER: \_\_\_\_\_ RECOMMENDATION ( ) APPROVAL ( ) DENIAL

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

GEORGE BINGER III, P.E. – CITY ENGINEER: ( ) APPROVED ( ) DENIED

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

COMMENTS \_\_\_\_\_

**A COPY MUST BE ATTACHED TO THE APPROVED PLANS**

**Development Services**

220 SE Green Street | Lee's Summit, MO 64063 | P: 816.969.1200 | F: 816.969.1221 | cityofLS.net



## ***THE LATERAL CONNECTION SOLUTION®***



THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONS™



## FITS ANY MAINLINE OR STRUCTURE

**Stainless Steel Band**



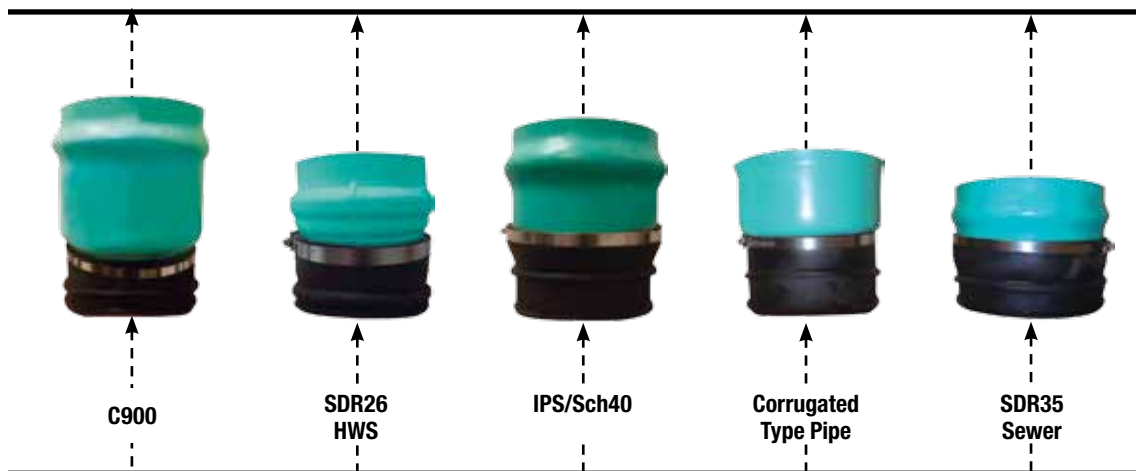
**Rubber Sleeve**

**Gasketed PVC Hub**

### SPECIFICATIONS

Rubber Sleeve . . . . .	ASTM F477
Band . . . . .	301 SS
Screw. . . . .	305 SS
Housing. . . . .	301 SS
Gasket . . . . .	ASTM F477

### LATERAL



### ANY MAINLINE OR STRUCTURE

*Allow longer lead times for custom fittings such as cast iron or ductile iron.*

### INSERTA TEE FITTINGS FOR ALL GRAVITY FLOW PIPE AND MANHOLES

Ductile Iron	Spirolite	Ultra Rib™	Pro 21®
Fiberglass	Hi Q®/Sure-Lok®	PermaLok®	Polyethylene
PVC	Vylon®	Corrugated Metal	Truss®
Ultra Corr™	N-12®	Solflo® Max	A2000®
GOLDFLO®	Kor-Flo™	Concrete	Clay
Weholite®	Asbestos Cement	N-12® HP	SaniTite® HP
DuroMaxx®			

INSERTA TEE construction varies with pipe type and size. For pipe not listed, contact our engineering department.

## INSERTA TEE® DESCRIPTION

INSERTA TEE is a three-piece service connection consisting of a PVC hub, rubber sleeve and stainless steel band. INSERTA TEE is compression fit into the cored wall of a mainline and requires no special tooling. INSERTA TEEs are designed to connect 2" (51 mm) through 30" (750 mm) laterals to all known solidwall, profile, closed profile, corrugated pipe and manhole structures manufactured today.

### INSERTA TEE FOR NEW & REHAB INSTALLATIONS:

- Reduction in labor hours and pipe materials
- Services to be connected where needed
- No need to disturb backfill
- Matching of the internal radius of your pipe or structure for minimal penetration

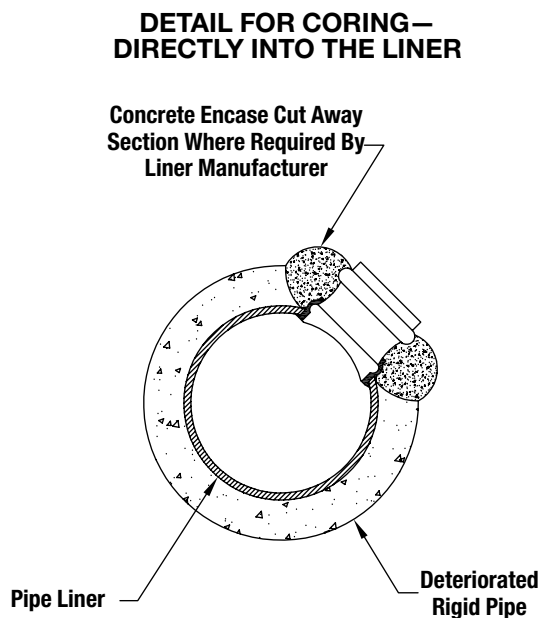
### INSERTA TEE ELIMINATES THE NEED FOR:

- Glues, epoxies and grout
- Tightening and retightening of bands around mainline
- Awkward gaskets

### WHEN SLIPLINING, PIPE BURSTING AND RELINING, INSERTA TEE ALLOWS THE FOLLOWING:

- Simple installation with no special equipment required
- For pipe bursting the connection is made directly into solid wall HDPE pipe

## APPLICATIONS





- Sanitary Sewers
- Storm Sewers
- Pipe Bursting (HDPE/PVC)
- Sliplining
- Fold-and-Formed Products
- Cured-In-Place Products
- Manholes
- Wet Wells
- Drainage
- Irrigation
- Catch Basins
- Electrical Vaults



**Manholes**



**Sanitary Sewer**



**Pipe Bursting**



**StormTech® Systems**



**Storm Sewer**



**Reinforced Concrete Pipe**



**HP Ag Mains  
Ag Field Drainage  
N-12 Ag Mains**

## EASY, FAST & WATERTIGHT

### DIAMOND BITS

Our diamond bits are of the highest quality to ensure maximum holes per bit. Diamond bits are recommended for concrete, clay, fiberglass and ductile iron.

### HOLE SAWS

Our specially designed hole saws allow the user to core fast, smooth and clean holes.

For more detailed information on hole saws, refer to the INSERTA TEE Hole Saws Brochure (#10791).



Handheld Drills



### HOLE SAW SIZING CHART

INSERTA TEE Size	Hole Saw Size
2" (51 mm) $\frac{5}{8}$ "	2 $\frac{5}{8}$ " (67 mm)
3" (75 mm)	3 $\frac{3}{4}$ " (95 mm)
4" (100 mm)	4 $\frac{1}{2}$ " (114 mm)
6" (150 mm)	6 $\frac{1}{2}$ " (165 mm)
8" (200 mm)	8 $\frac{3}{4}$ " (222 mm)
10" (250 mm)	10 $\frac{7}{8}$ " (276 mm)
12" (300 mm)	12 $\frac{7}{8}$ " (327 mm)
15" (375 mm)	15 $\frac{13}{16}$ " (402 mm)
18" (450 mm)	19 $\frac{3}{16}$ " (503 mm)
21" (525 mm)	22 $\frac{9}{16}$ " (573 mm)
24" (600 mm)	25 $\frac{5}{16}$ " (643 mm)
27" (675 mm)	28 $\frac{1}{2}$ " (724 mm)
30" (750 mm)	32 $\frac{17}{32}$ " (826 mm)

## TESTING INFORMATION\*

### **NORTHWEST TESTING LABORATORY; PORTLAND, OREGON**

REFERENCE DOCUMENT: ASTM D3212

A 4" INSERTA TEE was installed into an 8" profile pipe with the following results:

- Pressure @ 16.5 psig for 10 minutes
- Vacuum to 22" Hg for 10 minutes
- Back to room pressure
- Vacuum to 22" Hg for 10 minutes
- No leakage
  - Pipe Deflected 5%
  - Pressure @ 10.8 psig for 10 minutes
  - No leakage

A 4" INSERTA TEE was installed into an 8" smooth wall PVC pipe with the following results:

- Pressure @ 28 psig for 5 minutes
- No leakage

INSERTA TEEs were installed into smooth wall PVC and concrete pipe with the following results:

- Pressure @ 13 psig for 10 minutes
- No leakage

### **INDEPENDENT TESTING BY MAJOR PIPE MANUFACTURERS**

REFERENCE DOCUMENT: ASTM D3212

A 4" INSERTA TEE was installed into a 10" profile pipe with the following results:

- Pressure @ 12 psig for 50 hours
- No leakage

A 6" INSERTA TEE was installed into a 12" profile pipe with the following results:

- Pressure @ 12 psig for 24 hours
- No leakage

A 4" INSERTA TEE installed in 6"–12" solid wall PVC, a 6" INSERTA TEE installed in 8"–12" solid wall PVC and an 8" INSERTA TEE installed in 10"–12" solid wall PVC with the following results:

- Pressure @ 10.8 psig for 10 minutes
- No leakage

INSERTA TEEs (4", 6" and 8") installed in SaniTite HP pipe with the following results:

- Pressure @ 10.8 psig for 10 minutes
- No leakage

*\*This is highlighted testing on common sizes. Testing on additional size combinations available on request.*

## INSERTA TEE® PRODUCT SPECIFICATION

### SCOPE

This specification describes 2- through 30-inch (51 to 750 mm) INSERTA TEE service connections for use in gravity-flow sewer and drainage applications.

### PRODUCT REQUIREMENTS

INSERTA TEE service connections shall consist of a PVC hub, rubber sleeve and stainless steel band. Connection shall be a compression fit into the cored wall of a mainline pipe. Hub shall be made from heavy-duty PVC material. Stainless steel clamping assembly shall be made from minimum 301 grade steel. Rubber sleeve and gasket, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the manufacturer. The water-based solution provided by the manufacturer shall be used during assembly. *Do not use pipe lube.*

The INSERTA TEE can be installed into any mainline pipe or structure. Connection hubs are available to connect to: corrugated polyethylene, corrugated polypropylene, PVC C900, SDR 26 HWS, SDR 35 (gasketed bell, SWR spigot & solvent weld bell), IPS/Sch 40 (gasketed bell & solvent weld bell) and corrugated PVC. Custom pipe types available.

### JOINT PERFORMANCE

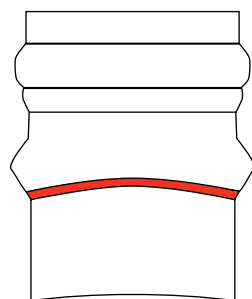
INSERTA TEE product includes a watertight bell connection meeting the requirements of ASTM D3212.

### FIELD PIPE AND JOINT PERFORMANCE

To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487, ASTM C969 or ASTM F1417\*. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

### INSTALLATION

Installation shall be in accordance with manufacturer's recommended installation guidelines. The use of installation methods or hole saws not purchased from Inserta Fittings will void the performance warranty of the product. Backfill around the INSERTA TEE service connection shall be of the same material type and compaction level as specified for the mainline pipe installation. Contact your local representative or visit the website at [www.insertatee.com](http://www.insertatee.com) for a copy of the latest installation guidelines.



**Product configuration & availability subject to change without notice. Product detail may differ slightly from actual product appearance.**

*The Fatboy design creates a 360° stop around the fitting to prevent protrusion into the mainline.*

**Available in 4" and 6" SDR35, SDR28, SDR26 and IPS Sch40 products only**

Visit our website at [www.InsertaTee.com](http://www.InsertaTee.com) for specifications(CAD or PDF), application details and our installation video.

\*Contact your local sales representative for acceptable watertight applications. Not all applications are standard and some may require additional technical assistance.



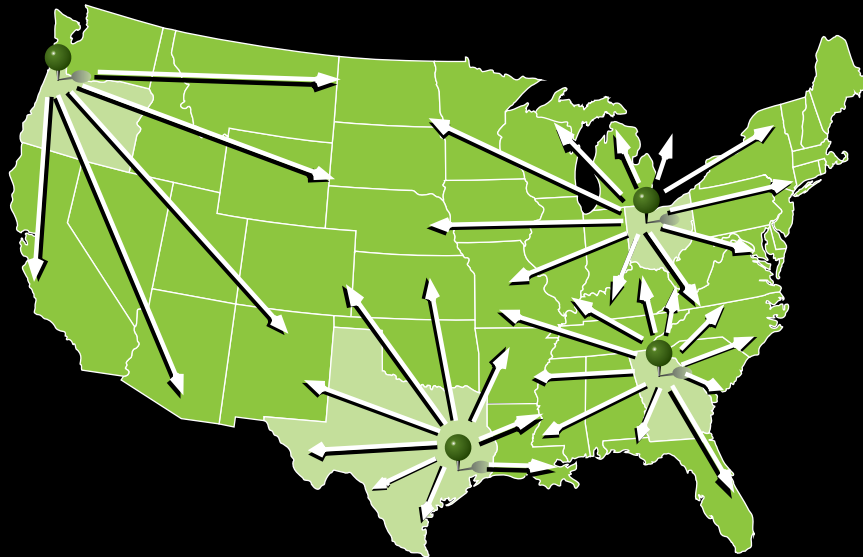
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## STRATEGIC SHIPPING LOCATIONS

The strategic location of our manufacturing facilities in Buford, Georgia, Forest Grove, Oregon and Findlay, Ohio make for fast arrival just about anywhere in North America. In fact, once you've worked with our products and experienced our service, we're confident you'll be impressed.



Advanced Drainage Systems, Inc.  
4640 Trueman Blvd. Hilliard, OH 43026  
1-800-821-6710  
[www.ads-pipe.com](http://www.ads-pipe.com)

THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONS™

