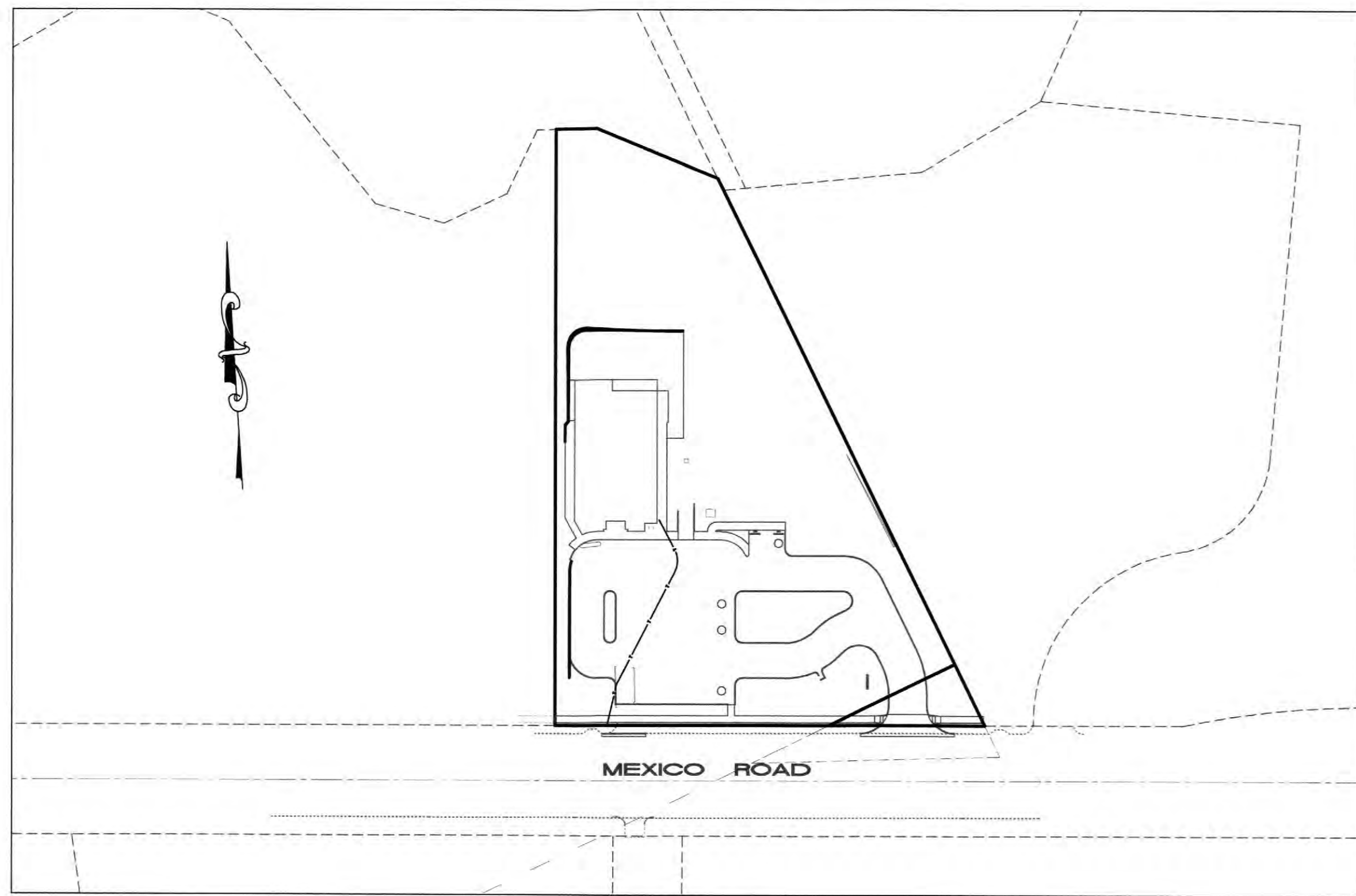


# A SET OF AS-BUILT PLANS FOR TYKE TOWN DEVELOPMENT CENTERS

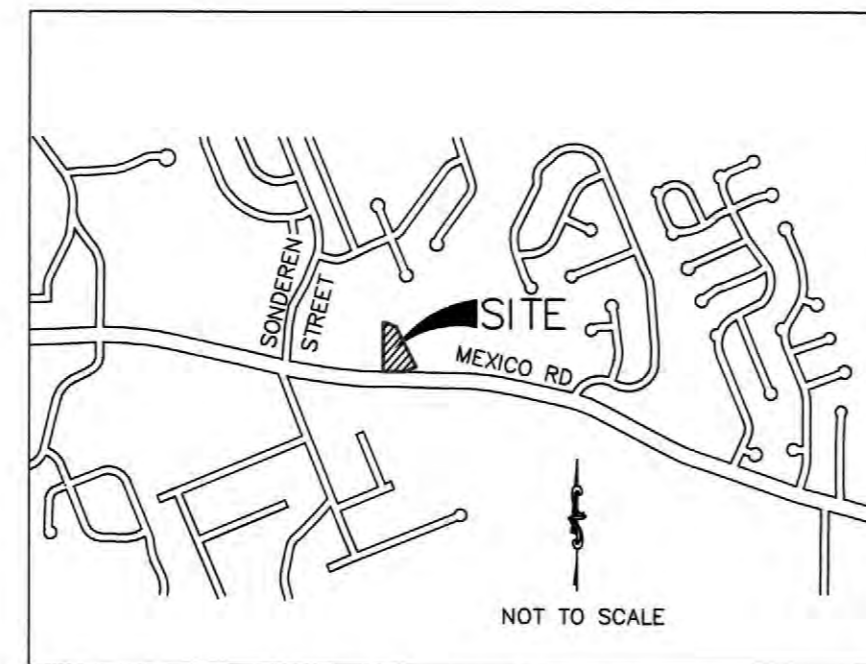
A TRACT OF LAND IN U.S. SURVEY 1766  
TOWNSHIP 47 NORTH, RANGE 3 EAST  
OF THE FIFTH PRINCIPAL MERIDIAN  
CITY OF O'FALLON  
ST. CHARLES COUNTY, MISSOURI

# APPROVED

Jeannie Greenlee 06/18/2019



Plan View



Locator Map

## Legend

|        |                               |                          |                            |
|--------|-------------------------------|--------------------------|----------------------------|
| 600.00 | EXISTING LABELS               | FLARED END SECTION       | MAILBOX                    |
| 600.00 | PROPOSED LABELS               | CURB/AREA INLET          | SIGN                       |
| CI     | SINGLE CURB INLET             | DOUBLE CURB/AREA INLET   | UTILITY BOX                |
| DCI    | DOUBLE CURB INLET             | GRATED INLET             | TREE                       |
| AI     | AREA INLET                    | DOUBLE GRATED INLET      | POWER POLE                 |
| DAI    | DOUBLE AREA INLET             | STORM SEWER MANHOLE      | GUY WIRE                   |
| GI     | GRATE INLET                   | SANITARY SEWER MANHOLE   | LIGHT STANDARD             |
| DGI    | DOUBLE GRATE INLET            | ELECTRIC BOX             | BENCHMARK                  |
| MH     | MANHOLE                       | ELECTRIC TRANSFORMER     | L.A. LANDSCAPED AREA       |
| FE     | FLARED END SECTION            | TRAFFIC CONTROL BOX      | — UGE — BURIED ELECTRIC    |
| EP     | END PIPE                      | TELEPHONE CABLE PEDESTAL | — OHW — OVERHEAD UTILITIES |
| CP     | CONCRETE PIPE                 | TELEPHONE BOX            | — GAS — BURIED GAS         |
| RCP    | REINFORCED CONCRETE PIPE      | ELECTRIC METER           | — W — BURIED WATER         |
| CMP    | CORRUGATED METAL PIPE         | GAS METER                | — T — BURIED TELEPHONE     |
| CPP    | CORRUGATED PLASTIC PIPE       | WATER METER              | — SAN — SANITARY SEWER     |
| PVC    | POLY VINYL CHLORIDE (PLASTIC) | GAS VALVE                | ○ FOUND MONUMENT           |
| CO     | CLEAN OUT                     | WATER VALVE              | ● RECORD MEASUREMENT       |
| —      | DRAINAGE SWALE                | FIRE HYDRANT             | (R) SURVEYED MEASUREMENT   |
| .....  | SLOPE LIMITS                  |                          | (S)                        |
| —      | PROPOSED STORM SEWER          |                          |                            |
| —      | PROPOSED SANITARY SEWER       |                          |                            |
| —x—x—  | FENCE LINE                    |                          |                            |
| —      | SAWCUT LINE                   |                          |                            |
| TBR    | TO BE REMOVED                 |                          |                            |
| UIP    | USE IN PLACE                  |                          |                            |

City approval of any construction site plan does not mean that any building can be constructed on the lots without meeting the building setbacks as required by the zoning codes.

All installations and construction shall conform to the approved engineering drawings. However, if the developer chooses to make minor modifications in design and/or specifications during construction, they shall make such changes at their own risk, without any assurance that the City Engineer will approve the completed installation or construction. It shall be the responsibility of the developer to notify the City Engineer of any changes from the approved drawings. The developer may be required to correct the installed improvements so as to conform to the approved engineering drawings. The developer may request a letter from the Construction Inspection Division regarding any field changes approved by the City Inspector.

Lighting values will be reviewed on site prior to the final occupancy inspection.

## AS-BUILT LEGEND

|   |                               |
|---|-------------------------------|
| ● | AS-BUILT STORM MANHOLE        |
| ○ | AS-BUILT CURB INLET           |
| ▲ | AS-BUILT STORM FLARED END     |
| ● | AS-BUILT SANITARY MANHOLE     |
| ★ | AS-BUILT FIRE HYDRANT         |
| ⊕ | AS-BUILT WATER VALVE          |
| ⊕ | AS-BUILT FIRE HOSE CONNECTION |
| ● | AS-BUILT LIGHT STANDARD       |
| ● | AS-BUILT CLEANOUT             |
| ● | AS-BUILT DOWNSPOUT            |



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\* City of O'Fallon Construction work hours per City Ordinance 3429 as shown in Section 500.420 of the Municipal Code of the City of O'Fallon are as follows:  
October 1 through May 31  
7:00 A.M. To 7:00 P.M. Monday Through Sunday  
June 1 Through September 30  
6:00 A.M. To 8:00 P.M. Monday Through Friday  
7:00 A.M. to 8:00 P.M. Saturday and Sunday

\* The area of this phase of development is 1.66 Acres  
The area of land disturbance is 1.66 Acres Number of proposed lots is one.  
Building setback information. Front = 25 feet  
Side = 0 feet (West)  
6 feet (East) abutting Residential District  
Rear = 10 feet abutting Residential District

\* The estimated sanitary flow in gallons per day is 1776  
\* Parking Calculations:  
Daycare and Preschools: based upon the maximum number of pupils for which the facility is licensed by the state of Missouri  
Occupancy = 99 Pupil, 12 Employees  
1 Space per 6 Pupils, plus 1 Space per Employee  
(99/6 Pupils X 1 Space) + (12 Employees X 1 Space) = 28.5 Spaces  
Total Spaces Required = 29 Spaces  
Total Spaces Provided = 29 Spaces (Includes 2 Accessible Spaces)  
Offstreet Vehicle Stacking = 5 Spaces (Daycare Use Requirement)

\* Bicycle Parking Calculations:  
1 Bicycle Rack Space per 15 Automobile Parking Spaces  
(Minimum of 4 Bicycle Parking Spaces per Building)  
29/15 Automobile Parking Spaces x 1 Space  
Total Bicycle Rack Spaces Required = 4 Spaces  
Total Bicycle Rack Spaces Provided = 4 Spaces

\* Loading Calculations:  
1 Loading Space for use over 5,000 sq. ft. Gross Floor Area and 1 additional Loading Space for every additional 20,000 sq. ft. Gross Floor Space  
1 Space + (5860 - 5000)/20,000 sq. ft. X 1 Space = 1 Loading Space

\* Tree Preservation calculations: 20% of existing trees or 15 trees per acre (whichever is greater) shall be preserved  
Required tree preservation: (0.47 acres trees x 15 trees) + (37 trees x 0.20) = 7.05 + 7.40 = 14.5 = 15 trees  
No tree replacement required: more than 15 existing trees remain in existing tree mass

\* Landscape Calculations:  
1 Tree per 40 Feet Street Frontage within Landscape Setback  
1 Tree per 3,000 Sq. Ft. Landscaped Open Space  
311.70/40 feet x 1 Tree = 7.79 Trees  
51,359/3,000 Sq. Ft. x 1 Tree = 18 Trees (Required trees are provided in remaining tree mass north of development)

Total Trees Required = 8 Trees  
Total Trees Provided = 42 Trees (Buffer Yard trees included)  
Interior Landscape Area = 6% Minimum Interior Parking Lot  
0.06(29 Spaces x 270 Sq. Ft.) = 469.80 Sq. Ft. Interior Landscape Area  
Total Interior Landscape Area Provided = 2,891.36 Sq. Ft.

\* Buffer yard requirements: two plant units and a 6 foot high sight-proof fence within a 20 foot wide buffer yard area per every 100 feet of frontage where buffer yard is required

## Conditions of Approval From Planning and Zoning - Site Plan

### Staff Recommendations

- Should the property to the east develop as commercial or multi-family, the proposed cross access shall be constructed to the property line by the property owner. Provide a note on the construction plans and in the cross access easement documentation to be recorded.
- Prior to construction plan approval, the property owner shall vacate and acquire the excess right-of-way located near the southeast corner of the site where the entrance is located.
- The applicant shall abide by the municipal code requirements listed.

### Municipal Code Requirements

- All signage shall be reviewed and approved through a separate permitting process.
- A photometric lighting plan shall be submitted prior to construction plan approval. Foot-candles shall not exceed 0.5 at the property lines.
- The sidewalk along Mexico Road shall connect to the existing sidewalk to the west. Provide an accessible ramp or "no step" from the accessible parking to the sidewalk located in front of the building.
- The curb at the property entrance shall match the exiting curb on Mexico Road.
- A floodplain development permit will be required with the Construction Plans.

## Conditions of Approval From Planning and Zoning - Conditional Use

### Staff Recommendations

- This conditional use permit is granted solely to the owners of Tyke Town. Should ownership transfer in the future, the new owner shall be required to apply for a transfer of a Conditional Use Permit through the Planning and Development Department.
- The holder of this Conditional Use Permit shall be and remain fully licensed with the State of Missouri and the City of O'Fallon. Both licenses shall remain in good standing throughout the term of this Conditional Use Permit.
- This Conditional Use Permit shall be revoked upon: i) breach or failure to comply with the conditions of this permit, ii) disciplinary action or other action affecting the status of the holder's state or city licenses, and iii) as otherwise provided by ordinance or other applicable law.

## Utility Contacts

Sanitary Sewer  
City of O'Fallon  
100 N. Main St.  
O'Fallon, MO 63366  
636-240-2000

Water  
City of O'Fallon  
100 N. Main St.  
O'Fallon, MO 63366  
636-240-2000

Electric  
Ameren UE  
200 Callahan Road  
Wentzville, MO 63385  
636-639-8312

Gas  
Spire Gas Company  
6400 Graham Road  
St. Louis, MO 63134  
314-522-2297

Fire Department  
O'Fallon Fire Protection District  
111 Laura K Dr.  
O'Fallon, MO 63366  
636-272-3493

Telephone  
Centurylink  
1151 Century Tel Dr.  
Wentzville, MO 63385  
636-332-7261

Charter Communications  
941 Charter Commons  
Town & Country, MO 63017  
888-438-2427

## Grading Quantities:

4900 C.Y. CUT (INCLUDES SUBGRADE)  
4900 C.Y. FILL (INCLUDES 8% SHRINKAGE)  
BALANCED

THE ABOVE GRADING QUANTITY IS APPROXIMATE ONLY, NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO CONSTRUCTION.

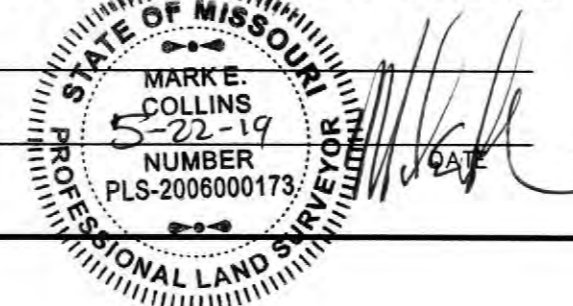
## AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

THE FOLLOWING UTILITIES HAVE BEEN LOCATED AND MEASURED AND THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS:

- STORM SEWERS, STORM SEWER LENGTHS, STORM SEWER PIPE SIZES, STORM SEWER FLOWLINES AND DEPTHS OF STORM SEWER STRUCTURES.
- SANITARY SEWERS, SANITARY SEWER LENGTHS, SANITARY SEWER PIPE SIZES, SANITARY SEWER FLOWLINES AND DEPTHS OF SANITARY SEWER STRUCTURES.
- FIRE HYDRANTS
- WATER VALVES

ALL PUBLIC UTILITIES SHOWN HEREON AS BEING AS-BUILT ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS.

SIGNED: \_\_\_\_\_  
P.E./L.S.



## Development Notes:

- AREA OF TRACT: 1.950 ACRES
- THIS PROPERTY IS A PART OF THE PROPERTY REFERENCED AS PARCEL I.D. NUMBER 2-0119-1766-00-0023.3000000 OF THE ST. CHARLES COUNTY ASSESSOR'S OFFICE.
- EXISTING ZONING: C-2 GENERAL BUSINESS DISTRICT, CITY OF O'FALLON
- SITE ADDRESS: 8368 MEXICO ROAD O'FALLON, MO 63376
- PROPOSED USE: DAYCARE
- OWNER: TYKE TOWN PROPERTIES, L.L.C. P.O. BOX 81 TROY, MO 63379
- SITE COVERAGE: SITE = 85,073 SQ. FT. + 2,513 SQ. FT. (PARCEL TO BE ACQUIRED) = 87,586 SQ. FT. PROPOSED BUILDING = 5,860 SQ. FT. = 7% PROPOSED PAVEMENT = 30,367 SQ. FT. = 35% PROPOSED GREENSPACE = 51,359 SQ. FT. = 58%
- WE HAVE DETERMINED THE HORIZONTAL LOCATION OF THIS TRACT OF LAND IN ST. CHARLES COUNTY, MISSOURI, BY SCALING THE PROPERTY IN REFERENCE TO THE FOLLOWING FLOOD INSURANCE RATE MAP (FIRM), ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS, MAP NUMBER 29183C0237G, COMMUNITY PANEL NUMBER (CITY OF O'FALLON, 2903160 0237 G WITH AN EFFECTIVE DATE OF JANUARY 20, 2016). BY EXPRESS REFERENCE TO THESE MAPS AND THEIR LEGENDS, THIS TRACT OF LAND IS INDICATED TO BE WITHIN THE FOLLOWING ZONES:
  - ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN
  - ZONE AE - SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD IN WHICH BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.
  - ZONE AE FLOODWAY

THE EVALUATION PROVIDED IN THIS NOTE IS RESTRICTED TO SIMPLY INDICATING THE APPARENT HORIZONTAL LOCATION OF THE PROPERTY WITH RESPECT TO THE FEATURES DISPLAYED ON THE MAP. NO FIELD STUDY OF THE DRAINAGE CHARACTERISTICS TO WHICH THIS PROPERTY MAY BE SUBJECT TO HAS BEEN CONDUCTED AND NO REPRESENTATION CONCERNING THE INSURABILITY OF THIS PROPERTY OR THE POTENTIAL SUSCEPTIBILITY OF THIS PROPERTY TO FLOODING HAS BEEN MADE. BAX ENGINEERING MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THE ABOVE REFERENCED FIRM MAP WHICH INCLUDES A NOTE THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM. IT DOES NOT NECESSARILY IDENTIFY ALL AREA SUBJECT TO FLOODING, PARTICULARLY FROM LOCAL DRAINAGE SOURCES OF SMALL SIZE."

- ALL NEW LIGHTING SHALL BE DOWNCAST LIGHTS CONSISTENT WITH CITY OF O'FALLON STANDARDS AND SPECIFICATIONS.
- ALL MECHANICAL EQUIPMENT SHALL BE ROOFTOP MOUNTED AND WILL BE SCREENED PER CITY OF O'FALLON ZONING CODE, SECTION 400.276.
- UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.
- ALL NEW UTILITIES ARE TO BE LOCATED UNDERGROUND.
- DIFFERENTIAL RUNOFF CALCULATIONS:  
ADDITIONAL IMPERVIOUS AREA TO SITE = 0.83-0.13 = 0.70 ACRES  
DIFFERENTIAL RUNOFF = 0.70 ACRES (6.08-2.95) = 2.19 CFS  
UNDERGROUND DETENTION IS PROPOSED FOR INCREASED RUNOFF
- PROPOSED WATER QUALITY SHALL BE PROVIDED BY AN ISOLATOR ROW IN THE PROPOSED UNDERGROUND DETENTION SYSTEM.
- ANY OFFSITE GRADING OR UTILITY CONSTRUCTION WILL REQUIRE AN EASEMENT BEFORE CONSTRUCTION.
- ALL SIGNAGE FOR THIS FACILITY SHALL REQUIRE SEPARATE PERMIT APPROVAL.
- PROPERTY OWNER SHALL CONSTRUCT PROPOSED CROSS ACCESS TO THE PROPERTY LINE SHOULD THE PROPERTY TO THE EAST DEVELOP AS COMMERCIAL OR MULTI-FAMILY.

## Benchmarks: Project

ALL AS-BUILT ITEMS HAVE BEEN LOCATED AND TIED TO MISSOURI STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE GRID NORTH, NADES FOR HORIZONTAL DATUM AND NAVD88 FOR VERTICAL DATUM.

ELEVATION 542.80 (DATUM NAVD88) ESTABLISHED BY COAST AND GEODETIC SURVEY 1935, A STANDARD BRASS DISK, STAMPED F 149 1935 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 3 INCHES ABOVE GROUND. FURTHER DESCRIBED IN 2003 AS BEING LOCATED IN THE CITY OF O'FALLON, MO, APPROXIMATELY 12 MILES WEST OF THE CITY OF SAINT CHARLES AND 7.5 MI EAST OF WENTZVILLE AND IN FRONT OF THE CITY OF O'FALLON MUNICIPAL CENTER. TO REACH THE STATION FROM THE INTERSECTION OF THE I-70 BRIDGE OVER CR-K/SR-M (MAIN STREET), GO NORTH 0.6 MI ON MAIN STREET TO THE STATION ON THE RIGHT AT THE SOUTHWEST CORNER OF THE ENTRANCE TO THE CITY OF O'FALLON MUNICIPAL BUILDING. THE STATION IS A STANDARD CGS DISK STAMPED--F 149 1935--AND SET IN A 4-INCH SQUARE CONCRETE MONUMENT PROJECTING 3 INCHES ABOVE THE GROUND. THE STATION IS 78.4 FEET SOUTH OF THE BRICK CITY OF O'FALLON MUNICIPAL BUILDING ENTRANCE SIGN, 61.2 FEET SOUTHWEST OF A STOP SIGN, 45.0 FEET NORTH OF THE NORTH RAIL OF THE NORFOLK AND SOUTHERN RAILROAD TRACKS, 28.6 FEET SOUTHWEST OF A LIGHT STANDARD, AND 25.7 FEET NORTHEAST OF A LIGHT STANDARD.

## Site

ELEVATION 502.62 (NAVD88) NORTHWEST CORNER OF MOTHER MARY STATUE LOCATED 42.63' PERPENDICULARLY SOUTH OF MEXICO ROAD CENTERLINE STATION 29+66.67

## Drawing Index

- COVER SHEET
- NOTES
- DEMOLITION PLAN
- SITE PLAN
- UTILITY PLAN
- GRADING-PLAN/SEWERMENT & EROSION CONTROL PLAN
- EXISTING DRAINAGE AREA MAP
- PROPOSED DRAINAGE AREA MAP
- SEWER PROFILES
- 10-11 BASIN DETAIL
- 12-14 CONSTRUCTION DETAILS
- CONSTRUCTION DETAILS

CITY OF O'FALLON  
COMMUNITY DEVELOPMENT DEPARTMENT  
ACCEPTED FOR CONSTRUCTION  
BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
PROFESSIONAL ENGINEER'S SEAL  
INDICATES RESPONSIBILITY FOR DESIGN

PROJECT TITLE:  
As-Built Plans for Tyke Town Development Centers  
8368 Mexico Road  
St. Peters, MO 63376

ENGINEERING PLANNING SURVEYING  
221 Point West Blvd.  
St. Charles, MO 63301  
636-928-5562  
FAX 928-1718



DISCLAIMER OF RESPONSIBILITY  
I hereby certify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

Bax Engineering Company, Inc.  
Missouri State Certificate of Authority  
Engineering #000655  
Missouri State Certificate of Authority  
Surveying #000144

| REVISIONS |  |
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|           |  |
|           |  |
|           |  |

Developer / Owner:  
Tyke Town Properties, LLC  
P.O. Box 81  
Troy, Missouri 63379  
636-462-5380

P+Z No. 17-012955  
Approval Date: 02-01-18  
City No. #  
Page No.

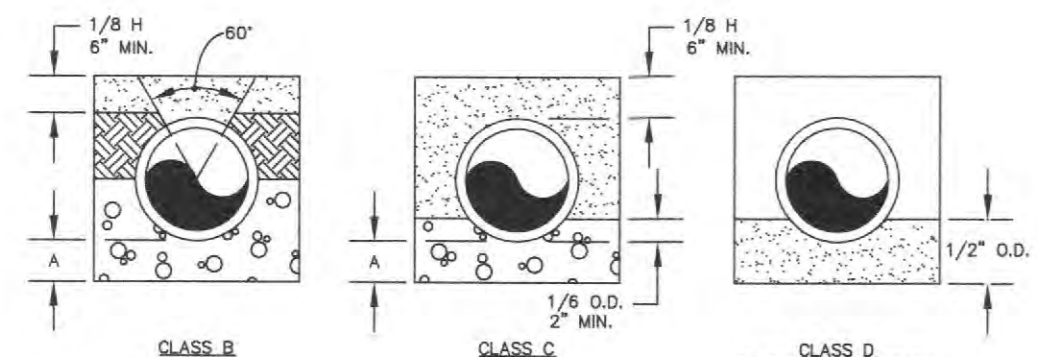
1 of 15

COVER SHEET









**LEGEND**

1/8" - NOMINAL PIPE SIZE  
 O.D. - OUTSIDE DIAMETER OF PIPE  
 H - COVER ABOVE TOP OF PIPE  
 A - EMBEDDED BELOW PIPE (SEE TABLE)

**TABLE OF EMBEDDED DEPTHS BELOW PIPE**

| CLASS         | MIN. SOL. | MIN. ROCK |
|---------------|-----------|-----------|
| 27" & SMALLER | 3"        | 6"        |

**LEGEND**

1/8" - NOMINAL PIPE SIZE  
 O.D. - OUTSIDE DIAMETER OF PIPE  
 H - COVER ABOVE TOP OF PIPE  
 A - EMBEDDED BELOW PIPE (SEE TABLE)

TAMPED BACK FILL  
 COMPACTED BACK FILL  
 GRANULAR BEDDING

GRANULAR BEDDING SHALL BE CRUSHED ROCK OR PEA GRAVEL WITH NOT LESS THAN 80% PASSING 1/2" (80% PASSING 3/4" FOR 30" AND LARGER PIPE) AND NOT LESS THAN 80% RETAINED ON A #4. TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING.

COMPACTED BACK FILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. D1557, OR GRADED AGGREGATE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED BACK FILL.

TAMPED BACK FILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, HAND PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK AND TAMPED AROUND CONDUIT PIPE. GRANULAR BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACK FILL.

TRENCH BACK FILL SHALL BE AS REQUIRED IN THE "LAYING AND BACK FILL" SECTION OF THE DETAILED SPECIFICATIONS.

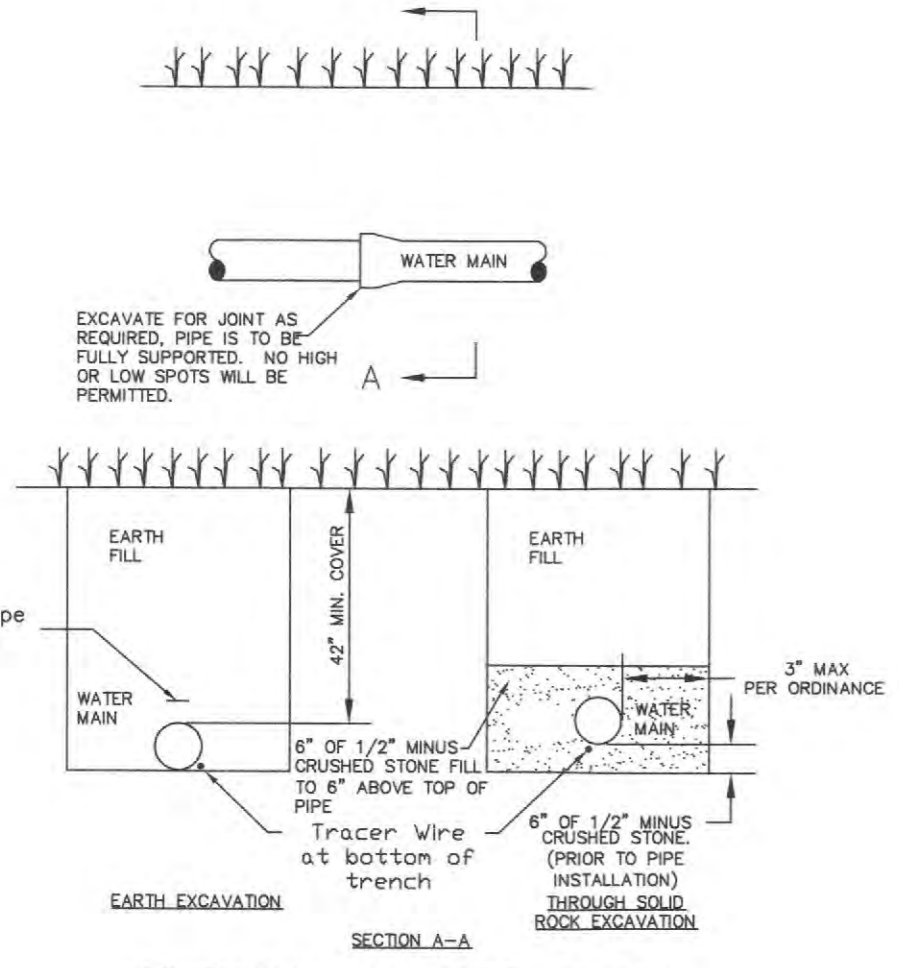
EMBED THE TYPE OF EMBEDDED TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.

TRACER WIRE REQUIRED ON ALL WATER MAINS

**WATER MAIN EMBEDDED**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

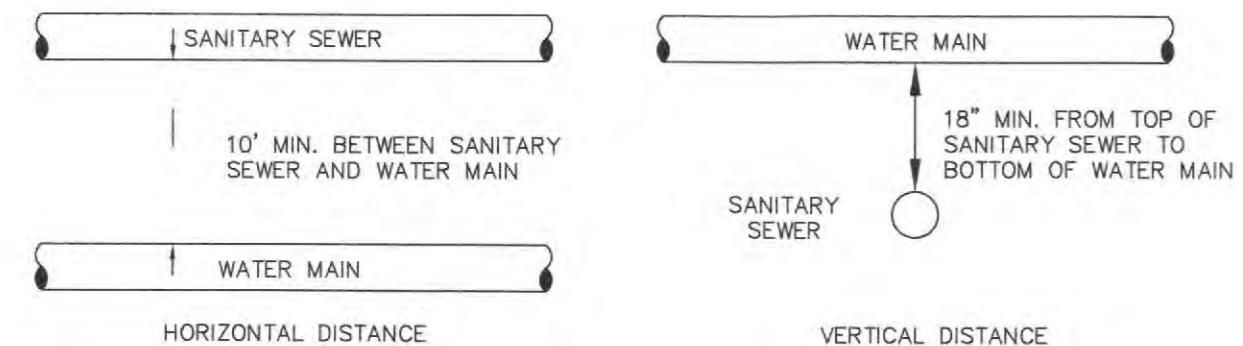
**WATER MAIN EMBEDDED**



**TYPICAL WATER MAIN INSTALLATION DETAILS**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**WATER MAIN INSTALLATION DETAIL**

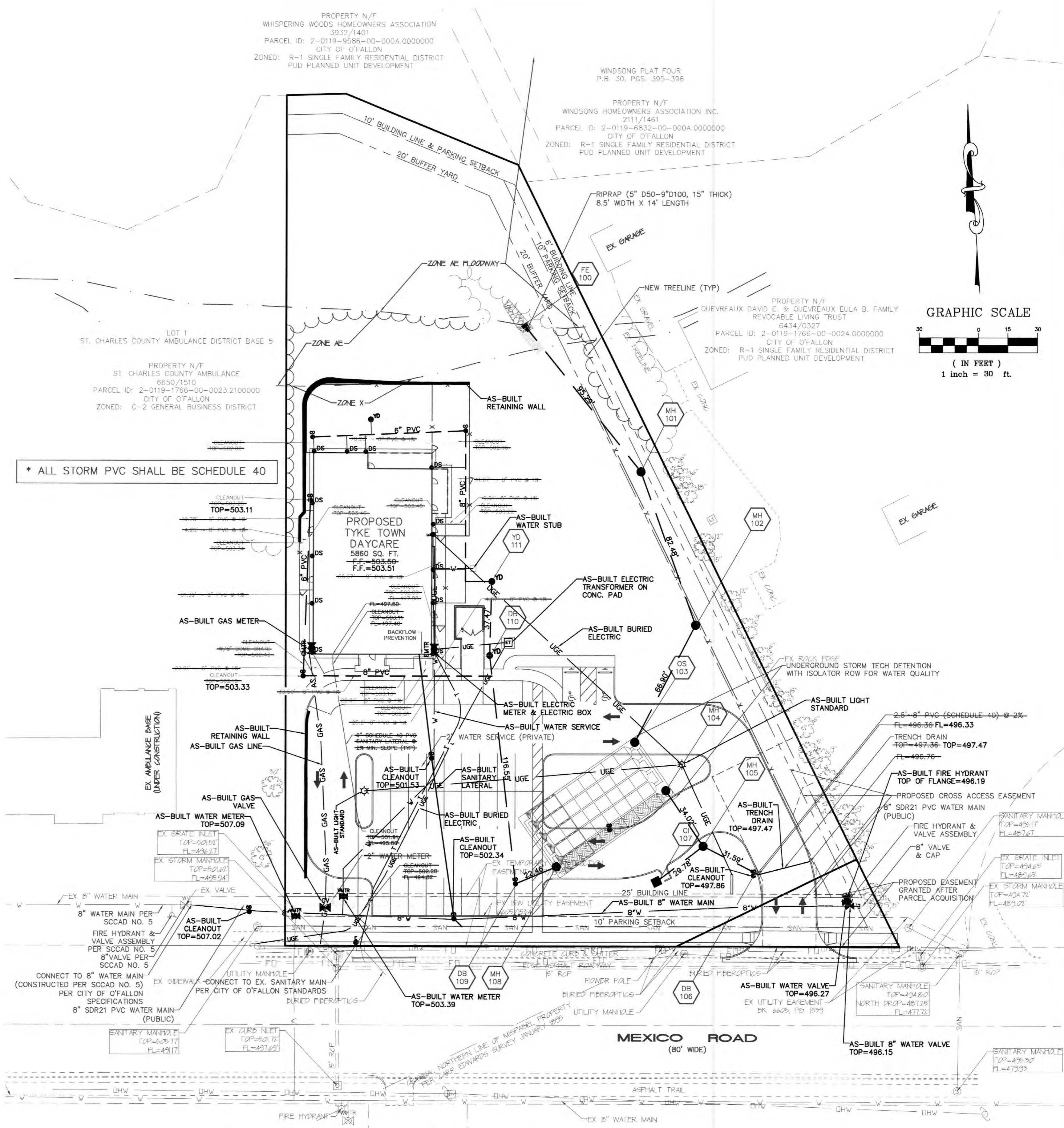


**TYPICAL WATER AND SEWER SEPARATION**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**WATER AND SEWER SEPARATION DETAIL**

NOTE: CITY OF O'FALLON WATER DETAILS CONTINUED ON SHEET 12 OF 15



\* ALL STORM PVC SHALL BE SCHEDULE 40

NOTE: CONTRACTOR RESPONSIBLE FOR COORDINATION WITH CITY & WATER DEPARTMENT FOR THE ABANDONMENT OF THE EXISTING WATER METER AND SANITARY LATERAL AT THE MAIN PER CITY OF O'FALLON STANDARDS



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 1-800-DIG-RITE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

**ENGINEER SEAL DOES NOT APPLY TO CITY OF O'FALLON DETAILS**

**PROJECT TITLE:**  
 As-Built Plans for Tyke Town Development Centers  
 8368 Mexico Road  
 St. Peters, MO 63376

**ENGINEERING PLANNING SURVEYING**  
 221 Point West Blvd.  
 St. Charles, MO 63301  
 636-828-5552  
 FAX 636-828-1718



DISCLAIMER OF RESPONSIBILITY  
 I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.



Box Engineering Company, Inc.  
 Missouri State Certificate of Authority Engineering #000655  
 Missouri State Certificate of Authority Surveying #000144

**REVISIONS**

| NO. | DESCRIPTION |
|-----|-------------|
|     |             |
|     |             |
|     |             |
|     |             |

**Developer / Owner:**  
 Tyke Town Properties, LLC  
 P.O. Box 81  
 Troy, Missouri 63379  
 636-462-5380

**P+Z No.** 17-012955  
**Approval Date:** 02-01-18  
**City No.** #  
**Page No.**

**5 of 15**

**UTILITY PLAN**

Box Project # 00-1244CJ Issue Date: 04-24-19

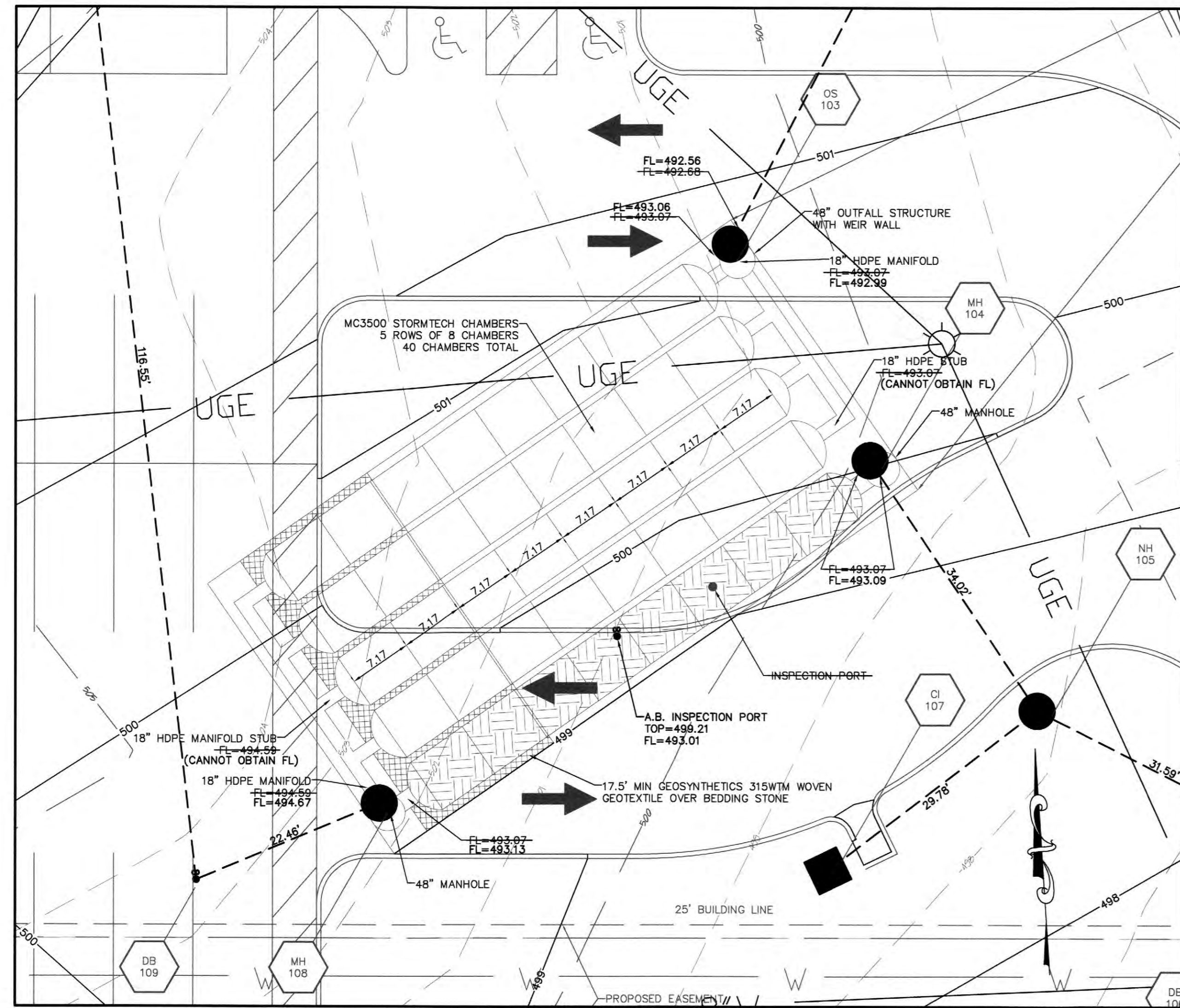




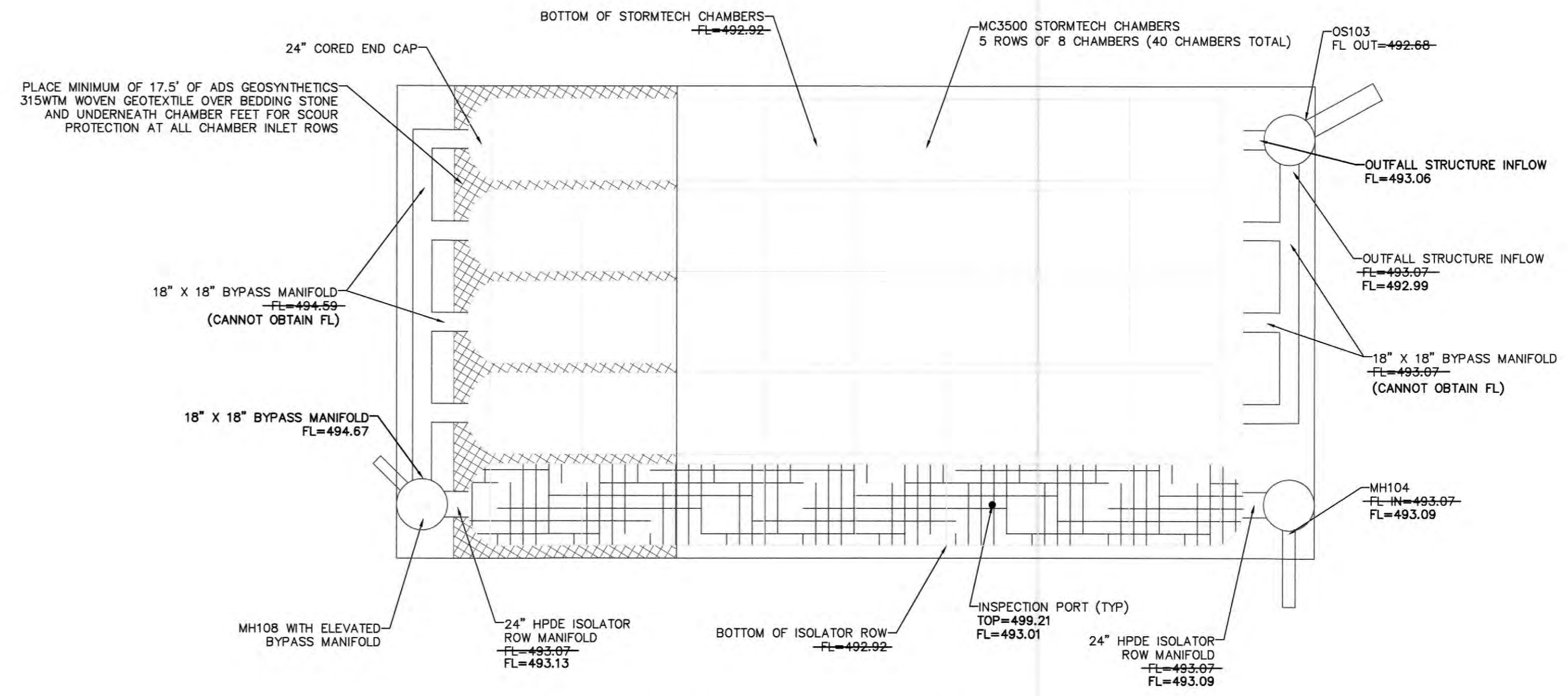








**UNDERGROUND DETENTION LAYOUT**  
1"=10'



**UNDERGROUND DETENTION SCHEMATIC**  
NTS



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1-800-DIG-RITE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

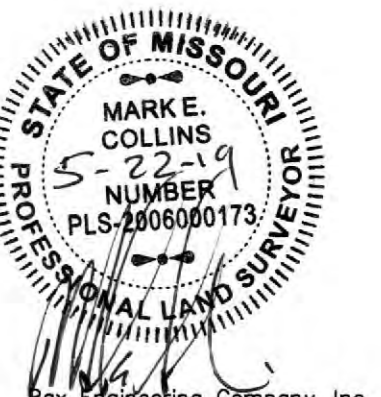
**PROJECT TITLE:**  
As-Built Plans for  
Tyke Town Development Centers  
8368 Mexico Road  
St. Peters, MO 63376

Box Project # 00-112141CA Issue Date: 04-24-19

**ENGINEERING**  
PLANNING  
SURVEYING  
221 Point West Blvd.  
St. Charles, MO 63301  
636-928-5552  
FAX 636-928-1718



**DISCLAIMER OF RESPONSIBILITY**  
I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.



Box Engineering Company, Inc.  
Missouri State Certificate of Authority  
Engineering #000655  
Missouri State Certificate of Authority  
Surveying #000144

**REVISIONS**

| NO. | DESCRIPTION |
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**Developer / Owner:**  
Tyke Town Properties, LLC  
P.O. Box 81  
Troy, Missouri 63379  
636-462-5380

**BASIN DETAIL**

**P+Z No.** 17-012955  
**Approval Date:** 02-01-18  
**City No.** #

**Page No.**



| BENDS       | "B" | "C"  | "D" | "E" | "F" |
|-------------|-----|------|-----|-----|-----|
| 6"-11 1/4"  | 8"  | 15"  | 12" | 24" | 10" |
| 6"-22 1/2"  | 8"  | 19"  | 12" | 24" | 13" |
| 6"-45"      | 8"  | 30"  | 12" | 24" | 15" |
| 6"-90"      | 8"  | 30"  | 12" | 24" | 20" |
| 8"-11 1/4"  | 8"  | 20"  | 12" | 24" | 10" |
| 8"-22 1/2"  | 8"  | 31"  | 12" | 24" | 18" |
| 8"-45"      | 8"  | 31"  | 12" | 24" | 24" |
| 8"-90"      | 8"  | 38"  | 12" | 24" | 38" |
| 12"-11 1/4" | 8"  | 30"  | 12" | 24" | 15" |
| 12"-22 1/2" | 8"  | 35"  | 12" | 24" | 25" |
| 12"-45"     | 8"  | 40"  | 12" | 24" | 30" |
| 12"-90"     | 8"  | 60"  | 12" | 24" | 52" |
| 16"-11 1/4" | TL  | 28"  | 20" | 24" | 28" |
| 16"-22 1/2" | TL  | 36"  | 20" | 24" | 30" |
| 16"-45"     | TL  | 53"  | 20" | 24" | 40" |
| 16"-90"     | TL  | 91"  | 20" | 24" | 60" |
| 20"-11 1/4" | TL  | 34"  | 24" | 28" | 28" |
| 20"-22 1/2" | TL  | 48"  | 24" | 28" | 38" |
| 20"-45"     | TL  | 74"  | 24" | 28" | 50" |
| 20"-90"     | TL  | 136" | 24" | 28" | 60" |
| 24"-11 1/4" | TL  | 40"  | 28" | 28" | 40" |
| 24"-22 1/2" | TL  | 56"  | 28" | 28" | 50" |
| 24"-45"     | TL  | 101" | 28" | 28" | 60" |
| 24"-90"     | TL  | 186" | 28" | 28" | 60" |
| 30"-11 1/4" | TL  | 49"  | 34" | 30" | 49" |
| 30"-22 1/2" | TL  | 73"  | 34" | 30" | 59" |
| 30"-45"     | TL  | 154" | 34" | 30" | 60" |
| 30"-90"     | TL  | 285" | 34" | 30" | 60" |

| TEES        | "C" | "H" | "L" | "K" |
|-------------|-----|-----|-----|-----|
| 6"x6"x6"    | 12" | 24" | 18" | 18" |
| 8"x8"x8"    | 12" | 24" | 18" | 18" |
| 8"x8"x8"    | 12" | 27" | 24" | 27" |
| 12"x12"x12" | 12" | 24" | 18" | 18" |
| 12"x12"x12" | 12" | 27" | 24" | 27" |
| 12"x12"x12" | 12" | 30" | 24" | 24" |
| 12"x12"x12" | 12" | 36" | 24" | 24" |
| 24"x24"x24" | 18" | 36" | 28" | 28" |

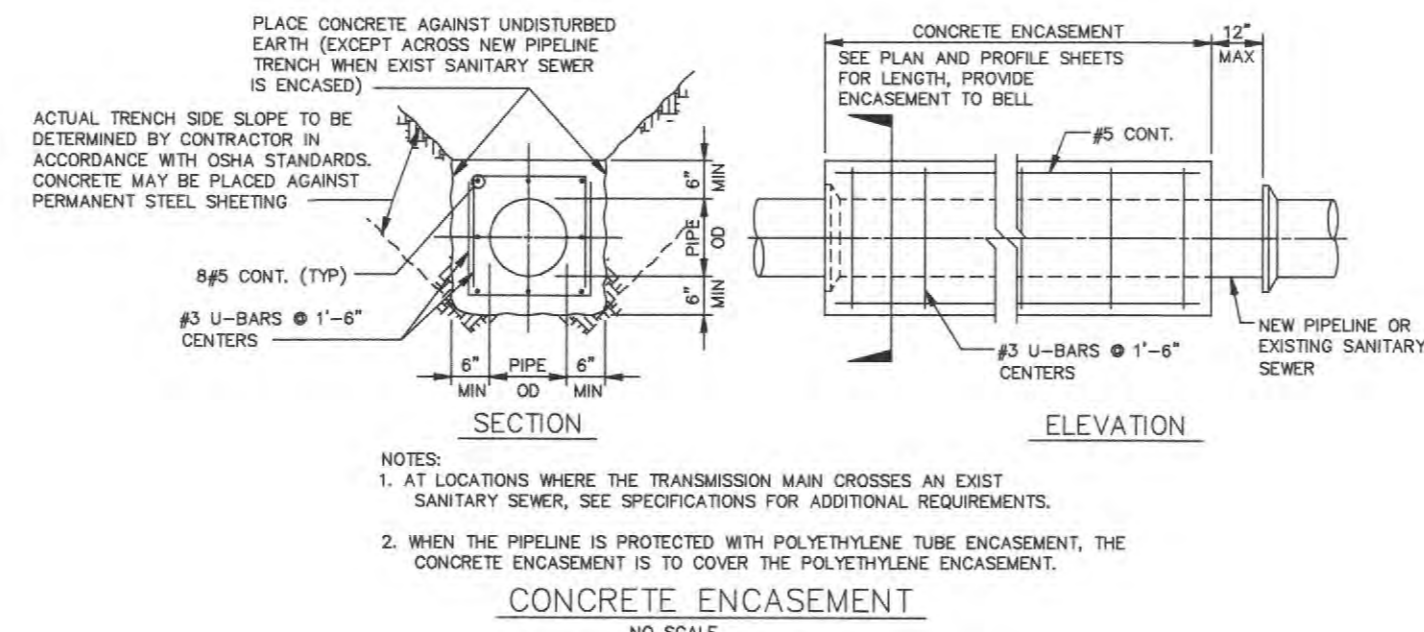
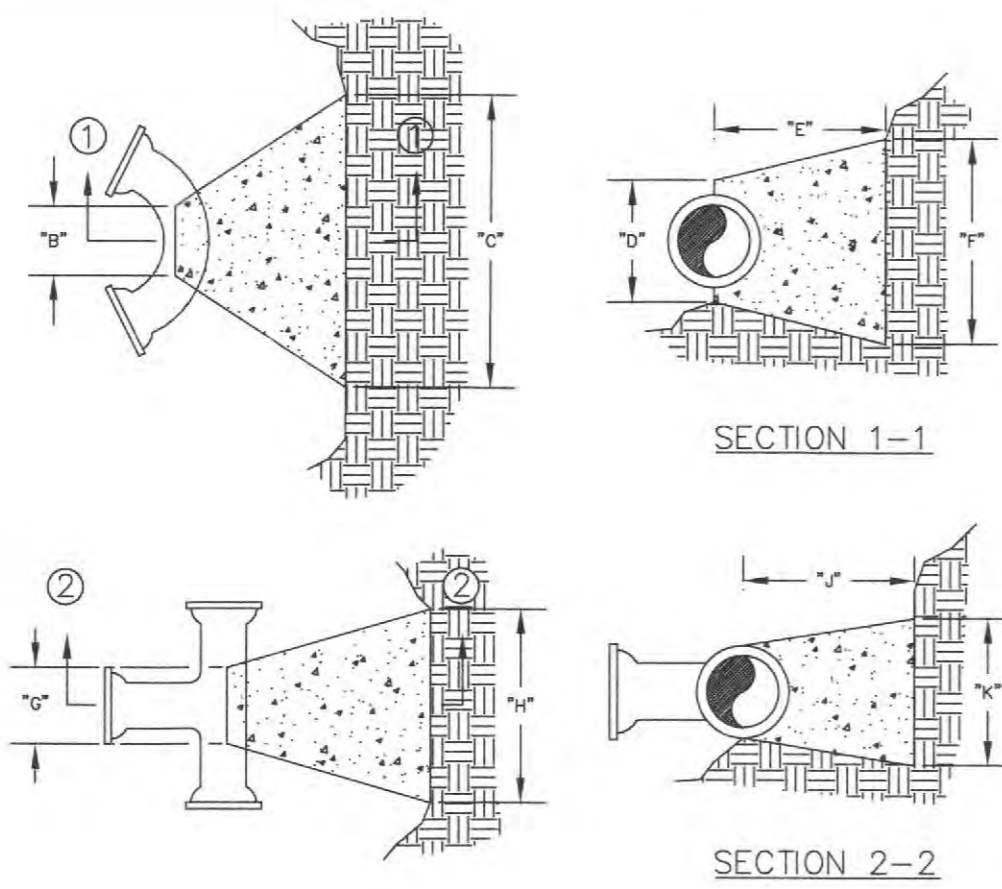
NOTES:  
 1. 2" & 4" FITTINGS EQUIVALENT TO 6" FITTINGS.  
 2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.  
 3. "L" = TOTAL LENGTH OF FITTING MINUS CLEARANCE FOR BELLS.

INTERNAL WATER PRESSURE 6" through 12"=200 psi  
 INTERNAL WATER PRESSURE 16" through 30"=270 psi  
 BEARING PRESSURE OF SOIL=2000 psi

**BACKING BLOCKS**  
 NOT TO SCALE

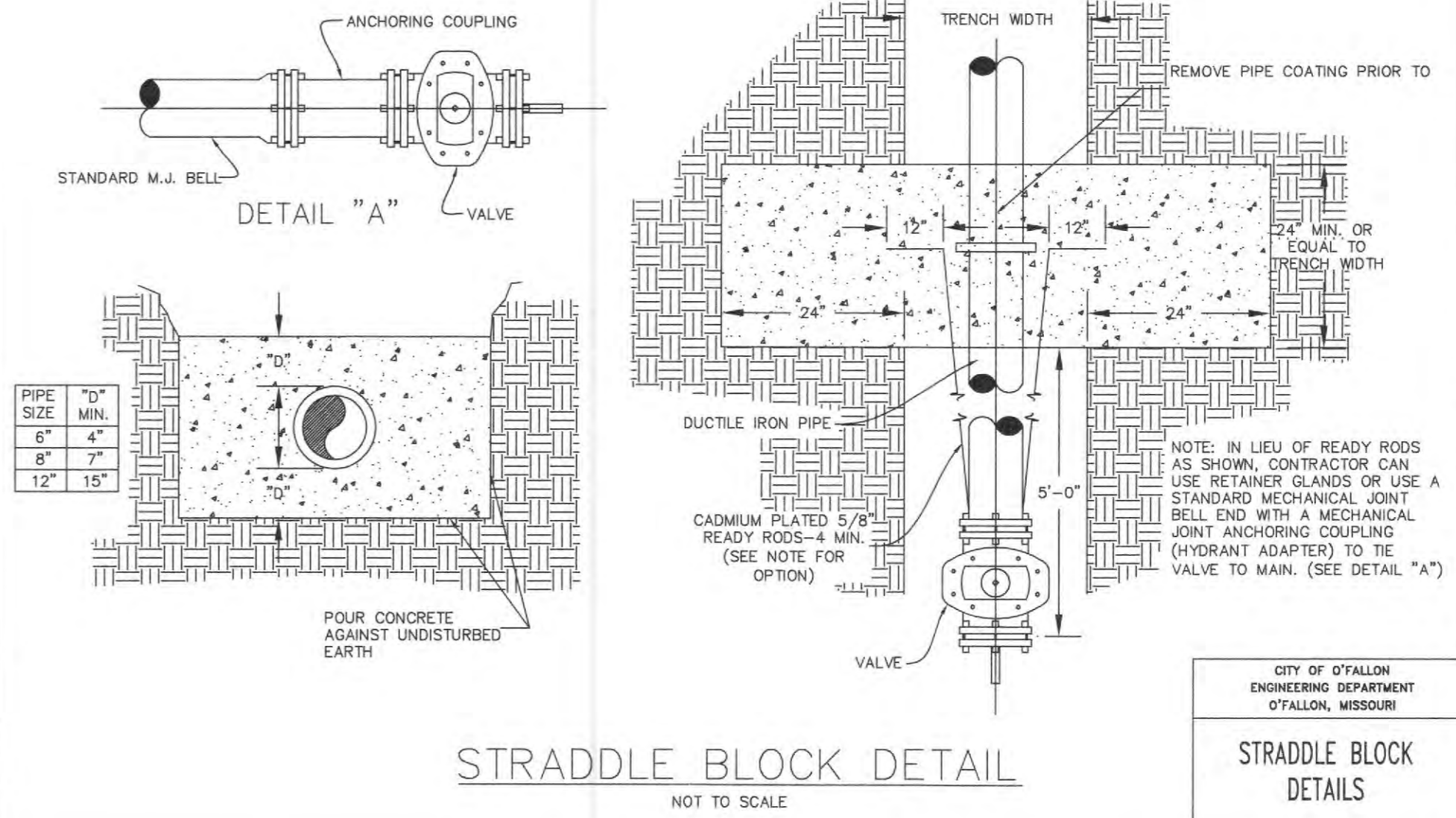
CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**BACKING BLOCK  
 DETAILS AND LOCATIONS**



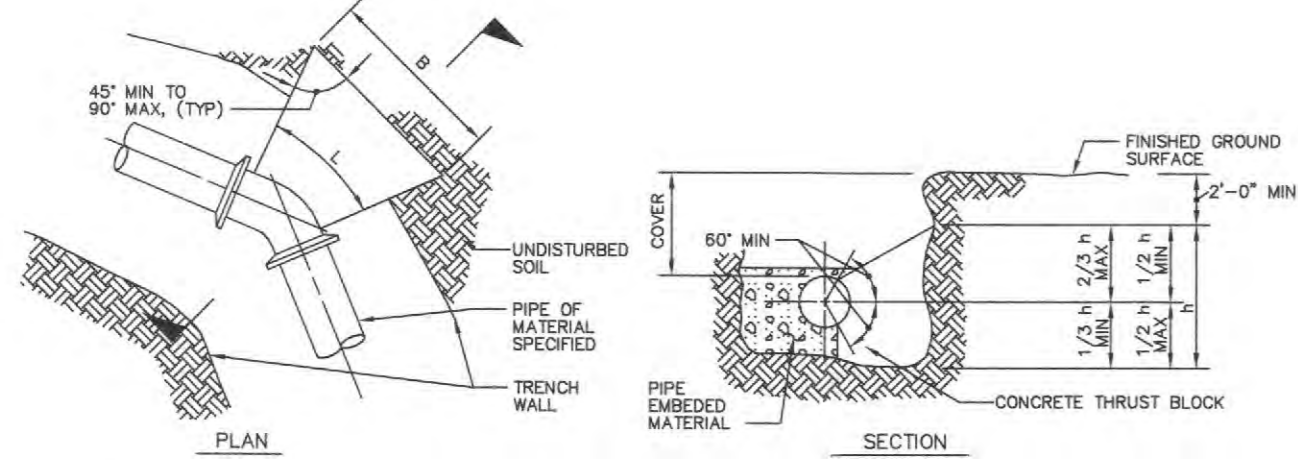
CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**CONCRETE ENCASEMENT  
 DETAILS**



CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**STRADDLE BLOCK  
 DETAILS**



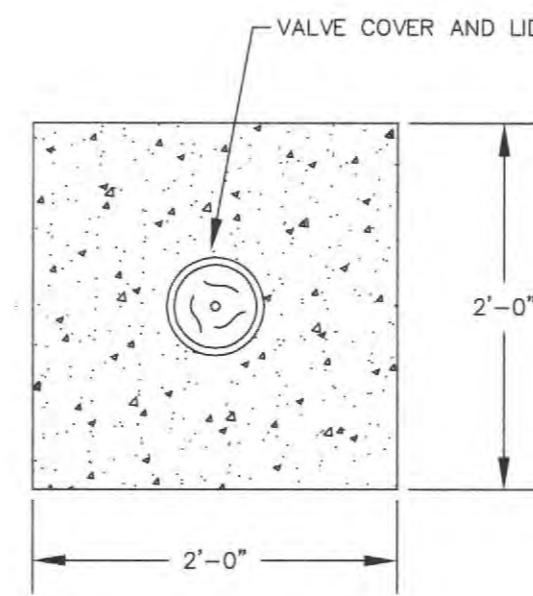
- NOTES:  
 1. AREA OF BLOCK, A = (BxH) BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.  
 2. B = h = 1/4", EXCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE, THEN B = A/h.  
 3. MINIMUM BLOCK DIMENSION (B & h) SHALL BE AT LEAST 10 OF PIPE OR 1 FOOT FOR PIPE 12" OR LESS.  
 4. THE BOTTOM OF THE BLOCK SHALL EXTEND AT LEAST TO THE BOTTOM OF THE TRENCH IN ALL CASES.  
 5. L=FITTING LENGTH MINUS CLEARANCE FOR BELLS.  
 6. DETAIL IS SHOWN FOR CAST IRON PIPE; DETAIL IS SIMILAR FOR OTHER TYPES OF PIPE.  
 7. DIMENSIONS FOR THRUST BLOCKS FOR FIRE HYDRANT ASSEMBLY ARE SHOWN FIRE HYDRANT ASSEMBLY DETAIL.

| SIZE | BEND    | THRUST AREA | B    | H    |
|------|---------|-------------|------|------|
| 16"  | 11 1/2" | 4 SF        | 2'   | 2'   |
| 16"  | 45"     | 8 SF        | 2.8' | 2.8' |

**CONCRETE THRUST BLOCKING**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**CONCRETE THRUST  
 BLOCKING DETAILS**

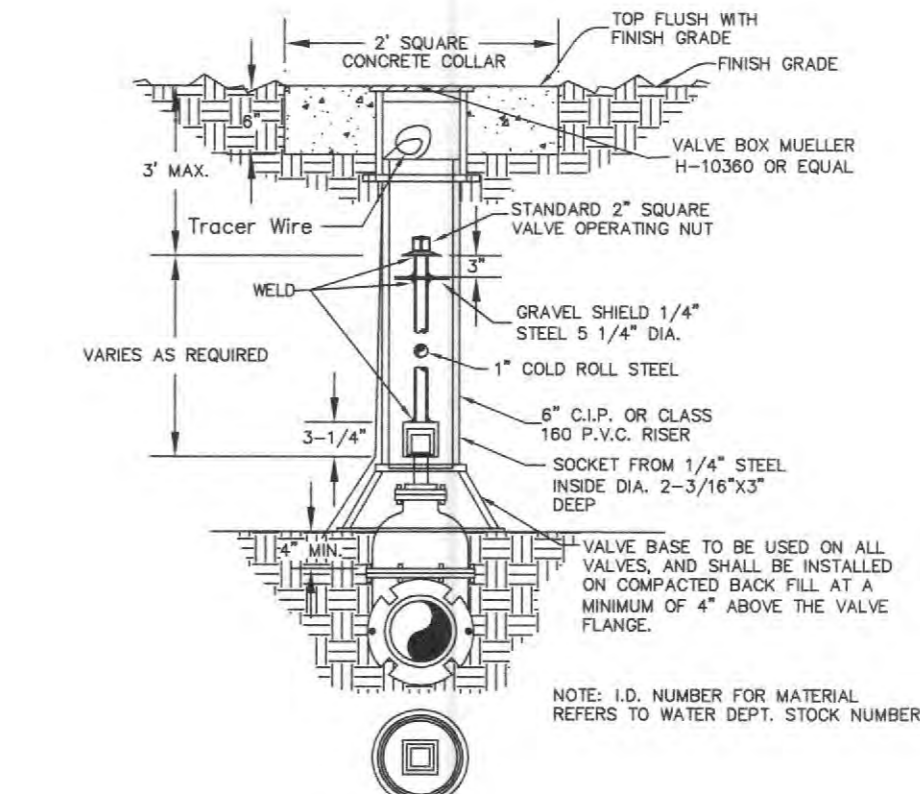


**TOP VIEW  
 CONCRETE COLLAR**  
 NOT TO SCALE

- Note: 1. Concrete collar joint pattern is required in paved areas such as roadways, driveways, sidewalks or other areas of paved surfaces.  
 2. Concrete collars are optional in other non-paved areas.

CITY OF O'FALLON  
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 O'FALLON, MISSOURI

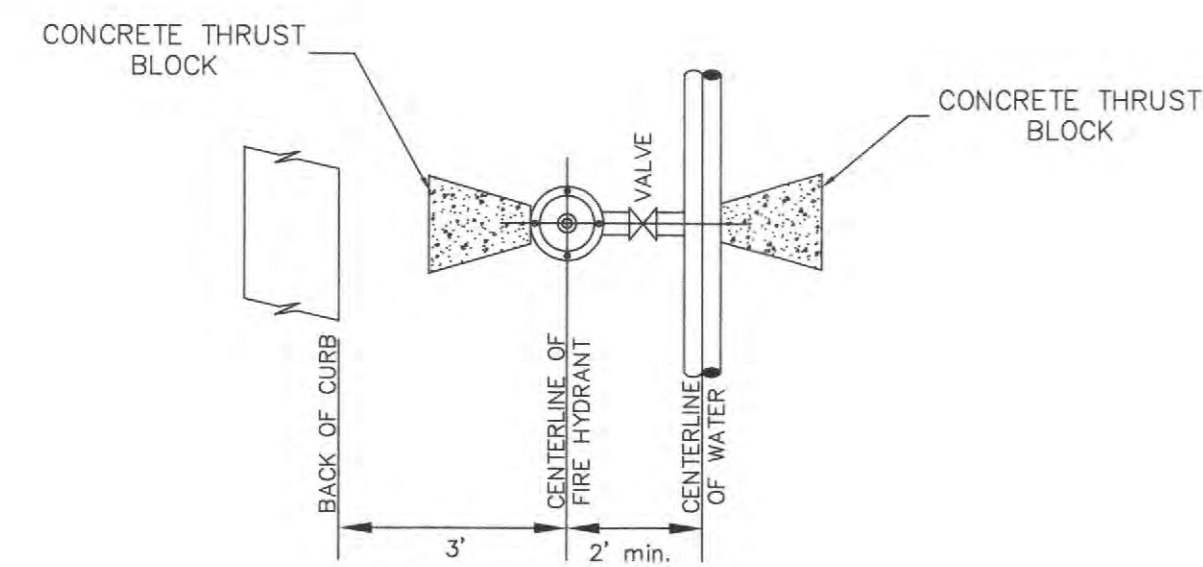
**CONCRETE COLLAR  
 DETAIL**



**WATER VALVE DETAIL**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

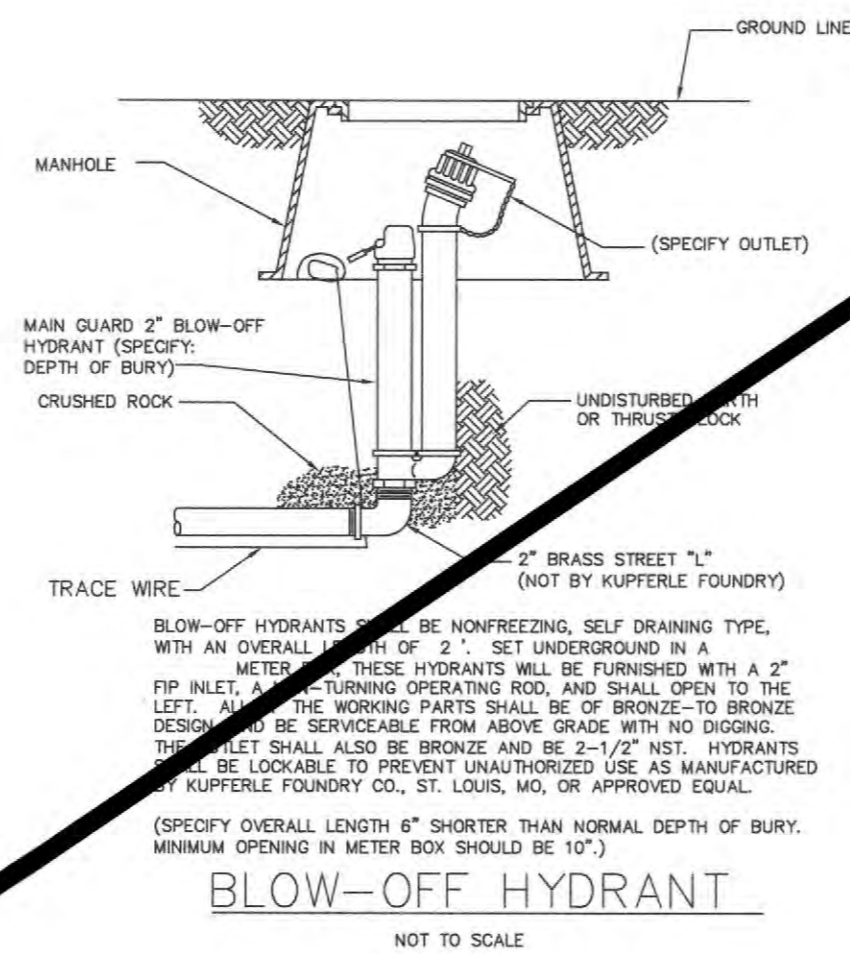
**WATER  
 VALVE DETAIL**



**TYPICAL WATER MAIN AND FIRE  
 HYDRANT LOCATIONS**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

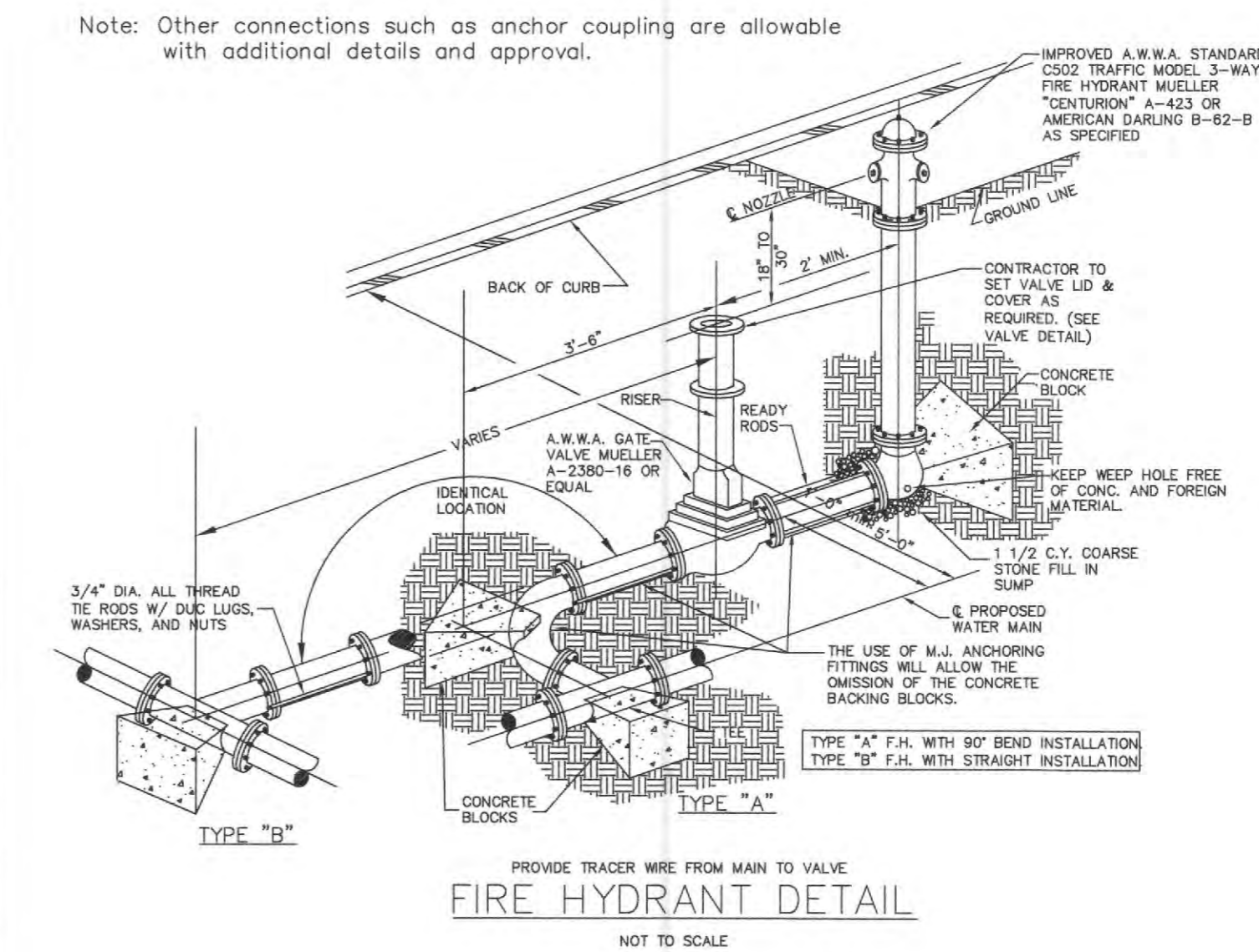
**WATER MAIN  
 FIRE HYDRANT DETAIL**



**BLOW-OFF HYDRANT**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**BLOW-OFF  
 HYDRANT DETAIL**



**FIRE HYDRANT DETAIL**  
 NOT TO SCALE

CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

**FIRE HYDRANT  
 DETAILS**

**PROJECT TITLE:**  
 As-Built Plans for  
 Tyke Town Development Centers  
 8368 Mexico Road  
 St. Peters, MO 63376

**ENGINEERING  
 PLANNING  
 SURVEYING**  
 221 Point West Blvd.  
 St. Charles, MO 63301  
 636-828-5552  
 FAX 636-828-1718



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**Developer / Owner:**  
 Tyke Town Properties, LLC  
 P.O. Box 81  
 Troy, Missouri 63379  
 636-462-5380

**CONSTRUCTION DETAILS**

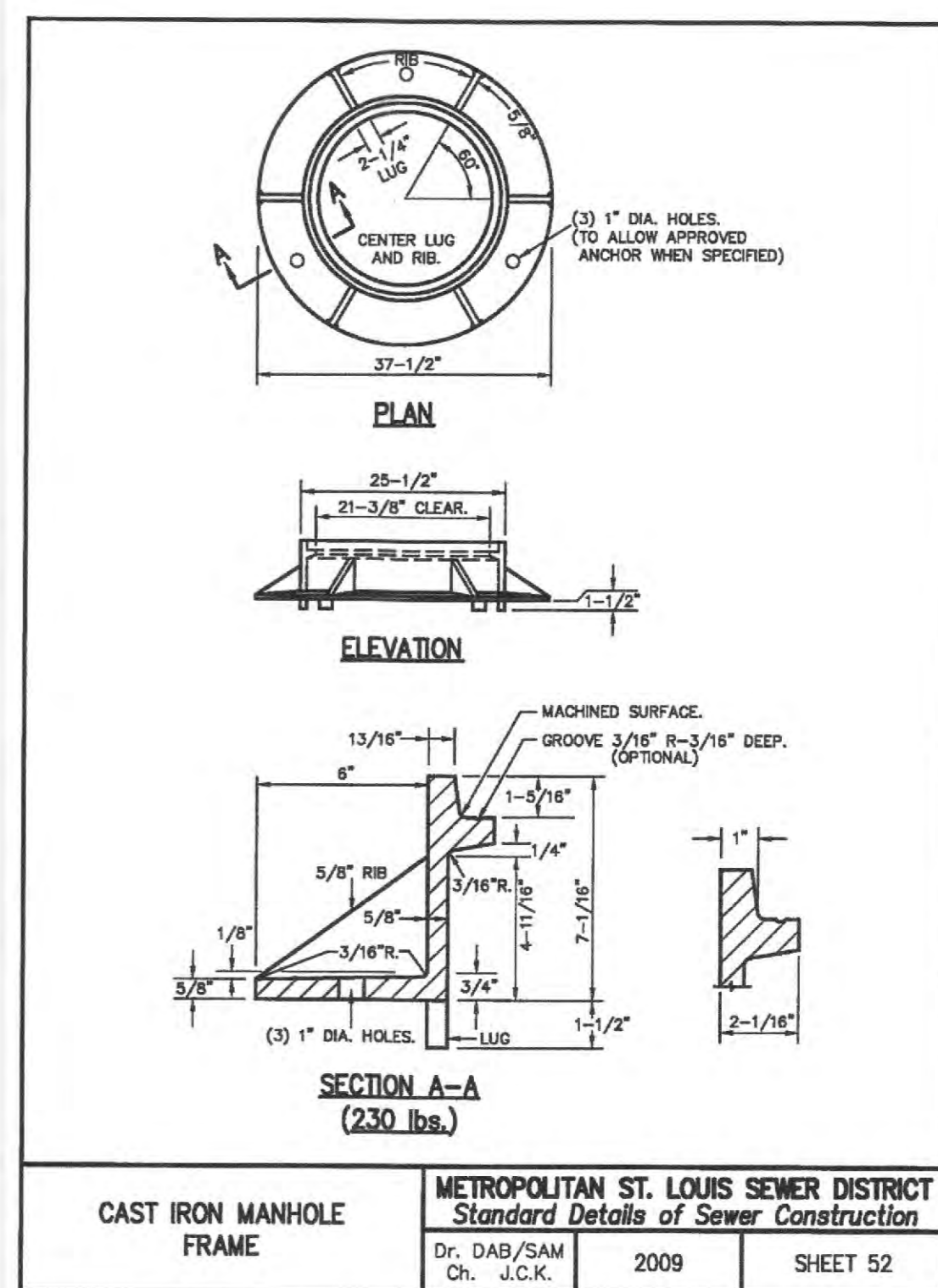
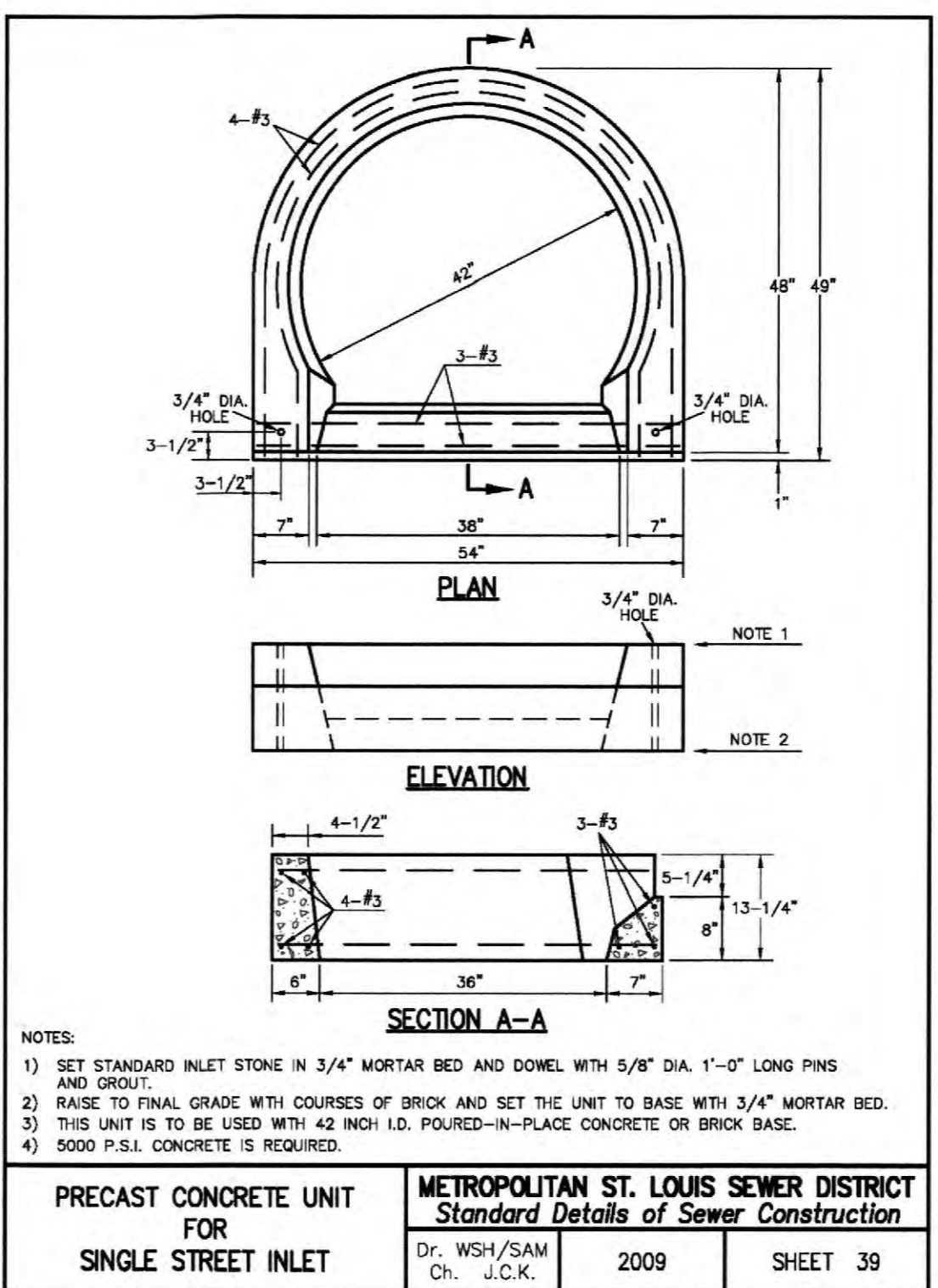
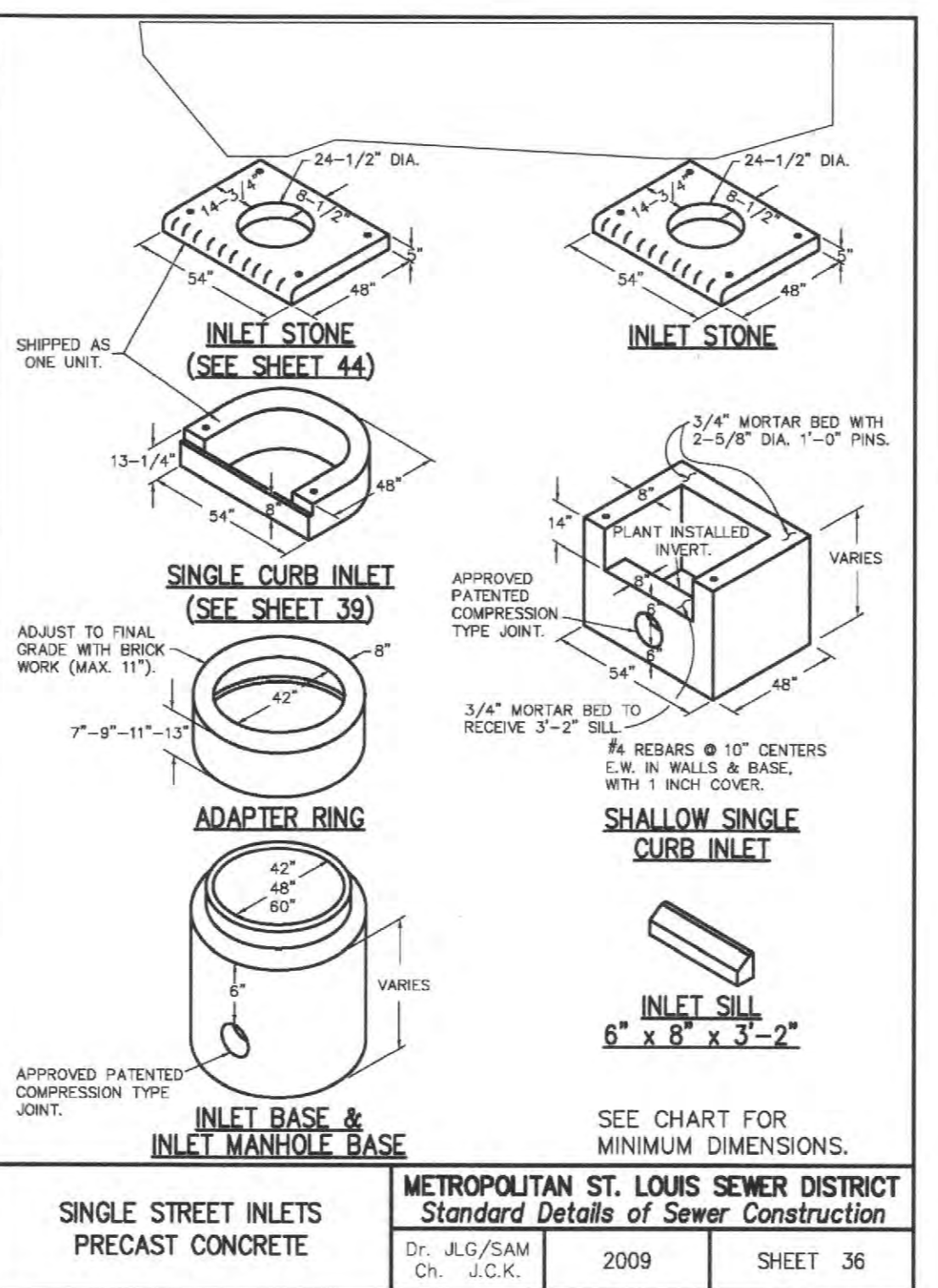
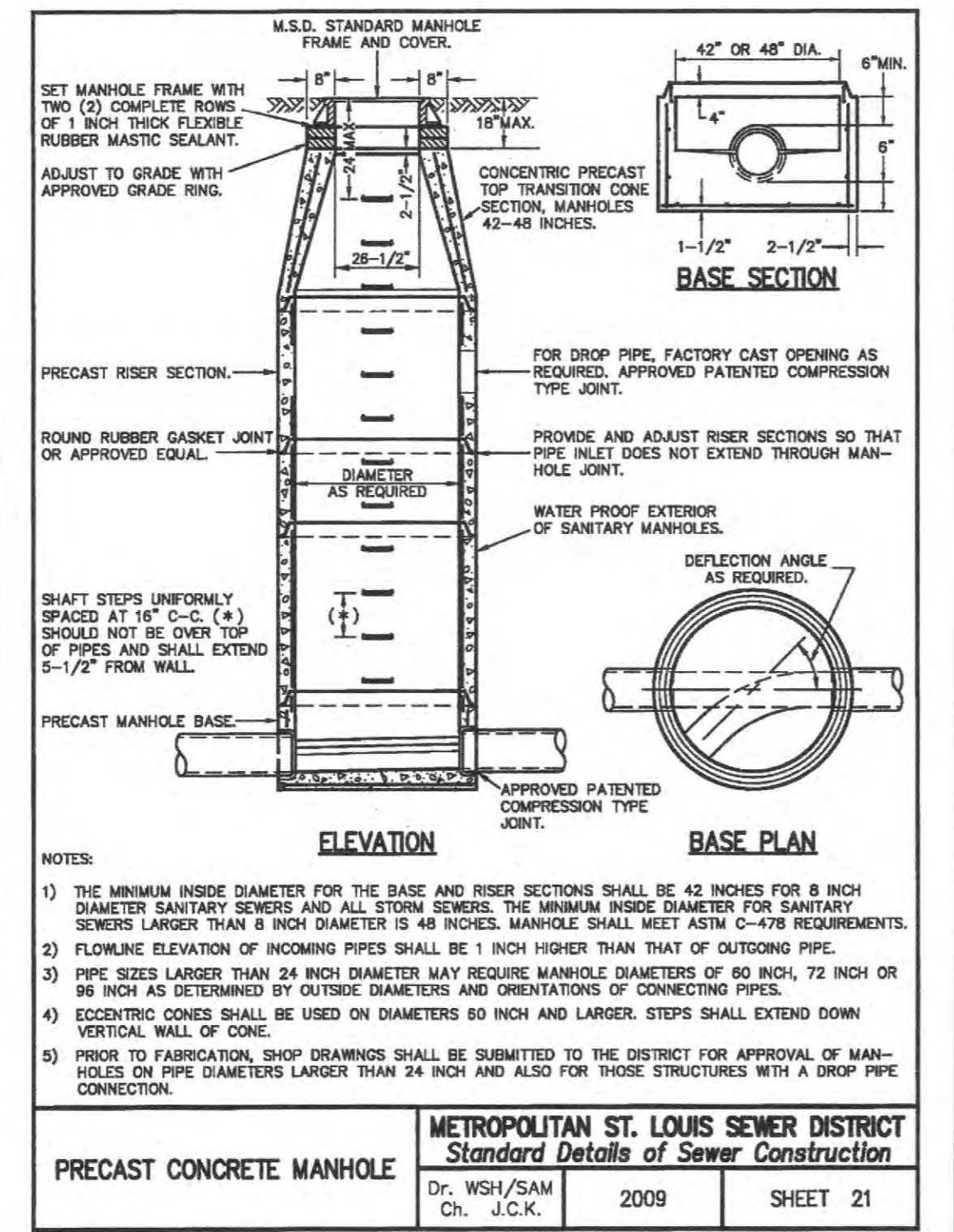
**P+Z No.** 17-012955  
**Approval Date:** 02-01-18  
**City No.** #

**Page No.**  
 12 of 15

**ENGINEER SEAL DOES NOT APPLY TO CITY OF O'FALLON DETAILS**



| ROUND PIPE                       |                                      |                                    |  | HORIZONTAL ELLIPTICAL PIPE         |                                      |                                    |  |
|----------------------------------|--------------------------------------|------------------------------------|--|------------------------------------|--------------------------------------|------------------------------------|--|
| INSIDE DIAMETER OF PIPE (INCHES) | "W" PAYLINE WIDTH OF TRENCH (INCHES) | "W" PAYLINE WIDTH OF TRENCH (FEET) | PAY-VOLUMES CU. FT. PER FT. OF CONCRETE ENCASUREMENT | INSIDE DIMENSIONS OF PIPE (INCHES) | "W" PAYLINE WIDTH OF TRENCH (INCHES) | "W" PAYLINE WIDTH OF TRENCH (FEET) | PAY-VOLUMES CU. FT. PER FT. OF CONCRETE ENCASUREMENT |
| 4                                | 30                                   | 2.50                               | 3.28   |                                    |                                      |                                    |  |
| 6                                | 30                                   | 2.50                               | 3.59   |                                    |                                      |                                    |  |
| 8                                | 30                                   | 2.50                               | 3.87   |                                    |                                      |                                    |  |
| 10                               | 30                                   | 2.50                               | 4.09   |                                    |                                      |                                    |  |
| 12                               | 30                                   | 2.50                               | 4.25   |                                    |                                      |                                    |  |
| 15                               | 36                                   | 3.00                               | 5.55   |                                    |                                      |                                    |  |
| 18                               | 36                                   | 3.00                               | 5.77   | 14 x 23                            | 41                                   | 3.42                               | 5.94   |
| 21                               | 39                                   | 3.25                               | 6.61   |                                    |                                      |                                    |  |
| 24                               | 42                                   | 3.50                               | 7.39   | 19 x 30                            | 49                                   | 4.08                               | 7.68   |
| 27                               | 45                                   | 3.75                               | 8.18   | 22 x 34                            | 53                                   | 4.42                               | 8.61   |
| 30                               | 49                                   | 4.08                               | 9.30   | 24 x 38                            | 58                                   | 4.83                               | 9.70   |
| 33                               | 53                                   | 4.42                               | 10.53  | 27 x 42                            | 62                                   | 5.17                               | 10.71  |
| 36                               | 56                                   | 4.67                               | 11.43  | 29 x 45                            | 66                                   | 5.50                               | 11.72  |
| 39                               | DISCONTINUED                         |                                    |  |                                    |                                      |                                    |  |
| 42                               | 63                                   | 5.25                               | 13.38  | 34 x 53                            | 75                                   | 6.25                               | 14.05  |
| 48                               | 70                                   | 5.83                               | 15.67  | 38 x 60                            | 83                                   | 6.92                               | 16.18  |
| 54                               | 77                                   | 6.42                               | 18.15  | 43 x 68                            | 92                                   | 7.67                               | 18.81  |
| 60                               | 84                                   | 7.00                               | 20.73  | 48 x 76                            | 101                                  | 8.42                               | 21.59  |
| 66                               | 91                                   | 7.58                               | 23.45  | 53 x 83                            | 109                                  | 9.06                               | 24.35  |
| 72                               | 98                                   | 8.17                               | 26.37  | 58 x 91                            | 118                                  | 9.83                               | 27.45  |
| 78                               | 105                                  | 8.75                               | 29.39  | 63 x 98                            | 126                                  | 10.50                              | 30.50  |
| 84                               | 112                                  | 9.33                               | 32.57  | 68 x 106                           | 135                                  | 11.25                              | 33.91  |
| 90                               | 119                                  | 9.92                               | 35.90  | 72 x 113                           | 143                                  | 11.92                              | 36.99  |
| 96                               | 126                                  | 10.50                              | 39.37  | 77 x 121                           | 152                                  | 12.67                              | 40.69  |
| 102                              | 133                                  | 11.08                              | 42.99  | 82 x 128                           | 160                                  | 13.33                              | 44.45  |
| 108                              | 140                                  | 11.67                              | 46.75  | 87 x 136                           | 168                                  | 14.00                              | 47.79  |
| 114                              | 147                                  | 12.25                              | 50.66  | 92 x 143                           | 176                                  | 14.67                              | 51.70  |
| 120                              | 154                                  | 12.83                              | 54.72  | 97 x 151                           | 185                                  | 15.42                              | 56.01  |
| 126                              | 161                                  | 13.42                              | 58.92  |                                    |                                      |                                    |  |
| 132                              | 168                                  | 14.00                              | 63.27  | 106 x 166                          | 202                                  | 16.83                              | 64.48  |
| 144                              | 182                                  | 15.17                              | 72.40  | 116 x 180                          | 218                                  | 18.17                              | 73.59  |



**TABLE 1**  
**PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE**

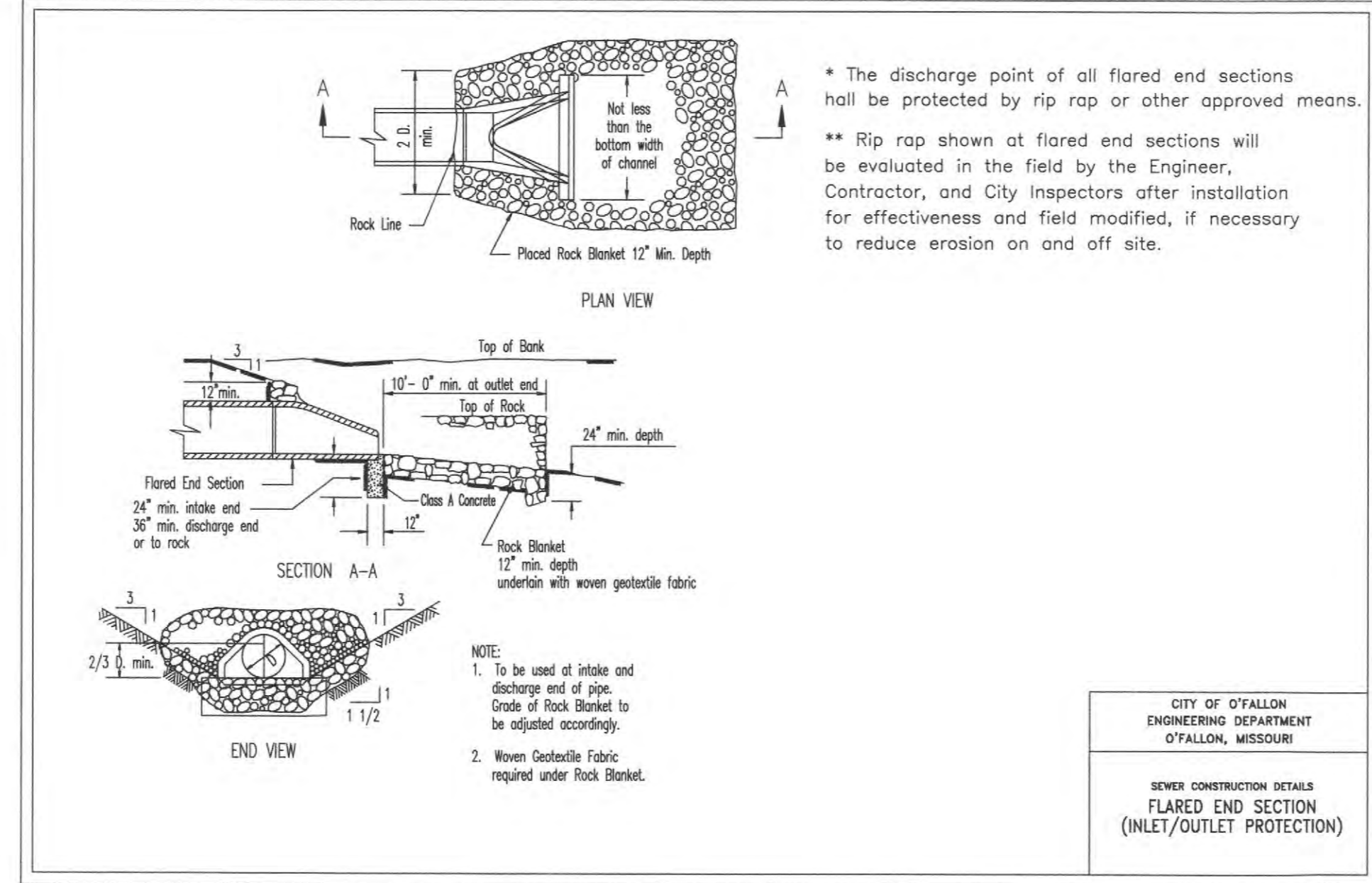
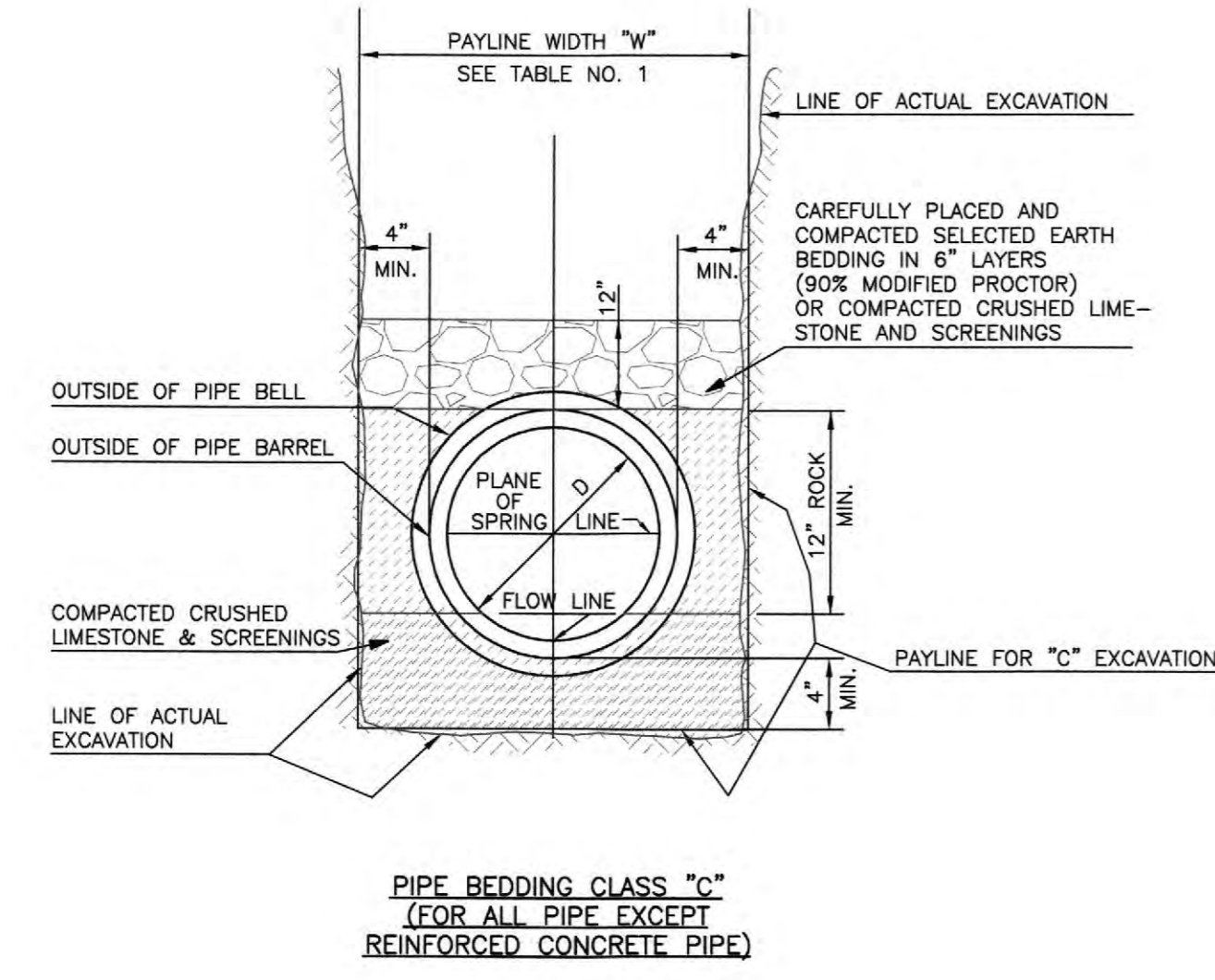
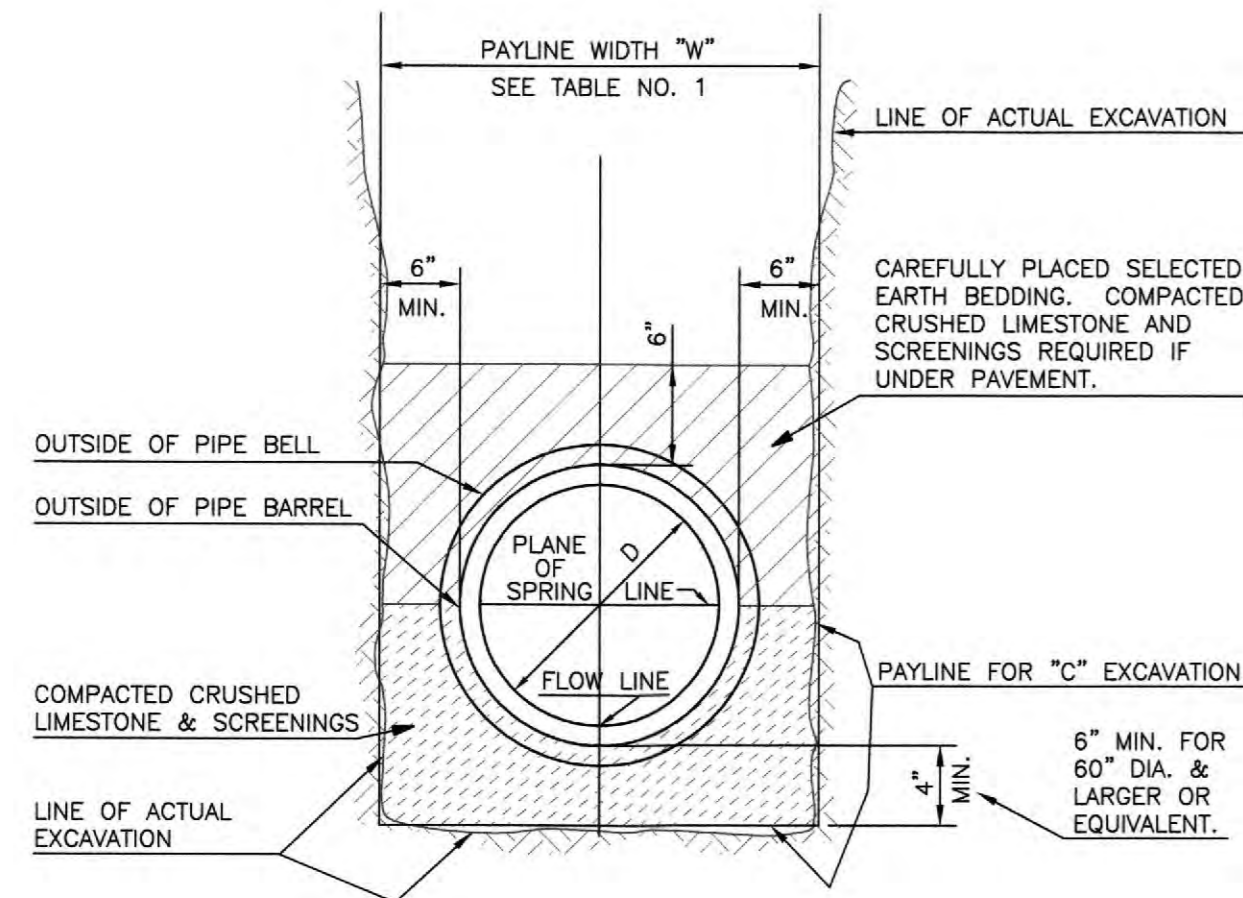
**METROPOLITAN ST. LOUIS SEWER DISTRICT**  
*Standard Details of Sewer Construction*  
 Dr. B.E.B.  
 Ch. J.C.K. 2009 SHEET 1

**METROPOLITAN ST. LOUIS SEWER DISTRICT**  
*Standard Details of Sewer Construction*  
 Dr. WSH/SAM  
 Ch. J.C.K. 2009 SHEET 21

**METROPOLITAN ST. LOUIS SEWER DISTRICT**  
*Standard Details of Sewer Construction*  
 Dr. JLG/SAM  
 Ch. J.C.K. 2009 SHEET 36

**METROPOLITAN ST. LOUIS SEWER DISTRICT**  
*Standard Details of Sewer Construction*  
 Dr. WSH/SAM  
 Ch. J.C.K. 2009 SHEET 39

**METROPOLITAN ST. LOUIS SEWER DISTRICT**  
*Standard Details of Sewer Construction*  
 Dr. DAB/SAM  
 Ch. J.C.K. 2009 SHEET 52



CITY OF O'FALLON  
 ENGINEERING DEPARTMENT  
 O'FALLON, MISSOURI

SEWER CONSTRUCTION DETAILS  
 FLARED END SECTION  
 (INLET/OUTLET PROTECTION)

CAD DWG. REF: 4580-2722 DWG - 1

\* The discharge point of all flared end sections shall be protected by rip rap or other approved means.

\*\* Rip rap shown at flared end sections will be evaluated in the field by the Engineer, Contractor, and City Inspectors after installation for effectiveness and field modified, if necessary to reduce erosion on and off site.

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 350  
 FINISH: NO PAINT UNLESS SPECIFIED ON PURCHASE ORDER  
 WEIGHT: 85 LBS.

SCALE: 1/8"=1'

DATE: 11/21/2013

NEENAH FOUNDRY  
 1800 N. MICHIGAN AVE.  
 NEENAH, WISCONSIN 54956  
 PHONE: 920-709-0010  
 FAX: 920-709-7000

NF-4580-2722

**PROJECT TITLE:**  
**As-Built Plans for**  
**Tyke Town Development Centers**  
**8368 Mexico Road**  
**St. Peters, MO 63376**

**ENGINEERING**  
**PLANNING**  
**SURVEYING**

221 Point West Blvd.  
 St. Charles, MO 63301  
 636-928-5562  
 FAX 636-928-1718

**Box Engineering Company, Inc.**  
 Missouri State Certificate of Authority  
 Engineering #000655  
 Missouri State Certificate of Authority  
 Surveying #000144

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**REVISIONS**

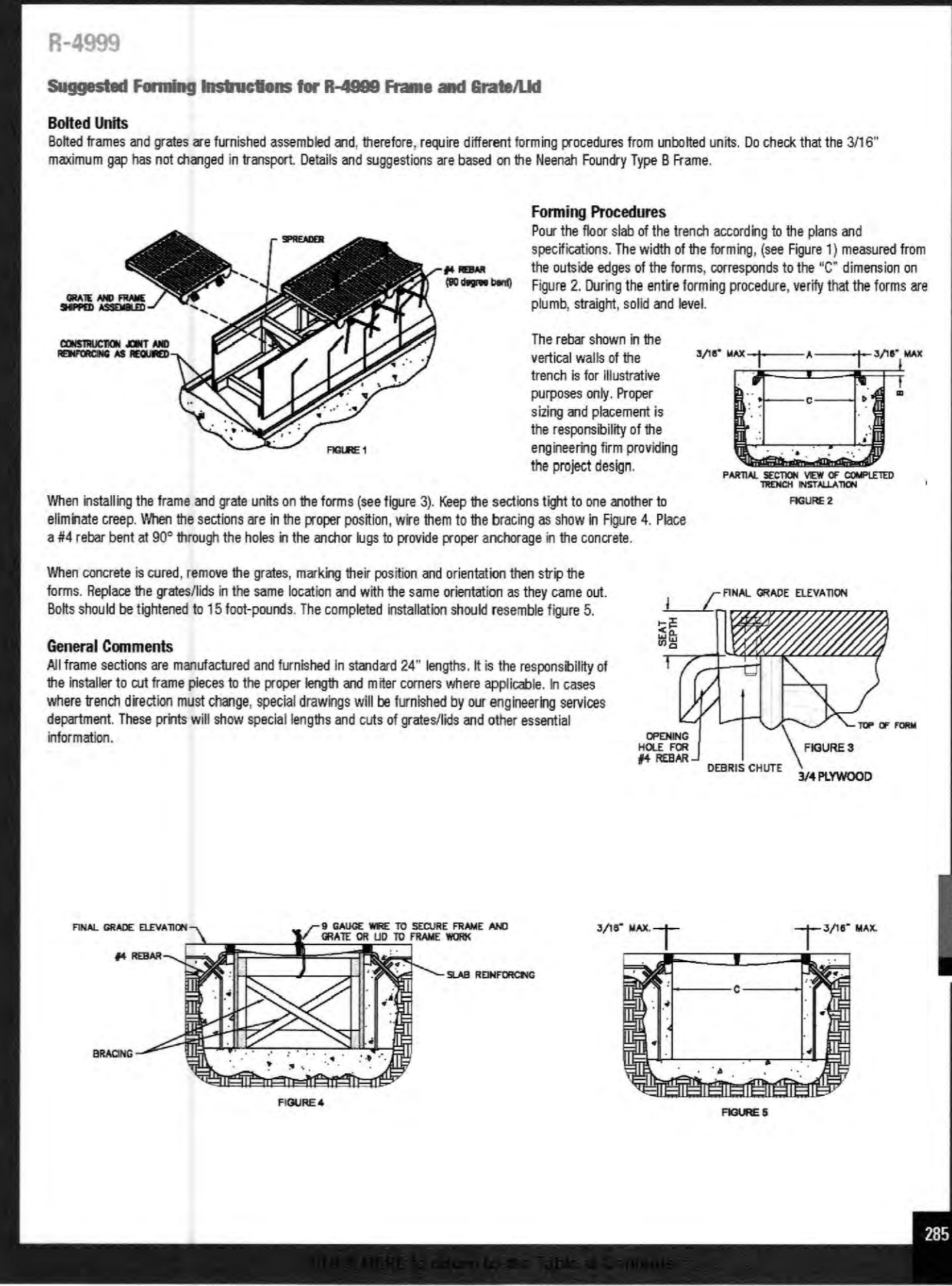
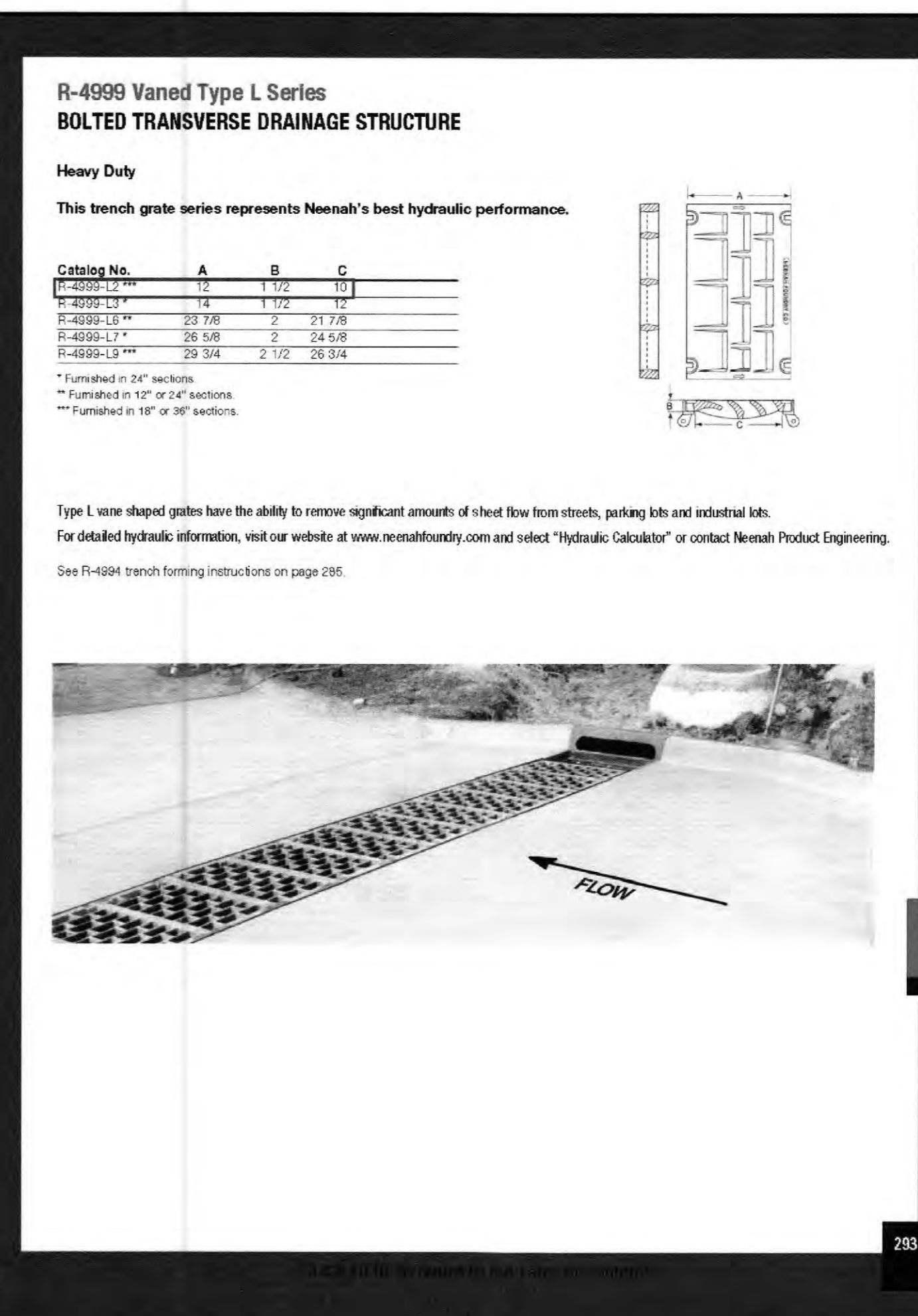
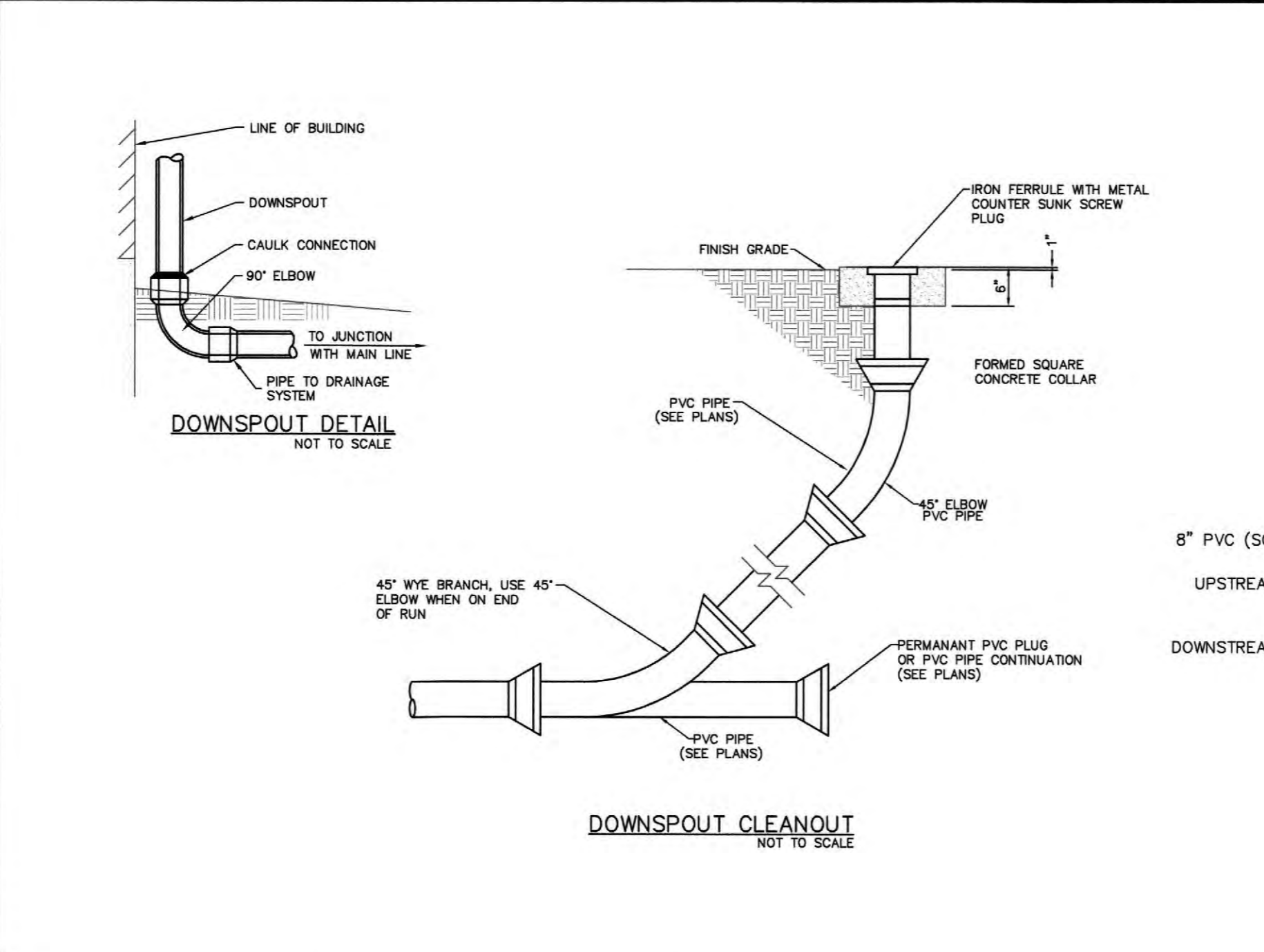
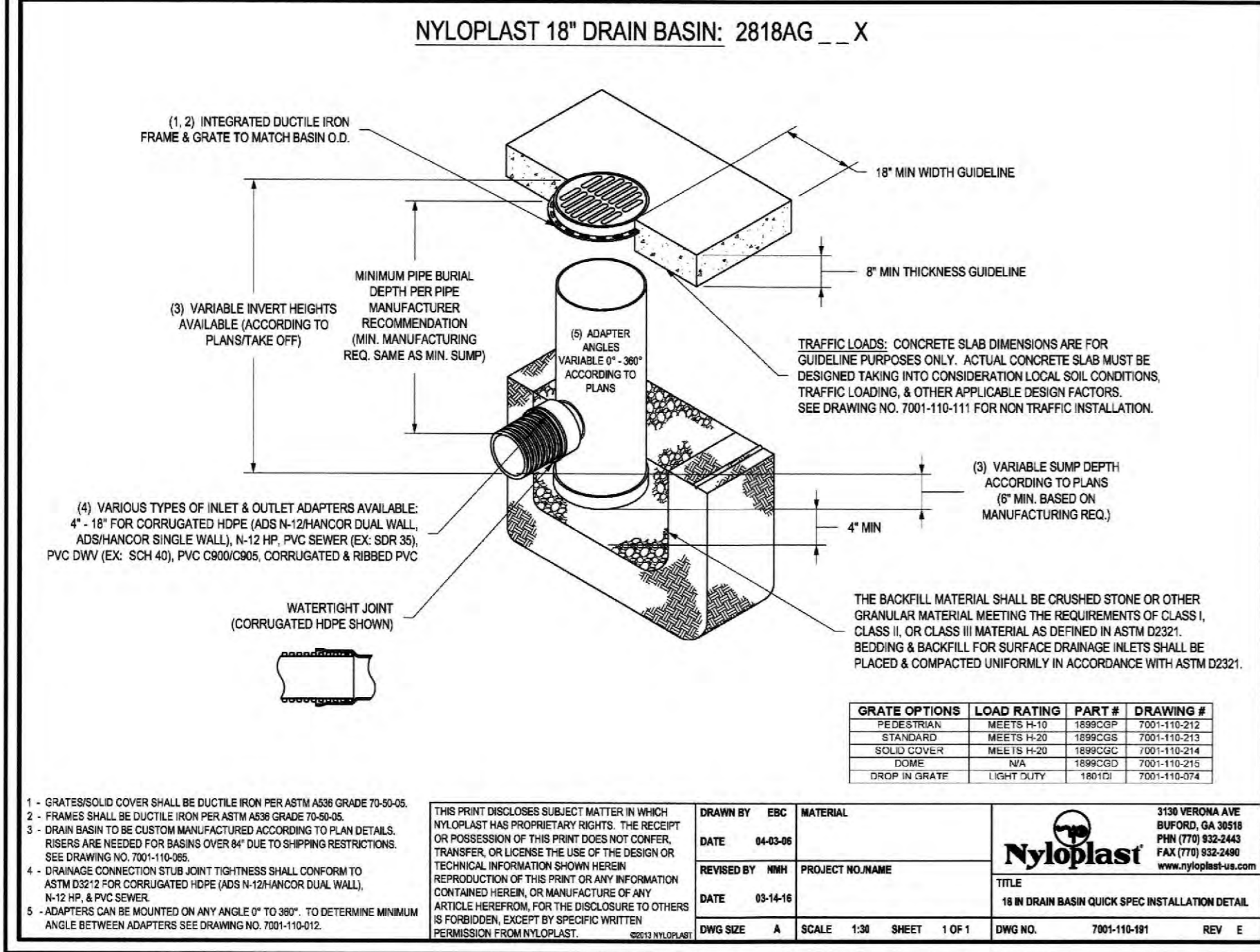
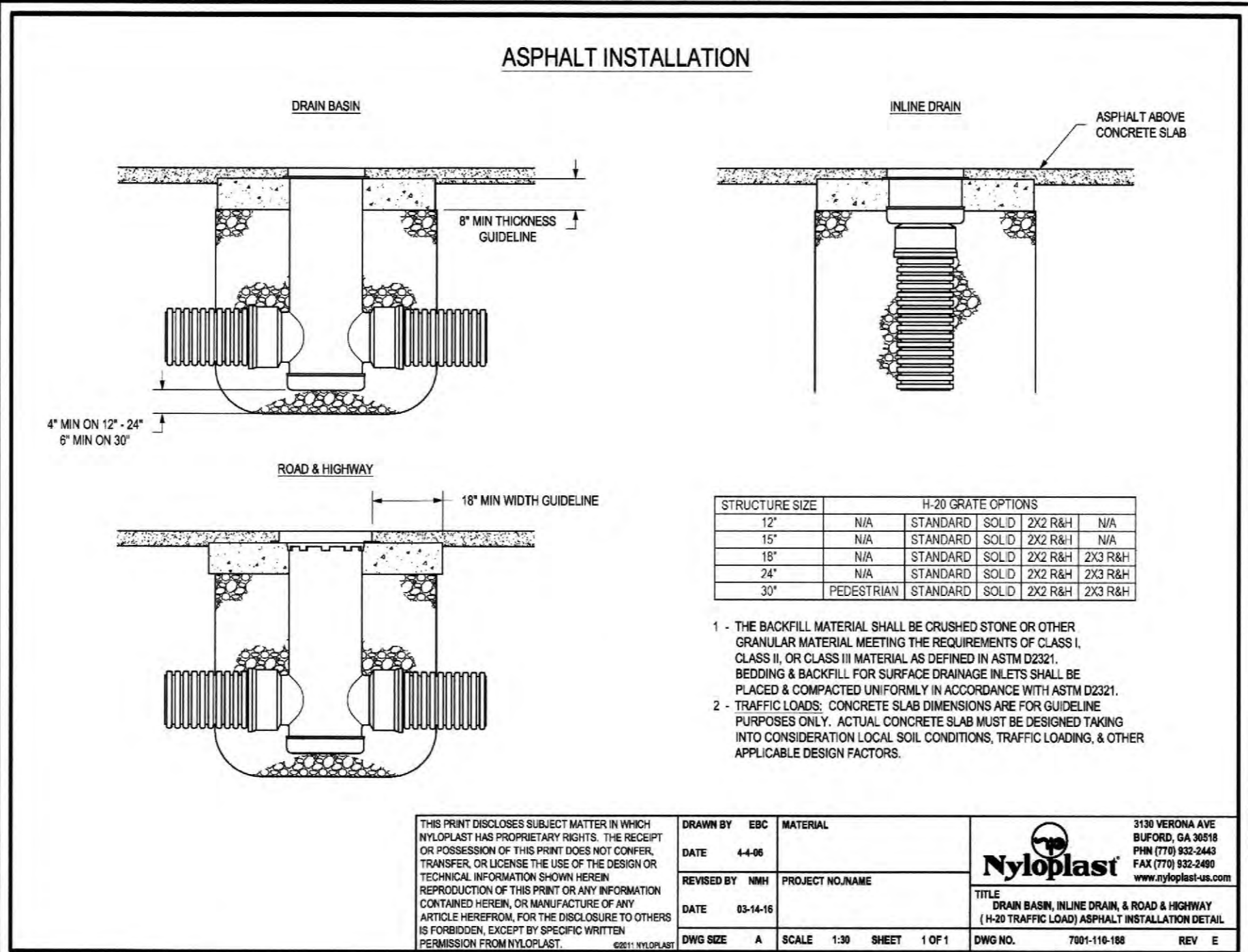
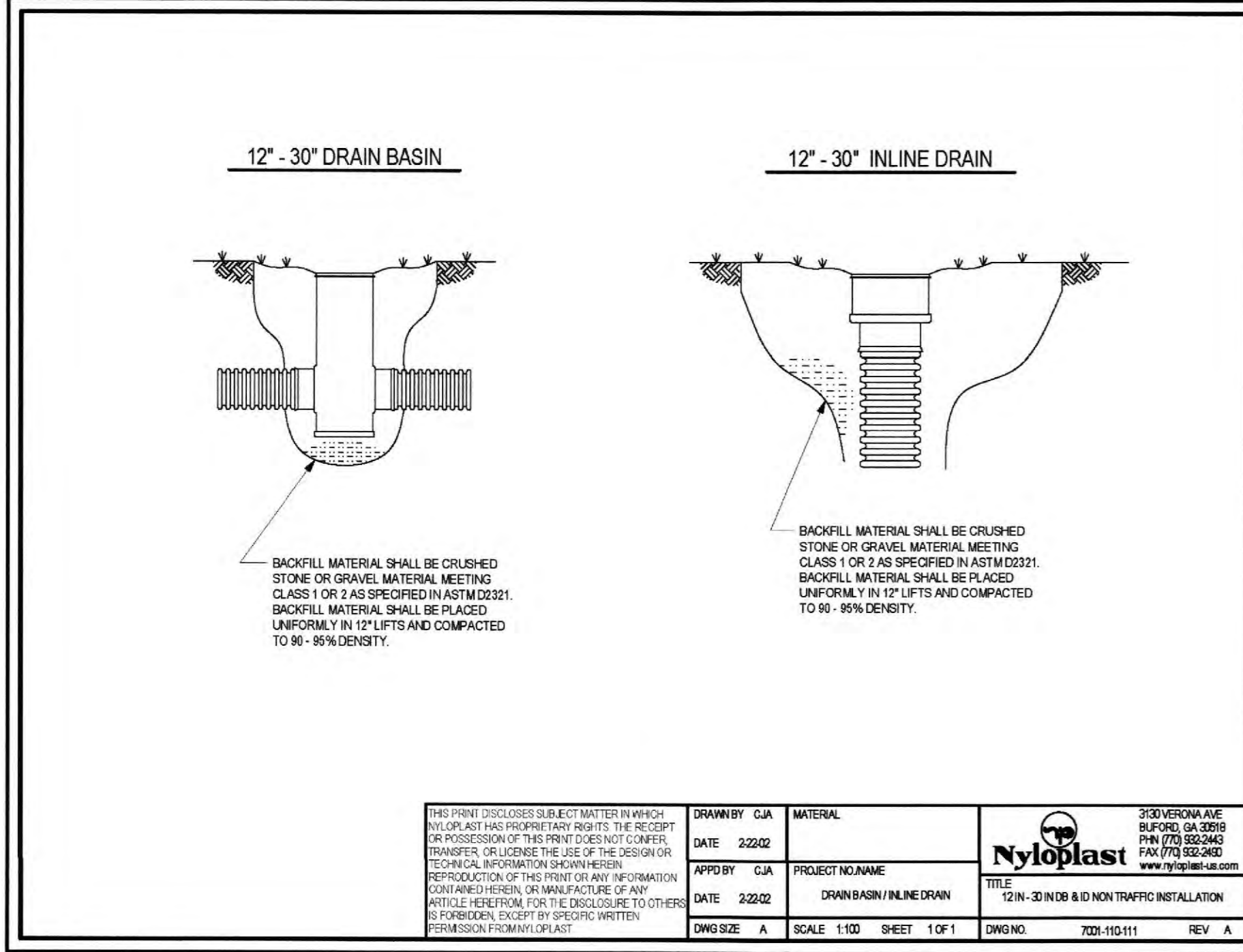
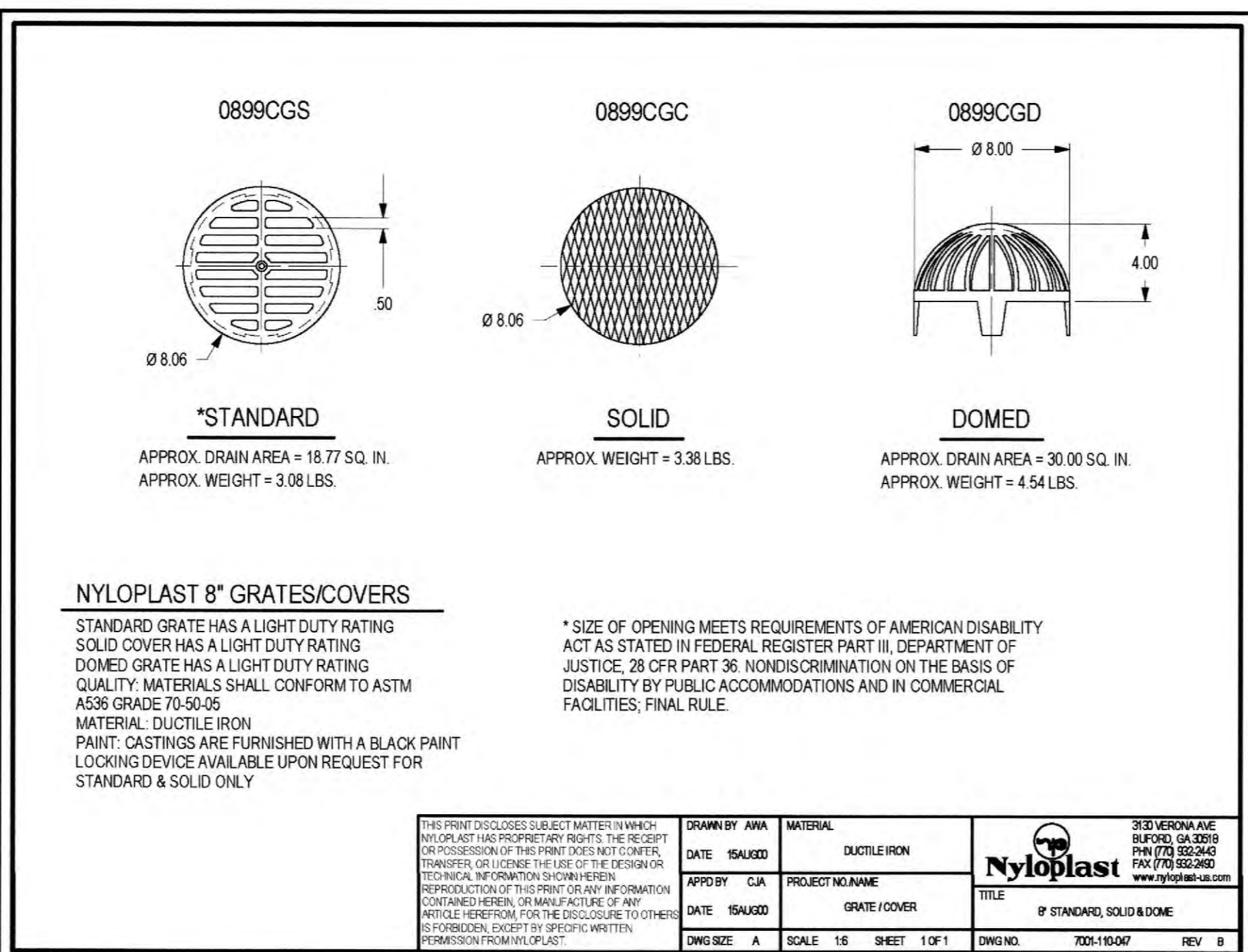
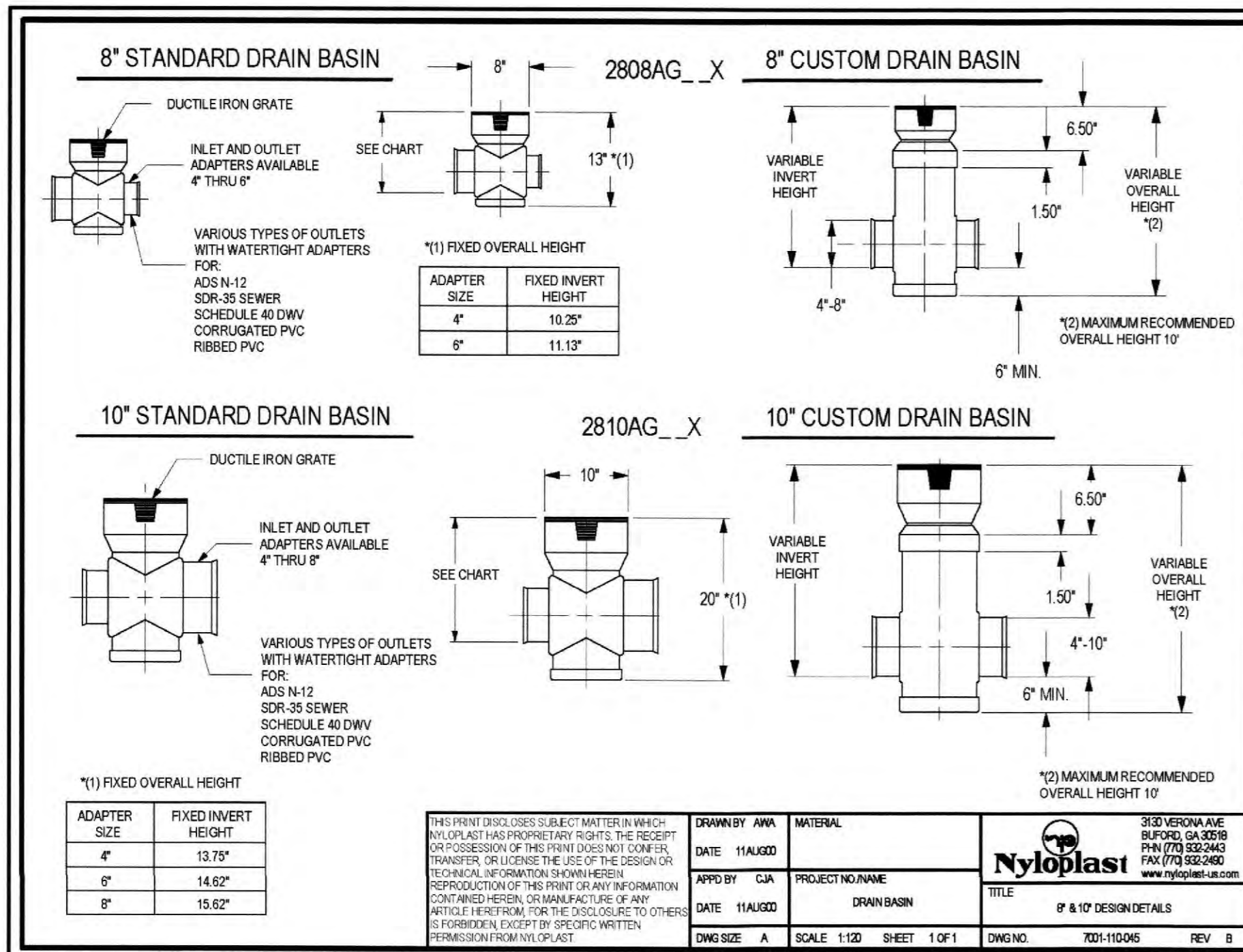
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**Developer / Owner:**  
**Tyke Town Properties, LLC**  
 P.O. Box 81  
 Troy, Missouri 63379  
 636-462-5380

**P+Z No.** 17-012955  
**Approval Date:** 02-01-18  
**City No.** #

**Page No.**  
 13 of 15





**PROJECT TITLE:**  
As-Built Plans for  
Tyke Town Development Centers  
8368 Mexico Road  
St. Peters, MO 63376

**ENGINEERING SURVEYING SURVEYING**  
221 Point West Blvd.  
St. Charles, MO 63301  
636-929-6552 FAX 636-929-1716

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**STATE OF MISSOURI**  
MARK E. COLLINS  
5-22-19  
NUMBER PLS-2008000173  
PROFESSIONAL LAND SURVEYOR

Box Engineering Company, Inc.  
Missouri State Certificate of Authority Engineering #000655  
Missouri State Certificate of Authority Surveying #000144

**REVISIONS**

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**14 of 15**

**CONSTRUCTION DETAILS**

ENGINEER SEAL DOES NOT APPLY TO NYLOPLAST AND NEENAH DETAILS