CAYCE PLACE NASHVILLE, TN Specific Plan Submittal









Kimley **»Horn**



June 2017 SP #2016SP-076-001 Amendment #1



CAYCE PLACE NASHVILLE, TN **Specific Plan Submittal**

Amendment #1: South Sixth St. Properties June 2017

Kimley»Horn

PLANNING ENGINEERING LANDSCAPE ARCHITECTURE



METRO DEVELOPMENT AND HOUSING AGENCY

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Site Overview

On behalf of the Metropolitan Development Housing Authority (MDHA), we are pleased to submit this request for a Specific Plan (SP) approval for the Cayce Place development. This SP marks a significant progress in the development of both affordable housing and the urban fabric of Nashville, Tennessee. This plan will allow the efficiency of the grid network to extend through Shelby Avenue and incorporate a neighborhood that has been isolated from the existing public infrastructure. Infrastructure connectivity such as central open space and effective public transportation create healthy and vibrant communities. Thanks to MDHA, the public involvement process has been unparalleled from the beginning of the planning process for this development. Over the past three years residents of Cayce Homes, East Nashville, and a large variety of stakeholders throughout Middle Tennessee have kept the vision for revitalizing this neighborhood alive. Not only will this plan utilize the knowledge of what has and hasn't worked in the past, but most importantly, it will work hard to retain and accommodate the current residents. This is an exciting time for Nashville, and this Specific Plan will guide redevelopment of Cayce Place for years to come.

- SP Name: Cayce Place
- Council District: 6 •
- Council Representative: Brett Withers •
- FEMA Firm Panel: 47037C0217F
- Existing Zoning: Planned Unit Development (PUD) (See page 6)
- Developer: MDHA •
 - Joe Cain
 - 615.252.8840
 - jcain@nashville-mdha.org
- Civil Engineer:
 - Kimley-Horn and Associates, Inc.
 - Zac Dufour, P.E.
 - 615.564.2701
 - zachary.dufour@kimley-horn.com
- Landscape Architect/Planner: •
 - Kimley-Horn and Associates, Inc.
 - David Coode, PLA, AICP
 - 615.564.2701
 - david.coode@kimley-horn.com

Development Standard Hierarchy

There have been several documents created that guide and specify regulations for the development of Cayce Place. Below in legally binding order:

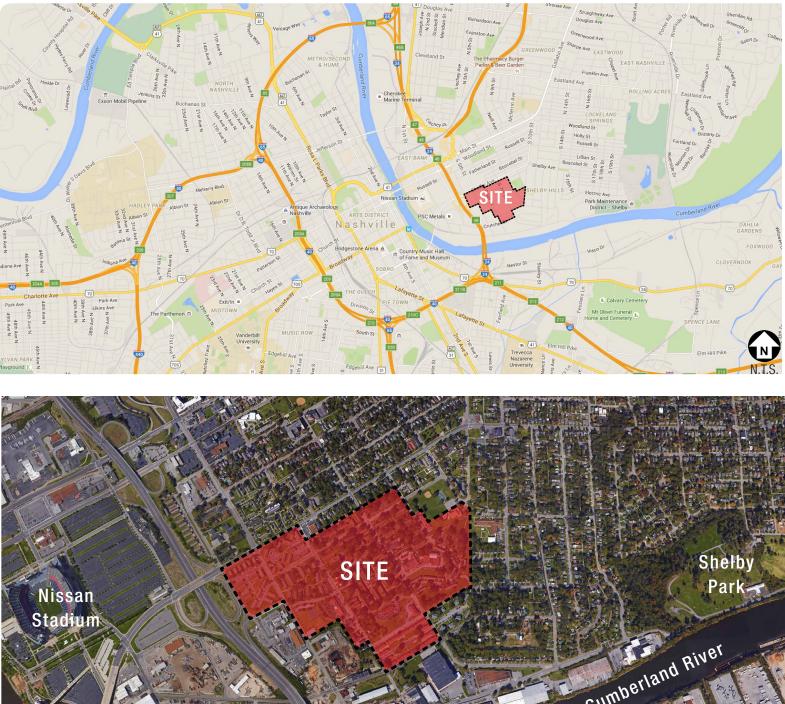
- 1. Cayce Place Redevelopment Plan
- 2. Cayce Place Specific Plan
- 3. Cayce Place Design Guidelines
- 4. Fallback Zoning Districts as outlined in this Specific Plan Document

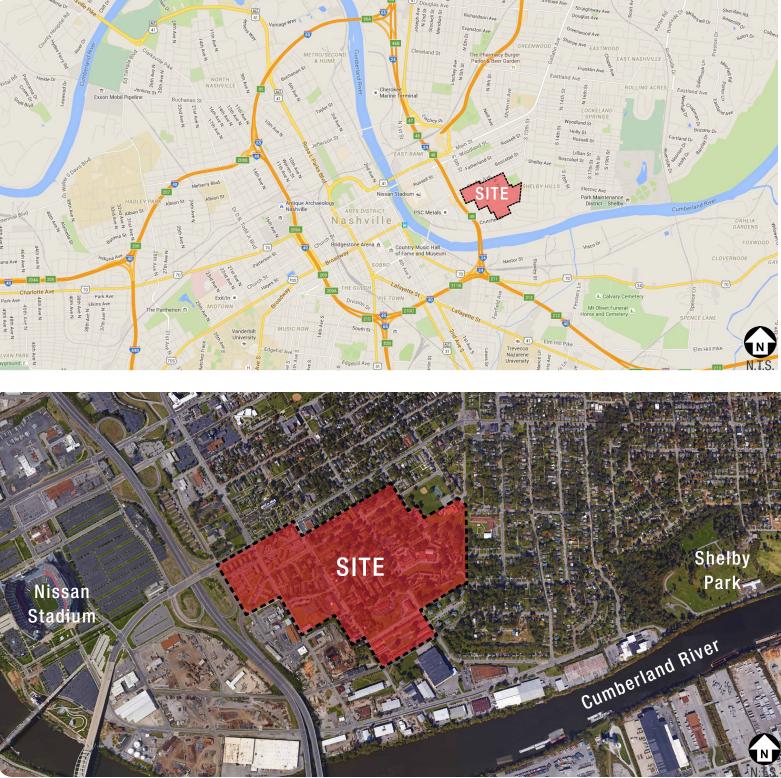
On August 10th, Metro bill BL2015-1274 was approved which put the Cayce Place Redevelopment Plan into motion. This bills main purpose is to place actionable steps to the development of the area to create new housing that complements the surrounding housing stock and attracts new residents with a mixture of incomes. This Specific Plan creates regulatory and guiding principles for the planned development while the Design Guidelines set specific requirements in place for elements of final design. The underlying zoning indicated within the SP will be the guiding document should the SP or Design Guidelines fail to cover a topic.

On Dec 23, 2016, Cayce Place SP was approved. This amendment #1 is to add seven parcels along South Sixth Street to the SP. These parcels are already included in the Cayce Place Redevelopment Plan Boundary.

*Red text indicates content has been directly updated or had graphic content updated to reflect the newly proposed SP Amendment Boundary.

Vicinity Maps





SP BOUNDARY

History of the Site

Due to a national housing crisis in 1938, MDHA was created and began working on 2 projects, Boscobel Heights now Cayce Place and J.C. Napier Homes, which would eventually house the city's working poor. As part of the Urban Renewal Movement, Boscobel Heights was on the forefront of changing the ideology of city living with large open spaces encompassed by dense housing.

Prior to the site being the home for new city housing, it was the home to Boscobel College for Young Ladies from the years 1889 to 1914. Once the college closed its doors in 1914, the property was occupied by the National Baptist Seminary until they left in 1931. However, during their occupancy the site suffered major damage during the Great Fire of 1916 leaving very few structures left intact after the fire was suppressed. During its years on site, the college campus was considered by many a "haven" for pupils and a respite from the busy city lifestyle.

Originally known as Boscobel Heights, Cayce Place got its name with the passing of James A. Cayce, the chairman of the Nashville Housing Authority Board at the time of the project's inception and a successful businessman in the Nashville area. The development and construction of this project was completed through phases which began in 1941 and continued through 1956. From the beginning this newly constructed community was largely isolated from adjacent neighborhoods, and with the development of I-65 in 1964 it became even further isolated.

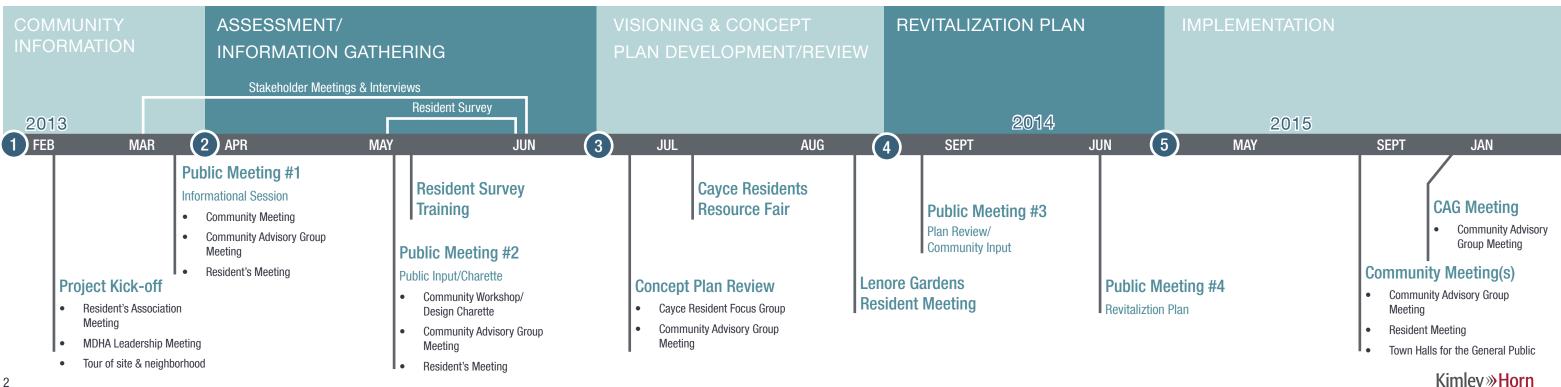
A new phase of Cayce Homes kicked off in the early half of 2013 when the Cayce Homes Revitalization Project was introduced to the community. It began with the creation of community-led organizations whose main objective was to to process those thoughts and ideas into the vision for the Cayce Homes community. Engaging the residents and community members was seen as a top priority, and utilized meetings, surveys, and design charrettes throughout the design process.. Concluding the initial community input stage specific focus groups were organized to focus common ideas and themes into one overall community redevelopment vision. From this, the Envision Cayce Master Plan was born that has helped lay the groundwork for the future direction of development for the site in East Nashville called Cayce Place.

The conception of Envision Cayce paved the way for the implementation phase and the development of a Specific Plan for the site. This stage of the process is where the general master plan vision is broken down and refined into specific design elements on the site. In continuing active engagement with the community public, residents, community, and advisory group, meetings were scheduled to inform all on a more specific design proposal.

The Envision Cavce Master Plan was the final product of a yearlong community planning process to develop a vision for the future of the Cayce Homes neighborhood. Utilizing a series of community meetings and design workshops, residents, community leaders, city officials, and private organizations were able to produce a foundation cemented by a diverse need for active change. The master plan provides the Cayce Homes neighborhood and its surrounding communities a community solution with an emphasis on open space, connectivity, and diversity. This provided the community with the ability to take the planning process to the next step in a more detailed Specific Plan.

- Future Goals and Objectives
 - Replace subsidized public housing with affordabe options. The Envision Cayce Plan calls for 2,390 new homes and apartments consisting of affordable low income, workforce income, and market rate units.
 - Incorporate 200,000 sq. ft. of commercial/institutional space including things such as office and retail amenities, grocery store, and pharmacy. Create access to healthy dietary options in while providing job growth.
 - Provide new and improved green spaces providing a safer and healthier family environment for residents to interact.
 - Introduce inaccessible educational opportunities with potential for a new early learning facility and library. The emphasis on accessible high-quality education for residents will provide a focal point for the community moving forward.

Timeline



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	<image/> <section-header><section-header><text></text></section-header></section-header>
Goal 1	Accomplish a One-for-One replacement of all assisted units on site; minimize distruption to residents during construction
Goal 2	Maintain economic & cultural diversity of East Nashville

Goal 4	Create a green, sustainable & financially viable development
Goal 5	Connect with & leverage other local initiatives and stakeholder
Goal 6	Maintain and expand support services and community assets
Goal 7	Improve neighborhood amenities
Goal 8	Address need for access to healthy foods
Goal 9	Reconnect & integrate Cayce Place into community; Leverage nearby opportunities
Envision Ca	1yce

Goal 3 Create a healthy mix of housing choices for many income levels

Community Engagement

Overview

The Cayce Homes Community project has been a 3-year community driven design process to develop a master plan for the future revitalization of the 63 acre neighborhood located in East Nashville.

Being the largest MDHA public housing community, engagement is of the top priority allowing for current residents, community stakeholders, and various Metro Nashville departments to have a say in the design process. Utilizing a variety of public outreach approaches such as surveys, meetings, and interviews, a plan was developed. The plan will then be used to transform this piece of East Nashville in a way that sets up both the residents and the City of Nashville to benefit in the future.

CAG Membership and Meetings

In order to help guide the design process, MDHA assembled an 18-member Community Advisory Group known as CAG, primarily consisting of residents, local business owners, city staff, and some MDHA representatives. While providing a key resources to assure all voices were heard, the CAG members were delegated to provide planning information within their represented organizations.

Community Input (Resident and Focus Group Meetings)

A series of resident only meetings were held to hear the voices of those being directly affected. On average these meetings attracted roughly 50 people and were held at the Martha O'Bryan Center.

Providing further insight into how the residents felt, focus group meetings were scheduled to understand the utmost importance from the residents regarding the newly revitalized Cayce Homes. These meetings were held at MDHA's Gerald Nicely Building.

In conjunction with the resident and focus group meetings, adjacent communities, such as

Lenore Gardens, also held open meetings to diversify the sampling of voices on what would be most beneficial for the community as a whole. Many of these residents expressed the same expectations and concerns of those that reside in Cayce Homes.

Other community outreach devices were used to fully grasp the opportunities and constraints that would arise from the redevelopment of Cayce Homes. A resource fair was held at the Resident Association building where residents were able to ask members of the planning team questions. This created a positive communication loop for both. In addition to the resource fair, over twenty stakeholder meetings of nearby landowners were conducted in order to understand how their roles could benefit the Cayce Homes planning process. These stakeholders included the likes of Metro Government, nonprofit organizations, along with experienced business and real estate developers.

Design Charrette

To help engage the community further into the design process, the planning team hosted a public meeting and design charrette at Kirkpatrick Elementary School. The charrette looked to gather a better community-based vision for the revitalized Cayce Place. As part of a two-step process the participants were first presented with previously gathered information and examples of successful redevelopments across the country. In order to provide a diverse discussion, participants were divided at random into groups. After being given 3 questions regarding uses, amenities, and connectivity, attendants developed 14 community plans - many with common themes and objectives.







Original Envision Cayce Master Plan, 2014

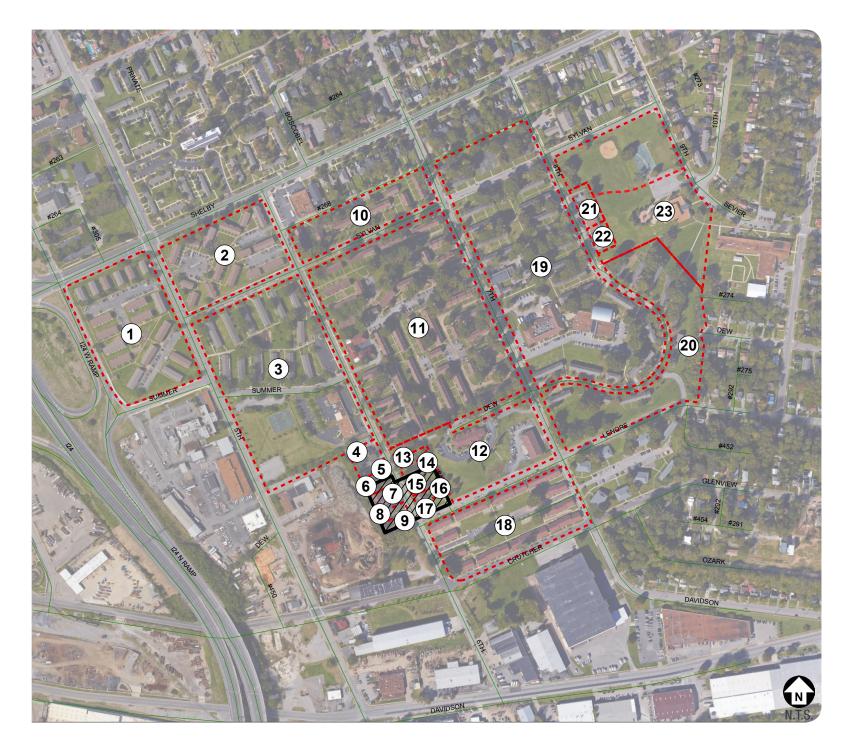


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Cayce Place Master Plan, 2017



Boundary of Overall Specific Plan and Existing Zoning

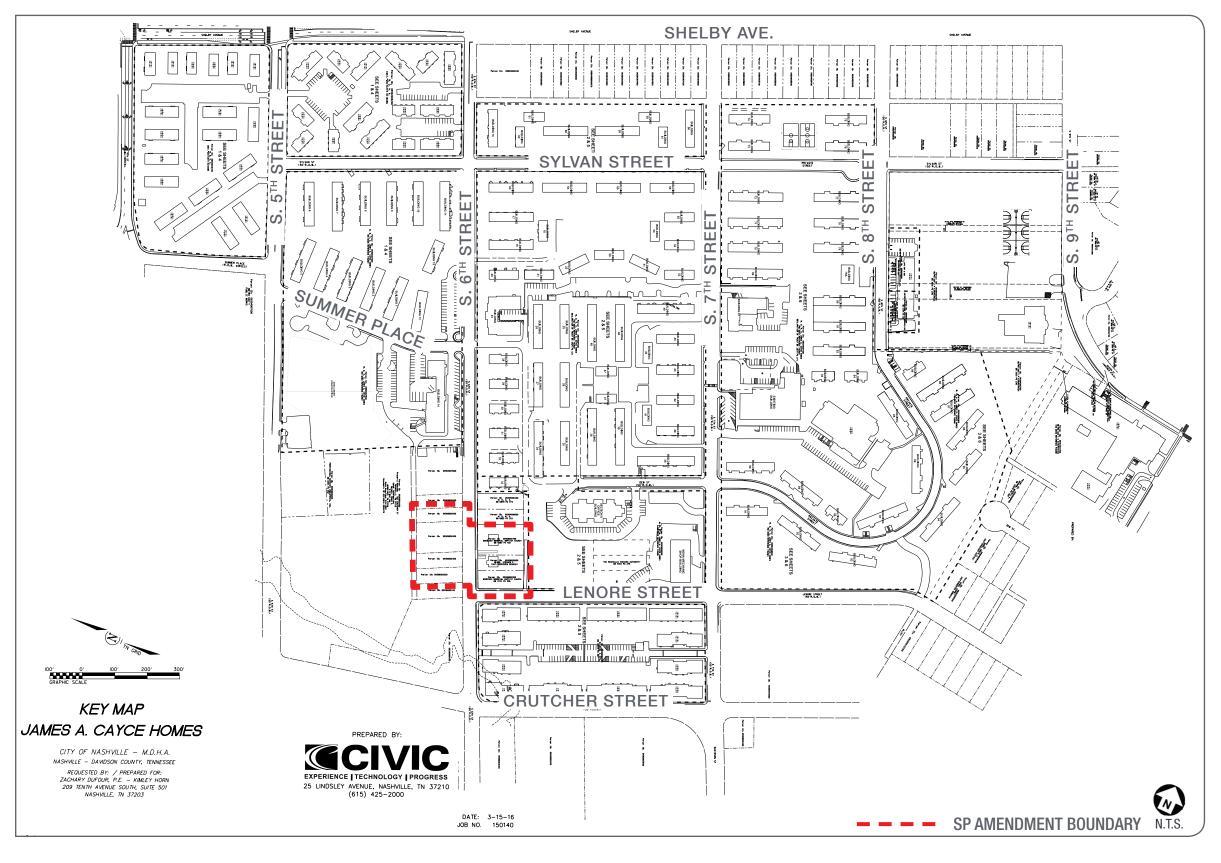


SP Boundary Parcels						
Number	Parcel ID	Site Area (Acres)	Owner	Existing Zoning		
1	9303016700	6.67	M.D.H.A.	PUD (MDHA-CY), RM20		
2	9304005200	4.84	M.D.H.A.	PUD (MDHA-CY), OV-UZO		
3	9304007500	12.55	M.D.H.A./JAMES A. CAYCE HOMES	PUD (MDHA-CY), OV-FLD		
4	9304007800	0.52	M.D.H.A.	OV-UZO, SP		
5	9308002600	0.17	M.D.H.A.	OV-UZO, SP		
6	9308002500	0.14	M.D.H.A.	OR20, OV-UZO		
7	9308002400	0.34	WOODCOCK MEMORIAL BAPTIST CHURCH	OR20, OV-UZO		
8	9308002300	0.17	WOODCOCK MEMORIAL BAPTIST CHURCH	CS, OR20, OV-UZO		
9	9308002200	0.17	WOODCOCK MEMORIAL BAPTIST CHURCH	CS, OV-UZO		
10	9304005400	3.1	M.D.H.A./JAMES A. CAYCE HOMES	PUD (MDHA-CY), OV-UZO, SP		
11	9304007400	16.5	M.D.H.A./JAMES A. CAYCE HOMES	PUD (MDHA-CY), OV-UZO, SP		
12	9304008200	5.08	M.D.H.A./JAMES A. CAYCE HOMES	PUD (MDHA-CY), OV-UZO, SP		
13	9304008100	0.17	M.D.H.A.	PUD (MDHA-CY), OV-UZO, SP		
14	9304008000	0.17	M.D.H.A.	PUD (MDHA-CY), OV-UZO, SP		
15	9308002700	0.34	WOODCOCK MEMORIAL BAPTIST CHURCH	PUD (MDHA-CY), OV-UZO, RM20		
16	9308002800	0.17	M.D.H.A.	PUD (MDHA-CY), OV-UZO, RM20		
17	9308002900	0.19	WOODCOCK MEMORIAL BAPTIST CHURCH	PUD (MDHA-CY), OV-UZO, RM20		
18	9308003000	5.54	M.D.H.A.	PUD (MDHA-CY), OV-FLD, OV-UZO,		
19	9304007300	16.63	M.D.H.A./JAMES A. CAYCE HOMES	PUD (MDHA-CY), OV-UZO, SP		
20	9304008300	7.11	M.D.H.A./JAMES A. CAYCE HOMES	PUD (MDHA-CY), OV-UZO, SP		
21	9304006800	0.46	UNITED NEIGHBORHOOD HEALTH SERVICES, INC.	PUD (MDHA-CY), OV-UZO, SP		
22	9304007200	0.3	UNITED NEIGHBORHOOD HEALTH SERVICES, INC.	PUD (MDHA-CY), OV-UZO, SP		
23	9304006700	3.83	METRO GOV'T P KIRKPATRICK	PUD (MDHA-CY), OV-UZO, SP		
Total A	creage (+/-)=	85.16				
0		PARCEL NUM	//BER			
		PARCEL	LINE			
		SP AMENDI	MENT			

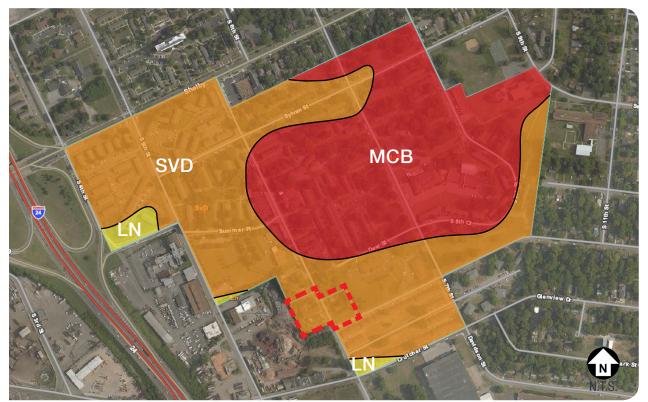
BOUNDARY LINE

STREET CENTERLINE

Existing Conditions Survey



Soils Map and Slopes Map



Soils Map



MCB (MAURY-URBAN LAND COMPLEX), 2% TO 7% SLOPES

Map Unit Setting

- National Map unit symbol: kkng
- Mean annual precipitation: 39 to 57 inches
- Mean annual air temperature: 48 to 70 degrees F •
- Frost-free period: 190 to 205 days
- Farmland classification: Not prime farmland

Map Unit Composition

- Lindell and similar soils: 60%
- Urban Land: 35%
- Minor Components: 5% •
- Estimates are based on observations, descriptions, and transects of the mapunit.

Properties and Qualities

- Slope: 2 to 7 percent
- Depth to restrictive feature: More than 80 inches
- Natural drainage class: Well drained
- Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
- Depth to water table: More than 80 inches
- Frequency of flooding: None
- Frequency of ponding: None
- Available water storage in profile: High (about 11.3 inches)

LN (LINDELL-URBAN LAND COMPLEX), 2%-7% SLOPES

Map Unit Setting

- National Map unit symbol: kknl
- Elevation: 400 to 600 ft.
- Mean annual precipitation: 48 to 55 inches
- Mean annual air temperature: 57 to 61 degrees F
- Frost-free period: 180 to 205 days •
- Farmland classification: Not prime farmland

Map Unit Composition

- Lindell and similar soils: 60%
- Urban Land: 32%
- Minor Components: 8%
- Estimates are based on observations, descriptions, and transects of the mapunit.

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SVD (STIVERSVILLE-URBAN LAND COMPLEX), 3% TO 25% SLOPES

- •
- ۲
- •

- Lindell and similar soils: 60% Urban Land: 35% Minor Components: 5% • Estimates are based on observations, descriptions, and transects of the mapunit.

- - •
- Slope: 3 to 25 percent Depth to restrictive feature: 39 to 59 inches to paralithic bedrock Natural drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None

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Slopes Map

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Properties and Qualities

- Slope: 0 to 3 percent
 - Depth to restrictive feature: More than 80 inches
 - Natural drainage class: Moderately well drained
 - Capacity of the most limiting layer to transmit water(Ksat):
 - Moderately high to high (0.60 to 2.00 in/hr)
 - Depth to water table: About 18 to 36 inches
 - Frequency of flooding: Occasional
- Frequency of ponding: None
- Available water storage in profile: High (about 9.8 inches)

Map Unit Setting

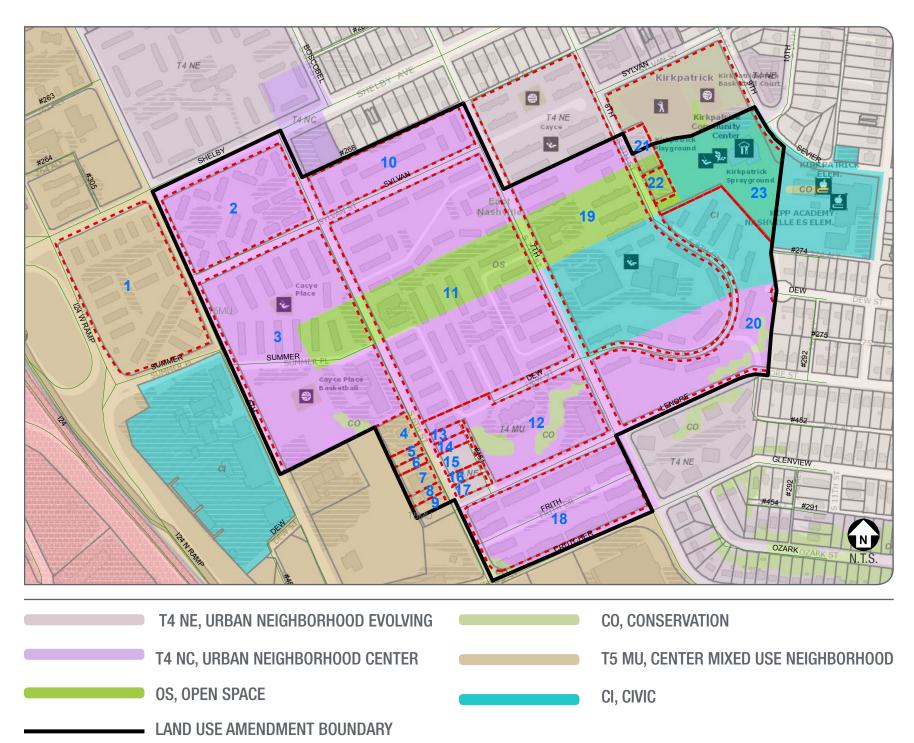
National Map unit symbol: kkp7 Mean annual precipitation: 39 to 57 inches Mean annual air temperature: 48 to 70 degrees F Frost-free period: 190 to 205 days Farmland classification: Not prime farmland

Map Unit Composition

Properties and Qualities

Available water storage in profile: Moderate (about 8.7 inches)

Existing Land Use Policy



OS - OPEN SPACE

This policy's intent is to preserve and enhance any existing open space areas, with most being publicly owned parks and greenways but some may be privately held conservation easements or other similar tools that are there to provide permanent protection of the land as open space.Buildings are a rare sighting in open spaces but the few that are present are generally associated with civic uses. (Example. Nature Center/Community Center). The design and placement of these buildings is in coordination with the overall design, while avoiding to inhibit in the success of the open space.

Open Space Areas accommodate active and passive open space land uses and areas with a wide range of sizes from parks in the T5 Center and T6 Downtown Transects to those in the T3 Suburban and T4 Urban Transects. Present in so many Transects, the character of such open spaces drastically change from largely undisturbed open spaces in the T2 Rural Transect to highly active open spaces with ballfields and playground equipment in the more densely developed Transect Areas.

T4 NC – URBAN NEIGHBORHOOD CENTER

Intended to preserve, enhance and create neighborhood centers with an urban character in terms of their service area, development pattern, building form, land use, and associated public realm. Enhance infrastructure and transportation networks to improve pedestrian bicycle and vehicular connectivity.

Pedestrian-friendly areas generally located at intersections of urban streets containing commercial, mixed use, residential and institutional land uses. Serves urban neighborhoods within a five minute walk. Intensity is generally placed at the edges of a development. Buildings are regularly spaced and built to the back edge of sidewalk with minimal spacing between buildings. Parking is behind or beside the buildings and is generally accessed by side streets or alleys. Public realm/streetscape features lighting and formal landscape. Provides high levels of connectivity and follow complete street guidelines. Distinguishable boundaries identified by land uses, building types, placement and structure.

T4 NE – URBAN NEIGHBORHOOD EVOLVING

Intended to create and enhance neighborhoods with an urban character through development pattern, building form, land use and public realm. Opportunities for housing choice and improved pedestrian, bicycle and vehicular connectivity. Higher densities than existing urban neighborhoods and /or smaller lot sizes with a broader range of housing types. Reflects scarcity of easily developable land without sensitive environmental features and the cost of developing housing. Applied to either undeveloped or substantially underdeveloped "greenfield" areas or developed areas where redevelopment and infill produce a different character that includes increased housing diversity and connectivity. Redeveloping existing neighborhoods involves different considerations than development of new urban neighborhoods in greenfield settings. Takes into account considerations such as timing and existing developed character such as street network and block structure.

T5 MU – CENTER MIXED USE NEIGHBORHOOD

The intent of this policy is to preserve, enhance, or create high-intensity urban mix neighborhoods that are characterized by a development pattern that contains a diverse mix of residential and non-residential land uses, and that are envisioned to remain or develop in a mixed use pattern.

The T5 Center Mixed Use Neighborhood Areas are intended to be some of the more intensely developed areas while providing a diverse mix of residential and non-residential landuses within them. These areas also include major employment centers spreading across numerous private sectors including the likes of health care, finance, retail, music industry, and lodging. Verticality is emphasized in buildings containing high-density residential, institutional, high-intensity commercial, and office landuses. Buildings located in this area are regularly spaced while built to the back of the sidewalk, and include parking either within the structure, behind, or beside it. The public realm and streetscaping provide a consistent use of lighting and formal landscaping to enhance the outdoor experience for all. This plays into the neighborhood being that of a highly connected one whether that be through the use of a complete street network, ample sidewalks, bikeways, and of course mass transit systems.

Proposed Land Use Policy

CI - CI CIVIC COMMUNITY

The Civic Community Character policy can be found in all areas of Nashville/Davidson County. The primary intent is to preserve and enhance existing publicly owned properties that are used for civic purposes. This policy includes a wide variety of publicly owned properties including:

- Fire Stations, Head Start Centers, libraries, public office buildings, police stations, and public schools.
- Not included are properties such as:

Correctional facilities not attach to courthouses, publicly owned housing, parkland or other publicly owned open space, and back tax properties.

General Characteristics

With such a broad variety scale, location, and function their character will depend on which Transect Area they are in, which Community Character Policy surround them or are adjacent to them, and other locational characteristics like the street typology they access.

OS- OPEN SPACE

The Open Space Community Character policy can be found in the T2 Rural, T3 Suburban, T4 Urban, T5 Center, as well as the T6 Downtown Transect Categories. The T1 Natural Transect Category consists entirely of T1 Natural Open Space policy, which has a distinct character and intent and is therefore assigned its own Transect and has additional policy guidance that reflects its uniqueness. This policy's intent is to preserve and enhance any existing open space areas, with most being publicly owned parks and greenways but some may be privately held conservation easements or other similar tools that are there to provide permanent protection of the land as open space.

Buildings are a rare sighting in open spaces but the few that are present are generally associated with civic uses. (i.e. Nature Center, Community Center). The design and placement of these buildings is in coordination with the overall design, while avoiding to decrease the success of the open space.

General Characteristics

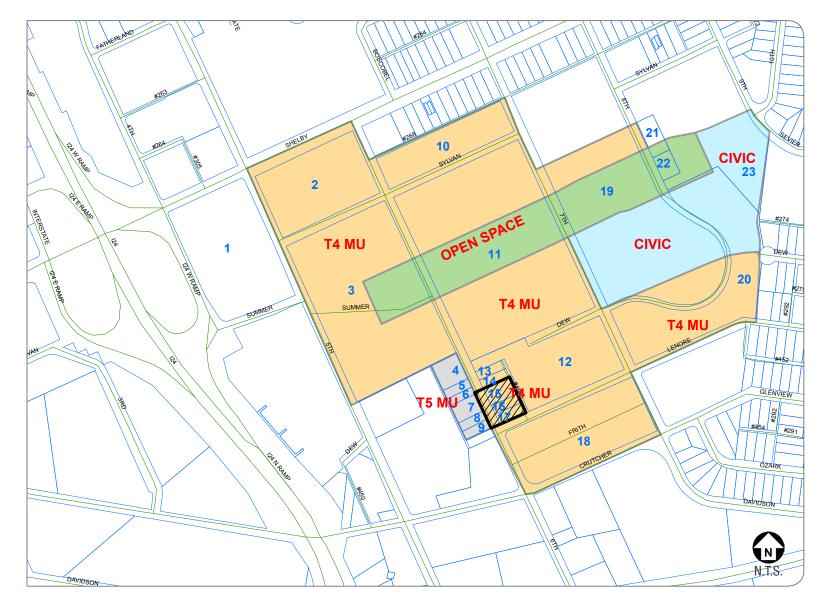
Open Space Areas accommodate active and passive open space land uses and areas with a wide range of sizes from parks in the T5 Center and T6 Downtown Transects to those in the T3 Suburban and T4 Urban Transects. Present in so many Transects the character of such open spaces drastically change from largely undisturbed open spaces in the T2 Rural Transect to highly active open spaces with ballfields and playground equipment in the more densely developed Transect Areas.

T4 MU - T4 MIXED USE NEIGHBORHOOD

The T4 Urban Mixed Use Neighborhood policy is intended to preserve, enhance, and create urban, mixed use neighborhoods with a development pattern that contains a diverse mix of residential and non-residential land uses that are envisioned to remain or develop in a pattern of mixed use

General Characteristics

This area is intended to be mixed use in nature with a presence of commercial and even light industrial uses incorporated. as well as a significant amount of moderate to high-density residential development. A variety of residential, mixed use, commercial, light industrial, and institutional buildings are found regularly spaced with buildings built to the back edge of the sidewalk and having minimal spacing between buildings. In these types of developments parking is located behind or beside the buildings and can be accessed via side streets or alleys. The T4 Mixed Use Neighborhood Areas include a vast connectivity network with complete streets, sidewalks, bikeways, and existing or planned mass transit.

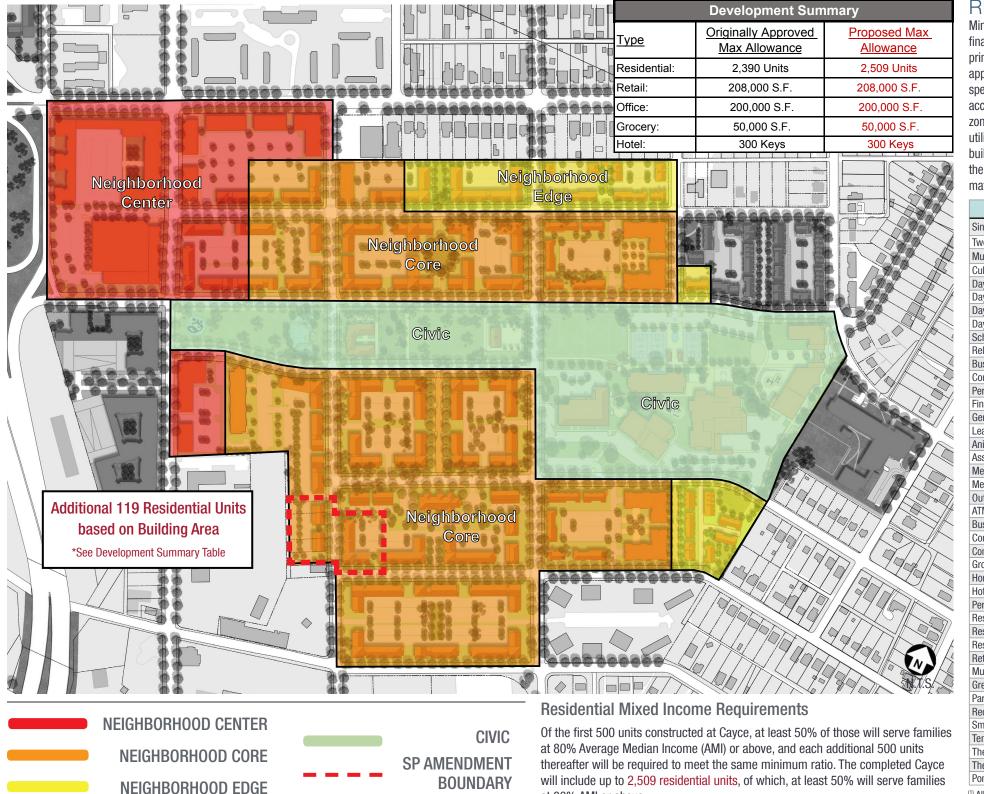




Proposed Land Use Policy In order to compliment the Specific Plan, the area indicated in the land use boundary needed to be amended. This amendment changes the existing community plan for East Nashville within the boundary from the existing T4 NE and T4 NC to a more complimentary designation of T4 MU.

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Proposed Density Plan



at 80% AMI or above.

REGULATIONS

Minor modifications to the Preliminary SP plan may be approved by the Planning Commission or its designee based upon final architectural, engineering or site design and actual site conditions. All modifications shall be consistent with the principles and further the objectives of the approved plan. Modifications shall not be permitted, except through an ordinance approved by Metro Council, that increase the permitted density or floor area, add uses not otherwise permitted, eliminate specific conditions or requirements contained in the plan as adopted through this enacting ordinance, or add vehicular access points not currently present or approved. The Planning Department may allow necessary adjustments to the build-to zone when existing utilities or utility easements are within the build-to zone and unusual circumstances require that the utilities cannot be relocated or easements reduced. The Planning Department may allow necessary adjustments to the build-to zone based on the nature of the existing and future land uses and site conditions in the general vicinity. Refer to the Cayce Place Design Guidelines for full regulation standards including building architecture, massing, facades, roofs, materials, access and parking, awnings and canopies, walls and fences, and build-to lines.

Permitted Uses (4)	Neighborhood Center	Neighborhood Core (1)	Neighborhood Edge	Civic (2)
Single Family		•	0	
Two Family		•	•	
Multi-Family	•	•	0	
Cultural Center	•	•	•	0
Day Care Center (up to 75)	•	•		0
Day Care Center (over 75)	•	•		0
Day Care Home		•	0	
Day Care- Parent's Day Out	•	•		0
School Day Care				0
Religious Institution	•			0
Business School	•			0
Community Education	•			0
Personal Instruction	•	•		0
Financial Institution	•			
General Office	•	•		
Leasing/Sales Office	•	•	•	0
Animal Hospital	•			
Assisted-Care Living	•			
Medical Office	•			0
Medical or Scientific Lab	•			0
Outpatient Clinic	•			0
ATM	•			
Business Service	•			
Community Gardening (commercial)	•	•	•	0
Community Gardening (non-commercial)	•	•	0	0
Grocery Store	•			
Home Improvement Sales	•			
Hotel/Motel (3)	•			
Personal Care Services	•	•		
Restaurant, Fast-Food	•	•		0
Restaurant, Full-Service	•			0
Restaurant, Take-Out	•	•		0
Retail	•	•		0
Multi-Media Production	•	•		
Greenway	•	•	•	0
Park	•	•	•	0
Recreation Center	•	•		0
Small Outdoor Music Event				0
Temporary Festival				0
Theater	•			٥
Theatre	•			0
Pond/Lake				٥

⁽¹⁾ All non-residential is limited to 5,000 square feet of neighborhood serving commercial uses in locations designated on page 12.
 ⁽²⁾ Neighborhood serving commercial is limited to 10,000 square feet in locations designated on page 13.
 ⁽³⁾ Not currently permitted by Cayce Place Redevelopment plan BL2015-1274. Requires Metropolitan Council Action.
 ⁽⁴⁾ Drive-thrus are not permitted in any land use category

Development Standards for Sub-districts



Neighborhood Center FALLBACK ZONING: MUG-A

Building Height:

Sub-district General: 6 stories with 90 feet max. Interstate Blocks (West of South 5th Street): 12 stories with 174 feet max. All: 2 stories min.

Grocery use may be reduced to 2 stories minimum or 25 ft. in height.

Height is measured in number of stories and feet. If a calculation depends on overall height, it is to be measured from the buildings ground level finished floor to the eave or roof deck; it is intended that height is calculated at the buildings front placement on the street facing and open space facing building facades. Additional "basement" levels may be provided internally to the development where topography allows for additional sub-surface development including parking, residential, civic and commercially leasable space. Rooftop mechanical equipment, elevator and stairwell bulkheads and conditioned rooftop terraces are permitted on roof structures. They should be properly screened through the use of setbacks and/or screening and shall be limited to 12 feet maximum above roof deck.

Floor to Area Ratio (FAR) - Form and intensity is governed by the Redevelopment Guidelines



Neighborhood Core FALLBACK ZONING: MUN-A

Building Height: Sub-district General: 4 stories with 60 feet max. 2 stories min.

Height is measured in number of stories and feet. If a calculation depends on overall height, it is to be measured from the buildings ground level finished floor to the eave or roof deck; it is intended that height is calculated at the buildings front placement on the street facing and open space facing building facades. Additional "basement" levels may be provided internally to the development where topography allows for additional sub-surface development including parking, residential, civic and commercially leasable space. Rooftop mechanical equipment, elevator and stairwell bulkheads and conditioned rooftop terraces are permitted on roof structures. They should be properly screened through the use of setbacks and/ or screening and shall be limited to 12 feet maximum above roof deck.

Floor to Area Ratio (FAR) - Form and intensity is governed by the Redevelopment Guidelines

* SP allows for up to 5,000 sq. feet per site of neighborhood associated convienence retail or office to be integrated along Park Street and identify locations.

Development Standards for Sub-districts



Neighborhood Edge FALLBACK ZONING: RM20-A

Building Height: Sub-district General: 3 stories within 45 feet max.

Properties fronting South 9th Street and properties abutting Shelby Hills between Dew and Lenore Streets shall be limited to 2 stories within 26 ft. max. Development within 60 linear feet of the centerline of Alley #268 (between Shelby and Sylvan streets) shall be a maximum of 2 stories and 26 feet in height max.

Height is measured in number of stories and feet. If a calculation depends on overall height, it is to be measured from the buildings ground level finished floor to the eave or roof deck; it is intended that height is calculated at the buildings front placement on the street facing and open space facing building facades. Additional "basement" levels may be provided internally to the development where topography allows for additional sub-surface development including parking, residential, civic and commercially leasable space. Rooftop mechanical equipment, elevator and stairwell bulkheads and conditioned rooftop terraces are permitted on roof structures. They should be properly screened through the use of setbacks and/or screening and shall be limited to 12 feet maximum above roof deck.

Floor to Area Ratio (FAR) - Form and intensity is governed by the Redevelopment Guidelines



Civic and Institutional FALLBACK ZONING: RM20-A Building Height:

Height: 4 Stories Max with 60 feet Max.

Height is measured in number of stories and feet. If a calculation depends on overall height, it is to be measured from the buildings ground level finished floor to the eave or roof deck; it is intended that height is calculated at the buildings front placement on the street facing and open space facing building facades. Additional "basement" levels may be provided internally to the development where topography allows for additional sub-surface development including parking, residential, civic and commercially leasable space. Rooftop mechanical equipment, elevator and stairwell bulkheads and conditioned rooftop terraces are permitted on roof structures. They should be properly screened through the use of setbacks and/or screening and shall be limited to 12 feet maximum above roof deck.

Floor to Area Ratio (FAR) - Form and intensity is governed by the Redevelopment Guidelines

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* SP allows for up to 10,000 sq. feet of neighborhood serving retail or restaurant to be integrated into buildings associated with civil uses at identified locations.

Landscape Standards

TREE DENSITY WORKSHEET

The tree density worksheet on the following page is very similar to the current tree worksheet required for each development in Metro Nashville by the Urban Forester, with three exceptions.

- 1. The reduction of planting credits by saving existing trees has been eliminated (tree save credits) and replaced by the Tree Replacement Worksheet requirements on page 15.
- 2. All street trees must be forty-five (45) linear feet on center and a minimum of 3.5" caliper.
- 3. Because street trees are required to be 3.5" caliper, they will count for 65% of tree density requirements.

Once calculations have been completed, the remainder of the units must be planted on the development site.

TREE REPLACEMENT WORKSHEET

The tree replacement worksheet is intended to be a tool used to ensure a certain number of plants are installed in replacement for a tree being cut down. The worksheet encourages thoughtful planting by allowing credits for various plant types and sizes. The developer will need to calculate the caliper inches being cut down and convert that into a number of units that will need to be replaced.

TDU ZONE

As development continues in the area, it may become unrealistic to put required units from the tree replacement worksheet on the developing site. If determined unfeasible for the health of the tree or density of the site by the Metro Urban Forester, up to 160 units may be placed in the designated TDU zone on the map. Up to 20 TDU's per development may be logged for placement within the zone. The TDU zone may only be planted once development of that area is complete. The Metro Urban Forester and MDHA shall be responsible for logging TDU's to be placed in that zone and ensuring planting once complete.

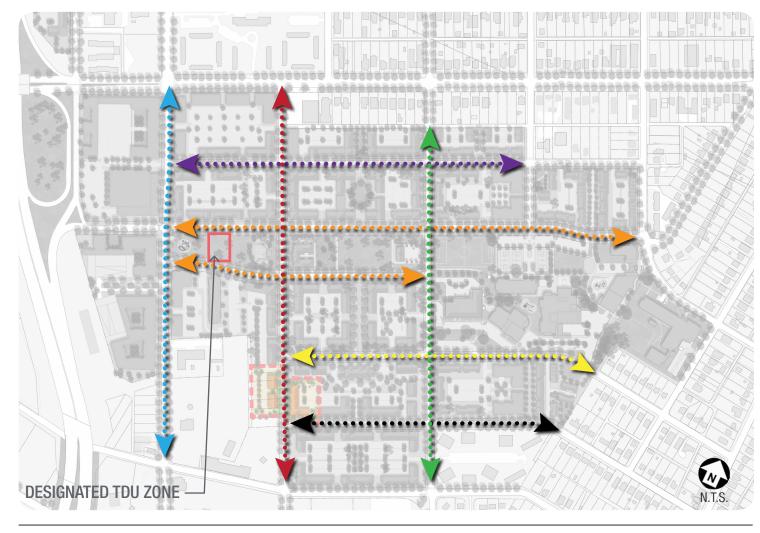
ADDITIONAL TDU PLANTING

Once the designated TDU zone has reached capacity for each development, the Metro Urban Forester and MDHA shall decide locations for the remainder of the TDU's to be planted. In order of priority below, locations for plantings should be:

- 1. MDHA property that has been developed or has no plans for redevelopment.
- 2. East Nashville
- 3. Metropolitan Nashville

OTHER LANDSCAPE STANDARDS

- The development of this project shall comply with the street tree, tree density, and tree replacement requirements. Landscape plan to be submitted in Final SP Submittal.
- Street trees shall be provided along all street frontages at an average of forty-five (45) linear feet on center and be 3.5" caliper minimum.
- All landscaping shall be properly irrigated and maintained.
- Where trees are planted in rows, they shall be uniform in size and shape.
- Reference Metro L.I.D. Manual for design and planting materials for LID measures.
- Refer to Cayce Place Design Guidelines for additional landscape standards.





TREE TYPOLOGY

In streetscape and community design, tree type and placement holds an important role in establishing architectural form and organization within the urban environment. Combining a tree's unique structure, color, and texture with placement, spacing and pattern can provide an unforgettable sense of community and importance. Within Cayce Place, it is essential to create established avenues with a variety of tree types to ensure a sustainable environment for each pedestrian experience. By using the proposed formal and transitional variety of trees within Cayce Place, unique corridors and sense of place will be accomplished, ensuring a meaningful experience for the neighborhood and community



Green Vase Zelkova



Frontier Elm







Greenspire Little London Planetree Leaf Linden

Sunburst Thornless Honeylocust

- GREEN VASE ZELKOVA
- GREENSPIRE LITTLE LEAF LINDEN
- EASTERN REDBUD
 - DESIGNATED TDU ZONE





Flame Amur Maple NES Approved



Eastern Redbud NES Approved Kimley »Horn

Tree Density and Tree Replacement Calculations

CAYCE PLACE TREE DENSITY WORKSHEET

Map						
Application Numl						
Project Name Address						
1. Acreage (area of b	ouilding site)			=		
2. Minus building co	overage area					
3. Equals adjusted a	creage			=		
4. Multiplied by requ	-	s per acre		х	14	
5. Equals required tr	ee density			=		
6. 3.5" caliper street Counts for 65% o			O.W.	#	5 x .35	
7. Required TDU's v	with 3.5" street tre	ees		=		
REQUIRED TRE CAL represents calij			CULAT	<u>OR</u>		
# OF TREES	VALUE	<u>UNITS</u>	CAL	#OF TREE		UN
X	0.5 =		5		_ X 0.9	=
X	0.6 =		6 7		_ X 1.0	<u> </u>

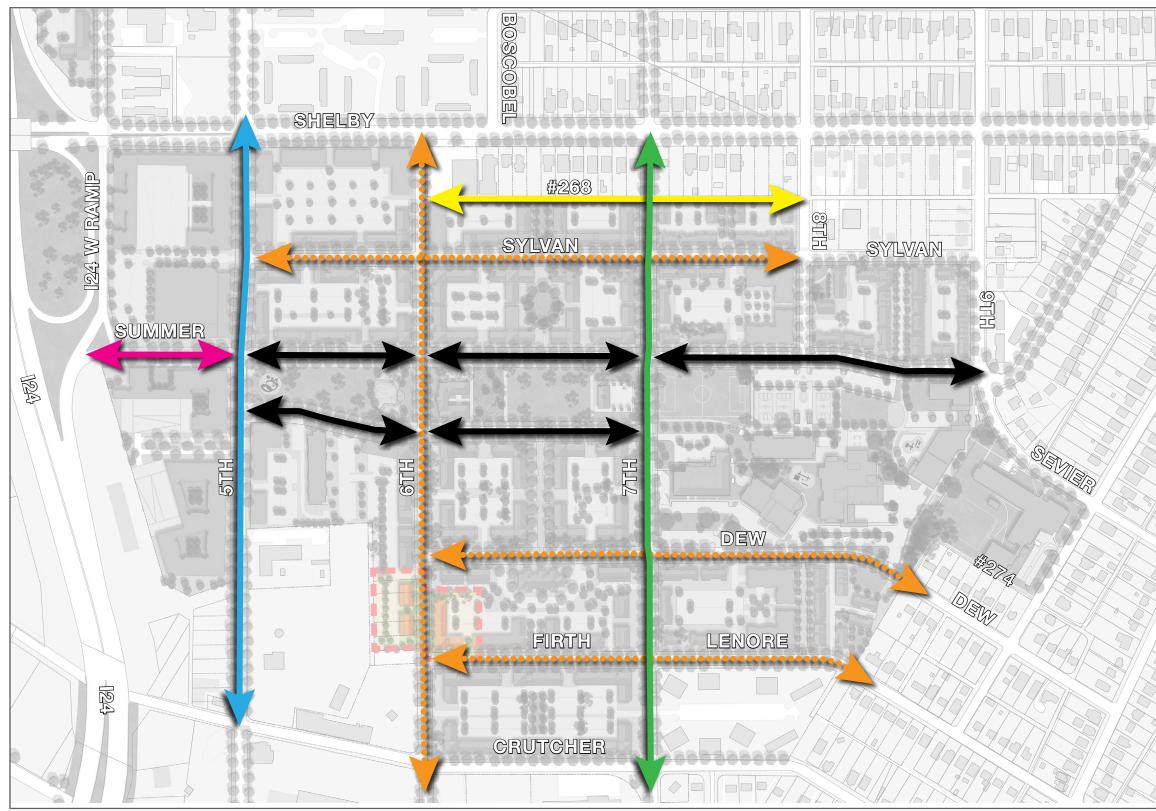
Density units provided on above scheduleREQUIREDTotal density units for new trees=

Note: The total density units provided must equal or exceed the requirements of #7 above.

PROVIDED

Date MapParcel Application Number Project Name Address	
1. Existing caliper inches to be removed	=
2. Multiplied by unit per caliper inch	x .05
3. Equals required replacement units for project	=
2" Cal. Tree X 5=6' Eve3" Cal. Tree X 10=5 Gal.4" Cal. Tree X 15=	
Protected tree units provided on above scheduleREQUTotal replacement tree units=	UIRED PROVIDED
 <u>Notes:</u> 1. All protected and replacement trees must be shown on s 2. All street trees must be 3.5" caliper. 3. Only 20 replacement units may be located in the designa 4. All other units must be located on project site unless oth 5. Urban Forester can determine where replacement TDU' determined to be detrimental to the health of the tree. 	ated TDU Zone nerwise directed by the Urban Forester.

Street Network Plan





Street Network Notes

N.T.S.

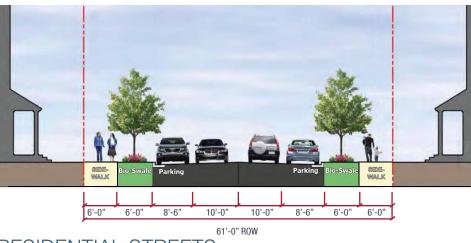
- The final site plan/ building permit site plan shall depict the required public sidewalks, any required grass strip or frontage zone and the location of all existing and proposed vertical obstructions within the required sidewalk and grass strip or frontage zone. Prior to the issuance of use and occupancy permits, existing vertical obstructions shall be relocated outside of the required sidewalk. Vertical obstructions are only permitted within the required grass strip or frontage zone.
- All stormwater designs (bio-swales, rain gardens, etc.) located within the ROW are to be coordinated with MPW and Metro Stormwater prior to Final SP submittal. Maitenance of any stormwater facilities within the public ROW shall be the responsibility of the applicant/developer for each phase of the development.
- All multi-family proposals and commercial proposals within the SP are to have a centralized dumpster and recycling containers for the development(s). Single family residential structures may be serviced via roll off carts.

Pedestrian Experience and Street Sections

These cross sections may vary pending the approval of the Traffic Study submittal with each Final SP.



The streets in the neighborhood center are designed for higher traffic volumes and parking demand with wider streets and on-street parking. Striped on-street parking on both sides of the commercial street will calm traffic for pedestrians and provide convenient parking for commercial tenants within the center. Paver crosswalks at intersections combined with street trees, cafe seating, and streetscape amentities within the wide sidewalk space will create a high quality pedestrian environment in the heart of Cayce.



RESIDENTIAL STREETS

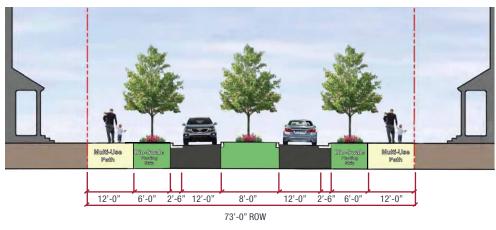
Residential streets facilitate circulation throughout the community. Streets will have on-street parking adjacent to housing to accommodate guests within the community. These streets are intended for lower residential traffic volumes and connect residents to the multiple open space amenities and community resources. They will contain wide sidewalks with vegetated planting strips and street trees. Some lower volume residential streets may be narrower to discourage high speeds and excessive through traffic.



5[™] STREET

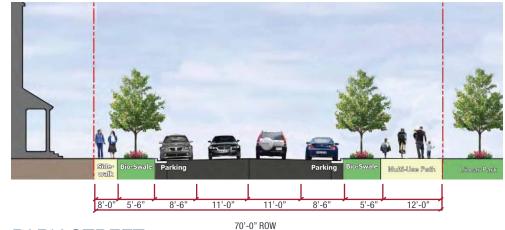
As a collector street within the community, 5th street provides a multi-modal option with the incorporation of protected bike lanes on either side of the drive lanes. These streets are intended for higher traffic volumes and connect residents to the community amenities. Adjacent to commercial development, adequate on-street parking will be placed to accommodate all guests of the community.

On-street parking needs additional evaluation and may be removed with the Final SP pending final design and approval from MPW and TDOT.



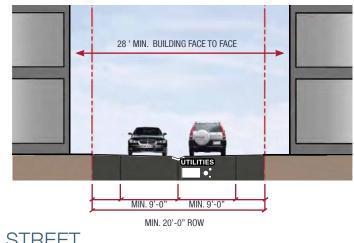
7TH STREET

Another collector street, 7th street is a critical piece in ensuring the overall connectivity of the Cayce Homes community. The development of a multi-use pathway along the east side of the street will provide a strong connection between the civic center, open spaces, and housing for community members. Existing travel lanes will largely remain the same with on-street parking adjacent to housing and open space amenities to accommodate for all users of the community development.



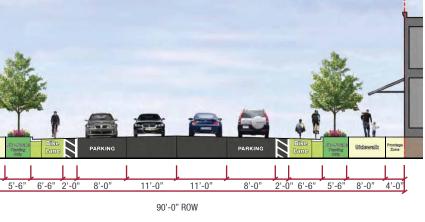
PARK STREET

The Park Street corridors support an important connection between the residential areas and the linear park. The park has great value among Cayce Place, creating a community center with programmed open space, multi-age playground facilities, and opportunity for entertainment. The park will encourage many local residents to travel to its amenities, creating an important demand to implement safe, reliable, and efficient routes of travel throughout the parks frame. The creation of multi-use paths will provide this needed access, allowing for dependable connections. Bio-swales hug either side of the streets, establishing an enjoyable environment, promoting the paths use while creating efficient and aesthetic stormwater management solutions.



ALLEY STREET

The Alley is designed to function as a multi-use service road for residents and other personnel to access the adjacent residential buildings. Although not intended for through traffic, the alley provides alternative space for roadway disturbances such as parked cars, delivery vehicles, and maintenance vehicles, removing them from residential streets all while improving the safety of the pedestrian realm in the neighborhood. The Alley will also house all of the necessary major public utilities such as electric, water, and sewer for the neighborhoid properties providing an ease of access for when maintenance is required.



Cayce Community Campus and Linear Park Master Plan

MDHA has recently completed a master plan for the Cayce Community Campus and Linear Park. This master plan mainly focused on replacing the park and open space that currently exists on Kirkpatrick Park. The development of Kirkpatrick Park, which is currently under consideration by Metro Council for a separate Specific Plan rezoning, will remove the open space and park components and install multi-family housing. One of the key components within Envision Cayce is the replacement of this park and open space through the addition of the linear park and the Community Campus area. The Community Campus master plan involved key stakeholders consisting of potential future end users within this space and also adjacent civic stakeholders. The stakeholders consisted of:

- Metro Parks Department
- Martha O'Bryan
- Explore Community School
- Nashville Public Library
- United Neighborhood Health Clinic
- Metro Police Department
- KIPP Nashville
- Metro Nashville Public Schools

Our process for developing the master plan consisted of several iterations of user group input, space program creation, feedback, preliminary master planning and concept sketches. Our process allowed for a high level of community involvement, communication and transparency amongst users to build consensus around the final elements of the plan. The team recognized the critical need to keep the original Envision Cayce goals in view as these were the results of multiple years of community interviews, interface and research. The key goals that we felt pertain to this Community Campus Master Plan were:

- Maintain and expand support services and community assets
- Improve neighborhood amenities
 - $\circ\;$ Promote walking and use of public spaces
 - Improve transportation access
 - Improve public safety
 - Create a high quality aesthetic appearance
 - Retain but improve park and open space
- Address need for access to healthy foods
- Reconnect and integrate Cayce Place into community; leverage
 nearby opportunities

Using these goals as well as the vast community outreach, we developed a Community Campus and Linear Park Master Plan that can meet the needs of both residents and the outside community and also replace and enhance the loss of Kirkpatrick Park. The existing Kirkpatrick Park consists of approximately 8 acres of park and open space. The Cayce Community Campus Plan proposes to put back roughly 20 acres of civic and community space with approximately 12 acres being passive and active open space. The Campus may consist of a new Community Center, a new elementary and middle school, a new healthcare clinic, a new library annex, a small police office space, and the opportunity to have a small retail store or community kitchen/café. The Linear Park may consist of elements such as an event lawn, active playground area, pavilion, plaza, amphitheater, active sports courts, a larger open field for multi-use sports or games. These elements are targeted as master plan level at this time. As each phase of development progresses further engineering and architecture will take place to determine the specific elements and their locations. The final design of the Community Campus and Linear Park should match the intent of this Master Plan and meet the overall goals set out in Envision Cayce.

Cayce Community Campus

O)

Kimley »Horn





SP #2016SP-076-001 Amendment #1

Cayce Community Campus Rendering and Images





Front entrance to new community school





MTA Bus Route and Station Location Plan



Traffic and Parking Study Findings

Introduction

Kimley-Horn and MDHA have completed a preliminary parking and traffic study that analyzed the anticipated traffic impacts and parking requirements associated with the Envision Cayce Infrastructure Study, expected to be completed in 2023 (referred to herein as "build-out year"). This study evaluates the impact of redeveloping an existing, low-income neighborhood into a mixed-use development including 2,509 residential units (mixed), 258,000 square feet of retail, a 300-room hotel, a 900-student elementary school, and an 11,000 square foot library. Of the 2,509 proposed residential units, 900 units are to be replacement housing for the existing residential uses located on the site. The project will also redevelop several existing community service buildings including a community center, health clinic, and Metropolitan Development and Housing Agency (MDHA) office space.

It should be noted that this report contains a preliminary analysis based upon the current master plan. A final traffic analysis should be prepared upon completion of the final design for each phase of development to verify these recommendations and ensure that all traffic mitigation measures are conducive to the final design. The requirement for a final traffic analysis shall be based on the criteria set forth by Metro Public Works and shall be submitted for review along with the Final Specific Plan for each phase of development.

Recommendations

The recommendations developed in conjunction with this report are based upon the current master plan and should be considered preliminary. A final traffic analysis should be prepared upon completion of the final master plan and site layout.

Based on the results of this preliminary traffic impact and parking study, we offer the following recommendations and considerations:

Shelby Avenue at Interstate Drive/I-24 Eastbound Ramps (Signalized)

- Construct an exclusive eastbound right turn lane (approx. 100') adjacent to the existing eastbound through lanes.
- Convert a westbound through lane into a westbound left turn lane, creating dual left turn lanes.

Shelby Avenue at South 4th Street (Signalized)

- Construct an exclusive northbound right turn lane (approx. 250').
- Restripe and convert the three existing lanes into two exclusive left turn lanes and a • shared thru/right turn lane.

Shelby Avenue at South 5th Street (Signalized)

- Construct an exclusive westbound left turn lane.
- Construct a shared northbound thru/right lane. •

Shelby Avenue at South 6th Street (TWSC)

• Construct an exclusive northbound right turn lane (approx. 125') and convert the existing shared lane to an exclusive left turn lane.

Shelby Avenue at South 7th Street (Signalized)

- Construct an exclusive eastbound right turn lane (approx. 150').
- Construct an exclusive northbound right turn lane (approx. 125') and convert the existing shared lane to a shared left/thru lane.

June 2016

Summer Place at South 5th Street (TWSC)

- Convert the existing two-way-stop-control to all-way-stop-control.
- Construct an eastbound shared thru/right turn lane and convert the existing shared lane to an exclusive left turn lane
- Construct an exclusive southbound right turn lane (approx. 150') and convert the existing shared lane to a shared left/thru lane.
- Construct an exclusive northbound left turn lane (approx. 50') and convert the existing shared lane to a shared thru/right lane.

Conclusion

At this time, the development is anticipated to consist of 2,509 residential units (mixed), 258,000 square feet of retail, a 300-room hotel, a 900-student elementary school, and an 11.000 square foot library. The project will also redevelop several existing community service buildings including a community center, health clinic, and Metropolitan Development and Housing Agency (MDHA) office space.

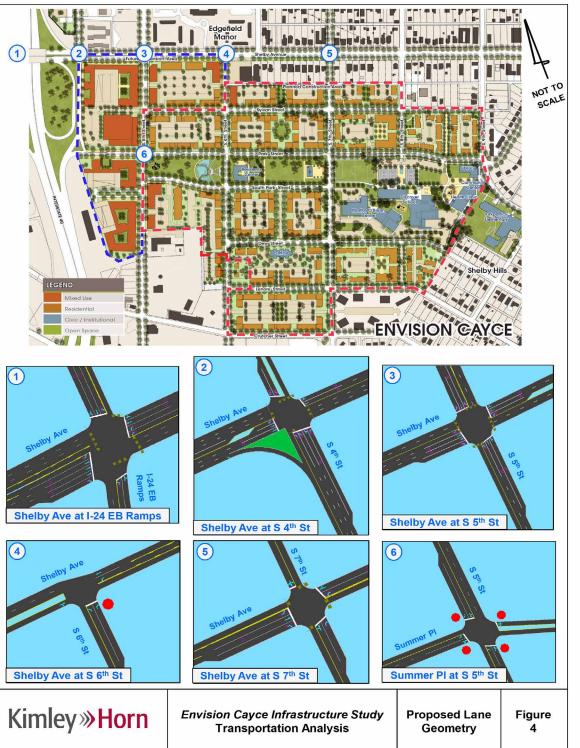
The study network, which consisted of ten (10) intersections, was analyzed for the weekday AM and PM peak hours under Existing 2016, Projected 2023 No-Build, Projected 2023 Build-Out, and Projected 2023 Build-Out (Remediated) traffic conditions.

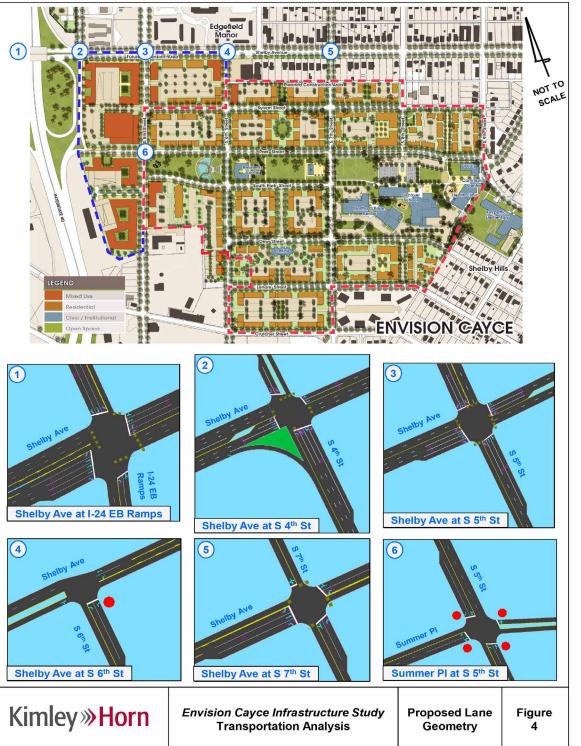
All signalized intersections in the study area currently operate at level-of-service E or better, but are expected to experience some increases in traffic congestion as a result of background growth by the 2023 build-out year. In particular, Shelby Avenue at Interstate Drive/I-24 Eastbound Ramps is anticipated to operate at a LOS F in the 2023 No-Build PM peak.

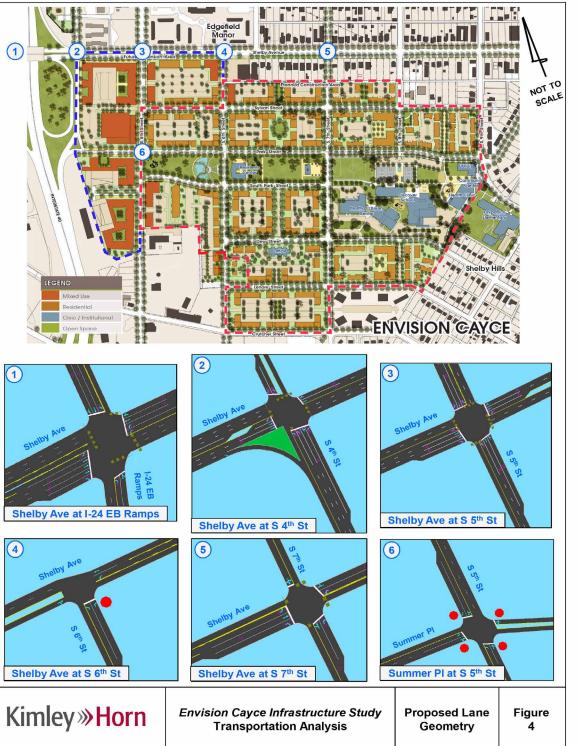
The analysis indicates that the trips generated by the proposed development will have some impact on the overall study network, but can be managed by certain mitigation measures. The analysis also assumes signal timings will be optimized upon build-out or at some point in the future to accommodate for changes in traffic conditions. Despite some additional delay and a decrease in level-of-service for some movements, most of the intersections within the study network should continue to operate at an acceptable level-of- service.

The only intersections that are expected to operate at LOS F with the proposed mitigation measures are the intersections of Shelby Avenue at Interstate Drive/I-24 Eastbound Ramps and Shelby Avenue at South 5th Street. Significant remediation measures such as the addition of a westbound thru lane along Shelby between 4th Street and 6th Street would be required to further improve the level-of-service. These remediation measures would require the existing roadway geometry to be realigned.

Reference Preliminary Traffic Parking Study prepared by Kimley-Horn for additional information and analysis.









Traffic and Parking Study Findings

Introduction

A parking study was completed to determine appropriate parking quantities for the redevelopment based on the proposed land uses. Parking ratio requirements were obtained from the Metro Nashville and Davidson County Code of Ordinances.

The redevelopment is located within the Urban Zoning Overlay (UZO), which is a zoning district with special development provisions, including parking reductions. UZO parking ratios and reductions were utilized when applicable, per the criteria set forth in the Code of Ordinances.

Residential Parking Needs

For Residential parking, a total of 3,041 parking spaces are required for the residential portion of the proposed redevelopment when the ten percent transit reduction is applied. Due to the proximity of the transit route and the existing utilization patterns, it is recommended that this reduced requirement be used to develop the site, but that additional parking be provided whenever possible to ensure ample parking within the development.

It should be noted that the UZO rates require 1.5 parking space/unit for any two bedroom or larger unit, with a 1.0 parking space/unit for a one bedroom/studio unit with a 10% transit reduction applied to those rates.

	Table 4: Envision Cayce Infrastructure Study Residential Use Parking Calculations						
"Multi-Family" Unit Type	Number of Units	UZO Parking Rate	Parking Required	Total Reduction	Reduced Parking Required		
1 Bedroom/ Studio	773	1 space / unit	773	10%	696		
2 Bedroom	1213	1.5 space / unit	1819	10%	1637		
3 Bedroom	470	1.5 space / unit	705	10%	635		
4 Bedroom	45	1.5 space / unit	68	10%	62		
5 Bedroom	8	1.5 space / unit	12	10%	11		
Total:	2509		3377		3041		

Non-Residential Parking Needs

For Non-Residentail parking, 1,468 spaces will be needed to accommodate the shopping center, office space, and hotel. Due to the density of the development and limited land availability, most of these spaces will likely need to be provided via one or more parking structures, pending final site layout.

Table 5: Envision Cayce Infrastructure Study Commercial and Office Use Parking Calculations						
Land Use Type Number UZO Parking Rate		UZO Parking Rate	Parking Required	Total Reduction	Reduced Parking Required	
Shopping Center 258,000 sf 1 space / 250 sf		1032	20%	826		
General Office 200,000 sf f		1 space / 500 sf for floor space in excess of 2,000 sf	396	20%	317	
	300 Rooms	1 space / Room	300	10%	270	
Hotel	270 Employees	1 space / 4 Employees + required spaces for accessory uses	68	20%	55	
Total:			1796		1486	

Institutional Parking Needs

For Institutional parking, 326 parking spaces are required for the combined institutional land uses when the transit and pedestrian access reductions are applied. Due to the highly integrated nature of this campus, it is recommended that this total parking requirement be dispersed throughout the campus.

Table 6: Envision Cayce Infrastructure Study Institutional Use Parking Calculations						
Land Use Type	Number	Parking Rate	Parking Required	Total Reduction	Reduced Parking Required	
Cultural Center (Community Center)	75,000 sf	1 space / 300 sf	250	20%	200	
Outpatient Clinic	10,000 sf	1 space / 200 sf	50	20%	40	
Cultural Center (Library)	11,000 sf	1 space / 300 sf	37	20%	30	
Community Education	60 staff	1 space / Staff Member + 10 Visitor Spaces	70	20%	56	
Total:		407		326		

Parking Summary

The recommended number of parking spaces for the proposed development is 4,835. This total is shown in Table 7 and is broken down by land use category. This total is based upon UZO parking rates, a 10% transit reduction, and a 10% pedestrian access reduction where applicable. The combined parking reductions were verified to ensure they do not exceed the maximum 25% reduction.

While the reduced parking requirement is believed to be sufficient for the redevelopment given the existing use patterns, walkability of the proposed development, and transit accessibility, it is recommended that additional spaces be provided whenever possible. Depending upon the final site plan, block by block rates may vary, but the recommended rate will be met by the development as a whole.

Table 7: Envision Cayce Infrastructure Study Parking Summary							
Land Use Parking Required Allowable Reductions Taken Reduced Parking Required							
Residential	3377	10%	3041				
Nonresidential	1796	10-20%	1468				
Institutional	407	20%	326				
Total:	5580		4835				

Recommended parking counts presented in the sections above were based upon parking rates provided in table 17.20.030 of the Metro Nashville and Davidson County Code of Ordinances. UZO district exemptions were applied, when applicable, in addition to transit and pedestrian-based parking reductions. These reductions met the criteria of proximity to a public transit route and availability of a continuous sidewalk system. The total parking requirement for the site as a whole will be met, but final parking rates by area will depend upon the final site plan layout and relative densities of each land use throughout the development. In some locations, on street parking may be provided, which can be substituted for on-site parking at a rate of 2 on-street spaces per 1 on-site space per the Code of Ordinances.

Bicycle Parking Needs

Bicycle Parking shall be provided at 1 SPACE PER 4 DWELLING UNITS and meet Metro Bike Parking location requirements.

Reference Preliminary Traffic Parking Study prepared by Kimley-Horn for additional information and analysis. All final counts shall be provided at time of final Specific Plan.

Infrastructure Study **OVERVIEW**

Kimley-Horn was retained by MDHA to conduct an infrastructure master plan study for the Cavce Place redevelopment. This study was to build on the existing master planning efforts described in the Envision Cayce Master Plan. Specifically, Kimley-Horn was charged with preparing stormwater, sanitary sewer, and water service master plans.

The purpose of this report is to provide a framework for future decisions and designs related to utility infrastructure that considers Cavce Place as a whole, instead of considering projects on an individual, site-by-site basis only. This will allow for more cost effective and efficient planning, sequencing, and utilization of resources.

1.1 PROCESS

While the specific process varied somewhat depending on the specific area of study, the following general methodology was applied to each study area:

- 1. Gather information and evaluate existing conditions
- 2. Use the most recent Envision Cavce master planning documents to project the additional demands expected to be generated by the proposed redevelopment
- Develop proposed layout and sizing for infrastructure systems that could handle the 3. increased demands
- 4. Review the proposed plans with key stakeholders, including MDHA and Metro Water Services, to solicit feedback and revise the proposed layout accordingly

1.2 FINDINGS AND RECOMMENDATIONS

A brief summary of applicable findings and recommendations is provided below.

1.2.1 Stormwater Quantity

Kimley-Horn recommends addressing stormwater quantity requirements through the installation of an 84-inch diameter reinforced concrete pipe or box culvert to similar flow capacity as a dedicated storm outfall discharging directly to the Cumberland River. Several potential alignments were evaluated and the recommended alignment (Option 2) is illustrated on page 24. An exhibit showing the proposed sizing and layout for the on-site storm system is provided on page 24.

1.2.2 Stormwater Quality

Kimley-Horn recommends using decentralized Low Impact Development strategies, designed on a site-by-site basis, to satisfy water quality requirements. When considered as a whole, the project qualifies for both the redevelopment and the combined sewer water guality credits, reducing the required runoff reduction requirement from 80% to 40%. For master planning purposes, approximately 1,100 square feet per acre of impervious area should be reserved for bioretention areas. This area may be reduced if permeable pavement is used in parking areas.

1.2.3 Sanitary Sewer

Because the project exists in a combined sewer drainage area that will be separated, new sanitary sewer pipe will be required throughout the development. It was determined that 8" PVC sanitary sewer pipe would be adequate to handle the projected sanitary sewer loads generated by the proposed development. An exhibit illustrating the recommended sanitary sewer sizing and layout is provided on page 24.

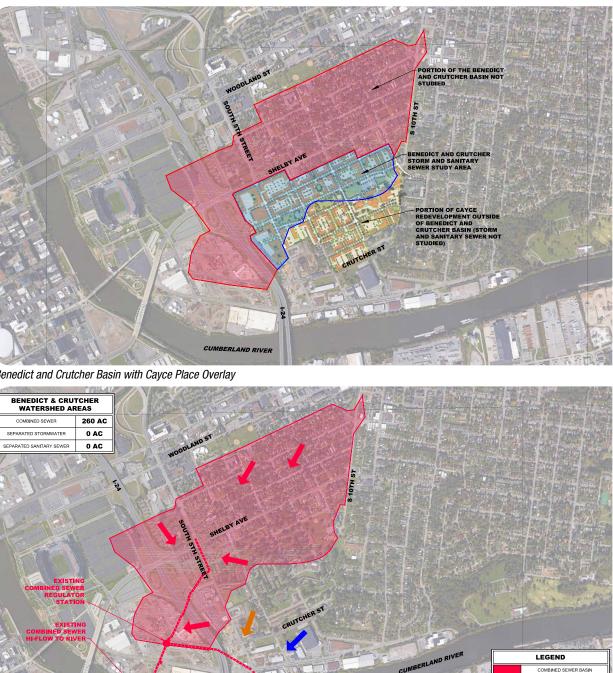
1.2.4 Water Service

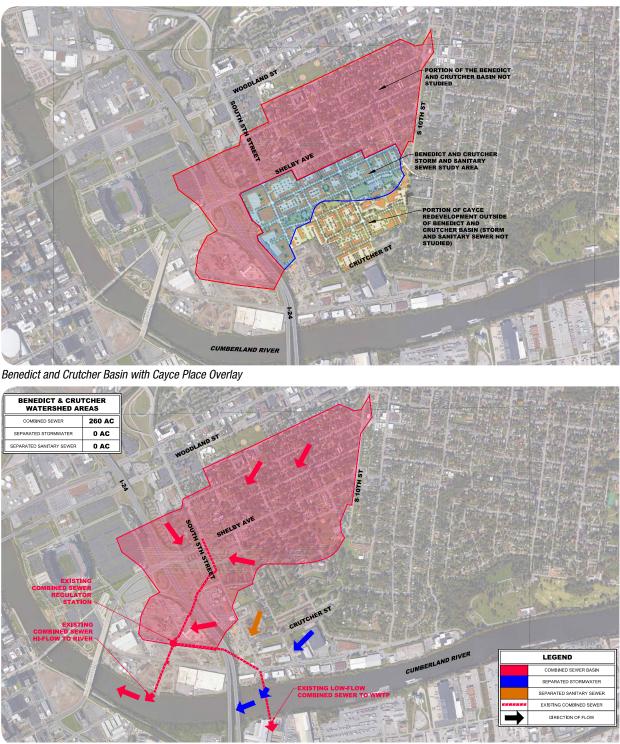
Following an analysis of the existing water network in and around Cayce Place and coordination with Metro Water Services, it was determined the existing water lines located within the Cayce neighborhood are outdated, undersized, and incapable of meeting the demands for the proposed redevelopment. Kimley-Horn recommends the full replacement of all existing lines within the redevelopment. See Proposed Water Line Layout on page 24.

Metro Water Services Standard Notes

- 78-840 Note: Any excavation, fill, or disturbance of the existing ground elevation • must be done in accordance with storm water management ordinance No. 78/840 and approved by The Metropolitan Department of Water Services.
- Preliminary Note: Drawing is for illustration purposes to indicate the basic premise of the development, as it pertains to Stormwater approval/comments only. The final lot count and details of the plan shall be governed by the appropriate stormwater regulations at the time of final application.
- Access Note: Metro Water Services shall be provided sufficient and unencumbered access in order to maintain and repair utilities in this site.
- Culvert Note: Size driveway culverts per the design criteria set forth by the Metro Stormwater Management Manual (Minimum driveway culvert in Metro ROW is 15" CMP).

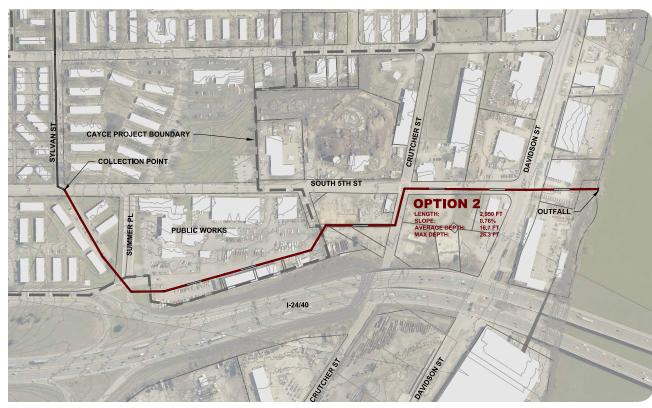
Reference to full infrastructure study for more detailed information.

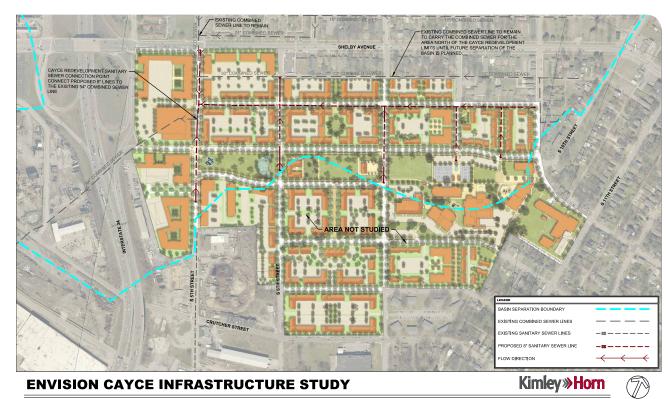




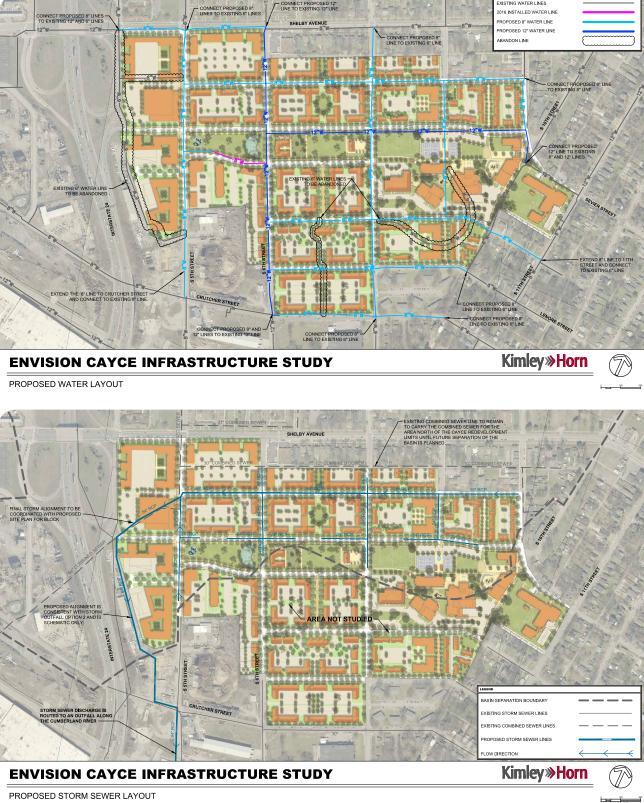
Existing combined sewer routing

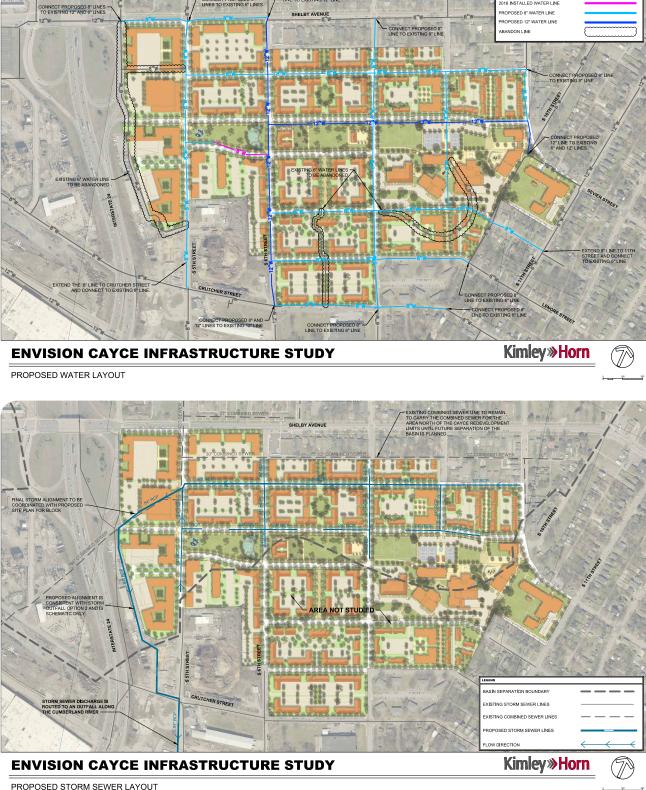
Infrastructure Study





PROPOSED SANITARY SEWER LAYOUT





PROPOSED STORM SEWER LAYOUT

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SP #2016SP-076-001 Amendment #1

CITATIONS:

- Envision Cayce Master Plan for Revitilization of Cayce Place (2014)
- Cayce Community Campus Master Plan



