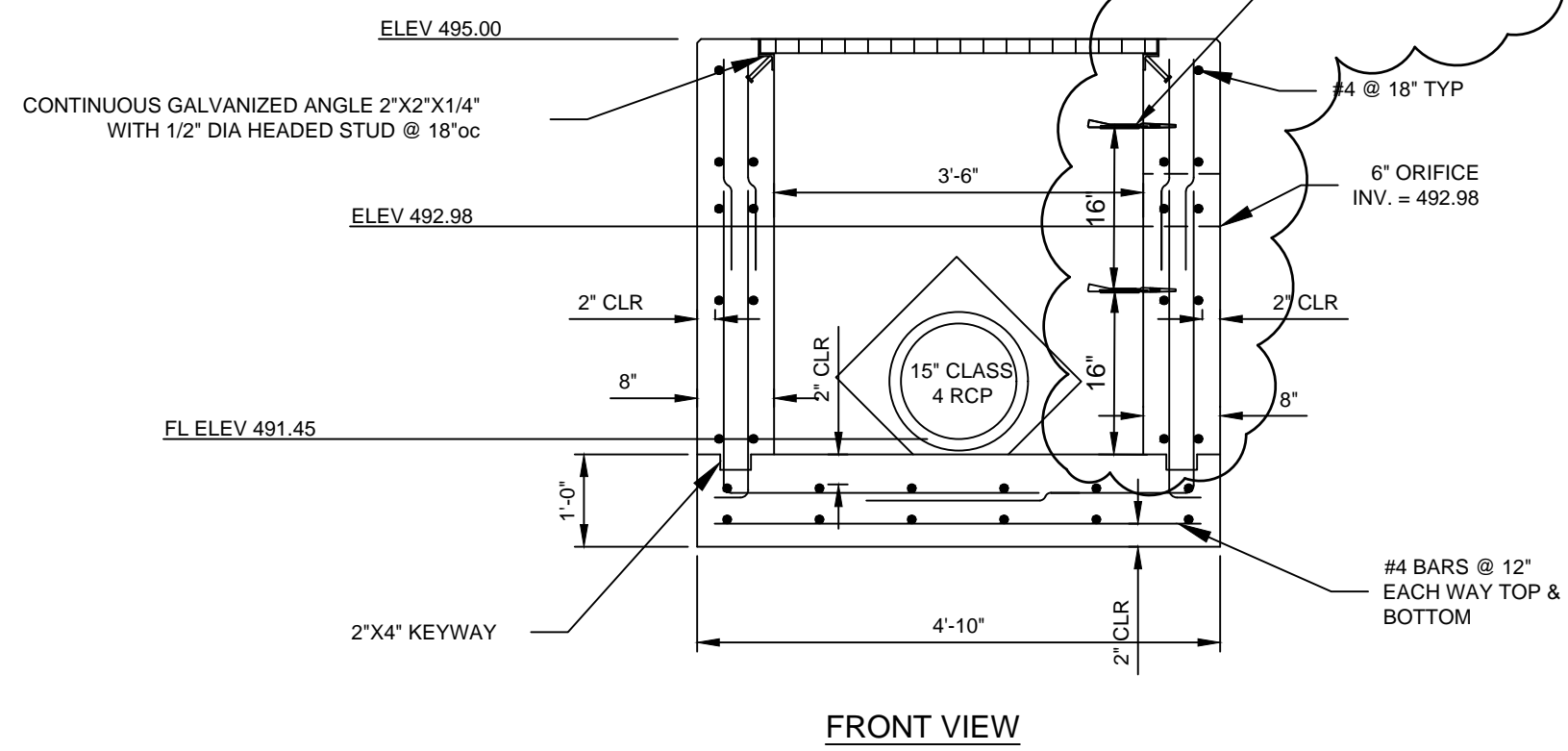
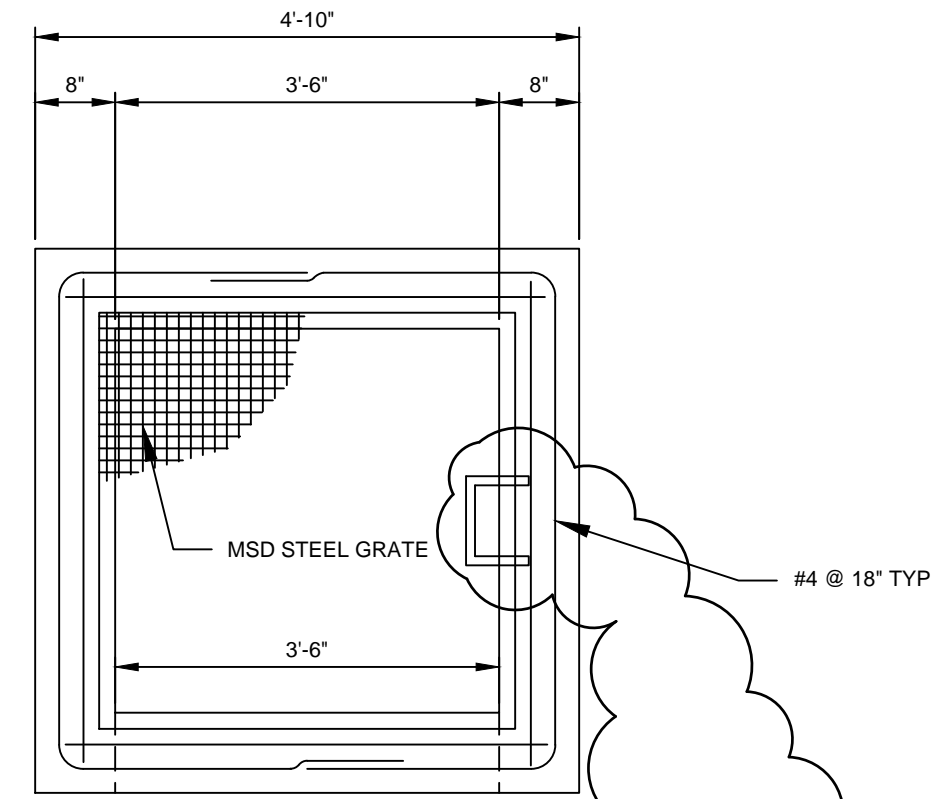
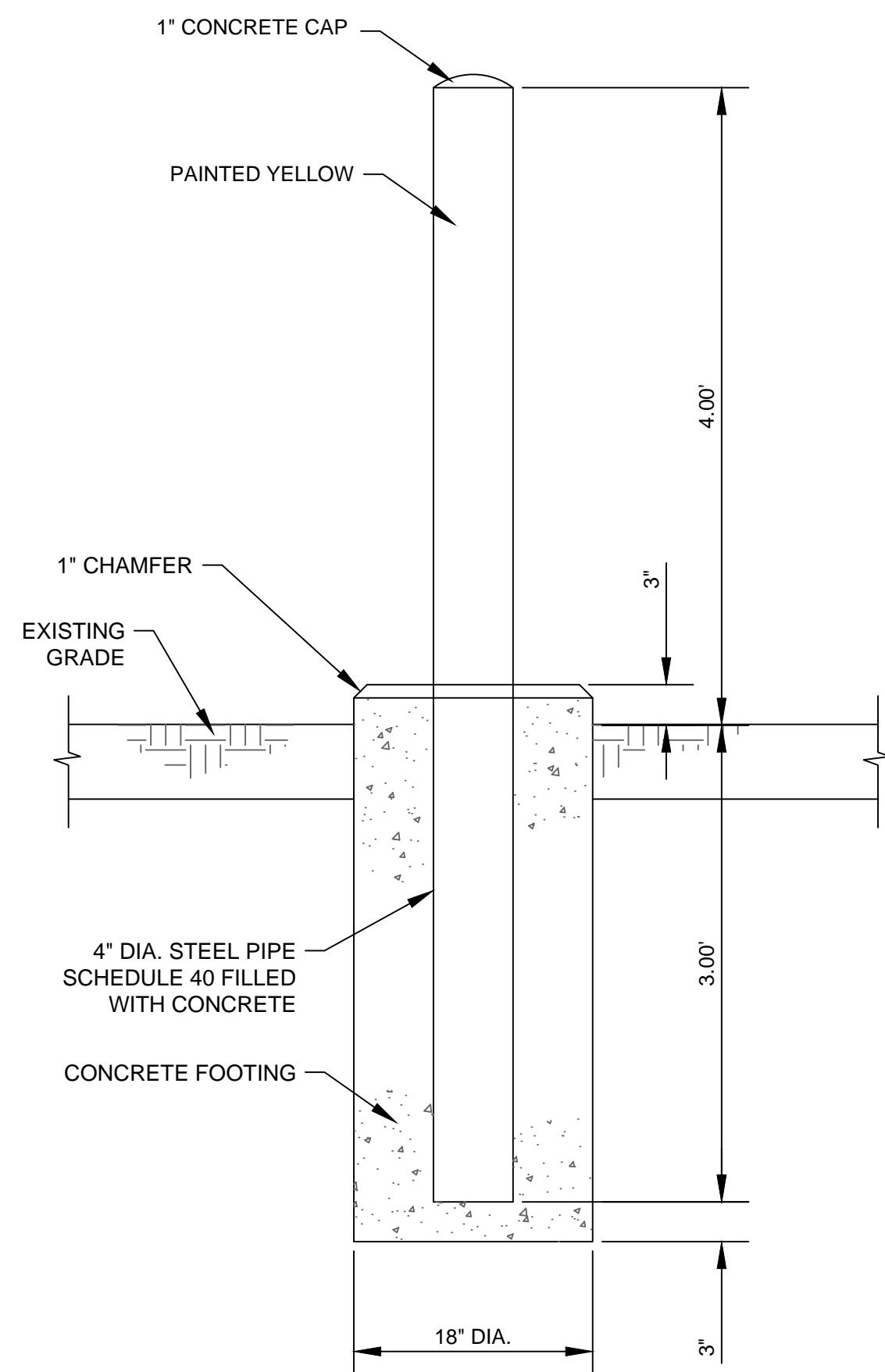


| REVISIONS | |
|-----------|------------|
| NO. | DATE |
| 1 | 08/10/2016 |
| 2 | 08/10/2016 |
| 3 | 08/10/2016 |
| 4 | 08/10/2016 |

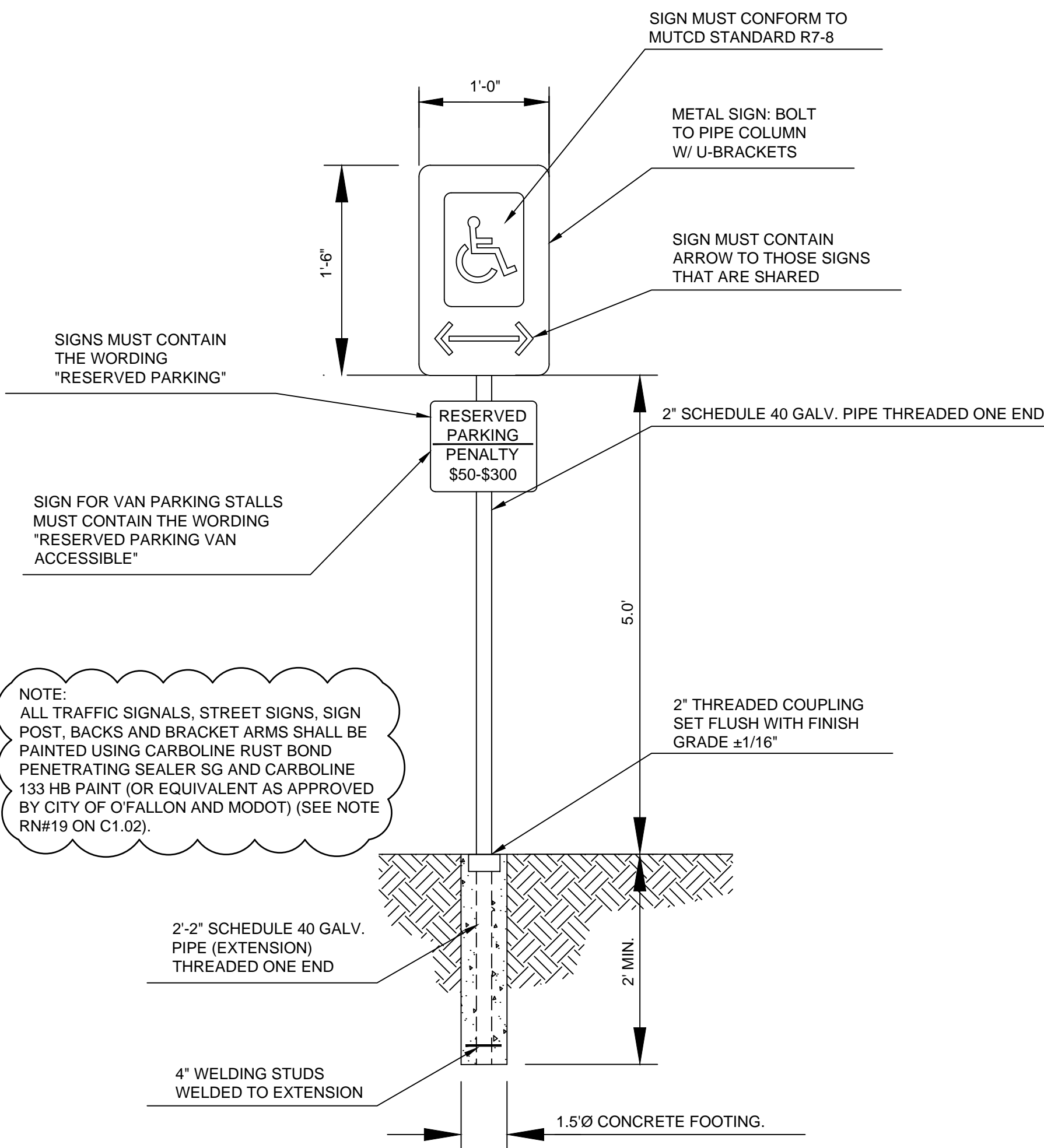
MSD GRATE OR APPROVED EQUAL



1 OUTLET CONTROL STRUCTURE DETAIL
N.T.S.



2 BOLLARD DETAIL
N.T.S.



NOTE:
ALL TRAFFIC SIGNALS, STREET SIGNS, SIGN POST, BACKS AND BRACKET ARMS SHALL BE PAINTED USING CARBOLINE RUST BOND PENETRATING SEALER SG AND CARBOLINE 133 HB PAINT (OR EQUIVALENT AS APPROVED BY CITY OF O'FALLON AND MODOT) (SEE NOTE RN#19 ON C1.02).

3 ACCESSIBLE PARKING SIGN DETAIL
SCALE: NTS

Vegetative Establishment Table:

Seeding rates:
Permanent:
Tall; Fescue -- 30 lbs./ac.
Smooth Brome -- 20 lbs./ac.
Combined: Fescue @15 lbs./ac. and Brome @10 lbs./ac.

Temporary:
Wheat or Rye -- 150 lbs./ac. (3.5 lbs. per square foot)
Oats -- 120 lbs./ac. (2.75 lbs. per square foot)

Seeding periods:
Fescue or Brome -- March 1 to June 1
August 1 to October 1
Wheat or Rye -- March 15 to November 1
Oats -- March 15 to September 15

Mulch rates: 100 lbs. per 1,000 square feet (4,356 lbs. per acre)

Fertilizer rates: Nitrogen 30 lbs./ac.
Phosphate 30 lbs./ac.
Potassium 30 lbs./ac.
Lime 600 lbs./ac. ENM*

*ENM = effective neutralizing material as per State evaluation of quarried rock.

4 VEGETATIVE ESTABLISHMENT TABLE
SCALE: NTS

ADS N-12® WT IB PIPE (per ASTM F2648) SPECIFICATION

Scope
This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 WT IB pipe (per ASTM F2648) for use in gravity-flow land drainage applications.

Pipe Requirements
ADS N-12 WT IB pipe (per ASTM F2648) shall have a smooth interior and annular exterior corrugations.
• 4- through 60-inch (100 to 1500 mm) shall meet ASTM F2648.
• Manning's "n" value for use in design shall be 0.012.

Joint Performance
4- through 60-inch (100 to 1500 mm) shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

12- through 60-inch (300 to 1500 mm) diameters shall have a reinforced bell with a polymer composite band. The bell tolerance device shall be installed by the manufacturer.

Fittings
Fittings shall conform to ASTM F 2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the watertight joint performance requirements of ASTM F 2306.

Field Pipe and Joint Performance
To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

Material Properties
Material for pipe production shall be an engineered compound of virgin and recycled high-density polyethylene conforming with the minimum requirements of cell classification 424420C (ESCR Test Condition B) for 4- through 10-inch (100 to 250 mm) diameters, and 435420C (ESCR Test Condition B) for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The design engineer shall verify compatibility with overall system including structural, hydraulic, material and installation requirements for a given application.

Installation
Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted), or Class 2 (minimum 90% SPD) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.02. Contact your local ADS representative or visit our website at www.ads-pipe.com for a copy of the latest installation guidelines.

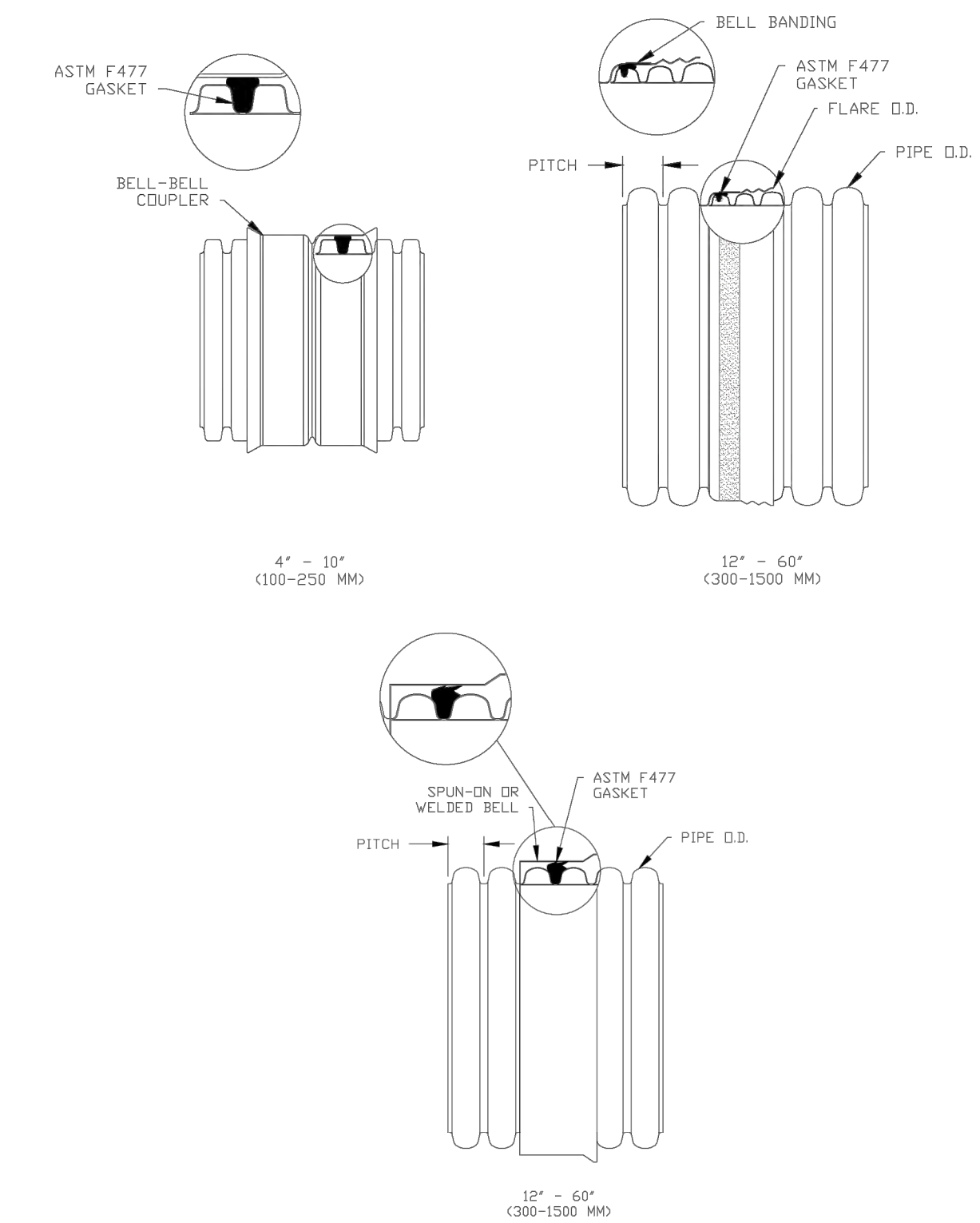
Pipe Dimensions

| Pipe I.D. | Nominal Diameter | | | | | | | | | | | | |
|-------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| | 4 | 6 | 8 | 10 | 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 60 |
| In (mm) | (100) | (150) | (200) | (250) | (300) | (375) | (450) | (600) | (750) | (900) | (1050) | (1200) | (1500) |
| Pipe O.D.** | 4.8 | 6.9 | 9.1 | 11.4 | 14.5 | 18 | 22 | 28 | 36 | 42 | 48 | 54 | 67 |
| In (mm) | (122) | (175) | (231) | (290) | (368) | (457) | (559) | (711) | (914) | (1067) | (1219) | (1372) | (1702) |

*Check with sales representative for availability by region.
**Pipe O.D. values are provided for reference purposes only, values stated for 12- through 60-inch are ± 1 inch. Contact a sales representative for exact values.

N-12® WT IB (PER ASTM F2648) JOINT SYSTEM

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



4 HDPE PIPE SPECIFICATIONS
SCALE: NTS



ADDITION & RENOVATION FOR
O'FALLON CASTING
600 CANNONBALL LANE OF FALLON, MISSOURI 63366
CONSTRUCTION DETAILS

REVISIONS

| NO. | DATE |
|-----|------------|
| 3 | 08/10/2016 |
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ISSUE DATE: MAY 26, 2016
PROJECT NO.: 15-187
DRAWN BY: GAS
CHECKED BY: TBS

