

NOTICE

AN APPOINTMENT WITH STAFF

IS REQUIRED

PRIOR TO THE SUBMITTAL OF A

PLANNING AND ZONING

APPLICATION

YOUR PRE-SUBMITTAL MEETING WITH STAFF
WILL ASSIST YOU IN PREPARING YOUR
SUBMITTAL INFORMATION AND
HELP TO PREVENT DELAYS IN THE PROCESS
AND REVIEW OF YOUR APPLICATION
BY THE PLANNING AND ZONING COMMISSION

SEE PRE-APPLICATION PACKET AVAILABLE AT
WWW.KIRKWOODMO.ORG, CITY DEPARTMENTS,
PLANNING AND ZONING WEB PAGE.

CONTACT RYAN SPENCER, CITY PLANNER
(314) 984-5907

**CITY OF KIRKWOOD
PLANNING AND ZONING COMMISSION
APPLICATION PROCEDURE
JUNE 2014**

MUST BE SIGNED AND ATTACHED TO APPLICATION FORM

The Planning and Zoning Commission meets on the first and third Wednesdays (except December) of each month at 7:00 p.m. in the Council Chambers at City Hall, 139 South Kirkwood Road (see attached schedule).

Submittal of a petition authorizes the City to place a Zoning Matters sign on the premises advising the public of the petition. An applicant shall complete and submit the following items to the Public Services Department according to the attached schedule.

- APPLICATION FORM.** All forms must be completed in full, including signature of property owners. A copy of the Contract between the property owner and petitioner will suffice. Incomplete or partial applications will not be accepted and will be returned to the petitioner. All designated spaces on the forms must be appropriately filled in prior to filing of the application.
- COVER LETTER.** A one-page letter describing the project in detail.
- PRELIMINARY SUBDIVISION PLAT CHECKLIST.**
- PROPERTY TITLE.** A copy of the title, deed, title commitment, or survey which includes the legal description of the property and present ownership.
- DRAWINGS**
 - (a) **Site plan** shall be signed and sealed by a Professional Engineer and shall show all required information as noted on attached checklist.
 - (1) 15 sets 11"x17" (folded into 8.5"x11"; and
 - (2) Five sets of drawings (**no larger than 24"x36"**), (folded into 12"x10").
 - (b) **Landscaping plan** showing the required information as noted on attached checklist.
 - (1) 15 sets 11"x17" (folded into 8.5"x11"; and
 - (2) Five sets of drawings (**no larger than 24"x36"**), (folded into 12"x10").
- TREE STUDY.** Study shall be signed by a certified forester, certified arborist, or landscape architect and include value of significant trees and protection methods. Trees on abutting public rights-of-way and private property within five feet of all property lines shall also be shown on study.
- PHOTOGRAPHS.** One set of color photographs of site frontage, adjacent properties, and significant site features, including significant trees.
- PROCESSING FEE.** A filing fee is required for **each** of the following, as applicable:

Rezoning	\$1,000
Preliminary Subdivision Plat	\$500/Lot
Final Subdivision Plat	\$100/Lot Plus 1.25% of public improvement cost \$30/linear foot if sidewalks are waived
Preliminary Community Unit Plan (Includes site plan review fee)	\$1,000 Plus \$20/Dwelling Unit
Final Community Unit Plan (Type A single- or multi-family)	\$100/Lot plus 1.25% of public improvement cost \$30/Linear foot if sidewalks are waived
Final Community Unit Plan (Type C multi-family)	\$500 + 1.25% of public improvement guarantee

A check, in the above amount, shall be made payable to the "City of Kirkwood". This fee is not refundable.

These are the minimum submittal requirements needed for review. Failure to provide all information will result in application being delayed or returned.

Signature

Date

CITY OF KIRKWOOD

APPLICATION FOR PLANNING AND ZONING COMMISSION ACTION

CASE NUMBER: _____

DATE: _____

PROJECT ADDRESS: _____

ZONING DISTRICT: _____ LOT SIZE: _____

LOCATOR NUMBER: _____

ACTION REQUESTED

- Zoning Change From _____ to _____
- Community Unit Plan, Type: _____
- Special Use Permit: _____
- Subdivision Development, Number of Lots: _____
- B4 Development Plan B5 Development Plan

- Site Plan Review
- Right-of-Way/Easement Vacation
- Other: _____
- Comments: _____

PETITIONER INFORMATION

Name: _____ Signature: _____ Phone No.: _____

Street Address: _____ City: _____ State: _____ Zip: _____

E-mail Address: _____ FAX No.: _____

Petitioner's Status: Corporation Partnership Individual

Relationship of Petitioner to Property: Owner Tenant Option Holder (Attach Copy of Contract) Other

I(We) hereby certify that I(we) have legal interest in the hereinabove described property and that all information given herein is true and a statement of fact.

AGENT INFORMATION

Agent's Name: _____ Signature: _____ Phone No.: _____

Street Address: _____ City: _____ State: _____ Zip: _____

E-mail Address: _____ FAX No.: _____

(NOTE: The petitioner's agent, if listed, shall receive the official notice of public hearing)

PROPERTY OWNERS

(Signature required or submit proof petitioner has legal interest in property)

Name: _____ Name: _____

Signature: _____ Signature: _____

Address: _____ Address: _____

C/S/Z: _____ C/S/Z: _____

Phone: _____ Phone: _____

FOR CITY USE ONLY

Date Received: _____ Total Received: \$ _____ Agenda Date: _____

- Rezoning: \$1,000
- Zoning Code Amendment: \$1,000
- Special Use Permit: \$1,000
- Site Plan Review: \$700
- Site Plan Review Amendment or Extension: \$500
- Preliminary Site Plan Review, Mixed Use in B2 Zoning District, more than 5 acres: \$1,000 (includes SPR fee) + \$25/acre or portion over one acre
- Preliminary Community Unit Plan: \$1,000 + _____ Dwelling units @ \$20/Each = \$ _____ = \$ _____
- Preliminary Subdivision: _____ Lots @ \$500/Lot = \$ _____
- Preliminary B-4/B-5 Development Plan: \$1,000 + _____ Acres @ \$100/Acre or portion over one acre) = \$ _____
- Easement Vacation: \$75
- Right-of-way Vacation: \$100
- Letter of Credit Extension: \$100

Final Subdivision Plat/Community Unit Plan/B-4or B-5 Development Plan

Date Received: _____ Total Received: \$ _____ Agenda Date: _____

- Final Subdivision Plat/CUP Type A: _____ Lots @ \$100/Lot = \$ _____ + 1-1/4% of \$ _____ = \$ _____ + Sidewalk Wavier on _____ @ \$30/Foot = \$ _____ = \$ _____
- Final CUP Type C: \$500 + 1-1/4% of \$ _____ = \$ _____
- Amend Approved Community Unit Plan Type A or Type C: \$500
- Amend Final Development Plan of Approved Subdivision Plat: \$200
- Final B-4/B-5 Development Plan or Amend Approved B4 Plan (when public hearing is not required): \$1,000
- Amend Approved B5 Plan (when public hearing is not required): \$500
- Final Site Plan Review, Mixed use in B2 Zoning District, more than 5 acres: \$500
- Amend Approved Final Site Plan, Mixed use in B2 Zoning District, more than 5 acres: \$300

SUBCOMMITTEE (_____)

**CITY OF KIRKWOOD
 PLANNING AND ZONING COMMISSION
 CITY CONTACTS
 JUNE 2014**

NAME/TITLE	LOCATION	PHONE NUMBER	E-MAIL ADDRESS
Bill Bensing Public Services Director	City Hall 139 South Kirkwood	314-822-5846	bensinwe@kirkwoodmo.org
Todd Rehg City Engineer	City Hall 139 South Kirkwood	314-822-5820	rehgta@kirkwoodmo.org
Ryan Spencer City Planner	City Hall 139 South Kirkwood	314-984-5907	spencerm@kirkwoodmo.org
Jack Schenck Building Commissioner	City Hall 139 South Kirkwood	314-822-5814	schencjw@kirkwoodmo.org
Robert Coady Deputy Building Commissioner	City Hall 139 South Kirkwood	314-822-5817	coadyrp@kirkwoodmo.org
Leo Meyer Assistant Chief/Fire Marshal	Fire House 2 11804 Big Bend	314-822-5884	meyerla@kirkwoodmo.org
Rick McKinley Distribution Engineer	Utilities Building 212 South Taylor	314-984-5925	mckinlry@kirkwoodmo.org
Jim Vitale Sanitation Division Director	Public Works Building 345 South Fillmore	314-822-5849	vitalejp@kirkwoodmo.org

CITY OF KIRKWOOD PLANNING AND ZONING COMMISSION
2014 Submittal Calendar and Meeting Schedule

Pre-submittal meetings	Formal Application Deadline	City comments to applicant	Applicant's response to City comments due	P&Z Commission Meeting 7 p.m. (Presentation)
Mon - Fri (9am - 4pm)	Friday - Noon	Wednesday	Friday	Wednesday
Each case must have at least one pre-submittal review meeting prior to formal application	12/13/2013	12/26/2013	1/3/2014	1/15/2014
	1/3/2014	1/15/2014	1/24/2014	2/5/2014
	1/17/2014	1/29/2014	2/7/2014	2/19/2014
	1/31/2014	2/12/2014	2/21/114	3/5/2014
	2/7/2014	2/19/2014	2/28/2014	3/19/2014
	2/28/2014	3/12/2014	3/21/2014	4/2/2014
	3/14/2014	3/26/2014	4/4/2014	4/16/2014
	4/4/2014	4/16/2014	4/25/2014	5/7/2014
	4/18/2014	4/30/2014	5/9/2014	5/21/2014
	5/2/2014	5/14/2014	5/23/2014	6/4/2014
	5/16/2014	5/28/2014	6/6/2014	6/18/2014
	5/30/2014	6/11/2014	6/20/2014	7/2/2014
	6/13/2014	6/25/2014	7/7/2014*	7/16/2014
	7/7/2014*	7/16/2014	7/25/2014	8/6/2014
	7/18/2014	7/30/2014	8/8/2014	8/20/2014
	8/1/2014	8/13/2014	8/22/2014	9/3/2014
	8/15/2014	8/27/2014	9/5/2014	9/17/2014
	8/29/2014	9/10/2014	9/19/2014	10/1/2014
	9/12/2014	9/24/2014	10/3/2014	10/15/2014
	10/3/2014	10/15/2014	10/24/2014	11/5/2014
10/17/2014	10/29/2014	11/7/2014	11/19/2014	
10/31/2014	11/12/2014	11/21/2014	12/3/2014	

All submittal deadlines are firm. Any deviation from these deadlines will result in delay of hearing date. Dates and times of meetings are subject to change without notice. Applications requiring a public hearing before the Planning and Zoning Commission might alter the initial meeting date
 *Monday

(PETITIONER SHALL USE HIS LETTERHEAD PAPER)

SUBDIVISION WAIVER REQUEST

SUBDIVISION NAME: _____

VARIANCE REQUESTED: _____

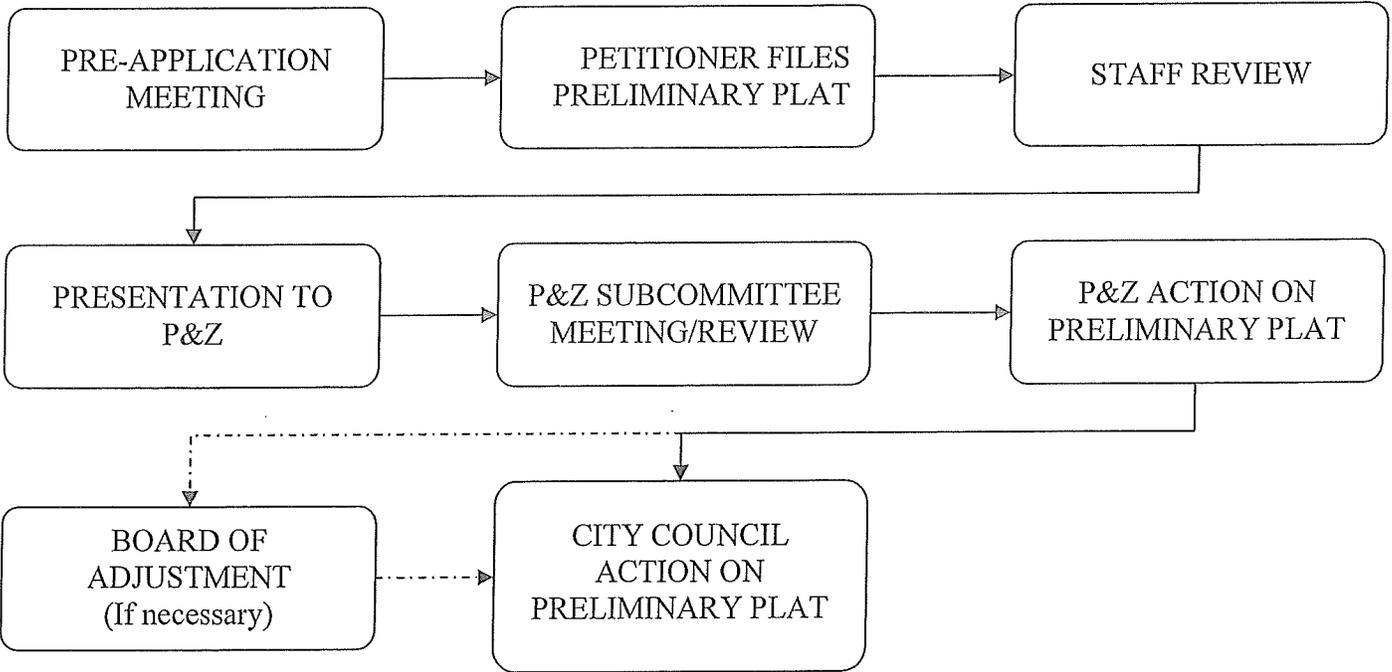
The waiver is requested in accordance with the City of Kirkwood Subdivision Code, Article X, Waivers and Exceptions.

This waiver is requested because of the conditions peculiar to the site and does not destroy the general intent and spirit of the Subdivision Code.

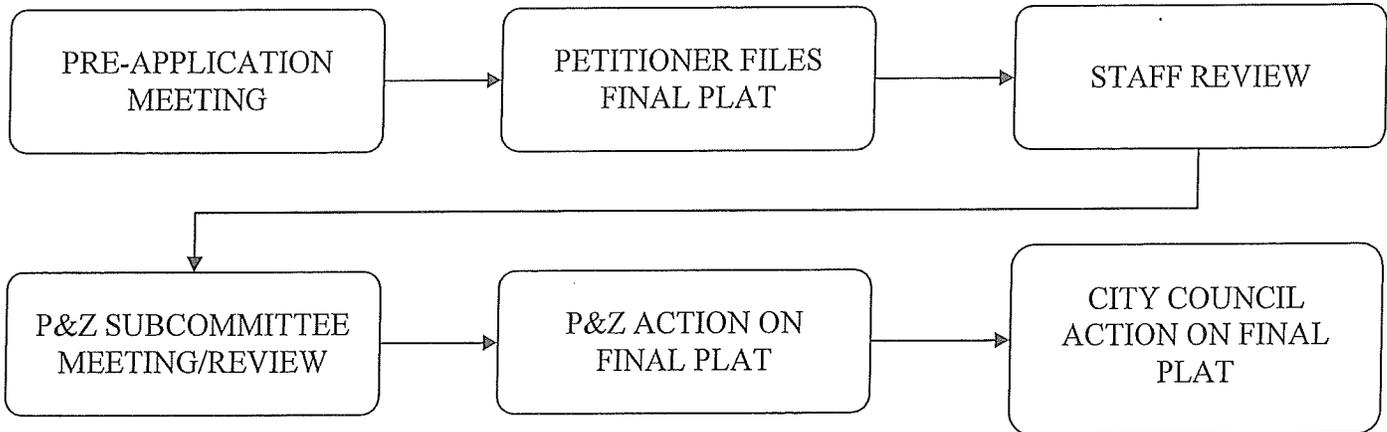
(Explain in detail why waiver is requested, hardships, and/or site peculiarities should be stated.)

SUBDIVISION

PRELIMINARY PLAT

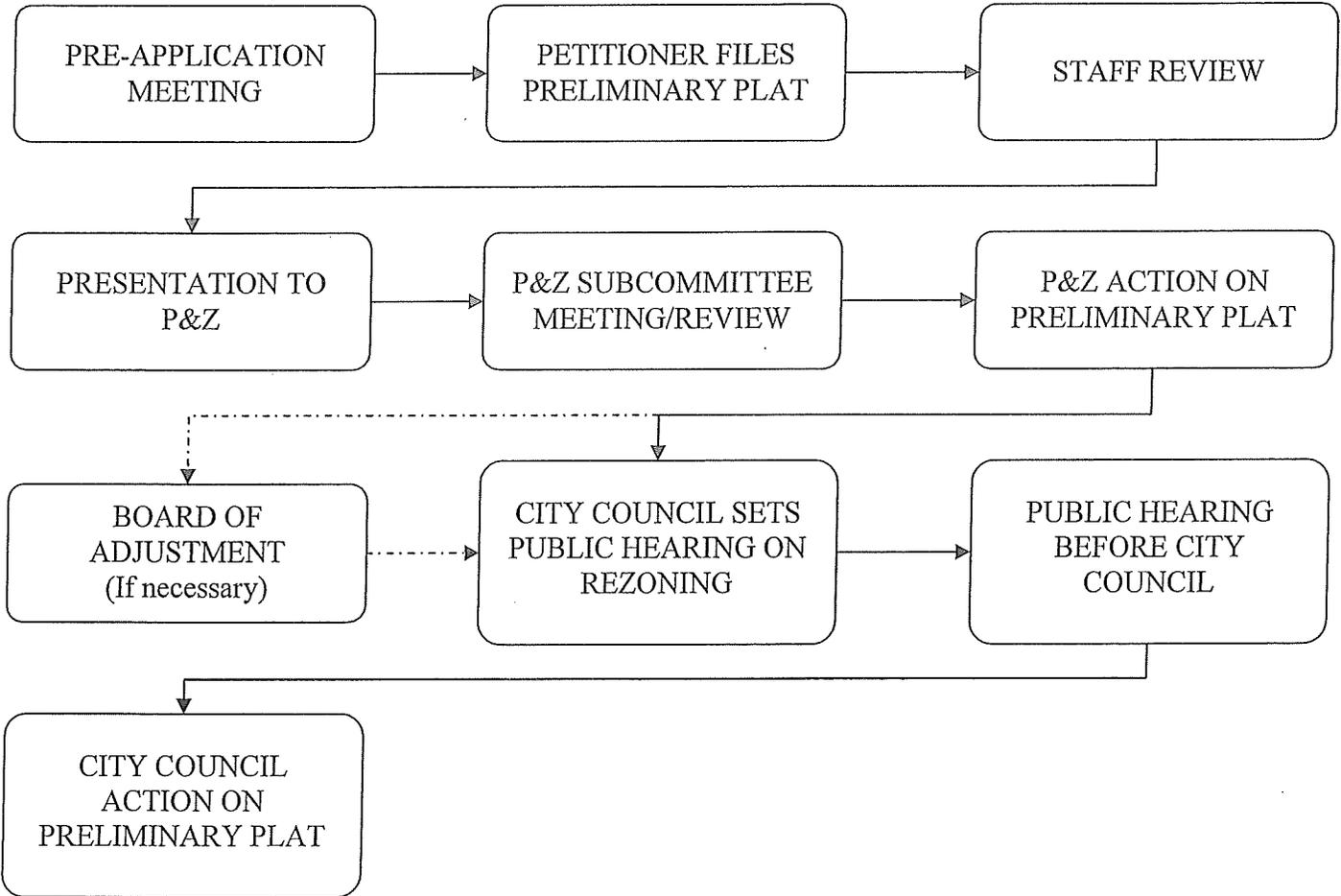


FINAL PLAT

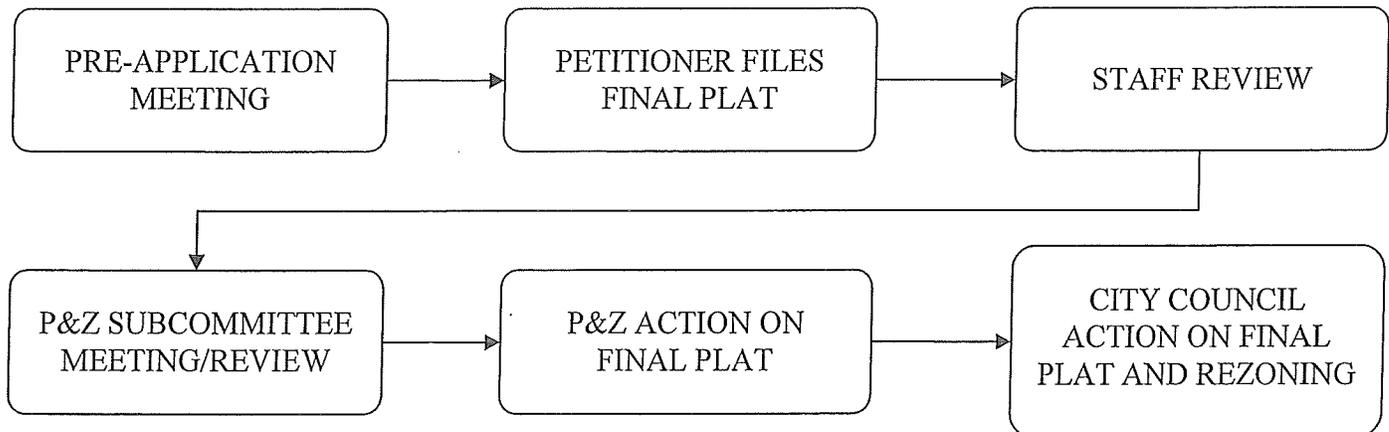


SUBDIVISION REQUIRING REZONING

PRELIMINARY PLAT

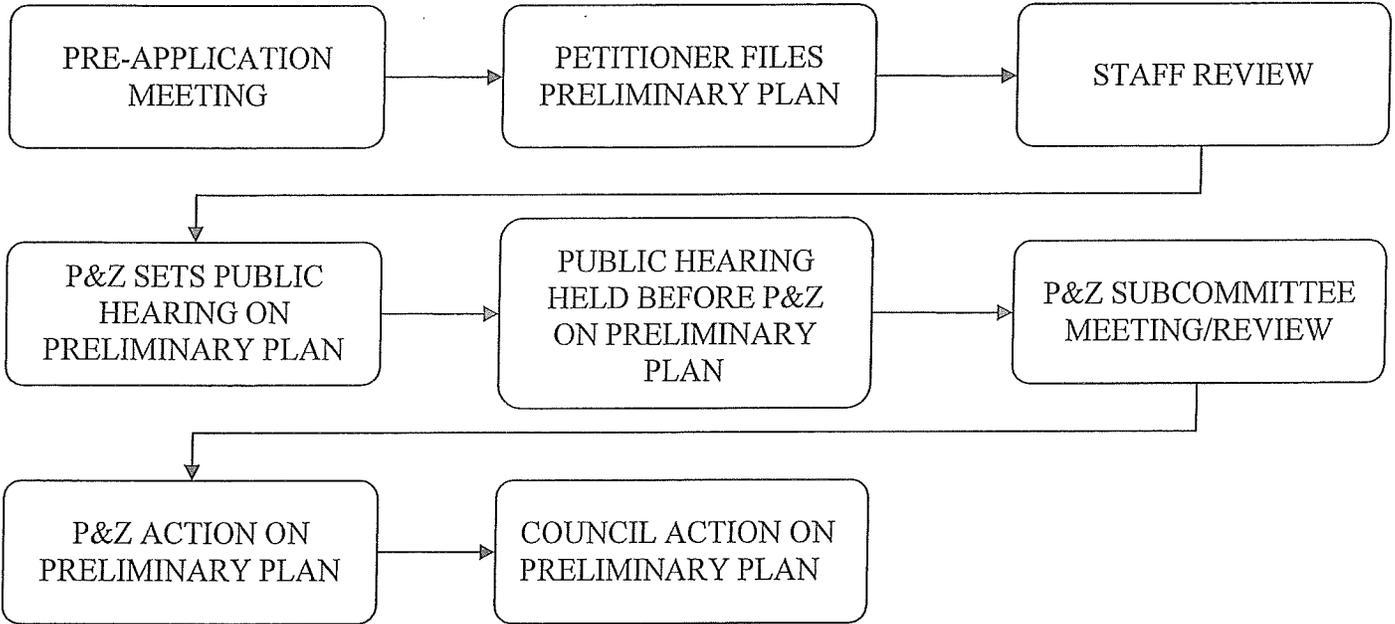


FINAL PLAT

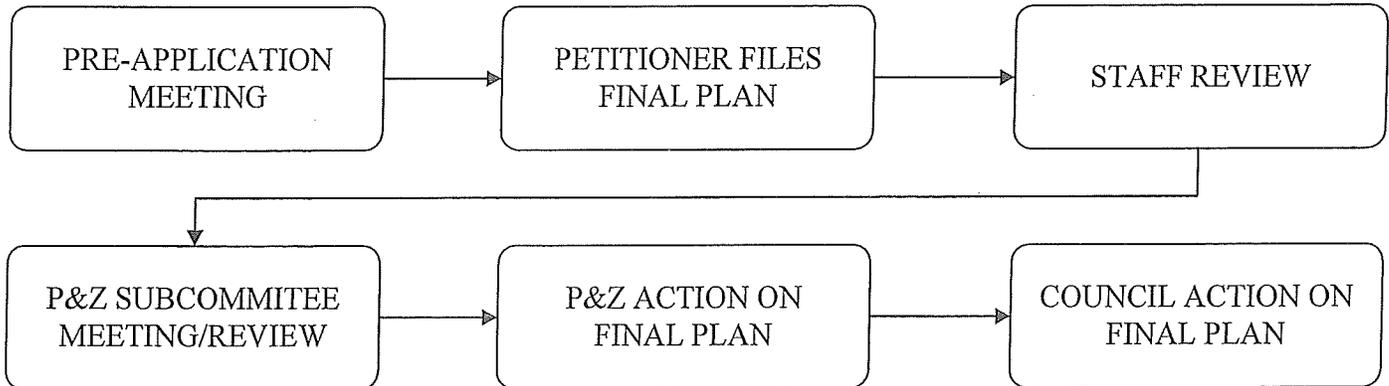


COMMUNITY UNIT PLAN

PRELIMINARY C.U.P.

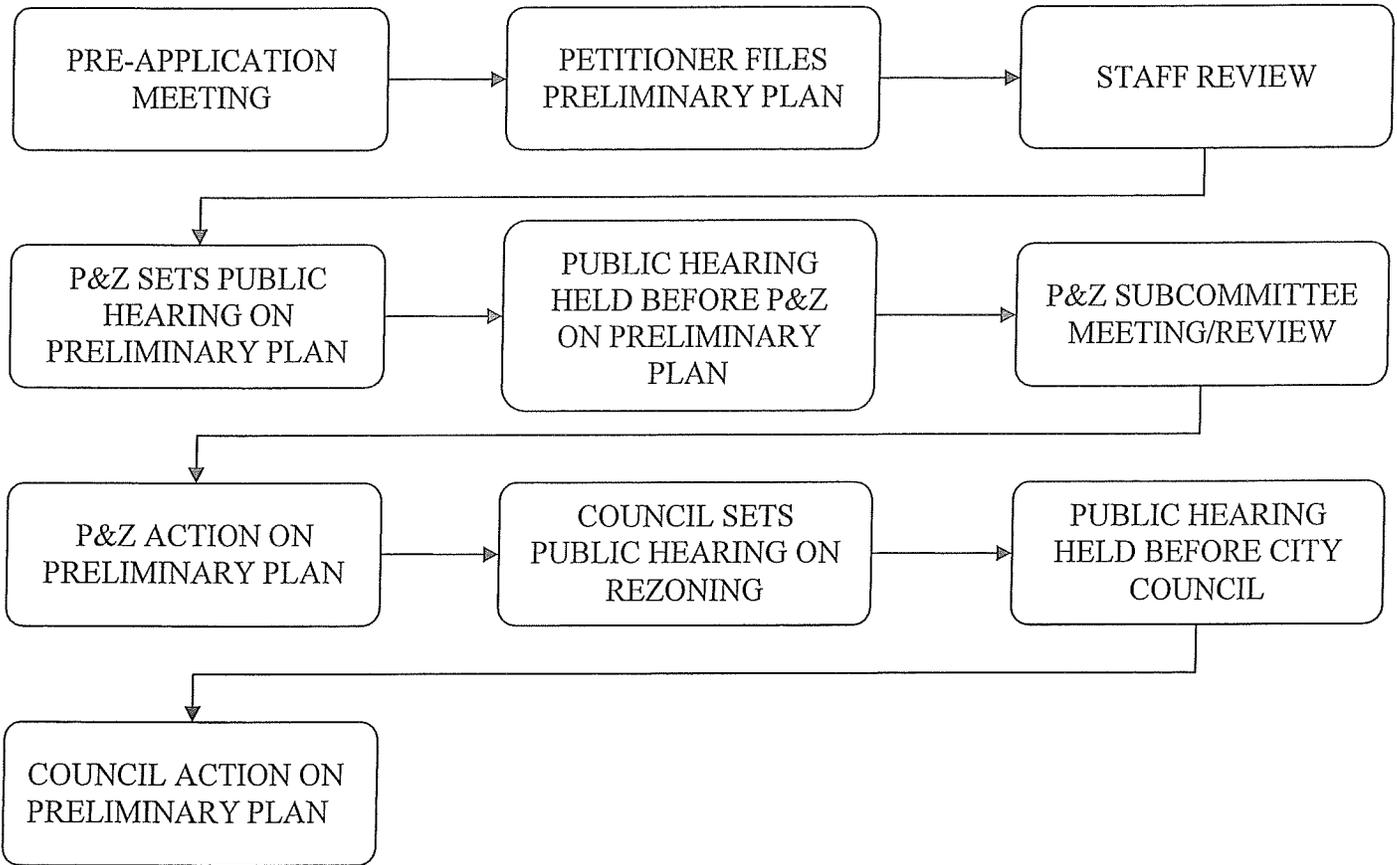


FINAL C.U.P.

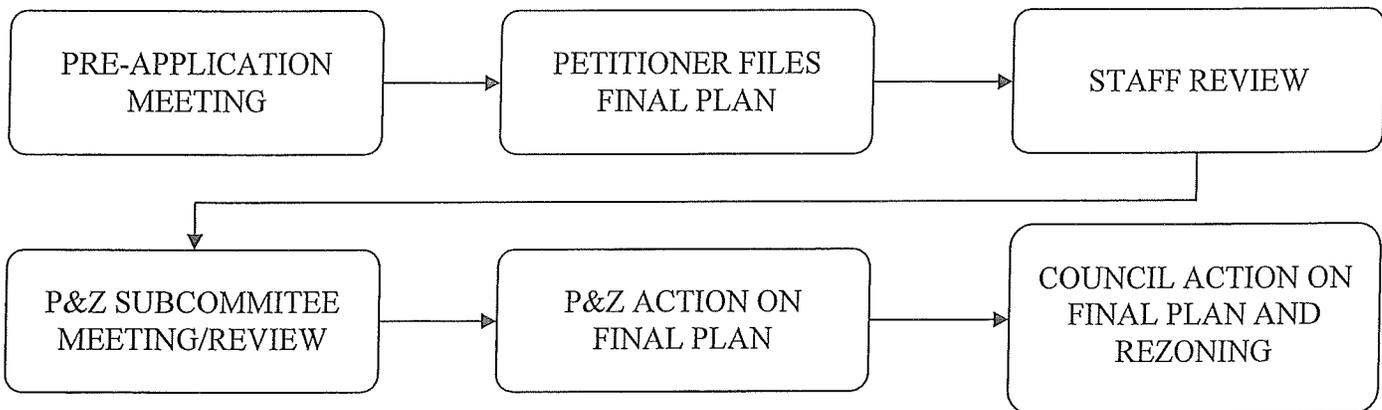


COMMUNITY UNIT PLAN REQUIRING REZONING

PRELIMINARY C.U.P.



FINAL C.U.P.



CITY OF KIRKWOOD

SUBDIVISION DESIGN CHECK LIST

Attached is a checklist of various design elements of the Kirkwood Subdivision Code. This is for information only and does not fully outline the Code.

This CHECKLIST shall be submitted with all subdivision applications (preliminary and final submittals) and signed and dated by developer or engineer. Failure to submit completed checklist may result in the return of the application.

I certify that the items checked designate compliance and are shown on plans as applicable. Discrepancies are noted with an explanation.

Subdivider Name

Engineer/Surveyor

Date

*City of Kirkwood
Public Services Department
June 2014*

STREET DESIGN

- Street layout provides access to all lots and parcels of land within the subdivision.
- No Street jogs of less than 125 feet
- Cul-de-sacs do not exceed one thousand (1,000) feet in length.
- No intersecting streets within 250 feet of the center of a cul-de-sac.
- Streets designed to discourage through traffic.
- No private streets.
- No reserved strips controlling access to streets.
- Minimum widths of street rights-of-way:
 - Major or primary streets: 60 feet.
 - Secondary or collector streets: 60 feet.
 - Minor or neighborhood streets: 50 feet.
 - Cul-de-sac streets serving less than 9 lots (if approved by the Planning/Zoning Commission): 40 feet.
 - Culs-de-sac(Dead Ends): 55-foot radius with a 5-foot wide easement.
 - Cul-de-sacs serving less than 9 lots: May be varied by Planning/Zoning Commission.
- Abutting existing streets that do not conform to the required right-of-way widths have dedicated additional width along either or both sides of such streets.
- When the subdivision is located on one side of an existing street or road, a minimum of $\frac{1}{2}$ of the required right-of-way shall be provided.
- Streets laid out to intersect as nearly as possible at right angles.
- At intersections, property line corners rounded by arcs of a minimum 20 foot radii unless the angle of intersection of 2 streets is less than 60 degrees, then approved by the Public Works Department.

- At intersections of streets with alleys, the property line corners shall be rounded with radii of not less than 15'.
- No more than 2 streets intersecting at one point.
- Parkways or special streets approved by Planning and Zoning.
- Horizontal and vertical visibility along the center line:
 - Major or primary streets: 500 feet.
 - Collector or secondary streets and parkways: 300 feet.
 - Minor or neighborhood streets: 150 feet.
- Horizontal curvature along the center line:
 - Major or primary streets: 500 feet radius.
 - Collector or secondary streets and parkways: 300 feet radius.
 - Minor or neighborhood streets: 150 feet radius.
- Changes in grade connected by vertical curves.
- Tangents between reversed curves:
 - Major streets: Tangent of not less than 100 feet.
 - Collector and Minor streets: Tangent not less than 40 feet.
- Maximum grades for streets:
 - Major streets: 6% Maximum
 - Collector streets: 10% Maximum
 - Minor streets and alleys: 10% Maximum (may be increased to 12% with approval of Planning and Zoning)
 - At street intersections:
 - Collector and minor streets: 4% maximum, 50 feet from the center of the intersection.
 - Major streets: 3% maximum, 50 feet from the center of the intersection.
 - Cul-de-sac: 5% Maximum

Street grades exceeding these limitations for the purpose of conforming the street grade to the contour of the existing land to reduce overall site grading and preservation of site vegetation, may be approved by Planning and Zoning.

- Minimum grade of any street gutter: 2%
- Street does not duplicate, or nearly duplicate the name of an existing street, unless the proposed street is an extension of or in alignment with an existing street. In which case, the duplication shall be mandatory. Street names shall be approved by the U.S. Post Office.
- No alleys in residential areas. Included in commercial and industrial areas, if approved by the Planning and Zoning where needed for loading, unloading, or access purposes for the public benefit.
- No dead-end streets or alleys except cul-de-sacs.
- If a private driveway easement is approved by the Planning and Zoning Commission as a waiver, the building line shall not be less than fifteen (15) feet from any road maintenance easement.
No more than two (2) lots served by a common driveway.
- If a waiver is granted for private streets, the private streets shall be constructed to the same standards as public streets. The front yard area (building line) on a private street shall be measured from the street right-of-way line.

BLOCK DESIGN

- Blocks do not exceed 1,250 feet in length.
- Blocks of sufficient width to permit 2 tiers of lots of appropriate depth, except where an interior street parallels a limited access highway or railroad right-of-way.
- Blocks more than 700 feet in length may have, at or near the middle of the block, a public walkway connecting adjacent streets or public areas, shopping centers, etc., as required by the Planning and Zoning Commission. Such walkway shall be at least ten (10) feet in width of right-of-way and shall be dedicated to public use for pedestrian purposes only.

LOT DESIGN

- Lots meet the minimum area; the front, side, and rear yard requirements; and the minimum width requirements of the zoning district in which the subdivision is located.
- Lots abut and have access to a public street.
- Lots have at least 90% of the required width of the front building line as frontage on the right-of-way line except for lots with frontage on culs-de-sac and turnarounds, which have at least 50% of the required width of the front building line as frontage on the right-of-way line.
- Side lines of lots are at approximately right angles to straight streets and on radial lines on curved streets.
- Double frontage lots are not platted, except that, along major streets, lots may face on an interior street and back on such thoroughfare. In the event double frontage lots are created on adjacent property, appropriate screening approved by the Planning and Zoning Commission.
- Corner residential lots are 10 percent wider on both streets than the required zoning width.
- There are no lots of a flag configuration which place a dwelling unit behind a dwelling unit. Lots which conform to the right-of-way frontage are not considered lots of a flag configuration.
- The size, shape, and orientation of lots and the orientation of structures provides desirable building sites logically related to topography, natural features, streets, parking areas, common ground (if any), other structures, and adjacent land uses. Due regard is given to preserving natural features which would add attractiveness and value to the neighborhood such as large trees, unusual rock formations, water courses, and sites which have historical significance, scenic views, and similar assets.
- In single-family residential zoning districts, the building area of a lot, (the area enclosed by the side yard, rear yard, and front building lines), accommodates a rectangle of the following size:

<u>Zoning District</u>	<u>Front/Back</u>	<u>Sides</u>
R-1	75'	36'
R-2	62.5'	32'
R-3	50'	28'
R-4	30'	24'

EASEMENTS

- Easements as necessary (usually around boundaries of subdivision and between every other lot line and in common ground) with minimum width of 10 feet, and, where located along interior lot lines shall normally be taken from one lot, in the R-4 district 7' may be taken off each lot in order to accommodate the 8' building setback.
- Drainage Easements for the purpose of widening, straightening, improving or protecting watercourses as required by MSD.
- Common ground easements, and as cul-de-sac islands, dedicated to the trustees of the aforementioned subdivision for landscape maintenance.

ENVIRONMENTAL PROTECTION AND COMMON GROUND

- Due regard shown for all natural features, such as tree growth, watercourses, or other similar elements which, if preserved, would add attractiveness to the proposed development.
- The natural topography retained wherever possible in order to reduce excessive storm water run-off onto adjoining property and to avoid extensive regrading of the site.
- Location and floor elevations of all proposed buildings considered in relation to proposed street grades, existing topography, trees, and pertinent site features in order to preserve all such features insofar as possible and desirable.
- Consideration given to increasing the setback or front building line to retain existing topography, rock formations, large trees natural features, natural water courses, historical sites, or other similar assets.
- The building area of all lots are at least 50 feet from the center line of an existing water course, nor on a 25% or greater grade.
- Land within 35 feet of the center line of an existing water course or on slopes of 25% or greater grade, may be preserved as common ground if required by Planning and Zoning.
- Each common ground parcel 5,000 square feet or greater with a minimum 20-foot wide access to public right-of-way. Common ground located within cul-de-sacs is exempt.
- Land disturbance permit from the DNR, if construction activities disturb land or the grading or excavation five acres or more.

NONRESIDENTIAL SUBDIVISIONS.

- Street, parcel, and block pattern is specifically adapted to the uses anticipated, and is compatible with other uses in the vicinity.
- Industrial parcels suitable in area and dimensions to the type or types of industrial development anticipated.
- Street right-of-way and pavement will accommodate the type and volume of traffic anticipated.
- Special requirements imposed by Planning and Zoning with respect to street, curb, gutter, street light, planting, sidewalk, utility, and other improvements to meet special needs.
- Lots platted adjacent to residential uses or residential zoning districts have increased width, depth, and/or area to provide adequate space for screening and/or buffering.
- Streets do not connect to a minor existing street which has residential zoning districts on both sides.

SITE GRADING/ENVIRONMENTAL PROTECTION

- Grading plan included in the preliminary plat showing existing and proposed contours at intervals sufficient to clearly show the slope of the existing ground surfaces and the extent of the proposed grading.
- The slope of the finished ground surface between lots, between adjacent properties, and between lots and streets not be steeper than two horizontal to one vertical when in cut, nor steeper than three horizontal to one vertical in fill.
- Grading plan approved by the Planning and Zoning Commission on the basis of factors such as preservation of the natural features of the site, providing adequate drainage of the area, protection of adjacent and downstream property from the effects of erosion and siltation, the location and gradient of streets, access to lots from streets, and similar criteria.
- Interim storm water drainage control in the form of siltation control measures to protect adjacent property and public right-of-way.
- Erosion and sediment control devices approved by the Department of Natural Resources if construction activity disturbs a land surface area of five acres or greater.

STREET CONSTRUCTION

- Street improvements plans prepared by a professional engineer.
- Minimum width of street pavement, back to back of curbs:

Major streets: 44 feet.

Collector streets: 36 feet.

Minor streets: 26 feet.

Culs-de-sacs: 50-foot radius with a cul-de-sac planting island with a 16-foot maximum radius (Planting Island not required).

- Pavement design at least equal to the following:

	<i>Class of Street</i>		
	<i>Major</i>	<i>Collector</i>	<i>Minor, Alley, and Cul-de-Sac</i>
Concrete Pavement:			
Concrete thickness	8"	8"	7"
Rolled stone base	4"	4"	6"
Asphaltic Concrete:			
Surface course	2"	2"	2"
Asphaltic concrete base	10"	10"	8"
Rolled stone base	0"	0"	0"

- Prior to the construction of pavements, all subsurface utility pipes and sewers shall be installed as required.
- Existing abutting streets which do not conform to the required width, shall be constructed to a minimum of one-half (½) of the required width as measured from the centerline of the existing pavement.
- Street pavement shall have a minimum radius of thirty-two (32) feet at the back of curb at all street intersections.
- Transverse under drains shall be required under street pavement at all sags, low points, or other locations which contain a storm water inlet adjacent to the street pavement.
- The rolled stone base shall be constructed of two-inch clean crushed stone.

- Concrete pavement shall consist of portland cement concrete consisting of six and one-quarter (6-1/4) sacks of cement per cubic yard with a maximum slump of four (4) inches. All concrete shall be air-entrained with an air content of 4 to 6 percent. No calcium shall be added to the mix.

CURB AND GUTTER CONSTRUCTION

- Curbs or curbs and gutters with all street pavements.
- Combination curb and gutter shall be of concrete at least 18" wide and not less than 7" thick.
- Curb construction for concrete pavements may be integral with the pavement, and roll-type curbs may be permitted on residential streets where no hazard to pedestrians is involved.

SIDEWALK CONSTRUCTION

- Sidewalks along both sides of street and on the subdivision side of adjoining streets. For cul-de-sac streets serving less than nine lots, Planning and Zoning may reduce requirement to one side of street and eliminate requirement for sidewalk around cul-de-sac. Planning and Zoning Commission determines location of sidewalks. Sidewalks placed in the right-of-way with the edge of the sidewalk parallel to and located one foot from the right-of-way if feasible.
- Sidewalk walkways required as determined by Planning and Zoning. Sidewalk walk-through dedicated to the trustees.
- Sidewalks shall have a minimum thickness of 4 inches, except at driveways they shall be 7 inches thick. Sidewalks constructed on a 2 inch thick stone base consisting of 1 inch minus crushed stone. Sidewalk pavement shall be concrete consisting of 6-1/4 sacks of cement, with a maximum slump of 4 inches, and air-entrained with an air content of 4 to 6 percent. No calcium shall be added to the mix.
- The minimum width of a sidewalk shall be four feet in industrial and residential areas. In commercial areas, the Commission shall determine the width of the sidewalk.
- All sidewalks shall be handicapped accessible.
- Sidewalk waiver (if requested) based on the following factors:
 1. Interference with existing structures
 2. Existing site grades and roadway grade
 3. Excessive construction cost

4. Planned structures
5. Drainage patterns and controls
6. Federal, State, and County regulations
7. Preservation of significant site vegetation
8. Preservation of natural features
9. Conditions peculiar to a site
10. Public safety and convenience

- Subdivision sidewalk waiver fee or enhanced features to the subdivision such as landscaping of approximate equal value.

WATER SYSTEM IMPROVEMENTS

- Water system approved by Kirkwood Water Department. Water systems shall be looped unless approval by Kirkwood Water of dead end system.
- Fire hydrants no more than 600 feet apart in residential areas.
- Water mains a minimum of 6 inches in diameter, unless a dead end system is approved, than minimum shall be 8 inches.

SANITARY SEWER SYSTEM IMPROVEMENTS

- Sanitary sewer system designed and approved in accordance with the latest requirements of MSD. Plans for the sanitary sewer system carry the stamp of approval of the MSD.
- If there is no outlet to the MSD sanitary sewer system within 300 feet, an individual sewage treatment system may be used for two lot subdivision developments where each lot contains a minimum of one acre.

STORM WATER DRAINAGE IMPROVEMENTS

- Storm water control and management plans designed and approved in accordance with the latest requirements of MSD. Plans for the storm sewer system carry the stamp of approval of the MSD.
- If storm water detention is required by the Metropolitan Sewer District or the City of Kirkwood for single-family residential subdivisions, it shall be provided underground in pipes or chambers designed for such detention. The pipes or chambers shall be constructed of reinforced concrete and shall be covered with earth and shall not be located in the principle building area of any lot. Dry or wet above-ground detention shall not be permitted in single-family subdivisions.

UNDERGROUND UTILITY LINES

- Electric, telephone, and cable t.v. utility lines installed underground.
- Utility lines and appurtenances, whether above or below ground, located to reduce unsightliness and hazard to the public.

BACKFILL

- All open excavations for sewers and for public utilities shall be carefully backfilled with granular backfill material, approved by the city engineer, thoroughly compacted in place in such a manner as to inhibit any settlement of the finished surface.

STREET LIGHTING

- Street lights at each intersection, at each pedestrian walkway, at each circular turn-around, and at intervals of not greater than 300 feet.
- Street lights mounted on ornamental concrete or steel poles serviced by underground wiring.

STREET NAME SIGNS

- Street name signs erected at all street intersections on diagonally opposite corners so that they normally will be on the right hand side of the intersection for traffic on the more heavily-traveled street.

PLANTINGS

- Trees planted in front of the building line (not within the public right-of-way), approximately five to ten feet from the public right-of-way:

Along all streets where existing trees cannot be preserved in the development of the subdivision,

In a ratio of not less than 1 tree per 50 feet of frontage,

At street corners the nearest tree shall be located a minimum of 25 feet from the intersection of the street right-of-way lines.

Minimum tree size:

Deciduous (shade) trees: 2.5" caliper,
Evergreen trees : 6 feet in height,
Understory trees: 1.5" caliper.

- Designated screen planting areas contain a continuous planting of a minimum of one 2" diameter deciduous tree, two 2" diameter flowering trees, and eight 6'-8' tall evergreens for each one hundred feet.
- Non-residential subdivisions plantings in accordance with the requirements of the Planning and Zoning Commission.
- Total Tree Density Requirements For Residential Subdivisions
 - The subdivider shall provide new and/or existing trees throughout the subdivision to the average minimum of one tree per 2,000 square feet of site area less street rights-of-way. (This includes all tree requirements for the subdivision, such as frontage trees and screening trees.)
 - Each lot shall have a minimum of one tree (new or existing) per 4,000 square feet of lot area. (This includes all tree requirements for the subdivision, such as frontage trees and screening trees.)
 - Trees shall be spaced so that each lot has a minimum tree canopy coverage area of 350 square feet per 1,000 square feet of lot area (35% coverage).
 - The developer shall provide a landscaping plan which locates and identifies by species new and existing trees to be counted as fulfilling the tree requirements.
 - The tree canopy area shall be shown on the final landscaping plans. The canopy for each tree shall be drawn in accordance with the canopy sizes for mature trees shown on the acceptable plant material list available from the City of Kirkwood.
 - Preserved existing and new deciduous trees shall be at least 2.5 inches in caliper. Evergreen trees shall be a minimum of six (6) feet in height. Trees shall be of a species approved by the City.
 - Significant existing trees shall be live, healthy trees of a species suitable for the urban environment having a diameter of eight (8) inches or greater, as approved by the Planning and Zoning Commission.

- The final improvement plans shall show significant trees designated to be saved by the subdivider. If a tree or trees designated in the final improvement plans to be saved is lost for any reason by the time of the final inspection of the subdivision, the lost tree(s) shall be replaced by three (3) times the number of trees lost.
- Where it is determined that tree removal has occurred within two years prior to the filing of the preliminary plat, the Planning and Zoning Commission and/or City Council may require plantings in excess of the above requirements up to one and one half times the number of trees that would otherwise be required.
- In the center island of a cul-de-sac, plantings shall be restricted to ground cover with a maximum height of 30 inches above grade. Trees shall be only of a deciduous type trimmed to provide a minimum clearance to all limbs of six feet above grade.

MONUMENTS, MARKERS AND BENCH MARKS.

- Permanent survey monuments to be set as follows:

At the intersection of all lines forming angles in the boundary of the subdivision.

At the intersection of street property lines and at the beginning and end of all curves along street property lines.

Unless the point is located by monument, markers shall be set as follows:

At all points where lot lines intersect street right-of-way lines.

At all angles in the lot property lines.

At all other lot corners.

- Monuments constructed of concrete with minimum dimensions of 4" x 4" at the top and 6" x 6" at the bottom with a length of 3', or approved by the Public Works Director; marked with a copper or steel dowel.
- Markers shall consist of galvanized steel or wrought iron pipe or steel bars at least 18" in length and 3/4" outside diameter.
- Monuments and markers shall be set after the completion of all grading operations.

- Where a permanent bench mark is not located within 1,000' of the center of the subdivision, a permanent bench mark shall be set and accurately noted on the subdivision plat.

**TREE STUDY
SITE PLAN REVIEW**

PROPERTY LOCATION: _____

*** ATTACH SCALED LANDSCAPE/TREE LOCATION PLAN TO THIS STUDY/SHEET.**

List all significant trees (live, healthy trees, of a species suitable for the urban environment having a diameter of eight inches or greater) on premises, on abutting public rights-of-way, and on private property within five feet of all property lines.

KEY TO DRAWING	TREE SPECIES	DIAMETER	SAVE YES/NO IF NO, EXPLAIN IN NOTES	PROTECTION METHODS EXPLAIN IN NOTES, PROVIDE DRAWINGS	DOLLAR VALUE FROM GUIDE FOR TREE APPRAISAL
A					
B					
C					
D					
E					
F					

NOTE: Public trees abutting the site shall not be removed and require tree protection fencing.

NOTES:

- A
- B
- C
- D
- E
- F

I hereby certify that I have viewed the premises and provide this professional opinion regarding the survivability of significant trees on the site and abutting the site and the appropriateness of proposed tree replacement and landscaping. Attached is a landscape plan prepared by me or under my direction.

Name/Signature/Certification

** Copy this form as needed for additional trees.

**CITY OF KIRKWOOD
PUBLIC WORKS DEPARTMENT**

June 24, 2013

COMPANY NAME	INDIVIDUAL'S NAME	COMPANY ADDRESS	PHONE NUMBER	E-MAIL ADDRESS
Cokley Tree Service	Troy Cokley	1487 Mill Hill Road, St. Clair, MO 63077	636-584-5074	troy624@sbcglobal.net
Davey Resource Group	Skip Kincaid	1609 Missouri Avenue, 63104	314-822-7700	skip.kincaid@davey.com
4S Tree Consulting	James P. Rocca	1547 Virginia Dr., Ellisville, MO 63011	636-386-8733	jr4stree@charter.net
Gamma Tree Service	Timothy Gamma Thomas Gamma Bryan Davidson Frank Gamma, IV David Hancock Anthony Zebrowski	1564 North & South Road, St. Louis, MO 63130	314-725-6159	gammatreeexperts@aol.com
Ray's Tree Service	Dennis Greene Donald Moeller Robert Bushey John Beckman	224 Benton Street, Valley Park, 63088	314-821-2665	info@raystreeservice.com

The above individuals have expressed an interest to perform tree studies in accordance with the codes of the City of Kirkwood. This list is not exclusive. Any arborist certified by the International Society of Arboriculture and qualified to perform tree studies may be utilized. The City of Kirkwood has no obligation or responsibility for the performance of the arborist. This list is furnished only to assist in the retaining of an arborist interested in performing tree studies. Certified Arborists who have an interest in tree studies may contact the City of Kirkwood Public Works Department at 314-822-5822 to be included on the above list.

TREE PROTECTION SPECIFICATIONS

General – Tree protection has three primary functions: (1) to keep the foliage canopy and branching structure clear from contact by equipment, materials, and activities; (2) to preserve roots and soil conditions in an intact and non-compacted state; and (3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted.

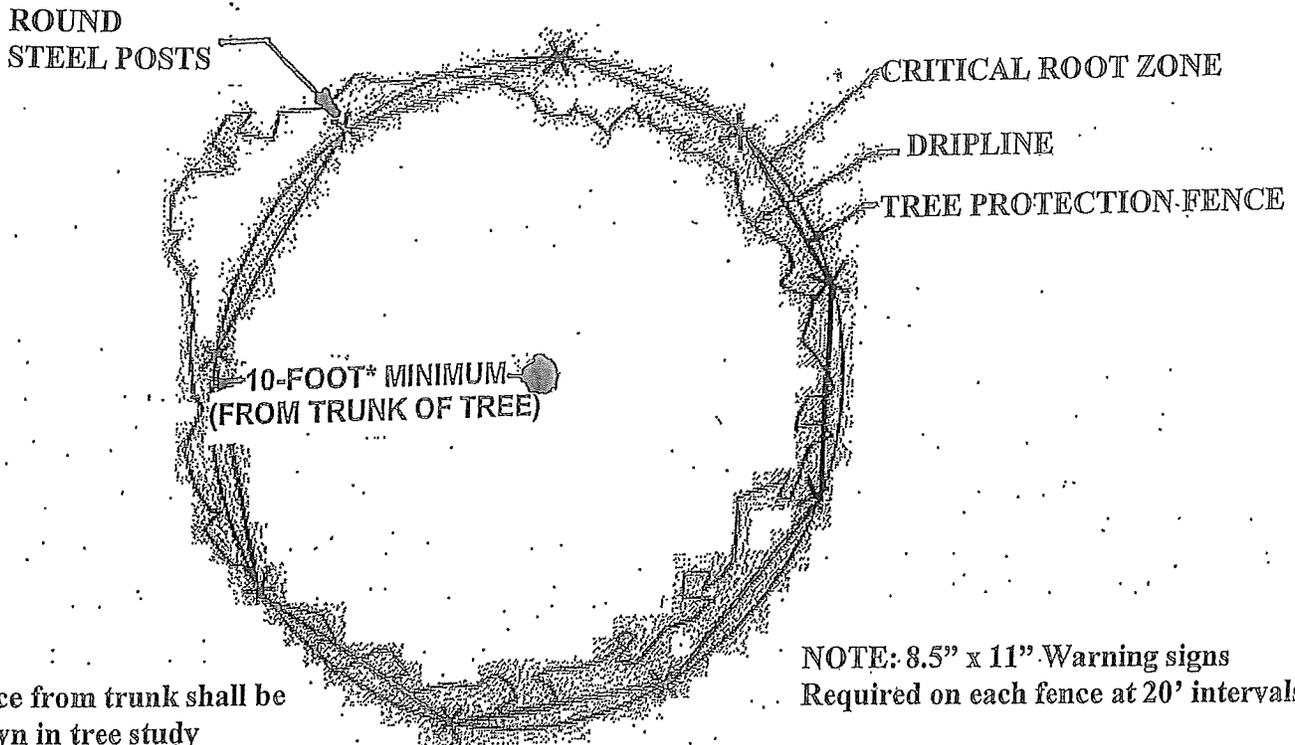
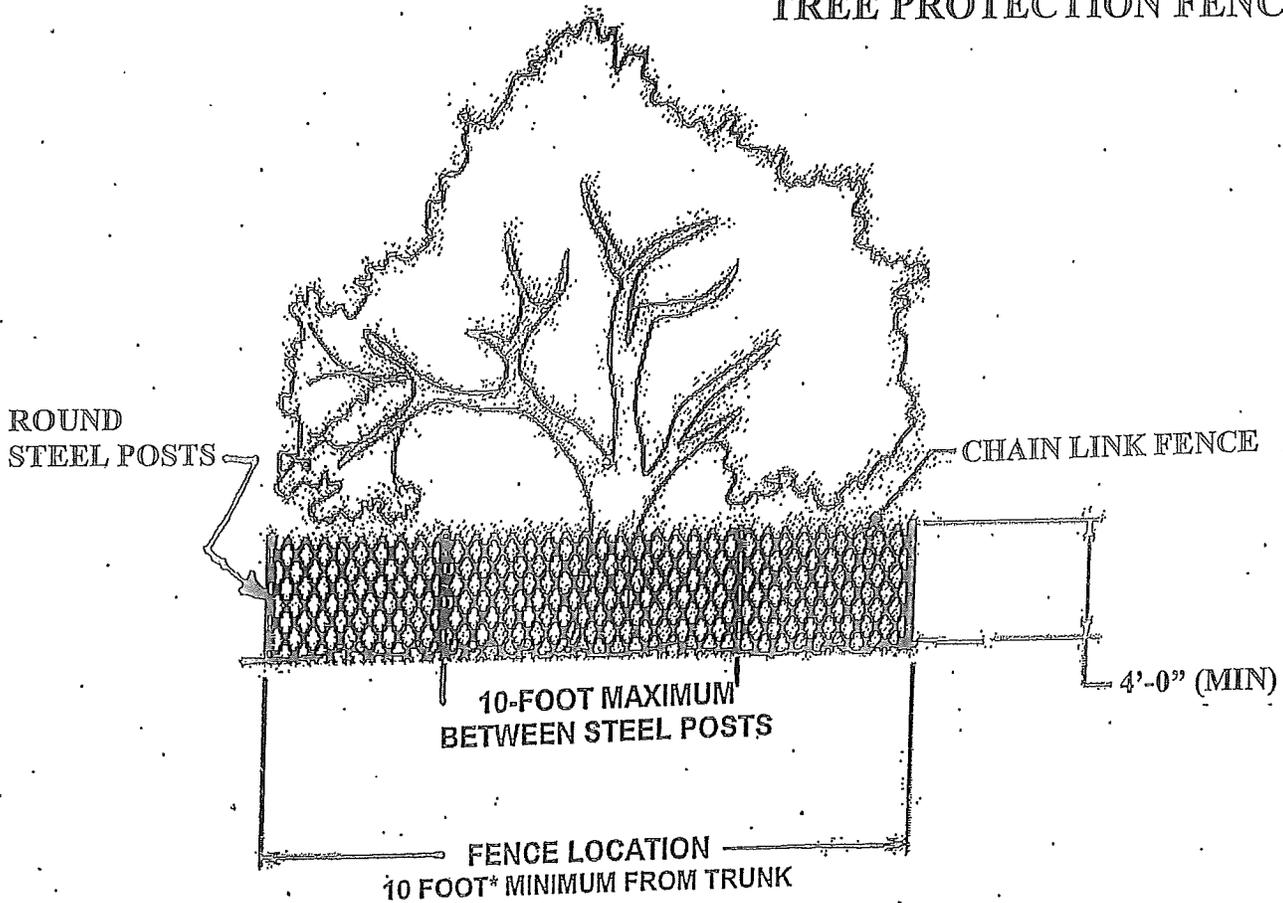
Trees to be Protected – All public trees on City right-of-way and all trees designated to be saved in tree study for site.

Materials

- a. The Tree Protection Zone (TPZ) is a restricted area around the base of the tree at the drip line with a minimum radius of ten (10) feet or as shown in the Tree Study, whichever is greater, enclosed by fencing. **No work, storage, or equipment operation shall be performed in this area.**
- b. Tree Protection: The fence shall enclose the entire area of the TPZ of the tree(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved. For trees situated within a planting strip or near a sidewalk or driveway, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.
- c. Size, type, and area to be fenced: All trees to be preserved shall be protected with four (4) foot high chain link fences. Fences are to be mounted on round steel posts driven into the ground to a depth of at least two feet and no more than 10-foot spacing.
- d. Warning Sign: A warning sign shall be weatherproof and prominently displayed on each fence at 20-foot intervals on the tree protection fencing. The sign shall be a minimum 8.5 inches by 11 inches and clearly state: "WARNING – Tree Protection Zone". See exhibit A-S.
- e. Duration. Tree fencing shall be erected before construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ.
- f. During Construction.
 1. All neighbors' trees that overhang the project site shall be protected from impact and protection fencing may be required.
 2. The applicant shall be responsible for the repair or replacement of any publicly-owned trees that are damaged during the course of construction.
 3. The following tree preservation measures apply to all trees to be saved:
 - (a) No storage of material, topsoil, vehicles, or equipment shall be permitted within the TPZ.
 - (b) The ground under and around the tree canopy area shall not be altered.
 - (c) Trees to be retained shall be irrigated, aerated, and maintained as necessary to ensure survival.

EXHIBIT A

TREE PROTECTION FENCING



* Distance from trunk shall be as shown in tree study or 10' minimum.

NOTE: 8.5" x 11" Warning signs Required on each fence at 20' intervals

CITY OF KIRKWOOD

PRELIMINARY SUBDIVISION PLAT CHECKLIST

JUNE 2014

ITEMS INCLUDED WITH APPLICATION

- Filing Fee.
- 15 sets of 11"x17" and 5 sets of preliminary plat and development plan 24" x 36" (**folded** to a maximum size of 12" x 10"), prepared by registered land surveyor or professional engineer.
- One set of color photographs of site frontage, adjacent properties, and significant site features.
- Request for waivers.

ITEMS SHOWN ON PRELIMINARY PLAT

- Proposed name and location of subdivision.
- Name and address of the owner, subdivider, land planning consultant, and the professional engineer or surveyor who prepared the plat.
- Existing and proposed street right-of-way and pavements, including any proposed dedication strips for widening existing streets; approximate gradients, types, and width of pavements; location of curbs, sidewalks, walkways, planting strips, and other pertinent data.
- Layout of lots, showing dimensions and square footage for each lot.
- Parcels of land proposed to be dedicated or reserved for schools, parks, playgrounds, or other public, semi-public, or community purposes.
- Easements, existing and proposed, showing locations, widths, and purposes.
- Front, side, and rear yard building set backs and dimensions.
- Location and size of nearest water main, storm sewer, sanitary sewer, and other utilities.
- Location of nearest fire hydrant.
- Location of proposed lateral sewer connections.
- Location and size of proposed storm and sanitary sewer lines.

- Location and size of proposed water lines and fire hydrants.
- Location of proposed street lights.
- Location and type of utilities to be installed.
- Tract boundary lines showing dimensions, bearings, angles, and references to known land lines and monuments.
- Topography of the tract; contours at vertical intervals of two (2) feet if the general slope of the site is less than ten percent (10%) and at vertical intervals of five (5) feet if the general slope is ten percent (10%) or greater. U.S.G.S. data will be acceptable.
- Grading plan showing proposed contours, drainage pattern, and first floor elevation of each building.
- Tree masses and all individual trees which have a caliper of 8 inches or greater shall be identified as to species and shown as to be lost or saved.
- Preliminary landscaping plan which locates and identifies by species new and existing trees to be counted as fulfilling tree density requirements.
- Location of existing structures.
- Scale, north arrow, and date.
- Information Summary:
 - Gross Site Area:
 - Net Site Area:
 - Common Ground Area:
 - Average Lot Area:
 - Zoning District:
 - Water:
 - Electric:
 - School District:

Petitioner/Engineer, Date

COST ESTIMATE GUIDELINES

July 1, 2013

1. **GRADING/CLEARING**
Lump sum to be estimated by engineer and approved by City.
2. **STREET PAVEMENT** - Not less than \$35 per square yard.
PARKING LOT PAVEMENT -Not less than \$15 per square yard.
3. **CURBS**
Vertical curb & gutter with asphalt pavement, not less than \$20 per linear foot.
Rolled curb & gutter with asphalt pavement, not less than \$15 per linear foot.
Pinned-on curb (concrete pavement, cul-de-sacs, etc.), not less than \$15 per linear foot.
4. **SIDEWALKS**-Not less than \$7.50 per square foot of sidewalk pavement; Accessible sidewalk ramps - \$2,000 each.
5. **WATER SERVICE** - Not less than \$140 per linear foot of water main (includes hydrants, valves, etc.). If only hydrants, \$3,500 per hydrant.
6. **STREET LIGHTS** - Not less than \$1,800 per light.
7. **STORM SEWERS** - Itemized construction cost to be submitted by engineer and approved by City. Not less than St. Louis County schedule of unit prices.
8. **SANITARY SEWERS** - Itemized construction cost to be submitted by engineer and approved by City. Not less than St. Louis County schedule of unit prices.
9. **TREES ALONG FRONTAGE AND OTHER REQUIRED TREES** - Not less than \$120 per tree.
10. **SPECIAL PLANTINGS/SCREENING OR BUFFERING AS REQUIRED BY CITY APPROVAL** - Not less than \$120 per tree or \$20 per shrub.
11. **LANDSCAPING** - Not less than \$2,000 per landscaping island; watering system \$5,000 plus \$500 for each island.
12. **SAVED TREE GUARANTEE** - Not less than \$500 per tree or amount established by Planning and Zoning Commission/Council.
13. **FENCES**
Chain Link - 10\$/L.F.
Wood Board-on-Board - \$20/L.F.
Masonry - \$30/L.F.
Vinyl - \$20/L.F.
14. **TRASH ENCLOSURES**
Masonry - \$5,000 Each
Wood - \$2,000 Each
15. **STREET SIGNS** - Not less than \$200 per sign.
16. **SURVEY MONUMENTS** - Not less than \$500 per concrete monument and \$150 each corner marker.
17. **"AS BUILT" PLAN DEPOSIT** - \$500 Minimum.
18. **DEPOSIT FOR DAMAGE TO CITY PROPERTY** (streets, curbs, etc.) - \$5,000.
19. **COMPLIANCE WITH PLANS AND CONDITIONS OF APPROVAL** - Not less than \$2,000.
20. Items not listed shall be approved by City Engineer.

NOTE: MINIMUM PERFORMANCE GUARANTEE AMOUNTS:

Multi-family residential	\$10,000/unit
Subdivisions	\$ 5,000/lot
All other projects	\$ 5,000

**CITY OF KIRKWOOD
DEPARTMENT OF PUBLIC WORKS
STORM WATER RUNOFF STANDARDS
FOR
NEW DEVELOPMENTS
AND/OR
THE EXPANSION OF IMPERVIOUS AREAS
REVISED MARCH 15, 1997**

1. GENERAL STANDARDS

All storm water drainage facilities shall be designed and constructed in accordance with the latest rules and regulations and engineering design requirements of the Metropolitan Sewer District and the following additional minimum requirements.

2. IMPERVIOUS AREAS

Any impervious area, paved area, or parking area in excess of 3,000 square feet shall be provided with on-site storm water drainage facilities designed and constructed in accordance with the plans and specifications submitted to and approved by the City of Kirkwood and Metropolitan St. Louis Sewer District. (Exception: one single-family house and accessory parking or building.)

3. DRAINAGE ACROSS SIDEWALK AND DRIVEWAYS

No paved, impervious, or parking area greater than 3,000 square feet in area or over land flow greater than 1 c.f.s. shall discharge across a sidewalk or driveway.

4. MAXIMUM FLOW IN SWALE OR BEHIND BERM

The maximum capacity of a swale or behind a berm shall not exceed 2 c.f.s. The swale shall have adequate slope (2% minimum) and flow velocity to prevent ponding. Cross-section shall be provided for all swales. The maximum velocity in a swale shall not exceed 5 c.f.s. Sheet flow shall not be permitted over terraces.

5. STORM WATER DETENTION

Storm water detention shall be provided under the Rules and Regulations, and Engineering Design Requirements of the Metropolitan St. Louis Sewer District. However, if required

by M.S.D., storm water detention in single-family residential subdivisions shall be provided underground in pipes or chambers designed for such detention. The pipes or chambers shall be constructed of reinforced concrete and shall be covered with earth and shall not be located in the principle building area of any lot. Dry or wet above-ground detention shall not be permitted in single-family subdivisions.

6. SINKHOLE DISCHARGE

No project shall increase the storm water discharge into an existing sinkhole.

7. GRATED TROUGHS

Grated troughs may be required by the City of Kirkwood on streets of six percent grade or greater. Grated troughs may also be required at commercial entrances to the public right-of-way. Grated troughs, if required, shall be designed and constructed to the Standards of St. Louis County Department of Highways and Traffic. Grated troughs on City of Kirkwood public streets will become the maintenance responsibility of the City of Kirkwood upon final approval, inspection, dedication, and acceptance by the City of Kirkwood.

8. TRANSVERSE UNDER DRAINS

Transverse under drains shall be required under street pavement at all sags, low points, or other locations which contain a storm water inlet adjacent to the street pavement. The under drain shall be connected to the storm water inlet and shall be designed and constructed in accordance with City of Kirkwood standards. Underdrains will become the maintenance responsibility of the City of Kirkwood upon final approval, inspection, dedication, and acceptance by the City of Kirkwood.

9. INTERSECTIONS

Storm water flow through an intersection shall not exceed 0.5 c.f.s.

10. SPECIAL REQUIREMENTS

Development plans, parking lots, and commercial and multi-family buildings are subject to review by the City of Kirkwood Planning and Zoning Commission and Public Works Department. The City of Kirkwood may require additional storm water regulations as conditions of an approval to any project.