East End Riverfront
Community Development Plan and Guidelines

City Planning Department & Department of Neighborhood Housing and Conservation
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1.0 The East End Riverfront Community
1.0 The East End Riverfront

1.1 Background

The redevelopment of the East End Riverfront neighborhood has been the objective of the Riverfront Advisory Council (RAC) and the Cincinnati City Planning Department since 1987. For the purpose of this plan the East End Riverfront is defined by Columbia Parkway on the north, the Ohio River on the west, Delta Avenue on the east, and on the west the westernmost edge of the proposed International Friendship Park. (See Appendix for Auditor's report.) The RAC, an officially designated citizens advisory group to the City Manager, adopted the "Eastern Riverfront Revised Concept Plan" in December 1988. The goals of the revised concept plan established the basis for additional planning analyses. This was followed by the RAC's adoption of the "Eastern Riverfront Redevelopment Strategy" in June 1989 and the "Eastern Riverfront Implementation Analysis" in December 1989.

In the summer of 1990 the Department of City Planning, in association with the RAC, requested proposals from qualified planning and design firms to prepare an Urban Design Plan and Guidelines for the East End Riverfront. The team selected was headed by EDW, Inc., of Alexandria, Virginia, and included the local firms of Jones and Spero (architects), The H.C. Nutter Company (incidental and environmental engineers) and Voisin Landscape Associates (landscape architects and planners).

The Community Development Plan and Guidelines were produced by EDW, Inc., under the direction of the RAC, the City Planning Department, Department of Neighborhood Housing and Conservation, representatives of the East End Area Council, the Cincinnati Tusculum Community Council and residents of the East End Riverfront Neighborhood.

This document contains the narrative and graphic portions of the Community Development Plan and Guidelines. An Appendix with background and technical information accompanies the text of the Plan.
1.2 A Community and Its Concerns

To understand the concerns of the neighborhood residents, property owners, the RAC and the City, a series of workshops and public meetings were conducted. All were invited to submit their positions on growth and development in the East End waterfront. Survey results from these sessions reflected a community with pride and energy, but one that had experienced neglect over the years.

The concerns identified through the workshop included:

- Preserving the existing housing stock
- Creating opportunities for new affordable and senior housing
- Protecting the small-town scale of the neighborhood
- Increasing visual and physical access to the river
- Reducing the heavy freight railroad service
- Continuing the mix of incomes, races, and classes that make up the neighborhood
- Distilling the impact of truck traffic and noise along Eastern Avenue
- Improving the visual appearance and integrity of the built environment, especially housing
- Recognizing the distinct neighborhood characteristics of the East End waterfront
- Maintaining and upgrading green spaces with an eye to future development
- Removing junk yards and other health hazards
- Obtaining city, financial and leadership commitment to the plan

These concerns are expressed in part in the Eastern Riverfront Concept Plan and the Eastern Riverfront Redevelopment Strategy. These planning documents are part of the foundation for the Community Development Plan and Guidelines developed by the RAC and City staff in close coordination with East End residents, property owners, East End Area Council and the Columbia-Tusculumon Community Council.

The East End Area Council also formulated and submitted a "Plan for Streets" in April.
The Recipe For Success outlined additional specific issues of community concern and made as follows:

1. Maintain the East End as a neighborhood without turning it into a housing project.
   - Majority of new construction should be of single and two-family homes.
   - Scale back total number of proposed units.

2. A commitment of no eminent domain against existing residential structures by the City of Cincinnati.
3. Provide that Municipal Code 740-68 include the East End Riverfront plan in order to provide for relocation fees to residents due to owner initiated displacement. This should be made retroactive to March 1, 1991.
4. The creation of a housing trust fund.
   - For rental rehab loans or grants.
   - For construction of senior citizen housing and low-income rentals.
5. Tax abatement for existing residential units for a period of 15 years.
6. Provide that the plan not be required to pay for itself at the expense of the community.

The ESAC Recipe For Success and response from the RAC and City staff is included in the Appendix of this document.

In a letter communication, the ESAC requested the retention of Highlands School for future re-use as a community based school.
1.3 History

The East End consisted of a seven-mile strip of land sandwiched between the steep bluffs of Walnut Hills and the Ohio River, stretching from the foot of Mt. Adams to the mouth of the Little Miami River. While this area is looked upon as a heterogeneous area, it developed as a series of interrelated but distinct neighborhoods.

The oldest of these neighborhoods was Columbus, which was established in 1788 on the Ohio River just below the mouth of the little Miami. However, Columbus—the first settlement in the Ohio River Valley—was gradually abandoned between 1794 and 1815 because of frequent flooding and a lack of organized military protection.

The area west of Columbus, known as the Eastern Liberties, developed as a result of the concentration of lumber and factories that occupied the area. The Eastern Liberties extended from what is now a house in the area as far north as Grandin Road. In 1828 Eastern Liberties was incorporated as Fulton Township. The town of Fulton was a crowded community of 3,000 to 4,000 people through the 1800s.

By 1860 nearly a quarter of all the steamboats on western rivers were built in Fulton. The commerce and population of the area contributed to Fulton's development as one of Cincinnati's early suburbs.

Pendleton extended west from the current Foster Street to Delta Avenue, and is an area just south of Grandin Road. In 1841, the community of Pendleton became the site for the first railroad terminal of the Little Miami Railroad. The building of the railroad by Cincinnati within its city limits, gave the small community a chance to expand. Warehouses and factories sprang up along the rail line, and subdivisions were platted along the foot of the bluffs.

Annexation by Cincinnati of all the eastern riverfront communities (1865-1873) enabled the reorganization of a number of separate street railways into a single company, which improved the area's accessibility. In the mid-1860s, area residents and developers formed an association to seek even better transportation links with downtown. The association convinced the city to repave and widen major streets and aided the consolidated Cincinnati Street Railway in achieving enlightened financing. These improvements resulted in a burst of growth in the area.
by the turn of the century, the character of the East End had evolved from a string of individual small houses to a solid corridor of industrial and residential uses. The construction of another rail yard upstream from Pendleton in 1907 further established the East End as a working-class, industrial neighborhood.

Upper-income suburbs were developed south of the hills reflecting an economic stratification still visible today. Columbia Parkway was constructed in the 1930s providing access to these emerging suburbs. This improvement defined the East End as an area bypassed by the general public and accessed primarily by its own residents, through-truck traffic, and commuter traffic.

In the mid-twentieth century residential investment in the East End declined, as did the general population. Though the area retained its small-town charm, its housing stock decreased over the years. The population of the East End peaked at approximately 13,000 persons in the 1950s and has plumbed to a present-day population of approximately 1,445 as reported in the 1990 U.S. Census count. The decline in population coupled with an expansion of industry resulted in a loss of residents, dwelling units and commercial establishments.

Periodic flooding from the Ohio River also occurs in the East End. During the winter of 1991, an Ohio River flood reached Eastern Avenue just west of Delta Avenue.

During the late 1970s and 1980s a movement back to urban neighborhoods occurred in cities nationwide, including Cincinnati. Neighborhoods such as Mt. Adams and Walnut Hills were transformed into mixed-use neighborhoods with both rehabilitated and new housing, commercial and office uses and amenities. Some neighborhoods, such as Walnut Hills, were able to change without significant resident displacement and are continuing to grow with a broad range of incomes and races.
1.4 Neighborhood Overview

The East End neighborhood is a narrow strip of land that lies between Columbia Parkway and the Ohio River extending eastward from approximately three-quarters of a mile west of the Buckwood underpass to Delta Avenue. A substantial amount (43.8%) of the land in the neighborhood is open and only partially developed. Of the approximately 90 acres of parks and playgrounds, Leftwood Park and Schmidt Memorial Field make up a large portion and are primarily region-serving facilities. Residential structures—mostly single- and two-family houses—make up the second largest (12%) land use. In general, the heaviest concentration of residential land use can be found north of Eastern Avenue and west of Delta Avenue.

Public and semi-public utilities comprise the third largest land use in the neighborhood. Both Cincinnati Gas and Electric Company and the Cincinnati Water Works have major distribution facilities along the rowside of Eastern Avenue. Together these facilities occupy just over eleven percent (11%) of the total land area. Existing neighborhood businesses include warehousing and storage at the former American Building Components property, located along the western edge to the neighborhood. The VanDyke Bell Company also maintains a warehouse along the south side of Eastern Avenue.

Within this corridor, between Eastern Avenue and Columbia Parkway is a railroad line harboring independent rail services, and a major customer—the Cincinnati Gas and Electric Company. The rail right-of-way in most cases parallels the rear yards of existing residential structures on Eastern Avenue and front yards of existing residential properties along Gladstone, Hoff, and Walworth Avenues.

Eastern Avenue is a major east-west commuter thoroughfare and is designated U.S. Route 22 and U.S. Truck Route 50. Although total traffic volumes have shown a decrease in recent years, there appears to be a need for additional measures to further reduce traffic levels and the speed of automobiles through this predominantly residential neighborhood. Eastern Avenue also separates sensitive residential areas from the roadway fringe. The resident population of the East End Riverfront includes a spirited community of Appalachian and African-American households that are long-term residents of the area. According to the 1980 U.S. Census, approxi-
mainly 1,443 persons reside in the East End Riverfront study area. This reflects a twenty percent decrease from a 1980 population of 1,612. In racial composition, the community remains to be predominantly white (81%) in 1990.

The acreage of the East End Riverfront is in excess of 280 acres of land.

Throughout the development of the East End Riverfront Community Development Plan, it was noted by area residents that separate enclosures exist within the three-plan miles of the neighborhood. Within each neighborhood subarea, or site, there exist some characteristics that are both unique to the particular site and some that are common to the area as a whole. Four neighborhood subareas or "sites" between城乡居民 Community and Delta Avenue have been identified. The following sections outline existing conditions, characterizations, and recommended land uses for Sites A-D of the East End Riverfront neighborhood.
2.0 The Community Development Plan
2.0 The Community Development Plan

2.1 Introduction

The purpose of the Community Development Plan and Guidelines is to provide a long-term strategy for the enhancement of the East End Riverfront neighborhood. The strategy specifies tools to achieve those goals, tools that the City and the citizens can use to oversee and direct improvement and redevelopment of the neighborhood. These tools are intended to guide change in an organized way, promoting visual, physical, and environmental compatibility. The strategy is delineated in a physical plan, guidelines and implementation framework.

The plan identifies areas suitable for development and physical change that will contribute to the residential stability and overall image of the neighborhood.

The guidelines support and supplement the plan and aid in directing growth throughout the neighborhood. They allow the special scale and character of the neighborhood to flourish.

The strategy is guided by the mission of the community.

2.2 The Mission

The mission of the Community Development Plan is expressed in the following statement:

Preserve the attributes and opportunities existing in the East End Riverfront Community and manage changes and development pressures acting on the community with strategies that will enhance and reinforce the character of the existing neighborhood while encouraging and creating opportunities for new development.

The mission of the Community Development Plan is outlined in the fundamental goals of the Plan.
2.3 Goals of the Plan

The goals of the Plan guide development and protect the community's concerns. The goals for the East End Riverfront Community Development Plan include the following:

1. Establish a vision and a process for the East End Riverfront community that is flexible and can be sustained over time.
   - Create broad, community-based support for the Plan which reflects the concerns of the community and the goals of the City.

2. Improve and enhance the quality of life in the East End Riverfront Community with improvements that create a renewed focus and image in the Community.
   - Maintain the open and interactive involvement of community residents, owners and the community-at-large.
   - Discourage direct and indirect displacement of existing residents as redevelopment occurs.
   - Develop a Community Development Plan and Guidelines with the involvement of neighborhood residents, property owners and businesses.

3. Provide a neighborhood meeting facility for groups and organizations.
   - Provide commercial shopping areas.
   - Identify sites and opportunities for the development of affordable housing.

   New Structures
   - Identify opportunities for private development, including infill and large development sites.
   - Develop (fill) housing in a way that respects the character and scale of existing housing.
• Identify opportunities for future high-density, mid-rise housing at appropriate locations throughout the community.

• Provide recommendations on bulk, character, quality, scale, height, and use that form the basis for zoning revisions.

Character

• Enhance the community as an unique place to live, work and play.

• Identify and acknowledge the diversity of the neighborhood’s physical elements and sub-areas or communities.

• Create an image for the community that provides a unified focus and is representative of its people, values and history.

• Increase visibility and awareness of the River within the community and maintain views to the River from Columbia Parkway and the bluffs above.

• Provide a schedule for public improvements (See Chapter 6 - Implementation Strategies).

• Develop design guidelines to address the physical layout, location and massing for new construction.

• Identify an approximate number and size of new neighborhood office and retail uses.

3. Retain, renovate and/or upgrade the historic, architectural and cultural fabric of the Community.

• Recommend actions to preserve the historic and architectural integrity of the neighborhood and promote significant characteristics that reflect the heritage and traditions of the area.

Some of the structures that give historic character to the neighborhood include:

- Peninsular Club
- Cincinnati Artistic Ironworks
- St. Rose Catholic Church
- Mt. Carmel Baptist Church
- Highland School
- The former Firehouse at Eastern Avenue and Strader Street

4. Improve transportation options to surrounding areas and within the East End Riverfront. Encourage and recommend the safe and easy flow of cars, people and bicyclists in the area.
Circulation Network
- Improve north-south vehicular access to the area.
- Acquire the railroad right-of-way (R.O.W.) and preserve for future use.
- Minimize transportation impacts of new development on the community.

Street Configurations
- Improve vehicular safety and accessibility to the community along Eastern Avenue; at the Rockwood, Colman Avenue and Delta Avenue underpasses.

Street Character
- Recognize Eastern Avenue as the primary access to the community, both visually and physically, and unify the character changes that occur along its length.
- Recognize the function of the streets in the community and their capacities for accommodating traffic and parking and providing access.
- Protect the "green belt" along Columbia Parkway.

Pedestrian and Bicycle Circulation
- Identify, create and reinforce north-south pedestrian linkages between the riverfront and the hillsides.
- Create separate and continuous bicycle and pedestrian paths to link the East End Riverfront community with the Centennial Commons and the proposed International Friendship Park.

Mass Transit
- Preserve the railroad R.O.W. for future transportation and commuter opportunities.

5. Maintain, enhance and integrate existing and proposed open space within the community and create a balance between community and regional-serving recreation facilities.

River Access
- Examine the feasibility of public access to and along the riverfront.
- Determine the location of a pedestrian path and the character of the access. This will vary depending on ownership patterns and configurations, as well as development and design needs.
- Develop a riverfront path system, to be initially implemented on properties that are currently owned by the City.

Existing Facilities
- Examine existing facilities and provide recreation and open space opportunities that address the needs of the community and the City.

New Facilities
- Provide a more equitable geographic distribution of recreation opportunities throughout the community.

- Provide seasonal recreational opportunities in addition to existing recreation facilities and increase their ability to serve the City's and the community's needs.

6. Protect and enhance the natural environment by identifying the areas that should be preserved, those that are capable of accommodating change, and the character of that change.

- Identify and preserve, and when necessary enhance, the critically sensitive environmental areas, including the river's edge and the hillsides.

- Preserve and maintain views to the river.

- Identify areas suitable for additional development based on environmental factors including floodplain, steep slopes and shoreline sensitivity.

- Identify areas of potential soil contamination and hazardous materials and determine the impact on future development.
2.4 The Concept - 1988

In 1988, the NAC established and adopted a series of broad goals and policies with respect to the East End Riverfront corridor. The goals and policies associated with the "Eastern Riverfront Revised Concept Plan" include the following:

1. Uniting and developing the quality of life in the Eastern Riverfront that is enhanced by the river orientation.

2. Promoting housing development to achieve a mix of socio-economic groups.

3. Assuring community involvement and public participation as part of the development process.

4. Preserving and acknowledging the area's diversity through identification and enhancement of physical elements or subareas having significance.

5. Developing a unified neighborhood focus and theme.

6. Maintaining, enhancing and integrating green space.

7. Upgrading vehicular and pedestrian networks into and within the East End Riverfront corridor.

8. Removing unwanted land uses and creating sites for development.

The "Eastern Riverfront Redevelopment Strategy", completed in June of 1988, outlined and recommended land uses, capital improvements and a preliminary implementation plan. It established in part a framework for stimulating and guiding redevelopment in the area with the primary purpose of preserving the existing character of the neighborhood and existing residential units.
2.5 The Plan - 1992

As stated in Section 2.3, Goals of the Plan, community input was recognized as a vital part of the plan’s evolution. The following specific actions highlight the results of an extensive collaborative effort by the East End community, SAC and City staff and focus on the areas of the neighborhood as outlined below.

The Community Development Plan for the East End Riverfront describes the specific actions necessary to achieve the agreed upon goals.

The specific actions are as follows:

- Retain all existing habitable residential dwelling units through the provision of various rehabilitation tools to existing home owners. (Refer to Chapter 6 - Implementation Plan.)
- Build infill housing throughout the neighborhood where feasible. Infill housing should be compatible in scale with the surrounding physical environment.
- Develop new infill housing, if possible, in selected floodplain areas, provided that the first habitable floor is above the 100-year floodplain or an elevation of 501 feet. No new development is proposed in the floodway.
- Consider a continuous riverfront pedestrian path to traverse through the neighborhood, typically along the top of the riverbank.
- Discontinue railroad service along the tracks that pass through the neighborhood, and develop a bicycle path on a portion of the R.O.W.
- Replace or route, in an architecturally consistent fashion, the three manway bridges, at Delta Avenue, Collins Avenue, and near Kasper Lane to ensure structural integrity and to improve traffic safety.

- Make Eastern Avenue a pedestrian-friendly street through the use of the following transit-oriented, relocation of overhead utilities along Eastern Avenue and in areas above the roadway fringe underground; installation of pedestrian-scaled street lights at locations of pedestrian activity centers; planting of street trees to line the roadway and separate pedestrians from the flow of traffic.

It should be noted that the placement of utilities underground, as well as pedestrian-scaled lighting may be subject to a special assessment and will require the approval of affected property owners. Existing residents should not be expected to bear the expense of new improvements in the area.

- Improve Schrodt Playfield with additional parking, extended pedestrian paths and additional non-structured recreation uses. Expand the boat launch area as proposed.

- Create low to mid-rise residential development at the former rail yard site. The density and height of new buildings at this site should be compatible with surrounding developments and should not adversely impact views from Columbia Parkway. To accomplish this, a vehicular connection of Hof Avenue to the rail yard development is recommended, as are vehicular penetrations to Eastern Avenue under the railroad R.O.W. to provide an additional means of ingress and egress to structured parking areas.

- Provide toll housing on Eastern Avenue with adequate off-street parking. Along the south side of Eastern Avenue, non-toll housing is recommended; for new development on the north side, parking courts should be provided in such a manner that vehicles do not back out into the street.

- Create new mid-rise housing at the former American Building Components site and former Buckwood Terminal site to the west. This property extends approximately 13 acres west of the Buckwood underpass and approximately eight acres east of the underpass. Due to the proximity of the 12-acre site to the approved Adams Landing development, building density, massing and scale of these two developments should be complementary. This development could also include some
commercial uses. Structured parking may be necessary to accommodate parking requirements. Public open space should be provided along the shoreline in order to link the proposed International Friendship Park with existing public parklands to the east.

For the purpose of a more detailed review, the study area has been divided into neighborhood subareas or sites. Sites A through D will be used throughout the plan to reference four geographic subareas.

- The existing and proposed residential subareas (Sites A-D) will each be served by pedestrian paths providing access to the shoreline and alternative transportation systems along the right-of-way.

- Each commercial center should include a mix of service, retail, office, public meeting space, indoor recreation facilities and/or outdoor public space with river view. Where possible the centers and open space should have a strong orientation to Eastern Avenue. The centers are proposed along Eastern Avenue at the eastern edge of the neighborhood and at Colina Avenue. Residential uses where possible should be positioned above the retail stores and existing buildings should be adaptively reused for this purpose.

- It is not the intent of this plan to force existing businesses out of the East End. It is envisioned that proposed re-zoning recommendations will provide the businesses to remain long into the future as non-conforming uses (see Sections 2.6 - Land Use and Zoning).

- A study of alternatives to reduce truck traffic along Eastern Avenue and enforce speed limits along the corridor as a necessary component to the successful revitalization of the area. In conjunction with a traffic study, an additional measure for safety crossing Eastern Avenue must be devised.

- Pedestrian walkways are proposed to connect the housing on the north side of Eastern Avenue to commercial and recreational uses on the Ohio River side of the Plan area. These connections are proposed to originate from overburdened sidewalks or at points of entry into the neighborhood, and guide the pedestrian to the shoreline. Pedestrian connectors should be located at Delta Avenue, at the former rail yard area connecting new residential development to Schmidt Field, along Colina Avenue along an existing visual alignment of Terrence Parkway connecting viable residential area north of Eastern Avenue with West End.

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2.6 Phasing of New Development

Pivotal Nature of Railroad Purchase

The pivotal time in the implementation of the East End Riverfront Plan is the City’s securing of the abandonment and ownership of the railroad right-of-way. When that right-of-way is secured, many of the elements of the redevelopment of the area can go forward, such as the redevelopment of the former rail yard site on the west of Walnut Street Avenue.

There are a considerable number of items that can be implemented in the next 24 to 36 months, including:

- Encouraging the development of the East End Community Urban Redevelopment Corporation as a housing advocacy and education center for current residents.
- Providing information about current funding sources for homeowners and tenants.
- Creation of a housing trust fund.
- Recommending that the City not use eminent domain powers for implementation of the various plan components.
- Developing affordable housing units.
- Providing tax abatements on remodeling and rehabilitation of existing housing units and for new construction.

These strategies are discussed in detail in Chapter 8 - Implementation Strategy.

**All references throughout this report, to the Adams Landing development pertain to the agreement and master plan approved by Council Ordinance No. 42-1987.**
months, regardless of whether the railroad is secured or not.

These items, roughly in priority order include the following:

- Establish one or more Commercial Centers.
- Establish a Project Office.
- Rehabilitate existing homes (emphasis on owner-occupied).
- Construct new low-income housing facilities.
- Develop a retail convenience center.
- Construct shortline greenway on City property.
- Provide sewer service for areas not served.
- Repair and make minor realignments of Eastern Avenue and other streets.
- Construct new grading of recreation facilities.
- Package Riverside redevelopment site.
- Dedicate and construct Gladstone Avenue.
- Realign Collins Avenue.
- Realignment of the right-of-way and portions of Eastern Avenue.
- Construct bikeway.
- Market rail yard development site.

Other elements in the plan are dependent on the abandonment of the railroad right-of-way before they can be implemented. These would include the following, also listed in priority order:

- Restore or reconstruct railroad bridge.
Benefits for Existing Residents

Low-Income Housing Development

Because the provision of low-income housing units for existing residents in the City's highest-priority area, the East End Neighbourhood Plan, is appropriate to delineate how the City plans to provide that housing.

The Department of Neighborhood Housing and Conservation (NHC) has contracted with the LeDoux Townhouses Partnership (LTP) and Family Housing Developers, Inc. (FHDI) and the Eastern Neighbourhood Community Urban Redevelopment Corporation (ERCURC) to build 10 townhouse apartments on the site across from LeDoux Recreation Center and the Water Works pumping station. The construction of these units was begun, but halted by the developer's failure to secure financial resources and contractor on time. The developer and contractor expect to have these units built and occupied by the end of 1993.

FHDI is also working with NHC toward the development of an additional 24 townhouse units on the former Water Works land, just west of Gotham Street. This project had received tax credits but was delayed due to the lack of sewer in the area. It is expected that these units will be completed in 1993.

NHC staff will be working with ERCURC and other non-profit sponsors to facilitate the construction of housing for the elderly in as yet uncompleted locations in the neighborhood. The total units in an initial project is expected to be in the 30 to 40 range.

In addition, NHC will work with various property owners, potential owners, and developers to organize and help facilitate the construction of rental or rehabilitation of low-income housing units.

To the extent possible, and given economic of scale, the City will attempt to scatter low-income housing throughout the community, and will make every effort to avoid actions that would result in a particular part of the community becoming a low-income ghetto.

Housing Trust Fund

One of the tools NHC proposes to use to link low-income housing development to the construction of market-rate housing is a housing trust fund. As a matter of departmental policy, when NHC sells City land for the development of market-rate housing, it will link the sale of land to support low-income housing. The developer could specify that a certain percentage of its units remain low-income, finance the development of low-income units in a
nearby locations, or make a contribution to a Housing Trust Fund. NHC is already testing this approach in the sale of land to some developers. An interest on housing is constructed and occupied by the developer will contribute $5,000 per unit to a Housing Trust Fund. The Trust Fund will be set up at the time of the land sale. Future land transfers will similarly identify an amount to be contributed to the fund, as those units come on line.

Rehabilitation of Existing Structures

Funding vehicles are needed to aid in the rehabilitation of existing residential properties that are located in the floodplain. Alternatives for the use of City funds or private funds directed through a Housing Trust Fund should be considered.
3.0 East End Riverfront Neighborhood Subareas
3.0 East End Riverfront - Neighborhood Subareas

3.1 Introduction

For the purpose of analysis the East End Riverfront has been subdivided into four subareas and are referred to as Sites A-D. Site A begins at the proposed International Friendship Park and extends east to the Site Oil Station. Site B extends from Site Oil to Collins Avenue. Site C extends from Collins Avenue to Forest Street. Site D extends from Forest Street to Delta Avenue.

The area is characterized by steep hillsides and flat open parks adjacent to the River. It has sweeping views of the Ohio River, Kentucky and the riverfront neighborhood itself, as it extends east. Views from this area should be directed and framed to highlight their charm, in a manner that is consistent with the EGP-CIR Guidelines.

The steep hillsides in the area above Eastern Avenue show evidence of landslides, and almost all existing structures and retaining walls in the area show the effects of earth movement. The map of Site A identifies those slopes that have a high sensitivity with respect to slope stability. Development in the area may be possible even given the instability of the hillside, however detailed and site-specific geotechnical investigations and survey work should occur prior to development. The investigation should determine the specific engineering and construction techniques necessary to mitigate sensitive environmental conditions. Construction in this area may be spe-
The fluvial processes along the river provide broad areas of the river, resulting in increased velocities. This, in combination with the erosive forces of the river, result in an unstable riverbed. The area of unstable shoreline is indicated on the map of Site A. The instability manifests itself in erosion cracks and subsidences that extend 35 to 50 feet back from the toe of the bank. Special geotechnical investigations should be required for any new construction between Eastern Avenue and the river in this area in order to identify the specific construction and stabilization techniques necessary. Development is possible in the area, but it is strongly recommended that it be set back approximately 50 feet from the toe of the river bank. Stabilization may not be necessary, given the 50-foot setback, the specific development proposal and site conditions.

When stabilization is required, the following methods are suggested. One is the driving of sheet piling along the lower portions of the slope, combined with some grading and repaving of the upper slope. The other technique is grading to a uniform 2.5:1 or 3:1 slope with contoured vegetation or slope surfacing. The latter method greatly reduces the amount of developable land. Another means of stabilization could include the use of bioengineering techniques and solutions to reintroduce natural materials to the site for stabilization.

Based on past uses of the site, there is a possibility of soil contamination which may require remedial action under current federal, state, and local regulations. Prior to change in ownership of properties or construction, it is recommended that an environmental assessment be made. Within Site A, the only area known to have been previously tested is the former Buckwood Terminal and the American Building Components properties. Major areas of environmental concern have been removed from the Buckwood and American Fort Threatened properties, and this site can be safely developed. Areas of suspected near-surface contamination, as indicated on the map of Community A should be monitored during the site development process.

While the floodplain along the Ohio River is extensive, Site A is not significantly impacted by flooding because of the higher elevation of the land along this part of Eastern Avenue. The general limits of the regulatory floodplain are indicated on the map of Site A.

Historically, this has been an industrial area with railroad and river access. Currently, the area retains some industrial use: the railroad tracks, railroad bridge structure and a build-
ing supply company are the only structures remaining in the area.

Site A shows the proposed Adams Landing housing development to the northwest.

The approved Master Plan for Adams Landing designates high rise residential buildings to a point just east of Kemper Lane along Eastern Avenue.

Site A, rather than retaining its past industrial use is better suited for residential use because of its location on the river, its commanding views, and its proximity to park facilities and amenities. Medium-density housing is recommended because of the site's proximity to downtown and its physical separation from existing residential development.

The flat open area along the river is conducive to the housing type referred to as Large Parcel Development, described in detail in Section 4.6 - Large Parcel Development. The scale of development proposed is mid-rise residential buildings (approximately 6 stories high above 2 stories of parking) around a central courtyard with views to the river.

This residential development will require extensive infrastructure improvements, including new roads accessing individual residential buildings and utility connections.

A commercial center is proposed for Site A, which will provide the area with retail and service uses and river-oriented open space to complement the area's residential makeup. A description of commercial centers is found in Sections 4.7 - Commercial Centers.

New parks and open space improvements are recommended to be developed as part of the shoreline greenway system providing pedestrian access to existing and proposed recreation areas as well as with new residential uses. The proposed pedestrian path is to extend from Bicentennial Commons through the proposed International Friendship Park and along the riverfront of Site A. The design treatment recommended for the area is described in Chapter 5 - Public Improvement Guidelines.

The shoreline greenway is a long term recommendation that should be implemented only after other higher priority items are achieved and security and maintenance issues are resolved.
3.3 Site B

Site B is located below Columbia Parkway, between Johnson Electric Company and Collins Avenue. Like Site A, it is characterized by steep slopes north of Eastern Avenue and flat open areas adjacent to the river’s edge.

As in Site A, the steep hillsides above Eastern Avenue show evidence of landslides and almost all existing structures and retaining walls in the area show the effects of such movement. The map of Site B generally outlines the hillside locations of slope instability. Development in the area is possible; however, detailed and site-specific geotechnical investigations and survey work are needed prior to any development to determine the specific techniques necessary in response to environmental sensitivities. Construction in this area may be specialized and more costly, requiring reinforced walls, enlarged footings, and retaining walls.

Due to the high velocity of the river and the soil materials previously used to create levees, developable sites, unstable areas, and the meander. The area of shoreline instability is indicated on the map of Site B. The instability is displayed on the surface as tension cracks and subsidence that extend 25 to 50 feet back from the top of the bank.

As in Site A, some areas are suspected of soil contamination, including Johnson Electric Co., the Site service station, and Yoder Salt Company. This contamination requires remedial action under current federal and state regulations. Prior to a change in ownership of the properties or construction, it is recommended that an environmental assessment be made.

The floodplain of the Ohio River does not significantly impact this community because of the higher elevation of the land between the river and Eastern Avenue. However, the area east of Vance Street is within the 100-year floodplain. In this area the limits of the floodplain extend up to, and in some areas north of Eastern Avenue. In general, residential development in this area should be above the 501-foot elevation. The limits of the 100-year floodplain are indicated on the map of Site B.
Because Eastern Avenue is high in relation to the river in this area, significant views to the river and toward downtown exist around Ferry Park. The steep bluffs above Eastern Avenue are heavily wooded and provide panoramic views of the Ohio River and Kentucky, especially from the upper section of Collins Avenue.

Site B is characterized by a mix of uses. Commercial uses in the area include Veritas Bell Company, Flirtage Marine and the Johnson Electric Co. Small storefront retail establishments are located along Eastern Avenue near Collins Avenue. The streetwall of building facades along Eastern Avenue is fairly consistevent in this area, with buildings generally set back 20 feet from the road. The variations in building heights along Eastern Avenue from one side of the road to the other is generally consistent in height. The typical building height ranges from 35 to 45 feet.

Site B should retain its mixed-use character of residential, commercial, recreation and retail uses. The existing development pattern and street wall along Eastern Avenue should also be preserved and reinforced.

Infill development in the flat open area between Eastern Avenue and the river should be comprised of single-family detached rowhouses and duplexes. The recommended housing typology is described in detail in Section 4.3 - Infill Development.

The proposed infill development on the north side of Eastern Avenue may not require any additional road or utility improvements.

A commercial center is proposed in this area. The area should provide the area with retail and service uses and a social gathering place for the area’s residents. A description of commercial centers is found in Section 4.7 - Commercial Centers.

The proposed shoreline greenway and walking path continues through Site B along the riverbank to the rear of the existing Johnson Electric Company, past the Site Gas Station and the rear yards of existing residential properties and infill development proposed for Ferry Street Park as described in Section 4.4 - Riverwalk Development. A shorter term recommendation for the proposed shoreline greenway at Site B calls for the walking path to return to Eastern Avenue just east of the Site Gas Station. The path would continue along Eastern Avenue to Ferry Street Park, where it would return to the riverbank. The long term recommendation calls for a continuous path along the riverbank. The long term
recommendation cannot occur until suitable
agreements with affected property owners are
negotiated.

Public access points to the trail are recoun-
mended along Eastern Avenue at Vance Street
and Collins Avenue and as part of the pro-
geed park improvement to the west. The
design treatments recommended for the shore-
line greenway, walking path and LeftHand
Playground are described in Chapter 5 - Public
Improvement Guidelines.

3.4 Site C
Site C is located between Collins Avenue and
Collins Street, at the geographic center of the
neighborhood. A railroad bridge on Collins
Avenue marks the entrance into the neighbor-
hood, and the steeple of St. Rose Church is
the primary local landmark of the East End
Riverfront.

This section of the neighborhood is character-
tized by a variety of uses and structures in-
cluding St. Rose Church, the Cincinnati Water
Works, Cincinnati Gas and Electric, Highlands
School, LeftHand Playground, and a limited
amount of commercial retail and housing. The
current mix of large land parcels, public facil-
ties, and smaller residential structures creates
an irregular pattern along Eastern Avenue.

The continuity of the streetwall observed in
Site B is not as consistent in Site C. In addi-
tion to the residential area along Eastern
Avenue, housing is located along Gladstone
and Huff Avenues, which are narrow lined
access streets, uphill and parallel to Eastern
Avenue.

Significant panoramas of downtown, the River
and Kentucky can be seen from properties
along Gladstone Avenue, and from selected
properties along Eastern Avenue between
Shore Street and Highlands School.

There are steep hillsides in the area along
Eastern Avenue in Site C. The Relative Stabil-
ity Map (Plate 2) shows active and dormant
shallow landslides between the railroad tracks
and Columbus Parkway west of Trencero Park-
way in Site C. In addition about 200 feet east
of Collins Avenue at the site of the proposed
Lawrence townhouse development, an area
with active deep landslide greater than 5 feet
deep with deep dormant landslides surround-
ing the area of instability. The area east of
Trencero, in Site C is characterized by poten-
tially unstable ground with three isolated
areas of active deep-seated landslides. Se-
lected fill development is encouraged in the
area, however, detailed and site-specific
A geological investigation and survey work should be conducted prior to any development. Construction in Site C may be special-
ted and more costly.

The shoreline appears to be relatively stable in the area. If new entries to the water's edge are proposed, slope analysis and erosion control measures should be considered.

As in Sites A and B, there is a possibility of soil contamination, which could require remedial action under current federal and state regulations. Prior to the change in ownership of the properties or construction, an environmental assessment is recommended. The areas suspected of soil contamination include the former Pendleton rail yard, Cincinnati Gas and Electric site, the jambury and several previous service station sites along Eastern Avenue.

The floodplain of the Ohio River significantly impacts the area. The elevation of the land is low in relation to the river, and the limits of the floodplain extend to Eastern Avenue. In general, residential development in this area should be above the 500-foot elevation.

Site C should remain a mixed-use area of educational, residential, commercial, recreation, retail and some public uses. The existing fragmented development pattern and streetwall along Eastern Avenue should be enhanced and reinforced with additional residential and small-scale commercial development. The existing utilities should remain but additional facilities of a similar scale and size should not be encouraged. The existing public facilities should improve their "public" image to the neighborhood with a general clean-up of their sites, on the street and river edge. The introduction of plant material along the floodwall will help to soften the wall's impact on the street.

Piped and valve storage buildings are proposed adjacent to and east of the existing floodwall. The proposed facilities will extend an approxi-
mate 320 feet along Eastern Avenue. These facilities should be screened and landscaped to buffer the proposed distribution and mainten-
tance facilities from existing and proposed residential uses.

Because of the steep hillside above Eastern Avenue and the flat parcels adjacent to the river, two different types of residential develop-
ment are recommended in Site C. Hillside development should be limited to hillside along Holf Street and Glendale Avenue, but only after specific geological investigations demonstrate that development is feasible. Hill-
side development includes single-family detached housing, rowhouses and duplexes (flat...
The shoreline greenway is proposed to continue from Collins Avenue east through Lefton Park, behind the Cincinnati Water Works Boot well, past the proposed Riverside Development, and east around Cincinnati Gas and Electric to Schmeltz Field. The design treatment recommended for the parks, open space and streets in the area is described in Chapter 5 - Public Improvement Guidelines.

The infill development will not require any substantial road or utility improvements.
3.5 Site D

Site D is defined on the west by Curten Street and on the east by Delta Avenue at the railroad bridge. Delta Avenue provides the third entrance into the neighborhood and is the easternmost boundary of the East End Riverfront study area. Site D is recognized for its public recreation facilities, which provide a wide green belt along the riverfront with panoramic views both up river and down.

This segment of the neighborhood is characterized by a mix of residential, streetfront retail, office, recreation and warehouse uses. The streetwall along the south site of Eastern Avenue is consistent, but development on the north side is interrupted by a stone retaining wall supporting the railroad tracks. The stone wall and the vegetation that has grown along it reinforce the north edge of the street. Single-family housing is located along Walworth Avenue and Hoff Avenue and ares west of Schmidt Playfield that interact with Eastern and extend toward the river. The former Pennsylvania railroad, a large flat site situated at the western terminus of Walworth Avenue, is undeveloped. Two large public parcels Schmidt Playfield and Turkey Ridge Park create opportunities for enhancing access to the river’s edge, and their further refinement is critical to setting the quality of public green space in the area.

Areas of the hillside above Eastern Avenue and Walworth Avenue in Site D are not likely to have the slope-stability problems associated with areas in the west of Collins Avenue. Detailed site-specific geotechnical investigations and survey work is recommended prior to any new development.

The stability of the embanks is not an issue in this area. Where new access to the water’s edge is proposed, slope analysis and erosion control measures should be considered.

A possibility of soil contamination is suspected at several areas in Site D, such conditions may require remedial actions under current federal, state and local regulations. Prior to change in ownership of the properties or construction, it is recommended that an environmental assessment be made. Areas suspected of soil contamination include existing and previous service station sites and the Cincinnati Ban Works site. These conditions are generally located on the map of Site D.

The elevation of the area is low in relation to the river. The limits of the floodplain extend to Eastern Avenue, significantly impacting the extent to which this area can be developed.
general, residential development in this area must be above the 501 foot elevation.

The significant views in the area are of Schimn Park/field and Turkey Ridge Park, the river, and distant views of downtown.

Site D should remain a predominantly residential community with enhanced parks and recreation facilities. The different physical conditions found in the community suggest several different types of housing development. The scale of the existing residential development along Eastern Avenue and Wabworth Avenue is very similar. Dwelling units along these streets are generally two to three stories on 24-foot-wide lots. The development pattern along these streets is conducive to infill development (described in detail in Section 4.2 - Infill Development). The railroad, an approximate 60-acre site located between Wabworth and Hill Avenue, can accommodate a moderate density of residential development; making the site appropriate for the housing type referred to as Large Parcel Development (described in detail in Section 4.6 - Large Parcel Development). This is a mid-rise residential development (approximately 8 stories in height above structured parking) focusing on a central courtyard with views to the river.

Development on this site should be designed in a manner that respects view corridors from Columbus Parkway and such that the building design relates to and complements existing adjacent residential development.

The infill Housing prototype is recommended for development sites along the south side of Eastern Avenue. Infill development will not require any additional road or utility improvements. The Large Parcel Development will require the construction of access roads and the extension of utilities to service the area.

No new commercial center is proposed for Site D, in order to support existing commercial activities and uses located east of the Delta-Eastern Avenue intersection and in the Columbus/Tourism neighborhood.

The shoreline greenway and walking path originating at the proposed International Friendship Park on Site Aa is recommended to continue through the Schimn Playfield area and terminate at Turkey Ridge Park.

The design treatment recommended for the parks, open space and streets in the area is described in Chapter 5 - Public Improvement Guidelines.
### Neighborhood Subareas

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All development estimates are based on proposed zoning and are approximate counts.

- Structures list individual units
- du = dwelling units
- fu = floor units
- ut = unit totals

- Commercial building assumes 30% lot area reduction as per sec. 3033 of the Zoning Code
- ut includes Proposed International Promenade Park
- ac = acres

### Development Summary

**3.6 Development Summary**

The Development Summary identifies and quantifies the land use recommendations that have been outlined. The chart presents general descriptors of the proposed developments by neighborhood subareas in the East End Neighborhood. Chapter 4.0 describes in greater detail the appearance and character of the different development types.
4.0 Private Improvement Guidelines
4.1 Introduction

The following guidelines address various aspects of site and architectural design as they relate to private development. These guidelines are intended to direct new development and major rehabilitation and renovation of existing structures within the neighborhood. The guidelines establish the bases by which future development can be made to enhance the existing character and appearance of the East End Riverfront neighborhood.

The guidelines are intended to be flexible and allow for a variety of design responses. They apply only to new improvements and do not require owners to restore a building to its original state. These guidelines will be used as standards to evaluate building innovations when the owner requests any form of City, State or Federal funds for rehabilitation, and when substantial rehabilitation work is undertaken.

The visual character of the built environment within the East End Riverfront area should be retained and restored. The architectural design for various types of developments, i.e., new one- and two-family, large-parcel residential and commercial structures and improvements to existing structures, must be integrated to reinforce the quality of the area.

Guidelines for specific types of development (buildings, remodeled, tabulated and large parcel) and guidelines for rehabilitation are expanded upon in the following sections.

The primary architectural criteria considered for any development in the East End Riverfront are as follows:

- Front facades of buildings should be punctuated with openings for windows and doors.
- Colors are recommended to be compatible with the area. Contrasting colors may be used to express different architectural features of the building.
- Similarly sized and massed structures.
- Roof shapes common to the area.
- Predominant materials, textures, and details.
- Articulation of buildings with a base, middle, and top.
- Building entrances that are distinct, identifiable, and covered.
- Vertical emphasis in the massing of the street facades and in the delineation of windows.

- Streetscapes that are broken with openings and setbacks.

**4.2 Renovation Guidelines for Existing Structures**

Improvements such as renovations, additions, and alterations should be consistent with the surrounding context:

- Original architectural details and building materials such as wood trim around openings, box gutters, eaves, wood siding and metal roofs should not be covered by other materials, if possible.

**Additions and Alterations**

All additions and alterations should be compatible with the style of the existing building and should not change the structure's architectural character.

Additions should have similar massing and details, similar visual rhythms of solids and voids, and use the predominant material of the existing structure. Additions should be background elements to the composition of the combined structure.

Original architectural details and building materials such as wood trim around openings, box gutters, eaves, wood siding, and metal roofs should not be covered by other materials, if possible.

Original openings on the street facade should not be altered.

Porches, balconies, and decks that are visible from the street should have detailing, especially millwork, that is appropriate to the existing building, and should not introduce materials, textures, colors, or details that are foreign to the existing building. All wood used for these structures should be painted or stained to integrate it with the color scheme of the existing building. Decks, defined as roofed platforms, should be permitted on
the front facade. The use of porches, defined as covered structures attached to or recessed into the main building, should be encouraged.

Utilities

Locate utility systems in the rear or side yard and screen from view. Roof top and front yard utilities should be avoided.

Electric, gas, cable T.V. and telephone service wires should be installed underground from the street to the building, if possible.

**Missing or Deteriorated Materials and Parts**

Original architectural features and building materials such as metal roofs, gutters, cornices, wood siding, porches, shutters, railings, iron fences and stone retaining walls should be refurbished whenever possible. When replacement is necessary, materials and parts should match the original as closely as possible.

- Wood siding should be replaced by similarly sized siding of either wood, aluminum, or vinyl.
- Architectural features such as wood trim and other decorative elements should not be obscured or removed when new siding is added.
- Original windows and doors should be repaired if possible. If not possible, replace with new ones to match original style and size.
- If replacement is necessary, new decorative details should be similar in style, form and character to the existing elements of the building.

**Windows and Doors**

Original windows and doors, especially those on the front facade, should be repaired. If repair is not possible, replacement windows and doors should match the original size and style.

**Hazardous Building Materials**

Many buildings may have asbestos or coatings of lead-based paints. Prior to beginning any work that may disrupt areas with suspect materials, proper testing and removal procedures should be employed, in accordance with existing laws and regulations.
All lead water lines should be removed and replaced with copper water lines.

Repointing Masonry

- Prepare joints properly with hand tools, being careful not to damage bricks.
- Use mortar that matches the existing in color, consistency and lime content. If the mortar used is too high in cement content, it can crack the older lime bricks.

Water-repellent coatings should rarely be necessary. Water damage to the interior usually does not occur through masonry units themselves, but through mortar joints or through roof leaks. This can be alleviated by repointing and diminishing the source of excess water.

If after repairing the sources of excess water, i.e., leaky gutters and flashing, water is determined to be passing through masonry units, only the affected areas should be treated.

Cleaning

If cleaning is accomplished by harsh means, surfaces may be damaged.

The following procedures are recommended to preserve original wood and masonry:

Wood

- To prepare for new paint coats:
  - Hand scrape, with aid of heat gun, and sanding, or use mild chemical strippers, scrape and sand.

Masonry

- Do not sandblast.
- Do not use wire brush.
- Hand scraping and scrubbing is preferred, but if necessary, mild chemical strippers can be used.

Painting

Prior to the removal of any paint, a test should be performed to establish lead content and appropriate action taken for safe removal according to prevailing laws and regulations.

Wood

- Should be painted or stained and should not be stripped and refinished to expose the natural wood color.
- Decorative details such as banding, brackets, railings, finials, moldings, trim and doors can be painted in contrasting colors to the body of the building.
4.3 Infill Development

Infill development is recommended for vacant sites along Eastern and Waveheight Avenues. These sites are relatively flat, typically adjacent to existing residential dwellings, and characterized by an established streetscape.

The areas appropriate for this development are generally diagrammed on the Infill Development Plan. This type of development will be small in scale unless adjacent properties are acquired for a larger site.

The design aspect of infill development is to restore a connected streetscape and maintain the existing neighborhood scale. In order to preserve the existing residential scale of the neighborhood and views to the rear from adjacent hillside areas, the typical height of infill housing should not exceed forty-five feet above the street or grade.

New infill housing may be configured as a single-family detached rowhouses, duplexes, or multifamily depending on market forces, economic conditions and the ability to assemble land.

Lot and Yard Requirements

The standard lot size for infill sites in the East End Riverfront will generally measure 30 x 100' or 2500 square feet. Front yard setbacks can be a maximum of 25' from the front lot line. However, for single-family and duplex units the front yard should be consistent with the front yards of similar adjacent buildings.

While the Cincinnati Zoning Code requires side yard widths of a minimum of 14' in two-family and low-density multifamily zones, narrow lots of record may qualify for side yard reductions through the variance procedure of the Zoning Code. Rear yards should have a minimum depth of 30'.

A minimum lot size of 8,000 square feet is required to accommodate a single four-unit rowhouse or two duplexes. The front yard
setback requirement is generally consistent with that for single-family units. Front yards of new development should be in keeping with the front yards of existing adjacent residential use; however, for infill residential developments of five units or more, greater setbacks are encouraged. Some variance on side and rear yard requirements may also be requested.

Parking

Off-street parking for infill units is generally required at one and one-half spaces per unit. Off-street parking spaces should be a minimum size of 180 square feet. Parking less for two-family dwellings may not be located in the front yard. Parking in multistory, detached spaces must be set back at least 10 feet from any street lot line.

Lot depths, especially along Eastern Avenue, will strongly influence the provision of parking for new housing. Porches on the south side of Eastern Avenue are deep enough to have space to provide direct access.

New residential development on the north side of Eastern Avenue should accommodate off-street parking behind the unit in garages or on driveways that are screened from the alley.

Some porches on the north side of Eastern Avenue and Walworth Avenue are sufficiently deep to allow on-site garages or parking areas. The pattern of existing development along the north side of Eastern Avenue will require remote off-street parking lots at several locations. Such lots will be used to provide shared off-street parking for existing residential properties along Eastern Avenue. Single-family, detached units on the north side of Eastern Avenue should provide room for configuring off-street parking while maintaining the scale and rhythm of adjacent existing development along the street.

Fences/Walls

Where residential buildings are not consistent with the streetwall, fences or walls can be used instead of landscaping to establish the streetwall. They should be constructed of durable materials that are consistent with materials used in the East End Riverfront area, such as stone, wrought iron, brick, concrete and painted wood. Fences and walls should adhere to the following requirements:

- Define the foreyard setback and the streetwall with a 3'-high fence or wall that is 50% opaque. The fence or wall may be raised to accommodate entrances. The distance between the fence/streetwall and building face is recommended to be a minimum of 8'. To screen parking from
view, a 4’ high opaque fence or wall can be used instead of a 6’ wide planting strip.

Height
The height of infill buildings should not differ from adjacent residential buildings by more than one story (12 feet) or exceed a maximum height of 45' on the north side of Eastern Avenue or 35' on the south side of Eastern Avenue. New buildings should be designed so as to respect view corridors from existing buildings above Eastern Avenue.

The first floor of new buildings should be at a similar elevation to that of adjacent buildings, whenever possible.

Scale and Massing
The existing housing stock is mostly of small to medium-sized one and two-family dwellings sited on narrow lots of varying depths. The predominant building width is 18’. The scale and massing of new buildings and their components, such as bay windows, gable roofs, etc., should be similar to the existing housing stock.

Materials and their detailing should be similar in scale to those predominant in the area.

Building facades should express the division of base, middle and top.

Building entrances should be distinct, identifiable and covered.

Large flat walls on the front facade that are broken by openings or setbacks should be avoided. The total area of openings in a wall should not be greater than 50% of the total wall area of a given facade.

Porches are integral to the architectural style of the majority of houses in the area. The use of porches should be encouraged.

Proportions
The overall formal expression of new buildings when viewed from the front should be vertical, tempered by horizontal elements such as cornices, porches, railings and banding. The division of the windows should be vertically oriented. The ratio of vertical to horizontal should be no less than one to one and no greater than three to one.

Roofs
Roofs should be in keeping with the size and character of those predominant in the area. New roofs should be gabled or hipped and have slopes of no less than one-third pitch and no greater than one-half pitch, except on porches which usually have hipped roofs with shallow slopes.
Roof top decks should be permitted and should not break horizontals or corries.
Roof top utilities should be avoided, and roof vents should be inconspicuously placed.

Materials
Materials used for new construction should be natural and similar in color and texture to existing materials. Appropriate materials include wood siding, wood shingles, wood trim, wrought iron, steel, brick, stone and concrete.

Window glazing should be clear, non-reflective glass. Glass curtain walls should not be permitted. Window sash and frames should be wood or metal.
Roofing material for all sloped roofs should be slate, metal shingles, standing-seam sheet metal, or asphalt shingles.

Landscaping
Landscaping along Eastern Avenue and Walworth Avenue is recommended and is part of the Streetscape program which is described in Chapter 5 - Public Improvement Guidelines. The main component of the program is the increase in planting of street trees.

Landscaping is required to establish the street edge on lots where a building or a house wall is not set on the front lot line. The landscape recommended for residential lots is as follows:

- When buildings are not set on the streetscape, a 2'-wide and 3'-high evergreen hedge should be planted at the streetwall.
- To screen parking areas from view along Eastern Avenue, a 6'-wide landscape strip should be provided along the street. This strip should be planted with a combination of deciduous and evergreen materials of varied heights to create a 50% opaque screen.
4.4 Riverside Development

Much of the land located south of Eastern Avenue to the East Bank Riverfront is situated within the 100-year floodplain. In order to build safely within the floodplain setbacks are allowed, the development must comply with the Cincinnati-Ohio River Flood Plain U.S. Army Corps of Engineers as they pertain to development or alteration of the riverfront. The site plan for the Riverside residential development area pertains to locations on riverfront properties along the south side of Eastern Avenue, specifically between the Cincinnati Public Service and the Cincinnati Gas and Electric Co., and the area referred to as Ferry Street Park. All areas of proposed infill development located within the floodway zone are also subject to these guidelines.

Any proposed grading within the regulatory floodway will require a hydraulic analysis to verify that no increase in the base flood elevation will result from the proposed work.

Primary areas that are recommended for the Riverside development type are diagrammed on the Riverside Development Plan.

The design zones are so close that the floodplain forms should be considered as a single-family with habitable living space above the 50% elevation. Uninhabited spaces, such as garages and storage areas can be located below the 50% elevation.

In areas of the floodway fringe, the recommended difference in elevation between the ground level and the first floor should not exceed 15'. For the purpose of maintaining a scale that is compatible with existing development, the base of new residential units within the riverfront. .
the floodplain should not be constructed below the 480' elevation.

Height
The total height should not exceed three lev- elies—approximately 25 feet including parking. The site layout of proposed development should preserve river views from homes along Eastern Avenue and maintain a low residential scale.

Lot and Yard Requirements
Residential development proposed in the riverside development area is likely to require a minimum lot area of 8,000 square feet for single-family, detached dwellings. The recom- mended development pattern is single-family, detached on 50-foot-wide lots. The buildings, as shown on the schematic site plan for the area, could front on a new Riverside Drive (black street extended). Setbacks of approximately 30' from the edge of the road or lot line would establish yards that could be landscaped to create a park-like setting to complement the adjacent riverside greenway. For residences fronting Eastern Avenue, it is recommended that driveways and garages be accessed from rear alleys that are shared. This will keep the street adjacent to the river and the greenway free of curb cuts and drive- ways, which would detract from the setting.

Two-family rowhouse or duplex developments would require at least 10,000 square feet of land area. Larger rowhouse-type development of the area could be accomplished through the Planned Unit Development regulations of the Cincinnati Zoning Code.

The purpose of the Planned Unit Develop- ment (PUD) Regulations is to provide for orderly improvement of a specific property while protecting the natural open space and ecologi- cal, topographical, geological, and historic features from adverse impacts that might result under conventional zoning and subdivi- sion regulations. The PUD regulations are also intended to allow for more efficient and eco- nomic development of a specific property. The use of the PUD requires a minimum lot area of 50,000 square feet for single-family attached, detached or multifamily development. The PUD provides greater site-plan flexibility; however, it does not allow for variances to density, which is determined by the base zoning.

Parking
One to one-and-one half off-street parking spaces per dwelling unit will be required in this proposed development site.
Elevation of typical housing units in the Riverside Development Area
4.5 **Hillside Development**

The Hillside Development Plan identifies potential locations for development on the slope between Columbia Parkway and Fairview Avenue. The hillside residential development type should be adapted to the topography of the area and may be suited for vacant lots along Gladstone Avenue and Hill Avenue. Hillside housing should be designed to fit the existing contour of the site rather than altering it to fit the building. A minimum amount of grading should be used for foundations, parking, and access to the steep slope above Easton Avenue.

The site plan illustrates one way the hillside could be developed. The recommended lot area is a 22- to 25-foot-wide module that can accommodate a large single-family unit or be combined for duplex or attached rowhouses.

The design intent for this housing type is to fit comfortably with the slope of the land. The units should be configured to respect the natural conditions and vegetation of the site in order to maintain hillside stability and eliminate landslide susceptibility both during and after construction.

An erosion control proposal must include a geotechnical analysis by a qualified engineering geologist and an environmental engineer as per Erosion and Sedimentation Control Ordinance, Chapter 737 of the Cincinnati Municipal Code.

The actual pattern for development, i.e., the disposition of single-family/rowhouses/duplex types will be subject to market forces.

A bike path is proposed to be located in the same general area as the hillside housing along the existing rail right-of-way. The access requirements associated with a public bikeway are diagrammed on the cross section through the hillside housing.

A residential building site with hillside development should be developed in accordance with the guidelines set forth for infill development. Proposed residential uses should be designed and constructed to avoid obstructing the views from other properties and public areas.

The following architectural standards apply to hillside development:

**Height**

Maximum heights should not exceed 45 feet from the base of the building at the street facade.
Scale and Massing

Street elevations of large building masses should be broken down into distinct parts so that they read as a series of individual buildings. For example, a duplex built to the maximum width of 30 feet should be expressed in two parts, appropriate to the functional layout of the building, which is approximately one-third and two-thirds.

Materials and the detailing of materials should be similar in scale and massing to those predominant in the area.

The building facade should express base, middle and top.

The building entry should be distinct, identifiable and covered.

Flat facades that are unbroken by openings or setbacks should be avoided.

Proportions

The overall formal expression of new buildings should be vertical, screened by horizontal elements, i.e., cornices, porches, railings and banding.

The division of the windows should be vertically oriented.

The ratio of the vertical to the horizontal should be no less than a one-to-one and no greater than three-to-one.

Roofs

Roofs should be in keeping with those predominant in the area. New roofs should be hipped or gabled and have slopes no less than one-third pitch and no greater than one-half pitch, except for eaves and porches.

Roofline decks should be permitted but should not break rudeness of cornices.

Roofline utilizations should be avoided, and roof vents should be inconspicuously placed.

The design of the roof tops should be carefully considered and detailed because of views from above.

Materials

Materials used for new construction should be natural and suitable to existing materials. Appropriate materials include wood siding, wood shingles, wood trim, wrought iron, steel, brick, stone and concrete. All wood should be either painted or stained and should not be finished to expose the natural color.

Window glazing should be clear, non-reflective glass. Glass curtain walls should not be per-
Landscaping

Landscaping on the street side of a hillside residential parcel is recommended as follows:

Single-Family and Rowhouse:
- One street tree per home in the front yard with a minimum caliper of 2".

Duplex:
- One street tree as above plus 3' wide landscape strip between each garage planted in evergreen shrubs of at least 2' in height.

Utility Systems
- Electric, gas, cable T.V. and telephone service should be installed underground from the street to the building.
Dimensions may vary according to site location and the underlying zoning

Duplex Housing in Hillside Development Area

Elevation of Duplex house in Hillside Development Area
4.6 Large Parcel Development

Large parcel development is designated for two separate tracts in the East End - one an approximately 15 acre parcel west of Johnson Electric Co. and another a 20 acre parcel east of Johnson Electric Co. and servicing the Rockwood Underpass at Site A, the other an approximately 15 acre parcel above Schmidt Playground on the site of the former Pendleton railway in Site B. Both sites are large enough to support a higher density development and while somewhat isolated from the existing neighborhoods, should respect the existing character of housing in the East End.

The intended design for these parcels is illustrated on the following site plans. It creates a low to mid-rise housing development on a regular grid that is consistent with the scale of the urban street grid typical in the East End Riverfront. This grid creates a development pattern that is small enough to fit into the neighborhood context, but large enough to allow the integration of structured parking within the building footprint.

The character of this residential type should be street-oriented with a majority of views facing the river.

The predominant mid-rise use of the large parcel development sites should be residential enclosures of medium density. The heights of these buildings will vary according to location and topography. New construction should be treated in such a manner that the edges of the development, at the base of the building, relate in scale to adjacent existing structures. Successively higher floors should be stepped back from the building envelope, which becomes narrower from the base to the top of the building. The effect of creating a building design that is stepped back is illustrated in the following sketches.

The highest point of new large parcel development should be designed to avoid substantial and unreasonable obstruction of views from public areas or rights-of-way. On the railway site, the difference between the elevation at grade to Columbia Parkway ranges from approximately 80 feet to approximately 60 feet from west to east. On the western 15 acre portion of the former Rockwood rail terminal site, subject to the Environmental Quality District guidelines, new residential development should be compatible to scale and treatment in the approved Adams Ludding development. The height and articulation of the building masses should serve to frame views from public areas along and above Eastern Avenue and Columbia Parkway.

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Both large parcel development sites can be developed conventionally or as a Planned Unit Development (PUD). PUD allows for flexibility of set back requirements if base zoning and requires a minimum lot size of 50,000 square feet. The proposed housing type, as with all sites in the area, will depend upon market forces and demand at the time of development.

The following architectural standards should apply to large parcel development areas.

**Height**
The height of the buildings will vary according to location and topography.

Heights proposed above 45 feet may be warranted on selected portions of both large development sites due to existing topographical elevations or the scale of adjacent development. Specifically areas of the western Rockwood site and the western half of the former Pendleton railroad site. Heights proposed to exceed 45 feet on properties located in the E2 designation, will be subject to a public hearing process as outlined in Section 6.0 - Implementation Strategy, and the proposed E2-CR Handbook.

The development on former Pendleton railroad site should not exceed the height of Columbia Parkway at the point due north of the development.

**Scale and Massing**

Building masses should be broken into distinct parts reflecting their functional divisions. For example, the illustration on page 35 and Figure 14 depict elevations that are divided into two parts separated by a building setback, and are further broken down by bay windows. It is important to note that the eastern 12-acre area of the potential Rockwood large parcel development lies outside the community as defined by the Rockwood underpass. This 12-acre parcel sits between the river and the approved Adams landing project.

The plan recommends two separate concepts for large parcel development. The first applies to the eastern half of the former Pendleton railroad site and the easternmost eight acres of the former Rockwood development parcel. Both of these parcels can be developed conventionally or as a Planned Unit Development (PUD). The proposed housing for each site should be consistent with the following qualifications:

- The predominant land use should be residential exclusive of medium density.
• Either a conventional or PUD development should encourage the preservation of green space on the site.

The intended design for the western 12 acres of the Redwood large parcel development should be designed to connect with the eastern portion of the approved Adams Landmark project, which lies due north just above Eastern Avenue.

Richesieres, defined as uncovered projections cantilevered off the main building wall, and porches, defined as covered structures whether recessed or attached to the main body, should be encouraged. Decks are defined as unsheltered floors supported by structures below.

The base around all buildings should be enclosed from grade to first floor except where ventilation is required.

The building facade should express base, middle and top.

The building entry should be distinct, identifiable and covered.

Flat walls that are unbroken by openings or setbacks should be avoided. The total area of openings should not be greater than 50% of the total wall area on any given facade.

The site sections (pages 53 and 54) illustrate the potential scale of new development in relation to Columbus Parkway on both the western and eastern sections of the former Freekleno/large parcel site.

Proportions

The overall formal expression of new buildings should be vertical, not horizontal and tempered by horizontal elements, i.e., cornices, porches, sills and banding. The directions of windows should be vertically oriented. The ratio of the vertical to the horizontal should be no less than one to one and no greater than three to one.

Roofs

Because of the views from the hillside above, the design of the roofs should be carefully considered.

Main roofs should be sloped to a pitch not less than one-third and not greater than one-half. The design should elaborate the building terminations.

Roofline decks should be permitted but should not break rooflines or cornices.
Rooftop utilities should be avoided, and roof vents should be inconspicuously placed.

Materials

Materials used for new construction should be natural and similar in color and texture to existing materials. Appropriate materials include wrought iron, steel, brick, stone, and concrete.

Window glazing should be clear, non-reflective glass. Glass curtain walls should not be permitted.

Roofing materials for all sloped roofs should be slate, metal shingles or standing seam sheet metal.

Landscaping

Landscaping for large parcel development should include both public streetscapes and private rooftop gardens.

The public streetscape should feature street trees planted continuously around the perimeter of the block at regular intervals. Street trees should not be planted within 90 feet of a street corner or 10 feet of a curb cut. The spacing of landscaping materials should respect existing view corridors.

Residential front yards may be fenced and landscaped. All public properties should have a second tree row and understory shrubs in the yard.

Parking structures shall be screened along Eastern Avenue with low tree rows and evergreen shrubs to create a green edge to the ground floor parking garage.

Roofing gardens should consist of at least 40% green lawn, shrubs, or trees.

Service Areas:

All service access and loading/unloading areas should be within the building footprint or within a rear yard that is fenced or walled with an opaque, 8-foot high screen. Service areas outside the building footprint should be no longer than 50% of the footage on which they are located.

Utility Systems

It is recommended that utilities be located within the building footprint or behind the interior wall of a rear service yard to minimize the number of service walls and yards.
Transformers, backflow preventers, chemeters, and other such utility boxes shall be screened.

Electric, gas, and telephone hook-ups should be placed underground.
4.7 Commercial Centers

The Community Development Plan for the Eastern Riverfront establishes the need and location for three neighborhood commercial centers. Each commercial center may consist of retail and service uses that should complement existing and new residential uses and provide appropriately scaled service facilities.

The Commercial Center Plan identifies the location of the proposed facilities. It is the intent of this plan to have each center generally located at the juncture between sites and serve as both commercial and social focal points. Each center should be unique in its appearance, but share common composition elements with the others, including:

- Orientation toward Eastern Avenue: Each neighborhood center should face Eastern Avenue and have major points of entry along this street encouraging pedestrian access from the sidewalks. Commercial Centers should also be designed to have a secondary orientation to the waterfront. Therefore, each development should provide elements at both the street and river sides that will offer pedestrian access points. Open parking lots on Eastern Avenue should be avoided.

- Mixed-use Development: Each neighborhood center should include a mix of residential and office or community meeting space.

- Pedestrian Linkage and Orientation: Each neighborhood center should provide means for community interaction and should feature pedestrian plans space, widened sidewalks, pedestrian crosswalks, seating, and pathways to the river, the parks and the surrounding neighborhood.

Location

Specific commercial centers are proposed for:

- The Rixwood large development site at the western end of the East Riverfront and on the south side of Eastern Avenue

- In the vicinity of Collins Avenue on the north side of Eastern Avenue

The final location of the proposed commercial concentrations will be dependent on the results of market analysis and site availability at the time of development proposal is made.

Recommended Land Uses

Market forces will determine the exact mix of retail and services required to each center. Some uses for consideration include: comm
The character sketch of the Commercial Center illustrates how a center may be organized and what it might look like. This center is located on Eastern Avenue and as such it has good visibility and vehicular access. It is within close proximity to public green space and new and existing residential development.

The design of the commercial center proposed for the Rockwood site should be arranged to provide a clear view to the Ohio River in order to draw people from the street into the center. The parking should be located behind the center and bands of landscape should lead the visitor to the center or to the river bank and the shoreline greenway.

Exterior sites serve as interstitial park and greenspace until the market emerges. More retail, services, entertainment or other uses.

Program
Each center is sized in minimum gross leasable area (gla) as follows:
Commercial Center A
- Approximately 20,000 square feet gla.
Commercial Center B
- Approximately 15,000 square feet gla.

As an incentive for mixed-use, upper-floor residential or office uses above retail shops may be programmed in addition to the gla proposed for each site.

Parking
Retail food stores require a minimum of seven parking spaces for each 1,000 square feet in excess of 2,000 square feet. Parking spaces should measure no less than 100 square feet with access drives measuring a minimum width of eight feet and a maximum aggregate width of 20 feet.

Parking areas should face Eastern Avenue in order to maximize pedestrian access to the retail center from the sidewalk. Where parking areas face onto Eastern Avenue, they shall be screened with a 4' high fence or wall and street trees.

Within parking lots, at least 8% of the interior surface area should be devoted to landscape and no more than 10% spaces in a row shall exist without a 10' wide landscaped island. A landscaped berm around the perimeter of off-street parking areas should be provided at an opacity of at least 50%. This will help reduce the scale of the parking area while increasing...
the amount of street. Such measures will add to the attractiveness of the site and help it to blend in with the adjacent parks and pedestrian path system.

**Signs**

Signs for commercial properties should communicate identity, service or products and should be consistent with the scale, character and materials of the area.

- Signs should generally be attached to the building or freestanding. Pole-mounted signs are discouraged and temporary.

- Public signs are prohibited.

- Signs should fit the character of the architecture and be consistent in theme.

- Signboard heights should not exceed four feet, and individual letters on a signboard should not exceed two feet.

- Awnings, canopies, banners and hanging sign boards are encouraged. For awnings, banners, and canopies, the sign size is quantified as the area occupied only by the lettering itself, not the fabric beyond.

- Lighted signs are encouraged and may be ugite, backlit or neon, but in no case should light encroach on adjacent properties.

- Wood, steel and aluminum are encouraged as traditional materials compatible with the neighborhood. Plastic and fiberglass are discouraged.

- Signs should not project above the roofline.

- One projecting sign per multi-tenant commercial structure should be used to identify all businesses within the building.

The following are architectural standards for the commercial centers:

**Height**

The height of new development should not differ from the heights of adjacent buildings by more than one story (12 feet). The total height of commercial structures should not exceed 50 feet.

**Scale and Massing**

The street elevation of building masses for commercial centers should not be flat along
the street frontage or at major entryways. Instead, the street facades should be broken into smaller masses that will be more in keeping with the scale and massing of the surrounding residential buildings.

The use of awnings should be encouraged to enhance pedestrian scale, particularly at the street level.

Materials and detailing should be similar in scale to those predominant in the area.

Building entries should be distinct, identifiable and covered.

Large flat walls on the front facades that are unbroken by windows or setbacks should be avoided. The total area of openings should not exceed 50% of the total wall area on any given facade.

Proportions

The overall formal expression of primary building parts should be vertical, tempered by horizontal elements such as window mullions, railings and banding. Windows should be vertically oriented. The ratio of the vertical to the horizontal should be no less than one to one and no greater than three to one.

Roofs

Slanted roofs in keeping with the size and character of the existing residential buildings are preferred. New roofs should be gabled or hipped and have slopes of no less than one-third pitch and no greater than one-half pitch.

If flat roofs are necessary for large commercial spaces, they should be punctuated with smaller sloped roof masses. The design of the roof top should be carefully considered and detailed to avoid large expanses of flat roof.

Roofing materials for all sloped roofs should be stone, metal shingles or standing seam sheet metal.

Roofing utilities should be avoided, and roof vents should be inconspicuously placed.

Materials

Materials used for new construction should be natural and similar to existing materials in color and texture. Appropriate materials include wood siding, wood shingles, wood trim, wrought iron, steel, brick, stone and concrete.

Window glazing should be clear, non-reflective glass. Glass curtain walls should not be permitted. Windows and window frames should be metal.
Avenues should be made of fabric.

Colors
Colors should be compatible with the area and appropriate to the style of the building. Contrasting colors should be minimized to emphasize the different architectural features of the building.

Service
Service and loading areas should not face Eastern Avenue and should not be visible from pedestrian areas. All service areas should be screened with 6'-high opaque walls or fences and landscaped as well. Exterior dumpsters shall be completely screened on all sides with 8'-high opaque walls or fences.

Utility Systems
If possible, electric, gas, and telephone hook-ups should be placed underground.
5.0 Public Improvement Guidelines
5.0 Public Improvement Guidelines

5.1 Introduction
The following guidelines address the design of public improvements, which will visually integrate and enhance public space, improve existing services and promote neighborhood stabilization and reinvestment. These guidelines are intended to be flexible and allow for a variety of design responses and for creativity. The recommended improvements should be phased in as new development and rehabilitation occurs.

5.2 Streetscapes/Entries
Wherever you are in the East End Riverside, you are not far from the river, due to the neighborhood's location on the banks of the Ohio. Enhancing the orientation of existing and proposed development to Eastern Avenue and the river is essential to unifying the four different sites in the neighborhood. The long, linear configuration of the East End Riverside and Eastern Avenue presents opportunities to define and enhance the image of the community.

Eastern Avenue provides the primary entry points to the neighborhood.

It is the only street that runs the entire length of the neighborhood. Eastern Avenue also provides access to adjacent neighborhoods to the north and east, Downtown Cincinnati to the west and Riverside Park and open space south of Eastern Avenue. The consistency of the building heights and setbacks from the road establishes an informal streetwall along Eastern Avenue, which contributes to the image of the neighborhood.

While the streetwall is identifiable along certain areas of Eastern Avenue, additional elements are needed to reinforce it. Providing a design treatment for Eastern Avenue and the other streets in the neighborhood will provide...
stronger visual consistency and order throughout the neighborhood. The design treatment of the streets should be consistent with the hierarchy of their use within the neighborhood. The various treatments should respond to specific conditions along Eastern Avenue.

The hierarchy of existing and proposed streets within the East End Riverfront includes three levels of use:

- **Main Thoroughfare—Eastern Avenue** is the primary east-west thoroughfare in the community and crosses the entire length of the community, connecting it directly with downtown Cincinnati. The traffic volumes and quality of on-street parking not only reinforce Eastern Avenue’s importance in the area, but also present some challenges. These challenges include frequent pedestrian crossings and lack of separation between pedestrians and fast-moving traffic.

- **Neighborhood Streets**—These are local service streets that run perpendicular to Eastern Avenue and provide access to residences, businesses, parks and other attractions. These streets also provide access to the location of the commercial centers which are proposed at the junction between Sites A-13. The neighborhood streets include Delta Avenue and Collins Avenue.

- **Residential Streets**—Generally, residential streets have a north-south orientation, however, Walnut and Union Glades are the east-west direction. These are quiet, local streets where families live and children play. The residential streets carry much less traffic volume than Eastern Avenue, providing less traffic and increased pedestrian movement.

  While streets convey the character, quality and image of a place, entries announce passage and mark the beginning and the end of each place. Entries establish visual impressions of the area and set it apart from its surroundings. In the East End Riverfront there are three primary entries to the community. These include:
The railroad bridge at the intersection of Delta Avenue and Eastern Avenue should be replaced or restored to improve traffic safety at this intersection.

In addition, recommended street improvements include the following.

**Eastern Avenue**

As the "main street" of the neighborhood, Eastern Avenue should have more green along its edges, achieving the green setting of the neighborhood hillsides, riverbanks and parks. The design intent of the Eastern Avenue corridor is to create a link between the canyons of vegetation that exist north and south of Eastern Avenue. The continuity of landscaping will reinforce the streetscape, provide shade for pedestrians and enhance visual continuity along the street. This will be achieved with combinations of ordered street tree plantings, and the selective use of sidewalk paving, and pedestrian-land strip lighting along the length of the avenue. At major points of development, left turn lanes should be accommodated in the design of building setbacks.

**Landscaping**

The following landscaping is recommended:

- Tall, dense canopy trees that are distinctive year-round should line the road and separate the pedestrian movement from the traffic on Eastern Avenue. A tree having a tiered branching pattern, arched back and coarse texture is recommended.
- Street trees should line both sides of the street except in front of the commercial centers.
- Trees should be spaced in a single row and spaced approximately 40' on center. Trees should be spaced in a manner that enhances view corridors north of Eastern Avenue to the Ohio River.
- Trees should be a minimum of 2 1/2" caliper, and staggered on opposite sides of the street.
- Trees should not be planted within 50' of an intersection and 10' of a curb cut.
- 4'-wide lateral planting trenches will encourage their vigorous growth.
- 6'x6' cast-iron tree grates should be used to denote major points of entry to recognition of commercial areas. Pedestrian linkages between the sidewalk and the river bank should be similarly noted.

Sidewalks
- Recommended new sidewalk widths should vary from 7'-feet wide in residential areas to 12-feet wide in conjunction with neighborhood commercial centers.
- Sidewalks at major entrances should be paved with rich, warm colored bricks in a running bond perpendicular to the building face.

Crosswalks
- Crosswalks are needed at all signalized street intersections and at Eastern Avenue’s intersections with the neighborhood streets.
- The crosswalks at commercial centers, and community facilities should be delineated on the pavement and should have demand-activated pedestrian-crossing signals, if warranted.
- Crosswalks should be located within close proximity to the proposed commercial centers.
- Street paving should be used at primary pedestrian crossings along Eastern Avenue.
- The pattern recommended is a running bond, perpendicular to the building face and contained by a brick border.
- Handicap pedestrian-access ramps, with flush or roll-down curbs, should be provided at intersections and crosswalks along Eastern Avenue.

Lighting
- Street lights should be placed along the length of the street and spaced according to standard illumination levels.
- Pedestrian-scale lighting is also recommended along Eastern Avenue.
Pedestrian lighting should be located at commercial centers and in conjunction with major entrances to Eastern Avenue to the shoreline greenway. Such lighting will be an addition to standard lighting and may be subject to a special assessment.

- A city-approved dark green fiberglass streetlight standard with a globe fixture is recommended. They make illumination a roadway for safe automobile or pedestrian use.

Signage
- Street identification signs are necessary at every intersection. Sign poles and sign plaque holders should be of resemble wrought iron and be indicative of the area.
- Directional and informational signs for conveying information are necessary at all public spaces, public river access points and at the commercial centers at points of ingress and egress and light to direct visitors to facilities.
- Banners may be mounted on poles in the vicinity of the commercial centers to announce seasonal or special civic events.

Site Furnishings
- Benches should be concentrated at the plaza area of the commercial centers and along the shoreline walking path.
- Benches should be made of wood and/or wrought iron.
- Utilities
- Trash receptacles should be strategically located along the frontage of commercial centers, park areas, and along the pedestrian walking path.

- Where possible, remove above-ground utilities and replace underground to improve the appearance of Eastern Avenue.

Neighborhood Streets
These streets are the public's path to the river, the park, and the open-space system found in the neighborhood. As such, the streets should be very open, green and inviting. Neighborhood streets should provide clear views to the river and adjacent open space. The treatment and landscaping of these streets should encourage their use for access to the community's park and open-space system.
This will be achieved with a regimented street tree planting, a continuous lawn panel and
sidewalk, and a street light program that provides a green frame of views to the river and beyond.

**Landscaping**

The following landscaping is recommended.

- A 12’ wide continuous lawn panel should be developed, where possible.
- Large canopy trees with a high branching pattern should be used to line the road and separate the pedestrian movement from vehicular traffic.
- The high branching pattern and large canopy should allow a clear view to the public of facilities at the river's edge.
- Street trees should be planted along both sides of the street.
- The Red Oak or a tree of similar character is recommended.

The neighborhood street tree should be a minimum 4” caliper, regularly spaced along both sides of the street. Street trees should not be planted within 50’ + of an intersection and 10’ + of a curb cut.

- Street tree plantings are recommended for all neighborhood streets, except at Collins Avenue. Along Collins there should be an opening in the trees to frame the magnificent view to the river that appears just after turning and going under the railroad bridge.
- A continuous planting strip/lawn panel, where possible, should be located adjacent to the street. This strip will separate the pedestrian from the vehicular traffic and provide space for street trees and signs.
- Existing vegetation at the end of neighborhood streets should be regularly pruned to allow views to the river.

**Crosswalks**

- Crosswalks should be located at all intersections with Eastern Avenue. If the crossing arms do not have signals, they should be delineated on the pavement and should have pedestrian-crossing signals.
- Paving pattern to the crosswalks should be a running bond, perpendicular to the building face.
Concrete handicap ramps should be located at all intersections and at major pedestrian crossings along Eastern Avenue. Ramps will have flush or roll-down curbs.

**Lighting**
- The placement of lighting along the neighborhood streets should be ordered and coordinated with the street trees.
- The street lights should be the same dark green fiberglass pole and globe fixture as the pedestrian-scale lighting recommended along Eastern Avenue.
- All street lights should conform to the City's standard illumination levels.

**Signage**
- Street identification signs are necessary at every intersection.
- Pedestrian scale directional and informational signs should be used where necessary to direct visitors to parks, stores and open space areas.

**Residential Streets**
These are the most private and most pedestrian-scale streets in the community. These streets should not be used for access to the river; this would increase traffic on these streets. Instead, these streets should be more enclosed and shaded; they should be used by residents of the neighborhood as limited access points to the river. As such, the design treatment of these streets will rely on a tight spacing of canopy trees in a continuous street panel to reduce the scale of the roadway. Pole-mounted street lights will illuminate the streets for safe vehicular and pedestrian movement.

**Landscaping**
- Street trees should be paired and planted in an 8'-wide continuous tree panel adjacent to the edge of the road.
- A different species of tree should be used on each residential street throughout the community. A different variety of street tree should be planted on each residential street.
- Street trees should be medium in size with a lower branching pattern. They should be tightly spaced at 20 ft. o.c. to reduce the scale and the openness of the street. Trees
should be a minimum 3" caliper. On these streets, trees should not be planted within 50' of a street intersection or 10' of a curb cut or driveway.

- An 8' wide continuous lawn panel adjacent to the street will be the container for the street trees and street lights.

Sidewalk

- Concrete sidewalks should be a minimum of 4'-wide on both sides of the road if residences are on both sides of the road.

Lighting

- Street lights mounted on power poles are recommended.
- Fixtures should be located on the existing power poles within the lawn panels and according to standard illumination levels.

Enties

The railroad bridges frame views into the neighborhood and in some cases, such as Collins Avenue, views to the river. They physically define the community and due to age and condition of the structure should be replaced or restored, in an architecturally consistent fashion to improve traffic safety.

New bridges should have the capability to accommodate the proposed bicycle trail and/or trolley.

Several improvements are needed to assist the bridge's function as gateway and safe circulation devices. These should include:

- Storm Water Improvements - Increased drainage in the area will help keep roadway surfaces dry and safe.
- Lighting - Roadway lighting should sufficiently illuminate the approach to and passage under the bridge.

- Signage - Signage at the approach to the bridge indicating its presence and warning motorists of tight curves, narrow lanes and slower speeds could help motorists anticipate the structure.

- Landscape - Trees currently understorying the viaduct should be removed.

The planting matrix on the this page outlines a sample of plant materials that may be appropriate for the hierarchy of streetscape and other public open space recommendation for the East End Riverfront.
Parks

Design Intent

The East End Riverfront area contains a number of existing local and regional parks within its boundaries offering active and passive recreation facilities that serve the city-wide seasonal recreational demands. It is the intent of this plan to forward recommendations to supplement, improve, and link these parks in a manner that provides greater access to and along the Ohio River.

In order to create a green edge along the riverfront, new parks recommended include:

- **International Friendship Park**: As provided for in the Park Board Master Plan, this area is proposed to serve as a regional park encompassing approximately 16 acres on the far west end of the East End Riverfront. It will be adjacent to the large development area in Site A and adjacent to the proposed Adam’s Landing development and Children’s Community. This park should be passive in nature featuring lease, landscaping and river overlooks—site for a front door to the proposed Adam’s Landing development, providing a passive pedestrian link between the East End Riverfront neighborhood, Children’s Community and the Central Riverfront.

- **Community Playground**: The proposed for existing buffer parks located east and west of the CG&E gas plant. The area should be primarily passive in nature with pedestrian access along the shoreline.

- **Site D Playground**: A neighborhood-serving community playground of approximately 1 acre is proposed adjacent to Schmidt Playfield. The facility should feature play structures for both tots (ages 2-3) and children (ages 6-13) landscaping, and river overlooks and will serve as a family destination. The play area should be lined with trees for shade in the summer and multiple seating opportunities should be provided to allow for adult supervision and socialization.

The play structures themselves offer a unique opportunity for the neighborhood to express its history and culture and should be designed and build with neighborhood participation.

In addition to new parks, existing parks and open space (including Ferry Street Park and properties transferred to the Park Board by Ordinance No. 444-1958) should be renovated and expanded to serve the public better and increase awareness of the same. These include:
LeBlond Park: LeBlond Park should be upgraded by providing a comprehensive walkway system around its ballfields, river terraces, increased parking areas, and shade trees for edge definition.

A significant neighborhood socializing space should be added south of Collins Avenue. The proposed calls for a clearing, grading, and auditing of approximately 500 feet of river bank for a river overlook. This area would serve as a formal lawn area for small neighborhood gatherings, concerts, and festivals and reinforce the LeBlond site as a neighborhood focal point. A pair of trellises should flank the lawn and run from Eastern Avenue toward the river. The structure should frame the view from Eastern Avenue as it opens toward the Ohio River. The lawn area should provide informal seating under the trellises.

Schmidt Playfield: This park is the neighborhood's major regional serving park with both active and passive recreation activities. Schmidt should continue to be the neighborhood's most active and public riverfront park. The proposal for improvement focuses on the riverfront edge and access to and through the park. The river's edge from the boat launch ramp east to Turkey Ridge Park should be cleared of underbrush vegetation, graded, and landscaped to supplement existing trees into a series of meadows for informal play areas and picnic groves. Tables, shelters, and seating should be placed throughout this informal landscape. Humbert Street, the road that provides access through Schmidt Playfield, should be extended to connect with Delta Avenue providing a continuous vehicle pathway from the boat launch to Turkey Ridge Park. The extension of Humbert Street is also recommended as part of a one-way access system to improve the ability of vehicle and boat access both and through the park.

The circulation system should flow from west to east from the established entrance to Schmidt Playfield at St. Peter’s Street. A new road should also be created between the ballfields, breaking down their scale and creating access for both vehicles and pedestrians to the river from Eastern Avenue.

The Corps of Engineers already has a plan under consideration for improvements to the boat launch and its parking area, and these plans should be coordinated to support a continuous riverfront experience.
5.4 Bicycle Path/Light Rail Transit System

Design Intent

A unique opportunity is afforded in the East End Riverfront to transform the existing railroad right-of-way from a pair of heavy-duty freight rails to a continuous bicycle path and/or light rail transit system. This is advantageous not only in the removal of the noise and visual impact of freight trains but also in the addition of an alternative mode of transportation that could reduce traffic and pollution.

Two sets of tracks currently exist in the railroad right-of-way. The plan recommends removal of the northern-most track as the preferred location for development of a 10-foot-wide bike path.

The bicycle path could be constructed as soon as the rail service is removed and title transfers are made. It is a potentially low-cost system with high user-potential providing an alternate form of transportation to downtown with the potential for connections to outlying neighborhoods. The point of origin could occur downtown at the Evergreen Commons at Sawyer Point Park and a temporary terminal could be developed at Delta Avenue in the east. It is envisioned that east of this point the bicycle path would continue on to a logical connection with the existing Mosquito Island Bike Path and the Little Miami Scenic Byway providing a bike path from downtown to the outer suburbs.

The light rail transit system line is a long-term transportation system that would need a system design and ridership market analysis to validate its feasibility, but the fact that the track and ROW are in place makes a compelling argument for preserving a pair of tracks to receive such a system in the future.

It is envisioned that the system would comprise a few, self-powered low-capacity cars. A logical route would be from Union Terminal/Museum Center through downtown and out to Delta Avenue with potential service beyond. Logical stops would be at the proposed commercial centers. At these locations high-rise residential development would create clear, direct linkages into and through the neighborhood. Since only one pair of rails would serve both inbound and outbound traffic, a series of passing tracks may be needed to allow the rail cars to pass each other safely. It is feasible to accommodate the light rail transit system, the bicycle trail, new high-rise residential development and yet preserve the sidewalks. All
of these linear systems and their requirements fit the physical site except a 500-foot-long section along Gladstone near Collins Avenue. In this area the existing residential units sit high above the road. A retaining wall defines their edge at a non-public street. The existing street is one lane wide and would require enlargement to accommodate two-way traffic. Due to limited width of the rail R.O.W. along Gladstone, the location of the bicycle path through this section may be along the street pavement.

**Design Specifications**

Design specifications for the bike path (including width and clearance, design speed, horizontal alignment and super elevation, grade, sight distance, intersections, signing and marking, pavement structure, drainage, and lighting) shall conform to the Ohio Department of Transportation's Policy and Procedures Manual for Bicycle Projects. These guidelines are consistent with federal bicycle standards for the construction of bicycle facilities.

**Lighting**

Lighting should be installed along the entire length of the bicycle trail for visual and safety purposes.

**Signage**

For the bicycle path, a series of pavement markings at each one-half mile should be provided along the path.

**Site Furnishings**

Site furnishings should be clustered at logical access points to the bike path and at commercial centers and include benches, bicycle racks, and trash receptacles.

**Pavement**

The bicycle path should be constructed of, at a minimum, two 3" thick asphalt and be 10' wide. Pedestrian linkages should be constructed of 5" thick concrete. At the intersection of pedestrian/automotive/bicycle trail, a warm-colored, pressed concrete paver should be utilized to signal the intersection and provide appropriate warning of potential conflicts.

**Landscape**

The landscape treatment for the bicycle trail should serve to minimize impacts and create beauty. To minimize impacts of the bicycle trail to adjacent parks along Eastern Avenue, a continuous evergreen hedge should be planted. To create identity and shade, flowering trees should be planted in conjunction with access points to signify the stop and to provide shade and seasonal color.
5.5 Walking Path/Shoreline Greenway

Design Intent

The East End Riverfront area has an abundance of public and private open space along the river’s edge within walking distance of the downtown area. However, a continuous riverbank linkage among these elements does not exist. One of the tenets of this plan is to provide for a continuous pedestrian path from east to west to complete that linkage. This path may be expressed in a variety of ways to respond to the active recreation open space areas, pedestrian use, and private property along the existing corridor. The mix of public, private, and open space along the proposed trail should provide a visual variety that will enhance the journey.

The proposed continuous walking path is a long-term recommendation. Portions of the path could be established on current City-owned properties; however, this proposal should not be considered until there is affirmative community sentiment and a resolution of safety and security issues and higher priority improvements are accomplished.

The typical location and condition for the walking trail should generally be along the riverbank expressed as a 5'-wide asphalt pathway. In areas of existing park land, the path will cross park areas and greenspace and open up to widths of approximately 30-40 feet. In areas where the path crosses private property, easements could be as narrow as eight to ten feet. As the corridor area west to east the following conditions will apply:

- **Proposed International Friendship Park**: At the western edge of the park, the walking trail will be the main spine through the park, meandering through lawns and gardens and approaching the river’s edge and overlooks periodically.
- **Site B**: The walking trail continues along the riverbank past Johnson’s Electric Co. and for the near-term, will turn to Eastern Avenue at the Site Service Station and continue on Eastern Avenue to Ferry Street development into where it will reunite the river. This near-term design of the trail is provided in consideration of single-family residential owners in that area. It is envisioned that over time, the trail may continue unimpeded along the riverbank through the entirety of Site B.
- **LeBlond Park**: The trail should open to a major public space at the area opposite the intersection of Collins and Eastern
Avenues. The trail should continue along the riverbank and through the proposed lawn area, through Lifford Park and along the south side of the soccer field near St. Roes' Church.

- Sisk Street Riverbank Development. At this development point, the walking trail should continue close to the river's edge within a continuous publicly dedicated greenway of varying widths. New residential areas should provide pedestrian access to the trail.

- Water Works - From St. Roes' Church to the Water Works, the trail will need to descend and be graded into the riverbank to proceed outboard of the Water Works flood wall. This may be accomplished with an inbound retaining wall of 2'-0" height, or the trail may be built as a boardwalk overlying above the riverbank. This condition is envisioned for approximately 400 linear feet.

- Site C: As the trail emerges from behind the Water Works, it becomes the gracious front yard of the proposed riverbank development. In this area, the trail should continue along the riverbank within a 50-foot wide publicly dedicated greenway.

- C.G.&E.: At C.G.&E., the path would continue around the property along a boardwalk structure similar to that proposed around the Water Works wall. The structure would skirt the property for approximately 1000 feet then curve inboard slightly to Schmidt Playfield. Pedestrian access from Eastern Avenue would be provided at this location as well.

- Site D - Schmidt Field: At Schmidt Field, the trail should travel around the perimeter of the boat launch facility. This amendinging park path would continue to its terminus at Turkey Ridge Park. Proposed grading of the shoreline within the limits of the regulatory floodway will require a hydraulic analysis to verify no increase in the base flood elevation will result from the proposed work.

Landscape
The landscape of the walking trail and shoreline greenway should exhibit a quality strongly expressive of a riparian ecosystem.

Shade trees should be used to provide cooling relief at river overlooks, seating areas, and areas adjacent to residential development. Shade trees should be planted in irregular groves along the top of the riverbank. Trees at time of planting should be minimum 2" caliper.
and planted. Some recommended shade trees include:

- River Birch
- Weeping Willow
- Red Maple
- Green Ash
- Pin Oak

Flowering trees should be used as accent and identity plantings to give seasonal color and form to the landscape as an outstanding element. These trees should be scattered throughout the greenway and have a strong expression at the commercial center's position on the greenway. Flowering trees should be 8'-10' tall at time of planting and planted 15'-20' apart in clumps of 3s, 5s, or 7s. Some recommended flowering trees include:

- Flowering Dogwood
- Redbud
- Serviceberry
- Flowering Cherry
- Hawthorn

Evergreen trees should be used to screen views to parking areas, industrial areas, and service buildings. While it is desirable to block these views, care should be taken to avoid creating a tall impenetrable wall of plantings that could lead to unsafe situations along the walking trail. Thus evergreen trees should be used strategically to irregular clusters to filter views. Trees should be 8'-10' tall at time of planting and planted 10'-15' apart. Recommended evergreen trees include, but are not limited to:

- American Holly
- White Pine
- Canadian Hemlock
- Eastern Red Cedar

**Lighting**

The walking trail is envisioned for use during the day, and thus should not be lighted along the entire length of the path. However, as it abuts access points from residential areas and streets or sidewalks through parks, the trail should be lighted to an average of .5 foot-candles with pedestrian walk (12'-to-15' length) with visible metal-halide lamps.

**Signage**

These are several types of signs that would be appropriate along the walking trail such as directional, identifier, interpretive and distance markers.

Directional signs should be located on the walking trail at each intersection with a neighborhood center, guiding the user inbound to that location.
Interpreter street signs should be located at each cross street intersection for orientation. Commercial center identifiers should be located at the position of intersection of the center with the walking trail and should communicate a narrative of the history and significance of each of the neighborhoods.

Interpretive signs should be randomly located along the trail to document natural or cultural history relative to the East End. An example of this is already in place on the rear facade of St. Roque Church where a mural depicts flood stages of the historically great floods of the Ohio. Other topics of interpretation may include blacksmithing, the river pilot school at Highlands, the Water Works, C.O. & E., significant historical individuals, the Ohio River, local flora and fauna, etc., so that the journey along the river has an educational content as well as a recreational one.

Distance markers at continuous one-tenth mile intervals should be indicated to document progress for walkers and joggers.

**Site Furnishings**

Site furnishings should be scattered along the walking trail and clustered at the commercial center. These include benches with backs, trash receptacles, and bicycle racks.

Also at commercial center along the greenway walking path, a logo should be located denoting the sub-areas or site's identity in the river. This can be a utilitarian piece or simply an art piece, but it should be rooted in neighborhood culture.

**Pavements**

The walking trail should be constructed of two 6" thick of asphalt and be 8'-wide. Pedestrian linkages inboard should be constructed of 5'-wide concrete. At the four commercial centers, a warm-colored pressed concrete paving should be utilized to distinctly gather areas in the final design, vehicle access points should be identified at appropriate locations for safety, emergency and maintenance vehicles.
6.0 Implementation Strategy
6.0 Implementation Strategy

6.1 Introduction
The Community Development Plan and Guidelines are expressions of the development recommendations and a strategy by which to ensure compatibility between new and existing uses. The intent of the strategy is to provide the actions needed to carry out the redevelopment process. The implementation strategy also describes the priority or order of improvements by which the Community Development Plan and Guidelines can be achieved. It should be noted that a Project Manager has been appointed to oversee both public and private improvements in the East End Waterfront. Upon approval of a plan by the Planning Commission and City Council the Project Manager will officially begin implementation of approved and funded plan improvements.

6.2 Capital Improvements Schedule
Table 1 shows the projected capital costs anticipated to be incurred during the implementation of the East End Waterfront Plan. The amounts calculated in 1991 dollars are order-of-magnitude estimates and upon more detailed evaluation are subject to revision.

Table 1 reflects the projected cost of each line item, if a federal or state match is available, if funds have been set aside to pay for the project, and the approximate amount of addi-
### Projects/Programs for Existing Homeowners

The East End Riverfront is greatly constrained between the river and highways and further serves as a conduit for regional infrastructure systems including U.S. interstate routes, rail rights-of-way and utilities. It is important that maintenance and improvements to existing facilities are coordinated among the various public and quasi-public agencies. Such agencies must engage in joint planning and use of space as additional improvements are proposed.

#### Table 1: Capital Costs and Funding Schedule

<table>
<thead>
<tr>
<th>Department/Project/Description</th>
<th>Annual Cost</th>
<th>Seq No.</th>
<th>Kain Project</th>
<th>Funding Source</th>
<th>New Loc.</th>
<th>Return to Riverfront Budget</th>
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#### 6.3 Review of Current Programs

**Introduction**

A variety of programs are currently sponsored by the City's Department of Neighborhood Housing and Conservation. These programs include financial assistance for homeowners, potential homeowners and developers/investors, and programs that counsel, advise and represent. The programs are listed as follows:

1. **Programs for Existing Homeowners**
### Housing Rehabilitation Loan Program

**Purpose**

The Housing Rehabilitation Loan Program, also known as the Single Family Loan Program, has been established to bring the homes of low- and moderate-income homeowners into compliance with the Cincinnati Ohio Basics Building Code, to stabilize Cincinnati's housing stock and to enhance the overall environment of the neighborhoods.

**Form of Assistance**

Single-family property rehabilitation loans are made to those low- and moderate-income persons who own a property containing from one to four dwelling units. The first priority is to meet building codes, after which the loan can be used for energy conservation, refinancing of existing debt on the property and closing costs of the loan.

**Eligibility**

To be eligible for a loan the homeowner must:

- Occupy the property at the time of application and remain in the property a minimum of three years.

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### IV. Programs that Counsel, Advise and Represent

- Fair Housing
- Housing Counseling
- Tenant Representation

### Details of Neighborhood Housing and Conservation Program

#### I. Programs for Existing Homeowners

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### Department/Program/

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<th>2016</th>
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<th>2018</th>
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### Funding Schedule

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• Agree to use the property for residential purposes only.
• Have the ability to repay the loan with a steady source of income.
• Be current on all indebtedness and not have excessive assets.
• Qualify under Section 8 Maximum Income Guidelines as follows (see 1991 guideline, to be updated in January of each year):

<table>
<thead>
<tr>
<th># of Persons in Family/Income</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>$2,900</td>
<td>21,850</td>
<td>23,134</td>
<td>32,300</td>
<td>34,000</td>
<td>37,800</td>
<td>40,100</td>
<td>42,660</td>
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Application Process
The typical loan process involves the following steps:

• Make appointment
• Interview with Loan Officer
• Inspection by City Housing Inspector and Specification Writer for preparation of preliminary Scope of Work
• Homeowner gives specs and work required to contractors/subcontractors
• Bid Opening
• Contractor selected
• Loan Review Board approval
• Loan closing
• “Proceed Order” issued to contractor

To apply for a Housing Rehabilitation Loan, call 355-3481.

b. Home Maintenance Program
Purpose
The Home Maintenance Program has been created to provide, through a nonprofit building trades service contractor, the resources through which low-income homeowner residents, particularly elderly and handicapped persons, can secure home repairs. The intent is to enable such persons to remain in their current housing while enabling the City to maintain existing housing and to reduce further deterioration of such housing.

Forms of Assistance
• Home Maintenance services provided by the nonprofit contractor include:
  • Major home repairs sufficient to maintain the structure in a safe, sanitary, and workable condition
  • Emergency services performed as needed, where a delay of more than 24 hours would cause a critical increase in damage or affect the safety and health of the person whose residence is affected.

Home Maintenance Program repairs must meet the City's Buildings and Inspections Department, Safety and Maintenance standards.

• The maximum amount available for any one house is $10,000 including administrative costs and indirect cost allocation, and materials and labor.

Eligibility
To receive assistance through this program, all services must be for low-income households residing in the City of Cincinnati. Call for eligibility guidelines.

Priority is given to the most necessary and crucial repairs required.

Application Process
If eligibility requirements are met and you would like to apply, call People Working Cooperatively at 355-7921.

II. Programs for Potential Homeowners
a. New Home Owner Program
Purpose
The New Home Owner Program assists low-income families who would not otherwise be able to own their own home. Low-income families with past credit problems and minimal down payments are given an opportunity to own a home in this program.

Forms of Assistance
The City works closely with Neniea Community Development, Inc. (NCDD), a private for-profit corporation. Single-family homes are purchased and rehabilitated by NCDD using City funds. NCDD identifies potential homeowners and matches them with homes. NCDD acts as a co-owner and assists the potential homeowner in securing private financing. Proceeds from the refinancing are used to repay the City for its acquisition and rehab costs.

Eligibility
To be eligible for the New Home Owner Program, the applicant must:

• Complete the Better Housing League Homeownership Training and Counseling Program
• Have a minimum down payment of $500
• Be current with all debts. Past due payments, collection items and judgement liens must be paid in full.
• Be two years from a bankruptcy discharge
• Have income less than 80 percent of the area median income as shown in section B. i.a.

Application Process
The typical application process includes the following steps:

• Pass telephone screen
• Make an appointment
• Complete application
• Complete Better Housing League House Ownership training classes
• Select a home
• Execute a co-ownership agreement
• Apply for private financing
• Loan closing

To apply for New Home Owner Program, call Neniea Community Development, Inc., at 421-8723.

b. Urban Homeownership Program
Purpose
The Urban Homeownership Program was created to make home ownership possible for families who could otherwise not afford a home.

Through the Urban Homeownership Program, deteriorated homes are restored to first-class conditions and declining neighborhoods are improved through recreation activity.

Form of Assistance
The Urban Homeownership Program staff assemble a list of rehabilitable buildings. Through a lottery, abandoned, vacant, owner, two- and three-family homes are awarded to eligible recipients who agree to rehabilitate the homes in City specifications.
Eligibility

To be eligible for a HIP loan or grant, you must:

- Be the owner of a multi-unit project proposed for resale to individual owners or for long term rent to tenants.
- Have ownership rights: the simple title, a deed contract, an option to purchase, or a purchase contract open for renewal for at least 90 days.
- HIP funding is provided on a competitive basis.

Programs for Developers/Investors

a. **Housing Implementation Program (HIP)**

**Purpose**
The Housing Implementation Program was established to increase permanent housing opportunities for low- and middle-income homeowners and renters. By removing the blighting conditions caused by neglected and vacant properties, HIP improves neighborhoods and creates more affordable housing units within the City.

**Forms of Assistance**
Housing Implementation Program assistance is provided through low-interest rate loans and grants that are given for rehabilitation and new construction. The City will finance up to 50 percent of a project's cost not exceeding:
- $15,000 per rehab rental unit
- $20,000 per rehab homeowner unit
- $90,000 per new construction rental or homeowner unit

**Eligibility**
To be eligible for a HIP loan or grant, you must:

- Be the owner of a multi-unit project proposed for resale to individual owners or for long term rent to tenants.
- Have ownership rights: the simple title, a deed contract, an option to purchase, or a purchase contract open for renewal for at least 90 days.

This program is available to all housing properties and owners not eligible under the Housing Rehabilitation Loan Program, which is for one- and two-family owner-occupied housing. HIP loans may be given to both nonprofit and for-profit developers. Most HIP-assisted projects require significant development time and advance discussions with staff. Funds are committed well into 1992.

**Application Process**
To apply for a HIP loan or to get more details, please call 331-1933.

b. **Successor to Rental Rehab Loan Program**

**Purpose**
The Rental Rehabilitation Loan Program was established to assist rental property owners in rehabilitating substandard housing, and to bring rental units for low- and moderate-income families into compliance with the City of Cincinnati Building Code. These objectives promote and stabilize Cincinnati's rental housing stock.

While this program, as currently established, is being terminated nationally and locally, a new program under the H.O.M.E. umbrella probably will be established by late 1992. Call 331-1933 for information on this new program.

c. **New Housing Program**

**Purpose**
The New Housing Program was created to induce the construction of new homes which will be made available for sale and will have a value of at least $50,000 or more. The purpose of the program is to ensure that the City increases its share of the overall owner-occupied housing development in the metropolitan area in order for the City to maintain a healthy percentage of owner-occupied housing and increase the socio-economic characteristics of its population.

The New Housing Program is designed to only provide gap financing or part of the financing which is necessary to make the construction of the prospective owner-occupied housing possible.

**Forms of Assistance**
The financial assistance can take the form of loans, loan guarantees, mortgage financing, and the construction of public improvements to prospective developers of housing built for owner-occupancy.

**Eligibility**
For profit and/or not-for-profit developers or agencies whose purpose is to increase the housing stock of owner-occupied housing within the corporate boundaries of the City of Cincinnati. Each housing unit should have an appraised value of greater than $50,000.

Funds should not be used to construct or rehabilitate property to be occupied by the developers. Applicants should have a prior successful history of constructing and/or renovating housing.

**Application Process**
Since the New Housing Program funds are allocated on a competitive basis, those projects...
which have received firm financing commitments, have a high ratio of total project cost to New Housing Program Funds, and have a high ratio of unit costs per New Housing Program Funds will be given the strongest consideration. Call 352-4692 for further information.

IV. Programs that Counsel, Advise and Represent

a. Fair Housing

Purpose

The Fair Housing Program has been developed to promote affirmatively equal housing opportunities and to prevent present and future discrimination in the sale, rental, finance and insurance of housing.

Forms of Assistance

Promotion of Fair Housing is accomplished through consumer education and outreach through advertising and contact with churches, PTA's, community councils, high schools, etc.

Fair Housing consumer protection is accomplished through:

- Testing
- Complaint investigation, counseling and referral
- Industry education
- Monitoring of governmental housing programs and federally assisted private sector housing

Application Process

If you have been discriminated against and you need Fair Housing assistance, please direct your complaints, questions and suspicions about discriminatory circumstances to Housing Opportunities Made Equal (H.O.M.E.) at 721-4663.

b. Housing Counseling

Purpose

Housing Counseling is available to provide direct technical advice and remediation to help homeowners and renters solve their housing problems.

Forms of Assistance

Available services include:

- Foreclosure prevention counseling
- Home repair advice for the elderly and handicapped
- Home loan counseling
- Housing research for renters

Eligibility

All housing counseling services shall be for low- and moderate-income households residing in the City of Cincinnati, as described in section 6.31.a.

Application Process

If you are in need of Housing Counseling, contact the Better Housing League at 721-6655.

c. Tenant Representation

Purpose

The Tenant Representation Program is offered through the Legal Aid Society. They offer legal services to eligible people to resolve rental-housing problems.

Forms of Assistance

- The Tenant Representation program provides legal assistance for eligible clients who have legal problems related to landlord-tenant relations, including evictions, lockouts, landlord interference with utility service, enforcement of housing and health codes and other tenant rights under the City of Cincinnati Landlord/Tenant Ordinance.
- Assistance to eligible clients who have property damage or personal injury claims arising out of their tenancies if private legal representation cannot be obtained.

6.4 Tax Abatement: Existing and Potential

1. Background

There are several types of tax abatement which may be implemented by the City for residents and developers in Cincinnati. Two are available through the establishment of a Community Reinvestment Area (CRA), or through the use of a process established through the State of Ohio's Impacted Cities' legislation.

In order to establish a Community Reinvestment Area, a City Council Resolution must determine that the area is one in which housing facilities or structures of historical significance are located, and an established pattern that new construction and rehabilitation are discouraged.

Within a CRA, the abatements apply to all developments within each of three categories. The three categories are as follows:

- Remodeling of existing one and two family units (up to ten years)
- Rehabilitation of commercial, industrial, or residential structures of more than two units (up to twelve years)
- New construction of residential, commercial, or industrial structures (up to 15 years)

The entire city has been established as a CRA for providing for remodeling one-and two-family structures for 10 years, as described in section 'a' above.

A weakness in this approach is that the City cannot give preference to low-income housing development over market-rate development. Both must be treated the same way. The CRA is not project-specific and is applied equally to a designated area.

This problem would be rectified through the abatement process set up in the State's Impacted Cities enabling legislation. (Ohio Revised Code, ORC Chap. 1728) Tax abatement could be granted to a "Community Urban Redevelopment Corporation" on a case-by-case basis. A prerequisite for designation under this program is that the area must have an adopted Urban Design Plan.

2. Existing City Program Administered through the Neighborhood Housing and Conservation Department.

The Tax Abatement Program has been established to promote housing rehabilitation through tax incentives. This is the program whereby homeowners can tap into the tax abatement offered in the City-wide CRA discussed above. The cost of renovating or remodeling is usually added to the value of a home and therefore, increases the real estate tax bill. Under the Tax Abatement Program, the added value is not taxable for 10 to 15 years.

A rehabilitation project is eligible for tax abatement if:

- The property is located within the City of Cincinnati.
- The structure contains not more than two dwelling units.
- The cost of remodeling is at least Two Thousand, Five Hundred Dollars ($2,500), and
- The work began on or after January 1, 1981, under proper building permits, and is completed to compliance with the applicable building code and zoning regulations.
3. Other Tax Exemption/Increment Programs

Other tax programs are found in ORC Chapter 725, available in sales by a municipal corpora-
tion to a developer in an urban renewal area; ORC Sections 5709.41 to 5709.43 available in the lease of land by a municipal corporation in an urban renewal area.

ORC Sections 5709.61 to 5709.72 cover Urban Job and Enterprise Zone, and other state laws may provide property tax relief without City action, such as the elderly homesteading exemption.

4. Potential Property Tax Limitations

For several years, the Cincinnati Board of Education has been urging the State of Ohio to pass "Circuit-Breaker" legislation that would limit the tax liability of low-income and elderly homeowners. The proposed legislation would put a cap on the real estate tax they would be required to pay, equal to a percentage (2 or 3 percent) of their income. This would provide tax breaks to those most stressed by property tax increases, and would increase support by elderly and low-income voters.

It would also give tax breaks to those who do not have a high income, but live in an area of rising housing values. Such people now fear losing family homes through their inability to keep up with tax increases. Circuit-Breaker legislation would lower the fear of displacement, thereby decreasing some of the fear-based opposition to planning in areas such as the East End.

The School Board has been urging the City to join them in lobbying the State on this en-
abling legislation, and the City has now joined them with City Council's passage of Resolution No. 151-1991.

Extension of Special Relocation Benefits to East End Residents.

The Legal Aid Society of Cincinnati has re-
quested that City Council designate the East
End Riverfront as an area to be covered by Chapter 740-90b relocation benefits as of March 27, 1991, and the East End Area Coun-
cil has been requesting such designation since April 1, 1991.

Such action would include, but not be limited to, evictions without just cause, and precipi-
tous rent increases. This Plan recommends that City Council invoke Chapter 740-90b.

6.5 Truck Traffic Study To Be Conducted

For years, the volume and speed of truck traffic on Eastern Avenue has been of great concern to East End residents. As part of this East End design plan, the City will commis-
sion a truck traffic study by the City's Traffic Engineering Division and the Ohio Kentucky Indiana Regional Council of Governments. This study would look at changes in truck volume on Eastern Avenue, the origin and destination of trucks using Eastern Avenue, actual speeds of trucks and other vehicles using Eastern Avenue, and would include an analysis and evaluation of alternate truck routes.

This study should be overseen by the City Planning Department and the Riverfront Advis-
ory Council.

6.6 Land Use and Zoning

The East End Riverfront Plan identifies a number of goals and development criteria to enhance and stabilize the existing community. However, a number of the existing land uses and zone districts contradict the goals of the Plan.

These contradictions primarily deal with the amount and type of new development that is anticipated to occur in the East End over the next 15 to 20 years. As indicated in the History Section, 1.3 History, the East End developed as a river related business and riverfront industrial area which required intensive and less restrictive business and riverfront zoning districts. However, over the past 30 years, the

East End Riverfront area has lost most of its industrial uses, leaving behind a predomin-
antly residential community with a dwindling stock of businesses and housing units. Al-
though the character of the area has changed in recent years, the zoning has changed very little from zoning that was enacted as early as 1933. A map of the existing zone districts is shown on the following map.

Land uses inconsistent with the recommenda-
tions of the Plan and the existing community could develop in the following areas:

Eastern Avenue:
- A substantial portion of the zoning along the north and south sides of Eastern Avenue is under utilized General Business (B-4) zoning. The B-4 zoning district allows automotive and light manufacturing uses, the highest residential density (79-108 units per acre) allowable, and building heights to 65 feet.

- The Riverfront Commercial-Enclosed Industrial (RF-2) zone districts found on the south side of Eastern Avenue allow barge terminal facilities, river oriented industrial facilities, and maximum heights to 100 feet.

- A small section of Multifamily High Density Residential (R-6) and an R-6(T) (Transition) zone district exists on the north side of Eastern Avenue across from Cincinnati Water Works pump station. The R-6 district allows residential densities up to 73 units per acre and building heights well above the Plan's desired 45 feet. The Transition zone currently abuts a less restrictive B-4 district. Use in the adjacent, less restrictive district could be granted, through a public hearing.

Hoff and Walworth Avenues

The Multifamily Low Density (R-4) zone districts allow residential densities up to 21 units per acre and building heights up to 45 feet.

In order to reinforce the residential character of the neighborhood and protect against the development of adverse land uses, an Interim Development Control District (IDC No. 30 - Eastern Riverfront) was established for the area. The IDC required a review by the City Planning Commission of building permits on principal structures for demolition, new con-
struction, or expansion of more than 25% of the existing floor area. The IDC was in effect for 24 months to the maximum two-year period to allow for the completion and adoption of the East End Riverfront Plan.

Section 2.5 The Plan-1992 outlines actions required to achieve the goals of the Plan. These actions include recommendations for future land uses, densities, and building heights either by specific areas or community-wide. The following recommendations should assist in the analysis and determination of appropriate zoning districts for the East End, Riverfront plan area. (For specific densities and heights, please refer to the matrix at the end of this section.)

- Infill housing compatible in scale with the surrounding environment - zone districts should match existing building heights and densities. Applicable zoning districts would include Two-Family (R-5), Multifamily Low-Density (R-4), and Multifamily Medium-Density (R-5).

- Eastern Avenue South side - enact low-density single-family zone districts for floodplain areas and low-density single-family to medium-density multifamily zone districts for areas not located in the floodplain. Applicable zoning districts would include R-3, R-4, and R-5. North side - enact low-to medium-density multifamily zone districts where adequate parking can be provided. Applicable zoning districts would include R-3, R-4, and R-5.

Commercial Centers - limit the three commercial centers (Western edge of neighborhood, Collins Avenue, and Corbin Street) to a zoning district which promotes community retail activities while respecting
the existing building heights and preserving views. Applicable zoning districts: Community Business (B-2).

• Riverfront Pedestrian Path: Enact riverfront zoning which allows recreational uses to extend other existing riverfront zone districts to allow recreational uses. Applicable zoning districts would include Riverfront Recreational-Residential (RF-1), Riverfront Commercial-Roofed (RF-2), and Riverfront Heavy Industrial (RF-3).

• Low-to mid-rise developments: Rail yard site - propose zoning districts that will not greatly exceed existing building heights and densities. Applicable zoning districts would include R-4 or R-5.

Former American Building Components Site - propose zoning that adheres to the recommendations for areas outside the floodplain and along Eastern Avenue, allows for the development of the community's eastern commercial center, provides public open space along the shoreline, and permits buildings that are of a medium height and density east of the Rockwood Underpass. Sites west of the existing Rockwood Underpass are recommended to conform in scale and character to the approved Adam's Landing development. Adam's Landing is a proposed mixed-use commercial and residential development with a residential density of 44 units per acre housed in mid-to high-rise buildings. Applicable zoning districts would include a combination of R-4 or R-5, RF-1, and R-2.

Whenever recommendations for the ensuing of large communities like the East End Riverfront area are made, a number of conforming or complying uses may become non-conforming uses. These uses are defined as follows:

- Conforming - a use that is permitted in the zone district and also meets the density requirements of that district.

- Nonconforming - a use that existed before the Zoning Code but is not permitted by the zone district in which it is located.

- Complying - a use that is permitted in the zone district, but does not meet the density requirements of that district.

A legal nonconforming use may remain in its present location indefinitely. The use may also be expanded on its existing site by as
6.7 Geotechnical Constraints

Geotechnical constraints are a major concern in a community that stretches along a river at the base of steep hillside. The two primary constraints are the certainty of periodic flooding and the necessity to protect fragile hillside from development that would speed up the natural erosion process. This chapter will review the regulations governing development in flood-prone and landslide-prone areas.

Development Controls in the Floodway and Floodplain

When discussing flood-related regulations, there are two sources of regulations that come to bear on development in the East End. The first source is the Cincinnati Department of Housing and Urban Development (HUD), which lays out the requirements for the use of its funds on development. The second source of regulations is the Cincinnati-Ohio Basic Building Code (COBBC), which delineates the city and state building code requirements for development in flood-prone areas.

1. HUD Requirements for Activity in a Floodplain

HUD requirements vary according to how vulnerable to flooding the site is, the criticalness of the land use, and whether the contemplated development can qualify for evaluation from review or exemptions. The following map shows the areas of the East End that are within the 100-year floodplain and floodway.

The table on the following page shows the HUD requirements as they pertain to various combinations of these situations.

The six step review process specified by HUD is as follows:

a. Notify the public at the earliest possible time of a proposal to consider an action in the floodplain or wetlands and involve the affected and interested public in the decision-making process.

b. Identify and evaluate practicable alternatives to floodplain or wetland locations including alternative methods, location, or no action.

c. Identify the full range of potential, direct or indirect, adverse impacts of the activity in the proposed floodplain or wetlands.

d. Where practicable, design or modify the proposed action to minimize potential adverse impacts and to preserve natural and beneficial values of the floodplain or wetland.

e. Reevaluate the proposed action to determine if it is still practicable in light of its exposure to flood hazards or adverse impact on wetlands, and secondly, if Step 2 alternatives are practicable in light of Steps 3 and 4.

f. Prepare and provide the public with a finding and public explanation of any final decision that there is no practicable alternative to locating an activity in the floodplain or wetland.

The local reviewing authority is the staff of the City Planning Department. They incorporate public comment as a part of their environmental review process.

2. Cincinnati-Ohio Basic Building Code (COBBC) Requirements for Structures in the Floodplain

The COBBC is the document that specifies the requirements for development or rehabilitation of structures in the floodplain, regardless of whether the projects are assisted by HUD or not. This code covers all structures, public or private. Its provisions are outlined in the section below.

The City's Building and Planning and Law Departments have drafted an instruction sheet on plan-submittal requirements for structures in the floodplain for distribution to homeowners, potential rehabbers, and builders interested in working in this area. This sheet is based on Chapter 1133 of the COBBC. This Chapter is currently being revised, and once it is, Buildings and Inspections and the Law Departments will review their handout, which will be made available to the public. Please contact either the Buildings and Inspections, City Planning, or Neighborhood Housing and Conservation department to receive a copy of the latest information on what can and cannot be done in the floodway or floodplain.

Hillside Stability

Appendix A to this document includes a relative stability analysis indicating those areas of the East End Riverfront hillside and shoreline that have a history of instability and those areas considered to be at high risk for landslides.
### ADDITIONAL HUD REQUIREMENTS FOR PROJECTS IN FLOODPLAIN OR WETLAND (UNDER PROPOSED / PENDING 3 CTR 55)

<table>
<thead>
<tr>
<th>TYPE OF PROPOSED ACTION</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Flooding</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Add Floodplain Height</td>
<td>No HUD assistance allowed.</td>
</tr>
<tr>
<td>1a. Permanent Height</td>
<td>No HUD assistance allowed.</td>
</tr>
<tr>
<td>1b. Temporary Height</td>
<td>No HUD assistance allowed.</td>
</tr>
<tr>
<td>1c. Increased Elevation</td>
<td>No HUD assistance allowed.</td>
</tr>
<tr>
<td>2. Remove Floodplain</td>
<td>Same as above.</td>
</tr>
<tr>
<td>3. External Alterations</td>
<td>No additional HUD requirements.</td>
</tr>
</tbody>
</table>

**Note:** All federal financial assistance for properties in floodplains requires advance notice in participating program areas. A comprehensive review of the property's characteristics may be required. See HUD regulations for additional requirements and exceptions. (The definitions apply only to HUD regulations, as defined in number of housing units or square footage or other criteria as noted below.)

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**Substantial Improvements:** Any improvement that raises the value of the property by more than 50% of the total floor area before improvement or damage, or that results in an increase of more than 50% in the number of dwelling units. Exceptions: Code violations necessary to assure safety, health, and general welfare. See definition for number of units or square footage or other criteria as noted below.)
I. Hamilton County Auditor's Parcel Map

II. Engineering and Relative Stability Report

III. Report on Geotechnical and Environmental Analysis

IV. East End Area Council (EEAC) Recipe for Success

V. Riverfront Advisory Council (RAC) Response to the EEAC Recipe for Success

VI. EEAC Recipe for Successful Implementation

VII. Methodology Report for Computer Imaging in the East End Riverfront

VIII. EDAW Urban Design Questionnaire and Memoranda
I. Hamilton County Auditor's Parcel Map
II. Engineering and Relative Stability Report
ENGINEERING GEOLOGIC AND RELATIVE STABILITY
OF
THE EAST END RIVERFRONT DEVELOPMENT
CINCINNATI, OHIO

Prepared By
Richard E. Pohanka, Engineering Geologist
City of Cincinnati
Department of Public Works
Engineering Division

January, 1992
INTRODUCTION

This report presents the results of an engineering geologic and geotechnical study of the East End Riverfront Development area. The purpose of the report is threefold: 1) to document on a map the geologic and geotechnical information concerning the area including currently active and past landfills, 2) to classify the ground with respect to slope stability and give recommendations for further geotechnical study prior to development, and 3) to communicate this information to the general public, planners, engineers, architects, and other professionals involved with the development of the land.

For the purpose of this study, the East End Riverfront is defined by Columbia Parkway on the north, the Ohio River on the south, Delta Avenue on the west, and the west end of the eastern-most edge of the Old Columbia Parkway and Sawyer Point. Geological information was available for portions of the hillside above Columbia Parkway and was therefore included in this study.

An Engineering Geologic map, Plate 1, and a Relative Stability map, Plate 2, are the major products of this study. These maps were prepared by the USGS. The Engineering Geologic map shows the locations of existing and past instability and the location of test borings within the area. The Relative Stability map is an interpretive map which is based on the Engineering Geologic map and the depth to bedrock as disclosed by the test borings.

A major portion of both of these maps are compilations of data prepared for masters theses by University of Cincinnati Geology graduate students. The area above Columbia Parkway, from the west end of the project to Kopper Lane was mapped by Kenneth A. Richards, 1982 and is presented in his thesis titled "The Engineering Geologic and Relative Stability of Mt. Adams, and the East End Columbia Parkway, Cincinnati, Ohio". The remaining mapped area above Columbia Parkway and the hillside between Columbia Parkway and Eastern Avenue, from the west end of the project to Torrence Road was mapped by Robert L. Olson, 1988 and is presented in his thesis, "Engineering Geologic and Relative Stability of Ground Adjacent to Sawyer Place, Cincinnati, Ohio". The portion of the study area west of Torrence and the entire area between Eastern Avenue and the Ohio River was mapped by Richard S. Pokorski, Department of Public Works, Engineering Division of the City of Cincinnati, 1992.

GEOLGY OF THE EAST END RIVERFRONT DEVELOPMENT AREA

The geologic history of the area is discussed in the preceding H. C. Nutting Report and is therefore not discussed in this report. Robert L. Olson (1988) and Kenneth A. Richards (1982) also discuss the geologic history of the area in their Masters theses. The following is a general description of the bedrock and the surficial materials in the East End Riverfront area.

Bedrock

The bedrock in the East End Riverfront area consists of late Ordovician age shales and limestones of the Kope and Fairview Formations. The topography between the Kope and the Fairview formation occurs at an approximate elevation of 700 ft., approximately 75 ft. above Columbia Parkway.

Kope Formation

The Kope Formation is the lowest formation in the study area. The Kope Formation is primarily shale with thin, thin-bedded siltstone layers typically 2 to 5 ft thick. The limestone is 15 to 20 percent of the total material. The shale in the Kope formation is not tightly cemented and is therefore susceptible to physical disintegration.

The higher percentages and the ease of physical disintegration of shale typically results in thick accumulations of colluvium on top of the Kope Formation. The thickness of the colluvium can vary from 3 ft. near the upper contact to more than 50 ft. in the lower portion of slopes.

Located within the upper 10 ft. of the Kope Formation is a unit which has different bulk characteristics than the...
typical zones, and is named
the Grand Avenue Member of
the Kope Formation. The
Grand Avenue Member contains
a higher percentage of
limestone than the majority
of the zone. Shale layers
are not over 2 ft. thick and
the limestone layers can be
up to 1 ft. thick. The Grand
Avenue has a thickness of
approximately 11 ft.

Fairview Formation
The Fairview Formation
overlies the Kope Formation.
The Fairview Formation has an
average limestone to shale
ratio that varies from 1:1 to
3:1. bedding of limestone
typically is thick, and
tabular. A fair proportion
of the limestone layers have
a thickness of more than 4
inches, some being as much
as 14 inches thick. Non-
occasional 9 or even 10
inches. The Fairview
Formation supports a steeper
slope than the Kope Formation
and the soil cover is
noticeably thinner. Natural
slopes on the Kope Formation
may be as low as 9 degrees
while those on the Fairview
Formation may exceed 20.

There is commonly a
noticeable topographic break
at or near the Kope-Fairview
contact. The thickness of
colluvium on the Fairview
Formation can be absent or
ranges to about 6 ft.

Foundations for some of the
erlier structures in
Cincinnati were made from the
local limestone. Practically
all the quarrying on a
commercial scale was done in
the Fairview Formation, and
the quarrying of the
Mesopotamian
portion, the Fairmount
member or "Fairmount Shale."

There is evidence that
limestone was quarried from
the top of the hillside.
Such evidence typically
consists of a steep slope
which contains exposures of
bedrock, with a terrace
below the steep slope. In the
process of quarrying the
limestone, loose material
was thrown over the slope opposite the
exposed face or hill wall.
In 1975, material wasted from
18th-century quarry
operations slid onto Columbia
Parkway opposite Foster
Avenue.

Structure
The most significant
structural features, relative
to the engineering geology of
the area, are joints in the
bedrock. The infiltration of
groundwater via joints into
the overlying colluvium can
cause high pore water
pressures at the
bedrock-colluvium contact.
High pore water pressure is
one of the major contributing
factors to slope instability.

Surface Deposits
There are basically three
types of soil deposits in the
study area: non-native fill, colluvium and alluvium.

Native Soil
The fill is generally
composed of reworked
colluvium or weathered
bedrock and consist of brown
clay to silt to clay with shale
particles. The fill can contain or be
composed entirely of a wide
variety of earth and non-native
materials, including sand and
gravel, large limestone
slabs, bricks, concrete,
cinders, blacktop, wood and
miscellaneous garbage, such
as glass, metal and plastics.

Fill occurs throughout the
area wherever roadways,
railroad tracks, housing and
almost any other man-made
structures exist. Fill is
present in thicknesses of up
to 40 to 50 feet along the
Ohio River. With the
exception of the fill along
the south bank of Columbia
Parkway, the fills are most
likely not engineered.

Alluvium Available alluvium material available has been
used, with little regard to
degree of compaction.

Colluvium
Colluvium in the area is
weathered shale and limestone
bedrock which has been
transported down slope by
soil creep. Colluvium derived from the Kope and
Fairview Formations is
typically a very stiff to
hard medium to fine sand
clay containing broken pieces of
shale and limestone. During
dry periods colluvium at the
ground surface is brittle and
hard, however, it becomes
highly plastic and quite soft
after periods of heavy

2-A
rainfall. Colluvium occurs along the entire length of slopes above and below Columbia Parkway. The colluvial deposits reach depths of as much as 50 ft. Colluvial deposits are highly susceptible to landsliding. Colluvial deposits often contain fractures and slickensided surfaces. Slickensides are shear planes cut into the soil during failure. Strength parameters developed in standard test borings and conventional laboratory tests typically overestimate the strength of colluvial deposits. These tests determine the strength of the soil. The strength of the soil is determined by the effective shear strength of the soil itself and the failure of the soil from fractures and fractures in the mass.

Alluvium

Alluvium is sediment deposited by streams. In the study area, thin accumulations of alluvium occur between Eastern Avenue and the Ohio River west of LeBard Park. The composition of the deposits range from a silty clay to a coarse sand and gravel.

Test Borings

The location of test borings drilled within the east and riverfront areas are plotted on the Engineering Geologic map. Plate 1. Each boring is identified by a number and a letter. Boring numbers preceded by the letter C were drilled in 1987 for improvement of Columbia Parkway. These borings are also plotted on the Relative Stability Map. Plate 2. Inclinometer casings were installed in borings preceded by the letter C. Boring numbers preceded by the letter B were drilled in various public and private projects. A summary table listing the thickness of fill deposits, the depth to basement and the depth to gray shale at each boring location appears on the Engineering Geologic map. The detailed boring logs of the test borings plotted on the map are available upon request. Interested parties should contact the City of Cincinnati Geotechnical Staff, the Public Works Department in City Hall.

Slope Movement in the East End Development Area

The geologic processes in the area that pose problems to slope stability are soil creep, landsliding, flooding, erosion and consolidation. Problems of flooding are confined to areas below the hilltops on the alluvial plain along the Ohio River. Problems of consolidation will be greatest in the same area. Problems of erosion will be most common in areas of steeper slopes and construction and along the river bank. Soil creep has focused on processes of soil creep and mass failure. The Engineering Geologic map, Plate 1, was constructed to delineate areas of landsliding, soil creep and seepage.

Silt Crevé

Silt creep is a slow, continuous or intermittent downslope movement of silt on or near roads and walls, and loosely disturbed surfaces in the study area. All of these features are due to soil creep. It would be safe to conclude that soil creep was a major reason for the deterioration of retaining walls in the study area.

Landslides

Landslides are a common and long-standing problem in the Greater Cincinnati area. Studies performed by the U.S. Geological Survey indicate that the occurrence of landsliding in Cincinnati is of a much higher magnitude than most metropolitan areas. Cincinnati's high incidence of landslides is due to a combination of factors. These factors include clay soil, drumlins, streams, stream banks, glacial till clays, slop...
groundwater, precipitation and human disturbance. Disturbance by construction activity is also one of the most significant of all the factors.

In 1968, the consulting firm of Sowers and Dalrymple performed a study of the susceptibility of landslides in Cincinnati and concluded that human disturbance in varying degrees was evident at almost every landslide identified in the study. Similarly, other studies have included cuts, fills, drainage changes or combination of the three. Water is also an important factor related to landsliding in the Cincinnati area. Most landslides occur in the late winter or early spring during or after prolonged periods of precipitation.

The apparent relation of slope movements to distinct geologic (bedrock) units has also been noted. Landslide problems related to slope failures do not actually involve bedrock but occur exclusively in the colluvium derived from and overlying the bedrock. Generally, it was found that colluvium derived from the Hope and Fairfield Formations, were highly susceptible to landslides when on slopes greater than 0.2%. The failure surface of landslides was found to be typically nearly vertical in the crown area and parallel to the bedrock surface, occurring along the preexistent contact between the colluvium and weathered bedrock, in the interior of the slide.

Landslides in Cincinnati typically move very slowly, on the order of a few landslides of an inch per year. The landslides move so slowly that the increase of damage to roads, driveways and houses generally is imperceptible from year to year, and areas of slowly moving landslides are commonly called areas of creep. The rate of movement, and therefore the rate at which damage becomes apparent, can be drastically altered by local disturbances, such as digging an excavation or placement of a fill, or by excessive precipitation.

The Engineering Geologic map, Plate 1, shows the distribution of landslides, soi? creep and areas identified in the field by the geologists. Features of landslides consist of slip, slip scars and toes, are plotted on the map. Slopes are near vertical surfaces on the undisturbed ground at the extreme top portion of a landslide caused by the movement of slide material away from the undisturbed ground (Figure 1). A fresh landslide scars typically are at an angle of 30° - 60° of the slope wherePROCEDURE

Landslides are referred to as either deep seated, with shear planes greater than 60°, or shallow, with shear planes shallower than 60°. Many of the shallow landslides are slumps or rotational slips along a failure surface whereas shallow landslides are debris slides, where a thin layer of colluvium has translated downslope.

A brief description of several of the larger landslides that occur in the East End Riverfront area and above Columbia Parkway is presented below. Reference numbers identifying the specific location of an area are given in the text. These numbers correspond to the circled numbers on the Engineering Geologic map, Plate 1 and the Relative Stability map, Plate 2.

Slip Movement Below Columbia Parkway

The area between I-471 and Balm Street was mapped in 1968 prior to the

4-A
FIGURE 1
Identification of Landslide Features of a Typical Landslide

The construction of the Adams developement. The landslides that were mapped in this area are shallow, inactive and isolated from each other. The construction of Adams Place and grading along Eastern Avenue east of Collard Street have removed or concealed evidence of the landslides shown on Plate 1.

Deep seated landsliding occurs below Columbia Parkway in the vicinity of the Martin Street overpass ending at Bains Place (1). This slide affects the retaining wall on the north side of Columbia Parkway.

Measurements made by the City indicate that the wall has moved a maximum of 2 ft. between 1957 and 1960. The landslide also causes extensive settlement in the eastbound lanes of Columbia Parkway. There is also significant evidence of cracking within the two southbound lanes of the Parkway. The distortion within the westbound lanes most likely indicates creep movement of the entire embankment and overburden materials supporting the Parkway.

Bains Street to Kemper Lane

A large deep landslide begins just east of Bains Street and ends at Kemper Lane. This slide is inactive from Bains to Weeks Street and active from Weeks Street to Kemper Lane. The headscarp occurs in fill which forms the embankment of Columbia Parkway, and reaches the Columbia Parkway at the entrance to Kemper Lane. The toe intersects the sidewalk, and overcrosses Eastern Avenue and Kemper Lane.

There is failure in Columbia Parkway near the sidewalk above Weeks Street (2). A large excavation was made in a deep seated landslide for two school buildings on Weeks Street. The results of the excavation were numerous cracks and severe bowing of the buildings. There were tension cracks in the buildings directly below Columbia Parkway.

Kemper Lane to Lancaster

The area between Kemper Lane and Lancaster Street contains serious landsliding, and is shown on Plate 1. Damage to retaining walls and roadways is severe. Here landslides become greatly elongated, with their long stabilities running perpendicular to the hillside. Headscars occur within six to ten feet of the Parkway, in some places cutting through several feet of roadway. If not through the roadway, the bases of the landslides occur at the edge of the railroad tracks or Eastern Avenue.

A deep seated landslide exists between the south side of Kemper Lane and Eastern Avenue (23). This slide occurred in May of 1972 and was the direct result of an excavation for a water line along the north side of Eastern Avenue. Reports also indicate substantial rain over the area, prior to the movement. The excavation results in tension cracks within Kemper Lane and lateral movements of the wall on the south side of Kemper Lane.

East of Kemper Lane, a deep landslide is distressing retaining walls located at the ends of the Parkway bridge (4). This slide occurs in a major erosional gully which has been filled. Boring indicate that a maximum of 25 ft. of fill has been placed in the gully.

The headscarp of a large deep seated landslide cuts through the entire width of Columbia Parkway. The landslide starts 200 feet east of Kemper Lane (6). The landslide continually fills the ditch on the north side of the railroad tracks with slide debris and also disrupts the tracks. The landslide terminates at Eastern Avenue.

Deep seated sliding occurs immediately west of Lancaster Street (8). Movement in this area is documented on railroad drawings dating back to 1950's. These drawings indicate that drainage tunnels were excavated within the slide area to attempt stabilization. The City of Cincinnati performed a subsurface investigation in the landslides area in 1931. Fifteen test borings were drilled as part of this investigation. The borings encountered the bedrock surface at depths ranging...
from 15 ft. to 30 ft. Severely distressed pavement in the Parkway indicate that movement still occurs within the area.

Lancaster to Collins

The outer, east-bound lanes of Columbia Parkway are distressed due to landsliding between Lancaster Street to approximately 300 ft. west of Collins Avenue. Make-shift repairs to the parkway necessitated by deep landsliding have failed, showing that landsliding activity continues. From approximately 300 ft. west of Collins Avenue on, landsliding activity is more subdued and the influence on existing paving is less pronounced.

Collins to Torrence

Landsliding below the Parkway is in the fill used for the embankment of the Parkway and disturbs the roadway and sidewalk continuously from 100 feet east of Collins to Torrence Road. These elements are difficult to observe because of non-motorized changes.

A deep landslide occurs on the lower portion of the hillside approximately 200 feet west of Collins (1). Excavation for the construction of townhomes in September of 1991 accelerated the rate of movement of the landslide (Photograph 1). Tension cracks developed within the railroad right-of-way and the railroad tracks settled and warped (Photograph 2). The rate of movement within the slide area has been reduced to the pre-eruption rate by replacing all of the Columbia Avenue fill back into the excavation.

Torrence to Delta

There are four isolated deep seated landslides on the hillside between Torrence and Delta. The three westernmost alludes; along the Parkway above the intersection of Halsted Avenue and Torrence Road (2) and along the Parkway at the intersection of Halsted and Columbia Parkway (3) and along the Parkway immediately east of its intersection with Aububon Avenue (4), were

[Photograph 1] Beginning corner of the excavation for the proposed town homes along Collins Avenue, east of Collins Ave. The lane shown here is the south lane of the townhome lot.

[Photograph 2] Tension cracks developed within the railroad right-of-way and the railroad tracks settled and warped.
caused by the placement of fill for the Parkway with a slope exceeding 1:1.5. The fourth slide occurs opposite the previously existing Pendleton Railroad yard (II). This slide resulted from the excavation of the toe of the slope. Columbia Parkway has been stabilized in all of the slides areas except the western most slide. The Parkway was stabilized by the construction of drilled pier walls in 1978 (Photograph 4). The Parkway to the western most slide area will be stabilized by the construction of an engineered drilled pier wall scheduled for 1982. The ends of the pier walls at Audubon and above the Pendleton Yard will be extended in 1982 (Photograph 5).

The caisson walls have and will effectively stabilize the roadway along the sections where they were and will be constructed. There are, however, both subtle and well defined scours below the roadway indicating that movement still occurs on the hillside below the walls. The remaining length of the Parkway section of the four landslide areas is affected by creep movement. This movement takes place in the form of settlement along the curb line and opening of joints in the eastbound lanes.

Slope Movement Above Columbia Parkway

Movement of the overburden on the hillside above Columbia Parkway has been an ongoing problem, presumably, since the construction of Columbia Parkway. The landslides have caused earth masses to slide onto the Parkway or to cause instability of the retaining walls and onto the roadway.

The landslides occur in colluvial soils derived from the Kope Formation. The slip surface is most likely located at the bedrock-colluvium interface. The depth to the slip surface is believed to be relatively shallow, less than 3 ft., and may be as shallow as 1 ft. directly above the retaining wall.
The original cause of the slides was the construction of Columbia Parkway which overstepped the lower portion of the slope and removed lateral support. Other factors which caused lateral support problems and continued movement are groundwater flow and precipitation and continued overstepping and removal of the lower portion of the slope during the maintenance of Columbia Parkway.

Several landslides occurred on the slopes above Columbia Parkway in the spring of 1982, requiring the city to clean up about 300 yards of soil and debris costing approximately $10,000. The areas which slid in 1982 included several areas between Bates and Kemper, just west of Kemper Lane (2) and just west of the intersection of William Howard Taft and the Parkway (13). (Photograph 6.)

The city files indicate that a large quantity of soft slide occurred from the upper part of the hillside in the spring of 1973 and 1974. The 1973 slides occurred between Bates and Kemper, Kemper to Taft, and immediately east of Taft. A large area of deep seated landslides has been mapped above Columbia Parkway on the hillside between 1832 Columbia Parkway and 2000 Columbia Parkway. A second area of deep seated sliding is located above the Parkway approximately 2,000 ft. east of Terrence (15). This landslide occurred in March of 1979. An approximate 360 ft. section of retaining wall failed under the weight of the material from this slide. It was concluded that a substantial amount of the slide material was shale and clay dumped on the hillside during 1970-1972 by the construction of I-71 during the 1970-72 century quarry operations.

Slope Movement Along the Bank of the Ohio River

Three deep seated landslides occur along the banks of the Ohio River. The slides are located behind the Verdin Manufacturing building (26), behind the building of former American Building Components (27), and in the parking lot of the Milwaukee Road's train station and behind the restaurant (14). The three slides are primarily the result of the placement of
1113 along the bank and saturation of the soil during periods of high water.

A major escarp occurs in the pavement behind the Verlin Manufacturing Building. Movement of this slide cracked and displaced the building. The headscarp of the slide behind the building is approximately 400 ft. long with a vertical offset of 15 ft. The southern wall of the building has been damaged by the movement. The slide in the parking lot of the Bistores Restaurant has severely damaged the concrete walk along the southern side of the parking lot and extends into the adjacent pavement of the lot (Photograph 17).

The H.C. Nutting Company has reported creep movement in a depth of 80 ft. behind the residence at 2097 Eastern Avenue. Slow deep movement most likely occurs along the active river bank from Ferry St. to Bicentennial Commons. As discussed in The H.C. Nutting Company report, areas east of Ferry Street are relatively stable alluvial and granular soils and the soils west of Ferry Street are unstable colluvial soils overlain by man-made fill.

Columbia Parkway Improvement Projects

Columbia Parkway was constructed in 1937-38. The original construction included a 64 ft. roadway, with a 4 ft. sidewalk along the north side and a 9 ft. berm along the south side. The 9 ft. berm on the south side included a 4 ft. wide sidewalk.

In 1976 the section of roadway between Torrence and Delta was widened to a 115 ft. wide, with the widening accomplished by adding approximately 6 ft. onto the south side of the roadway. Retaining walls consisting of 36 diameter reinforced concrete piles at 5 ft. centers extending into bedrock were required in several areas to stabilize the upper portion of the embankment. Varying degrees of slope movement continues to affect the Parkway pavement between Torrence and Delta. The City
of Cincinnati will be improving this section in 1985. The improvement will consist of the installation of additional traffic walls and the underpinning of existing barrier walls. The State of Ohio is presently widening the Parkway between Bain Street and Vermont Road. The project primarily involves a $37, widening of the downslope edge of the roadway. As discussed in the preceding section slope stability problems are abundant throughout this section of the Parkway. Drilled pier walls will therefore be constructed to stabilize the upper portions of landfills.

The location of existing and proposed drilled pier walls along the south side of Columbia Parkway are shown on the Relative Stability map. Plate 2. The construction of these walls will assist in the development of the hillside below the walls. The walls will act as a barrier between slope movement that may occur on the lower portion of the hillside from damaging Columbia Parkway. The integrity of the wall however can be affected if massive movement should occur below the wall. The retaining walls will only stop the ground above the wall from moving. The ground below the wall will not be stabilized by the wall. The relative safety of the stability of ground below the wall will stop the wall from moving. Excavations into the hillside below pier walls must be thoroughly investigated and planned prior to any site grading.

**Relative Stability of Ground in the East End Riverfront Area**

The relative stability of the study area was analyzed in order to identify areas of unstable ground and moving ground. The distribution of stable, potentially unstable, and moving ground throughout the study area is shown on the Relative Stability map. Plate 2. Potentially unstable ground and moving ground are subdivided according to thickness into two categories; shallow and deep landsliding. Deep and shallow landsliding are differentiated because many shallow landslides can be corrected or avoided at minor cost; whereas stabilization of deep landslides can be costly.

The Relative Stability map shows the geologists' assessment of the stability of ground. The map was derived from the engineering geologic map which shows areas of landsliding and soil creep, logs of soil horizons indicating the types of engineering materials and their thickness, and field observations.

The intent of the Relative Stability map is to draw attention to areas which require varying levels of investigation and possible design modifications prior to development. The map depicts levels of care which should be exercised in developing a particular area and can be used as an aid to forecast capital expenditures. It is not intended as a substitute for site specific, geotechnical investigations nor as a basis for design. It is a reconnaissance and planning tool.

The areas of moving ground, deep landsliding and shallow landsliding, comprise a large part of the East End Riverfront area and is responsible for structural damage to roadways, retaining walls and foundations. Areas marked as moving ground are noted as areas of potential future development complexes. Quen excavations in these areas will cause severe ground movement. These areas should be stabilized before any development takes place. Stabilization of shallow landsliding probably can be accomplished economically by some combination of reinforcing, drainage, and retaining structures. Stabilization of deep landsliding will have to be accomplished by some substantial permanent retaining structure.

Potentially unstable ground is composed of non-moving deep landsliding and shallow landsliding, and adjacent areas of possible instability. These areas are probably critically stable conditions under which removal instability can be initiated in response to even
relatively minor amounts of slope modification.

Geotechnical evaluation of areas identified as moving or potentially unstable ground must include an assessment of the short (construction) and long term (after development) stability of the site and possible effects of development on adjacent properties. Development in these areas must be carefully planned and includes elevation changes, roadways, and other alterations of nearby properties.

Stable ground is divided into the categories of deep unconsolidated and shallow unconsolidated ground. Deep unconsolidated consists of thin colluvium and fill on bedrock while deep unconsolidated consists of poorly compacted alluvium and fill.

Stable deep unconsolidated ground is located below the Columbia Parkway in areas not considered unstable or potentially unstable. Stable deep deposits present neither problems to engineering design due to the diverse materials encountered and high water contents. Stable shallow unconsolidated ground is located above the hilltops of Columbia Parkway and poses little difficulty to development.

Descriptive of the types and depths of ground movement and a general summary of future studies that should be initiated prior to development are presented on the following table which lists the Relative Stabilty.

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<tr>
<th>DEGREE OF STABILITY</th>
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<td>MOVING GROUND</td>
<td>EXTENSIVE GEOTECHNICAL INVESTIGATIONS AND PROPER DESIGN ARE NECESSARY FOR DEVELOPMENT OF THESE AREAS</td>
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<td>Shallow Landsliding: Active landsliding less than 5.0 feet deep</td>
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<tr>
<td>POTENTIALLY UNSTABLE GROUND</td>
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<td>Deep Landsliding: Downstream landslides greater than 5.0 feet deep and surrounding areas of possible deep instability</td>
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<tr>
<td>Shallow Landsliding: Downstream landslides less than 5.0 feet deep and surrounding areas of shallow instability</td>
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<tr>
<td>STABLE GROUND</td>
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<tr>
<td>Deep Unconsolidated: Area not exhibiting movement, dominated by deep deposits of alluvium, colluvium and fill</td>
<td></td>
</tr>
<tr>
<td>Shallow Unconsolidated: Area not subject to instability and fill</td>
<td></td>
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</table>

1. What is the depth of active landslides?
2. What are the potential hazards of landsliding?
3. How will development alter surface and subsurface drainage?
4. How will stability be maintained?

These areas require a high level of geotechnical investigation.

1. What is the depth of potential landslides?
2. In what areas landslides are scenarios for development?
3. How will development alter surface and subsurface drainage?
4. What is the factor of safety against sliding during and after construction?

These areas require a low to moderate level of geotechnical investigation.

1. Where are the materials, their distribution and engineering properties (e.g. shear strength, and per flow rate)?
2. Where is groundwater active?
3. How much sediment is generated as a result of development?
4. How could instability be introduced by proposed development?
CONCLUSIONS

This study indicates that the major portion of the East End Riverfront Development area is moving or potentially unstable. Geotechnical investigations of varying levels are necessary prior to any new development in areas designated as moving or potentially unstable ground on the Relative Stability map, Plate 2. It is important that the investigations be conducted sufficiently early to disclose and address problems in an area considered for development. Preliminary plans can reflect the geological conditions in the area.

It is, therefore recommended, that a report from a geotechnical engineer be submitted with all Category II Environmental Quality Applications, when the site to be located in an area of moving or potentially unstable ground as designated on the Relative Stability map. The geotechnical report should, at a minimum, utilize the geological and geotechnical information, presented on the Engineering Geologic map, Plate 1 to address how the design of the grading or the design of the building responds to the geological conditions of the site. The geotechnical report should state whether further investigation is required prior to development, and if so, the scope, including number, depth and location of test borings and time schedule of the investigation. The City of Cincinnati's Geotechnical staff should be given the opportunity to review and evaluate the preliminary report as well as the amount and sequence of additional geologic and soil engineering work required.

The City's Geotechnical staff should also be given the opportunity to review the results of site specific investigations prior to the issuance of a Cut and Fill permit. A Cut and Fill permit should not be issued until the Building and Inspection Department and the Geotechnical Staff (or a qualified consulting engineer) have determined a sufficient degree of subsurface exploration has been accomplished, 2) the geologic factors are properly considered and 3) the design plans reflect the conclusions and recommendations of the geotechnical report. Public Works projects and excavations by utility companies in areas designated as areas of potentially unstable or moving ground should also be reviewed by the City's Geotechnical Staff.

The effectiveness of this study to prevent hazards and assist in the proper development of the area is dependent upon its implementation throughout the planning, review, and construction stages of development. In order to encourage its use it is recommended that this study be incorporated or referenced in the proposed Environmental Quality District Guidelines report, be available to the general public and distributed to all city agencies which may be involved in future developments in the East End Riverfront area, including the Planning Department, the Public Works, Water Works, MSD, etc. 1. The City's Geotechnical staff will update the Engineering Geologic and Relative Stability maps as necessary.

and maintain a data base of any additional subsurface investigations in the East End Riverfront Development area.
III. Report on Geotechnical and Environmental Analysis
REPORT OF
CONSTRUCTION AND ENVIRONMENTAL ANALYSIS
COMPANY: EASTERN RAILROAD
URBAN DESIGN PLAN AND DESIGN GUIDELINES
FOR
EHDW, INC.
1971

INVESTIGATION BY
THE H.C. NUTTING COMPANY
September 25, 1991

Order No. 12316.001 ccr

Mr. Laura Wiberg
HBM, Inc.
601 Prince Street
Alexandria, VA 22314

Re: Geotechnical and Environmental Analysis
Cincinnati Eastern Riverfront

Dear Mr. Wiberg:

We are pleased to submit herewith our final report of the geotechnical and environmental analysis performed as part of the development of the Urban Design Plan and Design Guidelines for the Cincinnati Eastern Riverfront.

The text of the report includes discussions of the general geologic setting, specific site conditions and dimensions of sensitive hillside, shoreline stabilization and soil contamination.

Specific sites referred to in the report are identified on marked maps of communities A, B, C, and D from the Urban Design Plan.

We appreciate the opportunity to be part of your team. We are available to discuss specific site conditions as this plan is implemented.

Very truly yours,

THE H. C. NUTTING COMPANY

C. R. Lecove, P. E.
Chief Engineer

SUMMARY OF GEOTECHNICAL AND ENVIRONMENTAL ISSUES

GENERAL GEOLAGIC SETTING

SPECIFIC SITE CONDITIONS

APPENDIX

REFERENCE MAP - COMMUNITIES A, B, C, AND D

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DATE: September 25, 1991 c/n

TO: Jacqueline McKinney - City Planning, City of Cincinnati
FROM: C. H. Lenterra
SUBJECT: Geotechnical Report - Cincinnati Eastern Riverfront

Enclosed please find a copy of our final report made in conjunction with the development of the Urban Design Plan and Design Guidelines for Cincinnati Eastern Riverfront. We have indeed specific sites referred to in the report to a copy of the maps for the four communities identified in the Urban Design Plan. We also made some additional multimodal and classifi-
cations on the basis of comments that you have provided.

We have a copy of the manuscript prepared by Richard S. Pohore, Engineer-
ing Geologist, Structure Section, City of Cincinnati dated June 27, 1991. Mr. Pohore has recommended that an engineering geologic map be prepared for the Cincinnati Eastern Riverfront. We endorse this recommendation. We believe that such a map would be useful tool for you to the detailed planning of new construction within the project area.

We would be pleased to provide to the City information in our files that could be useful in preparing such a map. We have previously provided such information to students and others at the University of Cincinnati for the construction of similar maps. For example, the follow map and reports which cover a portion of the study area.

Enclosed in a list of projects on which we have made actual borings. Although there are limitations on the dissemination of data performed for private parties, we can provide the needed information for use in a scientific study.

You should be aware that we are currently completing a detailed condition study of all the property between Columbia Parkway and Eastern Avenue from 31st to 36th. This work is being done under contract with the City of Cincinnati in preparation for the improvement of this section of Columbia Parkway. We have video tape with commentary on all of these properties together with still pictures. This includes the railroad right-of-
way. As this information was performed for the City, it should be possible to make the data available to your office.

We are anxious to assist in any way that we can. If you wish to further discuss the enclosed report, please call me.

Enclosure

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The Eastern Riverfront is located on the lower slopes of the north valley wall of the Ohio River and on flood plain deposits that have partially filled the valley. The area is on the outside of a major curve in the river in an area where the river is meandering from the south side of its valley to the north side. The eastern half of the project is a relatively level flood plain. Eastern Avenue represents the approximate north edge of the flood plain. The width of the flood plain varies from approximately 1250 ft. at Delta Avenue to approximately 200 ft. at Frozen Head Park and disappears west of College Avenue. Alluvial deposits extend to Perry Street Park. West of here colluvial deposits overlie by non-cohesive fills extend to the water’s edge.

The entire project is underlain by the EPA Formation of the Cincinnati Series of Ordovician Age. The EPA formation is primarily shale with thin limestone layers. Typically, 3 to 4” thick. The limestone represents 20% to 30% of the total material. The formation is commonly jointed. The joint system carries significant quantities of groundwater. Most of the water flows through joints in the limestone layers.

The present valley of the Ohio River was formed during early glacial periods. The river carved an approximately 400 ft. deep valley having a width of approximately 1 mile, measured at the tops of the valley walls.

Prior to the most recent glaciation, the shale that forms the valley walls weathered into a clastic soil with pieces of limestone. This clay accumulated on the lower slopes as a result of gravity and erosion into a deposit referred to as colluvium. The colluvial deposits reach depths of as much as 30 ft. These colluvial deposits together with non-cohesive fills often constructed of colluvium are the primary source of instability on the hillside. Following the most recent Wisconsin Age glacial period, the valley was filled with thick deposits of sand and gravel as the glacier retreated. Sand and gravel as deep as 50 ft. can be found within the flood plain areas within the east end of the project. Since the end
of glacial frequent flooding of the river has covered the sand with a relatively thick deposit of silt that weathers into a loam clay.

There is substantial relief within the eastern front area. The U.S.G.S. elevation of the Ohio River at pool stage is approximately 490. The highest elevation along Columbia Parkway is approximately 425. This occurs within the westerly portion of the project just east of Kemper Lane. The horizontal distance between water's edge at normal pool and Columbia Parkway is only 700 ft., resulting in an average slope of 0.2%. The elevation of Columbia Parkway drops down to approximately 560 at the intersection with Taft and Tamarac. Here the horizontal distance between Columbia Parkway and the water's edge is approximately 800 ft., resulting in an average slope of 0.1%. Columbia Parkway rises to approximately 600 at Audubon Street where the horizontal distance to water's edge is approximately 1000 ft., resulting in an average slope of 0.1%. At the intersection of Delta the Parkway elevation dips down to 515 and the horizontal distance is approximately 1750 ft., mostly flood plain, with an average slope of only 0.03.

The Ohio River is officially in flood at elevation 442 (stage 52). The "Hundred Year" flood level is approximately elevation 501 (stage 71). There are substantial restrictions on development of land where surface elevation is below the "Hundred Year" flood level, elevation 501. The 1997 flood peaked at elevation 511.7.

Eastern Avenue was constructed at the base of the hillside at an elevation above that which floods frequently and divides the hillside deposits from the flood plain within the westerly half of the project. This elevation between Delta and Audubon is generally between 495 and 505. West of Olin Ave. it rises reaching a high of about 525 at the intersection with Kemper and drops again down to about elevation 500 opposite Martin Street.

**Hillside above railroad right-of-way**
- Property fronting on Eastern Avenue
- Property between Eastern Avenue and river bank

Weslouch Avenue

This area includes Weslouch Avenue, the hillside above Weslouch, and a relatively narrow section of previous railroad yard between Weslouch and the present tracks.

The hillside above Weslouch is the most stable and the most easily developed section of the entire hillside. The existing difference in elevation between Weslouch Avenue and Columbia Parkway is only 15 ft. at the east end of Weslouch. (1) (see map increasing to approximately 40 ft. at the west end (2). Existing slopes are generally less than 20%. There are existing houses on the majority of the lots on Weslouch and new houses...
have recently been constructed. There are no existing landslides of any major dimension. Geotechnical problems are minimal.

There is a level strip of land between Walworth and the existing railroad tracks ranging in width from approximately 150 ft. at the west end of Walworth (1) to approximately 50 ft. opposite Strore Avenue (4). These dimensions include the present railroad tracks. Some thickness of fill material should be anticipated throughout this area. The fill is expected to increase in thickness towards the east. Pier foundations may be required to penetrate the fill material.

Pennahton Railroad Yard

The primary part of this previously existing yard which included a turntable and maintenance building is located west of the west end of Walworth (5). This area has an east-west dimension of approximately 1200 ft. and an average north-south dimension of approximately 230 ft.

The yard is shown basically as described above on the 1912 map. The primary area west of Walworth was developed by excavating the hillside and using excavated material for embankment construction. The hillside was steepened from a natural slope of about 4:1 to the present slope in the range of 2:5 to 3:1 (6). The north half of the yard area is in cut. The south half is on embankments constructed from clayey soils removed from the hillside. Supplemental soil likely with cinders. The existing mainline track is approximately 15 ft. north of the edge of the embankment. It appears that there may have been another track along the edge of the embankment. There are presently two tracks, the south one which is in use and the north one which has not been maintained for use. This is the case throughout the study area.

The highest embankment is believed to be the center portion opposite Brown and Mayapple Streets (7) where it is retained by a gravity wall. The height of embankment diminishes to the east where the edge of the embankment is defined by a steep slope.

The construction of the railroad embankment and the development of the yard area were started in the late 19th century and continued through the early 20th century. The yard was used for a variety of purposes, including the storage and maintenance of railroad equipment. The area was also used for the storage of supplies and materials for railroad operations.

The yard was initially developed on a sloping hillside, and the excavated material was used to create a level area for the tracks and facilities. The hillside was steepened to create a more usable area for the yard. A mainline track was constructed, and additional tracks were added as needed. The yard was a significant facility for the railroad, and it remained in use until the late 20th century.

In recent years, the area has been redeveloped, and the railroad facilities have been removed. The land is now used for a variety of purposes, including commercial and residential development. The history of the area is an important part of the local history, and it serves as a reminder of the role that railroads played in the development of the area.

The fill material used for the embankments was clayey in nature, and it was necessary to excavate the hillside to create a level area for the tracks and facilities. The excavation created a steep hillside, and the fill material was used to create a level surface for the yard area. The fill material was compacted to create a stable surface for the yard.

The construction of the railroad embankment and the development of the yard area were significant events in the history of the area. The area has been redeveloped in recent years, and the history of the area is an important part of the local history. The railroads played a significant role in the development of the area, and the history of the area serves as a reminder of the role that railroads played in the development of the area.
development of single-family housing similar to that along existing Huff and Gladstone appears to be feasible. The depth of the slope area increases appreciably just below Warren and William Howard Taft (9).

It was noted that the present roadway of Gladstone east of Collins is not developed as the track is constructed within the right-of-way of Gladstone Avenue. There is sufficient room for parallel parking below the retaining walls at the front of the existing houses and one travel lane alongside the railroad tracks. Improvement of Gladstone Avenue may require movement of existing tracks, if they are to be maintained, or a proposed tunnel and bike way, south to the edge of the existing railroad embankment. Some low retaining walls could most probably be required on the downhill side of the track (10). There is an existing landslide mapped in this area (11). It is also technically feasible to build a roadway completely north of the existing railroad right-of-way at the toe of the existing hillside. Cost estimates should provide for retaining walls of various height on the uphill side.

It would appear that this area is most suitable for single-family housing built into the hillside. Hillside stability is a consideration. The slope is not severe. It is no different than that above existing Huff and Gladstone. A retaining wall was built in 1976 outside of the shoulder of Columbia Parkway opposite Waterloo Avenue (12) and a new wall is planned to build along the new shoulder of Columbia Parkway above the existing houses along Gladstone. This wall will improve the existing 160 ft. undeveloped section and will extend approximately 200 ft. eastward from the most easterly existing house (11).

Special provisions are required for construction on this hillside to meet existing codes and to avoid destabilizing the hillside. Narrow buildings with front to back dimensions of the order of 50 ft. appear to be most feasible. Structures need to be designed for the earth pressures resulting from the hillside that would be acting on these structures. The present buildings do not meet existing code requirements in this respect.

Planned excavation would be needed to avoid destabilizing the hillside during the construction process. Once the buildings are erected, then the stability of the hillside is substantially improved.

Upper Hillside - West of Collins

There is a potential for developing housing on the hillside above the present railroad right-of-way from Collins extending through the western end of the project. A new street would have to be constructed within or just above the railroad right-of-way.

Maps show Gladstone Avenue to be plotted throughout much of this area. Our research indicates that Gladstone in this section was never improved. Old maps indicate housing on the upper hillside within this section fronting on Columbia Avenue, the predecessor to existing Columbia Parkway and that this property was acquired in the 30's as a part of the development of Columbia Parkway.

The topography is such that it is feasible to develop housing on the lower part of the slope fronting on New Gladstone Street (14). The least costly way to build the street would be to utilize the roadbed for the present north track and widen as necessary into the hillside. For this scheme a roadway could be built with low retaining walls and they would be low ones. It is also feasible to construct a street uphill and immediately adjacent to the present right-of-way (15). Such a plan would require greater use of retaining walls.

A connecting street must be provided between New Gladstone and Eastern Avenue. From a point of view grade the preferred location would be approximately 400 ft. west of Lancaster Street, approximately opposite Johnson Electric (14).
The upper hillside becomes much steeper (2.4%) to the west of this point (17). Substantial retaining walls would be necessary to continue a street, sewerly and development on the upper hillside would become very costly.

There is a substantial number of both large and small landslides on this hillside. The feasibility of construction on this hillside depends entirely on construction of a new retaining wall just outside the north curb line of Columbia Parkway. Approximately 1000 ft. of wall is proposed for construction, covering almost the entire length (18). The construction of this wall will permit development of the hillside without jeopardizing Columbia Parkway. Hillside stability will still be a consideration. Multi-family townhouse structures may be more cost effective than single-family housing. Substructures need to be designed for the earth pressures resulting from the hillside that would be acting on these structures. Planned excavation would be needed to avoid further destabilization of the hillside during the construction process. Once the buildings are erected then the stability of this hillside is substantially improved.

Eastern Avenue - North Side

In general, there are no significant engineering restrictions to the development of empty lots on the north side of Eastern. The empty lots are narrow and construction would be close to existing houses. Foundations for new construction must extend to the same elevation as foundations of the immediately adjacent structures. Construction will include reinforced concrete basement walls as compared to nearly stone walls of existing structures. Properly designed reinforced concrete substructures will resist earth pressures that have damaged existing buildings.

Special studies would have to be made of the narrow strip of land between Eastern Avenue and the railroad, east of the westerly underpass (19) and the presently vacant land east of Collins newly opposite Leffland Park Recreation building (11). Overgrazing movement has been mapped in both of these areas.

Flood Plain Area - Delta to Perry

The entire area is below the 100 year flood level with the exception of commercial areas that have been raised by filling. Elevations vary from as low as 47.5 at the top of the bank at the eastern end of the project area to 500 ft on various properties fronting on Eastern Avenue. Flood plain considerations will be the first physical criteria to be considered. A conventional foundation would be reinforced concrete subwalls on strip footings. Older maps indicate that there has been significant filling in some areas (20). New construction will require test borings to determine the subsurface conditions. It is likely that drilled piers would be used as a foundation system in areas that have been filled.

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Eastern Avenue - South Side

Eastern Avenue is generally constructed on fill, the fill being deepest along the south right-of-way line. Retaining walls of the houses along the south side of street typically act as retaining walls for the sidewalk on the south side of Eastern Avenue. Many of these walls are of stone construction.

Most available property on the south side of Eastern Avenue is in the flood plain. The first consideration will be to determine whether it is practical to build the first occupied level at the 100 year flood elevation and how this relates to the elevation of Eastern Avenue. Relative to substructures, the conventional construction would be a basement with footings at the same level of adjacent existing buildings, probably at 4 to 8 ft below the elevation of the sidewalk. An alternative foundation is short drilled piers.

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Perry Street through Pipe Alley

Riverbank stability is the primary engineering consideration starting at Perry Street and extending westward to the bicentennial commons, the westerly boundary of this project. Laidlaw Park and all of the land east of Laidlaw Park south of Eastern Avenue is constructed on an alluvial floodplain. The slope of the river bank is flatter and lower through this area. The river bank becomes steeper and higher west of Laidlaw Park.

The natural soils transition from alluvial and granular outwash to a colluvial deposited clay developed from the shale that makes up the hillside. Also, there has been substantial filling on the river bank to widen the relatively narrow strip of land between Eastern Avenue and the river bank (21).

The first thousand feet west of Perry Street is developed in existing housing fronting on Eastern. The grade of Eastern is rising above the 100 year flood elevation. Immediately west of Perry, substantial fill has been placed on the river bank behind the existing houses to develop a large level area (22). To the west towards Vance Street, the grade appears to be more natural (23), although all of this area has received some fill. Pipe Alley is a paved alley extending west from Vance Street (23). It serves garage structures behind the houses fronting on Eastern. It generally follows the natural grade, although again there undoubtedly has been filling in the original development of these properties.

The residences at 2017 Eastern Avenue were substantially expanded in the early 1950's (24). A large addition was built at the rear of the original house. Access to the garage in the addition is from Pipe Alley. In 1957 cracks appeared in the section between the new and original construction. An inclinometer was set down into bedrock behind the house, which was found to be at a depth of 45 ft. below the existing grade. The samples showed clay-like soils extending to a depth of 45 ft. Readings of the inclinometer indicate creep movement to depths in excess of 40 ft.

Development in this area would presumably consist of rebuilding of existing houses and construction on Eastern Avenue on empty lots. Any major improvement of existing houses should include a careful inspection of the structure to look for signs of damage resulting from earth movement. This must also be considered in planning any construction on empty lots.

Maryvale Street to Hamen Street

The commercial building on the south side of Eastern Avenue between Maryvale and Hamen Streets houses the Verlin Manufacturing Company and other businesses, including Landscape Creations at the westerly end. There has been heavy filling between the rear wall of this building and the river bank (25), much more than was indicated by the contours on the 1954 topography. Ground movements that damaged the building occurred in 1957 following a substantial flood. Erosion of the rear wall of the building and the grade between the rear wall and the river bank shows evidence of on-going earth movement. This includes cracks and displacement of the wall and a major scarp line in the graded area behind the building. The zone of greatest movement is approximately on a line with the top of the river bank behind Pipe Alley. Fill has been pushed out approximately 40 ft. further to the river past this line and this fill is very unstable; however, there is also indication of substantial movement occurring inland from the major scarp (26).

New development in this block would presumably require careful of the existing commercial building and possibly the original church structure just east of the Verlin Building. A geotechnical investigation would be required for any new construction at this site. Development of the site would probably require removal of a major portion of fill that has been placed in the last 20 to 30 years. Foundations for any new construction would most probably have to extend to bedrock, a depth of on the order of 40 ft. along Eastern Avenue, deepening towards the river.
Regan Street - Glen Alley

The small block is again residential with an alley running parallel to the homes facing on Eastern Avenue. The grade at the alley has been controlled for some period although there appears to have been some fillage between the alley and the river bank (30). There is no obvious evidence of earth movement in this block. The creep movement that we have measured along Pine Alley almost certainly occurs here. If major rehabilitation of existing houses is planned, they should be carefully examined for evidence of earth movement. If new construction is planned, this should include a comprehensive geotechnical investigation.

Site Station - Johnson Electric

Both of these properties were improved in the 1960's. Comparison of the 1954 and 1955 topographic maps shows substantial filling. This has been confirmed by test borings. The new Site Station was supported on drilled piers (27). The original Johnson Electric building appears on the 1961 Corps of Engineers' map, but not on the 1954 City map. Major modifications were made in early 1954's. Drilled piers were used for support of new construction. The 1961 Corps of Engineers' map shows a graded ramp down the river bank between the Site Station and Johnson Electric (28). This ramp is still accessible. To the west the slope rises very steeply as indicated by the contours. Any new construction in this area will require a deep foundation.

American Building Components

The original building opposite and extending west from the railroad underpass was built in 1929. The building between the original building and Johnson Electric was built in 1967. This is all filled land. Much of the fillage appears to date back to railroad development. The original building, which is believed to be built on shallow foundations, has been severely damaged by earth movement. The grade between the rear wall and

the river bank has experienced substantial distortion due to earth movement (29). This earth movement is not related to erosion as such, but rather deep-seated movements which occur as the river falls during the periods of high water.

The 1967 building is supported on pile foundations. A cursory examination of the exterior indicates no significant damage from earth movement.

There have been environmental investigations of this property. The potential for subsurface contamination will be a consideration in future development.

Any new construction on this property will require pier or pile foundations.

Rockwood Terminal

All of the tanks that show on the maps have been removed (30). This again is filled land, however, it was developed at a somewhat lower grade than adjacent property and may be more stable.

Subsurface contamination needs to be considered in planning any development. There have been environmental investigations.

Any construction in this area would require pier or pile foundations.

previously Railroad-owned

The remainder of the project from the Rockwood Terminal to the Biological Park was the Pennsylvania Railroad yard (31). It is clearly shown on all of the mapping, including the 1962 map. This is all filled land. Exploration in developed areas indicates large amounts of cinders.
Environmental and geotechnical investigations would be required as a part of any type of development. River bank stability is a continuing concern. The type of earth movement that can be expected has been previously described and can be dramatically seen from an examination of the parking lot of the Tidewater Restaurant.

SUMMARY OF GEOTECHNICAL AND ENVIRONMENTAL ISSUES

We have prepared a discussion of specific geotechnical and environmental issues on the following subjects:

Sensitive Hillside
Shore Line Stabilization
Soil Contamination

The material is intended to be used in preparation of preliminary plans and cost estimates. Geotechnical and environmental field investigations will be required at many sites as part of the detailed planning process.

SENSITIVE HILLSIDE AREAS

Following is an identification and classification of sensitive hillside areas with respect to slope stability. Included are all areas between Eastern Avenue and Columbia Parkway excluding the Pendleton Railroad Yard (2) where the existing grade is essentially level.

Low Sensitivity

Eastern Avenue - Trueness west to opposite Highland School (32)
Malvern Avenue (1-2)

Within the above areas existing slopes are generally less than 20% and existing stone walls including the massive wall along the railroad right-of-way west of Trueness are stable. New development is to consist of

IN-FILL housing on empty lots. Foundations for new houses will generally consist of conventional cast-in-place concrete walls on strip footings without the need of special reinforcing. The elevation of the lowest level must be consistent with that of adjacent existing houses. Routine consideration must be given to the protection of existing buildings during the excavation process. New retaining walls are likely to be required, particularly for construction on Malvern. Costs related to site conditions should not increase the total cost of construction, as compared to construction on level lots, by more than 5%.

Medium Sensitivity

North side Eastern Avenue (with above exception) (32)
Rayford Alley (34)
Collins Avenue (36)
Gladstone Avenue (50)
Reef Avenue (south side) (36)

All of the new construction in this area is to be in-fill, single family housing on empty lots. Existing slopes are typically in the range of 20% to 30% existing houses and existing stone retaining walls frequently show the effects of earth movement. In evaluating these existing conditions, it needs to be recognized that existing construction, for the most part, does not meet present codes with respect to earth pressure design.

Foundations for new buildings are expected to consist of reinforced concrete walls on strip footings. Generally, the grade at the rear (sloped side) of the building will not be more than 8 ft. above the grade at the front of the building. Increased consideration must be given to the relationship of the new construction to adjacent existing construction, including existing retaining walls. Special construction procedures may be needed to protect existing buildings and walls. Site associated costs may increase the total cost of construction by as much as 10% over costs related to level sites.
High Sensitivity

North Avenue (with exception noted) (9)

Ashburn Street (29)

Hillside above proposed new Gladstone (14)

Proposed development in this area includes in-fill housing on North and Ashburn, and single family and multi-housing on the existing empty hillside west of Collins.

Existing slopes are in the range of 10° to 40°. There are wide spread shallow and some deep seated landslides. Almost all existing buildings and retaining walls show the effects of damage by earth movement.

New in-fill housing on North and Ashburn must be carefully planned in consideration of existing conditions. Detailed surveys will be required for each lot including evaluation and condition surveys of adjacent properties. Foundations will still consist of reinforced concrete walls on conventional footings; however, special reinforcing of the walls and enlarged footings may be required depending on specific site conditions. New retaining walls are likely to be needed. Special excavation methods will often be necessary.

New construction on the hillside above the railroad right-of-way within Community B (14) depends on the construction of a new drilled pier retaining wall outside of the north curb of Columbia Parkway. Only after this wall is completed will it be possible to make excavations into the existing hillside. Foundations for this construction are expected, in general, to be reinforced concrete walls or footings, however, some drilled piers may be needed.

Site related costs are expected to add 20% or more to the cost of construction.

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Very High Sensitivity

Upper hillside - Community A (17)

The existing slopes within this area steepen to as much as 70°. There is an existing massive landslide that includes Roper Lane. Topographic and soil conditions will require special design and construction measures. Accessibility will be a major consideration because of the steepness of the slope. Site conditions could increase costs by as much as 40%.

SLOPE STABILIZATION/SLOPE CONTROL

The stability of the existing river bank depends upon the shape and width of the existing channel, the height and slope of the existing bank, the type of soil underlying the bank, the presence of existing stabilization measures including vegetation, and placement of fill to develop existing land along the bank.

The river bank east of Perry Street is relatively stable. Treatment of the existing bank should be required only when new entries to the river are made. The design of such entries should include slope analysis and erosion control measures on all new slopes.

West of approximately Perry Street the river channel narrows resulting in increased velocity. The elevation of Eastern Avenue river resulting in increased bank height. The bank slopes from slopes of 2:1 to 1.5:1. Also, of great significance, whereas the soil that underlies the channel and the river bank east of Perry Street is an alluvial deposit, clayey colluvium having reduced shear strength underlies the river banks to the west as the river shifts to the north side of the valley. Finally, there has been significant commercial development throughout west of this area including large warehousing, a former tank terminal and previously existing railroad yards. In all commercially developed areas fill has
been placed on the existing unstable bank to increase the width of the level land between Eastern Avenue and the river.

All the above has resulted in unstable slopes throughout much of this section. This instability manifests itself in development of tension cracks and subsidence, generally extending 20 ft. and occasionally more than 50 ft. back from the top of the bank. There is a direct relationship between the rate of movement and river levels. Sheet ground movement accompanies a fall in the river following periods of high water.

Special geotechnical investigations are required for any new construction between Eastern Avenue and the river west of Perry Street. This includes any new entries to the river. The design of such entries must include a slope analysis and special erosion protection.

Any general stabilization of the bank west of Perry Street would require costly construction. Two basic approaches could be considered. One would be to drive steel sheet piling along the lower part of the slope combined with some grading and ripping of the upper slope. The other basic approach would be to grade the slope back to approximately 2:5 or 3:1 combined with some type of slope protection, either in the form of slope surfacing or by controlled vegetation. This method would reduce the width of the usable land above the slope within this area. Detailed engineering studies are needed for the development of any slope stabilization plan.

POTENTIAL SOIL CONTAMINATION

Following is a list of sites which have been identified on the basis of present and past usage, where there is a possibility of soil contamination that requires remedial action under current Federal and State regulations. The list has been prepared on the basis of reconnaissance of the area and reference to topographic and Sanborn (1959) maps.

1. Parsons Street (31)
2. Washington Street (40)
3. Fulton Yard (31)
4. Central Yard (5)

COMMERCIAL INSTITUTIONS

5. Rockwood Terminal - 1541 Eastern Avenue (31)
6. American Building Components - 1725 Eastern Avenue (29)
7. Johnson Electric Supply - 1841 Eastern Avenue (38)
8. Western Manufacturing - 2021 Eastern Avenue (25)
Existing Service Station

A. Site - 1941 Eastern Avenue (17)
B. 2000 - 2040 Eastern Avenue (41)

Old Service Station

I. 1531 Eastern Avenue (42)
II. 2360 Eastern Avenue (43)
III. 2412 Eastern Avenue (44)
IV. 2410 Eastern Avenue (45)
V. 3353 Eastern Avenue (46)

Additional Facilities

II. Newark Arts and Furniture - 2111 Eastern Avenue (47)
IV. Junk Yard/Salvage Yard - Rock Street (48)
V 1. Cincinnati Gas & Electric - East End Works (49)
V 2. Cincinnati Iron Works - 2365 Eastern Avenue (50)
V 2. Auto Works Property - 1900 Wolsworth (51)
DATE: November 3, 1991 cr/vp

TO: Jackie McCray - Cincinnati Department of City Planning

FROM: C.R. Lennertz

CC: Ms. Laura Wiberg - EDAM

RE: Cincinnati Eastern Riverfront

We again reviewed the Sanborn Maps at the main library where we obtained much of the information concerning industrial and commercial sites listed on pages 20 and 21 of our report. The maps show a single car garage at 3200 Walford Street. The stone walls of this garage are still visible at the site. This was incorrectly listed as a commercial property.

Please find a revised page 21 of our report where we have removed this property from the list of additional facilities.

If you have any further questions, please call me.

[Additional Facilities mentioned with page numbers]
IV. East End Area Council (EEAC) Recipe for Success
1. Maintain the East End as a neighborhood without
   turning it into a housing project.
   a. Majority of new construction should be of
      single and two family homes.
   b. Maximize total number of proposed units.

2. A commitment of no eminent domain against existing
   residential structures by the city of Cincinnati.

3. Provide that municipal code 140-90 include the
   Master Development Plan in order to provide for
   fair-tenant housing and to prevent unjustified
   displacement. This should be made effective
   to March 1, 1971.

4. The creation of a housing trust fund.
   a. For rental, rehab, loans or grants.
   b. Not to be considered as eminent domain
      or a tax assessment.

5. Tax abatement for existing residential units for
   a period of 10 years.

6. Provide that the plan not be required to pay for
   itself at the expense of the community.

7. To provide that all major components must pass
   the East End East End neighborhood test and provide
   for living wage which includes

Proposed by:
East End Area Council
Community Action Council
F. J. O'Connell, President
April 1, 1971

Recorded by:
East End Area Council
Community Action Agency
V. Riverfront Advisory Council (RAC) Response to the EEAC Recipe for Success
The East End Area Council’s ‘Recipe for Successful Implementation’ represents a listing of activities and improvements that are critical to the successful revitalization of the East End Riverfront.

1. East End Riverfront Implementation Advisory Committee

There is a need for a community-based committee to oversee the implementation of the Plan. This committee would ensure that this Plan moves forward in a way that makes the project manager/team and all involved city departments accountable to the community.

2. Capital Improvements

NEB needs to start a clean-up of the banks and river to stop the direct dumping of raw sewage in the Ohio River. This is a violation of federal law and NEB needs to be held accountable.

3. Traffic Flow

Traffic engineering, public works and the safety dept. should be directed to work toward making Eastern Ave. a pedestrian-friendly street. Seven to nine and four to six restrictions need to be lifted, thus, making Eastern Ave. two 8 ft. parking lanes and two 12 ft. travel lanes at all times.

4. Social Services

The health and educational services in the East End need to be improved, expanded, and tailored to community needs. A mechanism needs to be created to bring about the return of a neighborhood school.

5. Housing

- Senior housing must become a reality with housing available for both independent and assisted care living.
- Senior housing and new city-assisted low-income housing has to come on line as quickly as needed to ensure the development of the floodplain. The need for rehab assistance in the Floodways must be addressed.
- Housing Trust is essential for the survival of the current population of the East End. A housing trust exclusively for the East End has to be privatized, funded, and organized with a board of trustees composed largely of East End residents.
- ENE must develop a blueprint for housing in the East End with a projected amount of new, city-assisted/low-income housing and rehabbed housing to come on line yearly. The director of NNC would be directly responsible and accountable to the city and the community.
- Building Inspection processes should be revised to separate safety issues from aesthetic concerns.
VII. Methodology Report for Computer Imaging in the East End Riverfront
Images were produced by a combination of the three components. The landform, monuments, and proposal models were constructed in the computer such that parts could be "switched" on and off and viewed independently, or in combination with each other. In a higher graphic platform, they were also brought into combination with the selected photographs and switched to create views successively showing the absence or presence of the proposals and the various landform variants against the photograph. The computer models are fully three-dimensional and therefore the computer "camera" could be positioned virtually anywhere in the computer "space", producing any possible view. For accurate location against the photographs, the profile of the landform and other relevant monuments, such as visible road grades, river edge and so on were used. Images were produced showing these monuments located for viewers to be able to "validate" views by having a means to judge their relative accuracy or rather account for visible views. Consequently, when views of the project alone against the photographs are presented, viewers can make judgments about location, perspectives and relative sizes of elements.

The model components were created in a CAD software (AUTO/CAD) which only allowed viewing of them as wireframes (lines having spatial position but no surfaces). These model geometries were then associated into a higher graphic software (TOYCAD) which allowed them to be "rendered" (viewed as though objects in light and shadow). This software also allowed the photographs to be digitally supported "behind" the models on the screen. Rendered models, when carefully positioned, combine with the photograph to make the preserved images.

The landform was produced by a process called "digitizing" in which the profiles of the land were literally "messed" into the computer along the 1030 control grids on the map. The computer then interpolated the surfaces between every grid square. Some averaging or fattening therefrom occurred in the model between the grid lines. What was sought was a large model generally accurate to horizon profiles, a more accurate model could be obtained by using a smaller control grid but with a significant sacrifice in memory efficiency. One visible error created in this way was the fact that certain peaks, notably Mount Adams, were shorter in elevation than they should be. Another visible problem was the fact that the landform had to be modeled free of vegetation and tree cover somewhat exaggerates the height and profiles of the real hills. This was compensated for in the actual positioning studies by making a judgment of relative forest height. For the most part, the road grades served well to position the models, and hill profiles generally agreed with the road position.

The river was represented as a flat surface within a void in the landform. Although this polygon could be raised and lowered to match changes in the river proper, it was not, and some visual compensation was necessary for visible changes in the river elevation which occurred between two sessions of photo shooting.

Buildings and bridges were constructed (drawn) in the CAD software and assembled...
the terrain and road grade elements. As previously stated, these were greatly simplified, yet modeled to the least complex recognizable form. What was important was their spatial location and elevation for use as positioning monumets, not their qualities of "realism".

The roadways (Eastern Avenue and Columbia Parkway) were modeled in a process of digitizing similar to that used with the terrain. The roads were traced along the two edges of their route and surfaces were interpolated between these edges. Simplification, particularly of curves, was necessary for memory efficiency. Only modeled surfaces were modeled in "route validity" set in the terrain model for the roads. Earthworks, retaining walls, and bridge structures underneath roads were not modeled in some cases leaving holes visible between the modeled edge and the terrain edge.

All elements of this model were assembled into an AutoCAD file, with pre-existing components including landforms well west and north of the study area and most of the buildings in downtown. The portion of the model that specifically for the City (Columbus Parkway, Eastern Avenue, associated landforms, the Ft. Thomas landform, and the two proposal models) are on disk for future use.

The images produced in T0PAS were made into slides by using a PCR film recorder device. This device "sets" digital images to slide, line by line, in discrete color passes (red, green, blue) creating a high resolution image.

The original photoviews lost some resolution and color quality when they were "digitally scanned" into the computer and so they are provided for reference. Some crop in the image also occurs owing to the difference between film frame proportions (aspect ratio) and the rectangular proportion of a video screen.

It should be understood that these processes are often more "artistic" than scientific, great lengths were taken to apply mathematical control to all steps of the creation of these images, and further control has been added to their presentation structure so that they give additional support to the decision-making associated with review of these projects. The comprehensibility of these types of images could be increased by additional supportive imagery combining computer drawings with traditional rendering techniques, photomontage and physical three-dimensional models, particularly for presentation to public groups.

John Decker
Assistant Professor

JD ic
January 10, 1992
VIII. EDAW Urban Design Questionnaire and Memoranda
Urban Design Plan Questionnaire

The EDARW-CE team has been asked to develop an urban design plan and design guidelines for Cincinnati's Eastern Riverfront Community. In order for the Urban Design Plan to be successful, serve your needs and address the pertinent issues, we need your input. The following questionnaire is an important tool in obtaining this input.

The questionnaire has been developed to assist us in identifying the strengths and weaknesses of the area, so physical improvements can be made to preserve and enhance the area.

When answering this questionnaire please be as specific as possible and focus your responses to physical elements. Thank you for your cooperation.

Name:

10 City Staff
8 RAC Member
4 Community Resident
3 Other

1a. Identify the most positive attribute of the Eastern Riverfront Community:
• (16) The River
• (6) Historic/Strong community pride
• (6) Historic/Strong community pride
• (6) Location to downtown

1b. Should this be preserved? yes

2a. Identify two more positive attributes of the Eastern Riverfront Community:
• (6) Amount of recreational/open space
• (5) River views
• (4) Historic character
• (1) Social and economic make-up of the residential neighborhoods

2b. Should these be preserved? yes

3a. Identify the worst aspect of the Eastern Riverfront Community:
• (12) Blighted/Run down
• (3) Bock yards
• (2) Tract housing
• (2) Poor infrastructure
• (2) Neglect by the City

3b. Should this be modified? yes

4a. Identify two more negative aspects of the Eastern Riverfront Community:
• (1) Flooding
• (1) Lack of identity
• (1) Lack of respect/access to river

4b. Should these be modified? yes

5. Identify the one ingredient you would add to the Eastern Riverfront Community:
• (7) Rehabilitation
• (5) Housing
• (3) Streetscape/Greensway

6. Identify two more ingredients you would add to the Eastern Riverfront Community:
• (3) Improved river connection
• (2) Moderate housing
• (2) Open space
• (2) Mixed use

7. Identify one ingredient you would remove from the Eastern Riverfront Community:
• (7) Bock yards
• (7) Tract housing
• (7) Blighted housing

EDARW CE Eastern Riverfront Urban Design Plan
8. Identify two more ingredients you would remove:
   + (1) Fence around gas & electric
   + (1) Wall around water works

9. Describe what the Eastern Riverfront Community will look like in 10 years or after the implementation of the Urban Design Plan (appearance, activities, users):
   + (1) Green, River-oriented residential neighborhood with community shopping, parks and green space with river access, and a pedestrian emphasis
   + (4) Park-like setting oriented to river serving and economically integrated community

   + (4) Affordable, safe, and clean neighborhoods for singles and families of diverse backgrounds and economic status.

   + (4) Charming "villages" along Eastern Avenue with access to the river with small shops and service areas at one end, active & passive play areas at the other end.

   + (4) A place to be. River oriented.

Note: These images will possibly take 10 years to happen.

10. Identify what needs to happen to accomplish this (answer to #9):
    + (5) Commitments to change (community city)
    + (6) Financing/Commitments to invest
    + (6) Concession/Strong direction from Urban Design Plan
    + (6) Good Urban Design Plan/Vision
    + (4) Key acquisitions
    + (1) Removal of eyesores (vacant lots, RR, Blighted buildings, etc.)
    + (3) UDZ Zoning commits
    + (2) Team effort (No individual agendas)
    + (2) Protection of existing communities

11. Identify by name other places you have visited or have heard of that look like the place you described (answer to #9):
    + (1) Seattle, WA
    + (3) European river villages
    + (2) Confluence, TX Riverwalk
    + (1) Toledo, Canada
    + (1) Columbia, MD
    + (1) Seaside, FL
    + (1) Northrup Kings, MI
    + (1) State Line, MO
    + (1) Totally unique place

12a. Describe the current image of the Eastern Riverfront Community:
     + (4) Run down, junk yard, blighted, ignored, neglected, poor economically
     + (1) Pass through neighborhood
   + (4) Good recreational area: ballfields, playgrounds, and recreation centers
   + (1) Community that is physically & socially difficult to bring together/Losable
   + (2) Residential area for generations of families/Rich in heritage
   + (1) Historic potential

12b. Describe what the image of the area will be in 10 years or after the implementation of the Urban Design Plan:
    + (6) Unique & beautiful place to live, work & recreate
    + (6) Urban, riverfront, "village", that is socially & economically balanced
    + (7) Rehabilitated, infused, mixed-use community (possibly catering too much to the upper class)
    + (3) River focus
13. Describe what will cause this effort, to develop and implement an Urban Design Plan for the Eastern Riverfront Community, to fail (the failure scenario):

- (1) Lack of city and/or community support and involvement
- (2) Lack of funding for implementation of plan
- (3) Invasion of private developers
- (4) Inadequate communications
- (5) Lack of proper development zone restrictions
- (6) Plan would not work in a realistic and successful plan
- (7) Lack of clear goals

Additional comments:
- (1) Existing rail right-of-way should be saved and utilized for rapid transit
- (2) Provide a pedestrian overpass associated with Eastern Avenue
- (3) Provide public transit service to area
- (4) Eliminate the need for a private developer to purchase land for development
To: Lee Meyer, Jackie McCoy
From: Dennis Carnichael, Laura Wiberg, Paul Meyer
Project: Eastern Riverfront Urban Design Plan
EDAW Job No. 183046.91
Date: November 16, 1990
Revised November 29, 1990
Subject: Mission Statement and Project Goals

Based on the comments from our workshop conducted on November 8 and 9, 1990, and the public meeting held on November 16, 1990, we have developed a Mission Statement to guide the urban design effort and a series of goals and objectives that express the vision for the community. They will be the foundation for all future urban design recommendations and will be translated into a physical setting for the Community. Please review these statements and let us know of your comments and any revisions.

Mission Statement

To preserve the attributes and the opportunities of the Eastern Riverfront Community, and manage the changes and the development forces acting on the community by creating action-oriented strategies in balance and reinforce the character of the existing neighborhoods while encouraging and creating opportunities for new development.

The Eastern Riverfront community planning and urban design effort is structured around six broad principles. They include:

- Development of broad-based community participation and consensus building.
- Identification of key issues and opportunities.
- Identification of short and long range focus areas, programs and projects.
- Development of an implementation strategy to carry out the planning and design effort.
- Development of a sound fiscal policy where new developments and tax revenues support new public improvements and services.

The Eastern Riverfront Urban Design Plan and process will be structured around the six principles and an understanding of basic community values and priorities. This will form the basis for the Plan's goals. The Plan's mission is summarized by the following points:

- Establish a vision and a process for the Eastern Riverfront that is flexible and can be sustained over time.
- Provide goals and objectives that are measurable and achievable.

- Provoke a Plan, with recommendations, that identifies design guidelines, necessary public improvements, and private development efforts, and addresses the following:
  - An image for the community that is representative of its people, values and history.
  - The existing physical structure of the community and its strong connection to the River.
  - The buildings and areas of architectural and historic significance and strategies for conservation, rehabilitation and infill.
  - Recommendations on bulk, character, quality, scale, height, and use that will form the basis for zoning rewrites.
  - Improvements to existing parks and parking, and future additional public spaces and parks.
  - Improvements to existing community access points and circulation routes.
  - Opportunities for private development.

- Develop a prioritized schedule for design and public improvements recommendations, identifying short- and long-term actions.

- Develop a plan that increases economic activity in the area and over time translates into property tax revenues that will support the proposed and recommended public improvements.

- Identify public improvements that will encourage private development and build upon the image of the Eastern Riverfront Community.

Goals and Objectives

1. Create broad, community-based support for the Plan
   The Plan will be designed to reflect the concerns of the community and the goals of the City.
   - Eliminate the open and innovative involvement of community residents/owners and the community-at-large.

2. Improve and enhance the quality of life in the Eastern Riverfront Community
   The Plan will propose improvements which will create a renewed focus and image in the Community.

Character

- Enhance the community as an unique place to live, work and play.
Memorandum

- Create a series of urban villages.
- Integrate the village with creating a unified community-wide image.
- Increase visibility and awareness of the River within the community and maintain views to the River from Columbia Parkway and the hillside above.

Existing Facilities
- Conserve and enhance existing housing and physically and visually integrate future housing within the existing context.

New Facilities
- Utilize infill housing to extend the character and scale of existing housing.
- Identify opportunities for future higher-density, mid-rise housing at appropriate locations throughout the community.
- Utilize design solutions to preserve socio-economic integration through a diversity of housing products.
- Develop design guidelines to address the physical layout, location and massing for new developments.
- Identify the appropriate number and size of new river-oriented, neighborhood-scale office and retail uses.

3. Retain, renovate and/or upgrade the historic, architectural and cultural fabric of the Community.

The Plan will recommend actions to preserve the historic and architectural integrity of the community and promote significant neighborhood characterizations that are based on the heritage and traditions of the area.
- Pedestrian Club
- Ironworks
- St. Rose's Church
- Mt. Carmel Church
- Highland School
- Gilmore (potentially without the wall)

4. Improve circulation and linkages to surrounding areas and re-establish the Eastern Riverfront as a community and a destination.

The Plan will encourage and recommend a safe and easy flow of cars and people to and through the area.

EDAW, Inc.

Eastern Riverfront Urban Design Plan

Memorandum

- Improve north-south vehicular access to the area.
- Address the existing truck traffic along Eastern Avenue and its impact on Eastern Avenue as the primary street in the Community.
- Minimize transportation impacts of new development on the community.

Street Configuration
- Improve vehicular safety and accessibility to the community along Collins Avenue.

Street Character
- Recognize Eastern Avenue as the primary street in the community, both visually and physically, and study the character changes that occur along its length.
- Recognize the purpose of the streets in the community and their capacities for accommodating traffic and parking and providing access.
- Protect the "green corridor" along Columbia Parkway.

Pedestrian Circulation
- Identify and enhance pedestrian and recreation linkages, focused on the riverfront and the hillside.
- Identify and reinforce a system of pedestrian and recreation linkages, north-south and east-west, between the riverfront and the hillside.
- Create a continuous and separate bike path and pedestrian path along the east-west length of the Community.

Mass Transit
- Preserve the railroad right-of-way (R.O.W.) corridor and the opportunity in the future for mass transit.

5. Maintain, enhance and integrate existing and proposed open space within the Community.

The Plan will recommend the means for creating a balance between community and regional-serving recreation facilities.

River Access
- Enhance the feasibility of public access to the riverfront.
Memorandum

Provide continuous east-west pedestrian and recreational access if possible, that could be located along the bank of the river, the railroad right-of-way or Eastern Avenue.

Determine location of the path and the character of the access which will vary depending on ownership patterns and configurations, and development and design needs.

Existing Facilities

Examine existing facilities and provide recreation and open space opportunities that address the different needs of the community and the city.

New Facilities

Provide a more equitable geographic distribution of recreation opportunities throughout the community.

Provide seasonal recreation opportunities to support the existing recreation facilities and their ability to serve the city's and the community's needs.

6. Protect and enhance the natural environment.

The Plan will identify areas critical to the character and quality of the community that should be preserved, those areas that are capable of accommodating change, and the character of that change.

- Identify and preserve, and when necessary enhance, the critically sensitive environmental areas, including the river's edge and the hillside.
- Preserve and maintain views to the river.
- Identify areas suitable for additional development based on environmental sensitivity and suitability, floodplain, steep slopes and shoreline erosion.
- Identify areas of potential contaminants and hazardous materials and determine the impact on future development.