



Department of Business, Economic Development & Tourism
Hawaii Community Development Authority



High Technology Development Corporation

MASTER PLAN

Kakaako Makai Innovation Block at Lot "C"
in the
Makai Area of the Kakaako Community
Development District
DEV DP 2.80

FINAL: 07.29.2015

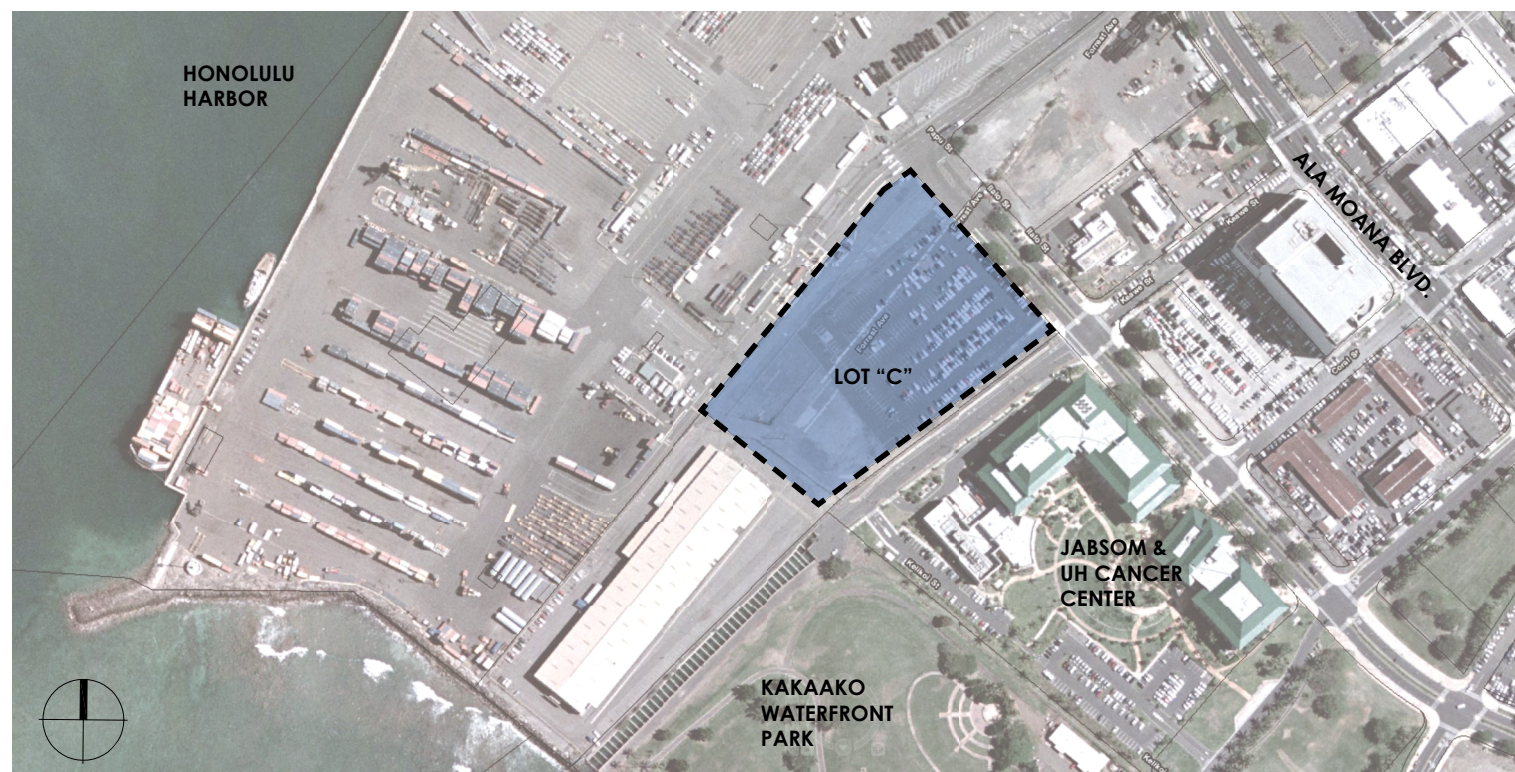
FERRARO CHOI

MASTER PLAN for

HAWAII COMMUNITY DEVELOPMENT AUTHORITY - KAKAAKO MAKAI INNOVATION BLOCK on LOT C in the MAKAI AREA of the KAKAAKO COMMUNITY DEVELOPMENT DISTRICT (HCDA Contract No. 63715)

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The project site for the Kakaako Makai Innovation Block is located within the Makai Area of the Kakaako Community Development District and is administered by the Hawaii Community Development Authority (HCDA). The property is commonly referred to as "Lot C" and comprises approximately 5.5 acres of land area.

The Mauka edge of the site is bordered by Ilalo Street. The Makai and Diamond Head portions of the site abut property owned by the Office of Hawaiian Affairs (OHA) including a narrow segment which extends parallel to Keawe Street. Toward the Ewa direction is property owned by the State of Hawaii Department of Transportation (DOT) Harbors Division.

Lot C is currently used as a surface parking lot for the nearby University of Hawaii John A. Burns School of Medicine (JABSOM) and Cancer Center with capacity of approximately 414 parking stalls. The southern portion of the property is leased for tenant use and includes surface parking and a small portable building. The Ewa edge of Lot C serves as an access driveway to the neighboring OHA property.

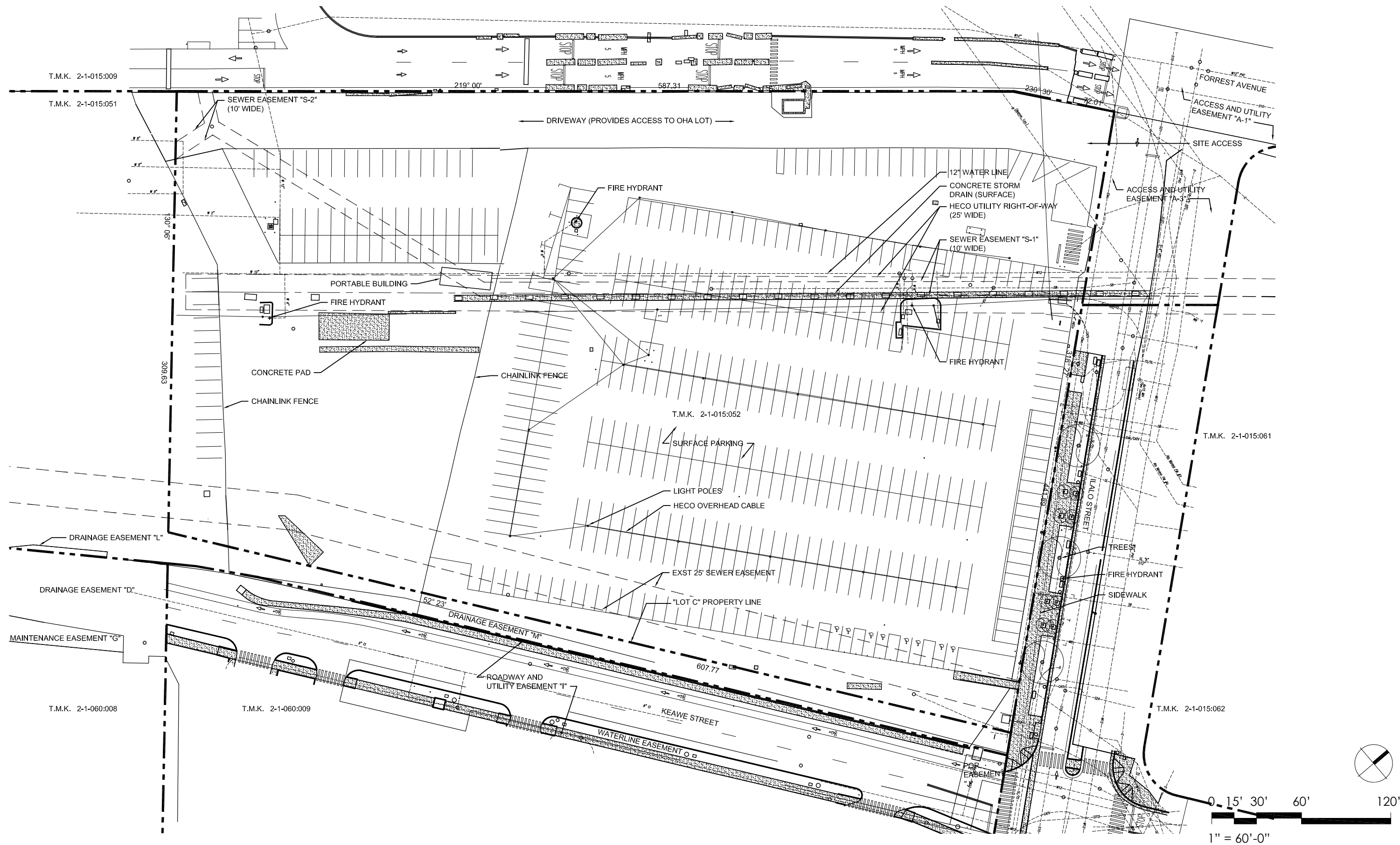
Several existing utilities cross Lot C in the Mauka-Makai direction. Lot C is bisected mid-block by a 10 foot wide sewer easement, a 25 foot wide Hawaiian Electric Company (HECO) overhead utility right-of-way, a concrete storm drain structure, as well as a water main. In addition, a 25 foot wide sewer easement spans the entire length of the Diamond Head property line. Lot C is also populated with existing light poles, overhead cables, and fire hydrants.



EXISTING SITE PLAN - NARRATIVE & PHOTOS

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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EXISTING SITE PLAN

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

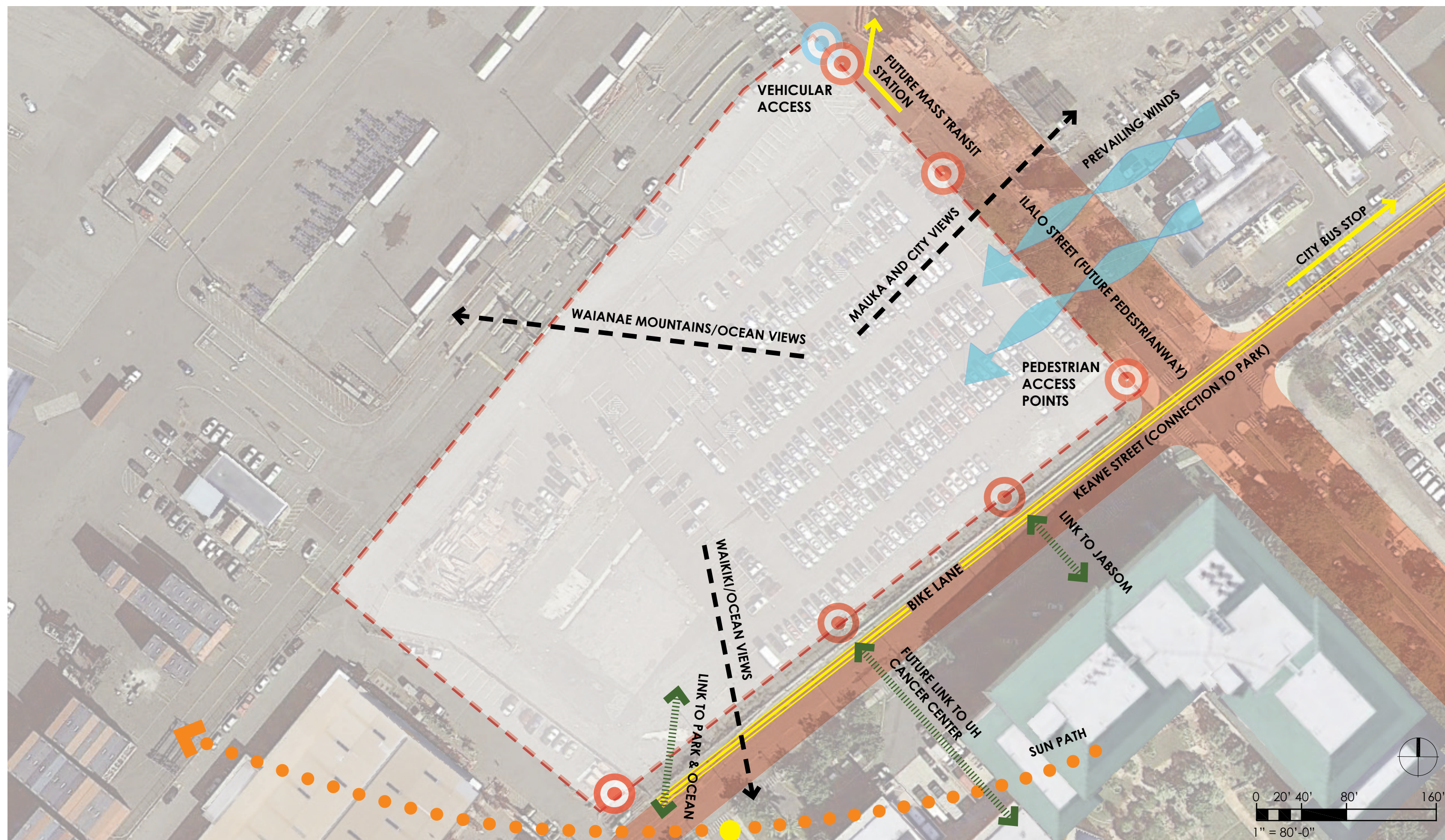
Existing Site Analysis

The project site is relatively flat in topography and is predominately surfaced with asphalt paving and a number of concrete pads. The property offers Ewa views toward the Waianae mountain range and Mauka views toward Kakaako Mauka and Punchbowl. The areas toward the Makai end of Lot C allow views of the ocean and the Kakaako Waterfront Park. The prevailing trade winds carry from the northeast roughly parallel with Keawe Street. Since the property is oriented along a northeast-southwest axis, structures facing the Mauka and Ewa directions may benefit from favorable north sunlight for natural interior daylighting purposes.

The immediate surrounding neighborhood is composed of a wide mixture of uses and structures. Lot C is surrounded in three directions by commercial and industrial activity including the Re-use Hawaii facilities, Honolulu Harbor Piers 1 and 2, undeveloped property owned by OHA, the Ala Moana Wastewater Pump Station, and the historic Kakaako Pumping Station building. In contrast, the areas in the Diamond Head direction include 677 Ala Moana, formerly known as the Gold Bond Building, the educational and research campuses of the UH JABSOM and Cancer Center, and recreational use within the Kakaako Waterfront Park.

Ala Moana Boulevard provides the primary transportation access to and from Kakaako and lies one block Mauka of Lot C. The site is directly served by Ilalo Street which acts as the principal collector street for vehicles and pedestrians in the Makai Area. The nearest public transit is the existing bus stop near 677 Ala Moana. When the Honolulu Rail Transit system is further completed, the project site will be served by the Civic Center Station planned at Halekauwila Street between South and Keawe Streets. Keawe Street is also designated in the HCDA's Makai Area Plan as a bike path.

The project site offers excellent opportunities to extend the pedestrianway along Ilalo Street and to create a significant pedestrian and bicycle connection to the Kakaako Waterfront Park along Keawe Street. Given the existing driveway access near Forrest Avenue, this would continue to be the likeliest vehicular entry access into the site.



EXISTING SITE ANALYSIS

KAKAOKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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Zoning Code Analysis

The proposed Master Plan will comply with the Makai Area Rules for allowable uses, building density, building areas, building heights, setbacks, and open space requirements. The proposed design will also satisfy the HCDA's requirements for off-street parking and loading.

Building Code Analysis

In addition to addressing zoning, urban planning, functional, and programmatic concerns, the proposed building footprints and massing have been configured to conform to the 2006 International Building Code (IBC) as adopted by the City & County of Honolulu. The required Construction Type for each of the buildings is based on their respective overall height and floor area, and fire sprinkler systems are proposed for all of the buildings except the Parking Structure.

Additionally, all the structures have been spaced slightly apart from each other to create zones of fire separation. Per the 2006 IBC, this approach will allow the Construction Types of the Entrepreneur's Sandbox and the Kewalo Incubation Center to be reduced from fire-rated construction to non-rated construction and will likely result in lower required construction costs for these publicly-funded facilities. Providing a fire separation distance will also allow for a greater amount of openings in the walls facing neighboring buildings. This will increase the potential interaction between buildings as well as maintain opportunities for exterior views and use of natural daylighting. The use of the fire separation zones for pedestrian circulation is also possible.

ZONING

OWNER: HCDA (STATE OF HAWAII)
LOCATION: INTERSECTION OF ILALO & KEAWE STREET,
HONOLULU, HI 96813
TMK: 2-1-015:052
LOT AREA: 240,059 SF (5.511 ACRES)
LOT WIDTH AND DEPTH: IRREGULAR SHAPE
ZONING CODE: KAKAAKO COMMUNITY DEVELOPMENT DISTRICT
MAKAI AREA RULES, NOVEMBER 2005

ZONING MIXED-USE ZONE (MUZ)
FRONT YARD SETBACK 15 FEET (LANDSCAPING REQUIRED WITHIN YARD)
SIDE & REAR YARD SETBACK 10 FEET (LANDSCAPING REQUIRED WITHIN YARD)
ALLOWABLE HEIGHT: 100 FEET
MAX PROPOSED HEIGHT: 100 FEET
F.A.R. 1.5

ALLOWABLE FLOOR AREA: 240,059 SF (LOT AREA) X 1.5 = 360,089 SF
PROPOSED FLOOR AREA: ENTREPRENEUR'S SANDBOX = 13,500 SF
INNOVATION HALE 149,622 SF
(LOW-RISE: 62,062 SF, TOWER: 87,600 SF)
KEWALO INCUBATION CENTER = 47,181 SF
LEARNING CENTER = 139,786 SF
LIGHT MANUF. (IN PARKING STRUTURE) = 10,000 SF
PARKING STRUCTURE = N/A
TOTAL = 360,089 SF

OPEN SPACE REQ'D: 20% OF DEVELOPED LOT AREA = 240,049 x .20 = 48,012 SF
OR
30% OF DEVELOPED LOT AREA LESS REQ'D YARDS = 240,049 x .30 = 72,019 SF - 24,826 SF = 47,192 SF

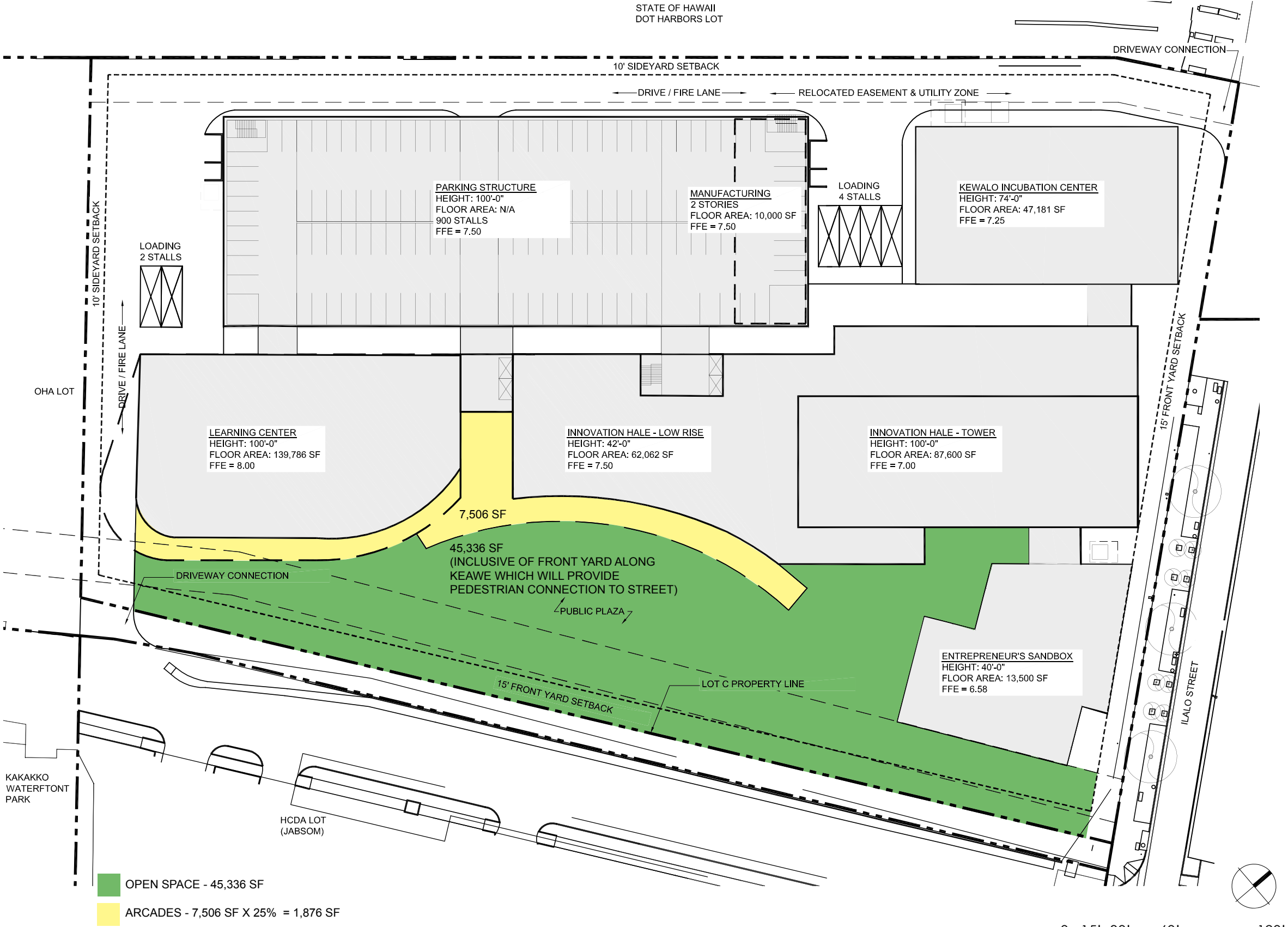
OPEN SPACE PROPOSED: OPEN SPACE (INCLUSIVE OF FRONT YARD WHICH WILL PROVIDE PEDESTRIAN CONNECTION TO STREET) = 45,336 SF
ARCADES = 7,506 SF
45,336 + 1,876 SF (7,506 SF X 25%) = 47,212 SF

PARKING REQ'D PER HCDA: KEWALO INCUBATION CENTER - 1/1000 = 47 STALLS
ENTREPRENEUR'S SANDBOX - 1/1000 = 14 STALLS
LEARNING CENTER - 1/1800 = 78 STALLS
INNOVATION HALE - 1/600 = 249 STALLS
WAREHOUSE/LIGHT MANUF. - 1/1000 = 10 STALLS
TOTAL: 398 REQUIRED STALLS

JABSOM-CRC (OFF-SITE PARKING) = 414 STALLS

PARKING PROPOSED: 398 STALLS ONSITE, 414 STALLS OFFSITE

LOADING REQ'D PER HCDA: KEWALO INCUBATION CENTER - 1 STALL
ENTREPRENEUR'S SANDBOX - 1 STALL
LEARNING CENTER - 2 STALLS
INNOVATION HALE - 2 STALLS
TOTAL: 6 REQUIRED STALLS



DEVELOPMENT CRITERIA - ZONING & PARKING ANALYSIS

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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IBC 2006

ENTREPRENEUR'S SANDBOX

DESCRIPTION:	2 STORIES W/ LOFT SPACE
OCCUPANCY:	B
CONSTRUCTION TYPE:	VB SPRINKLERED
ALLOWABLE AREA PER STORY:	9,000 SF
SPRINKLER INCREASE:	18,000 SF
TOTAL ALLOWABLE AREA PER STORY:	27,000 SF
ACTUAL AREA PER STORY:	10,509 SF
ALLOWABLE HEIGHT:	2 STORIES, 40 FT
SPRINKLER INCREASE:	1 STORY, 20 FT
TOTAL ALLOWABLE HT:	3 STORIES, 60 FT
ACTUAL HEIGHT:	2 STORIES, 40 FT
FIRE RES. RATING	
REQ'D FOR BLDG ELEM (601):	0 HR
EXT WALL RATING BASED ON FIRE SEPARATION(602):	
EXT WALL OPENINGS (704.8):	FIRE SEP >= 5' = 1 HR; >=10' = 0 HR UNPROTECTED: FIRE SEP > 5' = 25%; >10 = UNLIMITED

INNOVATION HALE

DESCRIPTION:	LOW-RISE: GROUND FL WAREHOUSE SECOND FLOOR RETAIL/OFFICE COMMERCIAL TOWER: 5 STORIES ABOVE LOW-RISE
OCCUPANCY:	B, M, F-1
CONSTRUCTION TYPE:	IB SPRINKLERED
ALLOWABLE AREA PER STORY:	UNLIMITED
ACTUAL AREA PER STORY:	LOW RISE, 38,311 SF, 23,751 SF; HIGH RISE, 14,600 SF
ALLOWABLE HEIGHT:	11 STORIES, 160 FT
SPRINKLER INCREASE:	1 STORY, 20
TOTAL ALLOWABLE HT:	12 STORIES, 180 FT
ACTUAL HEIGHT:	7 STORIES, 100 FT
FIRE RES. RATING	
REQ'D FOR BLDG ELEM (601):	STRUCTURAL FRAME, 2 HR; BEARING WALLS, 2 HR; FLOORS, 2 HR; ROOF, 1 HR
EXT WALL RATING BASED ON FIRE SEPARATION (602):	< 30' = 1 HR
EXT WALL OPENINGS (704.8):	UNPROTECTED: FIRE SEP. >5' = 25%; >10' = 45%; >15' = 75%; >30' = UNLIMITED

LEARNING CENTER

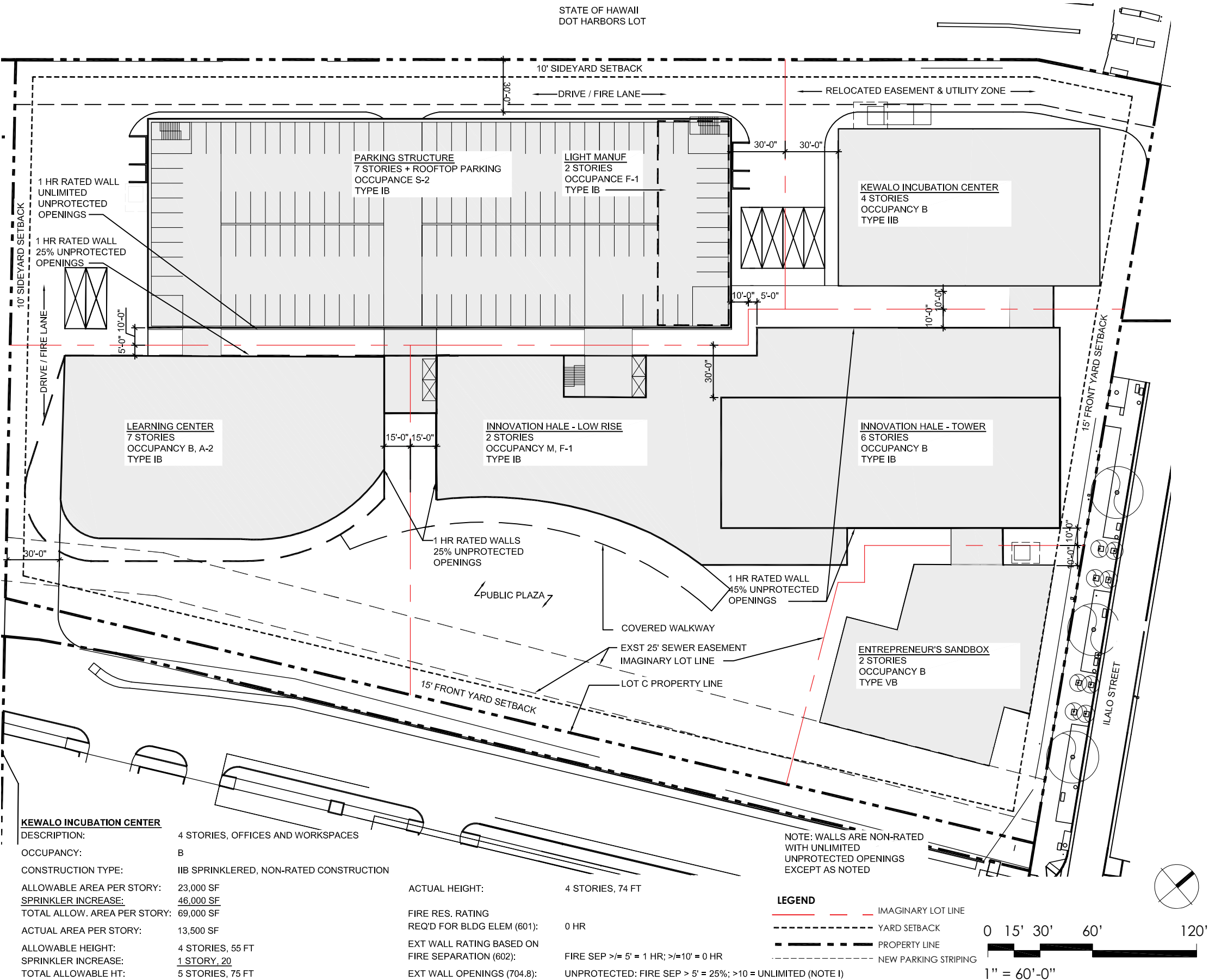
DESCRIPTION:	OFFICES WITH SOME ASSEMBLY SPACES
OCCUPANCY:	B,A2
CONSTRUCTION TYPE:	IB SPRINKLERED
ALLOWABLE AREA PER STORY:	UNLIMITED
ACTUAL AREA PER STORY:	22,304 SF
ALLOWABLE HEIGHT:	11 STORIES, 160 FT
SPRINKLER INCREASE:	1 STORY, 20
TOTAL ALLOWABLE HT:	12 STORIES, 180 FT
ACTUAL HEIGHT:	7 STORIES, 100 FT
FIRE RES. RATING	
REQ'D FOR BLDG ELEM (601):	STRUCTURAL FRAME, 2 HR; BEARING WALLS, 2 HR; FLOORS, 2 HR; ROOF, 1 HR
EXT WALL RATING BASED ON FIRE SEPARATION (602):	< 30' = 1 HR
EXT WALL OPENINGS (704.8):	UNPROTECTED: FIRE SEP. >5' = 25%; >10' = 45%; >15' = 75%; >30' = UNLIMITED

PARKING STRUCTURE:

DESCRIPTION:	7 STORY OPEN PARKING STRUCTURE W/ROOFTOP PARKING, 900 STALLS, 2 STORY MANUFACTURING/WAREHOUSE
OCCUPANCY:	S2, F1
CONSTRUCTION TYPE:	IB, UNSPRINKLERED
ALLOWABLE AREA PER STORY:	UNLIMITED
ACTUAL AREA PER STORY:	40,196 SF
ALLOWABLE HEIGHT:	11 STORIES, 160 FT
SPRINKLER INCREASE:	N/A
ACTUAL HEIGHT:	7 STORIES, 100 FT
FIRE RES. RATING	
REQ'D FOR BLDG ELEM (601):	STRUCTURAL FRAME, 2 HR; BEARING WALLS, 2 HR; FLOORS, 2 HR; ROOF, 1 HR
EXT WALL RATING BASED ON FIRE SEPARATION (602):	< 30' = 1 HR
EXT WALL OPENINGS (704.8):	UNPROTECTED: FIRE SEP. >5' = 25%; >10' = UNLIMITED
DESCRIPTION:	4 STORIES, OFFICES AND WORKSPACES
OCCUPANCY:	B
CONSTRUCTION TYPE:	IIB SPRINKLERED, NON-RATED CONSTRUCTION
ALLOWABLE AREA PER STORY:	23,000 SF
SPRINKLER INCREASE:	46,000 SF
TOTAL ALLOW. AREA PER STORY:	69,000 SF
ACTUAL AREA PER STORY:	13,500 SF
ALLOWABLE HEIGHT:	4 STORIES, 55 FT
SPRINKLER INCREASE:	1 STORY, 20
TOTAL ALLOWABLE HT:	5 STORIES, 75 FT

DEVELOPMENT CRITERIA - BUILDING CODE ANALYSIS

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015



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Proposed Master Plan and Phasing

Phase 1A

Phase 1A will include the construction of the 13,500 sq ft High Technology Development Corporation's (HTDC) Entrepreneur's Sandbox. Site, utility, and landscape work will be limited to that directly associated with the facility.

As a public facility tasked with promoting the development of high technology and enterprise, the Sandbox takes advantage of the visually prominent corner of Ilalo and Keawe Streets. The loft-like collaboration space of the Sandbox is designed to be a visual and physical extension of the street and the future plaza in order to encourage accessibility and interaction between the HTDC, budding entrepreneurs, and the community.

The existing surface parking will remain to accommodate required off-street parking until subsequent phases.

Phase 1B

Phase 1B will comprise the construction of the Innovation Hale Low Rise and Tower facilities. Site and landscape work will be limited to that directly associated with the new buildings. The building footprint has been designed to avoid the relocation of the existing sewer, drain, and water easements bisecting the property. However, to make the most use of the area available for Phase 1B, it is recommended that the relocation and undergrounding of the HECO overhead utility right-of-way toward the Ewa edge of the property be performed during this phase.

The curved face of the 62,062 sq ft Innovation Hale Low Rise will define a welcoming retail frontage and a primary entry point along the future public plaza. The Low Rise also offers pedestrian access directly off of the Ilalo Street thoroughfare. Furthermore, the ground floor is envisioned to connect with the Entrepreneur's Sandbox via a graciously-sized covered walkway. A proposed indoor/outdoor café near this connection and the resulting outdoor plaza between the Sandbox and the Innovation Hale will help foster interaction between these private and public facilities.

The 87,600 sq ft Innovation Hale Tower will provide six-stories of office use atop the Low Rise retail components. The Tower is oriented along a Mauka-Makai axis and set away from the Phase 2 buildings to maximize the allowable amount of window openings under the IBC and thus promote the use of natural daylighting and views for tenants. Entry into the Tower will be from either Ilalo Street or through the ground floor of the Low Rise building. Should the Tower building be constructed to accommodate primarily medical office tenants, it is recommended that the site utility connections be increased in capacity accordingly for the higher demands of this type of use.

The existing surface parking will be re-striped to accommodate required off-street parking, as well as additional parking for JABSOM/CRC.

Phase 2

Phase 2 will include the construction of the 47,181 sq ft HTDC Kewalo Incubation Center and new Parking Structure. Considerable site work will be necessary in preparation for this project phase. The existing sewer, water, and drainage utilities and easements which bisect the property will be relocated to be aligned within the new vehicular access road along the Ewa property line. Landscape work will be limited to the areas directly associated with Phase 2.

The creation of the 4-story Kewalo Incubation Center will expand the HTDC's high technology and innovation development programs by providing start-up companies with tenant office space and support services within a short distance of the Entrepreneur's Sandbox as well as the educational and research campuses of JABSOM and the Cancer Center. In addition, a spacious covered walkway will connect the Incubation Center directly to the Innovation Hale. The Incubation Center faces directly onto a small entry plaza off of Ilalo Street but can also be accessed from the pedestrian path extending from the Parking Structure vertical circulation towers. A loading and service zone behind the building will be shared with the Innovation Hale Low Rise and Tower.

The Parking Structure will accommodate approximately 900 parking stalls, and vehicles will be able to enter the garage from the new access road off of Ilalo Street near Forest Avenue. This site configuration will help maintain separation between the vehicular and service traffic on the Ewa side and the pedestrian-oriented activities on the Diamond Head portions of the Innovation Block.

Parking capacity will fully satisfy the off-street parking requirements for Phases 1 through 3 as well as the displaced 414 surface parking stalls reserved for JABSOM and the Cancer Center. In addition to parking use, portions of the first and second stories will house a business incubator for Light Manufacturing start-up companies conveniently located near the loading and service areas of the adjacent Innovation Hale and Incubation Center.

Those users parking their vehicles in the Parking Structure will use two vertical circulation towers to reach their desired destination. The Mauka circulation tower provides access to the Innovation Hale Low Rise (and indirectly to the Tower and Sandbox) as well as the pedestrian path leading to the Incubation Center. The Makai circulation tower will provide access to the future public plaza.

Phase 3

Phase 3 will involve the construction of the 139,786 sq ft Learning Center and the completion of the main public plaza along Keawe Street. The Learning Center is envisioned as a public higher education facility which may complement the JABSOM and Cancer Center campuses. HCDA has deemed office use with some assembly spaces as the most appropriate occupancies while the building program is being further defined.

Entry into the Learning Center will be off of the public plaza or from the Parking Structure via connecting vertical circulation. Loading and service areas are located on the Ewa side of the building off the access road which runs along the Ewa and Makai site perimeter.

The curved public plaza will serve as a major destination point and gathering area for building tenants, visitors, customers, and passersby. The improved frontage along Keawe Street will provide a major Mauka-Makai pedestrian connection between the Kakaako Waterfront Park and the Makai Area. Furthermore, new crosswalks extending from the plaza across Keawe Street will help encourage interaction between the Innovation Block facilities and JABSOM and Cancer Center.

It is imagined that this collaboration between public and private enterprise and the resulting intermingling of high tech development, commercial office, retail, and educational uses and their communities will foster the exchange of ideas and stimulate innovation.

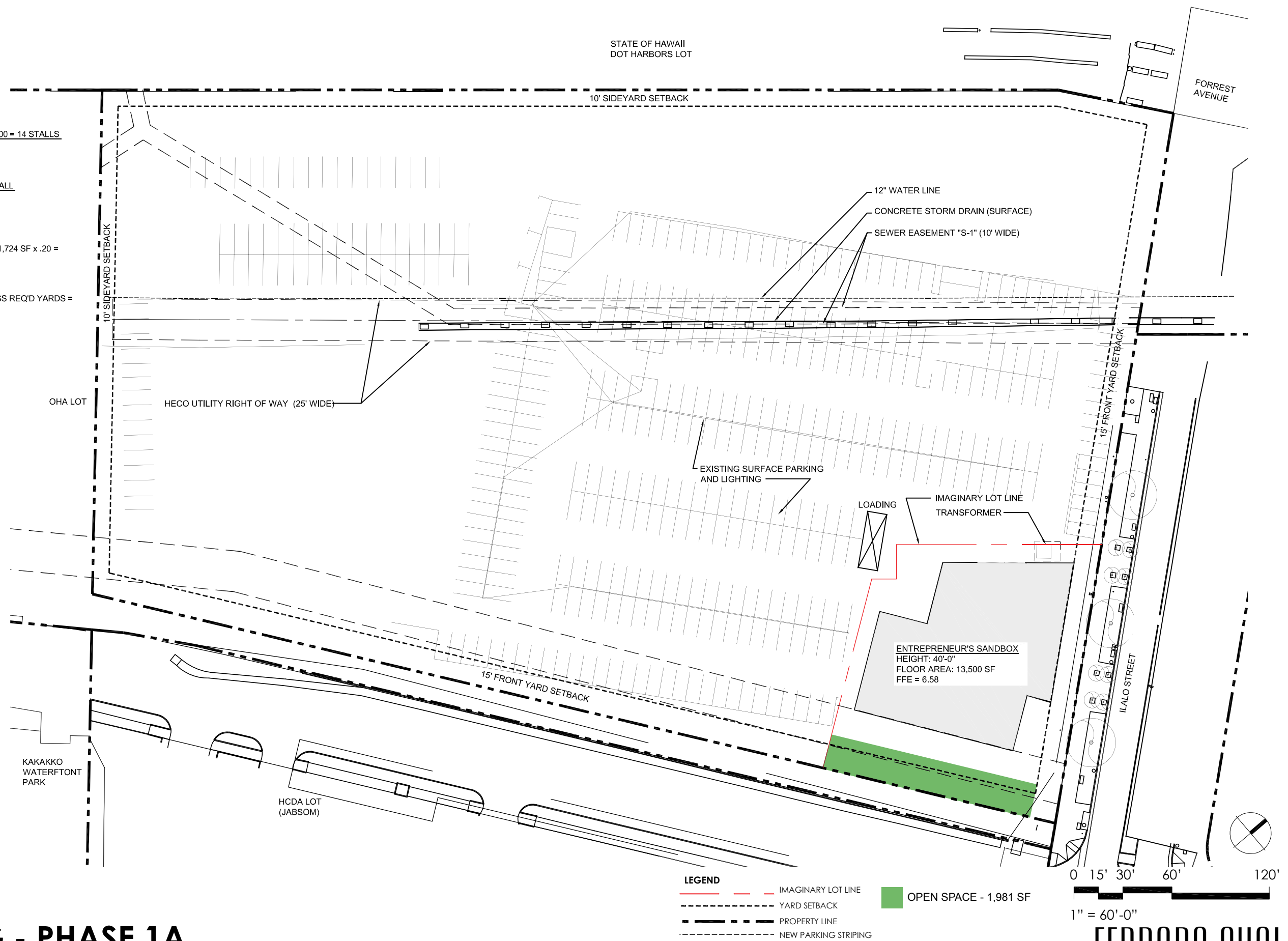
PROPOSED MASTER PLAN AND PHASING

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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PHASE 1A ZONING

PARKING REQ'D PER HCDA:	ENTREPRENEUR'S SANDBOX - 1/1000 = 14 STALLS TOTAL: 14 REQUIRED STALLS
PARKING PROPOSED:	14 STALLS
LOADING REQ'D PER HCDA:	ENTREPRENEUR'S SANDBOX - 1 STALL TOTAL: 1 REQUIRED STALL
LOADING PROPOSED:	1 STALL
OPEN SPACE REQ'D:	20% OF DEVELOPED LOT AREA = 21,724 SF x .20 = 4,345 SF <u>OR</u> 30% OF DEVELOPED LOT AREA LESS REQ'D YARDS = 21,724 x .30 = 6,517 SF - 4,536 SF = 1,981 SF
OPEN SPACE PROPOSED:	1,981 SF



PROJECT PHASING - PHASE 1A

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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PHASE 1B ZONING

PARKING REQ'D PER HCDA: ENTREPRENEUR'S SANDBOX - 1/1000 = 14 STALLS
INNOVATION HALE - 1/600 = 249 STALLS
TOTAL: 263 REQUIRED STALLS

PARKING PROPOSED: 358 STALLS ONSITE

LOADING REQ'D PER HCDA: ENTREPRENEUR'S SANDBOX - 1 STALL
INNOVATION HALE - 2 STALLS
TOTAL: 3 REQUIRED STALLS

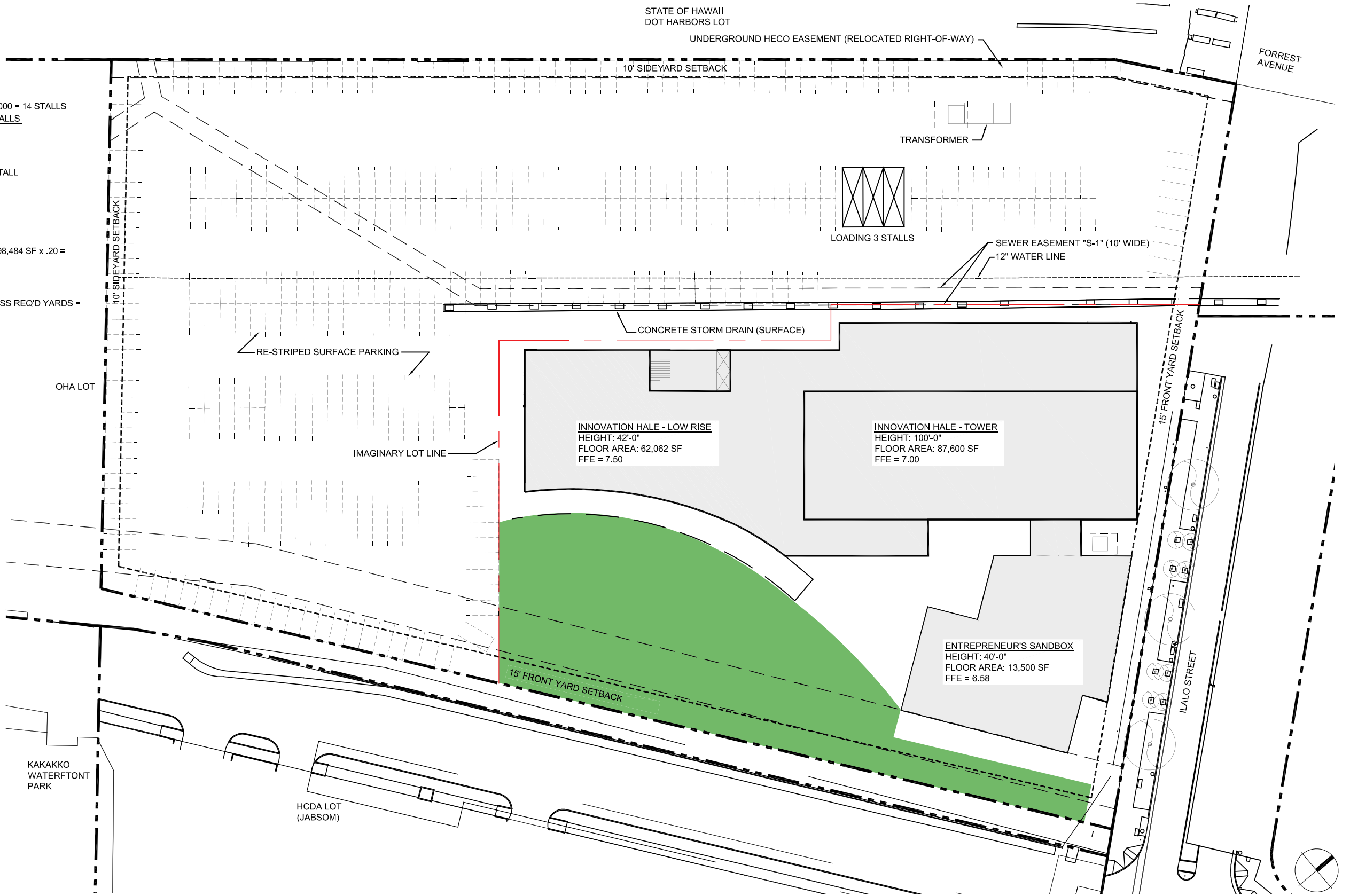
LOADING PROPOSED: 3 STALLS

OPEN SPACE REQ'D: 20% OF DEVELOPED LOT AREA = 98,484 SF x .20 = 19,697 SF

OR

30% OF DEVELOPED LOT AREA LESS REQ'D YARDS = 98,484 x .30 = 29,545 SF - 9,962 SF = 19,583 SF

OPEN SPACE PROPOSED: 19,583 SF



LEGEND

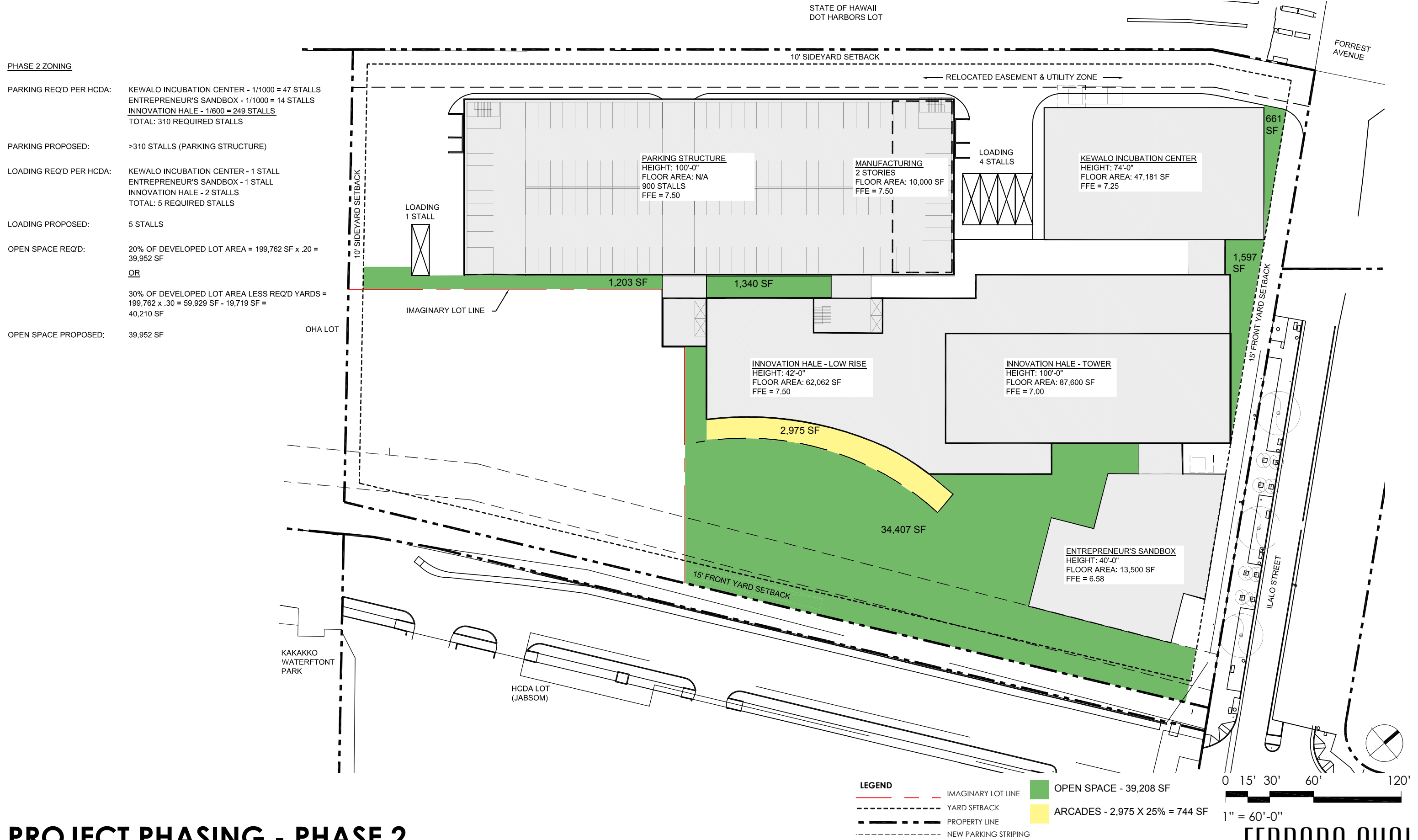
- IMAGINARY LOT LINE
- YARD SETBACK
- PROPERTY LINE
- NEW PARKING STRIPING

OPEN SPACE - 19,583 SF

PROJECT PHASING - PHASE 1B

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

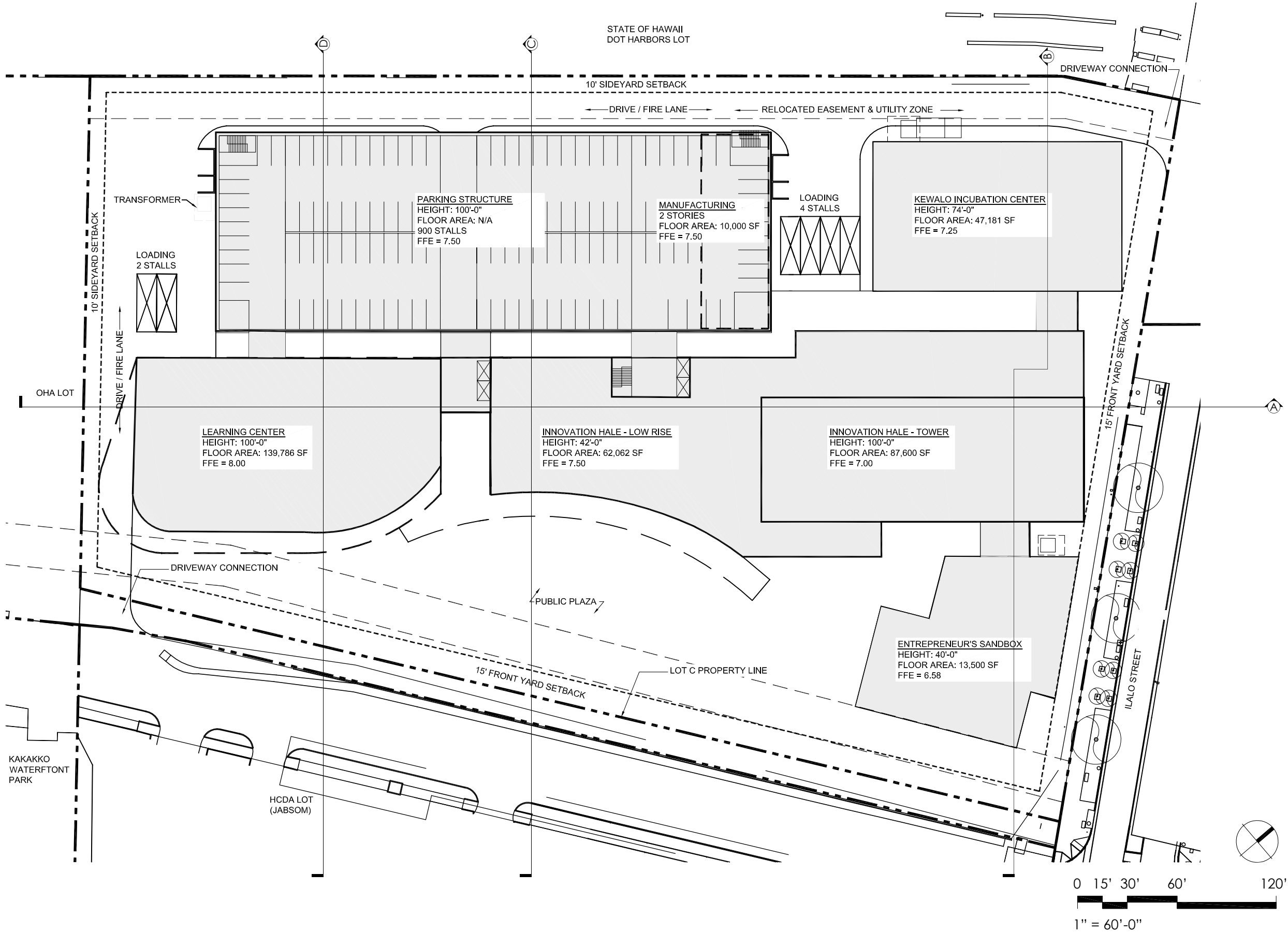
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PROJECT PHASING - PHASE 2

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

PHASE 3 ZONING
*SEE DEVELOPMENT CRITERIA - ZONING & PARKING ANALYSIS



PROJECT PHASING - PHASE 3 (FINAL)

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

Master Plan Design Concepts and Vocabulary

Much of the historic and present day use of the Makai Area is industrial in nature with warehouses, manufacturing, and commercial activity related to Honolulu Harbor. In order to reflect this local character as well as instill a vibrant, urban energy, the HCDA directed the design team to pursue a heterogeneous design vocabulary which favors an appearance of “organized chaos” which is “purposely haphazard” as opposed to a more uniform approach. Moreover, the underlying combination of public and private facilities with their variety of uses further serve to reinforce the overall concepts of mixing, overlap, and exchange.

In response, the five main structures rely upon differing design vocabularies but are combined to work together as a whole.

The Entrepreneur’s Sandbox is seen as a modern interpretation of the pre-fabricated “Butler building” warehouse. The folded wall and roof plane creates a large, open Collaboration Area visible and accessible from the street and plaza thereby defining a strong Mauka-Makai connection. The uplifted roof form gestures toward the corner of Ilalo and Keawe Streets. The resulting entry lanai welcomes passersby into the facility and the neighboring Innovation Hale and encourages circulation in the Ewa-Diamond Head direction. As a result, the main Collaboration Area serves as a space where paths intersect and people can mix and gather.

The translucent wall and roof panels used in warehouse buildings inspired the polycarbonate wall systems in the Innovation Hale Low Rise. The translucent upper panels will provide abundant, controlled daylighting into the high-ceilinged retail areas during the day. When illuminated from the interior at night, the panels will project a soft glow and help activate the plaza. Customers will continue to have views into and out of the Low Rise through the ground floor band of clear storefront glazing.

Since the Innovation Hale Tower will cater toward office tenants, its treatment is more restrained in character. A series of stacked floor slabs are partially wrapped with a layer of corrugated metal panels and vertical solar screens to maintain views and natural daylighting.

As a public facility promoting innovation and investment in start-up companies, the exterior design of the Kewalo Incubation Center has the added task of functioning as a recognizable brand for the HTDC. At the same time, the exterior should also promote a sense of openness and accessibility to the public while still allowing outward views and natural daylight for tenants. In response, the proposed façades are composed of metal panels reminiscent in color of industrial Corten steel which then frame large curtain wall openings. In front of the major glazed areas are a system of vertical solar shade fins constructed with metal mesh fabric. The dynamic undulation of these metal mesh fabric fins will lend an identifiable exterior to the Incubation Center while screening the interior spaces from excessive solar glare without obstruction of outward views. The metal mesh fabric shade system will also enable the use of clear windows rather than tinted or mirrored glazing and help connect the exterior with the interior.

Given its large parking capacity, one design challenge of the Parking Structure is its potential visual impact and bulk. To temper this, the floor plate structure of the garage is wrapped with a skin of corrugated perforated metal panels. The perforations allow the natural ventilation of vehicle exhaust while at the same time giving the garage a light, diaphanous appearance which changes depending on the time of day. The vertical circulation towers are brightly colored with large vertical vegetated walls to assist way-finding into the Parking Structure.

The Learning Center is seen as relating to the natural realm of the nearby ocean and the Kakaako Waterfront Park. A series of organically shaped, varying floor plates will offer a wide range of outward views while presenting a softer face to the Makai side of the Innovation Block. In contrast, the harder edges of the Sandbox, Innovation Hale Tower, and Incubation Center correlate to the city in the Mauka direction. Mid-block, the curved Innovation Hale Low Rise and plaza act as intermediary elements between the natural and urban ends of the site.

To support the overall concepts of mixing, overlap, and exchange, the design of the main plaza proposes a series of colored bands of paving which are analogous to a mixing of water currents. The different paving bands help define intersecting pedestrian paths, the central gathering area, smaller seating zones, and an informal performance area. To act as a flexible gathering place for the Innovation Block as well as JABSOM and Cancer Center across the street, the proposed landscape planting plaza is intended to maintain the plaza’s spatial and visual openness across Keawe Street. Furthermore, the landscape design will overlap with the architectural forms by way of vegetated walls continuing up the vertical circulation towers of the Parking Structure and a green roof extending onto the roof of the Innovation Hale Low Rise building.

Sustainable Development Strategies

Because the HCDA Kakaako Makai “Innovation Block” will be developed over several phases and several years, the following sustainable strategies are offered for consideration. An aggressive sustainable path for the project is sought to support an overall vision of innovation for the project. This vision of innovation is further emphasized by technology and new industry incubation through development partner HTDC. As noted in the Lot C Marketing Presentation, “Innovation makes a good bedfellow for technology and enterprise/resource companies”. As such, innovation in sustainable design facilitates collaboration and innovation in other ways.

The following strategies provide an aggressive framework for sustainable HCDA development design and include both “low hanging fruit” as well as sustainable “stretch” strategies. As technology develops, life cycle analysis will show the viability of individual and integrated strategies such as those offered here. From such analysis, the economic viability of these sustainable strategies will become clear and selection can be made which strategies to pursue.

As an overall sustainable “framework” for the project, we suggest a minimum threshold of LEED 2009 equivalent for the project, but not necessarily LEED certification. This level of sustainable design is a familiar reference point to provide structure to the development approach. If it is desired to actually seek LEED certification, project registration under LEED 2009 is available but only until October 2016. The newest rating system, LEED v4, has already been implemented and will likely be available during all Kakaako Makai “Innovation Block” development phases, assuming a 5-7 year development timeframe. Other sustainable targets such as netzero or Living Building Challenge will be tougher to achieve, but may be achievable based on client commitment and available funding.

Sustainable Site Strategies

Key sustainable strategies in early site development are those that affect the overall site. Strategies such as seawater cooling, which may become available on an adjacent site, will require upfront costs. However, seawater cooling will save significant energy and potentially save water consumption associated with cooling towers and is therefore an important strategy to consider. Other benefits of seawater cooling include elimination of chiller rooms and cooling towers or roof top equipment resulting in more floor plate area available to rent. Determining a route onto the site for the seawater cooling is a critical path to confirm the viability of this strategy.

Stormwater retention and infiltration is another overall site strategy which requires early planning in site development. Limited greenscape in an urban environment challenges implementation of stormwater retention and infiltration but there are multiple effective strategies to consider. In general, green roofs, blue roofs, and stormwater retention via a bioswale or other means are beneficial. Specific stormwater retention and infiltration strategies to consider for the HCDA Kakaako Makai “Innovation Block” include:

1. Green roofs – adds landscape qualities to a roof and provides stormwater retention as well as a reduction of the heat island effect of the site. (For a definition of the heat island effect, please see page 3). Green roofs, such as that used over parking at the Fasi Municipal Building in Honolulu are an effective strategy to “green” an urban site while also slowing stormwater runoff from the site.
2. Blue roofs – “Rooftop detention, also known as a “Blue Roof” or controlled-flow system, is an easily installed, cost-effective alternative to temporarily store and gradually drain rainwater off a building’s rooftop. Detaining rainwater helps to slow its rate of release into the sewer system for a maximum period of 24 hours. It also helps to reduce runoff during peak rainstorms so that more combined sewer flows can be treated at wastewater treatment plants and risks of street and driveway flooding and sewer back-ups in basements are lowered.

Rooftop detention can play a role in ensuring that our sewer systems are not overwhelmed during rainstorms and our waterways are protected from pollutants in urban runoff.”¹
3. Infiltration basin – slightly depressed landscape areas that will promote infiltration; this could be implemented in the plaza.

4. Infiltration trench – similar concept as an infiltration basin, however, performed in a smaller footprint; this could be implemented in the plaza or perhaps linearly along the fire lane.
5. Bioretention basin – similar concept as an infiltration basin; this could be implemented in the plaza or perhaps linearly along the fire lane.
6. Permeable pavement – promotes infiltration; this could be implemented in any hardscape areas.
7. Harvesting/reuse –using reclaimed rain water for irrigation or plumbing reuse; this would need to be implemented on a building roof.
8. Bioretention filter – similar to a bioretention basin; this could be implemented in the plaza or perhaps linearly along the fire lane.
9. Dry swale – similar to a bioretention basin; this could be implemented in the plaza or perhaps linearly along the fire lane.
10. Downspout disconnection – daylight building downspouts into landscaping, therefore promoting infiltration.
11. Vegetated swale – similar to a bioretention basin; this could be implemented in the plaza or perhaps linearly along the fire lane.
12. Vegetated buffer strip –essentially a planter strip that storm water sheet flows over for filtration; this could be implemented in the plaza or along the fire lane.
13. Tree box filter – filters storm water through a planter box; this could be implemented in the plaza or in the fire lane.
14. Detention basin – similar to an infiltration basin; this could be implemented in the plaza.
15. Manufactured treatment device – manhole type of filter treatment unit; this could be implemented in the plaza or fire lane.
16. Sand filter – similar to a bioretention basin, except with sand; this could be implemented in the plaza.

Reduction of the heat island effect, which “occurs when warmer temperatures are experienced in urban landscapes compared to adjacent rural areas as a result of solar energy retention on constructed surfaces²” is another important sustainable site strategy, particularly for a densely developed site such as the “Innovation Block”. Strategies to address the heat island effect include more highly reflective surfaces for both roofs and non-roof surfaces.

Direct connection to already established and future transit stops and other transportation modes (pedestrian walkways, etc.) is a sustainable site strategy easily achievable within the master plan context. The “Innovation Block” Master Plan incorporates this strategy. Bicycle storage and changing rooms/showers for bicycle commuters promote commuting via bicycle instead of auto and should be included in the Master Plan development. Preferential parking for electric vehicles/alternative fuel vehicles and onsite electric vehicle charging stations are easily achievable and should be included in the new parking structure to incentive-ize these alternative forms of transportation.

SUSTAINABLE STRATEGIES

¹http://www.nyc.gov/html/dep/pdf/rooftop_detention.pdf accessed on 6/15/2015.

²USGBC, 2007. New Construction and Major Renovation: Version 2.2; Reference Guide. 3rd ed. Wash D.C.: U.S. Green Building Council. (p. 411)

Water Efficiency

In the area of water efficiency, there are multiple strategies to consider. Water saving strategies such as reduced potable water use for landscaping and process water use are recommended. High efficiency irrigation and xeriscape landscape will contribute to reduced potable water use. Rainwater catchment and condensate capture and reuse are two strategies to further reduce potable water use. The use of rainwater catchment and condensate capture ultimately for toilet flushing may be possible as development of the “Innovation Block” proceeds and the City and County begins to allow this practice.

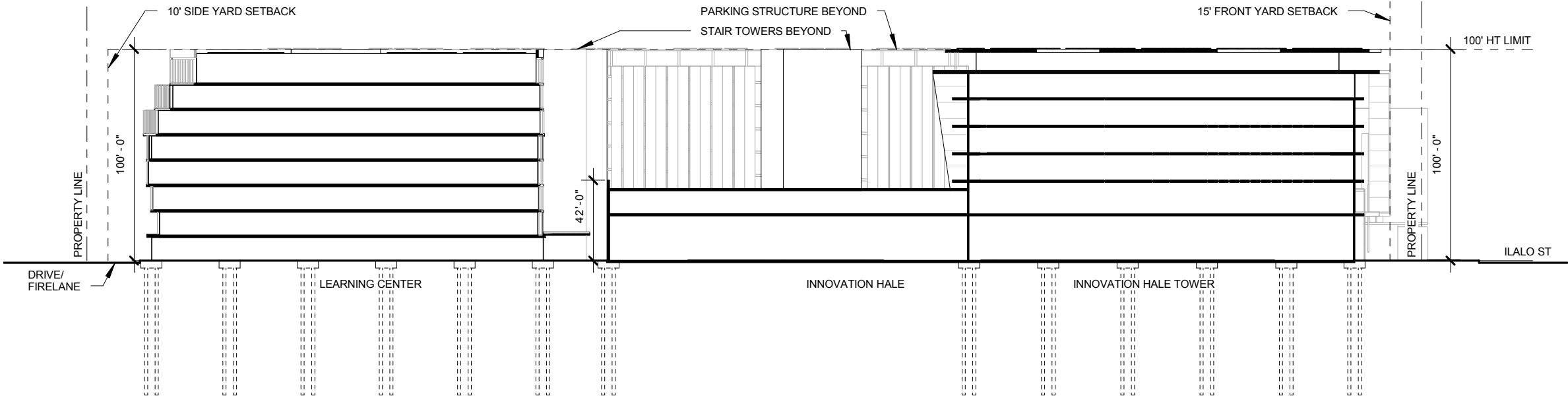
Energy Efficiency

For energy efficiency and reduced fossil fuel power generation, the Master Plan includes roof-mounted PV arrays. An overall site goal of 10% onsite renewable energy production is suggested and likely achievable with the arrays shown in the Master Plan rendering. Additional onsite renewable energy production is possible with additional roof-mounted PV arrays or arrays above the Plazas. To optimize use of onsite renewable energy, a microgrid for the site, or a larger area within Kakaako, is likely the next step. Energy storage options such as STEM batteries (<http://www.stem.com/>) can be utilized to reduce demand peaks with stored renewable energy and integrate well into the microgrid concept. The STEM batteries require no upfront capital cost. Instead, the installation is funded by a flat fee by month or year and is offset by reduction of demand charges. Installation of submetering and a building dashboard for individual buildings and the overall site allow better management of energy loads and result in reduced consumption through building systems optimization and occupant behavior modification.

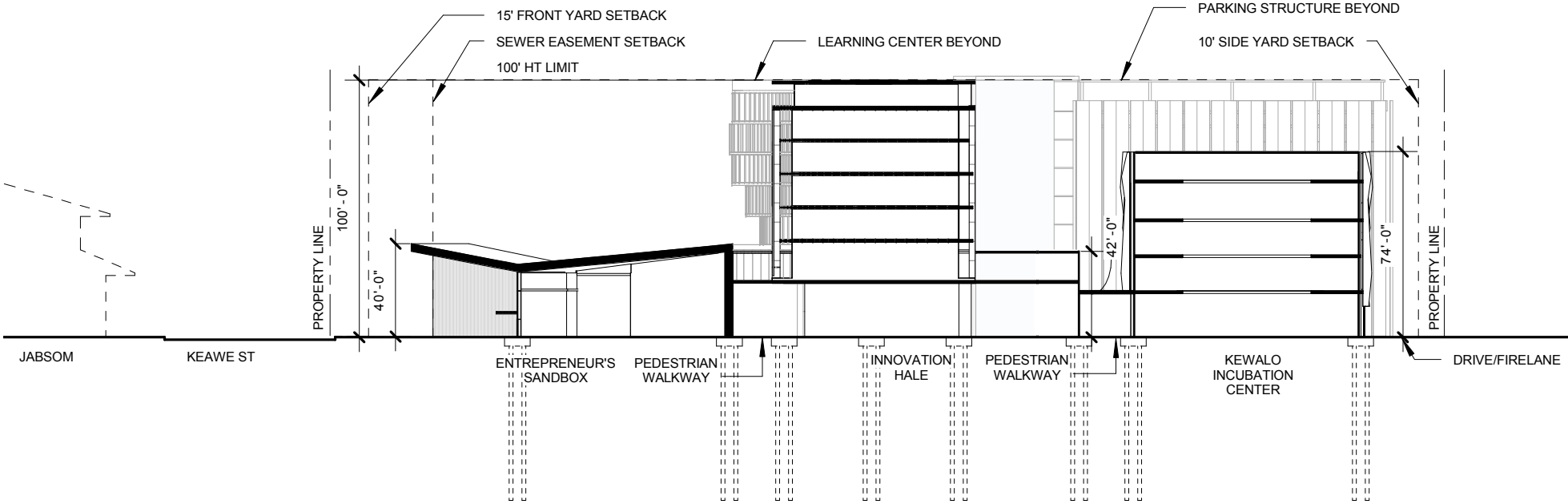
Other Sustainable Strategies

Other sustainable strategies worth consideration in development of the “Innovation Block” include:

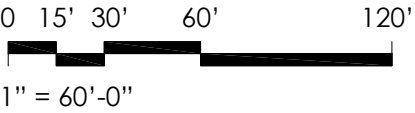
- Concrete structural systems for buildings/parking structure on the site as sand and aggregate are locally sourced and facilitate a high value of regional materials for buildings on the site which utilize this strategy.
- Recycling collection facilities for the site and recycling areas within individual buildings
- Parking structure: open structure with green walls on some elevations for shading and cooling
- Include a weather station onsite for collection of microclimate data that can be used on future phases of this project and other projects. The weather station would provide data that can be used for measurement and verification of site energy use.
- Daylighting within individual buildings to reduce lighting system electrical demand and HVAC loads associated with lighting thermal heat gain



SECTION A



SECTION B

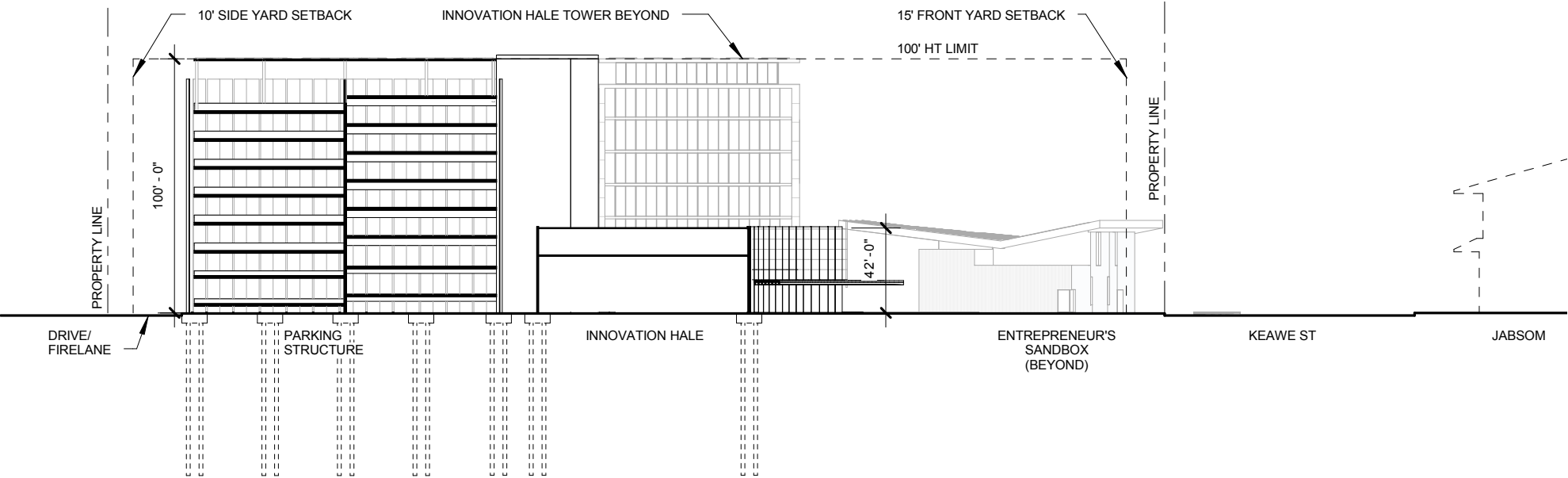


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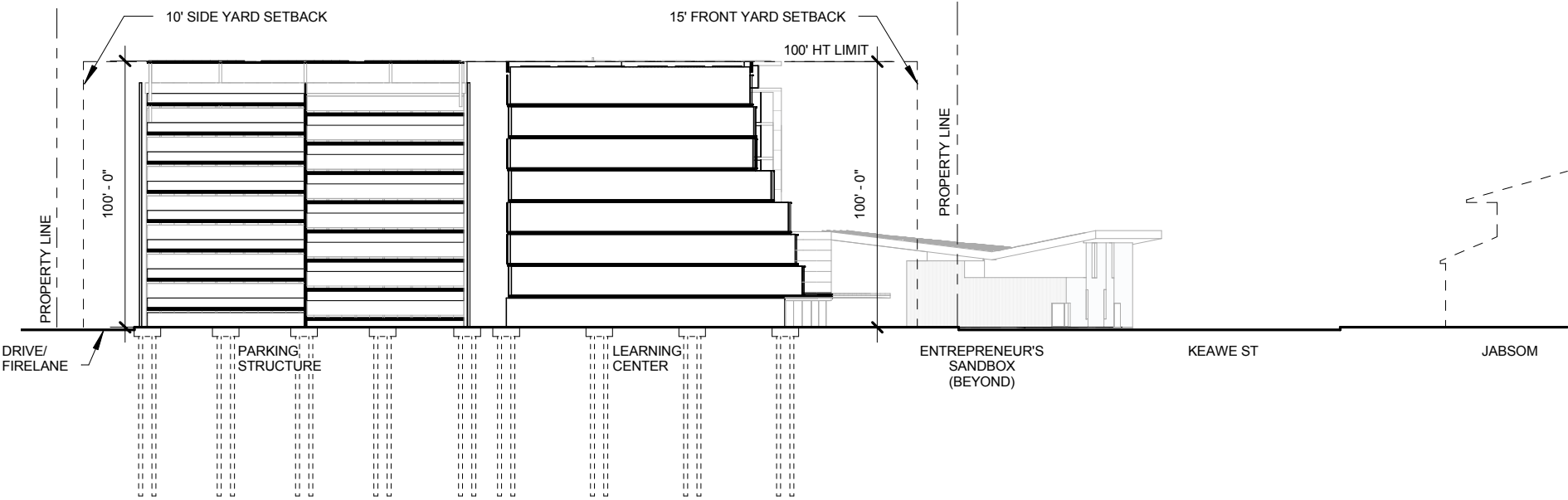
CONCEPTUAL SITE SECTIONS

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI



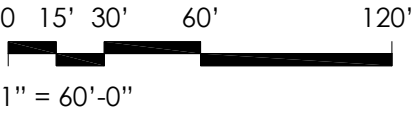
SECTION C



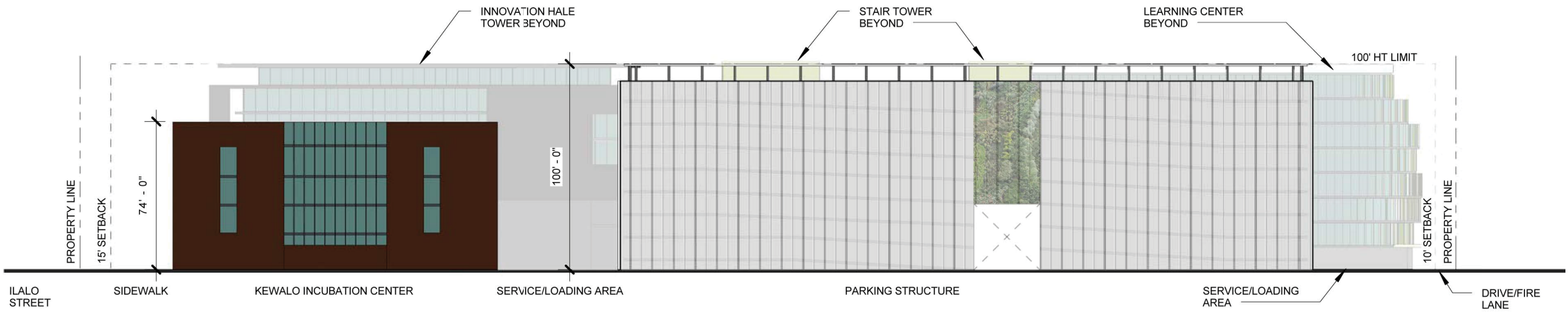
SECTION D

CONCEPTUAL SITE SECTIONS

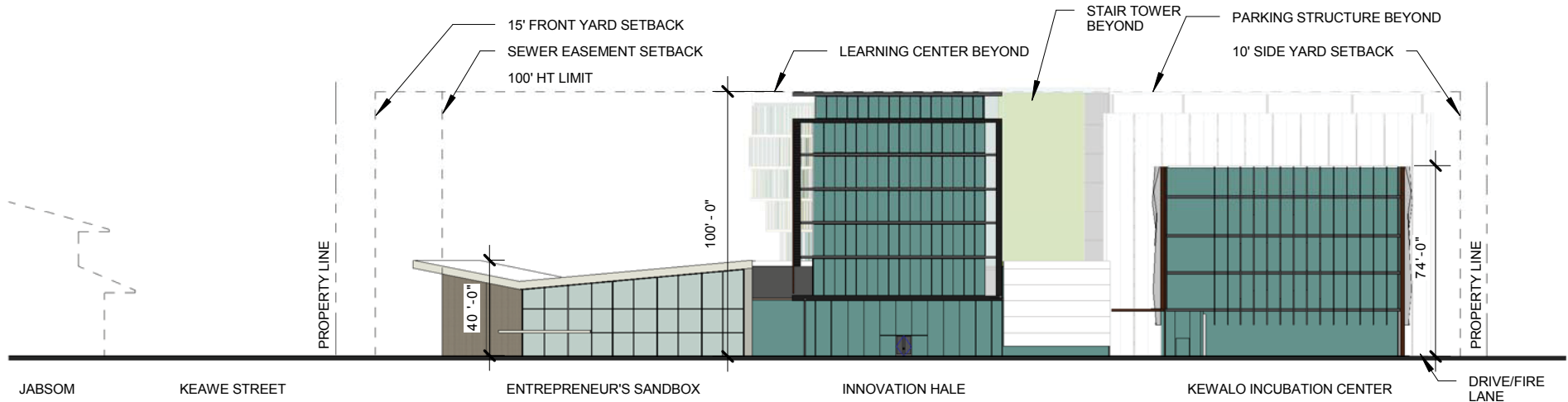
KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015



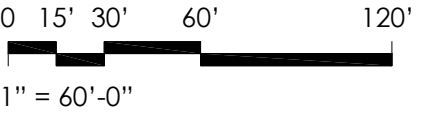
FERRARO CHOI



NORTH ELEVATION



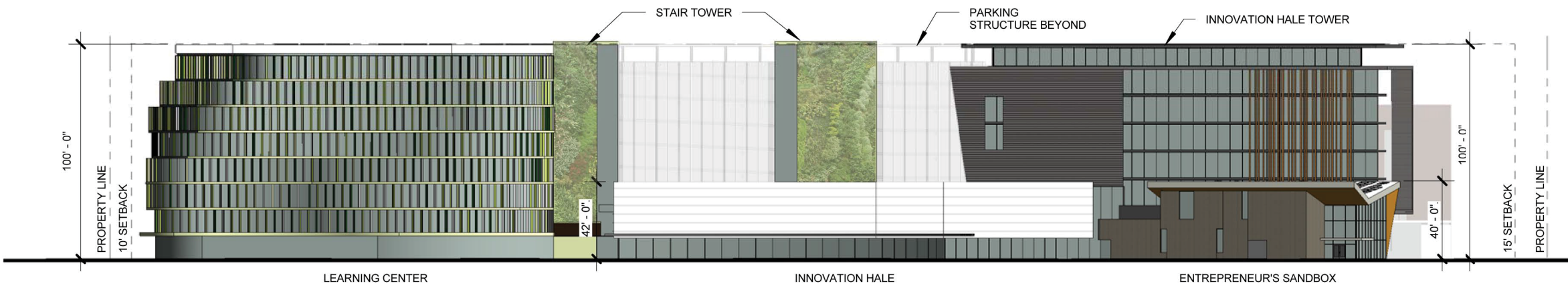
EAST ELEVATION



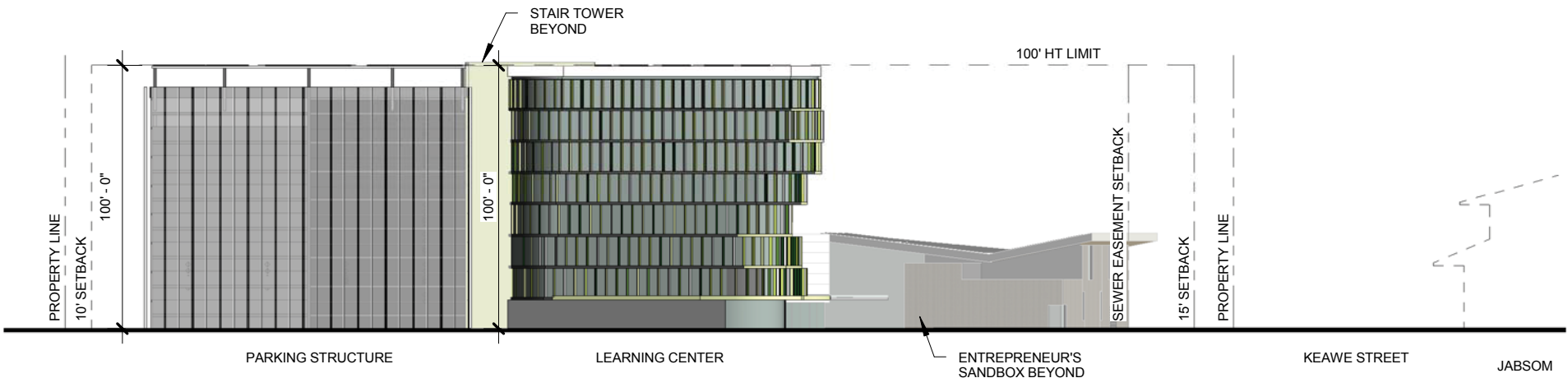
CONCEPTUAL ELEVATIONS

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

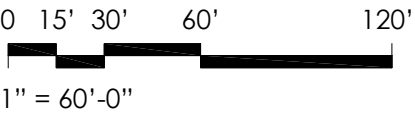
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SOUTH ELEVATION



WEST ELEVATION



CONCEPTUAL ELEVATIONS

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

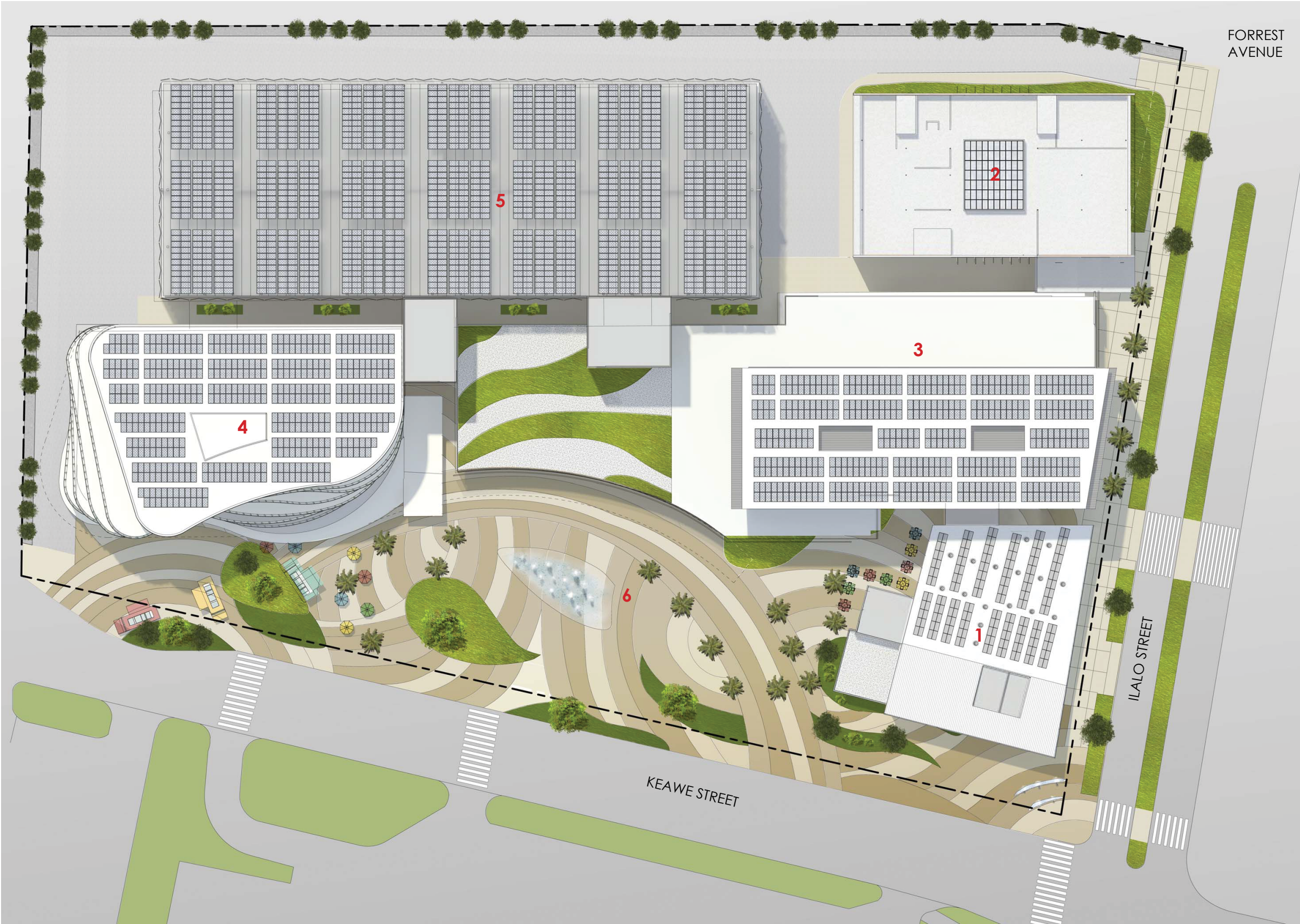
FERRARO CHOI



CONCEPTUAL RENDERED VIEW

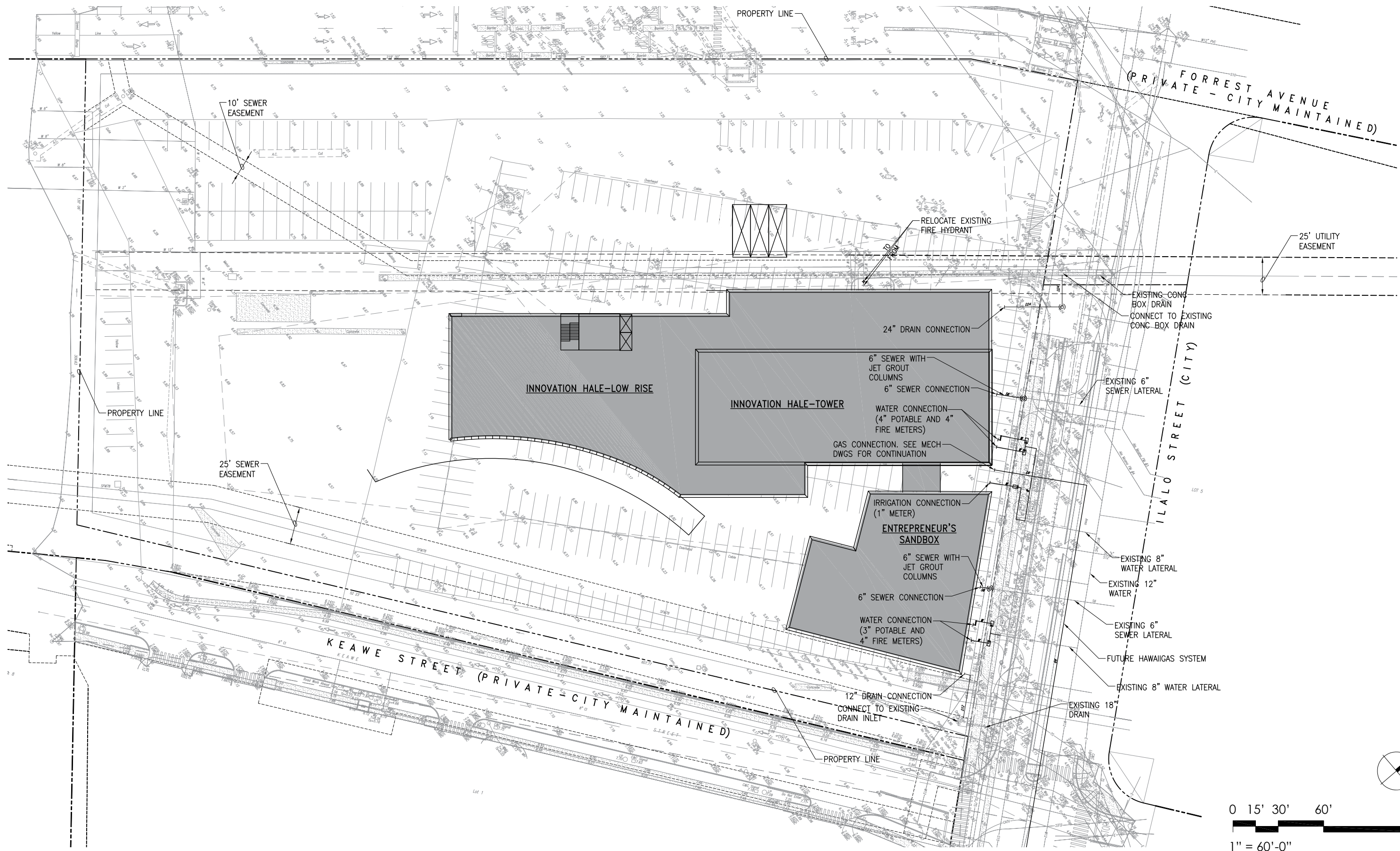
KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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- KEY
- 1 - ENTREPRENEUR'S SANDBOX
 - 2 - KEWALO INCUBATION CENTER
 - 3 - INNOVATION HALE
 - 4 - LEARNING CENTER
 - 5 - PARKING STRUCTURE
 - 6 - PUBLIC PLAZA

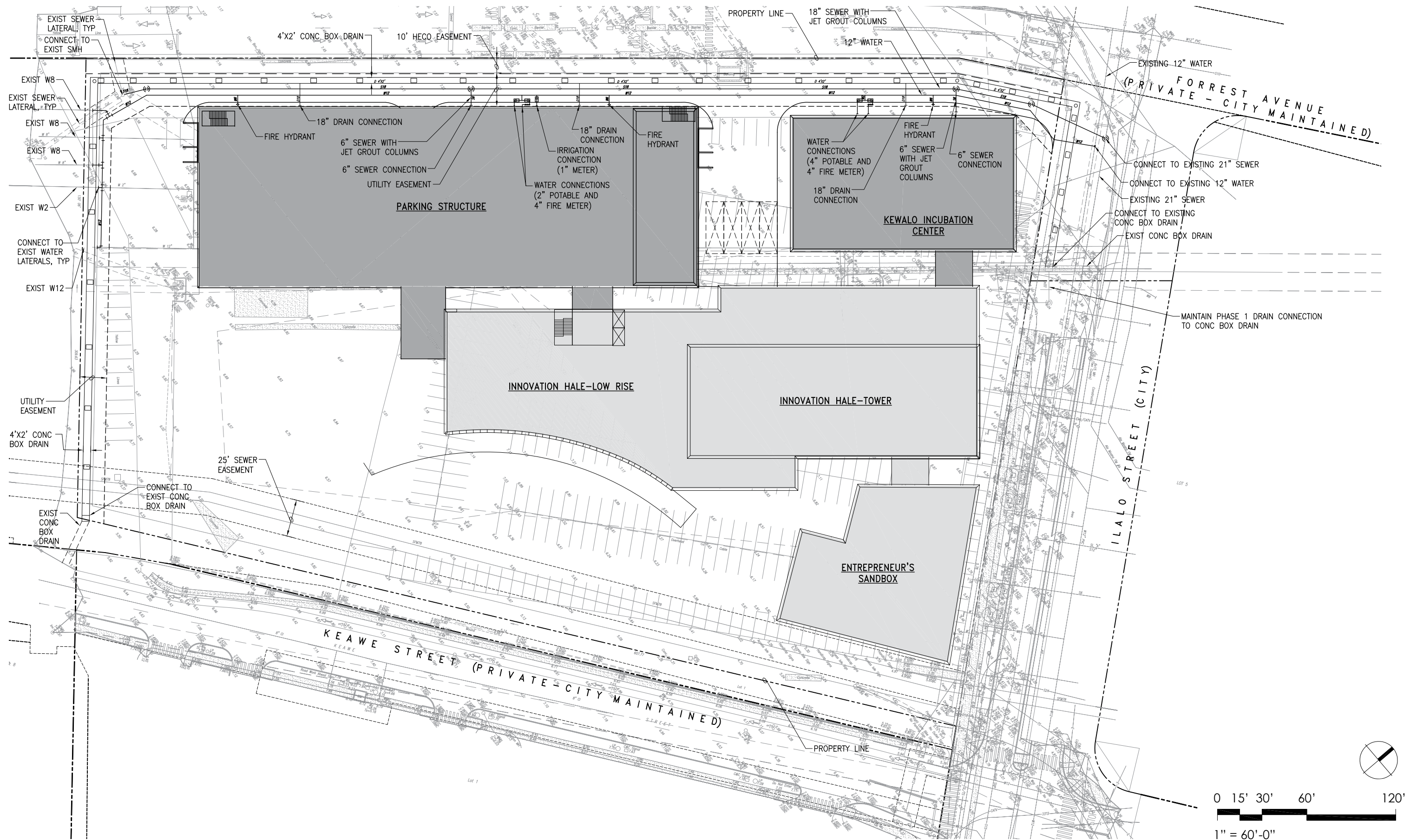
CONCEPTUAL RENDERED SITE PLAN
KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

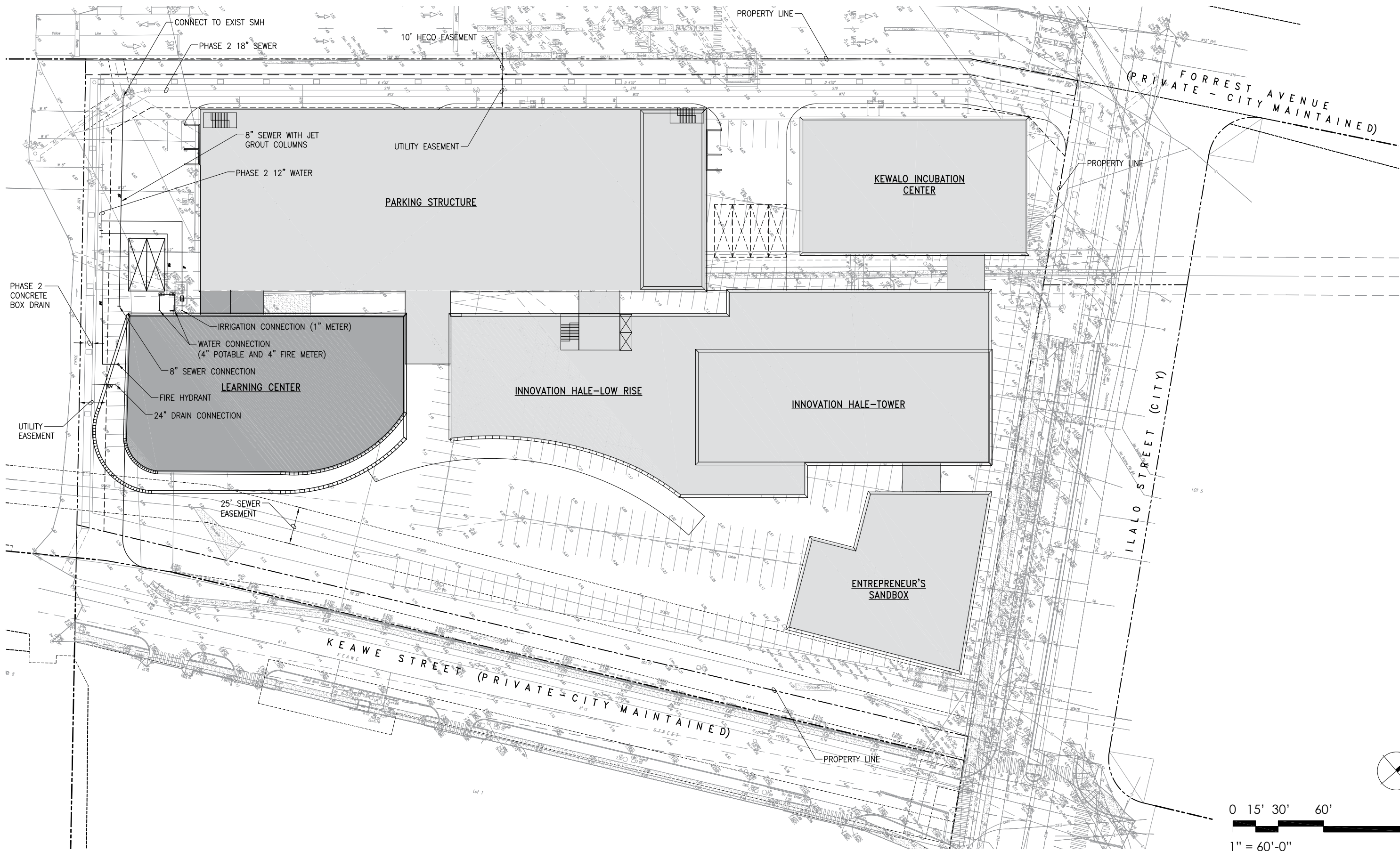


CIVIL - PHASE 1 SITE UTILITY PLAN

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

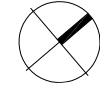

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CIVIL - PHASE 3 SITE UTILITY PLAN

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

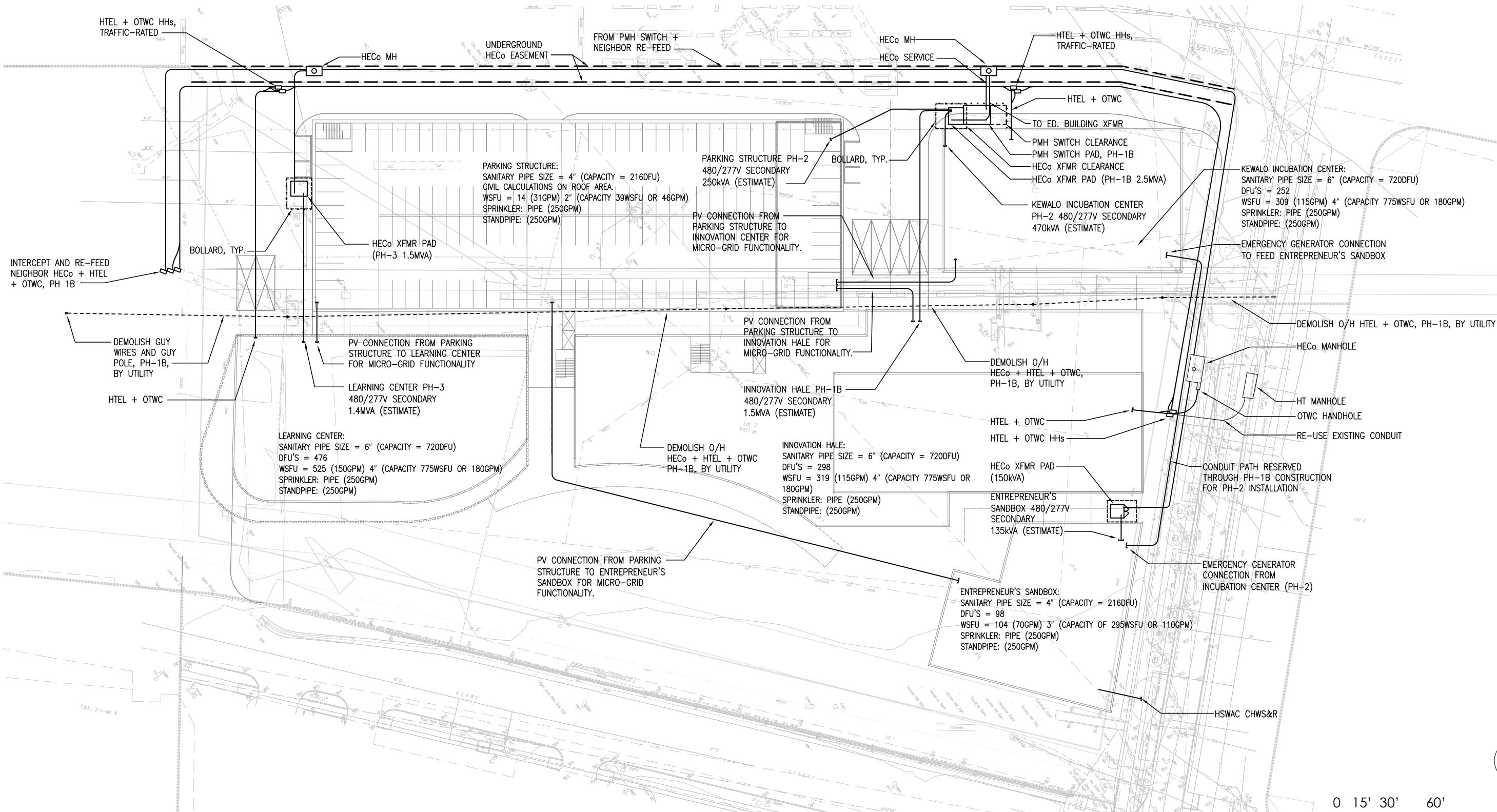


1" = 60'-0"

FERRARO CHOI



LANDSCAPE SITE PLAN

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015



MECHANICAL/ELECTRICAL/PLUMBING SITE PLAN

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

Alternate Site Schemes Explored

In the course of developing the proposed Master Plan for the Kakaako Makai Innovation Block, the design team considered several different alternative strategies for organizing the site.

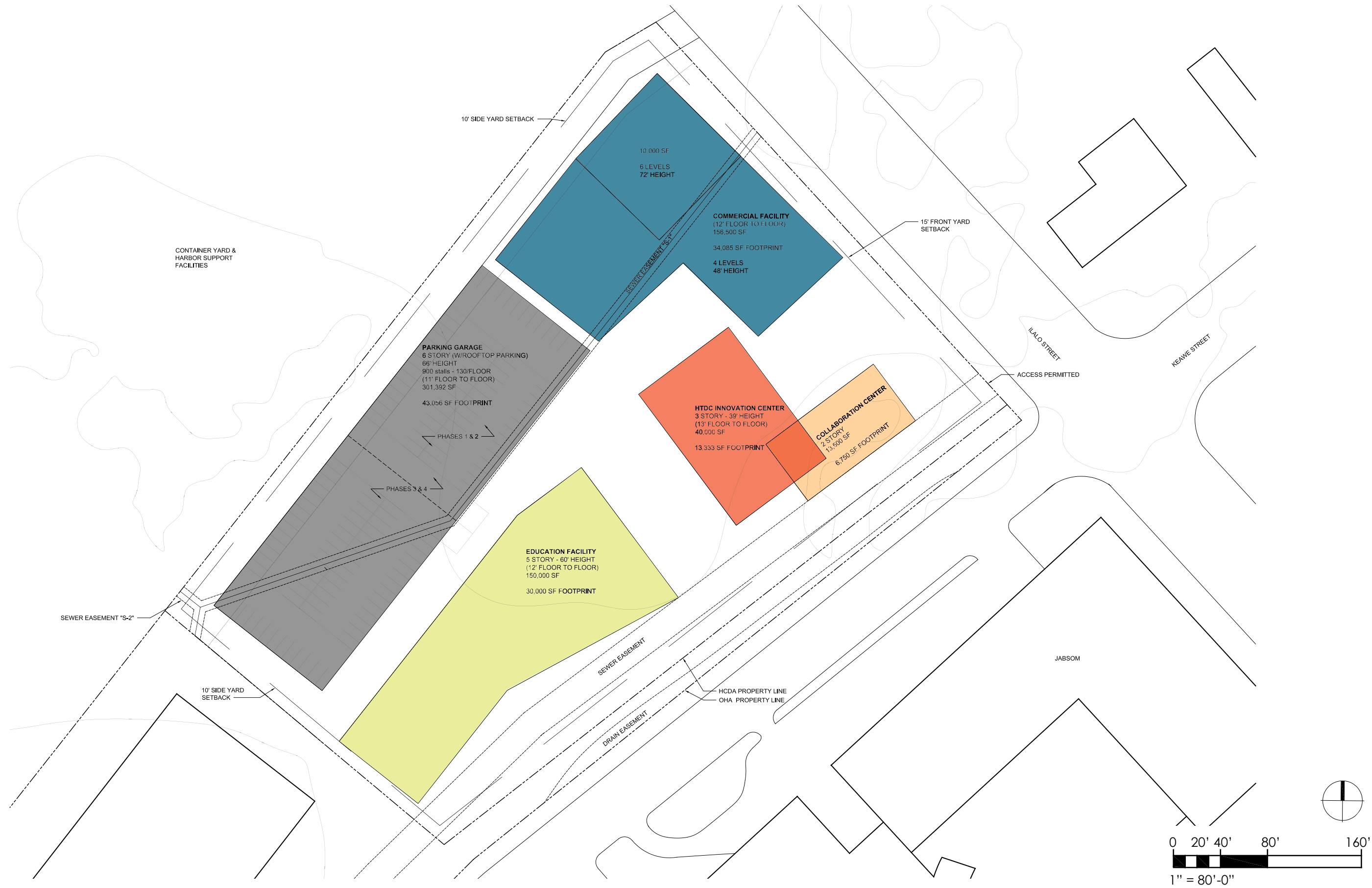
The initial Schemes A, B, and C explored different locations of and relationships between the five major buildings. With further feedback from HCDA and HTDC, the subsequent Schemes D, E, F, and G followed a common approach of locating the Entrepreneur’s Sandbox, Innovation Hale, and Kewalo Incubation Center near Ilalo Street with the Learning Center sited toward the Makai end of the block. These site options also tested variations on the interrelationships between the Sandbox, Innovation Hale, and Incubation Center as well as the likely construction phasing.

Scheme H confirmed two key priorities for HCDA and HTDC:

- Phase 1 of construction should be composed of the Sandbox and Innovation Hale, and
- The two buildings should be positioned to avoid the utility easements bisecting the site and therefore minimize the required site utility costs for Phase 1.

Scheme H also verified that the Innovation Hale should have frontage along Ilalo Street and would function as an intermediate element between the Sandbox and Incubation Center facilities. Finally, the central location of the public plaza location in this scheme was seen as serving as the “front door” of the Innovation Block.

As part of the Master Plan development process, preliminary massing studies were performed to examine the visual impact of the building volumes on the site as well as the spatial quality of the outdoor gathering areas.



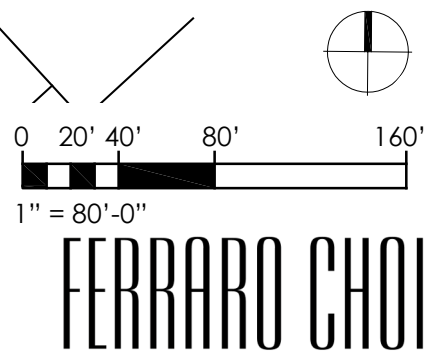
SCHEME A

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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SCHEME B
KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015





SCHEME C

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI

COLLABORATION CENTER
2 STORY W/LOFT SPACES - 30' HT.
13,500 SF
12,050 SF FOOTPRINT

COMMERCIAL FACILITY
COMMERCIAL TOWER
(FISHER/DATA HOUSE/LEASABLE)
6 STORY - 76' HT.
123,000 SF
20,500 SF FOOTPRINT

FISHER/DATA HOUSE
33,500 SF
12,700 SF FOOTPRINT
3 STORY - 40' HT.

INNOVATION CENTER
3 STORY - 39' HEIGHT
40,000 SF
13,350 SF FOOTPRINT

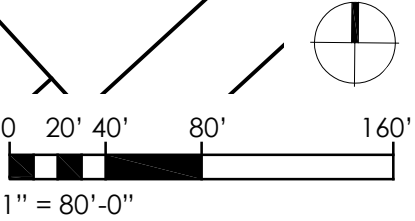
EDUCATION FACILITY
8 STORY - 96' HEIGHT
150,000 SF
18,750 SF FOOTPRINT

PARKING GARAGE
7 STORY (W/ROOFTOP PARKING) 66' HT.
900 stalls - 130/FLOOR
(11' FLOOR TO FLOOR)
301,392 SF
40,500 SF FOOTPRINT

CONTAINER YARD &
HARBOR SUPPORT
FACILITIES

OHA PARCEL

JABSOM

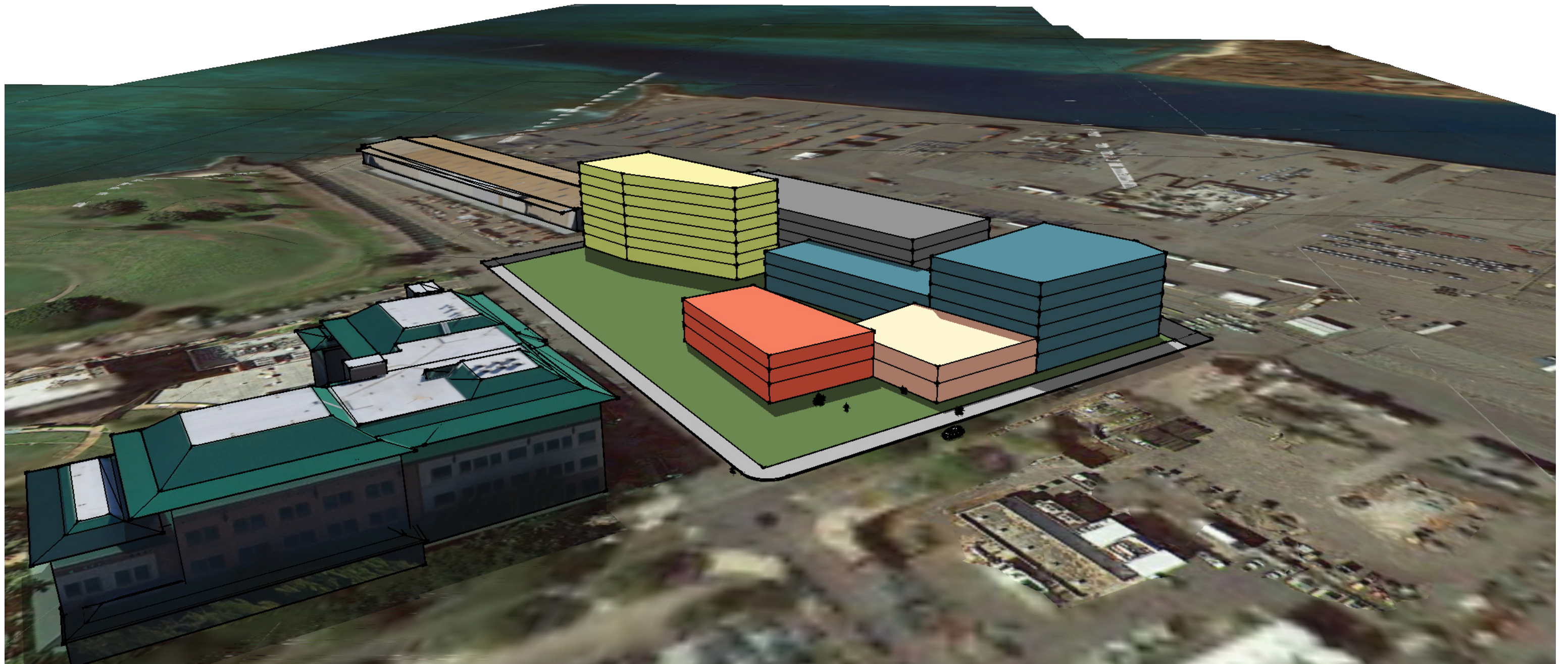


FERRARO CHOI

SCHEME D

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

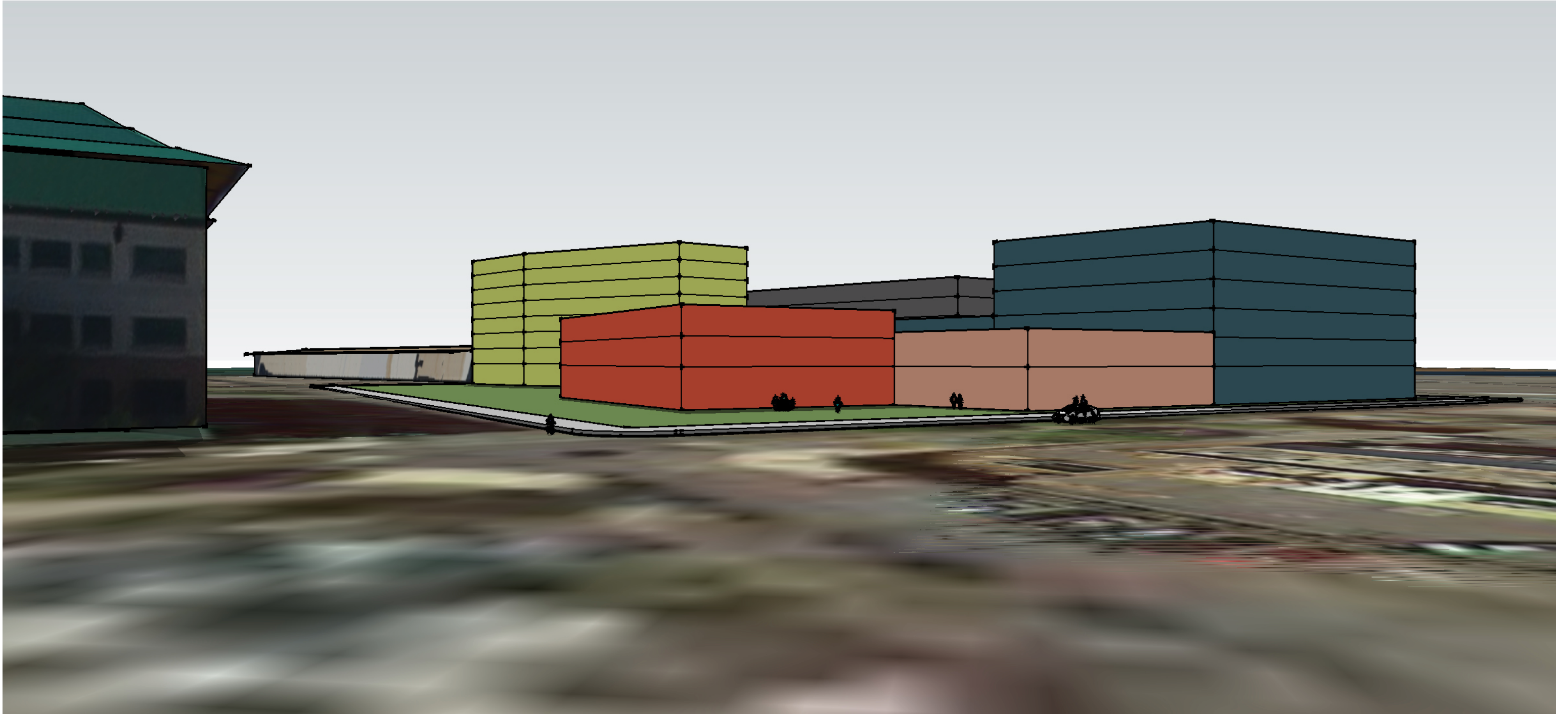




SCHEME D - 3D VIEW 1

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

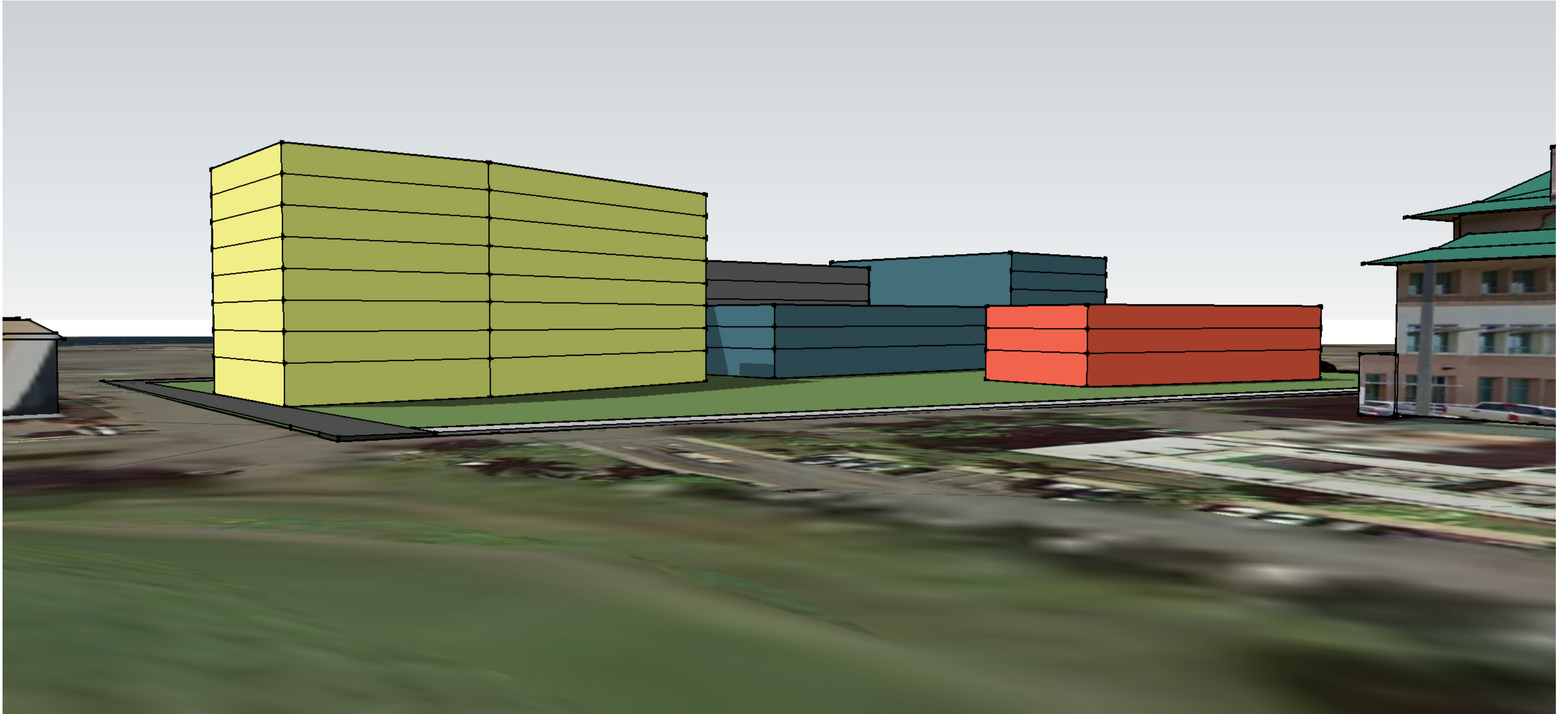
FERRARO CHOI



SCHEME D - 3D VIEW 2

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI



SCHEME D - 3D VIEW 3

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI

COLLABORATION CENTER
2 STORY W/LOFT SPACES - 30' HT.
13,500 SF
10,250 SF FOOTPRINT

COMMERCIAL FACILITY
FISHER/DATA HOUSE
3 STORY - 39' HT.
72,500 SF
24,167 SF FOOTPRINT

COMMERCIAL TOWER (LEASABLE)
8 STORY - 99' HT.
84,000 SF
10,500 SF FOOTPRINT

156,500 SF TOTAL

INNOVATION CENTER
4 STORY - 52' HEIGHT
40,000 SF
10,240 SF FOOTPRINT

EDUCATION FACILITY
3 STORY - 39' HT.
30,000 SF FOOTPRINT

+5 STORY TOWER - 60' HT.
12,000 SF FOOTPRINT

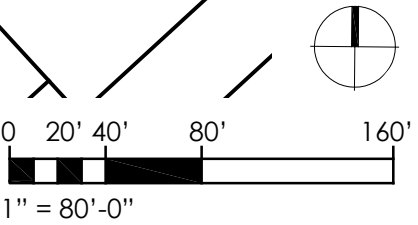
8 STORY - 99' HT.
150,000 SF TOTAL

PARKING GARAGE
7 STORY (W/ROOFTOP PARKING) 66' HT.
900 stalls - 130/FLOOR
(11' FLOOR TO FLOOR)
301,392 SF
40,500 SF FOOTPRINT

CONTAINER YARD &
HARBOR SUPPORT
FACILITIES

OHA PARCEL

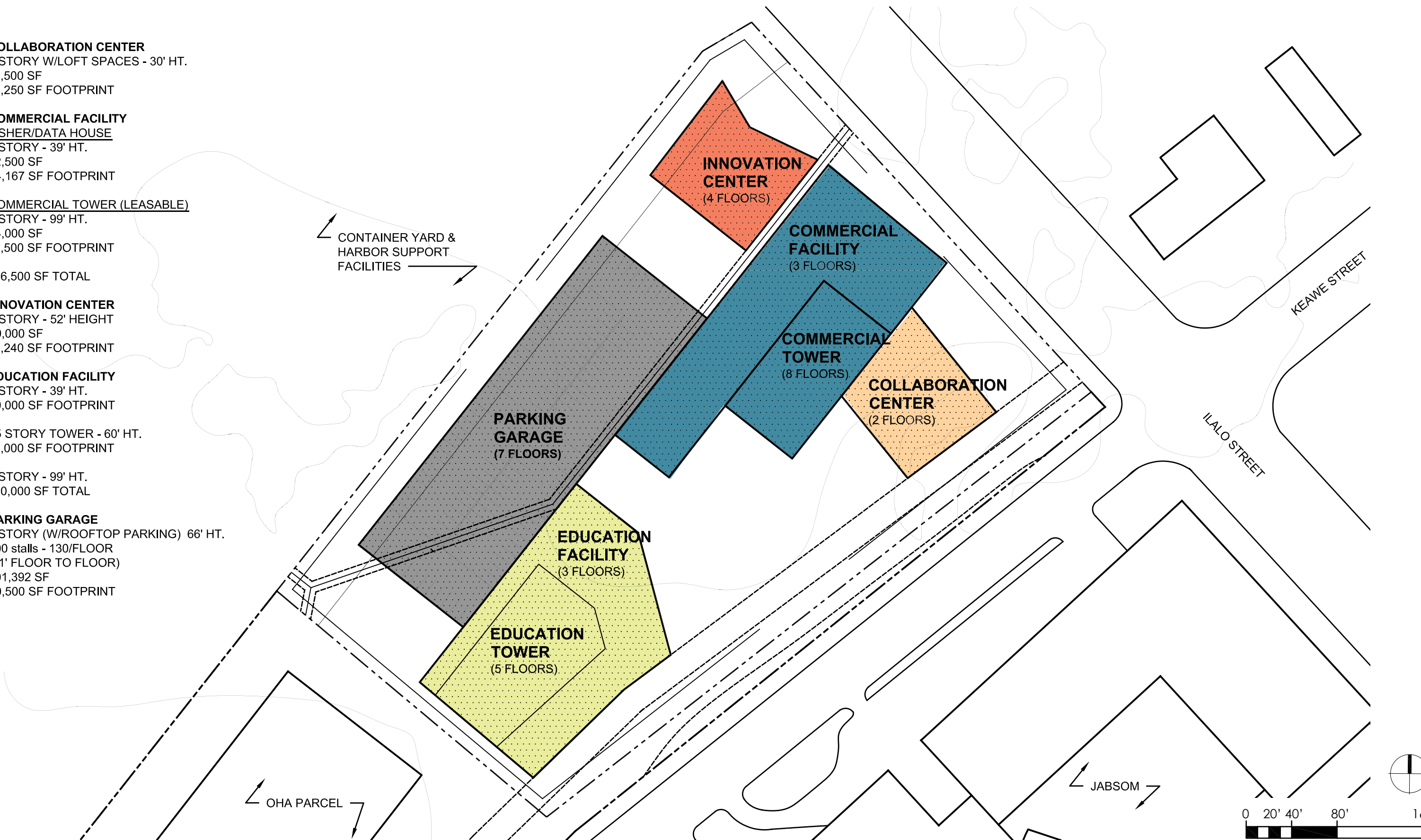
JABSOM

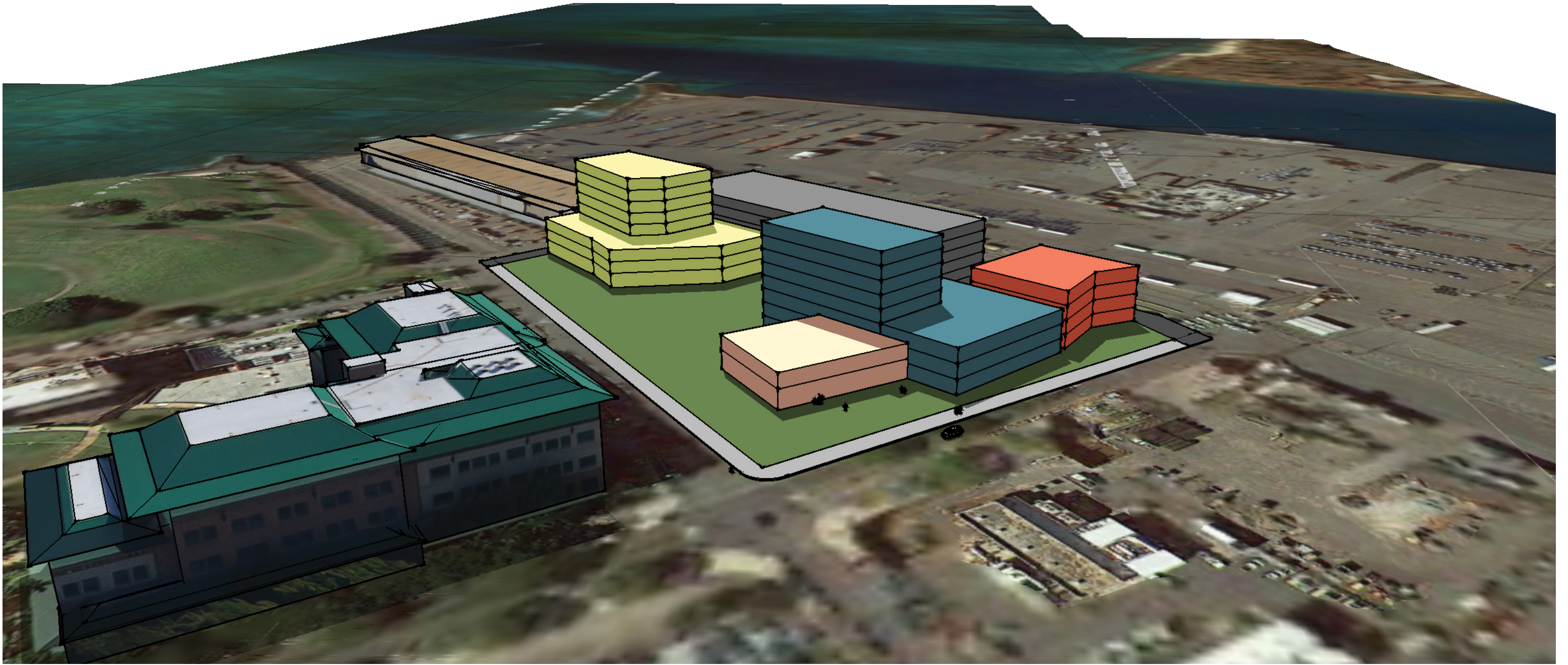


FERRARO CHOI

SCHEME E

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

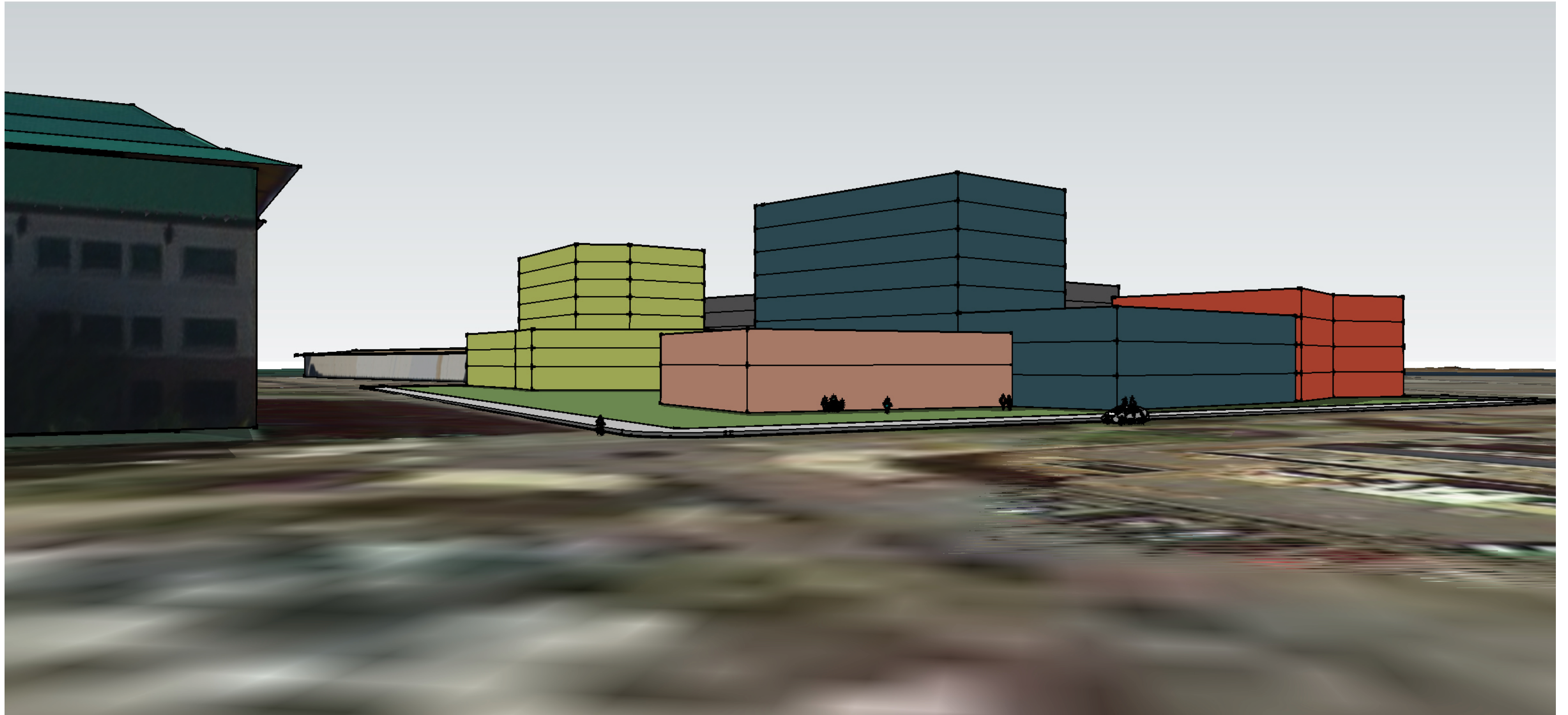




SCHEME E - 3D VIEW 1

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

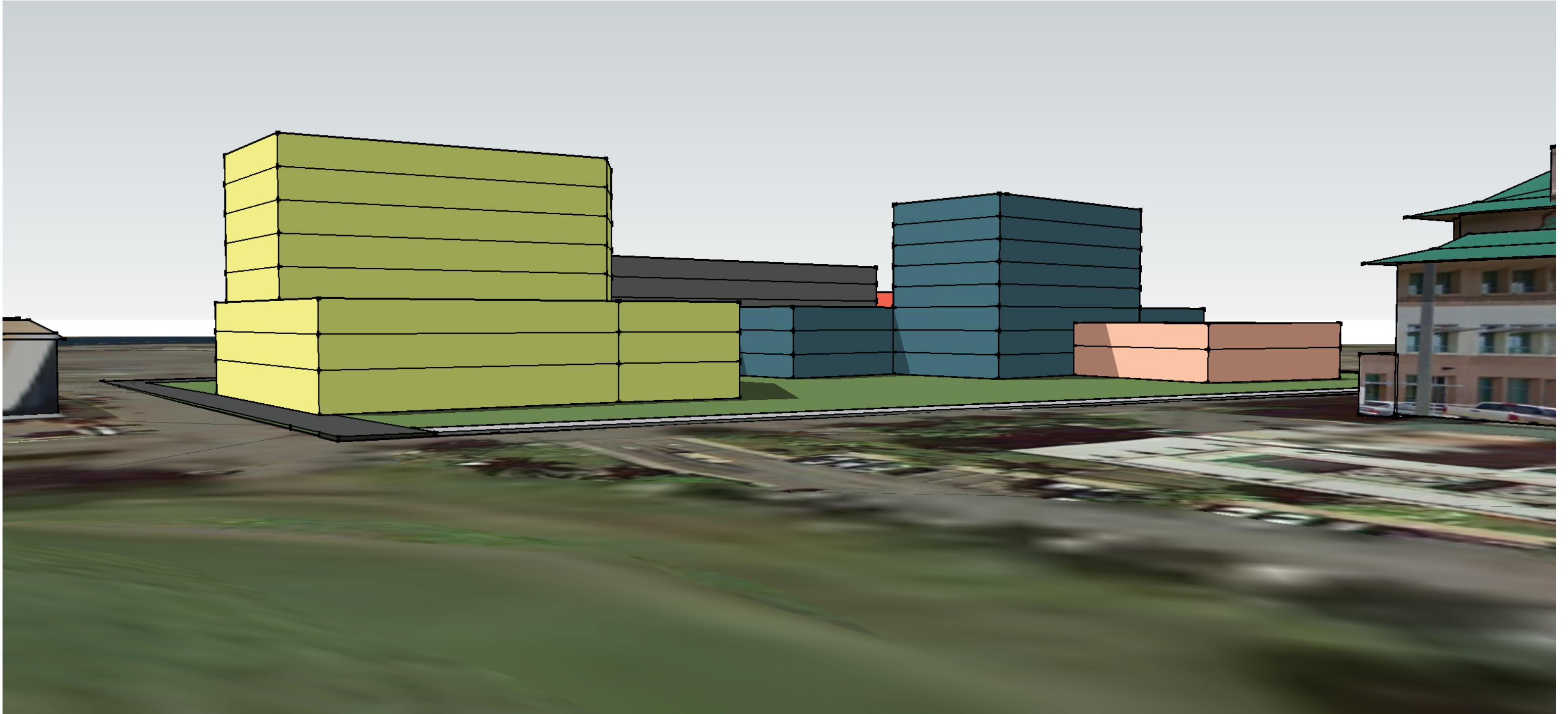
FERRARO CHOI



SCHEME E - 3D VIEW 2

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI



SCHEME E - 3D VIEW 3

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI

COLLABORATION CENTER
2 STORY W/LOFT SPACES - 30' HT.
13,500 SF
9,500 SF FOOTPRINT

COMMERCIAL FACILITY

FISHER/DATA HOUSE/LEASABLE
3 STORY - 39' HT.
106,500 SF
35,600 SF FOOTPRINT

COMMERCIAL TOWER (LEASABLE)
5 STORY (BUILT ATOP COMMERCIAL FACILITY)
50,000 SF
10,000 SF FOOTPRINT

8 STORY - 99' TOTAL HT.
156,500 SF TOTAL

INNOVATION CENTER
3 STORY - 39' HEIGHT
40,000 SF
13,400 SF FOOTPRINT

EDUCATION FACILITY
3 STORY - 39' HT.
30,000 SF FOOTPRINT

+5 STORY TOWER - 60' HT.
12,000 SF FOOTPRINT

8 STORY - 99' HT.
150,000 SF TOTAL

PARKING GARAGE
7 STORY (W/ROOFTOP PARKING) 66' HT.
900 stalls - 130/FLOOR (11' FLOOR TO FLOOR)
301,392 SF
40,500 SF FOOTPRINT

CONTAINER YARD &
HARBOR SUPPORT
FACILITIES

**INNOVATION
CENTER**
(3 FLOORS)

**COMMERCIAL
FACILITY**
(3 FLOORS)

**COMMERCIAL
TOWER**
(5 FLOORS)

**COLLABORATION
CENTER**
(2 FLOORS)

**PARKING
GARAGE**
(7 FLOORS)

**EDUCATION
FACILITY**
(3 FLOORS)

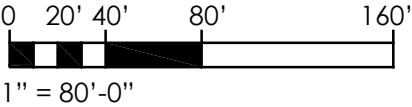
**EDUCATION
TOWER**
(5 FLOORS)

KEAWE STREET

ILALO STREET

JABSOM

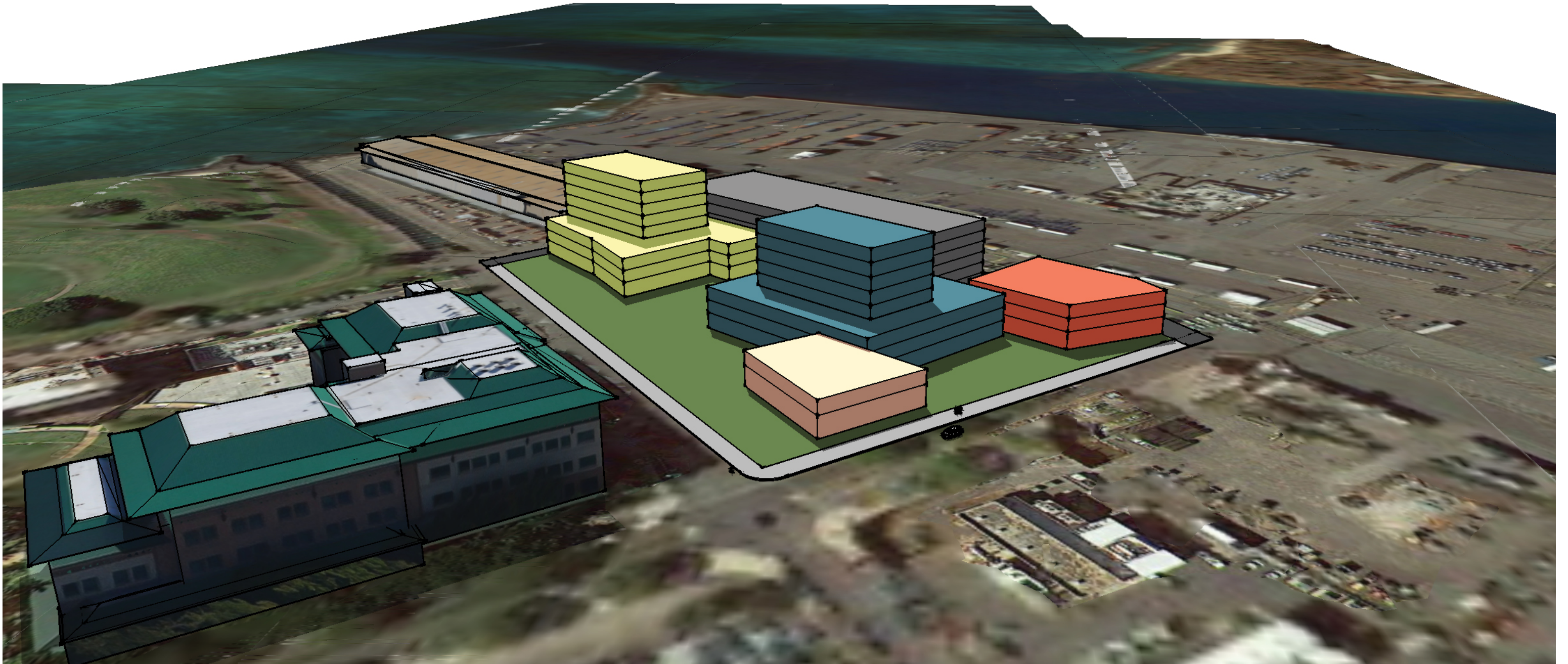
OHA PARCEL



SCHEME F

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

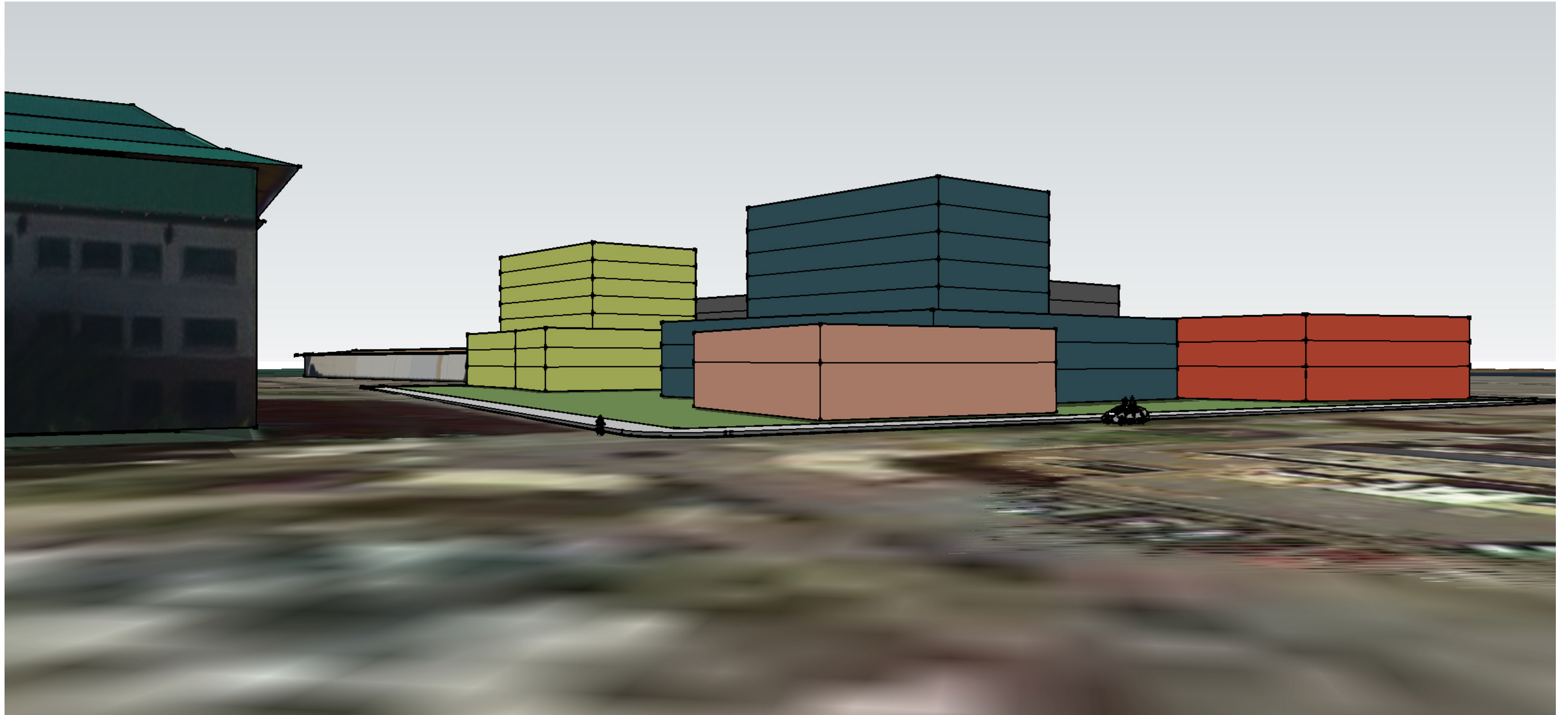
FERRARO CHOI



SCHEME F - 3D VIEW 1

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

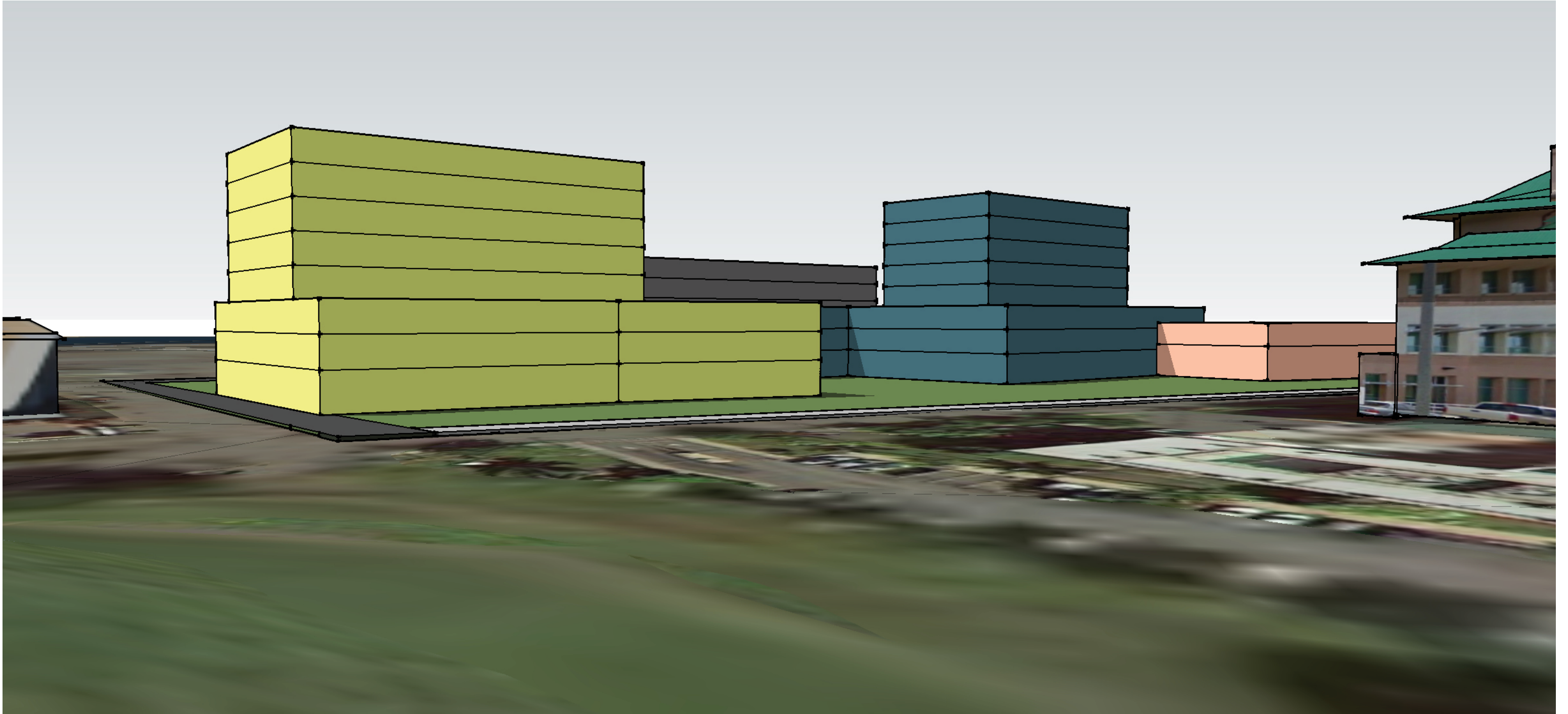
FERRARO CHOI



SCHEME F - 3D VIEW 2

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI



SCHEME F - 3D VIEW 3

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

FERRARO CHOI

COLLABORATION CENTER
2 STORY W/LOFT SPACES - 30' HT.
10,670 SF FOOTPRINT
13,500 SF

COMMERCIAL FACILITY

FISHER/DATA HOUSE
3 STORY - 39' HT.
30,450 SF FOOTPRINT
100,350 SF

COMMERCIAL TOWER (LEASABLE)
5 STORY - 60' HT.
11,230 SF FOOTPRINT
56,150 SF

156,500 SF TOTAL - 96' HT.

INNOVATION CENTER
3 STORY - 39' HEIGHT
13,333 SF FOOTPRINT
40,000 SF

EDUCATION FACILITY
5 STORY - 64' HT.
22,800 SF FOOTPRINT
114,000 SF

+3 STORY TOWER - 36' HT.
12,000 SF FOOTPRINT
36,000 SF

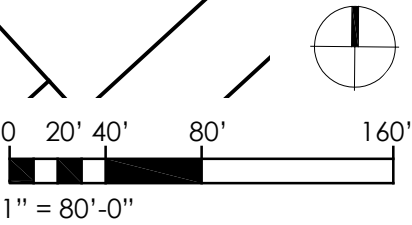
8 STORY - 100' HT.
150,000 SF TOTAL

PARKING GARAGE
7 STORY (W/ROOFTOP PARKING) 66' HT.
900 stalls - 130/FLOOR
(11' FLOOR TO FLOOR)
40,500 SF FOOTPRINT
301,392 SF

CONTAINER YARD &
HARBOR SUPPORT
FACILITIES

OHA PARCEL

JABSOM



FERRARO CHOI

SCHEME G

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

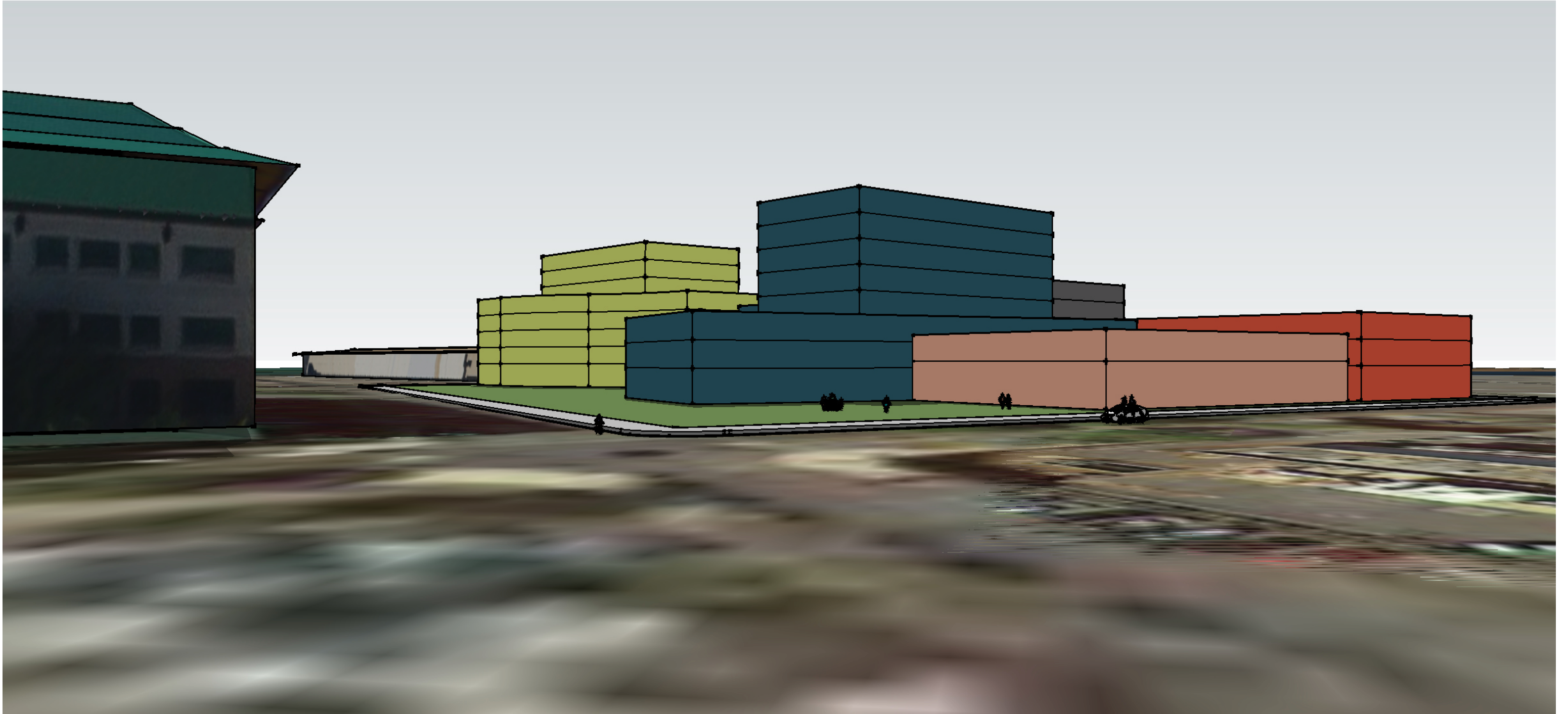




SCHEME G - 3D VIEW 1

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

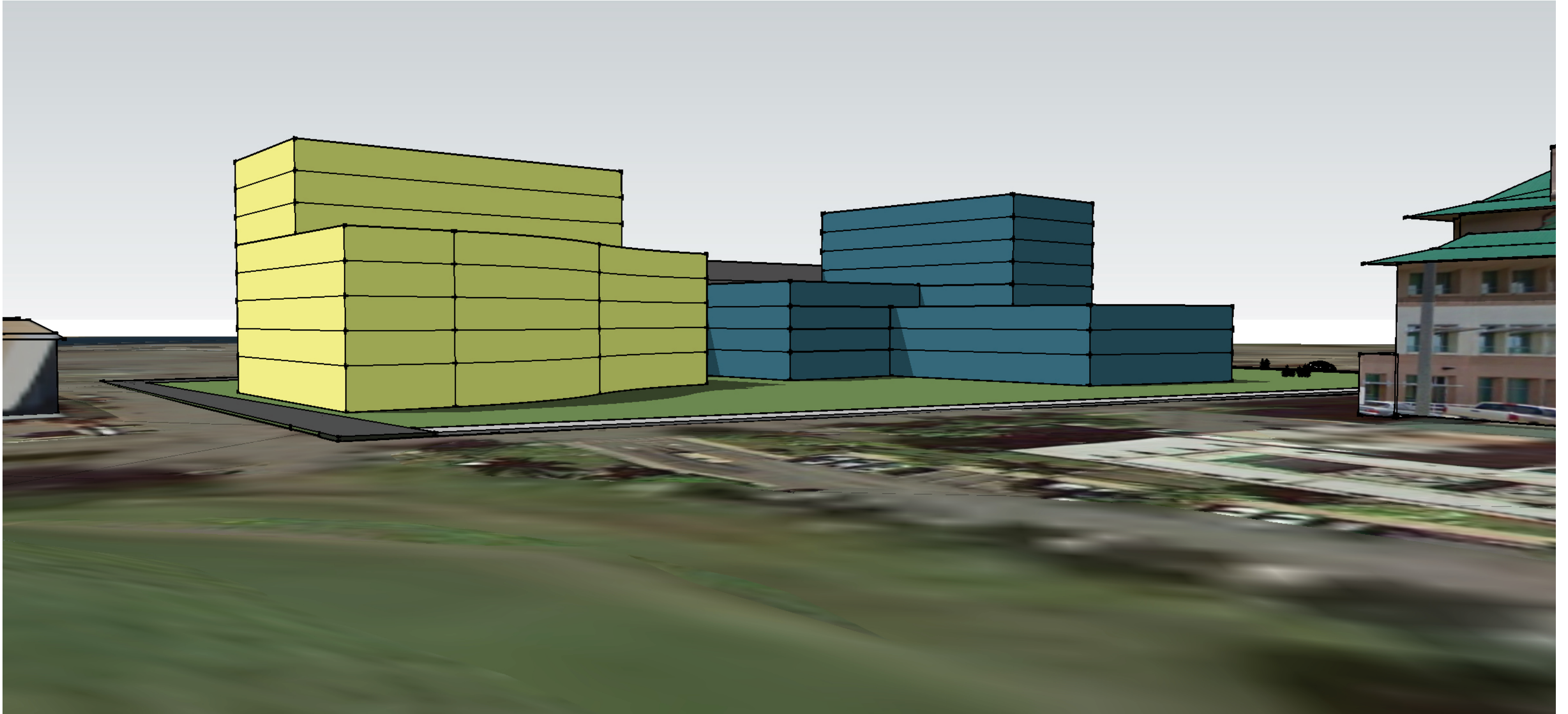
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SCHEME G - 3D VIEW 2

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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SCHEME G - 3D VIEW 3

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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COLLABORATION CENTER

- 2 STORIES W/ LOFT SPACE
- 10,000 SF FOOTPRINT
- TOTAL AREA: 13,500 SF
- TOTAL HEIGHT: 36 FT.

COMMERCIAL FACILITY

FISHER HAWAII / DATA HOUSE:

- GROUND FLOOR WAREHOUSE - 22 FT.
- +2 STORY RETAIL / OFFICE - 26 FT.
- 42,900 SF FOOTPRINT
- SUBTOTAL: 65,280 SF

COMMERCIAL TOWER (LEASABLE):

- +6 STORIES - 78 FT.
- 15,120 SF FOOTPRINT
- SUBTOTAL: 90,720 SF
-
- TOTAL AREA: 156,000 SF
- TOTAL HEIGHT: 7 STORIES, 100 FT.

INNOVATION CENTER

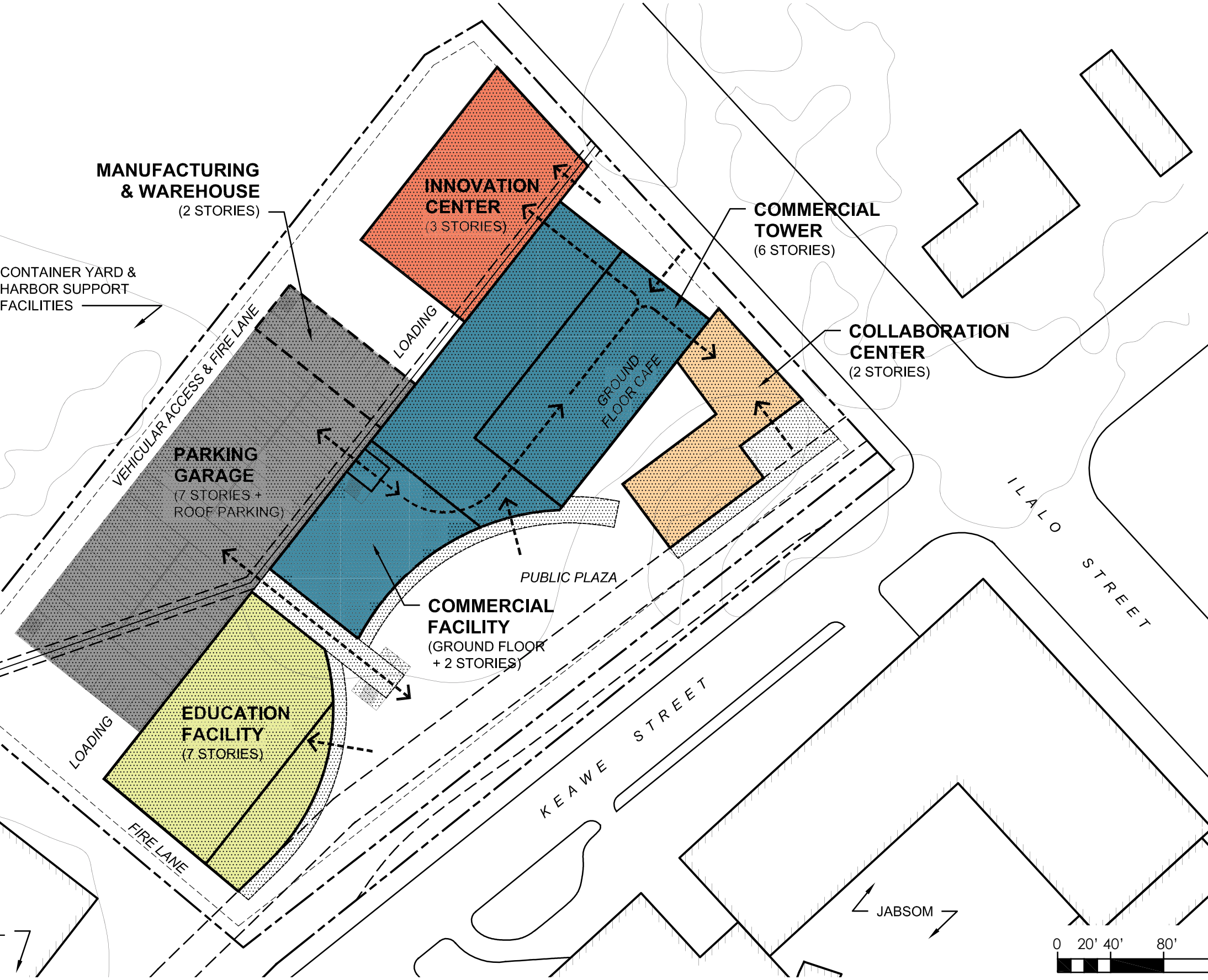
- 3 STORIES
- 15,800 SF FOOTPRINT
- TOTAL AREA: 47,400 SF
- TOTAL HEIGHT: 55 FT.

EDUCATION FACILITY

- 4 STORY BASE - 56 FT.
- 22,250 SF FOOTPRINT
-
- +3 STORY TOWER - 44 FT.
- 17,000 SF FOOTPRINT
-
- TOTAL AREA: 140,000 SF
- TOTAL HEIGHT: 100 FT.

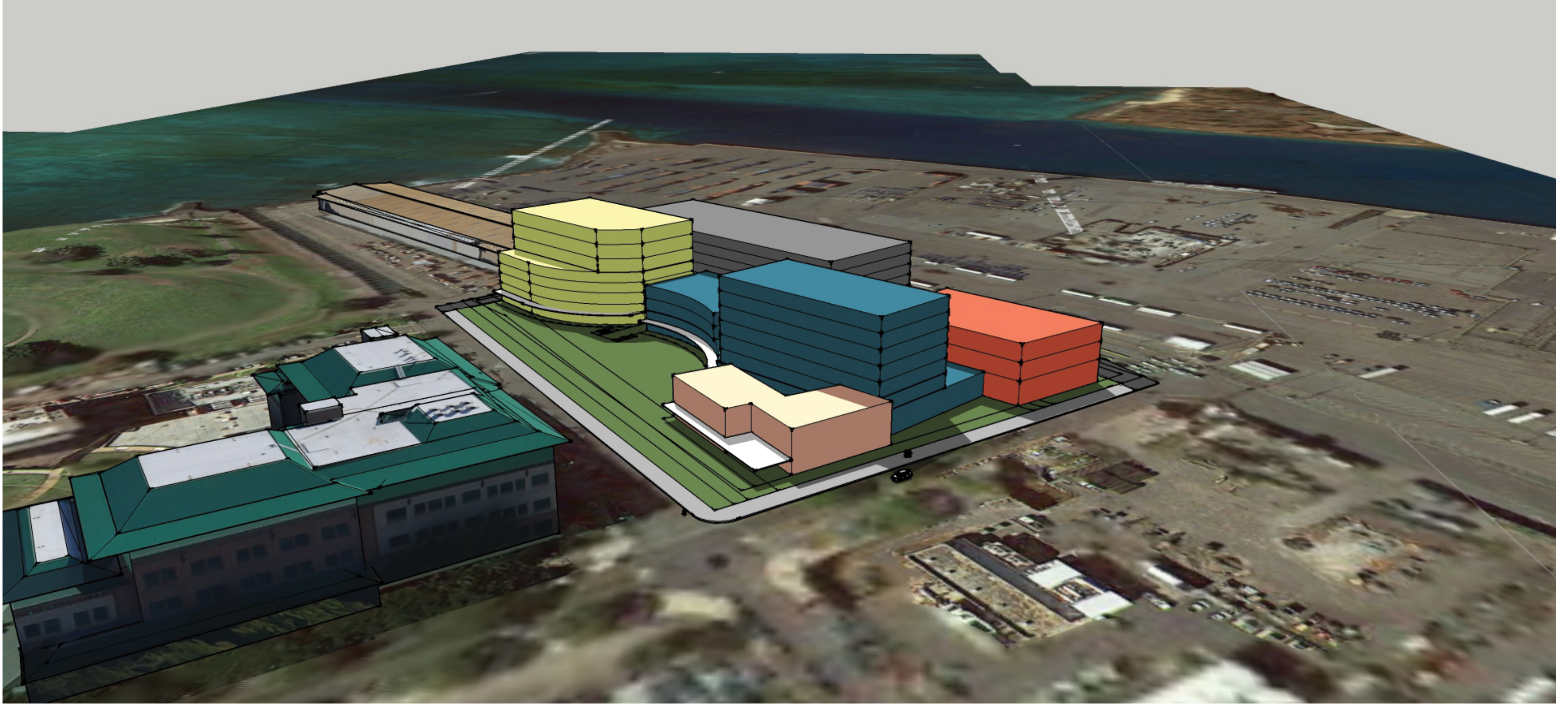
PARKING GARAGE

- 7 STORIES W/ ROOF DECK PARKING (12 FT. FLOOR TO FLOOR)
- 900 STALLS TOTAL
- SUBTOTAL: 314,800 SF
-
- MANUFACTURING & WAREHOUSE
- 2 STORIES (5,000 SF PER FLOOR)
- SUBTOTAL: 10,000 SF
-
- 40,600 SF FOOTPRINT
- TOTAL AREA: 324,800 SF
- TOTAL HEIGHT: 88 FT.



SCHEME H

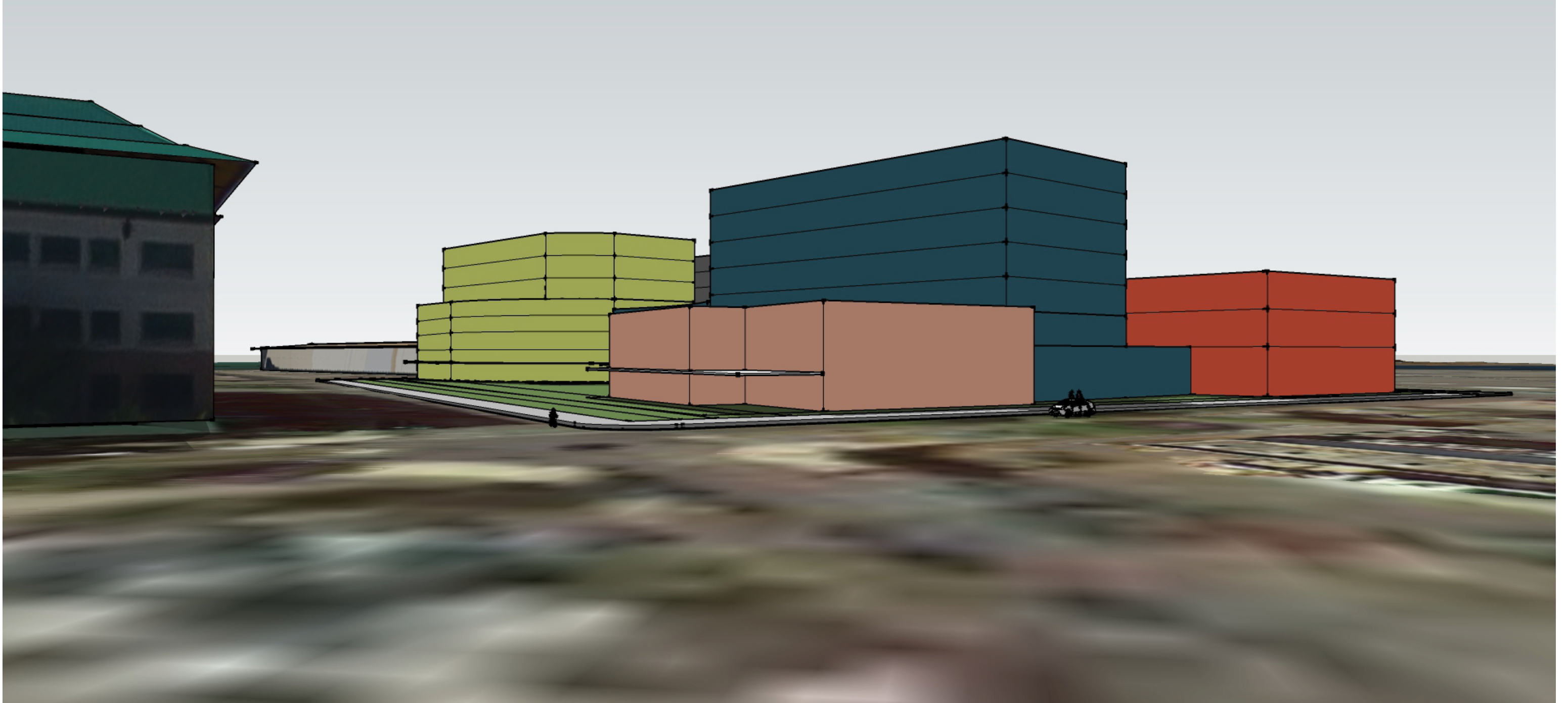
KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015



SCHEME H - 3D VIEW 1

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

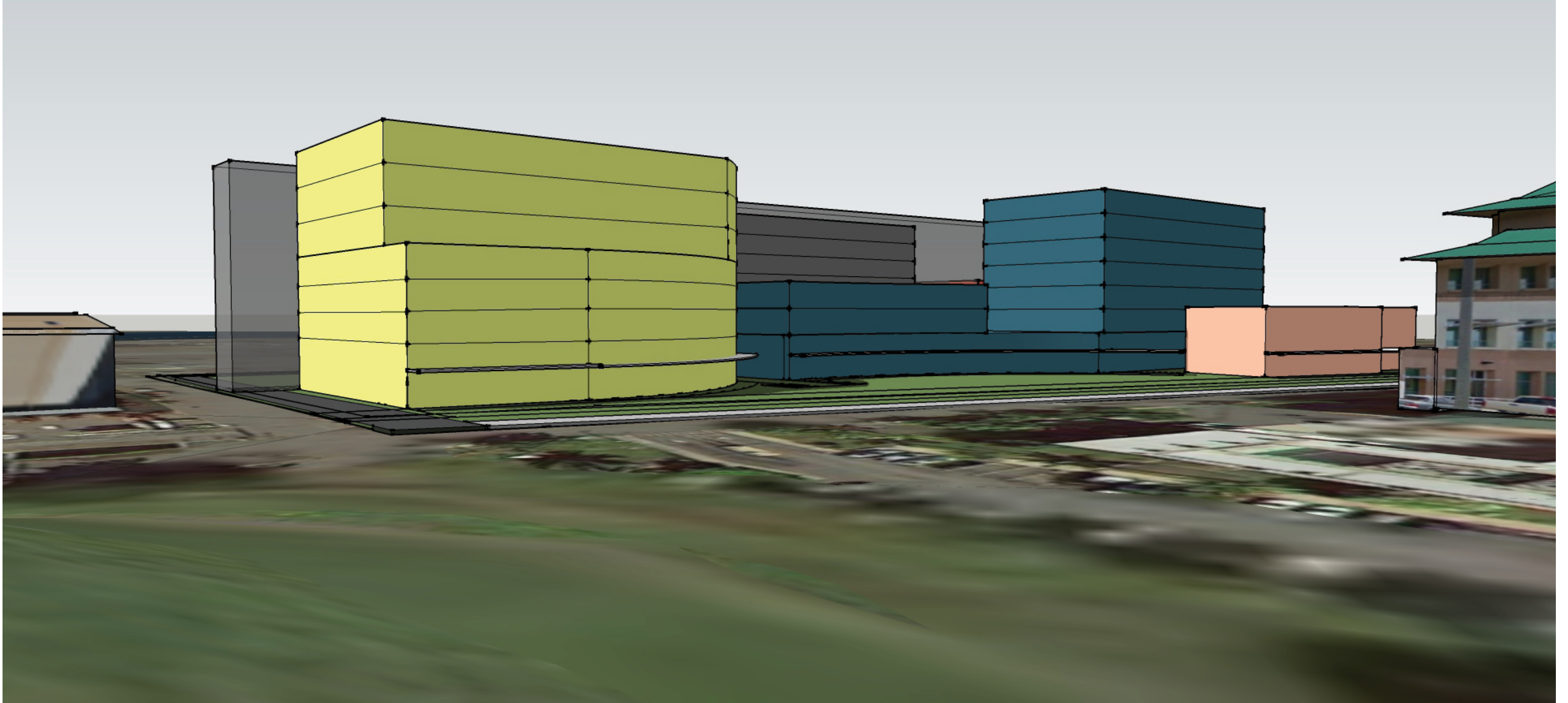
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SCHEME H - 3D VIEW 2

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

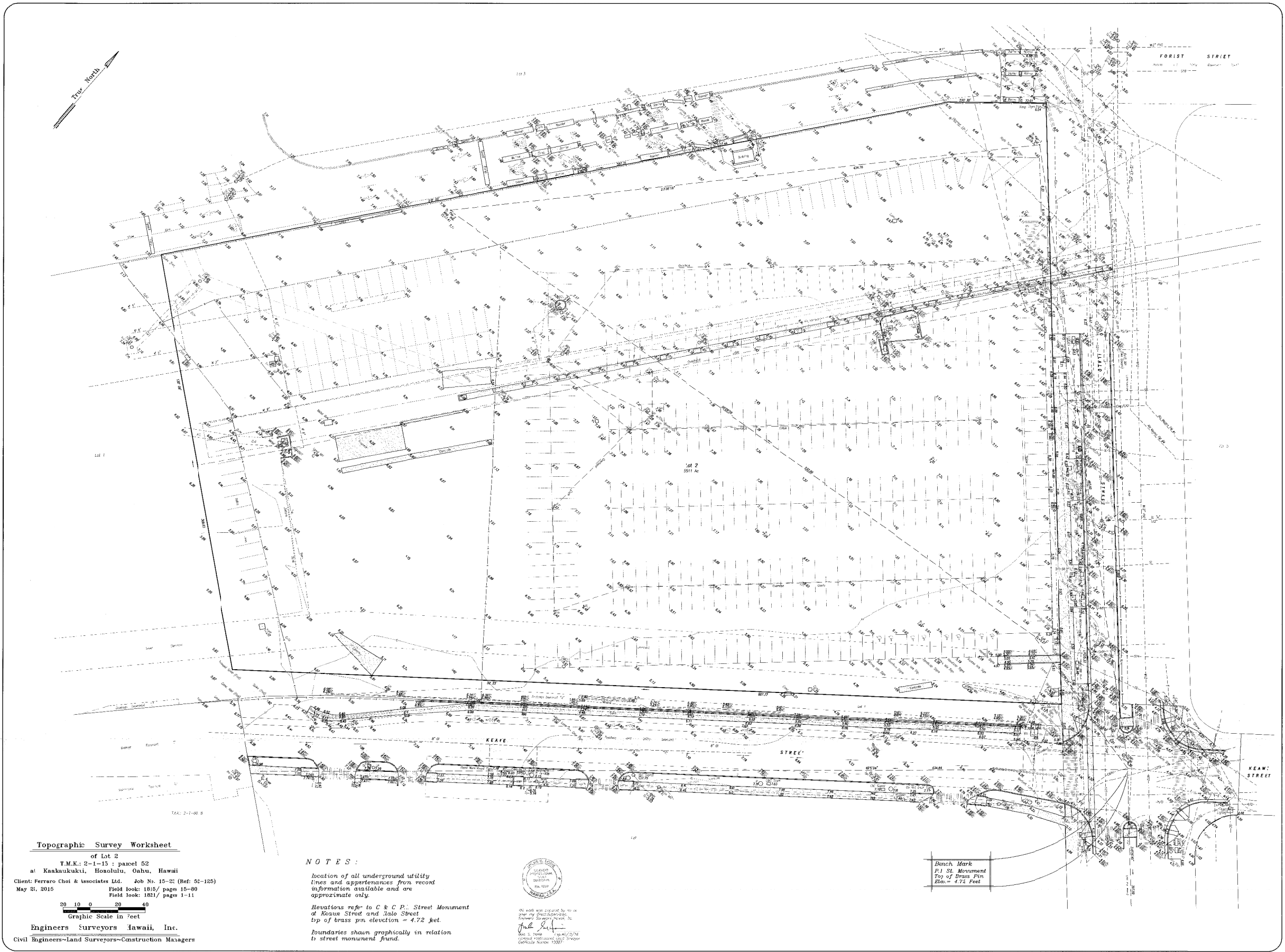
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SCHEME H - 3D VIEW 3

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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APPENDIX B: TOPOGRAPHIC SURVEY

KAKAAKO MAKAI INNOVATION BLOCK AT LOT "C" MASTER PLAN - 07.29.2015

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