201 & 401 Crescent Ave Map Amendment

An application requesting a map amendment to Covington's Neighborhood Development Code (NDC) changing the area at 401 Crescent Ave from AUC (Auto-Urban Commercial) to SU (Semi-Urban Residential) was brought before the Kenton County Planning Commission (KCPC) at its meeting on June 1, 2023. The map amendment was requested for a proposed stage 1 development plan consisting of 25 attached single-family residential units at the vacant and underutilized paved lot which Willie's Sport's Café occupied for 23 years prior to its closing in 2014. KCPC made a favorable recommendation on the proposed map amendment.

A copy of the Kenton County Planning Commission Statement of Action and Recommendation is attached. A link to the KCPC meeting is below. The portion of the hearing related to this map amendment begins at 37:15.

https://tbnk.vod.castus.tv/vod/?video=0915bb75-da13-4ff5-b4f6-28575a28a282&noautoplay=0&nav=search%2FKenton%20County%20planning

Pursuant to the map amendment process adopted by the City in the NDC, the KCPC recommendation becomes final unless, within 21 days, an aggrieved party files a written request with KCPC to have the City Commission make the final decision on the map amendment. Immediately after its hearing, KCPC received a written request to have the final decision made by the City Commission. The City Commission must take final action on the map amendment within 90 days from the date on which KCPC took its action.

The Commission has 3 options:

1. The City Commission may review the KCPC record and findings on the map amendment and adopt the KCPC recommendation.
2. The City Commission may review the KCPC record and findings and override or deviate from the KCPC recommendation on the map amendment. In doing so, the City Commission must articulate on the record independent findings of fact and conclusions, and those independent findings of fact must be capable of being found in and supported by substantial evidence existing in the KCPC record. An action denying the map amendment which is not supported by substantial evidence is arbitrary and arbitrary action is subject to reversal by a reviewing court.
3. The City Commission may choose to hold its own trial-type public hearing on the map amendment, make findings of adjudicative facts, and take final action on the map amendment based upon its own findings.

Staff recommends option 1: approval of the map amendment per the findings and recommendations of KCPC. The proposed map amendment is generally consistent with the goals, objectives, and recommendations of the Comprehensive Plan. This proposed map amendment will encourage new housing on a vacant and underutilized lot within the urban core near existing facilities and employment centers.

Kenton County Planning Commission

MANY COMMUNITIES / ONE FUTURE

June 16, 2023

KEN SMITH – CITY MANAGER
CITY OF COVINGTON
20 W PIKE ST
COVINGTON KY 41011

Dear Mr. Smith **NUMBER: PC2305-0003**

Attached please find a copy of this Commission's action from its meeting on **June 1, 2023** regarding a proposed **map amendment and variances** to the **Covington Neighborhood Development Code**. (The proposal was submitted by Corporex Development & Construction Management, LLC per Greg Scheper on behalf of 401 Crescent Avenue LLC). Copies of this action have been sent to those persons or agencies which may be affected by this matter.

Please notify Andy Videkovich, Current Planning Manager of Planning & Zoning, of the meeting time and date when this item is placed on your agenda. Once your legislative body acts on this map amendment, please provide our staff at PDS with a copy of your executed ordinance. For questions regarding our action or to request PDS staff representation at your meeting, please contact Andy Videkovich, AICP, Current Planning Manager of the Planning and Zoning Administration Department at PDS 859.331.8980 or avidekovich@pdskc.org

Please note that per KRS 100, map amendments require action by the legislative body within 90 days of the Planning Commission's action. If no action is taken, the Planning Commission's recommendation shall become final and effective. **Planning Commission action on the variance requests are final.**

Thank you.

BRIAN DUNHAM, CHAIR
KENTON COUNTY PLANNING COMMISSION

attachment

cc: Corporex Development & Construction Management, LLC per Greg Scheper – Applicant
401 Crescent Avenue LLC- Owner

KENTON COUNTY PLANNING COMMISSION
STATEMENT OF ACTION AND RECOMMENDATION

NUMBER: PC2305-0003

WHEREAS

Corporex Development & Construction Management, LLC per Greg Scheper on behalf of 401 Crescent Avenue LLC, HAS SUBMITTED AN APPLICATION REQUESTING THE KENTON COUNTY PLANNING COMMISSION TO REVIEW AND MAKE RECOMMENDATIONS ON: A proposed map amendment to Covington Neighborhood Development Code changing the described area from AUC (an Auto-Urban Commercial district) to SU (a Semi-Urban Residential district). This request includes the review of the following variance requests: (1) increasing the maximum height permitted for Building D; and (2) increasing the maximum front yard setbacks of Buildings A, B, C, and D; AND

WHEREAS

A PUBLIC HEARING WAS HELD ON THIS APPLICATION ON THURSDAY, JUNE 1, 2023, AT 6:15 P.M. VIA IN THE KENTON CHAMBERS LOCATED AT 1840 SIMON KENTON WAY, COVINGTON, KENTUCKY; AND A RECORD OF THAT HEARING IS ON FILE AT THE OFFICES OF THE KENTON COUNTY PLANNING COMMISSION, 1840 SIMON KENTON WAY, COVINGTON, KENTUCKY.

NOW, THEREFORE,

THE KENTON COUNTY PLANNING COMMISSION SUBMITS THE FOLLOWING RECOMMENDATIONS, ALONG WITH SUPPORTING INFORMATION AND COMPREHENSIVE PLAN DOCUMENTATION:

KCPC RECOMMENDATION: REQUEST 1: – CITY OF COVINGTON NEIGHBORHOOD DEVELOPMENT CODE:

Favorable recommendation on the map amendment to the Covington Zoning Ordinance changing the described area from AUC (an Auto-Urban Commercial district) to SU (a Semi-Urban Residential district).

COMPREHENSIVE PLAN DOCUMENTATION:

- Date of Adoption by the Kenton County Planning Commission: September 5, 2019.

SUPPORTING INFORMATION/BASES FOR KCPC RECOMMENDATION 1:

1. The proposed map amendment is generally consistent with the goals, objectives, and recommendations of the Comprehensive Plan:
   a. While PDS staff has identified that this map amendment is not consistent with the recommended land use map, staff has identified several other areas where the map amendment is consistent with the goals, objectives, and recommendations. This proposed map amendment will encourage new housing on a vacant and underutilized lot within the urban core near existing facilities and employment centers.

2. The submitted Stage I Development Plan meets the minimum requirements of the Covington Neighborhood Development Code, except for the following:
   a. Section 02.04.1.C.6. sets the maximum height within the SU (Semi-Urban Residential)

Character District as the greater of 35 feet or 120 percent of the context average. In this case, the nature of the subject context prescribes the maximum height as 35 feet. The proposed plan is showing a maximum height of 35 feet four inches for "Building D". The applicant is seeking a variance for this requirement.

b. Section 02.04.1.C.6. sets the maximum front yard setback within the SU (Semi-Urban Residential) Character District as the greater of 10 feet or 120 percent of the context average. In this case, the nature of the subject context prescribes the maximum front setback as 10 feet. The proposed plan indicates front street setbacks along Western Avenue at 26 feet, two inches for "Building A", 24 feet for "Building B", 22 feet for "Building C", and 12 feet, 3 inches for "Building D". The applicant is seeking a variance for this requirement.
c. Hillside Stability Overlay (02.05.3)
d. Development design guidelines (04.08), including building design, landscaping, and signs.

3. Based on testimony presented at the June 1, 2023, public hearing.

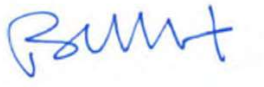
KCPC ACTION: REQUEST 2:

To approve the following variance requests: (1) increasing the maximum height permitted for Building D; and (2) increasing the maximum front yard setbacks of Buildings A, B, C, and D.

BASIS: REQUEST 2:

1. The variance requests will not adversely affect the public health, safety, or welfare, will not alter the essential character of the general vicinity, will not cause a hazard or a nuisance to the public, and will not allow an unreasonable circumvention of the requirements of the zoning regulations.

2. Based on testimony presented at the June 1, 2023, public hearing.



BRIAN DUNHAM, CHAIR
KENTON COUNTY PLANNING COMMISSION

ATTACHMENT PC2305-0003

SUMMARY OF THE EVIDENCE AND TESTIMONY PRESENTED BY THE PROPONENTS/OPPONENTS OF THE PROPOSED MAP AMENDMENTS

(NOTE: This summary was compiled by the Commission's secretary in compliance with 100.211 (1). It is believed to be accurate but has not been reviewed or approved by the Commission. A summary will be found in the officially approved minutes, which will be available following the next meeting of the Commission.)

ISSUE

A proposal by Corporex Development & Construction Management, LLC per Greg Scheper on behalf of 401 Crescent Avenue LLC for a proposed map amendment to Covington Neighborhood Development Code changing the described area from AUC (an Auto-Urban Commercial district) to SU (a Semi-Urban Residential district). This request includes the review of the following variance requests: (1) increasing the maximum height permitted for Building D; and (2) increasing the maximum front yard setbacks of Buildings A, B, C, and D.

PROPONENTS

A proponent for the issue addressed the Commission and stated this is a fairly well-known site. The proponent stated it is long and narrow and generally a parking lot with retaining walls on either side. He noted Corporex purchased the property after the last application in 2017. The proponent stated they acquired the property and have been studying it to put it back into a productive use. He further stated they have had a lot of interest in the site for various uses. He stated they think it is a unique site and a front door coming into Covington so they wanted to do a signature site for the location. The proponent stated they started looking at this in terms of a town home plan about a year ago. He further stated one of the primary challenges with the site is the changing grades. The proponent stated Western Avenue starts high and there is a retaining wall and high wall at the south end of the site. He stated as Western Avenue starts to come down, so does the retaining wall. He stated there is some variation of the finished floor area with the plan. The proponent commented they think they came up with a plan that makes the best use of the site. He then stated they designed the site to integrate with the neighborhood and the primary entrance will be in the rear of the site. The proponent stated there will be a walkway bridge coming from the sidewalk going into the door in front.

Another proponent addressed the Commission in favor and stated they think this fits well into the community. He stated it was a struggle to have something that works well, and they think this does work well. The proponent stated what they wanted to do with the new development to minimize the impact on the retaining walls because they are in good shape. He commented that the garages in the context of the site are relatively flat. He noted the entry floor is actually slightly below Western Avenue below the bridge in an effort to keep that whole building height as low as possible. He noted from a context of a street section and the setback they don't feel being more than ten feet off is detrimental to walkability and context of the site. The proponent then stated with the entryway being slightly lower than Western Avenue, that allows them to have the building sit back. He additionally stated they want to be good neighbors as best they can. He stated they used a drone to see what the views would be for the surrounding neighborhood and they don't feel they are being impactful with the surrounding site. The proponent stated the 39.9 foot height is to the peak but the height is actually measured between the eave

and the ridge and you take an average. He commented this creates a gabled roof more architecturally. The proponent stated their intention is to have a two car garage and a driveway and to keep a significant amount of parking on the site. He stated architecturally they were trying to create an integration into the neighborhood. The proponent stated one of the things they looked at was to have driveways but that took away some of the parking. He stated their design approach was to put some of that parking in the back. He stated they were trying to figure out from a comfortable level the height to have windows and they decided eight feet was a comfortable height. He further stated they will have to do some more site investigation, but they feel the eight feet is a comfortable level. Another proponent stated it was not part of any geotechnical study to determine that. The proponent commented the starting price point would be starting at $600k.

Another proponent stated as the City they don't have a problem with it. He noted he was going to get to address some of the questions he has heard. He then stated the average height is between the gable and the roof but they do to the average for those types of roofs that are not flat. He further noted there is not a density restriction for this area other than the building code. He also noted with regard to the view shed there is not a requirement for that and he anticipates it would be an issue with the neighbors and they have spoken to that. He further noted they anticipated that and the city does not have any ability to require a view shed to be done. He stated he was happy to answer any questions that anyone had and wanted to allow the residents to have plenty of time to speak on the issue. He then stated the way this is set up is that where the buildings are sloped they have different heights of the buildings so they are looking at the average of each individual building in terms of the building height.

The proponent addressed the Commission in rebuttal and stated all the units are exactly the same and the only difference is the height of the garage level and that varies somewhat. He stated buildings A and B vary because of the retaining wall, but everything else is exactly the same as you head north. He additionally noted the height of the wall starts to come down and building D is actually the shortest building overall, but tallest from Western Avenue grade. The proponent also noted the access from Crescent Avenue would remain open. He then stated with regard to the variance their original intention was to bring that to the city. The proponent stated they were trying to figure that out and the reason they did that is the height of the plan. He stated to go from a commercial zone to a residential zone they needed two types together. He then stated they needed a townhome development that was consistent and met the goals here. He additionally stated with regard to the traffic, they did speak to Staff and it did not require a traffic study. The proponent stated with twenty-five units they do understand the concerns with traffic. He noted with regard to parking they will do their best to encourage the residents to use their garages in the development. The proponent additionally noted they are sensitive to those as well. The proponent commented they are three bedrooms with an optional four. He noted they have not looked into having parking in the unusable space, but that is something they could certainly consider. The proponent stated they were also looking into having the end units having a door on the side for access. The proponent additionally commented about the height and about tweaking building D slightly to get it down to the required height. He stated that’s something they would be willing to look at. The proponent stated they didn’t want to encroach on anyone’s property, but they did use the drone to estimate the height of the proposed buildings. He additionally noted it did not impact the view of the existing buildings.

OPPONENTS/NEUTRAL PARTIES

An opponent to the issue addressed the Commission and stated he is not totally against this because he is in favor of the townhomes. He stated he lives directly across the street and noted parking is really tight around that hub. He further stated hopefully when they have people over there will be somewhere to park. The opponent stated he would be concerned about traffic because there is a lot of traffic in the area and

that's what he wanted to address. The opponent then asked if building D was four stories. He stated this is his biggest concern if it will block their view and a concern is a loss of property value.

Another opponent addressed the Commission and stated his concern is the height of the building. He stated those buildings have been there for 40 years so his concern is about property values as well.

An additional opponent addressed the Commission as to how Corporex has taken care of the site the last year and a half. The opponent stated it has been a constant hassle with graffiti and he doesn't think they should be able to profit from it based on how they care for the property. He noted his other concern is about the height of the buildings.

A neutral party addressed the Commission and stated the traffic on Western Avenue right now is horrendous. She further stated if you get more cars on there they won't be able to move on that street. She then noted if you talk of parking in front of the building there is not going to be anywhere to move to get the traffic out of the way.

Another opponent addressed the Commission and stated their house is right across from building B and C and her concern is the building height and the parking. She noted they also have a lot of people who walk up and down the street and a lot of people who ride their bikes up to Devou Park. She added the parking space is pretty big but now that they don't have the parking so she has concerns. She then stated concerns about property values because they bought their homes for the view.

An additional neutral party addressed the Commission and stated his concern is the view because that is part of the reason they bought the house. He noted a concern with parking since he has three cars. He additionally asked about the height as it is measured from the base to the top of the roof.

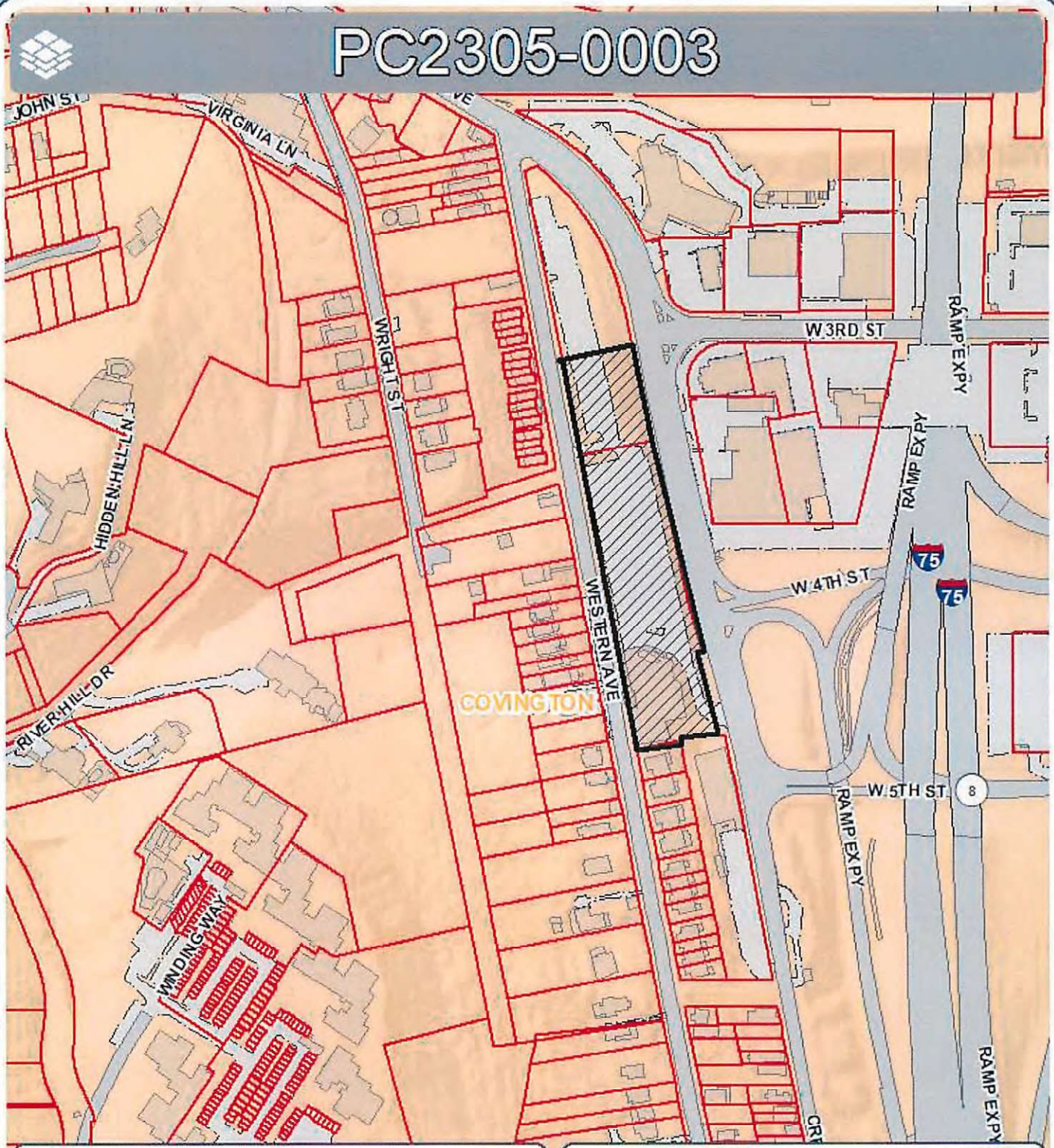
Another neutral party addressed the Commission and stated he is glad to see someone is going to do something nice with the site. He said he does agree with the home owners across the street but if they can resolve any issues he is totally in favor.

An additional neutral party addressed the Commission and stated they have been there for quite a while. He noted he was present in 2017 when they tried to put in a storage unit facility. He further stated as far as the views he put together some PVC pipe the height of the proposed buildings and it doesn't look like this will impact their view. He stated he likes the design of the units and the extra parking. He stated from his house which is from the south behind building A, the houses are all about the same level so he doesn't feel it will affect the view. He then commented overall he thinks it looks great and it sure beats a storage unit facility.

Another opponent addressed the Commission and stated a lot of the problem is the view and the parking. He asked why don't they just come in off of Crescent instead of Western. He additionally stated he drives up and down the street and it's totally packed. He stated entering off of Crescent would remove the incentive for the walkway. He stated it won't affect him but he commented for the others.

Bases for Staff Recommendation: The PDS Staff Recommendation is on file at the PDS office.

PC2305-0003



Building
- Building
- Pool
- Tank
- Concrete Pad

Recreation
- Ball Fields
- Playground/ General Rec
- Tee/Green

Roads
- Paved Road
- Unpaved Road
- Bridges
- Paved Parking
- Unpaved Parking
- Railroad

Boundaries
- Parcel
- Zoning

Utilities
- Sewer
- Sewer Structure
- Water Pipe
- Water Hydrant

Topography
- Index Contour
- Intermediate Contour
- Creek / Stream
- River / Lake

1:3,000

PDS

LINK·GIS

1840 Simon Kenton Way, Suite 3400
Covington, KY 41011-2999
859.331.8980
Office hours M-F 8-5
www.linkgis.org

Parcel data provided by CCPVA, KCPVA and LINK GIS.

Date: 5/16/2023

Kenton County Planning Commission
MANY COMMUNITIES / ONE FUTURE

ATTACHMENT C

Request for Legislative Body to Decide Zoning Map Amendment

FILE #: PC2305-0003	APPLICANT: Corporex Development & Construction Management, LLC per Greg Scheper on behalf of 401 Crescent Avenu
Date of Kenton County Planning Commission Public Hearing:	06/01/23
Kenton County Planning Commission Recommendation:	FAVORABLE ☒ UNFAVORABLE ☐

NOTICE FOR LEGISLATIVE BODY TO DECIDE ZONING MAP AMENDMENT
Must be filed within 21 days of the Kenton County Planning Commission recommendation.

NOTICE FILED BY:

Please indicate by checking appropriate box for notice or request to have legislative body decide zoning application	Aggrieved Person	☒
	Legislative Body	☐
NAME (Please Print):	Chad Conrad	
SIGNATURE:		
DATE NOTICE FILED:	6-1-2023	

Submittal of this notice serves as written request in accordance with KRS 100.2111 to the Kenton County Planning Commission that the final decision on the above referenced map amendment is to be made by the appropriate Legislative Body. If no written request or notice is made by the Legislative Body or any aggrieved person to the Kenton County Planning Commission within 21 days after the final action of the Planning Commission then the recommendation made by the Planning Commission relating to the proposed amendment shall become final and if recommended for approval by the Planning Commission, the map amendment shall be automatically implemented subject to the provisions of KRS 100.347.

RECEIVED BY THE KENTON COUNTY PLANNING COMMISSION ON: 6/1/2023

PDS | Planning and Development Services of Kenton County

Serving Kenton County's communities since 1961.

TO: Kenton County Planning Commission Members and Matt Smith, Legal Counsel

FROM: Andy Videkovich, AICP, Current Planning Manager

RE: Staff Recommendations for the Public Hearing

DATE: May 25, 2023

PDS submits the attached report and recommendation for your review prior to the scheduled June 01, 2023, public hearing. This information relates to the following agenda item:

FILE: PC2305-0003

APPLICANT: Corporex Development & Construction Management, LLC per Greg Scheper on behalf of 401 Crescent Avenue LLC

LOCATION: 201 & 401 Crescent Avenue; an area of approximately 2.4 acres located on the east side of Western Avenue and the west side of Crescent Avenue, located between Highway Avenue to the north and West 5th Street to the south, approximately 600 feet south of Highway Avenue.

REQUESTS: A proposed map amendment to Covington Neighborhood Development Code changing the described area from AUC (an Auto-Urban Commercial district) to SU (a Semi-Urban Residential district). This request includes the review of the following variance requests: (1) increasing the maximum height permitted for Building D; and (2) increasing the maximum front yard setbacks of Buildings A, B, C, and D.

SUMMARY: The applicant proposes to construct four four-story townhome buildings (25 units total) with additional off-street parking spaces. The height of Building D is proposed to be 35 feet, four inches where 35 feet is the maximum height permitted. The front street setbacks along Western Avenue are proposed to be 26 feet, two inches (Building A); 24 feet (Building B); 22 feet (Building C); and 12 feet, three inches (Building D) where 10 feet is the maximum front street setback permitted.

Staff will be prepared to address your comments and/or questions regarding the project during the public hearing. If you need additional information or clarification prior to that time, don't hesitate to contact me.

cc: Greg Scheper, Corporex Development & Construction Management, LLC – Owner/Applicant

Kenton County Planning Commission
MANY COMMUNITIES / ONE FUTURE

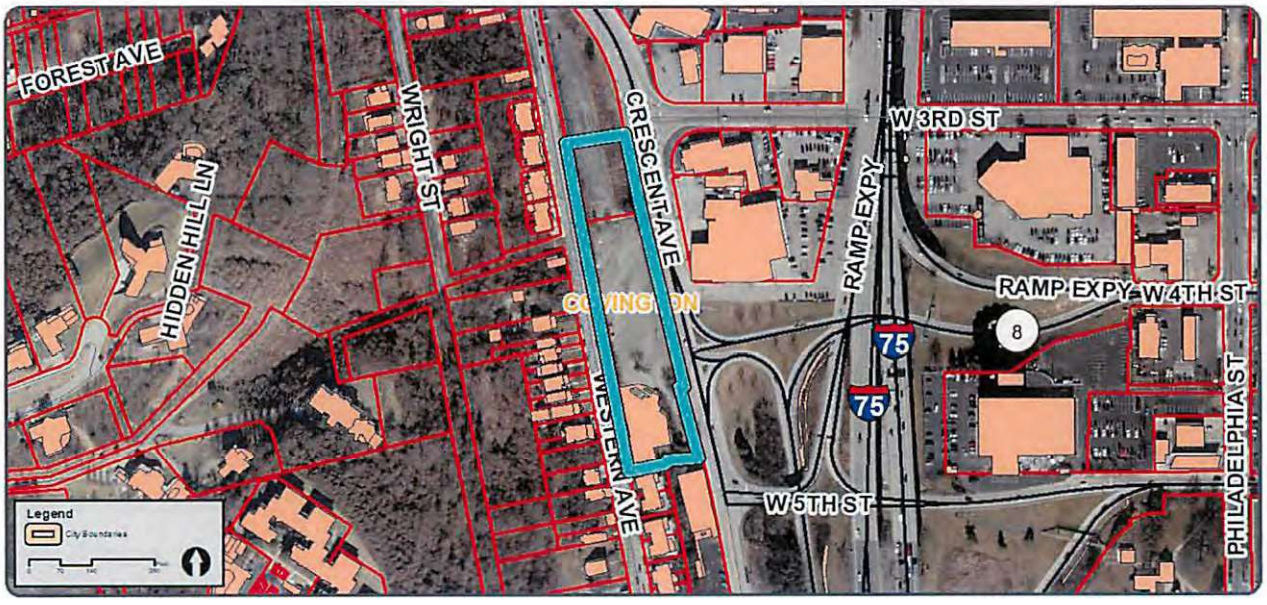
Staff Report
May 25, 2023

Map Amendment
File No: PC2305-0003
Jurisdiction: Covington
Applicant: Corporex Development & Construction Management, LLC
Project Manager: Megan Bessey, PhD, CCEO, Principal Planner

GENERAL CASE INFORMATION

1. **Requests:** A proposed map amendment to Covington Neighborhood Development Code changing the described area from AUC (an Auto-Urban Commercial district) to SU (a Semi-Urban Residential district). This request includes the review of the following variance requests: (1) increasing the maximum height permitted for Building D; and (2) increasing the maximum front yard setbacks of Buildings A, B, C, and D.

2. **Location:** 201 & 401 Crescent Avenue; an area of approximately 2.4 acres located on the east side of Western Avenue and the west side of Crescent Avenue, located between Highway Avenue to the north and West 5th Street to the south, approximately 600 feet south of Highway Avenue.



HISTORY & BACKGROUND

1. In 2014, Willie's Sport's Café, which occupied the site for twenty-three years, permanently closed.

2. In 2017, Pendleton Sears Architects requested a map amendment for the site to change its zoning from a Commercial – Community zone (CC-1A) to an Industrial Park zone (IP-3A) to use the site for a self-storage facility and pet kennel that also required a conditional use permit. Both PDS staff and the KCPC provided an unfavorable recommendation on the issue (PC1703-0007).

3. In late 2017, the site was purchased by Corporex.

4. In 2018, the site was razed by Corporex.

5. In 2020, the City of Covington submitted an application to adopt a new zoning ordinance (Neighborhood Development Code), including new text and a new official zoning map. The KCPC provided a favorable recommendation and the City adopted the subsequent ordinance. The zoning on the site in question was converted from CC-1A to AUC.

6. Corporex is now seeking a map amendment and variances to construct residential development on the site.

SITE CHARACTERISTICS

1. The site has largely been cleared as only paved parking and concrete areas remain from razing the site in 2017. The site is approximately 2.4 acres and is currently zoned AUC (Auto-Urban Commercial district). The site has vehicular access from Western Avenue and Crescent Avenue.

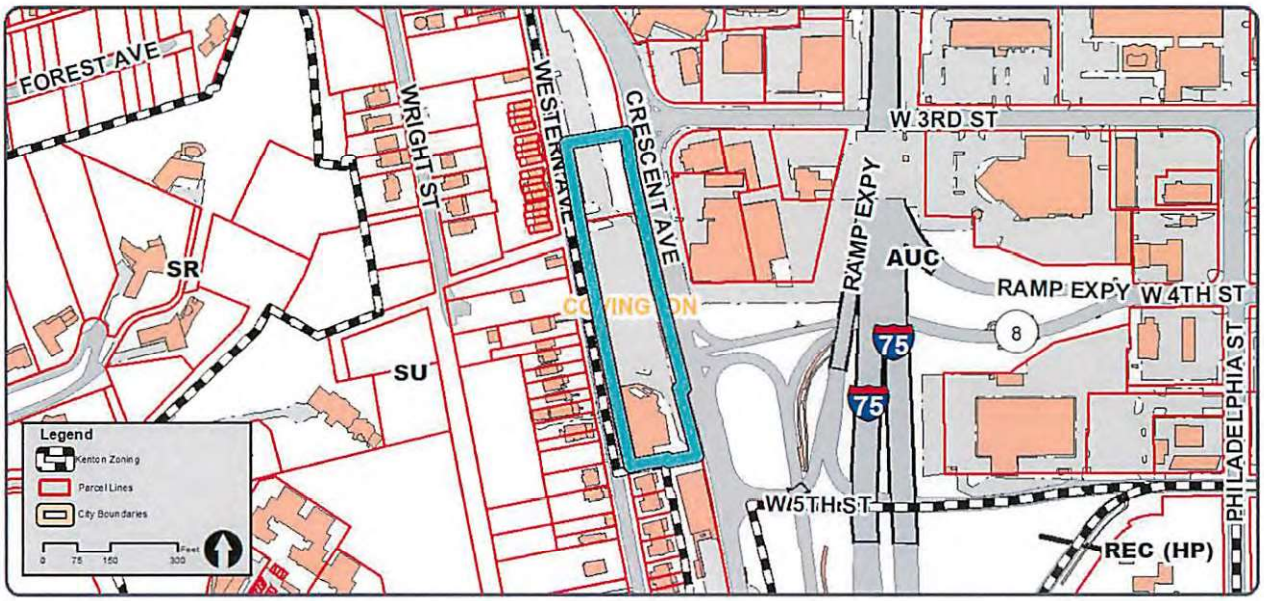
2. The surrounding area consists of a mixture of single-family residences and commercial uses. The surrounding area is zoned SU (Semi-Urban Residential district) or AUC (Auto-Urban Commercial district).

ANALYSIS

1. Current Zoning

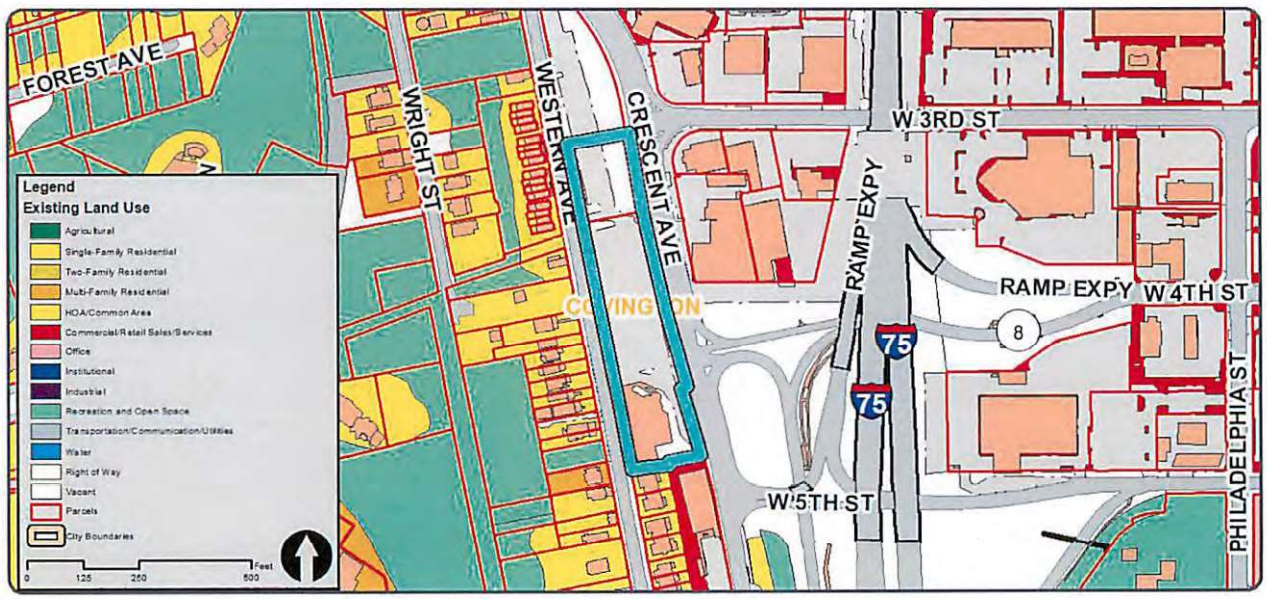
	ZONING	MINIMUM LOT SIZE (CONTEXT AVERAGE)	MAXIMUM DENSITY (CONTEXT AVERAGE)
CURRENT	AUC	20,000 sq. ft.	N/A
NORTH	AUC	20,000 sq. ft.	N/A
SOUTH	SU	2,000 (2,200) sq. ft.1	21.8 (19.8) du/na[1]
EAST	AUC	20,000 sq. ft.	N/A
WEST	SU AUC	2,000 (900) sq. ft.1 20,000 sq. ft.	21.8 (48.4) du/na[1] N/A

[1] Minimum lot size and density for the SU Zone is based on the Single-Family Attached building type. The lot size and maximum density could vary based on how the zoning administrator calculates the context average for single-family attached.



2. Existing Land Use

	DESCRIPTION
CURRENT	Vacant
NORTH	Commercial
SOUTH	Single-family and commercial
EAST	Commercial
WEST	Single-family



PETITION REVIEW

1. Semi-Urban Residential Zone (SU) – Primary District
   a. The purpose is to provide for renovation, incremental expansion, or new construction of contextually-sensitive single-family detached and attached, two-family, townhouse, and triplex/quadplex dwellings, along with allowances for small-scale neighborhood commercial uses, and to prevent or minimize vehicular access points from interrupting streetscapes and non-motorized mobility.
   b. Uses permitted by right, conditionally permitted, or limited include:
      i. Agriculture and Animal Service
      ii. Household Living
      iii. Group Living
      iv. Civic
      v. Medical Facilities
      vi. Utilities
      vii. Entertainment, Indoor
      viii. Office
      ix. Overnight Accommodations
      x. Retail Repair, Sales, and Service
      xi. Vehicle Sales and Service
   c. The minimum lot density and dimensions within the SU district are based on building type. For the proposed development, which are single-family attached dwellings:
      i. The minimum lot width is the lesser of (1) 20 feet or (2) lot width of the narrowest similarly-developed lot within the context.
      ii. The minimum area is the lesser of (1) 2,000 sq. ft. or (2) lot area of smallest similarly-developed lot within the context.

2. The submitted development plan indicates the following:
   a. A total area of approximately 2.4 acres.
   b. 25 new residential units to be constructed.
      i. 25 attached single-family units.
      ii. Each unit will have a two-car garage.
   c. The proposed maximum building height is to be 35 feet, 4 inches where 35 feet is the maximum.
   d. The total density of the proposed development is to be approximately 10.4 dwelling units per acre.
   e. The front street setbacks vary from 12 feet, 3 inches to 24 feet depending on the building (Building A: 26 feet, 2 inches; Building B: 24 feet; Building C: 22 feet; Building D: 12 feet, 3 inches). The maximum front street setback permitted is 10 feet. There are no maximums for the interior side or rear setbacks.
   f. Provisions for off-street parking spaces:
      i. There is no minimum for parking spaces required; however, the maximum parking spaces permitted is 2 per dwelling unit.
      ii. There are 30 surface spaces shown at 18 feet by 9 feet with 24-foot drive aisles.
   g. Provisions for existing utilities and additional utilities are provided.
   h. There is direct access to the property through Crescent Avenue and Western Avenue, which are existing access points.

There are two requests within the submitted application. Each is reviewed separately within this document to provide the most comprehendible and comprehensive review.

Request 1: A proposed map amendment to Covington Neighborhood Development Code changing the described area from AUC (an Auto-Urban Commercial district) to SU (a Semi-Urban Residential district).

COMPREHENSIVE PLAN

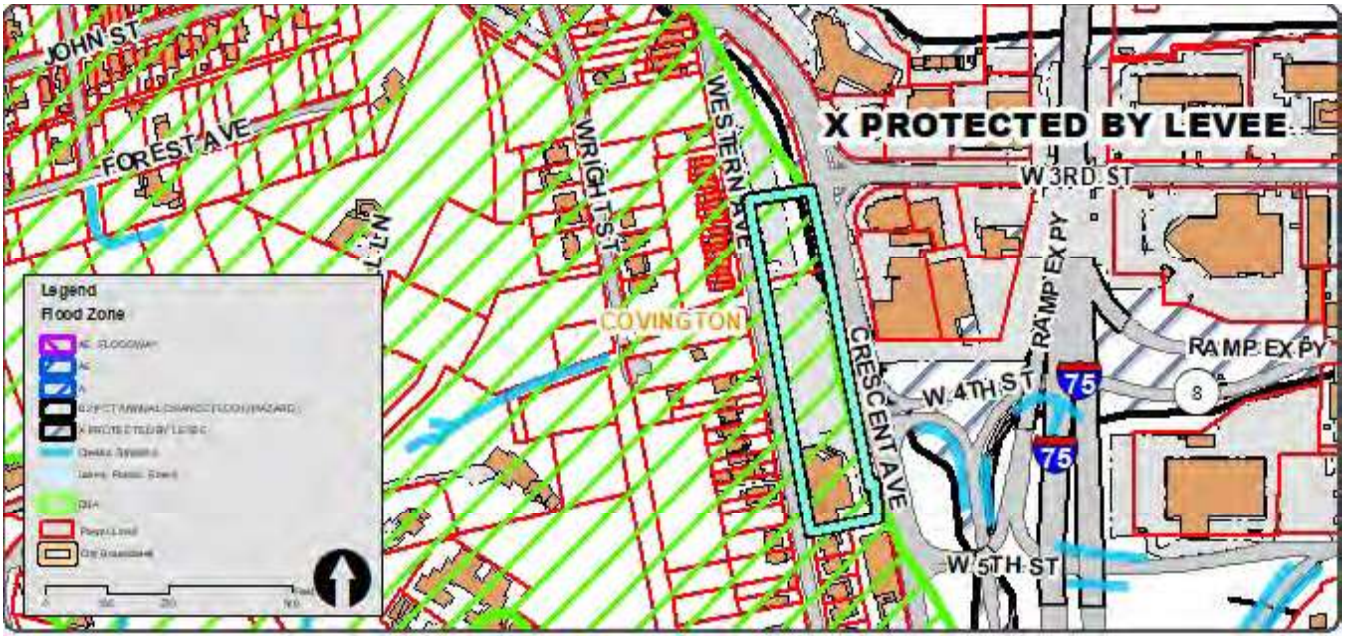
1. **Comprehensive Plan:** A full review of the *Direction 2030: Your Voice. Your Choice.* goals, objectives, and recommendations were conducted by staff. The following is a summary of what staff finds to be the most relevant sections:
   a. PDS staff finds that the submitted request is consistent with the following:
      i. **Goals and Objectives:**
         a) Goal 1: Encourage a variety of housing types throughout the County to meet the needs of all generations and income levels.
            (1) Objective A: Promote all aspects of housing including infill, redevelopment and new development where appropriate.
            (2) Objective B: Encourage housing in closer proximity to employment centers.
         b) Goal 4: Celebrate the unique identity of communities within Kenton County.
            (1) Objective A: Strengthen the vitality of the urban core through historic preservation, infill development on vacant and underutilized properties and building upon the strong sense of neighborhood and community.
      ii. **Urban Sub Area Element:**
         a) Recommendation 1: Redevelop strategic residential, commercial, and industrial areas that are currently underutilized and have the potential for a high return on investment.
      iii. **Housing Element:**
         a) Recommendation 1: Determine the housing demand for different styles of housing throughout Kenton County.
         b) Recommendation 3: Encourage new housing developments within close proximity to areas where utilities, commercial activity, and community services already exist.

   Staff findings: The proposed map amendment will encourage the development of housing near employment centers and where utilities, commercial activity, and community services already exist. It will also allow for infill development at vacant and underutilized lots that will strengthen the vitality of the urban core by building upon the sense of neighborhood and community.

2. **Recommended Land Use**

	DESCRIPTION
CURRENT	Commercial
NORTH	Commercial
SOUTH	Commercial, residential 7.1 to 14 du/na
EAST	Commercial
WEST	Residential 7.1-14.0 du/na, residential over 30 du/na

a. The entirety of the site in question is identified as a Developmentally Sensitive Area (DSA). The DSA designation is not intended, nor should it be construed to indicate, that the property should not or cannot be developed. Its primary purpose is to identify areas that have one, or a combination of several factors that may pose a problem during or after construction.
b. There are no blueline streams or floodplains located within the site in question.



Staff findings: The proposed development is not in agreement with the Recommended Land Use map of Direction 2030. The proposed development will provide single-family residential at a density of approximately 10.4 dwelling units per net acre where commercial uses are recommended. Although the site in question is identified for commercial uses, the proposed development is a logical extension of the existing attached single-family residential along Western Avenue.

STATE STATUTE

1. KRS 100.213 states that before any map amendment is granted, the planning commission or the legislative body or fiscal court must find that the map amendment is in agreement with the adopted comprehensive plan, or, in the absence of such a finding, that one (1) or more of the following apply and such finding shall be recorded in the minutes and records of the planning commission or the legislative body or fiscal court:
   a. That the existing zoning classification given to the property is inappropriate and that the proposed zoning classification is appropriate;
   b. That there have been major changes of an economic, physical, or social nature within the area involved which were not anticipated in the adopted comprehensive plan and which have substantially altered the basic character of such area.

STAFF RECOMMENDATION 1: Favorable recommendation on the map amendment to the Covington Zoning Ordinance changing the described area from AUC (an Auto-Urban Commercial district) to SU (a Semi-Urban Residential district); The applicant proposes to construct 25 attached single-family residential units.

SUPPORTING INFORMATION/BASES FOR STAFF RECOMMENDATION 1

1. The proposed map amendment is generally consistent with the goals, objectives, and recommendations of the Comprehensive Plan:
   a. While PDS staff has identified that this map amendment is not consistent with the recommended land use map, staff has identified several other areas where the map amendment is consistent with the goals, objectives, and recommendations. This proposed map amendment will encourage new housing on a vacant and underutilized lot within the urban core near existing facilities and employment centers.

2. The submitted Stage I Development Plan meets the minimum requirements of the Covington Neighborhood Development Code, except for the following;
   a. Section 02.04.1.C.6. sets the maximum height within the SU (Semi-Urban Residential) Character District as the greater of 35 feet or 120 percent of the context average. In this case, the nature of the subject context prescribes the maximum height as 35 feet. The proposed plan is showing a maximum height of 35 feet four inches for “Building D”. The applicant is seeking a variance for this requirement.
   b. Section 02.04.1.C.6. sets the maximum front yard setback within the SU (Semi-Urban Residential) Character District as the greater of 10 feet or 120 percent of the context average. In this case, the nature of the subject context prescribes the maximum front setback as 10 feet. The proposed plan indicates front street setbacks along Western Avenue at 26 feet, two inches for “Building A”, 24 feet for “Building B”, 22 feet for “Building C”, and 12 feet, 3 inches for “Building D”. The applicant is seeking a variance for this requirement.
   c. Hillside Stability Overlay (02.05.3)
   d. Development design guidelines (04.08), including building design, landscaping, signs,

Request 2: This request includes the review of the following variance requests: (1) increasing the maximum height permitted for Building D; and (2) increasing the maximum front yard setbacks of Buildings A, B, C, and D.

Local Code

1. Section 07.20.2 of the Covington Neighborhood Development Code allows the application to have any variance requests be heard and finally decided by the KCPC at the public hearing on a proposed map amendment.

2. Section 07.23.4 of the Covington Neighborhood Development Code states that in determining whether to approve, approve with conditions, or deny a Variance, the applicable review bodies must make findings and shall consider the factors included below, per KRS 100.243, in addition to the applicable basic review criteria in Sec. 07.20.7, Basic Review Criteria.

3. In accordance with Section 07.23.4.C.2. the KCPC may authorize a variance if the following four findings can be made:
   a. The variance will not adversely affect the public health, safety or welfare;
   b. Will not alter the essential character of the general vicinity;
   c. Will not cause a hazard or a nuisance to the public; and
   d. Will not allow the unreasonable circumvention of the requirements of the zoning regulations.

4. In accordance with section 07.23.4.C.3. the KCPC shall consider whether:
   a. The requested variance arises from special circumstances which do not generally apply to land in the general vicinity, or in the same zone;
      Staff findings: The requested variances do not arise from special circumstances which do not generally apply to land in the general vicinity, or in the same zone. The surrounding area is zoned SU and is within the DSA.
   b. The strict application of the provisions of the regulation would deprive the applicant of the reasonable use of the land or would create an unnecessary hardship on the applicant; and
      Staff findings: The strict application of the provisions of the regulations would not deprive the applicant of the reasonable use of the land. The strict application of the provisions of the regulations would not create an unnecessary hardship on the applicant. If the rezoning is approved, the applicant could construct attached single-family dwellings that meet the requirements of the zoning ordinance.
   c. The circumstances are the result of actions of the applicant taken subsequent to the adoption of the zoning regulations from which relief is sought.
      Staff findings: The circumstances are not the result of actions of the applicant taken subsequent to the adoption of the zoning regulations from which relief is sought. The applicant became aware of the need for variances through the normal permitting process.

STAFF RECOMMENDATION 2: Favorable recommendation on the following variance requests: (1) increasing the maximum height permitted for Building D; and (2) increasing the maximum front yard setbacks of Buildings A, B, C, and D.

SUPPORTING INFORMATION/BASES FOR STAFF RECOMMENDATION

1. The variance requests will not adversely affect the public health, safety, or welfare, will not alter the essential character of the general vicinity, will not cause a hazard or a nuisance to the public, and will not allow an unreasonable circumvention of the requirements of the zoning regulations.

May 4, 2023

Andy Videkovich
PDS of Kenton County
1940 Simon Kenton Way, Suite 3400
Covington, KY 41011
Email: avidekovich@pdskc.org

Re: Application for Map Amendment- 201 and 401 Crescent Avenue, Covington, Kentucky
PIDN 040-34-01-001.00 and 040-34-01-0001.02

Dear Andy:

On behalf 401 Crescent Avenue, LLC, and affiliate of Corporex, I submit the following items which in support for our application for a Map Amendment and approval of our Development Plan for the above-referenced property, the former Willie's Sports Café site. As part of the electronic submittal, I include the following items:

- Map Amendment/Stage 1 Application;
- Legal Description of the Subject Property and Survey;
- Spreadsheet containing the names and addresses the owners of the adjacent properties;
- The "Development Plan", as required in Covington's Neighborhood Development Code, Section 07.22.5, the required information of which is comprised in the following:
    - Architectural Concept Plans from Reztark
    - Brandstetter Carroll Civil Plans (Site Plan, Grading Plan, Utility Plan)
    - Geotechnical Report – Atlas.

The application fee will be remitted separately simultaneously to the submittal of this information.

We have studied this site extensively in the five plus years since we acquired the property, including the economic viability of potential users, the character of the surrounding properties, the existing and imminent changes to traffic patterns, as well as the stated considerations outlined in the Comprehensive Plan and Hillside Stability overlay district. We are confident the proposed development plan is the most appropriate and beneficial use for the Property and will complement the existing character of the surrounding properties. Given the unique nature of the site, being long, narrow and with extensive existing retaining walls on both the east and west boundaries, our intention was to work with existing grade and retaining walls to keep the impact to the site at a minimum.

The current character district of the property is AUC, which is extended from the industrial and higher intensity restaurant and commercial areas extending east of the site and across I-75/71. The

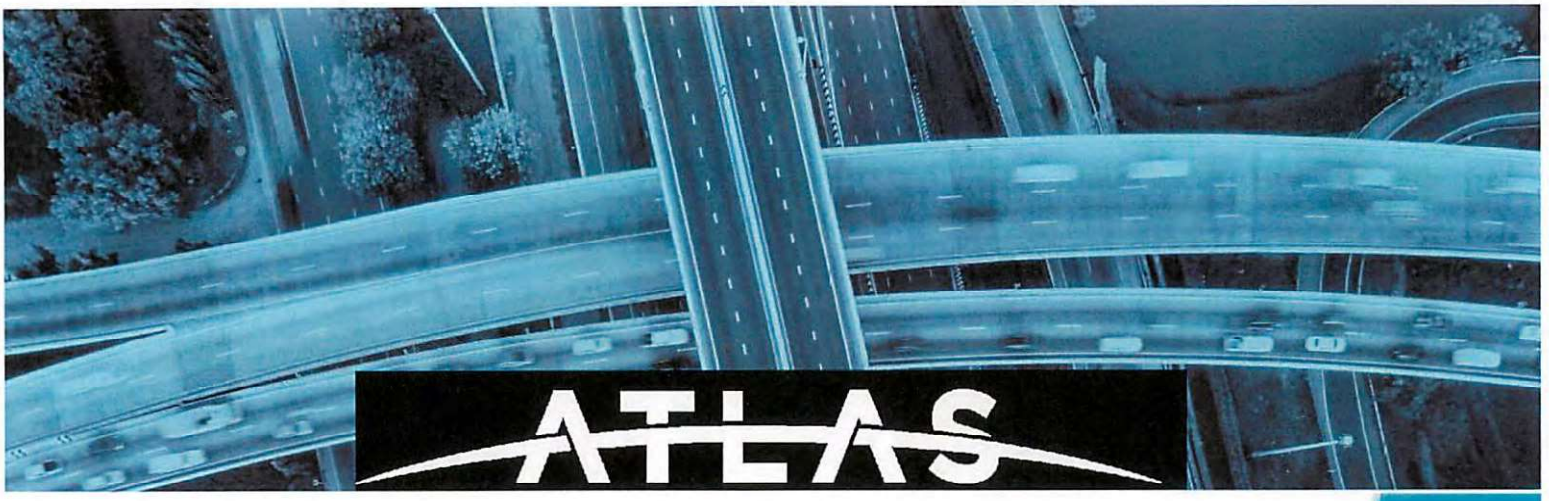
proposed character district, SU, coincides with the adjacent properties immediately to the west and north. The proposed Development Plan is consistent with SU zone, and would provide a logical transition from the single-family uses to the more intense commercial uses and the expanded interstate and bridge that is imminent.

If there is anything else that you need from us during your review and consideration of this application, please do not hesitate to contact me.

Sincerely,

Greg Scheper
Corporex Development & Construction Management LLC

cc. Dalton Belcher
Zoning Administrator, City of Covington
Email: dalton.belcher@covingtonky.com



GEOTECHNICAL EXPLORATION REPORT

PROPOSED CONDOMINIUM BUILDINGS
401 CRESCENT AVENUE
COVINGTON, KENTUCKY

PREPARED FOR:

Corporex Development & Construction
Management, LLC
100 E. RiverCenter Boulevard, Suite 1100
Covington, Kentucky 41011

PREPARED BY:

Atlas Technical Consultants LLC
11121 Canal Road
Cincinnati, Ohio 45241

November 22, 2021

November 22, 2021

11121 Canal Rd
Cincinnati, OH 45241

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Mr. Alan Bogart, Vice-President, Construction
Corporex Development & Construction Management, LLC
100 E. RiverCenter Boulevard, Suite 1100
Covington, Kentucky 41011

Subject: Report of Geotechnical Investigation
Proposed Condominium Buildings
401 Crescent Avenue
Covington, Kentucky
Atlas Project No. 241GC00443

Dear Mr. Bogart:

Atlas is pleased to present this report of our geotechnical engineering investigation for the referenced project. This study was performed in accordance with our written proposal dated October 21, 2021, and was authorized by the issuance of Corporex Purchase Order No. PO137 referencing that proposal.

This report contains the results of our field and laboratory testing program, an engineering interpretation of this data with respect to the available project characteristics, and recommendations to aid design and construction of earth-connected phases of this building project. Please note that we will store the samples for 30 days, after which time they may be discarded unless you request otherwise.

We appreciate the opportunity to be of service to you on this project. If we can be of any further assistance, or if you have any questions regarding this report, please do not hesitate to contact either of the undersigned.

Respectfully submitted,

Atlas Technical Consultants LLC

STATE OF KENTUCKY
JOHN A. KERR
15415
11.22.21
LICENSED
PROFESSIONAL ENGINEER

John A. Kerr, P.E.
Principal Geotechnical Engineer

Robert E. Sheets, P.E.
Senior Geotechnical Engineer

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GEOTECHNICAL EXPLORATION REPORT

PROPOSED CONDOMINIUM BUILDINGS
401 CRESCENT AVENUE
COVINGTON, KENTUCKY

ATLAS FILE NUMBER: 241GC00443

1.0 INTRODUCTION

This report presents the results of a geotechnical exploration and subsurface condition evaluation for proposed condominium buildings in Covington, Kentucky. This study was performed in accordance with our written proposal dated October 21, 2021, and was authorized by the issuance of Corporex Purchase Order No. PO137 referencing that proposal.

The purpose of the exploration was to determine the general subsurface profile at the site, to evaluate the suitability of the materials for support of the condominium building foundations, and to develop recommendations relative to the design and construction of the buildings' foundations and floor slabs. Comments and recommendations regarding building site preparation and foundation construction were also developed.

The scope of the exploration included a review of certain geologic and subsurface data for the project area, completion of twelve (12) test borings, field and laboratory testing of recovered samples, and an engineering analysis and evaluation of the subsurface conditions encountered at the site. Atlas was provided with a site plan consisting of a Planning and Development Services of Kenton County GIS map upon which the plan locations of the condominium buildings had been drawn and dated August 2, 2021, and an undated two-sheet set of conceptual building drawings titled "Infill Townhomes – 26' Wide".

2.0 PROJECT AND SITE CHARACTERISTICS

Proposed for construction are four (4) 3 or 4-story, slab-on-grade, 6-unit condominium buildings, which are referred to herein as Buildings 1 through 4, north to south. Each building will be approximately rectangular in shape, with a footprint of approximately 40 by 160 feet. The approximate locations of the proposed buildings are shown on the attached figure. It is presumed that the buildings will be of wood-frame construction and bearing wall supported, possibly with some posts/columns for exterior decks. Anticipated foundation loads have not been given. For

the purposes of our analyses and this report, we have assumed foundation loads of less than 6 kips/foot and 10 kips for wall and column/post foundations, respectively, full plus live loading.

The project site was once occupied by a restaurant building at the south end, which has been razed down or near to the at-grade floor levels, with the concrete slab-on-grade floors and foundations of unknown type and depth still in place, as well as concrete walls in the northwest corner of the building that retain soil on their uphill side. Most of the remainder of the site is comprised of asphaltic parking lots, with bordering landscape/green areas. From readily available online satellite and aerial photography, it appears that this previous development occurred sometime prior to 1989.

The site is relatively level west to east, and generally slopes very gently downward to the north. Neither a proposed grading plan nor building finished floor elevations have been provided. It is assumed that the finished floors for the condominiums will gradually step down from south to north, following existing site grades. A presumed exception to this is in the southwestern corner of the site where there is an approximately 14-foot high concrete retaining wall providing grade separation between the former building site and the higher ground to the west and south. The southwest corner of the southernmost condominium building (Building 4) will apparently be recessed into this higher ground. It is presumed that a new exterior retaining wall will be constructed here to providing horizontal retention of the earth and room to construct the building.

An approximately 14 to 19-foot high concrete retaining wall provides grade separation between approximately the southern three-quarters of the site and Crescent Avenue below and to the east. This grade separation in the approximately northern one-quarter of the site is accomplished by an up to 28± foot high, 2 horizontal to 1 vertical (2H:1V) earthen slope. Another concrete retaining wall, up to about 16 feet high, along the west side of the site, provides grade separation between the site and the higher ground along Western Avenue to the west for approximately the same north to south interval as the east retaining wall. Again, north of this western wall, the grade transition is accomplished via an earthen slope, it being up to about 8 feet high and at an approximate gradient as steep as approximately 2.5H:1V. Based on the position of these relatively substantial and parallel retaining walls and slopes on the east (downhill) and west (uphill) sides of the site, the basically level bench between was apparently formed by cutting along the west side of the site and filling along the east. Between the former restaurant building and the entrance drive off of Crescent Avenue, there are relatively short mortared stone and concrete

retaining walls. The lower of the terraced concrete retaining walls along the old entrance drive appears to be leaning excessively downhill, fractured, and in a state of failure (excessive deformation).

The attached Test Boring Location Plan shows the approximate locations of the proposed buildings and the test borings completed for this study.

If any of the information provided or Atlas' assumptions regarding the project characteristics are misrepresented and/or incorrect, please contact Atlas so that we may review our recommendations.

3.0 GENERAL SUBSURFACE CONDITIONS

Twelve (12) test borings were completed for the proposed buildings on November 9 through 12, 2021. Subsurface material samples were recovered and returned to Atlas' Cincinnati, Ohio laboratory for analysis, testing and evaluation. Samples were classified by Atlas' engineering staff by visual/manual methods, and boring logs were prepared.

It should be noted that stratification lines shown on the soil boring logs represent approximate transitions between material types. In-situ strata changes could occur at slightly different levels, and/or may transition more gradually. It should also be noted that the borings depict conditions at the particular locations and times indicated on the logs. Some conditions, particularly groundwater levels can change with time. Variations may be present between boring positions, *particularly considering that this site and has been disturbed by man*. The generalized subsurface and groundwater conditions for each boring are described in detail on the test boring logs located in the Appendix of this report.

3.1 Geology

This site lies in the Outer Bluegrass Physiographic Region of Kentucky, which is typified by rolling topography of low to moderate relief. In the Ohio Valley where this site is located, steep slopes, ravines and bluffs descend from the Bluegrass plains to the river terraces, in this case the Ohio and Licking Rivers. The USDA Soil Conservation Service's *Soil Survey of Boone, Kenton and Campbell Counties* indicates the shallow natural soils at and upslope of the site to be residual soil (completely weathered rock, in this case, largely

shale) of the Eden Soils Series. Northern Kentucky Geographical Information System geologic mapping shows that sedimentary rock of the Kope Formation of the Ordovician Geologic System lies beneath the site. The U.S. Geological Survey's publication *Geology and Hydrology of Alluvial Deposits along the Ohio River between Newport and Warsaw Kentucky-1964* indicates bedrock depths on the order of 30 to 45 feet at the site; however, bedrock was not encountered in our test borings, which were drilled to these depths.

3.2 Subsurface Profile

Most test borings were performed in existing paved areas, and encountered 0.1 to 0.7 feet of asphaltic pavement. At Boring 1, the asphalt was underlain by 0.7 feet of granular base; and at Borings 9 and 12, by 0.6 and 0.7 feet of concrete, respectively. Borings 10 and 11 were drilled on the old building pad, and encountered 0.2 and 0.5-foot thick concrete slabs, respectively. Boring 2, the lone boring drilled in a lawn area, encountered approximately 0.2 feet of organic topsoil at the ground surface.

Beneath the surficial materials, fill soils were encountered in Borings 1, 3, 4, 5, 7, 9, and 11, to depths ranging from 3 to 18 feet. It is possible that fills extend deeper in some of these borings, and may be present at other boring locations, as without positive knowledge of former versus existing topography, confident determination of fill depths cannot be made due to it being difficult to discern locally derived fill from natural soils unless foreign matter such as brick, slag, etc., is encountered. We note that the deeper identified fills were encountered in the borings drilled on the eastern side of the proposed building pads, which supports the hypothesis that the site was previously developed in a sidehill cut/fill manner as mentioned in Section 2.0. In the absence of testing and inspection records regarding this fill, it must be considered as undocumented, and its structural competency suspect.

Underlying the above-described surficial and fill materials, lean silty clays were encountered throughout the test borings. These silty clays were typically brown in color at shallower depths, and gray below depths ranging from approximately 6 to 22 feet. Various sizes and quantities of limestone rock fragments and cobbles or larger sized pieces thereof were encountered in both the brown and gray soil. These soils often had a random structure or striations at angles other than horizontal. Additionally, the rock fragments were typically isolated in the silty clay soil matrix, and at varying degrees of non-

horizontal orientation. Slickensides were also noted in some samples, which can be a sign of prior shearing. See the photographs in the Appendix for examples of these characteristics, which are typical of colluvial soils, i.e., soils that have been transported by gravity downslope from their original position by slumping, landsliding and/or creep type movements. Although colluvial soils were not mentioned as being present in any of the resources reviewed by Atlas, their presence is not surprising given the position of this site at the bottom of the substantial Ohio/Licking valley slope.

3.3 Groundwater Conditions

Groundwater level observations were made both during and at the completion of drilling operations. The only groundwater recorded during the drilling was on the soil sampling tools at 29.5 feet deep near the bottom of Boring 9. Upon withdrawal of the drill auger stem, all boreholes were dry above the borehole cave-in depths. The observed groundwater levels may fluctuate in response to short-term and seasonal variations in precipitation, surface runoff, and local pockets of groundwater may be present in the profile during wetter periods.

4.0 ADDITIONAL SITE RESEARCH AND OBSERVATIONS

As this site has been previously developed, including items such as the aforementioned retaining walls and former building, as well as the apparent earth cutting and fill, Atlas has made efforts to obtain geotechnical information relating to this previous development and made certain site observations concerning the conditions of the existing retaining walls and slopes as discussed in the following report subsections.

4.1 Public Agency Communications

Agencies contacted via were:

- Planning and Development Services (PDS) of Kenton County
- City of Covington Public Works Department
- City of Covington Historic Preservation Department
- City of Covington Zoning Department
- Kentucky Transportation Cabinet (KTC) – District 6

PDS stated that the former development occurred prior to PDS's existence, thus they have no records concerning it. Informal telephone requests were made of the City for information regarding geotechnical studies for the prior development(s) and construction plans or inspection records relating to structure foundations, earth fills, etc. Additionally, a formal Open Records Request was also made. Public Works stated that they have had no slope stability problems with or along Western Avenue. Public Works also stated that the east retaining wall along Crescent Avenue was constructed as part of the private development, and is not within the purview of the KTC, which controls the Kentucky Route 8 (Crescent Avenue) right-of-way. This was confirmed in the information received from the Open Records Request, which included the plans for this and the west retaining wall, showing them to be conventional footing-supported cantilevered reinforced concrete walls that were part of the original restaurant development in the mid-1980's. Additionally, the documents provided by the City allude to a geotechnical investigation report having been issued for the project, as well as some testing/inspection of filling operations, however, those reports were not available and/or not provided.

The KTC has not yet been responsive to our multiple telephone messages requesting any geotechnical information that they may have for the nearby Kentucky Route 8 corridor. We are awaiting the results of a formal Open Records Requests of the KTC, and will forward any meaningful information that may come from that request.

4.2 Observations of Existing Retaining Walls and Slopes

As mentioned, the existing east and west site retaining walls apparently supporting fill along Crescent Avenue and a cut along Western Avenue, respectively, are of reinforced concrete construction. Visually, the alignments of these walls appear straight and true. We observed no physical signs of notable structural distress of the exposed surfaces of these walls such as significant cracks, differential horizontal or vertical movement or concrete spalling/degradation, etc. (note that the remaining building walls are excluded from this discussion). Approximate measurements of wall plumbness were made, with the following results:

Table No. 1 – Retaining Wall Plumbness

	Approximate Wall Height (ft)	Approximate Out of Vertical Plumb (tilted away from retained earth) Inches	Degrees
West Retaining Wall	6 - 12	1 to 3	0.8 to 1.3
East Retaining Wall	14 - 18	2 to 8	0.7 to 2.1

The out-of-plumb could be associated with foundation settlement as well as elastic deformation of the structures themselves. Assuming the walls to have been initially constructed vertical, some of the above-noted amounts of out-of-plumbness are greater than average, but within the limits of what might be expected for footing-supported cantilever walls of this age and of these heights should they be bearing on only moderately stiff or moderately dense soil.

The earthen slopes that provide the grade transitions to the north of the above-discussed walls, and the ground surface features above and below the slopes, were examined for any outward signs of previous or current landslide-type movements, and none were noted.

5.0 GEOTECHNICAL CONCLUSIONS AND RECOMMENDATIONS

Based upon our analysis of the soil conditions and our understanding of the preliminary design details for this project as previously outlined, the following conclusions have been reached, and the following foundation recommendations developed. If the project characteristics are changed from those assumed herein, or if different subsurface conditions are encountered, Atlas should be notified so that our recommendations can be reviewed and any necessary modifications provided.

Items of most concern revealed in this study are the presence of fill for which no testing/inspection reports are available, and to some degree, the presence of the retaining walls which have undergone some movement, as well as the presence of the earthen slope in the northeast part of the site. The presence and ramifications of the old fill are discussed in Section 5.1 below. Regarding the retaining walls, despite their out-of-plumbness, it is our current opinion that they are functioning adequately. In addition, the more critical eastern wall, supporting apparent fill in the southern approximately three-quarters of the site, is located well

east of the proposed Building 2 through 4 locations, i.e., approximately 60 feet away, a distance of more than twice the elevation difference between Crescent Avenue and the site grades. It is our opinion, that in the unlikely event of substantial future movement of the wall, the buildings would not be immediately affected. We recommend that a monitoring program for at least the eastern wall be established. Such a program can be as simple as a yearly visual inspection and high order survey monitoring of the horizontal location of the tops of the wall(s). We further recommend that the existing storm sewer inlets and piping behind the wall be inspected, by remote video where necessary, and any deficiencies noted corrected. Final development plans should include storm drainage design that minimizes water infiltration behind the wall. It is further recommended, that during construction and permanently, surcharge loading on the wall due to materials staging and storage, etc., be minimized.

A rigorous analysis of the stability of the earth slope in the northeast part of the site was beyond the scope of this investigation for proposed building foundations. There appears to be no signs of current or recent instability of the slope, however, additional studies would be needed to appropriately evaluate its stability. We therefore recommend that the construction of Building 1, which is to be located within approximately 15 to 20 feet of the crest of the slope, be delayed until after such a study is performed.

5.1 Building Foundation Recommendations

It is our opinion that, assuming proper site preparations are made as will be further discussed, the proposed buildings may be supported using conventional shallow spread footings. Although cohesive colluvial soils can be very unstable in and on slopes, when confined from lateral movement such as by adequate retaining walls, and of an adequate stiffness, they can be suitable bearing soils. Footings bearing on the naturally occurring stiff or better clayey soils at this site, which are expected to be mostly colluvium, can be designed for a maximum net allowable soil bearing pressure of 3,000 pounds per square foot (psf) for both column (square) and wall (continuous) footings. The maximum bearing capacity for footings placed on or bearing within engineered fill placed directly on such natural soils should also be limited to 3,000 psf. It is noted that the recommended bearing capacity specified, as it relates to footings bearing within engineered fill materials, is dependent to some extent on the material type used as fill, the level of compaction achieved, and that site preparation and development are completed in a satisfactory manner. However, the specified value should serve

adequately in nearly all cases, given proper engineering oversight of the filling and footing construction activities.

All exterior footings should be established at a minimum depth of 30 inches or greater below finished exterior grades for frost protection. Interior footings in heated areas may be placed at any convenient depth as long as they bear within the designated foundation materials. If unsuitable soils are exposed at the design footing depth, the unsuitable soils should be undercut and the footing extended to adequate bearing, or the undercut backfilled with lean concrete up to the design bearing elevation for the footing(s). *Some such undercutting should be expected at this site, particularly where old, as of yet undocumented, fill soils are present such as encountered in the borings and to the depths given below:*

Table No. 2 – Fill Depths Encountered

Boring	Approx. Depth of Fill (ft)
1	6
3	18
4	3
5	11
7	6
9	6
11	3

In lieu of extending the footings themselves through the fill, the over-excavation can be filled with a lean concrete fill ($f_c' \geq 500$ psi) and the footings placed on the lean concrete once sufficiently cured. Where excessively deep fills are encountered, such as occurred at Boring 3 and may exist elsewhere, the depth of undercut can be limited to 3 times the footing width, widened, and the resulting excavation backfilled with well graded aggregate such as KYTC Standard Specifications Section 301 Dense Graded Aggregate compacted as recommended herein. The footing can then be placed on the aggregate fill. *This can be done provided the existing fill that remains in place below the aggregate is free of voids and deleterious materials such as building debris, trash, organic matter, etc.* See the "Undercut Footings in Deep Fill Areas" diagram in the Appendix for an illustration of this concept.

As discussed in Section 5.2 below, some swell-prone soil was found at depth at this site. This soil should not pose a problem for footings with a dead load bearing pressure of at

least 1,000 psf. If any footings will be loaded more lightly, this office should be consulted for further recommendations.

In applying "net" allowable soil bearing pressures during footing design, the weight of the footings and backfill over the footings, including the floor slab, need not be included in total loads for dimensioning of footings. Wall footings should be at least twenty (20) inches in width, and isolated column footings should be at least twenty-four (24) inches square, regardless of the actual contact pressures developed, to minimize the possibility of "punching" shear failure. The previously stated recommended soil bearing capacity should be treated as an upper limit, and lower values may be utilized for foundation system design if desired.

Resistance to lateral loads can be derived from friction between the base of the foundation and the bearing soil, as well as passive soil pressure against the opposing side of the foundation. Presuming the foundations bear on the soils described above, we recommend that the coefficient of friction between the footing concrete and bearing soil be taken as 0.30. Passive lateral soil pressure for foundations cast neat against stiff natural clayey soil or engineered fill placed between the foundation and excavation sides can be computed using an equivalent fluid pressure of 250 psf per foot of embedment. Passive resistance should be ignored above the depth of significant seasonal moisture change and the frost depth, which may be taken as 2.5 feet. Note that these lateral load resistance parameters are ultimate, unfactored values, and an appropriate factor of safety should be used when determining the foundation's lateral load resistance.

All foundation bearing surfaces should be protected against freezing, flooding by surface water, and undue disturbance, since the foundation soils will tend to soften and lose strength when subjected to these conditions. Footing concrete should be placed the same day that footing excavations are completed. All footing excavations and bearing surfaces should be examined by a representative of Atlas to verify that conditions are compatible with the design recommendations before placing concrete. *This examination should include hand augering and/or probing below the footing bearing levels to depths at least equal to the footing widths to ascertain whether or not overly soft and/or moist soils that may need to be undercut are present within the footing's primary influence.*

A rigorous settlement analysis was beyond the scope of this exploration. However, based on the assumed structure loads, the anticipated behavior of the soil types encountered and our experience with similar projects, we expect that total settlements will not exceed 1 inch, and that differential settlements will not exceed ¾ inch between columns or along continuous footing distances of 30 feet or less. We recommend the structures be designed to accommodate this magnitude of total and differential settlement. Settlement estimates are based, in part, upon the assumption that site preparation is performed in accordance with our recommendations and with good quality control of the earthworks. *Removal of any unsuitable soils encountered and proper placement and compaction of new fill is particularly important in keeping settlements within tolerable limits.* Additionally, to further assist in reducing differential settlement given the somewhat variable strength and compressibility properties of the expected foundation bearing soils, it is recommended that both top and bottom longitudinal reinforcing steel be used in continuous footings to provide a stiffer, less flexible footing.

5.2 Building Floor Slabs

The building pad/floor slab areas should be prepared in accordance with the recommendations of Section 5.0 of this report, *with particular attention paid to proofrolling and stabilization requirements*. It is recommended that slab-on-grade floors be supported on a minimum 4-inch thickness of compacted granular base material. We recommend that the slab be a "floating" one, i.e., not structurally attached to the abutting foundations or walls. This will prevent cracking of the slab due to differential settlement between it and the structure foundations. A vapor barrier should be placed immediately beneath the slab if protection of tile or similar floor coverings is desired. If curling of the slab edges is of greater concern, the vapor barrier should be placed below the granular base material. The slab should include control joints to preclude random cracking. Particular attention should be paid to the placement of backfill against foundation walls where equipment access is difficult, as inadequate compaction at these locations may cause cracking of the edges and corners of the slab as a result of backfill settlement.

Particular care should be taken so as not to allow any clayey slab subgrade to dry out or get wetted prior to placing the concrete as this may induce shrinking or swelling of the

soil and possible cracking of the slab. One of two colluvial soil samples subjected to one-dimensional consolidation testing exhibited notable swelling upon wetting, and required vertical loading of approximately 1,000 psf to re-compress the sample to its original height. Should soils such as this be at or near the subgrade level of any building floor slab and experience an increase in moisture content, heaving of the slab could occur. The time and expense for an appropriate study of the final subgrade's swell potential should be "built into" the project. This study can be performed once those subgrade elevations have been established. Alternatively, the project should pre-emptively include removing the existing soils in the slab areas to at least 2 feet below the final subgrade level, and replacing them with non-swelling soil or aggregate, or chemically stabilizing the subgrade with Portland cement.

The slabs should be designed to be structurally independent of any building footings or walls and should be appropriately reinforced to support the loads proposed. Assuming that the slab subgrade is prepared in accordance with the recommendations of this report, a modulus of subgrade reaction (k) of 100 psi/inch may be used for the design of the slabs. For every additional 2 inches of granular base material used beneath the slab, up to a total thickness of 12 inches, the modulus may be increased by 10 psi/inch. Chemical stabilization of the subgrade would likely result in a higher design k-value.

5.3 Retaining Wall – Building 4

As previously described, the southwest corner of the southernmost condominium building (Building 4) will apparently be recessed into the hillside here. It is presumed that a separate new exterior retaining wall will be constructed to provide horizontal retention of the earth behind the southwest part of the building. We recommend that such a wall be constructed in a top-down fashion, as a mass excavation to install a conventional gravity-type retaining wall could present the danger of de-stabilizing adjacent structures, utilities and infrastructure such as the sidewalk and street (Western Avenue). Top-down soil retention construction limits the depth of excavation to that which will be stable for the short term during which the stabilization of that depth interval is completed before advancing the excavation. For example, for a soldier pile and lagging wall: 1. The soldier piles are first installed, 2. Excavation proceeds to a limited depth on the cut side of, and possibly between, the solder piles, 3. Lagging is placed to retain the exposed cut, and 4.

The procedure is repeated until the desired finished cut grade is obtained. Note that for a deep cut, as expected would be necessary here, one or more rows of tieback anchors would likely be necessary to provide the needed lateral restraint of the retaining wall.

Specialty contractors who construct such top-down earth retaining structures typically provide signed and sealed engineering designs as part of a design-build process for their discipline, based on the geometrical requirements of the retaining system and a performance specification provided by the project designer of record (registered architect and/or engineer). Atlas can provide you with contact information of such design-build geotechnical construction contractors upon request. Note that additional subsurface information (test borings, soil laboratory testing, etc.) may be required for them to complete their design(s).

5.4 Seismic Considerations

To establish the Seismic Site Class in accordance with ASCE Publication 7-16, Chapter 20 and Section 1613.3.2 of the 2021 International Building Code, the geotechnical engineer is required to characterize the soil profile to a depth of 100 feet. Based on geologic conditions in this area and the boring data obtained during this and prior investigations in similar geology, it is our opinion that conditions at this site will meet the definition of Site Class “D” in accordance with Table 20.3-1 of ASCE 7-16.

5.5 Drainage

Adequate surface water drainage should be provided at the site to minimize the potential for moisture content changes within the foundation and subgrade soils. The ground surface should be sloped away from the building to prevent ponding of water adjacent to the building. Site drainage should also be arranged so that runoff onto adjacent properties is properly controlled. Positive drainage of the site should also be maintained throughout the construction period. Proper drainage and limiting water intrusion into the soils here is particularly important given the potential for swelling soils, and so as not to induce excess hydrostatic pressures on the retaining walls.

6.0 RECOMMENDED EARTHWORK PROCEDURES

Variations in subsurface conditions are likely at this site. It is recommended that the geotechnical engineer be retained by the owner to provide ongoing review of the phases of the project related to subsurface conditions and to correlate the test boring data with the subsurface conditions that are encountered during construction.

6.1 Site Preparation

It is essential to the adequate performance of the proposed structures that the building sites are prepared properly to provide relatively uniform subgrade support. This includes the removal of any fill containing deleterious matter, old utilities, existing foundations, asphalt/concrete pavements and topsoil during site excavations. Abandoned utility pipes should be removed or plugged, so they will not serve as conduits for subsurface erosion, which could result in the formation of voids or depressions, with adverse effects on foundations and floor slabs.

It is recommended that after stripping and undercutting, the building subgrades be evaluated by means of a proofroll test using suitable equipment such as a fully loaded single or tandem axle dump truck. Any areas showing excessive deflection or substantial yielding under the proofroll loads should be removed and replaced or stabilized as directed by the geotechnical engineer prior to placing any new fill, foundations, floor slabs and pavement.

6.2 Excavation

Normal earth excavation equipment should be suitable for the necessary grading and excavation of the overburden soils at this site. Care should be taken to assure that any loose, soft or wet materials are removed from foundation bearing surfaces and areas to receive structural fill.

All temporary excavations for foundations, utilities or other underground structures should be laid back or braced as required by current Occupational Safety and Health Administration (OSHA) requirements. Except for the fill encountered and any similar materials, it is our opinion that most soils here should be classified as OSHA Type B soils, requiring excavations to be laid back to no steeper than 1.0 horizontal to 1.0

vertical (1H:1V) or braced as appropriate. Any existing fills, granular or soft soils, or any soils with active water seepage should be considered OSHA Type C materials, requiring adequate bracing of excavations or laying them back to no steeper than 1.5H:1V. Pumping from sumps within excavations should sufficiently control water for shallow excavations. Per regulations and good practice, a "competent person" as defined by OSHA should inspect the actual excavation conditions at the time of construction and amend the excavation safety plan as/if appropriate. If excavations will be made near existing structures, utilities, etc., they should be protected by underpinning, bracing or other suitable means.

6.3 Fill Placement

With the exception of the aforementioned expected cut into the southwestern corner of the site, we have assumed that only nominal cuts and fills will occur for the establishment of the building pads. In general, any non-organic naturally occurring soil with a Liquid Limit (LL) less than 45 percent and Plasticity Index (PI) less than 20 can be used for structural fill. The fill should be free of rock fragments with dimensions greater than 3 inches. Other than the topsoil, all soils encountered in the test borings should be suitable for reuse as engineered fill, although some moisture conditioning may be required for proper compaction. If fill construction takes place during the winter months, care should be taken so as not to place fill over frozen soil, and to exclude all frozen materials from fills being placed.

The fill should be placed in lifts of uniform thickness. In general, 8-inch loose lifts for cohesive soils and 12-inch loose lifts for granular soils should be suitable, but in no case should the lift thickness be greater than can be compacted throughout with the available equipment. Granular fill will require vibratory compaction equipment. It is recommended that structural fills supporting footings, floor slabs, pavements and other structures be compacted to a minimum of 98 percent of the maximum dry density as determined in accordance with ASTM standard method D-698. For proper and timely construction of the fills, the soils should be placed at or near the optimum moisture content as determined in accordance with ASTM D-698. In general, a moisture content within 2 percent of optimum will be appropriate. Suitable equipment for either aerating of wet materials or adding water to dry materials should be available during earthwork

operations. Once identified, the proposed fill material should be evaluated by Atlas prior to use for recommendations regarding moisture content parameters during placement.

7.0 PLAN REVIEW AND CONSTRUCTION MONITORING

Other than the approximate locations of the proposed buildings, no development plans have been made available. Once the development plans are sufficiently prepared such that the final building locations, the site grading, and the location of any proposed retaining walls are known, Atlas should be contacted to review said plans and perform any additional studies and analyses as appropriate. It is further recommended that Atlas be retained to review the final project plans and specifications, and to perform continuous monitoring of the geotechnical and earthwork phases of the project. If Atlas is not retained for these purposes, we can assume no responsibility for compliance of the work with the design concepts, specifications, or for modifications or recommendations made during construction. As part of this review, site clearing and stripping, undercutting, fill placement and foundation excavation operations should be monitored and in-place density tests should be performed on fill and backfill as frequently as necessary to allow evaluation of the fill with respect to project earthwork specifications.

8.0 FIELD AND LABORATORY INVESTIGATIONS

8.1 Field Exploration

Field exploration included the performance of twelve (12) soil test borings located approximately as shown on the attached Test Boring Location Plan. Test borings were performed with a truck-mounted drilling rig equipped with a rotary head. Conventional hollow-stem augers were used to advance the holes. Samples of the in-situ soils were obtained employing split-barrel and thin-wall tube sampling procedures in general accordance with ASTM Standard Methods D-1586 and D-1587. Observations regarding groundwater levels and other pertinent conditions were made at each boring location. Ground surface elevations presented on the test boring logs were interpolated from Northern Kentucky GIS mapping and should be considered approximate.

The encountered materials have been visually classified by the Atlas' engineering staff, and are described in detail on the boring logs. The results of the field penetration tests,

water level observations, soil unit weight, plasticity and moisture content determinations are presented on the boring logs in numerical form. Samples of the soils encountered in the field were placed in sealed sample jars and are stored in the laboratory for further analysis, if desired. Unless notified to the contrary, all samples will be disposed of in thirty (30) days from the date of this report.

8.2 Laboratory Testing Program

In conjunction with the field exploration, a laboratory testing program was conducted to determine pertinent engineering characteristics of the subsurface materials as necessary for development of engineering recommendations. The laboratory-testing program included visual classification of all samples. Natural moisture content, one-dimensional consolidation, unit weight and Atterberg Limit tests were conducted on selected soil samples. All phases of the laboratory-testing program were conducted in general accordance with applicable ASTM specifications and procedures.

9.0 LIMITATIONS OF STUDY

9.1 Differing Conditions

Recommendations for this project were developed utilizing soil information obtained from the test borings that were completed at the proposed site. These borings indicate subsurface soil and groundwater conditions at the specific locations and time at which the borings were conducted. Conditions at other locations on the site may differ from those occurring at the boring positions, particularly considering the previous site development. If deviations from the noted subsurface conditions are encountered during construction, they should be brought to the immediate attention of the geotechnical engineer so that recommendations can be reviewed and revised as required.

9.2 Changes in Plans

The conclusions and recommendations herein have been based upon the available soil information and the preliminary design details furnished by a representative of the owner of the proposed project and/or as assumed herein. Any revision in the plans for the proposed construction from those anticipated in this report should be brought to the

attention of the geotechnical engineer to determine whether any changes in the foundation or earthwork recommendations are necessary.

9.3 Recommendations vs. Final Design

This report and the recommendations included within are not intended as a final design, but rather as a basis for the final design to be completed by others. It is the client's responsibility to ensure that the recommendations of the geotechnical engineer are properly integrated into the design, and that the geotechnical engineer is provided the opportunity for design input and comment after the submittal of this report, as needed. It is strongly recommended that Atlas be retained to review the final construction documents to confirm that the proposed project design sufficiently incorporates the geotechnical recommendations. Atlas should be represented at pre-bid and/or pre-construction meetings regarding this project to offer any needed clarifications of the geotechnical information to all involved.

9.4 Construction Issues

Although general constructability issues have been considered in this report, the means, methods, techniques, sequences and operations of construction, safety precautions, and all items incidental thereto and consequences of, are the responsibility of the parties to the project other than Atlas. This office should be contacted if additional guidance is needed in these matters.

9.5 Report Interpretation

Atlas is not responsible for conclusions, opinions, or recommendations developed by others on the basis of the data included herein. It is the client's responsibility to seek any guidance and clarifications from the geotechnical engineer needed for proper interpretation of this report.

9.6 Environmental Considerations

The scope of services does not include any environmental assessment investigation for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water within or beyond the site studies. Any statements in this report or on the

test boring logs regarding odors, staining of soils, or other unusual conditions observed are strictly for the information of our client. Unless complete environmental information regarding the site is already available, an environmental assessment is recommended prior to the development of this site.

9.7 Standard of Care

The professional services and engineering recommendations presented in this report have been developed in accordance with generally accepted geotechnical engineering principles and practices in the geographical area of the project at the time of the report. No other warranties, either expressed or implied are offered.

APPENDIX

Test Boring Location Plan

Logs of Test Borings (12)

Undercut Footings in Deep Fill Areas Diagram

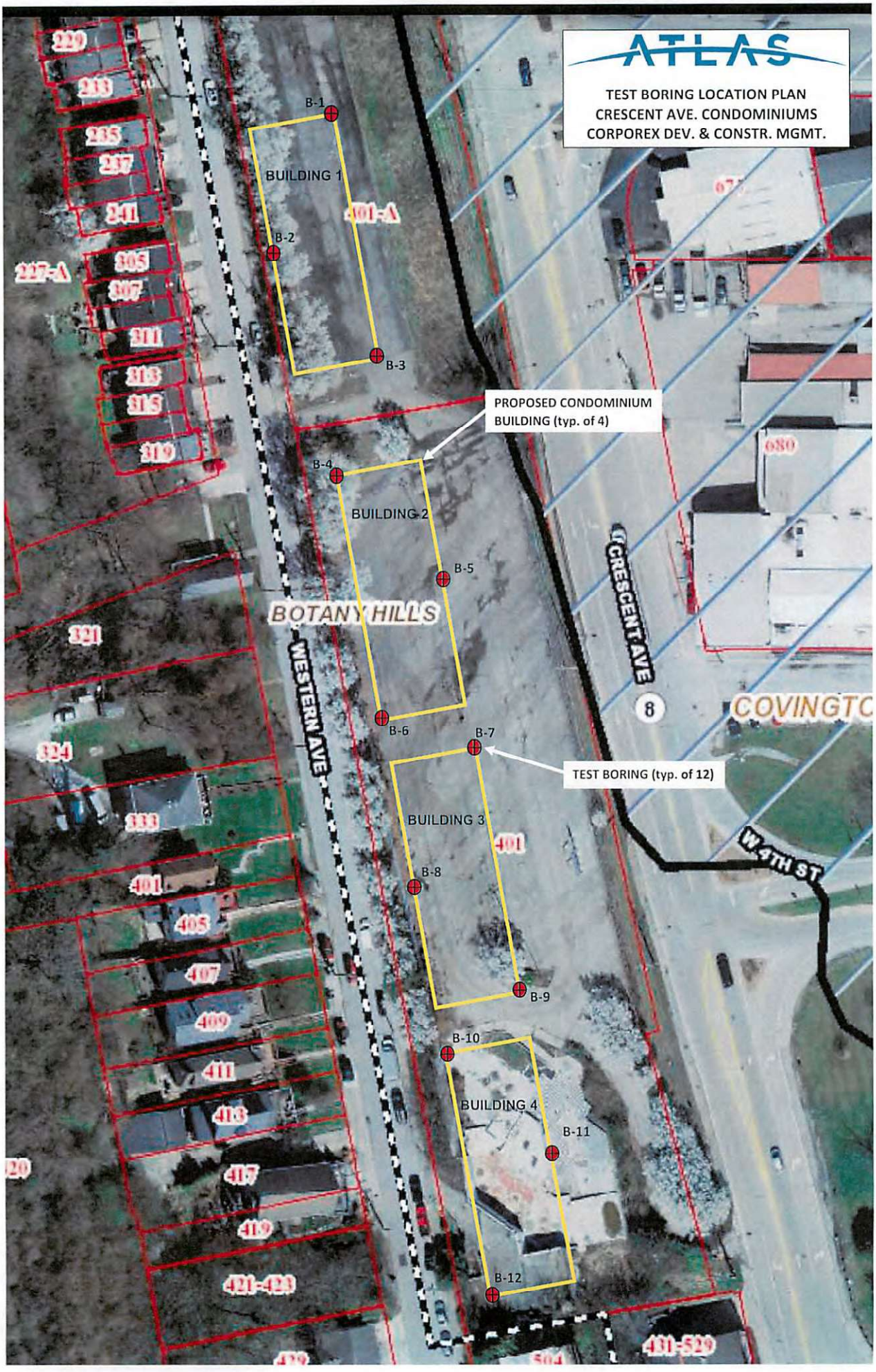
Photographs – Colluvial Soils

One-Dimensional Consolidation Test Results (2 sheets)

Field Classification System for Soil Exploration

Unified Soil Classification

Important Information about Your Report


ATLAS
TEST BORING LOCATION PLAN
CRESCENT AVE. CONDOMINIUMS
CORPOREX DEV. & CONSTR. MGMT.
B-1
BUILDING 1
401-A
B-2
B-3
PROPOSED CONDOMINIUM BUILDING (typ. of 4)
B-4
BUILDING 2
B-5
B-6
B-7
TEST BORING (typ. of 12)
BUILDING 3
401
B-8
B-9
B-10
BUILDING 4
B-11
B-12
BOTANY HILLS
WESTERN AVE
CRESCENT AVE
W 4TH ST
COVINGTO
229
233
235
237
241
227-A
305
307
311
313
315
319
321
324
333
401
405
407
409
411
413
417
419
421-423
431-529
680

VATC
11121 Canal Road
Cincinnati, OH 45241
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(513) 782-6908

TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 1
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/9/21
Date Completed 11/9/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~510	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.3												
GRANULAR BASE	1.0		1	SS			15			12			
FILL: Grayish-brown to brown SILTY CLAY, with trace to little sand, gravel and slag (CL). Moist to damp, stiff to very stiff			2	SS			17			16			
	6.0	5	3	SS			23			21			
Brown SILTY CLAY, with some limestone cobbles and fragments, trace fossils (CL). Damp, very stiff			4	SS			60*			21			*6-17-43
		10	5	SS			18			20			
	13.0												
Brown SILTY CLAY (CL). Moist, very stiff			6	SS			17			15			
	17.0	15											
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, very stiff			7	SS			16			16			
		20											
			8	SS		▨	34			19			
		25											
			9	SS			24			19			
	30.0	30											
Boring discontinued at 30.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT - Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 25.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT: Corporex
PROJECT NAME: Condominium Buildings
PROJECT LOCATION: 401 Crescent Avenue, Covington, KY
BORING #: 2
JOB #: 241GC00443
DRAWN BY: TJN
APPROVED BY: JAK

DRILLING and SAMPLING INFORMATION

Date Started: 11/9/21
Date Completed: 11/9/21
Drill Foreman: GR
Inspector:
Boring Method: HSA
Hammer Wt.: 140 lbs.
Hammer Drop: 30 in.
Spoon Sampler OD: 2 in.
Rock Core Dia.: in.
Shelby Tube OD: in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~514	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
TOPSOIL	0.2												
Brown SILTY CLAY, with little limestone fragments and floaters (CL). Damp, stiff to hard			1	SS			13			13			
			2	SS			97/0.7'						
		5	3	SS			50/0.1'			11			
			4	SS			52			16			
		10	5	SS			25			14	38	19	
	13.0												
Brown and gray to gray SILTY CLAY, with trace to little limestone cobbles and fragments (CL). Damp to moist, stiff to hard			6	SS			32			22			
		15											
			7	SS			15			19			
		20											
			8	SS			35*			18			*8-8-27
		25											
	28.9												
Boring discontinued at 28.9 feet depth due to sampler refusal.			9	SS			50/0.4'			15			

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT- Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools: Dry ft.
At Completion (in augers): ft.
At Completion (open hole): Dry ft.
After ____ hours ____ ft.
After ____ hours ____ ft.
Cave Depth: 23.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 3
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/10/21
Date Completed 11/10/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~515	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.1												
FILL: Brown to brown and gray SILTY CLAY, with trace brick fragments, wood, coal and gravel (CL). Damp to moist, medium stiff to stiff			1	SS			7						
			2	SS			14						
		5	3	SS			13						
			4	SS			28*						*9-7-21
		10	5	SS			11						
			6	SS			8						
		15											
Light to dark brown SILTY CLAY, with trace limestone fragments and fossils (CL). Damp, stiff	18.0		7	SS			15						
		20											
			8	SS			29						
		25				▨							
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, very stiff	28.0 30.0		9	SS			27						
		30											
Boring discontinued at 30.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT- Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 26.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT: Corporex
PROJECT NAME: Condominium Buildings
PROJECT LOCATION: 401 Crescent Avenue, Covington, KY

BORING #: 4
JOB #: 241GC00443
DRAWN BY: TJN
APPROVED BY: JAK

DRILLING and SAMPLING INFORMATION

Date Started	11/10/21	Hammer Wt.	140 lbs.
Date Completed	11/10/21	Hammer Drop	30 in.
Drill Foreman	GR	Spoon Sampler OD	2 in.
Inspector		Rock Core Dia.	in.
Boring Method	HSA	Shelby Tube OD	in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~517	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.7												
FILL: Brownish-gray SILTY CLAY, with some slag and gravel (CL). Damp, stiff	3.0		1	SS			26						
Light to dark brown SILTY CLAY, with trace rock fragments (CL). Damp, stiff to hard		5	2	SS			12						
			3	SS			16						
			4	SS			21						
	11.0	10	5	SS			33						
Dark brown SILTY CLAY, with some limestone fragments and cobbles (CL). Damp, hard			6	SS			50/0.5'						
		15											
			7	SS			30						
	22.0	20											
Gray SILTY CLAY, with trace to little limestone fragments (CL). Moist, very stiff to hard			8	SS			20						
		25											
			9	SS			46						
	30.0	30											
Boring discontinued at 30.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT - Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools: Dry ft.
At Completion (in augers): ft.
At Completion (open hole): Dry ft.
After ____ hours ____ ft.
After ____ hours ____ ft.
Cave Depth: 26.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 5
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/10/21
Date Completed 11/10/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~517	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.7												
FILL: Mottled brown SILTY CLAY, with trace sand, brick fragments and cinders (CL). Damp, soft to stiff			1	SS			5			18			
		5	2	SS			12			18			
			3	SS			17			20			
			4	SS			9			19			
	11.0	10											
Brown SILTY CLAY, with little to some limestone fragments, trace gravel (CL). Damp, hard to very stiff			5	SS			35			19			
-- Limestone layer from 13.5 to 14.5 feet depth --			6	SS			50/0.1'						
		15											
-- Limestone layer from 18.0 to 18.5 feet depth --													
			7	SS			36			14			
		20											
	23.0												
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, very stiff			8	SS			17			19/15			
		25											
						▨				16			
	30.0		9	SS			26			7			
		30											
Boring discontinued at 30.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT- Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 27.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 6
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/9/21
Date Completed 11/9/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~523	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.6												
Brown to brown and gray SILTY CLAY, with trace to little limestone fragments, trace sand and fossils (CL). Damp to moist, stiff to very stiff			1	SS			12			18			
			2	SS			14			20			
		5	3	ST						18	45	24	Dry unit wt.=114 pcf
			4	SS			28			15			
		10	5	SS			31			14			
			6	SS			22			14			
	17.0	15											
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, very stiff			7	SS			21			18			
		20											
			8	SS		▨	19			16			
		25											
			9	SS			26			15			
	30.0	30											
Boring discontinued at 30.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT- Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 25.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

VATC
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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 7
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/10/21
Date Completed 11/10/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~521	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.6												
FILL: Grayish-brown SILTY CLAY, with trace gravel, cinders and brick fragments (CL). Damp to moist, soft to very stiff			1	SS			3						
			2	SS			18						
	6.0	5	3	SS			13						
Brown SILTY CLAY, with trace to little limestone fragments, trace gravel (CL). Damp, stiff to very stiff			4	SS			20						
		10	5	SS			20						
			6	SS			19						
		15											
	19.5		7	SS			15						
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, very stiff		20											
			8	SS			28						
		25				▼							
			9	SS			24						
	30.0	30											
Boring discontinued at 30.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT- Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 27.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 8
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/10/21
Date Completed 11/10/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~526	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.6												
Mottled brown SILTY CLAY, with trace sand and limestone fragments and cobbles (CL). Moist, stiff to very stiff			1	SS			12			23			
			2	SS			29			21			
	6.0	5											
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, stiff to very stiff			3	SS			23			17			
			4	SS			13			19			
		10	5	SS			34			16			
			6	SS			50/0.5'			14			
		15											
			7	SS			15			20			
		20											
			8	SS			32			13			
		25				▨							
– SS-9: Gray and brown													
	28.8												
Boring discontinued at 28.8 feet depth due to sampler refusal.			9	SS			50/0.3'			15			

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT - Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 26.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT: Corporex
PROJECT NAME: Condominium Buildings
PROJECT LOCATION: 401 Crescent Avenue, Covington, KY
BORING #: 9
JOB #: 241GC00443
DRAWN BY: TJN
APPROVED BY: JAK

DRILLING and SAMPLING INFORMATION

Date Started	11/9/21	Hammer Wt.	140 lbs.
Date Completed	11/9/21	Hammer Drop	30 in.
Drill Foreman	GR	Spoon Sampler OD	2 in.
Inspector		Rock Core Dia.	in.
Boring Method	HSA	Shelby Tube OD	in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~528	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.1												
CONCRETE	0.7		1	SS			17			20			
FILL: Brown to dark grayish-brown SILTY CLAY, with trace sand and rock fragments (CL). Damp to moist, stiff			2	SS			12			26			
	6.0	5	3	SS			50/0.5'			17			
Brown with trace gray SILTY CLAY, with trace to little limestone fragments and cobbles, trace sand (CL). Damp, stiff to very stiff			4	SS			12			17			
		10	5	SS			14			22			
			6	SS			17			22			
		15											
			7	SS		▼	18						
	21.0	20											
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, stiff to very stiff			8	SS			15			18			
		25											
	29.9		9	SS		●	50"/0.9			16			"8-10-50/0.4"
Boring discontinued at 29.9 feet depth due to sampler refusal.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT - Standard Penetration Test

Depth to Groundwater
● Noted on Drilling Tools 29.5 ft.
⊻ At Completion (in augers) ft.
⊽ At Completion (open hole) Dry ft.
⊻ After hours ft.
⊻ After hours ft.
▼ Cave Depth 20.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 10
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/11/21
Date Completed 11/11/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~529	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
CONCRETE	0.2												
Mottled brown SILTY CLAY, with trace sand and limestone fragments and cobbles (CL). Moist, soft to stiff			1	SS			5						
			2	SS			10						
	6.0	5											
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, stiff to very stiff			3	SS			14						
			4	SS			19						
		10											
			5	SS			13						
			6	SS			14						
		15											
			7	SS			19						
		20											
			8	SS			20						
		25											
	29.9		9	SS			59/0.9'						
Boring discontinued at 29.9 feet depth due to sampler refusal.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT- Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT: Corporex
PROJECT NAME: Condominium Buildings
PROJECT LOCATION: 401 Crescent Avenue, Covington, KY

BORING #: 11
JOB #: 241GC00443
DRAWN BY: TJN
APPROVED BY: JAK

DRILLING and SAMPLING INFORMATION

Date Started	11/11/21	Hammer Wt.	140 lbs.
Date Completed	11/11/21	Hammer Drop	30 in.
Drill Foreman	GR	Spoon Sampler OD	2 in.
Inspector		Rock Core Dia.	in.
Boring Method	HSA	Shelby Tube OD	in.

SOIL CLASSIFICATION / SURFACE ELEVATION ~529	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
CONCRETE	0.5												
FILL: Mottled brown and gray SILTY CLAY, with trace sand, gravel and brick (CL). Damp, stiff	3.0		1	SS			12			18			
Brown SILTY CLAY, with trace to some limestone fragments and cobbles (CL). Damp, stiff to very stiff		5	2	SS			33			24			
			3	SS			24			16			
		10	4	SS			18			17			
			5	SS			15			19			
	13.5												
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, stiff to very stiff		15	6	SS			10			23			
		20	7	SS			31			20			
		25	8	SS		▨	16			15			
			9	SS			29			15			
	30.0	30											
Boring discontinued at 30.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT - Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 26.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 12
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/12/21
Date Completed 11/12/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

TEST DATA

SOIL CLASSIFICATION / SURFACE ELEVATION ~547	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
ASPHALT	0.1												
CONCRETE	0.8		1	SS			9			21			
Mottled brown SILTY CLAY, with trace sand and limestone fragments and cobbles (CL). Moist, stiff to very stiff		5	2	SS			18			18			
			3	SS			19			18			
		10	4	SS			16			16			
	11.0		5	SS			18			20			
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, stiff to very stiff			6	SS			13			20			
		15	7	SS			15			19			
			8	ST						20	34	14	Dry unit wt.=110 pcf
		20	9	SS			26			12			
			10	SS			19			16			
		25											
			11	SS			28			17			
		30											
	35.0		12	SS			25			14			

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT - Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 36.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

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TEST BORING LOG

CLIENT Corporex
PROJECT NAME Condominium Buildings
PROJECT LOCATION 401 Crescent Avenue
Covington, KY

BORING # 12
JOB # 241GC00443
DRAWN BY TJN
APPROVED BY JAK

DRILLING and SAMPLING INFORMATION

Date Started 11/12/21
Date Completed 11/12/21
Drill Foreman GR
Inspector
Boring Method HSA

Hammer Wt. 140 lbs.
Hammer Drop 30 in.
Spoon Sampler OD 2 in.
Rock Core Dia. in.
Shelby Tube OD in.

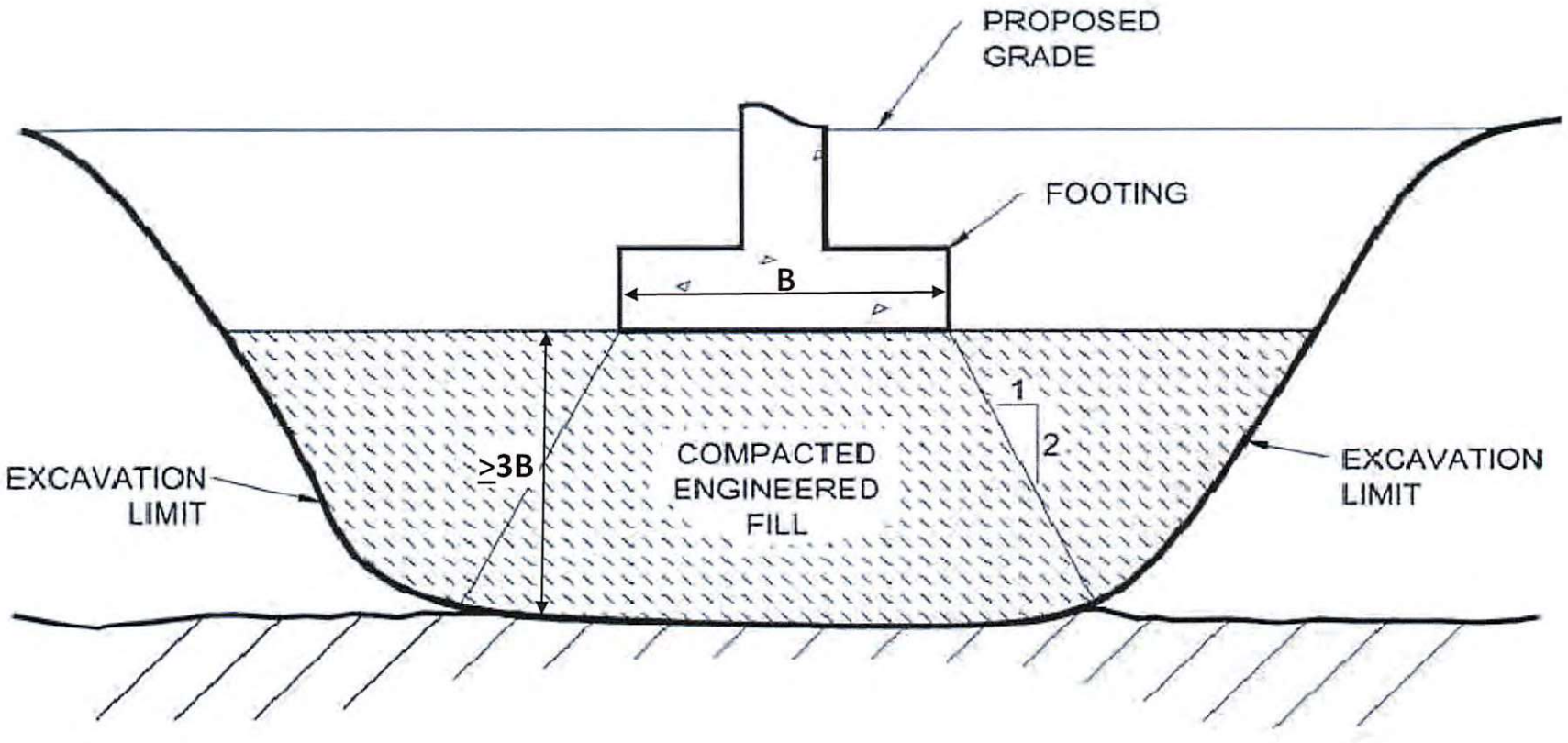
TEST DATA

SOIL CLASSIFICATION (continued)	Stratum Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics Recovery Graphics	Groundwater	Standard Penetration Test, bpf or Rock Quality Designation, %	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content %	Liquid Limit (LL)	Plasticity Index (PI)	Remarks
Gray SILTY CLAY, with little to some limestone cobbles and fragments, trace fossils (CL). Damp, stiff to very stiff		40	13	SS			26			12			
	45.0	45	14	SS			28			16			
Boring discontinued at 45.0 feet depth.													

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube
SPT- Standard Penetration Test

Depth to Groundwater
Noted on Drilling Tools Dry ft.
At Completion (in augers) ft.
At Completion (open hole) Dry ft.
After hours ft.
After hours ft.
Cave Depth 36.0 ft.

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling



NOT TO SCALE

Drawing:	UNDERCUT FOOTINGS IN DEEP FILL AREAS (SEE REPORT SECTION 5.1)
Project:	CONDOMINIUM BUILDINGS
Location:	COVINGTON, KENTUCKY
Client:	CORPOREX DEVELOPMENT & CONSTR. MGMT.
ATLAS File No.:	241GC00443

ATLAS

EXAMPLES OF SOIL SAMPLE EXHIBITING CHARACTERSTICS OF COLLUVIUM

Angled structure (note isolated Bryozoa fossil at angle). B-6, SS-9

Slickenside (shiny shear surface) B-3, SS-8

Angled structure B-2, SS-5

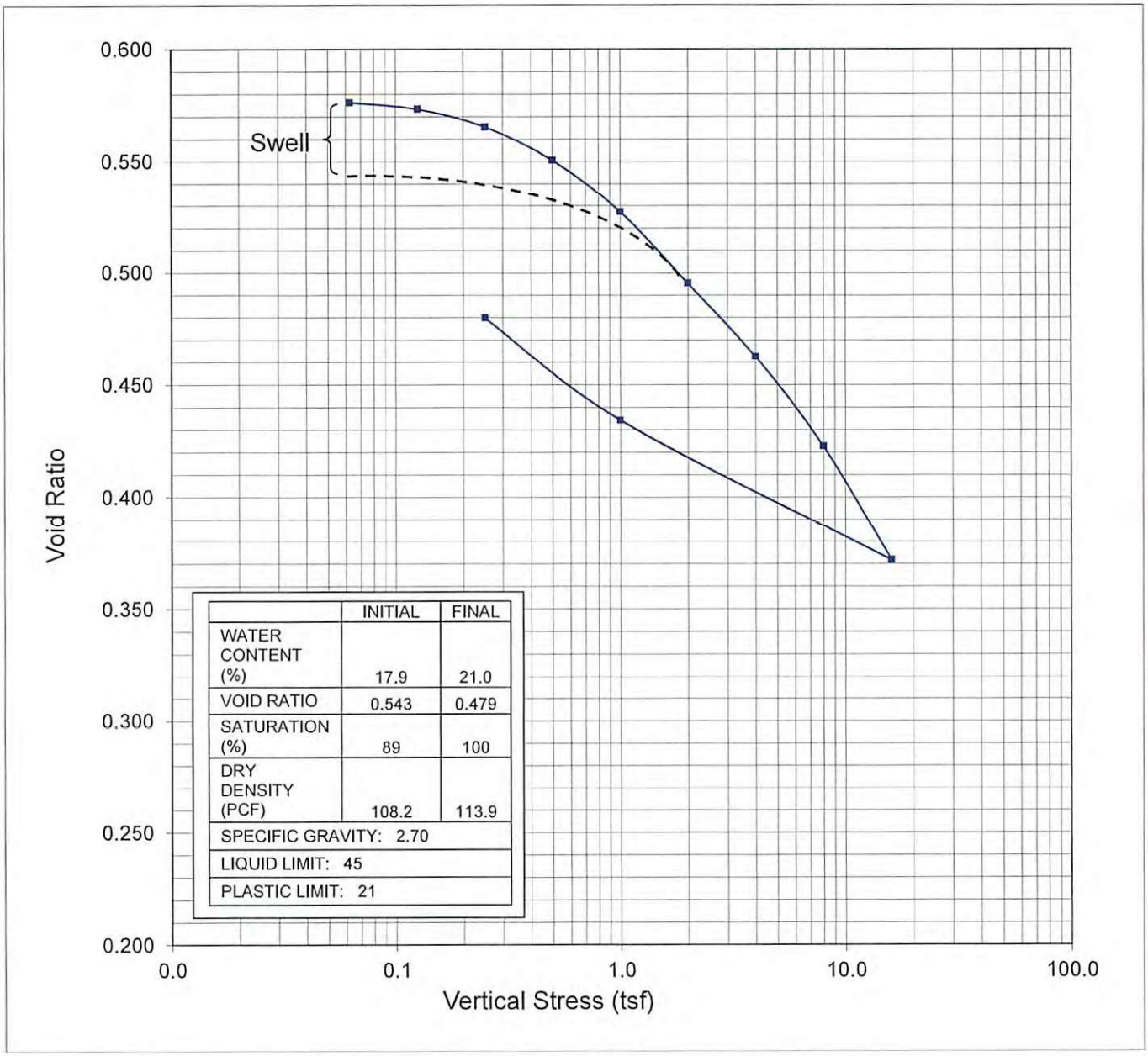
Isolated limestone fragment at angle B-11, SS-4

ATLAS

ONE-DIMENSIONAL CONSOLIDATION TEST

Client: Corporex
Project: Condominium Buildings
Location: Covington, Kentucky

Boring S-6, ST-3, 6.0'-7.3'
Sample Description:
Brown & gray silty clay, tr. sand (CL)



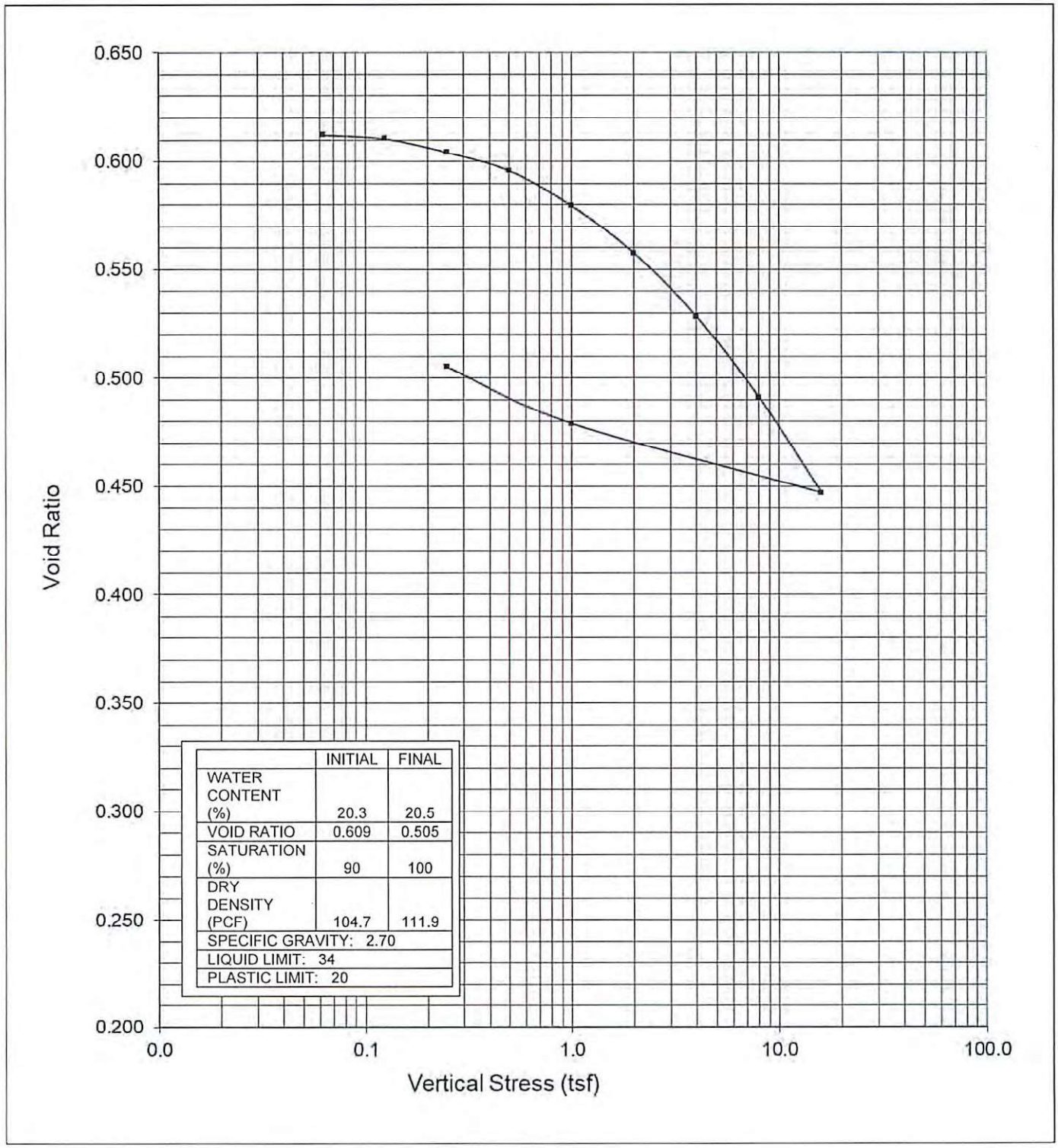
	INITIAL	FINAL
WATER CONTENT (%)	17.9	21.0
VOID RATIO	0.543	0.479
SATURATION (%)	89	100
DRY DENSITY (PCF)	108.2	113.9
SPECIFIC GRAVITY: 2.70		
LIQUID LIMIT: 45		
PLASTIC LIMIT: 21		

ATLAS

ONE-DIMENSIONAL CONSOLIDATION TEST

Client: Corporex
Project: Condominium Buildings
Location: Covington, Kentucky

Boring S-12, ST-8, 18'-19.1'
Sample Description: Gray silty clay (CL)



	INITIAL	FINAL
WATER CONTENT (%)	20.3	20.5
VOID RATIO	0.609	0.505
SATURATION (%)	90	100
DRY DENSITY (PCF)	104.7	111.9
SPECIFIC GRAVITY: 2.70		
LIQUID LIMIT: 34		
PLASTIC LIMIT: 20		

ATLAS

FIELD CLASSIFICATION SYSTEM FOR SOIL EXPLORATION

NON COHESIVE SOILS
(Silt, Sand, Gravel and Combinations)

Density

Very Loose	– 5 blows/ft. or less
Loose	– 6 to 10 blows/ft.
Medium Dense	– 11 to 30 blows/ft.
Dense	– 31 to 50 blows/ft.
Very Dense	– 51 blows/ft. or more

Relative Proportions

DESCRIPTIVE TERM	PERCENT
Trace	1 – 10
Little	11 – 20
Some	21 – 35
And	36 – 50

Particle Size Identification

Boulders	– 8 inch diameter or more	
Cobbles	– 3 to 8 inch diameter	
Gravel	– Coarse	– 1 to 3 inch
	– Medium	– 1/2 to 1 inch
	– Fine	– 1/4 to 1/2 inch
Sand	– Coarse	– 2.00 mm to 1/4 inch (diameter of pencil lead)
	– Medium	– 0.42 to 2.00 mm diameter of broom straw)
	– Fine	– 0.074 to 0.42 mm (dia. of a human hair)
Silt		– 0.074 to 0.002 mm (cannot see particles)

COHESIVE SOILS
(Clay, Silt and Combinations)

Consistency

Very Soft	– 3 blows/ft. or less
Soft	– 4 to 5 blows/ft.
Medium Stiff	– 6 to 10 blows/ft.
Stiff	– 11 to 15 blows/ft.
Very Stiff	– 16 to 30 blows/ft.
Hard	– 31 blows/ft. or more

Plasticity

DEGREE OF PLASTICITY	PLASTICITY INDEX
None to slight	0 – 4
Slight	5 – 7
Medium	8 – 22
High to very high	over 22

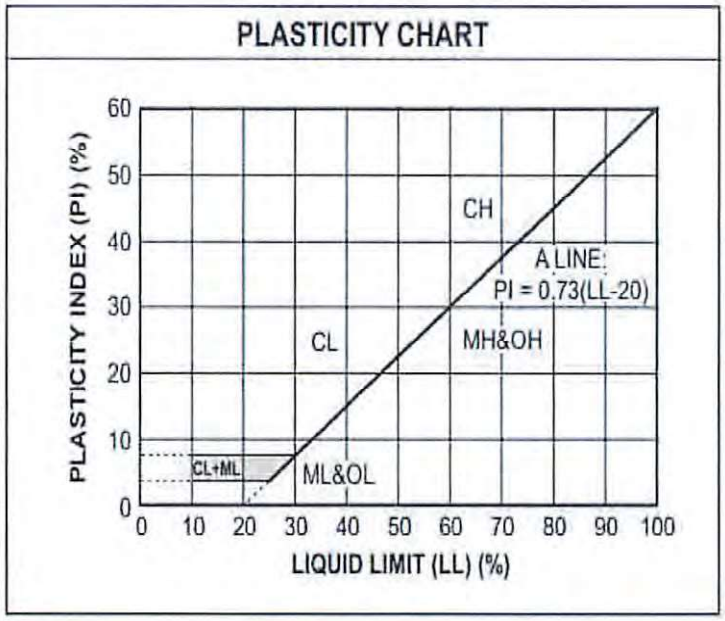
Classification on logs are generally made by visual inspection of samples, but may be supplemented with laboratory testing as noted.

Standard Penetration Test – Driving a 2.0' O.D., 1-3/8 I.D., sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30.0 inches. It is customary for Cardno ATC to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and making the test are recorded for each 6.0 inches of penetration (Example: 6\8\9). The standard penetration test result N–value is obtained by adding the last two figures (Example: 8+9=17 blows/ft.) (ASTM D-1586-67).

Strata Changes – In the column "Soil Descriptions" on the drilling log the horizontal lines represent strata changes. A solid line (_____) represents an actually observed change, and a dashed line (_ _ _ _ _) represents an estimated change.

Ground Water – Observations were made at the times indicated. Porosity of soil strata, weather conditions, site topography, etc., may cause changes in the water levels indicated on the logs.

Major Divisions			Group Symbol	Typical Names	Laboratory Classification Criteria	
COARSE GRAINED SOILS (More than half of material is larger than #200 sieve)	Gravels (More than half of coarse fraction is larger than #4 sieve)	Clean Gravels	GW	Well graded gravels, gravel-sand mixtures, little or no fines.	Determine percentages of sand and gravel from grain size curve. Depending on percentage of fines (fraction smaller than #200 sieve size), coarse grained soils, are classified as follow: Less than 5%.....GW, GP, SW, SP More than 12%....GM, GC, SM, SC 5 to 12%.....Borderline cases requiring dual symbols	$C_U=D_{60}/D_{10}>4$ & $1>C_C=D_{30}^2/(D_{10}xD_{60})>3$
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.		Not meeting all gradiation recruitments for GW
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures.	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
			GC	Clayey gravels, gravels-sand-clay mixtures.	Atterberg limits above "A" line with P.I. greater than 7	
	Sands (More than half of coarse fraction is smaller than #4 sieve)	Clean Sands	SW	Well graded sands, gravely sands, little or no fines	$C_U=D_{60}/D_{10}>4$ & $1>C_C=D_{30}^2/(D_{10}xD_{60})>3$	
			SP	Poorly graded sands, gravely sands, little or no fines.		Not meeting all gradiation requirements for SW.
		Sands with fines	SM	Silty sands, sand-silt mixtures.	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
			SC	Clayey sands, sand-clay mixtures.	Atterberg limits above "A" line with P.I. greater than 7	
FINE GRAINED SOILS (More than half of material is smaller than #200 sieve)	Silts and Clays (LL less than 50)		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.		
			CL	Inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays.		
			OL	Organic silts and organic silty clay of low plasticity		
	Silts and Clays (LL greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils, elastic silts.		
			CH	Inorganic clays of high plasticity, fat clays.		
			OH	Organic clays of medium to high plasticity, organic silts.		
	Highly Organic Soil		PT	Peat, humus, swamp soils with high organic contents.		



ATLAS

Unified Soil Classification System

ASTM Designation D- 2487

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

Madison Tree Care & Landscaping, Inc.
636 Round Bottom Road
Milford, Ohio 45150-9568

Madison
TREE CARE & LANDSCAPING

Phone: 513-576-6391 Fax: 513-576-6394
www. Madisontreecincy.com
Email: info@madisontreecincy.com

April 24, 2023

Corporex Development & Construction Management
Attn: Greg Scheper
100 E. River Center Blvd, Suite 1100
Covington, KY 41011

RE: 401 Crescent Ave.
Covington, KY 41011

Mr. Scheper,

At your request I inventoried all trees eight inches in diameter and greater on the 401 Crescent Ave property. I used the attached map that you provided to determine the property lines to the best of my ability. I detailed the species of each tree, the diameter at 54 inches above ground level, provided a general condition rating from 1-10 and made a sketch of the site to provide approximate locations of trees. 1 is very poor condition and 10 is excellent condition. Invasive trees were inventoried but, in my opinion, have no value for the purpose of this report. The invasive trees that have no value are primarily pear trees and a couple of Ailanthus. These trees are highlighted on the inventory. I did not inventory any trees that were completely dead. I found 49 trees that were alive and eight inches or greater in diameter within the property lines (see attached spreadsheet). 38 out of the total 49 trees are invasive species.

If you have any further questions or concerns regarding this matter, please feel free to contact me.

Sincerely,

Jon Butcher
ASCA Registered Consulting Arborist #486
ISA Certified Arborist, #OH 0914A
ONLA Master Ohio Certified Nursery Technician #249

TCIA VOICE OF TREE CARE

OHIO NURSERY & LANDSCAPE ASSOCIATION

CERTIFIED ARBORIST ISA

TREE INVENTORY 401 CRESCENT AVE.

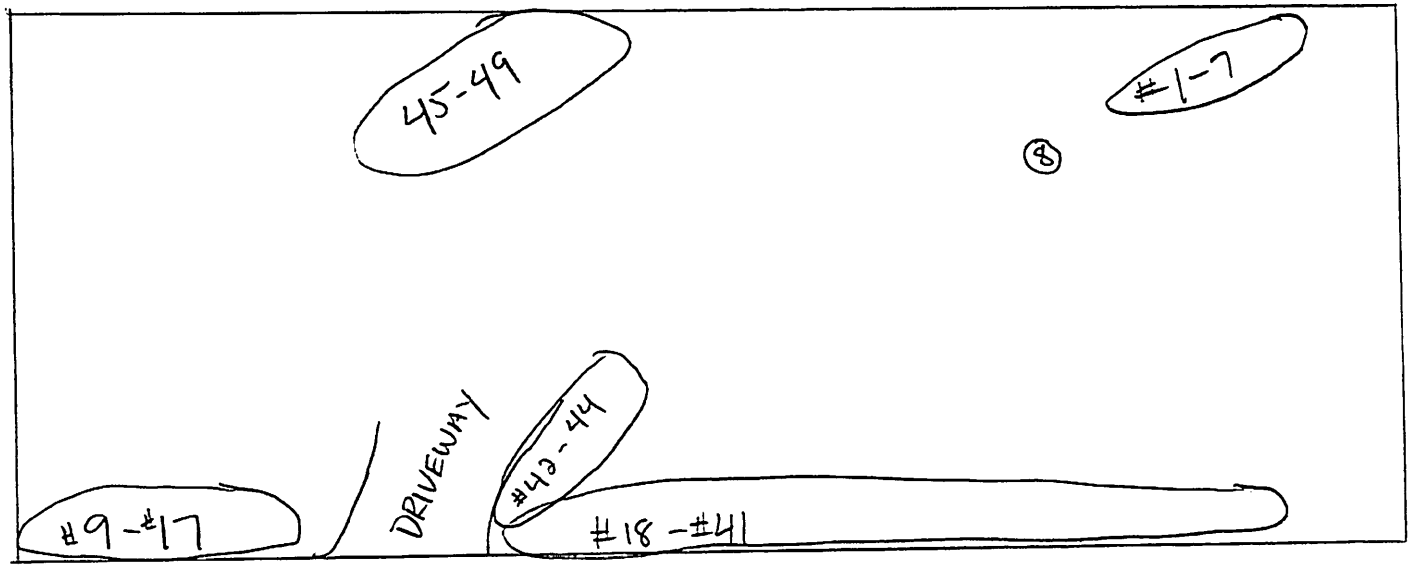
	A	B	C	D
1	#	Species	Diameter	Condition
2	Tree #1	Pear	17"	3
3	Tree #2	Pear	21"	3
4	Tree #3	Pear	13"	3
5	Tree #4	Pear	10"	2
6	Tree #5	Pear	9"	3
7	Tree #6	Pear	15"	3
8	Tree #7	Pear	18"	3
9	Tree #8	Pear	14"	3
10	Tree #9	Pear	8"	4
11	Tree #10	Pear	10"	4
12	Tree #11	Pear	8"	3
13	Tree #12	Pear	12"	4
14	Tree #13	Pear	15"	4
15	Tree #14	Pear	10"	4
16	Tree #15	Pear	13"	3
17	Tree #16	Pear	14"	4
18	Tree #17	Pear	16"	4
19	Tree #18	Pear	24"	4
20	Tree #19	Pear	15"	4
21	Tree #20	Pear	13"	4
22	Tree #21	Pear	12"	3
23	Tree #22	Pear	24"	3
24	Tree #23	Pear	11"	4
25	Tree #24	Pear	12"	4
26	Tree #25	Pear	8"	3
27	Tree #26	Pear	16"	4
28	Tree #27	Pear	12"	3
29	Tree #28	Pear	15"	3
30	Tree #29	Pear	16"	4
31	Tree #30	Pear	14"	3
32	Tree #31	Pear	13"	2
33	Tree #32	Pear	17"	3
34	Tree #33	Austrian Pine	14"	3
35	Tree #34	Pear	13"	3
36	Tree #35	Pear	12"	3
37	Tree #36	Pear	11"	3
38	Tree #37	Ailanthus	8"	4
39	Tree #38	Ailanthus	11"	4
40	Tree #39	Elm	8"	4
41	Tree #40	Eastern Red Cedar	9"	1
42	Tree #41	Eastern Red Cedar	12"	3
43	Tree #42	Austrian Pine	8"	1

TREE INVENTORY 401 CRESCENT AVE.

	A	B	C	D
44	Tree #43	Austrian Pine	11"	3
45	Tree #44	Pear	15"	4
46	Tree #45	Elm	10"	4
47	Tree #46	Elm	22"	4
48	Tree #47	Elm	8"	4
49	Tree #48	Elm	23"	2
50	Tree #49	Mulberry	24"	2

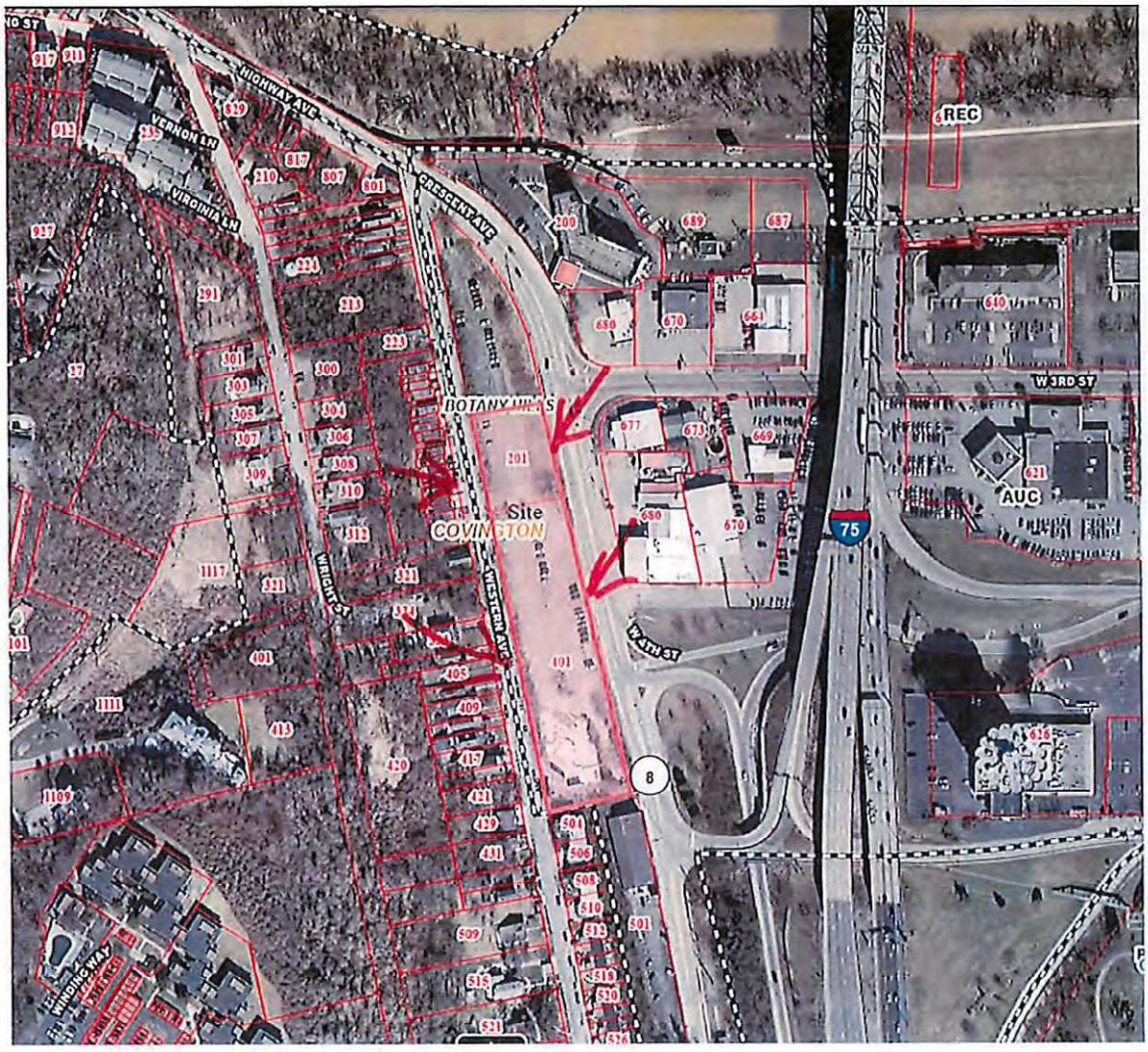
CORPOREX DEVELOPMENT

401 CRESCENT AVE.



UNCORKED

WESTERN AVE


HIGHWAY AVE
VERNON LN
VIRGINIA LN
CRESCENT AVE
WESTERN AVE
WRIGHT ST
W 4TH ST
W 3RD ST
BOTANY HILLS
Site
COVINGTON
REC
AUC
75
8
WINDING WAY

Assumptions and Limiting Conditions

This report and any values expressed herein represent the opinion of the consultant and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

The consultant has no personal interest in or bias with respect to the subject matter of this report or the parties involved. The consultant has inspected the subject trees or tree remains and to the best of the consultant's knowledge and belief, all statements and information in this report are true and correct.

The consultant shall not be required to give testimony or to attend court by any reason of this report unless subsequent contractual arrangements are made, including payment of charges to cover time and expense involved.

Sketches in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than to the person to whom it is addressed, without prior written consent of the consultant.

Unless expressed otherwise 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.

From: Greg Scheper
To: Megan Bessey
Cc: Dalton Belcher; Andy Videkovich
Subject: RE: PC2305-0003 KCPC Application Inquiry
Date: Tuesday, May 16, 2023 12:33:43 PM
Attachments: image001.png
image002.png
image003.png

Megan,

With regard to the above-referenced application, we request that any required variances required for the Development Plan be heard by the Kenton County Planning Commission. At this time we do not have a definitive determination as to exactly what variances will be required nor the extent of those variance requests. Based on our review and studies it is our position that the building heights and setbacks conform with the standards for the SU zone set forth in Covington's Neighborhood Development Code, particularly when considered . However, we understand that determination will be made by the City's Zoning Administrator and said determination has not been made as of the time of the email. Based on prior discussions and communications (including those contained in this email chain) it is foreseeable that building height and setback variances may be required.

In the event that building height and setback variances will be required, we request that these be heard before the planning commission. If it is determined that there are additional variances required, or that the extent of the height and setback variances are significantly greater than what is referenced in Dalton's May 11 email correspondence, please contact me at (859) 466-3443 to discuss.

Thank you,

Greg Scheper

Corporex Companies, LLC
859-292-5541 direct | 859-466-3443 mobile| gscheper@corporex.com

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From: Megan Bessey <mbessey@pdskc.org>
Sent: Tuesday, May 16, 2023 10:29 AM
To: Greg Scheper <GScheper@Corporex.com>
Cc: Dalton Belcher <dalton.belcher@covingtonky.gov>; Andy Videkovich <avidekovich@pdskc.org>
Subject: RE: PC2305-0003 KCPC Application Inquiry

Greg,

Please call me at 716-829-9898 or call Andy at 859-331-8980. We need to know if these will be on KCPC or through the BOARD. I am working from home today so don't mind the odd cell number. Thanks.

Respectfully,

Megan Bessey, PhD, CCEO
Principal Planner
Planning and Development Services of Kenton County
Kenton County Government Center
1840 Simon Kenton Way • Suite 3400
Covington, KY 41011-3693
859.331.8980 • mbessey@pdskc.org

From: Greg Scheper <GScheper@Corporex.com>
Sent: Monday, May 15, 2023 12:36 PM
To: Dalton Belcher <dalton.belcher@covingtonky.gov>; Megan Bessey <mbessey@pdskc.org>
Subject: RE: PC2305-0003 KCPC Application Inquiry
Importance: High

Dalton/Megan,

Per my voice messages from earlier this morning, I am following up on the emails below. In response to Dalton's email from last Thursday (May 11), I am supplementing the Cross Sections sent last Wednesday with the attached, which more clearly depicts the height of each building as defined by the NDC criteria as indicated in that email. As noted, the appropriate measurement for building height is to the "average height level between the eaves and ridge for gable, hip, and gambrel roofs". Although the original cross-sections identify this average height between the eaves and ridge as being 4'5" below the ridge, the specific height noted on those cross-sections was taken from the ridge of the roof. The attached drawings and the chart below better demonstrates the height per the language of the NDC. Measuring the height based on the average between eaves and ridge (as opposed to the peak of the ridge), the heights the relevant average height for Building A is 27'10" (from 32'3"), Building B is 30'10' (from 35'3"), Building C is 30' 8" (from 35'1") and Building D is 35'4" (from 39'9"). Building D still exceeds 35' (assuming this height limit is not adjusted per the context).

With regard to the setbacks, the cross-sections does provide the results of our study of the context averages in the immediate vicinity. To define the context we used the properties immediately across Western Avenue from 201 and 401 Crescent Avenue. The existence and location of the extensive retaining wall limits the ability to strictly comply with the setback requirements as set forth in Table 04.10.2, which states that the maximum setback is the greater of 10' or 120% of the context average. As noted below, the average setbacks from R/W for Buildings A, B and C range from 19'8" to 25'3". However, based on our study of the "context" of the properties closest to this project, the

average setback is 22.4', 120% of that context average would be 26.9'.

Is there a convenient time to discuss this and hopefully get some determination regarding if and what variances we need to request?

Thanks for your help.

	Building Heights		Setbacks	
	To Peak	Avg- eaves to ridge	From R/W	*From Wall*
Building A	-	-		
Section 10	30' 8"	26' 3"	22' 7"	*14' 7"*
Section 9	32" 1"	27' 8"	25' 11"	*16' 1"*
Section 8	34' 0"	29' 7"	21' 1"	*13' 1"*
Average	32' 3"	**27' 10"**	**24' 3"**	*14' 7"*
Building B				
Section 7	34' 11"	30' 6"	20' 2"	*13' 3"*
Section 6	35' 2"	30' 9"	23' 5"	*18' 0"*
Section 5	35' 8"	31' 3"	18' 8"	*14' 1"*
Average	35' 3"	**30' 10**	**20' 9"**	*15" 1"*
Building C				
Section 4	35' 5"	31' 0"	17' 9"	*14' 3"*
Section 3	35' 6"	31' 1"	24' 11"	*18' 10"*
Section 2	34' 4"	29' 11"	16' 3"	*14' 6"*
Average	35' 1"	**30' 8"**	**19' 8"**	*16' 0"*
Building D				
Section 1	39' 9"	35' 4"	8 '8"	*N/A*
Average	39' 9"	**35' 4"**	**8' 8"**	*N/A*

Greg Scheper

Corporex Companies, LLC
859-292-5541 direct | 859-466-3443 mobile| gscheper@corporex.com

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From: Greg Scheper
Sent: Thursday, May 11, 2023 3:35 PM
To: Dalton Belcher <dalton.belcher@covingtonky.gov>; Megan Bessey <mbessey@pdskc.org>
Subject: RE: PC2305-0003 KCPC Application Inquiry

Thanks Dalton. This is helpful. I did want to note that building heights you note measure to the ridge,

and the average height level between the eaves and the ridge is actually 4’5” lower. It is a bit confusing how that is indicated in the drawing. Also, will the 120% of context average factor into this analysis?

I know you’re out of pocket the rest of the day, so I’ll plan on catching up some time tomorrow.

Have a good evening.

Greg Scheper

Corporex Companies, LLC
859-292-5541 direct | 859-466-3443 mobile| gscheper@corporex.com

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From: Dalton Belcher <dalton.belcher@covingtonky.gov>
Sent: Thursday, May 11, 2023 2:29 PM
To: Greg Scheper <GScheper@Corporex.com>; Megan Bessey <mbessey@pdskc.org>
Subject: RE: PC2305-0003 KCPC Application Inquiry

Greg,

So, it would seem that the maximum building height for these buildings would be 35’. I think Megan and I are trying to determine just which of the buildings will need a variance. Going off what I’m seeing here it looks like Building D most likely will need a variance as it is over 35’ (looks like it’s 39’9”) and it looks like that Building B and C would too based off what I’m seeing.

Generally, we would just have the average elevation for each building and use that number.

Building height is to be measured as the vertical distance measured from average elevation of the finished grade adjoining the building at the front of the building to:

1. The average height level between eaves and ridge for gable, hip, and gambrel roofs.
2. The highest point of the roof surface for a flat roof; and
3. The deck line of a mansard roof.

Without that, I’m going to just use what we’ve got in these documents.

Building B
Section 5 – 35’8”
Section 6 – 35’2”
Section 7 – 34’11”

Building C
Section 2 – 34’6”
Section 3 – 35’6”

Section 4 – 35’5”

The average of these three numbers (for both building B & C) would be slightly over 35’ if my math is correct. So, they would exceed the maximum permitted building height.

As a note, I’m not going to be available for the rest of the day after this.

DALTON BELCHER | HE/HIM
REGULATORY SERVICES MANAGER & ZONING ADMINISTRATOR
City of Covington, KY
W: 859-292-2135
www.thecovky.gov
Business Guide | News
LINK TO SUBMIT ZONING PERMIT APPLICATIONS: https://portal.iworq.net/COVINGTON/new-permit/600/4053

From: Greg Scheper <GScheper@Corporex.com>
Sent: Wednesday, May 10, 2023 11:54 AM
To: Megan Bessey <mbessey@pdskc.org>
Cc: Dalton Belcher <dalton.belcher@covingtonky.gov>
Subject: RE: PC2305-0003 KCPC Application Inquiry

Megan/Dalton,

I apologize for the length of this email but believe the information and context will be helpful in your review. I am happy to discuss it over the phone or in person as well if you have any questions or concerns.

As I discussed with Dalton on Monday, we appreciate the City’s preference to have any variance requests heard by the City’s BOARD as opposed to being heard by the Planning Commission per KRS 100.2111. We are strongly leaning toward following the “regular” process of having the variance requests reviewed by the BOARD. I understand we need to make that determination imminently. My only hesitancy is what I discussed with Dalton on Monday, that being the concern that if we separate the map amendment/development plan review from the variance requests our concern is that our map amendment request could be approved but the variance requests (upon which our Development Plan is dependent) may be subsequently denied. The “alternative procedure” provides a more conventional PUD-type of review tying the consideration of the map amendment and the development plan together for consideration by the KCPC and ultimately the City Commission.

Dalton and I discussed one way this could be addressed is to file the application for the variances with the City’s BOARD prior to the upcoming deadline to be heard at the late June meeting. I believe Dalton was going to check with the City Attorney as to whether these variance requests could be heard and approved conditioned upon the City Commission’s subsequent adoption of the map amendment. Dalton- have you had a chance to confer with counsel concerning this issue?

With regard to the specific questions concerning the variances, I attach the study Reztark just

completed in which they studied the surrounding structures to try to determine the context of the area (understanding that this will ultimately be determined by the City). I believe this study, which is attached, addresses your questions as to building heights and setbacks and will be helpful with your review. The Reztark study corresponds with the cross-sections prepared by Brandstetter, which I also attach.

Given the unique conditions of the site I believe these drawings will be helpful. Since the grade of the slope drops as you move south to north, and our intention is to work with the existing grade and retaining walls, the elevations vary between the four distinct buildings. In fact, the FFE within each building may change depending on the slope. The elevation varies from 525' to 513'5' running south to north.

Similarly, the heights of the buildings (and even each 2-unit "pod" within the buildings) vary in primarily dependent upon the height of the retaining wall along Western Avenue. The variation in height among the units/buildings is due to the height of the garage/lower level of each unit. At the southern end of the site the garage/lower-level height is taller to correspond with the height of the retaining wall. The "front door" access into the units off of Western comes directly into the main living area on the 2nd level, so the walkways into the units are designed to level with the sidewalk. The height of the garage/lower level varies from 16'6" to 10'8" for the units running south to north. This accounts for any variation building height between the units.

On page 3 of the Brandstetter drawings there are 10 specific locations that are cross-sectioned across the proposed project. The Reztark study provides 10 distinct building cross-sections corresponding with the Brandstetter plan which provides the following information for each area:

- FFE;
- Setbacks (from property line and retaining wall);
- Building heights and individual floor heights (relative to FFE and from the Western Avenue ROW);
- Reztark information based on its study of the context of the area.

Please feel free to contact me if you need clarification or have any questions.

Greg Scheper

Corporex Companies, LLC
859-292-5541 direct | 859-466-3443 mobile| gscheper@corporex.com

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From: Megan Bessey <mbessey@pdskc.org>
Sent: Tuesday, May 9, 2023 4:32 PM
To: Greg Scheper <GScheper@Corporex.com>
Cc: Dalton Belcher <dalton.belcher@covingtonky.gov>
Subject: PC2305-0003 KCPC Application Inquiry

Greg,

I am inquiring if you want to add variances to your KCPC application. If so, I will need a letter stating to amend your application to include them. Regardless, Dalton and I need additional information. That being:

- The building height: As illustrated in Figure 09.28.1-1, Building Height, Building height is to be measured as the vertical distance measured from **average elevation of the finished grade** adjoining the building at the front of the building to:
    - The average height level between eaves and ridge for gable, hip, and gambrel roofs. We both understand the drawing with measurements submitted; however, is this the average of all buildings height?
- Front setback varies from 16'-25' which is greater than the maximum: A variance would be needed per building for this just as a heads up.
- Please verify the side yard setbacks and their accuracy.

If you have any questions, let me know.

Respectfully,

Megan Bessey, PhD, CCEO
Principal Planner
Planning and Development Services of Kenton County
Kenton County Government Center
1840 Simon Kenton Way • Suite 3400
Covington, KY 41011-3693
859.331.8980 • mbessey@pdskc.org

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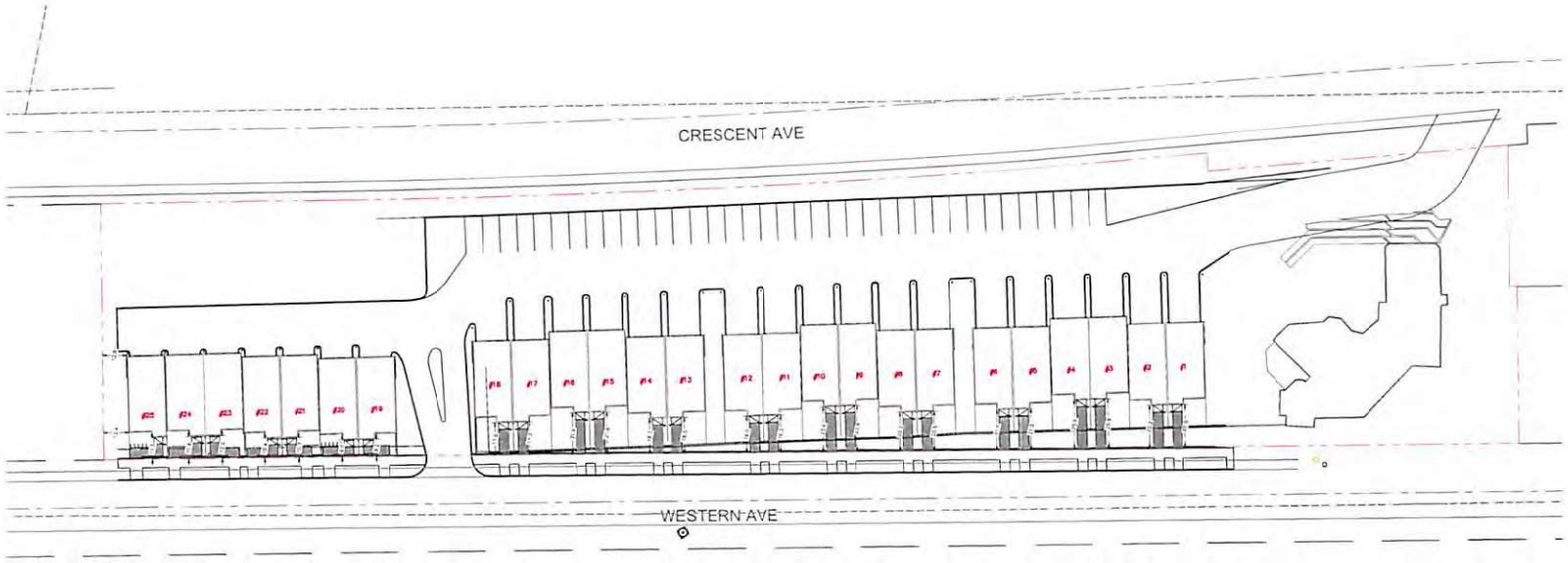
BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS



SCALE: 1" = 30'

DRAFT

Revisions:
Issue Date:

COVINGTON TOWNHOMES

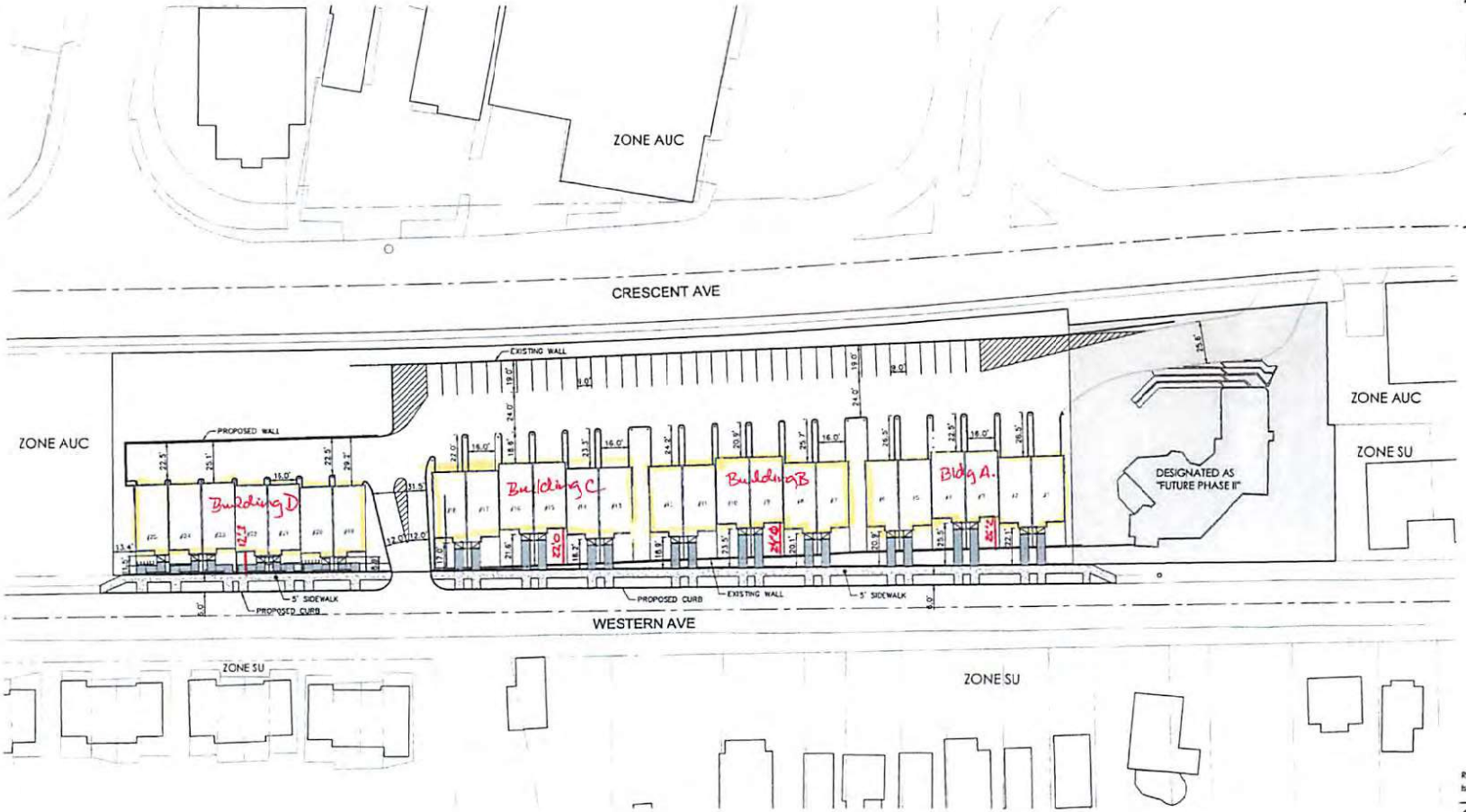
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

SITE PLAN

Project No.

23037

1



BRANDSTETTER CARROLL INC
ARCHITECTS-ENGINEERS-PLANNERS

SCALE: 1" = 30'

CURRENT ZONING -AUC
PROPOSED ZONING - SU
SITE - 2.4 ACRES
25 TOWNHOMES
10.4 UNITS PER/ACRE

Maximum Setbacks

Building A - 26'2 (Unit 3)
Building B - 24'0 (Unit 9)
Building C - 22'0 (Unit 15)
Building D - 12'3 (Unit 22)

Revisions:
Issue Date: 5-4-2023

COVINGTON TOWNHOMES

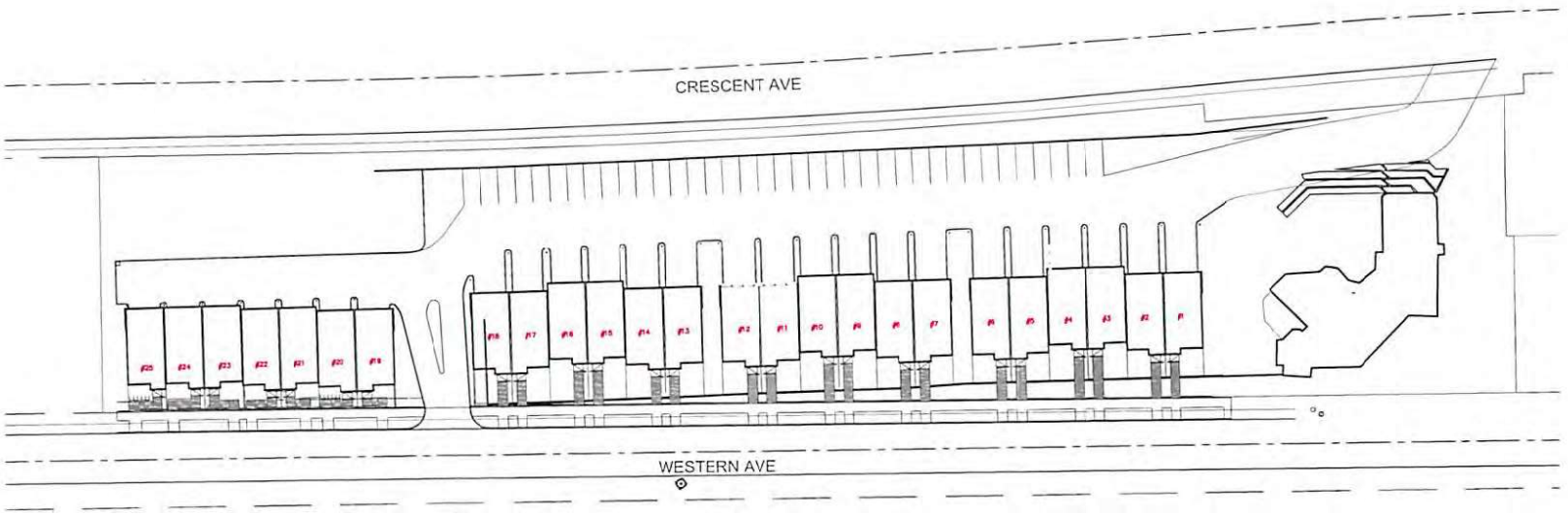
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

SITE PLAN

Project No.
23037

1

BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS



SCALE: 1" = 30'

DRAFT

Revisions
Issue Date

COVINGTON TOWNHOMES

401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

SITE PLAN

Project No.
23037

1

BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS

SCALE: 1" = 30'

DRAFT

Revisions:
Issue Date:

COVINGTON TOWNHOMES

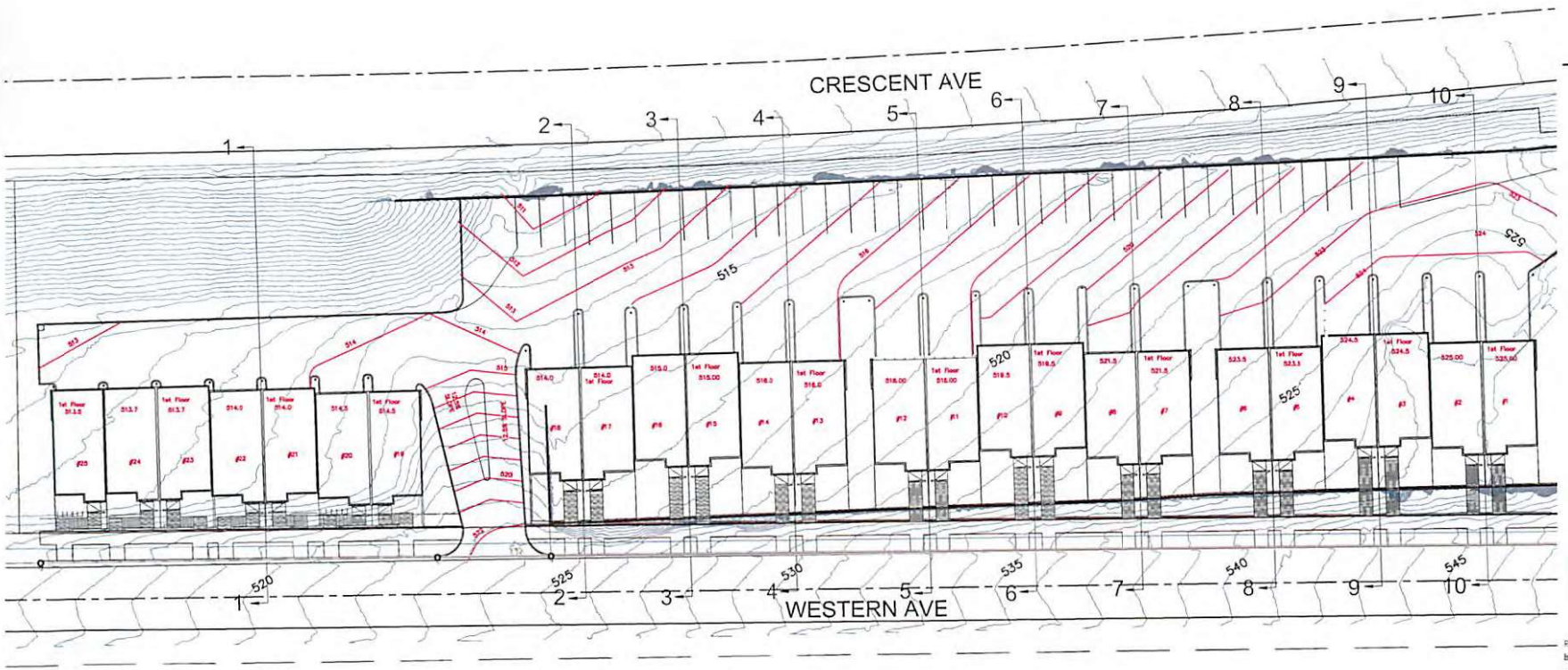
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

GRADING PLAN

Project No.

23037

2



BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS

SCALE: 1" = 20'

DRAFT

Revisions:
Issue Date:

COVINGTON TOWNHOMES

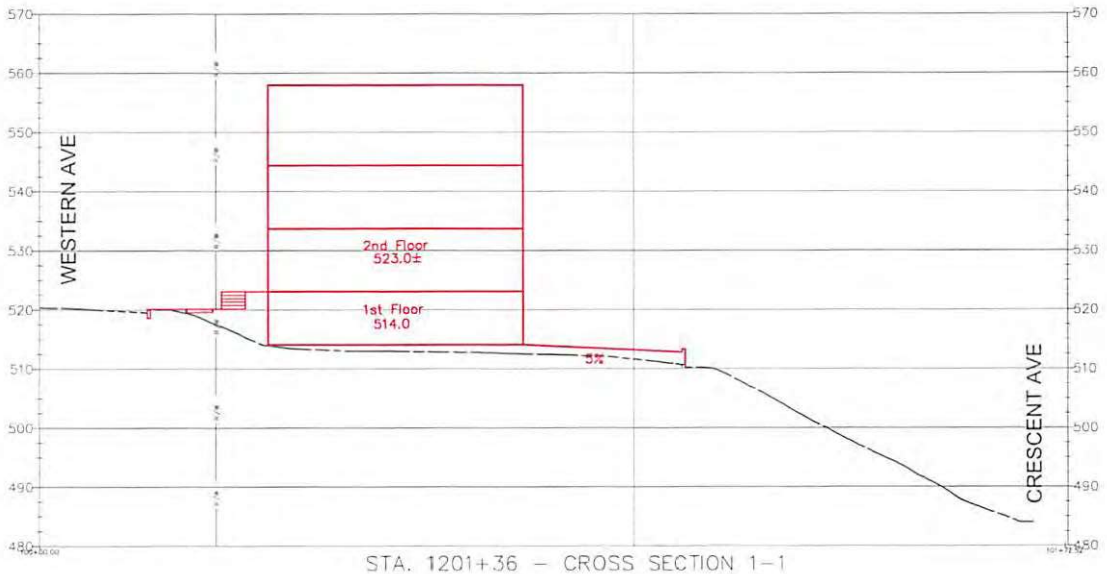
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

CROSS SECTION PLAN VIEW

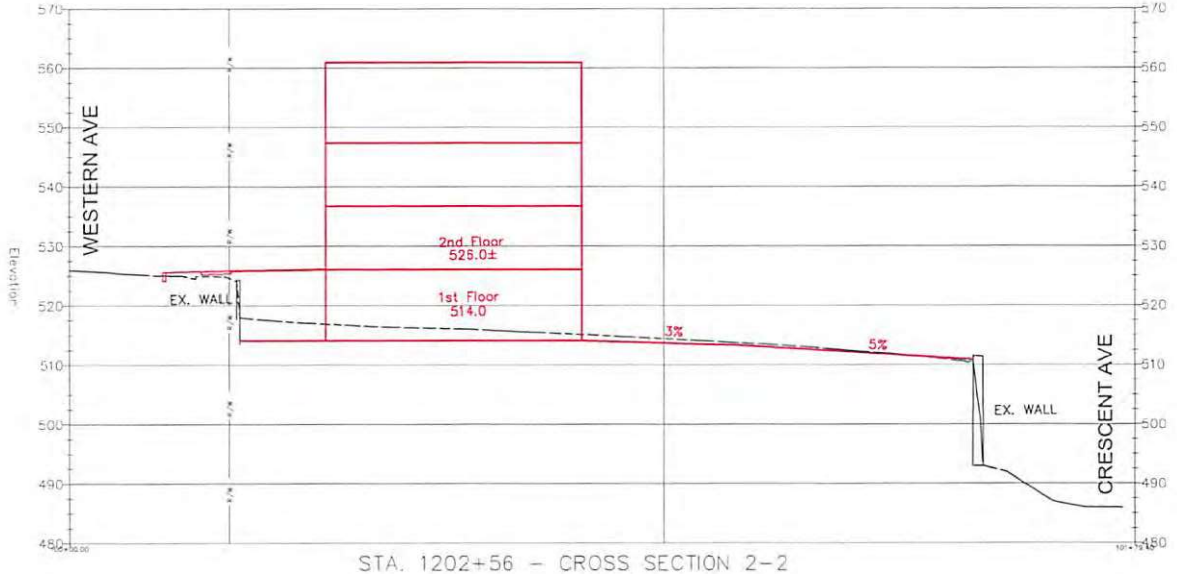
Project No.

23037

3



STA. 1201+36 – CROSS SECTION 1–1



STA. 1202+56 – CROSS SECTION 2–2

SCALE: 1" = 10'

BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS

DRAFT

Revisions
Issue Date:

COVINGTON TOWNHOMES

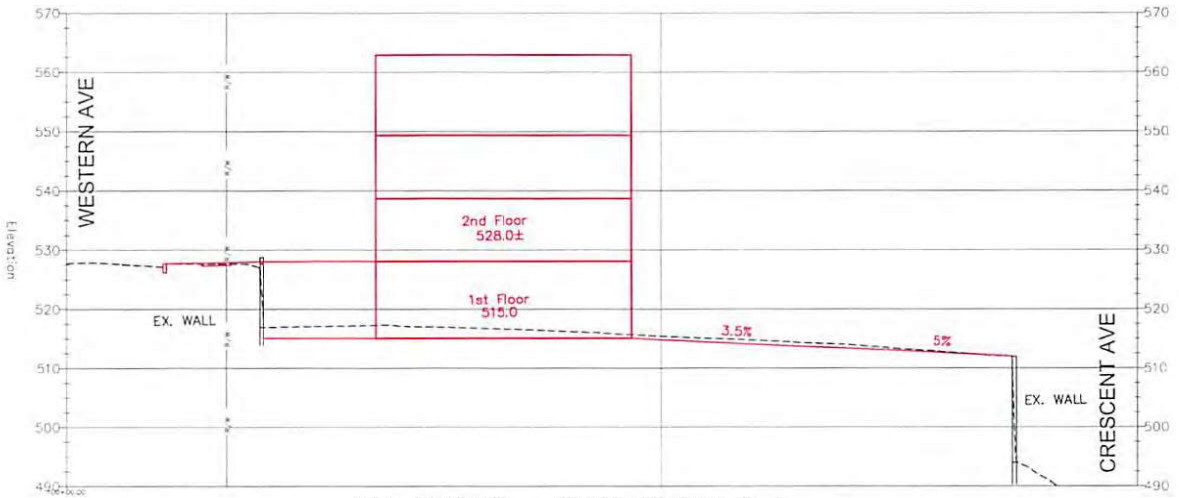
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

CROSS SECTION
STA 1201+36 & 1202+56

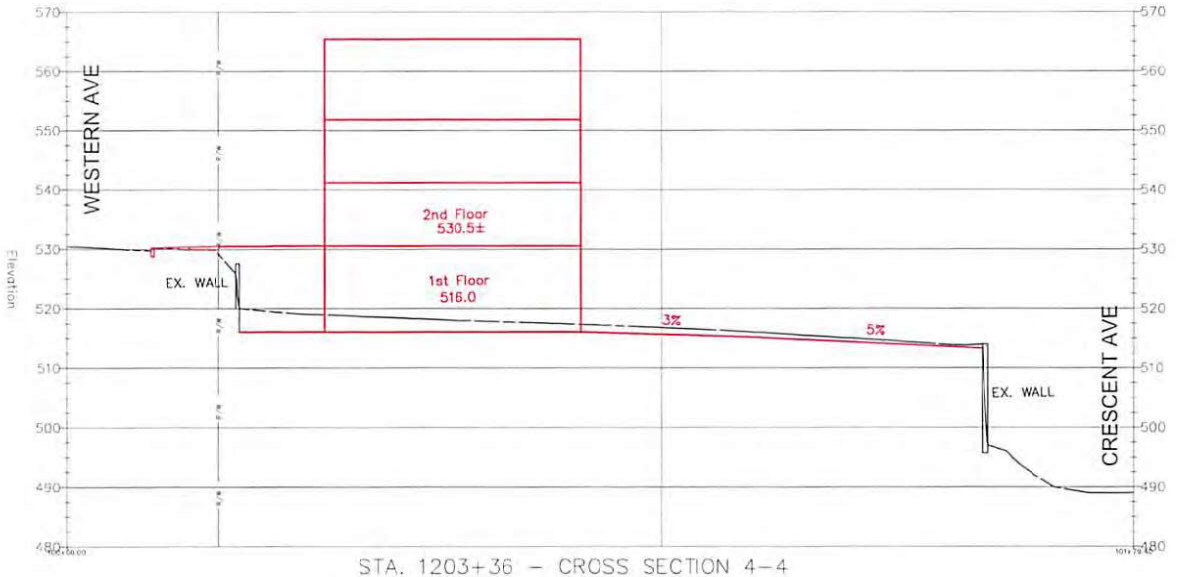
Project No.

23037

4



STA. 1202+96 – CROSS SECTION 3–3



STA. 1203+36 – CROSS SECTION 4–4

SCALE: 1" = 10'

BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS

DRAFT

Revisions:
Issue Date:

COVINGTON TOWNHOMES

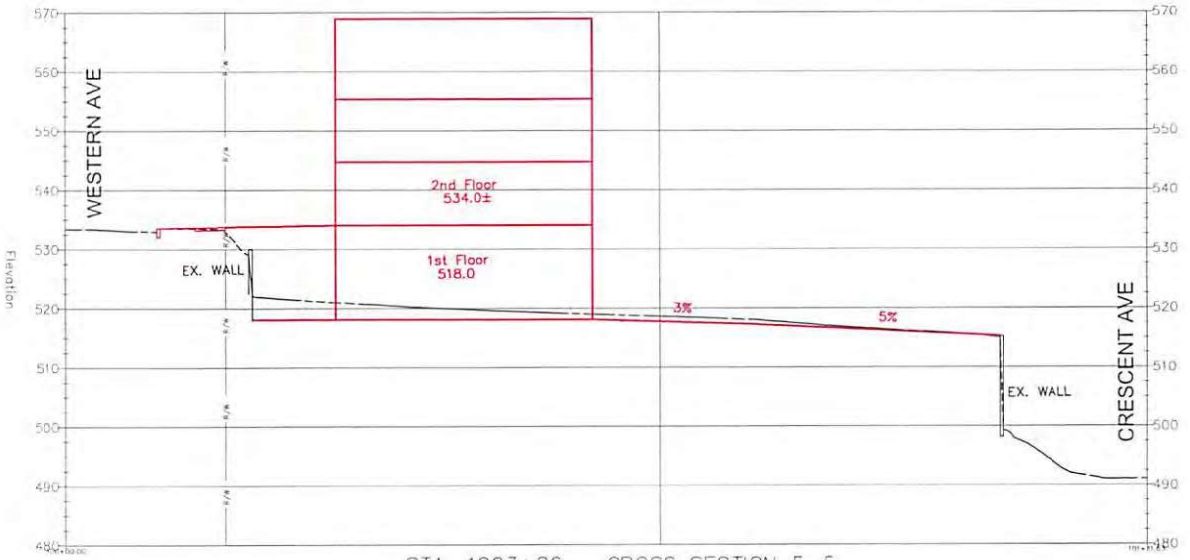
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

CROSS SECTION
STA 1202+96 & 1203+36

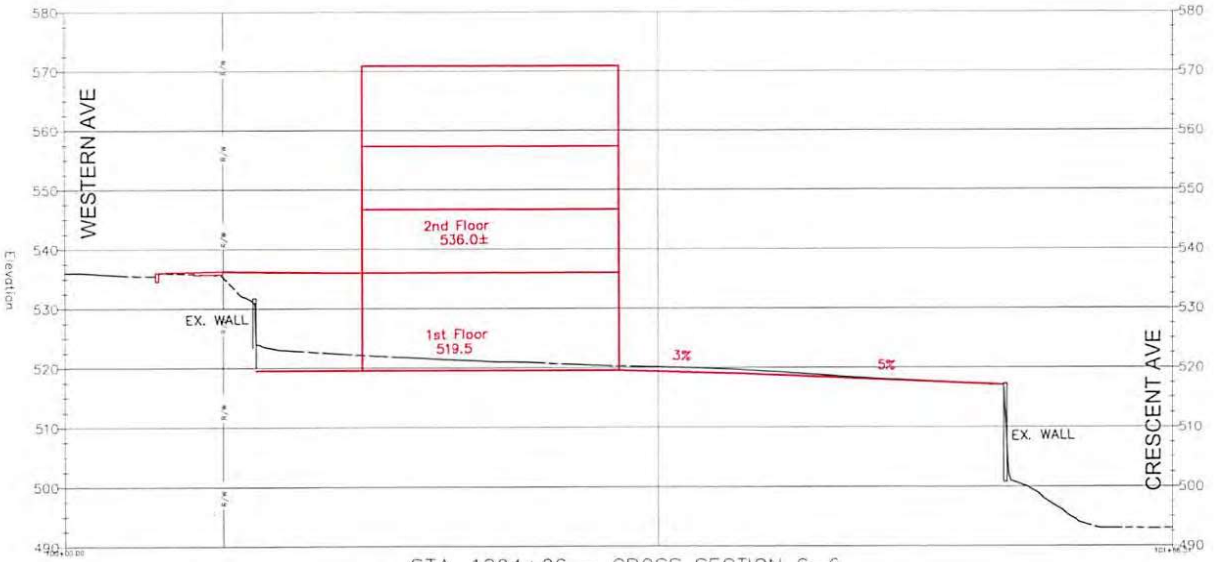
Project No.

23037

5



STA. 1203+86 – CROSS SECTION 5-5



STA. 1204+26 – CROSS SECTION 6-6

SCALE: 1" = 10'

BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS

DRAFT

Revisions
Issue Date:

COVINGTON TOWNHOMES

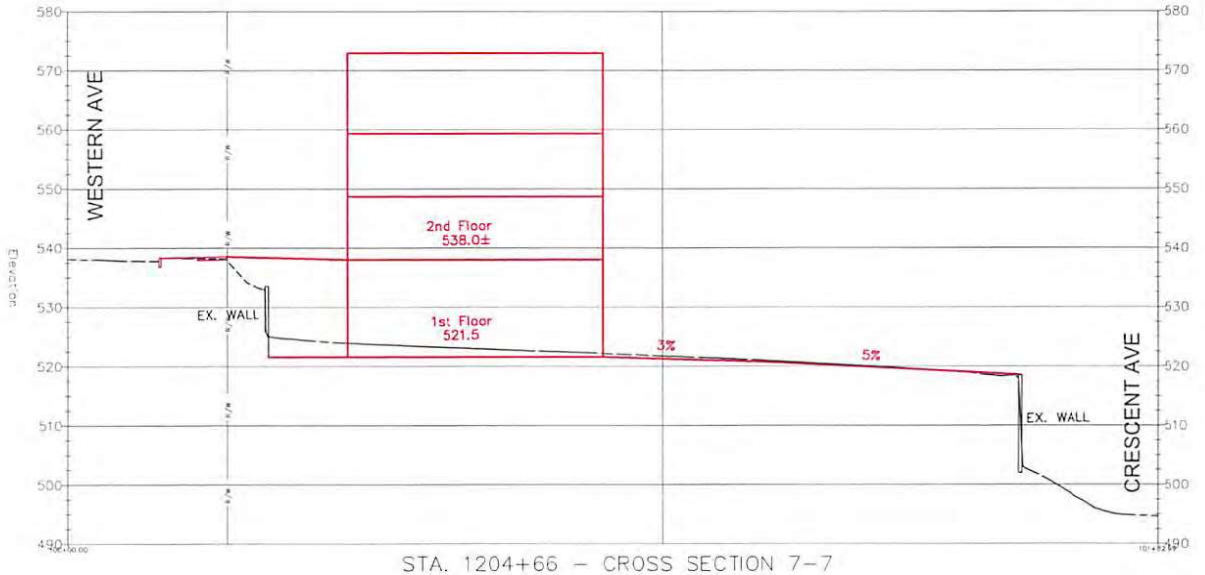
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

CROSS SECTION
STA 1203+86 & 1204+26

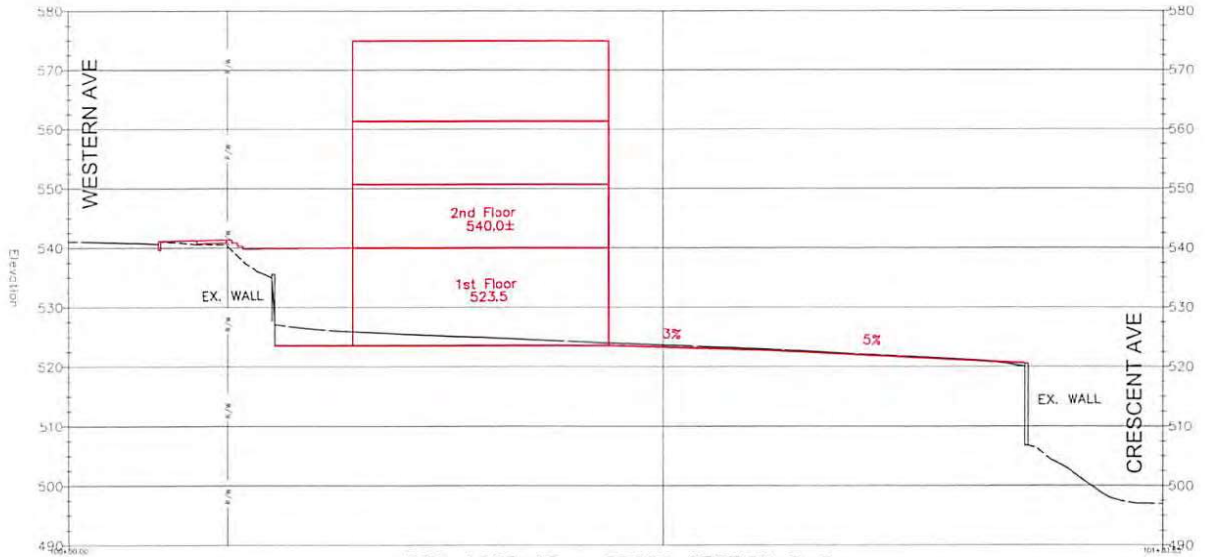
Project No.

23037

6



STA. 1204+66 – CROSS SECTION 7–7



STA. 1205+16 – CROSS SECTION 8–8

SCALE: 1" = 10'

BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS

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Revisions:
Issue Date:

COVINGTON TOWNHOMES

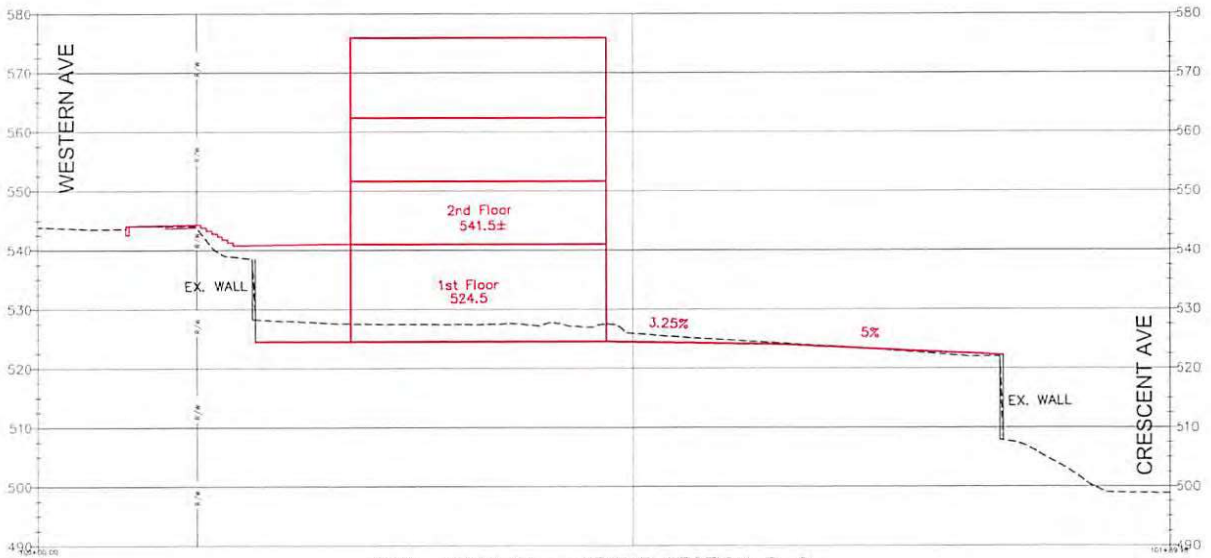
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

CROSS SECTION
STA 1204+66 & 1205+16

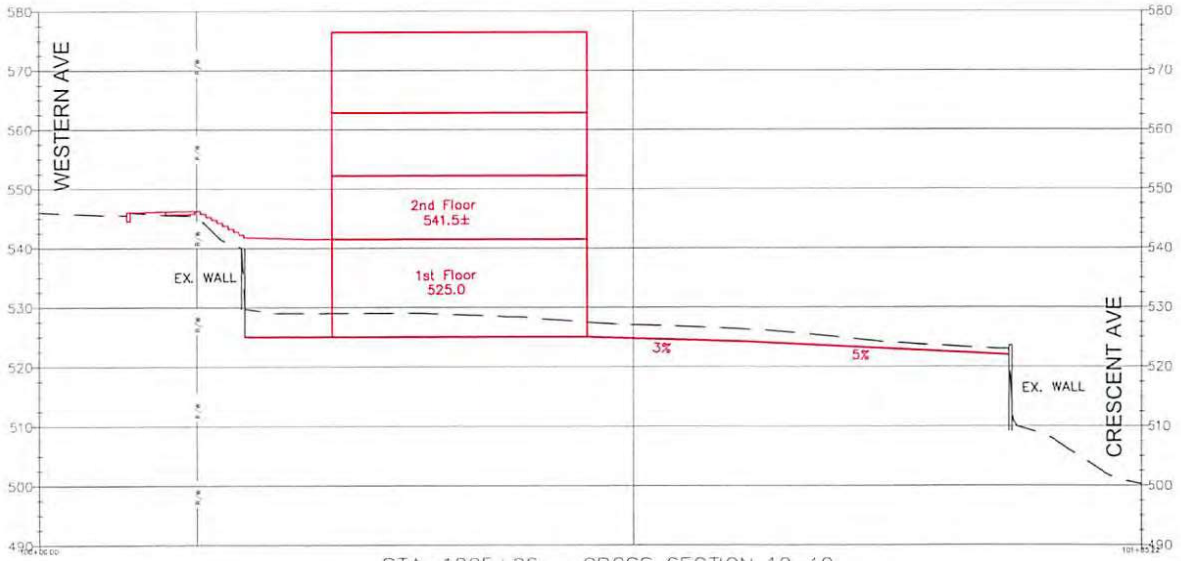
Project No.

23037

7



STA. 1205+56 - CROSS SECTION 9-9



STA. 1205+96 - CROSS SECTION 10-10

SCALE: 1" = 10'

BRANDSTETTER CARROLL INC
ARCHITECTS+ENGINEERS+PLANNERS

DRAFT

Revisions
Issue Date:

COVINGTON TOWNHOMES

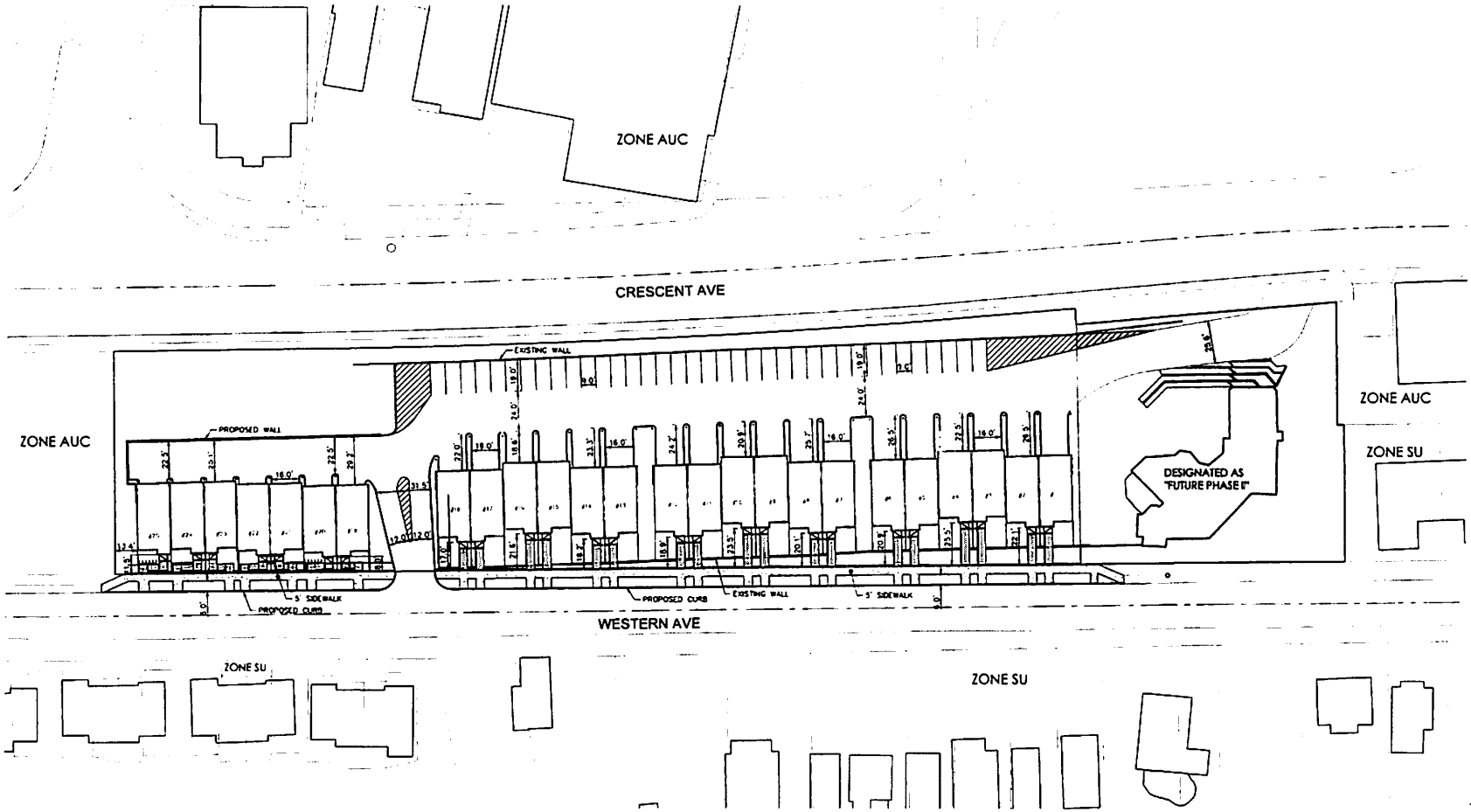
401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

CROSS SECTION
STA 1205+56 & 1205+96

Project No.

23037

8



BRANDSTETTER CARROLL INC
ARCHITECTS · ENGINEERS · PLANNERS

SCALE 1" = 30'

CURRENT ZONING - AUC
PROPOSED ZONING - SU
SITE - 2.4 ACRES
25 TOWNHOMES
10.4 UNITS PER/ACRE

Revisions
Issue Date: 5-4-2023

COVINGTON TOWNHOMES

401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

SITE PLAN

Project No.
23037

1

BRANDSTETTER CARROLL INC
ARCHITECTS-ENGINEERS-PLANNERS
308 East 8th Street, Cincinnati, OH 45202
p. 513.641.4224 www.brandstetterarch.com

SCALE: 1" = 30'

Revisions:
Issue Date: 5-4-2023

COVINGTON TOWNHOMES

401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

GRADING PLAN

Project No.	
23037	2

BRANDSTETTER CARROLL INC
ARCHITECTS · ENGINEERS · PLANNERS

SCALE: 1" = 30'

LEGEND
- PROPOSED ELECTRIC
- PROPOSED SANITARY SEWER
- PROPOSED WATER SERVICE
- EXISTING SEWER
- EXISTING WATER
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC, TELEPHONE, COMMUNICATION LINES

Revisions:
Issue Date: 5-4-2023

COVINGTON TOWNHOMES

401 CRESCENT AVENUE
COVINGTON, KENTUCKY 41017

UTILITY PLAN

Project No.
23037

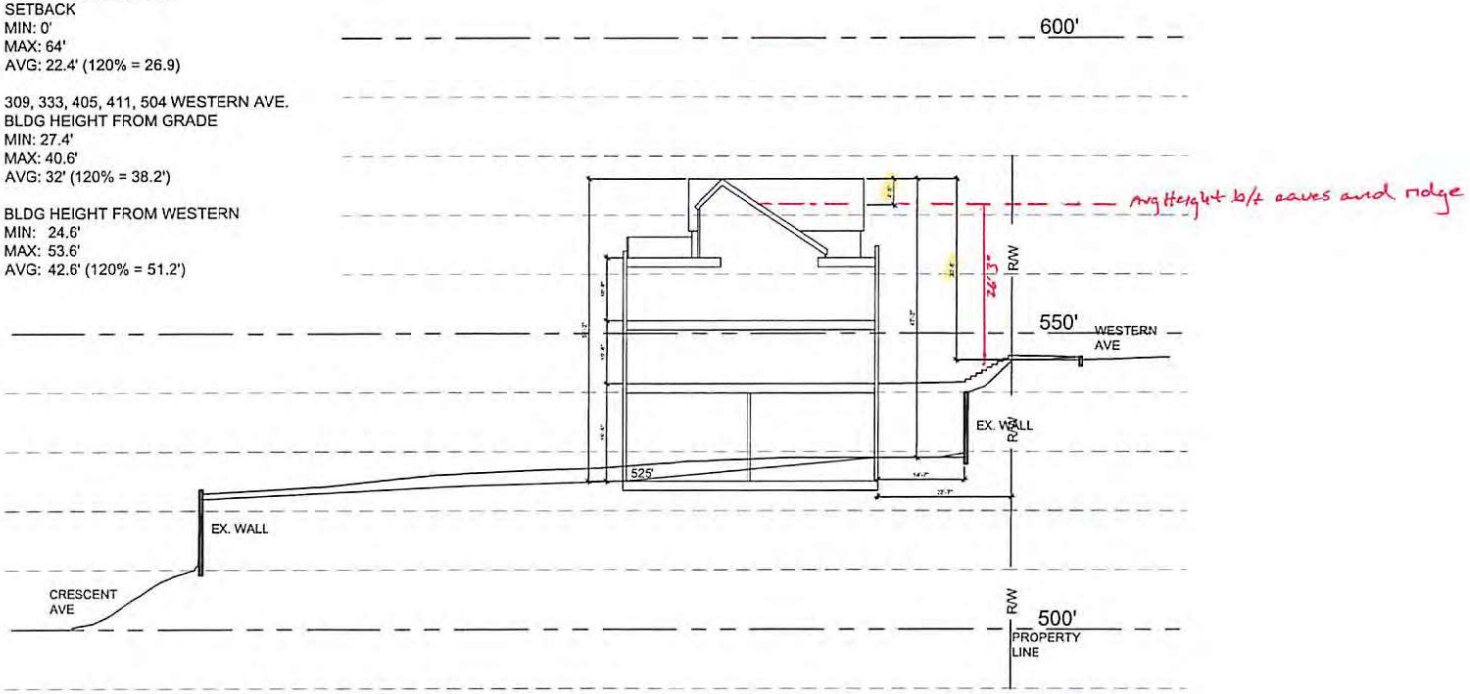
3

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 10 @ BUILDING A
SCALE: 1' = 20'-0"

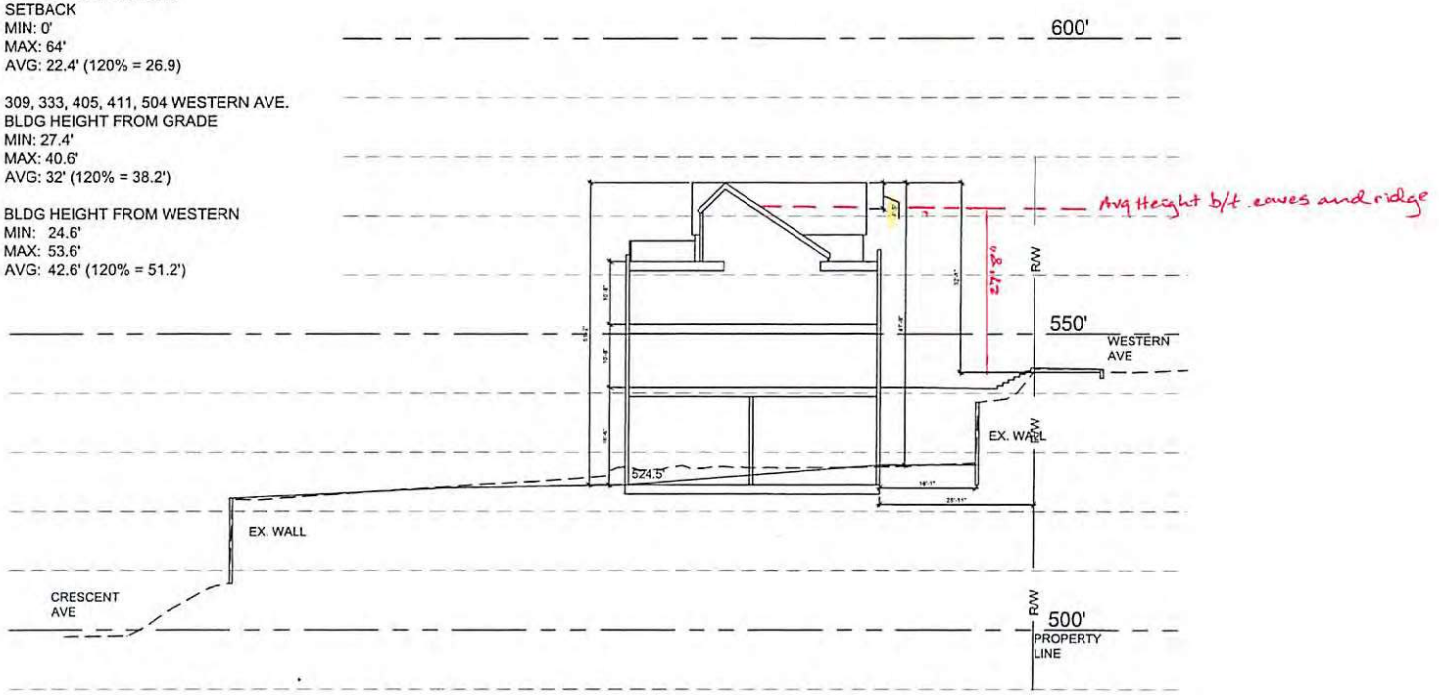
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 9 @ BUILDING A
SCALE: 1' = 20'-0"

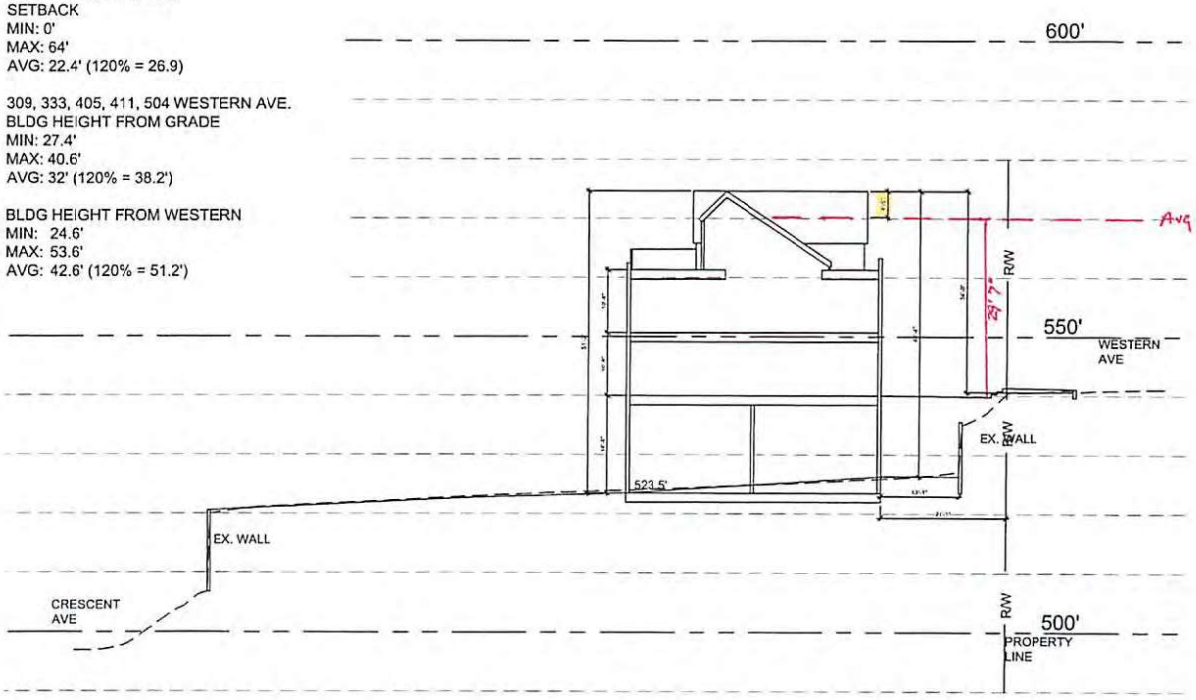
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 8 @ BUILDING A
SCALE: 1' = 20'-0"

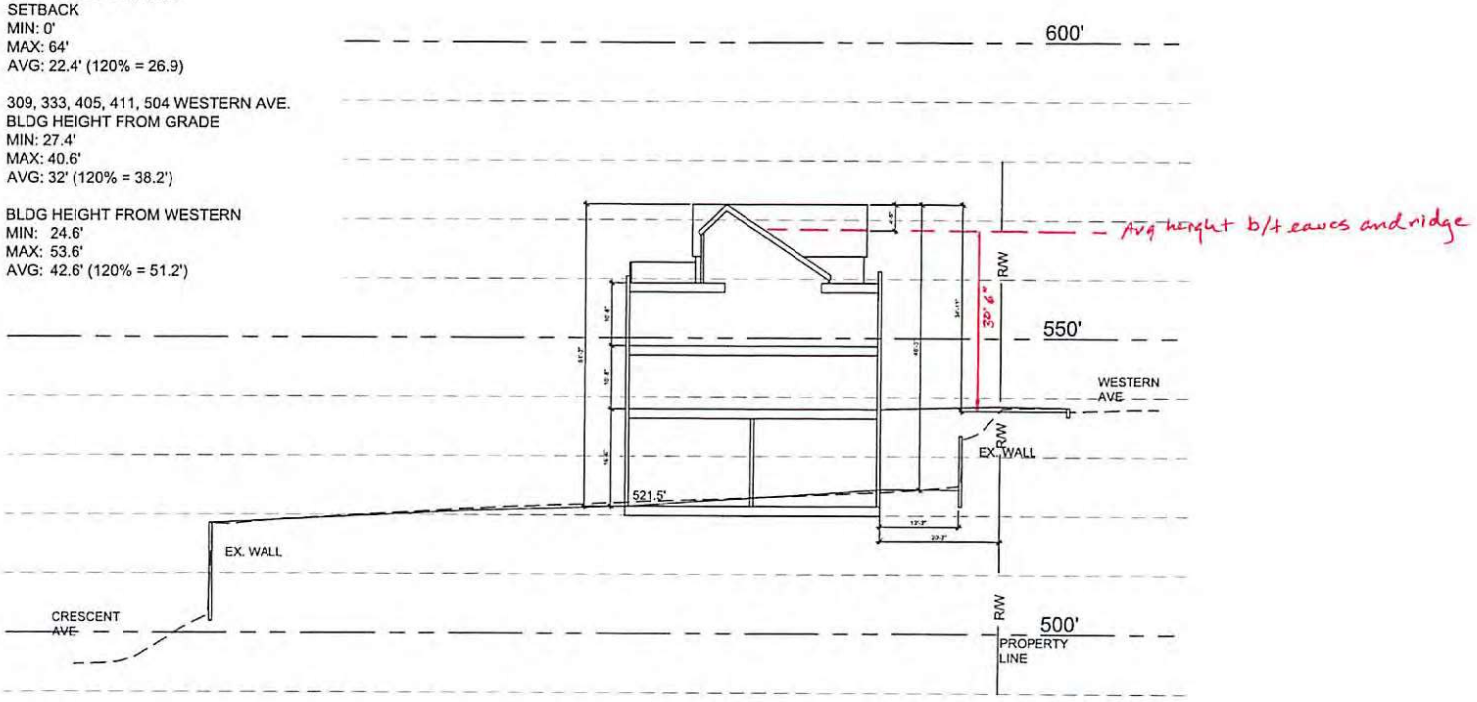
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 7 @ BUILDING B
SCALE: 1' = 20'-0"

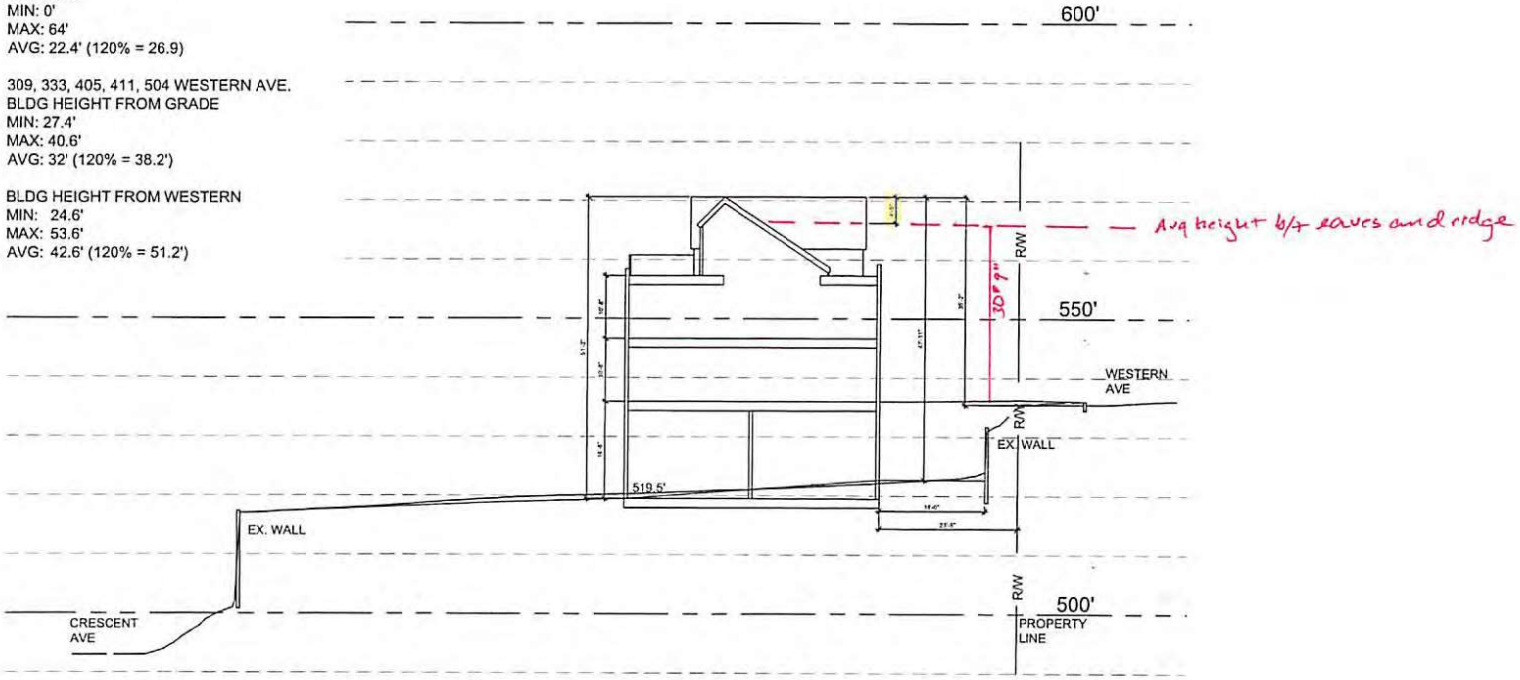
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 6 @ BUILDING B
SCALE: 1' = 20'-0"

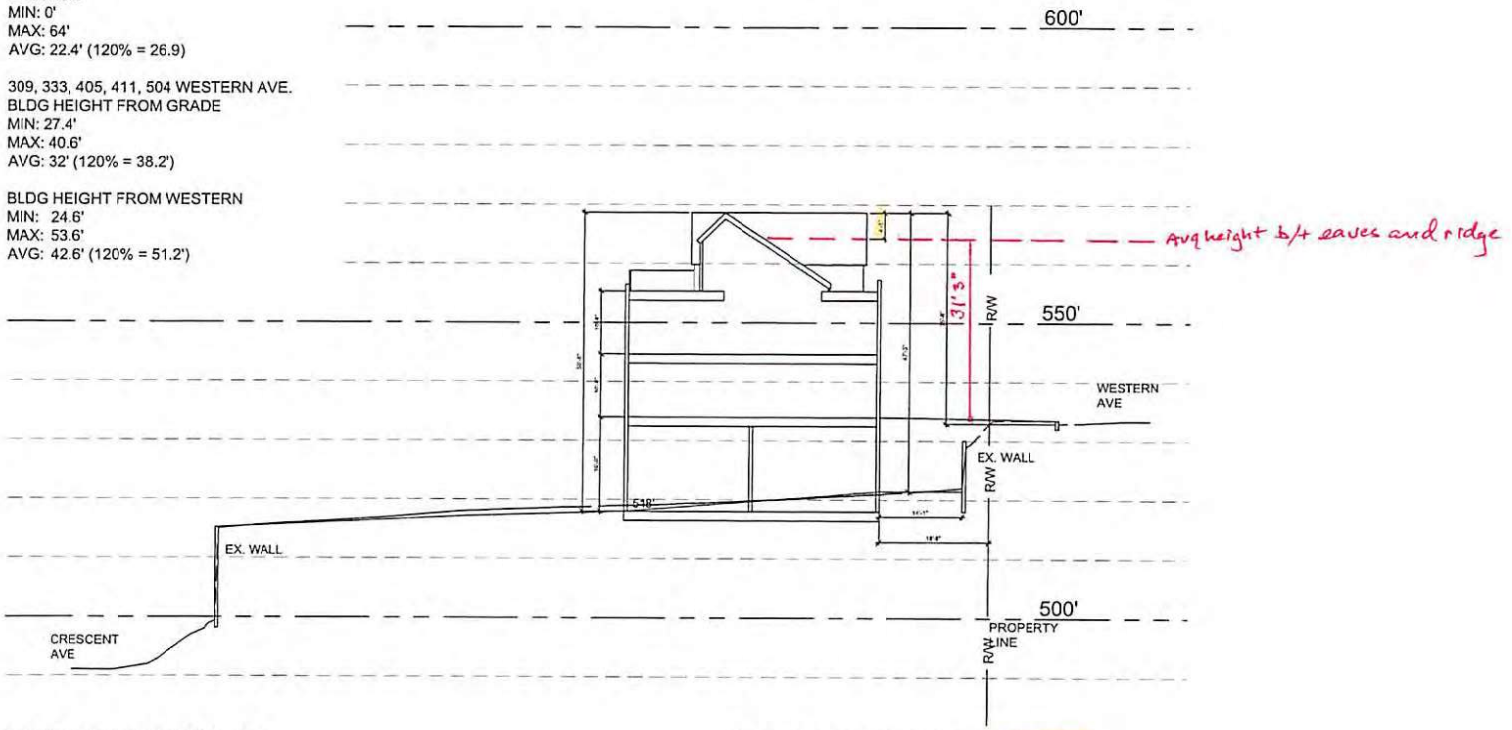
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 5 @ BUILDING B
SCALE: 1' = 20'-0"

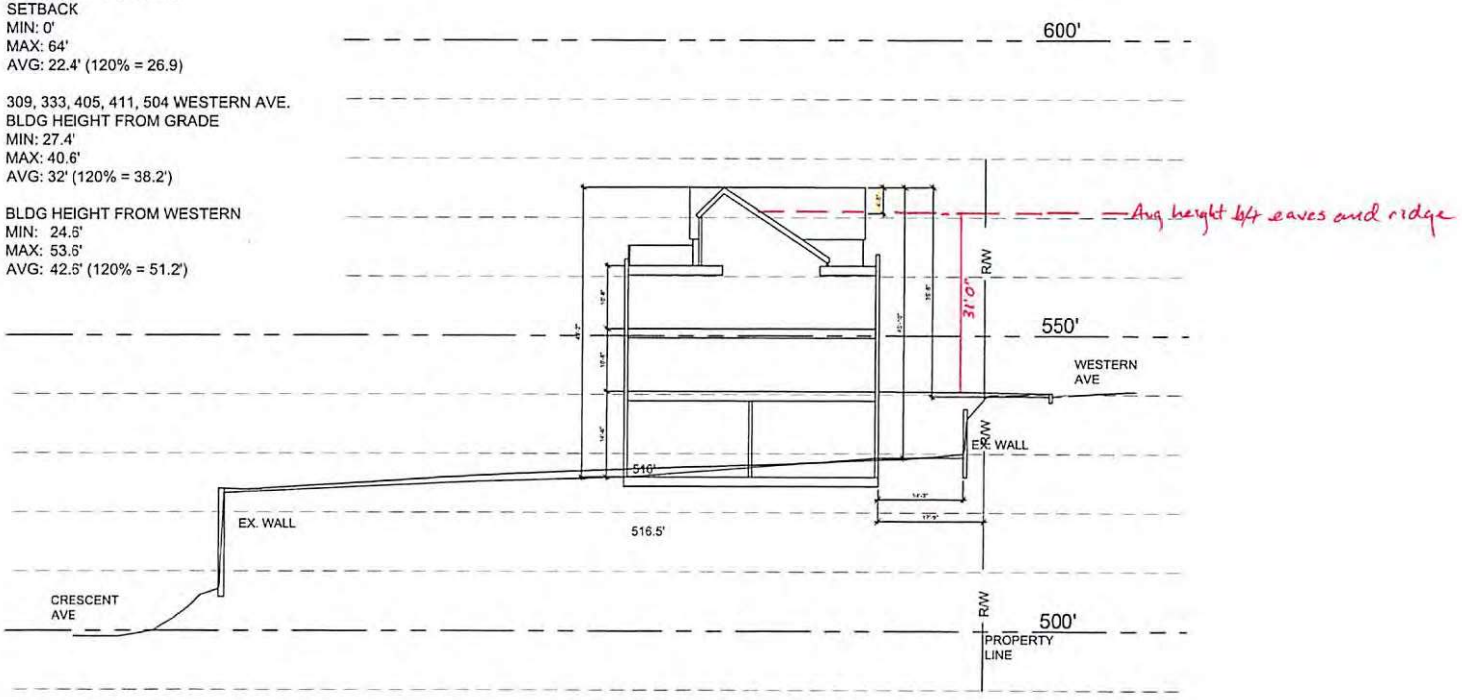
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 4 @ BUILDING C
SCALE: 1' = 20'-0"

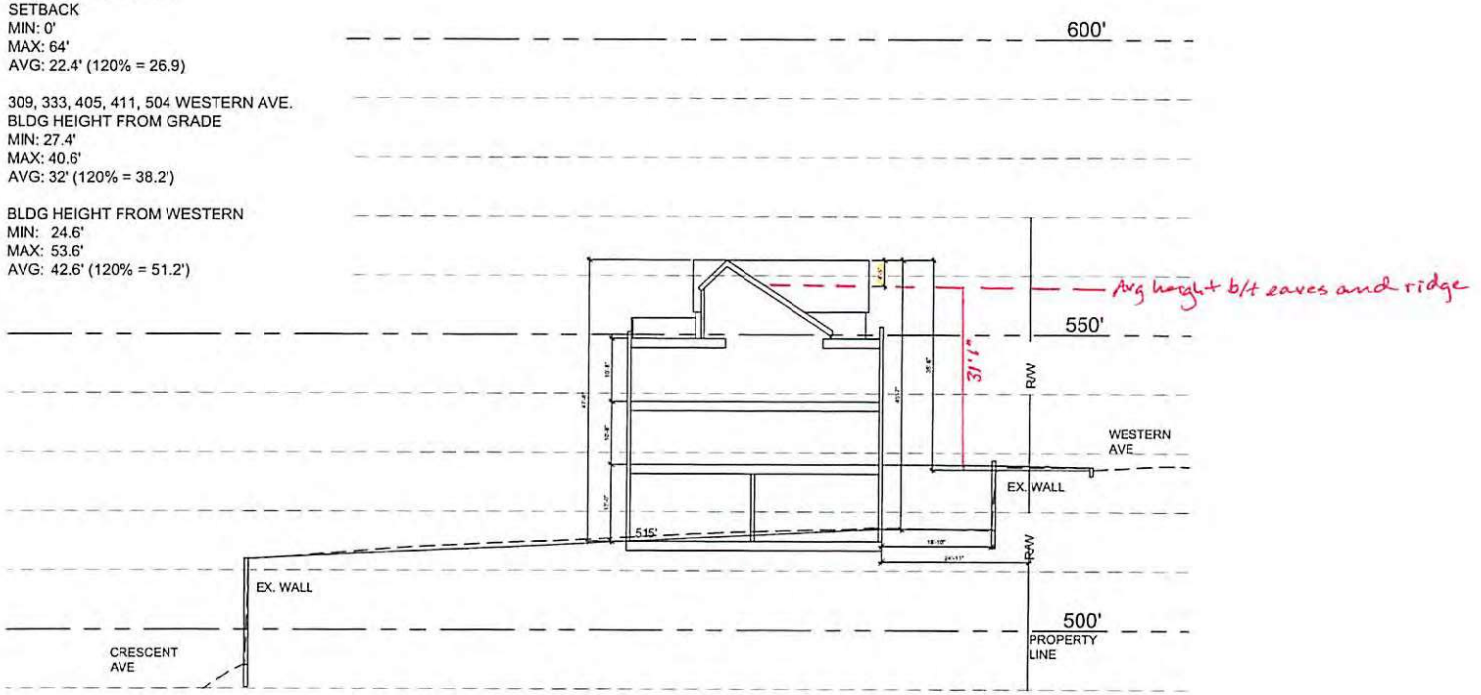
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 3 @ BUILDING C
SCALE: 1' = 20'-0"

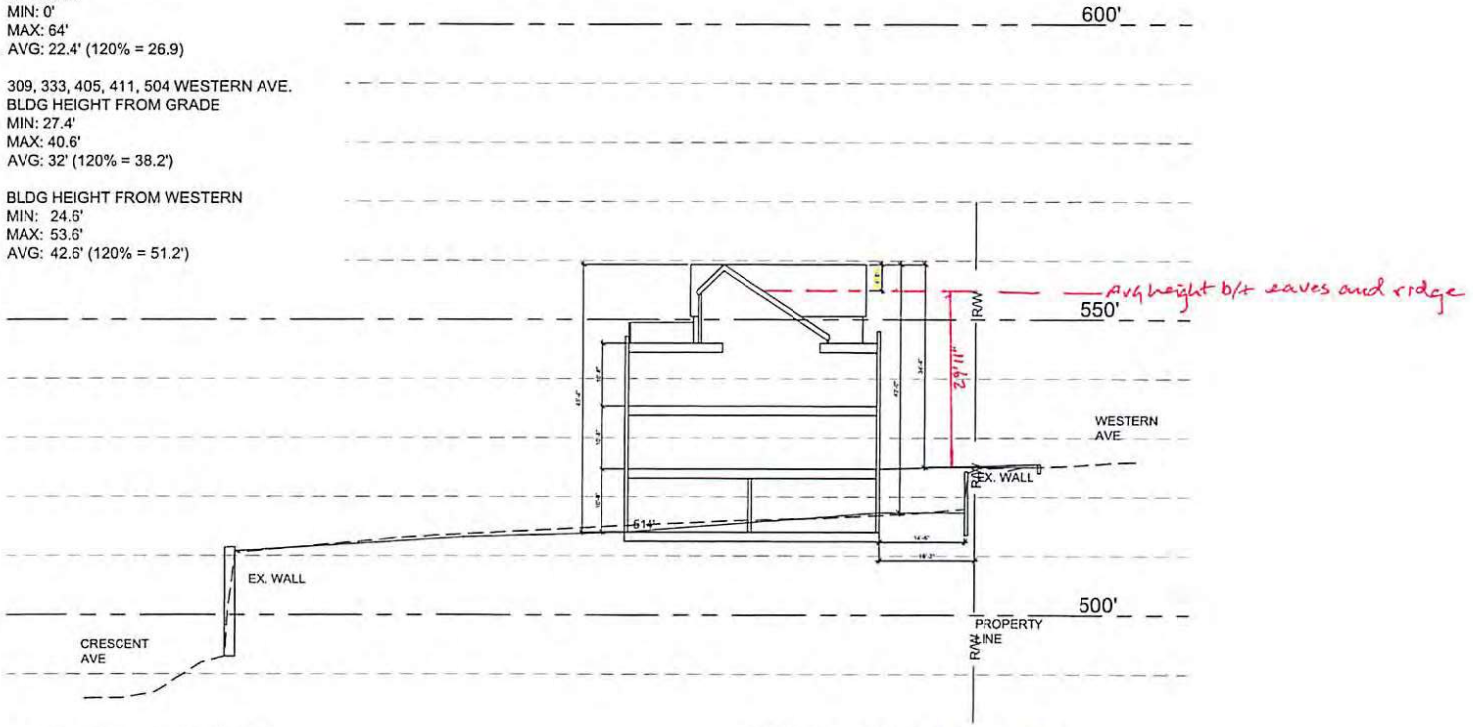
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 2 @ BUILDING C
SCALE: 1' = 20'-0"

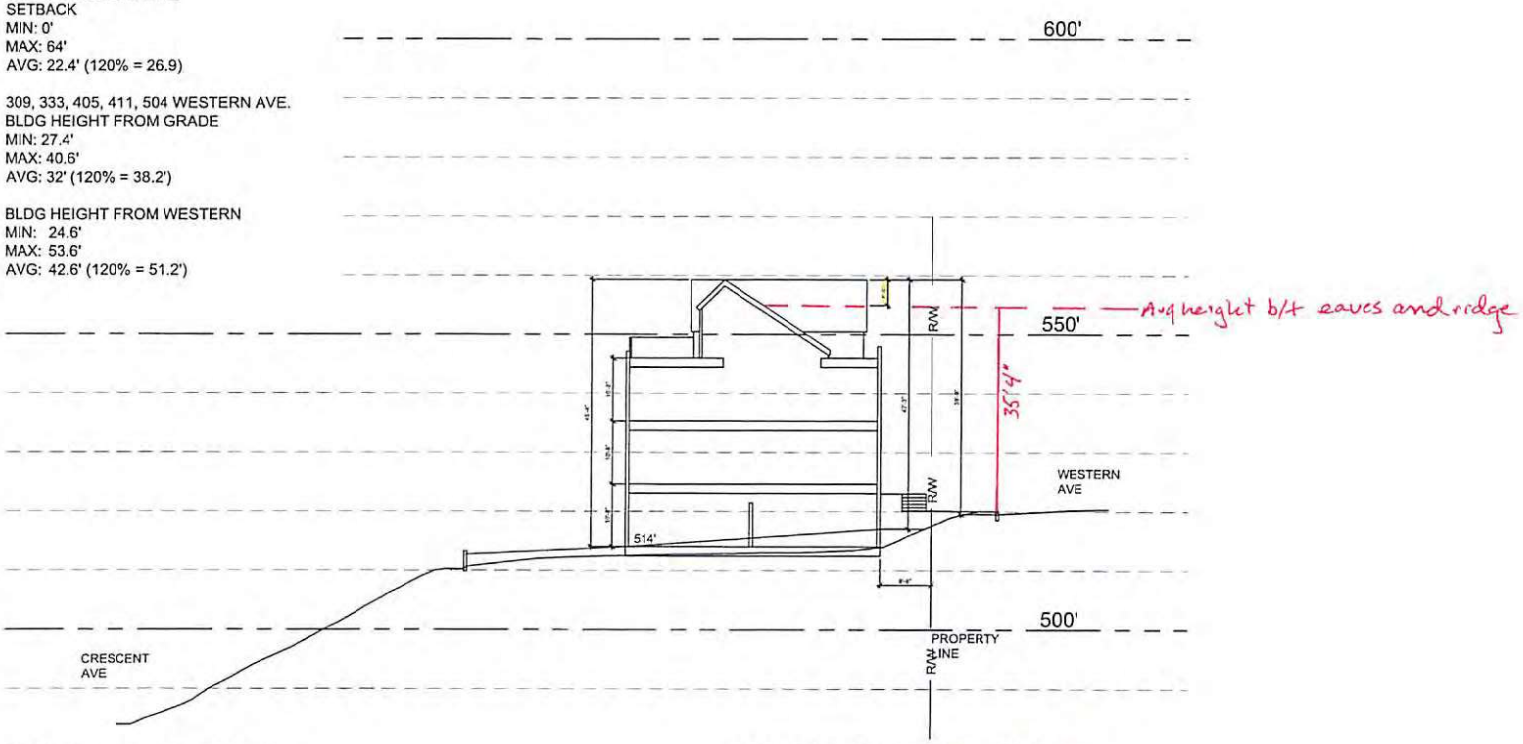
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 1 @ BUILDING D
SCALE: 1' = 20'-0"

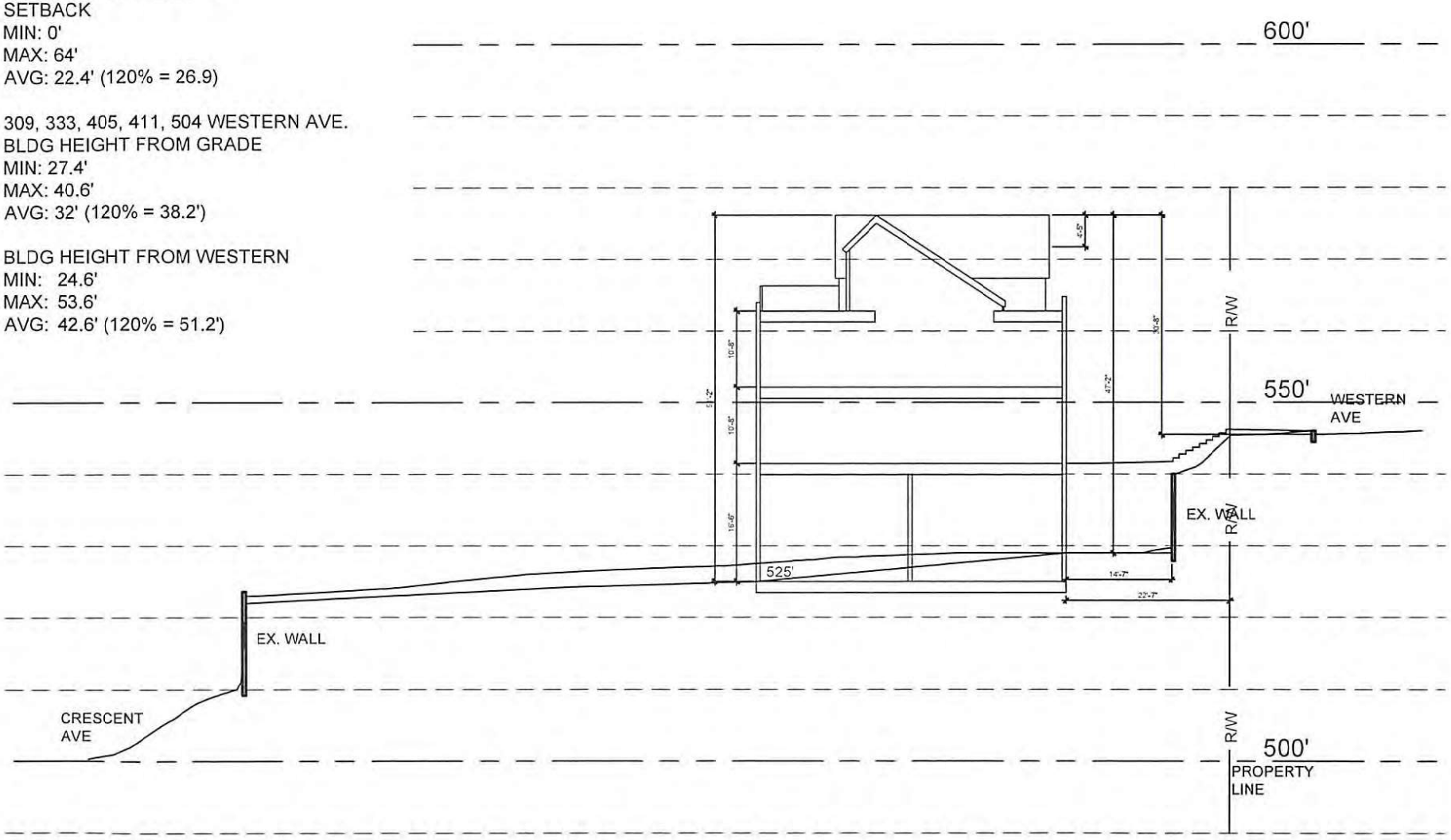
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 10 @ BUILDING A
SCALE: 1' = 20'-0"

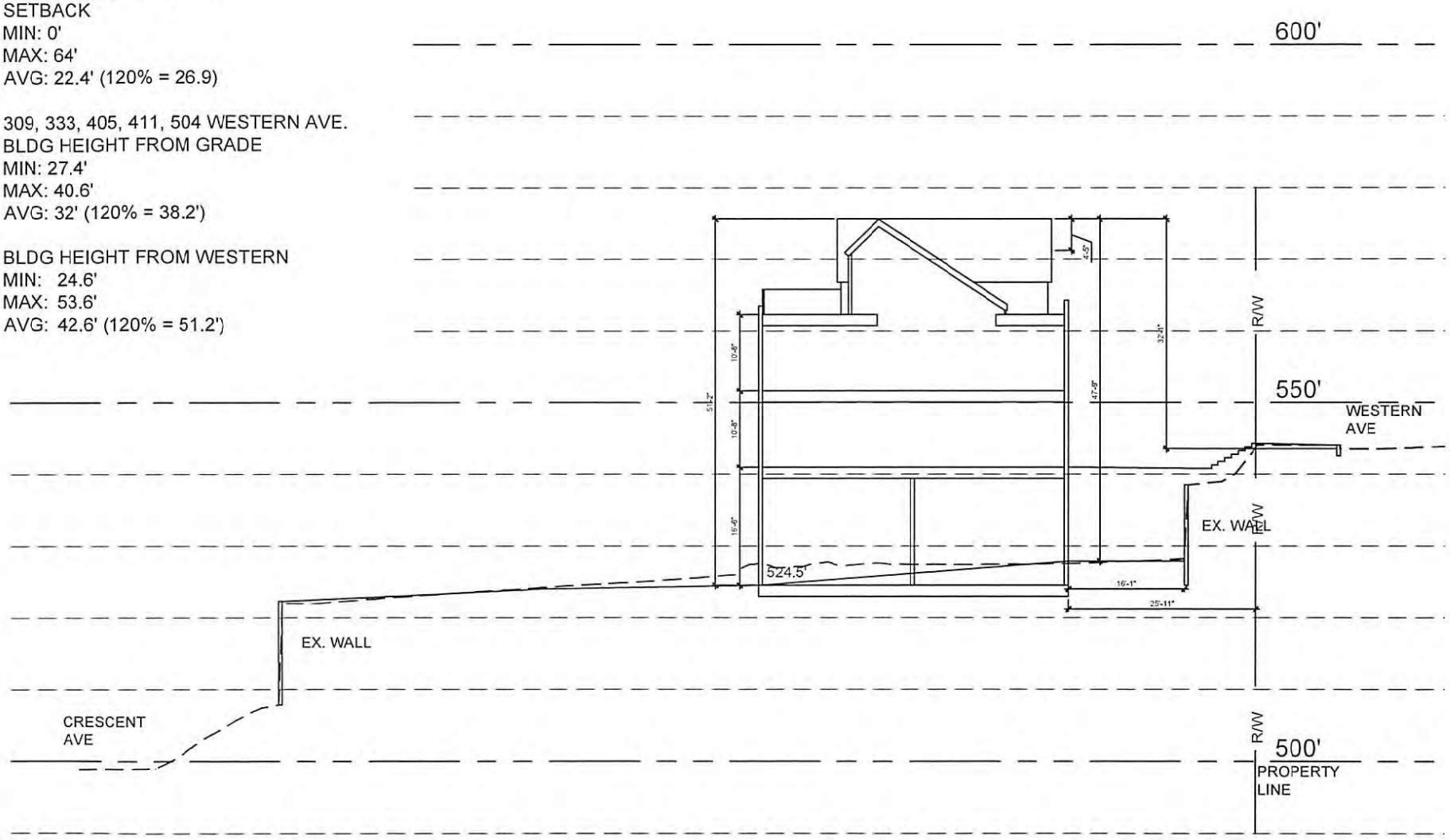
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 9 @ BUILDING A
SCALE: 1' = 20'-0"

Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
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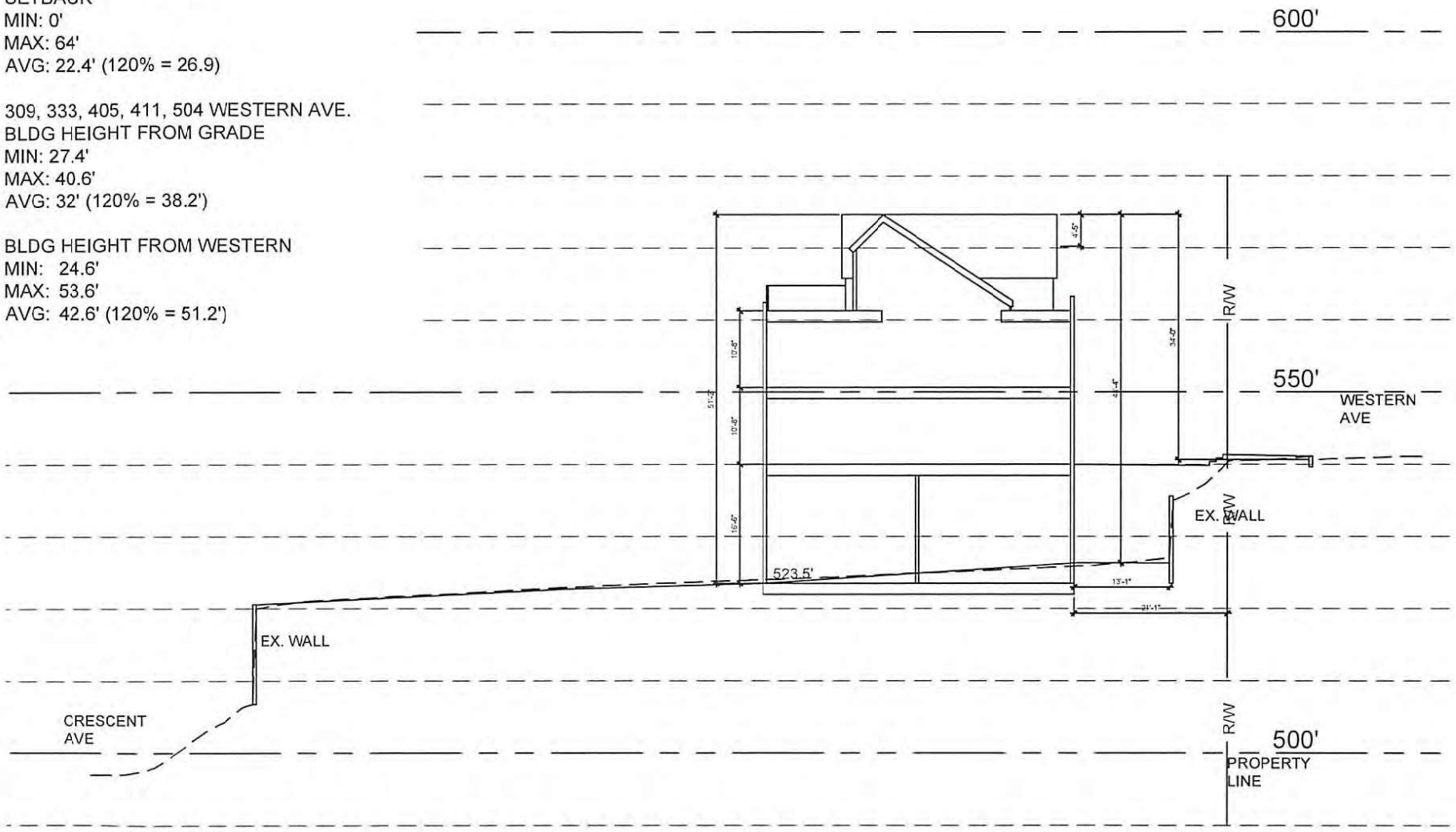
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 8 @ BUILDING A
SCALE: 1' = 20'-0"

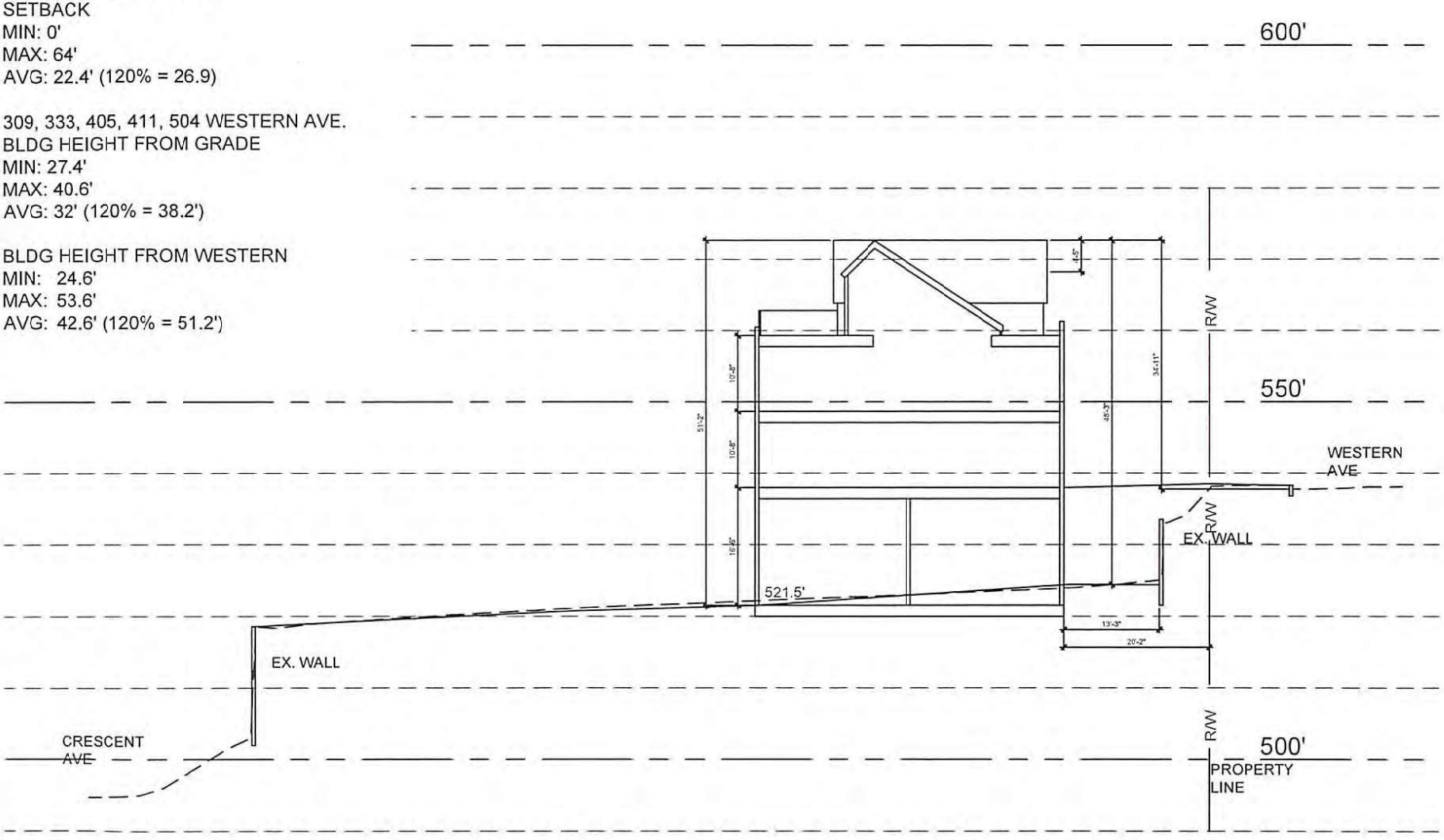
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 7 @ BUILDING B
SCALE: 1' = 20'-0"

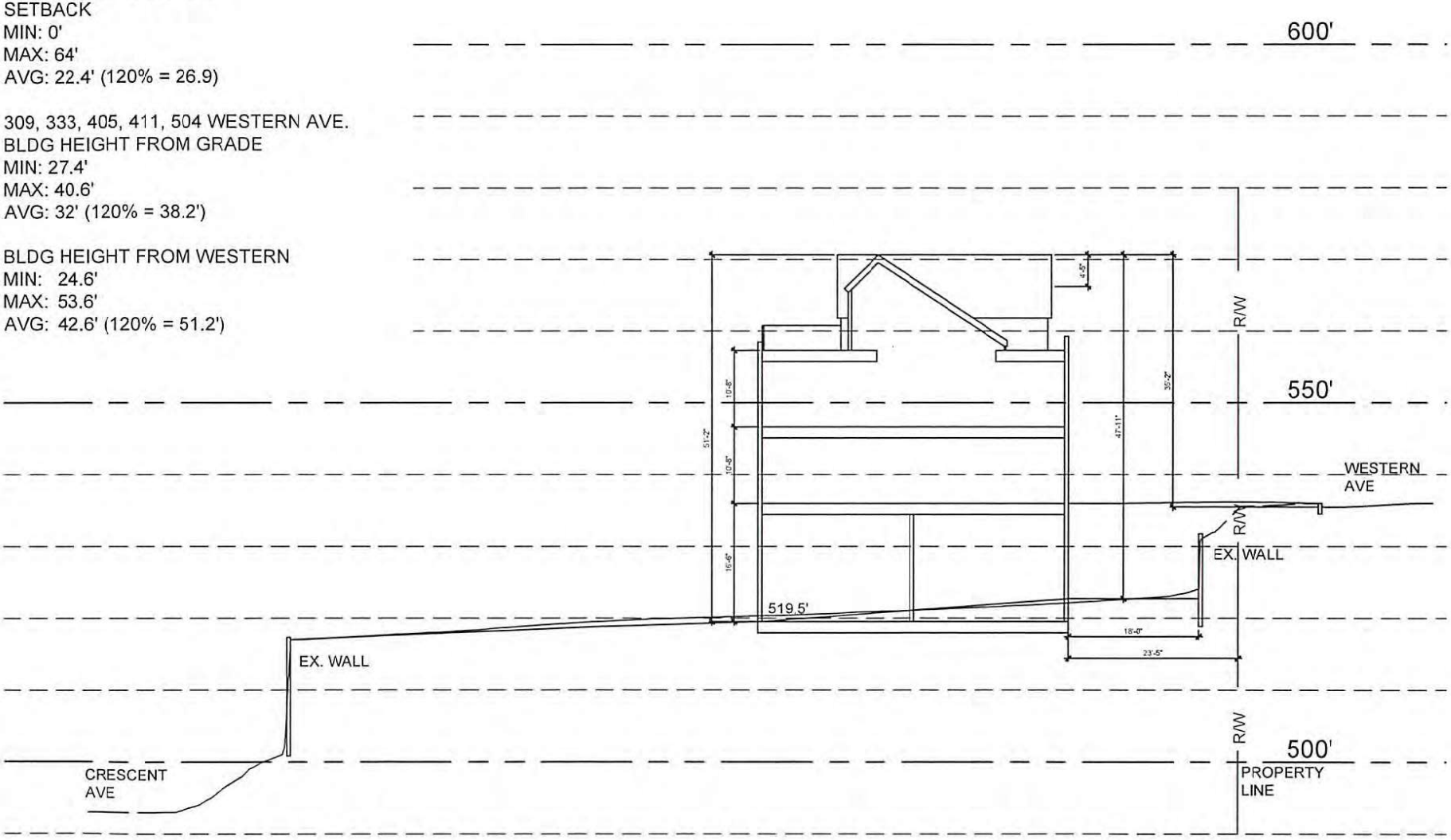
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 6 @ BUILDING B
SCALE: 1' = 20'-0"

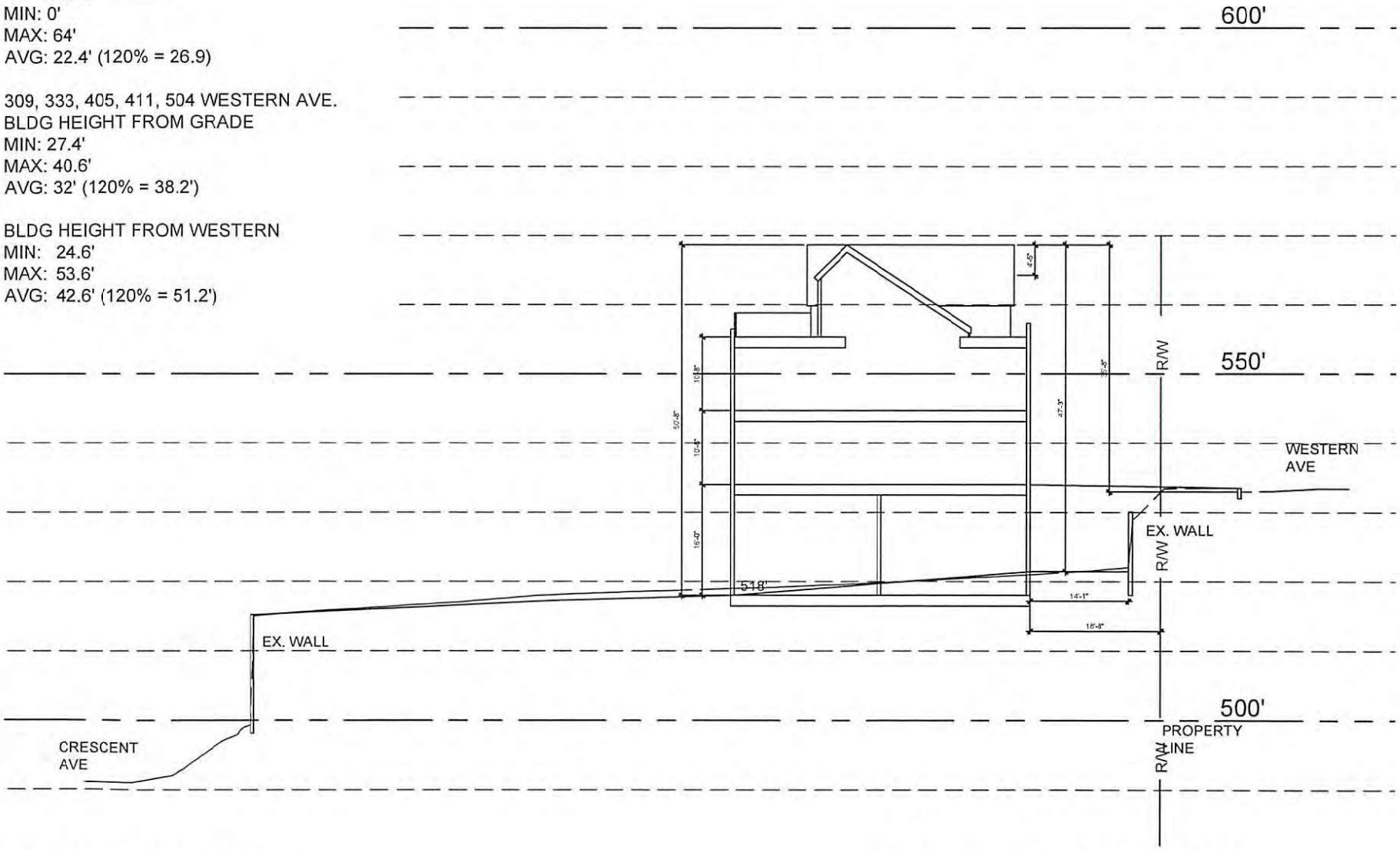
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 5 @ BUILDING B
SCALE: 1' = 20'-0"

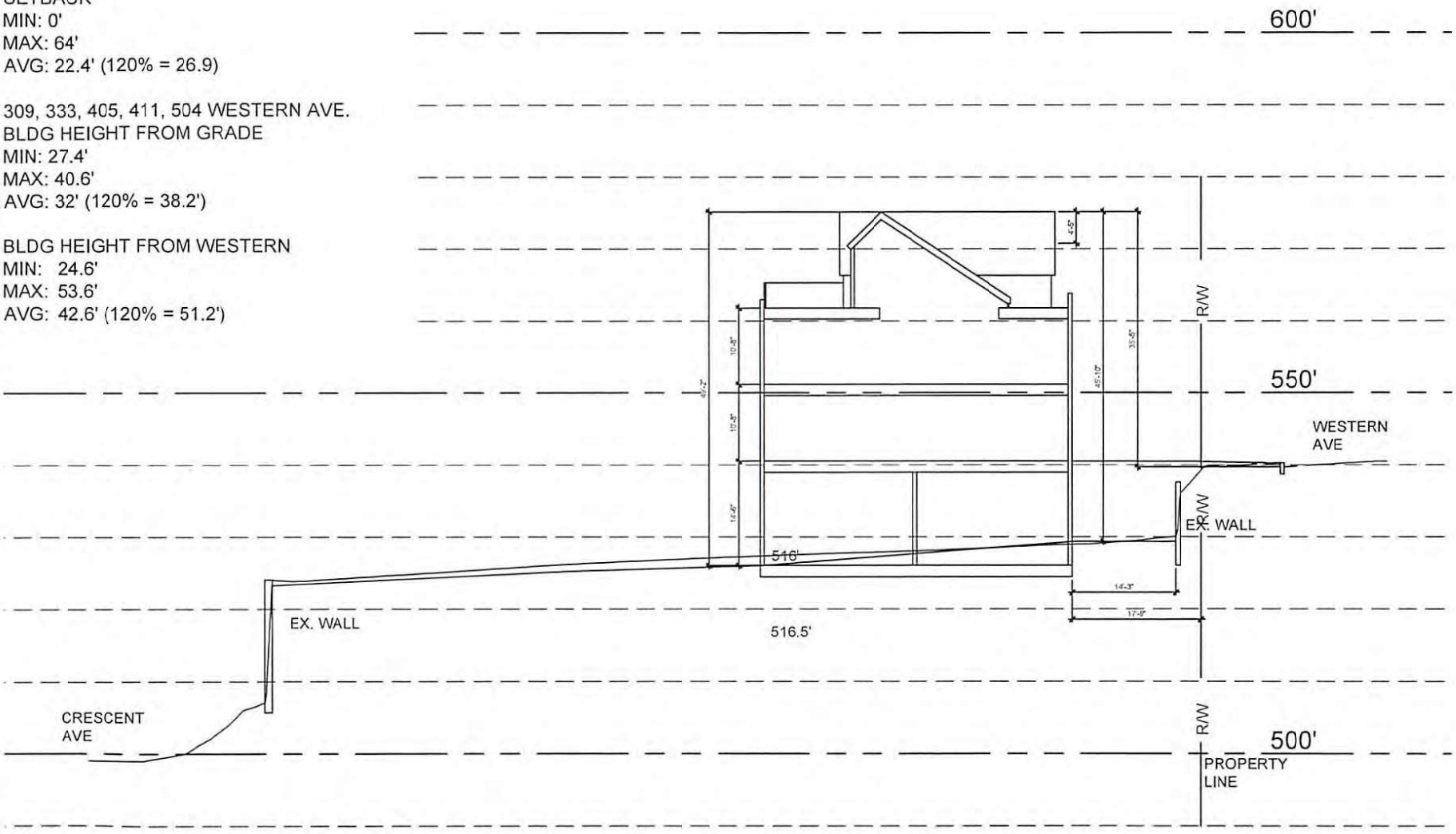
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 4 @ BUILDING C
SCALE: 1' = 20'-0"

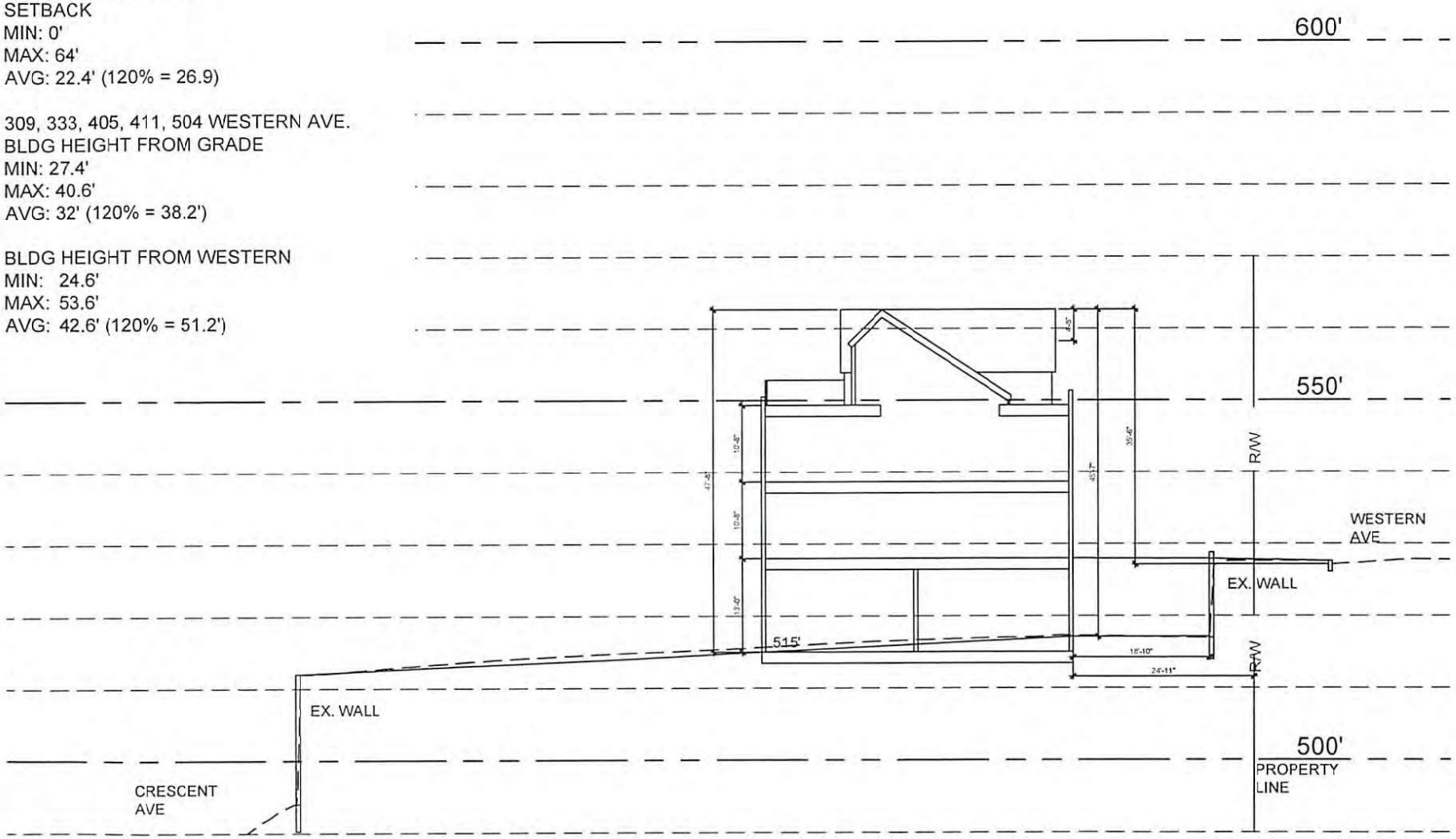
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 3 @ BUILDING C
SCALE: 1' = 20'-0"

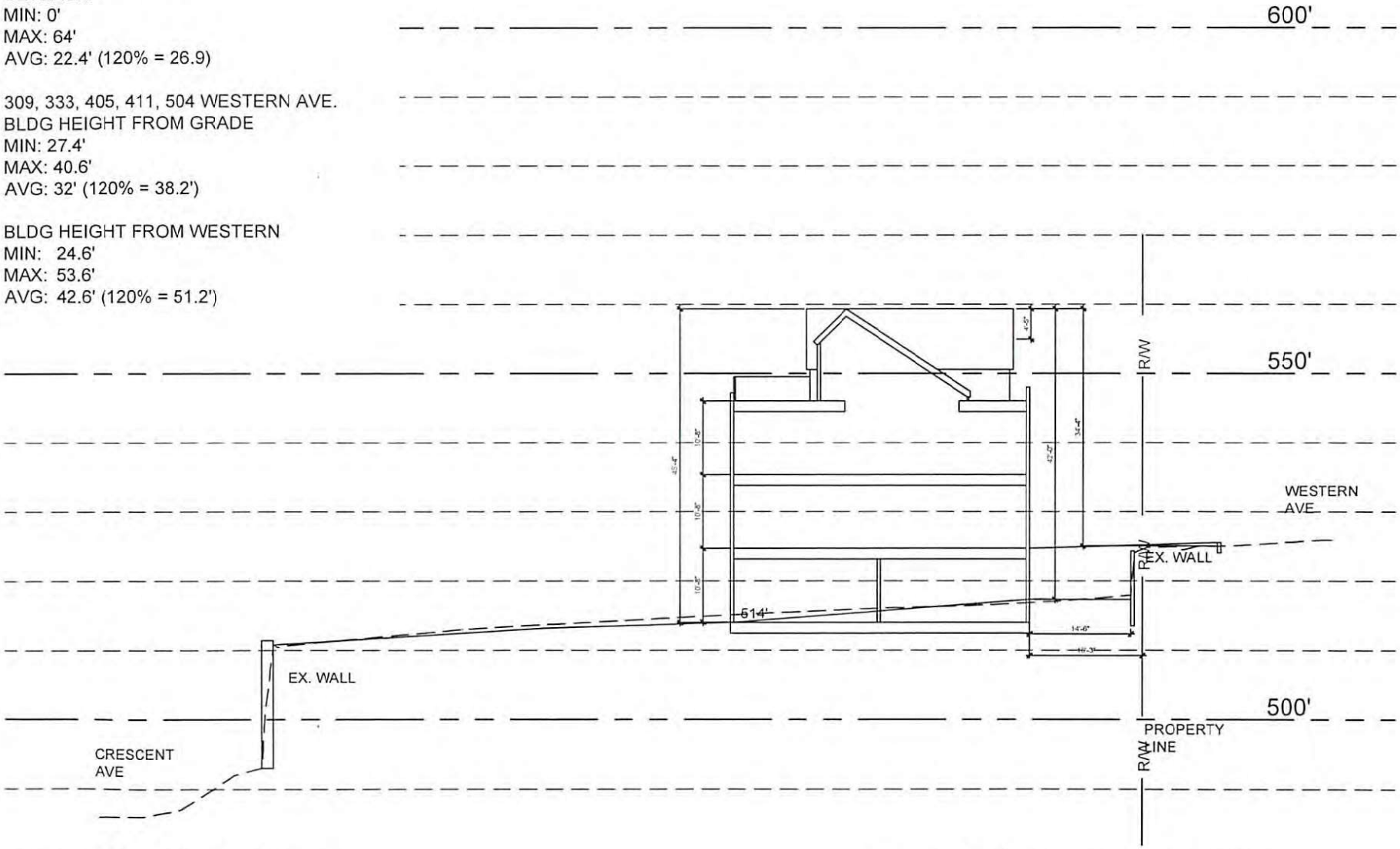
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 2 @ BUILDING C
SCALE: 1' = 20'-0"

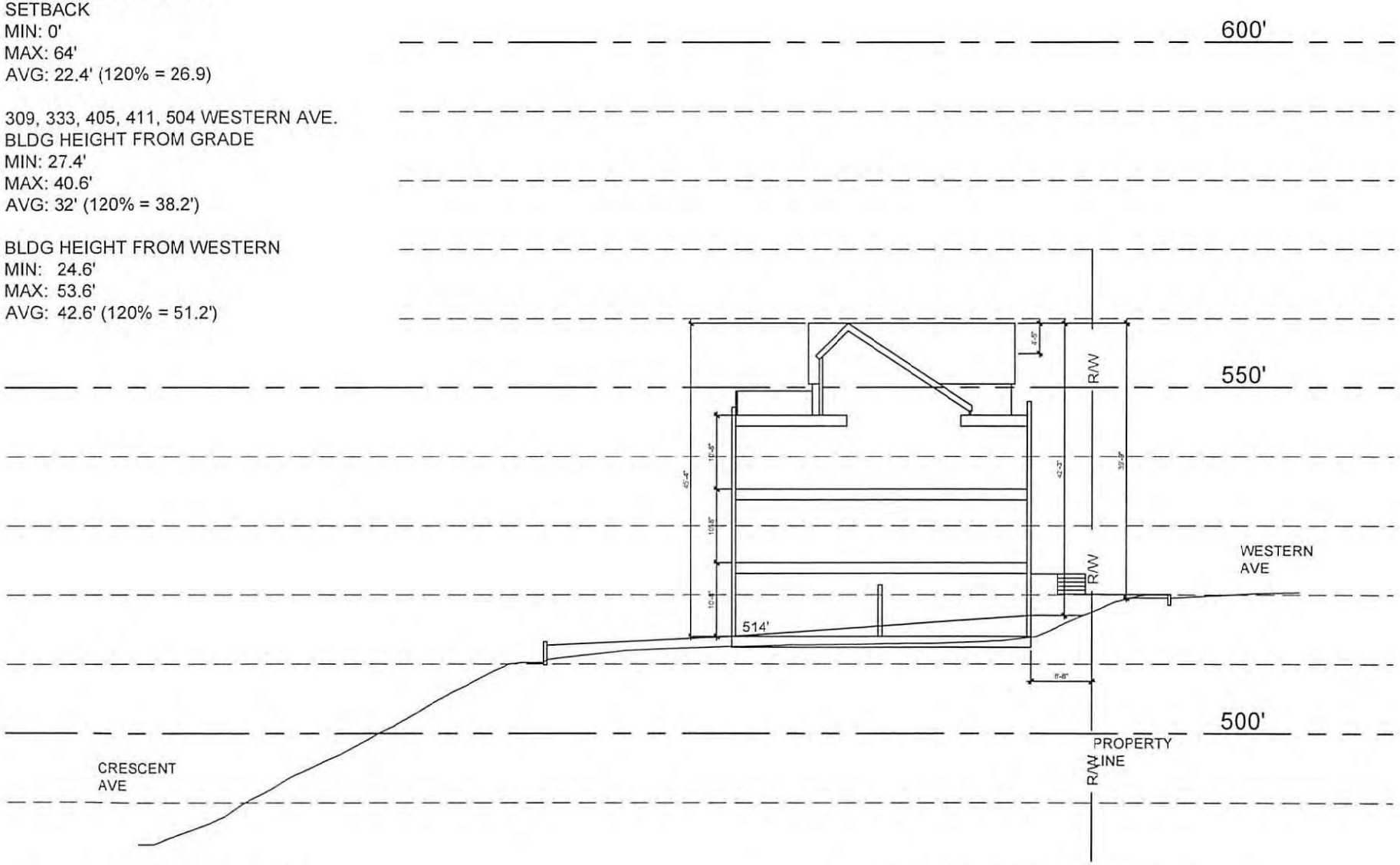
Corporex reztark

CONTEXT AVERAGES:

227-510 WESTERN AVE
SETBACK
MIN: 0'
MAX: 64'
AVG: 22.4' (120% = 26.9)

309, 333, 405, 411, 504 WESTERN AVE.
BLDG HEIGHT FROM GRADE
MIN: 27.4'
MAX: 40.6'
AVG: 32' (120% = 38.2')

BLDG HEIGHT FROM WESTERN
MIN: 24.6'
MAX: 53.6'
AVG: 42.6' (120% = 51.2')



COVINGTON TOWNHOMES:
CROSS SECTIONS

CROSS SECTION 1 @ BUILDING D
SCALE: 1' = 20'-0"

Corporex reztark

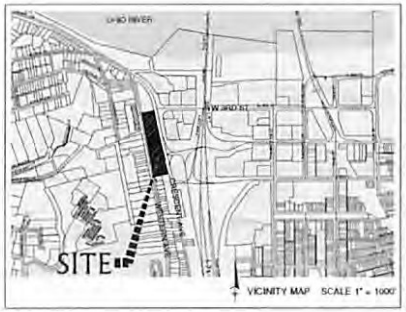
SURVEY MONUMENT LEGEND

- SET 5/8" REBAR x 24" WITH CAP "HREZO JBERTRAM 3423"
- SET MAG NAIL WITH SHINER OR RR SPIKE
- SET WOODEN STAKE ON LINE
- FOUND MONUMENT AS NOTED

GENERAL NOTES

1. THE FINAL PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE SEARCH AND WAS NOT PART OF THIS CONTRACT. OTHER EASEMENTS MAY ENCUMBER THE SUBJECT SITE THAT MY REQUIRED RESEARCH DID NOT UNCOVER.
2. BOUNDARY INFORMATION BASED ON A BOUNDARY SURVEY PREPARED BY HREZO ENGINEERING. FINAL MONUMENTS SET ON AUGUST 19, 2022
3. NO EVIDENCE OF A CEMETERY FOUND ON THE SUBJECT PROPERTY BEING PLATTED.
4. THIS PLAN IS CONSIDERED PRELIMINARY AND NOT VALID UNLESS SEALED AND SIGNED BY JAMES J. BERTRAM JR. OF HREZO ENGINEERING.
5. THIS PLAT SHALL BE VOID IF NOT FILED WITH THE KENTON COUNTY CLERK FOR RECORDING PURPOSES WITHIN TWO (2) YEARS OF PLANNING COMMISSION APPROVAL.
6. CURRENT ZONING ACCORDING TO KENTON COUNTY PLANNING AND ZONING IS COMMERCIAL.

LEGEND



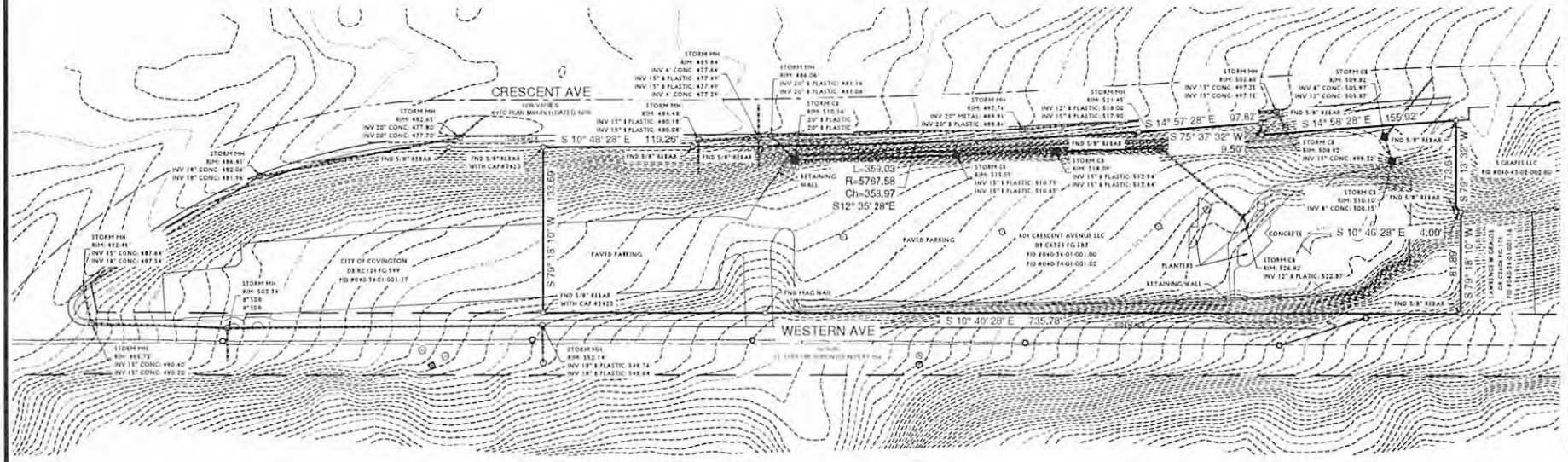
VICINITY MAP SCALE 1" = 1000'

LAND SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE SURVEY DEPICTED BY THIS PLAT WAS DONE BY ME OR BY PERSONS UNDER MY DIRECT SUPERVISION BY THE METHOD OF RANDOM TRAVERSE WITH SIDE SHOTS. THE UNADJUSTED ERROR OF CLOSURE WAS 1:90,014. THE SURVEY SHOWN HEREON IS AN URBAN CLASS SURVEY AND THE ACCURACY AND PRECISION OF SAID SURVEY MEETS ALL THE SPECIFICATIONS OF THIS CLASS AND COMPLIES WITH 201 KAR 18.150. I FURTHER CERTIFY THAT THIS SURVEY COMPLIES WITH THE BOONE COUNTY ZONING REGULATIONS AND THE KENTON COUNTY SUBDIVISION REGULATIONS, AND THAT DEDICATED AREAS INCLUDING PUBLIC WAYS OR STREETS ARE WITHIN THE BOUNDARIES OF THIS SURVEY.

DATE OF ORIGINAL FIELD SURVEY AUGUST 19,2022 AND UPDATED AUGUST 19, 2022

JAMES J. BERTRAM, JR. DATE
KENTUCKY LICENSED PROFESSIONAL
LAND SURVEYOR #3423



NORTH AND BEARING SYSTEM BASED ON KENTUCKY STATE PLANES, NORTH ZONE, NAD83, US SURVEY FOOT

SCALE: 1" = 60'

THIS SURVEY COMPLIES WITH 201 KAR 18.150

OWNER / CLIENT

100 E RIVER CENTER BLVD
SUITE 1100
COVINGTON, KY 41011

HREZO
Engineering, Inc.
Engineering Certification
Engineering Consulting
Full Engineering Services
Full Architectural Services
Construction Management
Surveying Services

GREENDALE
1025 Ridge Avenue
Greendale, IN 47025
T 812.537.4700
contact@hrezoengineering.com

MADISON
448 Meadow Lane
Madison, IN 47250
T 812.273.2644
TF 800.251.5999

PROJECT NAME: 401 CRESCENT AVENUE LLC CONSOLIDATION
CLIENT: 401 CRESCENT AVENUE LLC
BASE: CONSOLIDATION OF PARCEL #040-34-01-001.00 & PARCEL #040-34-01-001.02 CITY OF COVINGTON KENTON COUNTY, KENTUCKY

DATE : 09.20.2022
DRAWN BY : JEL
CHECKED BY : JBER
APPROVED BY :
PROJECT # : CPX1030

CONCEPT DESIGN

COVINGTON TOWNHOMES

2023/05/04

PROJECT INFORMATION - UNDERSTANDING & ZONING OVERVIEW

ZONING OVERVIEW

PARCEL #	040-34-01-001.00 040-34-01-001.02	
LAND USE	Current: Proposed:	Commercial Townhouse/Rowhouse
ZONING	Current: Proposed:	Auto-Urban Commercial AUC Semi-Urban Residential SU
PARCEL SIZE	2.4 Acres	
MAX. BLDG LENGTH	200' long per Neighborhood Development Code	
DEVELOPMENT CODE	Covington Neighborhood Development Code	
MIN. LOT AREA (Table 04.09.2-1)	Lesser of (1) 1,000 sq. ft. or (2) lot area of smallest similarly-developed lot within the context	
MIN. LOT WIDTH (Table 04.09.2-1)	Lesser of (1) 40 feet or (2) lot width of the narrowest similarly-developed lot within the context	
MIN. BUILDING GROSS FLOOR AREA PER DWELLING UNIT (Table 04.09.2-1)	700 SF	
PERMITTED FRONTAGE TYPES BY BUILDING (Table 04.08.6.A)	Townhouse/Rowhouse -Porch -Side Entry -Stoop	 (Subsec. 04.08.6.F) (Subsec. 04.08.6.H) (Subsec. 04.08.6.I)
FRONT SETBACK (Table 04.10.2)	Min. = Max.=	Greater of (1) zero feet or (2) 80% of context average Greater of (1) 10 ft. or (2) 120% of context average
SIDE SETBACK (Table 04.10.2)	Min.= Max.=	Greater of (1) zero feet or (2) 80% of context average Greater of (1) 10 ft. or (2) 120% of context average
INTERIOR SIDE SETBACK (Table 04.10.2)	Min.= Max=	Lesser of (1) 4 ft. or (2) 80% of context average N/A
REAR SETBACK (Table 04.10.2)	Min.= Max=	Lesser of (1) 5 ft. or (2) 80% of con text average N/A
STREET FACING GARAGE DOOR SETBACK (Table 04.10.2)	Min.= Max=	Lesser of (1) 25 ft. or (2) 80% of con text average for front garage door setbacks N/A
TOTAL BUILDING HEIGHT (STORIES OR FEET) (Table 04.10.2)	Min.= Max.=	Greater of (1) 1 story or (2) 80% of context average Greater of (1) 35 ft. or (2) 120% of context average
VEHICLE PARKING	Min.= Max.=	Zero 2 per dwelling unit
DRIVEWAY SETBACK	Min.= Max.=	1' from property line 2 per dwelling unit
REQUIRED ADA SPACES (Table 04.11.4.D)	Total Conventional Spaces = 51-75 Required Accessible Spaces = 3 Required Off-Street Van Spaces = 1 per 6 required accessible spaces	
ALLOWED PARKING LOCATIONS (Table 04.11.4.E-1)	Permitted: Not Permitted:	Rear Yard Side Street Yard Interior Side Yard Front Street yard
PERMITTED OVERHANGS ON THE EXTERNAL SIDES OF A PARKING AREA (04.11.4.E.2.c)	2' Allowable Overhang	
MIN. SURFACE PARKING DIMENSIONS (Table 04.11.4.E-2)	90 Degrees 18' length x 9' stalls 22' double loaded drive aisle	
PERMITTED PARKING STRUCTURE TYPES (04.11.4.F-1)	Permitted: Not Permitted:	Tuck Under Integrated Stand-Alone Activated Rooftop
SIZE OF STRUCTURED PARKING SPACES (04.11.4.F.2)	Minimum = 8.5' wide x 16' deep	
SITE TRIANGLE (09.28.5)	Horizontal 10 feet along alley roadway or private drive edges where intersecting with a sidewalk or street. Vertical Clear view from 2.5' to 9'	
NEIGHBORHOOD OPEN SPACE (Sec. 09.28.6)	Required neighborhood open space is calculated as the area of required common or public open space in a subdivision, outside of the lots plat ted for development, divided by the subdivision area.	

PROJECT UNDERSTANDING

The Owner has acquired the property known as the former Willie's Sport's Café site in Covington, Kentucky and intends to develop a townhome style residential project on it. The property consists of two parcels and stretches north to south, sandwiched between Crescent Avenue on the east and Western Avenue on the west. To the north is a vacant parcel owned by the City of Covington and planned for a future fire station. Abutting the property to the south are two parcels, a landominium at 504 Western Avenue and a commercial property on which sits Liquor City Uncorked at 501 Crescent Avenue.

The Project's two parcels will be considered one for this scope of service and total approximately 2.4 acres. The width of the site varies from approximately 133' to 154' wide. The length of the site is approximately 733'. Currently, there is vehicular access on the upper street (Western Avenue) which is about 175' from the north property line. There is also a steep vehicular access drive at the southeast corner of the site down to Crescent Avenue.

The current site is approximately 20-30' above Crescent Avenue. The north end of the site is level with Western Avenue. Western Avenue rises to the south so that the south end of the site is approximately 20' below Western, except for a small portion at grade which was for service access to the upper level of the now demolished building that sat on the site.

The Project site has visual access to the east and northeast toward downtown Cincinnati. The Brent Spence Bridge and Clay Wade Bailey Bridge are in the foreground of the view, but regardless, the Project's main amenity is still the view in that direction.

The Owner intends to create a townhome development that maximizes the number of units on the site. Currently, the Owner intends these units to be for-sale. The current concept consists of 20' wide rowhome style townhome units facing Western Avenue, with two-car, tuck-under garage parking on the back side of the units accessed off a shared drive.

Given the available length of the site, with the current concept and the building length restriction, we assume the site can accommodate 25 townhomes. We assume there will be four townhome buildings. Three of the townhomes are identical (documented once, permitted three times) 6-unit/120' long buildings and one is a 7-unit/140' long building.

We are assuming there will be a maximum of two-unit types in the Project, each approximately 20' wide x 40' deep and three stories tall. The two types may each also have an in-line version and an endcap version, with the addition of windows on the side of the unit. The unit finishes are assumed to be identical between unit types.

PROJECT MATRIX

Townhomes: 25 Total Units

Lot Size

Width:	20 FT
Depth:	100 FT
Average:	2,000 SF

Square Footages

First Floor:	430 SF
Second Floor:	805 SF
Third Floor:	820 SF
Fourth Floor:	450 SF
Total:	2,505 SF
Garage:	430 SF

GIS MAP - SURROUNDING LAND USES

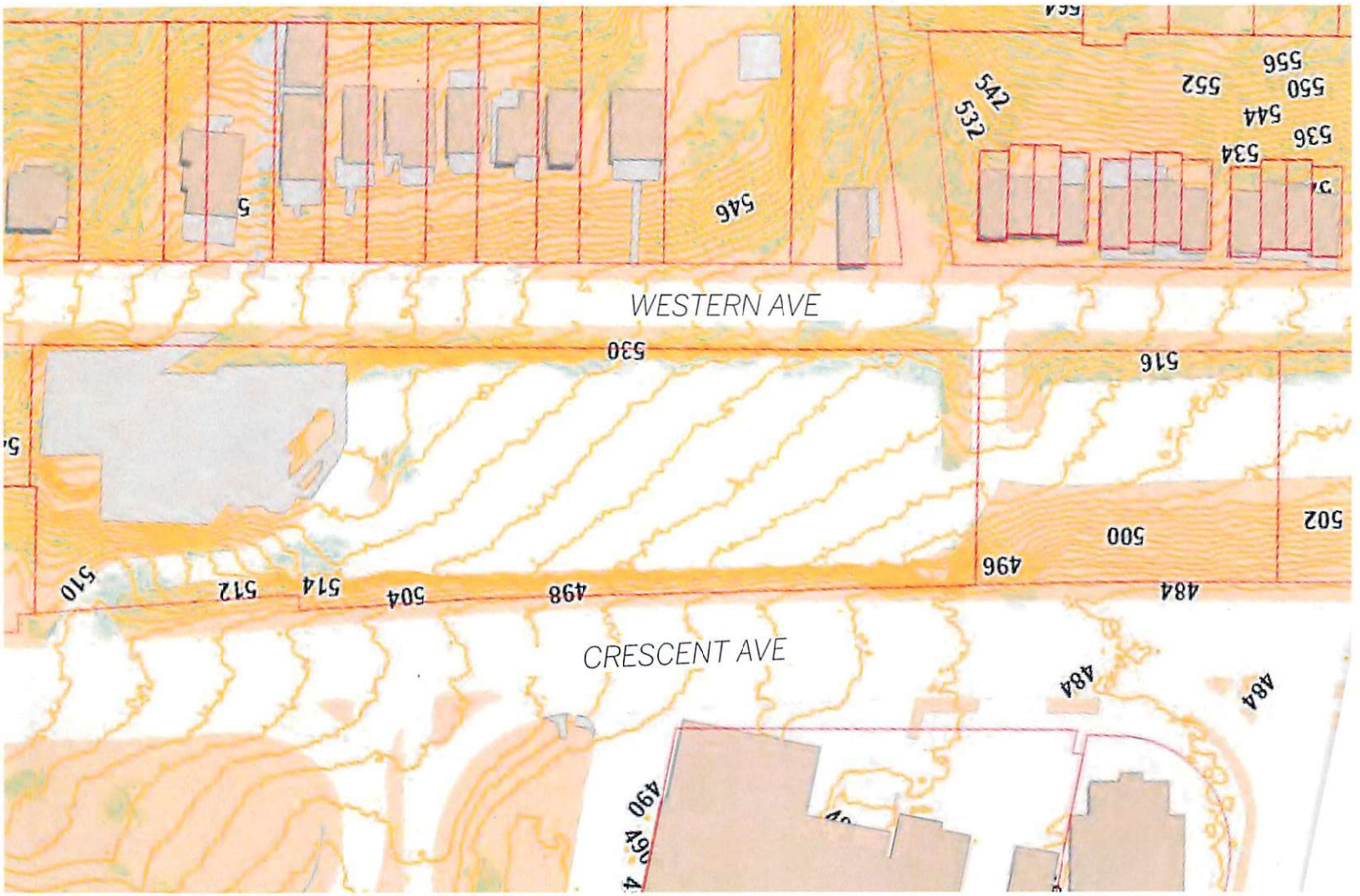
LAND USE COLOR LEGEND

- Residential Under 2.0
- Residential 2.1 TO 4.0
- Residential 4.1 TO 7.0
- Residential 7.1 TO 14.0
- Residential 14.1 TO 30.0
- Residential Over 30.0
- Agricultural and Rural Uses
- Commercial
- Mixed Use
- Industrial
- Small Study Area
- Recreation and Open Space
- Other Community Facilities
- Water
- Rail Road
- Right of Way
- River Recreation

0 125 250 500 Feet

Corporex | reztark

GIS MAP - TOPOGRAPHY



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SITE AERIAL - SITE CONTEXT

LAND USE COLOR LEGEND

1. RADISSON HOTEL CINCINNATI RIVERFRONT
2. LIQUOR CITY UNCORKED
3. PROPOSED FIRE STATION SITE
4. GOEBEL PARK
5. DEVOU PARK
6. HOLIDAY INN EXPRESS & SUITES
7. CORKEN STEEL PRODUCTS COMPANY
8. CINCINNATI CLOSETS

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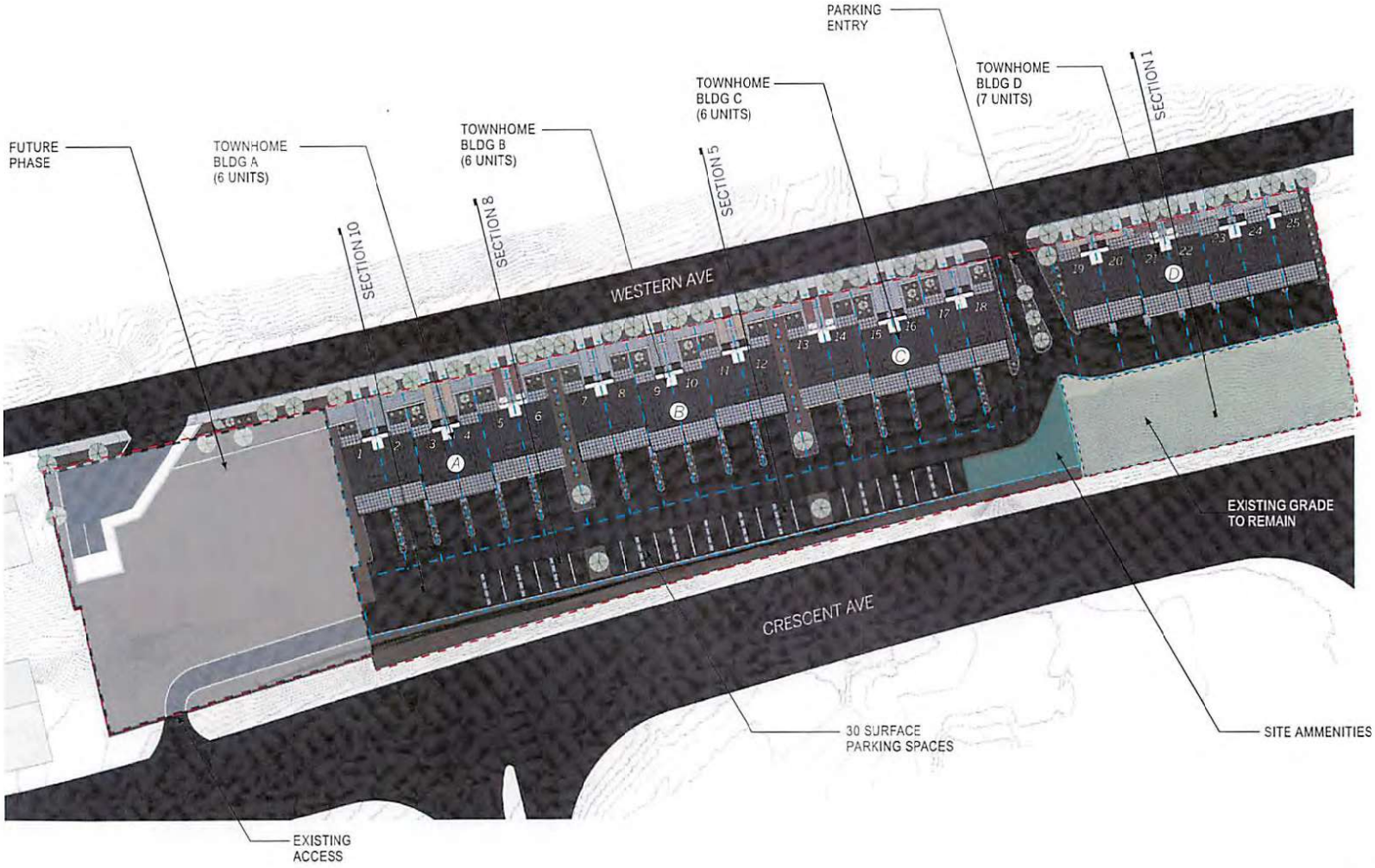
SITE PLAN



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INSPIRATION - TOWNHOME ARCHTICTURE

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PERSPECTIVES- TOWNHOMES - STREET VIEW ON WESTERN AVE AT CENTER OF PROPERTY

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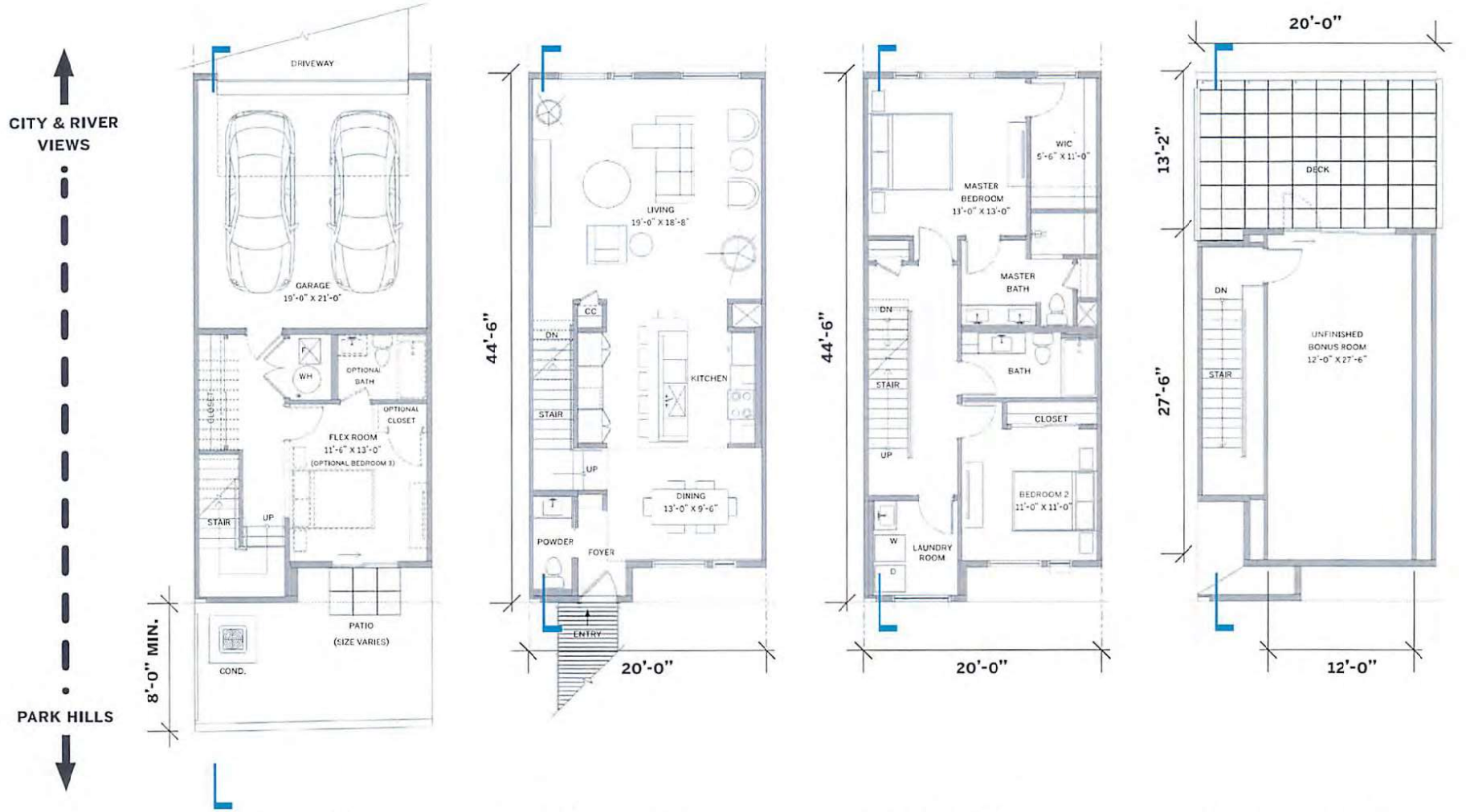
FLOOR PLANS - TOWNHOME FLOORPLANS



1ST FLOOR- GARAGE

2ND FLOOR- LIVING

3RD FLOOR- SLEEP

4TH FLOOR- ENTERTAIN

SCALE: 1/8"=1'-0"

ELEVATIONS- TOWNHOMES - WEST FACING

SCALE: NTS

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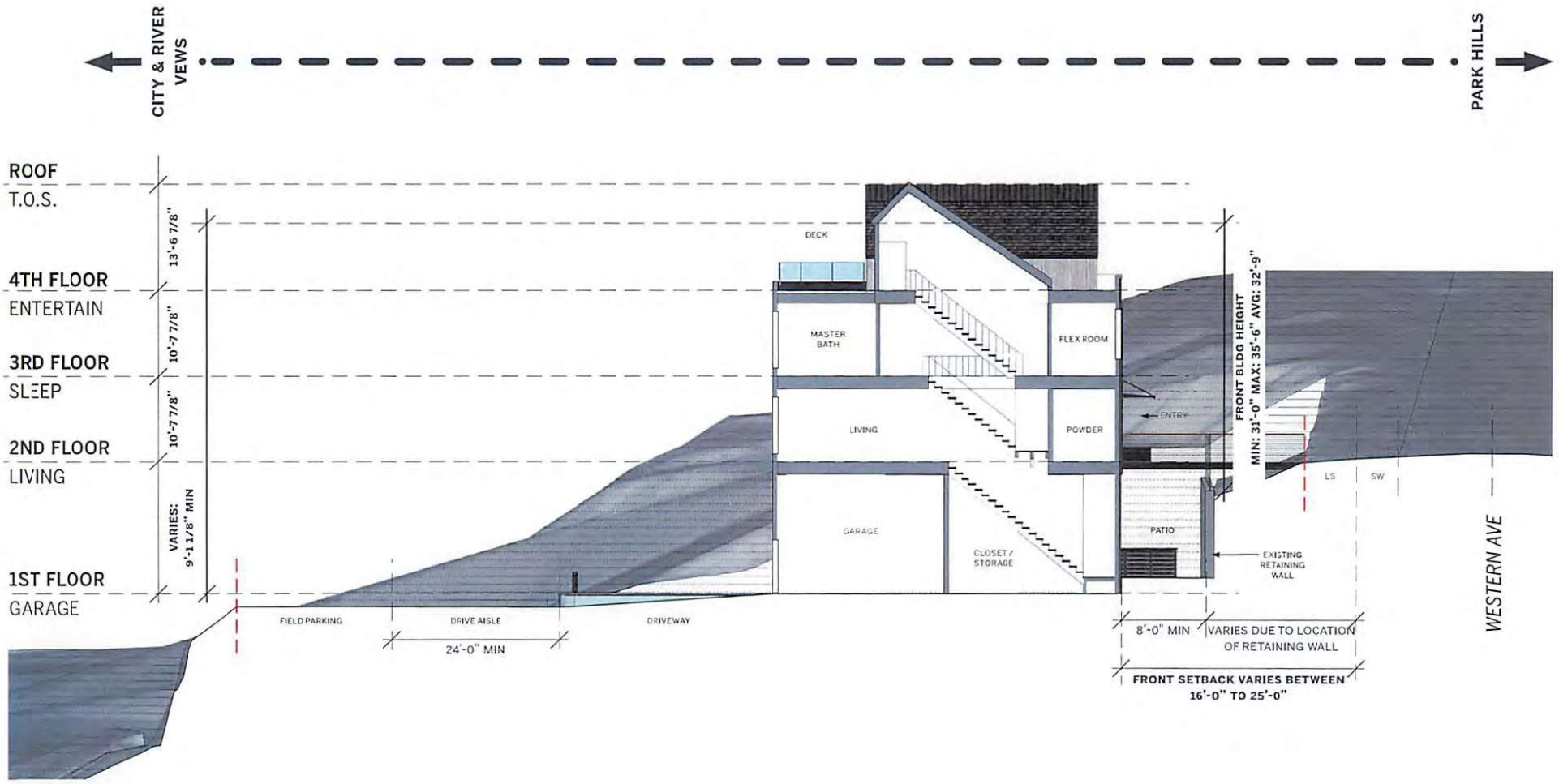
ELEVATIONS- TOWNHOMES - EAST FACING

SCALE: NTS

Corporex | reztark

SECTION- EAST TO WEST



SCALE: NTS

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SECTION- NORTH TO SOUTH

SCALE: NTS