



AGENDA
PLANNING AND ZONING COMMISSION MEETING
CITY OF CREVE COEUR, MISSOURI
MONDAY, DECEMBER 15, 2014
7:00 PM

Mr. Tim Carney
Mr. James Faron
Mr. Ken Howard
Ms. Beth Kistner
Mr. Tim Madden
Mr. Charles Pullium
Mr. Gene Rovak
Mr. Carl Lumley, City Attorney
Mr. Paul Langdon, Director of Community Development
Ms. Whitney Kelly, City Planner
Ms. Deborah McLaughlin, Recording Secretary

Pursuant to Section 610.022 RSMO, the Planning and Zoning Commission could, at any time during the meeting, vote to close the public meeting and move to closed session to discuss matters relating to litigation, legal actions and/or communications from the City Attorney as provided under Section 610.021(1) RSMo. and/or personnel matters under Section 610.021(13) RSMo. and/or employee matters under Section 610.021(3) RSMo. and/or real estate matters under Section 610.021(2) or other matters as permitted by Chapter 610.

Reports, documents, plans, and related materials are available for examination at the Creve Coeur Government Center, 300 North New Ballas Road, prior to the meeting.

Special disabled service may be arranged by contacting the Office of the City Administrator in advance.

- 1. CALL TO ORDER**
- 2. ROLL CALL**
- 3. ACCEPTANCE OF THE AGENDA**
- 4. APPROVAL OF MINUTES**
 - A. Draft Minutes From The Meeting Of December 1, 2014**

5. PUBLIC COMMENT

6. UNFINISHED BUSINESS

A. Olive TDD Decorative Median

Applicant: Matt Wohlberg, P.E., City Engineer
City of Creve Coeur

7. NEW BUSINESS

A. PUBLIC HEARING - Update to Chapter 415 Flood Hazard Control Regulations

Applicant: Matt Wohlberg, P.E., City Engineer
City of Creve Coeur

B. Boundary Adjustment - 11379 Elzey Street

Applicant: Jim Heines, Public Works Director
City of Creve Coeur

8. WORK AGENDA

9. DEPARTMENT REPORTS

A. Community Development Director

B. City Attorney

10. ADJOURNMENT

Posted: _____

Paul Langdon
Planning Director

PLANNING AND ZONING COMMISSION MEETING

Monday, December 1, 2014
7:00 P.M.

A public hearing and regular meeting of the Planning and Zoning Commission of the City of Creve Coeur, Missouri was held on Monday, December 1, 2014, at the Creve Coeur Government Center, 300 North New Ballas Road. Chairman Tim Madden called the meeting to order at 7:00 p.m.

MEMBERS PRESENT: **Mr. Tim Madden, Chair**

Mr. Tim Carney

Mr. James Faron

Mr. Ken Howard

Ms. Beth Kistner

Mr. Charles Pullium

Mr. Gene Rovak

OTHERS PRESENT:

Mr. Carl Lumley, City Attorney

**Mr. Paul Langdon, Director of Community
Development**

Ms. Whitney Kelly, City Planner

Deborah McLaughlin, Recording Secretary

1. Call to Order
2. Roll Call
3. ACCEPTANCE OF THE AGENDA

All voted in favor of acceptance of agenda.

4. APPROVAL OF MINUTES

- A. Mr. Faron moved approval of the draft minutes of November 3, 2014

Mr. Rovak seconded the motion, which carried unanimously.

5. PUBLIC COMMENT

None.

6. UNFINISHED BUSINESS

None.

7. NEW BUSINESS

Applicant: Douglas Black, President
Barnes West County Hospital
12634 Olive Boulevard
Creve Coeur, MO 63141

Applicant's Representative:
George Stock
Stock & Assoc. Consulting Engineers, Inc.
257 Chesterfield Business Parkway
Chesterfield, MO 63005

A. Public Hearing

Application: #14-037 Approval of an Amendment to the Conditional Use Permit and Site Development Plan for Phase II of Hospice House at Barnes Jewish West County Hospital.

Mr. George Stock, Stock & Associates Consulting Engineers, indicated he is here tonight on behalf of BJC relative to the West County Hospital.

Mr. Stock indicated he was here approximately six weeks ago relative to a concept plan, amendment, a conditional use permit and site development plan for Hospice House.

Mr. Stock indicated the last time they spoke about the Hospice House, they spoke about two phases.

Phase I, which was 16 beds, 19,000 square feet; Phase II, another 19,000 square feet, 16 beds, for a total Hospice House of 38,000 square feet and 32 beds.

The application that was filed for that request only made mention of Phase I. And as a result, the public hearing was advertised for just Phase I, did not include Phase II. Request tonight is to ask your consideration to amend the conditional use permit, which was approved by the Board of Aldermen [sic], City Council last week for the Phase II.

The drawing he passed out is showing the ultimate construction of the Hospice House.

What would be left for the future Phase II is what's shown in the northeast portion.

They're both 19,000 square foot footprints, they

have 16 beds for a total of 38,000 square feet and 32 beds.

Amendment that is being requested is the conditional use permit to allow for a Phase I, Phase II.

Previously presented a detailed site development plan, along with landscape plan, lighting plan, architectural elevations, all a part of that conditional use permit.

In the future, when the Phase II would be constructed, they would come back before the Planning Commission with a detailed site development plan and landscape plan.

Tonight the request is for conditional use permit to include Phase II.

Mr. Faron inquired of Mr. Stock if he expects everything to be pretty much the same as Phase I in terms of what they will bring back at a later date for Phase II. Mr. Stock indicated it would be a mirror.

Mr. Carney inquired if the timeframe had changed causing Mr. Stock to come back. Mr. Stock indicated it was simply a technicality. They were provided certain information that was being used internal BJC that only gave a description of the Phase I.

They took that verbatim and put it on the application, and really did not attach that until the night of the meeting, the public hearing, and a few days before that they only advertised for Phase I.

What the intention, our PowerPoint, our presentation was I and II. So from a scheduling standpoint, we would like to start construction on the Phase I Hospice, spring of 2015, and the design permit following this, and there is no real timeframe on Phase II, but would all be dependent on the occupancy that's occurring within Phase I.

Mr. Langdon showed the elevations to reassure that the building and its form really didn't change other than color as a result of the brick.

Mr. Langdon indicated the draft ordinance is simply to amend the prior ordinance that's gone through City Council, and what that does is place all of the plan review, at this stage, in the affirmative process.

The site development plan is going through, as part of the CUP, as well as the landscape, for review to zoning administration approval, so it will not necessarily be back, unless they decide to change the overall program from what you see tonight.

So this will presumably be the last time you see him, unless there are issues.

Mr. Faron moved to recommend approval.

Ms. Kistner seconded the motion.

There being no further discussion, the resultant vote is as follows:

Ms. Kistner-aye Mr. Carney-aye Mr. Howard-aye
Mr. Faron-aye Mr. Rovak-aye Mr. Pullium-aye Chair-aye

B. Approval of 2015 Meeting Schedule

Ms. Kistner moved for approval.

Mr. Howard seconded the motion.

There being no further discussion, all voted in favor.

8. WORK AGENDA

None

9. DEPARTMENT REPORTS

A. Community Development Director

Mr. Langdon indicated that at the next meeting, hopefully, there will be a couple of items from Public Works, as well as an amendment to the storm water master plan for the City.

Mr. Langdon indicated he will pass out to you on the way out, a draft request for proposals for Comprehensive Plan update.

The issue that we have is, despite our greatest hopes and best intentions, there is no time at the staff level to finish this update in a timely manner.

The City Administrator is comfortable with approaching the Council, potentially a budget amendment, to fund the hiring of a consultant, so that we can get it done.

Mr. Langdon indicated he has already spoken with the Commission about having a couple P&Z members help with the selection of the consultant.

Mr. Langdon indicated there have been some rumors out in the community that we're creating a Comp Plan subcommittee. Mr. Langdon said they are not forming a subcommittee. This won't be done by a sub group of the Commission. The Commission will be part of it. There will be neighborhood meetings; there will be the requisite public hearing, as well as plenty of opportunity for the public to comment. It will be an open process.

Before we even get to that, we have to select somebody though.

At this point it is a draft, and so when you get home, if you look at it and see something that looks wrong, notice that something seems to be missing, please

feel free to send an email.

B. City Attorney

Mr. Lumley indicated the Commission should keep the emails personal to Mr. Langdon and not to the Commission.

Mr. Lumley indicated the decision on 450 North Lindbergh was in favor of the City upholding the issuance of the CUP.

10. ADJOURNMENT

There being no further business to come before the Planning and Zoning Commission, the meeting was adjourned at 7:12 p.m.

Tim Madden, Chairman

Produced by: Deborah K. McLaughlin, Court Reporter



DEPARTMENT OF PUBLIC WORKS STAFF MEMORANDUM

DATE: December 12, 2014

TO: Planning and Zoning Commission

CC: Paul Langdon, Director of Community Development

FROM: Matt Wohlberg, P.E., City Engineer

SUBJECT: Decorative Medians along Olive Boulevard
Olive Boulevard Transportation Development District

City staff, acting as the project manager for the Olive Boulevard Transportation Development District (Olive TDD), seeks the approval of the Planning and Zoning Commission for the Olive TDD's proposal to include decorative medians along Olive Boulevard. These medians would be installed as part of a larger roadway improvement project along Olive.

Olive TDD Background

The Olive TDD includes many of the properties along Olive Boulevard between Orchard Lakes Drive and Craig Road. The original proposal by the Olive TDD envisioned streetscape and roadway improvements along Olive. Following the burial of utilities along portions of Olive Boulevard by the Olive TDD, the roadway proposal evolved into a project to widen Olive Boulevard, add a median along its center, and provide sidewalks along both sides.

The Olive TDD found that it did not have the funds required for the envisioned project and has been looking for an alternative project for several years. The City entered into an agreement with the Olive TDD in 2010 to serve as the Olive TDD's project manager and to help determine the best project for the Olive TDD.

MoDOT Project

The Missouri Department of Transportation (MoDOT) owns and maintains Olive Boulevard as State Route 340. MoDOT informed City staff in August that it intends to complete a resurfacing project along Olive, generally from Warson Road to New Ballas Road. The scope of this project will include the removal and replacement of the top layer of the asphalt roadway pavement and repairs and improvements to the sidewalks. MoDOT anticipates that this project will be completed during the summer of 2015.

MoDOT offered to incorporate a median into its resurfacing project if the Olive TDD would enter into an agreement with MoDOT to design and pay for the construction of the median. This is significant, because MoDOT has stated in the past that the Olive TDD would be responsible for resurfacing of Olive Boulevard if a median was introduced, and that project was well beyond the financial capability of the Olive TDD. MoDOT's resurfacing and sidewalk project has effectively eliminated the pavement and sidewalk repercussions of past median proposals, and has thereby made the median project affordable and possible.

The Olive TDD Board approved a cooperative agreement with MoDOT at its meeting on November 24, 2014. Design of the median began in October and is nearly complete.

Median Design

The medians that were proposed as part of past proposals from the Olive TDD were generally three-feet wide and continuous between the intersections. The intent of these medians was to provide access management along Olive Boulevard. These medians required the widening of portions of Olive Boulevard in order to work, particularly near the intersections of Olive with Old Ballas Road and with Craig Road.

Location. MoDOT's project is to resurface the existing pavement and will not involve any roadway widening. A continuous median along the center of Olive would therefore be impossible without adjusting the width of the traffic lanes, which MoDOT opposes. Therefore, the space available for any median is limited to the center left-turn lane. This space is further restricted by the stacking distance needed for vehicles to queue for left turns at each intersection.

Design. With the numerous restrictions to the location of the median, the nature of the median shifted from functional to decorative. The medians will be constructed of concrete that will be stamped and dyed to match the pattern of the medians west of New Ballas Road. Lighting and planter boxes will be installed onto the medians to match the existing features.



Figure 1. Olive median design. This photo was taken from the existing Olive median west of Interstate 270. The same concrete pattern, planters, and lights are proposed for the new Olive TDD median project.



Figure 2. Olive median design, side view.

The proposed medians have been designed to match the existing decorative medians along Olive Boulevard west of New Ballas Road. The intent is to extend the existing median design rather than to introduce something different.

Public Outreach. City staff sent letters to the owners of businesses along Olive Boulevard between New Ballas Road and Craig Road that invited these owners to the Planning and Zoning Commission meeting on December 15 and to two open-house meetings on December 16 and 17.

City staff has already met with the Creve Coeur Fire District to discuss their concerns about the median, particularly its layout near Will Avenue. The median has been designed to provide the appropriate space for the District's vehicles have full access to Olive Blvd. from Will Avenue.

Recommendation

City staff recommends that the City support the Olive TDD's median project. These medians will extend the existing decorative median theme eastward along Olive Boulevard and will create no significant hardship on the area's businesses. The opportunity to include the medians as part of the MoDOT resurfacing project may be the only opportunity for the Olive TDD to afford such a project.

Requested Action

City staff requests that the Commission consider the proposal and determine whether to approve the changes to Olive Boulevard that the median will make. The Commission's approval of the proposal is required per Section 89.390, RSMo, and Section 3.2 of the City/TDD Cooperation Agreement.

A sample motion would be as follows:

I move that the Planning and Zoning Commission approve the Olive Boulevard Transportation Development District's proposal to include a decorative median along Olive Boulevard as part of the Missouri Department of Transportation's resurfacing project and as shown on the project plans, dated December 4, 2014.

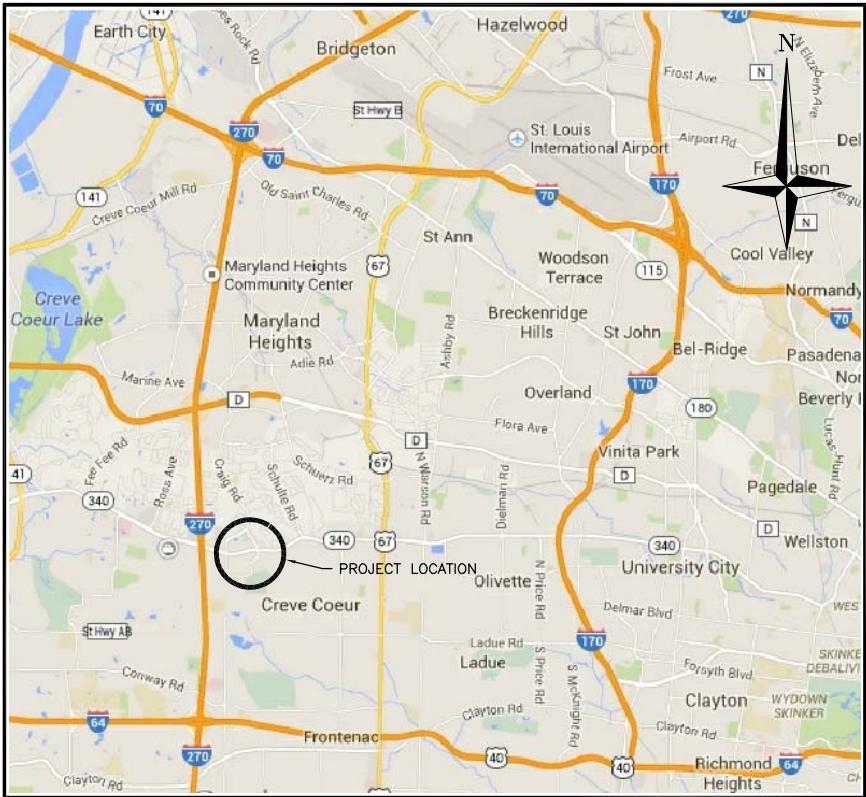
The Commission's choices are to approve the proposal, to approve the proposal with conditions, or to deny the proposal.

INDEX OF SHEETS

DESCRIPTION	SHEET NO.
COVER SHEET	1
A-SHEET GENERAL NOTES	A
B-SHEET	B
TYPICAL SECTIONS	2
ROADWAY PLAN	3-7
LIGHTING QUANTITIES	8
TRAFFIC CONTROL PLAN	9-11
SPECIAL SHEET	12-15

Attachment: Olive Median Plans (12-04-2014) (1181 : Olive TDD Decorative Median)

ROADWAY AND LIGHTING DESIGN PLANS
MO 340 (OLIVE BLVD)
CITY OF CREVE COEUR, MISSOURI



LOCATION MAP
nts

EX	EXISTING
PR	PROPOSED
TBR	TO BE REMOVED
TYP	TYPICAL
DSY	DOUBLE SOLID YELLOW
SYL	SOLID YELLOW LINE
SWL	SOLID WHITE LINE
WSD	WHITE SKIP DASH
L&S	LETTERS & SYMBOLS
PR SIGN	PR SIGN
PR CURB REFLECTOR	PR CURB REFLECTOR
PR PCC MEDIAN PLANTER WALL	PR PCC MEDIAN PLANTER WALL
PR PCC MEDIAN PLANTER WALL - SQUARE END SECTION	PR PCC MEDIAN PLANTER WALL - SQUARE END SECTION
PR PCC MEDIAN PLANTER WALL - ROUND END SECTION	PR PCC MEDIAN PLANTER WALL - ROUND END SECTION
PR RED KNOCKOUT ROSES	PR RED KNOCKOUT ROSES
STAMPED PCC, MEDIANS	STAMPED PCC, MEDIANS

TRAFFIC CONTROL LEGEND	
PR SIGN	PR SIGN
PR CHANNELIZER	PR CHANNELIZER
OPEN LANE OF TRAFFIC	OPEN LANE OF TRAFFIC
FLASHING ARROW PANEL	FLASHING ARROW PANEL
WORK AREA	WORK AREA

LIGHTING LEGEND	
PR CONDUIT (TRENCHED)	PR CONDUIT (TRENCHED)
PR CONDUIT (PUSHED)	PR CONDUIT (PUSHED)
PR PULLBOX	PR PULLBOX
PR LIGHT STANDARD	PR LIGHT STANDARD

NOT APPROVED
DATE FOR CONSTRUCTION
1/2/16

CIVIL ENGINEER	DATE PREPARED
12/4/14	STATE
ROUTE 340	MO
DISTRICT SL	SHEET NO. 1
COUNTY	ST. LOUIS
JOB NO.	82-14
CONTRACT ID.	
MODOT PROJECT NO.	6S1872B
BRIDGE NO.	

DESCRIPTION	DATE

TRANSPORTATION ENGINEERS+PLANNERS
13400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644
450 COTTONWOOD RD, SUITE 8
GLEN CARBON, IL 62034
(618) 656-2612
www.cbbtraffic.com

CBB

COVER SHEET
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION
CREVE COEUR, MO

LENGTH OF PROJECT OLIVE BLVD	
BEGINNING OF PROJECT	STATION 130+21.20
END OF PROJECT	STATION 147+37.57
APPARENT LENGTH	1716.37 FEET
EQUATIONS AND EXCEPTIONS	0 FEET
TOTAL CORRECTIONS	1716.37 FEET
NET LENGTH OF PROJECT	171637 FEET
STATE LENGTH	0.33 MILES
FEDERAL LENGTH	0 MILES

DESIGN DESIGNATION OLIVE BLVD	
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL
A.D.T. =	XX,XXX
DESIGN HOURLY VOLUME =	XXX
TRUCK PERCENTAGE =	X%
DESIGN SPEED =	40 MPH
POSTED SPEED =	35 MPH

ROADWAY AND
LIGHTING PLANS BY:

Christopher Brammeier, PE, PTOE
CBB | Principal
314.878.6644 Ext. 20 (O)
618.570.2863 (M)
cbrammeier@CBBTRAFFIC.COM

SURVEY BY:

Cole and Associates
Jim Roth PE
Associate / Vice President Engineering
ST. LOUIS / ST. CHARLES / DALLAS
Power House at Union Station
401 S. 18th Street / Suite 200
St. Louis / MO / 63103
314.984.9887 tel x1112
314.603.0767 cell
jroth@colestf.com
www.colestf.com

PLANS PREPARED FOR:

Olive Boulevard Transportation Development District
The Honorable Barry Glantz, Chairman, Board of Directors
Olive Boulevard Transportation Development District
c/o City of Creve Coeur
300 North New Ballas Road
Creve Coeur, MO 63141
Tel No.: 314-432-6000
Fax No.: 314-872-2539
Email: bglantz@ci.creve-coeur.mo.us

CITY OF CREVE
COEUR CONTACT:

Matt Wohlberg, P.E.
City Engineer

300 N. New Ballas Road
Creve Coeur, MO 63141
Phone: (314) 442-2084
Fax: (314) 872-2505

mwohlberg@ci.creve-coeur.mo.us

BENCHMARK INFO:

13-212 612.70 - "STAMPED ALUMINUM DISK"
STAMPED LS-23 1990. DISK IS SET BETWEEN COEUR DE VILLE DRIVE
AND THE WEST R/W FENCE OF I-270, 68 FEET SOUTH OF THE
CENTERLINE INTERSECTION OF COEUR DE VILLE COURT AND COEUR
DE VILLE DRIVE.

MO-DNR BM SL-23; ELEVATION = 621.70 (USGS) : PROVIDED BY
SURVEYOR SURVEY DISK SET IN TOP OF CONCRETE MONUMENT
STAMPED SL-23 1991 MODNR. MONUMENT IS SET BETWEEN THE
EAST CURB OF COEUR DE VILLE DRIVE AND THE WEST RIGHT - OF -
WAY FENCE OF I-270, ABOUT 70 FEET SOUTH OF THE EXTENDED
CENTERLINE OF COEUR DE VILLE COURT.

Call BEFORE you DIG
TOLL FREE
1-800-DIG-RITE
MISSOURI ONE-CALL SYSTEM, INC.

Summary of Quantities			
ITEM NUM.	ITEM DESCRIPTION	UNIT	Quantity
ROADWAY ITEMS			
202-20.10	REMOVAL OF IMPROVEMENTS	LS	1
608-99.05*	STAMPED PCC MEDIAN (DOWELLED ON)	SQFT	4985
616-10.05	CONSTRUCTION SIGNS	SF	157.5
616-10.20	CHANNELIZER (DRUM-LIKE)	EA	208
616-10.40	FLASHING ARROW PANEL	EA	2
618-10.00	MOBILIZATION	LS	1

LANDSCAPING ITEMS/EROSION CONTROL			
202-99.02a	DECORATIVE MEDIAN PLANTER BOX - SIDE PANEL	EA	68
202-99.02b	DECORATIVE MEDIAN PLANTER BOX - RADIUS END	EA	14
202-99.02c	DECORATIVE MEDIAN PLANTER BOX - FLAT END	EA	10
202-99.02d	RED KNOCKOUT ROSES	EA	102
310-99.07a	1 1/2" CLEAN MERAMEC GRAVEL	CU YDS	5
804-99.07A	MEDIAN PLANTING SOIL	CU YDS	17
806-99.05	FABRIC FILTER	SQ YDS	374
806-99.07	SHREDDED HARDWOOD MULCH	CU YDS	4

SIGNING ITEMS			
903-10.10	CONCRETE FOOTING, EMBEDDED	CUYD	2.2
903-12.20	PIPE POST	LB	1010.1
903-12.40	BREAKAWAY ASSEMBLY	EA	17
903-50.04	TYPE SHR2L-1 SIGN	SQFT	134

PAVEMENT MARKING			
620-99.02	CURB REFLECTORS	EA	100

ELECTRICAL - TRAFFIC SIGNAL AND LIGHTING			
901-40.03	CONDUIT, 3 IN. RIGID, PUSHED	LIN. FT.	2070
901-70.08	CABLE, 8 AWG 1 CONDUCTOR	LIN. FT.	4470
901-71.10	CABLE, 10 AWG 1 CONDUCTOR, POLE & BRACKET	LIN. FT.	1280
901-72.08	WIRE, 8 AWG, BARE NEUTRAL	LIN. FT.	2240
901-61.10	PULLBOX, PREFORMED CLASS 1	EACH	9
901-99.02	LIGHTING UNIT, COMPLETE	EACH	8
901-99.02	POWER SUPPLY/LIGHTING CONTROLLER UNIT	EACH	1

GENERAL NOTES

- 1) ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.
- 2) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION.
- 3) TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND MODOT’S TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL LOCATED AT WWW.MODOT.STATE.MO.US/BUSINESS/TRAFFIC CONTROL.HTM. (SEE SITE SPECIFIC TRAFFIC CONTROL PLANS INCLUDED IN THIS PLAN SET.)
- 4) DIMENSIONS ARE TO THE FACE OF CURB UNLESS STATED OTHERWISE ON THE PLANS.
- 5) ALL SIGN LOCATIONS AND SIZES, LOCATED WITHIN THE CITY OF CREVE COEUR, MUST BE APPROVED SEPARATELY THROUGH THE PLANNING DIVISION.
- 6) ALL SIGN POST AND BACKS AND BRACKET ARMS SHALL BE PAINTED BLACK USING CARBOLINE RUSTBOND PENETRATING SEALER SG AND CARBOLINE 133 HB PAINT (OR EQUIVALENT AS APPROVED BY CITY AND MODOT). SIGNS DESIGNATING STREET NAMES SHALL BE ON THE OPPOSITE SIDE OF THE STREET FROM TRAFFIC CONTROL SIGNS. POST SHALL BE ROUND PIPE, BREAKWAY BASE ACCORDING TO MODOT STANDARDS.
- 7) ALL UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY ATTEMPT TO CONSTRUCT ANY COMPONENT OF THE VARIOUS ROADWAY IMPROVEMENTS. AGENCIES KNOWN (BUT NOT LIMITED TO) TO HAVE UNDERGROUND FACILITIES WITHIN THE LIMITS OF THIS IMPROVEMENT ARE THE FOLLOWING:

* AMEREN UE

* SBC COMMUNICATIONS

* LACLEDE GAS CO.

* CHARTER COMMUNICATIONS

* MSD

* MISSOURI AMERICAN WATER

* MODOT
- 8) ALL PROPOSED MEDIANS ARE TO HAVE RAISED REFLECTORIZED MARKERS INSTALLED CONTINUOUS IN BOTH DIRECTIONS OF TRAFFIC. THE SPACING SHALL BE 20’ AND THE MODEL SHALL BE STIMSONITE “LIFE LIGHT, AMBER ONE-WAY, 88BY AS PRODUCED BY AVERY DENNISON AND INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS.
- 9) PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
- 10) SIGNAL AND LIGHTING EQUIPMENT IS SHOWN ON THE ROADWAY PLANS FOR INFORMATION ONLY. SIGNAL AND LIGHTING INFORMATION SHOWN IN THE SIGNAL AND LIGHT PLANS SHALL TAKE PRECEDENCE OVER THESE ITEMS SHOWN ON THE ROADWAY PLANS.
- 11) ALL PROPOSED PAVEMENT MARKING SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND SHALL BE PERFORMED BY MODOT UNDER THEIR OLIVE BOULEVARD RESURFACING PROJECT. SEE MODOT’S PLANS FOR FURTHER INFORMATION.
- 12) ROADWAY WORK SHOWN ON THE NORTH SIDE OF OLIVE FROM APPROXIMATELY 144+00 TO 148+00 IS FOR INFORMATION ONLY AND WAS TAKING FROM THE SITE PLAN FOR FRESH MARKET WHICH IS NEWLY CONSTRUCTED.
- 13) MEDIANS SHALL BE DYED AND STAMPED TO MATCH THE EXISTING MEDIANS WEST OF NEW BALLAS ROAD.

LIGHTING NOTES:

1. THE INSTALLATION OF THE LIGHTING SHALL BE IN ACCORDANCE WITH THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION’S STANDARD SPECIFICATIONS, LATEST EDITION AND CITY OF CREVE COEUR SPECIFICATIONS.
2. EXISTING UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES AND UTILITIES IF SHOWN ON THESE PLANS, SHALL BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF THE LOCATIONS OF ALL EXISTING UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE VERIFIED PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. CALL MISSOURI ONE-CALL SYSTEM AT 1-800-DIG-RITE (344-7483).
3. DIRECTIONAL BORING MAY BE USED INSTEAD OF TRENCHING OR PUSHING CONDUIT, HOWEVER, NO ADDITIONAL PAYMENT WILL BE MADE.
4. THE LIGHTING CONSTRUCTION SHALL BE COORDINATED WITH THE ROADWAY CONSTRUCTION.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR SPOTTING THE LOCATION OF ALL LIGHTING EQUIPMENT. THE CONTRACTOR SHALL NOTIFY THE CITY OF CREVE COEUR A MINIMUM OF ONE WEEK IN ADVANCE OF THE DESIRED DATE OF INSTALLATION.
6. CATALOG CUTS OF ALL LIGHTING EQUIPMENT SHALL BE APPROVED BY THE CITY OF CREVE COEUR PRIOR TO PROCUREMENT.

neerinc
00381

NOT APPROVED
DATE FOR CONSTRUCTION
12/11/16

CIVIL ENGINEER

DATE PREPARED
12/4/14

ROUTE
340

STATE
MO

DISTRICT
SL

SHEET NO.
A

COUNTY
ST. LOUIS

JOB NO.
82-14

CONTRACT ID.

MODOT PROJECT NO.
6S1872B

BRIDGE NO.

DESCRIPTION

DATE

TRANSPORTATION
ENGINEERS+PLANNERS

13400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644

450 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2613
www.ctbrtraffic.com

EBB

EBB

EBB

A-SHEET & GENERAL NOTES
AND MEDIAN DETAILS
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION

CREVE COEUR, MO

LANDSCAPING SCHEDULE

STA to STA	DECORATIVE MEDIAN PLANTER BOX			1 1/2" CLEAN MERAMEC GRAVEL (cu yds)	MEDIAN PLANTING SOIL (cu yds)	SHREDDED HARDWOOD MULCH (cu yds)	FABRIC FILTER (sq yds)	RED KNOCKOUT ROSES @ 36"o.c. (ea)
	SIDE PANEL (ea)	RADIUS END (ea)	FLAT END (ea)					
130+21.20 to 133+40.15	24	4	4	2	6	1	132	36
135+32.06 to 136+60.12	12	2	2	1	3	1	66	18
138+58.49 to 140+16.77	16	4	2	1	4	1	88	24
145+54.91 to 147+37.57	16	4	2	1	4	1	88	24
TOTAL =	68	14	10	5	17	4	374	102

REMOVAL OF IMPROVEMENTS (FOR INFORMATION ONLY)

STA to STA	MEDIAN REMOVAL (sq ft)
130+21.20 to 132+16.65	818
TOTAL =	818

PAID FOR AS L. SUM

RAISED MEDIAN SCHEDULE

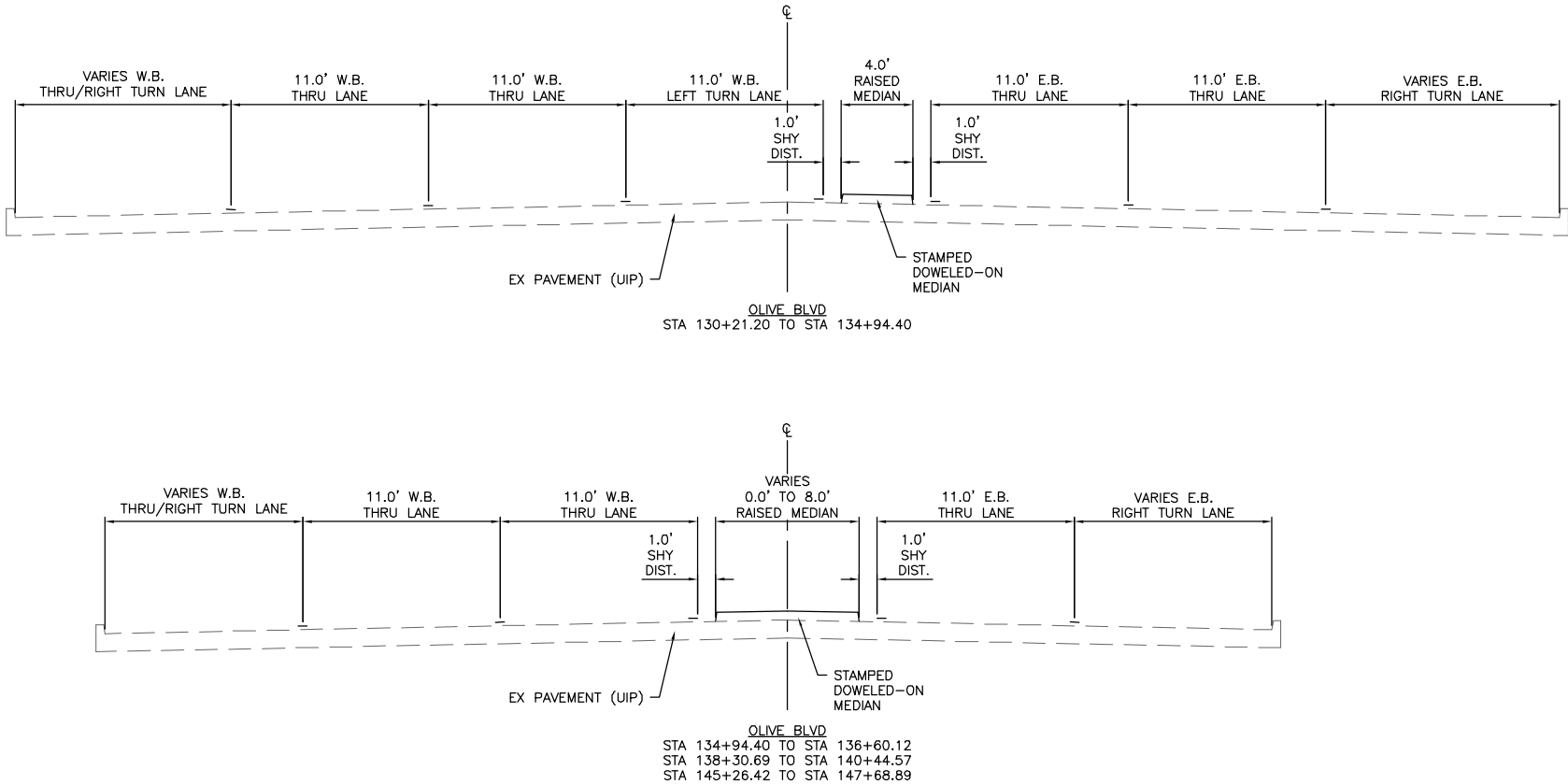
STA	to	STA	DOWELLED-ON PCC MEDIAN (STAMPED) (sq ft)	CURB REFLECTORS (ea)
130+21.20	to	133+40.15	1316	37
135+32.06	to	136+60.12	1019	19
138+58.49	to	140+16.77	1200	20
145+54.91	to	147+37.57	1450	24
TOTAL =			4985	100

SIGN SCHEDULE

STA	TYPE SHR2L-1 SIGN		PIPE POST 2.5" DIA	PIPE POST 3" DIA	BREAKAWAY ASSEMBLY	CONCRETE FOOTING, EMBEDDED	DESCRIPTION
	(ft)	(ft)	(lbs)	(lbs)	(ea)		
130+21.20	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
132+02.60	36 x 12	3	46.3		1	0.13	R6-1 "ONE WAY"
133+40.15	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
135+34.11	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
135+46.86	24 x 24	4	52.1		1	0.13	R3-2 "NO LEFT TURN"
135+59.19	36 x 12	3	46.3		1	0.13	R6-1 "ONE WAY"
135+81.87	36 x 12	3	46.3		1	0.13	R6-1 "ONE WAY"
135+92.74	24 x 24	4	52.1		1	0.13	R3-2 "NO LEFT TURN"
136+59.99	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
138+58.49	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
139+40.58	36 x 12	3	46.3		1	0.13	R6-1 "ONE WAY"
139+55.49	24 x 24	4	52.1		1	0.13	R3-2 "NO LEFT TURN"
140+16.56	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
145+54.94	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
146+46.26	36 x 12	3	46.3		1	0.13	R6-1 "ONE WAY"
146+57.91	36 x 12	3	46.3		1	0.13	R6-1 "ONE WAY"
147+37.17	24 x 36	6		72.0	1	0.13	R4-7 "KEEP RIGHT" R4-7X "KEEP RIGHT" TEXT R3-4 "NO U-TURN"
	24 x 18	3					
	24 x 24	4					
TOTAL =		134	434.1	576.0	17	2.21	

TRAFFIC CONTROL SCHEDULE

PLAN SHEET	CONSTRUCTION SIGNS (sq ft)								BARRELS (DRUM TYPE) (ea)	FLASHING ARROW PANEL (ea)
	"WORKERS AHEAD"	"ROAD WORK AHEAD"	"LEFT LANE CLOSED AHEAD"	"DOUBLE DOWN ARROWS"	"LEFT ARROW"	"RIGHT ARROW SUPPLEMENTAL"	"KEEP RIGHT SUPPLEMENTAL"	"END ROAD WORK"		
	W/21-1A (36"x36")	W/20-1 (36"x36")	W/20-5L (36"x36")	W/12-1 (36"x36")	W/16-6PL (24"x18")	W/16-6PL (24"x18")	R/4-7A (24"x36")	G/20-2 (18"x36")		
Top of TC&P Page 1	18	18	9	9	6			5	17	1
Bottom of TC&P Page 1	27	27			6		24		50	
Top of TC&P Page 2	18	18		18			18		86	
Bottom of TC&P Page 2	18	18	9	9			6	5	55	1
TC&P Page 3	27	27			6	6				
SUB-TOTAL =	63	63	9	27	12	0	42	5	208	2
TOTAL =	158									



TRANSPORTATION
ENGINEERS+PLANNERS



12405 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644
450 COTTONWOOD RD, SUITE 8
GLEN CARBON, IL 62034
(618) 656-2612
www.cbtraffic.com

TYPICAL SECTION
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION
CREVE COEUR, MO

DATE	DESCRIPTION

CIVIL ENGINEER

DATE PREPARED
12/4/14

ROUTE
340

STATE
MO

DISTRICT
SL

SHEET NO.
2

COUNTY
ST. LOUIS

JOB NO.
82-14

CONTRACT ID.

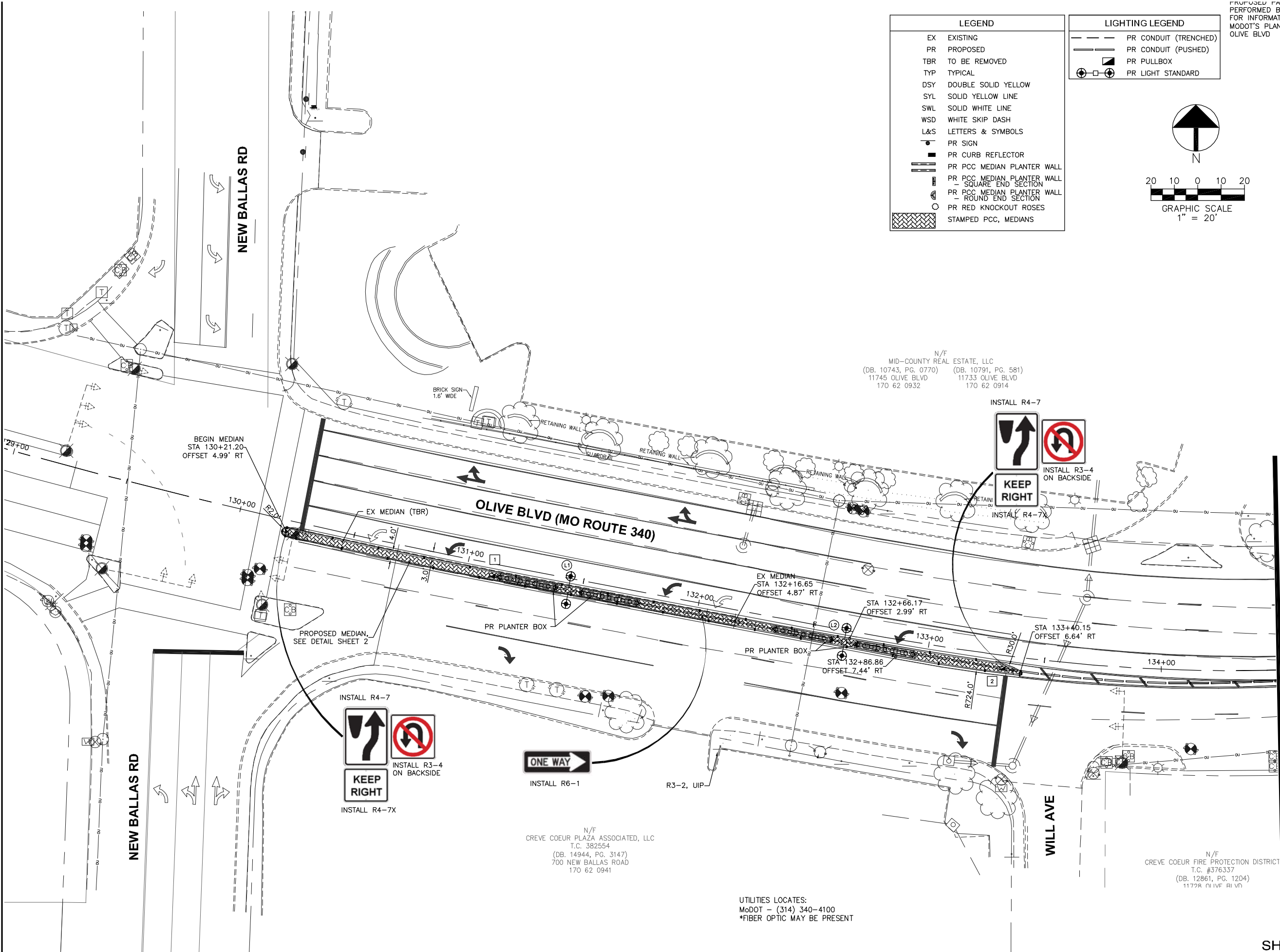
MODOT PROJECT NO.
6S1872B

BRIDGE NO.

NOT APPROVED
DATE FOR CONSTRUCTION
1/21/15

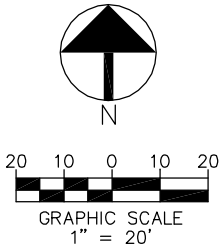
neer
00381

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SIGNED



LEGEND	
EX	EXISTING
PR	PROPOSED
TBR	TO BE REMOVED
TYP	TYPICAL
DSY	DOUBLE SOLID YELLOW
SYL	SOLID YELLOW LINE
SWL	SOLID WHITE LINE
WSD	WHITE SKIP DASH
L&S	LETTERS & SYMBOLS
●	PR SIGN
■	PR CURB REFLECTOR
▬▬▬	PR PCC MEDIAN PLANTER WALL
▬▬▬	PR PCC MEDIAN PLANTER WALL - SQUARE END SECTION
▬▬▬	PR PCC MEDIAN PLANTER WALL - ROUND END SECTION
○	PR RED KNOCKOUT ROSES
▨	STAMPED PCC, MEDIANS

LIGHTING LEGEND	
---	PR CONDUIT (TRENCHED)
---	PR CONDUIT (PUSHED)
▬	PR PULLBOX
⊕	PR LIGHT STANDARD



PROPOSED PAVEMENT MARKING TO BE PERFORMED BY OTHERS AND SHOWN FOR INFORMATION ONLY. SEE MODOT'S PLANS FOR RESURFACING OLIVE BLVD

NOT APPROVED
DATE FOR CONSTRUCTION 12/4/14

DATE PREPARED 12/4/14	
ROUTE 340	STATE MO
DISTRICT SL	SHEET NO. 3
COUNTY ST. LOUIS	
JOB NO. 82-14	
CONTRACT ID.	
MODOT PROJECT NO. 6S1872B	
BRIDGE NO.	

DATE	DESCRIPTION

TRANSPORTATION ENGINEERS+PLANNERS

EBB

13400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644
450 COTTONWOOD RD, SUITE 8
GLEN CARBON, IL 62034
(618) 656-2612
www.ebbtraffic.com

PLAN SHEET
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION
CREVE COEUR, MO

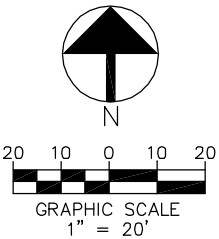
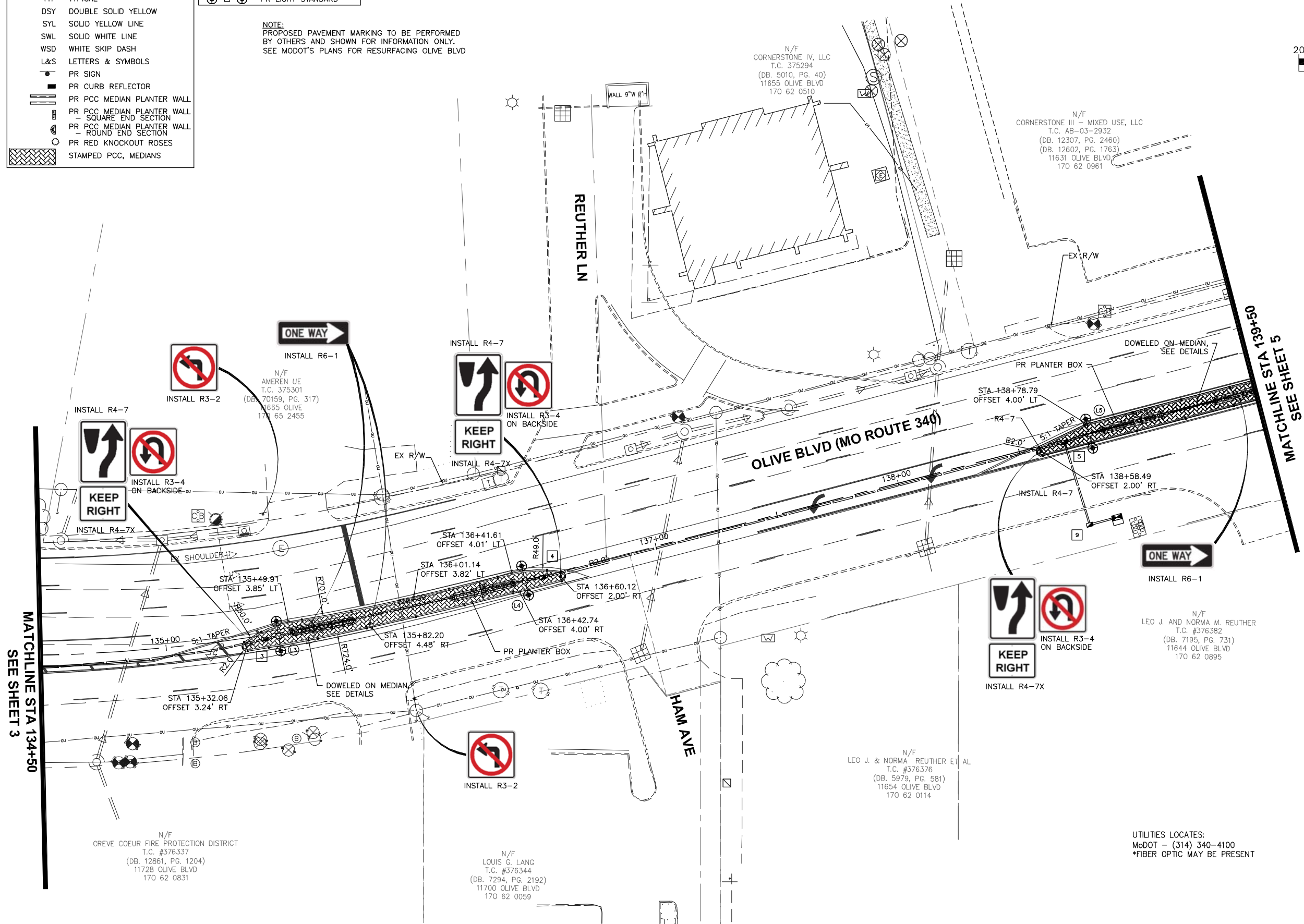
LEGEND

- EX EXISTING
- PR PROPOSED
- TBR TO BE REMOVED
- TYP TYPICAL
- DSY DOUBLE SOLID YELLOW
- SYL SOLID YELLOW LINE
- SWL SOLID WHITE LINE
- WSD WHITE SKIP DASH
- L&S LETTERS & SYMBOLS
- PR SIGN
- PR CURB REFLECTOR
- PR PCC MEDIAN PLANTER WALL
- PR PCC MEDIAN PLANTER WALL - SQUARE END SECTION
- PR PCC MEDIAN PLANTER WALL - ROUND END SECTION
- PR RED KNOCKOUT ROSES
- STAMPED PCC, MEDIANS

LIGHTING LEGEND

- PR CONDUIT (TRENCHED)
- PR CONDUIT (PUSHED)
- PR PULLBOX
- PR LIGHT STANDARD

NOTE:
PROPOSED PAVEMENT MARKING TO BE PERFORMED BY OTHERS AND SHOWN FOR INFORMATION ONLY.
SEE MODOT'S PLANS FOR RESURFACING OLIVE BLVD



NOT APPROVED
DATE FOR CONSTRUCTION 12/11/14

CIVIL ENGINEER

DATE PREPARED 12/4/14

ROUTE 340 STATE MO

DISTRICT SL SHEET NO. 4

COUNTY ST. LOUIS

JOB NO. 82-14

CONTRACT ID.

MODOT PROJECT NO. 6S1872B

BRIDGE NO.

TRANSPORTATION ENGINEERS+PLANNERS

13400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644

450 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2612
www.ctbtraffic.com

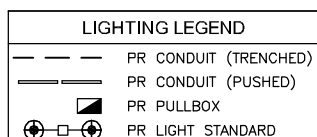
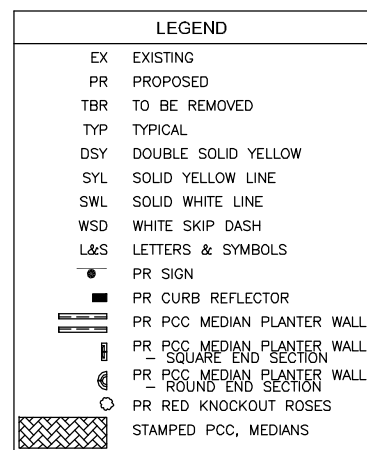
PLAN SHEET

MO ROUTE 340 (OLIVE BLVD)

MEDIAN INSTALLATION

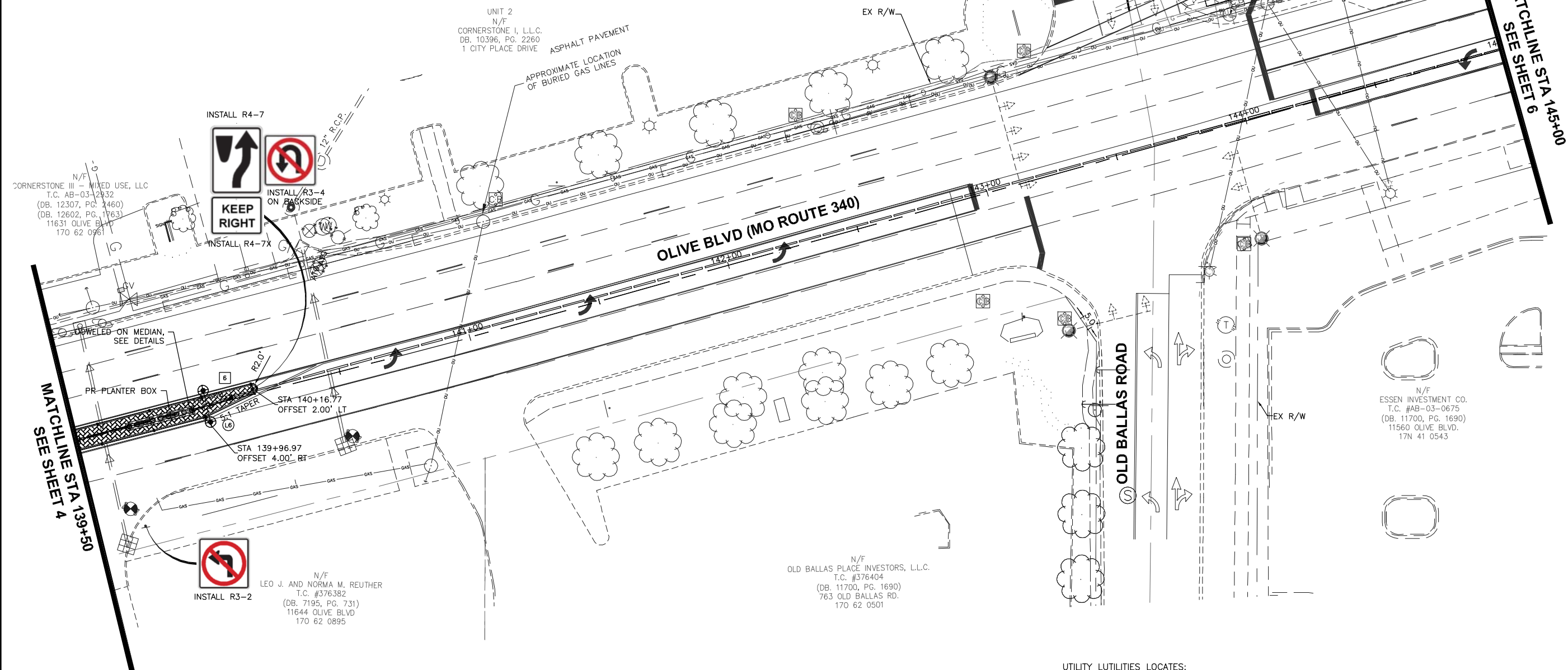
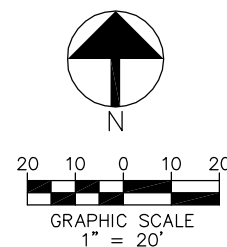
CREVE COEUR, MO

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SIGNED BY THE ENGINEER.

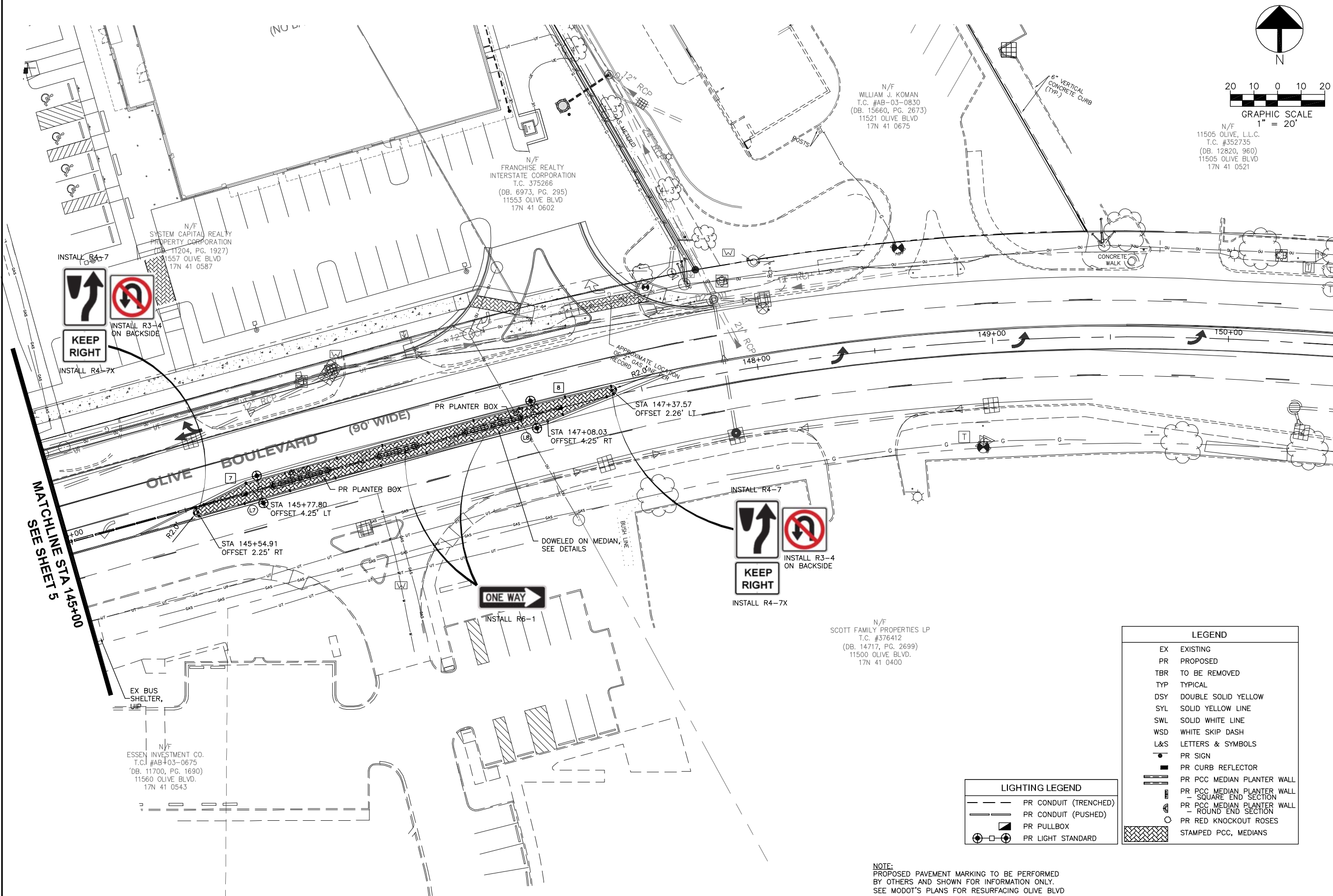


NOTE:
PROPOSED PAVEMENT MARKING TO BE PERFORMED
BY OTHERS AND SHOWN FOR INFORMATION ONLY.
SEE MODOT'S PLANS FOR RESURFACING OLIVE BLVD

ROADWAY WORK SHOWN ON THE NORTH SIDE OF OLIVE FROM APPROXIMATELY 144+00 TO 148+00 IS FOR INFORMATION ONLY AND WAS TAKING FROM THE SITE PLAN FOR FRESH MARKET WHICH IS NEWLY CONSTRUCTED.



UTILITY UTILITIES LOCATES:
MoDOT - (314) 340-4100
*FIBER OPTIC MAY BE PRESENT



NOTE:
PROPOSED PAVEMENT MARKING TO BE PERFORMED
BY OTHERS AND SHOWN FOR INFORMATION ONLY.
SEE MODOT'S PLANS FOR RESURFACING OLIVE BLVD

ROADWAY WORK SHOWN ON THE NORTH SIDE OF OLIVE FROM APPROXIMATELY 144+00 TO 148+00 IS FOR INFORMATION ONLY AND WAS TAKEN FROM THE SITE PLAN FOR FRESH MARKET WHICH IS NEWLY CONSTRUCTED.

UTILITIES LOCATES:
MoDOT - (314) 340-4100
*FIBER OPTIC MAY BE PRESENT

SHEET 4 OF 5

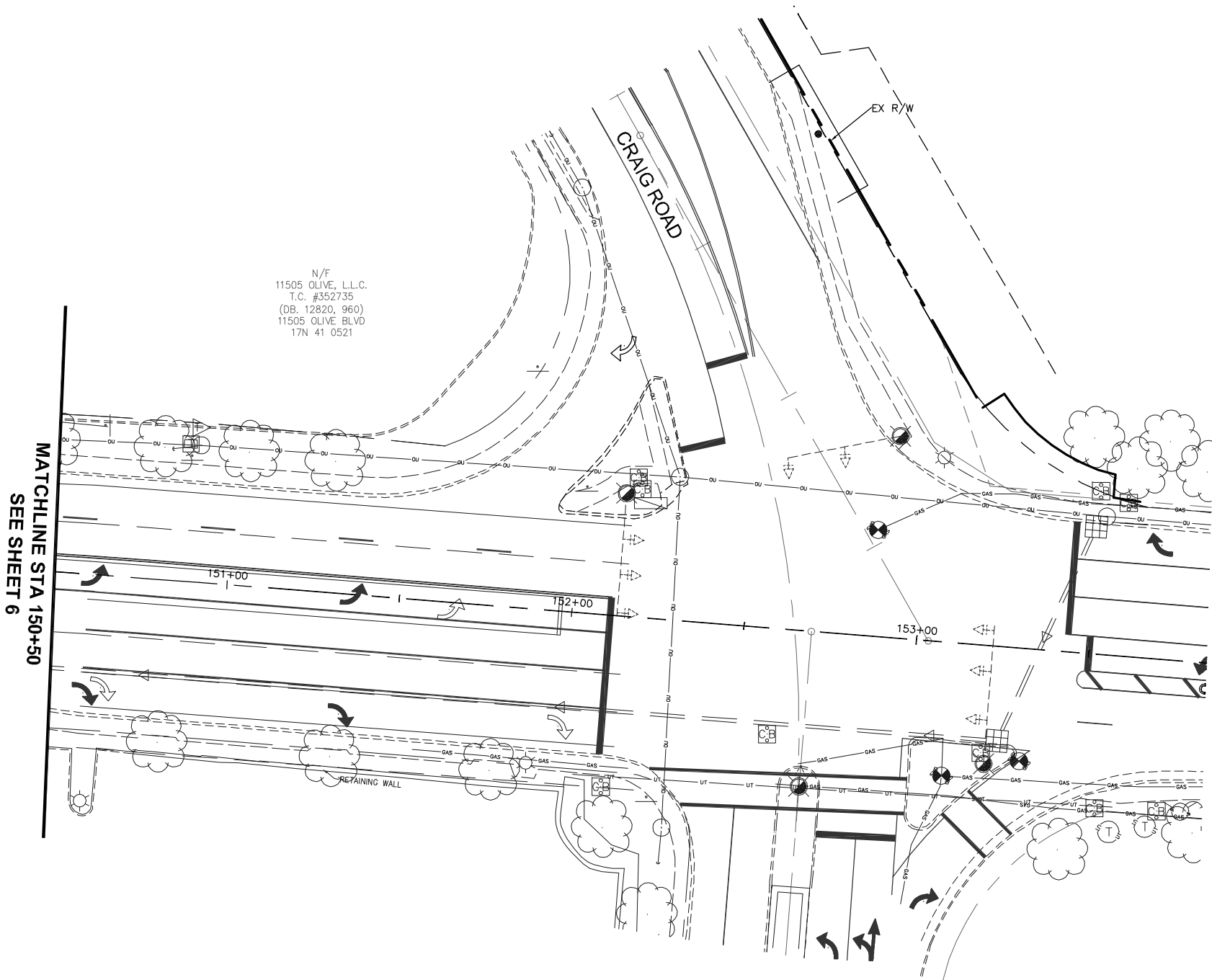
[illegible]

**TRANSPORTATION
ENGINEERS+PLANNERS**

12400 OLIVE BLVD, SUITE 430
CHICAGO, IL 60655
(312) 878-6644

450 COTTONWOOD RD, SUITE B
GLENN CARBON, IL 62034
(618) 656-2612
www.cbtraffic.com

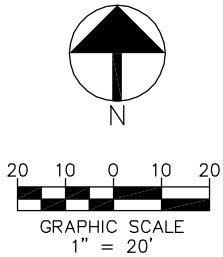
PLAN SHEET
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION
CREVE COEUR, MO



N/F
11505 OLIVE, L.L.C.
T.C. #352735
(DB. 12820, 960)
11505 OLIVE BLVD
17N 41 0521

LEGEND	
EX	EXISTING
PR	PROPOSED
TBR	TO BE REMOVED
TYP	TYPICAL
DSY	DOUBLE SOLID YELLOW
SYL	SOLID YELLOW LINE
SWL	SOLID WHITE LINE
WSD	WHITE SKIP DASH
L&S	LETTERS & SYMBOLS
●	PR SIGN
■	PR CURB REFLECTOR
▬▬▬	PR PCC MEDIAN PLANTER WALL
▬▬▬	PR PCC MEDIAN PLANTER WALL - SQUARE END SECTION
▬▬▬	PR PCC MEDIAN PLANTER WALL - ROUND END SECTION
○	PR RED KNOCKOUT ROSES
▨	STAMPED PCC, MEDIANS

LIGHTING LEGEND	
---	PR CONDUIT (TRENCHED)
---	PR CONDUIT (PUSHED)
■	PR PULLBOX
⊕	PR LIGHT STANDARD



NOTE:
PROPOSED PAVEMENT MARKING TO BE PERFORMED
BY OTHERS AND SHOWN FOR INFORMATION ONLY.
SEE MODOT'S PLANS FOR RESURFACING OLIVE BLVD

UTILITIES LOCATES:
MoDOT - (314) 340-4100
*FIBER OPTIC MAY BE PRESENT

TRANSPORTATION
ENGINEERS+PLANNERS

13400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644
450 COTTONWOOD RD, SUITE 8
GLEN CARBON, IL 62034
(618) 656-2613
www.ctbruffrill.com

DATE	DESCRIPTION
xx/xx/xx	

COUNTY		ST. LOUIS
JOB NO.		82-14
CONTRACT ID.		
MODOT PROJECT NO.		6S1872B
BRIDGE NO.		
DISTRICT	SHEET NO.	
SL	7	
ROUTE	STATE	
340	MO	
DATE PREPARED		12/4/14
CIVIL ENGINEER		

NOT APPROVED
DATE FOR CONSTRUCTION
12/14/14

neerir
00381

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

[illegible]

RIGID CONDUIT																	
SHEET			TRENCHED(in)				PUSHED(in)				EXTERNAL ON STRUCTURE				TRENCHING		
NO.	FROM	TO	LOCATION	CIR	2"	3"	4"	5"	3"	4"	2"	3"	4"	5"	T1	T2	T3
		9	.	C-1/ C-2					12								
	9	5	.	C-1/ C-2					35								
	5	4	.	C-2					216								
	4	4	.	C-2					8								
	4	3		C-2					101								
	3	3		C-2					6								
	3	2		C-2					620								
	2	2		C-2					69								
	2	1		C-2					120								
	1	1		C-2					34								
	5	5		C-1					11								
	5	6		C-1					120								
	6	6		C-1					10								
	6	7		C-1					569								
	7	7		C-1					7								
	7	8		C-1					120								
	8	8		C-1					12								
TOTALS (FEET):									2070								

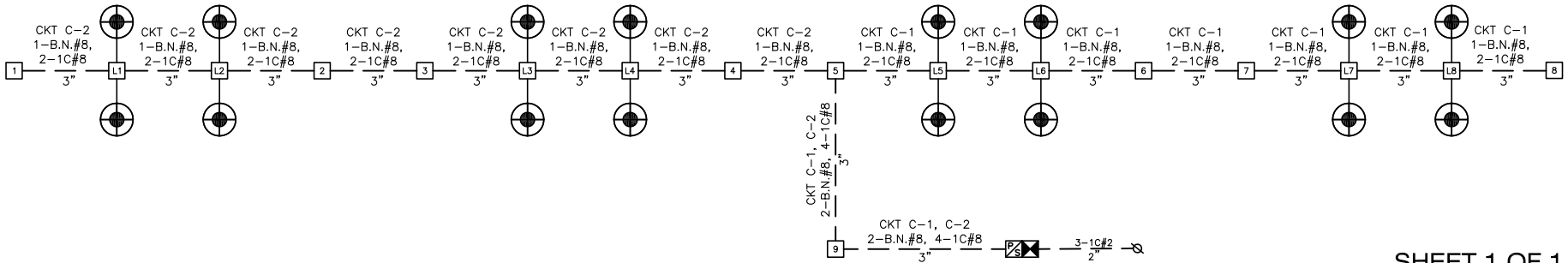
[illegible]

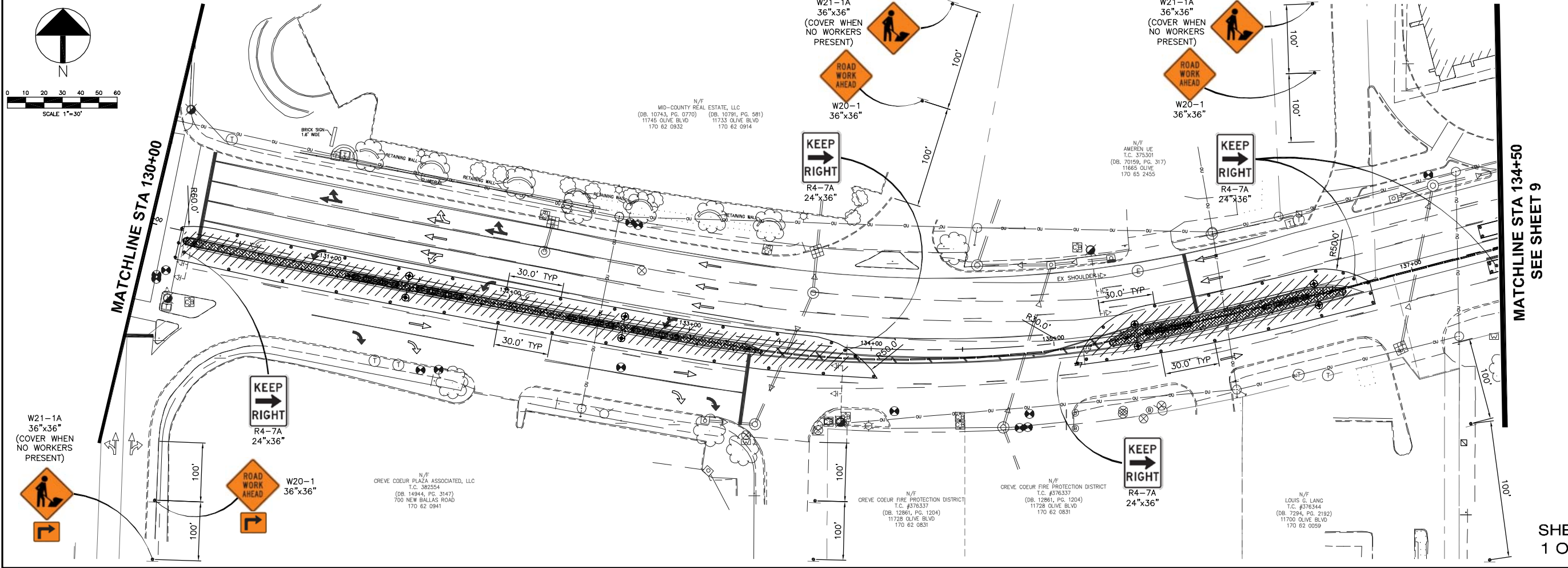
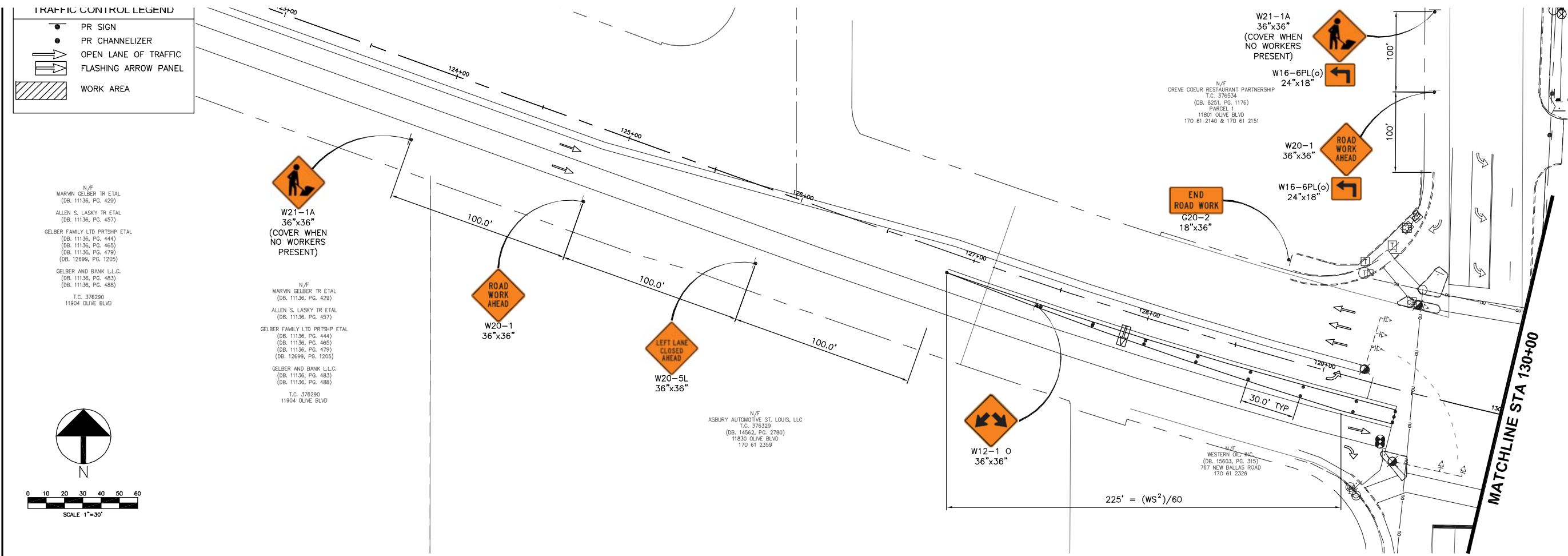
2 COND. & 1 B.N., #8 AWG				
SHEET NO.	CONT. STA.	CIRCUIT	FROM	1-COND. 1-B.N.
		C-1		1906 953
		C-2		2558 1279
SUBTOTAL:			4464	2232
TOTAL:			4470	2240

3 COND. #2 AWG				
SHEET NO.	CONT. STA.	CIRCUIT	FROM	1-COND.
				.
SUBTOTAL:				.
TOTAL:				.

PRICE BID FOR POWER SUPPLY ASSEMBLY SHALL INCLUDE CABLE-CONDUIT, CONDUIT AND TRENCHING BETWEEN ASSEMBLY AND UTILITY CO. FACILITIES.

SECONDARY SERVICE				POWER SUPPLY ASSEMBLIES								CONTROL STATIONS											
SHEET NO.	STATION	OFFSET	LOCATION	TYPE 3(SIGNAL)		TYPE 2(PED)		✓ P.S. ☐				SHEET NO.	STATION	OFFSET	LOCATION	CONTROL LETTER	BREAKERS (AMPS)					BASE	MOUNT
				LT ONLY 120V		LT ONLY 240V	LT+ SIG 240V	LT ONLY 480V	LT+ SIG 480V	DIRECTN TO FACE	BRKR LITE						AMPS SIGS	AMPS CIR	MAIN	1	2	3	4
	138+83	35.0' R	OLIVE BOULEVARD				1						138+83	35.0' R	OLIVE BLVD	C	100	30	30	30	30	1	
TOTALS:							1				EACH						TOTALS, EACH:						---
STD.M901.80																STD.M901.30							





NOT APPROVED FOR CONSTRUCTION

CIVIL ENGINEER

DATE PREPARED 12/4/14

ROUTE 340 STATE MO

DISTRICT SL SHEET NO. 9

COUNTY ST. LOUIS

JOB NO. 82-14

CONTRACT ID.

MODOT PROJECT NO. 6S1872B

BRIDGE NO.

DESCRIPTION

DATE 10.28.14

TRANSPORTATION ENGINEERS+PLANNERS

13400 OLIVE BLVD, SUITE 430 ST. LOUIS, MO 63141 (314) 878-6644

450 COTTONWOOD RD, SUITE 8 GLEN CARBON, IL 62034 (618) 656-2612

www.cbtraffic.com

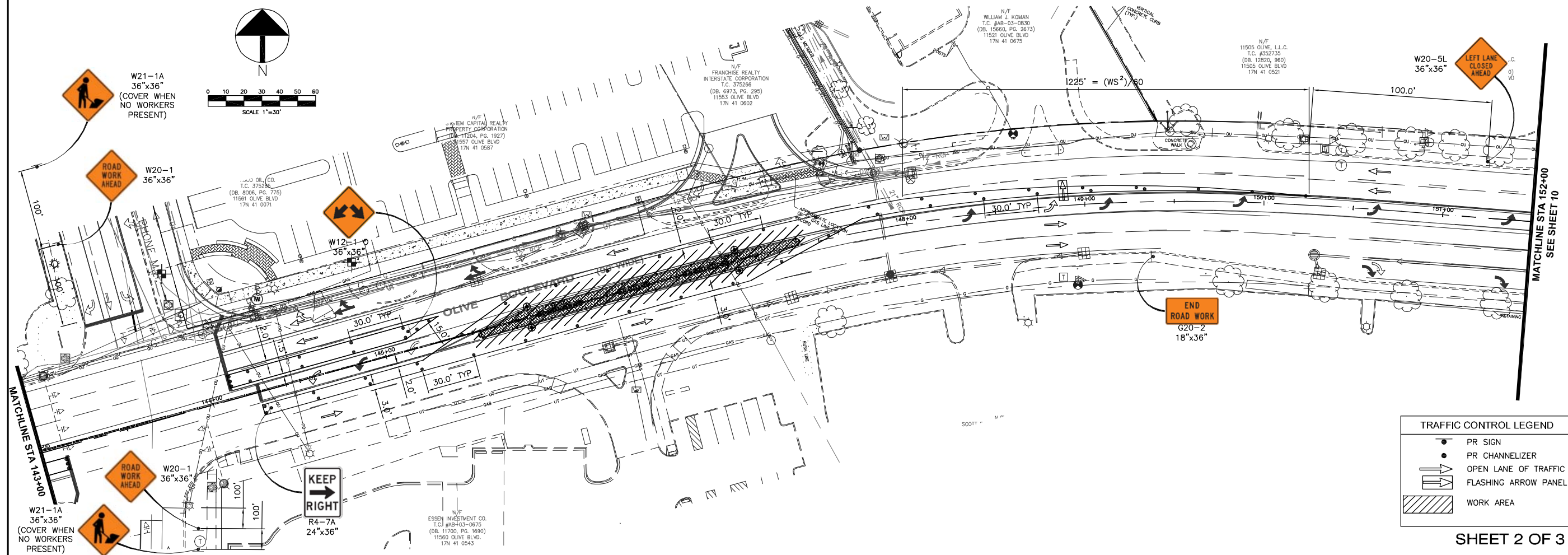
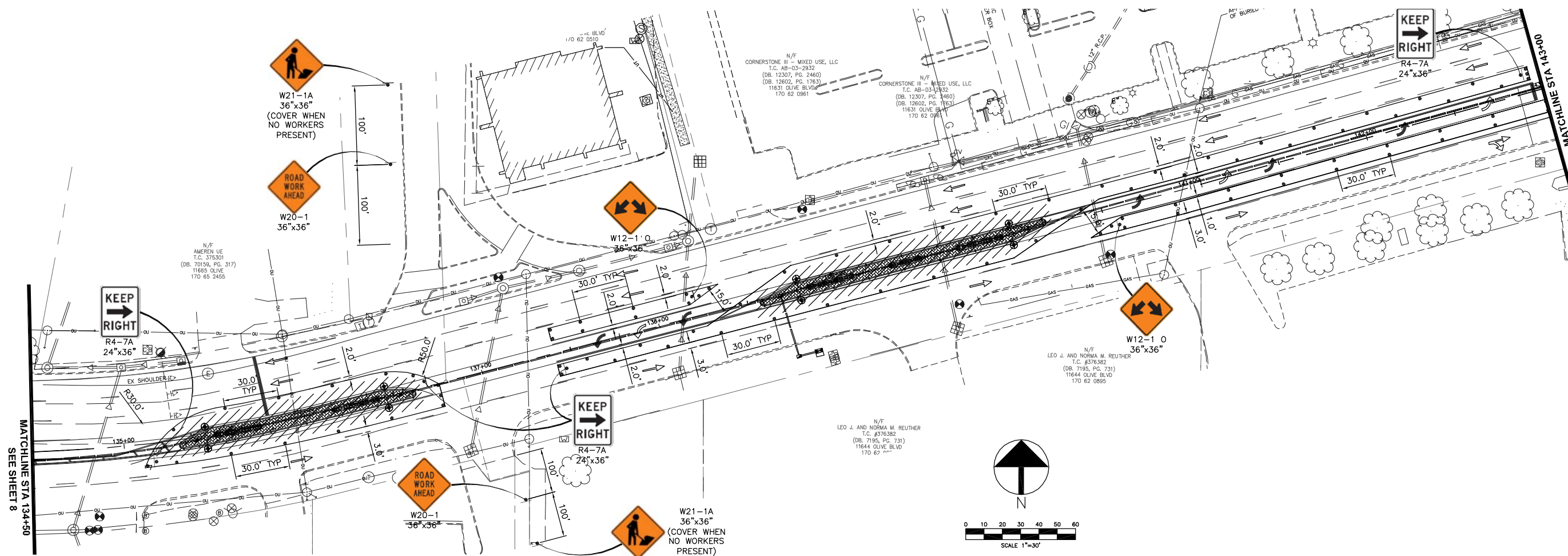
TRAFFIC CONTROL MO ROUTE 340 (OLIVE BLVD) MEDIAN INSTALLATION

CREVE COEUR, MO

SHEET 1 OF 3

Packet Pg. 21

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SIGNED



00381 NOT APPROVED FOR CONSTRUCTION DATE 1/22/14	
CIVIL ENGINEER	
DATE PREPARED	
12/4/14	
ROUTE	STATE
340	MO
DISTRICT	SHEET NO.
SL	10
COUNTY	
ST. LOUIS	
JOB NO.	
82-14	
CONTRACT ID.	
MODOT PROJECT NO.	
6S1872B	
BRIDGE NO.	

DATE	DESCRIPTION
10.28.14	



**TRANSPORTATION
ENGINEERS+PLANNERS**

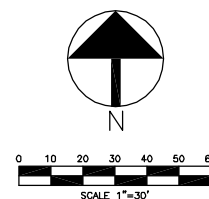
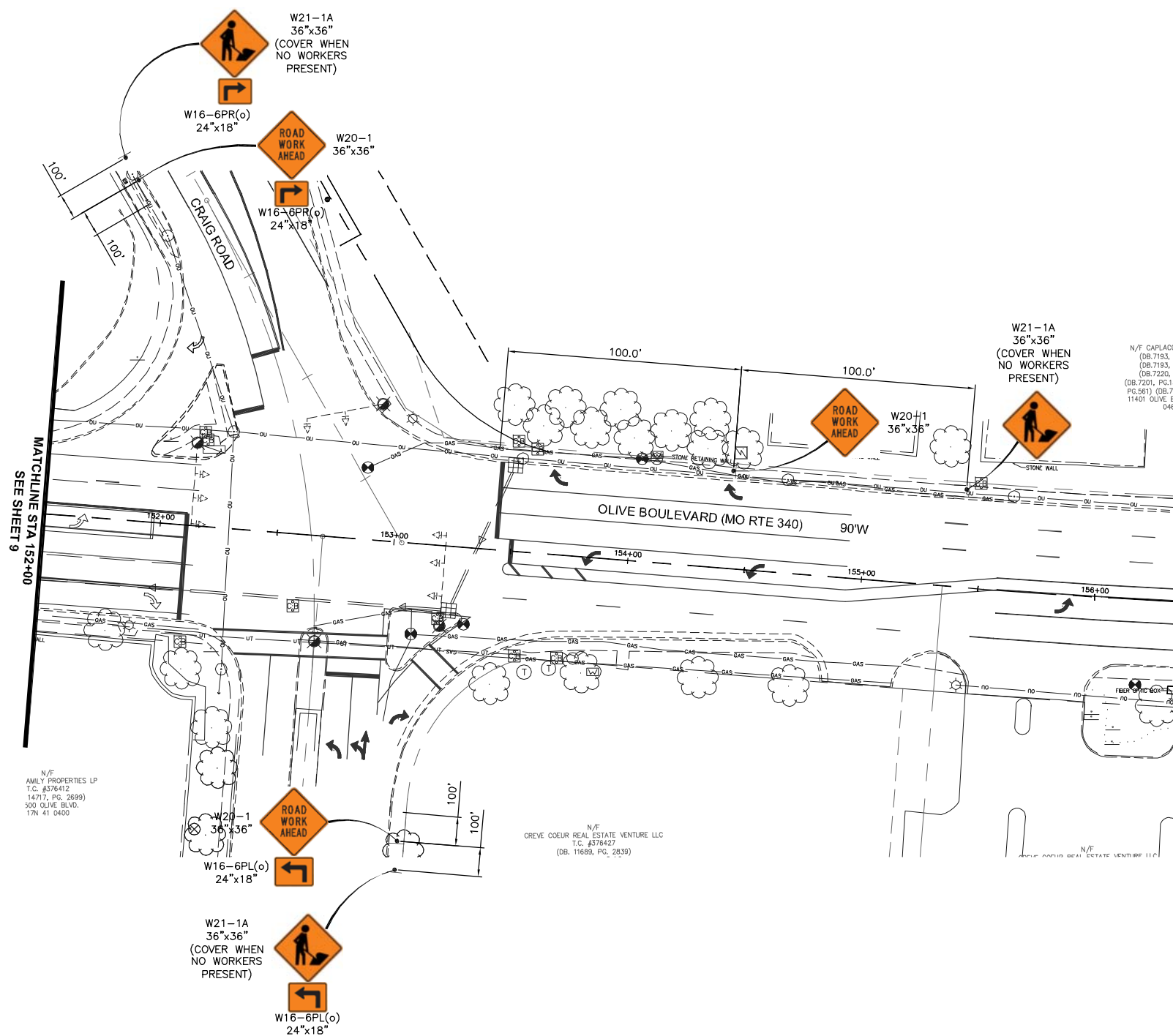
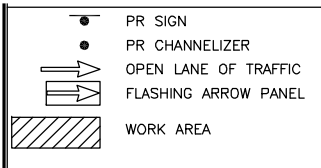
12400 OLIVE BLVD; SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644

450 COTTONWOOD RD, SUITE B
GREENSBORO, NC 27404
(919) 656-6032

www.cbtraffic.com

TRAFFIC CONTROL
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION

CREVE COEUR, MO



DATE	DESCRIPTION
10.28.14	



**TRANSPORTATION
ENGINEERS+PLANNERS**

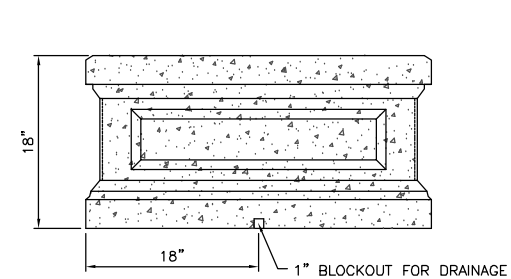
GBB

12400 OLIVE BLVD., SUITE 430
DALLAS, TX 75244
(314) 878-6644

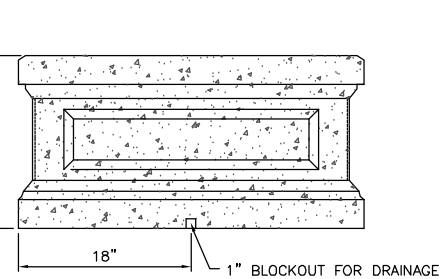
450 COTTONWOOD RD., SUITE B
GLYNN CARBON, IL 60334
(312) 636-2612

www.cbtraffc.com

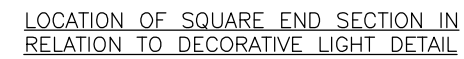
TRAFFIC CONTROL
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION
CREVE COEUR, MO



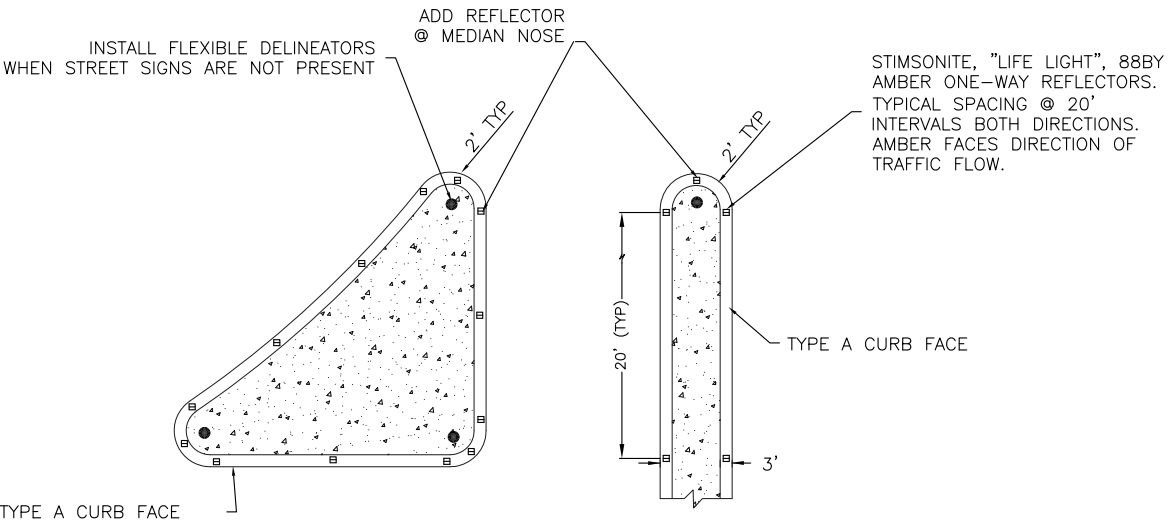
PCC MEDIAN PLANTER WALL – SQUARE END
SECTION DETAIL



PCC MEDIAN PLANTER WALL – ROUND END
SECTION DETAIL

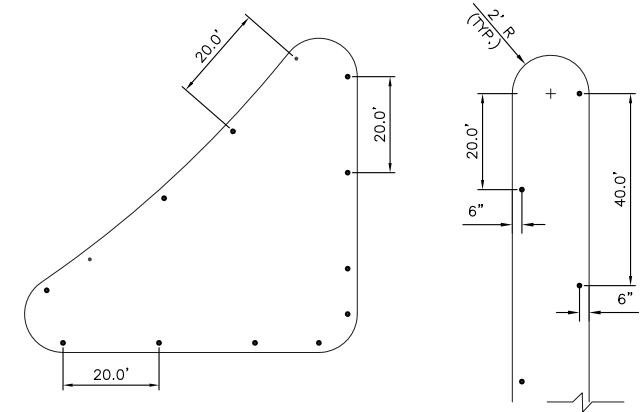


Attachment: Olive Median Plans (12-04-2014) (1181 : Olive TDD Decorative Median)



TRAFFIC ISLANDS

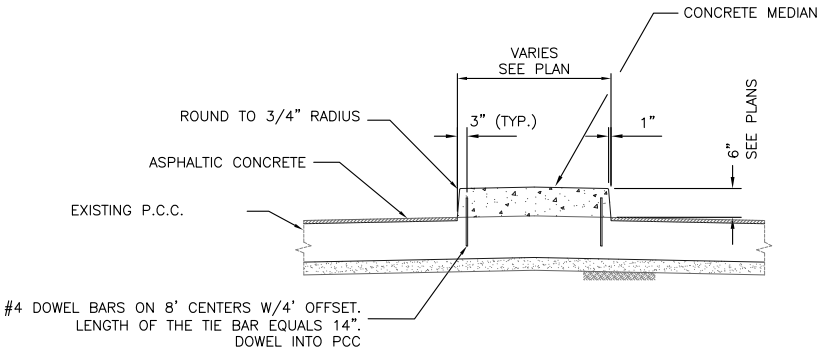
CONCRETE MEDIAN STRIP



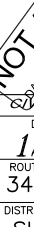
DOWEL PLACEMENT ODD SHAPE MEDIAN STRIP

DOWEL PLACEMENT CONCRETE MEDIAN STRIP

NOTE:
MEDIANS SHALL BE DYED AND
STAMPED TO MATCH THE EXISTING
MEDIANS WEST OF NEW BALLAS
ROAD



DOWELED ON CONCRETE MEDIAN/ISLAND DETAIL



**TRANSPORTATION
ENGINEERS & PLANNERS**

12400 OLIVE BLVD. SUITE 430
ST. LOUIS, MO 63141
(314) 878-6644

450 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 656-2612

www.cbbraffic.com

DATE 12/4/14	STATE MO
ROUTE 340	SHEET NO. 13

COUNTY
 ST. LOUIS

JOB NO.
 82-14

CONTRACT ID.

MODOT PROJECT NO.
 6S1872B

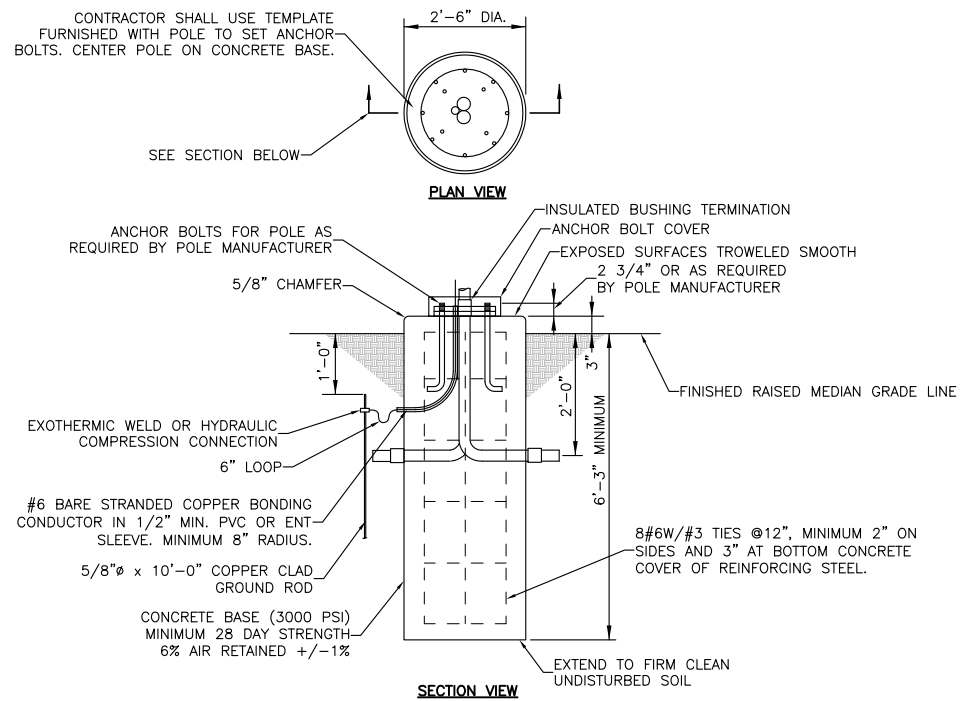
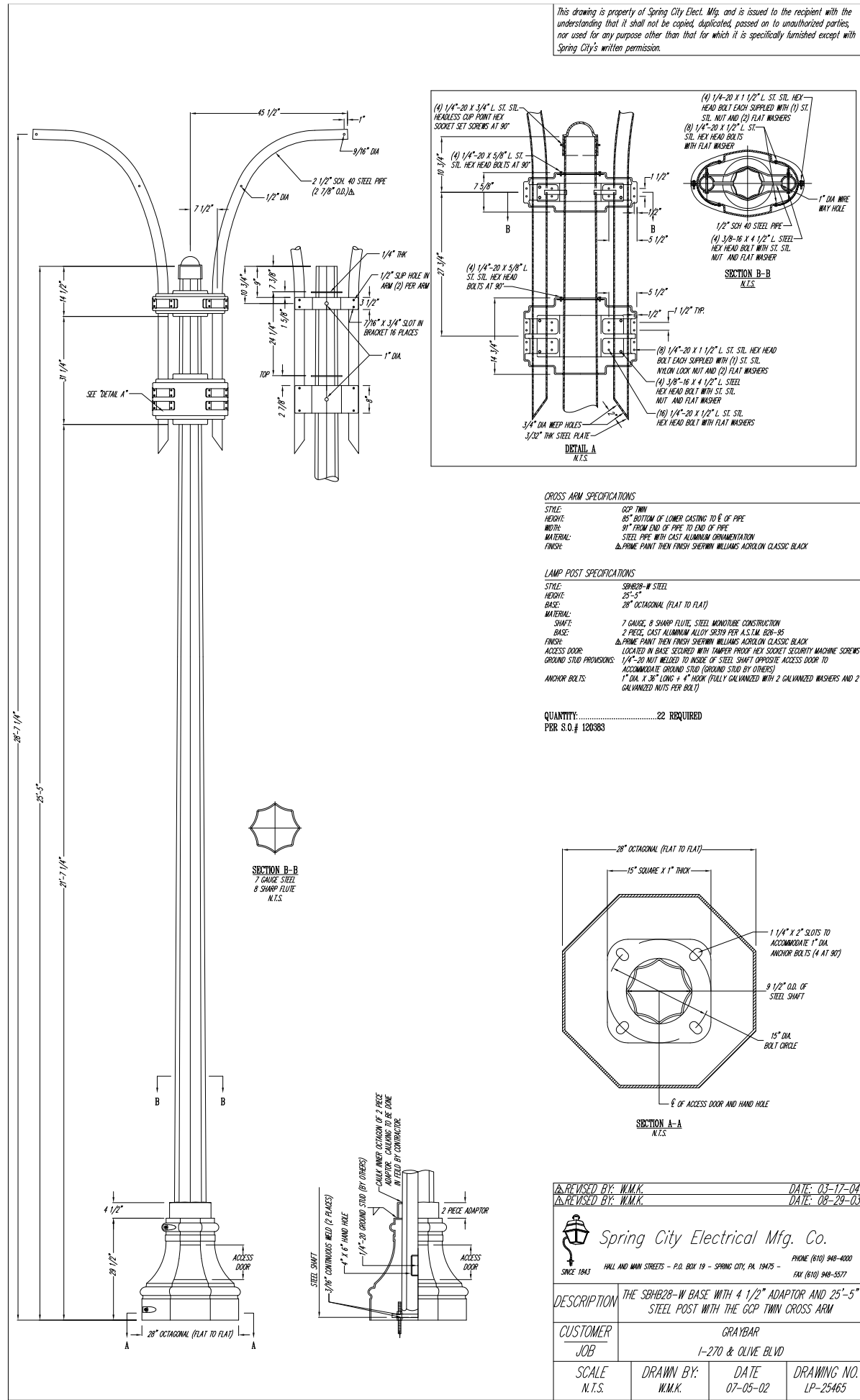
BRIDGE NO.

DATE	DESCRIPTION

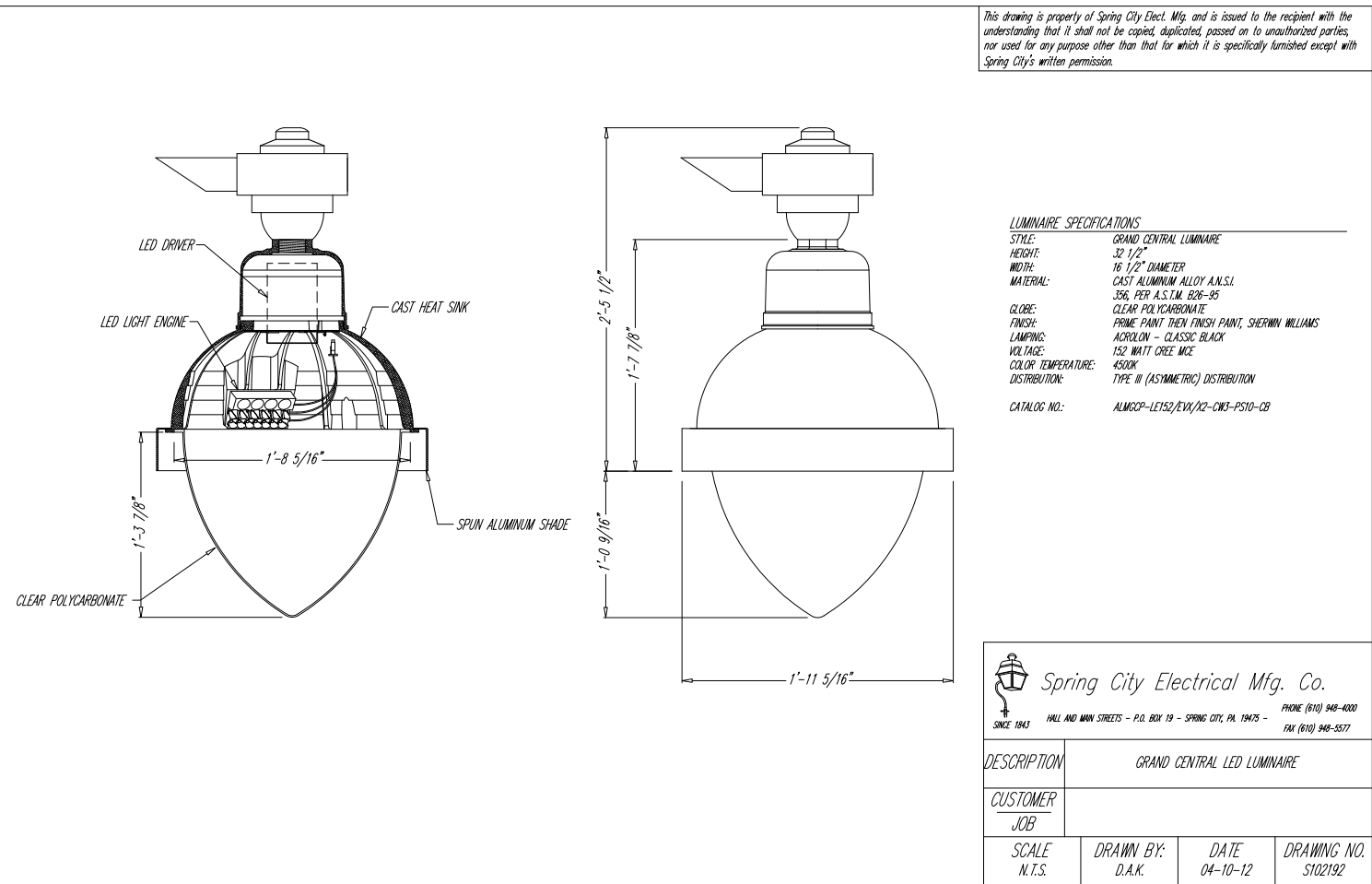
NOT APPROVED
 FOR CONSTRUCTION
 DATE 11/24/14
 100387

Packet Pg. 25

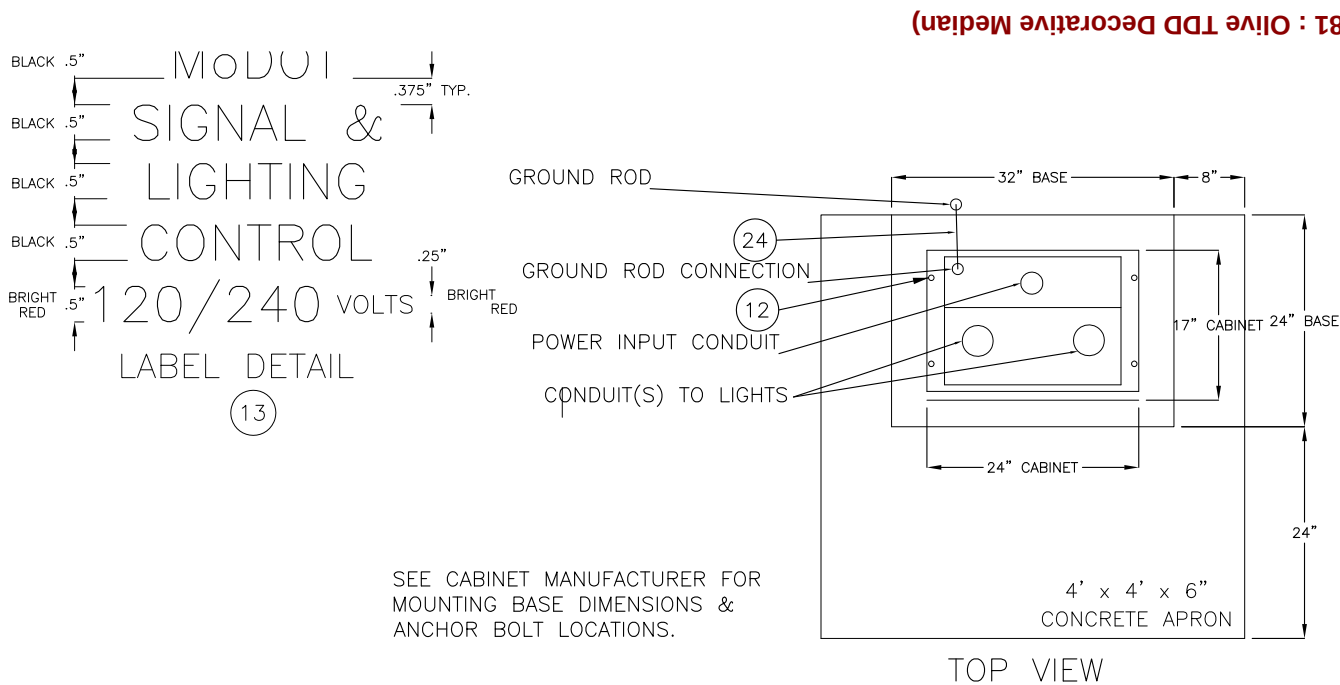
SPECIAL SHEET
MO ROUTE 340 (OLIVE BLVD)
MEDIAN INSTALLATION
CREVE COEUR, MO



RAISED PLANTER POLE BASE FOUNDATION

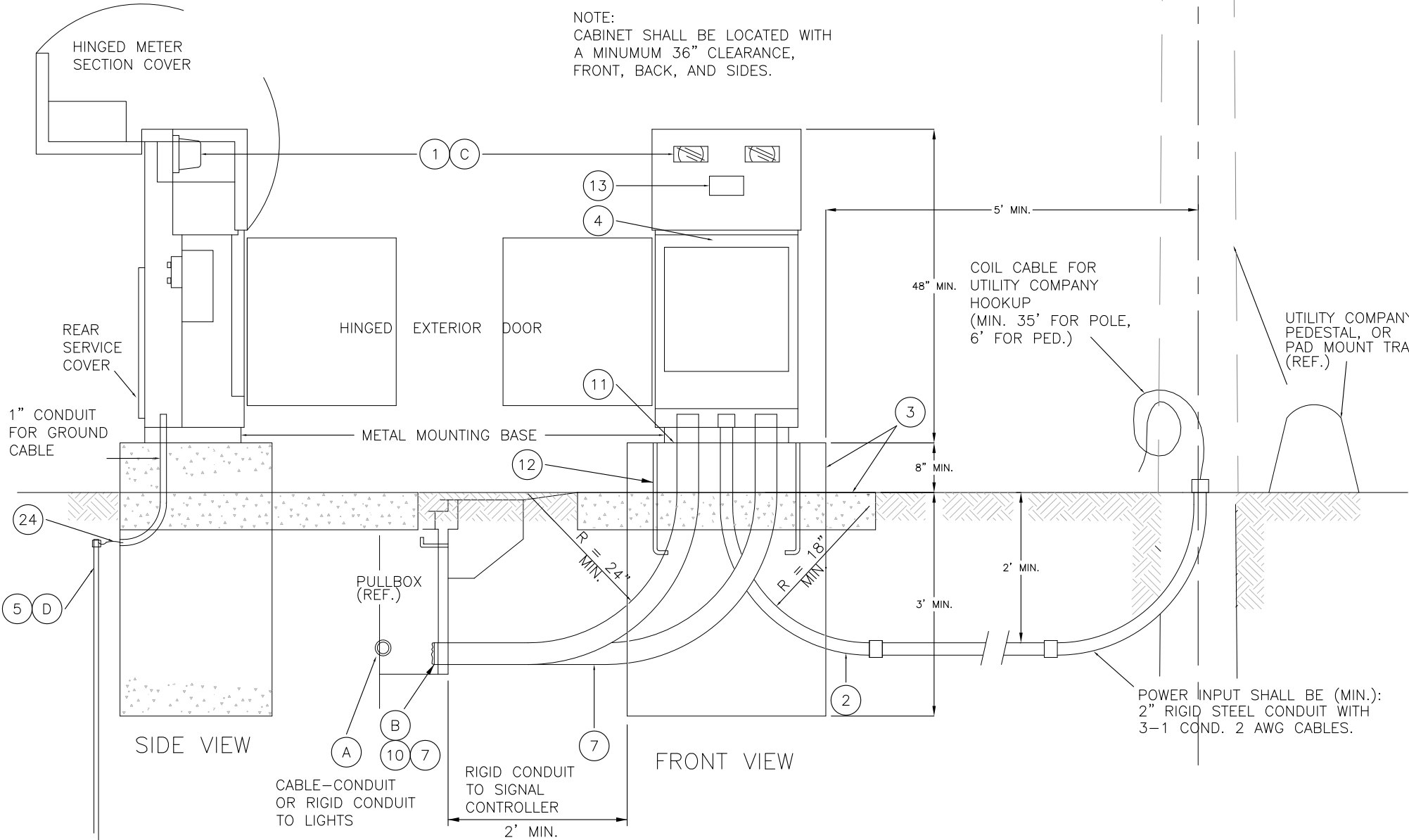


Attachment: Olive Median Plans (12-04-2014) (1181 : Olive TDD Decorative Median)



SEE CABINET MANUFACTURER FOR
MOUNTING BASE DIMENSIONS &
ANCHOR BOLT LOCATIONS.

NOTE:
CABINET SHALL BE LOCATED WITH
A MINIMUM 36" CLEARANCE,
FRONT, BACK, AND SIDES.



POWER INPUT SHALL BE (MIN.):
2" RIGID STEEL CONDUIT WITH
3-1 COND. 2 AWG CABLES.

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

LIST OF MATERIALS	
ITEM	DESCRIPTION
1	METER SOCKET, 200 AMP
2	RIGID STEEL CONDUIT, 2" MIN. TO UTILITY CO. FACILITIES
3	CLASS B CONCRETE, 0.9 C.Y.±
4	NEMA 4, DUST-TIGHT, WATERTIGHT, CABINET
5	GROUND ROD, 3/4" DIA. X 8' MIN. (MIN. 8' IN SOIL)
7	RIGID CONDUIT TO FIRST PULL BOX (SEE PLANS FOR SIZE)
10	PLIABLE DUCT SEALANT
11	LIFETIME SILICONE CAULK
12	ANCHOR BOLTS, 3/4" - 11 x 18" LONG BOLTS, HOT DIP GALVANIZED, 4 REQUIRED
13	WEATHERPROOF ADHESIVE LABEL, VINYL RAISED LETTERING (OR EQUIVALENT, SEE DETAIL)
24	GROUND WIRE, #2 AWG, MIN.

NOTES

- (A) IF CABLE-CONDUIT IS SPECIFIED, THE CONDUIT SHALL BE CUT AWAY FROM CABLES BETWEEN PULL BOX AND CONTROL STATION.
- (B) LIGHTING SYSTEM VOLTAGE AS SPECIFIED ON PLANS (120 OR 240 VOLTS). IF LIGHTS ARE TO BE MOUNTED ON SIGNAL POSTS, VOLTAGE MUST BE 120 VOLTS. 240 VOLT LIGHTS ARE NOT TO BE MOUNTED ON OR WIRED THROUGH SIGNAL POSTS, CONDUIT, OR PULL BOXES.
- (C) CONTROLLER CABINET WITH POWER SUPPLY SHALL BE ALUMINUM OR STAINLESS STEEL. ALL HARDWARE, HINGES, CATCHES, ETC. SHALL BE STAINLESS STEEL. METER SOCKET AND OTHER EQUIPMENT AND MATERIALS SHALL BE U.L. APPROVED, AND CONFORM TO THE REQUIREMENTS OF THE UTILITY COMPANY OR MUNICIPALITY PROVIDING POWER.
- (D) IF SUBSURFACE CONDITIONS EXIST WHICH PROHIBIT THE PLACEMENT OF THE GROUND ROD IN A VERTICAL POSITION, THE ROD MAY BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES FROM VERTICAL OR BURIED IN A TRENCH AT LEAST 30 IN. DEEP. CONNECTION TO GROUND ROD SHALL BE CADDLED.
- (E) UTILITY COMPANY SHALL DECIDE IF LIGHTNING ARRESTERS ARE TO BE CONNECTED ON THE LOAD OR LINE SIDE OF THE METER. THE UTILITY COMPANY SHALL ALSO DECIDE WHERE THE LIGHTNING ARRESTER SHALL BE MOUNTED.

GENERAL NOTES:

ALTERNATE CABINET DIMENSIONS WILL BE ALLOWED AS APPROVED BY THE ENGINEER.
INTERIOR CABINET VOLUME SHALL BE EQUAL TO OR GREATER THAN THAT SHOWN ON
PLANS AND PROPER CLEARANCES SHALL BE PROVIDED FOR ALL EQUIPMENT.
CONCRETE BASE DIMENSIONS SHALL BE MODIFIED TO FIT THE CABINET SUPPLIER.

PLACEMENT OF ALL ITEMS SHALL BE APPROVED BY THE ENGINEER.

CABINET SHALL BE LOCATED AWAY FROM TRAFFIC. TOP MOUNT PHOTO CONTROL SHALL FACE AN OPEN SKY. SIDE MOUNT PHOTO CONTROL SHALL FACE NORTH.

SEE PLANS FOR CIRCUIT WIRING; MAXIMUM LOADING PER CIRCUIT IS 7,400 WATTS.

SCHEMATIC DIAGRAM SHALL BE MOUNTED ON INSIDE OF CABINET DOOR.

THE UTILITY SHALL BE NOTIFIED IN WRITING 30 DAYS PRIOR TO DATE SERVICE WILL BE REQUIRED.

ALL CABINET OPENINGS SHALL BE COVERED AND SEALED WITH LIFETIME SILICONE CAULK.

ALL MATERIALS REQUIRED EXCLUDING REFERENCE ITEMS AS SHOWN ON DRAWING SHALL BE INCLUDED IN PRICE BID FOR '120/240V COMBINATION BASE MOUNTED POWER SUPPLY AND CONTROL STATION'.

CABLE AND CONDUIT FROM POWER SUPPLY ASSEMBLY TO UTILITY COMPANY FACILITIES SHALL BE INCLUDED IN PRICE BID FOR '120/240V COMBINATION BASE MOUNTED POWER SUPPLY AND CONTROL STATION'.

[illegible]

**TRANSPORTATION
ENGINEERS+PLANNERS**

12400 OLIVE BLVD, SUITE 430
ST. LOUIS, MO 63141
(314) 978-6644

450 COTTONWOOD RD, SUITE B
GLEN CARBON, IL 62034
(618) 956-2612

www.cbbtraffic.com

120-240v COMBINATION BASE
MOUNTED POWER SUPPLY &
LIGHTING CONTROL STATION
DUAL METER

MODOT SPECIAL SHEET



DEPARTMENT OF PUBLIC WORKS STAFF MEMORANDUM

DATE: December 12, 2014

TO: Planning and Zoning Commission

CC: Paul Langdon, Director of Community Development
Jim Heines, Director of Public Works

FROM: Matt Wohlberg, P.E., City Engineer

SUBJECT: Review and Recommendation of Approval for Updates
Chapter 415 Flood Hazard Control Regulations

The Federal Emergency Management Agency (FEMA) requires that the City of Creve Coeur adopt an updated floodplain regulation that is based upon more accurate maps. This regulation will also more accurately reflect the City's practices and use of the Building Code. City staff has reviewed the new regulations and seeks the Planning and Zoning Commission's recommendation of approval of the new regulations to the City Council.

Background

The City's floodplain regulations are defined in the Municipal Code under Chapter 415 Flood Hazard Control Regulations. This Chapter regulates the area that has been defined through mapping and studies by FEMA as having a 1% chance of flooding in any given year. This area is commonly referred to as the 100-year flood plain.

The stated purposes of this regulation are to promote safety, minimize losses related to flooding, abide by federal law, and to maintain the eligibility of the City and its residents to participate in the National Flood Insurance Program (NFIP). The NFIP allows residents in the City to purchase flood insurance through FEMA. Without this program, the City's residents would have few, if any, options with regard to flood insurance.

Mapping and Regulation Updates

FEMA has recently completed its revisions to the floodplain regulations and the associated mapping, and FEMA now requires that the City adopt the new regulations by February 5, 2015, in order to remain a participant in the NFIP.

Mapping. Most of the mapping that is referenced in the City's current flood hazard regulations was adopted in 1995. FEMA's recent update of the mapping was completed around 2010 and used newer technology to better represent the contours of the land and to provide a more accurate depiction of the impacts of flooding. Grading changes by homeowners and subdivision developments are typically reflected on the new maps.

The existing maps superimpose the floodplain information onto a map of street centerlines. This information is new maps also use aerial photography to make the maps easier to understand and use.

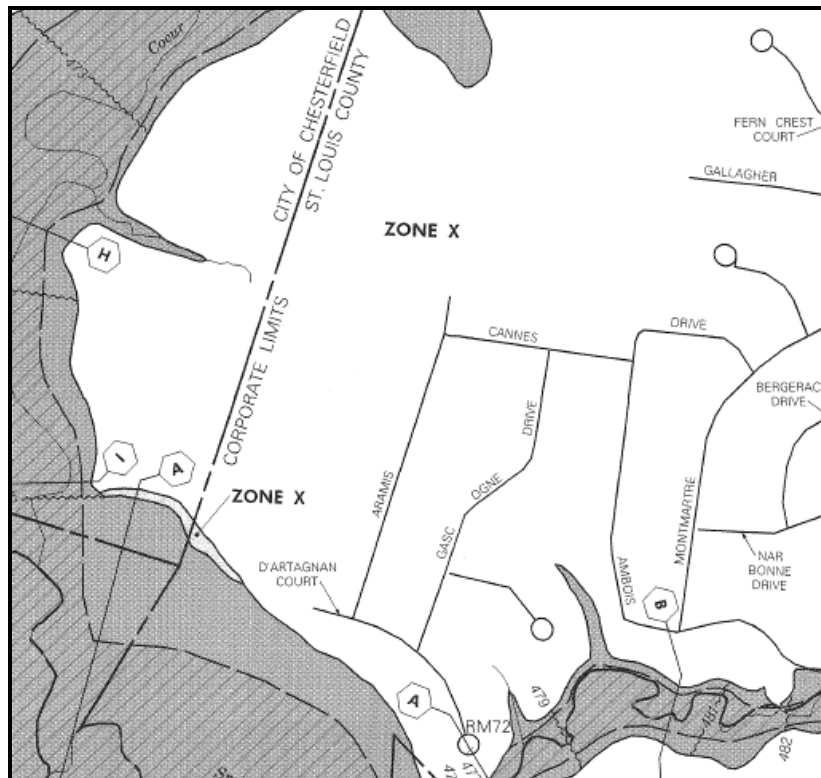


Figure 1: Existing FIRM. This sample of the existing Flood Insurance Rate Map (FIRM) shows the western edge of the City, but the map predates much development in the area and does not yet reflect the annexation of the area from St. Louis County.

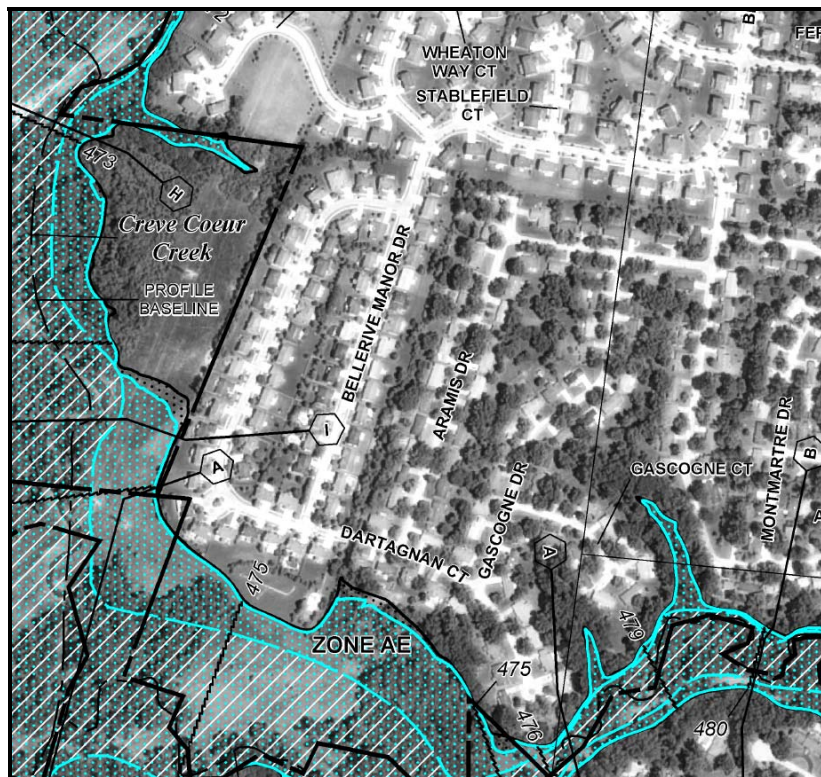


Figure 2: Proposed FIRM. This is sample of the proposed Flood Insurance Rate Map (FIRM) for the same area as shown above in Figure 1. The aerial photography and updated information allow for users of the map to ascertain the risk to properties along newer streets.

The increased accuracy of the mapping has meant a slight adjustment of where the boundaries and location of the floodplain is shown on the maps. This adjustment reflects better information on the maps and has nothing to do with changing flood elevations (note the similar flood elevations shown in Figures 1 and 2). A recent exhibit prepared for a property review near the intersection of Ladue Road and Chasselle Lane illustrates how the new floodplain delineation improves the credibility of the map.



Figure 3: According to the existing floodplain maps, the creeks themselves (dark blue lines) are not in the flood plain (light blue hatching). Data source: St. Louis County website.



Figure 4: The proposed revisions to the floodplain maps better align with the creeks. The floodway (solid light blue) lines up well with the creek (dark blue line), and all of the creeks are within the flood plain (hatching). Data source: St. Louis County website.

The adjustment is a correction of where the floodplain is depicted on the map. The impact to homeowners is that lenders use these maps to determine who is required to carry a flood-insurance policy for their home. A more accurate map benefits homeowners by giving them the best possible information to understand their risk. Homeowners may not want to pay flood insurance if the actual risk is quite low and insurance is not required. Conversely, a flood event is the wrong time to learn that one's property is actually at risk.

The updated maps may also cause some frustration or surprise as some 62 properties in Creve Coeur will be put into the regulatory flood plain, while some 70 properties will be removed from it. (Six of the properties added to the floodplain, and five of the properties removed from the floodplain, are either City parks or common ground.) The City sent letters to the owners of these properties to inform them of the anticipated change and to invite them to attend the Planning and Zoning Commission meeting to participate in the discussion regarding the update.

Regulations. The proposed Flood Hazard Control Regulations (Chapter 415 of the Municipal Code) incorporates the revisions required by FEMA into the City's existing regulation. The updated regulation closely matches the City's existing Chapter 415, with much of the chapter remaining unchanged. The revisions to the existing regulation generally involve text revisions, clarifications, and updates that reflect the City's current practices.

One of the most significant changes is that the City may need to create a separate Floodplain Development Permit that would apply to projects within or near the regulatory flood plain. This permit would essentially be a rider that would fall under and attach its requirements to the Building Permit or Site Improvement Permit for the project. This change will be simply one of documentation to formalize a process that is already in place. It will also help resolve some confusion from developers who seek to satisfy the permit requirements but cannot find the permit itself.

Flood Insurance Rates. In conjunction with the updated floodplain information, but separate from municipal regulations, is a move by FEMA toward a more solvent and equitable flood insurance program. Those who are in greater risk of flood damage and those who have greater assets at risk should expect to pay more for flood insurance. Insurance rates are to increase incrementally over a period of several years.

Schedule

Several milestones involving the adoption of the updated floodplain regulation have recently occurred or will soon take place:

- November 18 Public open house held at the Government Center to discuss the mapping updates with residents.
- December 8 City Council's first reading of the updated regulations
- December 15 Public hearing for the updated regulations at the Planning & Zoning Commission meeting
- January 12 Updated regulations become eligible for final reading and passage at the City Council meeting
- February 5 Deadline for adoption of updated regulations.

This schedule allows ample time for approval of the new floodplain regulation before the February 5, 2015 deadline.

The version of Chapter 415 that is included in the Commission's packet for consideration is a redline version of the chapter that received the first reading at City Council on December 8 and that has been approved by the State Emergency Management Agency (SEMA). This redline

version makes several text edits and some clarifications of the regulation's intent, and it has been submitted to SEMA for approval.

Recommendation

City staff recommends the adoption of the updated version of Chapter 415 of the Municipal Code in order to make official the most accurate floodplain mapping available and in order to allow the residents of Creve Coeur to participate in the National Flood Insurance Program.

The City's Stormwater Committee considered the subject updates to the Flood Hazard Control Regulations at their meeting on November 12, 2014. The Committee voted in unanimous support of the City's adoption of the updated regulations.

Requested Action

City staff requests that the Commission consider the proposed update to the City's Flood Hazard Control Regulations and any information or issues brought forward at the public hearing and that the Commission make a recommendation to the City Council regarding approval of the update.

A sample motion would be as follows:

I move that the Planning and Zoning Commission recommend approval of the updated Chapter 415 Flood Hazard Control Regulations to the Creve Coeur City Council.

The Commission's choices are to recommend approval of the updated Chapter 415, to recommend approval with conditions or revisions, or to recommend disapproval. City staff would like to emphasize that the City will put its participation in the National Flood Insurance Program in jeopardy if the City fails to adopt floodplain regulations that are acceptable to Federal Emergency Management Agency.

CHAPTER 415: FLOOD HAZARD CONTROL REGULATIONS

SECTION 415.010: STATUTORY AUTHORIZATION, FINDINGS OF FACT, AND PURPOSES

- A. *Statutory Authorization.* The Legislature of the State of Missouri has in RSMo 89.020 delegated the responsibility to local governmental units to adopt floodplain management regulations designed to protect the health, safety, and general welfare. The City derives further authority from its status as a charter city, from Chapter 89 RSMo and other applicable law. Therefore, the City Council of the City of Creve Coeur, Missouri, ordains as follows.
- B. *Findings of Fact.*
1. *Flood losses resulting from periodic inundation.* The special flood hazard areas of the City of Creve Coeur, Missouri are subject to inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base; all of which adversely affect the public health, safety and general welfare.
 2. *General causes of these flood losses.* These flood losses are caused by:
 - a. the cumulative effect of development in any delineated floodplain causing increases in flood heights and velocities; and
 - b. the occupancy of flood hazard areas by uses vulnerable to floods, hazardous to others, inadequately elevated, or otherwise unprotected from flood damages.
 3. *Methods used to analyze flood hazards.* The Flood Insurance Study (FIS) that is the basis of this ordinance uses a standard engineering method of analyzing flood hazards which consist of a series of interrelated steps.
 - a. Selection of a base flood that is based upon engineering calculations which permit a consideration of such flood factors as its expected frequency of occurrence, the area inundated, and the depth of inundation. The base flood selected for this ordinance is representative of large floods which are characteristic of what can be expected to occur on the particular streams subject to this ordinance. It is in the general order of a flood which could be expected to have a one percent chance of occurrence in any one year as delineated on the Federal Insurance Administrator's FIS, and illustrative materials for St. Louis County dated February 4, 2015, as amended, and any future revisions thereto.
 - b. Calculations of water surface profiles are based on a standard hydraulic engineering analysis of the capacity of the stream channel and overbank areas to convey the regulatory flood.
 - c. Computation of a floodway required to convey this flood without increasing flood heights more than one (1) foot at any point.
 - d. Delineation of floodway encroachment lines within which no development is permitted that would cause any increase in flood height.
 - e. Delineation of flood fringe, i.e., that area outside the floodway encroachment lines, but still subject to inundation by the base flood.

C. *Statement Of Purpose.* It is the purpose of this ordinance to promote the public health, safety, and general welfare; to minimize those losses described in Section 415.010(B)(1); to establish or maintain the eligibility of the City of Creve Coeur and property owners within the City for participation in the National Flood Insurance Program (NFIP) as defined in 44 Code of Federal Regulations (CFR) 59.22(a)(3); and to meet the requirements of 44 CFR 60.3(d) by applying the provisions of this Chapter to:

1. restrict or prohibit uses that are dangerous to health, safety, or property in times of flooding or cause undue increases in flood heights or velocities;
2. require that uses vulnerable to floods, including public facilities that serve such uses, be provided with flood protection at the time of initial construction; and
3. protect individuals from developing lands that are unsuited for the intended development purposes because of the flood hazard.

SECTION 415.020: GENERAL PROVISIONS

- A. *Lands to Which Chapter Applies.* This ordinance shall apply to all lands within the jurisdiction of the City of Creve Coeur, Missouri, identified as numbered and unnumbered A zones and AE zones on the Flood Insurance Rate Maps (FIRMs) for St. Louis County on map panels 29189C0186K, 29189C0187K, 29189C188K, 29189C189K, 29189C191K, 29189C192K, 29189C193K, and 29189C0194K dated February 4, 2015, as amended, and any future revisions thereto. In all areas covered by this ordinance, no development shall be permitted except through the issuance of a floodplain development permit, granted by the City Council of the City of Creve Coeur or its duly designated representative under such safeguards and restrictions as the City Council of the City of Creve Coeur or the designated representative may reasonably impose for the promotion and maintenance of the general welfare, health of the inhabitants of the Citycommunity, and as specifically noted in Sections 415.050, 415.060, and 415.070.
- B. *Floodplain Administrator.* The City Engineer is hereby designated as the Floodplain Administrator under this Chapter.
- C. *Rules for Interpretation Of District Boundaries.* The boundaries of the Floodway and Floodway Fringe Overlay Districts shall be determined by scaling distances on the Flood Insurance Rate Map. Where interpretation is needed to the exact location of the boundaries of the districts as shown on the Flood Insurance Rate Map, as for example where there appears to be a conflict between a mapped boundary and actual field conditions, the enforcement officer shall make the necessary interpretation. In such cases where the interpretation is contested, the Board of Adjustment will resolve the dispute. The base flood elevation for the point in question shall be the governing factor in locating the district boundary on the land. The person contesting the location of the district boundary shall be given a reasonable opportunity to present his/her case to the board and to submit his/her own technical evidence, if he/she so desires.
- D. *Compliance.* No development located within the special flood hazard areas of the City shall be located, extended, converted, or structurally altered without full compliance with the terms of this ChapterSection and other applicable regulations.
- E. *Abrogation and Greater Restrictions.* It is not intended by this ChapterSection to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ChapterSection imposes greater restrictions, the provisions of this ChapterSection shall prevail.

All other ordinances inconsistent with this ChapterSection are hereby repealed to the extent of the inconsistency only.

- F. *Interpretation.* In their interpretation and application, the provisions of this ChapterSection shall be held to be minimum requirements, shall be liberally construed in favor of the City, and shall not be deemed a limitation or repeal of any other powers granted by State Statutes.
- G. *Warning and Disclaimer of Liability.* The degree of flood protection required by this Chapter is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or the flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This ChapterSection does not imply that areas outside the floodway and flood fringe district boundaries or land uses permitted within such areas will be free from flooding or flood damage. This ChapterSection shall not create a liability on the part of the City of Creve Coeur, or any officer or employee thereof, for any flood damages that may result from reliance on this Chapter or any administrative decision lawfully made thereunder.
- H. *Severability.* If any Section, Subsection, clause, provision, or portion of this ChapterSection is adjudged unconstitutional or invalid by a court of appropriate jurisdiction, the remainder of this ChapterSection shall not be affected thereby.
- I. *Appeal.* Where a request for a permit to develop is denied by the Floodplain Administrator, the applicant may appeal such denialapply for such permit or variance directly to the Board of Adjustment.

SECTION 415.030: FLOODPLAIN DEVELOPMENT PERMIT

- A. *Permit Required.* A separate floodplain development permit shall be required for all proposed construction or other development, including the placement of manufactured homes, in the areas described in Section 415.020 (A). No person, firm, corporation, or unit of government shall initiate any development or substantial-improvement or cause the same to be done without first obtaining a separate floodplain development permit for each structure or other development.
- B. *Administration.*
 - 1. The Floodplain AdministratorCity Engineer is hereby appointed to administer and implement the provisions of this Chapter.
 - 2. Duties and Responsibilities of the Floodplain Administrator. Duties of the Floodplain AdministratorCity Engineer shall include, but not be limited to:
 - a. review of all applications for floodplain development permits to assure that sites are reasonably safe from flooding and that the floodplain development permit requirements of this Chapter have been satisfied;
 - b. review of all applications for floodplain development permits for proposed development to assure that all necessary permits have been obtained from Federal, State, or local governmental agencies from which prior approval is required by Federal, State, or local law;
 - c. review of all subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, to determine whether such proposals will be reasonably safe from flooding;

- d. issue floodplain development permits for all approved applications;
 - e. notify adjacent communities and the Missouri State Emergency Management Agency (Mo SEMA) prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA);
 - f. assure that the flood carrying capacity is not diminished and shall be maintained within the altered or relocated portion of any watercourse.
 - g. verify and maintain a record of the actual elevation (in relation to mean sea level) of the lowest floor, including basement, of all new or substantially improved structures;
 - h. verify and maintain a record of the actual elevation (in relation to mean sea level) that the new or substantially improved non-residential structures have been floodproofed;
 - i. when floodproofing techniques are utilized for a particular non-residential structure, the the Floodplain AdministratorCity Engineer shall require certification from a registered professional engineer or architect.
- C. *Application For Permit.* To obtain a floodplain development permit, the applicant shall first file an application in writing on a form furnished for that purpose. Every floodplain development permit application shall:
- 1. describe the land on which the proposed work is to be done by lot, block and tract, house and street address, or similar description that will readily identify and specifically locate the proposed structure or work;
 - 2. identify and describe the work to be covered by the floodplain development permit;
 - 3. indicate the use or occupancy for which the proposed work is intended;
 - 4. indicate the assessed value of the structure and the fair market value of the improvement;
 - 5. specify whether development is located in designated flood fringe or floodway;
 - 6. identify the existing base flood elevation and the elevation of the proposed development;
 - 7. give such other information as reasonably may be required by the Floodplain AdministratorCity Engineer;
 - 8. be accompanied by plans and specifications for proposed construction; and
 - 9. be signed by the permittee or his authorized agent who may be required to submit evidence to indicate such authority.

SECTION 415.040: ESTABLISHMENT OF OVERLAY DISTRICTS

The mapped floodplain areas within the jurisdiction of this ChapterSection are hereby divided into the following districts: A Floodway Overlay District (FW) and a Flood Fringe Overlay District (FF) identified in the Flood Insurance Study and accompanying maps. Within these districts all uses not meeting the standards of this ChapterSection and those standards of the underlying Zoning Code shall be prohibited. These zones shall be consistent with the numbered and unnumbered A Zones (including AE Zones) as identified on the official Flood Insurance Rate Map (FIRM). and identified by the Administrator.

SECTION 415.050: STANDARDS FOR THE FLOODWAY OVERLAY DISTRICT AND THE FLOOD FRINGE OVERLAY DISTRICT

A. General Standards.

1. No permit for floodplain development shall be granted for new construction, substantial-improvements, and other improvements, including the placement of manufactured homes, within any numbered or unnumbered A zones and AE zones, unless the conditions of this ChapterSection are satisfied.
2. All areas identified as unnumbered A zones on the FIRM are subject to inundation of the 100-year flood; however, the base flood elevation is not provided. Development within unnumbered A zones is subject to all provisions of this ChapterSection. If Flood Insurance Study data is not available, the City shall obtain, review, and reasonably utilize any base flood elevation or floodway data currently available from Federal, State, or other sources.
3. Until a floodway is designated, no new construction, substantial improvements, or other development, including fill, shall be permitted within any numbered A zone or AE zone on the FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the Citycommunity.
4. All new construction, subdivision proposals, substantial-improvements, prefabricated structures, placement of manufactured homes, and other developments shall require:
 - a. *Flotation, collapse, lateral movement.* Design or adequate anchorage to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - b. *Flood-resistant construction.* Construction with materials resistant to flood damage, utilizing methods and practices that minimize flood damages, and with all electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
 - c. *Water supplies and sewers.* New or replacement water supply systems and/or sanitary sewage systems be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, and on-site waste disposal systems be located so as to avoid impairment or contamination;
 - d. *Utilities.* All utility and sanitary facilities be elevated or floodproofed up to the regulatory flood elevation; and
 - e. *New development.* subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, located within special flood hazard areas are required to assure that:
 - (1) all such proposals are consistent with the need to minimize flood damage;
 - (2) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage;
 - (3) adequate drainage is provided so as to reduce exposure to flood hazards; and
 - (4) all proposals for development of five (5) acres or fifty (50) lots, whichever is lesser, include within such proposals base flood elevation data.

5. *Storage, material, and equipment*

- a. The storage or processing of materials within the special flood hazard area that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal, or plant life is prohibited.
 - b. Storage of other material or equipment may be allowed if not subject to major damage by floods, if firmly anchored to prevent flotation, or if readily removable from the area within the time available after a flood warning.
6. *Accessory Structures.* Structures used solely for parking and limited storage purposes, not attached to any other structure on the site, of limited investment value, and not larger than 400 square feet, may be constructed at-grade and wet-floodproofed provided there is no human habitation or occupancy of the structure; the structure is of single-wall design; a variance has been granted from the standard floodplain management requirements of this Chapter; and a floodplain development permit has been issued.

SECTION 415.060: FLOOD FRINGE OVERLAY DISTRICT

- A. Permitted Uses. Any use permitted in Section 415.070 shall be permitted in the Flood Fringe Overlay District, provided that. No use shall be permitted in the Flood Fringe Overlay District unless the standards of Section 415.050 are met.
- B. Standards for the Flood Fringe Overlay District. In all areas identified as numbered and unnumbered A zones and AE zones, where **base flood elevation** data have been provided, as set forth in Section 415.050(A)(2), the following provisions are required:
 1. *Residential Construction.* New construction or substantial -improvement of any residential structures, including manufactured homes, shall have the lowest floor, including basement, elevated to one (1) foot above base flood elevation.
 2. *Non-Residential Construction.* New construction or substantial -improvement of any commercial, industrial, or other non-residential structures, including manufactured homes or similar structures designed and intended solely for non-residential use, shall have the lowest floor, including basement, elevated to one (1) foot above the base flood elevation or, together with attendant utility and sanitary facilities, be floodproofed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the City's Floodplain Administrator as set forth in Section 415.030(B)(2).
 3. Require, for all new construction and substantial- improvements that fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
 - a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided; and
 - b. The bottom of all opening shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

4. *Manufactured homes.* All manufactured homes to be placed within all unnumbered and numbered A zones and AE zones, on the community's FIRM, shall be required to be installed using methods and practices that minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement.

a. *Anchoring.* Manufactured homes must be anchored in accordance with State and local Building Codes and FEMA guidelines. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. In the event that over-the-top or frame ties to ground anchors are used, the following specific requirements (or their equivalent, as determined by the City's Chief Building Official), shall be met:

- (1) Over-the-top ties be provided at each of the four (4) corners of the manufactured home with two (2) additional ties per side at intermediate locations, except that and manufactured homes less than fifty (50) feet long shall only require one additional tie per side;
- (2) Frame ties be provided at each corner of the home with five (5) additional ties per side at intermediate points, except that and manufactured homes less than fifty (50) feet long shall only require four (4) additional ties per side;
- (3) All components of the anchoring system be capable of carrying a force of four thousand, eight hundred (4,800) pounds; and
- (4) Any additions to the manufactured home shall be similarly anchored.

b. Require manufactured homes that are placed or substantially improved within unnumbered or numbered A zones and AE zones, on the community's FIRM on sites:

- (1) outside of manufactured home park or subdivision;
- (2) in a new manufactured home park or subdivision;
- (3) in an expansion to and existing manufactured home park or subdivision; or
- (4) in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial-damage as the result of a flood,

be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to one (1) foot above the base flood elevation and be securely attached to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

c. Require that manufactured homes to be placed or substantially improved on sites within all unnumbered and numbered A zones and AE zones, on the community's FIRM, that are not subject to the provisions of Section 415.060(B)(4)(b) of this Chapter, be elevated such that both of the following criteria are met:

- (1) the lowest floor of the manufactured home is at least one (1) foot above the base flood level; and
- (2) the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six (36) inches in

height above grade and are securely attached to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

5. *Recreational Vehicles.* Recreational vehicles placed on sites within all unnumbered and numbered A zones and AE zones on the City's FIRM shall comply with one of the following:
 - a. The recreational vehicle is on the site for fewer than 180 consecutive days, *and* it is fully licensed and ready for highway use. A recreational vehicle is considered ready for highway use if it is 1.) on its wheels or jacking system, 2.) is attached to the site only by quick-disconnect-type utilities and security devices, and 3.) has no permanently attached additions.
 - b. The recreational vehicle meets the permitting, elevation, and the anchoring requirements for manufactured homes of this Chapter.

SECTION 415.070: FLOODWAY OVERLAY DISTRICT

- A. *Definition.* Located within areas of special flood hazard established in Section 415.020 (A) are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters that carry debris and potential projectiles. Only uses that haveing a low flood damage potential and do not obstructing flood flows shall be permitted within the Floodway District to the extent that they are not prohibited by any other ordinance.
 1. When theThe Citycommunity shall selects and adopts a regulatory floodway, it shall be based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood without increasing the water surface elevation of the base flood more than one foot at any point.
- B. *Permitted Uses.* No use shall be permitted in the Floodway Overlay District unless the standards of Sections 415.050 and 415.060 are met.

The following uses are allowed insuggested for the Floodway District:

- a. Agricultural uses, such as nurseries and forestry.
 - b. Accessory Residential uses, such as lawns, gardens, parking, and play areas.
 - c. Accessory Non-residential areas, such as loading areas, parking, and airport landing strips.
 - d. Public and private recreational uses, such as golf courses, archery ranges, picnic grounds, parks, and wildlife and nature preserves.
- C. *Standards of the Floodway Overlay District.* The following provisions shall apply:
 1. The City shall prohibit any encroachments, including fill, new construction, substantial-improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in **any** increase in flood levels within the Citycommunity during the occurrence of the base flood discharge.
 2. If Section 415.070 (C)(1) is satisfied, all new construction and substantial-improvements shall comply with all applicable flood hazard reduction provisions of Sections 415.050 and 415.060.

3. In unnumbered A zones, the City shall obtain, review, and reasonably utilize any base flood elevation or floodway data currently available from Federal, State, or other sources as set forth in Section 415.050(A)(2).

SECTION 415.080: FLOODPLAIN MANAGEMENT VARIANCE PROCEDURES

- A. *Appeal Board.* The City's Board of Adjustment shall hear and decide appeals and requests for variances from the floodplain management requirements of this Chapter.
- B. *Responsibility of Appeal Board.* Where an application for a floodplain development permit or request for a variance from the floodplain management regulations is denied by the Floodplain Administrator/City Engineer, the applicant may appeal that denial/appeal for such floodplain development permit or variance directly to the Board of Adjustment, as defined in Section 415.080 (A).

The Board of Adjustment shall hear and decide appeals when it is alleged that there is an error in any requirement, decision, or determination made by the Floodplain Administrator/City Engineer in the enforcement or administration of this Chapter.

- C. *Further Appeals.* Any person aggrieved by the decision of the Board of Adjustment or any taxpayer may appeal such decision to the St. Louis County Circuit Court, as provided in RSMo 89.110.
- D. *Floodplain Management Variance Criteria and Conditions.* The provisions of Section 405.1110/405.110 shall govern the granting of variances to the provisions of this Chapter/Section, except as modified or made more specific by the following criteria and conditions.
 1. *Criteria for Floodplain Management Variances.* In passing upon such applications for variances, the Board of Adjustment shall consider all technical data and evaluations, all relevant factors, standards specified in other Sections of this Chapter, and the following criteria:
 - a. the danger to life and property due to flood damage;
 - b. the danger that materials may be swept onto other lands to the injury of others;
 - c. the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - d. the importance of the services provided by the proposed facility to the City/community;
 - e. the necessity to the facility of a waterfront location, where applicable;
 - f. the availability of alternative locations, not subject to flood damage, for the proposed use;
 - g. the compatibility of the proposed use with existing and anticipated development;
 - h. the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - i. the safety of access to the property in times of flood for ordinary and emergency vehicles;
 - j. the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters, if applicable, expected at the site; and,
 - k. the costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems; streets; and bridges.

2. Conditions for Approving Floodplain Management Variances.

- a. Generally, variances may be issued for new construction and substantial -improvements to be erected on a lot of one-half (1/2) acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items Section 415.080(D)(2)(b) through Section 415.080(D)(2)(f) below have been fully considered. As the lot size increases beyond the one-half (1/2) acre, the technical justification required for issuing the variance increases, and stricter scrutiny shall apply.
- b. Variances may be issued for the reconstruction, rehabilitation, or restoration of “historic structures,” as defined in this Chapter, provided the proposed activity will not preclude the structure’s continued historic designation.
- c. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- d. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- e. Variances shall only be issued upon:
 - (1) a showing of good and sufficient cause,
 - (2) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and
 - (3) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- f. The City shall notify the applicant in writing, over the signature of a City official, that:
 - (1) the issuance of a variance to construct a structure below base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage, and
 - (2) such construction below the base flood level increases risks to life and property.

Such notification shall be maintained with the record of all variance actions as required by this ChapterSection.

SECTION 415.090: NON-CONFORMING USE

The provisions of Section 405.610 shall apply to all non-conformities created through the application of the standards and criteria of this Chapter requiring control of flood hazards.

SECTION 415.100: PENALTIES FOR VIOLATION

Violation of the provisions of this Chapterordinance or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with granting of variances) shall be punishable pursuant to Sections 100.090 to 100.110 of the City Code of Ordinances. constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$ 1,000.00, and in addition, shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the City of Creve Coeur or other appropriate authority from taking such other lawful action as is necessary to prevent or remedy any violation.

SECTION 415.110: AMENDMENTS

The regulations, restrictions, and boundaries set forth in this Chapter may from time to time be amended, supplemented, changed, or appealed to reflect any and all changes in the National Flood Disaster Protection Act of 1973, provided, however, that no such action may be taken until after a public hearing in relation thereto, at which parties of interest and citizens shall have an opportunity to be heard. Notice of the time and place of such hearing shall be published in a newspaper of general circulation in the City of Creve Coeur and at least twenty (20) days shall elapse between the date of this publication and the public hearing. A copy of such amendments will be provided to the Region VII office of the Federal Emergency Management Agency (FEMA). The regulations of this ChapterSection are in compliance with the National Flood Insurance Program (NFIP) regulations.

SECTION 415.120: DEFINITIONS

Unless specifically defined below, words or phrases used in this Chapter shall be interpreted so as to give them the same meaning they have in common usage and to give this Chapter its most reasonable application.

"100-year Flood" *see "base flood."*

"Accessory Structure" means the same as *"appurtenant structure."*

"Actuarial Rates" *see "risk premium rates."*

"Administrator" means the Federal Insurance Administrator.

"Agency" means the Federal Emergency Management Agency (FEMA).

"Agricultural Commodities" means agricultural products and livestock.

"Agricultural Structure" means any structure used exclusively in connection with the production, harvesting, storage, drying, or raising of agricultural commodities.

"Appeal" means a request for review of the Floodplain Administrator's interpretation of any provision of this ordinance or a request for a variance.

"Appurtenant Structure" means a structure that is on the same parcel of property as the principle structure to be insured and the use of which is incidental to the use of the principal structure.

"Area of Shallow Flooding" means a designated A or AH Zone on a community's Flood Insurance Rate Map (FIRM) with a one percent (1%) or greater annual chance of flooding to an average depth of one (1) to three (3) feet where a clearly defined channel is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

"Area of Special Flood Hazard" is the land in the floodplain within a community subject to a one percent (1%) or greater chance of flooding in any given year.

"Base Flood" means the flood having a one percent (1%) chance of being equaled or exceeded in any given year.

"Basement" means any area of the structure having its floor subgrade (below ground level) on all sides.

"Building" *see "structure."*

"Chief Executive Officer" or "Chief Elected Official" means the official of the community who is charged with the authority to implement and administer laws, ordinances, and regulations for that community, and within this Chapter means the Creve Coeur City Administrator.

"Community" means any State or area or political subdivision thereof, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction, and within this Chapter means the City of Creve Coeur.

"Development" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, levees, levee systems, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

"Elevated Building" means for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

"Eligible Community" or "Participating Community" means a community for which the Administrator has authorized the sale of flood insurance under the National Flood Insurance Program (NFIP).

"Existing Construction" means for the purposes of determining rates, structures for which the *"start of construction"* commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. *"Existing construction"* may also be referred to as *"existing structures."*

"Existing Manufactured Home Park or Subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

"Expansion to an Existing Manufactured Home Park or Subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

"Flood" or "Flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland waters and/or (2) the unusual and rapid accumulation or runoff of surface waters from any source.

"Flood Boundary and Floodway Map (FBFM)" means an official map of a community on which the Administrator has delineated both special flood hazard areas and the designated regulatory floodway.

Flood Elevation Determination" means a determination by the Administrator of the water surface elevations of the base flood, that is, the flood level that has a one percent or greater chance of occurrence in any given year.

"Flood Elevation Study" means an examination, evaluation and determination of flood hazards.

"Flood Fringe" means the area of the floodplain, outside the floodway encroachment lines, but still subject to inundation by the base flood.

"Flood Hazard Boundary Map (FHBM)" means an official map of a community, issued by the Administrator, where the boundaries of the flood areas having special flood hazards have been designated as (unnumbered or numbered) A zones.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, on which the Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

"Flood Insurance Study (FIS)" means an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations.

"Floodplain" or "Flood-prone Area" means any land area susceptible to being inundated by water from any source (*see "flooding"*).

"Floodplain Management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

"Floodplain Management Regulations" means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain and grading ordinances) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

"Floodproofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures that will effectively prevent reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, or structures and their contents.

"Floodway" or "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

"Floodway Encroachment Lines" means the lines marking the limits of floodways on Federal, State, and local floodplain maps.

"Freeboard" means a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. *"Freeboard"* tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as bridge openings and the hydrological effect of urbanization of the watershed.

"Functionally Dependent Use" means a use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. This term includes only docking facilities and facilities that are necessary for the loading and unloading of cargo or passengers, but does not include long-term storage or related manufacturing facilities.

"Highest Adjacent Grade" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"Historic Structure" means any structure that is: (a) listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either (1) by an approved state program as determined by the

Secretary of the Interior or (2) directly by the Secretary of the Interior in states without approved programs.

"Lowest Floor" means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access, or storage, in an area other than a basement area, is not considered a building's lowest floor, **provided** that such enclosure is not built so as to render the structure in violation of the applicable floodproofing design requirements of this ordinance.

"Manufactured Home" means a structure, transportable in one (1) or more sections, that is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. For floodplain management purposes, the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than one-hundred-eighty (180) consecutive days. For insurance purposes, the term *"manufactured home"* **does not include** a *"recreational vehicle,"* as defined below.

"Manufactured Home Park or Subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Map" means the Flood Hazard Boundary Map (FHBM), Flood Insurance Rate Map (FIRM), or the Flood Boundary and Floodway Map (FBFM) for a community issued by the Federal Emergency Management Agency (FEMA).

"Market Value" or "Fair Market Value" means an estimate of what is fair, economic, just, and equitable value under normal local market conditions.

"Market Value of a Structure" means the established value of the existing structure, as determined by the St. Louis County Department of Revenue for taxing purposes, prior to the time when any improvements are made or prior to any flooding condition. The value of any land shall not be included in the value of the structure.

"Mean Sea Level" means, for purposes of the National Flood Insurance Program (NFIP), the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map (FIRM) are referenced.

"New Construction" means, for the purposes of determining insurance rates, structures for which the *"start of construction"* commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, *"new construction"* means structures for which the *"start of construction"* commenced on or after the effective date of the floodplain management regulations adopted by a community and includes any subsequent improvements to such structures.

"New Manufactured Home Park or Subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by the community.

"(NFIP)" means the National Flood Insurance Program (NFIP).

"Participating Community" also known as an *"eligible community,"* means a community in which the Administrator has authorized the sale of flood insurance.

"Person" includes any individual or group of individuals, corporation, partnership, association, or any other entity, including Federal, State, and local governments and agencies.

"Principally Above Ground" means that at least 51 percent of the actual cash value of the structure, less land value, is above ground.

"Recreational Vehicle" means a vehicle which is (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projections; (c) designed to be self-propelled or permanently towable by a light-duty truck; and (d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Remedy A Violation" means to bring the structure or other development into compliance with Federal, State, or local floodplain management regulations; or, if this is not possible, to reduce the impacts of its noncompliance.

"Repetitive Loss" means flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, equals or exceeds twenty-five percent of the market value of the structure before the damage occurred.

"Risk Premium Rates" means those rates established by the Administrator pursuant to individual community studies and investigations which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. *"Risk premium rates"* include provisions for operating costs and allowances.

"Special Flood Hazard Area" *see "area of special flood hazard."*

"Special Hazard Area" means an area having special flood hazards and shown on an FHBM, FIRM or FBFM as zones (unnumbered or numbered) A and AE.

"Start of Construction" includes substantial -improvements, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvements were within one-hundred-eighty (180) days of the permit date. The **actual start** means either the first placement of permanent construction of a structure on a site, such as the pouring of slabs or footings, the installation of piles, the construction of columns, any work beyond the stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include: land preparation, such as clearing, grading, and filling; the installation of streets and/or walkways; excavation for a basement, footings, piers, or foundations; the erection of temporary forms; nor installation on the property of accessory structures, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the **actual start of construction** means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

"State Coordinating Agency" means that agency of the state government, or other office designated by the governor of the state or by state statute at the request of the Administrator to assist in the implementation of the National Flood Insurance Program (NFIP) in that state.

"Structure" means, for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. *"Structure"* for insurance purposes, means a walled and roofed building, other than a gas or liquid storage tank that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in

such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

"Substantial-Damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. The term includes Repetitive Loss buildings (see definition).

For the purposes of this definition, "repair" is considered to occur when the first repair or reconstruction of any wall, ceiling, floor, or other structural part of the building commences.

The term does not apply to:

- a.) Any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the Chief Building Code Enforcement Official and which are solely necessary to assure safe living conditions, or
- b.) Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure", or
- c.) Any improvement to a building.

"Substantial Improvement" means any combination of reconstruction, alteration, or improvement to a building, taking place during a 10 year period, in which the cumulative percentage of improvement equals or exceeds fifty percent (50%) of the "market value of the structure," as defined herein. For the purposes of this definition, an improvement occurs when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. This term includes structures, which have incurred "repetitive loss" or "substantial damage," as defined herein, regardless of the actual repair work done.

The term does not apply to:

- a.) any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the Chief Building Official and which are solely necessary to assure safe living conditions, or
- b.) Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure,." orOr
- c.) Any building that has been damaged from any source or is categorized as repetitive loss.

"Substantially improved existing manufactured home parks or subdivisions" is where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

"Variance" means a grant of relief by the community from the terms of a floodplain management regulation. Flood insurance requirements remain in place for any varied use or structure and cannot be varied by the community.

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this ordinance is presumed to be in violation until such time as that documentation is provided.

"Water Surface Elevation" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum where specified) of floods of various magnitudes and frequend frequencies in the floodplain.

CHAPTER 415: FLOOD HAZARD CONTROL REGULATIONS

SECTION 415.010: STATUTORY AUTHORIZATION, FINDINGS OF FACT AND PURPOSE

- A. *Statutory Authorization.* The legislature of the State of Missouri has in Chapter 89, RSMo., delegated the responsibility to local governmental units to adopt zoning regulations designed to protect the health, safety and general welfare. Therefore, the City Council of the City of Creve Coeur, Missouri, ordains as follows.
- B. *Findings Of Fact.*
1. *Flood losses resulting from periodic inundation.* The flood hazard areas of the City of Creve Coeur, Missouri, are subject to inundation which results in losses of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
 2. *General causes of these flood losses.* These flood losses are caused by:
 - a. The cumulative effect of obstructions in floodways causing increases in flood heights and velocities,
 - b. The occupancy of flood hazard areas by uses vulnerable to floods or hazardous to others, which are inadequately elevated or otherwise unprotected from flood damages.
 3. *Methods used to analyze flood hazards.* This Chapter uses a reasonable method of analyzing flood hazards which consists of a series of interrelated steps.
 - a. Selection of regulatory flood which is base upon engineering calculations which permit a consideration of such flood factors as its expected frequency of occurrence, the area inundated and the depth of inundation. The regulatory flood selected for this Chapter is representative of large floods which are reasonably characteristic of what can be expected to occur on the particular streams subject to this Chapter. It is in the general order of a flood which could be expected to have a one percent (1%) chance of occurrence in any one (1) year, as delineated on the Federal insurance administration's Flood Insurance Study and illustrative materials dated August 23, 2000, as amended, and any subsequent revisions thereto.
 - b. Calculation of water surface profiles based on a hydraulic engineering analysis of the

City of Creve Coeur -- QuickCode

capacity of the stream channel and overbank areas to convey the regulatory flood.

- c. Computation of the floodway required to convey this flood without increasing flood heights more than one (1) foot at any point.
 - d. Delineation of floodway encroachment lines within which no obstruction is permitted which would cause any increase in flood height.
 - e. Delineation of floodway fringe, i.e., that area outside the floodway encroachment lines but which is still subject to inundation by the regulatory flood.
- C. *Statement Of Purpose.* It is the purpose of this Chapter to promote the public health, safety and general welfare and to minimize those losses described in Subsection (B)(1) by applying the provisions of this Chapter to:
- 1. Restrict or prohibit uses which are dangerous to health, safety or property in times of flooding or cause undue increases in flood heights or velocities.
 - 2. Require that uses vulnerable to floods, including public facilities which serve such uses, be provided with flood protection at the time of initial construction.
 - 3. Protect individuals from developing lands which are unsuited for intended purposes because of flood hazard.
 - 4. Assure that eligibility is maintained for property owners in the community to purchase flood insurance in the National Flood Insurance Program. (R.O. 2008 §24-31.1; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.020: GENERAL PROVISIONS

- A. *Lands To Which Chapter Applies.* This Chapter shall apply to all lands within the jurisdiction of the City of Creve Coeur, Missouri, identified on the Flood Insurance Rate Map (FIRM) dated August 2, 1995, as numbered and unnumbered A Zones and within the overlay districts "FW" and "FF" established in Section 415.040 of this Chapter. In all areas covered by this Chapter, no development shall be permitted except upon a permit to develop granted by the City Council of the City of Creve Coeur or its duly designated representative under such safeguards and restriction as the City Council of the City of Creve Coeur or the designated representative may reasonably impose for the promotion and maintenance of the general welfare, health of the inhabitants of the community and where specifically noted in Sections 415.050, 415.060 and 415.070.
- B. *Floodplain Administrator.* The Director of Community Development of Creve Coeur is hereby designated as the community's duly designated enforcement officer under this Chapter.

City of Creve Coeur -- QuickCode

- C. *Rules For Interpretation Of District Boundaries.* The boundaries of the Floodway and Floodway Fringe Overlay Districts shall be determined by scaling distances on the Flood Insurance Rate Map or Floodway Map. Where interpretation is needed to the exact location of the boundaries of the districts as shown on the Flood Insurance Rate Map or Floodway Map, as for example where there appears to be a conflict between a mapped boundary and actual field conditions, the enforcement officer shall make the necessary interpretation. In such cases where the interpretation is contested, the Board of Adjustment will resolve the dispute. The regulatory flood elevation for the point in question shall be the governing factor in locating the district boundary on the land. The person contesting the location of the district boundary shall be given a reasonable opportunity to present his/her case to the board and to submit his/her own technical evidence, if he/she so desires.
- D. *Compliance.* No development located within known flood hazard areas of the City shall be located, extended, converted or structurally altered without full compliance with the terms of this Section and other applicable regulations.
- E. *Abrogation And Greater Restrictions.* It is not intended by this Section to repeal, abrogate or impair any existent easements, covenants or deed restrictions. However, where this Section imposes greater restrictions, the provision of this Section shall prevail. All other ordinances inconsistent with this Section are hereby repealed to the extent of the inconsistency only.
- F. *Interpretation.* In their interpretation and application, the provisions of this Section shall be held to be minimum requirements and shall be liberally construed in favor of the City and shall not be deemed a limitation or repeal of any other powers granted by State Statutes.
- G. *Warning And Disclaimer Of Liability.* The degree of flood protection required by this Chapter is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or the flood height may be increased by manmade or natural causes, such as ice jams and bridge openings restricted by debris. This Section does not imply that areas outside floodway and floodway fringe district boundaries or land uses permitted within such districts will be free from flooding or flood damage. This Section shall not create liability on the part of the City of Creve Coeur or any officer or employee thereof for any flood damages that may result from reliance on this Chapter or any administrative decision lawfully made thereunder.
- H. *Severability.* If any Subsection, clause, provision or portion of this Section is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this Section shall not be affected thereby.
- I. *Appeal.* Where a request for a permit to develop is denied by the Director of Community Development, the applicant may apply for such permit or variance directly to the Board of Adjustment.

- J. *Definitions.* Unless specifically defined below, words or phrases used in this Chapter shall be interpreted so as to give them the meaning they have in common usage and to give this Chapter its most reasonable application.

ACTUARIAL OR RISK PREMIUM RATES: Those rates established by the Administrator pursuant to individual community studies and investigation which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. "Risk premium rates" include provisions for operating costs and allowances (sic).

APPEAL: A request for a review of the Director of Community Development.

AREA OF SHALLOW FLOODING: A designated A or AH Zone on a community's Flood Insurance Rate Map (FIRM) with a one percent (1%) or greater annual chance of flooding to an average depth of one (1) to three (3) feet where a clearly defined channel is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

AREA OF SPECIAL FLOOD HAZARD: The land in the floodplain within a community subject to a one percent (1%) or greater change of flooding in any given year.

BASE FLOOD: The flood having a one percent (1%) change of being equaled or exceeded in any given year.

DEVELOPMENT: Any manmade change to improved or unimproved real estate including, but not limited to, building or other structures, mining, dredging, filling, grading, paving, excavation or drilling operation.

EXISTING CONSTRUCTION (FOR THE PURPOSE OF DETERMINING RATES): Structures for which the start of construction commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as "existing structures".

FLOOD INSURANCE RATE MAP (FIRM): An Official Map of a community on which the Flood Insurance Study has delineated the flood hazard boundaries and the zones establishing insurance rates applicable to the community.

FLOOD INSURANCE STUDY: The official report provided by the Federal Emergency Management Agency. The report contains flood profile, as well as the Flood Boundary/Floodway Map and the water surface elevation of the base flood.

FLOOD OR FLOODING: A general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters.

2. The unusual and rapid accumulation or runoff or surface waters from any source.

FLOODWAY FRINGE: That area of the floodplain, outside of the floodway, that on the average is likely to be flooded once every one hundred (100) years (i.e., that has a one percent (1%) chance of flood occurrence in any one (1) year).

FLOODWAY OR REGULATORY FLOODWAY: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

FREEBOARD: A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated from a selected size flood and floodway conditions, such as wave action, clogged bridge openings and the hydrological effect of urbanization of the watershed.

HIGHEST ADJACENT GRADE: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

MANUFACTURED HOME: A structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than one hundred eighty (180) consecutive days. For insurance purposes, the term "manufactured home" does not include park trailers, travel trailers and other similar vehicles.

MANUFACTURED HOME PARK OR SUBDIVISION: A parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

MARKET VALUE OF A STRUCTURE: The established value of the existing structure, as determined by the St. Louis County Department of Revenue for taxing purposes, prior to the time when any improvements are made or prior to any flooding condition. The value of any land shall not be included in the value of the structure.

NEW CONSTRUCTION: Structures for which the start of construction or substantial improvement is commenced on or after the effective date of the FIRM.

RECREATIONAL VEHICLE: A vehicle which is:

1. Built on a single chassis;
2. Four hundred (400) square feet or less when measured at the largest horizontal projections;

3. Designed to be self-propelled or permanently towable by a light duty truck;
4. Designed primarily not for use as a permanent dwelling but as a temporary living quarters for recreational, camping, travel or seasonal use.

START OF CONSTRUCTION (FOR OTHER THAN NEW CONSTRUCTION OR SUBSTANTIAL IMPROVEMENTS UNDER THE COASTAL BARRIER RESOURCES ACT (PUB. L. 97-348)): Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within one hundred eighty (180) days of the permit date. The "actual start" means the first (1st) placement of the construction of columns or any work beyond the stage of excavation or the placement of a manufacture home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

STRUCTURE: A walled and roofed building that is principally above ground, as well as a manufactured home, and a gas or liquid storage tank that is principally above ground.

SUBSTANTIAL IMPROVEMENT: Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either:

1. Before the improvement or repair is started, or
2. If the structure has been damaged and is being restored, before the damaged occurred.

For the purpose of this definition, "substantial improvement" is considered to occur when the first (1st) alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either:

1. Any project for improvement of a structure to comply with existing, State or local health, sanitary or safety code specifications, or
2. Any alteration of a structure listed on the National Register of Historical (Historic) Places or a State Inventory of Historical Places.

VARIANCE: A grant of relief to a person from the requirements of this Chapter which permits construction in a manner otherwise prohibited by this Chapter where specific enforcement would result in unnecessary hardship. (R.O. 2008 §24-31.2; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.030: FLOODPLAIN DEVELOPMENT PERMIT

- A. *Permit Required.* No person, firm or corporation shall initiate any development or substantial improvement or cause the same to be done without first obtaining a separate permit for development as defined in Section 415.020.
- B. *Administration.*
1. The Director of Community Development is hereby appointed to administer and implement the provisions of this Section.
 2. Duties of the Director of Community Development shall include, but not be limited to:
 - a. Review all development permits to assure that sites are reasonably safe from flooding and that the permit requirements of this Chapter have been satisfied.
 - b. Review permits for proposed development to assure that all necessary permits have been obtained from those Federal, State or local governmental agencies from which prior approval is required.
 - c. Notify adjacent communities and the Missouri Department of Natural Resources prior to any alteration or relocation of a watercourse and shall submit evidence of such notification to the Federal Emergency Management Agency.
 - d. Issue floodplain development permits for all approved applications.
 - e. Notify adjacent communities and the Missouri Department of Natural Resources prior to any alteration or relocation of a watercourse and shall submit evidence of such notification to the Federal Emergency Management Agency.
 - f. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
 - g. Verify, record and maintain record of the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures.
 - h. Verify, record and maintain record of the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed.
 - i. When flood proofing is utilized for a particular structure, the Director of Community Development shall be presented certification from a registered professional engineer or architect.
- C. *Application For Permit.* To obtain a permit, the applicant shall first file an application in

City of Creve Coeur -- QuickCode

writing on a form furnished for that purpose. Every such application shall:

1. Identify and describe the work to be covered by the permit.
2. Describe the land on which the proposed work is to be done by lot, block, tract and house and street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the assessed value of the structure and the fair market value of the improvements.
4. Specify whether development is located in designated flood fringe or floodway.
5. Identify the existing base flood elevation and the elevation of the proposed development.
6. Indicate the use or occupancy for which the proposed work is intended.
7. Be accompanied by plans and specifications for proposed construction.
8. Be signed by the permittee or his/her authorized agent who may be required to submit evidence to indicate such authority.
9. Give such other information as reasonably may be required by the Director of Community Development. (R.O. 2008 §24-31.3; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.040: ESTABLISHMENT OF OVERLAY DISTRICTS

The mapped floodplain areas within the jurisdiction of this Section are hereby divided into the following districts: A Floodway Overlay District (FW) and a Floodway Fringe Overlay District (FF) identified in the Flood Insurance Study and accompanying maps. Within these districts all uses not meeting the standards of this Section and those standards of the underlying Zoning Code shall be prohibited. These zones shall be consistent with the numbered and unnumbered A Zones (including AE Zones) as identified on the official Flood Insurance Rate Map (FIRM) and identified in the Flood Insurance Study provided by the Federal Emergency Management Agency. (R.O. 2008 §24-31.4; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.050: STANDARDS FOR THE FLOODWAY OVERLAY DISTRICT AND THE FLOODWAY FRINGE OVERLAY DISTRICT

- A. No permit for development shall be granted for new construction, substantial improvements and other improvements within all numbered and unnumbered A Zones (including AE Zones) unless the conditions of this Section are satisfied. The placement of manufactured

City of Creve Coeur -- QuickCode

homes (as defined in Section 405.120) shall not be allowed with the City of Creve Coeur.

- B. All areas identified as unnumbered A Zones on the FIRM are subject to inundation of the 100-year flood; however, the water surface elevation was not provided. The unnumbered A Zones shall be subject to all development provisions of this Section. If Flood Insurance Study data is not available, the City shall utilize any base flood elevation or floodway data currently available from Federal, State or other sources.
- C. New construction, subdivision proposals, substantial improvements, prefabricated buildings and other developments shall require:
 - 1. *Flotation, collapse, lateral movement.* Design or anchorage to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads including the effects of buoyancy.
 - 2. *Water supplies, sewers.* New or replacement water supply systems and/or sanitary sewage systems be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters and on-site waste disposal systems be located so as to avoid impairment or contamination.
 - 3. *Flood-resistant construction.* Construction with materials resistant to flood damage, utilizing methods and practices that minimize flood damages and with electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
 - 4. *Utilities.* All utility and sanitary facilities be elevated or floodproofed up to the regulatory flood protection elevation.
 - 5. *Restrictions on development.* Until a floodway has been designated, no development, including landfill, may be permitted within zones A1-30 and AE on the City's FIRM unless the applicant for the land use has demonstrated that the proposed use, when combined with all other existing and reasonably anticipated uses, will not increase the water surface elevation of the 100-year flood more than one (1) foot on the average cross section of the reach in which the development or landfill is located as shown on the Flood Insurance Rate Study incorporated by reference in Section 415.010(B)(3)(a) of this Chapter.
 - 6. *Storage, material and equipment.*
 - a. The storage or processing of materials that are in time of flooding buoyant, flammable, explosive or could be injurious to human, animal or plant life is prohibited.
 - b. Storage or other material or equipment may be allowed if not subject to major

City of Creve Coeur -- QuickCode

damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.

7. *New development.* Subdivision proposals and other proposed new development be required to assure that:
 - a. All such proposals are consistent with the need to minimize flood damage;
 - b. All public utilities and facilities, such as sewer, gas, electrical and water systems, are located, elevated and constructed to minimize or eliminate flood damage;
 - c. Adequate drainage is provided so as to reduce exposure to flood hazards; and
 - d. Proposals for development of five (5) acres or fifty (50) lots, whichever is less, include within such proposals the regulatory flood elevation.
8. *Accessory structures.* Structures used solely for parking and limited storage purposes, not attached to any other structure on the site, of limited investment value and not larger than four hundred (400) square feet may be constructed at-grade and wet-floodproofed provided there is no human habitation or occupancy of the structure; the structure is of single-wall design; a variance has been granted from the standard floodplain management requirements of this Chapter and a floodplain development permit has been issued. (R.O. 2008 §24-31.5; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.060: FLOODWAY FRINGE OVERLAY DISTRICT (INCLUDING AO AND AH ZONES)

- A. *Permitted Uses.* Any use permitted in Section 415.070 shall be permitted in the Floodway Fringe Overlay District. No use shall be permitted in the district unless the standards of Section 415.050 are met.
- B. *Standards For The Floodway Fringe Overlay District.*
 1. *Residential construction.* New construction or substantial improvements of residential structures to have the lowest floor, including basement, elevated to or above the base flood elevation.
 2. *Non-residential construction.* New construction or substantial improvements of non-residential structures to have the lowest floor, including basement, elevated to or above the base flood elevation or, together with attendant utility and sanitary facilities, to be floodproofed so that below such a level the structure is water-tight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this

City of Creve Coeur -- QuickCode

Subsection are satisfied. Such certification shall be provided to the official as set forth in Section 415.030(B)(2)(g).

3. *Require(ments) for all new construction and substantial improvements.* Fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria: A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one (1) foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
4. *Manufactured homes.*
 - a. All manufactured homes shall be anchored to resist flotation, collapse or lateral movement. Manufactured homes must be anchored in accordance with State and local Building Codes and FEMA guidelines. In the event that over-the-top frame ties to ground anchors are used, the following specific requirements (or their equivalent) shall be met:
 - (1) Over-the-top ties be provided at each of the four (4) corners of the manufactured home with two (2) additional ties per side at intermediate locations and manufactured homes less than fifty (50) feet long requiring an additional tie per side;
 - (2) Frame ties be provided at each corner of the home with five (5) additional ties per side at intermediate points and manufactured homes less than fifty (50) feet long requiring four (4) additional ties per side;
 - (3) All components of the anchoring system be capable of carrying a force of four thousand eight hundred (4,800) pounds; and
 - (4) Any additions to the manufactured home be similarly anchored.
 - b. Require that all manufactured homes be placed within Zones A1-30, AH and AE on the community's FIRM, be elevated on a permanent foundation such that the lowest floor of the manufactured home is a minimum of one (1) foot above the base flood elevations and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Subparagraph (a) above.
5. *Recreational vehicles.* Require that recreational vehicles placed on sites within the identified floodplain on the community's FIRM either:

City of Creve Coeur -- QuickCode

- a. Be on the site for fewer than one hundred eighty (180) consecutive days and be fully licensed and ready for highway use, or*
- b. Meet the permit requirements and the elevation and anchoring requirements for manufactured homes of this Chapter.

*A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions. (R.O. 2008 §24-31.6; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.070: FLOODWAY OVERLAY DISTRICT

Permitted Uses. Only uses having a low flood damage potential and not obstructing flood flows shall be permitted within the floodway district to the extent that they are not prohibited by any other ordinance. All encroachments including fill, new construction, substantial improvements and other developments must be prohibited unless certification by a professional registered engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge. No use shall increase the flood levels of the regulatory flood elevation. These uses are subject to the standards of Sections 415.050 and 415.060. The following are recommended uses for the floodway district.

1. Agricultural uses such as nurseries and forestry.
2. Residential uses such as lawns, gardens, parking and play areas.
3. Non-residential areas such as loading areas, parking, airport landing strips.
4. Public and private recreational uses such as golf courses, archery ranges, picnic grounds, parks, wildlife and nature preserves.
5. In Zone A unnumbered, obtain, review and reasonably utilize any floodway data available through Federal, State or other sources or Section 415.050(C)(7) of this Chapter in meeting the standards of this Section. (R.O. 2008 §24-31.7; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.080: VARIANCE PROCEDURES

Variances. The provisions of Section 405.110 shall govern the granting of variances to the provisions of this Section, except as modified or made more specific by the following criteria and conditions.

City of Creve Coeur -- QuickCode

1. In passing upon such applications, the Board of Adjustment shall consider all technical evaluations, all relevant factors, standards specified in other Sections of this Chapter and:
 - a. The danger that materials may be swept onto other lands to the injury of others;
 - b. The danger to life and property due to flooding or erosion damage;
 - c. The importance of the services provided by the proposed facility to the community;
 - d. The necessity to the facility of a waterfront location, where applicable;
 - e. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - f. The compatibility of the proposed use with existing and anticipated development;
 - g. The relationship of the proposed use to the Comprehensive Plan and floodplain management program for that area;
 - h. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - i. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, streets and bridges.
2. *Conditions for variance.*
 - a. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half (½) acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items Section 415.080(2)(b) through 415.080(2)(f) below have been fully considered. As the lot size increases beyond the one-half (½) acre, the technical justification required for issuing the variance increases.
 - b. Variances may be issued for the reconstruction, rehabilitation or restoration of historic structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this Section.
 - c. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
 - d. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

City of Creve Coeur -- QuickCode

- e. Variances shall only be issued upon:
 - (1) A showing of good and sufficient cause,
 - (2) A determination that failure to grant the variance would result in exceptional hardship to the applicant, and
 - (3) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.
- f. Any applicant to whom a variance is granted shall be given a written notice that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. (R.O. 2008 §24-31.8; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.090: NON-CONFORMING USE

The provisions of Section 405.610 shall apply to all non-conformities created through the application of the standards and criteria of this Section requiring control of flood hazards. (R.O. 2008 §24-31.9; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 415.100: AMENDMENTS

The regulations, restrictions and boundaries set forth in this Chapter may from time to time be amended, supplemented, changed or appealed to reflect any and all changes in the National Flood Disaster Protection Act of 1973, provided however, that no such action may be taken until after a public hearing in relation thereto, at which parties in interest and citizens shall have an opportunity to be heard. Notice of the time and place of such hearing shall be published in a newspaper of general circulation in the City of Creve Coeur. At least twenty (20) days shall elapse between the date of this publication and the public hearing. A copy of such amendments will be provided to the Federal Emergency Management Agency. The regulations of this Section are in compliance with the National Flood Insurance Program regulations. (R.O. 2008 §24-31.11; Ord. No. 2144 §1, 8-27-01; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

CHECKLIST NO. 2

**METROPOLITAN ST. LOUIS SEWER DISTRICT
STORM SEWERS**

shall be published in a newspaper of general circulation in the City of Creve Coeur. At least twenty (20) days shall elapse between the date of this publication and the public hearing. A copy of such amendments will be provided to the Federal Emergency Management Agency. The regulations of this Section are in compliance with the National Flood Insurance Program regulations. (R.O. 2008 §24-31.11; Ord. No. 2144 §1, 8-27-01; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

CHECKLIST NO. 2		
METROPOLITAN ST. LOUIS SEWER DISTRICT STORM SEWERS DESIGN DATA, MAPS AND COMPUTATIONS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item
		1. Location Map
		2. Drainage Area Map--Original Topography
		3. Drainage Area Map--Final Topography
		4. Proposed Drainage System Layout--Design Points Numbered
		5. Proposed Drainage System Layout--Off-site Tributary Areas
		6. Proposed Drainage System Layout--Tributary Areas to Inlets, Catch Basins and Other Design Points
		7. Present Land Use in Each Tributary Area
		8. Future Land Use in Each Tributary Area
		9. Design Imperviousness for Each Kind of Land Use
		10. Design Rainfall Frequency
		11. Design Unit Runoffs for Each Land Use (P.I. Values)
		12. Design Computations--Memorandum Concerning Unusual Problems
		13. Design Computations--Hydraulic Depth Criteria
		14. Design Computations--Hydraulic Depth at Outlet
		15. Design Computations--Friction Losses (in Values Used)

City of Creve Coeur -- QuickCode

CHECKLIST NO. 2		
METROPOLITAN ST. LOUIS SEWER DISTRICT STORM SEWERS DESIGN DATA, MAPS AND COMPUTATIONS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item
		17. Design Computations--Curve Losses
		18. Design Computations--Manhole Losses
		19. Design Computations--Junction Losses
		20. Design Computations--Conduit Sizes
		21. Design Computations--Open Channel Sizes
		22. Design Computations--Culvert Headwater Depth
		23. Design Computations--Culvert Tailwater Depth
		24. Design Computations--Bridge Hydraulics
		25. Design Computations--Open Channel Junction Hydraulics
		26. Design Computations--Open Channel Hydraulic Jumps
		27. Design Computations--Open Channel Cross-Wave Heights on Bends
		28. Design Computations--Inlet Capacities (for each inlet)29. Design Computations--Hydraulic Grade Elevations at Each Design Point (Incoming and Outgoing)
		30. Structural Design--Conduits (Load Assumptions for Each Reach and Kind ar Class of Pipe or Structural Computations for any Cast-in-Place Construction)
		31. Structural Design--Special Structures--Load Assumptions--Allowable Stresses--Design Stresses
		32. Hydraulics of Energy Dissipator

City of Creve Coeur -- QuickCode STORM SEWERS DESIGN DATA, MAPS AND COMPUTATIONS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item

CHECKLIST NO. 3		
METROPOLITAN ST. LOUIS SEWER DISTRICT SANITARY OR STORM SEWERS--CONTRACT DRAWINGS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item
		1. Title Block
		2. Engineer's Seal
		3. Key Sheet--Location Plan
		4. Datum and Bench Marks
		5. Property Boundary Lines
		6. Lot Lines: Frontage Dimensions
		7. Roads and Streets: Existing (Names, Widths, Curbs)
		8. Roads and Streets: Proposed (Names, Widths, Curbs)
		9. Roads and Streets: Existing Pavements (Kind, Widths, Curbs)
		10. Roads and Streets: Proposed Pavements (Kind, Widths, Curbs)
		11. Sidewalks: Existing (Kind, Widths)
		12. Sidewalks: Proposed (Kind, Widths)
		13. Driveways: Existing (Kind, Widths)
		14. Driveways: Proposed (Kind, Widths)

City of Creve Coeur -- QuickCode

CHECKLIST NO. 3		
METROPOLITAN ST. LOUIS SEWER DISTRICT SANITARY OR STORM SEWERS--CONTRACT DRAWINGS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item
		16. Utilities: Existing Sanitary Sewers
		17. Utilities: Existing Storm (or Combined) Sewers
		18. Utilities: Existing Gas Mains
		19. Utilities: Existing Electric Power Ducts and/or Poles
		20. Utilities: Existing Telephone Ducts and/or Poles
		21. Utilities: Proposed Water Lines
		22. Utilities: Proposed Sanitary Sewers
		23. Utilities: Proposed Storm (or Combined) Sewers
		24. Utilities: Proposed Gas Mains
		25. Utilities: Proposed Electric Power Ducts and/or Poles
		26. Utilities: Proposed Telephone Ducts and/or Poles
		27. Easements: Existing--Recorder's Book and Page
		28. Easements: Existing--Public Agency to which Dedicated
		29. Easements: Existing--Purpose for which Dedicated
		30. Easements: Proposed--Dimensions
		31. Borings: Locations, Logs
		32. Open Channels: Existing (Natural or Artificial, Location, Lined or Unlined, Dimensions, Elevations, Junctions, Inflow Pipes, etc.)
		33. Bridges: Existing (Location, Waterway Dimensions and Elevations, Entrance and Exist Geometry)
		34. Culverts: Existing (Location, Cross Section Dimensions, Elevations, Entrance and Exist Geometry)

City of Creve Coeur -- QuickCode

CHECKLIST NO. 3		
METROPOLITAN ST. LOUIS SEWER DISTRICT SANITARY OR STORM SEWERS--CONTRACT DRAWINGS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item
		35. Project Sewers: Location (Dimensioned from Street or Lot Lines)
		36. Project Sewers: Sizes (for Each Reach)
		37. Project Sewers: Materials (Kind, Strength Class for Each Reach)
		38. Project Sewers: Manholes (Numbered, Located)
		39. Project Sewers: Drop Manholes (Numbered, Located)
		40. Project Sewers: Inlets or Catch Basins (Numbered, Located)
		41. Project Sewers: Junction Chambers (Numbered, Located)
		42. Project Sewers: Interceptors (Numbered, Located)
		43. Project Sewers: Outlet Structures (Numbered, Located)
		44. Project Sewers: Horizontal Clearance of Other Utilities
		45. Project Sewers: House Connections: Sizes, Locations, Y Junction
		46. Project Sewers: Connections to Existing Upstream Sewers
		47. Project Sewers: Connections to Existing Downstream Sewers
		48. Project Sewers: Curve Alignment Data
		49. Project Profiles: Existing or Original Ground or Pavement
		50. Project Profiles: Proposed Finish Ground or Pavement
		51. Project Profiles: Pipe Sizes, Materials, Strength Class for Each Reach
		52. Project Profiles: Length and Construction Grade of Each Reach
		53. Project Profiles: Manholes, Elevations of Top and Flowlines
		54. Project Profiles: Drop Manholes

City of Creve Coeur -- QuickCode

CHECKLIST NO. 3		
METROPOLITAN ST. LOUIS SEWER DISTRICT SANITARY OR STORM SEWERS--CONTRACT DRAWINGS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item
		56. Project Profiles: Concrete Cradle or Encasement
		57. Project Profiles: Junction Chambers, Flowline Elevations
		58. Project Profiles: Crossing of Other Utilities, Existing and Proposed
		59. Project Profiles: Interceptors
		60. Project Profiles: Outlet Structures
		61. Project Profiles: Culverts, Length, Size and Elevations of Flowlines
		62. Project Profiles: Bridges, Length, Size, Elevations of Flowlines and Undersic Deck Structure
		63. Project Profiles: Critical Basement Elevations
		64. Project Profiles: Open Channels, Cross Sections
		65. Project Profiles: Open Channels, Flowline Elevations
		66. Project Profiles: Open Channels, Freeboard (Top of Finished Banks)
		67. Project Profiles: Open Channels, Sizes and Flowline Elevations of Contributi
		68. Project Profiles: Tunneling (Location, Length, Elevations)
		69. Project Profiles: Pipe Jacking (Location, Length, Elevations)
		70. Project Profiles: Stanking (Location, Length, Elevations)
		71. Project Profiles: Borings (Location, Depth, Rock or Refusal)
		72. Project Details: Special Manholes
		73. Project Details: Special Inlets or Inlet Manholes
		74. Project Details: Junction Chambers

City of Creve Coeur -- QuickCode

CHECKLIST NO. 3		
METROPOLITAN ST. LOUIS SEWER DISTRICT SANITARY OR STORM SEWERS--CONTRACT DRAWINGS		
Project Name: _____		
Location: _____		
Design Engineer	MSD Engineer	Item
		76. Project Details: Culverts (Dimensions, Materials, Entrance and Exit Details)
		77. Project Details: Outlet Structures (Headwalls, Wingwalls, etc.)
		78. Project Details: Transition Structures (Dimensions, Structural Details)
		79. Project Details: Channel Lining (Materials, Dimensions, Cutoffs, Weep Hole
		80. Project Details: Open Channel Junctions (Dimensions, Provision for Hydraulically Efficient Joining of Flows)
		81. Project Details: Open Channel Pipe Connections
		82. Project Details: Open Channel Pipe Top-of-Bank Flow Interception
		83. Project Details: Backwater Gates and Headwalls
		84. Project Details: Open Channel Local Erosion Protection

P FACTOR FOR RUNOFF						
% IMPERVIOUS	DURATION OF RAIN IN MINUTES					
	15	20	30	60	90	120
0	0.30	0.35	0.41	0.51	0.56	0.60
5	0.32	0.37	0.43	0.53	0.58	0.62
10	0.34	0.39	0.46	0.56	0.60	0.64
15	0.36	0.41	0.48	0.58	0.62	0.66
20	0.38	0.44	0.50	0.60	0.64	0.67
25	0.40	0.46	0.52	0.62	0.66	0.69

City of Creve Coeur -- QuickCode

P FACTOR FOR RUNOFF						
35	0.44	0.50	0.57	0.66	0.70	0.73
40	0.46	0.52	0.59	0.68	0.72	0.74
45	0.48	0.54	0.61	0.71	0.74	0.76
50	0.50	0.56	0.63	0.73	0.75	0.78
55	0.52	0.58	0.65	0.75	0.77	0.80
60	0.54	0.60	0.68	0.77	0.79	0.81
65	0.56	0.63	0.70	0.79	0.81	0.83
70	0.58	0.65	0.72	0.81	0.83	0.85
75	0.60	0.67	0.74	0.84	0.85	0.87
80	0.62	0.69	0.76	0.86	0.87	0.88
85	0.64	0.71	0.79	0.88	0.89	0.90
90	0.66	0.73	0.81	0.90	0.91	0.92950.68
100	0.70	0.77	0.85	0.94	0.95	0.95
VALUES OF P FOR 0% AND 100% ARE THOSE USED FOR ST. LOUIS MODIFIED 9-1939 RAINFALL INTENSITY OF 1 INCH PER HOUR ON 1 ACRE = 1.008 CU. FT. PER SECOND ON 1 ACRE = 1 CU. FT. PER SECOND ON 1 ACRE (APPROXIMATELY) $P \times I = Q$ = RUNOFF IN CU. FT. PER SEC. PER ACRE FOR GIVEN % IMPERVIOUSNESS OF CONTRIBUTING AREA DURING A RAINFALL OF GIVEN INTENSITY CORRESPONDING TO THE GIVEN DURATION AND A SELECTED FREQUENCY. I = INTENSITY OF RAINFALL IN INCHES PER HOUR FOR GIVEN DURATION AND GIVEN FREQUENCY RUNOFF RAINFALL = P = RATIO OF RUNOFF CONTRIBUTED BY AN AREA OF GIVEN % IMPERVIOUSNESS FOR A GIVEN DURATION PERIOD TO THE RAIN--ALL OF A GIVEN INTENSITY CORRESPONDING TO THE SAME DURATION PERIOD AND A SELECTED FREQUENCY						



DEPARTMENT OF PUBLIC WORKS OFFICE MEMO

DATE: December 10, 2014

TO: Planning & Zoning Commission

FROM: Jim Heines, Director of Public Works

SUBJECT: Boundary Adjustment 11379 Elzey Street

City Staff has been working on a property exchange with Mr. Lammers and Ms. Platke, the property owners at 11379 Elzey Street located in the Malcolm Terrace Subdivision and adjacent to Malcolm Terrace Park property.

As you may recall city staff presented the attached report for P&Z review and recommendation on the land transaction at their meeting on October 21, 2013. After receiving a positive recommendation from P&Z at that meeting, staff has worked with the property owners on the necessary steps to complete this transaction as well as submitting to Council for review and approval at the November 24, and December 8, 2014 meetings.

After receiving approval from Council at the December 8, 2014 meeting, our next step is to submit a request to P&Z for a Boundary Adjustment to the 11379 Elzey Street property. As identified in the original submission to P&Z on October 21, 2013, the existing lot is non-conforming due to being undersized (12,500 SF) for the current zoning of "C single-Family Residential" (15,000 SF min.). The recently approved property exchange will increase the residential lot size to 20,625 which brings the lot into conformance with the current zoning however, is still small enough that it cannot be subdivided into two lots.

City staff is recommending approval of the Boundary Adjustment as identified on the Boundary Adjustment Plat submitted with this report. A sample motion could read as follows:

"I move to approve the proposed boundary adjustment for 11379 Elzey Street as identified in the Mosley Point Lot 3 Boundary Adjustment Plat dated 10/31/14. The additional property within the new boundary shall be zoned C Single-Family Residential to match that of the original parcel at 11379 Elzey Street. "

Attachment: Staff Report-Boundary Adjustment 12-15-14 (1179 : Boundary Adjustment - 11379 Elzey Street)



DEPARTMENT OF PUBLIC WORKS OFFICE MEMO

DATE: October 15, 2013

TO: Planning and Zoning Commission

FROM: Jim Heines, Director of Public Works

SUBJECT: Land Swap at Malcolm Terrace Park

Staff has been working with Mr. & Mrs. Lammers, property owners at 11379 Elzey St. located in the Malcolm Terrace Subdivision to acquire several individual lots scattered through the woods in Malcolm Terrace Park. The attached map (Existing Properties) shows the location of their property and the out-lots in the park.

As part of the land swap, Mr. & Mrs. Lammers will transfer title of the lots at 400 Brownee St., 401 Mulligan St., and a portion the lot at 233 Mulligan St. to the city. In return, the city will transfer title of a portion of 239 Mulligan St. and a portion of 223 Mulligan St. to the Lammers giving them a larger, rectangular property. (See attached maps)

The increase in the size of the lot at 11379 Elzey St. will be significant and will bring this nonconforming lot into compliance with the current zoning however, it will not create the potential for any property owner in the future to subdivide it into two buildable lots (See attached final map). A detailed description of the area of the land transfers is listed below.

Existing Conditions (See Attached Existing Properties Map)

<u>Land Owned by the Lammers</u>	<u>Lot Size</u>	<u>Area</u>
11379 Elzey St.	100'x 125'	12,500 SF
<u>Land Recently Purchased by the Lammers</u>	<u>Lot Size</u>	<u>Area</u>
400 Brownlee St.	25'x 101'	2,525 SF
401 Mulligan St.	50'x 100'	5,000 SF
233 Mulligan St.	50'x 120'	6,000 SF
Total		13,525 SF

*After Proposed Land Swap (See Land Swap Map)

<u>Land owned by the Lammers</u>	<u>Lot Size</u>	<u>Area</u>
11379 Elzey St.	100'x 125'	12,500 SF
Remaining Portion of 233 Mulligan St.	65'x 50'	3,250 SF
Parcel A (Swapped by the City to the Lammers)	65'x 25'	1,625 SF
Parcel B (Swapped by the City to the Lammers)	50'x 65'	3,250 SF
Total		20,650 SF

Attachment: P&Z Submission -Land Swap 10-21-13 (11379 : Boundary Adjustment - 11379 Elzey Street)

Land transferred from the Lammers to the City

Parcel C	50'x 55'	2,750 SF
401 Mulligan St. (Parcel D)	100'x 50'	5,000 SF
400 Brownlee St. (Parcel E)	101'x 25'	2,525 SF
Total		10,275 SF

* In total, the Lammers will convey 10,275 SF of Land to the City and the City will convey 4,875 SF of land to the Lammers.

Although the city and the Lammers plan to share the cost for a surveyor to draft the exhibits and place new property pins, the actual cost for the land conveyance will be the minimum allowed for both parties. Both staff and Mr. & Mrs. Lammers are aware that we will be required to submit a request to the Planning Commission to consolidate the parcels into the one lot at 11379 Elzey St. We plan to follow up on this issue after the land transaction is completed.

Given that this project involves the purchase and sale of substantial parcels of land, Public Works staff is requesting the Planning and Zoning Commission to review this land transaction and make a recommendation to Council in observance of Section 89.380 of the Revised Statute of Missouri. A sample recommendation could read as follows:

“The Planning and Zoning Commission has reviewed the details as well as the final results of the land swap between the City of Creve Coeur and Mr. & Mrs. Lammers at Malcolm Terrace Park and recommend approval of this land transaction.”

Malcolm Terrace Land Swap

7.2.b

Existing Properties



Attachment: P&Z Submission -Land Swap 10-21-13 (1179 : Boundary Adjustment - 11379 Elzey Street)

Legend

- City Limit
- Property Lines

- Property owned by the Lammers
- Property recently purchued by the Lammers

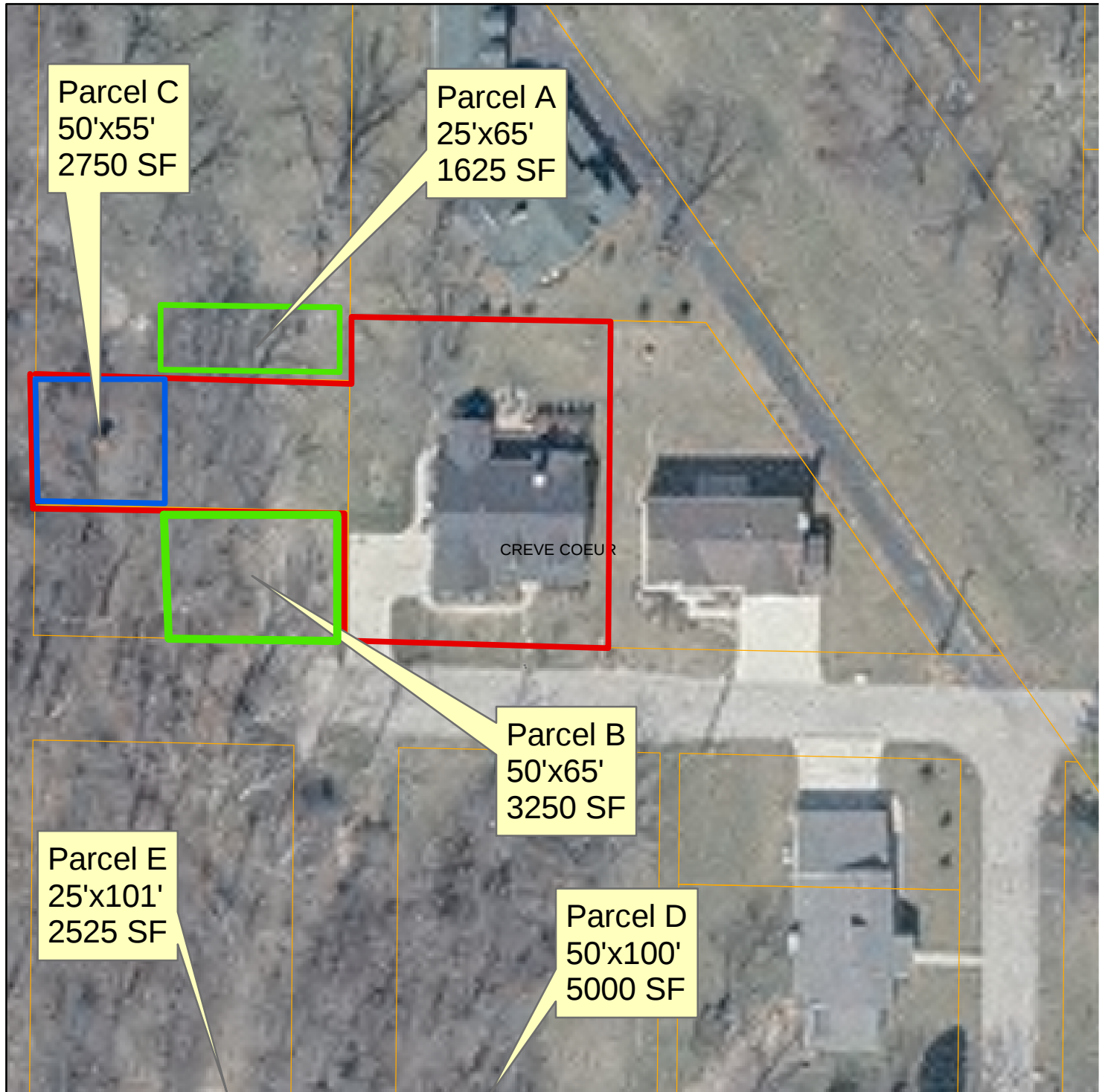
0 130 260 520 Feet W



Malcolm Terrace Land Swap

Land Swap

7.2.b



Legend

- City Limit
- Property Lines

- Property owned by the Lammers
- Property owned by the city to be transfered to the Lammers
- Property owned by the Lammers to be transfered to the city

0 75 150 300 Feet



Packet Pg. 76

Malcolm Terrace Land Swap

7.2.b

11379 Elzey St. Final Boundary

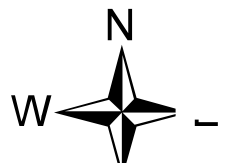


Legend

- City Limit
- Property Lines

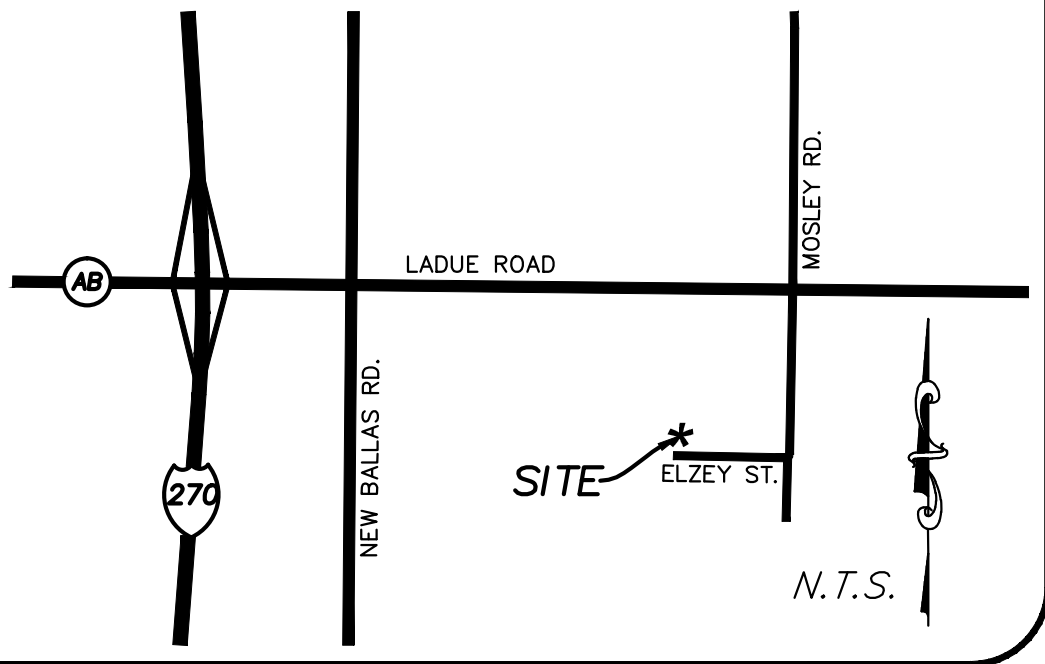
— Lammers Proposed New Property Boundary

0 62.5 125 250 Feet



Packet Pg. 77

LOCATION MAP



OWNER'S CERTIFICATE:

THE UNDERSIGNED OWNERS OF THE TRACTS OF LAND HEREIN PLATTED AND FURTHER DESCRIBED IN THE SURVEYORS CERTIFICATE HAVE CAUSED THE SAME TO BE SURVEYED AND ADJUSTED IN LAND AREA IN THE MANNER SHOWN ON THIS BOUNDARY ADJUSTMENT PLAT, WHICH SHALL HEREFTER BE KNOWN AS "MOSLEY POINT LOT 3 BOUNDARY ADJUSTMENT PLAT".

NO NEW EASEMENTS OR BUILDING LINES ARE BEING CREATED BY THIS PLAT. THIS BOUNDARY ADJUSTMENT PLAT DOES NOT VACATE EXISTING EASEMENTS.

NO NEW LOTS ARE BEING CREATED BY THIS PLAT. THIS BOUNDARY ADJUSTMENT PLAT DOES NOT REDUCE PARCEL AREAS BELOW THE MINIMUM SIZE REQUIREMENTS OF THE CITY OF CREVE COEUR, MISSOURI ZONING ORDINANCE.

THERE ARE CURRENTLY NO DEEDS OF TRUST AGAINST ORIGINAL LOTS 15, 18 AND 19 OF SUBJECT PROPERTY.

JAMES A. LAMMERS, A MARRIED PERSON DATE

VICKY S. PLATKE, A MARRIED PERSON DATE

MARK C. PERKINS, CITY ADMINISTRATOR DATE
CITY OF CREVE COEUR

STATE OF MISSOURI)
COUNTY OF ST. LOUIS) SS.

ON THIS _____ DAY OF _____, 2014, BEFORE ME PERSONALLY APPEARED JAMES A. LAMMERS AND VICKY S. PLATKE, HUSBAND AND WIFE, TO ME PERSONALLY KNOWN, WHO, BEING BY ME DULY SWORN, DID SAY THAT THEY ARE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THAT THEY EXECUTED THE SAME AS THEIR FREE ACT AND DEED.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL IN THE COUNTY AND STATE AFORESAID, THE DAY AND YEAR FIRST ABOVE WRITTEN.

MY COMMISSION EXPIRES: _____

NOTARY PUBLIC

STATE OF MISSOURI)
COUNTY OF ST. LOUIS) SS.

ON THIS _____ DAY OF _____, 2014, BEFORE ME PERSONALLY APPEARED MARK C. PERKINS, TO ME PERSONALLY KNOWN, WHO, BEING BY ME DULY SWORN, DID SAY THAT HE IS THE CITY ADMINISTRATOR OF THE CITY OF CREVE COEUR, A MUNICIPAL CORPORATION OF THE STATE OF MISSOURI, AND THAT SAID INSTRUMENT WAS SIGNED IN BEHALF OF SAID MUNICIPAL CORPORATION BY AUTHORITY OF ITS CITY COUNCIL, AND SAID MARK C. PERKINS ACKNOWLEDGED SAID INSTRUMENT TO BE THE FREE ACT AND DEED OF SAID MUNICIPAL CORPORATION.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL IN THE COUNTY AND STATE AFORESAID, THE DAY AND YEAR FIRST ABOVE WRITTEN.

MY COMMISSION EXPIRES: _____

NOTARY PUBLIC

LIENHOLDER (IF NECESSARY):

THE UNDERSIGNED HOLDER OR LEGAL OWNER OF NOTES SECURED BY DEED OF TRUST RECORDED IN DEED BOOK _____ PAGE _____ OF THE ST. LOUIS COUNTY, MISSOURI RECORDS, JOINS IN AND APPROVES IN EVERY DETAIL THIS PLAT OF "MOSLEY POINT LOT 3 BOUNDARY ADJUSTMENT PLAT".

BY: _____

PRINT NAME AND TITLE

STATE OF MISSOURI)
COUNTY OF ST. LOUIS) SS.

ON THIS _____ DAY OF _____, 2014, BEFORE ME PERSONALLY APPEARED _____, TO ME PERSONALLY KNOWN, WHO, BEING BY ME DULY SWORN, DID SAY THAT HE/SHE IS THE _____ OF THE STATE OF _____, AND THAT SAID INSTRUMENT WAS SIGNED AND SEALED ON BEHALF OF SAID _____ BY AUTHORITY OF ITS _____, AND SAID _____ ACKNOWLEDGED SAID INSTRUMENT TO BE THE FREE ACT AND DEED OF SAID _____.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL IN THE COUNTY AND STATE AFORESAID, THE DAY AND YEAR FIRST ABOVE WRITTEN.

MY COMMISSION EXPIRES: _____

NOTARY PUBLIC

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

DRAWN BY:	VLW	MSD P# -	N/A
CHECKED BY:	JAH	DATE:	10/31/14
JOB NO.:	14-05-167	BOUNDARY ADJ.	MOSLEY POINT

CITY CERTIFICATION:

THIS ACKNOWLEDGEMENT CERTIFIES THIS BOUNDARY ADJUSTMENT PLAT OF "MOSLEY POINT LOT 3 BOUNDARY ADJUSTMENT PLAT" HAS BEEN APPROVED BY THE CITY OF CREVE COEUR, MISSOURI, ON THIS _____ DAY OF _____, 2014.

CITY OF CREVE COEUR, MISSOURI

BY: _____
TIM MADDEN
PLANNING AND ZONING CHAIRMAN

ATTEST: _____
DEBORAH RYAN, CITY CLERK

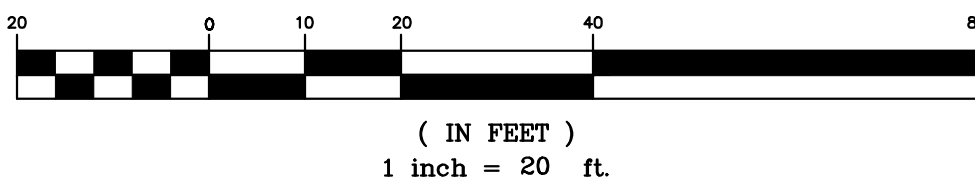
MOSLEY POINT LOT 3 BOUNDARY ADJUSTMENT PLAT

A BOUNDARY ADJUSTMENT OF THREE TRACTS OF LAND BEING ALL OF LOT 3 OF "MOSLEY POINT" (P.B. 346, PG. 294), PART OF LOTS 15-19 OF BLOCK 5 OF "MALCOLM TERRACE" (P.B. 4, PG. 92) AND A PORTION OF VACATED MULLIGAN STREET ALL LOCATED IN SECTION 11, TOWNSHIP 45 NORTH, RANGE 5 EAST CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI

LEGEND

- ▲ PERMANENT MONUMENT (IN ACCORDANCE WITH MISSOURI MINIMUM STANDARDS) (5/8" I. ROD W/ ALUMINUM CAP)
- SEMI-PERMANENT MONUMENT (IN ACCORDANCE WITH MISSOURI MINIMUM STANDARDS) (1/2" I. ROD W/ PLASTIC CAP)

GRAPHIC SCALE



PROPERTY DESCRIPTION - ORIGINAL LOT 3:

LOT 3 OF "MOSELY POINT", A SUBDIVISION IN ST. LOUIS COUNTY, MISSOURI, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 346, PAGE 294 OF THE ST. LOUIS COUNTY RECORDS.

PROPERTY DESCRIPTION - ORIGINAL LOTS 15-19:

ALL OF LOTS 15 THROUGH 19, INCLUSIVE IN BLOCK NUMBER 5 OF "MALCOLM TERRACE", ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 4, PAGE 92 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS.

PROPERTY DESCRIPTION - MULLIGAN STREET:

ALL OF THAT PORTION OF MULLIGAN STREET VACATED BY ORDINANCE NUMBER 1940 OF THE CITY OF CREVE COEUR, MISSOURI ADJACENT TO LOT 3 OF "MOSELY POINT", A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 346, PAGE 294 OF THE ST. LOUIS COUNTY RECORDS, AND ADJACENT TO LOTS 15 THROUGH 19 OF "MALCOLM TERRACE", A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 4 PAGE 92 AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF ABOVE SAID LOT 3, THENCE ALONG THE NORTH RIGHT-OF-WAY LINE OF ELZEY STREET (40 FEET WIDE), NORTH 89°00'00" WEST, 40.00 FEET TO POINT BEING THE SOUTHEAST CORNER OF ABOVE SAID LOT 19, THENCE LEAVING SAID NORTH RIGHT-OF-WAY LINE AND ALONG THE EAST LINE OF SAID LOT 19 AND ITS PROLONGATION, BEING THE EAST LINE OF ABOVE SAID LOTS 15 THROUGH 18 OF "MALCOLM TERRACE", NORTH 00°22'00" EAST, 125.00 FEET TO A POINT BEING THE NORTHEAST CORNER OF SAID LOT 15, THENCE LEAVING LAST SAID EAST LINE, SOUTH 89°38'00" EAST, 20.00 FEET TO A POINT ON THE CENTERLINE OF ABOVE SAID MULLIGAN STREET, THENCE ALONG SAID CENTERLINE, SOUTH 00°22'00" WEST, 0.44 FEET TO A POINT, THENCE LEAVING SAID CENTERLINE, SOUTH 89°38'00" EAST, 20.00 FEET TO A POINT BEING THE NORTHWEST CORNER OF SAID LOT 3, THENCE ALONG SAID WEST LINE OF SAID LOT 3, SOUTH 00°22'00" WEST, 125.00 FEET TO THE POINT OF BEGINNING.

PROPERTY DESCRIPTION - ADJUSTED LOT 3:

A TRACT OF LAND BEING ALL OF LOT 3 OF "MOSELY POINT", A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 346, PAGE 294 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS, PART OF LOTS 15 THROUGH 19, INCLUSIVE OF BLOCK NUMBER 5 OF "MALCOLM TERRACE", A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 4, PAGE 92 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS, LOCATED IN SECTION 11, TOWNSHIP 45 NORTH, RANGE 5 EAST, CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID LOT 3, THENCE ALONG THE EAST LINE OF SAID LOT 3, SOUTH 00°22'00" WEST, 125.00 FEET TO A POINT BEING THE SOUTHEAST CORNER OF SAID LOT 3, THENCE LEAVING SAID WEST LINE AND ALONG THE NORTH RIGHT-OF-WAY LINE OF ELZEY STREET (40 FEET WIDE), NORTH 89°00'00" WEST, 165.00 FEET TO A POINT ON THE SOUTH LINE OF ABOVE SAID LOT 19, THENCE LEAVING SAID NORTH RIGHT-OF-WAY LINE AND ALONG A LINE BEING 55.00 FEET EAST OF AND PARALLEL TO THE WEST LINE OF ABOVE SAID LOTS 15 THROUGH 19, SAID LINE BEING THE EAST RIGHT-OF-WAY LINE OF AN ALLEY (15 FEET WIDE), NORTH 00°22'00" EAST, 125.00 FEET TO A POINT ON THE NORTH LINE OF SAID LOT 15, THENCE LEAVING LAST SAID LINE AND ALONG THE NORTH LINE OF SAID LOT 15, SOUTH 89°00'00" EAST, 45.00 FEET TO A POINT BEING THE NORTHEAST CORNER OF SAID LOT 15, THENCE LEAVING SAID NORTH LINE, SOUTH 89°38'00" EAST, 20.00 FEET TO A POINT ON THE CENTERLINE OF ABOVE SAID MULLIGAN STREET, THENCE ALONG SAID CENTERLINE, SOUTH 00°22'00" WEST, 0.44 FEET TO A POINT, THENCE LEAVING SAID CENTERLINE, SOUTH 89°38'00" EAST, 20.00 FEET TO A POINT BEING THE NORTHWEST CORNER OF SAID LOT 3, THENCE ALONG SAID WEST LINE OF SAID LOT 3, SOUTH 00°22'00" WEST, 125.00 FEET TO THE POINT OF BEGINNING AND CONTAINS 6875 SQUARE FEET, OR 0.158 ACRES, MORE OR LESS ACCORDING TO CALCULATIONS BY THE STERLING COMPANY DURING THE MONTH OF SEPTEMBER, 2014, UNDER ORDER NUMBER 14-05-167.

GENERAL NOTES:

- THE PROFESSIONAL WHOSE ORIGINAL SIGNATURE AND PERSONAL SEAL APPEARS ON THIS DRAWING, ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS DRAWING AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO.) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY SAID PROFESSIONAL RELATING TO, OR INTENDED TO BE USED FOR, ANY PART OR PARTS OF THE PROJECT TO WHICH THIS DRAWING REFERS.
- THIS PLAT CONTAINS 27,499 SQUARE FEET, OR 0.631 ACRES, MORE OR LESS.
- LOCATOR NUMBER OF ORIGINAL PARCELS: 18N123941, 18N123950, 18N123961 & 18N123972.
- BASIS OF BEARINGS: PLAT OF "MALCOLM TERRACE" RECORDED IN PLAT BOOK 4, PAGE 921 OF THE ST. LOUIS COUNTY RECORDS.
- ALL BEARINGS AND DISTANCES ARE RECORD AND SURVEYED UNLESS NOTED OTHERWISE. () DENOTES RECORD INFORMATION.
- SOURCE OF RECORD TITLE: WARRANTY DEEDS TO CITY OF CREVE COEUR RECORDED IN DEED BOOK 7086 PAGE 1164 (ORIGINAL LOTS 18 AND 19) AND DEED BOOK 7142 PAGE 75 (ORIGINAL LOT 15) AND WARRANTY DEEDS TO JAMES A. LAMMERS AND VICKI S. PLATKE RECORDED IN DEED BOOK 18586 PAGE 69 (ORIGINAL LOT 3) AND DEED BOOK 20560 PAGE 4573 (ORIGINAL LOTS 16 AND 17).
- THIS TRACT IS ZONED "C" SINGLE FAMILY RESIDENTIAL DISTRICT BY THE CITY OF CREVE COEUR, MISSOURI.
- THIS PARCEL IS LOCATED IN FLOOD ZONE "X" (UNSHADED) ACCORDING TO NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP FOR ST. LOUIS COUNTY, MISSOURI AND INCORPORATED AREAS ISSUED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER 29189C01683 EFFECTIVE AUGUST 23, 2000. ZONE "X" (UNSHADED) IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN.
- NO EASEMENT OR TITLE SEARCH WAS PERFORMED BY THE STERLING COMPANY. THE STERLING COMPANY GIVES NO WARRANTY, IMPLIED OR OTHERWISE, AGAINST ANY EASEMENT OR SERVITUDES WHICH ARE NOT SHOWN HEREON, WHICH MAY AFFECT AND/OR BENEFIT THE SUBJECT PROPERTY AND WHICH A CURRENT TITLE COMMITMENT MAY DISCLOSE. EXISTING EASEMENTS SHOWN HEREON ARE THOSE SHOWN ON THE PLAT OF "MOSELY POINT", RECORDED IN PLAT BOOK 346 PAGE 294 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS, AND WERE DISCOVERED THROUGH THE NORMAL COURSE OF RESEARCH.

SURVEYOR'S CERTIFICATE:

ORDER NUMBER: 14-05-167
THE STERLING COMPANY
5055 NEW BAUMGARTNER ROAD,
ST. LOUIS, MO 63129 (314) 487-0440

THIS IS TO CERTIFY THAT WE HAVE, BY ORDER OF JAMES A. LAMMERS, VICKI S. PLATKE AND THE CITY OF CREVE COEUR, MISSOURI, DURING THE MONTH OF SEPTEMBER 2014, MADE A SURVEY AND PERFORMED A BOUNDARY LINE ADJUSTMENT OF "THREE TRACTS OF LAND BEING ALL OF LOT 3 OF "MOSLEY POINT" (P.B. 346, PG. 294), PART OF LOTS 15-19 OF BLOCK 5 OF "MALCOLM TERRACE" (P.B. 4, PG. 92) AND A PORTION OF VACATED MULLIGAN STREET, ALL LOCATED IN SECTION 11, TOWNSHIP 45 NORTH, RANGE 5 EAST, CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI, AND THAT THE RESULTS OF SAID SURVEY AND BOUNDARY LINE ADJUSTMENT ARE SHOWN HEREON. THIS SURVEY MEETS THE "MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS" (20 CSR 2030-16 EFFECTIVE AUGUST 28, 2013) AS AN "URBAN PROPERTY".

IN WITNESS WHEREOF, IT HAS SIGNED AND SEALED THE FOREGOING THIS _____ DAY OF _____, 2014.

THE STERLING COMPANY
MO REG. 307-D

JAMEY A. HENSON, PLS
MO REG. L.S. #2007017963