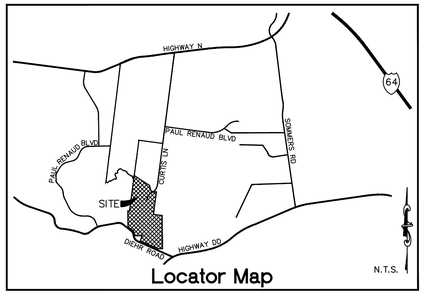
A SET OF CONSTRUCTION PLANS FOR WESTLEIGH

A TRACT OF LAND BEING PART OF U.S. SURVEY 931 AND FRACTIONAL SECTION 16, TOWNSHIP 46 NORTH, RANGE 2 EAST, ST. CHARLES COUNTY, MISSOURI



Locator Map

Zoning and Density Notes

1. GROSS AREA OF SITE: 56.16 ACRES
2. CURRENT ZONING: R-1 SINGLE FAMILY RESIDENTIAL 56.16 ACRES
3. CURRENT OWNERS:
   MOLLISON DONALD & MARIANNE
   1237 MENDOZA DR.
   ST. PETERS, MO 63376

   BARNETT STEPHEN R & CATHERINE M
   2500 CURTIS LN.
   LAKE SAINT LOUIS, MO 63367

   LOMBARDO HOMES OF ST. LOUIS, LLC
   2299 TECHNOLOGY DRIVE, SUITE 150
   O'FALLON, MO 63368
4. DWELLING UNITS PROPOSED: 57 UNITS
5. PARKING:
   SPACES REQUIRED: (2.0 SPACES/UNIT)X(57 UNITS)=114 SPACES

   TOTAL SPACES SHOWN: 114 GARAGE SPACES
   114 DRIVEWAY SPACES
   00 GUEST PARKING
   228 SPACES PROVIDED

Conditions of Approval From Planning and Zoning

The approval is conditional upon the following Staff recommendations being met:

1. The USPS shall be contacted to finalize their preferred method of mail delivery. Provide written confirmation from the USPS prior to construction plan approval that states their preferred method and location of mail delivery. The Construction Plans shall show where mail box locations are proposed. If a kiosk is required, provide off-street parking.
2. Revise the proposed alignment of the Lake St. Louis Blvd extension to match the existing right of way dedication.
3. Provide right of way dedication for the future roadway alignment of Diehr Road and Highway DD. This may include the construction of a round-a-bout.
4. Provide approval from the sanitary, water, school and fire districts.
5. Traffic calming will be addressed with Construction Plans.
6. Provide approval from the sanitary, water, school and fire districts.
7. A contribution for the improvement of Diehr Road to the center line to upgrade it to a principle arterial roadway will be required.
8. An 80' right of way dedication for Diehr Road with 10' wide utility easements shall be provided as well as temporary construction easements for the construction of improvements of Diehr Road.
9. Landscaped berms shall be provided in the common ground strip along Diehr Road.
10. Approval of the street names will be required from St. Charles County.
11. The homebuilder shall be required to provide, at the City of O'Fallon's discretion, engineering studies on all lots with extreme changes in topography showing that homes can be built without significant danger to health, life, or property per Section 405.140 of the City of O'Fallon's subdivision code. These studies must be supplied and approved prior to the issuance of building permits.
12. In accordance with the Wentzville School District comments, the developer shall provide a drop off lane at the intersection of Diehr Road and the entrance to the subdivision.
13. The above Municipal Plans must be met before Construction Plan approval.

The approval is also conditional upon the following Municipal Code requirements being provided in conjunction with the Construction Site Plans:

1. The curb inlet located on Lot 13 shall be placed as to not interfere with the driveway.
2. Demonstrate how Lots 31 and 32 are served by sanitary sewer.
3. Label the line on Lots 13-15. Its purpose is not clear.
4. Provide right of way dedication for the future roadway alignment of Diehr Road and Highway DD. This may include the construction of a round-a-bout.
5. All retaining walls are to be in easements and be maintained by the home owners association.
6. The gates at the entrance shall not be permitted due to the public right of way.
7. Any storage in the detention basin below the base flood elevation will not count toward the required storm water storage.
8. Comply with Section 415 of the City Code, paying particular attention to section 415.170 and the need for compensatory storage for fill placed in the floodplain.
9. The developer shall work with City Staff on future roadway improvements to provide for proper ingress/egress.
10. The pavement radius for the eyebrow shall be a minimum of 55' to allow school bus turnaround.

Legend

EXISTING		PROPOSED
542	CONTOURS	(542)
X 536	SPOT ELEVATIONS	XXX.X
	CENTER LINE	
	BUILDINGS, ETC.	
	TREE LINE	
X X	FENCE	X X
	SILTATION CONTROL FENCE	X X X
	STORM SEWERS	
	SANITARY SEWERS	
EX. CB	CATCH BASIN	CI NO.
EX. AI	AREA INLET	AI NO.
EX. GI	GRATED INLET	GI NO.
EX. DCI	DOUBLE CURB INLET	DCI NO.
EX. MH	STORM MANHOLE	MH NO.
EX. MH	SANITARY MANHOLE	MH NO.
EX. FE	FLARED END SECTION	FE NO.
CO	CLEANOUT	CO
	LATERAL CONNECTION	
	UTILITY OR POWER POLE	
	FIRE HYDRANT	
TH	TEST HOLE	
	PAVEMENT	
G G	GAS MAIN & SIZE	(G) (G)
W W	WATER MAIN & SIZE	(W) (W)
T T	TELEPHONE	(T) (T)
UE UE	ELECTRIC (U) UNDERGROUND	(UE)
OHE	ELECTRIC (O) OVERHEAD	(OHE)
FL	FLOW LINE	FL
	TO BE REMOVED	TBR
	TO BE REMOVED & RELOCATED/REPLACED	TBRR
TC	TOP OF CURB	(TC)
	SWALE	
	LIGHT STANDARD	
	STREET SIGN	
P.S. ELEC	PARKING STALLS	P.S.
	YARD LIGHT	
	JURISDICTIONAL STREAM	

H.R. ~ DENOTES PROPOSED HANDICAP RAMP W/ TRUNCATED DOME
TF ~ TOP OF FOUNDATION ELEVATION
BF ~ BASEMENT FLOOR ELEVATION
LS ~ LATERAL STATION FROM DOWNSTREAM MANHOLE

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Benchmarks

THE STERLING COMPANY HAS ESTABLISHED TWO SITE BENCHMARKS AS DESCRIBED BELOW. THE SITE DATUM WAS ESTABLISHED USING TRIMBLE REAL-TIME KINEMATIC GPS HARDWARE FROM TWO POINTS ON THE PROJECT SITE TO A CONTINUOUSLY OPERATING REFERENCE STATION (CORS) WITH AN ID OF MOOF AND A PID OF DM4688 VIA THE MISSOURI DEPARTMENT OF TRANSPORTATION REAL TIME KINEMATIC NETWORK. THESE POINTS WERE TIED TOGETHER VIA GROUND TRAVERSE USING CONVENTIONAL SURVEY EQUIPMENT AND THE SITE BENCHMARKS WERE ESTABLISHED FROM THE GROUND TRAVERSE.

SITE BENCHMARK #1: ELEVATION = 618.75' (NAVD 88)
"IRON ROD WITH TRAVERSE CAP" SET 54 FEET EAST OF EAST EDGE OF GRAVEL PAVEMENT OF CURTIS ROAD, APPROX. 383 FEET SOUTH OF ITS INTERSECTION WITH THE CENTERLINE OF PAUL RENAUD BOULEVARD; 79 FEET SOUTHEAST OF A POWER POLE AND 189 FEET NORTHEAST OF A POWER POLE.

SITE BENCHMARK #2: ELEVATION = 629.21' (NAVD 88)
"CROSS" CUT IN CONCRETE AT THE CENTER LINE OF CUL-DE-SAC AT THE EAST END OF TRAILWYND COURT; 46 FEET WEST OF A LIGHT STANDARD AND 119 FEET EAST OF THE INTERSECTION OF THE CENTERLINES OF TRAILWYND COURT AND TRAILWYND DRIVE.

Project Data

1. TOTAL SITE AREA: 56.16 ACRES
2. TOTAL DISTURBED 40.59 ACRES
3. FLOOD NOTE:
   SUBJECT TRACT IS LOCATED IN FLOOD ZONE "X" (SHADED) AND FLOOD ZONE "X" (UNSHADED) ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP FOR ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS ISSUED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBERS 29183C0220G EFFECTIVE JANUARY 20, 2016 AND 29183C0410G EFFECTIVE JANUARY 20, 2016. FLOOD ZONE "AE" IS DEFINED AS BASE FLOOD ELEVATIONS DETERMINED. FLOOD ZONE "X" (SHADED) IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. FLOOD ZONE "X" (UNSHADED) IS DEFINED AS AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.
4. TREE PRESERVATION CALCS:

EXISTING TREES	= 40.59 ACRES
TREES REMOVED	= 29.82 ACRES
TREES SAVED	= 10.77 ACRES (26.5%)
TREES REQUIRED TO BE SAVED	= 8.12 ACRES (20.0%)

5. ESTIMATED SANITARY SEWER FLOW = 21,090 GALLONS/DAY

Legal Description

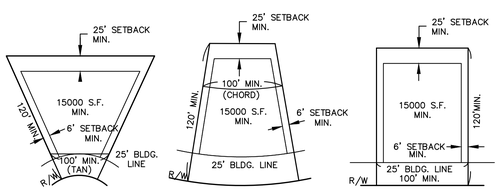
A TRACT OF LAND BEING PART OF U.S. SURVEY 931 AND FRACTIONAL SECTION 16, TOWNSHIP 46 NORTH, RANGE 2 EAST, ST. CHARLES COUNTY, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT AN IRON ROD AT THE NORTHEAST CORNER OF LOT 743 OF 'WYNDGATE VILLAGE F PLAT ONE', A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 43 PAGE 46 OF THE ST. CHARLES COUNTY, MISSOURI RECORDS; SAID CORNER ALSO BEING THE INTERSECTION OF THE NORTH-SOUTH CENTERLINE OF ABOVE SAID SECTION 16 AND THE SOUTH LINE OF ABOVE SAID U.S. SURVEY 931; THENCE ALONG SAID SOUTH LINE, SOUTH 83°01'44" EAST, 63.25 FEET TO A POINT BEING THE SOUTHEAST CORNER OF A TRACT OF LAND CONVEYED TO JOANN M. GRIFFITH AND GARY E. KOPADT BY DOCUMENT RECORDED IN DEED BOOK 2354 PAGE 724 OF SAID RECORDS; THENCE LEAVING SAID SOUTH LINE AND ALONG THE EAST LINE OF SAID GRIFFITH AND KOPADT TRACT, NORTH 06°48'44" EAST, 1383.45 FEET; THENCE LEAVING SAID EAST LINE, SOUTH 57°30'29" EAST, 708.85 FEET; THENCE SOUTH 14°54'15" EAST, 222.86 FEET TO A POINT ON THE NORTH LINE OF A TRACT OF LAND CONVEYED TO DONALD AND MARIANNE MOLLISON BY INSTRUMENT RECORDED IN DEED BOOK 1874 PAGE 1121 OF SAID RECORDS; THENCE ALONG SAID NORTH LINE, SOUTH 82°55'01" EAST, 208.55 FEET TO A POINT IN THE WEST LINE OF COMMON GROUND 'D' OF 'PRESTON WOODS PLAT SEVEN A', A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 48 PAGE 22 OF SAID RECORDS; THENCE LEAVING SAID NORTH LINE AND ALONG SAID WEST LINE OF COMMON GROUND 'D', SOUTH 06°48'24" WEST, 872.63 FEET TO A POINT ON SAID SOUTH LINE OF U.S. SURVEY 931; THENCE LEAVING LAST SAID WEST LINE AND ALONG SAID SOUTH LINE OF U.S. SURVEY 931, SOUTH 83°07'09" EAST, 335.61 FEET TO A POINT ON THE NORTH-SOUTH CENTERLINE OF THE SOUTHEAST QUARTER OF ABOVE SAID FRACTIONAL SECTION 16; THENCE LEAVING LAST SAID SOUTH LINE AND ALONG LAST SAID NORTH-SOUTH CENTERLINE, SOUTH 01°32'11" EAST, 1275.07 FEET TO A POINT BEING 38 FEET PERPENDICULAR DISTANCE NORTH OF THE EAST-WEST CENTERLINE OF SAID SOUTHEAST QUARTER; THENCE LEAVING LAST SAID NORTH-SOUTH CENTERLINE AND ALONG A LINE BEING 38 FEET NORTH OF AND PARALLEL TO SAID EAST-WEST CENTERLINE, SOUTH 89°37'54" WEST, 180.47 FEET TO A POINT ON THE NORTHEAST RIGHT-OF-WAY LINE OF DIEHR ROAD, WIDTH VARIES, SAID LINE BEING 20 FEET PERPENDICULAR DISTANCE NORTHEAST OF THE CENTERLINE OF SAID ROAD; THENCE LEAVING LAST SAID LINE AND ALONG SAID NORTHEAST RIGHT-OF-WAY LINE, NORTH 66°58'09" WEST, 740.25 FEET TO THE SOUTHWEST CORNER OF A TRACT OF LAND CONVEYED TO DONALD C. AND MARIANNE E. MOLLISON BY DOCUMENT RECORDED IN DEED BOOK 2692 PAGE 85 OF SAID RECORDS; THENCE LEAVING LAST SAID RIGHT-OF-WAY LINE AND ALONG THE WEST LINE OF SAID MOLLISON TRACT, NORTH 18°58'33" EAST, 211.54 FEET TO THE NORTHWEST CORNER OF SAID MOLLISON TRACT, SAID CORNER ALSO BEING ON THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO DONALD AND MARIANNE MOLLISON BY DOCUMENT RECORDED IN DEED BOOK 1874 PAGE 1121 OF SAID RECORDS; THENCE LEAVING LAST SAID WEST LINE AND ALONG THE SOUTH LINE OF LAST SAID MOLLISON TRACT, SOUTH 89°01'25" WEST, 267.50 FEET TO A POINT ON SAID NORTHEAST RIGHT-OF-WAY OF DIEHR ROAD; THENCE LEAVING LAST SAID SOUTH LINE AND ALONG SAID NORTHEAST RIGHT-OF-WAY LINE THE FOLLOWING COURSES, DISTANCE AND CURVES: NORTH 18°15'03" WEST, 123.86 FEET TO A POINT OF CURVATURE; ALONG A CURVE TO THE LEFT WITH A RADIUS OF 180.28 FEET, WHOSE CHORD BEARS NORTH 35°34'35" WEST, 107.37 FEET, AN ARC DISTANCE OF 109.03 FEET TO A POINT OF TANGENCY; AND NORTH 52°54'06" WEST, 224.30 FEET TO A POINT ON SAID NORTH-SOUTH CENTERLINE OF FRACTIONAL SECTION 16; THENCE LEAVING LAST SAID NORTHEAST RIGHT-OF-WAY LINE AND ALONG LAST SAID NORTH-SOUTH CENTERLINE, NORTH 01°09'51" WEST, 613.10 FEET TO THE POINT OF BEGINNING AND CONTAINS 2,446,142 SQUARE FEET, OR 56.155 ACRES, MORE OR LESS ACCORDING TO CALCULATIONS PERFORMED BY THE STERLING COMPANY DURING THE MONTH OF AUGUST, 2015 UNDER ORDER NUMBER 15-02-043.

* 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		56.16 AC.
The area of land disturbance is		40.59 AC.
Number of proposed lots is		57 LOTS
Building setback information:	Front	25 FT
	Side	6 FT
	Rear	25 FT



TYPICAL LOT
NTS

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
3	10-24-16 City Comments
4	11-15-16 DCSD Comments
5	12-12-16 City Comments
6	12-28-16 DCSD Comments
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments
11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions
14	3-06-19 Phase 2 Revisions

Utility Contacts

Sanitary Sewer
~~City of O'Fallon~~
~~100 N. Main St.~~
~~O'Fallon, MO. 63366~~
~~Contact: 636-281-2858~~

Duckett Creek Sanitary District
3550 Highway K
O'Fallon, MO. 63368
636-441-1244

Water
~~City of O'Fallon~~
~~100 N. Main St.~~
~~O'Fallon, MO. 63366~~
~~Contact: 636-281-2858~~

~~Missouri American Water Co.~~
~~727 Craig Rd.~~
~~St. Louis, MO. 63141~~
~~1-866-430-0820~~

Public Water Supply District No. 2
P.O. Box 967
O'Fallon, MO. 63366
636-561-3737 Ext. 131

Storm Sewer
City of O'Fallon
100 N. Main St.
O'Fallon, MO. 63366
636-281-2858

Curve River Electric Co.
P.O. Box 160
Troy, MO. 63379-0160
1-800-392-3709

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

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

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

Fire Department
~~O'Fallon Fire Protection District~~
~~119 E. Elm St.~~
~~O'Fallon, MO. 63366~~
~~636-272-3493~~

Wentzville Fire District
209 West Pearce Blvd.
Wentzville, MO. 63385

~~Cottleville Fire Protection District~~
~~1385 Motherhead Rd.~~
~~St. Charles, MO. 63304~~
~~636-447-6655~~

New Melle Fire Protection District
3705 Mill St.
Wentzville, MO. 63385
636-828-5528

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

Drawings and specifications as instruments of service is and shall remain the property of the sealing firm whether the project for which they are made is executed or not. The reproduction, alteration or reuse of these drawings or documents without written consent or without bearing the seal and signature shall not be considered authorized and will be at the sealing firm's sole risk and without liability or legal exposure to the sealing firm. Electronic copies of drawings or documents not bearing the seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

COVER SHEET

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

Page No. *1.1*

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mollison Tract\Drawings\Engineering\Improvements\03-40 IMP.dwg Plotted on: Apr 24, 2019 - 1:43pm Plotted by: bmotter

GENERAL NOTES

GN # 1 Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet sumps

GN # 2 Sidewalks, curb ramps, ramps and accessible parking spaces shall be constructed in accordance with the current approved "Public Right of Way Accessibility Guidelines" (PROWAG) and "American with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the PROWAG and ADAAG guidelines shall take precedence and the contractor prior to any construction shall notify the Project Engineer.

GN # 3 Truncated domes for curb ramps located in public right of way shall meet ADA requirements and shall be constructed using red pre cast truncated domes per pavement details.

GN # 4 Any proposed pavilions or playground areas will need a separate permit from the Building Division.

GN # 5 The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities. Contact the City of O'Fallon (636) 379–3814 for the location of City maintained cable for street lights and traffic signals, all other utilities call Missouri One Call 1–800–DIG–RITE. 1–800–344–7483

GN # 6 All proposed utilities and/or utility relocations shall be located underground.

GN # 7 All proposed fencing requires a separate permit through the Building Division.

GN # 8 All construction operations and work zone traffic control within the right of way will follow MoDOT or M.U.T.C.D. standards whichever is more stringent.

GN # 9 All free standing signs shall be located a minimum of ten (10) feet away from any right of way line and/or property line and a minimum of three (3) feet from the back of curbing or sidewalk. All signs shall abide by the regulations for visibility at corners, including corners from driveways and the street it intersects per Section 400.260 of the O'Fallon Zoning Code.

GN #10 All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development Division.

GN #11 Materials such as trees, organic debris, rubble, foundations, and other deleterious material shall be removed from the site and disposed of in compliance with all applicable laws and regulations. If the material listed previously are reused, a letter from a soil Engineer must clarify amount, location, depth. ect. and be approved with the construction plans. Landfill tickets for such disposal shall be maintained on file by the developer. Burning on site shall be allowed only by permit from the local fire district. If a burn pit is proposed the location and mitigation shall be shown on the grading plan and documented by the soils engineer.

GN #12 Twenty–four (24) hours prior to starting any of the work covered by the above plans and after approval thereof, the developer shall make arrangements with the Construction Inspection Office to provide for inspection of the work, sufficient in the opinion of the City Engineer, to assure compliance with the plans and specifications as approved.

GN #13 The City Engineer or their duly authorized representative shall make all necessary inspections of City infrastructure, escrow items or infrastructure located on the approved plans.

GN #14 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, he/she shall make such changes at his/her 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 inspectors.

GN #15 City approval of the construction site plans does not mean that any building can be constructed on the lots without meeting the building setbacks as required by the zoning code.

GN #16 "Access Parcel" to remain in the possession of Lombardo Homes of St. Louis LLC in the future this parcel may be consolidated with the property known as 1919 Diehr Road. Upon consolidation this lot shall only have access from the Westleigh Manor Drive.

Erosion Control Notes

EN # 1 The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area. The Permittee shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with the clearing operations and be maintained throughout the project until acceptance of the work by City of O'Fallon and as needed by MoDOT. The Permittee's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The City of O'Fallon and as required by MoDOT may at their option direct the Permittee in his methods as deemed fit to protect property and improvements. Any depositing of silt or mud on new or existing pavement shall be removed immediately. Any depositing of silts or mud in new or existing storm sewers and/or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the City of O'Fallon and as required by MoDOT."

EN # 2 All erosion control systems are to be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in one–half inch of rain or more. Any silt or debris leaving the site and affecting public right of way or storm water drainage facilities shall be cleaned up within 24 hours after the end of the storm.

EN # 3 Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with St. Charles County Soil and Water Conservation District Erosion and Sediment Control guidelines.

EN # 4 This development is required to provide long term post construction BMP's such as; low impact design, source control and treatment controls that protects water quality and controls run off to maximum extent practical in compliance with Phase II Illicit Storm Water Discharge Guidelines. (Ord. 5082, section 405.0245)

EN #5 Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities. Unless it can be shown to the City Engineer that weather conditions are not favorable, vegetative growth is to be established within 6 weeks of stopping grading work on the project. The vegetative growth established shall be sufficient to prevent erosion and the standard shall be as required by EPA and DNR. (70% coverage per square foot) Ord. 5242, Section 405.070

Grading Notes

GRN #1 Developer must supply City construction inspectors with soil reports prior to and during site grading. The soil report will be required to contain the following information on soil test curves (Proctor reports) for projects within the City:

1. Maximum dry density
2. Optimum moisture content
3. Maximum and minimum allowable moisture content
4. Curve must be plotted to show density from a minimum of 90% Compaction and above as determined by the "Modified AASHTO T–180 Compaction Test" (A.S.T.M.–D–1157) or from a minimum of 95% as determined by the "Standard Proctor Test ASSHTO T–99, Method C" (A.S.T.M.–D–698). Proctor type must be designated on document.
5. Curve must have at least 5 density points with moisture content and sample locations listed on document
6. Specific gravity
7. Natural moisture content
8. Liquid limit
9. Plastic limit

Be advised that if this information is not provided to the City's Construction Inspector the City will not allow grading or construction activities to proceed on any project site.

GRN #2 All fill placed in areas other than proposed storm sewers, sanitary sewers, proposed roads, and paved areas shall be compacted from the bottom of the fill up in 8" lifts and compacted to 90% maximum density as determined by Modified AASHTO T–180 compaction test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T–99. Ensure the moisture content of the soil in fill areas corresponds to the compactive effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be determined using the same test that was used for compaction. Soil compaction curves shall be submitted to the City of O'Fallon prior to the placement of fill.

GRN # 3 The surface of the fill shall be finished so it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.

GRN # 4 All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with the approved SWPPP.

GRN # 5 When grading operations are complete or suspended for more than 14 days, permanent grass must be established at sufficient density to provide erosion control on site. Between permanent grass seeding periods, temporary cover shall be provided according to St. Charles Soil and Water Conservation District – Model Sediment and Erosion Control Regulations. All finished grades (areas not to be disturbed by improvements) in excess of 20% slopes (5:1) shall be mulched and tacked at a rate of 100 pounds per 1000 square feet when seeded.

GRN # 6 No slopes shall exceed 3 (horizontal): 1 (vertical) unless otherwise approved by the soils report and specifically located on the plans and approved by the City Engineer.

GRN # 7 All low places whether on site or off shall be graded to provide drainage with temporary ditches.

GRN # 8 Any existing wells and/or springs which may exist on the property must be sealed in a manner acceptable to the City of O'Fallon Construction Inspection Department and following Missouri Department of Natural Resources standards and specifications.

GRN #10 All trench back fills under paved areas shall be granular back fill, and compacted mechanically. All other trench back fills may be earth material (free of large clods, or stones) and compacted using either mechanical or water jetting. Granular material and earth material associated with new construction outside of pavements may be jetted, taking care to avoid damage to newly laid sewers. The jetting shall be performed with a probe route on not greater than 7.5 foot centers with the jetting probe centered over and parallel with the direction of the pipe. Trench widths greater than 10 feet will require multiple probes every 7.5 foot centers.

a) Depth, Trench back fills less than 8 feet deep shall be probed to a depth extending half the depth of the trench back fill, but not less than 3 feet. Trench back fill greater than 8 feet in depth shall be probed to half the depth of the trench back fill but not greater than 8 feet.
b) Equipment, The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
c) Method, Jetting shall be performed from the lowest surface topographic point and proceed toward the highest point, and from the bottom of the trench back fill toward the surface. The flooding of each jetting probe shall be started slowly allowing slow saturation of the soil. Water is not allowed to flow away from the trench without first saturating the trench.
d) Surface Bridging, The contractor shall identify the locations of the surface bridging (the tendency for the upper surface to crust and arch over the trench rather than collapse and consolidate during the jetting process). The contractor shall break down the bridged areas using an appropriate method such as wheels or bucket of a backhoe. When surface crust is collapsed, the void shall be back filled with the same material used as trench back fill and rejetted. Compaction of the materials within the sunken/jetted area shall be compacted such that no further surface subsidence occurs.

GRN #11 Site grading.

a. Within City right–of–way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed every two hundred fifty (250) feet along the centerline for each lift.
b. Outside of City right–of–way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed at two (2) foot vertical intervals and approximately every one thousand (1,000) cubic yards.

GRN #12 Access to the site from any other location other than the proposed construction entrance is strictly prohibited!

DUCKETT CREEK SANITARY DISTRICT CONSTRUCTION NOTES

1. Underground utilities have been plotted from available information and therefore location 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 improvements.
2. Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including house laterals.
3. All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
4. All fill including places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right–of–way shall be compacted to 90 percent of maximum density as determined by the "Modified AASHTO T–180 Compaction Test (ASTM D1557)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non–yielding and non–pumping during proofrolling and compaction.
5. The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system. The contractor will be required to install a brick bulkhead on the downstream side of the first new manhole constructed when connecting into existing sewers.
6. All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
7. It is the responsibility of the contractor to adjust all sanitary sewer manholes (that are affected by the development) to finish grade.
8. Easements shall be provided for all sanitary sewers, storm sewers and all utilities on the record plat.
9. All sanitary sewer construction and materials shall conform to the current construction standards of the Duckett Creek Sanitary District.
10. The Duckett Creek Sanitary District shall be notified at least 48 hours prior to construction for coordination of inspection.
11. All sanitary sewer building connections shall be designed so that the minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection shall not be less than the diameter of the pipe plus the vertical distance of 2½ feet.
12. All sanitary sewer manholes shall be watertight in accordance with Missouri Dept. of Natural Resources specification 10 CSR 20–8.120(6)(F) 1.
13. All PVC sanitary sewer pipe shall conform to the requirements of ASTM D–3034 Standard Specification for PSM Polyvinyl Chloride Sewer Pipe, SDR–35 or equal, with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate backfill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top of pipe. Final backfill material shall be of suitable material removed from excavation except as other material is specified. Debris, frozen material, large rocks or stones, or other unstable materials shall not be used within 2 feet from top of pipe.
14. All sanitary and storm sewer trench backfills shall be water jetted. Granular backfill will be used under pavement areas.
15. All pipes shall have positive drainage through manholes. Flat invert structures not allowed.
16. Epoxy Coating shall be used on all sanitary sewer manholes that receive pressurized mains.
17. All creek crossings shall be lined with rip–rap as directed by District inspectors.
18. Brick shall not be used on sanitary sewer manholes.
19. Existing sanitary sewer service shall not be interrupted.
20. Maintain access to existing residential driveways and streets.
21. Pre–manufactured adapters shall be used at all PVC to DIP connections. Rubber boot / Mission–type couplings will not be allowed.
22. Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
23. 'Type N' Lock–Type Cover and Locking Device (Lock–Lug) shall be used where lock–type covers are required.
24. All sanitary sewer system work shall be conducted under the inspection of a representative of the District. All work may not require inspection but the District's representative may designate specific areas that must be inspected before the work is backfilled. All testing must be witnessed by the District's Inspector and the Contractor shall furnish all testing equipment as approved by the District. Testing shall include:

- A mandrel test of all gravity sewers using a mandrel with a diameter that has a diameter 95% of the inside pipe diameter. If the mandrel test fails on any section of pipe, that section of pipe shall be uncovered and replaced. No expansion devices will be allowed to be used to "force" the pipe that is deformed back into round. Any string lines used in mandrel testing shall be removed after testing is completed. Deflection testing cannot be conducted prior to 30 days after final backfill.
- An air pressure test of all gravity sewers to a pressure of 5 PSI with no observed drop in pressure during a test period of 5 minutes.
- A vacuum test of all manholes for a period of 1 minute and the vacuum shall be 10" of mercury and may not drop below 9" of mercury at the end of the 1 minute test.

25. All sanitary laterals including the wye shall be schedule 40 from the sanitary sewer main to the house foundation.

Storm Sewer Notes

STM # 1 All Storm Sewer installation is to be in accordance with M.S.D. 2007 standards and specifications except as modified by the City of O'Fallon ordinances.

STM # 2 Brick shall not be used in the construction of storm sewer structures. Pre cast concrete structures are to be used unless otherwise approved by the City of O'Fallon.

STM # 3 A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.

STM # 4 HDPE pipe is to be N–12WT or equal and to meet ASTM F1417 water tight field test.

STM # 5 Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete cradle to only RCP storm sewer and encase HDPE storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.

STM # 6 The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.

STM # 7 All concrete pipes will be installed with O–ring rubber type gaskets.

STM # 8 Connections at all storm structures are to be made with A–lock joint or equal.

STM # 9 Pre cast concrete inlet covers are not to be used.

STM #10 The swale in the detention basins shall have a minimum 1% longitudinal slope and be lined with a permanent erosion control blanket that will allow infiltration of storm water.

STM #11 All storm sewer shall be reinforced concrete pipe or H.D.P.E. pipe. All structures and flared end sections must be concrete. Manufacturing specifications must be followed and details provided for the installation of H.D.P.E. pipe. H.D.P.E. pipe will not be allowed for detention basin outflows, final pipe run to detention basins, creek discharge or other approved means.

STM #12 The discharge point of all flared end sections shall be protected by rip rap or other approved means.

STM #13 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.

STM #14 Add 1" minus rock back fill to all storm sewer that lie within the 1:1 shear plane of the road.

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10	3-1-17 Web Site

STM # 15 The city will allow the following markers and adhesive procedures only as shown in the table below or an approved equal. Epoxy is the only adhesive pads will not be allowed.

Manufacturer	Size	Adhesive	Style	Message (Part #)	Website
ACP International	3 7/8 in.	Epoxy	Crystal Cap	No Dumping Drains To Waterway (SD–W–CC)	www.acpinternational.com
DAS Manufacturing, Inc.	4 in.	Epoxy	Standard Style	No Dumping Drains To Stream (#SDS)	www.dasmanufacturing.com

Roadway Notes

RN # 1 All paving (public and private) to be in accordance with 2006 St. Charles County Standards and Specifications except as modified by the City of O'Fallon ordinances.

RN # 2 If the intersecting road does not have a curb, then the curb on the new entrance shall begin 10' from the edge of the existing road.

RN # 3 Provide 6" of concrete over 4" of MoDot type 1 or type 5 aggregate rock or asphalt equivalent for minor residential streets per City Code 405.370.

RN # 4 Multi–use trail (when required) Shall have a minimum of 3" Type "C" Asphalt over 4" aggregate base per City requirements.

RN # 5 Type C (BP–1) Compaction requirements shall be 98% minimum density according to St. Charles Co. Standard Specifications.

RN # 6 Provide pavement striping at any point where the multi–use trail crosses existing or proposed pavement

RN # 7 All street stub–outs over 250' in length will require a temporary turnaround.

RN # 8 All sub grade in cut or fill will need to conform to the City of O'Fallon Compaction requirements

RN # 9 Material Testing And Frequency. Materials for construction shall be tested and inspected per the appropriate ASTM code or at the City Engineer's discretion. The developer's engineer shall perform the following quality control guidelines:

1. Concrete.
   a. Cylinders/compressive strength. One (1) set of four (4) cylinders within the first fifty (50) cubic yards and one (1) set per one hundred (100) cubic yards thereafter. One (1) cylinder must be tested at seven (7) days, one (1) at fourteen (14) days and two (2) at twenty–eight (28) days. If the first (1st) cylinder does not meet specifications at twenty–eight (28) days, then the second (2nd) cylinder must be held and tested at day fifty–six (56).
   b. Percent air and temperature. First (1st) truck batch each day and two (2) thereafter until a consistency is encountered. Once a consistency is encountered, then tests will be performed in conjunction with the concrete cylinders.
   c. Slump. First (1st) truck batch each day and two (2) thereafter until a consistency is encountered. Once a consistency is encountered, then tests will be performed in conjunction with the concrete cylinders.
   d. If concrete is batched from more than one (1) plant, then the aforementioned guidelines will be applicable to each plant.
2. Sub grade and base.
   a. Proof roll as described in Section 405.210(B).
   b. One (1) compaction test per two hundred fifty (250) feet of mainline paving, three (3) tests per intersection, five (5) tests within cul–de–sacs and one (1) test per repair slab.
   c. Gradation test for sub base material.
3. Asphalt.
   a. One (1) set of compaction tests per two hundred fifty (250) feet of mainline. One (1) set includes three (3) tests across the paved lane at the same station.
   b. One (1) bulk density test per paving operation.

RN #10 Approval Of Sub grade And Base (Sub base). The City Engineer or representative shall approve the sub grade before any base is placed thereon and shall approve the base before concrete or surface course is placed. The sub grade and base shall be so constructed that it will be uniform in density throughout.

RN #11 In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for each foot of fill and at least one (1) test and an average of one (1) test within every two hundred fifty (250) feet.

RN #12 No traffic will be allowed on new concrete pavement until it has cured for seven (7) days and it reaches three thousand five hundred (3,500) psi within 28 days. Concrete pavements shall not be approved unless it reaches a strength of four thousand (4,000) psi.Cylinders/compressive strength. One (1) set of four (4) cylinders within the first fifty (50) cubic yards and one (1) set per one hundred (100) cubic yards thereafter. One (1) cylinder must be tested at seven (7) days, one (1) at fourteen (14) days and two (2) at twenty–eight (28) days. If the first (1st) cylinder does not meet specifications at twenty–eight (28) days, then the second (2nd) cylinder must be held and tested at day fifty–six (56).

RN #13 Prior to placement of aggregate base material on sub grade and prior to placement of pavement on base material, the sub grade and base must be proof–rolled with a fully loaded (ten (10) ton load) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no faster than three (3) miles per hour. If soft spots are detected, or pumping, rutting or heaving occurs greater than one (1) inch at the sub grade, the roadbed shall be considered unsatisfactory and the soil in these areas shall be remediated to the depth indicated by the contractor's testing firm and approved by a representative of the City Engineer.

RN #14 Sub grade and base beneath pavements shall be compacted to St. Charles County Highway Department specifications. The moisture range shall be determined by the Standard or Modified Proctor Density Method AASHTO T–99 and within –2/+4 percentage points of the optimum moisture content.

RN #15 The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer. If any settling or washing occurs, or where hauling results in ruts or other objectionable irregularities, the contractor shall improve the sub grade or base to the satisfaction of the City before the pavement is placed. Additional rolling or methods to verify compaction shall be at the discretion of the City Engineer. Tolerance allowed on all lines, grades and cross sections shall be plus or minus four–hundredths (+0.04) feet.

RN #16 Utility Work Prior To Base Construction. No base course work may proceed on any street until all utility excavations (storm and sanitary sewers, water, gas, electric, etc.) have been properly back filled with granular material, crushed stone or gravel mechanically tamped in ten (10) inch lifts. Utilities installed after sub grade preparation shall be bored. Compaction requirements shall follow St. Charles County standards (2006).

RN #17 Equipment calibration. The developer's contractors and subcontractors must have their equipment calibrated by the following minimum standards.

a. Air meter––weekly.
b. Cylinder compression––annually by independent calibration service.
c. Batch scales––monthly.
d. Nuclear testing devices––every six (6) months.
e. Proctor equipment––every six (6) months.
f. Slump cone––monthly.

RN #18 All permanent traffic control will be per M.U.T.C.D. or MoDot standards. S1–1 from the M.U.T.C.D. manual will be used at all crosswalk locations accompanied with ether w16–9p or w16–7p signs

RN #19 All traffic signals, street signs, sign post, backs and bracket arms shall be painted black using Carboline Rust Bond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by City of O'Fallon and MoDOT).

Flood plain Information

FP #1 A flood plan development application from the City is required for any work within the flood plain limits.

FP #2 Lots 40 thru 43 will require a LOMR through FEMA.

Retaining Walls: Terraced and Vertical

RW #1 A permit is required for all retaining walls that are 48 inches or taller in height, measured from the top of the footing to the top of the wall or for walls that support a surcharge load or that alters the channelized drainage of any lot or drainage area.

RW #2 Retaining walls will not be allowed in public right–of–way without written approval from the City Engineer.

RW #3 Any retaining wall more than thirty (30) inches tall which supports a walking surface that is within two (2) feet of the wall will require a guard on the retaining wall.

RW #4 Retaining walls that alter the channeled drainage of any lot or drainage area shall not be constructed without prior approval and permitting from the City of O'Fallon Engineering Department regardless of the height of the wall.

RW #5 See section 405.275 of the City code for additional design requirements.

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
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www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

The Professional Engineer's seal, signature and date affixed to these plans, all design, data and information shown on these plans, shall be valid only for the specific project identified and described herein. The Engineer's seal, signature and date affixed to these documents shall not be considered valid for any other project, or any other modifications to these documents by others, or for any other purpose, whatsoever, or documents not bearing the seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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GENERAL NOTES

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

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"Final Plan" Approval Date: October 1, 2015 (31–15.01)

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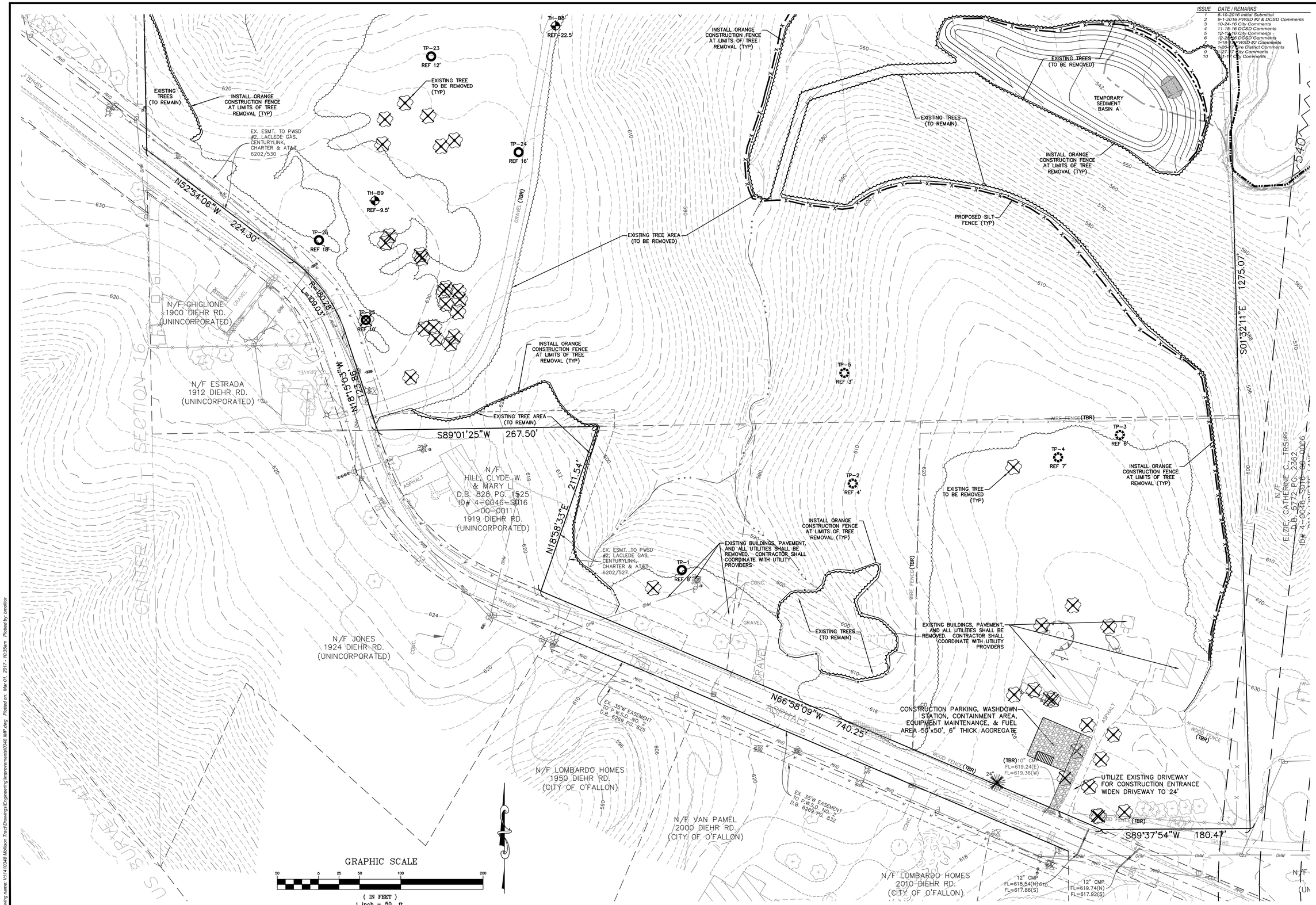

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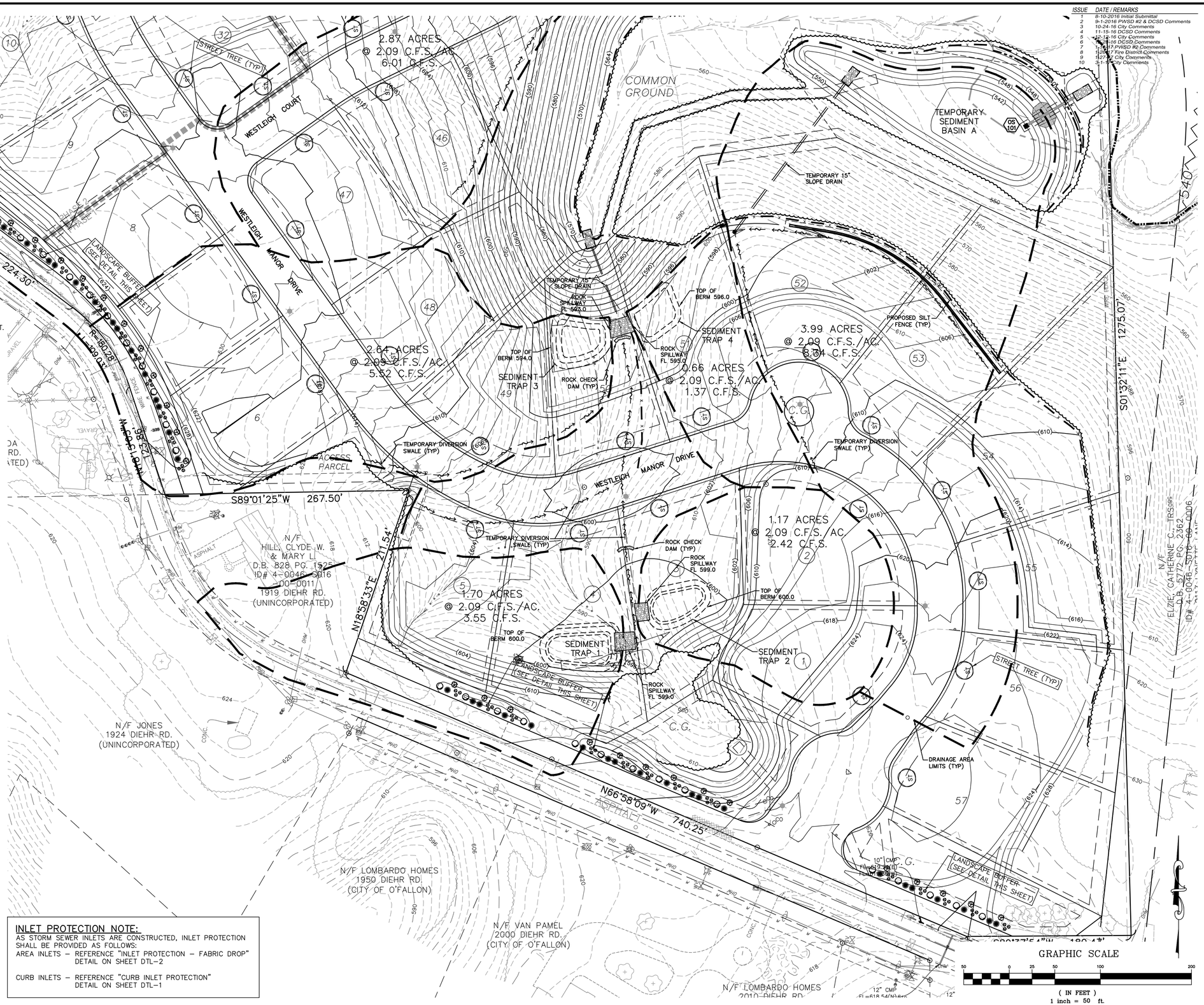

SEDIMENT BASIN A

DRAINAGE AREA ONSITE = 3.99 ACRES
DRAINAGE AREA OFFSITE = 0.00 ACRES
DRAINAGE AREA TOTAL = 3.99 ACRES
DISTURBED AREA = 2.99 ACRES

VOLUME REQUIRED: (3.99 AC)(3,600 CU.FT./AC) = 14,364 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
541.5	0
541.75	885
542.0	2,394
542.5	6,295
543.0	10,894
543.5	16,091
544.0	21,846
544.5	28,157
546.0	50,124
548.0	86,346

TOP OF BERM = 548.0
6" RISER ELEVATION = 545.0
REQUIRED VOLUME ACHIEVED = 543.3

SEDIMENT TRAP 1

DRAINAGE AREA ONSITE = 1.20 ACRES
DRAINAGE AREA OFFSITE = 0.50 ACRES
DRAINAGE AREA TOTAL = 1.70 ACRES
DISTURBED AREA = 0.86 ACRES

VOLUME REQUIRED: (1.70 AC)(1,800 CU.FT./AC) = 3,060 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
597.0	0
598.0	2,085
600.0	8,065

TOP OF BERM = 600.0
REQUIRED VOLUME ACHIEVED = 598.5

SEDIMENT TRAP 2

DRAINAGE AREA ONSITE = 1.17 ACRES
DRAINAGE AREA OFFSITE = 0.00 ACRES
DRAINAGE AREA TOTAL = 1.17 ACRES
DISTURBED AREA = 1.17 ACRES

VOLUME REQUIRED: (1.17 AC)(1,800 CU.FT./AC) = 2,106 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
597.0	0
598.0	1,573
600.0	6,240

TOP OF BERM = 600.0
REQUIRED VOLUME ACHIEVED = 598.34

SEDIMENT TRAP 3

DRAINAGE AREA ONSITE = 2.55 ACRES
DRAINAGE AREA OFFSITE = 0.09 ACRES
DRAINAGE AREA TOTAL = 2.64 ACRES
DISTURBED AREA = 2.55 ACRES

VOLUME REQUIRED: (2.64 AC)(1,800 CU.FT./AC) = 4,752 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
590.0	0
592.0	3,274
594.0	8,675

TOP OF BERM = 594.0
REQUIRED VOLUME ACHIEVED = 592.9

SEDIMENT TRAP 4

DRAINAGE AREA ONSITE = 0.66 ACRES
DRAINAGE AREA OFFSITE = 0.00 ACRES
DRAINAGE AREA TOTAL = 0.66 ACRES
DISTURBED AREA = 0.66 ACRES

VOLUME REQUIRED: (0.66 AC)(1,800 CU.FT./AC) = 1,188 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
594.0	0
596.0	3,780

TOP OF BERM = 596.0
REQUIRED VOLUME ACHIEVED = 594.63

INLET PROTECTION NOTE:

AS STORM SEWER INLETS ARE CONSTRUCTED, INLET PROTECTION SHALL BE PROVIDED AS FOLLOWS:
AREA INLETS – REFERENCE "INLET PROTECTION – FABRIC DROP" DETAIL ON SHEET DTL–2

CURB INLETS – REFERENCE "CURB INLET PROTECTION" DETAIL ON SHEET DTL–1

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSSD Comments
3	10-24-16 City Comments
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5	12-14-16 City Comments
6	1-13-16 DCSD Comments
7	1-24-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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SWPPP

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

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SEDIMENT BASIN B

DRAINAGE AREA ONSITE = 7.56 ACRES
DRAINAGE AREA OFFSITE = 3.83 ACRES
DRAINAGE AREA TOTAL = 11.39 ACRES
DISTURBED AREA = 7.56 ACRES

VOLUME REQUIRED: (11.39 AC)(3,600 CU.FT./AC) = 41,004 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
589.5	0
590.0	2,187
590.5	7,020
591.0	13,964
591.5	22,804
592.0	33,252
594.0	81,394
596.0	137,269

TOP OF BERM = 596.0
6" RISER ELEVATION = 593.0
REQUIRED VOLUME ACHIEVED = 592.3

SEDIMENT TRAP 5

DRAINAGE AREA ONSITE = 2.87 ACRES
DRAINAGE AREA OFFSITE = 0.00 ACRES
DRAINAGE AREA TOTAL = 2.87 ACRES
DISTURBED AREA = 2.87 ACRES

VOLUME REQUIRED: (2.87 AC)(1,800 CU.FT./AC) = 5,166 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
544.0	0
546.0	3,102
548.0	11,728

TOP OF BERM = 548.0
REQUIRED VOLUME ACHIEVED = 546.7

INLET PROTECTION NOTE:

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8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-11-17 City Comments
11	4-16-18 Combined Eyebrow
12	8-2-2018 Submittal Revisions
13	10-8-18 Submittal Revisions
14	3-06-19 Submittal Revisions

PROJECT TITLE

WESTLEIGH

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IMP

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SEDIMENT BASIN C

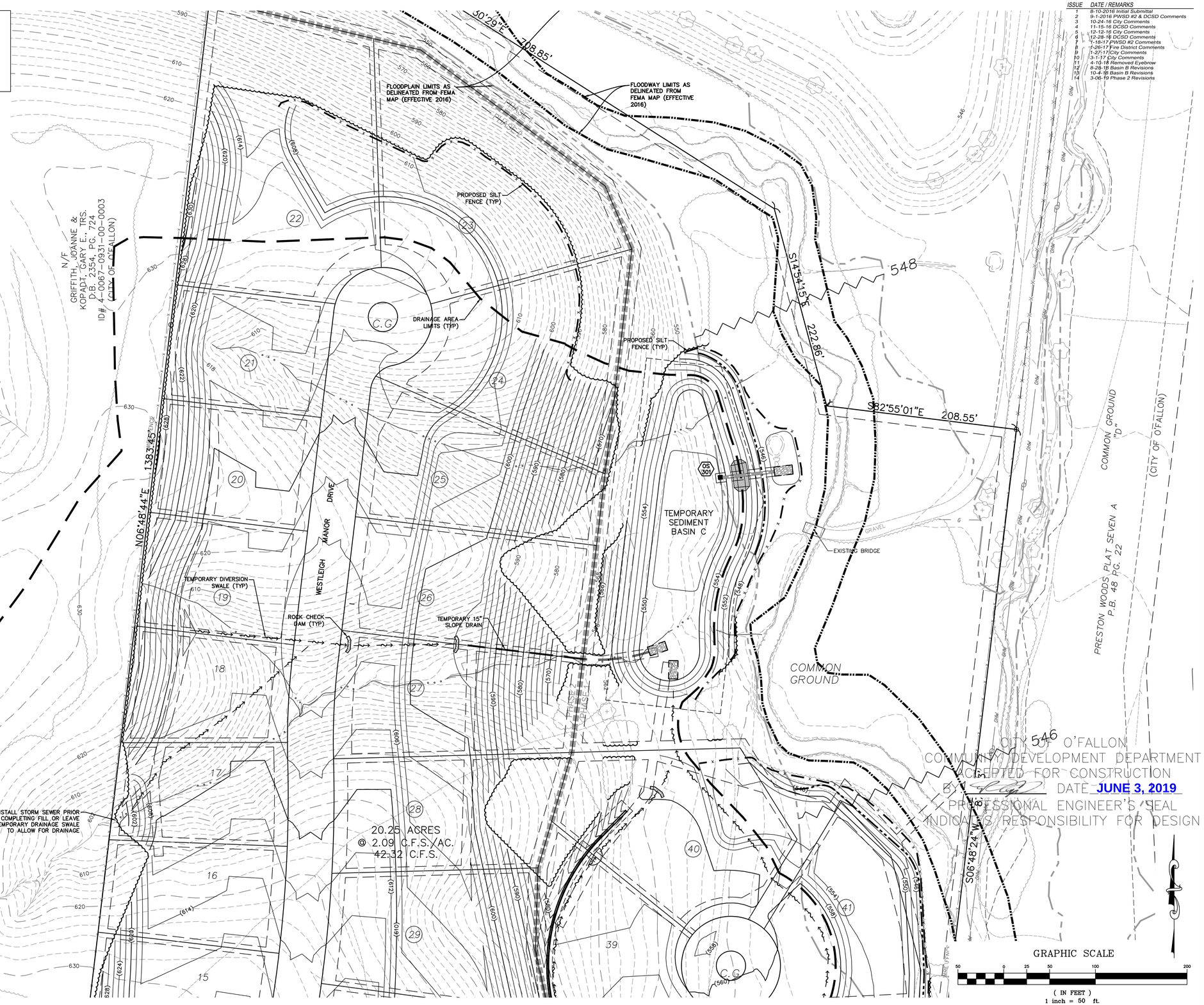
DRAINAGE AREA ONSITE = 16.47 ACRES
DRAINAGE AREA OFFSITE = 3.78 ACRES
DRAINAGE AREA TOTAL = 20.25 ACRES
DISTURBED AREA = 16.47 ACRES

VOLUME REQUIRED: (20.25 AC)(3,600 CU.FT./AC) = 72900 CU.FT.

VOLUME PROVIDED:

ELEV.	VOLUME (CU.FT.)
547.5	0
548.0	2,885
548.5	8,040
549.0	14,631
549.5	22,572
550.0	31,720
552.0	74,888
554.0	126,944

TOP OF BERM = 554.0
6" RISER ELEVATION = 552.0
REQUIRED VOLUME ACHIEVED = 551.91



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10	3-1-17 City Comments
11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions
14	3-06-19 Phase 2 Revisions

PROJECT TITLE

WESTLEIGH

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STATE OF MISSOURI
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NUMBER PE-2002016612
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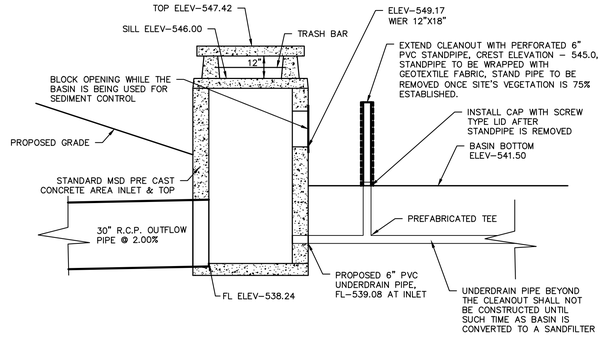
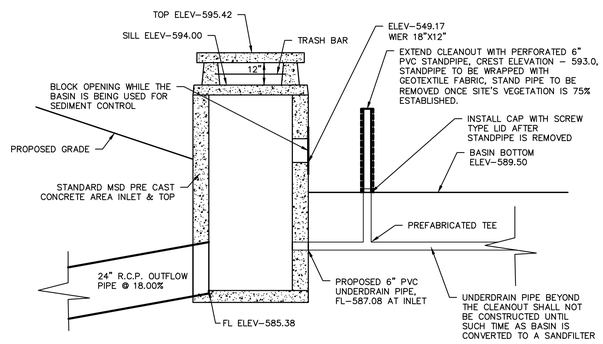


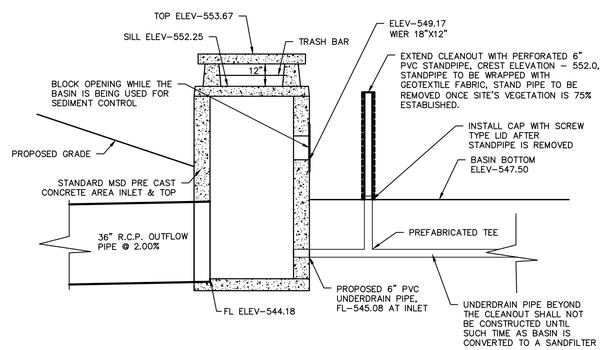
OUTFALL STRUCTURE 101 SIDE SECTION MODIFIED FOR SEDIMENT CONTROL TEMPORARY SEDIMENT BASIN A

NTS



OUTFALL STRUCTURE 204 SIDE SECTION MODIFIED FOR SEDIMENT CONTROL TEMPORARY SEDIMENT BASIN B

NTS



OUTFALL STRUCTURE 301 SIDE SECTION MODIFIED FOR SEDIMENT CONTROL TEMPORARY SEDIMENT BASIN C

NTS

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

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ENGINEERS & SURVEYORS
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Corporate Certificate of Authority #001348

The Professional Engineer and Land Surveyor whose seal is affixed signing day, in his sole and direct gross as their sole. All reports, specifications or other documents not bearing this seal and signature shall not be considered valid and shall be rejected. The Professional Engineer and Land Surveyor assumes no responsibility for such work, drawings or documents not bearing this seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER
PE-2002016612
PROFESSIONAL ENGINEER

Date: *3/01/2017*
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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SWPPP DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
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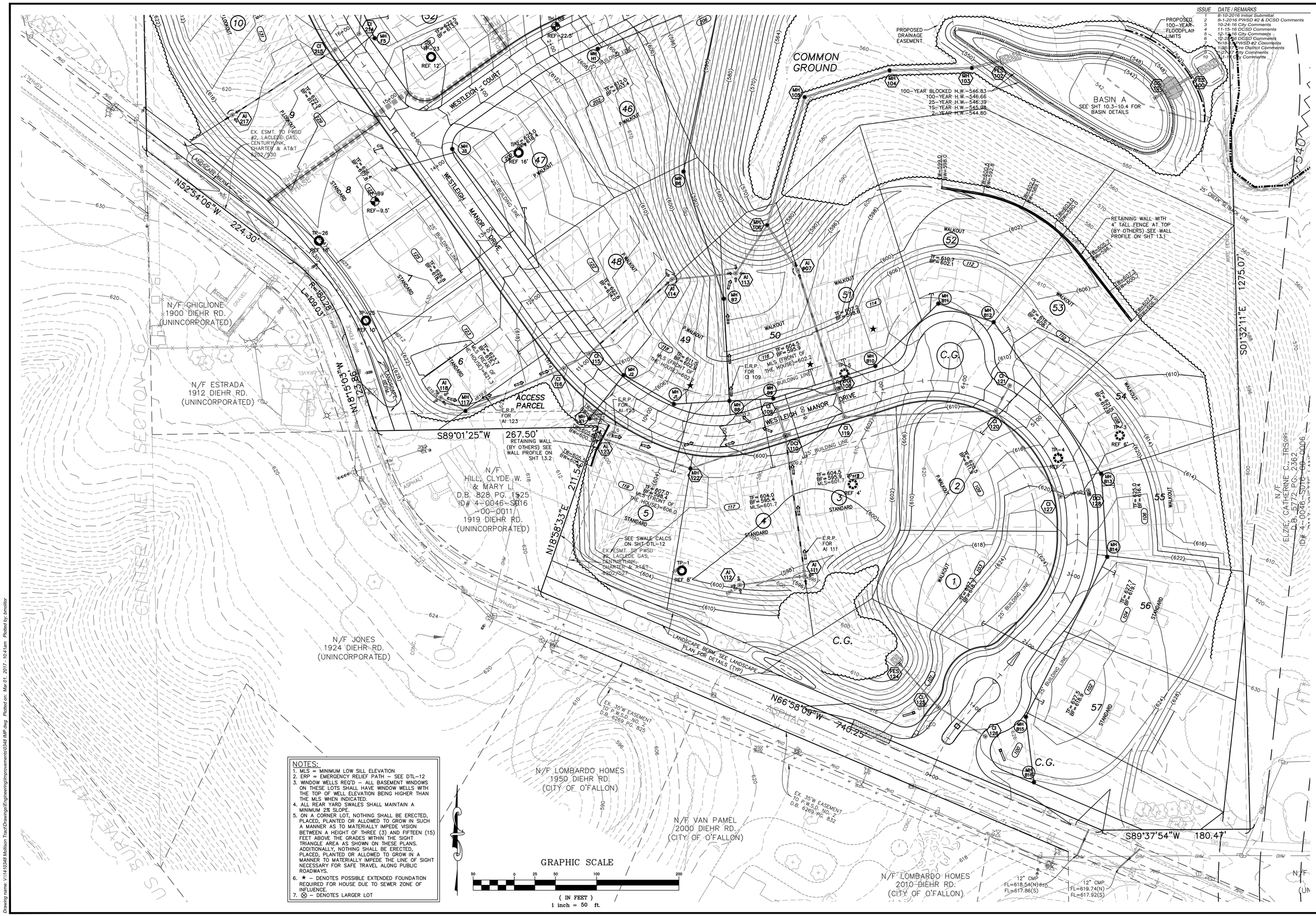

NOTES:

1. MLS = MINIMUM LOW SILL ELEVATION
2. ERP = EMERGENCY RELIEF PATH – SEE DTL–12
3. WINDOW WELLS REQ'D – ALL BASEMENT WINDOWS ON THESE LOTS SHALL HAVE WINDOW WELLS WITH THE TOP OF WELL ELEVATION BEING HIGHER THAN THE MLS WHEN INDICATED.
4. ALL REAR YARD SWALES SHALL MAINTAIN A MINIMUM 2% SLOPE.
5. ON A CORNER LOT, NOTHING SHALL BE ERECTED, PLACED, PLANTED OR ALLOWED TO GROW IN SUCH A MANNER AS TO MATERIALLY IMPEDE VISION BETWEEN A HEIGHT OF THREE (3) AND FIFTEEN (15) FEET ABOVE THE GRADES WITHIN THE SIGHT TRIANGLE AREA AS SHOWN ON THESE PLANS. ADDITIONALLY, NOTHING SHALL BE ERECTED, PLACED, PLANTED OR ALLOWED TO GROW IN A MANNER TO MATERIALLY IMPEDE THE LINE OF SIGHT NECESSARY FOR SAFE TRAVEL ALONG PUBLIC ROADWAYS.
6. ★ – DENOTES POSSIBLE EXTENDED FOUNDATION REQUIRED FOR HOUSE DUE TO SEWER ZONE OF INFLUENCE.
7. ⊗ – DENOTES LARGER LOT

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PROJECT TITLE

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GRADING PLAN

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

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IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\10348 Mallison Tract\Drawings\Engineering\Improvements\0348 IMP.dwg Plotted on: Mar 01, 2017 - 10:41am Plotted by: bmoller

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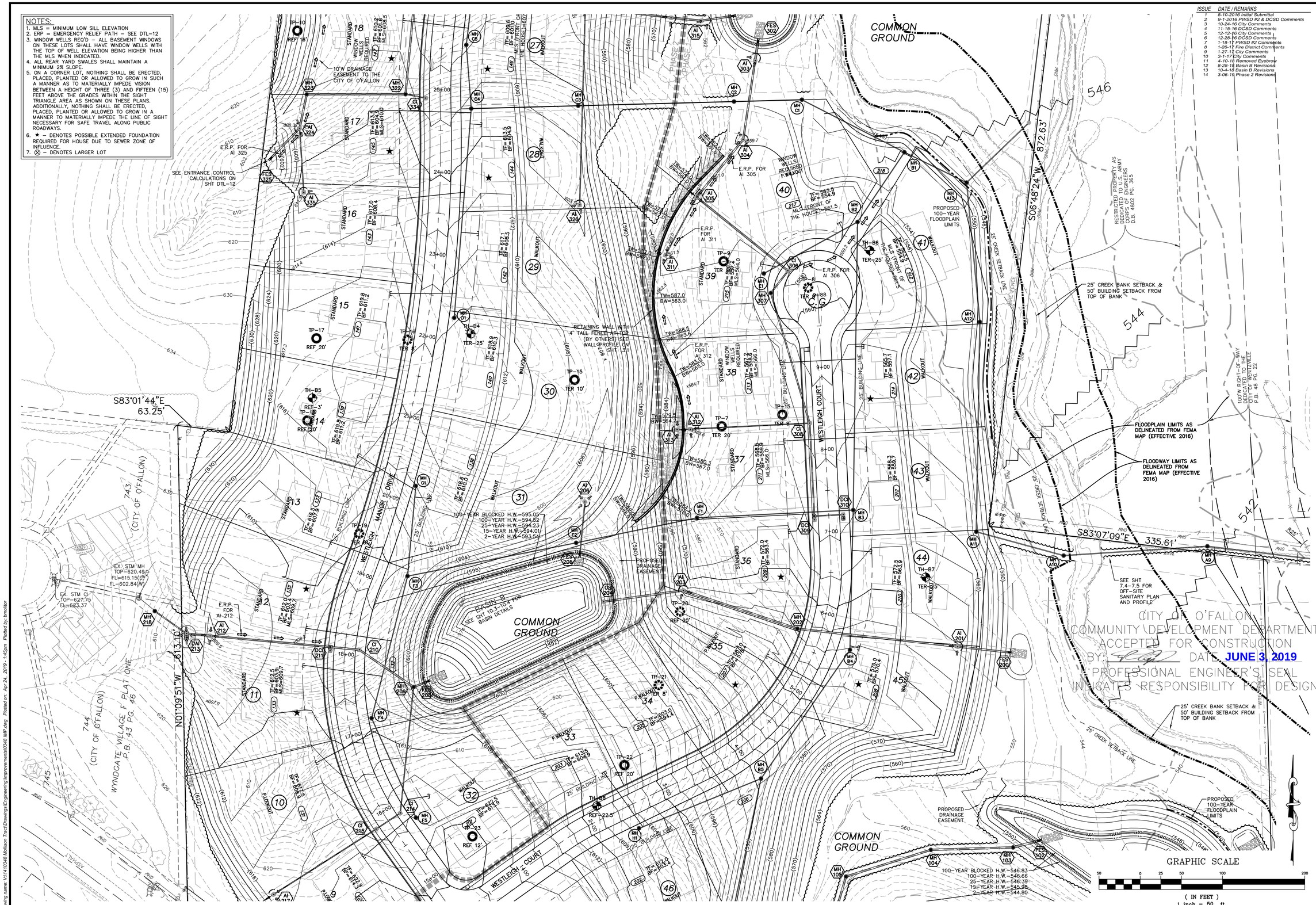

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE: JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL INDICATES RESPONSIBILITY FOR DESIGN

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PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
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GRADING PLAN

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"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\10\348 Madison Tract\Drawings\Engineering\Improvements\0348 MP.dwg Plotted on Apr 24, 2019 - 1:45pm Plotted by: bmoltor

NOTES:
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CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE: JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL INDICATES RESPONSIBILITY FOR DESIGN

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Professional Engineer's seal and signature on this plan indicates responsibility for the design of only those items shown on this sheet. It does not indicate responsibility for the design of any other sheet in this set unless the seal and signature are also affixed to those other sheets. Revisions to plans bearing the seal and signature shall not be considered approved until the revisions have been submitted to the engineer for review and the engineer has affixed his seal and signature to those revised sheets or documents not bearing the seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
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Date: 4/24/2019
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GRADING PLAN

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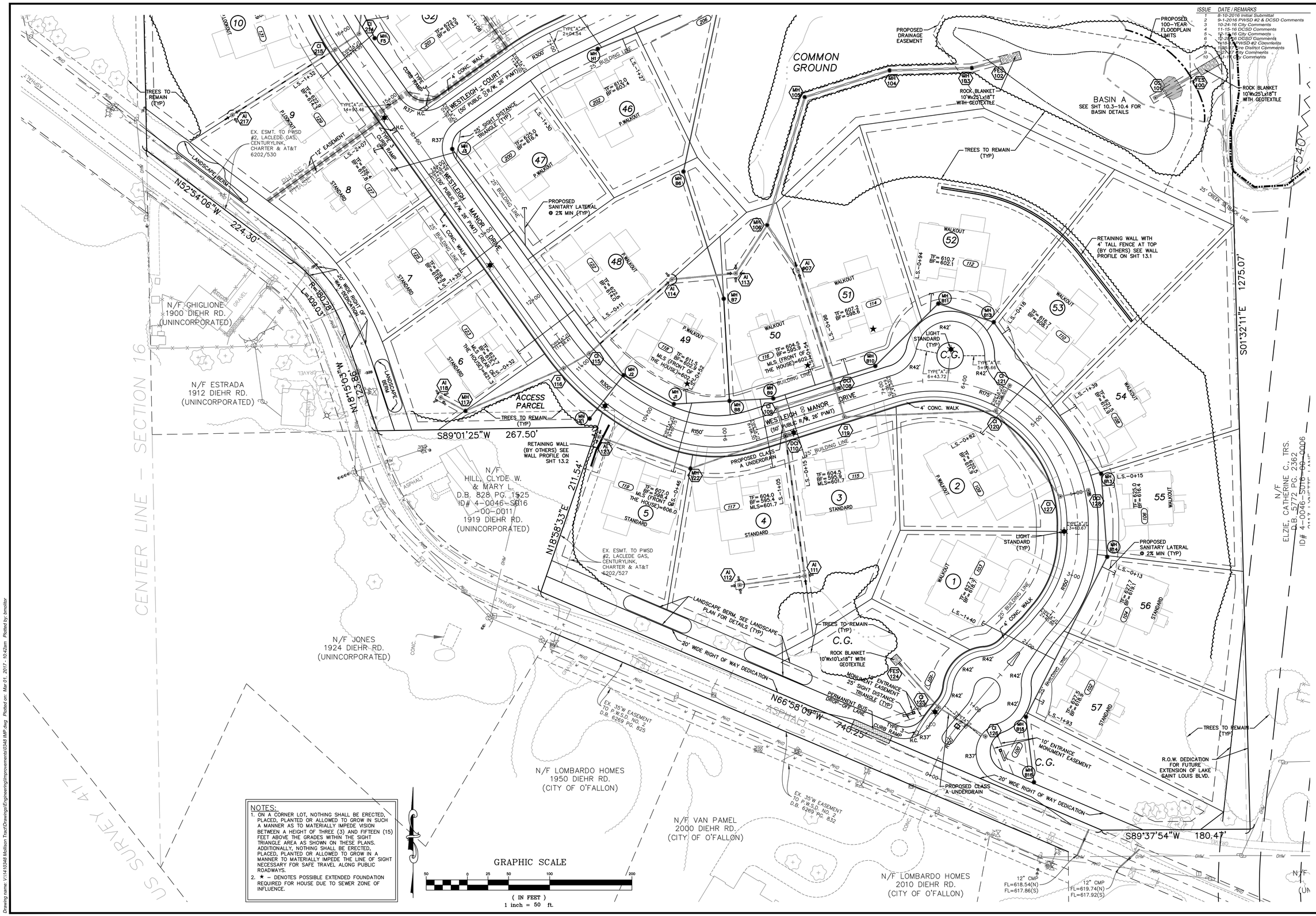

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2. ★ – DENOTES POSSIBLE EXTENDED FOUNDATION REQUIRED FOR HOUSE DUE TO SEWER ZONE OF INFLUENCE.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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SITE PLAN

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IMP

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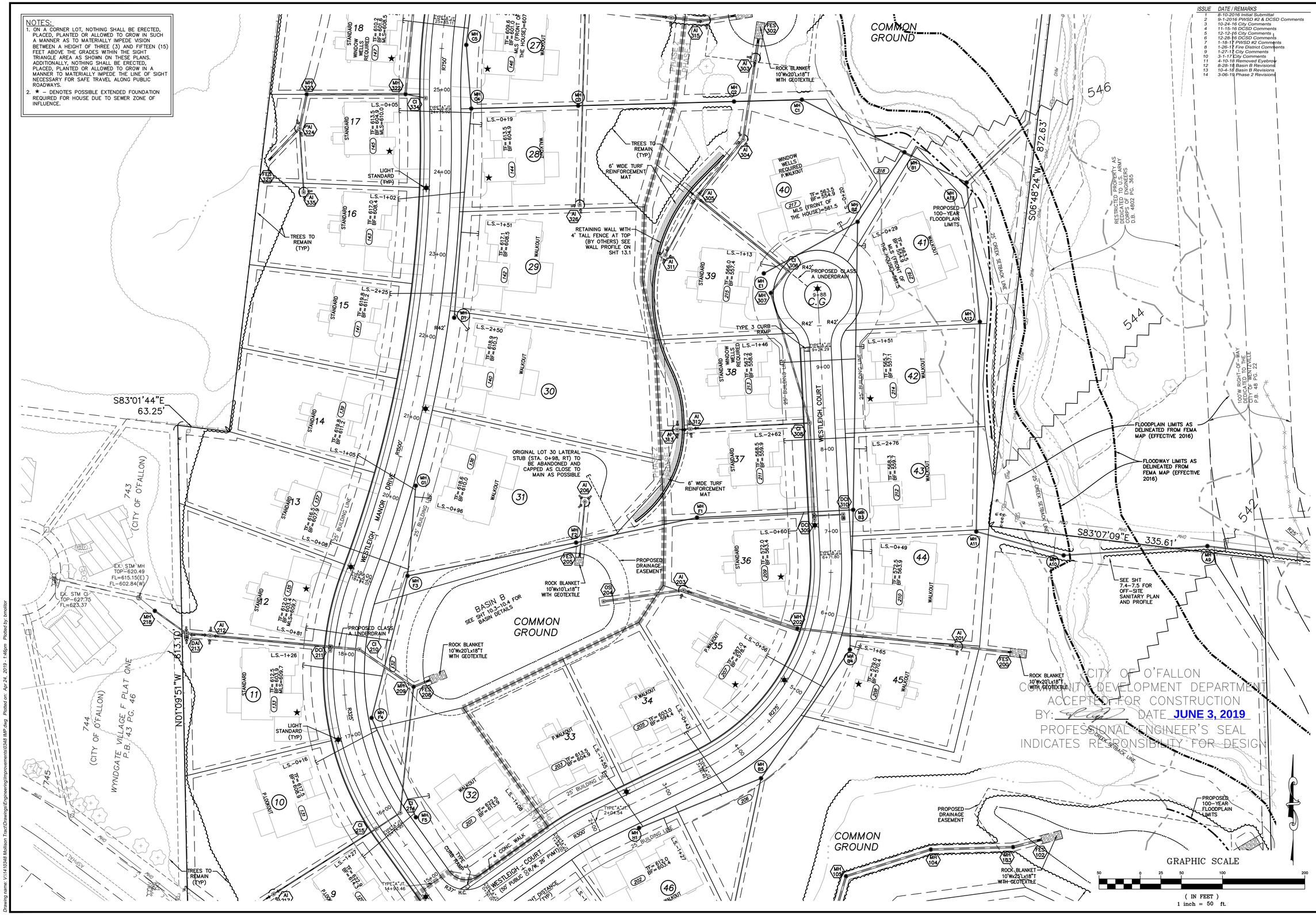

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WESTLEIGH

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Corporate Certificate of Authority #001348

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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SITE PLAN

P+Z No. P&Z NO
City No. 15-162-SP
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Page No.
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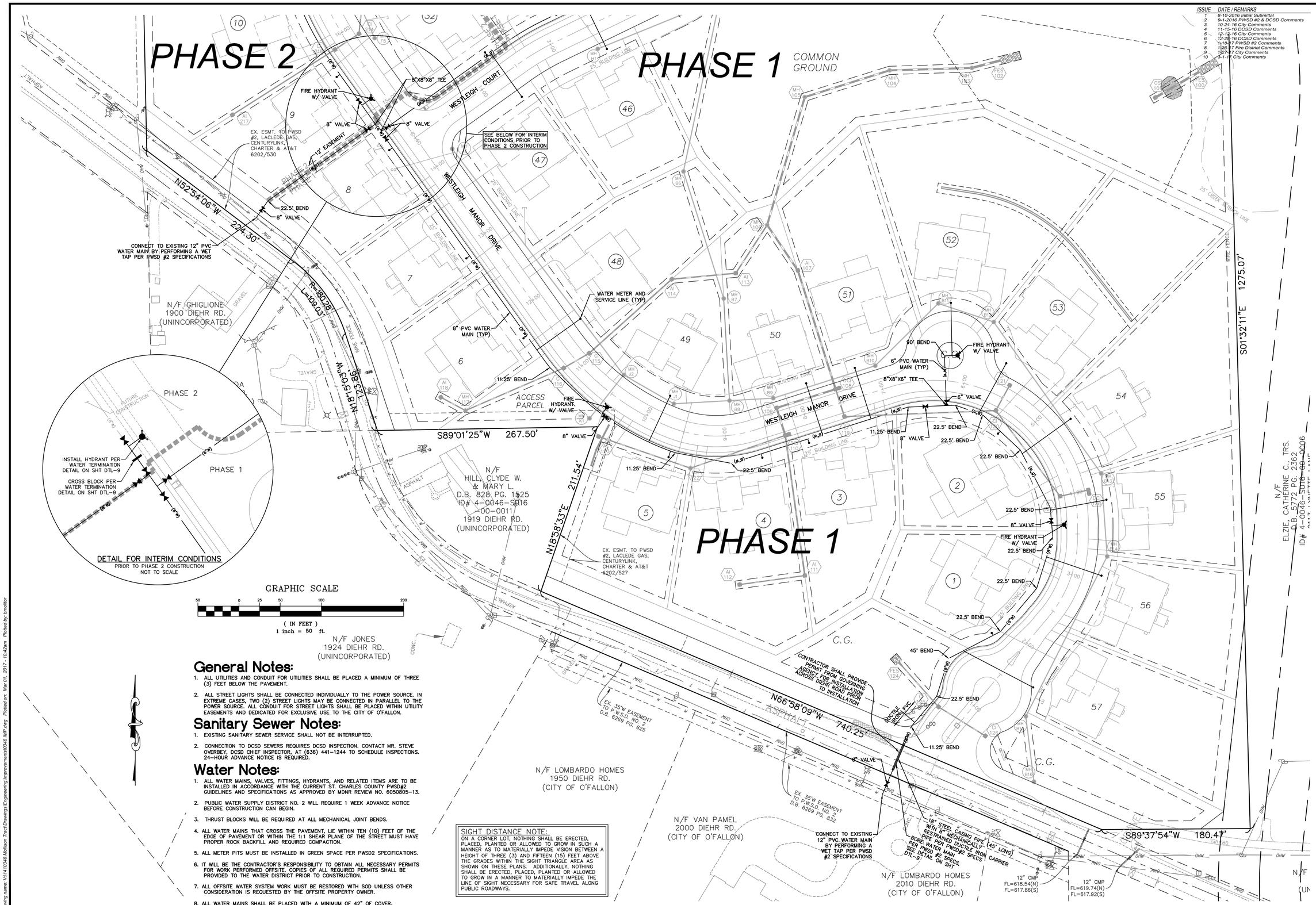

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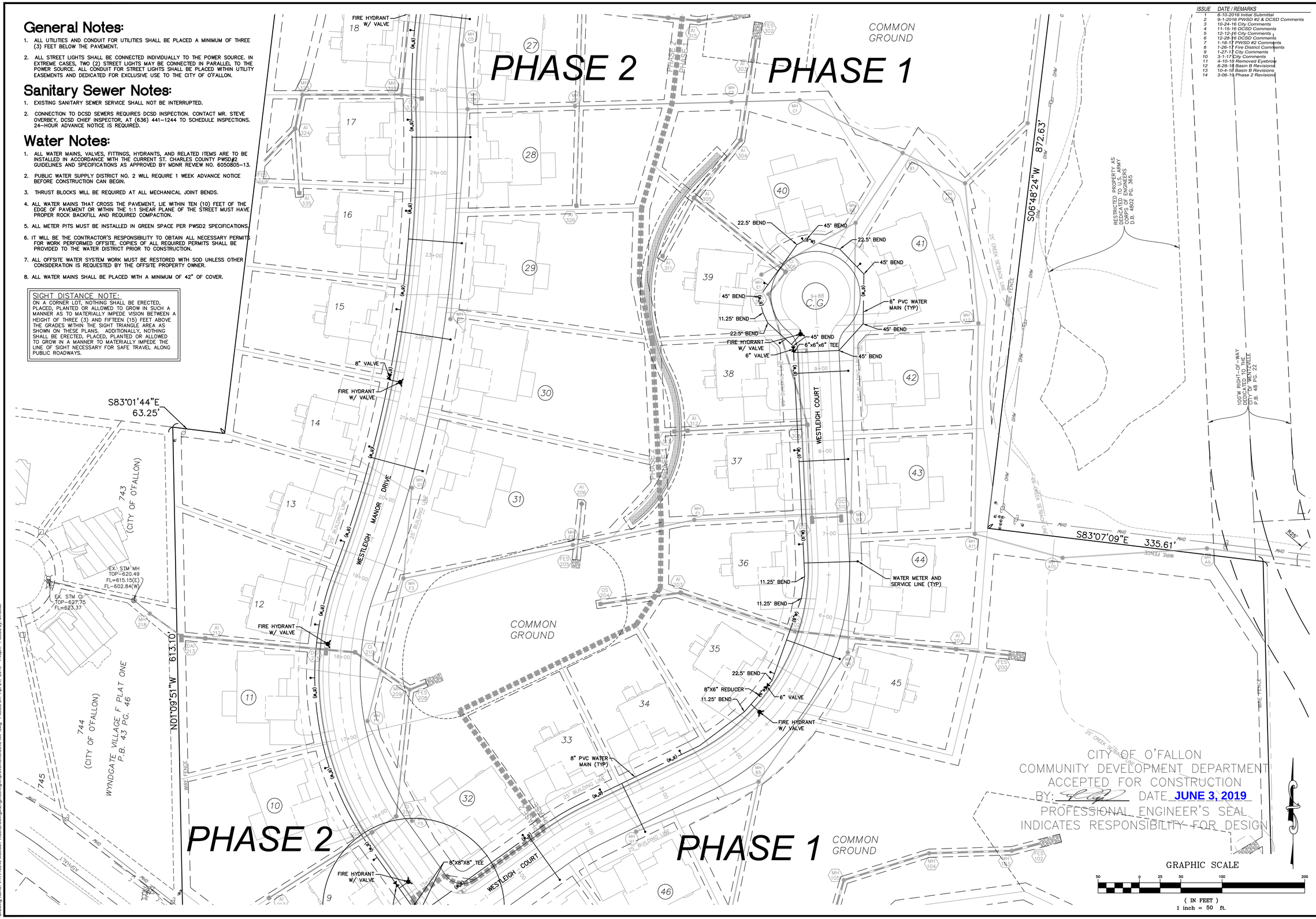

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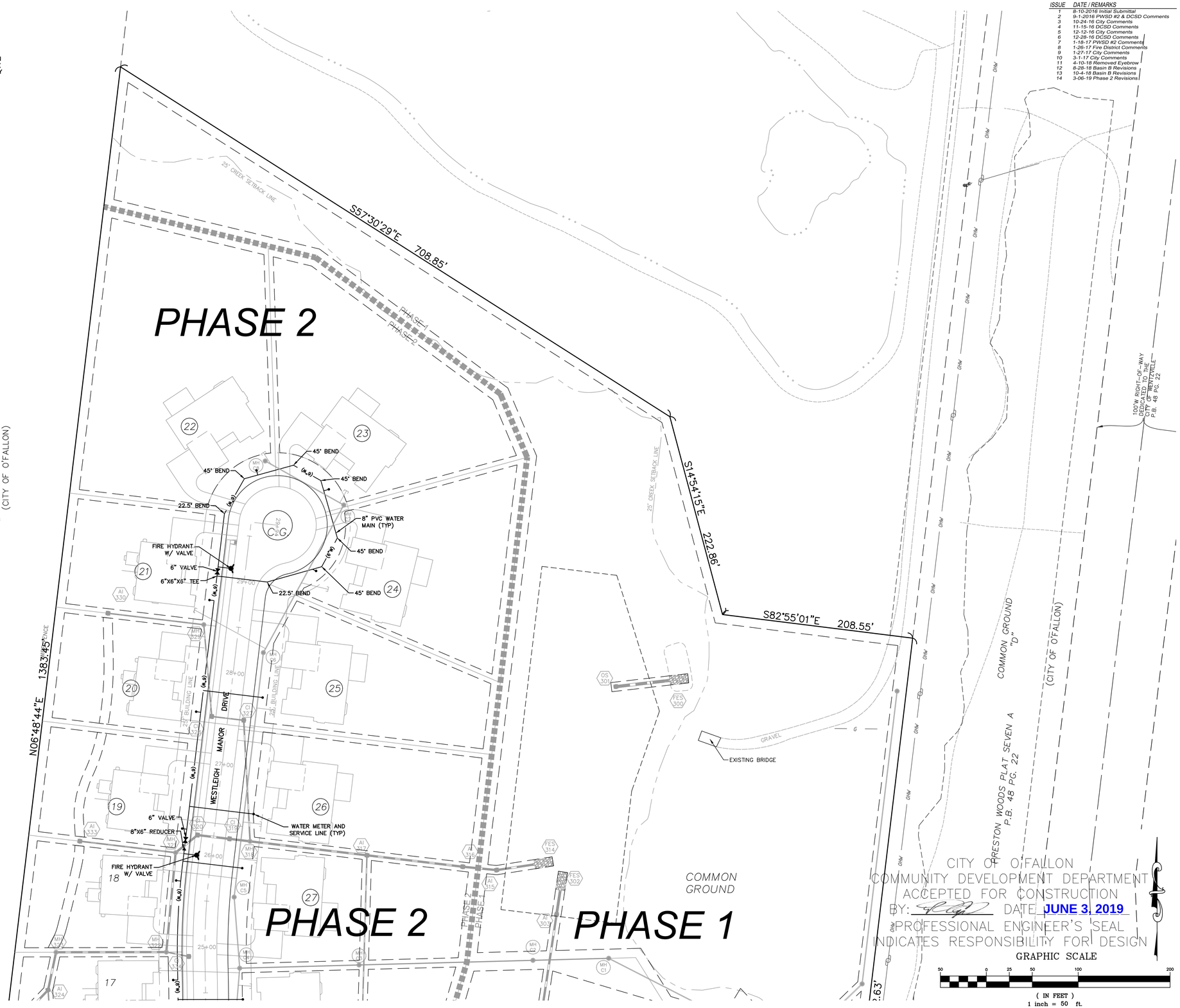

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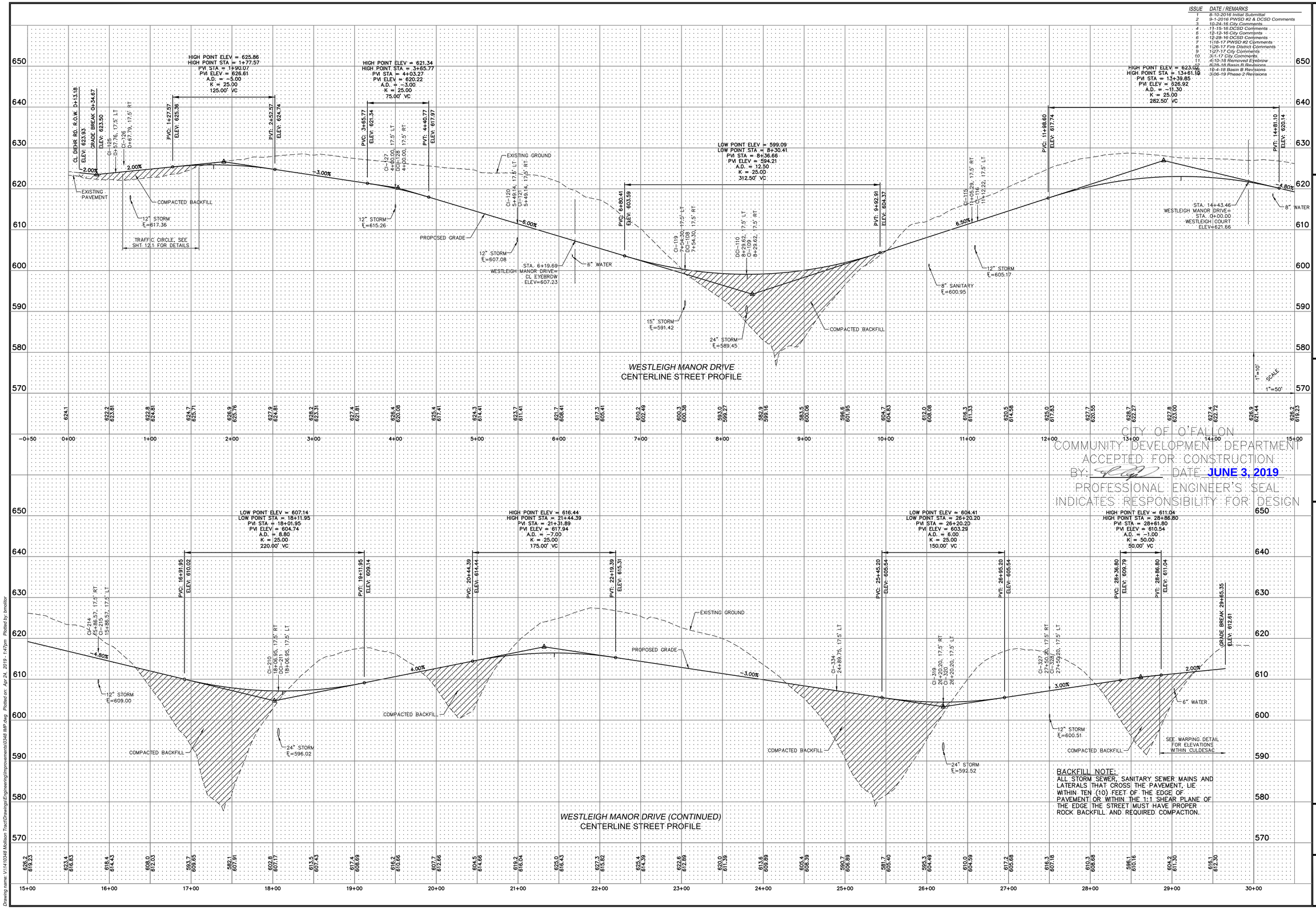

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CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE: JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

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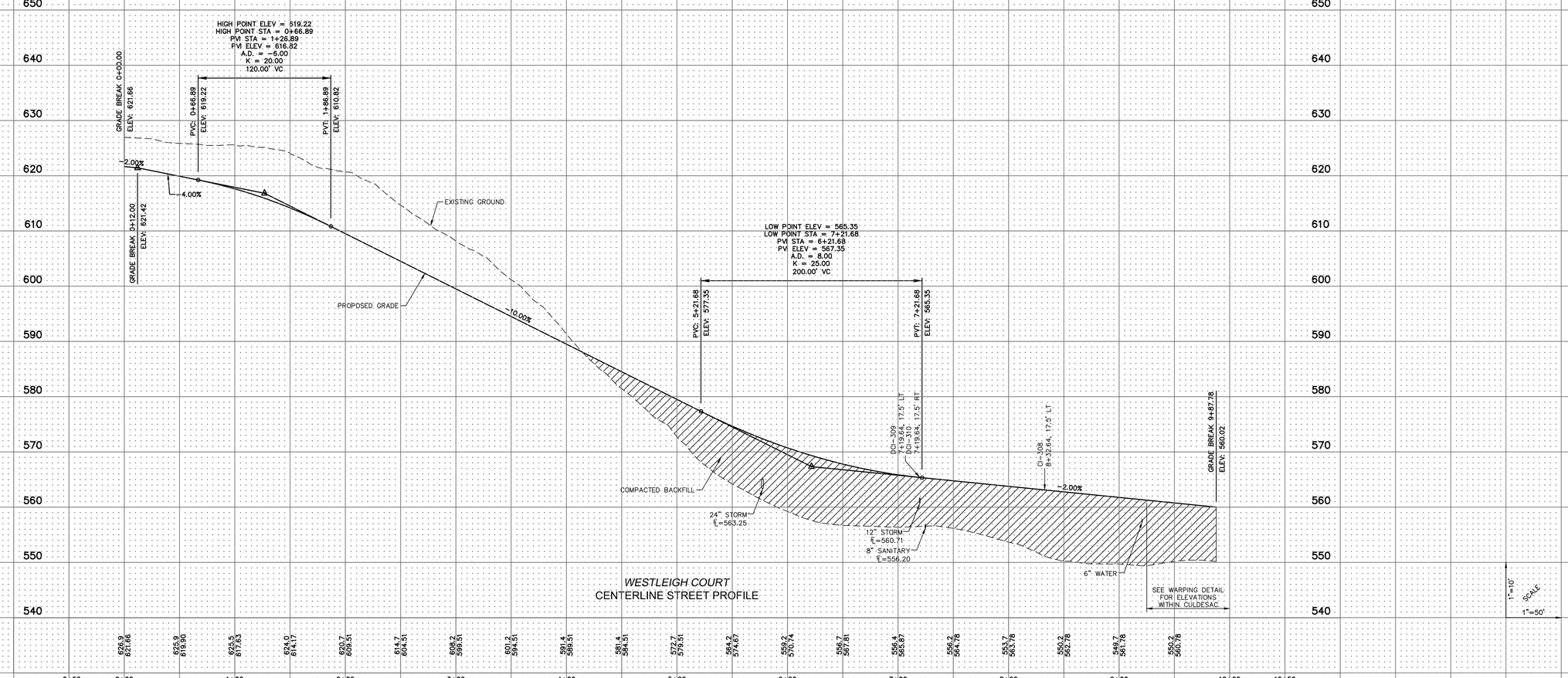

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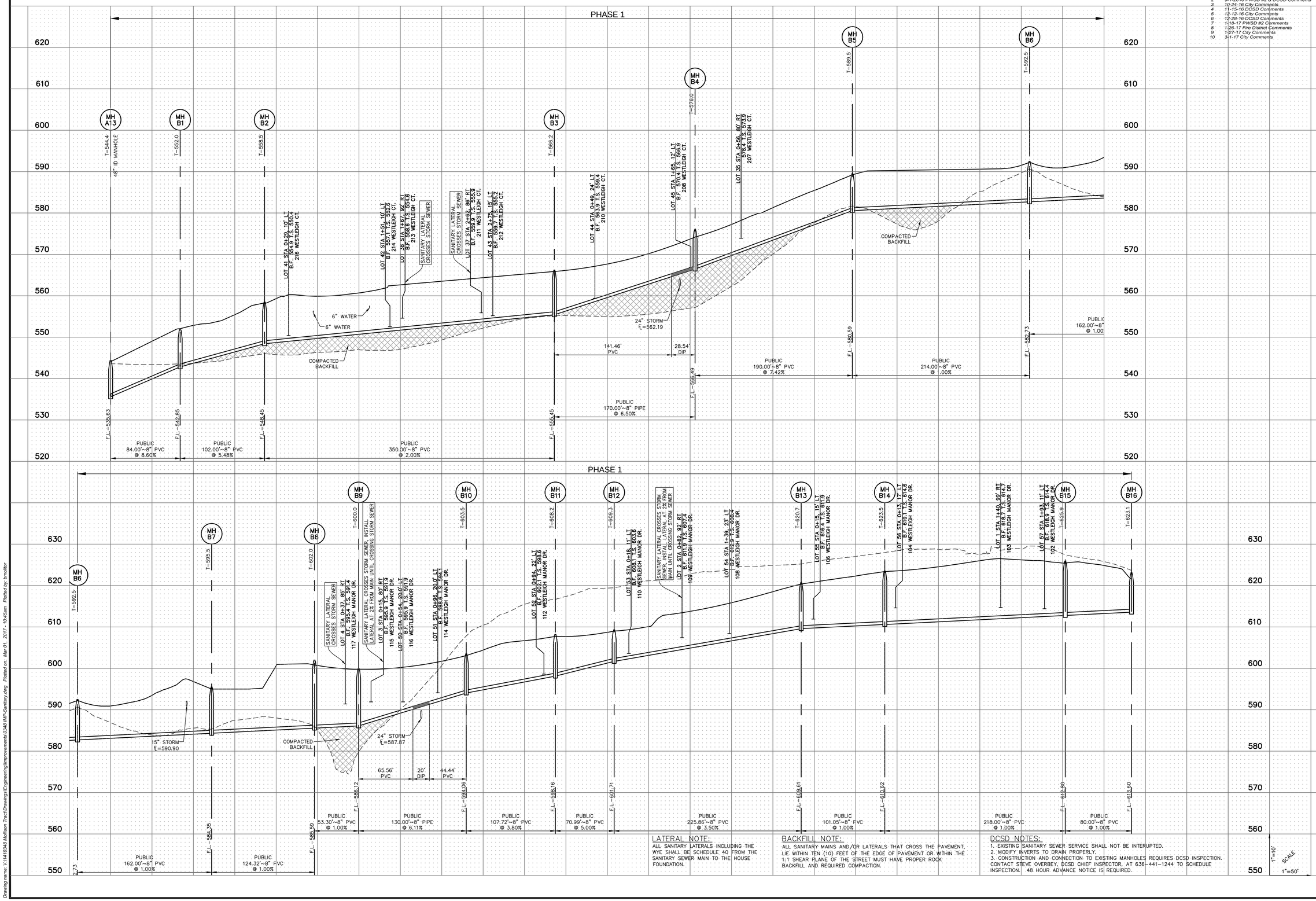

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1"=10' SCALE 1"=50'

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

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IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\0348 Mollison Tract\Drawings\Engineering\Improvements\0348 IMP-Sanitary.dwg Plotted on: Mar 01, 2017 - 10:45am Plotted by: bnoller

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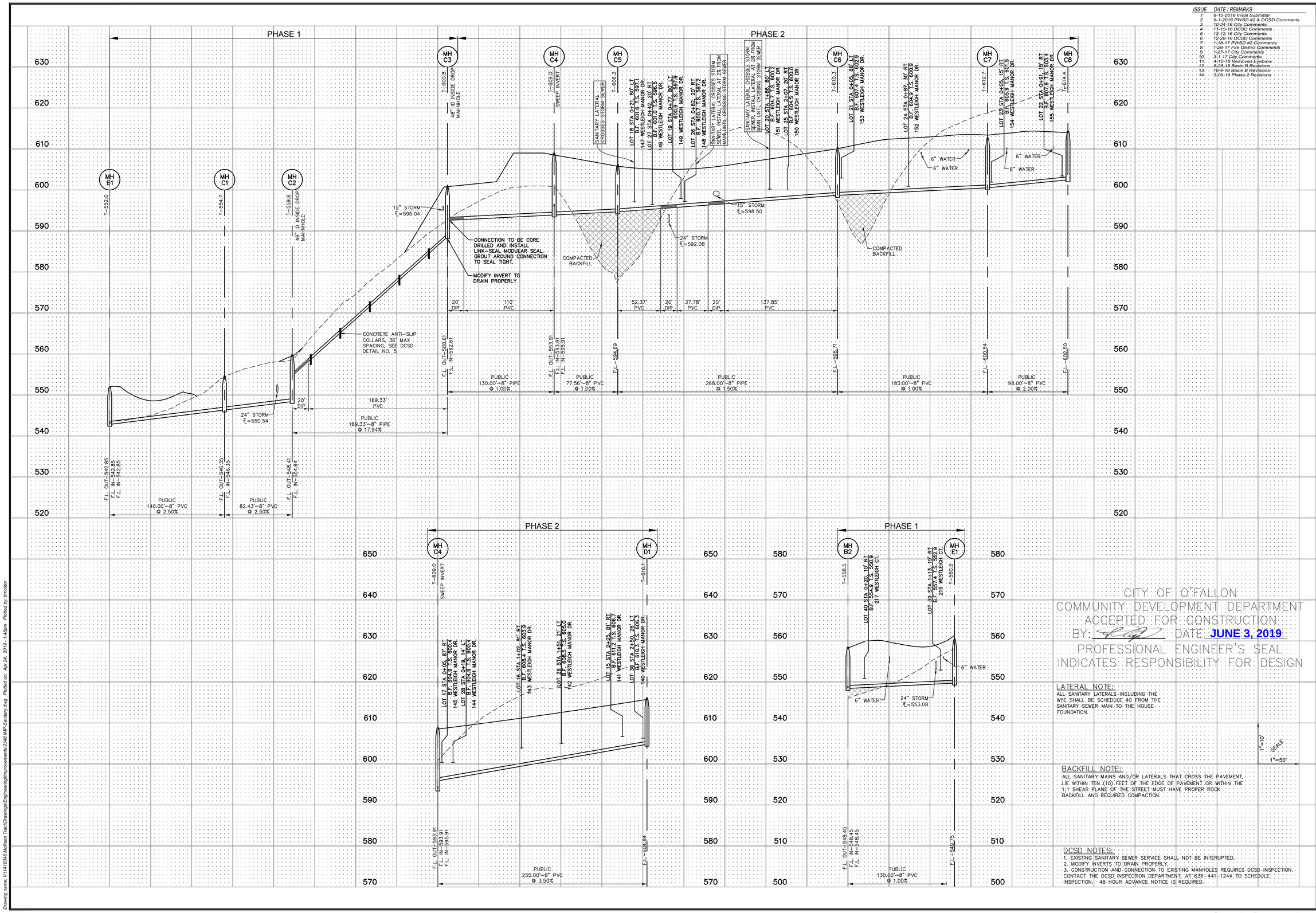

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STATE OF MISSOURI
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Date: 4/24/2019
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IMP

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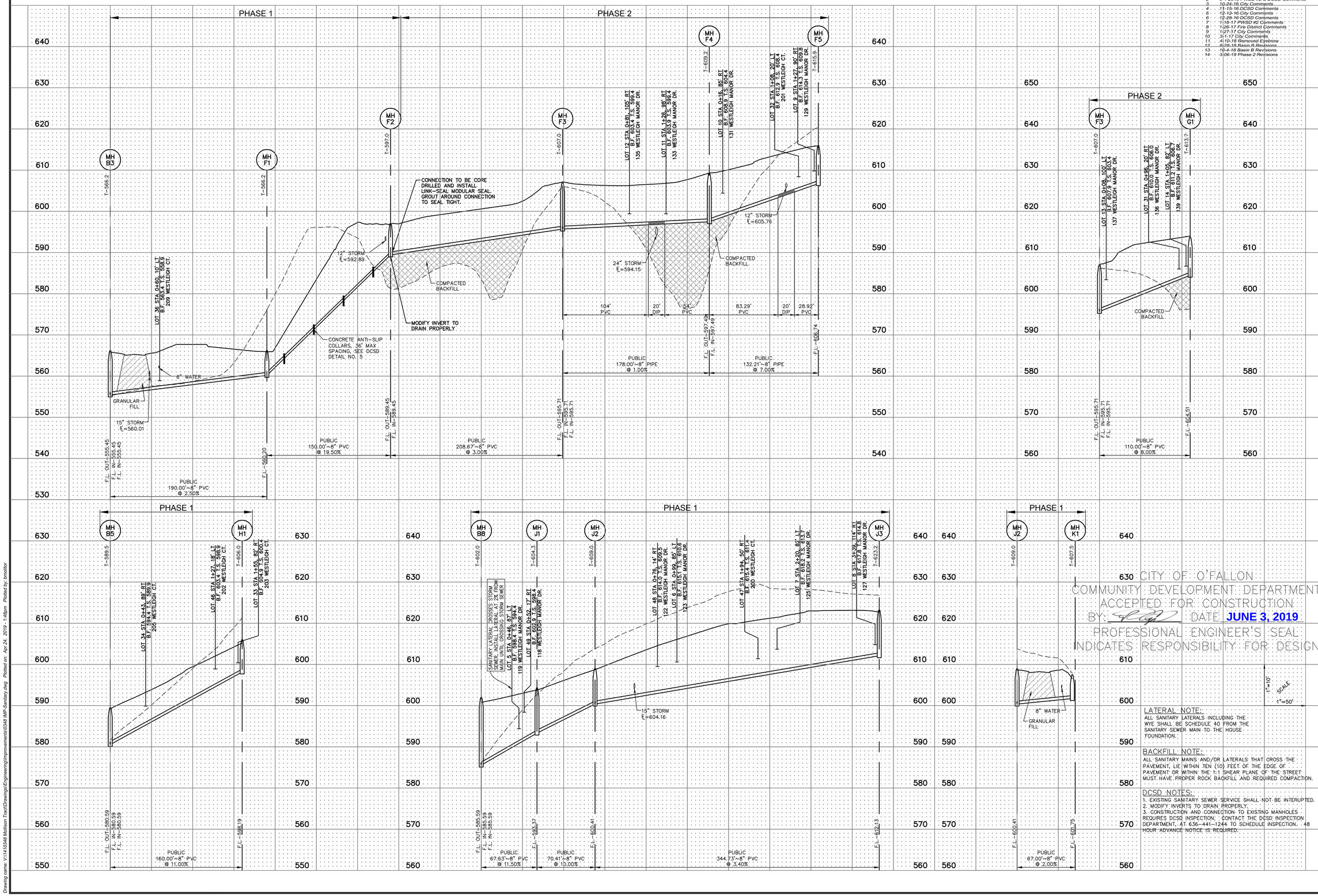

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL INDICATES RESPONSIBILITY FOR DESIGN

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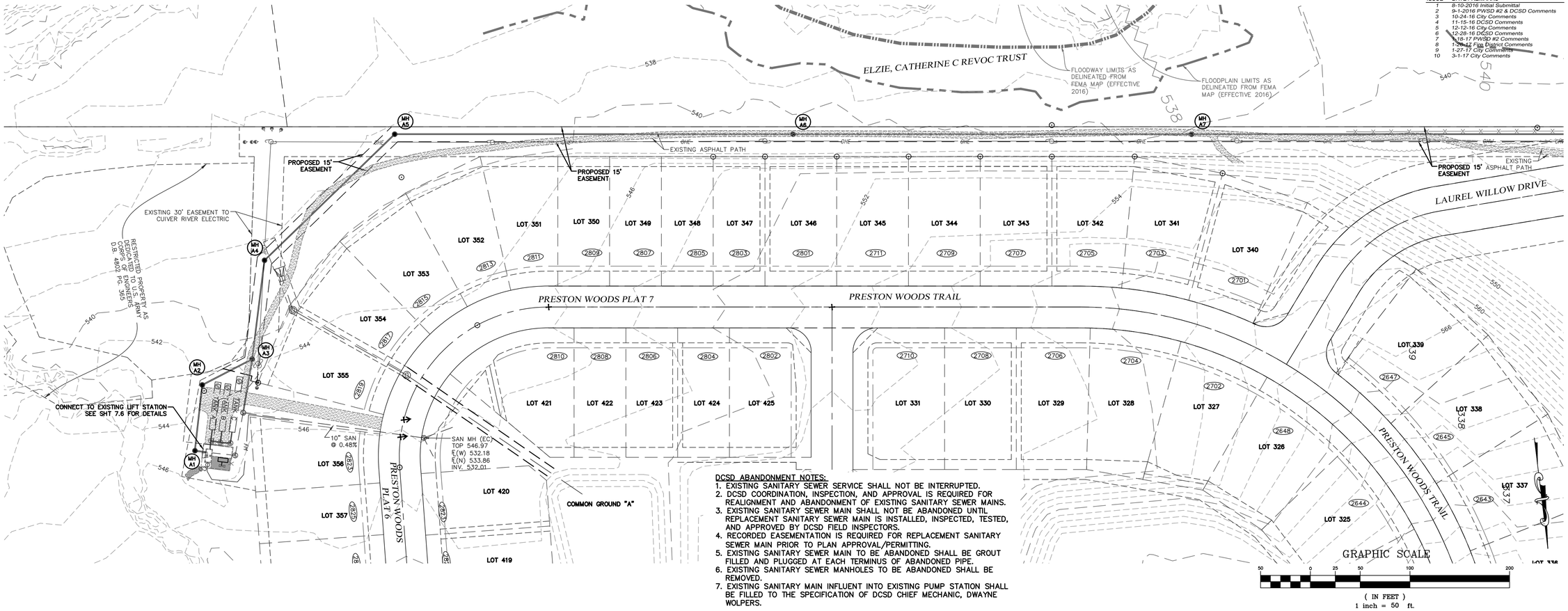

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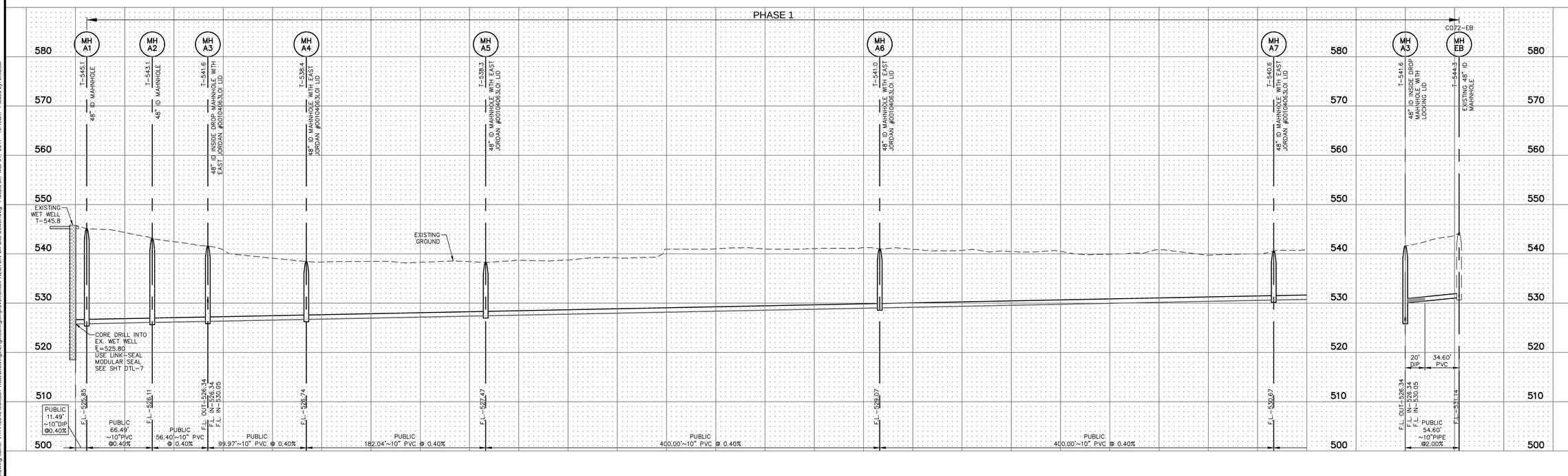

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STATE OF MISSOURI
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Date: 3/01/2017
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OFF-SITE SANITARY

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City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348
Page No.	7.4

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

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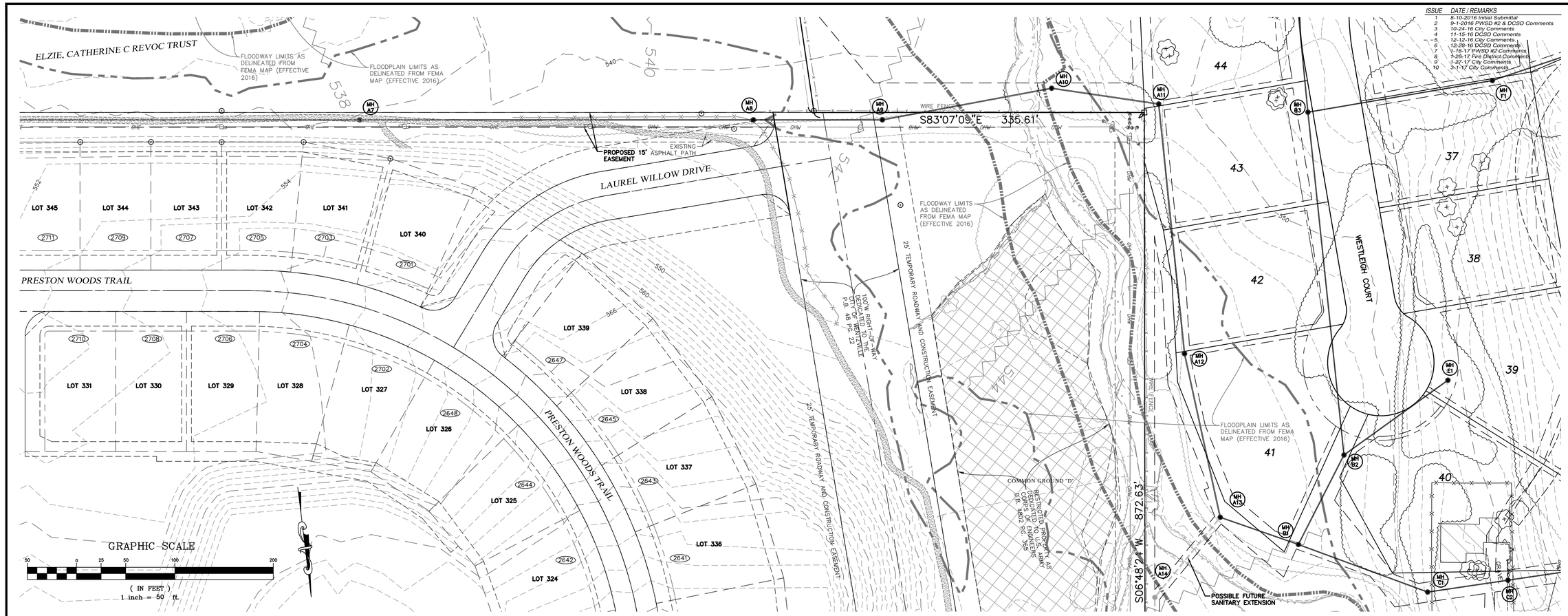

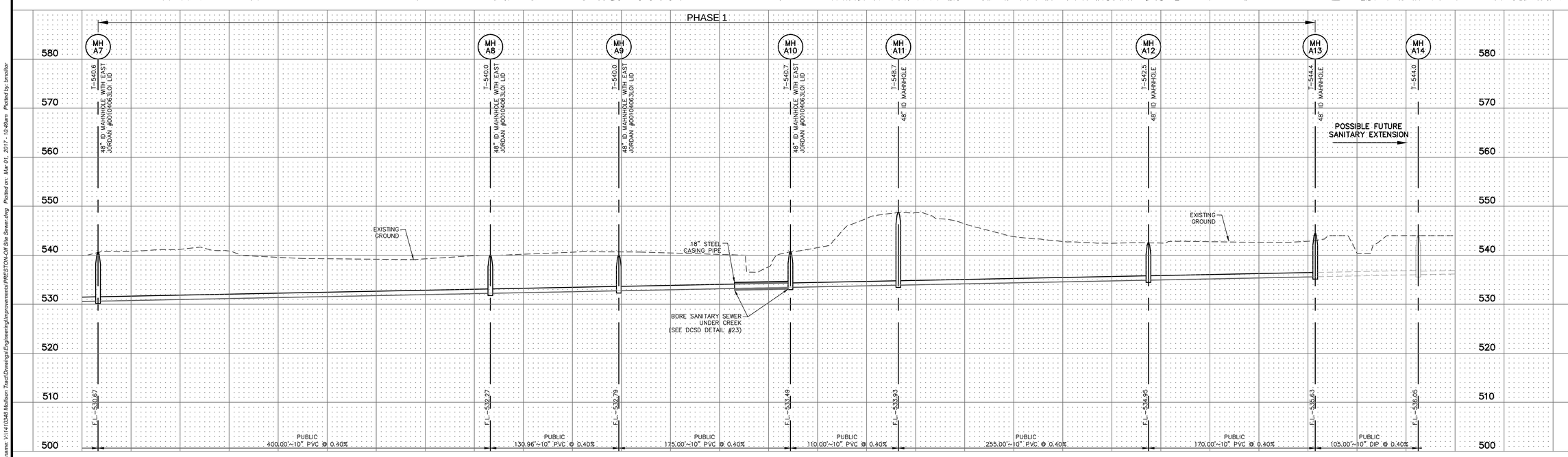

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OFF-SITE SANITARY

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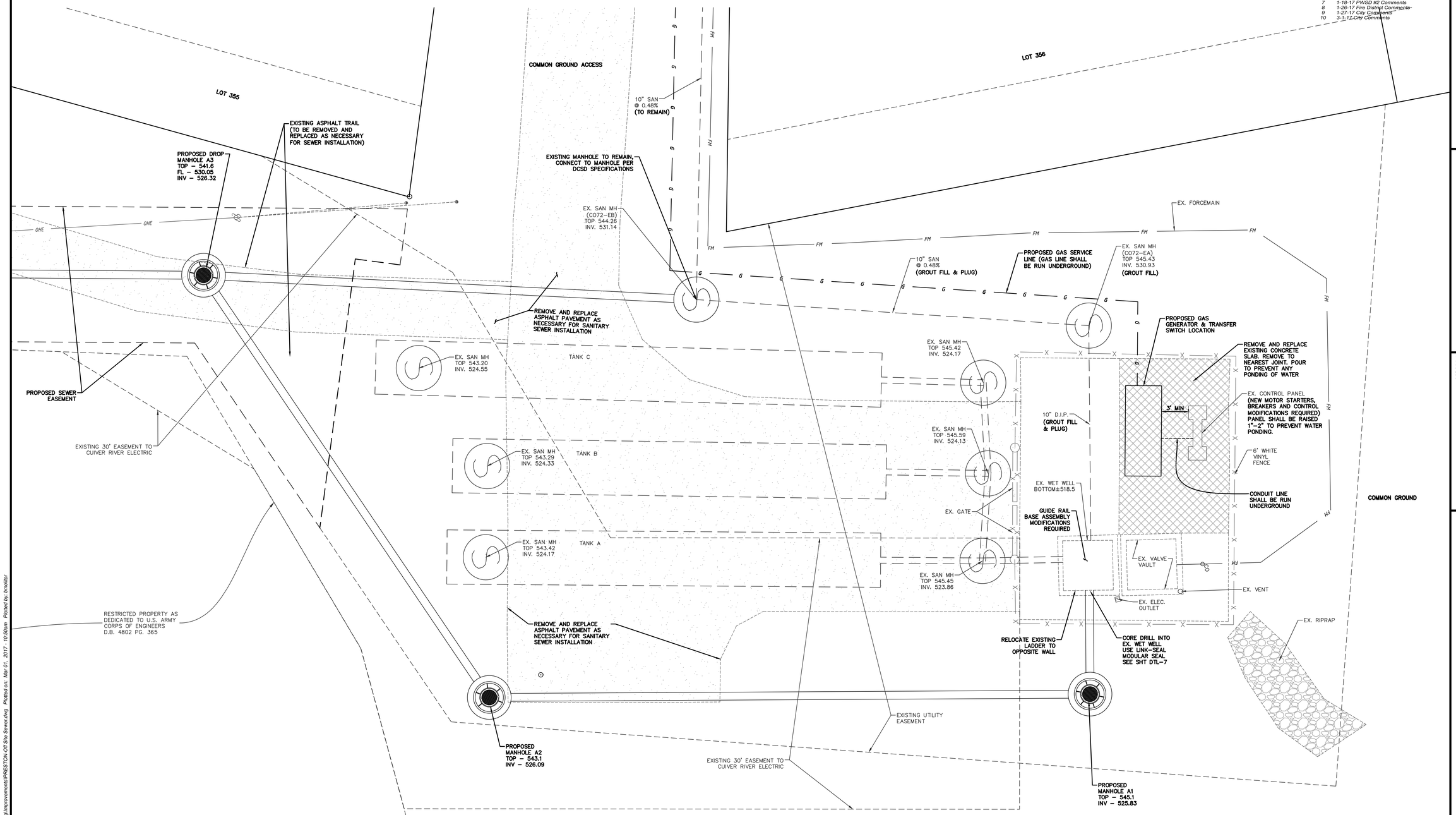

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GRAPHIC SCALE

5 0 2.5 5 10 20

(IN FEET)
1 inch = 5 ft.

PROJECT TITLE

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PRESTON WOODS PHASE 6
PUMP STATION UPGRADE

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Page No.

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IMP

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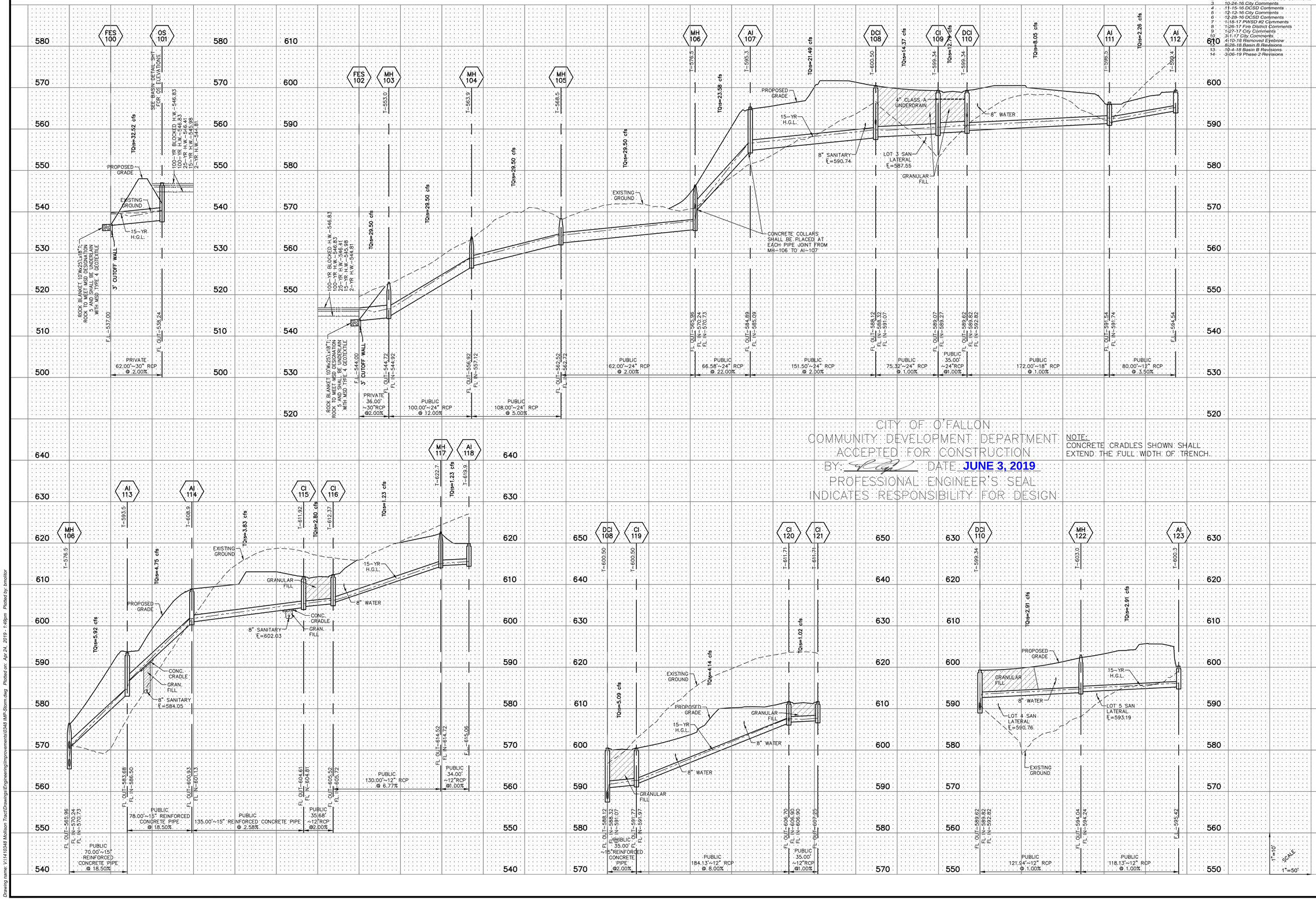

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
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BY: _____ DATE: JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL INDICATES RESPONSIBILITY FOR DESIGN

NOTE:
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STORM PROFILES

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Page No.	8.1

IMP

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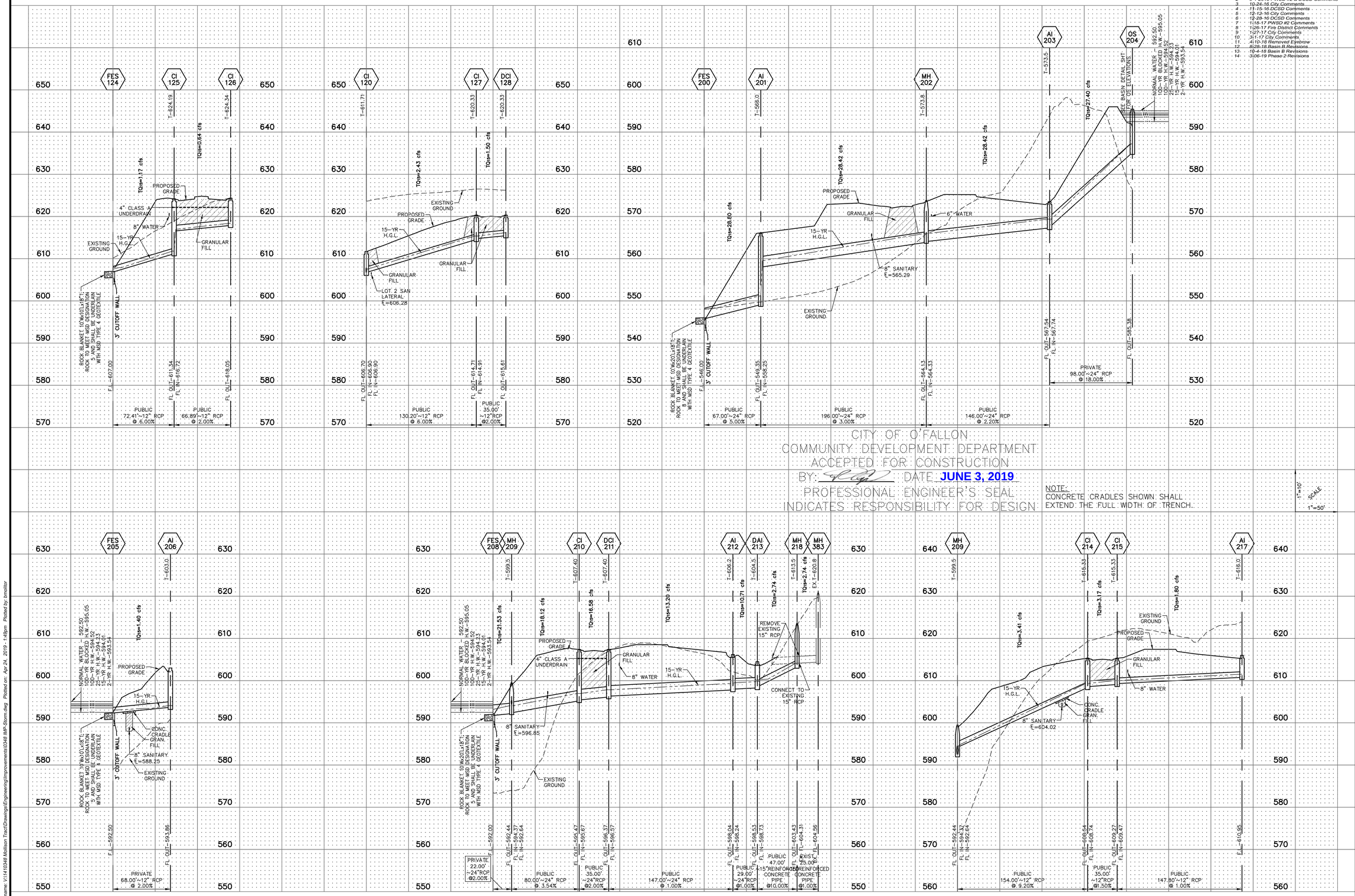

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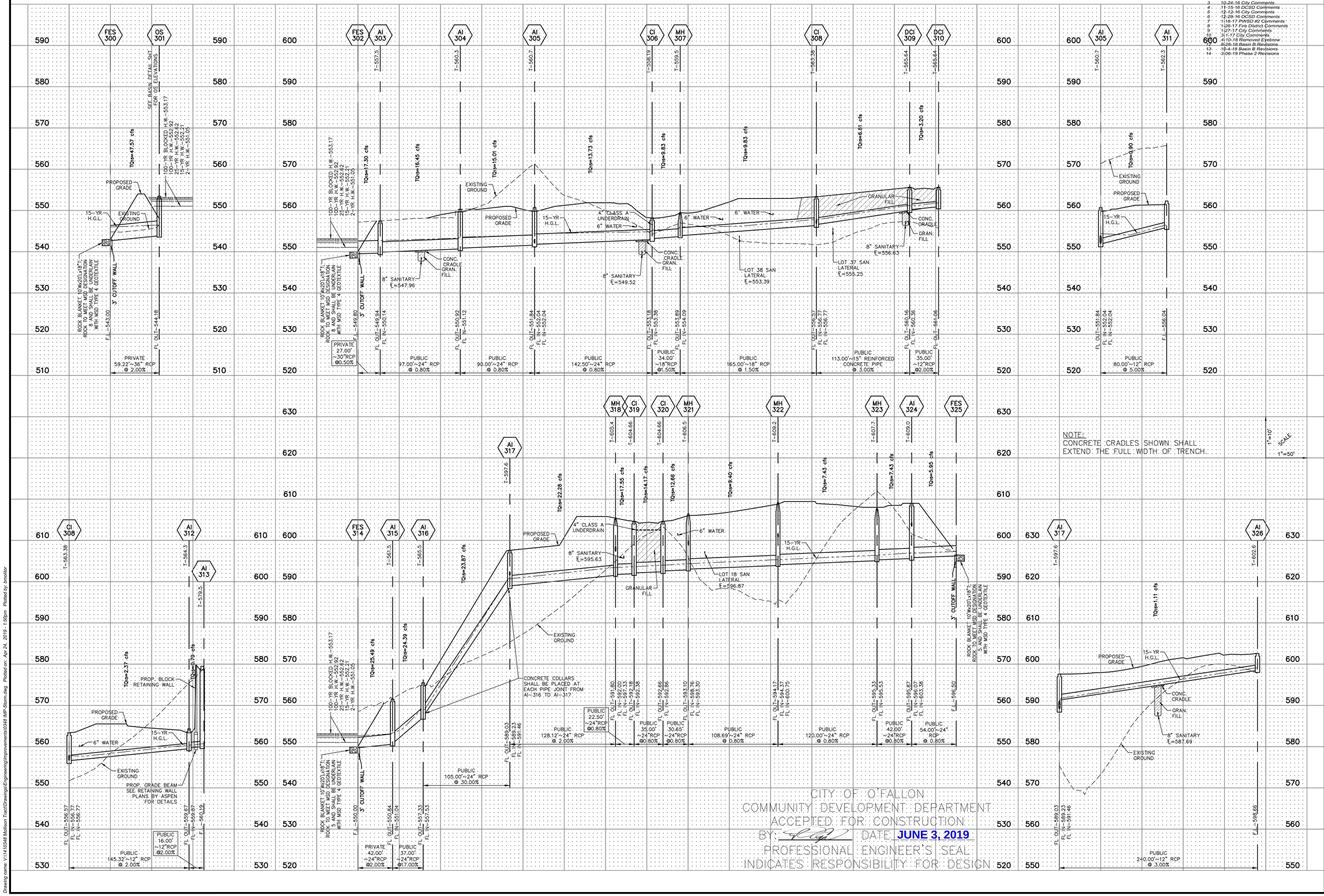

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O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

STORM PROFILES

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

Page No.
8.3
IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mallison Tract\Drawings\Engineering\Improvements\0348 IMP-Storm.dwg Plotted on: Apr 24, 2019 - 1:50pm Plotted by: bmoltor

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
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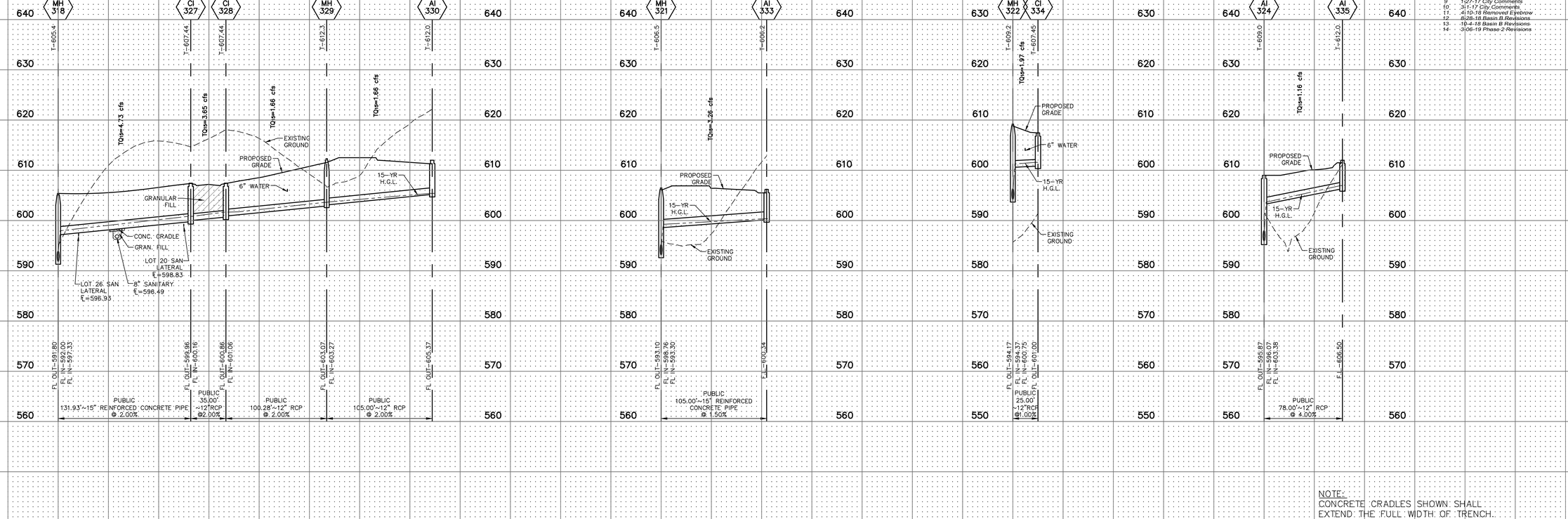
5	12-12-16 City Comments
6	12-28-16 DCSD Comments
7	1/18-17 PWSD #2 Comments
8	1/26-17 Fire District Comments
9	1/27-17 City Comments
10	3/1-17 City Comments
11	4/10-18 Removed Eyebrow
12	8/28-18 Basin B Revisions
13	10-4-18 Basin B Revisions
14	3/06-19 Phase 2 Revisions



NOTE:
CONCRETE CRADLES SHOWN SHALL EXTEND THE FULL WIDTH OF TRENCH.

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE: JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL INDICATES RESPONSIBILITY FOR DESIGN

SCALE: 1"=10' 1"=50'

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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"Final Plan" Approval Date: October 1, 2015 (31-15.01)

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13	10-4-18 Basin B Revisions
14	3-06-19 Phase 2 Revisions

15-YEAR, 20-MIN. HYDRAULIC CALCULATIONS (LOW FLOW BLOCKED USED FOR STARTING HGL):

LineNo.	LineID	LineSize	FlowRate	InvertDn	InvertUp	LineLength	LineSlope	VelAve	Grnd/RimElev Dn	Grnd/RimElev Up	HGLDn	HGLUp	Rim-Hw	CriticalDepth	EGLDn	EGLUp	EnergyLoss	CapacityFull	n-valuePipe
		(in)	(cfs)	(ft)	(ft)	(ft)	(%)	(ft/s)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	
1	FES 100-OS 101	30	32.52	537.00	538.24	62.00	2.00	7.29	538.25	547.02	539.50	540.18 j	6.84	1.94	540.18	541.16	0.41	58.00	0.013
2	FES 102-MH 103	30	29.50	544.00	544.72	36.00	2.00	6.22	545.25	553.03	546.83	546.93	5.93	1.85	547.39	547.57	0.18	58.00	0.013
3	MH 103-MH 104	24	29.50	544.92	556.92	100.00	12.00	9.55	553.03	563.94	547.10	558.77 j	5.17	1.85	548.47	560.24	1.59	78.35	0.013
4	MH 104-MH 105	24	29.50	557.12	562.52	108.00	5.00	10.16	563.94	568.50	558.77	564.37	4.13	1.85	560.24	565.84	0.00	50.57	0.013
5	MH 105-MH 106	24	29.50	562.72	565.96	162.00	2.00	10.16	568.50	576.50	564.37	567.81	8.69	1.85	565.84	569.28	0.00	31.99	0.013
6	MH 106-AI 107	24	23.58	570.24	584.89	66.58	22.00	17.67	576.50	595.30	570.88	586.61	8.69	1.72	571.93	587.66	0.00	106.10	0.013
7	AI 107-DCI 108	24	21.49	585.09	588.12	151.50	2.00	8.05	595.30	600.50	586.61	589.78	10.72	1.66	587.54	590.70	0.00	31.99	0.013
8	DCI 108-CI 109	24	14.37	588.32	589.07	75.32	1.00	6.08	600.50	599.34	589.78	590.43 j	8.91	1.36	590.39	591.05	0.00	22.57	0.013
9	CI 109-DCI 110	24	12.79	589.27	589.62	35.00	1.00	6.37	599.34	599.34	590.43	590.91	8.43	1.29	590.99	591.46	0.00	22.62	0.013
10	DCI 110-AI 111	18	8.05	589.82	591.54	172.00	1.00	5.84	599.34	596.50	590.91	592.64	3.86	1.10	591.43	593.16	0.00	10.50	0.013
11	AI 111-AI 112	12	2.26	591.74	594.54	80.00	3.50	3.64	596.50	599.40	592.64	595.18 j	4.22	0.64	592.92	595.46	0.00	6.66	0.013
12	MH 106-AI 113	15	5.92	570.73	583.68	70.00	18.50	11.84	576.50	593.50	571.12	584.66	8.84	0.98	571.63	585.17	0.00	27.77	0.013
13	AI 113-AI 114	15	4.75	586.50	600.93	78.00	18.50	11.01	593.50	608.91	586.85	601.81	7.10	0.88	587.26	602.22	0.00	27.77	0.013
14	AI 114-CI 115	15	3.83	601.13	604.61	135.00	2.58	5.13	608.91	611.92	601.81	605.40	6.52	0.79	602.15	605.74	0.00	10.37	0.013
15	CI 115-CI 116	12	2.80	604.81	605.52	35.68	1.99	5.22	611.92	612.37	605.40	606.24	6.13	0.72	605.74	606.57	0.00	5.02	0.013
16	CI 116-MH 117	12	1.23	605.72	614.52	130.00	6.77	3.21	612.37	622.70	606.24	614.99 j	7.71	0.47	606.42	615.17	0.00	9.27	0.013
17	MH 117-AI 118	12	1.23	614.72	615.06	34.00	1.00	3.76	622.70	619.69	615.13	615.53	4.16	0.47	615.31	615.71	0.00	3.56	0.013
18	DCI 108-CI 119	15	5.09	591.07	591.77	35.00	2.00	6.47	600.50	600.50	591.74	592.68	7.82	0.91	592.17	593.12	0.00	9.13	0.013
19	CI 119-CI 120	12	4.14	591.97	606.70	184.13	8.00	6.33	600.50	611.71	592.68	607.56	4.15	0.86	593.20	608.08	0.00	10.07	0.013
20	CI 120-CI 121	12	1.02	606.90	607.25	35.00	1.00	2.54	611.71	611.71	607.56	607.67 j	4.04	0.42	607.72	607.84	0.00	3.56	0.013
21	DCI 110-MH 122	12	2.91	592.82	594.04	121.94	1.00	4.89	599.34	603.00	593.51	594.77	8.23	0.73	593.86	595.12	0.00	3.56	0.013
22	MH 122-AI 123	12	2.91	594.24	595.42	118.13	1.00	4.89	603.00	600.30	594.93	596.15	4.15	0.73	595.28	596.50	0.00	3.56	0.013
23	FES 124-CI 125	12	1.17	607.00	611.34	72.41	5.99	2.43	608.25	624.19	608.00	611.80 j	12.39	0.46	608.03	611.97	0.26	8.72	0.013
24	CI 125-CI 126	12	0.64	616.72	618.05	66.89	1.99	3.59	624.19	624.34	616.96	618.38	5.96	0.33	617.08	618.50	0.00	5.02	0.013
25	CI 120-CI 127	12	2.43	606.90	614.71	130.20	6.00	4.40	611.71	620.33	607.56	615.38	4.95	0.67	607.86	615.67	0.00	8.72	0.013
26	CI 127-DCI 128	12	1.50	614.91	615.61	35.00	2.00	3.91	620.33	620.33	615.38	616.13	4.20	0.52	615.58	616.34	0.00	5.04	0.013
27	FES 200-AI 201	24	28.80	546.00	549.35	67.00	5.00	9.34	548.33	566.00	548.00	551.19 j	14.81	1.84	549.31	552.60	1.02	50.57	0.013
28	AI 201-MH 202	24	28.42	558.25	564.13	196.00	3.00	11.50	566.00	573.80	559.51	565.97	7.83	1.84	560.89	567.34	0.00	39.18	0.013
29	MH 202-AI 203	24	28.42	564.33	567.54	146.00	2.20	9.88	573.80	573.50	565.97	569.38	4.12	1.84	567.34	570.75	0.00	33.54	0.013
30	AI 203-OS 204	24	27.40	567.74	585.38	98.00	18.00	9.55	573.50	595.42	569.38	587.20	8.22	1.82	570.68	588.50	0.00	95.96	0.013
31	FES 205-AI 206	12	1.40	592.50	593.86	68.00	2.00	1.78	593.50	603.00	595.09	595.20	7.76	0.50	595.14	595.24	0.11	5.04	0.013
32	FES 208-MH 209	24	21.52	592.00	592.44	22.00	2.00	6.85	594.33	599.50	595.09	595.29	3.55	1.66	595.82	596.02	0.20	31.99	0.013
33	MH 209-CI 210	24	18.11	592.64	595.47	80.00	3.54	6.39	599.50	607.40	595.95	597.00 j	10.40	1.53	596.46	597.77	0.55	42.54	0.013
34	CI 210-DCI 211	24	16.57	595.67	596.37	35.00	2.00	7.09	607.40	607.40	597.00	597.84	9.56	1.47	597.70	598.54	0.00	31.99	0.013
35	CI 211-AI 212	24	13.19	596.57	598.04	147.00	1.00	6.18	607.40	606.20	597.84	599.35	6.85	1.31	598.41	599.92	0.00	22.62	0.013
36	AI 212-DAI 213	24	10.70	598.24	598.53	29.00	1.00	5.80	606.20	604.50	599.35	599.70	4.80	1.17	599.83	600.19	0.00	22.62	0.013
37	MH 209-CI 214	12	3.41	594.37	608.54	154.00	9.20	4.74	599.50	615.33	595.95	609.33 j	6.00	0.79	596.24	609.74	1.47	10.80	0.013
38	CI 214-CI 215	12	3.17	608.74	609.27	35.00	1.51	5.51	615.33	615.33	609.37	610.03	5.30	0.76	609.75	610.41	0.00	4.38	0.013
39	CI 215-AI 217	12	1.80	609.47	610.95	147.80	1.00	3.92	615.33	616.00	610.03	611.52	4.48	0.57	610.27	611.76	0.00	3.56	0.013
40	DAI 213-MH 218	15	2.74	598.73	603.43	47.00	10.00	3.41	604.50	613.50	599.70	604.09 j	9.41	0.66	599.97	604.36	0.00	22.12	0.012
41	FES 300-OS 301	36	47.57	543.00	544.18	59.22	1.99	8.39	546.42	553.47	545.24	546.42	7.05	2.24	546.34	547.52	0.00	94.14	0.013
42	FES 302-AI 303	30	17.30	549.81	549.94	27.00	0.48	3.52	552.68	557.46	553.17	553.22	4.21	1.41	553.36	553.41	0.05	28.46	0.013
43	AI 303-AI 304	24	16.45	550.14	550.92	97.00	0.80	5.24	557.46	560.30	553.25	553.76	6.30	1.46	553.67	554.19	0.51	20.28	0.013
44	AI 304-AI 305	24	15.01	551.12	551.84	90.00	0.80	4.78	560.30	560.70	554.00	554.40	5.95	1.40	554.35	554.75	0.40	20.23	0.013
45	AI 305-CI 306	24	13.73	552.04	553.18	142.50	0.80	4.37	560.70	558.19	554.75	555.28	2.62	1.33	555.05	555.57	0.53	20.23	0.013
46	CI 306-MH 307	18	9.83	553.38	553.89	34.00	1.50	5.56	558.19	559.50	555.57	555.87	3.22	1.21	556.05	556.35	0.30	12.86	0.013
47	MH 307-CI 308	18	9.83	554.09	556.57	165.00	1.50	6.00	559.50	563.38	556.28	557.78 j	5.60	1.21	556.76	558.42	1.47	12.87	0.013
48	CI 308-DCI 309	15	6.81	556.77	560.16	113.00	3.00	6.31	563.38	565.64	557.78	561.21	4.43	1.05	558.38	561.81	0.00	11.18	0.013
49	DCI 309-DCI 310	12	3.20	560.36	561.06	35.00	2.00	4.73	565.64	565.64	561.21	561.83 j	3.81	0.77	561.59	562.21	0.00	5.04	0.013
50	AI 305- AI 311	12	0.90	552.04	556.04	80.00	5.00	2.12	560.70	562.30	554.75	556.44 j	5.86	0.40	554.77	556.59	0.26	7.96	0.013
51	CI 308-AI 312	12	2.37	556.77	559.67	145.32	2.00	3.67	563.38	564.30	557.78	560.33 j	3.97	0.66	557.92	560.62	0.86	5.03	0.013
52	AI 312-AI 313	12	0.79	559.87	560.19	16.00	2.00	2.61	564.30	579.50	560.33	560.56 j	18.94	0.37	560.47	560.70	0.00	5.04	0.013
53	FES 314-AI 315	24	25.49	550.00	550.84	42.00	2.00	8.11	552.33	561.53	553.17	553.70	7.53	1.77	554.19	554.73	0.53	31.99	0.013
54	AI 315-AI 316	24	24.39	551.04	557.33	37.00	17.00	8.08	561.53	565.50	554.00	559.07 j	6.43	1.74	554.94	560.17	0.41	93.26	0.013
55	AI 316-AI 317	24	23.87	557.53	589.03	105.00	30.00	8.72	565.50	597.60	559.07	590.76	6.84	1.73	560.14	591.82	0.00	123.88	0.013
56	AI 317-MH 318	24	22.28	589.23	591.80	128.12	2.01	8.27	597.60	605.40	590.76	593.48	11.92	1.68	591.73	594.45	0.00	32.03	0.013
57	MH 318-CI 319	24	17.55	592.00	592.18	22.50	0.80	6.97	605.40	604.66	593.48	593.69	10.97	1.51	594.22	594.43	0.00	20.23	0.013
58	CI 319-CI 320	24	14.17	592.38	592.66	35.00	0.80	6.38	604.66	604.66	593.69	594.01	10.65	1.35	594.30	594.62	0.00	20.23	0.013
59	CI 320-MH 321	24	12.66	592.86	593.10	30.65	0.78	6.35	604.66	606.50	594.01	594.38	12.12	1.28	594.57	594.93	0.00	20.01	0.013
60	MH 321-MH 322	24	9.40	593.30	594.17	108.70	0.80	5.39	606.50	609.20	594.38	595.26	13.94	1.09	594.82	595.71	0.00	20.24	0.013
61	MH 322-MH 323	24	7.43	594.37	595.33	120.00	0.80	5.20	609.20	607.70	595.26	596.30	11.40	0.97	595.64	596.68	0.00	20.23	0.013
62	MH 323-AI 324	24	7.43	595.53	595.87	42.00	0.81	5.45	607.70	609.00	596.37	596.84	12.16	0.97	596.74	597.22	0.00	20.35	0.013
63	AI 324-FES 325	24	5.95	596.07	596.50	54.00	0.80	4.98	609.00	597.75	596.84	597.36	0.39	0.86	597.17	597.69	0.00	20.18	0.013
64	AI 324-AI 335	12	1.16	603.38	606.50	78.00	4.00	5.01	609.00	612.00	603.65	606.95	5.05	0.45	603.83	607.13	0.00	7.12	0.013
65	AI 317-AI 326	12	1.11	591.46	598.66	240.00	3.00	4.62	597.60	602.60	591.75	599.10	3.50	0.44	591.92	599.27	0.00	6.17	0.013
66	MH 318-CI 327	15	4.73	597.33	599.96	131.93	1.99	6.31	605.40	607.44	597.97	600.84	6.60	0.88	598.38	601.25	0.00	9.12	0.013
67	CI 327-CI 328	12	3.65	600.16	600.86	35.00	2.00	5.87	607.44	607.44	600.84	601.67	5.77	0.81	601.28	602.12	0.00	5.04	0.013
68	CI 328-MH 329	12	1.66	601.06	603.07	100.28	2.00	3.53	607.44	612.30	601.67	603.62 j	8.68	0.55	601.90	603.84	0.00	5.04	0.013
69	MH 329-AI 330	12	1.66	603.27	605.37	105.00	2.00	4.76	612.30	612.00	603.67	605.92	6.08	0.55	603.89	606.14	0.00	5.04	0.013
70	MH 321-AI 333	15	3.26	598.76	600.34	105.00	1.50	5.27	606.50	606.20	599.32	601.07	5.13	0.73	599.62	601.37	0.00	7.92	0.013
71	MH 322-CI 334	12	1.97	600.75	601.00	25.00	1.00	4.33	609.20	607.45	601.28	601.60	5.85	0.60	601.53	601.85	0.00	3.56	0.013

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

Sealing of this plan set shall constitute approval only of the subdivision and home given on this sheet. All drawing, instruments or other documents not containing the seal and signature shall not be construed as sealed documents. The seal and signature on documents shall not be construed as having been applied to any plans, drawings or documents not bearing this seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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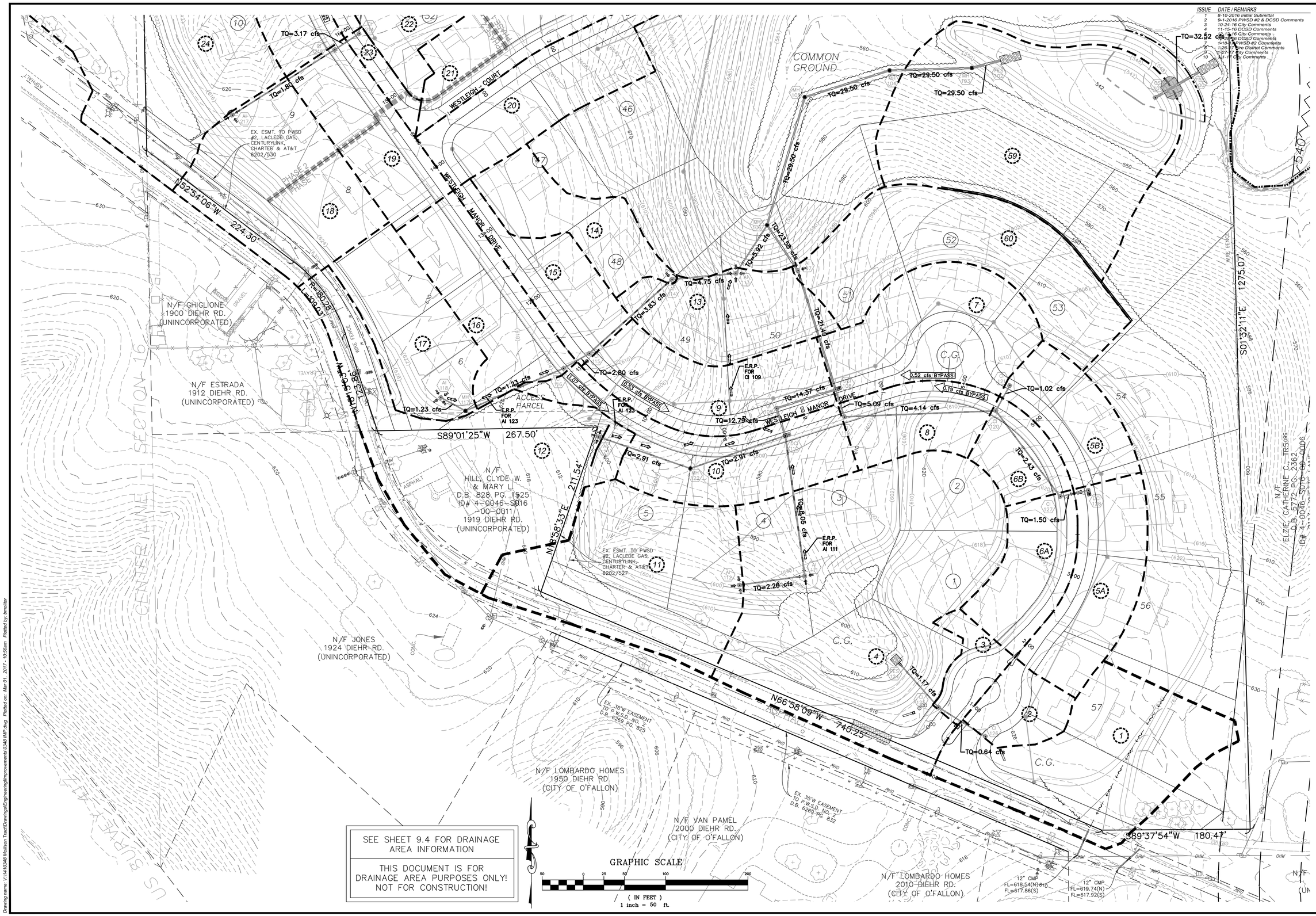
HYDRAULIC CALCULATIONS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

Page No.
8.5
IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\0348 Mallison Tract\Drawings\Engineering\Improvements\0348 IMP-Storm.dwg Plotted on: Apr 24, 2019 - 1:50pm Plotted by: bmoltor



SEE SHEET 9.4 FOR DRAINAGE AREA INFORMATION

THIS DOCUMENT IS FOR DRAINAGE AREA PURPOSES ONLY! NOT FOR CONSTRUCTION!

ISSUE	DATE / REMARKS
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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

DRAINAGE AREA MAP

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.

9.1

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mallison Tract\Drawings\Engineering\Improvements\0349 IMP.dwg Plotted on: Mar 01, 2017 - 10:56am Plotted by: bmoller

SEE SHEET 9.4 FOR DRAINAGE AREA INFORMATION

THIS DOCUMENT IS FOR DRAINAGE AREA PURPOSES ONLY! NOT FOR CONSTRUCTION!

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8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments
11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions
14	3-06-19 Phase 2 Revisions

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
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DRAINAGE AREA MAP

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City No.	15-162-SP
Date:	4/24/2019
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Page No.

9.2

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10\348 Mattison Tract\Drawings\Engineering\Improvements\0348 IMP.dwg Plotted on Apr 24, 2019 - 1:50pm Plotted by: bmoltor

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DRAINAGE AREA MAP

P+Z No.	P&Z NO
City No.	15-162-SP
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Page No.

9.3

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mellison Tract\Drawings\Engineering\Improvements\10348 IMP.dwg Plotted on: Apr 24, 2019 - 1:51pm Plotted by: bmoltor

Drainage Area	Total Area (AC)	Total 100% Area (AC)	P.I. Factor	Total 100% Q	Total 5% Area (AC)	P.I. Factor	Total 5% Q	Total Q15	Total Q100	Drains to inlet #	Drainage Area
1	0.95	0.18	3.85	0.70	0.77	1.87	1.43	2.13	2.87	offsite	1
2	0.22	0.12	3.85	0.45	0.10	1.87	0.19	0.64	0.87	CI 126	2
3	0.15	0.13	3.85	0.49	0.02	1.87	0.04	0.53	0.71	CI 125	3
4	2.11	0.34	3.85	1.30	1.77	1.87	3.32	4.62	6.23	AI 111	4
5A	0.52	0.27	3.85	1.03	0.25	1.87	0.47	1.50	2.02	DCI 128	5A
5B	0.35	0.18	3.85	0.71	0.17	1.87	0.31	1.02	1.38	CI 121	5B
6A	0.37	0.12	3.85	0.47	0.24	1.87	0.46	0.93	1.25	CI 127	6A
6B	0.22	0.14	3.85	0.55	0.08	1.87	0.14	0.69	0.94	CI 120	6B
7	0.71	0.36	3.85	1.39	0.35	1.87	0.65	2.03	2.74	CI 108	7
8	0.33	0.16	3.85	0.63	0.17	1.87	0.31	0.95	1.28	CI 119	8
9	0.57	0.26	3.85	0.99	0.32	1.87	0.60	1.58	2.14	CI 109	9
10	0.64	0.31	3.85	1.21	0.33	1.87	0.62	1.83	2.47	CI 110	10
11	1.04	0.16	3.85	0.61	0.88	1.87	1.65	2.26	3.05	AI 112	11
12	1.31	0.24	3.85	0.91	1.07	1.87	2.00	2.91	3.93	AI 123	12
13	0.50	0.12	3.85	0.46	0.38	1.87	0.70	1.17	1.57	AI 113	13
14	0.42	0.07	3.85	0.28	0.34	1.87	0.64	0.92	1.25	AI 114	14
15	0.37	0.17	3.85	0.66	0.19	1.87	0.36	1.03	1.38	CI 115	15
16	0.55	0.27	3.85	1.05	0.28	1.87	0.53	1.57	2.12	CI 116	16
17	0.55	0.10	3.85	0.40	0.44	1.87	0.83	1.23	1.66	AI 118	17
18	0.81	0.14	3.85	0.54	0.67	1.87	1.26	1.80	2.42	AI 217	18
19	0.42	0.29	3.85	1.13	0.12	1.87	0.23	1.37	1.85	CI 215	19
20	1.11	0.57	3.85	2.20	0.54	1.87	1.00	3.20	4.32	DCI 310	20
21	1.25	0.64	3.85	2.48	0.61	1.87	1.14	3.61	4.88	DCI 309	21
22	2.22	0.16	3.85	0.63	2.05	1.87	3.84	4.47	6.04	OS 204	22
23	0.08	0.05	3.85	0.18	0.03	1.87	0.06	0.24	0.32	CI 214	23
24	3.73	0.50	3.85	1.93	3.22	1.87	6.03	7.96	10.75	AI 218	24
25	1.14	0.63	3.85	2.41	0.52	1.87	0.97	3.38	4.56	CI 211	25
26	0.52	0.29	3.85	1.10	0.23	1.87	0.44	1.54	2.07	CI 210	26
27	1.19	0.14	3.85	0.53	1.05	1.87	1.96	2.49	3.36	AI 212	27
28	0.00	0.00	3.85	0.00	0.00	1.87	0.00	0.00	0.00	CI 207	28
29	0.69	0.06	3.85	0.22	0.63	1.87	1.18	1.40	1.89	AI 206	29
30	0.42	0.00	3.85	0.00	0.42	1.87	0.79	0.79	1.07	AI 313	30
31	0.74	0.03	3.85	0.11	0.71	1.87	1.33	1.44	1.95	AI 304	31
32	0.50	0.09	3.85	0.33	0.42	1.87	0.78	1.11	1.50	AI 326	32
33	1.18	0.59	3.85	2.29	0.58	1.87	1.09	3.38	4.57	CI 319	33
34	0.67	0.37	3.85	1.41	0.30	1.87	0.56	1.97	2.66	CI 334	34
35	0.52	0.09	3.85	0.35	0.43	1.87	0.81	1.16	1.57	AI 335	35
36	0.12	0.05	3.85	0.18	0.08	1.87	0.15	0.32	0.44	AI 324	36
37	0.50	0.29	3.85	1.13	0.21	1.87	0.39	1.51	2.04	CI 320	37
38	0.44	0.01	3.85	0.06	0.43	1.87	0.80	0.85	1.15	AI 303	38
39	0.54	0.04	3.85	0.17	0.50	1.87	0.94	1.10	1.49	AI 315	39
40	0.20	0.06	3.85	0.22	0.14	1.87	0.26	0.48	0.65	AI 317	40
41	0.25	0.03	3.85	0.11	0.22	1.87	0.41	0.52	0.70	AI 316	41
42	2.35	0.19	3.85	0.72	2.17	1.87	4.05	4.78	6.45	OS 301	42
43	0.38	0.19	3.85	0.72	0.19	1.87	0.36	1.08	1.45	CI 327	43
44	0.67	0.38	3.85	1.45	0.29	1.87	0.54	1.99	2.68	CI 328	44
45	1.57	0.16	3.85	0.62	1.41	1.87	2.64	3.26	4.40	AI 333	45
46	0.82	0.06	3.85	0.22	0.77	1.87	1.43	1.66	2.24	AI 330	46
52	0.47	0.07	3.85	0.27	0.40	1.87	0.75	1.02	1.37	AI 203	52
53	0.72	0.11	3.85	0.44	0.61	1.87	1.14	1.58	2.13	AI 312	53
54	0.15	0.05	3.85	0.18	0.11	1.87	0.20	0.38	0.51	AI 201	54
55	1.34	0.70	3.85	2.69	0.64	1.87	1.20	3.90	5.26	CI 306	55
56	0.22	0.12	3.85	0.47	0.10	1.87	0.18	0.65	0.88	CI 308	56
57	0.41	0.07	3.85	0.27	0.34	1.87	0.63	0.90	1.21	AI 311	57
58	0.18	0.02	3.85	0.09	0.15	1.87	0.29	0.38	0.51	AI 305	58
59	1.61	0.00	3.85	0.00	1.61	1.87	3.02	3.02	4.07	OS 101	59
60	0.94	0.17	3.85	0.66	0.76	1.87	1.43	2.09	2.83	AI 107	60
27b	0.99	0.45	3.85	1.75	0.53	1.87	1.00	2.74	3.70	EX INLET	27b
36a	3.18	0.00	3.85	0.00	3.18	1.87	5.95	5.95	8.03	FES 325	36a

INLET CAPACITY CALCULATIONS

INLET NUMBER	INLET TYPE	STREET GRADE (%)	INLET CAPACITY (CFS)	Q15 (CFS)	Q15 BYPASS FROM UPSTREAM INLET (CFS)	TOTAL Q15 TO INLET (CFS)	Q15 BYPASS (CFS)
108	DCI	3.0	5.08	2.03	0.52	2.55	0.00
109	CI	Low PT	4.00	1.58	0.53	2.11	0.00
110	DCI	Low PT	8.00	1.83	1.07	2.90	0.00
115	CI	6.0	0.50	1.03	0.00	1.03	0.53
116	CI	6.0	0.50	1.57	0.00	1.57	1.07
119	CI	3.0	1.57	0.95	0.19	1.14	0.00
120	CI	6.0	0.50	0.69	0.00	0.69	0.19
121	CI	6.0	0.50	1.02	0.00	1.02	0.52
125	CI	2.0	1.93	0.53	0.00	0.53	0.00
126	CI	2.0	1.93	0.64	0.00	0.64	0.00
127	CI	4.4	1.07	0.93	0.00	0.93	0.00
128	DCI	4.4	2.96	1.50	0.00	1.50	0.00
210	CI	Low PT	4.00	0.90	0.00	0.90	0.00
211	DCI	Low PT	8.00	3.38	0.45	3.83	0.00
214	CI	4.8	0.92	0.24	0.00	0.24	0.00
215	CI	4.8	0.92	1.37	0.00	1.37	0.45
306	CI	Low PT	4.00	3.90	0.00	3.90	0.00
308	CI	2.0	1.93	0.65	0.00	0.65	0.00
309	DCI	2.0	6.60	3.61	0.00	3.61	0.00
310	DCI	2.0	6.60	3.20	0.00	3.20	0.00
319	CI	Low PT	8.00	2.36	0.00	2.36	0.00
320	CI	Low PT	8.00	1.51	0.72	2.23	0.00
327	CI	3.0	1.57	1.08	0.00	1.08	0.00
328	CI	3.0	1.57	1.99	0.00	1.99	0.42
334	CI	3.0	1.57	1.97	0.00	1.97	0.40

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

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STATE OF MISSOURI
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PROFESSIONAL ENGINEER

Date: 4/24/2019
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DRAINAGE AREA CALCULATIONS

P+Z No. P&Z NO
City No. 15-162-SP
Date: 4/24/2019
Job No. 14-10-348

Page No.
9.4
IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\0348 Mallison Tract\Drawings\Engineering\Improvements\0348 IMP.dwg Plotted on: Apr 24, 2019 - 1:51pm Plotted by: bmoltor

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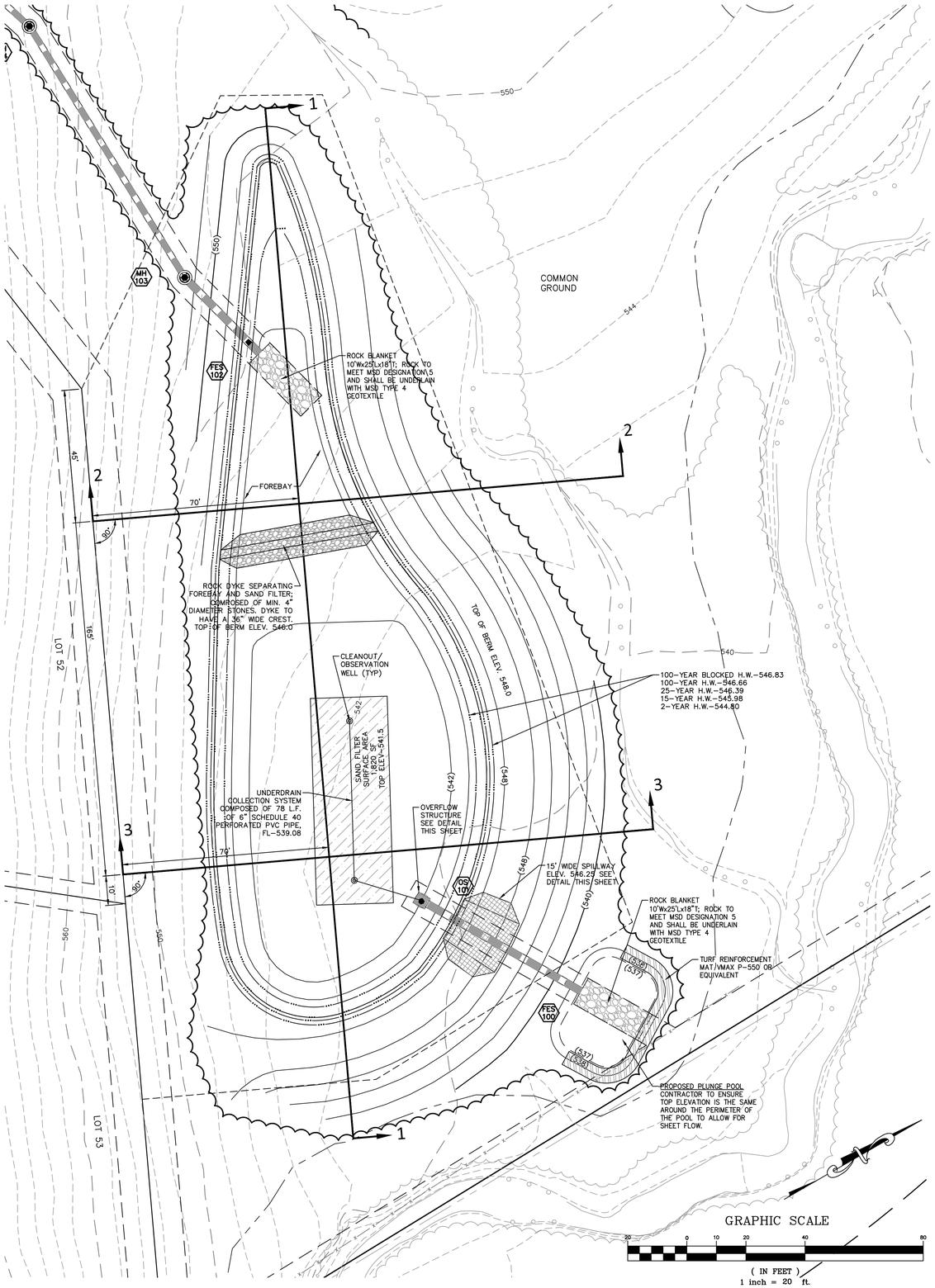
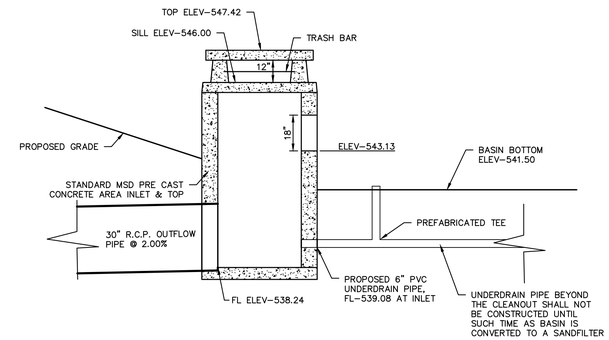
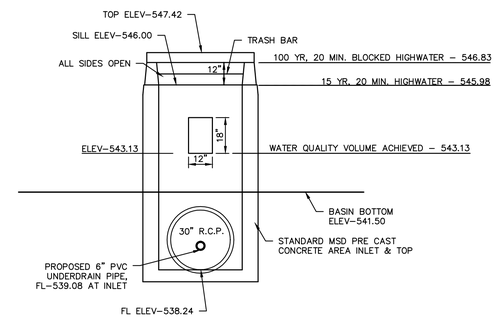
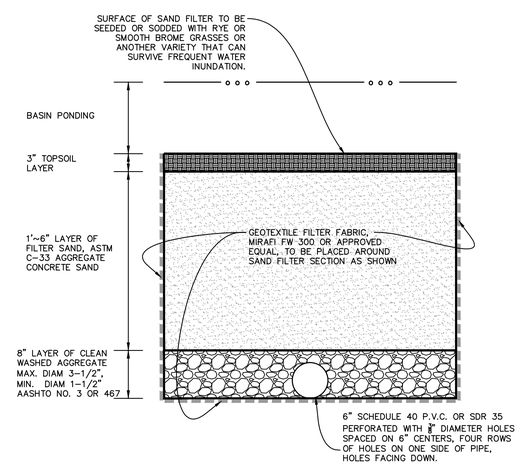




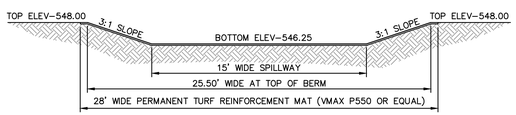
OVERFLOW STRUCTURE 101
SIDE SECTION
NTS



OVERFLOW STRUCTURE 101
FRONT ELEVATION
NTS



TYPICAL SECTION SAND FILTER
N.T.S.



SPILLWAY CROSS SECTION
N.T.S.

PROJECT TITLE

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The Professional Engineer in Charge of the work described on this sheet signing and sealing this sheet, affirms and declares that he/she has reviewed all reports, calculations or other documents and/or drawings that are attached to this sheet and that he/she is the author of the attached documents and/or drawings and is responsible for both work product and/or documents and/or drawings and/or calculations and/or reports and/or specifications and affirms that he/she is responsible for such work product or documents and/or drawings or calculations and/or reports and/or specifications and/or specifications and affirms that he/she is responsible for such work product or documents and/or drawings or calculations and/or reports

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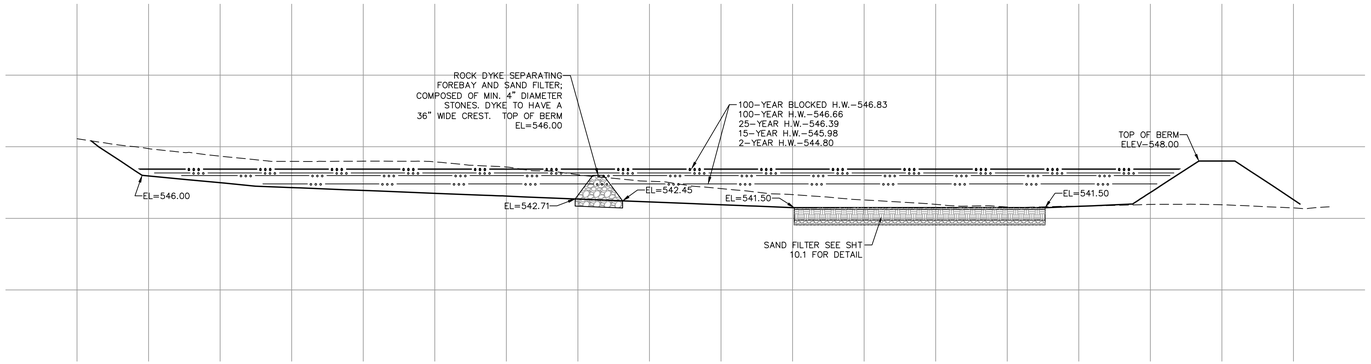
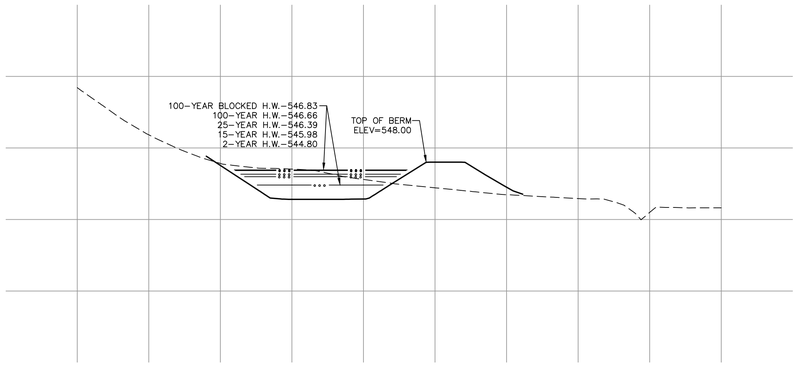
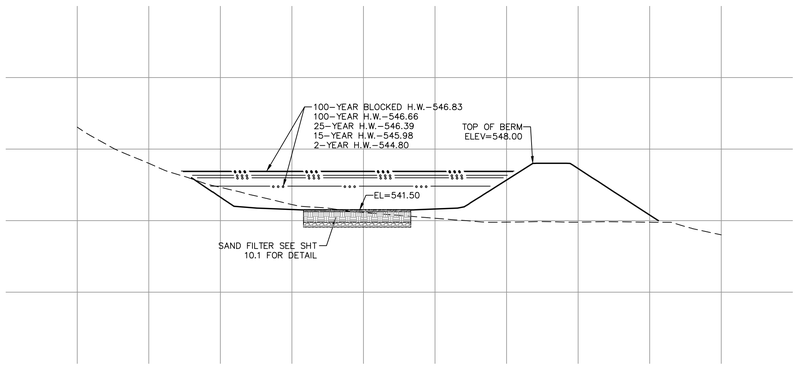


BASIN-A SECTION 1-1
SCALE: 1"=20' HORIZ
1"=10' VERT



BASIN-A SECTION 2-2
SCALE: 1"=20' HORIZ
1"=10' VERT



BASIN-A SECTION 3-3
SCALE: 1"=20' HORIZ
1"=10' VERT

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PROFESSIONAL ENGINEER

Date: *3/01/2017*
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BASIN A

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
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Page No.

10.2

IMP

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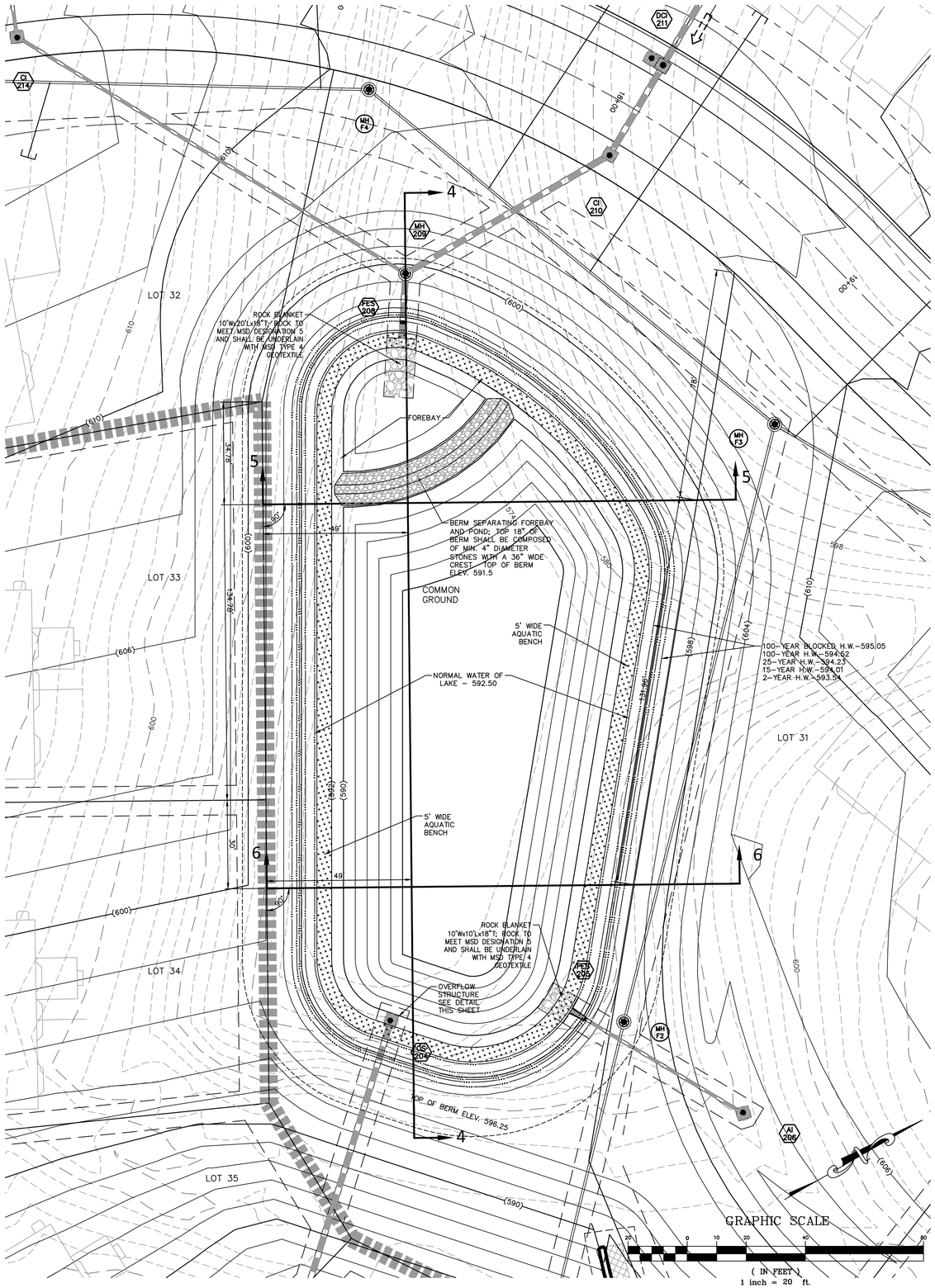

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2	9-1-2016 PWSD #2 & DCSD Comments
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4	11-15-16 DCSD Comments
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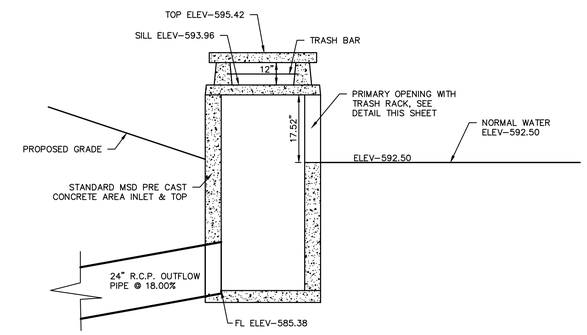
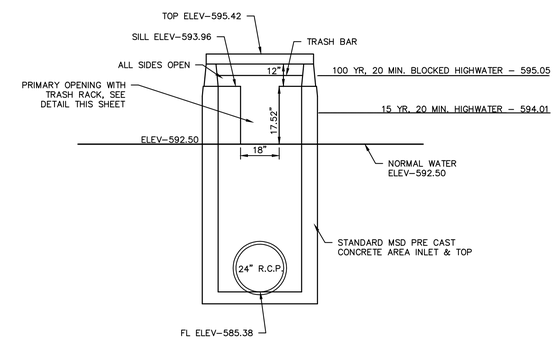
6	12-28-16 DCSD Comments
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments
11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions

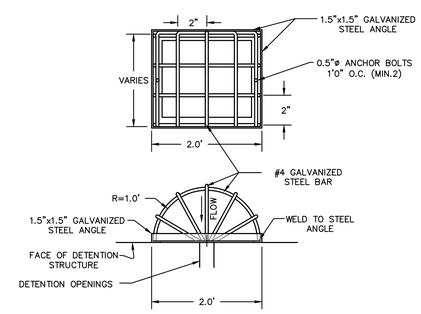
STRUCTURE MODIFICATION NOTES
1. THE EXISTING STRUCTURE HAS 2 LOW FLOW OPENINGS THAT SHALL BE GROUT FILLED
2. THE 18" X 17.52" OPENING SHALL BE CUT INTO THE EXISTING STRUCTURE



OVERFLOW STRUCTURE 204 SIDE SECTION
NTS



STRUCTURE 204 FRONT ELEVATION
NTS



TRASH RACK DETAIL
N.T.S.

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE DECEMBER 11, 2018
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 10/25/2018
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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O'Fallon, Missouri 63368
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Fax (636) 695-3195
www.lombardohomesstlouis.com

BASIN B

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	10/25/2018
Job No.	14-10-348

Page No. 10.3

IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\10348 Mattison Tract\Drawings\Engineering\Improvements\10348 IMP.dwg Plotted on: Oct 25, 2018 - 9:34am Plotted by: bmoller

ISSUE	DATE / REMARKS
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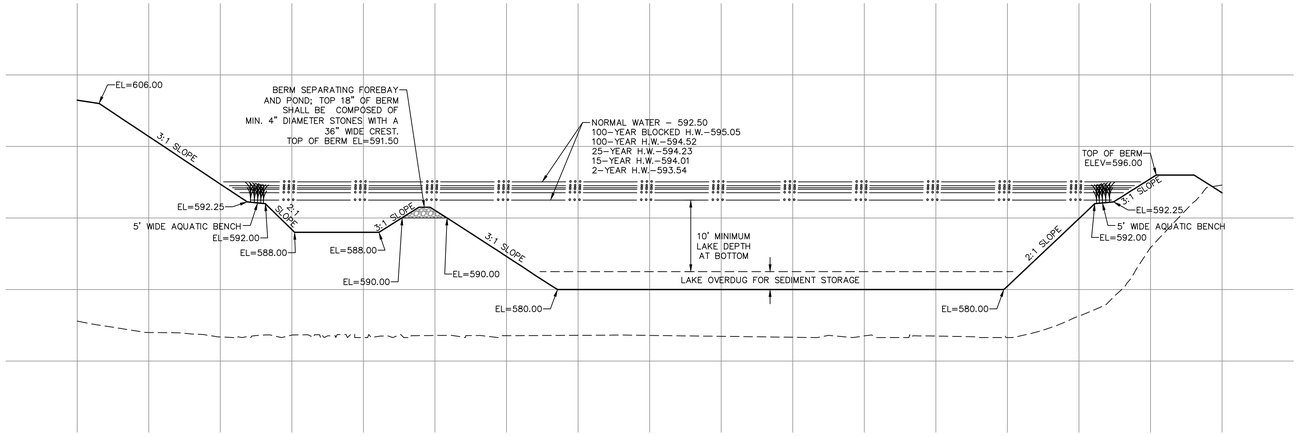
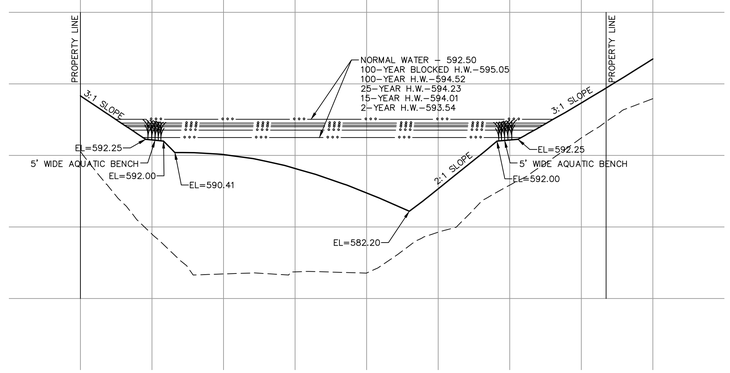
10	3-1-17 City Comments
11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions



BASIN-B SECTION 4-4
SCALE: 1"=20' HORIZ
1"=10' VERT



BASIN-B SECTION 5-5
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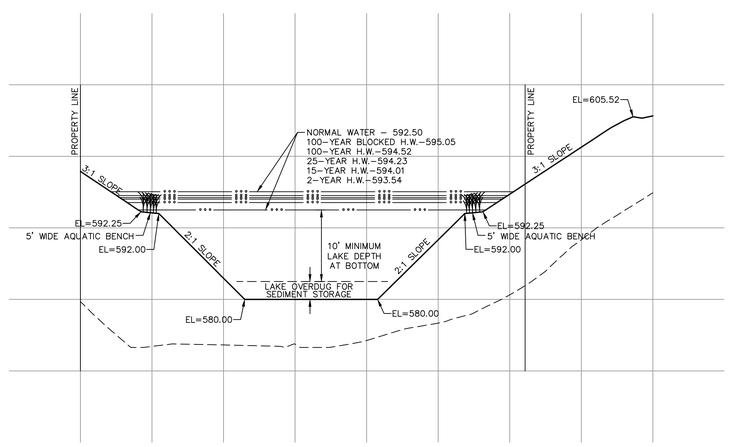
1"=10' VERT



BASIN-B SECTION 6-6
SCALE: 1"=20' HORIZ
1"=10' VERT

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE DECEMBER 11, 2018
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
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Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER
PE-2002016612
PROFESSIONAL ENGINEER

Date: 10/25/2018
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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BASIN B

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	10/25/2018
Job No.	14-10-348

Page No.
10.4
IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

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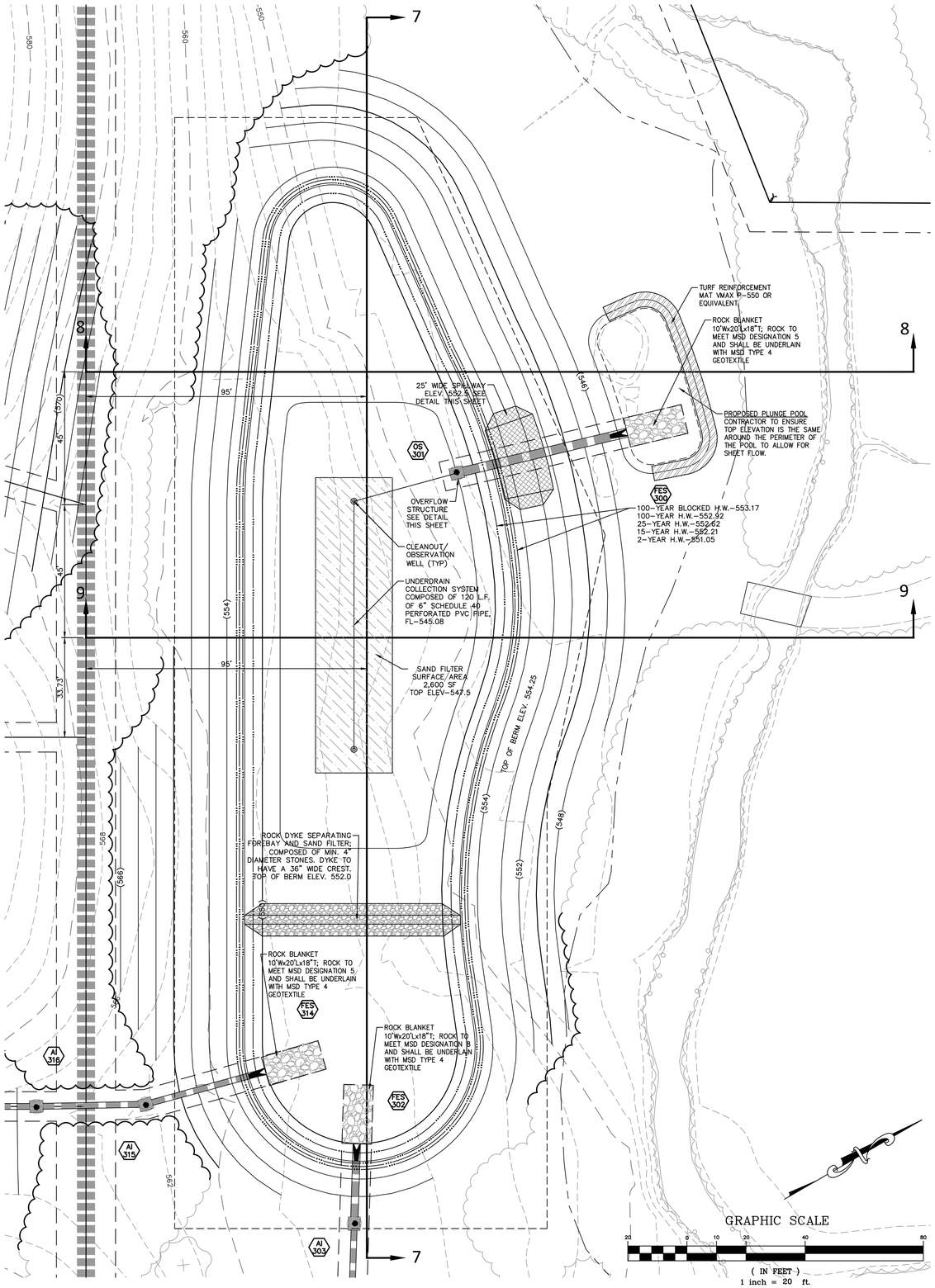
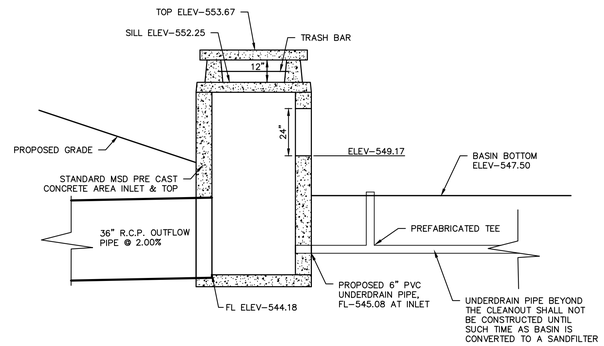
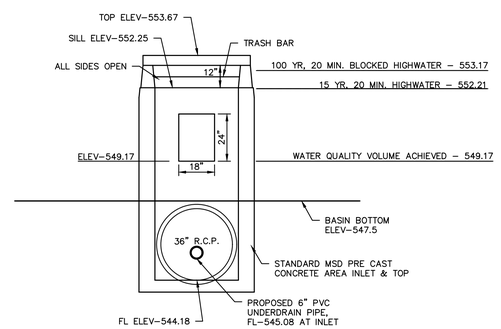
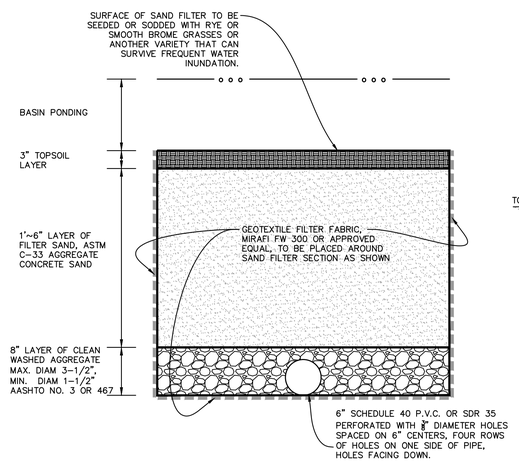




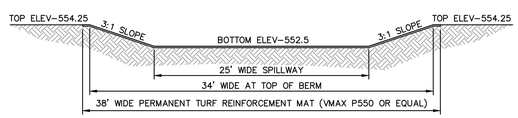
OVERFLOW STRUCTURE 301
SIDE SECTION
NTS



OVERFLOW STRUCTURE 301
FRONT ELEVATION
NTS



TYPICAL SECTION SAND FILTER
N.T.S.



SPILLWAY CROSS SECTION
N.T.S.

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

ISSUE	DATE / REMARKS
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2	9-1-2016 PWSD #2 & DCSD Comments
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11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions
14	3-06-19 Phase 2 Revisions

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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www.lombardohomesstlouis.com

BASIN C

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

Page No.
10.5
IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mattison Tract\Drawings\Engineering\Improvements\10348 IMP.dwg Plotted on: Apr 24, 2019 - 1:51pm Plotted by: bnoltor

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
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8	1-26-17 Fire District Comments
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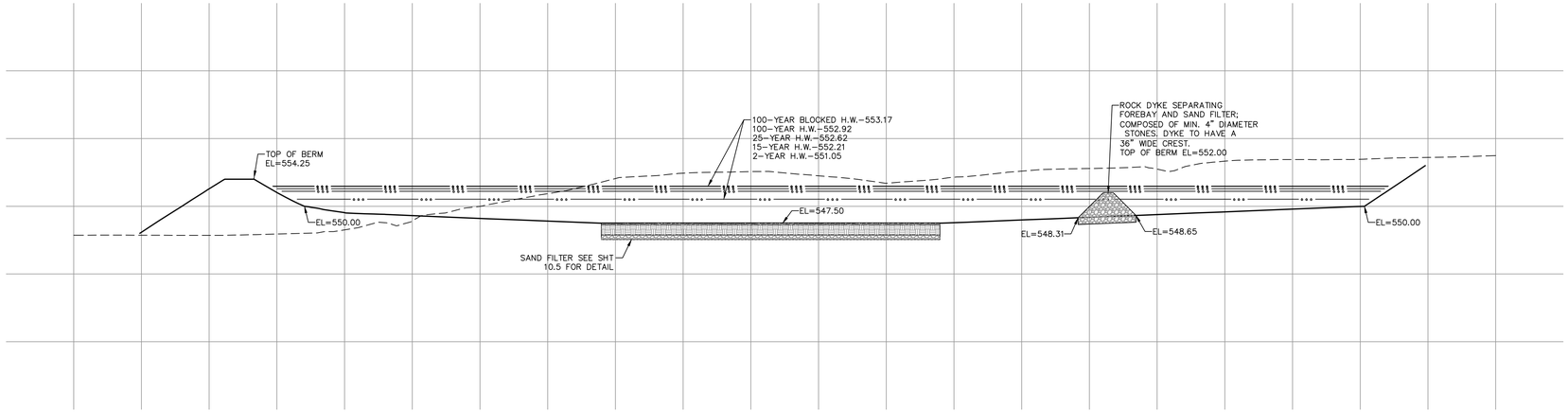
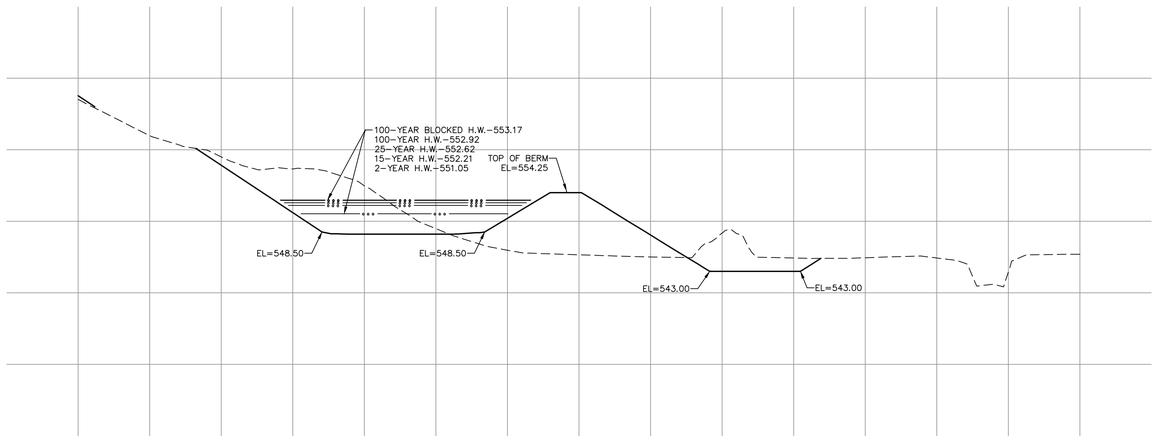
10	3-1-17 City Comments



BASIN-C SECTION 7-7
SCALE: 1"=20' HORIZ
1"=10' VERT



BASIN-C SECTION 8-8
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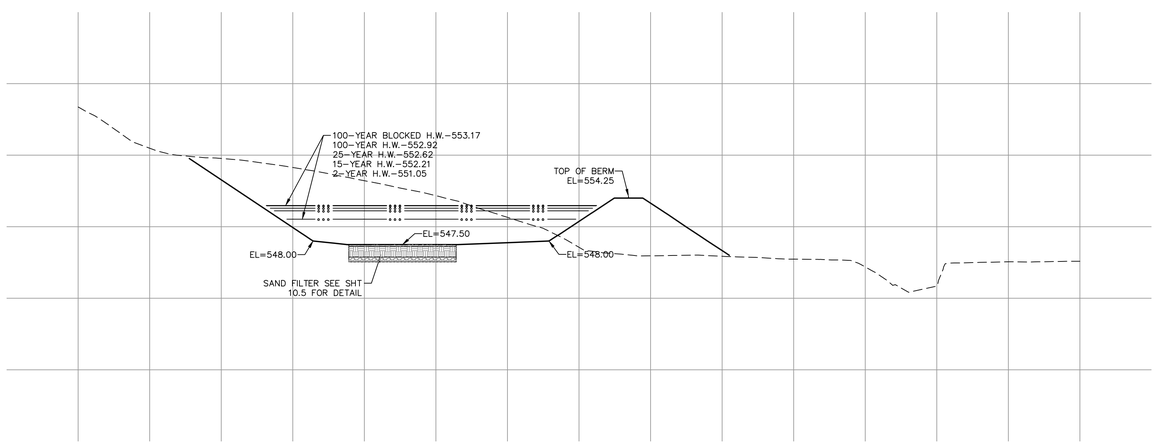
1"=10' VERT



BASIN-C SECTION 9-9
SCALE: 1"=20' HORIZ
1"=10' VERT

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER
PE-2002016612
PROFESSIONAL ENGINEER

Date: *3/01/2017*
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

BASIN C

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.

10.6

IMP

Drawing name: V:\14\0348 Mollison Tract\Drawings\Engineering\Improvements\0348 IMP.dwg Plotted on: Mar 01, 2017 - 11:00am Plotted by: bnelitor

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

ISSUE	DATE / REMARKS
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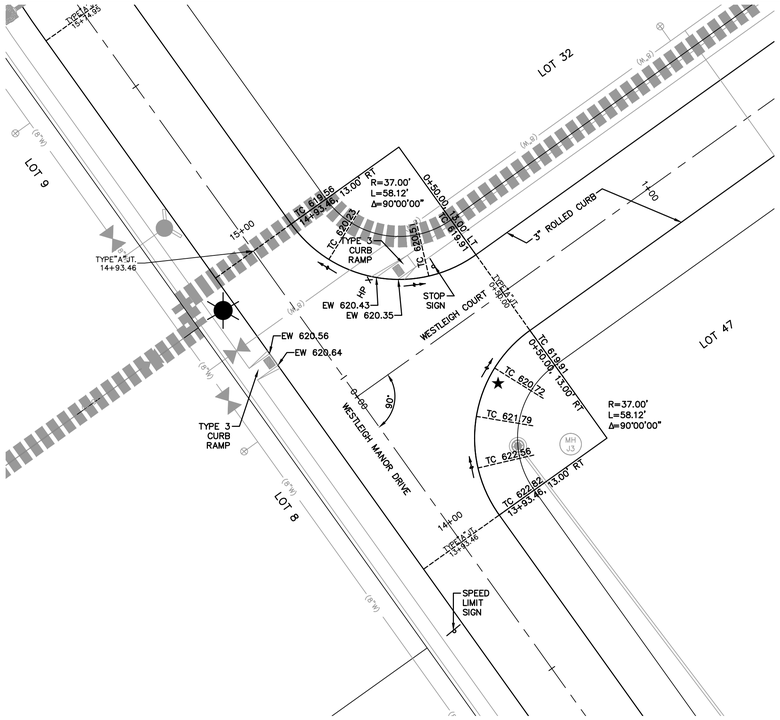
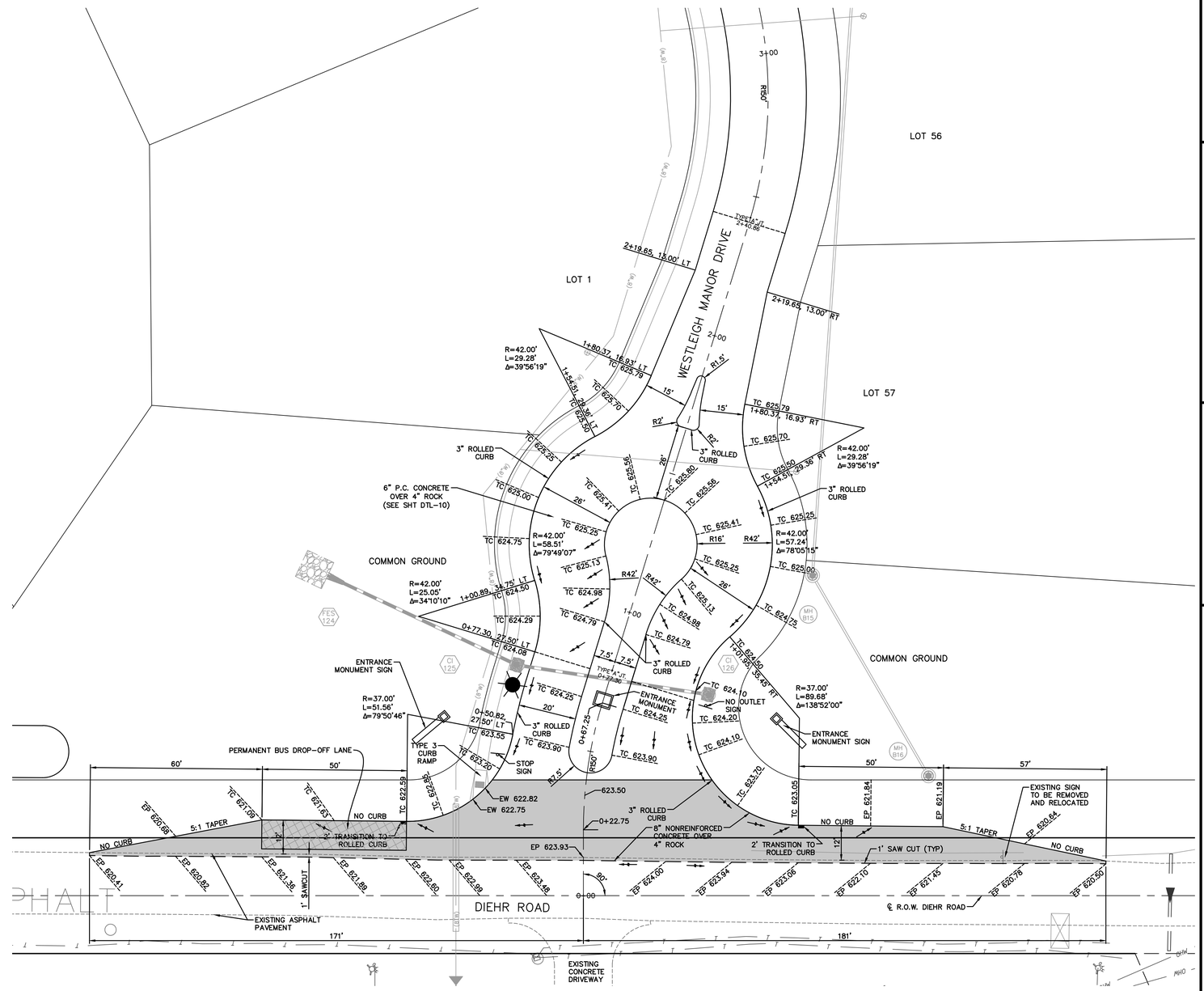
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments



INTERSECTION DETAIL
SCALE: 1"=20'



INTERSECTION DETAIL
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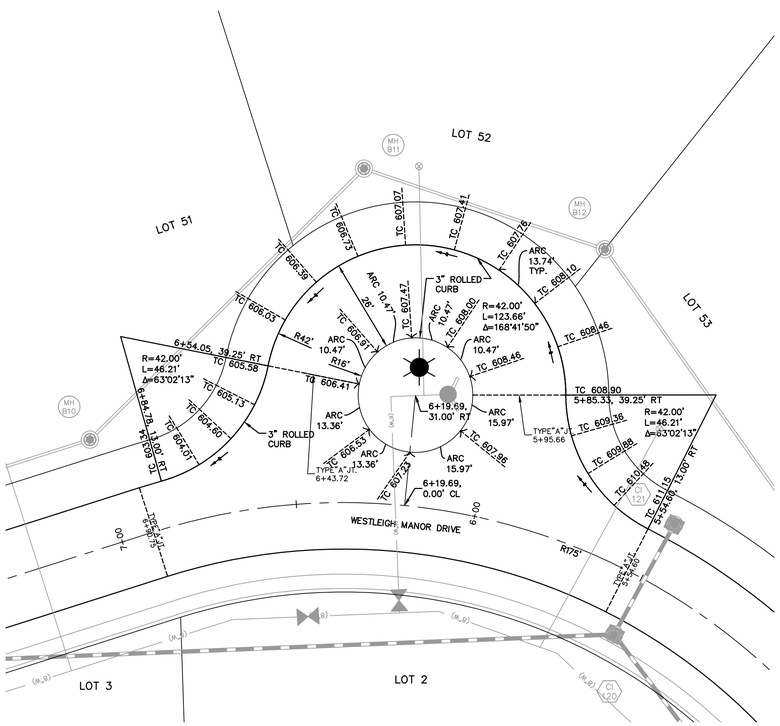

INTERSECTION DETAIL
SCALE: 1"=20'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
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St. Louis, Missouri 63129
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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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WARPING DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.
12.1
IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mollison Tract\Drawings\Engineering\Improvements\0348 IMP.dwg Plotted on: Mar 01, 2017 - 11:00am Plotted by: bmoller

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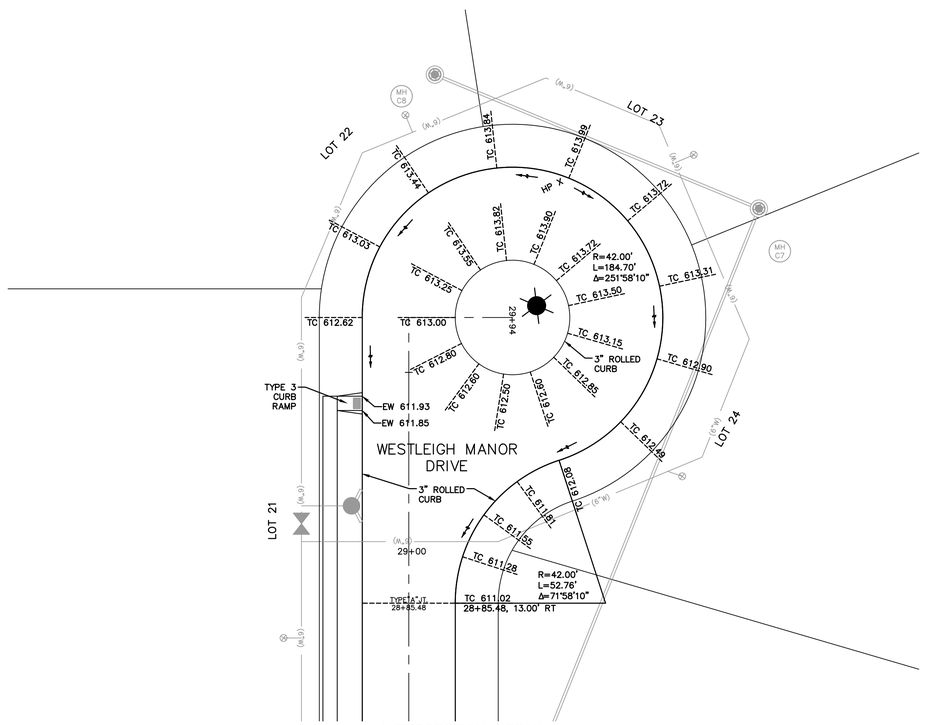
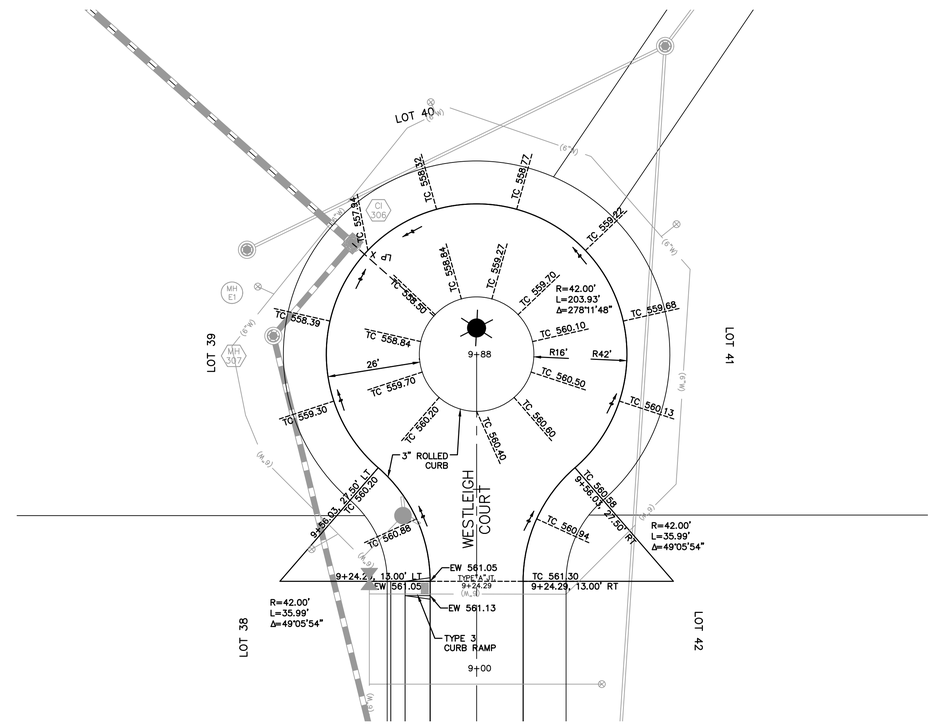


INTERSECTION DETAIL
SCALE: 1"=20'



INTERSECTION DETAIL
SCALE: 1"=20'

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
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St. Louis, Missouri 63129
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www.sterling-eng-sur.com
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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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WARPING DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

Page No.
12.2
IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mollison Tract\Drawings\Engineering\Improvements\10348 IMP.dwg Plotted on: Apr 24, 2019 - 1:52pm Plotted by: bnoltor

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
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7	1-18-17 PWSD #2 Comments
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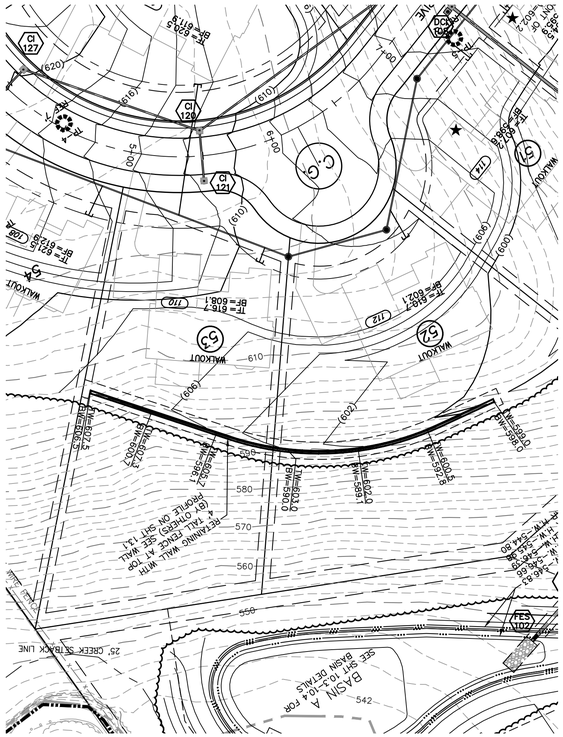
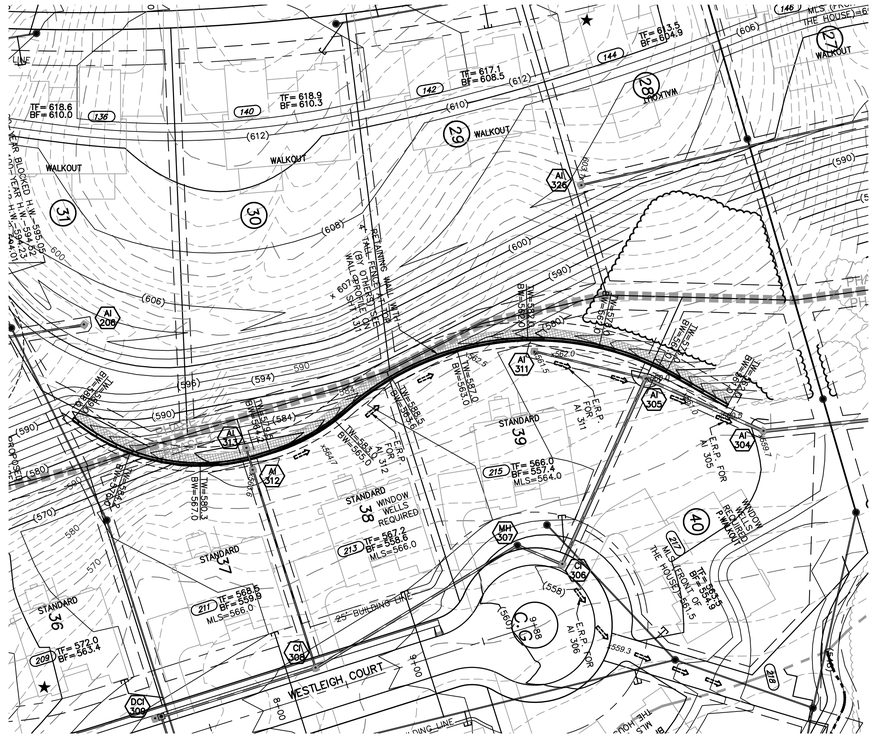
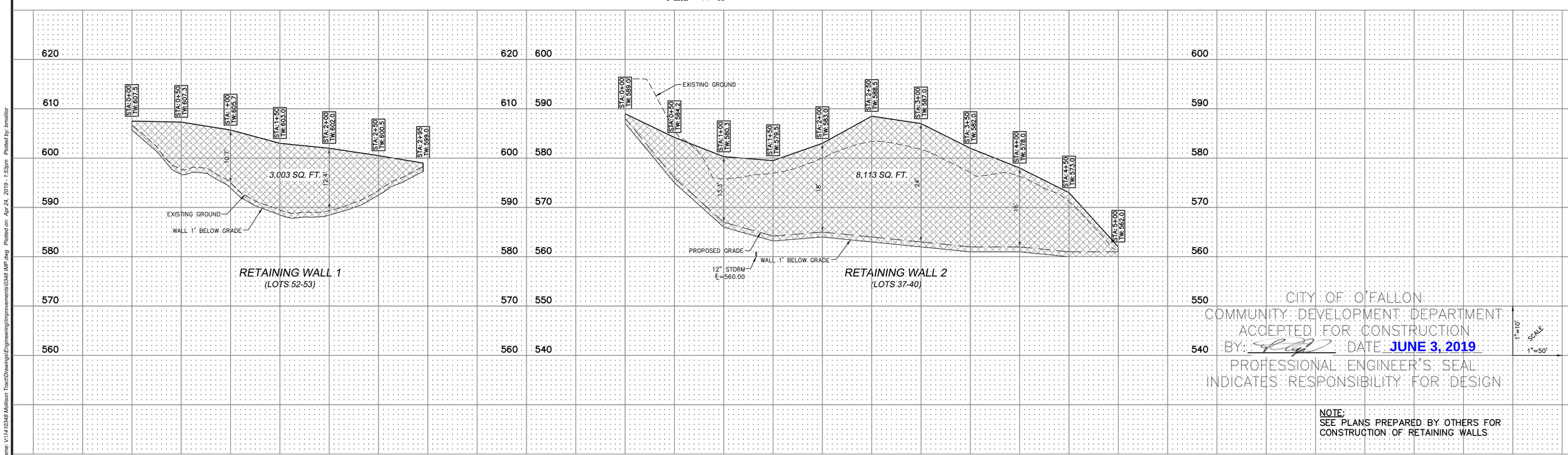
11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions
14	3-06-19 Phase 2 Revisions





GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.



NOTE:
SEE PLANS PREPARED BY OTHERS FOR CONSTRUCTION OF RETAINING WALLS

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
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Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER
PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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RETAINING WALL PLAN & PROFILE

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

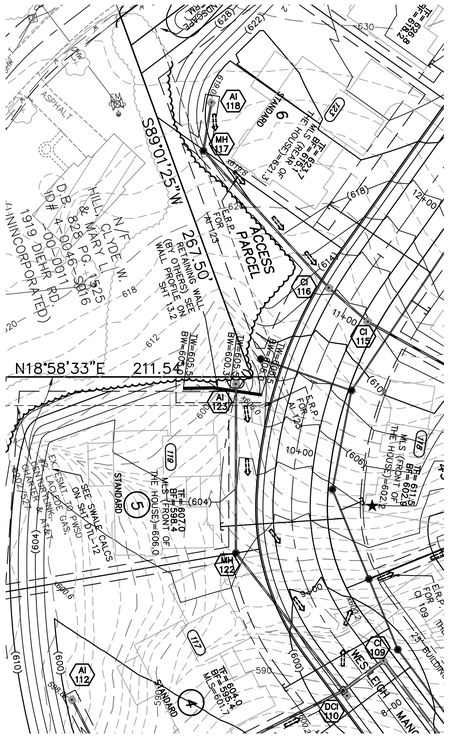
Page No.

13.1

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mallison Tract\Drawings\Engineering\Improvements\10348 IMP.dwg Plotted on: Apr 24, 2019 - 1:53pm Plotted by: bnoltor


S89°01'25"W
267.50'
N18°58'33"E 211.54'
ACCESS PARCEL
WESTLEIGH MANOR
STANDARD
SEE SWALE CALCS
TF=607.7
W.S.=FRONT OF THE HOUSE=606.0
TF=604.0
W.S.=603.1
TF=608.8
W.S.=608.2
TF=608.2
W.S.=608.0
TF=608.2
W.S.=608.0
TF=608.2
W.S.=608.0

ISSUE	DATE / REMARKS
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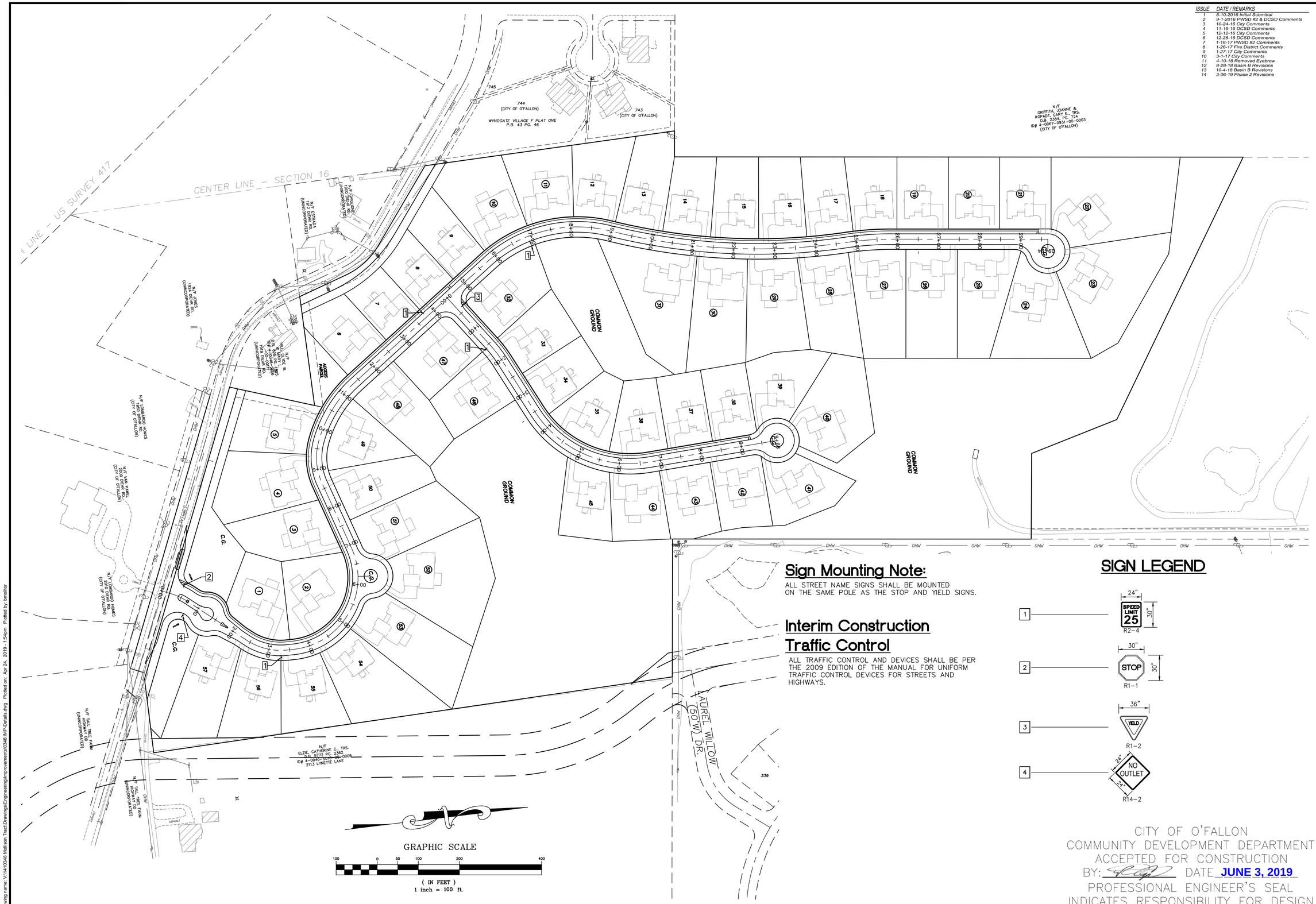
9	1-27-17 City Comments
10	3-1-17 City Comments
11	4-10-18 Removed Eyebrow
12	8-28-18 Basin B Revisions
13	10-4-18 Basin B Revisions
14	3-06-19 Phase 2 Revisions



Sign Mounting Note:

ALL STREET NAME SIGNS SHALL BE MOUNTED ON THE SAME POLE AS THE STOP AND YIELD SIGNS.

Interim Construction Traffic Control

ALL TRAFFIC CONTROL AND DEVICES SHALL BE PER THE 2009 EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

SIGN LEGEND

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: _____ DATE JUNE 3, 2019
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 4/24/2019
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

TRAFFIC CONTROL PLAN

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

Page No.

14.1

IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\0348 Mattison Tract\Drawings\Engineering\Improvements\0348 IMP-Details.dwg Plotted on: Apr 24, 2019 - 1:54pm Plotted by: bmoltor

City of O'Fallon, MO
Tuesday, February 14, 2017

Chapter 402. Trees and Landscaping

Article IV. Minimum Tree Quantities and Location Requirements

Section 402.130. Tree Location Standards.

[Ord. No. 5752 §1, 12-8-2011]

A. Trees are required to meet this Section if located along a roadway or utility line subject to the following:

1. Trees shall not be placed within twenty-five (25) feet of any street light or within fifteen (15) feet of the back of curb unless otherwise provided in this Code.
2. Trees shall not be placed within twenty-five (25) feet of traffic control or street signs or within fifteen (15) feet of the back of curb unless otherwise provided in this Code.
3. Trees shall not be planted within ten (10) feet of street stormwater inlets or manholes.
4. All new trees within the City right-of-way must be an acceptable species as outlined in this Chapter. All other trees to be installed are recommended, not required, to follow the recommended species list outlined in this Chapter.
5. Trees may not be planted closer to the centerline of an overhead power line as listed below:

Maximum Mature Tree Height (Feet)	Minimum Distance From Centerline (Feet)
<15	No minimum
15—24	15
25—45	35
>45	45

6. To reduce potential damage to sidewalks the City recommends the following setback:

Maximum Mature Tree Height (Feet)	Minimum Distance From Sidewalk (Feet)
<15	5
15—25	10
26—45	15
45	20

B. Tree standards in common ground or on private property:

1. Recommended (not required) tree species are outlined in this Chapter.
2. It is not recommended to have a tree located within an easement since it could be removed in the future with no replacement costs provided.
3. Tree location standards as provided in this Chapter shall be followed.

LANDSCAPING QUANTITIES

(25) STREET TREES – 60 TREES

TYPICAL STREET TREE DETAIL
NTS

SIGHT DISTANCE NOTE:
ON A CORNER LOT, NOTHING SHALL BE ERECTED, PLACED, PLANTED OR ALLOWED TO GROW IN SUCH A MANNER AS TO MATERIALLY IMPEDE VISION BETWEEN A HEIGHT OF THREE (3) AND FIFTEEN (15) FEET ABOVE THE GRADES WITHIN THE SIGHT TRIANGLE AREA AS SHOWN ON THESE PLANS. ADDITIONALLY, NOTHING SHALL BE ERECTED, PLACED, PLANTED OR ALLOWED TO GROW IN A MANNER TO MATERIALLY IMPEDE THE LINE OF SIGHT NECESSARY FOR SAFE TRAVEL ALONG PUBLIC ROADWAYS.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

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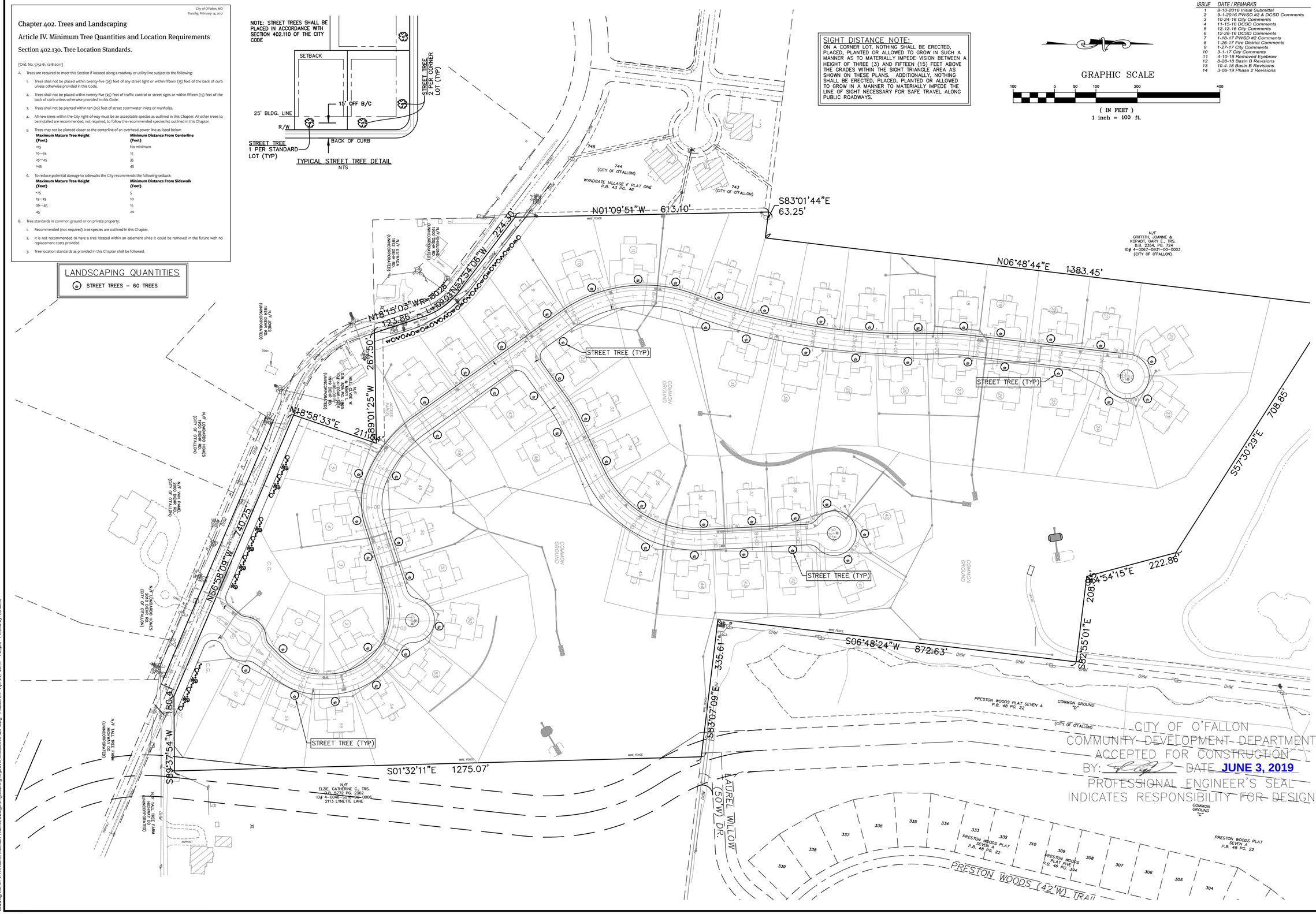

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Date: 4/24/2019
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Civil Engineer

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LANDSCAPE PLAN

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	4/24/2019
Job No.	14-10-348

Page No.
15.1
IMP

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Drawing name: V:\14\10348 Mollison Tract\Drawings\Engineering\Improvements\10348 IMP.dwg Plotted on: Apr 24, 2019 - 1:54pm Plotted by: bmoltor

City of O'Fallon, MO
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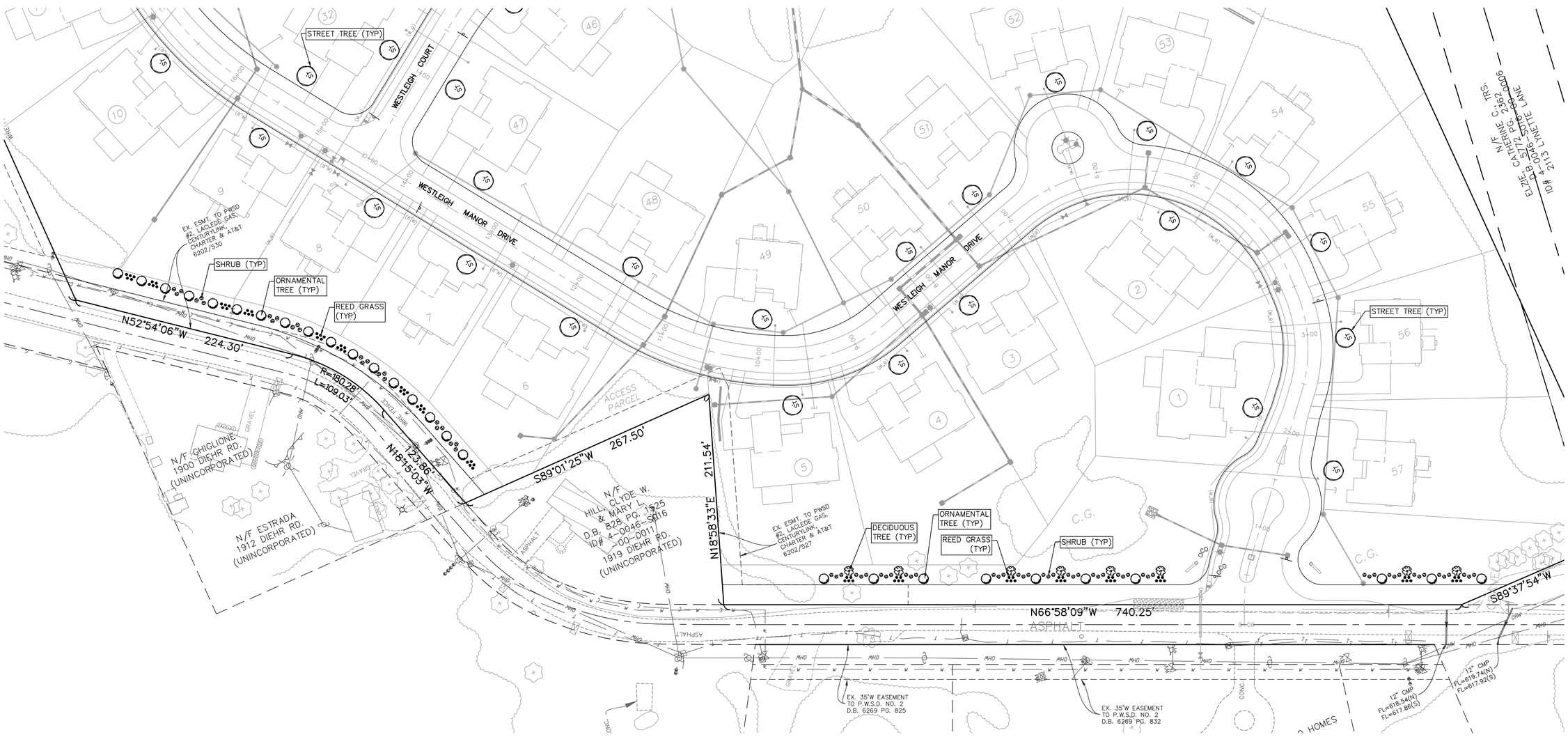
LANDSCAPE BUFFER – PLANT MATERIAL LIST
DIEHR ROAD BUFFER BEHIND LOTS 6–9

SYM.	QTY.	DESCRIPTION	SIZE	MATURE HT.
●	45	KARL FOERSTER FEATHER REED GRASS	5 GALLON	N/A
◯	17	ORNAMENTAL TREE CRAB, PEAR, REDBUD	1.5" CAL.	15'–25'
⊖	24	SHRUB VIBURMUN, BURNING BUSH	18" HT.	N/A

LANDSCAPE BUFFER – PLANT MATERIAL LIST
DIEHR ROAD BUFFER BEHIND LOTS 1–5 & 57

SYM.	QTY.	DESCRIPTION	SIZE	MATURE HT.
●	40	KARL FOERSTER FEATHER REED GRASS	5 GALLON	N/A
❀	8	DECIDUOUS TREE MAPLE, OAK, BIRCH	2" CAL.	25'–45'
◯	10	ORNAMENTAL TREE CRAB, PEAR, REDBUD	1.5" CAL.	15'–25'
⊖	48	SHRUB VIBURMUN, BURNING BUSH	18" HT.	N/A

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.



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LANDSCAPE PLAN

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
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Page No.
15.2
IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: C:\Users\smoller\appdata\local\temp\AcPublish_51680\348 IMP.dwg Plotted on: Mar 01, 2017 - 2:20pm Plotted by: bmoller

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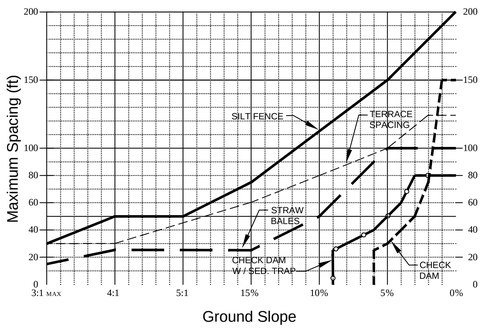
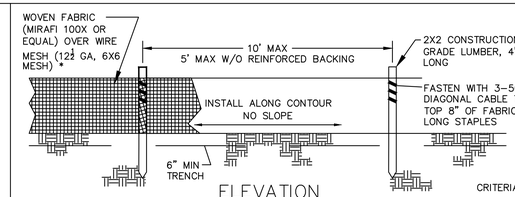


DESIGN CRITERIA

1. SILT FENCE FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
2. STRAW BALE BARRIERS FOR SHEET FLOW SHALL HAVE A MAXIMUM DRAINAGE AREA OF 1/4 ACRE PER 100 LF.
3. REFER TO INDIVIDUAL ESC FIGURE FOR INSTALLATION.
4. TERRACING INCLUDES LOGS, WATTLES & FILTER SOCKS.

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

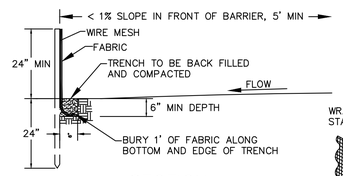
SPACING CHART FOR ESC DEVICES



ELEVATION

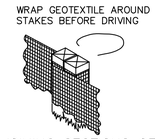
CRITERIA

1. SILT FENCE SHALL BE 24 INCHES HIGH.
2. SILT FENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
3. GEOSYNTHETIC REINFORCED SILT FENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.
4. WIRE MESH WILL BE USED AT LOCATIONS SHOWN ON THE APPROVED SWPPP.



SECTION

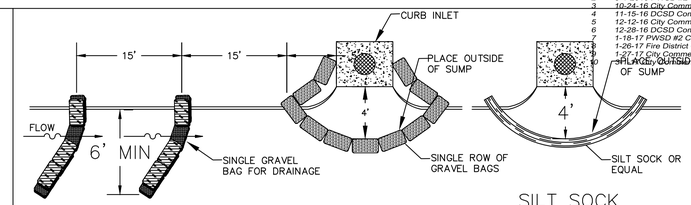
NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.



JOINING SECTIONS OF SILT FENCE

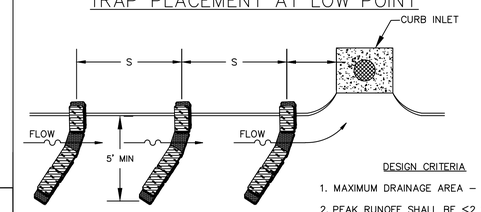
CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

SILT FENCE INSTALLATION SHEET FLOW (ONLY)



TRAP PLACEMENT AT LOW POINT

SILT SOCK (ALTERNATIVE)



TRAP PLACEMENT AT INTERMEDIATE INLET

SPACING OF TRAPS

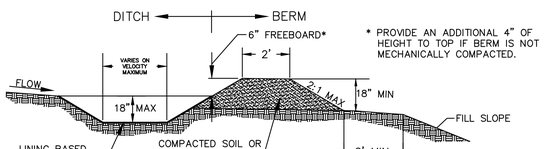
GUTTER SLOPE	S
LOW PT	15'
1%	20'
2%	15'
3% MAX.	10'

DESIGN CRITERIA

1. MAXIMUM DRAINAGE AREA – 1 ACRE.
2. PEAK RUNOFF SHALL BE ≤2 CFS BASED ON THE 6-MONTH STORM.
3. STACK GRAVEL BAGS DOUBLE HIGH. PROVIDE GAP FOR DRAINAGE.

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

CURB INLET PROTECTION

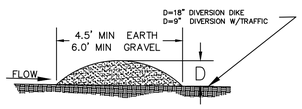


* PROVIDE AN ADDITIONAL 4" OF HEIGHT TO TOP IF BERM IS NOT MECHANICALLY COMPACTED.

DIVERSION BERM

DESIGN CRITERIA

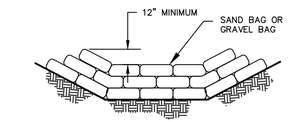
1. DIVERSIONS SHALL BE USED FOR DRAINAGE AREAS ≤ 3 ACRES.
2. DIVERSION CHANNELS SHALL BE DESIGNED TO CONVEY THE 6-MO STORM AT NON-EROSIVE VELOCITIES.
3. CRITICAL LOCATIONS SHALL BE DESIGNED FOR THE 15YR / 20Min. STORM.
4. MAXIMUM CHANNEL SLOPE OF 3% WITHOUT CHECK DAMS.
5. SWALE SEDIMENT TRAPS ARE TO BE USED IN HIGHLY EROSIVE AREAS.
6. CHANNELS SHALL BE PROTECTED USING APPROPRIATE CHANNEL LINERS.
7. CHANNEL OUTLETS MUST BE STABILIZED.
8. STORM SEWERS MAY BE USED IN LIEU OF OPEN CHANNELS.



DIVERSION DIKE

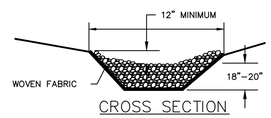
CITY OF O'FALLON ENGINEERING DEPARTMENT O'FALLON, MISSOURI

DIVERSION BERMS + DIKES



CROSS SECTION

LEVEL CENTER SECTION, WITH 12" RISE ON BOTH SIDES TO CAUSE FLOW OVER, NOT AROUND, CHECK DAM



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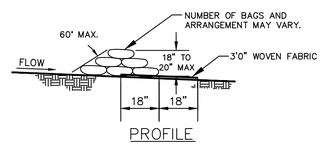
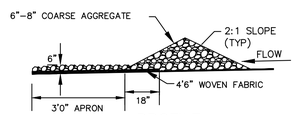


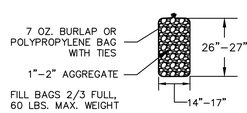
PROFILE

SAND BAG OR GRAVEL BAG CHECK DAM



PROFILE

ROCK CHECK DAM

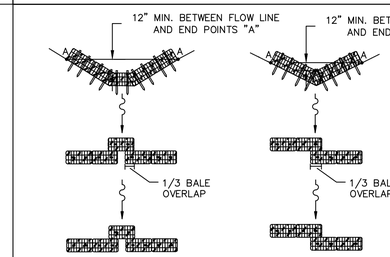


GRAVEL BAG

NOTE:
1. CHECK DAMS MAY BE CONSTRUCTED OF SEVERAL ESC CHECK DAM PRODUCTS.
2. SEE TABLE 60-12 AND ESC 1 FOR CHECK DAM SPACING.

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

CHECK DAMS



TRAPEZOIDAL DITCH

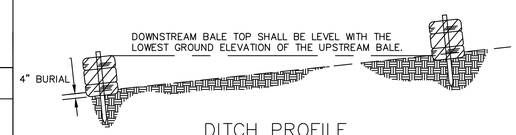
V-DITCH

CRITERIA FOR LOW CONCENTRATED FLOWS

1. DRAINAGE AREAS SHALL BE LESS THAN 1 ACRE.
2. INSTALL TWO STAKES PER BALE.
3. BALES WILL BE TRENCHED 4" DEEP INTO EARTH.
4. MAXIMUM CHANNEL SLOPE OF 3%.
5. SEDIMENTATION TRAPS TO BE USED IN HIGHLY EROSIVE AREAS.

CHECK DAM SPACING

Ditch Slope	Maximum Spacing
3%	50%
2%	75%



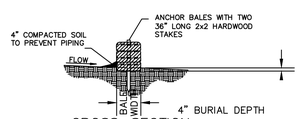
DITCH PROFILE

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

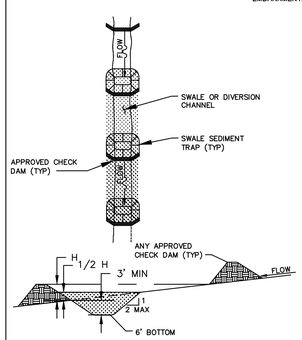
STRAW BALE CHECK DAM

CRITERIA

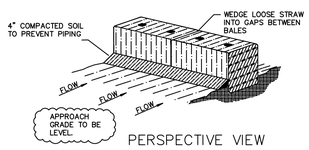
1. EXCAVATE TRENCH THE WIDTH OF THE BALE AT LEAST 4 INCHES DEEP AND LONG ENOUGH THAT THE END BALES ARE SOMEWHAT UPSLOPE.
2. REFER TO STRAW BALE CHECK DAM DETAIL FOR SPACING AND STRAW BALE USES AS DITCH CHECKS.
3. UPSLOPE FACE OF BALE MUST BE AT LEAST 5' FROM A DISTURBED EMBANKMENT.



CROSS-SECTION



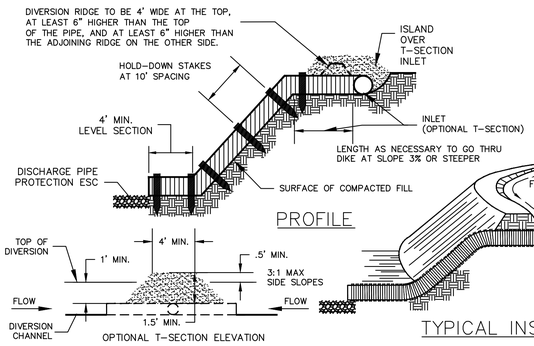
DITCH PROFILE



PERSPECTIVE VIEW

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

SWALE SEDIMENT TRAP STRAW BALE BARRIER INSTALLATION



PROFILE

TYPICAL INSTALLATION

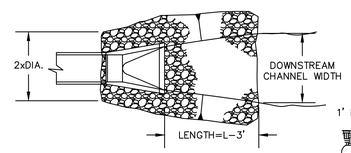
SLOPE DRAIN SIZE

Drainage Area (ac)	Pipe Dia.
< 1.0	12"
< 2.0	15"
< 3.0	18"
< 4.0	21"
< 5.0	24"
< 6.5	27"
6.5–10	30"

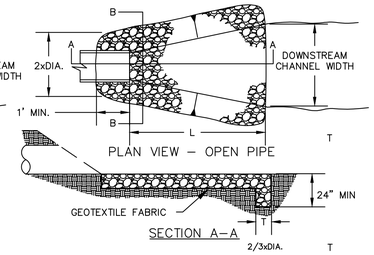
NOTE:
1. PIPE CAN BE CMP, PVC, FLEXIBLE TUBING, OR SIMILAR.
2. THIS METHOD MUST BE USED IN CONJUNCTION WITH OTHER ESC DEVICES. THIS IS NOT A STAND ALONE CONTROL DEVICE.

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

TEMPORARY SLOPE DRAIN



PLAN VIEW
W/FLARED END SECTION



PLAN VIEW – OPEN PIPE

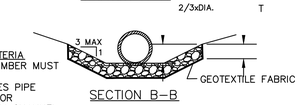
SECTION A–A

RIPRAP SIZE & APRON DIMENSION								
PIPE SIZE	VELOCITY < 5 FPS				VELOCITY < 10 FPS			
	ROCK SIZE		APRON DIM		ROCK SIZE		APRON DIM	
	d_{50}	d_{MAX}	T	L	d_{50}	d_{MAX}	T	L
(inch)	(inch)	(inch)	(inch)	(ft)	(inch)	(inch)	(inch)	(ft)
12	5	9	15	12	5	9	15	16
15	5	9	15	14	5	9	15	18
18–24	5	9	15	16	9	14	24	20
27–30	5	9	15	18	9	14	24	22
36–42	9	14	24	22	12	18	27	26
48–54	9	14	24	26	12	18	27	30
60–66	12	18	27	34	15	24	30	38
72–84	15	24	30	42	15	24	30	46
96	18	27	30	50	18	27	30	54

d_{50} – NOMINAL DIAMETER
d_{MAX} – MAXIMUM DIAMETER
T – THICKNESS
L – LENGTH

DESIGN CRITERIA

1. FROUDE NUMBER MUST BE ≤ 2.50.
2. USE 3 TIMES PIPE DIAMETER FOR DOWNSTREAM CHANNEL WIDTH IF THERE IS NO DEFINED CHANNEL.
3. BANK PROTECTION HEIGHT TO BE 2/3 TIMES PIPE DIAMETER.
4. ROCK SLOPES SHALL BE NO STEEPER THAN 3:1.



SECTION B–B

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

TEMPORARY OUTLET PIPE DISCHARGE PROTECTION

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
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O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

EROSION CONTROL DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.

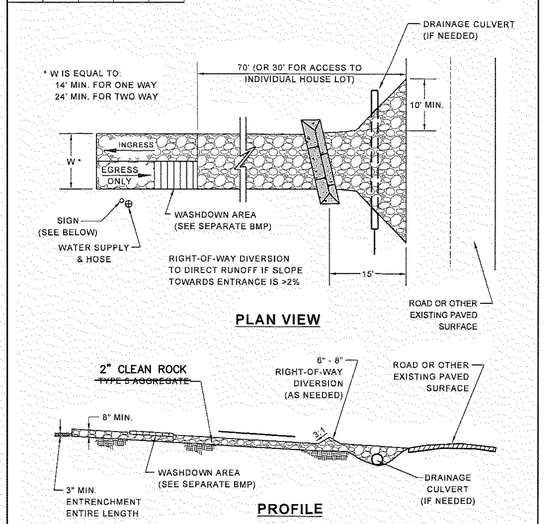
DTL-1

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14\10348 Mellison Tract\Drawings\Engineering\Improvements\0348 IMP-Details.dwg Plotted on: Mar 01, 2017 - 11:11am Plotted by: bmoltor

NEW	REVISIONS			
1/15/04	7/1/04			



NOTE:
IF WATER SERVICE IS NOT AVAILABLE, A WATER TRUCK SHALL BE PROVIDED.

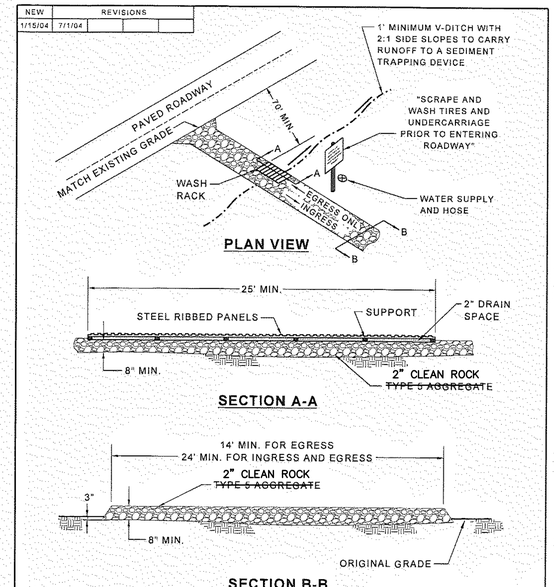
SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL
CONSTRUCTION ENTRANCE

REVISION DATE: July 1, 2004

DRAWING TC-1

NEW	REVISIONS			
1/15/04	7/1/04			



NOTE:
IF WATER SERVICE IS NOT AVAILABLE, A WATER TRUCK SHALL BE PROVIDED.

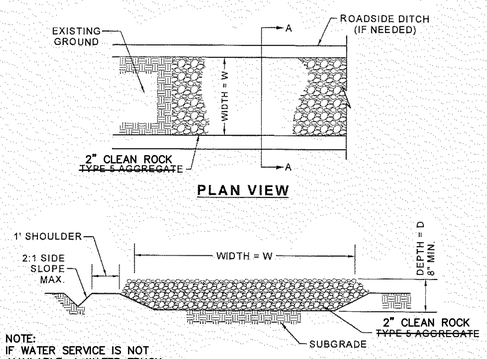
SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL
WASHDOWN STATION

REVISION DATE: July 1, 2004

DRAWING TC-4

NEW	REVISIONS			
1/15/04	7/1/04	8/2/07		



NOTE:
IF WATER SERVICE IS NOT AVAILABLE, A WATER TRUCK SHALL BE PROVIDED.

GENERAL NOTES:

1) SEE PLANS FOR CONSTRUCTION ROAD LOCATION, D AND W DIMENSIONS.

2) MINIMUM WIDTH IS 14 FEET FOR ONE-WAY TRAFFIC AND 24 FEET FOR TWO-WAY TRAFFIC. TWO-WAY TRAFFIC WIDTHS SHALL BE INCREASED A MINIMUM OF 4 FEET FOR TRAILER TRAFFIC. DEPENDING ON THE TYPE OF VEHICLE OR EQUIPMENT, SPEEDS, LOADS, CLIMATIC AND OTHER CONDITIONS UNDER WHICH VEHICLES AND EQUIPMENT OPERATE AN INCREASE IN THE MINIMUM WIDTH MAY BE REQUIRED.

3) ROADWAY SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE.

4) GRADE ROAD AND DITCHES TO PROVIDE POSITIVE DRAINAGE AND PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

5) ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE MAY BE REQUIRED FOR LONG TERM PROJECTS OR UNSTABLE SOILS.

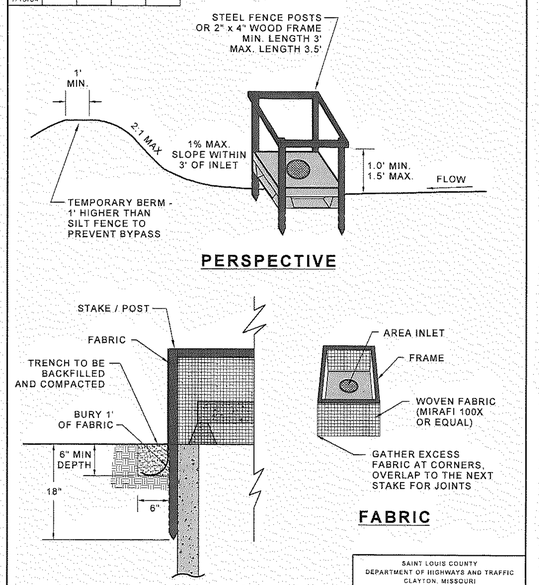
SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL
CONSTRUCTION ROAD

REVISION DATE: August 2, 2007

DRAWING TC-3

NEW	REVISIONS			
1/15/04				



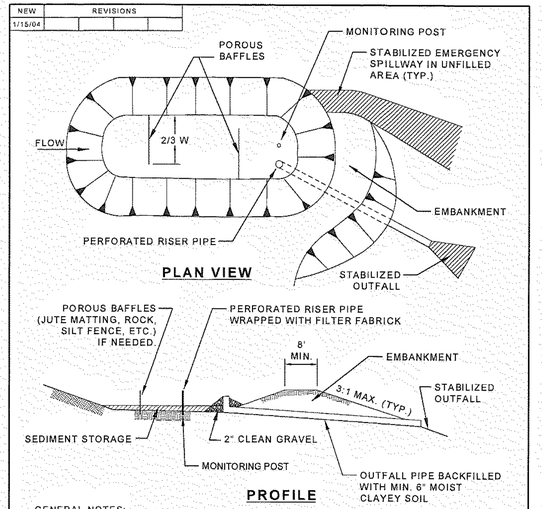
SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL
INLET PROTECTION - FABRIC DROP

REVISION DATE: January 15, 2004

DRAWING SC-3

NEW	REVISIONS			
1/15/04				



GENERAL NOTES:

1) TOP OF RISER PIPE SHOULD BE A MIN. OF 1' BELOW THE TOP OF THE EMBANKMENT AND 6' BELOW THE FLOW LINEOF ANY EMERGENCY SPILLWAY.

2) IF NO EMERGENCY SPILLWAY IS PROPOSED, THERE SHALL BE A MINIMUM OF 1.5' OF FREEBOARD.

3) BAFFLE HEIGHT SHOULD BE GREATER THAN TOP OF RISER PIPE AND LESS THAN TOP OF EMBANKMENT.

4) SILT MONITORING POST(S) SHALL BE INSTALLED NEAR OUTLET OF BASIN AND BE MARKED WITH MAXIMUM PERMISSIBLE LEVEL OF SEDIMENT.

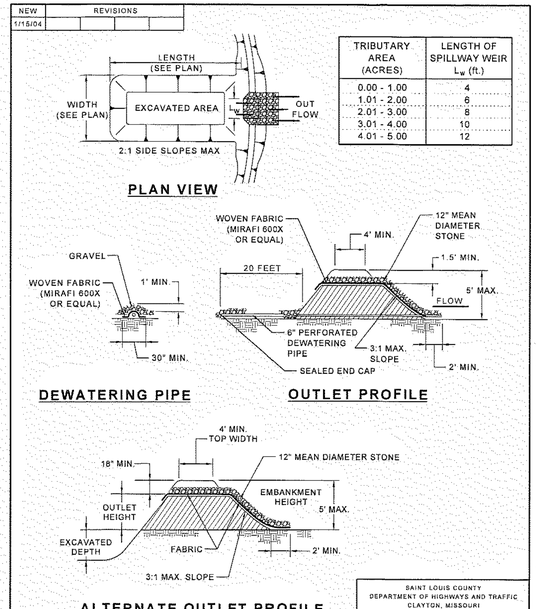
SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL
SEDIMENT BASIN

REVISION DATE: January 15, 2004

DRAWING SC-6

NEW	REVISIONS			
1/15/04				



FOR USE IN OPEN AREAS

SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL
SEDIMENT TRAP

REVISION DATE: January 15, 2004

DRAWING SC-7a

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
3	10-24-16 City Comments
4	11-15-16 DCSD Comments
5	12-12-16 City Comments
6	12-28-16 DCSD Comments
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	Mauch	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue			O	O	O			O	O			
Smooth Brome			O	O	O			O	O			
Fescue &Brome			O	O	O	O		O	O			
Fescue,Rye &Bluegrass	A	A	O	O	O	P	P	O	O	P	P	A

Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rye or Sudan	A	A	O	O	O	O	O	O	O	O	A	A
Oats		A	OOO			OOO			O			

O = Optimum seeding dates
A = Acceptable seeding dates
P = Permitted seeding dates with reseeding 2 months later- Initially use 50% of seed and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer.

Minimum Fertilizer and Seeding Rates

Permanent Seeding*	Pounds per acre	Pounds Per 1000 sqft.
Tall Fescue	300	7.0
Smooth Brome	200	4.6
Mixture # 1	250	5.7
Mixture # 2	210	4.8

Mixture # 1 = Tall Fescue @150 pounds per acre and Brome @100 pounds per acre.
Mixture # 2 = Tall Fescue @100 pounds per acre; Perennial Rye grass @100 pounds per acre; and Kentucky Blue grass @10 pounds per acre.
* = Seeding rate for slopes in excess of 20%(5:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq ft.
Rye or Sudan	150	3.5
Oats	200	2.5

Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	45	30
Phosphate	65	30
Potassium	65	30
Lime - ENM	600	600

ENM = Effective neutralizing material per State evaluation of quarried rock.

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

The Professional Engineer's seal, signature and date on this plan signify only that the seaters and engineer are liable for the work shown on this plan. Any alteration of this plan, including the addition of any signature and seal, changes or additions to the plan, shall void the seal, signature and date.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

EROSION CONTROL DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.

DTL-2

IMP

Drawing name: V:\1410348 Mallison Tract\Drawing\Engineering\Improvements\0348 IMP-Details.dwg Plotted on: Mar 01, 2017 - 11:12am Plotted by: bmoltor

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
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3	10-24-16 City Comments
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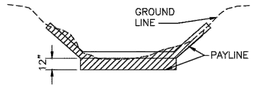
5	12-12-16 City Comments
~~6~~	~~12-28-16 DCSD Comments~~
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments

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. CONCRETE ENCASEMENT	INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASEMENT
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 x30	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			32 x 49	71	5.92	13.14
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	9.08	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

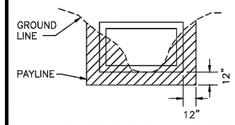
Duckett Creek Sanitary District

PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE

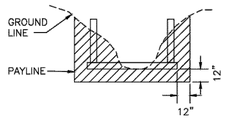
Dwn By: BSM | App By: KLA | Detail No. 1
Ckd By: MDOB | Date: DEC. 2015



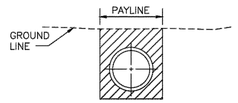
LIMITS FOR TRAPEZOIDAL CHANNEL



LIMITS FOR BOX CULVERT



LIMITS FOR VERTICAL WALL



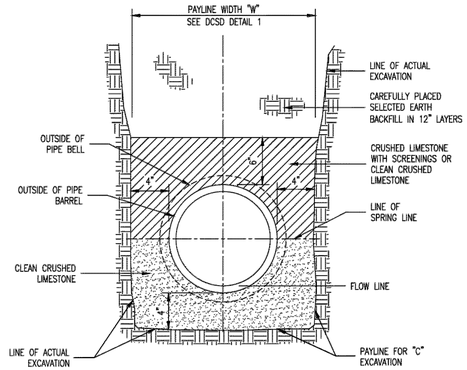
LIMITS FOR PIPE

NOTE:
PAYLINE FOR ANY OTHER TYPE CHANNEL EXCAVATION SHALL BE THE EXACT SHAPE OF THE SUBGRADE.

Duckett Creek Sanitary District

PAYLINE LIMITS FOR EXCAVATION

Dwn By: BSM | App By: KLA | Detail No. 2
Ckd By: MBOB | Date: DEC. 2015

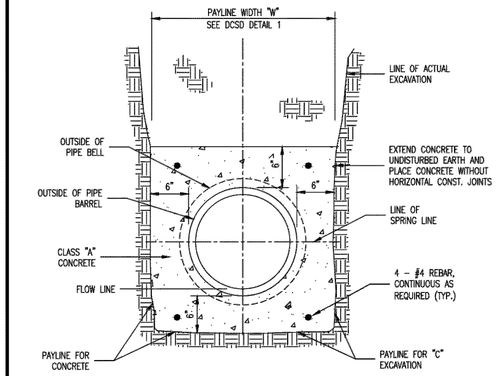


NOTES:
ALL PVC SANITARY SEWER PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034 STANDARD SPECIFICATION FOR POLYVINYL CHLORIDE SEWER PIPE, SDR-35 OR EQUAL, WITH "CLEAN" 1/2 INCH TO 1 INCH GRANULAR STONE BEDDING UNIFORMLY GRADED. THIS BEDDING SHALL EXTEND FROM 4 INCHES BELOW THE PIPE TO SPRINGLINE OF PIPE. IMMEDIATE BACKFILL OVER PIPE SHALL CONSIST OF SAME SIZE "CLEAN" OR "MINUS" STONE FROM SPRINGLINE OF PIPE TO 6 INCHES ABOVE THE TOP OF PIPE. FINAL BACKFILL MATERIAL SHALL BE OF SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT AS OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE ROCKS OR STONES, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED WITHIN 2 FEET FROM TOP OF PIPE.

Duckett Creek Sanitary District

PIPE BEDDING CLASS "C" (FOR ALL EXCEPT REINFORCED CONCRETE PIPE)

Dwn By: BSM | App By: KA | Detail No. 3
Ckd By: MDOB | Date: JULY 2016



NOTE:
SUPPORT PIPE TO PREVENT DISPLACEMENT DURING PLACEMENT OF CONCRETE.

Duckett Creek Sanitary District

TYPICAL CONCRETE ENCASEMENT

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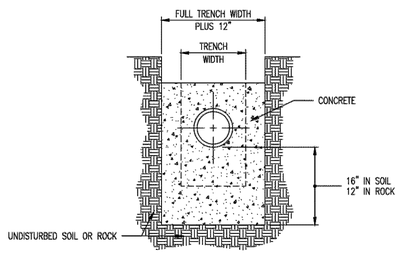
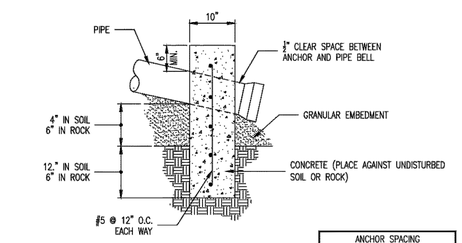
Ckd By: MDOB | Date: DEC. 2015





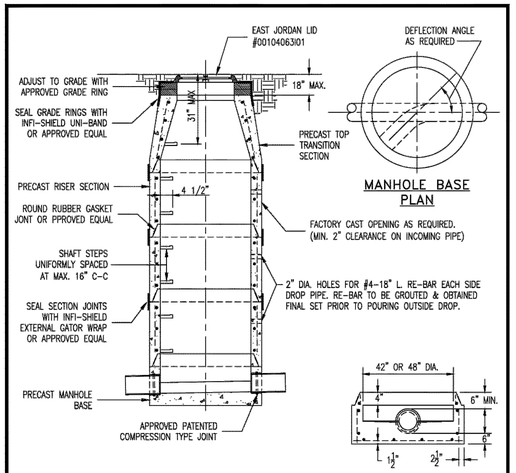
SIDE ELEVATION

ANCHOR SPACING	
SLOPE	MAX. DISTANCE
15%-35%	36'
35%-50%	24'
>50%	12' OR ONE PER JOINT OF PIPE

Duckett Creek Sanitary District

CONCRETE ANTI-SLIP COLLAR FOR PVC PIPE ON PIPE SLOPES FROM 15% TO 50%

Dwn By: MSM | App By: KA | Detail No. 5
Ckd By: | Date: DEC. 2015



MANHOLE BASE PLAN

BASE SECTION

SECTION OF MANHOLE		DIMENSION
TOP TRANSITION	UPPER	26 1/2" DIA.
	LOWER	42" DIA.
BOTTOM SECTION	8" DIA. PIPE	42" DIA.
BOTTOM SECTION	10" THRU 36" DIA. PIPE	48" DIA.
BOTTOM SECTION	42" DIA. PIPE	60" DIA.

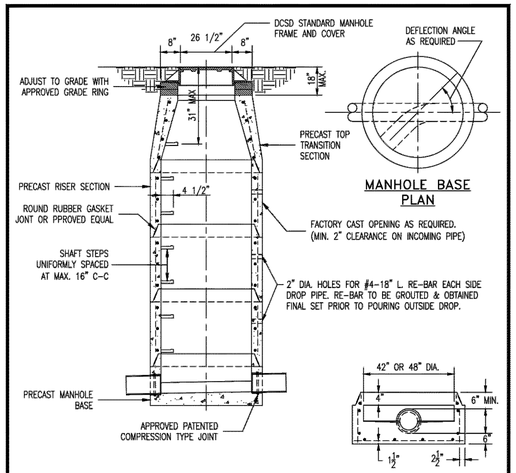
NOTES:
1. ALL INVERTS SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLE.
2. BRICK SHALL NOT BE USED ON MANHOLES.

SEE A.S.T.M. C-478 FOR MINIMUM STEEL REQUIREMENTS.

Duckett Creek Sanitary District

PRECAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 18" IN FLOODWAY AREAS

Dwn By: MSM | App By: KLA | Detail No. 6
Ckd By: | Date: DEC. 2015



MANHOLE BASE PLAN

BASE SECTION

SECTION OF MANHOLE		DIMENSION
TOP TRANSITION	UPPER	26 1/2" DIA.
	LOWER	42" DIA.
BOTTOM SECTION	8" DIA. PIPE	42" DIA.
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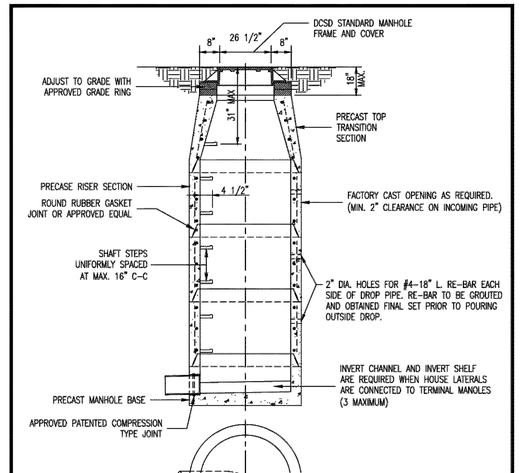
NOTES:
1. ALL INVERTS SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLE.
2. BRICK SHALL NOT BE USED ON MANHOLES.

SEE A.S.T.M. C-478 FOR MINIMUM STEEL REQUIREMENTS.

Duckett Creek Sanitary District

PRECAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 18"

Dwn By: BSM | App By: KLA | Detail No. 7
Ckd By: MDOB | Date: DEC. 2015



SECTION OF MANHOLE		DIMENSION
TOP TRANSITION	UPPER	26 1/2" DIA.
	LOWER	42" DIA.
BOTTOM SECTION	8" DIA. PIPE	42" DIA.
BOTTOM SECTION	10" THRU 36" DIA. PIPE	48" DIA.
BOTTOM SECTION	42" DIA. PIPE	60" DIA.

NOTES:
1. ALL INVERTS SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLE.
2. BRICK SHALL NOT BE USED ON MANHOLES.

SEE A.S.T.M. C-478 FOR MINIMUM STEEL REQUIREMENTS.

Duckett Creek Sanitary District

TERMINAL MANHOLE FOR SEWERS 8" THROUGH 18"

Dwn By: BSM | App By: KLA | Detail No. 8
Ckd By: MDOB | Date: DEC. 2015

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

The Professional Seal on this document shall be deemed valid only for the original and certified copies as bear seals or issued, signature or initials. Any alteration of the underlying data and/or signature shall not be considered valid and shall void the Professional Engineer's responsibility for any or all resulting consequences. Any alteration of the underlying data, signature or initials shall void the seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

SANITARY SEWER DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.

DTL-3

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\1410348 Mellison Tract\Drawings\Engineering\Improvements\03\48 IMP-Details.dwg Printed on: Mar 01, 2017 - 11:12am Plotted by: bmoltor

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
3	10-24-16 City Comments
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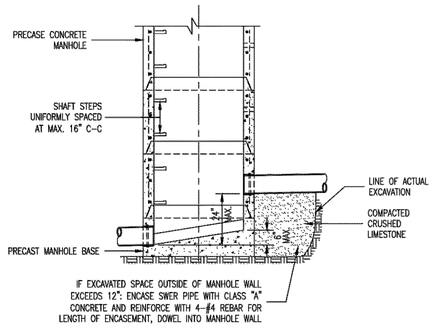
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments



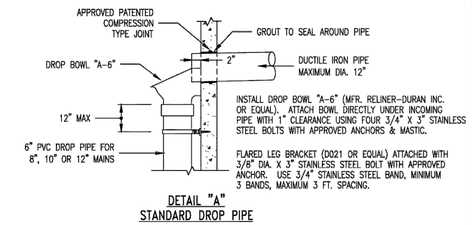
SECTION OF MANHOLE		DIMENSION
TOP TRANSITION	UPPER LOWER	26 1/2" DIA. 42" DIA.
BOTTOM SECTION	8" DIA. PIPE	42" DIA.
BOTTOM SECTION	10" THRU 36" DIA. PIPE	48" DIA.
BOTTOM SECTION	42" DIA. PIPE	60" DIA.

SEE A.S.T.M. C-478 FOR MINIMUM STEEL REQUIREMENTS.

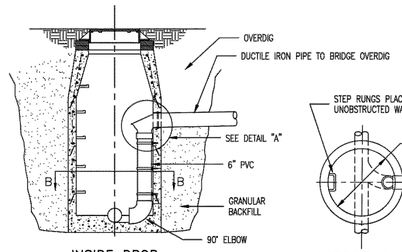
NOTES:
1. ALL INVERTS SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLE.
2. BRICK SHALL NOT BE USED ON MANHOLES.

Duckett Creek Sanitary District

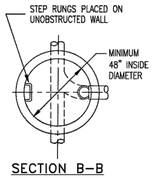
INSIDE FOULWATER DROP MANHOLE (SWEEP INLET)	Dwn By: BSM	App By: KA	Detail No. 9
	Ckd By: MDOB	Date: DEC. 2015	



DETAIL "A"
STANDARD DROP PIPE



INSIDE DROP MANHOLE

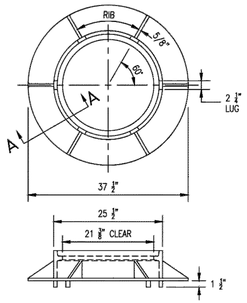


SECTION B-B

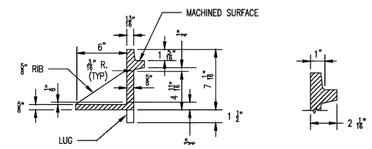
NOTES:
1. ALL INVERTS SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLE.
2. INSIDE DROP CONNECTION SHALL NOT ENTER AT A JOINT.

Duckett Creek Sanitary District

INSIDE DROP MANHOLE	Dwn By: MSM	App By: KA	Detail No. 10
	Ckd By:	Date: JULY 2016	



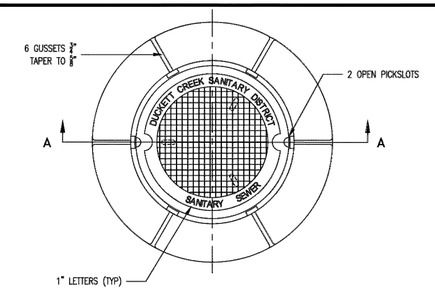
CAST IRON MANHOLE FRAME

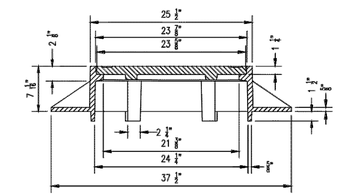


SECTION A-A
(230 lbs)

Duckett Creek Sanitary District

CAST IRON MANHOLE FRAME	Dwn By: BSM	App By: KLA	Detail No. 11
	Ckd By: MDOB	Date: DEC. 2015	



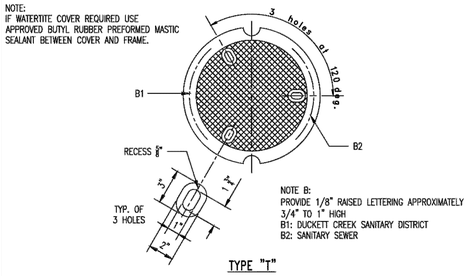


SECTION A-A

Duckett Creek Sanitary District

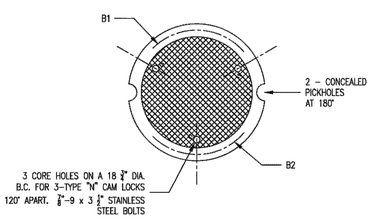
MANHOLE FRAME AND COVER	Dwn By: BSM	App By: KLA	Detail No. 12
	Ckd By: MDOB	Date: DEC. 2015	

NOTE:
IF WATERTITE COVER REQUIRED USE APPROVED BUTYL RUBBER PREFORMED MASTIC SEALANT BETWEEN COVER AND FRAME.



NOTE B:
PROVIDE 1/8" RAISED LETTERING APPROXIMATELY 3/4" TO 1" HIGH
B1: DUCKETT CREEK SANITARY DISTRICT
B2: SANITARY SEWER

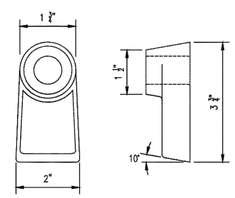
TYPE "T"

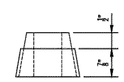


TYPE "N"

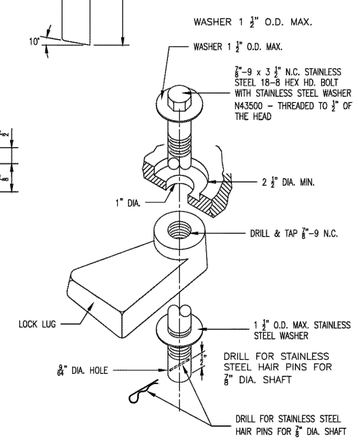
Duckett Creek Sanitary District

CAST IRON MANHOLE COVERS (LOCK TYPE)	Dwn By: BSM	App By: KLA	Detail No. 14
	Ckd By: MDOB	Date: DEC. 2015	



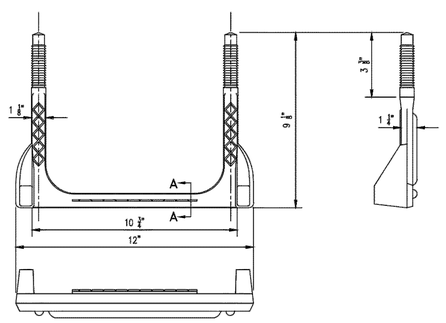


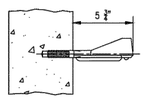
LOCK LUG
N.T.S.

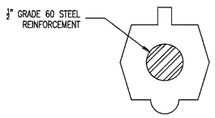


Duckett Creek Sanitary District

LOCKING DEVICE FOR TYPE "N" LOCK TYPEMAN HOLE COVER	Dwn By: BSM	App By: KLA	Detail No. 16
	Ckd By: MDOB	Date: DEC. 2015	







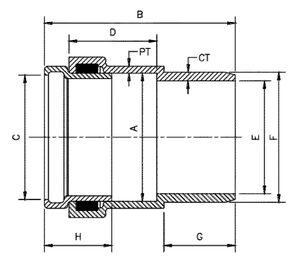
SECTION A-A

COPOLYMER POLYPROPYLENE PLASTIC

Duckett Creek Sanitary District

MANHOLE STEP FOR PRECAST MANHOLE	Dwn By: BSM	App By: KA	Detail No. 18
	Ckd By: MDOB	Date: DEC. 2015	

SDR-35 x C900
BELL x SPIGOT ADAPERS



SIZE	CATALOG NO.	A	B	C	D	E	F	G	H	CT	PT
4"	334-040	4.56	8.23	4.25	4.10	3.94	4.80	2.72	2.7	.32	.25
6"	334-060	6.68	9.93	6.31	4.57	5.88	6.90	3.72	3.5	.45	.36

Duckett Creek Sanitary District

SDR-35 x C900 BELL AND SPIGOT ADAPTORS	Dwn By: BSM	App By: KA	Detail No. 19A
	Ckd By: MDOB	Date: DEC. 2015	

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

SANITARY SEWER DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.
DTL-4
IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

Drawing name: V:\14103-48 Mollison Tract\Drawings\Engineering\Improvements\03-48 IMP-Details.dwg Plotted on: Mar 01, 2017 - 11:13am Plotted by: bmoltor

ISSUE	DATE / REMARKS
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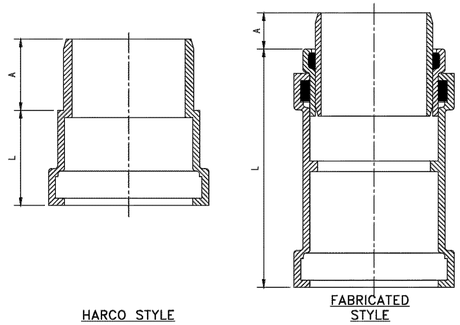
~~6~~	~~12-28-16 DCSD Comments~~
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments

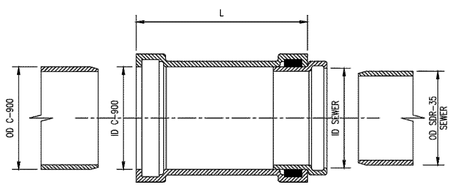
SDR-35 x C900 BELL x SPIGOT ADAPERS



SIZE	CATALOG NO.	A	L	STYLE
4"	335-040	3.2	10.0	FABRICATED
6"	335-060	2.9	3.5	HARCO
8"	335-080	4.0	12.5	FABRICATED

Duckett Creek Sanitary District — SDR-35 x C900 BELL AND SPIGOT SPECIAL 4", 6" 8" ADAPTORS — Dwn By: BSM — App By: KA — Ckd By: MDOB — Date: DEC. 2015 — Detail No. 19B

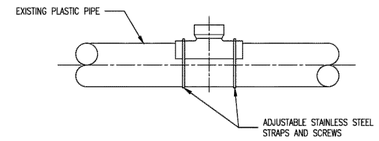
SDR-35 x C900 BELL x BELL ADAPERS



SIZE	CATALOG NO.	OD C900	OD SEWER	ID C900	ID SEWER	L	CTN QTY	CTN WT
4x4	337-040	4.80	4.215	4.86	4.25	10.0	1	4
6x6	337-060	6.90	6.275	6.96	6.32	11.13	1	8
8x8	337-080	9.05	8.400	9.13	8.45	12.50	1	15

Duckett Creek Sanitary District — SDR-5 x C900 BELL AND BELL 4", 6" & 8" ADAPTORS — Dwn By: BSM — App By: KA — Ckd By: MDOB — Date: DEC. 2015 — Detail No. 19C

PLASTIC SADDLE TEE OR WYE FITTING (SOLVENT WELD)



WHEN CONNECTION TO A PLASTIC PIPE IS ALLOWED AND A CONNECTION IS LARGER THAN 6" IN DIAMETER. A SOLVENT WELD WYE OR TEE FITTING OF A SIMILAR MATERIAL MUST BE USED. (EXAMPLE: 10" x 8")

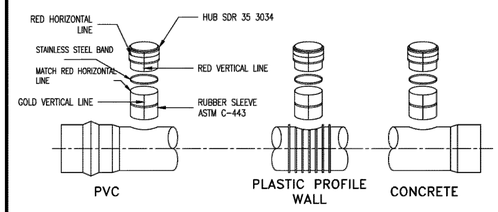
THIS IS ACCOMPLISHED BY CAREFULLY CUTTING A HOLE WITH A SAW IN THE MAIN AT THE REQUIRED LOCATION AFTER CUTTING AND SHAPING THE HOLE TO THE SIZE OF THE FITTING. THE FOLLOWING STEPS SHOULD BE TAKEN:

1. CLEAN AND DRY BOTH INSIDE THE SADDLE WYE SURFACE AND PIPE SURFACE TO BE SOLVENT CEMENTED.
2. IMPORTANT: APPLY A LIBERAL, HEAVY COAT OF ONE-STEP SOLVENT CEMENT TO THE INSIDE SURFACE OF THE SADDLE WYE AND TO THE EXTERIOR WELDING SURFACE TO THE PIPE.
3. WITHOUT DELAY, MATE THE SURFACES AND STRAP DOWN TIGHTLY. A BEAD OF SOLVENT SHOULD APPEAR AFTER THE SADDLE HAS BEEN STRAPPED DOWN TIGHTLY.
4. USING A RAG OR PAPER TOWEL, WIPE BEAD AND ANY EXCESS SOLVENT CEMENT OFF PIPE AND SADDLE.
5. ALLOW 30-60 MINUTES FOR SET-UP TIME BEFORE BACKFILLING. CURE TIME DEPENDS ON SIZE FIT OF MATERIALS BEING INSTALLED AND VARIOUS COLD DAMP CONDITIONS.
6. DISCARD OLD SOLVENT IF IT BECOMES JELLED OR LUMPY.
7. A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHOULD BE ONE OF THE FOLLOWING:
   A. 1 TO 3 CEMENT TO SAND MIX
   B. "PRE-MIX" CONCRETE.
   C. DCSD APPROVED BEDDING FOR SANITARY SEWERS.

Duckett Creek Sanitary District — 8" AND LARGER CONNECTION TO PLASTIC MAIN — Dwn By: BSM — App By: KA — Ckd By: MDOB — Date: DEC. 2015 — Detail No. 20A

INSERTA TEE

THE USE OF AN INSERTA TEE REQUIRES DISTRICT APPROVAL.

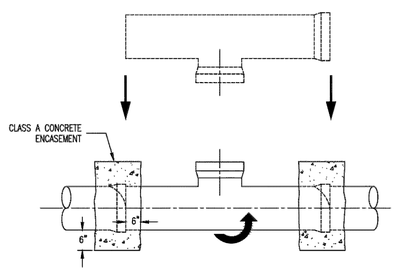


INSTALLATION PROCEDURE:

TEE SIZE:	4"	6"	8"	10"	12"	15"
BIT SIZE:	4 1/2"	6 1/2"	8 1/2"	10 3/4"	12 3/4"	15 3/4"

1. CORE THE PROPER SIZE HOLE.
2. INSERT THE RUBBER SLEEVE ① IN THE CORED HOLE WITH THE GOLD VERTICAL LINE ON THE RUBBER SLEEVE ② FACING TO THE SIDE OF THE MAIN LINE. THE UPPER SEGMENT SHOULD BE ON TOP OF THE WALL OR RIB AND THE LOWER SEGMENT (PVC, PROFILE WALL, AND POLYETHYLENE PIPE ONLY) SHOULD BE ON THE INSIDE OF THE PIPE
3. APPLY THE INSERTA TEE SOLUTION SUPPLIED TO THE INSIDE OF THE RUBBER SLEEVE AND TO THE OUTSIDE OF THE PVC HUB ADAPTER. **CAUTION – DO NOT USE AN OIL BASED LUBRICANT.**
4. PLACE THE PVC HUB ADAPTER ③ INTO THE RUBBER SLEEVE. MAKE SURE THAT THE RED VERTICAL LINE ④ ON THE PVC HUB ADAPTER IS IN LINE WITH THE GOLD VERTICAL LINE ② ON THE RUBBER SLEEVE.
5. PLACE THE 2x4 BOARD ONTO THE TOP OF THE PVC HUB ADAPTER.
6. THE RED HORIZONTAL LINE ⑤ AT THE TOP OF THE HUB ADAPTER IS A DEPTH MARK. THIS TELLS THE INSTALLER HOW FAR TO DRIVE THE ADAPTER INTO THE RUBBER SLEEVE. DRIVE THE PVC HUB ADAPTER INTO THE RUBBER SLEEVE TO WHERE THE HORIZONTAL RED LINE ⑤ ON THE PVC HUB ADAPTER ③ MEETS THE TOP OF THE RUBBER SLEEVE ⑥
7. PLACE THE STAILESS STEEL BAND ⑦ AROUND THE TOP OF THE RUBBER SLEEVE AND TIGHTEN DOWN.
8. INSTALL PIPE IN NORMAL MANNER.

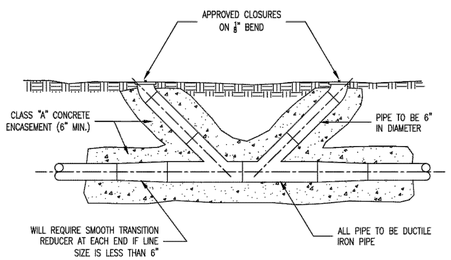
Duckett Creek Sanitary District — INSERTA TEE DETAILS AND SPECIFICATIONS — Dwn By: BSM — App By: KA — Ckd By: MDOB — Date: DEC. 2015 — Detail No. 20B



NOTES:

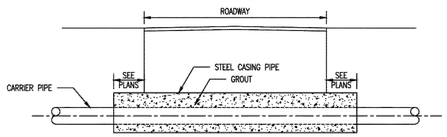
1. WHEN A CONNECTION IS ALLOWED LARGER THAN 6" DIAMETER A SADDLE MAY BE USED IF THE I.D. OF THE CONNECTION PIPE IS NOT GREATER THAN ONE HALF (1/2) OF THE I.D. OF THE MAIN SEWER. (EXAMPLE: 24" x 10")
2. IF THE I.D. OF THE CONNECTION PIPE IS GREATER THAN ONE HALF (1/2) THE I.D. OF THE MAIN SEWER THE WYE OR TEE MUST BE "ROLLED IN". (EXAMPLE: 15" x 8")
3. THIS IS ACCOMPLISHED BY BREAKING AWAY AND REMOVING ONE SECTION OF PIPE. THE TOP HALF OF THE BELL ON THE PIPE LYING ADJACENT TO THE GAP IS CAREFULLY BROKEN OFF. THE TOP HALF OF THE BELL ON THE MAIN REPLACEMENT SECTION (WITH A "TEE" "WYE") FITTING IS ALSO BROKEN OFF. THE REPLACEMENT PIPE IS THEN PLACED IN THE LINE GAP WITH THE STUB POINTED IN THE WRONG DIRECTION. THE BROKEN BELLS ON THE REPLACEMENT AND ADJOINING PIPE MAKE IT POSSIBLE FOR THE REPLACEMENT SECTION TO FIT INTO THE SEWER LINE WITHOUT DISTURBING THE ADJOINING PIPE SECTIONS. THE REPLACEMENT SECTION IS THEN ROTATED TO THE DESIRED POSITION AND THE BROKEN BELLS ARE ENCASED WITH A 6" CLASS "A" CONCRETE ENCASEMENT.
4. ID OF MAIN SEWER SHALL NOT BE DECREASED BY A ROLL-IN CONNECTION.

Duckett Creek Sanitary District — "ROLL-IN" (FOR EXISTING CLAY OR CONCRETE PIPE) — Dwn By: BSM — App By: KA — Ckd By: MDOB — Date: DEC. 2015 — Detail No. 21



1800' MAXIMUM SPACING

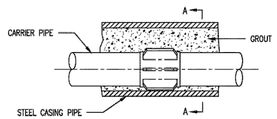
Duckett Creek Sanitary District — FORCE MAIN CLEANOUT 6" DIAMETER & SMALLER) — Dwn By: BSM — App By: KA — Ckd By: MDOB — Date: DEC. 2015 — Detail No. 22



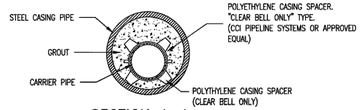
BORING DETAIL

NOTES:

1. INSIDE DIAMETER OF CASING PIPE TO BE MINIMUM OF 4" GREATER THAN COUPLING DIAMETER OF CARRIER PIPE.
2. ENCASEMENTS TO BE INSTALLED UNDER THE ROAD BY MEANS OF JACKING IT THROUGH, OR BY DRY BORING A HOLE THAT WILL RECEIVE THE CASING WITH A SNUG FIT.
3. THE OUTSIDE DIAMETER OF THE CASING SHALL NOT BE LESS THAN, NOR MORE THAN ONE INCH GREATER THAN THE BORED HOLE.
4. CASING PIPE SLOPE TO MATCH CARRIER PIPE. CARRIER PIPE TO LAY IN THE BOTTOM OF THE STEEL CASING PIPE.

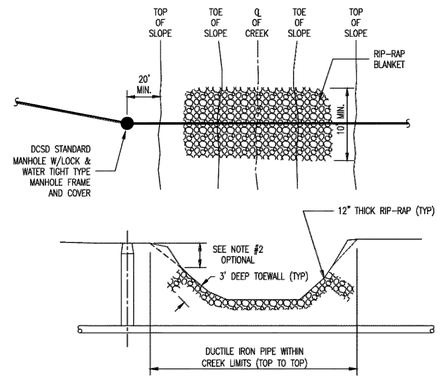


SUPPORT OF CARRIER PIPE OR FORCE MAIN IN CASING



SECTION A–A

Duckett Creek Sanitary District — ROADWAY BORING DETAIL — Dwn By: MSM — App By: KA — Ckd By: — Date: DEC. 2015 — Detail No. 23



NOTES:

1. RIP-RAP IS REQUIRED AT ALL CREEK CROSSINGS WHERE THE EMBANKMENTS CROSSED ARE STEEPER THAN 1 VERTICAL TO 2 HORIZONTAL RATIO SLOPE; AND ALSO WHERE THERE IS 3 FEET OR LESS COVER OVER THE TOP OF THE SEWER MAIN.
2. PLACE RIP-RAP ON LOWER 3/4 OF SLOPE. GRADE UPPER 1/4 OF SLOPE AT 1 VERTICAL TO 2 HORIZONTAL SLOPE FOR SOD OR 1 VERTICAL TO 2.5 HORIZONTAL SLOPE FOR SEED AND STRAW.
3. RIP-RAP TO BE 'MSD 5' GRADATION, MINIMUM 12" THICK.
4. INCORPORATE A 3 FEET DEEP TOE WALL ON EMBANKMENT'S UPPER EDGE OF RIP-RAP.
5. TOP SURFACE OF RIP-RAP SHOULD NOT BE HIGHER THAN ADJACENT GROUND SURFACE.
6. IF PIPE HAS LESS THAN 12" COVER, A PAVED CHANNEL MAY BE REQUIRED.
7. DUCTILE IRON PIPE IS REQUIRED WITHIN THE CREEK LIMITS.
8. EXPOSED AREAS SHALL NOT REMAIN UNPROTECTED FOR MORE THAN SEVEN (7) DAYS FOR PROTECTION OF THE STREAM.

Duckett Creek Sanitary District — TYPICAL CREEK CROSSING — Dwn By: BSM — App By: KA — Ckd By: MDOB — Date: OCT. 2016 — Detail No. 24

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
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5055 New Baumgartner Road
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www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI — RODNEY ARNOLD — NUMBER PE-2002016612 — PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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www.lombardohomesstlouis.com

SANITARY SEWER DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.

DTL-5

IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\1410348 Mellison Tract\Drawing\Engineering\Improvements\03\48 IMP-Details.dwg Printed on: Mar 01, 2017 - 11:13am Plotted by: bmoltor

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
3	10-24-16 City Comments
4	11-15-16 DCSD Comments
5	12-12-16 City Comments
~~6~~	~~12-28-16 DCSD Comments~~
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8	1-26-17 Fire District Comments
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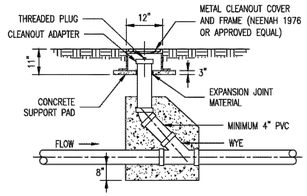
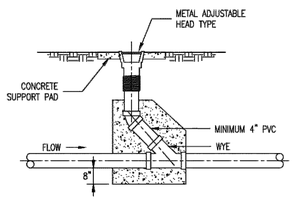


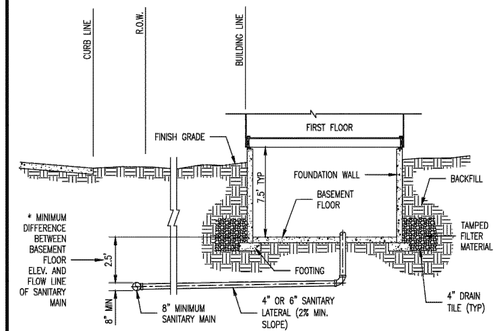
METAL FRAME AND COVER TYPE CLEANOUT



ADJUSTABLE HEAD TYPE CLEANOUT

Duckett Creek Sanitary District

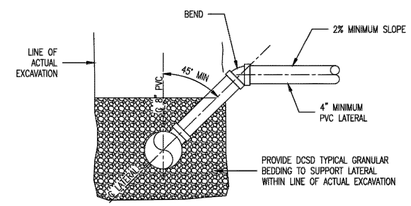
TYPICAL SEWER LATERAL CLEANOUT DETAIL	Dwn By: BSM	App By: KLA	Detail No. 25
	Ckd By: MDOB	Date: DEC. 2015	



*NOTE:
DIFFERENCE IN DEPTH INCREASES WITH PIPE SIZE

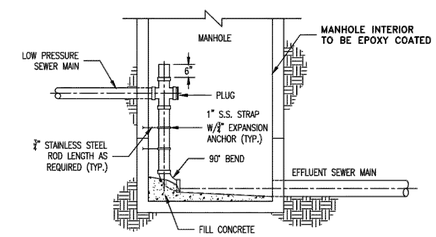
Duckett Creek Sanitary District

TYPICAL SANITARY SEWER LATERAL PROFILE	Dwn By: BSM	App By: KLA	Detail No. 26
	Ckd By: MDOB	Date: DEC. 2015	



Duckett Creek Sanitary District

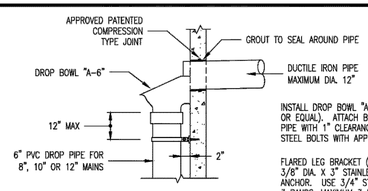
SANITARY SEWER LATERAL RISER DETAIL	Dwn By: BSM	App By: KA	Detail No. 27
	Ckd By: MDOB	Date: DEC. 2015	



NOTE:
INVERT-BOTTOM SHALL BE WORKED TO PROVIDE POSITIVE DRAINAGE THROUGH MANHOLE

Duckett Creek Sanitary District

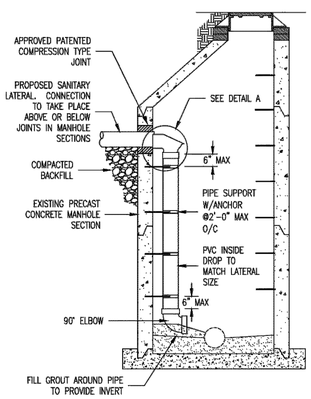
LOW PRESSURE SEWER MAIN CONNECTION AT MANHOLE	Dwn By: BSM	App By: KA	Detail No. 28
	Ckd By: MDOB	Date: DEC. 2015	



INSTALL DROP BOWL "A-6" (MFR. RELINER-DURAN INC. OR EQUAL). ATTACH BOWL DIRECTLY UNDER INCOMING PIPE WITH 1" CLEARANCE USING FOUR 3/4" X 3" STAINLESS STEEL BOLTS WITH APPROVED ANCHORS & MASTIC.

FLARED LEG BRACKET (D021 OR EQUAL) ATTACHED WITH 3/8" DIA. X 3" STAINLESS STEEL BOLT WITH APPROVED ANCHOR. USE 3/4" STAINLESS STEEL BAND, MINIMUM 3 BANDS, MAXIMUM 3 FT. SPACING.

DETAIL "A"
STANDARD DROP PIPE



SECTION A-A

NOTES:

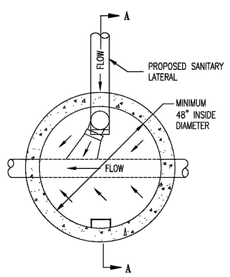
1. IF EXCAVATED SPACE OUTSIDE OF MANHOLE WALL EXCEEDS 1 FOOT, PROVIDE 6 INCHES OF CLASS "A" CONCRETE ENCASEMENT ON INCOMING LINE FROM WALL OF MANHOLE TO A MINIMUM OF 2 FEET INTO UNDISTURBED EARTH WITH A MINIMUM OF 4-#4 REBARS FOR LENGTH OF ENCASEMENT OR INSTALL ON LENGTH OF D.I.P. FROM MANHOLE INTO UNDISTURBED EARTH.

2. STAINLESS STEEL STRAPS SHALL BE 3/4"X2" STAINLESS STEEL.

3. STAINLESS STEEL STRAP CONNECTORS SHALL BE FLARED LEG BRACKET (D021 OR EQUAL) ATTACHED WITH 3/8"ØX3" STAINLESS STEEL BOLT/ANCHOR OR APPROVED EQUAL.

4. ALL SEWER CONNECTIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR DUCKETT CREEK SANITARY DISTRICT.

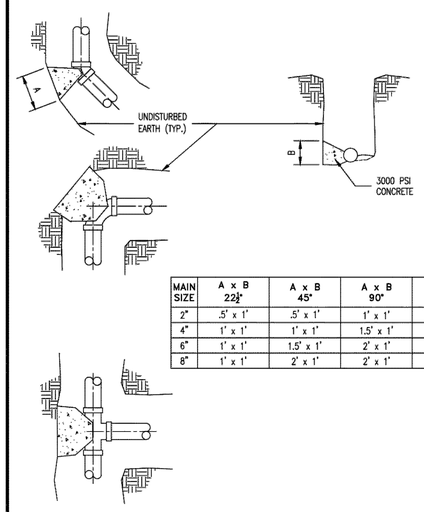
5. LONG INSIDE DROPS WILL REQUIRE STAINLESS STEEL BANDS TO BE 2'-0" MAX BETWEEN BANDS.



TOP VIEW

Duckett Creek Sanitary District

INSIDE DROP GRAVITY LATERAL CONNECTION DETAIL	Dwn By: MSM	App By: KA	Detail No. 28A
	Ckd By:	Date: DEC. 2015	



MAIN SIZE	A x B 22½°	A x B 45°	A x B 90°	A x B TEE
2"	.5' x 1'	.5' x 1'	1' x 1'	1' x 1'
4"	1' x 1'	1' x 1'	1.5' x 1'	1' x 1'
6"	1' x 1'	1.5' x 1'	2' x 1'	1.5' x 1'
8"	1' x 1'	2' x 1'	2' x 1'	2' x 1'

Duckett Creek Sanitary District

THRUST BLOCK DETAIL AND SIZE SCHEDULE	Dwn By: BSM	App By: KA	Detail No. 29
	Ckd By: MDOB	Date: DEC. 2015	

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

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St. Louis, Missouri 63129
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www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

The Professional Engineer and Professional Land Surveyor seal signing day, in the license and date block shall be valid. All reports, specifications or other documents and drawings bear the signature shall not be considered valid unless the seal is affixed. The Professional Engineer assumes no responsibility for such work, drawings or documents not bearing his seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
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O'Fallon, Missouri 63368
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SANITARY SEWER DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.

DTL-6

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

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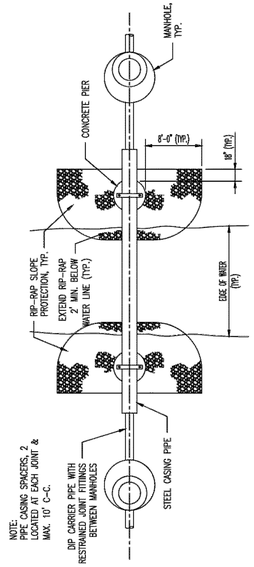
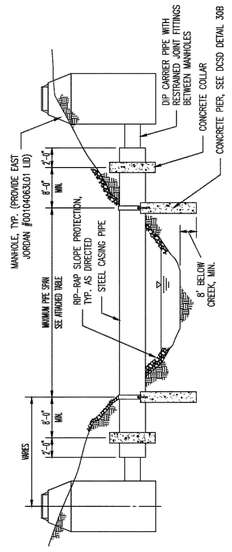


Duckett Creek Sanitary District — ARIEL CROSSING TYPICAL PLAN — Dwn By: MSM — Ckd By: — App By: KA — Date: JULY 2016 — Detail No. 30A

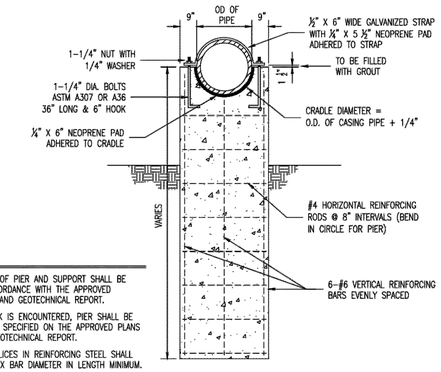


NOTES:

1. STEEL PIPE SHALL BE EITHER SPIRAL WELDED OR SMOOTH WALL STAINLESS WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI.
2. DUCTILE IRON PIPE SHALL BE SUPPORTED WITH TWO CONCRETE PIERS EVERY ONE HUNDRED (100) FEET WITHIN THE CASING PIPE USING APPROVED ALIGNMENT GUIDE. ALL JOINTS SHALL BE RESTRAINED.
3. EXPOSED AREAS SHALL NOT REMAIN UNPROTECTED FOR MORE THAN SEVEN (7) DAYS FOR THE PROTECTION OF THE STREAM.

CARRIER PIPE; DIP DIAMETER (IN.)	CASING PIPE; STEEL DIAMETER (IN.)	MINIMUM CASING PIPE WALL THICKNESS (IN.)	ALLOWABLE SPAN (FT.)
8	16	0.2500	45
10	18	0.3125	50
12	20	0.3125	50
14	24	0.3125	55
16	26	0.3750	55
18	30	0.3750	60
20	32	0.3750	60
24	36	0.4375	65
30	42	0.4375	65

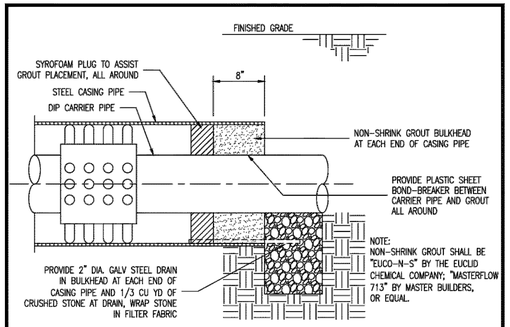
Duckett Creek Sanitary District — ARIEL CROSSING TYPICAL PROFILE — Dwn By: MSM — Ckd By: — App By: KA — Date: OCT. 2016 — Detail No. 30B



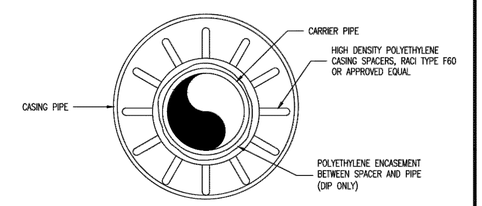
NOTES:

1. DEPTH OF PIER AND SUPPORT SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS AND GEOTECHNICAL REPORT.
2. IF ROCK IS ENCOUNTERED, PIER SHALL BE SET AS SPECIFIED ON THE APPROVED PLANS AND GEOTECHNICAL REPORT.
3. ALL SPLICES IN REINFORCING STEEL SHALL BE 30 X BAR DIAMETER IN LENGTH MINIMUM.
4. MINIMUM COVER OVER PRIMARY REINFORCING SHALL BE 2".
5. CONCRETE ULTIMATE COMPRESSIVE STRENGTH OF 3,000 PSI MINIMUM.
6. REINFORCING STEEL SHALL BE GRADE 60.

Duckett Creek Sanitary District — AERIAL PIPE CROSSING CONCRETE PIER DETAIL — Dwn By: MSM — Ckd By: — App By: KA — Date: JULY 2016 — Detail No. 30C

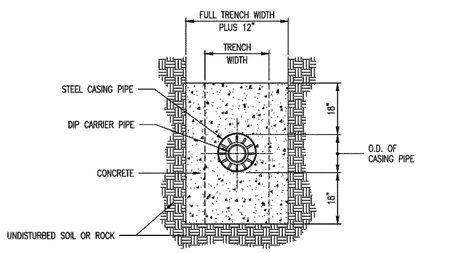


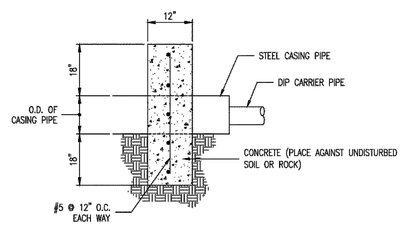
TYPICAL CASING PIPIE PLUG



PIPE ALIGNMENT GUIDE

Duckett Creek Sanitary District — AERIAL PIPE CROSSING CASING PIPE DETAILS — Dwn By: MSM — Ckd By: — App By: KA — Date: JULY 2016 — Detail No. 30D





SIDE ELEVATION

Duckett Creek Sanitary District — AERIAL CROSSING CONCRETE COLLAR DETAIL — Dwn By: MSM — Ckd By: — App By: KA — Date: JULY 2016 — Detail No. 30E

Installation Techniques - Link-Seal® Modular Seals

Online Installation Video Visit www.linkseal.com

1. Center the pipe, cable or conduit in well opening (or casing). Make sure the pipe will be adequately supported on both ends. Link-Seal® modular seals are not intended to support the weight of the pipe.

2. Loosen near pressure plate with nut just enough so links move freely. Connect both ends of belt around the pipe.

3. Check to be sure all bolt heads are facing the installer. Extra slack or sag is normal. Do not remove links if extra slack exists. Note: On smaller diameter pipe, links may need to be stretched.

4. Slide belt assembly into annular space. For larger size belts, start inserting Link-Seal modular seal assembly at the 6 O'Clock position and work both sides up toward the 12 O'Clock position in the annular space.

5. LS-200 thru. LS-315 Using a hand socket allen head or off-set wrench ONLY, start at 12 O'Clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)

5a. LS-325 thru. LS-650 Using a hand socket or off-set wrench ONLY, start at 12 O'Clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)

6. Make 2 or 3 more passes at 4 turns per bolt MAXIMUM, tightening all bolts clockwise until all sealing elements "bulge" around all pressure plates. On type 316 stainless steel bolts, hand tighten ONLY without power tool.

7. If the seal doesn't appear to be correct using the instructions provided, Call PSI at 800-423-2410.

Link-Seal® Model	Tool Size/ Type Req.
LS-200, LS-275	4mm, Allen
LS-300, LS-315	6mm, Allen
LS-325, LS-340, LS-360	13mm, Hex
LS-400, LS-410, LS-425, LS-475	17mm, Hex
LS-500, LS-525, LS-575	19mm, Hex
LS-600	30mm, Hex
LS-650	19mm, Hex

Installation Notes: The Link-Seal® modular seal bolt heads are usually recessed below the wall opening or the edge of casing pipe and therefore a socket or offset wrench must be used. Hand Tools: Revised hand chart above. (Tools not provided.) Tools can be purchased from hardware store, auto parts store, or home improvement store.

Always Wear Safety Equipment When Using Link-Seal® Modular Seals!

Link-Seal® Modular Seal - Do's

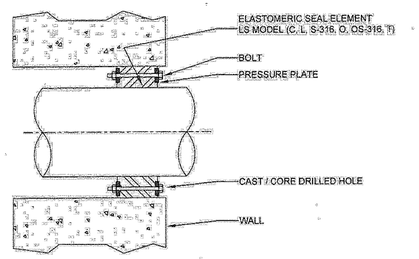
1. Make sure pipe is correct sizes.
2. Install the belt with the pressure plates evenly spaced.
3. Install the exact number of links indicated in sizing charts.
4. Check to make sure pipe is supported properly during backfill operations. Note: Link-Seal modular seals are not intended to support the weight of the pipe.
5. Make sure seal assembly and pipe surfaces are free from dirt.
6. For tight fits, use non-polluting liquid detergent to assist installation.

Link-Seal® Modular Seal - Don'ts

1. Don't install the belt with the pressure plates spaced in irregular directions. (Staggered)
2. Don't install Link-Seal® modular seals where weld-beads or other irregular surfaces exist without consideration of the sealing requirements.
3. Don't tighten each bolt completely before moving on to the next.
4. Don't use high speed power tools (450 rpm or more).
5. Do not use power tools on Link-Seal modular seal 316 stainless steel bolts.
6. Don't use grease or lubricating Link-Seal modular seals.

If the seal doesn't appear to be correct using the techniques provided, Call PSI at 713-747-6348 or 800-423-2410.

LINK-SEAL® MODULAR SEALS WITH CAST OR CORE DRILLED WALL OPENING
MANUFACTURED BY PIPELINE SEAL & INSULATOR, INC.
HOUSTON, TEXAS, U.S.A. TEL: 800-423-2410 E-MAIL: INFO@PSIPSI.COM



LS Model	Seal Element	Bolts/Nuts	Pressure Plate
C	EPDM (Black)	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon Polymer
L	EPDM (Blue)	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon Polymer
O	Nitrile	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon Polymer
T	Silicone	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Steel Zinc Dichromate
(C,L,O)+S-316 (see model options)		316 Stainless Steel	Reinforced Nylon Polymer

Sleeve Model	Description	Material
CS	Century-Line Sleeve	HDPE
WS	Steel Wall Sleeve	Steel

For more Material Property Information, see literature at www.linkseal.com

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI — RODNEY ARNOLD — NUMBER PE-2002016612 — PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

SANITARY SEWER DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348
Page No.	DTL-7

IMP

"Final Plan" Approval Date: October 1, 2015 (31-15.01)

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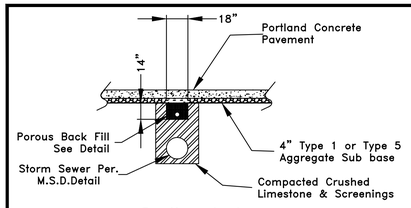
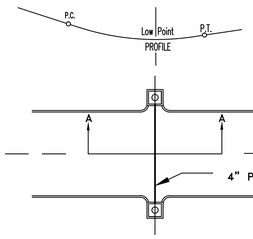
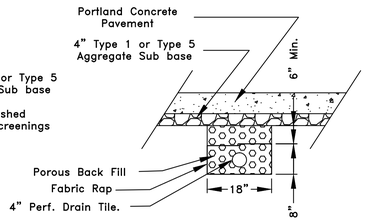


Section A–A



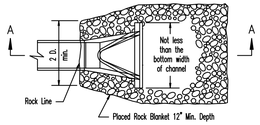


Underdrain Detail

Note: At connections of 4" perforated pipe to sewer structure use an approved water stop gasket.

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

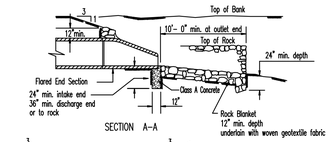
CLASS A UNDERDRAINS



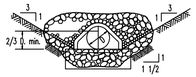
PLAN VIEW

* The discharge point of all flared end sections hall 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.



SECTION A–A



END VIEW

NOTE:
1. To be used at intake and discharge end of pipe. Grade of Rock Blanket to be adjusted accordingly.
2. Woven Geotextile Fabric required under Rock Blanket.

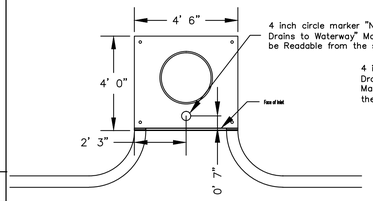
MSD Type 5 Rock Blanket (% By Weight Passing)			
Sieve	Maximum	Minimum	
12 inch	90	70	
6 inch	30	10	
1/2 inch	5	0	

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

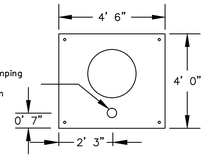
SEWER CONSTRUCTION DETAILS
FLARED END SECTION
(INLET/OUTLET PROTECTION)

* The City of O'Fallon must be provided with a symbol/medallion for review and approval prior to installation. Contact the City if any information is needed.

Size	Style	Adhesive	Message (Part #)
3 7/8" TO 4"	Crystal Cap or Standard Style	Epoxy	No Dumping Drains to Waterway



PLAN VIEW OF CURB INLET

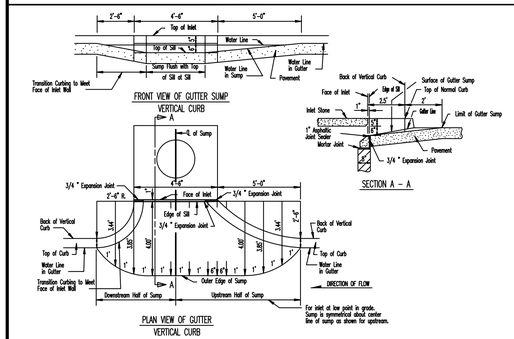


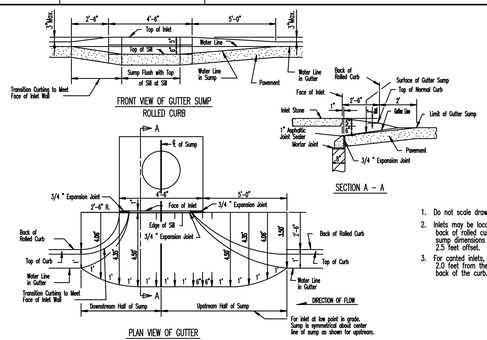
PLAN VIEW OF AREA INLET

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

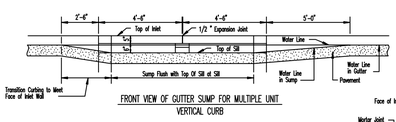
STORM DRAIN MARKER LOCATION

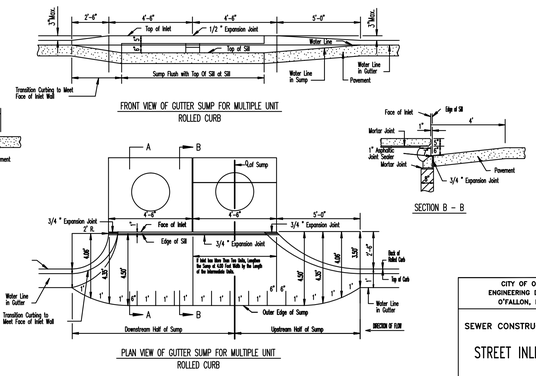
ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
3	10-24-16 City Comments
4	11-15-16 DCSD Comments
5	12-12-16 City Comments
6	12-28-16 DCSD Comments
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments





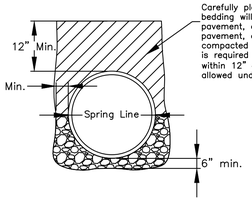
1. Do not scale drawing. Follow dimensions.
2. Inlets may be located 2.5 feet from the back of rolled curb. Add 0.5 feet to all sump dimensions for all inlets that are 2.5 feet offset.
3. For canted inlets, the sump shall extend 2.0 feet from the projection of the back of the curb.





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

SEWER CONSTRUCTION DETAILS
STREET INLET SUMPS

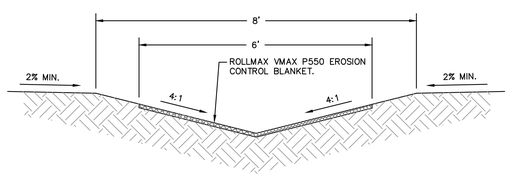


Carefully placed compacted selected earth bedding will be used except if under pavement, or through rock cut areas. If under pavement, or through rock cut areas compacted crushed limestone and screenings is required to the base of pavement or to within 12" of finished surface. Water jetting is allowed under non paved areas.

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

TRANCH DETAIL

NOTE:
1. MINIMUM 1' DEEP.
2. MINIMUM 2% SLOPE LATERALLY TO SWALE AND LONGITUDINALLY ALONG SWALE.
3. SWALE SHALL BE LINED WITH ROLLMAX EROSION CONTROL BLANKET V–MAX P550 OR APPROVED EQUAL.



PERMEABLE PILOT SWALE
N.T.S.

NEENAH CORPORATION

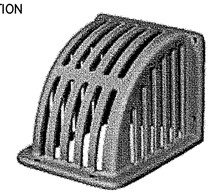
R-7512-A1
Cast Iron Pipe Screen for 10-inch Pipe

For overflow drain.

For maximum free drainage area with openings sized to prevent clogging.

R-7512-A1 Width 16" for 10" pipe

Height....13 inches
Length....18 inches
Openings....1 inch



Six 3/4" Holes for Anchor Bolts

OUTFALL STRUCTURE TRASH RACK DETAIL
N.T.S.

* All other Storm Sewer Details will be by M.S.D. 2009 Standards and Specifications.

** ALL INLETS SHALL HAVE A 5/8" TRASH BAR CENTERED WITHIN THE OPENING(S).

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

The Professional Engineer in Charge of the work shown on this sheet assumes only for their seals, signature and dates shown on this sheet. All reports, specifications or other documents bearing this seal are signature shall not be considered valid unless all of the sheets in the document are signed and sealed. The engineer in charge assumes no responsibility for such work, reports or documents not bearing this seal and signature.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

STORM SEWER DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348

Page No.
DTL-8
IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\10348 Mattison Tract\Drawings\Engineering\Improvements\0348 IMP-Details.dwg Plotted on: Mar 01, 2017 - 11:14am Plotted by: bmoltor

ISSUE	DATE / REMARKS
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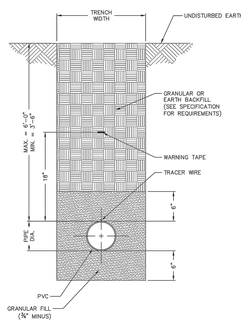
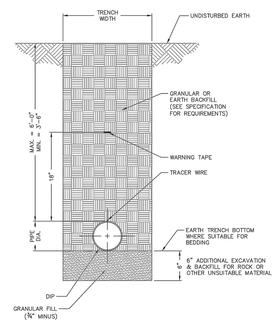


NOTES

1) SEE SPECIFICATIONS FOR ADDITIONAL DETAILS FOR BEDDING AND BACKFILL.

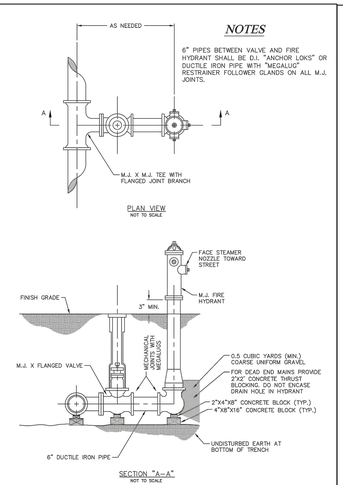
TYPICAL TRENCH SECTION FOR PVC PIPE
NOT TO SCALE
DETAIL "A"
PAGE 1 OF 2



NOTES

1) POLYWRAP REQUIRED FOR DUCTILE IRON PIPE
2) SEE SPECIFICATIONS FOR ADDITIONAL DETAILS FOR BEDDING AND BACKFILL.

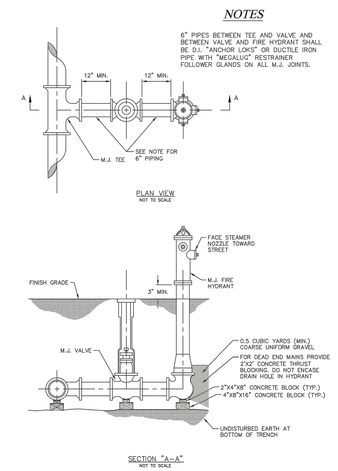
TYPICAL TRENCH SECTION FOR DUCTILE IRON PIPE
NOT TO SCALE
DETAIL "A"
PAGE 2 OF 2



NOTES

6" PIPES BETWEEN VALVE AND FIRE HYDRANT SHALL BE D.I. "ANCHOR LOKS" OR DUCTILE IRON PIPE WITH "MEGALUG" RESTRAINER FOLLOWER GLANDS ON ALL M.J. JOINTS.

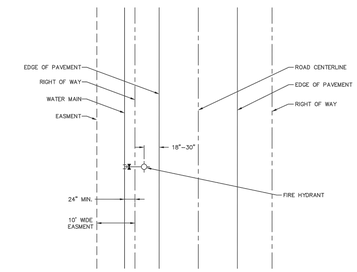
FIRE HYDRANT DETAIL
NOT TO SCALE
DETAIL "B"
PAGE 1 OF 3



NOTES

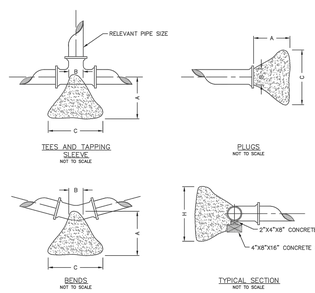
6" PIPES BETWEEN TEE AND VALVE AND BETWEEN VALVE AND FIRE HYDRANT SHALL BE D.I. "ANCHOR LOKS" OR DUCTILE IRON PIPE WITH "MEGALUG" RESTRAINER FOLLOWER GLANDS ON ALL M.J. JOINTS.

FIRE HYDRANT DETAIL
NOT TO SCALE
DETAIL "B"
PAGE 2 OF 3



FIRE HYDRANT LOCATION
NOT TO SCALE

FIRE HYDRANT DETAIL
NOT TO SCALE
DETAIL "B"
PAGE 3 OF 3

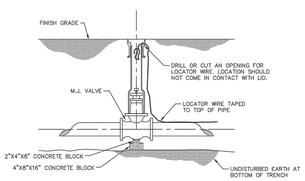


THRUST BLOCK DIMENSIONS - INCHES										
PIPE DIA.	ALL FTGS.		TEE PLUG TAPPING		90 DEGREE BEND		45 DEGREE BEND		22-1/2 BEND	11-1/4 BEND
	A	B	C	H	C	H	C	H	C	H	C	H
4	14	4	24	12	26	18	12	12	12	12	12	12
6	16	6	36	18	36	24	30	18	24	12	12	12
8	20	8	36	30	42	36	36	24	24	18	18	12
10	20	10	48	36	66	36	36	36	28	24	18	18
12	24	12	68	36	82	42	52	36	40	24	28	18

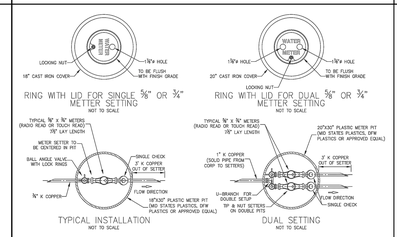
NOTE

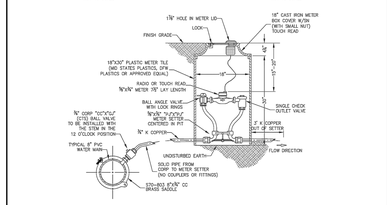
FOR FITTINGS LARGER THAN 12", SPECIAL RESTRAINT DESIGNS ARE REQUIRED.

HORIZONTAL THRUST BLOCKING
DETAIL "C"

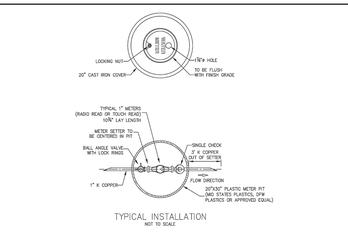


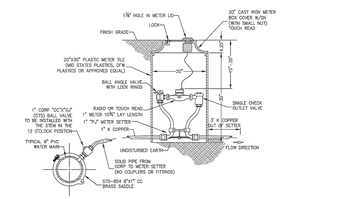
GATE VALVE DETAIL
NOT TO SCALE
DETAIL "D"



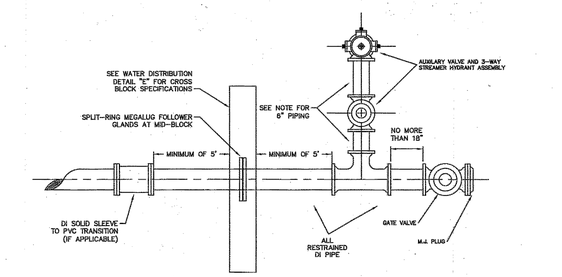


PUBLIC WATER SUPPLY DISTRICT #2 OF SAINT CHARLES COUNTY



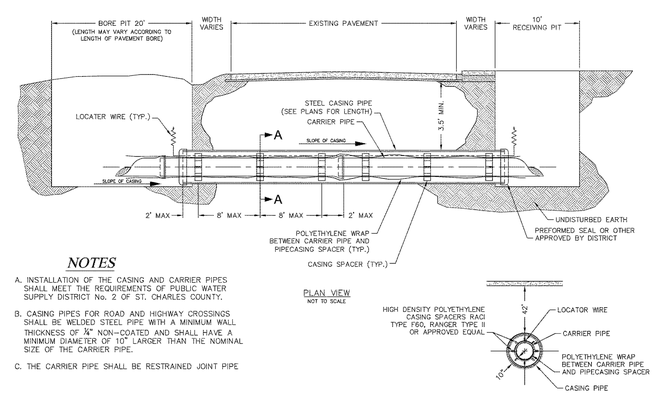


PUBLIC WATER SUPPLY DISTRICT #2 OF SAINT CHARLES COUNTY



NOTES:
6" PIPES BETWEEN TEE AND VALVE AND BETWEEN VALVE AND FIRE HYDRANT SHALL BE D.I. "ANCHOR LOKS" OR DUCTILE IRON PIPE WITH "MEGALUG" RESTRAINER FOLLOWER GLANDS ON ALL M.J. JOINTS.

WATER MAIN TERMINATION DETAIL



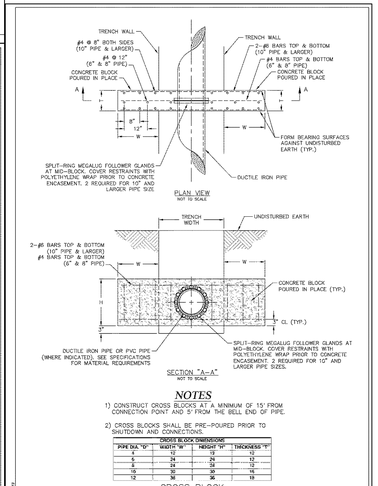
NOTES

A. INSTALLATION OF THE CASING AND CARRIER PIPES SHALL MEET THE REQUIREMENTS OF PUBLIC WATER SUPPLY DISTRICT No. 2 OF ST. CHARLES COUNTY.

B. CASING PIPES FOR ROAD AND HIGHWAY CROSSINGS SHALL BE WELDED STEEL PIPE WITH A MINIMUM WALL THICKNESS OF ¼" NON-COATED AND SHALL HAVE A MINIMUM DIAMETER OF 10" LARGER THAN THE NOMINAL SIZE OF THE CARRIER PIPE.

C. THE CARRIER PIPE SHALL BE RESTRAINED JOINT PIPE

TYPICAL WATER BORE AND ENCASEMENT
DETAIL "H"



NOTES

1) CONSTRUCT CROSS BLOCKS AT A MINIMUM OF 15' FROM CONNECTION POINT AND 5' FROM THE BELL END OF PIPE.

2) CROSS BLOCKS SHALL BE PRE-POURED PRIOR TO SHUTDOWN AND CONNECTIONS.

CROSS BLOCK DIMENSIONS			
PIPE DIA. "D"	WIDTH "W"	HEIGHT "H"	THICKNESS "T"
4	12	18	12
6	24	24	12
8	30	30	12
10	30	36	15
12	36	36	18

CROSS BLOCK
DETAIL "E"

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

The Professional Engineer and Land Surveyor seal or his/her signature and/or date, licensed and/or sealed as shown, all reports, plans or other documents and/or drawings bear his/her signature shall not be considered authentic and valid until all required signatures and/or seals are affixed. We do not assume responsibility for any alterations or changes made to documents that are not signed and/or sealed.

STATE OF MISSOURI
RODNEY ARNOLD
NUMBER
PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

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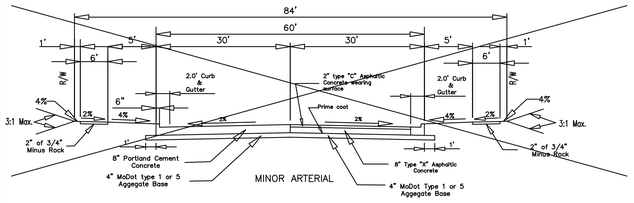
WATER MAIN DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348
Page No.	DTL-9

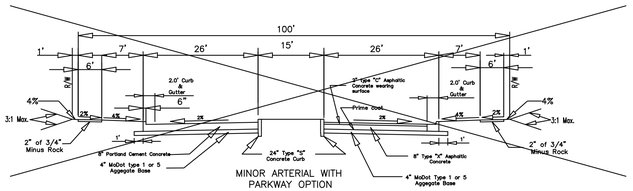
IMP

Drawing name: V:\14\10348 Mellison Tract\Drawings\Engineering\Improvements\0348 IMP-Details.dwg Plotted on: Mar 01, 2017 - 11:15am Plotted by: bmoltor

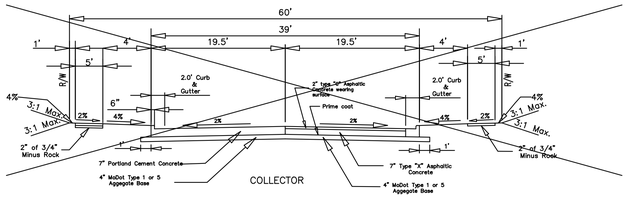
"Final Plan" Approval Date: October 1, 2015 (31-15.01)



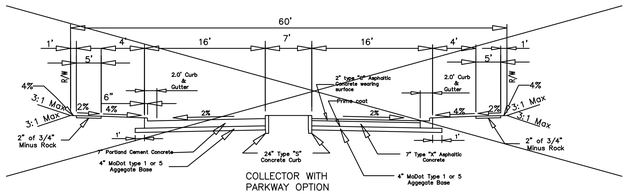
MINOR ARTERIAL



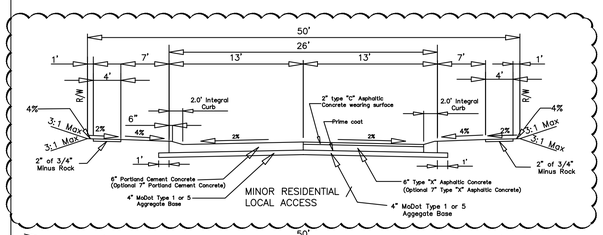
MINOR ARTERIAL WITH PARKWAY OPTION



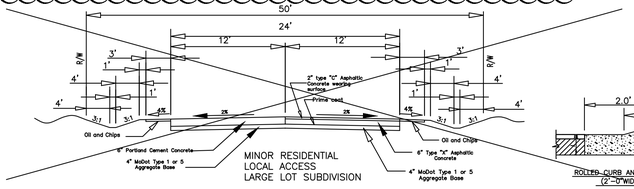
COLLECTOR



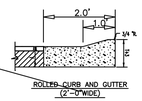
COLLECTOR WITH PARKWAY OPTION



MINOR RESIDENTIAL LOCAL ACCESS



MINOR RESIDENTIAL LOCAL ACCESS LARGE LOT SUBDIVISION



ROLLED CURB AND GUTTER (2'-0"WIDE)

	ROW Width	Pavement Width	Lane Width	No. of Drive Lanes	Utility Easement	Design Speed	
Minor Arterial	84	60	12	5	10	40	
Collector	60	39	12	3	10	35	
Residential Collector	56	32**	N/A	2	10	25	
Minor Residential Local Access	50	26	N/A	2	10	25*	

Notes: * = Can be varied with City Engineer's approval
** = Detail to match minor residential street with wider pavement
– these requirements may be varied by other City ordinances
– these standards are minimum standards
– Parkway options can be provided as indicated above

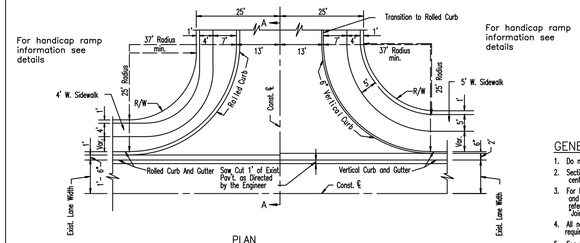
Designer will provide roadway cross section and joint locations in a seperate detail drawing.

RESIDENTIAL STREETS SHALL BE A MINIMUM OF 6" P.C. CONCRETE OVER 4" ROCK BASE ON COMPACTED SUBGRADE PER ORDINANCE NUMBER 4875.

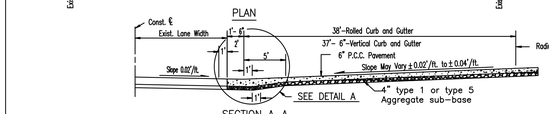
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

Typical Pavement Design

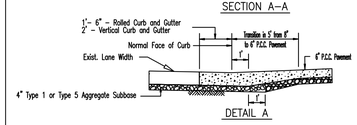
SECTION NO. 405.370



PLAN



SECTION A–A



DETAIL A

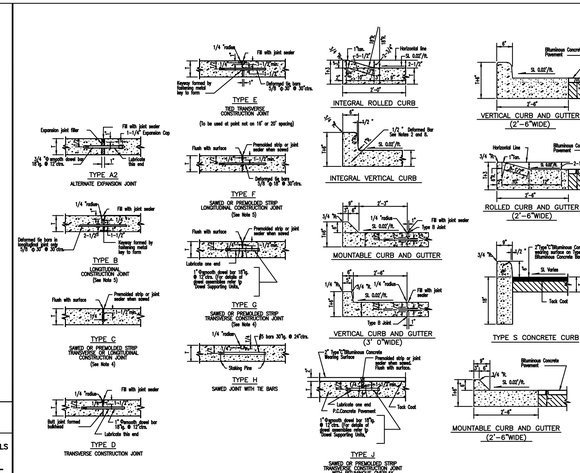
GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to the Pavement Construction Details for Joints and Curbs.
4. All necessary pavement markings shall be as required by City of O'Fallon.
5. For roadway cross slope, pavement types and thickness refer to "Standard Typical Sections."

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

PAVEMENT CONSTRUCTION DETAILS

STANDARD RESIDENTIAL STREET ENTRANCE

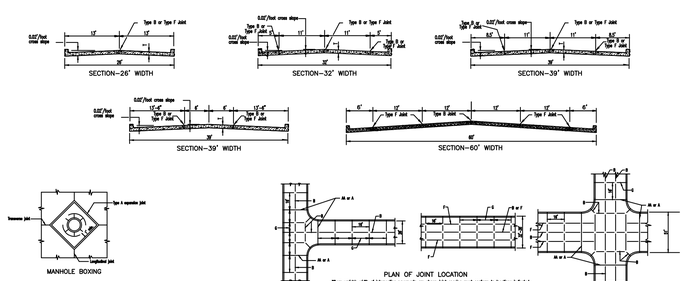


CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

PAVEMENT CONSTRUCTION DETAILS

JOINTS AND CURBS

INTEGRAL VERTICAL CURB AND CONCRETE JOINT DETAILS



GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to the Pavement Construction Details for Joints and Curbs.
4. All necessary pavement markings shall be as required by City of O'Fallon.
5. For roadway cross slope, pavement types and thickness refer to "Standard Typical Sections."
6. Refer to Pavement Construction Details/Joints and Curbs for joint and bar requirements. Note that width and location of each sawed portion of the pavement may change the type and location of joints required.
7. The locations of the Type B and Type F longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the Department.
8. All 1"ø smooth dowel bars 18"lg. @ 12"ctrs. shall be epoxy coated.

NOTE
Joint filler material shall meet ASTM designations as follows:
Bituminous type . . . . . ASTM D-994-52
Non extruding & resilient non bituminous type (cork) . . . . . ASTM D-1751-60T
Non extruding & resilient non bituminous type (rubber) ASTM D-5249

NOTE
Joint sealant material shall meet ASTM and AASHTO designations as follows:
ASTM D-3405.....AASHTO M-301 or
ASTM D-1190-74.....AASHTO M-173-84
or latest revisions thereof.

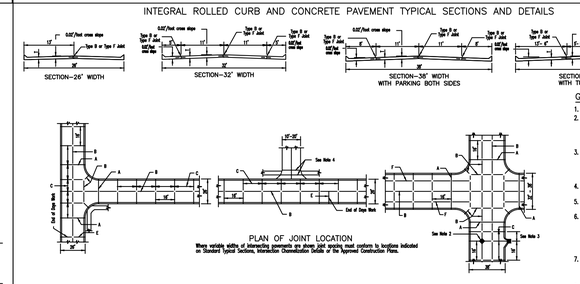
JOINT REQUIREMENTS FOR CONCRETE PAVEMENT		
STREET	JOINT TYPE	JOINT AND BAR REQUIREMENTS
All Arterial, Non-Residential	Transverse	TYPE C 1"ø smooth dowel bars 18"lg. @ 12" ctrs.
32'-35' wide pavement	Longitudinal	When a sawed section: TYPE F 1/2 "ø deformed tie bars 30"lg. @ 30" ctrs. At the edge between two poured sections: TYPE B 1/2 "ø deformed tie bars 30"lg. @ 30" ctrs.
7"-8" thick concrete	Expansion	TYPE A or Type A Modified

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

PAVEMENT CONSTRUCTION DETAILS

INTEGRAL VERTICAL CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS

INTEGRAL ROLLED CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS

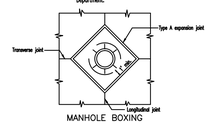


GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. All street inlets shall be separated from the pavement and curb by expansion joint material extending completely through curb and inlet. Manhole casting within the pavement limits shall be boxed as shown.
3. When a joint falls within 3ft. of, or contacts inlets, manhole, or other structures, shorten one or more panels either side of joint to place opening to permit joint to cut at round structures or at or between corners of rectangular structures.
4. Driveway configurations are shown in the "Entrance Construction Details".
5. Construction joints and bars may be omitted when curb is poured monolithic with pavement.
6. Minimum thickness for Pavement is:

Residential 26'–33' wide Streets	6"
Residential 39' wide Streets	7"

7. For joint and bar requirements refer to the Pavement Construction Details for "Joints and Curbs". Note that the width and location may change the type of joint required.
8. Transverse or longitudinal construction joints in slip formed pavements shall be a saw cut joint, at a max. 14' spacing
9. The locations of the Type B longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the Department.



NOTE
Joint filler material shall meet ASTM designations as follows:
Bituminous type . . . . . ASTM D-994-52
Non extruding & resilient bituminous type (cork) . . . . . ASTM D-1751-60T
Non extruding & resilient non bituminous type (rubber) ASTM D-5249

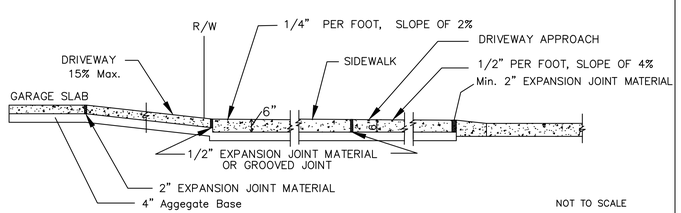
NOTE
Joint sealant material shall meet ASTM and AASHTO designations as follows:
ASTM D-3405.....AASHTO M-301 or
ASTM D-1190-74.....AASHTO M-173-84
or latest revisions thereof.

JOINT REQUIREMENTS FOR CONCRETE PAVEMENT		
STREET	JOINT TYPE	JOINT AND BAR REQUIREMENTS
3 LANE RESIDENTIAL 32'–38' wide pavement	Transverse	TYPE C 1" smooth dowel bars 18"lg. @ 12" ctrs.
	Longitudinal	When a sawed section: TYPE F 1/2 "ø deformed tie bars 18"lg. @ 30"ctrs. At the edge between two poured sections: TYPE B 1/2 "ø deformed tie bars 30"lg. @ 30"ctrs.
7" thick concrete pavement	Expansion	TYPE A no steel bars
RESIDENTIAL 2 LANE 26' wide pavement	Transverse	TYPE C no steel bars
	Longitudinal	Half Width Construction: TYPE F sawed joint 1/2 "ø deformed tie bars 18"lg. @ 30"ctrs. Half Width Construction: TYPE B sawed joint 1/2 "ø deformed tie bars 30"lg. @ 30" ctrs.
6" thick concrete	Expansion	TYPE A no steel bars

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

PAVEMENT CONSTRUCTION DETAILS

INTEGRAL ROLLED CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS



NOT TO SCALE

NOTES:

1- All driveway entrances shall be six (6) inches P.C.C. in depth from the curb to the property line.

2- All driveway approaches constructed in conjunction with sidewalk shall give the appearance that the sidewalk is continuous. That portion of the driveway approach that doubles as a sidewalk shall have a one-fourth (1/4) inch per foot cross slope the same as the abutting sidewalk.

3- A two (2) inch expansion joint is required between the street and driveway approach. One (1) additional two (2) inch expansion joint is required between the garage floor and the termination of the driveway.

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

Integral Curb Detail "B" at Driveway

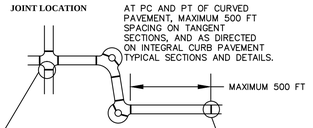
SECTION NO. 505.080

TYPE A (MODIFIED) CONSTRUCTION JOINT

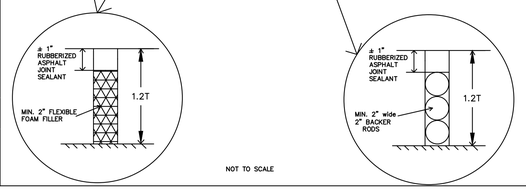
TYPE A (MODIFIED) CONSTRUCTION JOINT SAWED FULL DEPTH (2" WIDE)

JOINT LOCATION

AT PC AND PT OF CURVED PAVEMENT, MAXIMUM 500 FT SPACING ON TANGENT SECTIONS, AND AS DIRECTED ON INTEGRAL CURB PAVEMENT TYPICAL SECTIONS AND DETAILS.



JOINT DETAILS



NOT TO SCALE

NOTES:

1. THE NUMBER OF BACKER RODS REQUIRED WILL VARY WITH THE PAVEMENT THICKNESS. BACKER RODS AND FLEXIBLE FOAM FILLER MUST EXTEND THROUGH THE FULL DEPTH OF THE PAVEMENT.
2. JOINT FILLER SHALL BE A FLEXIBLE, NONABSORBENT, NON–GASSING, NON–STAINING, NON–SHRINKING MATERIAL, EXTRUDED FROM A CLOSED–CELL POLYMER, ASTM D–5249.
3. JOINT FILLER COMPOSED OF CELLULAR FIBERS, ASTM D–1751, MAY BE USED AT DRIVEWAY, SIDEWALK, AND SEWER INLET AND MANHOLE LOCATIONS.
4. SEE "INTEGRAL CURB DETAIL "B" AT DRIVEWAYS" FOR EXPANSION JOINT REQUIREMENTS AT DRIVEWAY CONNECTIONS TO THE STREET AND THE GARAGE.

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

PAVEMENT CONSTRUCTION DETAIL

CONCRETE NOTE:
ALL NON-REINFORCED CONCRETE SHALL BE 4,000 PSI AT 28 DAYS

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
3	10-24-16 City Comments
4	11-15-16 DCSD Comments
5	12-12-16 City Comments
6	12-28-16 DCSD Comments
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	GENERAL NOTES Comments

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax: 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
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PAVEMENT DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
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Page No.	DTL-10

IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\10-348 Mollison Tract\Drawings\Engineering\Improvements\10348 IMP-Details.dwg Plotted on: Mar 01, 2017 - 11:15am Plotted by: bmoller

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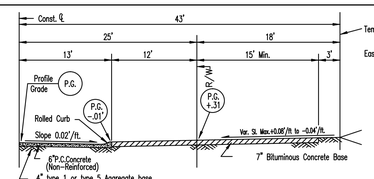
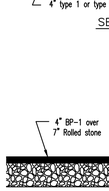
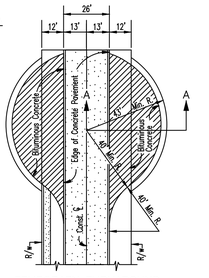
9	1-27-17 City Comments
10	3-1-17 City Comments



SECTION A–A



ALTERNATE PAVEMENT



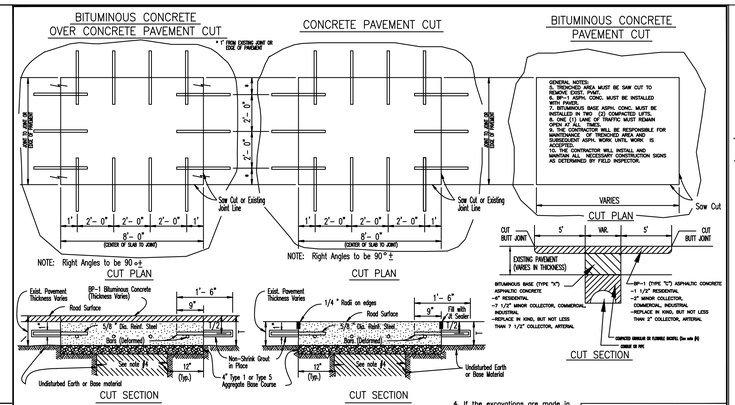
TEMPORARY TURNAROUND

GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions not shown refer to the Pavement Construction Details for Joints and Curbs.
3. All necessary pavement markings shall be as required by City of O'Fallon.
4. For roadway cross slopes, pavement types and thickness refer to "Standard Typical Sections.
5. Permits will not be issued for building construction on lots abutting a temporary turnaround unless and until the turnaround is actually constructed.
6. The removal of the temporary turnaround surface, the restoration of the disturbed ground, and the extension of any sidewalk shall be the responsibility of the party(ies) that will be extending the street.
7. Other temporary turn around types can be considered depending on type and dimensions
8. Stub streets over two hundred fifty (250) feet shall have a minimum temporary turnaround pavement radius of forty (40) feet, covered by a temporary turnaround easement to remain until the road is extended and platted. In lieu of turnarounds, the Planning and Zoning Commission may approve a "T" or "Y" shaped paved space on streets which are less than two hundred fifty (250) feet in length and are planned to be extended in the future.

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

PAVEMENT CONSTRUCTION DETAILS
RESIDENTIAL
TEMPORARY TURNAROUND



GENERAL NOTES

1. If a permit is issued to replace the existing asphaltic concrete pavement with full depth bituminous concrete pavement and concrete pavement is found under the existing asphaltic concrete pavement, the applicant will be required to follow the Detail for Bituminous Concrete over Concrete Pavement Cut. The applicant will use Duracrete or equivalent to replace the existing concrete and use 4" Type 1 or Type 5 Aggregate over Granular Backfill or Flowfill as a subbase. Duracrete sets up in approximately 4 hours at which time the BP-1 Bituminous Concrete Overlay can be applied to the base course.
2. If Bituminous Concrete over Concrete Pavement or Concrete Pavement is broken before sawcutting the pavement full concrete slab replacement will be required.
3. Minimum Thickness for Pavement Replacement is:

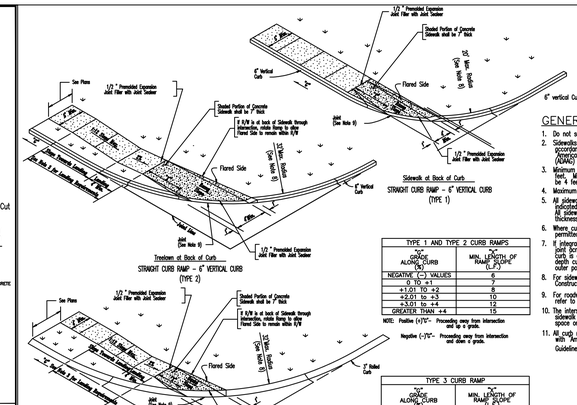
	CONCRETE (T)	BITUMINOUS (T)
All Residential Minor and Local Streets	6"	7 1/2"
Residential Collector, All County and Non-Residential Streets	7"	9 1/2"
All Arterial Streets	8"	12"

Pavement replacement will require 4" Type 1 or Type 5 Aggregate Base Course, Granular Backfill and Base will be compacted by mechanical tamping methods in lifts no greater than 6 inches.

4. If the excavations are made in the improved portion of the ROW, the trench shall be backfilled and will be placed over approved facilities and controlled low strength material (CLSM) also flowable fill will fill the hole within eight inches of the finished surface for concrete pavements. Place a geotextile separator fabric between the rock base and the CLSM to prevent the material from bleeding into the rock base. The remaining eight inches will be restored by placing a twenty eight day minimum strength, four thousand psi concrete mix.

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

DETAILS OF TEMPORARY OPENINGS IN ROADWAY PAVEMENT



GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved Americans with Disabilities Act Access Ability Guidelines (ADAG).
3. Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
4. Maximum sidewalk cross slope 0.02'/ft..
5. All sidewalk sections shall be 4" thick, except where indicated as 7" thick by shaded portions shown on details. All sidewalk sections and curb ramps, regardless of thickness, shall be paid for as "Concrete Sidewalk".
6. Where curb ramp meets pavement, Bullnose will not be permitted.
7. If integral concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled-on, block out pavement to provide full depth curb across ramp from outer point of curb taper to outer point of curb taper.
8. For sidewalk locations on Cul-De-Sacs, refer to "Pavement Construction Details".
9. For roadway cross slopes, pavement types, and thicknesses, refer to "Standard Typical Sections".
10. The intersection of two sidewalks or the intersection of a sidewalk and a driveway may serve as a wheelchair passing space on sidewalks less than 5 feet wide.
11. All curb ramps shall have a detectable warning complying with "Americans with Disabilities Act Accessibility Guidelines" (ADAG).

TYPE 1 AND TYPE 2 CURB RAMPS	
"X" CHANGE ALONG CURB	MIN. LENGTH OF RAMP "L" (L.F.)
NEGATIVE (-) VALUES	6
0 to +1	7
+1.01 TO +2	8
+2.01 to +3	10
+3.01 to +4	12
GREATER THAN +4	15

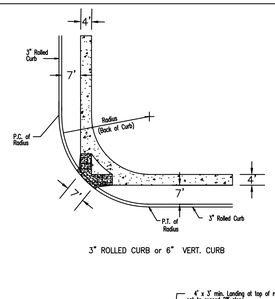
NOTE: Positive (+)"X"- Proceeding away from intersection and up a grade.
Negative (-)"X"- Proceeding away from intersection and down a grade.

TYPE 3 CURB RAMP	
"X" CHANGE ALONG CURB	MIN. LENGTH OF RAMP "L" (L.F.)
NEGATIVE (-) VALUES	3
0 to +2	4
+2.01 to +3	5
+3.01 to +4	6
+4.01 to +5	8
+5.01 to +6	11
GREATER THAN +6	15

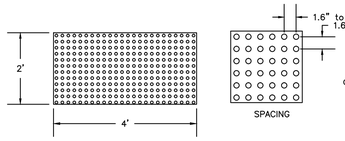
NOTE: Positive (+)"X"- Proceeding away from intersection and up a grade.
Negative (-)"X"- Proceeding away from intersection and down a grade.

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

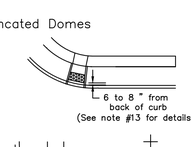
CONCRETE SIDEWALK
WITHIN CUL-DE-SACS

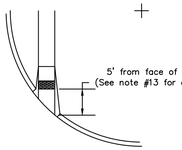


3" ROLLED CURB or 6" VERT. CURB

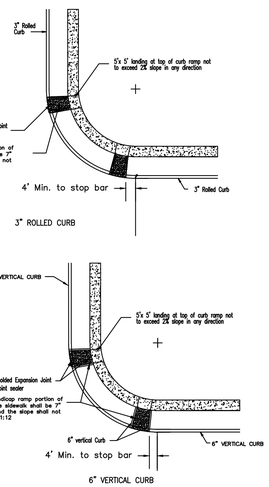


Truncated Domes





Placement of Truncated Domes

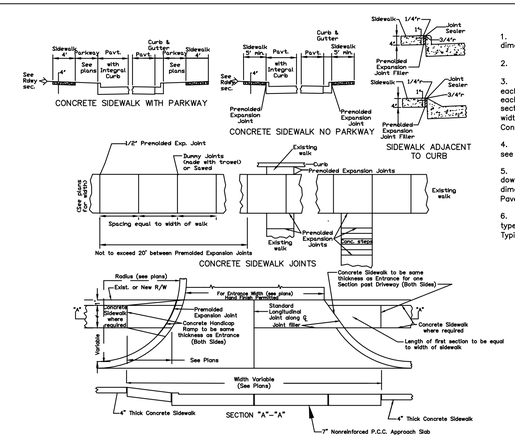


GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved Americans with Disabilities Act Access Ability Guidelines (ADAG).
3. Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
4. Maximum sidewalk cross slope 0.02'/ft..
5. All sidewalk sections shall be 4" thick, except where indicated as 7" thick by shaded portions shown on details.
6. Where curb ramp meets pavement, Bullnose will not be permitted.
7. If integral concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled-on, block out pavement to provide full depth curb across ramp from outer point of curb taper to outer point of curb taper.
8. For pavement longitudinal and transverse joints and dowel and tie bar requirements and dimensions, refer to the Pavement Construction Details for "Joints and Curbs".
9. For roadway cross slopes, pavement types, and thicknesses, refer to "Standard Typical Sections".
10. The intersection of two sidewalks or the intersection of a sidewalk and a driveway may serve as a wheelchair passing space on sidewalks less than 5 feet wide.
11. All curb ramps shall have a detectable warning complying with "Americans with Disabilities Act Accessibility Guidelines" (ADAG).
12. All ramps must line up with the coespanding ramp on the other side of the street or intersection.
13. All truncated domes shall run parallel to the road that it's crossing.
14. Truncated warning domes shall not be stamped and will be a ADA approved product.

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

PAVEMENT CONSTRUCTION DETAILS
CONCRETE SIDEWALK
AND CURB RAMPS

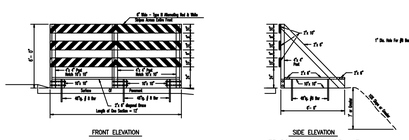


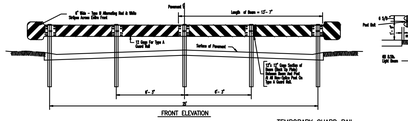
GENERAL NOTES

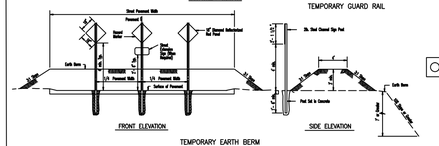
1. Do not scale drawing. Follow dimensions.
2. Sidewalk cross slope 0.02'/ft.
3. Sidewalk thickness increases to 6" on each side of Private Driveways and 7" on each side of Commercial Driveways for one section of sidewalk equal in length to the width of the sidewalk. See "Entrance Construction Details".
4. For sidewalk locations on Cul-De-Sacs see "Pavement Construction Details".
5. For longitudinal and transverse joints, dowel, and tie bar requirements and dimensions refer to the "Integral Curb Pavement Typical Sections and Details".
6. For roadway cross slopes, pavement types, and thickness, refer to "Standard Typical Section".

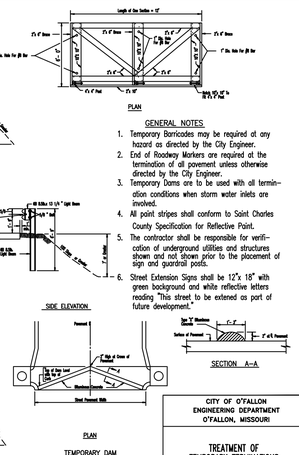
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CONCRETE SIDEWALK
THROUGH
COMMERCAL ENTRANCES







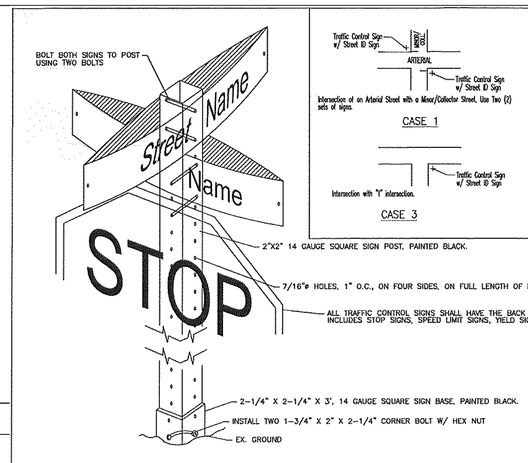


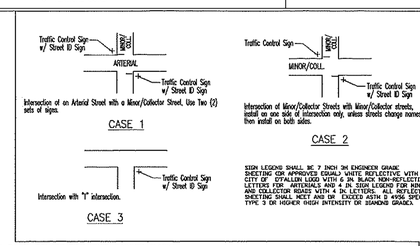
GENERAL NOTES

1. Temporary Barricades may be required at any hazard as directed by the City Engineer.
2. End of Roadway Markers are required at the termination of all pavement unless otherwise directed by the City Engineer.
3. Temporary Dams are to be used with all termination conditions when storm water inlets are involved.
4. All paint stripes shall conform to Saint Charles County Specification for Reflective Paint.
5. The contractor shall be responsible for verification of underground utilities and structures shown and not shown prior to the placement of sign and guardrail posts.
6. Street Extension Signs shall be 12"x 18" with green background and white reflective letters reading "This street to be extened as part of future development."

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

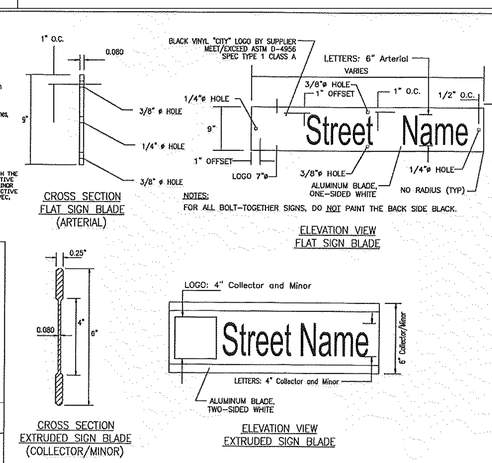
TREATMENT OF
TEMPORARY TERMINATIONS
OF ROADWAY PAVEMENT





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

ARTERIAL
SIGNS



GENERAL NOTES:

1. ALL SIGN POST AND BACK OF SIGNS THAT ARE TO BE PAINTED BLACK SHALL USE A PAINT SYSTEM THAT PROVIDES A MINIMUM 7 YEAR LIFE EXPECTANCY. MAY USE:
   a) "CARBOLINE RUSTBOND" BASE AT 1-2 MILS THICK, "CARBOLINE 693 50" MID-LAYER AT 3-5 MILS THICK, "CARBOLINE 133 HS" TOP COAT OR APPROVED EQUAL,
   OR
   b) ELECTROSTATIC APPLIED, BLACK POWDER COATED AND BAKED ON PAINT SYSTEM AT 2-3 MILS THICKNESS OR APPROVED EQUAL.
2. ALL MATERIALS, FINISHES AND SIZES MUST BE APPROVED BY THE ENGINEERING DIVISION PRIOR TO INSTALLATION.
3. STREET NAME SIGN PLATES SHALL BE 18 INCHES WIDE FLAT, BOLT TOGETHER FOR ANY ARTERIAL INTERSECTIONS AND 6 INCHES WIDE EXTRUDED ALUMINUM PANELS FOR ALL MINOR AND COLLECTOR ROADS. TYPICAL LENGTHS FOR MINOR AND COLLECTOR SIGNS SHALL BE 24, 30 & 36 INCH LENGTHS, OR LONGER AS NEEDED, TO ACCOMODATE STREET NAME.
4. SIGN LEGEND SHALL BE 7 INCH 3M ENGINEER GRADE SHEETING (OR APPROVED EQUAL) WHITE REFLECTIVE WITH THE CITY OF O'FALLON LOGO WITH 6 INCH BLACK NON-REFLECTIVE LETTERS FOR ARTERIALS AND 4 INCH SIGN LEGEND FOR MINOR AND COLLECTOR ROADS WITH 4 INCH LETTERS. ALL REFLECTIVE SHEETING SHALL MEET AND OR EXCEED ASTM-D-4956 SPEC. TYPE 3 OR HIGHER (HIGH INTENSITY OR DIAMOND GRADE).
5. "CLEARVIEW" FONT SHALL BE USED ON ALL STREET SIGNS.
6. SIGN POSTS SHALL BE HEAVY "U" CHANNEL (2 LBS/FT) PAINTED BLACK STEEL POSTS FOR COLLECTOR/MINOR STREETS. ARTERIAL STREETS SHALL HAVE 2" SQUARE POSTS WITH BREAKAWAY ASSEMBLY.
7. SIGN POSTS SHALL EXTEND A MINIMUM OF 30 INCHES INTO GROUND FOR STABILITY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHOWN OR NOT SHOWN. PLEASE CONTACT THE CITY OF O'FALLON FOR LOCATION OF CITY UTILITIES NOT FOUND BY DIG-RITE SERVICES.
9. SIGNS SHALL NOT CREATE A SIGHT DISTANCE PROBLEM OR CONFLICT WITH PEDESTRIAN TRAFFIC.
10. SPEED LIMIT SIGNS MUST BE AT EVERY ENTRANCE TO A SUBDIVISION ALONG THE LOT LINE BETWEEN THE FIRST AND SECOND LOT AND APPROXIMATELY EVERY TWO THOUSAND (2,000) FEET THERE AFTER. ALSO, EVERY CONNECTING SIDE STREET MUST HAVE ONE SPEED LIMIT SIGN APPROXIMATELY FIFTY FEET FROM THE INTERSECTION AND APPROXIMATELY EVERY TWO THOUSAND (2,000) FEET THERE AFTER.
11. ALL SIGNS UNLESS OTHERWISE STATED, SHOULD BE CONSTRUCTED AND INSTALLED PER MUTCD.

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

SIGNS,
DETAILS AND LOCATIONS

CONCRETE NOTE:
ALL NON-REINFORCED CONCRETE SHALL BE 4,000 PSI AT 28 DAYS

PROJECT TITLE

WESTLEIGH

O'FALLON, MISSOURI

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

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STATE OF MISSOURI
RODNEY ARNOLD
NUMBER
PE-2002016612
PROFESSIONAL ENGINEER

Date: 3/01/2017
RODNEY ARNOLD
LICENSE # PE-2002016612
Civil Engineer

Lombardo Homes of St. Louis, LLC
2299 Technology Drive, Suite 150
O'Fallon, Missouri 63368
Ph. (636) 265-2710
Fax (636) 695-3195
www.lombardohomesstlouis.com

PAVEMENT DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348
Page No.	DTL-11

IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

Drawing name: V:\14\10348 Mallison Tract\Drawings\Engineering\Improvements\03449 IMP-Details.dwg Plotted on: Mar 01, 2017 - 11:15am Plotted by bmoller

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 20 2016

Lot 5 Emergency Relief Swale Section - 15 Year HW Elevation

Trapezoidal

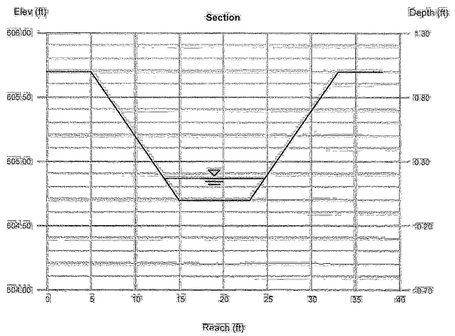
Bottom Width (ft)	= 8.00
Side Slopes (z:1)	= 10.00, 10.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 604.70
Slope (%)	= 2.00
N-Value	= 0.030

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.91

Highlighted

Depth (ft)	= 0.17
Q (cfs)	= 2.910
Area (sqft)	= 1.65
Velocity (ft/s)	= 1.76
Wetted Perim (ft)	= 11.42
Crit Depth, Yc (ft)	= 0.16
Top Width (ft)	= 11.40
EGL (ft)	= 0.22



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 20 2016

Lot 5 Emergency Relief Swale Section - 100 Year HW Elevation

Trapezoidal

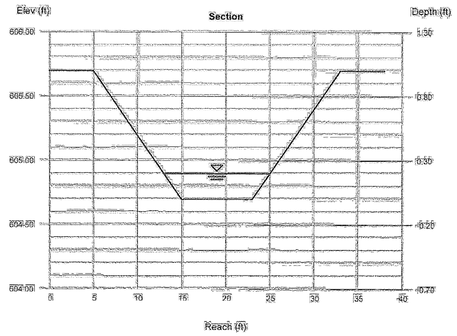
Bottom Width (ft)	= 8.00
Side Slopes (z:1)	= 10.00, 10.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 604.70
Slope (%)	= 2.00
N-Value	= 0.030

Calculations

Compute by:	Known Q
Known Q (cfs)	= 3.93

Highlighted

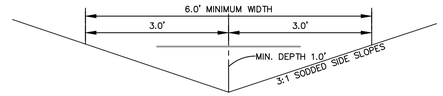
Depth (ft)	= 0.20
Q (cfs)	= 3.930
Area (sqft)	= 2.00
Velocity (ft/s)	= 1.97
Wetted Perim (ft)	= 12.02
Crit Depth, Yc (ft)	= 0.19
Top Width (ft)	= 12.00
EGL (ft)	= 0.26

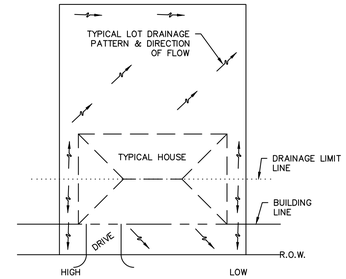


TYPICAL YARD SWALE

Maximum Discharge (Q) = 3.00 cfs
Maximum Velocity (V) = 3.00 ft/sec
N = 0.030 (grass)
Maximum side slopes = 3 (horizontal) :1 (vertical)

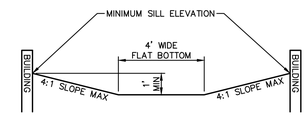
Longitudinal Slope (%)	Discharge (cfs)	Velocity (ft/sec)	Depth (ft)
0.5	3.00	1.73	0.76
1.0	3.00	2.23	0.67
2.0	3.00	2.87	0.59
3.0	1.99	3.00	0.47
4.0	1.30	3.00	0.38
5.0	0.92	3.00	0.32
6.0	0.70	3.00	0.28
7.0	0.52	3.00	0.24
8.0	0.43	3.00	0.22
9.0	0.36	3.00	0.20
10.0	0.32	3.00	0.19





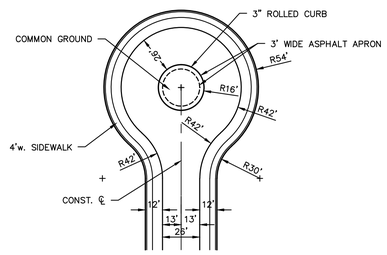
TYPICAL LOT DRAINAGE
NOT TO SCALE

ISSUE	DATE / REMARKS
1	8-10-2016 Initial Submittal
2	9-1-2016 PWSD #2 & DCSD Comments
3	10-24-16 City Comments
4	11-15-16 DCSD Comments
5	12-12-16 City Comments
6	12-28-16 DCSD Comments
7	1-18-17 PWSD #2 Comments
8	1-26-17 Fire District Comments
9	1-27-17 City Comments
10	3-1-17 City Comments

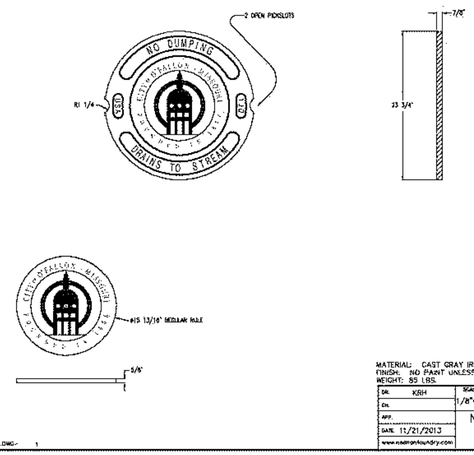


NOTE:
TOP OF WINDOW WELL SHALL BE CONSIDERED THE MINIMUM SILL WHEN WHEN UTILIZED.

TYPICAL EMERGENCY RELIEF PATH SECTION
NOT TO SCALE



TYPICAL CUL-DE-SAC DETAIL
NOT TO SCALE



STORM SEWER LID DETAIL
NOT TO SCALE

616.8-3 (TA-3) Shoulder Work on Two-Lane Highways with Edgelines - MT

SPEED	SIGN SPACING (ft.) Undivided (S)	SIGN SPACING (ft.) Divided (S)	TAPER LENGTH (ft.) Shoulder[1] (T1)	TAPER LENGTH (ft.) Lane[2] (T2)	OPTIONAL BUFFER LENGTH (ft.) (B)	CHANNELIZER SPACING (ft.) Tapers	CHANNELIZER SPACING (ft.) Buffer/ Work Areas
0-35	200	-	70	-	250	35	50
40-45	350	-	150	-	360	40	100
50-55	500	-	185	-	495	50	100
60-70	1000	-	235	-	730	60	100

1 Shoulder taper length based on 10 ft. (standard shoulder width) offset — 2 Lane taper length based on 12 ft. (standard lane width) offset

ROADWAY TYPE	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (L)
URBAN	1' Portable 7' Post	1 Mi.
RURAL UNDIVIDED	1' Portable 5' Post	3 Mi.

Channelizer
Sign
Truck or Trailer Mounted Arrow Panel
Protective Vehicle
Truck Mounted Attenuator (TMA)
Work Space

In addition to shoulder work, this typical application is applicable to work beyond shoulder where vehicles and equipment are parked on the shoulder.

A protective vehicle **shall** be used while work is in progress. The protective vehicle **should** be equipped with a TMA and positioned at least 150 ft. in advance of the work space.

If encroachment onto driving surface occurs and there is not 10 ft. of driving surface available for the lane of traffic, that traffic lane **shall** be closed. Refer to appropriate lane closure typical applications.

If an arrow panel is used for an operation on the shoulder, the caution mode **shall** be displayed.

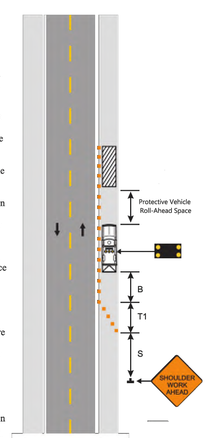
For short duration or mobile operations, signs, channelization devices, and protective vehicles **may** be reduced or eliminated if a work vehicle with activated rotating lights or strobe lights is used. However, if limited sight distance exists, a protective vehicle **should** be used. This protective vehicle **should** be equipped with a TMA and truck mounted flashing arrow panel and positioned at least 150 ft. in advance of the work space or work vehicle, as applicable. If a protective vehicle is used, a vehicle mounted sign **shall** be mounted at a recommended height of 48 in. above the road surface.

For work beyond shoulder, where vehicles and equipment are parked on the shoulder, the protective vehicle **may** be eliminated if a work vehicle with activated rotating lights or strobe lights is used.

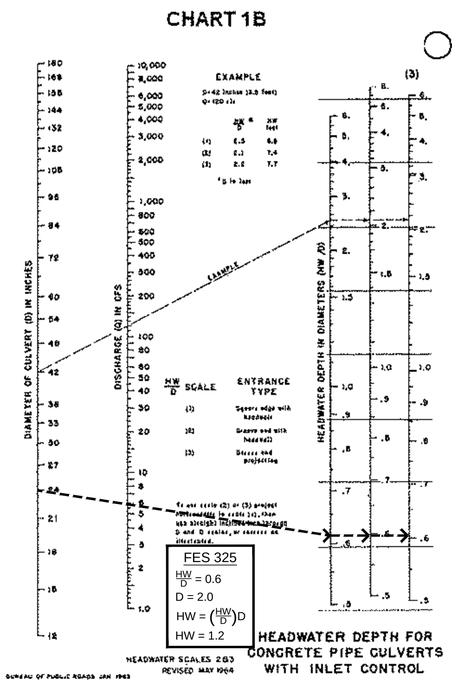
Vehicle hazard warning signals **shall** not be used instead of the vehicle's rotating lights or strobe lights.

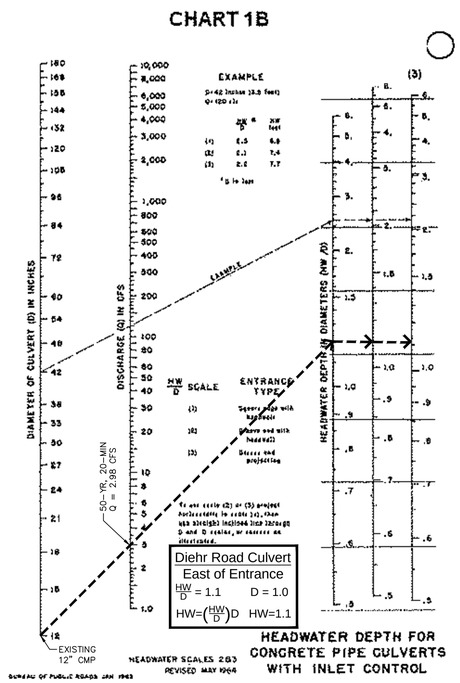
Additional warning signs **shall** be erected at each intersection with another state highway within the work zone. Upon the discretion of the supervisor, additional warning signs **may** be erected at other intersections within the work zone.

Other appropriate signs **may** be used in lieu of SHOULDER WORK AHEAD sign.

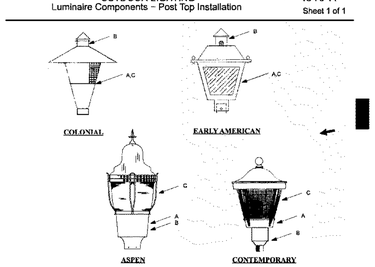


TA-3 — 11/13





OUTDOOR LIGHTING
Luminaire Components – Post Top Installation
15 70 14 **
Sheet 1 of 1

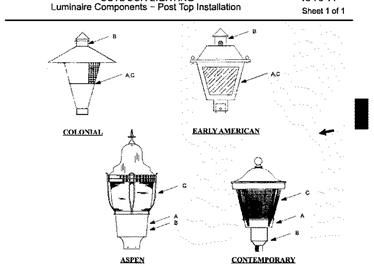


1. Position luminaire to facilitate service from the street.
2. On Type III, align refractor with street side
3. Face eye of photo-electric cell north.

	Stnd. / Stk. No.	Description	15 70 14 **	01	02	03	04	05	06	07	08	09	10
A	38 01 524	Colonial, 100w, HPS, Type III	MO	1									
	38 01 525	Colonial, 100w, HPS, Type V	MO		1								
	38 01 517	Early American, 100w, HPS, Type III	ALL			1							
	38 01 518	Early American, 100w, HPS, Type V	MO				1						
	38 01 942	Early American, 175w, MH, Type III	IL								1		
	38 01 513	Contemporary, 100w, HPS, Type III	MO					1					
	38 01 514	Contemporary, 100w, HPS, Type V	MO						1				
	38 01 584	Aspen, 100w, HPS, Type III	MO							1			
	38 01 585	Aspen, 100w, HPS, Type V	MO								1		
B	38 51 366	Switch, Photo electric Cell		1	1	1	1	1	1	1	1	1	1
C	26 56 260	Lamp, 100w, HPS		1	1	1	1	1	1	1			
	26 56 260	Lamp, 175w, MH									1	1	

DISTRIBUTION CONSTRUCTION STANDARDS — Ameren — ENG:WYW REV. NO: 1 REV. DATE: 02/13/07 — Page 15 – 9

OUTDOOR LIGHTING
Luminaire Components – Post Top Installation
15 70 14 **
Sheet 1 of 1



1. Position luminaire to facilitate service from the street.
2. On Type III, align refractor with street side
3. Face eye of photo-electric cell north.

	Stnd. / Stk. No.	Description	15 70 14 **	01	02	03	04	05	06	07	08	09	10
A	38 01 524	Colonial, 100w, HPS, Type III	MO	1									
	38 01 525	Colonial, 100w, HPS, Type V	MO		1								
	38 01 517	Early American, 100w, HPS, Type III	ALL			1							
	38 01 518	Early American, 100w, HPS, Type V	MO				1						
	38 01 942	Early American, 175w, MH, Type III	IL									1	
	38 01 513	Contemporary, 100w, HPS, Type III	MO					1					
	38 01 514	Contemporary, 100w, HPS, Type V	MO						1				
	38 01 584	Aspen, 100w, HPS, Type III	MO							1			
	38 01 585	Aspen, 100w, HPS, Type V	MO								1		
B	38 51 366	Switch, Photo electric Cell		1	1	1	1	1	1	1	1	1	1
C	26 56 260	Lamp, 100w, HPS		1	1	1	1	1	1	1			
	26 56 260	Lamp, 175w, MH									1	1	

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TYPICAL STREET LIGHTING
NOT TO SCALE

PROJECT TITLE
WESTLEIGH
O'FALLON, MISSOURI

THE STERLING CO.
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STATE OF MISSOURI — RODNEY ARNOLD — NUMBER PE-2002016612 — PROFESSIONAL ENGINEER

Date: 3/01/2017
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MISCELLANEOUS DETAILS

P+Z No.	P&Z NO
City No.	15-162-SP
Date:	3/01/2017
Job No.	14-10-348
Page No.	DTL-12

IMP

"Final Plan" Approval Date: October 1, 2015 (31–15.01)

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