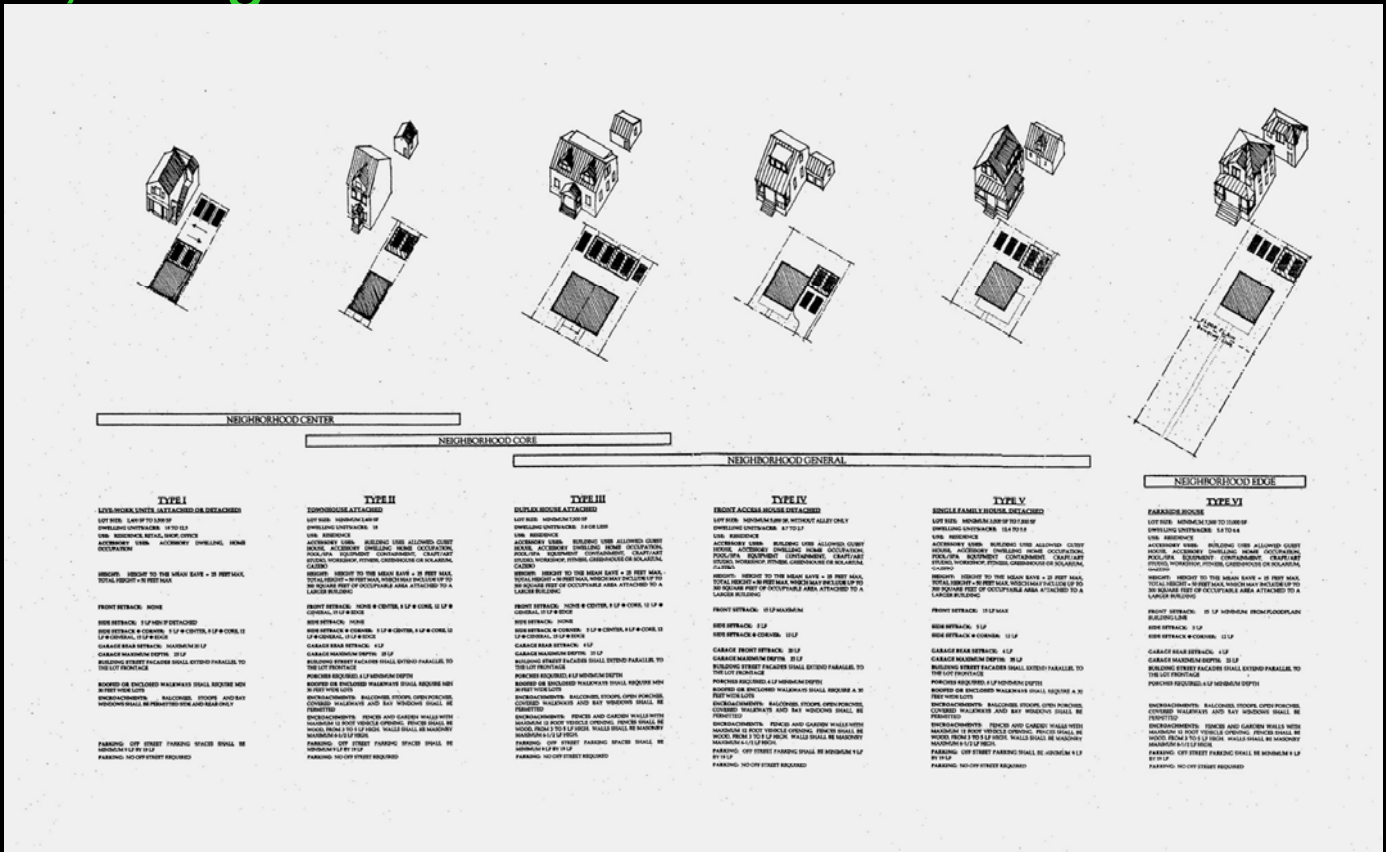
Urbsworks Form-Based Code Examples

- North Mountain Neighborhood, Ashland, OR
- Draft Code for Azusa, CA
- Prototype Catalogue for NorthWest Crossing, Bend, OR
- Palo Alto Form-Based Code, CA
- Infill Prototype Study for Code Modifications, Portland, OR

* a “form code” is simply a code based primarily on “form”—urban form , including the relationship of buildings to each other, to streets and to open spaces—rather than based primarily on land use.

Graphic code for North Mountain Neighborhood, Ashland, Oregon



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Graphic code for Azusa, California

Village Core

Village Core 1
village retail and/or office; mixed use

Village Core 2
village residential, flats, and attached dwelling

Allowed land uses: Retail and/or office at the ground level; residential at second level and above.

Typical building types: urban block, urban townhome.

Description: Buildings will be mostly 2 stories fronting the street with a storefront character, creating a main street pedestrian-friendly environment. Buildings are built right up to the front lot line, and all parking is located at the rear of the lot off of the alley.

Buildings are required to be attached; however, no fewer than four, and no more than six buildings shall be attached without a sideyard or passageway.

Passageways should be designed for pedestrian access to the lane and mid-block parking. Preferably, the long side of a typical block shall have at least one such passageway.

Possible zoning designations: commercial with R overlay; transit oriented commercial.

Village general

Village General Prototype 1
village residential, flats, and attached dwelling

Village General Prototype 2
village residential attached

Allowed land uses: Residential, live/work .

Typical building types: garden flats, garden townhomes.

Description: Buildings will be mostly 2 stories fronting the street with a small-scale urban residential character, creating a gracious village ambience and a pedestrian-friendly environment. The preferred front setback is 10 feet from the front lot line, and all parking is located at the rear of the lot off of the alley.

Possible zoning designations: Attached residential.

Neighborhood core

Neighborhood Core Prototype 1
neighborhood non-residential

Neighborhood Core Prototype 2
neighborhood small lot/cottage

Allowed land uses: Small scale non-residential, live/work, residential, accessory dwelling units.

Typical building types: Detached traditional home, most accommodating a single dwelling; some with two dwellings or multiple flats.

Description: Buildings are detached, on lots ranging from small to medium.

Residences face the street with porches, and all parking is located at the rear of the lot off of the alley, in detached or attached garages.

Possible zoning designations: Detached residential.

Neighborhood general. Garden neighborhood

Neighborhood general. Hilltop village

Neighborhood General Prototype 1
neighborhood small lot house

Neighborhood General Prototype 2
neighborhood medium lot house

Neighborhood General Prototype 3
neighborhood large lot house

Allowed land uses: Residential, home occupation.

Typical building types: Detached traditional home, most accommodating a single dwelling; some with two dwellings or multiple flats.

Description: Buildings are detached, on lots ranging from small, to medium, to large. Accessory dwelling units.

Residences face the street with porches, and all parking is located at the rear of the lot off of the alley, in detached or attached garages.

Possible zoning designations: Detached residential.

Edge Residential

Edge Prototype 2
edge residential/large lot

Allowed land uses: Residential, home occupation.

Typical building types: Detached, large traditional home (manor house prototype), most accommodating a single dwelling; some with two dwellings or multiple flats.

Description: Buildings are detached, on lots ranging from medium to large.

Residences face the street with porches, and all parking is located at the rear of the lot

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The Hillside Garden Code Transect

Lennertz Coyle & Associates, LLC
Urban Design & Town Planning
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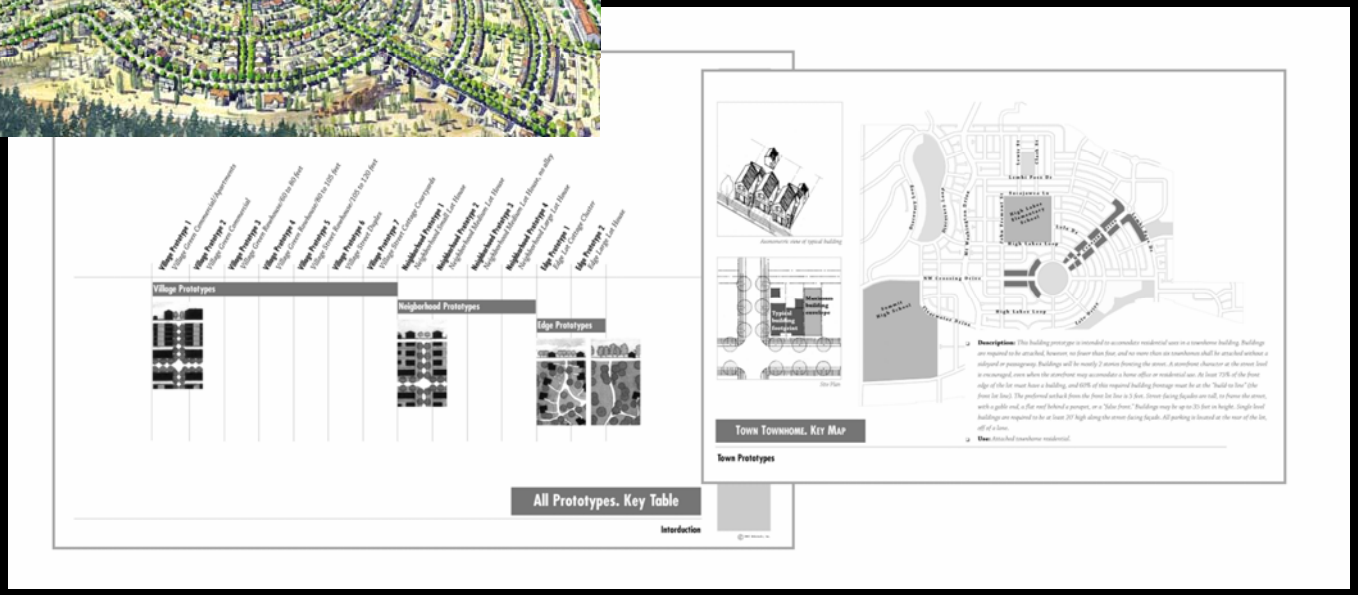
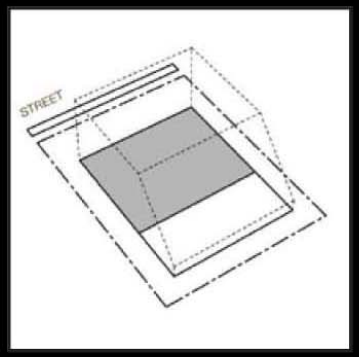
Urbsworks, Inc
Design Codes

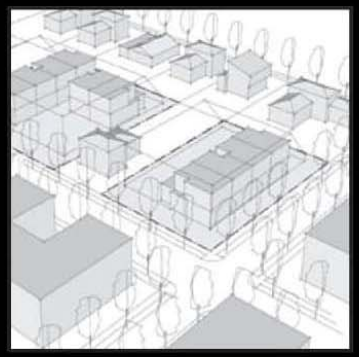
The Hillside Gardens
Jardines De Las Lomas

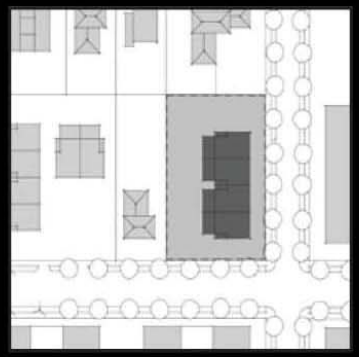
Transect and graphic code for NorthWest Crossing

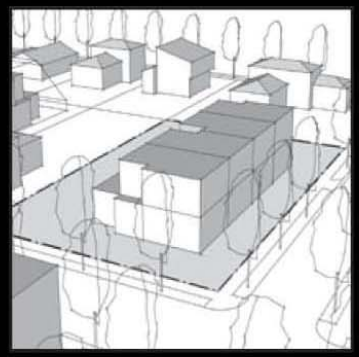


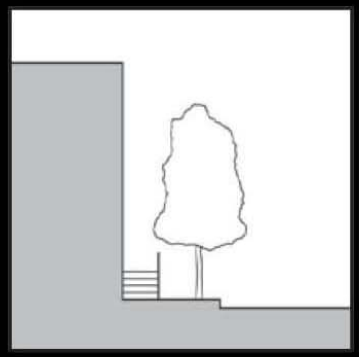
City of Palo Alto



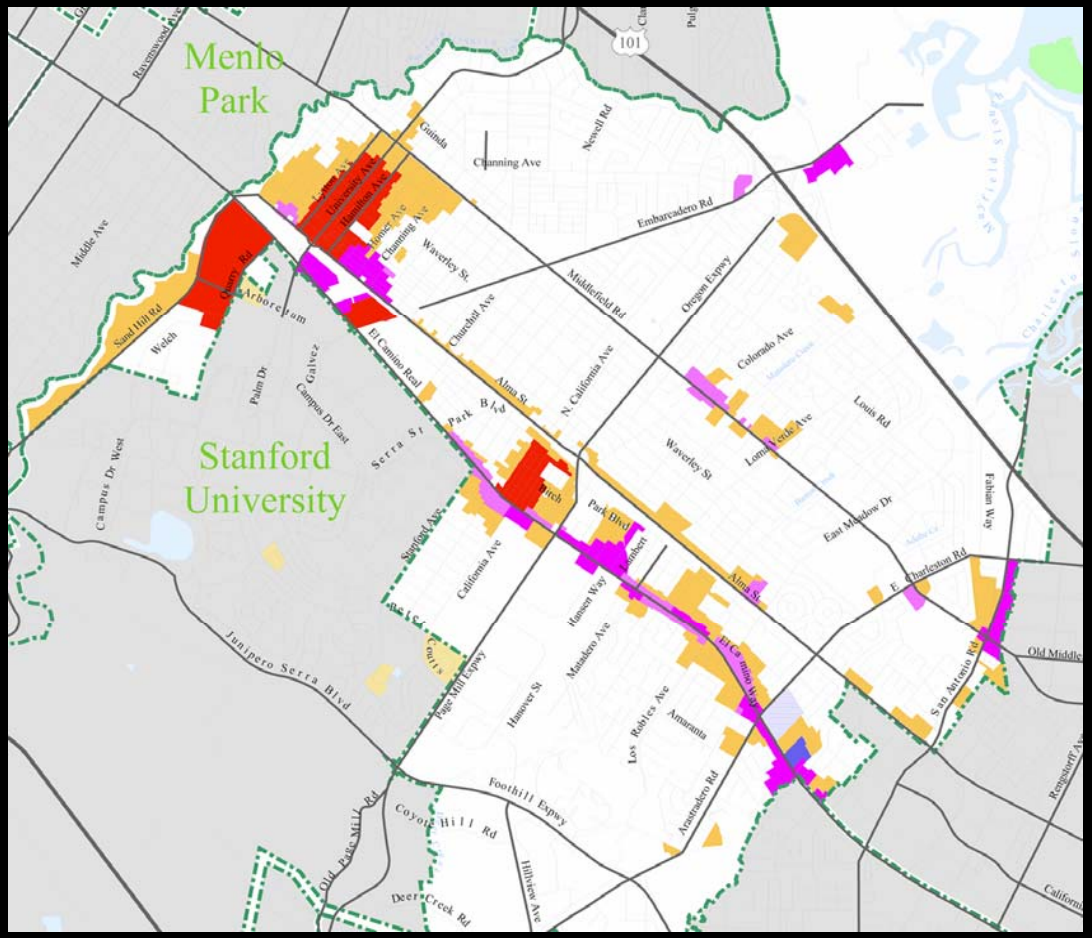








City of Palo Alto



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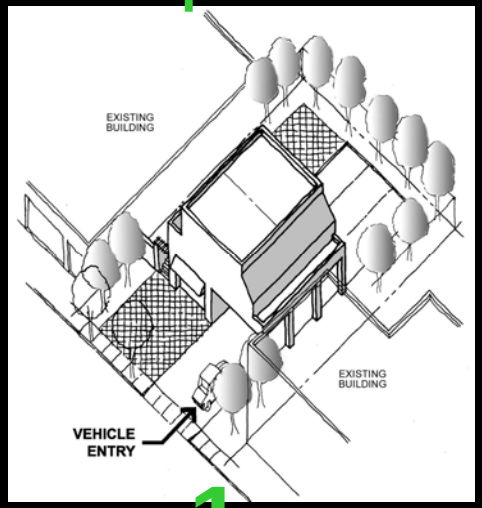
Commercial & Multifamily Districts

Identifying Constraints and Testing Prototypes

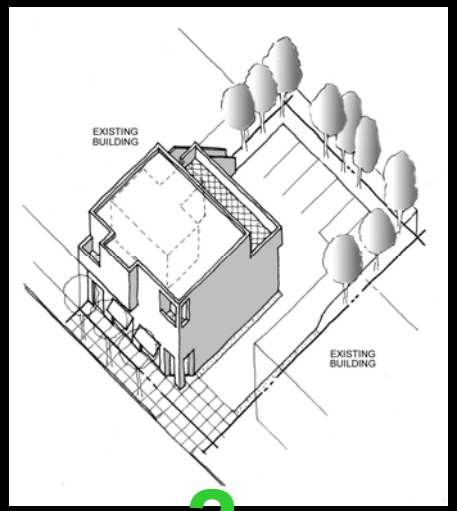
3-Step Process



1

Existing Regulations Prototype

Determine which regulations most influence development type



2

Comprehensive Plan Prototype

Which regulations might need to be modified to achieve policy goals

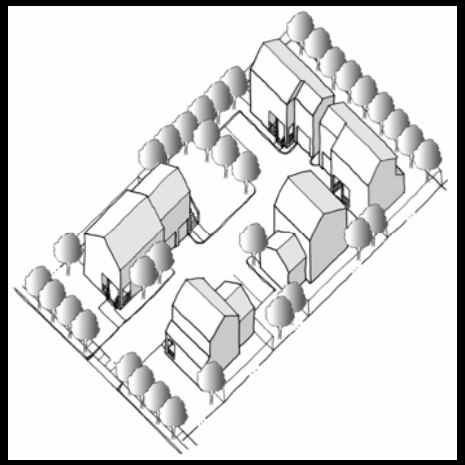
phase 2—
prototypes and
development
standards

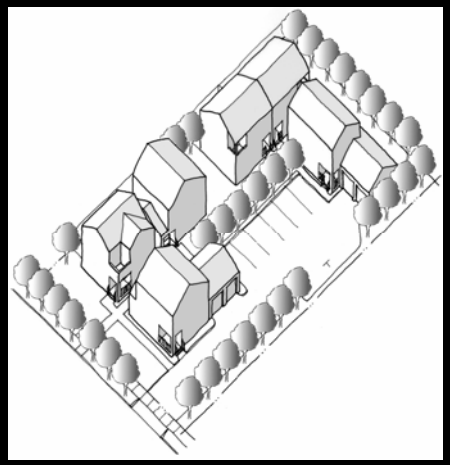
3

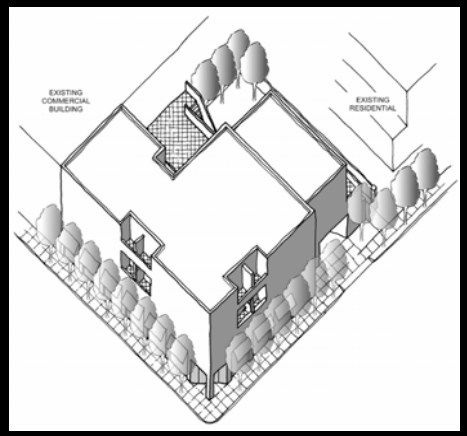
Zoning Regulation Recommendations

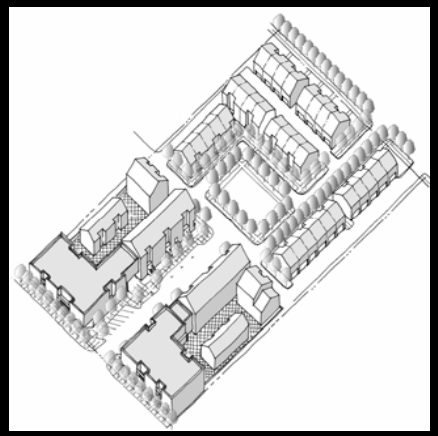
Form-based code
within context of
the Zoning Ordinance

Phase 1 Comprehensive Plan Prototypes

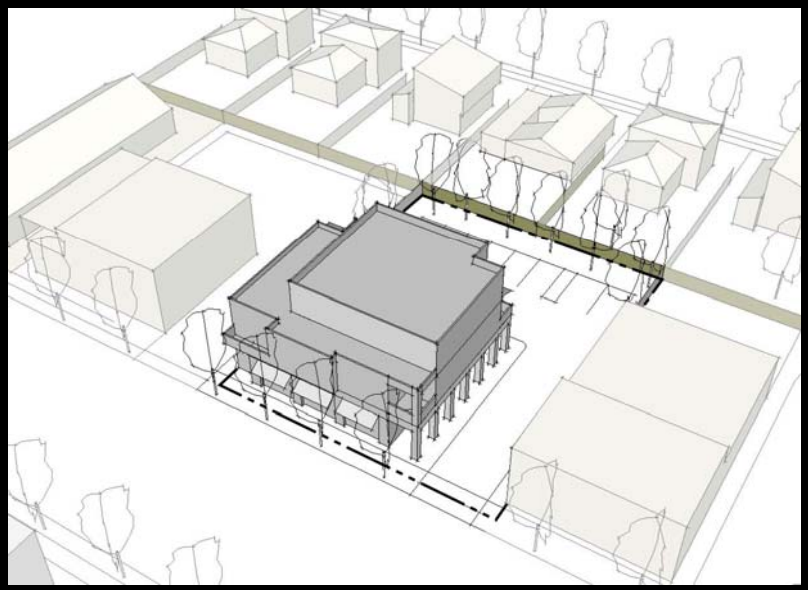


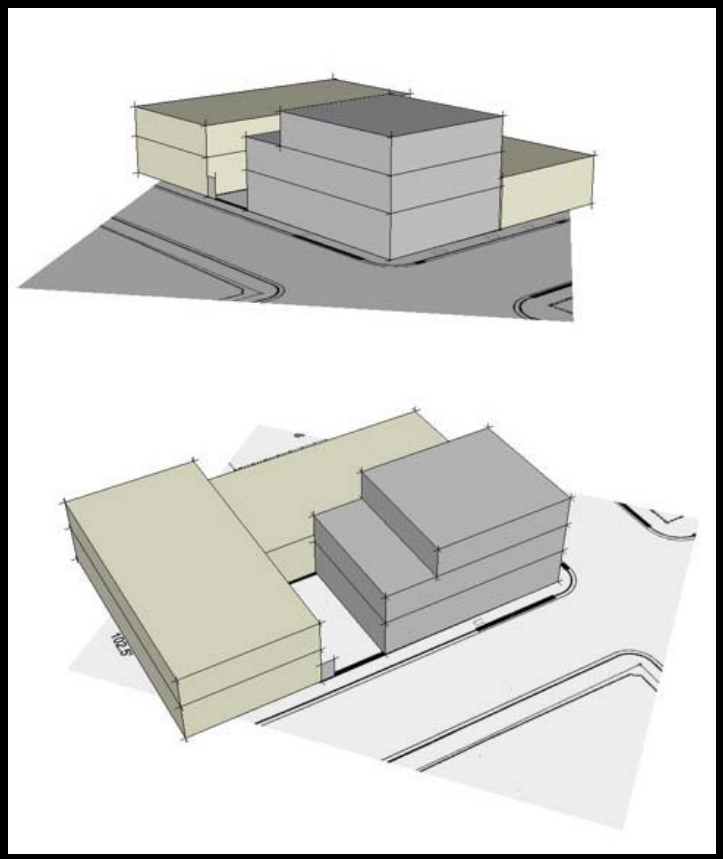






Phase 2 Prototypes





Palo Alto Zoning Ordinance Update. Format and Process

Existing/conventional format versus new format

Section 18.13.050. Context-Based Design

Introduction and Description of Terms

Form-Based Code. The Comprehensive Plan (Policy G-17) directs that the City of Palo Alto "use illustrations and 'form code' methods for simplifying the Zoning Ordinance." A form code is intended to better indicate the types (form) of development desired by the City. For the purposes of the Zoning Ordinance, a "form-based code" means:

> *"a code based primarily on "form" – urban form, including the relationship of buildings to each other, to streets and to open spaces – rather than based primarily on land use."*

The following diagrams and development standards comprise a "form-based code" to illustrate three different densities of multi-family residential use and how each type of development should respond to its context. Context-based design allows for flexibility of development while emphasizing compatibility with surrounding land uses.

Context. The word "context" as used in this section is intended to indicate relationships between the site's development to adjacent street types, surrounding land uses, and on-site or nearby natural features, such as creeks or trees. Effective transitions to these adjacent uses and features are strongly reinforced by Comprehensive Plan policies.

The word "context" should not be construed as a desire to replicate the existing surroundings, but rather to provide appropriate transitions to those surroundings. "Context" is also not specific to architectural style or design, though in some instances relationships may be reinforced by an architectural response.

Overview. In the following pages, diagrams are provided to demonstrate how a harmonious design between proposed multi-family residential development and adjacent street types, land uses and environmental features can be achieved. More extensive transition buffers are required near low density residential zones, while stronger relationships to the street and pedestrian environment are expected near commercial and mixed use areas. The diagrams also provide links to other important considerations for development, such as tree protection, stormwater control, and related engineering and public safety standards.

Organization and Purpose Statements

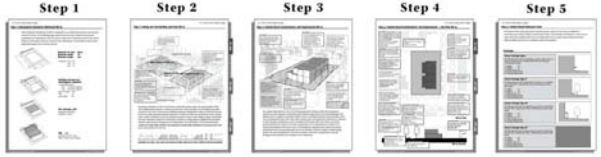
Organization. This section is organized to provide the user with a sequence of guidance that begins with a general understanding of the context-based approach and then proceeds to illustrate more specific development considerations and requirements. Five steps are outlined for each development type, including:

Step 1: What are the basic development standards for each district? Standards are illustrated on this page.
Step 2: What is the context for the site? Examples of potential development are depicted in context with the surrounding land uses, and important context-based relationships are identified.
Step 3: What design factors should be considered to address context? A perspective of the example site development highlights design requirements and considerations that should be identified.

Palo Alto Form-based Code Sample Chapter | 07.15.04_FINAL DRAFT — Urbsworks, Inc. / Van Meter Williams Pollack

Step 4: What site planning factors should be considered to address context? A site plan of the example site development highlights site planning requirements and considerations.
Step 5: How can context-based design be incorporated into development plans? A set of design tools are illustrated to provide for context-based transitions to street types, adjacent land uses and natural features.

Step 1 | Step 2 | Step 3 | Step 4 | Step 5



Purpose of RM Context-Based Design

The multi-family residential zones are intended to create varying intensities of housing that is compatible with and integrated into its surroundings. Context-based design is intended to assure appropriate building scale and relationships with nearby land uses, streets and open spaces.

RM-15 context-based design should be compatible with nearby single-family development and serve as a transition to higher density development.

RM-30 context-based design should be integrated with low density and other multi-family residential uses and should provide for appropriate frontage treatment in pedestrian-oriented areas and along major roadways.

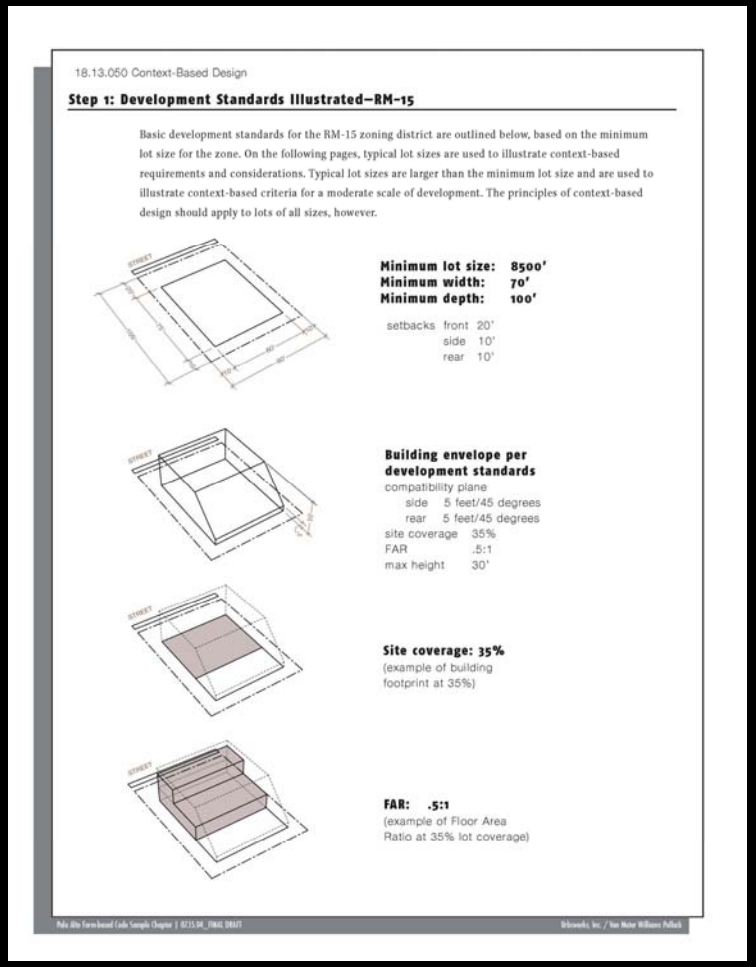
RM-40 context-based design should be compatible with other multi-family residential uses and integrated with commercial and mixed use development, and should provide for appropriate frontage treatments in pedestrian-oriented areas and along major roadways.

Overall intensity for multi-family residential zones is governed by the basic development standards (floor area ratio, density, height, setbacks and coverage), but additional criteria are provided to create smooth transitions (setbacks, buffering, etc.) to and from adjacent uses and appropriate frontage treatments in pedestrian-oriented areas and along major roadways.

RM-15 | RM-30 | RM-40

Palo Alto Form-based Code Sample Chapter | 07.15.04_FINAL DRAFT — Urbsworks, Inc. / Van Meter Williams Pollack

Sample Code Format: Steps 1 & 2



18.13.050 Context-Based Design

Step 1: Development Standards Illustrated–RM-15

Basic development standards for the RM-15 zoning district are outlined below, based on the minimum lot size for the zone. On the following pages, typical lot sizes are used to illustrate context-based requirements and considerations. Typical lot sizes are larger than the minimum lot size and are used to illustrate context-based criteria for a moderate scale of development. The principles of context-based design should apply to lots of all sizes, however.

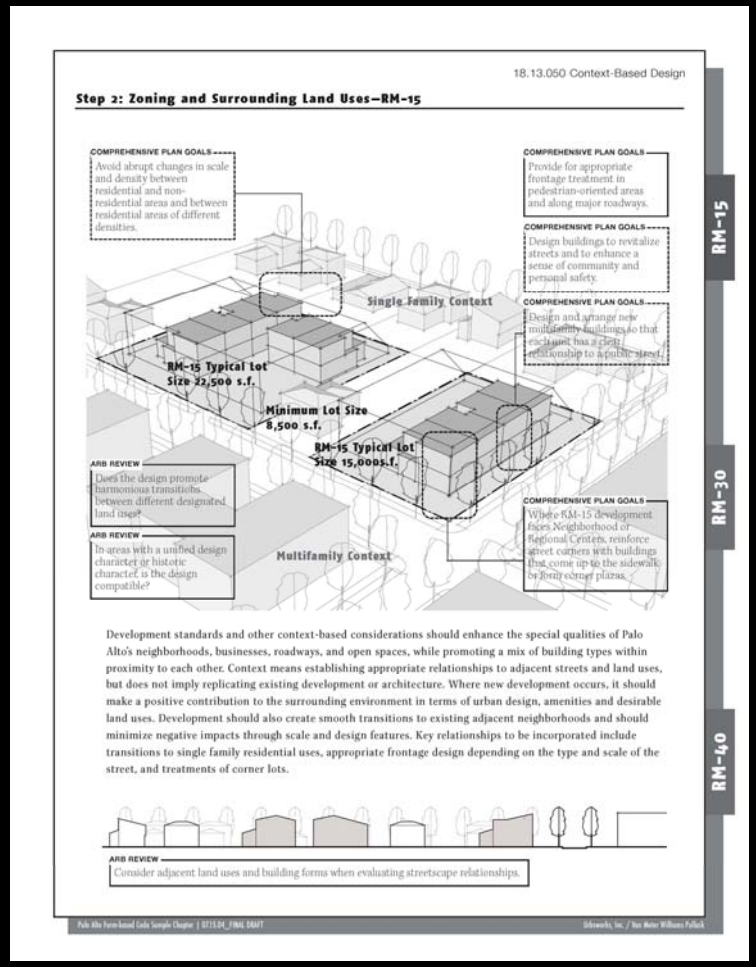
Minimum lot size: 8500'
Minimum width: 70'
Minimum depth: 100'

setbacks front 20'
side 10'
rear 10'

Building envelope per development standards
compatibility plane
side 5 feet/45 degrees
rear 5 feet/45 degrees
site coverage 35%
FAR .5:1
max height 30'

Site coverage: 35%
(example of building footprint at 35%)

FAR: .5:1
(example of Floor Area Ratio at 35% lot coverage)



18.13.050 Context-Based Design

Step 2: Zoning and Surrounding Land Uses–RM-15

COMPREHENSIVE PLAN GOALS
Avoid abrupt changes in scale and density between residential and non-residential areas and between residential areas of different densities.

COMPREHENSIVE PLAN GOALS
Provide for appropriate frontage treatment in pedestrian-oriented areas and along major roadways.

COMPREHENSIVE PLAN GOALS
Design buildings to revitalize streets and to enhance a sense of community and personal safety.

COMPREHENSIVE PLAN GOALS
Design and arrange new multifamily buildings so that each unit has a clear relationship to a public street.

Single Family Context

RM-15 Typical Lot Size 22,500 s.f.

Minimum Lot Size 8,500 s.f.

RM-15 Typical Lot Size 15,000s.f.

ARB REVIEW
Does the design promote harmonious transitions between different designated land uses?

ARB REVIEW
In areas with a unified design character or historic character, is the design compatible?

Multifamily Context

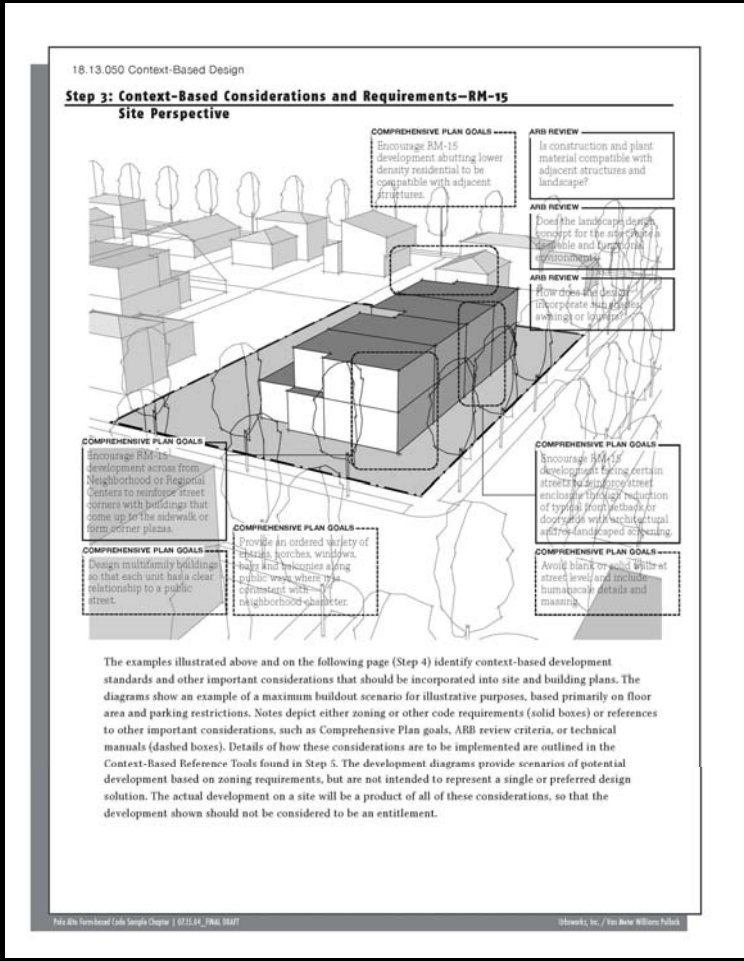
COMPREHENSIVE PLAN GOALS
Where RM-15 development faces Neighborhood or Regional Centers, reinforce street corners with buildings that come up to the sidewalk or form corner plazas.

Development standards and other context-based considerations should enhance the special qualities of Palo Alto's neighborhoods, businesses, roadways, and open spaces, while promoting a mix of building types within proximity to each other. Context means establishing appropriate relationships to adjacent streets and land uses, but does not imply replicating existing development or architecture. Where new development occurs, it should make a positive contribution to the surrounding environment in terms of urban design, amenities and desirable land uses. Development should also create smooth transitions to existing adjacent neighborhoods and should minimize negative impacts through scale and design features. Key relationships to be incorporated include transitions to single family residential uses, appropriate frontage design depending on the type and scale of the street, and treatments of corner lots.

ARB REVIEW
Consider adjacent land uses and building forms when evaluating streetscape relationships.

RM-15
RM-30
RM-40

Sample Code Format: Steps 3 & 4



18.13.050 Context-Based Design

Step 3: Context-Based Considerations and Requirements—RM-15
Site Perspective

COMPREHENSIVE PLAN GOALS
Encourage RM-15 development abutting lower density residential to be compatible with adjacent structures.

ARB REVIEW
Is construction and plant material compatible with adjacent structures and landscape?

ARB REVIEW
Does the landscape design concept for the site create a sustainable and functional environment?

ARB REVIEW
How does the design incorporate sun screens, awnings or louvers?

COMPREHENSIVE PLAN GOALS
Encourage RM-15 development across from Neighborhood or Regional Centers to reinforce street corners with buildings that come up to the sidewalk or form corner plazas.

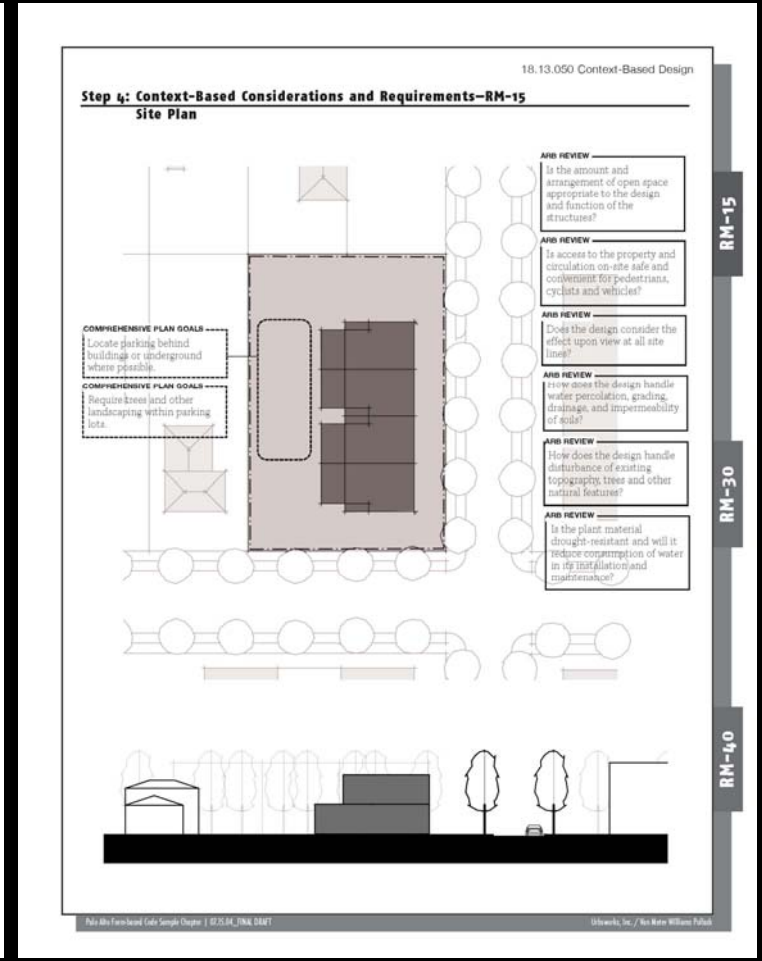
COMPREHENSIVE PLAN GOALS
Design multifamily buildings so that each unit has a clear relationship to a public street.

COMPREHENSIVE PLAN GOALS
Provide an ordered variety of stoops, porches, windows, bays and balconies along public ways where it is consistent with neighborhood character.

COMPREHENSIVE PLAN GOALS
Encourage RM-15 development facing certain streets to define street enclosure through reduction of typical front setback or dooryards with architectural and/or landscaped screening.

COMPREHENSIVE PLAN GOALS
Avoid blank or solid walls at street level and include humanscale details and massing.

The examples illustrated above and on the following page (Step 4) identify context-based development standards and other important considerations that should be incorporated into site and building plans. The diagrams show an example of a maximum buildout scenario for illustrative purposes, based primarily on floor area and parking restrictions. Notes depict either zoning or other code requirements (solid boxes) or references to other important considerations, such as Comprehensive Plan goals, ARB review criteria, or technical manuals (dashed boxes). Details of how these considerations are to be implemented are outlined in the Context-Based Reference Tools found in Step 5. The development diagrams provide scenarios of potential development based on zoning requirements, but are not intended to represent a single or preferred design solution. The actual development on a site will be a product of all of these considerations, so that the development shown should not be considered to be an entitlement.



18.13.050 Context-Based Design

Step 4: Context-Based Considerations and Requirements—RM-15
Site Plan

ARB REVIEW
Is the amount and arrangement of open space appropriate to the design and function of the structures?

ARB REVIEW
Is access to the property and circulation on-site safe and convenient for pedestrians, cyclists and vehicles?

ARB REVIEW
Does the design consider the effect upon view at all site lines?

ARB REVIEW
How does the design handle water percolation, grading, drainage, and impermeability of soils?

ARB REVIEW
How does the design handle disturbance of existing topography, trees and other natural features?

ARB REVIEW
Is the plant material drought-resistant and will it reduce consumption of water in its installation and maintenance?

COMPREHENSIVE PLAN GOALS
Locate parking behind buildings or underground where possible.

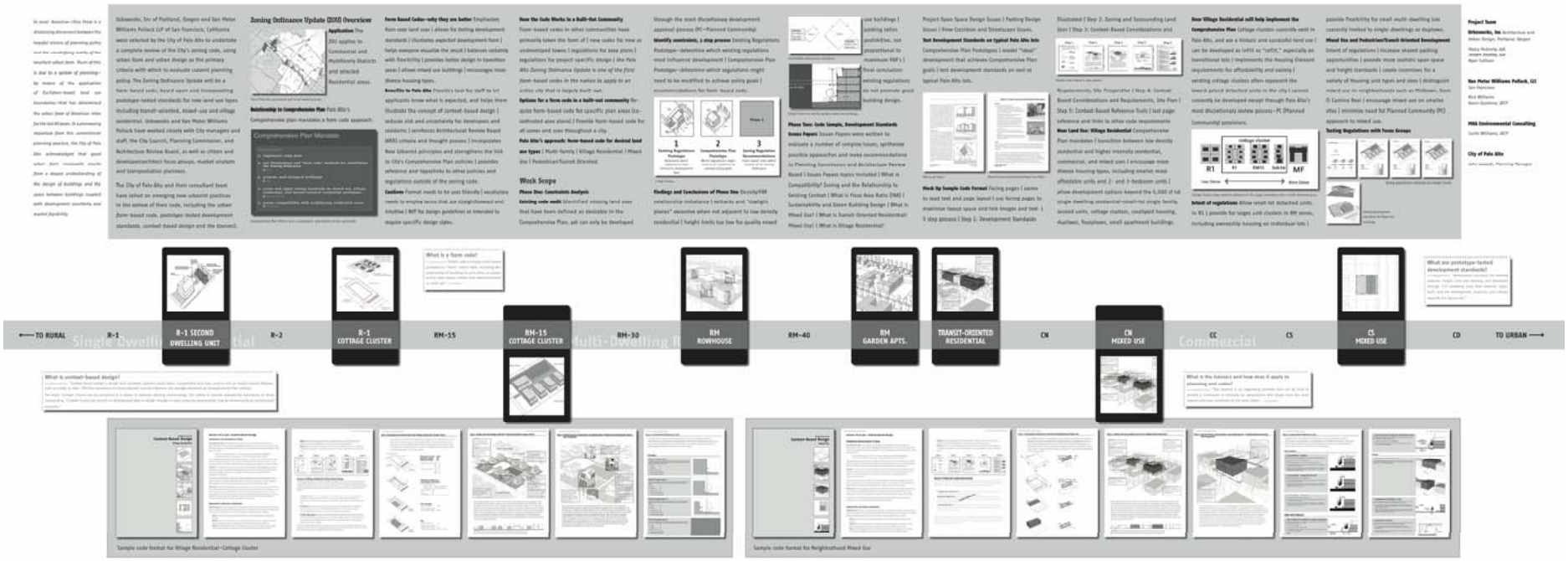
COMPREHENSIVE PLAN GOALS
Require trees and other landscaping within parking lots.

RM-15
RM-30
RM-40

SUCCESSFUL IMPLEMENTATION OF NEW URBANISM TOOLS: CITY OF PALO ALTO ZONING ORDINANCE UPDATE TO FORM-BASED CODE

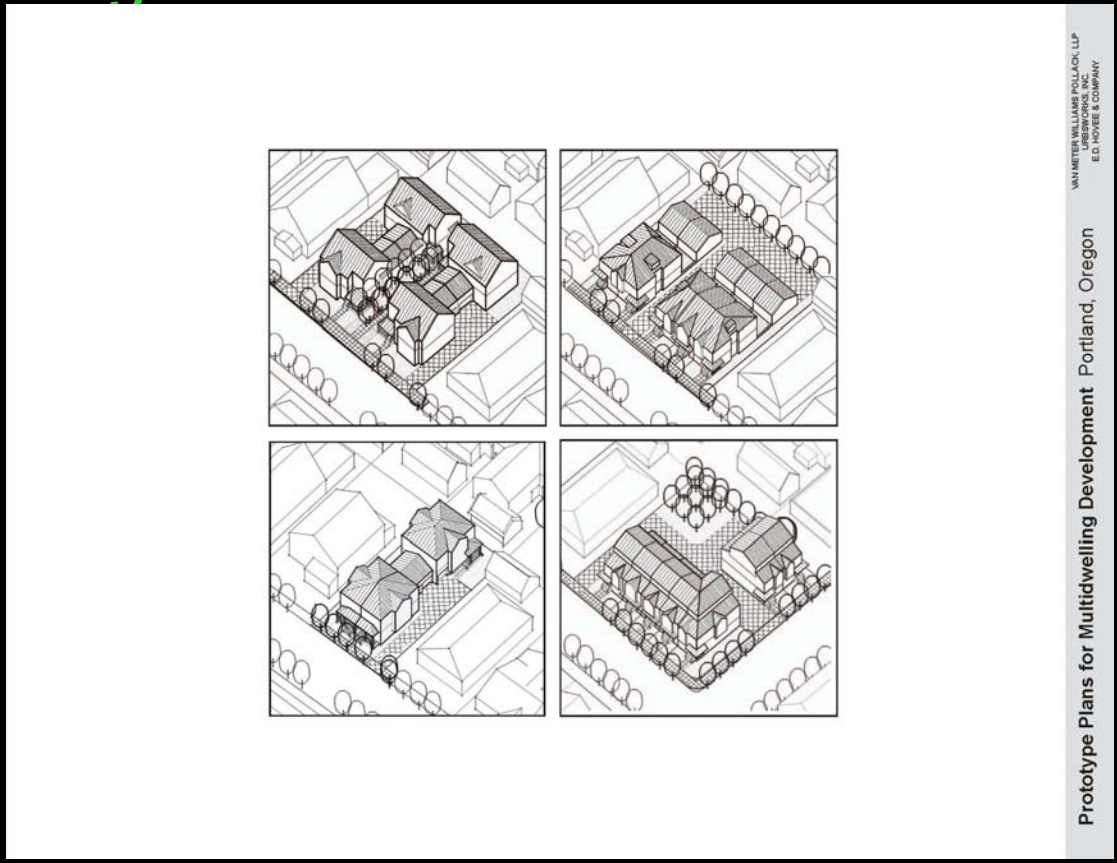
[FUNCTION CODE S321]

Marcy McInelly, AIA, Urbsworks Architecture & Urban Design



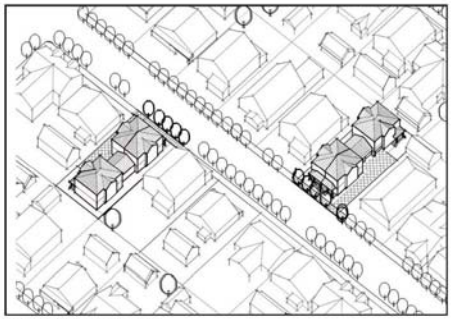
urbsworks

Infill Prototype Study for Code Modifications, Portland, Oregon

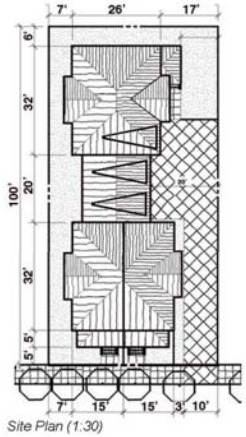


Infill Prototype Study for Code Modifications, Portland, Oregon

Site Axonometric View



Axonometric with Context



Site Plan (1:30)

Precedents

Site 2 - v.b 5,000 SF site in the R1 zone

Prototype 2b - "House-plex"

- 3 rental units in 2 buildings (1,000 - 1,400 sq ft each, not including garages).
- Street-facing "two-plex" building designed to reflect scale and front setback of single dwelling house.
- Rear unit has garage; street-facing units share carport.
- A 4th unit without parking is possible, or with a parking pad instead of rear yard.

VAN METER WILLIAMS POLLACK, LLP
URBSWORKS, INC.
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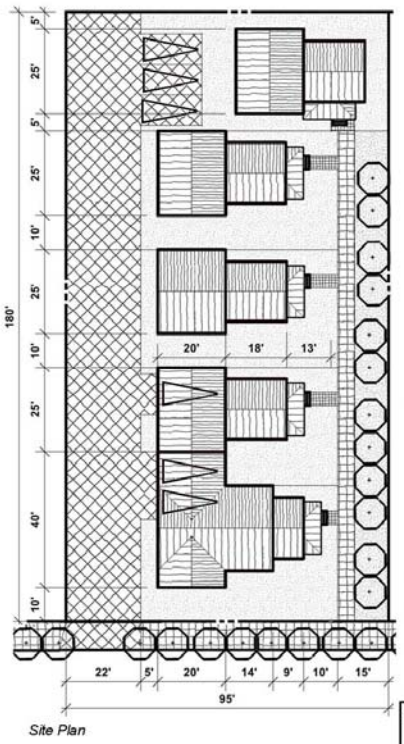
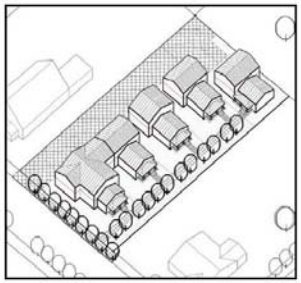
Prototype Plans for Multidwelling Development Portland, Oregon

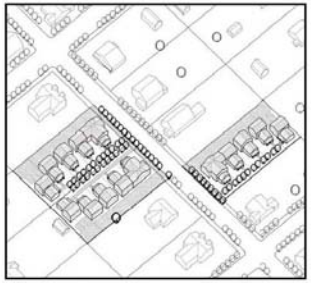
Infill Prototype Study for Code Modifications, Portland, Oregon



Site Plan



Site Axonometric View



Neighborhood Context

Precedent

Site 4 - v.c

95' x 180' (17,500 SF) site in the R2 zone - Outer SE neighborhood

Prototype 4C - "Mirrored Green"

- 6 units (1,050 - 1,400 sq ft each, not including parking) arranged around a common green
- Fee-simple ownership.
- Street-facing unit is a duplex.
- Some units take advantage of a 0' lot line at the side yard to maximize useable yard area.
- Detached, 1-1/2 story units at the back of the site are designed to blend in with Outer SE landscape-intensive, low-lying character.
- Design intended to allow a pattern of mirrored greens to develop over time.

Regulatory Notes

- To accommodate the Fire Bureau-required 22' wide alley, the common green was reduced to the minimum 15' dimension, resulting in a greater net acreage. As a result, the density required for this site is 7 units.

Prototype Plans for Multidwelling Development