WELKIN ENGINEERING, PC
Engineers Planners Surveyors

TRANSMITTAL

DATE: 3/17/20

TO: City of Newberg
Planning

ATTN: Keisha Owens

RE: Meadow Brook Villas – Phase 2

RECEIVED
APR 17 2020
Initial:

WE ARE TRANSMITTING THE FOLLOWING BY:

☐ US Mail × Messenger ☐ Other _____

FOR THE FOLLOWING PURPOSE(S):

☐ As requested × For approval ☐ For your use

☐ Other _____

Item	No.	Description
1	3	application narrative, notice, 8 ½ x 11 plans, full size plans, storm drainage report, mailing label, and Notice Sign
2	3	Incomplete Notice Response Letter
3		
4		
5		
6		

REMARKS:

Cc: _____

SIGNED: _____

25260 SW PARKWAY AVENUE, SUITE G – WILSONVILLE, OR 97070
PHONE (503) 598-1866 FAX (503) 598-1868
ekc@WelkinPC.com www.WelkinPC.com

1st Incompleteness Letter Responses for DR220-0004 the Meadow Brook Vista Apartments Phase 2

1306 N. SPRINGBROOK RD. (OFF COFFEY LN.) IN NEWBERG, OREGON

By: Edward K. Christensen
Submitted: 4/17/20

RECEIVED
APR 17 2020
Initial:

25260 SW PARKWAY DR., SUITE G, WILSONVILLE, OR 97070
(503) 598-1866, fax (503) 598-1868
www.WelkinPC.com ekc@WelkinPC.com

Staff completed the first completeness check for File No. DR220-0004 on March 19, 2020 and found that we need provide additional information before the project can be deemed complete. Please submit the missing items mentioned below for a second completeness check.

Incomplete Items:

- **Public Notice Information:** Please submit a draft of the Land Use Notice sign to be posted for review and feedback. An example can be found in the Type II application material. We also need a copy of the mailing labels for all properties to be notified within 500 feet of the site.
  RESPONSE: THE MAILING LABELS ARE ENCLOSED WITH THIS RESPONSE, AS WELL AS A COPY OF THE LAND USE NOTICE SIGN.

- **Site Plan:** The site plan shows Building C and site landscaping located within the stream corridor. Newberg Municipal Code 15.342.100 Type III process for exceptions and variances applies to this situation. You will need to submit a variance application and supporting material per 15.342.100B. You have the option of having the variance and design review go before the Planning Commission or the variance alone can go before the Planning Commission. The second option will delay your design review decision. There may be some confusion that the variance for Phase 1 applies to Phase 2. The variance was approved for Phase 1.
  RESPONSE: BUILDING C HAS BEEN ROTATED OUT OF THE STREAM CORRIDOR AND ALL LANDSCAPING HAS BEEN REMOVED. NO VARIANCE WILL BE REQUIRED.

- **Architectural Plans:** The application is missing the Level 3 floor plans. The application additionally is missing the building elevations for Building D. Two full size copies are needed as well as a set of 8 ½"x 11" drawings.
  RESPONSE: LEVEL 3 FLOOR PLANS ARE INCLUDED IN THIS SUBMITTAL AND THE MISSING THE BUILDING ELEVATIONS FOR BUILDING D (PLEASE NOTE BUILDING D IS NOW BUILDING F). TWO FULL SIZE COPIES ARE INCLUDED ALSO.

- **Drainage Report:** Drainage Report -
  1. Stormwater quantity section is missing
  2. 100-year overflow discussion is missing
  3. It appears the applicant is not proposing any LIDA facilities as part of the design. The City has a hierarchy (4.6.8 of the Public Works Design and Construction Standards) of stormwater facilities and the applicant cannot jump straight to a mechanical treatment option without walking through the

hierarchy and providing robust documentation about why a full or partial LIDA facility approach is not feasible.

4. On design plans sheet C7, Note 10 is missing. Is the applicant proposing to discharge stormwater into the existing creek/drainage? If so, DEQ permitting (JPA) for a stormwater outfall is required if it's occurring inside of the Stream Corridor boundary.
5. On the design plans sheet C7, Note 9 references a public rain garden but no call out can be found on the design plans. Is the applicant proposing a public rain garden?

RESPONSE: A NEW STORMWATER REPORT IS INCLUDED IN THIS SUBMITTAL, UTILIZING A STORMWATER QUALITY AND DETENTION BASIN BELOW BUILDING D. THE NEW STORMWATER QUALITY AND DETENTION BASIN MEET THE CRITERIA WITHIN THE CITY CODE FOR LIDA FACILITY. A 100-YEAR STORMWATER ROUTING HAS BEEN ADDED TO THE STORMWATER REPORT. PLEASE NOTE THE DISCHARGE LOCATION FOR THE STORMWATER BASIN IS IN THE UPLAND AREA, NOT THE STREAM CORRIDOR.

- **Miscellaneous:**
  1. Application narrative references Exhibit C6, however no such item can be located in the submittal. Please provide clarity or submit additional documentation.

     RESPONSE: I AM SORRY, EXHIBIT 6 WAS APART OF THE PACKAGE I SENT TO THE PRINTERS. IT IS ATTACHED HEREIN, NOW AS EXHIBIT 6 AND 6A. THEY ARE EMAILS FROM TY DARBY OF TVF&R STATING THAT THE FIRE HYDRANT AND FDC LOCATIONS EXHIBIT 6 AND EXHIBIT 6A, THAT THE CUL-DE-SAC DESIGN IS APPROVED. THOSE APPROVALS WERE BASED UPON MY REQUEST THAT TVF&R REVIEW OUR DRAWING INDICATING THAT IT MET CITY OF NEWBERG STANDARD DETAIL 529 "APPROVED FIRE DEPARTMENT TURN AROUNDS", WHICH IT DOES. THE SERIES OF EMAILS MORPHED INTO A DISCUSSION OF ON-SITE FIRE DEPARTMENT HYDRANT AND FDC LOCATIONS. EXHIBIT 6 IS THE CULMINATION OF THE REQUEST FOR APPROVAL FROM TVF&R AND NOTES APPROVAL.
  2. Applicant needs to thoroughly address and provide narrative for the modified cul-de-sac design at the southern end of Coffee Lane. Narrative needs to be added to address NMC 15.505.030(H) Modification of Street Right-of-way and Improvement Width." Each criteria in this section will need a narrative response. Provide documentation that TVF&R has approved this design concept.

     RESPONSE: THE NARRATIVE ON PAGE(S) 37 – 39 DISCUSSES NMC 15.505.030(H) MODIFICATION OF STREET RIGHT-OF-WAY AND IMPROVEMENT WIDTH AND ITEMS 1 (A–D). ITEMS A-C APPLY, ITEM D IS FOR PUD'S AND DOES NOT APPLY.

Ed Christensen, P.E.
Welkin Engineering, P.C.
Suite G, 25260 S.W. Parkway
Wilsonville, Oregon 97070
Tele: 503–380–5324
ekc@welkinpc.com

APPLICATION NARRATIVE

Project Name:
Meadow Brook Villas, Phase 2

Approval Request:
Design Review Approval For New Multifamily Apartments In An R–2 Zoning District

Location:
1306 N. Springbrook Road (off Coffey Lane)

Property Owner/Applicant:
Meadow Brook Villas, LLC
4695 SE Deer Creek Pl.
Gresham, OR 97080
Tele: 360-694-2552
Email: gabe@isbld.com

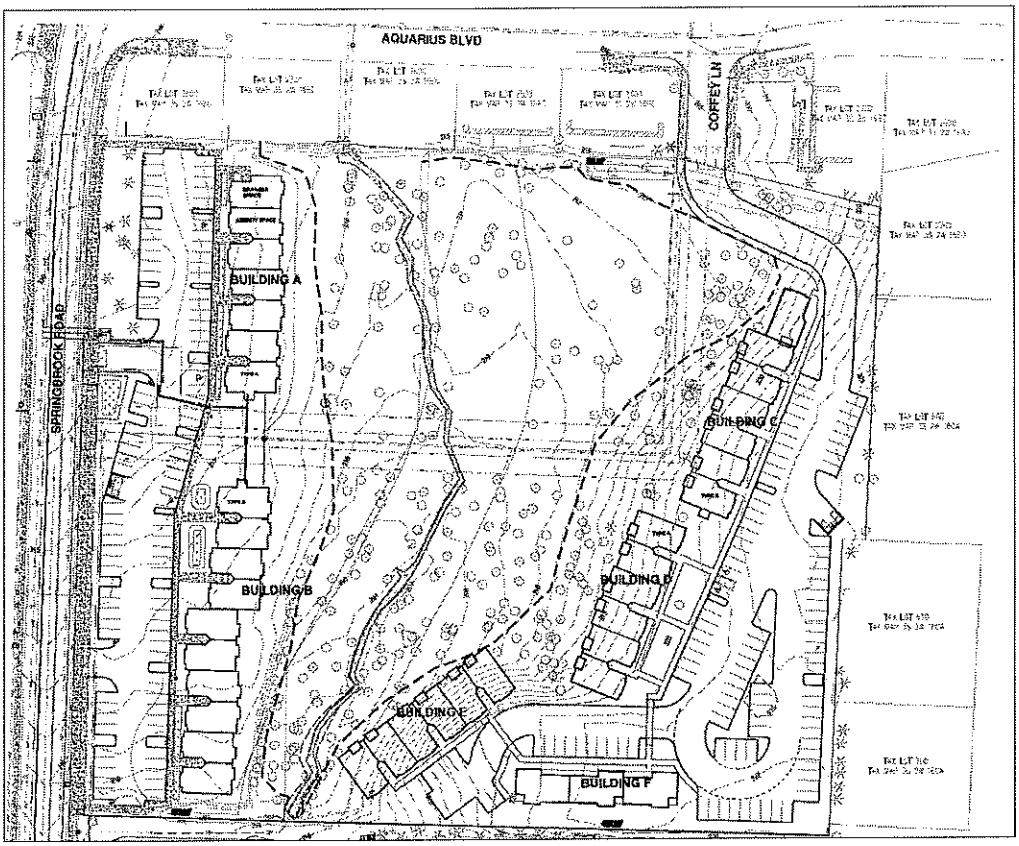
Planners/Engineers/Applicant Representative:
Welkin Engineering, P.C.
Attn: Edward Christensen, PE
Suite G
25260 S.W. Parkway Avenue
Wilsonville, Oregon 97070
Tele: 503–380–5324
E–mail: ekc@welkinpc.com

Exhibits A and 6, 6A, and 6B

I. APPLICATION SUMMARY

Applicant seeks approval for a 75–unit, two–bedroom apartment development on a 5.49–acre site in an R–2 zoning district located immediately east of the recently–approved Meadow Creek Apartments, "Phase 1," a 45–apartment development on a 3.18–acre site at 1306 N. Springbrook Road. The City approved the latter development on October 29, 2018, file number DR218–0003. The current proposal bears the designation "Phase 2."

The site lies immediately south of Aquarius Boulevard, and will have driveway access from Coffey Lane:



Roughly half the site — a large, irregularly–shaped triangle in the northwesterly portion of the site — sits within a wetland boundary. A stream corridor runs along the westerly side of the site, which effectively separates the site from the Meadow Creek Apartments to the west. The Meadow Creek Apartments also lie within the same wetland and stream corridor. The site thus labors under the same Stream Corridor Overlay applied to the Meadow Creek Apartments approval.

II. DESIGN REVIEW APPROVAL CRITERIA

Newberg Development Code (hereafter simply "NDC") § 15.220.020(A)(2) prescribes a Type II Design Review Approval for this proposal (*viz.*, any "new development" not identified in NDC § 15.220.020(A)(1)). Applicant has submitted all of the materials prescribed by NDC § 15.220.030(B)(1)–(14).

[In the following discussion, all references to "NMC" in the Newberg Development Code appear instead as "NDC."]

A. Type II Design Review Approval Criteria NDC § 15.220.050(B)

1. "Design Compatibility" NDC § 15.220.050(B)(1)

> "The proposed design review request [shall] incorporate an architectural design which is compatible with and/or superior to existing or proposed uses and structures in the surrounding area. This [requirement] shall include, but not be limited to, building architecture, materials, colors, roof design, landscape design, and signage."

Applicant's Response To NDC § 15.220.050(B)(1):

The Newberg Development Code furnishes no specific definition of "compatible." In its recent approval of the Meadow Creek Apartments (file no. DR2018–0003), the City inferentially defined "compatibility" as used in NDC § 15.220.050(B)(1) in a mirror–image context as follows:

> "Finding: The proposed three–story apartment structures are designed in a ***clean and modern style***. The surrounding uses were built over many years and incorporate a ***variety of architectural styles***. The planned structures are ***harmonious with the street–level location*** and are intended to be compatible with current and future surrounding uses. The three units subject to Stream Corridor variance are also designed in a clean and modern style and are compatible with the surrounding neighborhood."

October 29, 2018, "Decision And Findings" in DR2018–0003, at 4 (emphasis added).

The quoted finding necessarily takes into account the elements of "building architecture, materials, colors, roof design, landscape design, and signage" referenced in the second sentence in NDC § 15.220.050(B)(1).

Thus, the City has impliedly defined the term "compatible" as used in NDC § 15.220.050(B)(1) in the context of multifamily dwellings in an R–2 zoning district as implicating the presence of three elements:

- a "clean and modern style"
- surrounding uses that "incorporate a variety of architectural styles"
- "harmonious with the street–level location"

With those elements in mind, as well as the fact that the adjacent, and similar, Meadow Creek Apartments development fulfills the "compatible" requirement in NDC § 15.220.050(B)(1), as previously approved by the City.

2. "Parking and On–Site Circulation"
NDC § 15.220.050(B)(2)

The first sentence in NDC § 15.220.050(B)(2) references the parking requirements in NDC § 15.440.010:

> "Parking areas shall meet the requirements of NDC 15.440.010. Parking studies may be required to determine if adequate parking and circulation are provided for uses not specifically identified in NDC 15.440.010."

Applicant's Response To NDC § 15.220.050(B)(2) (first sentence):

This narrative addresses NDC § 15.440.010 beginning at page .

The second sentence in NDC § 15.220.050(B)(2) separately mandates:

> "Provisions shall be made to provide efficient and adequate on–site circulation without using the public streets as part of the parking lot

circulation pattern. Parking areas shall be designed so that vehicles can efficiently enter and exit the public streets with a minimum impact on the functioning of the public street."

Applicant's Response To NDC § 15.220.050(B)(2) (second sentence):

Essentially, Phase 2 will be accessing the public streets with a minimal impact on the functioning of the public street, because they will be entering and exiting on a single driveway cul-de-sac, they will be constructing.

3. "Setbacks and General Requirements"
NDC § 15.220.050(B)(3)

"The proposal shall comply with NDC 15.415.010 through 15.415.060 dealing with height restrictions and public access; and NDC 15.405.010 through 15.405.040 and 15.410.010 through 15.410.070 dealing with setbacks, coverage, vision clearance, and yard requirements."

Applicant's Response To NDC § 15.220.050(B)(3):

This narrative addresses pertinent provisions in NDC Chapters 15.405, 15.410, and 15.415 beginning at pages , , and , respectively.

4. "Landscaping Requirements"
NDC § 15.220.050(B)(4)

"The proposal shall comply with NDC 15.420.010 dealing with landscape requirements and landscape screening."

Applicant's Response To NDC § 15.220.050(B)(4):

This narrative addresses NDC § 15.420.010 beginning at page .

5. "Signs"
NDC § 15.220.050(B)(5)

"Signs shall comply with NDC 15.435.010 *et seq.* dealing with signs."

Applicant's Response To NDC § 15.220.050(B)(5):

This narrative addresses NDC § 15.435.010, *et seq.*, beginning at page .

6. "Manufactured Dwelling, Mobile Home and RV Parks"
NDC § 15.220.050(B)(6)

[Not applicable]

7. "Zoning District Compliance"
NDC § 15.220.050(B)(7)

"The proposed use shall be listed as a permitted or conditionally permitted use in the zoning district in which it is located as found in NDC 15.305.010 through 15.336.020. . . ."

Applicant's Response To NDC § 15.220.050(B)(7):

The site lies in an R–2 zoning district (Medium Density Residential). NDC § 15.305.020 authorizes multifamily residences in R–2 zoning districts as a "permitted" use.

8. "Subdistrict Compliance"
NDC § 15.220.050(B)(8)

"Properties located within subdistricts shall comply with the provisions of those subdistricts located in NMC 15.340.010 through 15.348.060."

Applicant's Response To NDC § 15.220.050(B)(8):

Part of the site lies within a Stream Corridor Overlay, governed by NDC Chapter 15.342 ("Stream Corridor Overlay (SC) Subdistrict"). This narrative addresses NDC Chapter 15.342 beginning at page .

9. "Alternative Circulation, Roadway Frontage Improvements and Utility Improvements"
NDC § 15.220.050(B)(9)

> "Where applicable, new developments shall provide for access for vehicles and pedestrians to adjacent properties which are currently developed or will be developed in the future. This may be accomplished through the provision of local public streets or private access and utility easements. At the time of development of a parcel, provisions shall be made to develop the adjacent street frontage in accordance with city street standards and the standards contained in the transportation plan. At the discretion of the city, these improvements may be deferred through use of a deferred improvement agreement or other form of security."

Applicant's Response To NDC § 15.220.050(B)(9):

At the time of development of this parcel, provisions will be made to develop the adjacent street frontage to access the parcel in accordance with city street standards and the standards contained in the transportation plan. A cul-de-sac will be developed to the site. No through street improvements are identified.

10. "Traffic Study Improvements"
NDC § 15.220.050(B)(10)

> "If a traffic study is required, improvements identified in the traffic study shall be implemented as required by the director."

Applicant's Response To NDC § 15.220.050(B)(10):

NDC § 15.220.030(B)(14) separately addresses traffic studies:

> "Traffic Study. A traffic study shall be submitted for any project that generates in excess of 40 trips per p.m. peak hour. This requirement may be waived by the director when a determination is made that a previous traffic study adequately addresses the proposal and/or when off–site and frontage improvements have already been completed which adequately mitigate any traffic impacts and/or the proposed use is not in a location which is adjacent to an intersection which is functioning at a poor level of service. A traffic study may be required by the director for projects below 40 trips per p.m. peak hour where the use is located immediately adjacent to an intersection functioning at a poor level of service. The traffic study shall be conducted according to the City of Newberg design standards."

Applicant's Response To NDC § 15.220.050(B)(14):

A traffic study is submitted for this project because it generates in excess of 40 trips per p.m. peak hour.

B. Additional Multifamily Design Review Approval Criteria NDC § 15.220.060

"As part of the site design review process, an applicant for a new multifamily residential project must demonstrate that some of the following site and building design elements, each of which has a point value, have been incorporated into the design of the project. At least 14 points are required for . . . multifamily projects with six or fewer units and at least 20 points are required for multifamily projects with seven or more units."

1. "Site Design Elements" NDC § 15.220.060(A)

"A. Site Design Elements.

"1. Consolidate green space to increase visual impact and functional utility. This applies to larger projects which collectively have a significant amount of open space areas which can be consolidated into children's play areas, gardens, and/or dog–walking areas (three points).

"2. Preserve existing natural features, including topography, water features, and/or native vegetation (three points).

"3. Use the front setback to build a street edge by orienting building(s) toward the street with a relatively shallow front yard (12 to 15 feet for two–story buildings) to create a more 'pedestrian–friendly' environment (three points).

"4. Place parking lots to the sides and/or back of projects so that front yard areas can be used for landscaping and other 'pedestrian–friendly' amenities (three points).

"5. Create 'outdoor' rooms in larger projects by grouping buildings to create well–defined outdoor spaces (two points).

"6. Provide good–quality landscaping. Provide coordinated site landscaping sufficient to give the site its own distinctive character,

including the preservation of existing landscaping and use of native species (two points).

"7. Landscape at the edges of parking lots to minimize visual impacts upon the street and surrounding properties (two points).

"8. Use street trees and vegetative screens at the front property line to soften visual impacts from the street and provide shade (one point).

"9. Use site furnishings to enhance open space. Provide communal amenities such as benches, playground equipment, and fountains to enhance the outdoor environment (one point).

"10. Keep fences neighborly by keeping them low, placing them back from the sidewalk, and using compatible building materials (one point).

"11. Use entry accents such as distinctive building or paving materials to mark major entries to multifamily buildings or to individual units (one point).

"12. Use appropriate outdoor lighting which enhances the nighttime safety and security of pedestrians without causing glare in nearby buildings (one point).

Applicant's Response To NDC § 15.220.060(A):

To the maximum extent practicable, this project will incorporate all the elements found in this section and believe we will receive the maximum points allowable. This criterion will be met.

2. "Building Design Elements"
NDC § 15.220.060(B)

"B. Building Design Elements.

"1. Orient buildings toward the street. For attached single–family and smaller multifamily projects, this means orienting individual entries and porches to the street. In larger projects with internal circulation and grounds, this means that at least 10 percent of the units should have main entries which face the street rather than be oriented toward the interior (three points).

"2. Respect the scale and patterns of nearby buildings by reflecting the architectural styles, building details, materials, and scale of existing buildings (three points).

"3. Break up large buildings into bays by varying planes at least every 50 feet (three points).

"4. Provide variation in repeated units in both single–family attached and large multifamily projects so that these projects have recognizable identities. Elements such as color; porches, balconies, and windows; railings; and building materials and form, either alone or in combination, can be used to create this variety (three points).

"5. Building Materials. Use some or all of the following materials in new buildings: wood or wood–like siding applied horizontally or vertically as board and batten; shingles, as roofing, or on upper portions of exterior walls and gable ends; brick at the base of walls and chimneys; wood or wood–like sash windows; and wood or wood–like trim (one point for each material described above).

"6. Incorporate architectural elements of one of the city's historical styles (Queen Anne, Dutch colonial revival, colonial revival, or bungalow style) into the design to reinforce the city's cultural identity. Typical design elements which should be considered include, but are not limited to, 'crippled hip' roofs, Palladian–style windows, roof eave brackets, dormer windows, and decorative trim boards (two points).

"7. Keep car shelters secondary to the building by placing them to the side or back of units and/or using architectural designs, materials, and landscaping to buffer visual impacts from the street (two points).

"8. Provide a front porch at every main entry as this is both compatible with the city's historic building pattern and helps to create an attractive, 'pedestrian–friendly' streetscape (two points).

"9. Use sloped roofs at a pitch of 3:12 or steeper. Gable and hip roof forms are preferable (two points)."

Applicant's Response To NDC § 15.220.060(B):

To the maximum extent practicable, this project will incorporate all the elements found in this section and believe it will receive the maximum points allowable. This criterion can be met.

III. NDC CHAPTERS REFERENCED AS PART OF THE DESIGN REVIEW APPROVAL CRITERIA

A. Lot Requirements
NDC Chapter 15.405

Density. Multifamily residences in R–2 zoning districts labor under the density limits prescribed by NDC § 15.405.010(B). The density limits prescribed by NDC § 15.405.010(B) mandate that, in an R–2 zone, "lots or development sites in excess of 15,000 square feet used for multiple single–family, duplex or multifamily dwellings shall be developed at a minimum of one dwelling per 5,000 square feet lot area."

NDC § 15.342.120 provides density transfer allowances for property within any Stream Corridor Overlay, and prescribes the required calculations.

Applicant's Response To NDC § 15.405.010(B):

MEADOW CREEK PHASE 2 DENSITY – AFTER ROW DEDICATION

Total Site: 5.49 Ac = ±239,293 Sf
Row Dedication: 8,024
Area in Stream Corridor: ±49,006 Sf
Area Outside Stream Corridor and Row: ±182,263 Sf

Expected Maximum Density: (239,293 – 8,024)/3,000 = 77.09 = 77 Units
Density Outside of Stream Corridor and Easement: 182,263/3,000 = 60.75 = 60 Units
Maximum Allowed Increase in Density (15.342.120.b.3): 20%, 60.75 * 1.2 = 72.91

Maximum Allowed Density: 77 Units
Proposed Units: 74 (Phase 2)

Frontage. NDC § 15.405.030(D)(1)(a) mandates that

> "[e]ach lot or development site shall have either frontage on a public street for a distance of at least 25 feet or have access to a public street through an easement that is at least 25 feet wide."

Applicant's Response To NDC § 15.405.030(D):

This development site has frontage on a public street for a distance much greater than 25 feet with access to a public street, off of the cul-de-sac that will be constructed. The access driveway for the project is 26 feet wide. This criterion can be met.

Lot/Parking Coverage. NDC § 15.405.040 prescribes an R–2 zone–specific maximum lot coverage limit of 50%, a maximum parking coverage of 30%, and a combined maximum lot/-parking coverage limit of 60%. NDC § 15.405.040(B)(1)(b), (B)(2), and (B)(3)(a), respectively.

Applicant's Response To NDC § 15.405.040:

The Phase 2 site contains 239,293 sf of area. The entire asphalt parking area contains 40,331 sf. The site to parking lot coverage ratio is 16.85%.

B. Yard Setback Requirements
NDC Chapter 15.410

NDC § 15.410.020(A)(1) mandates that ". . . R–2 districts shall have a front yard of not less than 15 feet," and that "[s]aid yard shall be landscaped and maintained."

Applicant's Response To NDC § 15.410.020(A)(10:

There are no buildings fronting on the public right-of-way.

NDC § 15.410.020(A)(3) further mandates that

> "The entrance to a garage or carport, whether or not attached to a dwelling, shall be set back at least 20 feet from the nearest property line of the street to which access will be provided."

Applicant's Response To NDC § 15.410.020(A)(3):

There are no garage or carports contemplated with this application.

NDC § 15.410.030(A)(1) further mandates that

> "[a]ll lots or development sites in the . . . R–2 district[] shall have interior yards of not less than five feet, except that where a utility easement is recorded adjacent to a side lot line, there shall be a side yard no less than the width of the easement."

Applicant's Response To NDC § 15.410.030(A)(1):

There will be a side yard no less than the width of the easement.

NDC § 15.410.060(B) prescribes a "vision clearance triangle" of at least 25 feet "[a]t the intersection of a private drive and a street."

Applicant's Response To NDC § 15.410.060(B):

The "vision clearance triangle" of 25 feet at the intersection of the private drive and a street, is indicated on the site plan. This criterion can be met.

NDC § 15.410.060(D)(1) provides that

> "In [a] residential district, a fence or wall shall be permitted to be placed at the property line or within a yard setback as follows:
>
> "a. Not to exceed six feet in height. Located or maintained within the required interior yards. For purposes of fencing only, lots that are corner lots or through lots may select one of the street frontages as a front yard and all other yards shall be considered as interior yards, allowing the placement of a six–foot fence on the property line. In no case may a fence extend into the clear vision zone as defined in NMC 15.410.060.
>
> "b. Not to exceed four feet in height. Located or maintained within all other front yards."

Applicant's Response To NDC § 15.410.060(D)(1):

All side of the property without fences are to be fenced. This criterion can be met.

C. Building And Site Design Standards
NDC Chapter 15.415

1. "Building Height Limitation"
NDC § 15.415.020

NDC § 15.415.020(A)(1) limits the height of a "main building" in an R–2 zone to 30 feet, and the height of any "accessory building" to 16 feet.

E. Alternative Building Height Standard. As an alternative to the building height standards above, any project may elect to use the following standard (see Figure 24 in Appendix A). To meet this standard:

1. Each point on the building must be no more than 20 feet higher than the ground level at all points on the property lines, plus one vertical foot for each horizontal foot of distance from that property line; and

2. Each point on the building must be no more than 20 feet higher than the ground level at a point directly north on a property line, plus one vertical foot for each two horizontal feet of distance between those points. This second limit does not apply if the property directly to the north is a right-of-way, parking lot, protected natural resource, or similar unbuildable property.

Applicant's Response To NDC § 15.415.020(A)(1)&(E)(1&2):

The height of a main buildings are at 28 feet to the eave. This meets the criteria for this section. There are no accessory buildings planned.

2. "Public Access Required"
NDC § 15.415.040

NDC § 15.415.040 mandates that

> "[n]o building or structure shall be erected or altered except on a lot fronting or abutting on a public street or having access to a public street over a private street or easement of record approved in accordance with provisions contained in this code,"

and that

> "[n]o building or structure shall be erected or altered without provisions for access roadways as required in the Oregon Fire Code, as adopted by the city."

Applicant's Response To NDC § 15.415.040:

Public access will be constructed fronting this site. See the Site Plan in Exhibit A. This criterion can be met.

D. Landscaping And Outdoor Areas
NDC Chapter 15.420

1. "Required Minimum Standards"
NDC § 15.420.010

NDC § 15.420.010 prescribes the following landscaping requirements:

> "A. Private and Shared Outdoor Recreation Areas in Residential Developments.
>
> "1. Private Areas. Each ground–level living unit in a residential development subject to a design review plan

approval shall have an accessible outdoor private space of not less than 48 square feet in area. The area shall be enclosed, screened or otherwise designed to provide increased privacy for unit residents, their guests and neighbors.

"2. Individual and Shared Areas. Usable outdoor recreation space shall be provided for the individual and/or shared use of residents and their guests in any duplex or multifamily residential development, as follows:

"a. One– or two–bedroom units: 200 square feet per unit.

"b. Three– or more bedroom units: 300 square feet per unit.

"c. Storage areas are required in residential developments. Convenient areas shall be provided in residential developments for the storage of articles such as bicycles, barbecues, luggage, outdoor furniture, and the like. These shall be entirely enclosed.

"* * * * *."

Applicant's Response To NDC § 15.420.010(A):

1. There are 74 2-bedroom units, each with a mostly covered back porch of 69 square feet, exceeding the 48 square foot requirement.

2. At 74 2-bedroom units, 14,800 square feet of usable outdoor space is required. The parking lot and buildings account for 62,000 square feet of coverage. The site minus the wetlands contains 141,240 square feet of area. Subtracting out 62,000 square feet of coverage leaves 79,240 square feet of usable outdoor space, or over 5 times the requirement. This criterion can be met.

"B. Required Landscaped Area. The following landscape requirements are established for all developments except single–family dwellings:

"1. A minimum of 15 percent of the lot area shall be landscaped; provided, however, that computation of this minimum may include areas landscaped under subsection (B)(3) of this section. . . .

"2. All areas subject to the final design review plan and not otherwise improved shall be landscaped.

"3. The following landscape requirements shall apply to the parking and loading areas:

"a. A parking or loading area providing 10 or more spaces shall be improved with defined landscaped areas totaling no less than 25 square feet per parking space.

"b. A parking, loading area, or drive aisle which runs adjacent to a property line shall be separate from any lot line adjacent to a street by a landscaped strip at least 10 feet in interior width or the width of the required yard, whichever is greater, and any other lot line by a landscaped strip of at least five feet in interior width. See subsections (B)(3)(c) and (d) of this section for material to plant within landscape strips.

"c. A landscaped strip separating a parking area, loading area, or drive aisle from a street shall contain street trees spaced as appropriate to the species, not to exceed 50 feet apart on average, and a combination of shrubs and ground cover, or lawn. This landscaping shall provide partial screening of these areas from the street.

"d. A landscaped strip separating a parking area, loading area, or drive aisle from an interior lot line shall contain any combination of trees, shrubs, ground cover or lawn. Plant material shall be selected from at least two different plant material groups (example: trees and shrubs, or lawn and shrubs, or lawn and trees and shrubs).

"e. Landscaping in a parking or loading area shall be located in defined landscaped areas which are uniformly distributed throughout the parking or loading area.

"f. Landscaping areas in a parking lot, service drive or loading area shall have an interior width of not less than five feet.

"g. All multifamily . . . parking areas, service drives, or loading zones which abut a residential district shall be enclosed with a 75 percent opaque, site-obscuring fence, wall or evergreen hedge along and immediately adjacent to any interior property line which abuts the residential district. Landscape plantings must be large enough to provide the required minimum screening requirement within 12 months after initial installation. Adequate

provisions shall be maintained to protect walls, fences or plant materials from being damaged by vehicles using said parking areas.

"h. An island of landscaped area shall be located to separate blocks of parking spaces. At a minimum, one deciduous shade tree per seven parking spaces shall be planted to create a partial tree canopy over and around the parking area. No more than seven parking spaces may be grouped together without an island separation unless otherwise approved by the director based on the following alternative standards:

"i. Provision of a continuous landscaped strip, with a five–foot minimum width, which runs perpendicular to the row of parking spaces (see Appendix A, Figure 13).

"ii. Provision of tree planting landscape islands, each of which is at least 16 square feet in size, and spaced no more than 50 feet apart on average, within areas proposed for back–to–back parking (see Appendix A, Figure 14).

"4. Trees, Shrubs and Ground Covers. The species of street trees required under this section shall conform to those authorized by the city council through resolution. The director shall have the responsibility for preparing and updating the street tree species list which shall be adopted in resolution form by the city council.

"a. Arterial and minor arterial street trees shall have spacing of approximately 50 feet on center. These trees shall have a minimum two–inch caliper tree trunk or stalk at a measurement of two feet up from the base and shall be balled and burlapped or boxed.

"b. Collector and local street trees shall be spaced approximately 35 to 40 feet on center. These trees shall have a minimum of a one and one–half or one and three–fourths inch tree trunk or stalk and shall be balled and burlapped or boxed.

"c. Accent Trees. Accent trees are trees such as flowering cherry, flowering plum, crab–apple, Hawthorne and the like. These trees shall have a minimum one and one–half inch caliper tree trunk or stalk and shall be at least eight to 10 feet in

height. These trees may be planted bare root or balled and burlapped. The spacing of these trees should be approximately 25 to 30 feet on center.

"d. All broad–leafed evergreen shrubs and deciduous shrubs shall have a minimum height of 12 to 15 inches and shall be balled and burlapped or come from a two–gallon can. Gallon–can size shrubs will not be allowed except in ground covers. Larger sizes of shrubs may be required in special areas and locations as specified by the design review board. Spacing of these shrubs shall be typical for the variety, three to eight feet, and shall be identified on the landscape planting plan.

"e. Ground Cover Plant Material. Ground cover plant material such as greening juniper, cotoneaster, minor Bowles, English ivy, hypericum and the like shall be one of the following sizes in specified spacing for that size:

Gallon cans	3 feet on center
4"' containers	2 feet on center
2–1/4"' containers	18" on center
Rooted cuttings	12" on center

"5. Automatic, underground irrigation systems shall be provided for all areas required to be planted by this section. The director shall retain the flexibility to allow a combination of irrigated and nonirrigated areas. Landscaping material used within nonirrigated areas must consist of drought– resistant varieties. Provision must be made for alternative irrigation during the first year after initial installation to provide sufficient moisture for plant establishment.

"6. Required landscaping shall be continuously maintained.

"7. Maximum height of tree species shall be considered when planting under overhead utility lines.

"* * * * *."

Applicant's Response To NDC § 15.420.010(B):

Exhibit A, the site development plans indicate 115 parking spaces. 115 parking spaces requires 2,725 square feet of landscaping. The site contains well over 7,000 square feet of landscaping on the ends of parking aisles, far exceeding the per parking space landscaping requirement. All other elements of this section of the code are indicated in the Exhibit A Site Development Plans. This criterion can be met.

2. "Landscaping And Amenities In Public Rights–Of–Way"
NDC § 15.420.020

NDC § 15.420.020 prescribes the following additional landscaping requirements with respect to abutting public rights–of–way:

"A. Pedestrian Space Landscaping. Pedestrian spaces shall include all sidewalks and medians used for pedestrian refuge. Spaces near sidewalks shall provide plant material for cooling and dust control, and street furniture for comfort and safety, such as benches, waste receptacles and pedestrian–scale lighting. These spaces should be designed for short–term as well as long–term use. Elements of pedestrian spaces shall not obstruct sightlines and shall adhere to any other required city safety measures. Medians used for pedestrian refuge shall be designed for short–term use only with plant material for cooling and dust control, and pedestrian–scale lighting. The design of these spaces shall facilitate safe pedestrian crossing with lighting and accent paving to delineate a safe crossing zone visually clear to motorists and pedestrians alike.

"1. Street trees planted in pedestrian spaces shall be planted according to NDC 15.420.010(B)(4).

"2. Pedestrian spaces shall have low (two and one–half feet) shrubs and ground covers for safety purposes, enhancing visibility and discouraging criminal activity.

"a. Plantings shall be 90 percent evergreen year–round, provide seasonal interest with fall color or blooms, and at maturity maintain growth within the planting area (refer to plant material matrix below).

"b. Plant placement shall also adhere to clear sight line requirements as well as any other relevant city safety measures.

"3. Pedestrian–scale lighting shall be installed along sidewalks and in medians used for pedestrian refuge.

"a. Pole lights as well as bollard lighting may be specified; however, the amount and type of pedestrian activity during evening hours, e.g., transit stops, nighttime service districts, shall ultimately determine the type of fixture chosen.

"b. Luminaire styles shall match the area/district theme of existing luminaires and shall not conflict with existing building or roadway lights causing glare.

"c. Lighting heights and styles shall be chosen to prevent glare and to designate a clear and safe path and limit opportunities for vandalism (see Appendix A, Figure 17, Typical Pedestrian Space Layouts).

"d. Lighting shall be placed near the curb to provide maximum illumination for spaces furthest from building illumination. Spacing shall correspond to that of the street trees to prevent tree foliage from blocking light.

"4. Street furniture such as benches and waste receptacles shall be provided for spaces near sidewalks only.

"* * * * *

"5. Paving and curb cuts shall facilitate safe pedestrian crossing and meet all ADA requirements for accessibility."

Applicant's Response To NDC § 15.420.020(A):

The amenities within this section can or will be met as required. Special consideration must be given for the northeast side of the cul-de-sac coming in, because of the contiguous wetlands. Plantings along the wetland may require special conditions if they impact the wetland. This criterion can be met.

"B. Planting Strip Landscaping. All planting strips shall be landscaped. Planting strips provide a physical and psychological buffer for pedestrians from traffic with plant material that reduces heat and dust, creating a more comfortable pedestrian environment. Planting strips shall have different arrangements and combinations of plant materials according to the frequency of on–street parking (see Appendix A, Figures 18 and 19).

"1. Planting strips which do not have adjacent parking shall have a combination of ground covers, low (two and one–half feet) shrubs and trees. Planting strips adjacent to frequently used on–street parking, as defined by city staff, shall only have trees protected by tree grates, and planting strips adjacent to infrequently used on–street parking shall be planted with ground cover as well as trees (see Appendix A, Figures 18 and 19, Typical Planting Strip Layouts). District themes or corridor themes linking individual districts should be followed utilizing a unifying plant characteristic, e.g., bloom color, habit, or fall color. When specifying thematic plant material, monocultures should be avoided, particularly those species susceptible to disease.

"2. Street trees shall be provided in all planting strips as provided in NDC 15.420.010(B)(4).

"a. Planting strips without adjacent parking or with infrequent adjacent parking shall have street trees in conjunction with ground covers and/or shrubs.

"b. Planting strips with adjacent parking used frequently shall have only street trees protected by tree grates.

"3. Shrubs and ground covers shall be provided in planting strips without adjacent parking with low (two and one–half feet) planting masses to enhance visibility, discourage criminal activity, and provide a physical as well as psychological buffer from passing traffic.

"a. Plantings shall be 90 percent evergreen year–round, provide seasonal interest with fall color or blooms and at maturity maintain growth within the planting area.

"b. Ground cover able to endure infrequent foot traffic shall be used in combination with street trees for planting strips with adjacent occasional parking (refer to plant material matrix below).

"c. All plant placement shall adhere to clear sight line requirements as well as any other relevant city safety measures."

Applicant's Response To NDC § 15.420.020(B):

The sidewalk in the cul-de-sac will be curb tight due to the adjacent wetland. Therefore, there are no planting strips. This criterion does not apply.

E. Signs
NDC Chapter 15.435

A monument sign will be placed on-site and will be the subject of a separate sign permit. No other signs are contemplated with this development.

F. Off–Street Parking, Bicycle Parking, And Private Walkways NDC Chapter 15.440

1. "Required Off–Street Parking" NDC § 15.440.010

NDC § 15.440.010 provides, in pertinent part:

> "A. Off–street parking shall be provided on the development site for all R–1, C–1, M–1, M–2 and M–3 zones. In all other zones, the required parking shall be on the development site or within 400 feet of the development site which the parking is required to serve. All required parking must be under the same ownership as the development site served except through special covenant agreements as approved by the city attorney, which bind the parking to the development site.
>
> "* * * * *."

Applicant's Response To NDC § 15.440.010(A):

The project is compliant with this section per Exhibit A. This criterion can be met.

2. "Parking Area And Service Drive Design" NDC § 15.440.020

NDC § 15.440.020 provides, in pertinent part:

> "A. All public or private parking areas, parking spaces, or garages shall be designed, laid out and constructed in accordance with the minimum standards as set forth in NMC 15.440.070.
>
> "B. Groups of three or more parking spaces . . . shall be served by a service drive so that no backward movement or other maneuvering of a vehicle within a street, other than an alley, will be required. Service drives shall be designed and constructed to facilitate the flow of traffic, provide maximum safety in traffic access and egress and maximum safety of pedestrian and vehicular traffic on the site, but in no case shall two–way and one–way service drives be less than 20 feet and 12 feet, respectively. Service drives shall be improved in accordance with the minimum standards as set forth in NMC 15.440.060.
>
> "C. Gates. A private drive or private street serving as primary access to more than one dwelling unit shall not be gated to limit access, except as approved by variance.
>
> "* * * * *."

Applicant's Response To NDC § 15.44.020:

The project exceeds the minimum as prescribed by this section. One Bicycle parking spaces are required per 4 units. Given that there are 74 units, 19 bicycle parking spaces must be provided. The 2-way service drive is 26 feet wide. No gates are proposed at this time. This criterion can be met.

3. "Parking Spaces Required"
NDC § 15.440.030

NDC § 15.440.030 prescribes a minimum of 1.5 parking spaces per two–bedroom apartment unit.

For an apartment development with more than 10 parking spaces, NDC § 15.440.030 further prescribes (1) unassigned parking spaces that total at least 15% of the total required parking spaces, and (2) 0.2 visitor parking spaces per apartment unit.

Applicant's Response To NDC § 15.440.030:

Visitor spaces are shown in Exhibit A. This criterion can be met.

4. "Parking Area And Service Drive Improvements"
NDC § 15.440.060

NDC § 15.440.060 provides, in pertinent part:

> "All public or private parking areas, outdoor vehicle sales areas, and service drives shall be improved according to the following:
>
> "A. All parking areas and service drives shall have surfacing of asphaltic concrete or Portland cement concrete or other hard surfacing such as brick or concrete pavers. Other durable and dust–free surfacing materials may be approved by the director for infrequently used parking areas. All parking areas and service drives shall be graded so as not to drain stormwater over the public sidewalk or onto any abutting public or private property.
>
> "B. All parking areas shall be designed not to encroach on public streets, alleys, and other rights–of–way. Parking areas shall not be placed in the area between the curb and sidewalk or, if there is no sidewalk, in the public right–of–way between the curb and the property line. The director may issue a permit for exceptions for unusual circumstances where the design maintains safety and aesthetics.

"C. All parking areas . . . shall provide a substantial bumper which will prevent cars from encroachment on abutting private and public property.

"D. All parking areas, including service drives, . . . shall be screened in accordance with NDC 15.420.010(B).

"E. Any lights provided to illuminate any public or private parking area or vehicle sales area shall be so arranged as to reflect the light away from any abutting or adjacent residential district.

"F. All service drives and parking spaces shall be substantially marked and comply with NMC 15.440.070.

"G. Parking areas for residential uses shall not be located in a required front yard . . . [.]

"H. A reduction in size of the parking stall may be allowed for up to a maximum of 30 percent of the total number of spaces to allow for compact cars. . . .

"* * * * *."

Applicant's Response To NDC § 15.440.060:

The project exceeds the minimum as prescribed by this section. The 2-way service drive is 26 feet wide. A parking lot lighting plan is a part of this submittal. These criterion can be met.

5. "Parking Tables And Diagrams"
NDC § 15.440.070

NDC § 15.440.070 prescribes the minimum dimensions of parking areas.

Applicant's Response To NDC § 15.440.070:

All parking spaces are 9 foot wide and 18 feet deep, meeting the standard. This criterion can be met.

6. "Bicycle Parking" – "Facility Requirements" And "Design"
NDC §§ 15.440.100 and 15.440.110

NDC § 15.440.100 prescribes a minimum of one bicycle parking space per four dwelling units.

NDC § 15.440.110 separately prescribes bicycle parking design parameters:

"A. Bicycle parking facilities shall consist of one or more of the following:

"1. A firmly secured loop, bar, rack, or similar facility that accommodates locking the bicycle frame and both wheels using a cable or U–shaped lock.

"2. An enclosed locker.

"3. A designated area within the ground floor of a building, garage, or storage area. Such area shall be clearly designated for bicycle parking.

"4. Other facility designs approved by the director.

"B. All bicycle parking spaces shall be at least six feet long and two and one–half feet wide. Spaces shall not obstruct pedestrian travel.

"C. All spaces shall be located within 50 feet of a building entrance of the development.

"D. Required bicycle parking facilities may be located in the public right–of–way adjacent to a development subject to approval of the authority responsible for maintenance of that right–of–way."

Applicant's Response To NDC §§ 15.440.100 and 15.440.110:

The project meets the minimum as prescribed by this section. One Bicycle parking spaces are required per 4 dwelling units. Given that there are 74 dwelling units, 19 bicycle parking spaces must be provided. This criterion can be met.

7. "Private Walkways" – "Where Required" And "Private Walkway Design" NDC §§ 15.440.130 and 15.440.140

NDC § 15.440.130 mandates that "[p]rivate walkways shall be constructed as part of any development requiring Type II design review[.]"

NDC § 15.440.140 separately provides, in pertinent part:

"A. All required private walkways shall meet the applicable building code and Americans with Disabilities Act requirements.

"B. Required private walkways shall be a minimum of four feet wide.

"C. Required private walkways shall be constructed of portland cement concrete or brick.

"D. Crosswalks crossing service drives shall, at a minimum, be painted on the asphalt or clearly marked with contrasting paving materials or humps/raised crossings. If painted striping is used, it should

consist of thermoplastic striping or similar type of durable application.

"E. At a minimum, required private walkways shall connect each main pedestrian building entrance to each abutting public street and to each other.

"* * * * *."

Applicant's Response To NDC §§ 15.440.130 and 15.440.140:

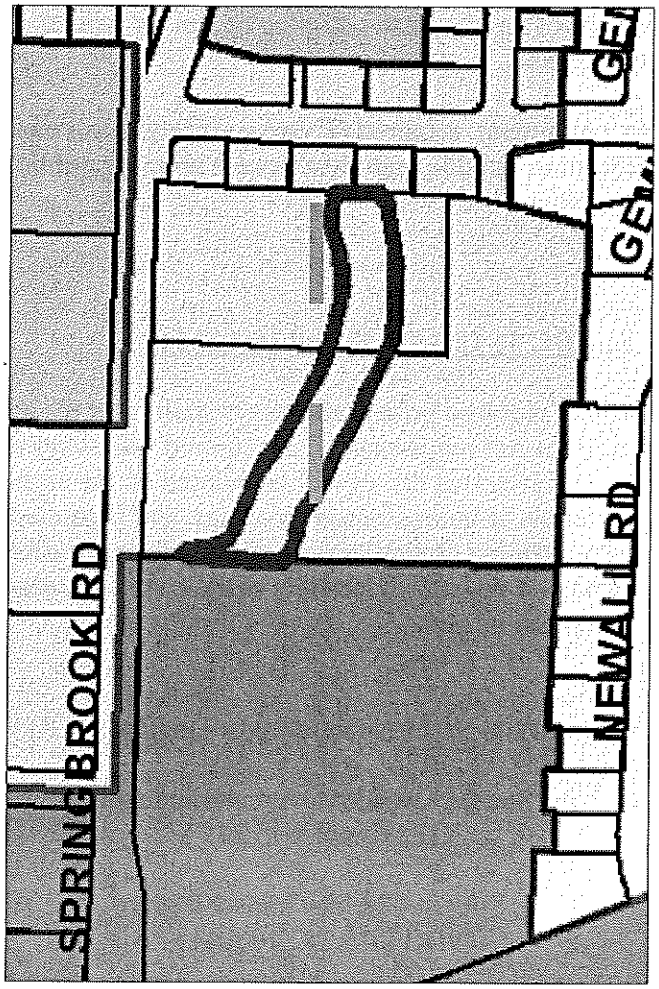
It is understood that all required private walkways shall meet the applicable building code and Americans with Disabilities Act requirements; as required walkways exceed the minimum at 5 foot wide; crosswalks crossing service drives will be painted on the asphalt or clearly marked with contrasting paving materials or humps/raised crossings, and if painted striping is used, it must consist of thermoplastic striping or similar type of durable application; and private walkways will connect each main pedestrian building entrance to each abutting public street and to each other. These criterion can be met.

IV. OTHER NDC CHAPTERS NOT REFERENCED IN THE DESIGN REVIEW CRITERIA

A. Stream Corridor Overlay Subdistrict
NDC Chapter 15.342

1. Stream Corridor Impact Report
NDC § 15.342.100(A)

NDC Chapter 15.342 applies to the proposal. NDC § 15.342.020(B). The site lies to the east of the dashed line in this (approximated) zoning map depiction of the Stream Corridor Overlay:



NDC § 15.342.100(A) prescribes a Type III review process ("Except as provided in NCC 15.342.040, 15.342.050, and 15.342.070, uses and activities otherwise allowed under the applicable base zone regulations").

Applicant's Response To NDC § 15.342.100(A):

Applicant has submitted a Stream Corridor Impact Report, as required by NDC § 15.342.100(A). A Stream Corridor Variance at 1306 N. Springbrook Rd. MISC318-0002 was approved for this development in 2018. This criterion has been addressed.

2. Stream Corridor Review Criteria
NDC § 15.342.140(B)

"The following standards shall apply to the issuance of permits requiring an SCIR, and the SCIR must demonstrate how these standards are met in a manner that meets the project purpose.

"1. Where possible, the applicant shall avoid the impact altogether.

"2. Impact on the stream corridor shall be minimized by limiting the degree or magnitude of the action, by using appropriate technology, or by taking affirmative steps to avoid, reduce or mitigate impacts.

"3. The impacts to the stream corridor will be rectified by restoring, rehabilitating, or creating comparable resource values on the site or within the same stream corridor.

"4. The remaining resource values on the stream corridor site shall be protected and enhanced, with consideration given to the following:

"a. Impacts to wildlife travel and migratory functions shall be maintained to the maximum extent possible; and

"b. Native vegetation shall be utilized for landscaping to the extent practicable; and

"c. The stream bed shall not be unnecessarily or detrimentally altered.

"5. The fill shall primarily consist of natural materials such as earth or soil aggregate, including sand, gravel, rock, and concrete. Culverts, bridges, reinforced retaining walls, or other similar structures which require manmade structural materials shall be permitted.

"6. The amount of fill used shall be the minimum required to practically achieve the project purpose.

"7. If the fill or grading is within a designated floodway, the proposed action shall maintain the flood storage capacity of the site.

"8. The proposed fill or grading shall not significantly increase existing hazardous conditions or create significant new hazardous conditions related to geology, hydrology, or soil erosion.

"9. Stream turbidity shall not be significantly increased by any change in a watercourse that results from the fill. Measures shall be taken to minimize turbidity during construction.

"10. The removal of trees over six inches in diameter shall be minimized to the extent possible to provide the necessary improvements authorized by this chapter."

Applicant's Response To NDC § 15.342.140(B):

A Stream Corridor Variance at 1306 N. Springbrook Rd. MISC318-0002 was approved for the Phase 1 development in 2018. The applicant's request for a 6 month extension of the Stream Corridor Variance at 1306 N. Springbrook Rd. MISC318-0002, in order to obtain a building permit was approved, with an extension date of May 23, 2020. There are no Stream Corridor impacts in Phase 2. These criterion are met.

B. Exterior Lighting
NDC Chapter 15.425

NDC § 15.425.040 prescribes the following:

"A. General Requirements – All Zoning Districts.

"1. Low–level light fixtures include exterior lights which are installed between ground level and six feet tall. Low–level light fixtures are considered nonintrusive and are unrestricted by this code.

"2. Medium–level light fixtures include exterior lights which are installed between six feet and 15 feet above ground level. Medium–level light fixtures must either comply with the shielding requirements of subsection (B) of this section, or the applicant shall show that light trespass from a property has been designed not to exceed one–half foot–candle at the property line.

"3. High–level light fixtures include exterior lights which are installed 15 feet or more above ground level. High–level light fixtures must comply with the shielding requirements of subsection (B) of this section, and light trespass from a property may not exceed one–half foot–candle at the property line.

"B. Table of Shielding Requirements.

"Fixture Lamp Type	Shielded
"Low/high pressure sodium, mercury vapor, metal halide and fluorescent over 50 watts	Fully
"Incandescent over 160 watts	Fully
"Incandescent 160 watts or less	None
"Fossil fuel	None
"Any light source of 50 watts or less	None
"Other sources	As approved by NDC

§ 15.425.030

"Note: 'Incandescent' includes tungsten–halogen (quartz) lamps."

Applicant's Response To NDC § 15.425.040:

A parking lot lighting plan is a part of this submittal. The apartment units will have down lighting to meet this criteria. These criterion can be met.

C. Underground Utility Installation
NDC Chapter 15.430

NDC § 15.430.010 provides:

"A. All new utility lines, including but not limited to electric, communication, natural gas, and cable television transmission lines, shall be placed underground. This does not include surface–mounted transformers, connections boxes, meter cabinets, service cabinets, temporary facilities during construction, and high–capacity electric lines operating at 50,000 volts or above.

"B. Existing utility lines shall be placed underground when they are relocated, or when an addition or remodel requiring a Type II design review is proposed, or when a developed area is annexed to the city."

Applicant's Response To NDC § 15.430.010:

All new utility lines, including but not limited to electric, communication, natural gas, and cable television transmission lines, will be placed underground. These criterion can be met.

D. Public Improvements Standards
NDC Chapter 15.505

1. Required Improvements
NDC § 15.505.020

NDC § 15.505.020 provides, in pertinent part:

". . . No development shall be approved unless the following improvements are provided for prior to occupancy or operation, unless future provision is assured in accordance with NDC 15.505.030(E).

"A. Public Works Design and Construction Standards. The design and construction of all improvements within existing and proposed rights–of–way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall comply with the requirements of the most recently adopted Newberg public works design and construction standards.

"B. Street Improvements. All projects subject to a Type II design review, partition, or subdivision approval must construct street improvements necessary to serve the development.

"C. Water. All developments, lots, and parcels within the City of Newberg shall be served by the municipal water system as specified in Chapter 13.15 NDC.

"D. Wastewater. All developments, lots, and parcels within the City of Newberg shall be served by the municipal wastewater system as specified in Chapter 13.10 NDC.

"E. Stormwater. All developments, lots, and parcels within the City of Newberg shall manage stormwater runoff as specified in Chapters 13.20 and 13.25 NDC.

"F. Utility Easements. Utility easements shall be provided as necessary and required by the review body to provide needed facilities for present or future development of the area.

"* * * * *."

Applicant's Response To NDC § 15.505.020:

It is understood that no development will be approved unless the following improvements are provided for prior to occupancy or operation, unless future provision is assured in accordance with NDC 15.505.030(E). These criterion can be met.

2. Street Standards
NDC § 15.505.030

NDC § 15.505.030 provides, in pertinent part:

"C. Layout of Streets, Alleys, Bikeways, and Walkways. Streets, alleys, bikeways, and walkways shall be laid out and constructed as shown in the Newberg transportation system plan. In areas where the transportation system plan or future street plans do not show specific transportation improvements, roads and streets shall be laid out so as to conform to previously approved subdivisions, partitions, and other developments for adjoining properties, unless it is found in the public interest to modify these patterns. Transportation improvements shall conform to the standards within the Newberg Municipal Code, the Newberg public works design and construction standards, the Newberg transportation system plan, and other adopted city plans.

"D. Construction of New Streets. Where new streets are necessary to serve a new development, subdivision, or partition, right–of–way dedication and full street improvements shall be required. Three–

quarter streets may be approved in lieu of full street improvements when the city finds it to be practical to require the completion of the other one–quarter street improvement when the adjoining property is developed; in such cases, three–quarter street improvements may be allowed by the city only where all of the following criteria are met:

"1. The land abutting the opposite side of the new street is undeveloped and not part of the new development; and

"2. The adjoining land abutting the opposite side of the street is within the city limits and the urban growth boundary.

"E. Improvements to Existing Streets.

"1. All projects subject to partition, subdivision, or Type II design review approval shall dedicate right–of–way sufficient to improve the street to the width specified in subsection (G) of this section.

"2. All projects subject to partition, subdivision, or Type II design review approval must construct a minimum of a three–quarter street improvement to all existing streets adjacent to, within, or necessary to serve the development. The director may waive or modify this requirement where the applicant demonstrates that the condition of existing streets to serve the development meets city standards and is in satisfactory condition to handle the projected traffic loads from the development. Where a development has frontage on both sides of an existing street, full street improvements are required.

"3. In lieu of the street improvement requirements outlined in NDC 15.505.040(B), the review authority may elect to accept from the applicant monies to be placed in a fund dedicated to the future reconstruction of the subject street(s). The amount of money deposited with the city shall be 100 percent of the estimated cost of the required street improvements (including any associated utility improvements), and 10 percent of the estimated cost for inflation. Cost estimates used for this purpose shall be based on preliminary design of the constructed street provided by the applicant's engineer and shall be approved by the director.

"F. Improvements Relating to Impacts. Improvements required as a condition of development approval shall be roughly proportional to the impact of the development on public facilities and services. The review body must make findings in the development approval that indicate how the required improvements are roughly propor-

tional to the impact. Development may not occur until required transportation facilities are in place or guaranteed, in conformance with the provisions of this code. If required transportation facilities cannot be put in place or be guaranteed, then the review body shall deny the requested land use application.

"G. Street Width and Design Standards.

"1. Design Standards. All streets shall conform with the standards contained in Table 15.505.030(G). Where a range of values is listed, the director shall determine the width based on a consideration of the total street section width needed, existing street widths, and existing development patterns. Preference shall be given to the higher value. Where values may be modified by the director, the overall width shall be determined using the standards under subsections (G)(2) through (10) of this section.

Table 15.505.030(G) Street Design Standards

Type of Street	Right-of-Way Width	Curb-to-Curb Pavement Width	Motor Vehicle Travel Lanes	Median Type	Striped Bike Lane (Both Sides)	On-Street Parking
Arterial Streets						
Expressway**	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT
Major arterial	95 – 100 feet	74 feet	4 lanes	TWLTL or median*	Yes	No*
Minor arterial	69 – 80 feet	48 feet	2 lanes	TWLTL or median*	Yes	No*
Collectors						
Major	57 – 80 feet	36 feet	2 lanes	None*	Yes	No*
Minor	61 – 65 feet	40 feet	2 lanes	None*	Yes*	Yes*
Local Streets						
Local residential	54 – 60 feet	32 feet	2 lanes	None	No	Yes
Limited residential, parking both sides	44 – 50 feet	28 feet	2 lanes	None	No	Yes
Limited residential, parking one side	40 – 46 feet	26 feet	2 lanes	None	No	One side
Local commercial/ industrial	55 – 65 feet	34 feet	2 lanes	None*	No*	Yes*

* May be modified with approval of the director. Modification will change overall curb-to-curb and right-of-way width. Where a center turn lane is not required, a landscaped median shall be provided instead, with turning pockets as necessary to preserve roadway functions.

** All standards shall be per ODOT expressway standards.

"2. Motor Vehicle Travel Lanes. Collector and arterial streets shall have a minimum width of 12 feet.

"3. Bike Lanes. Striped bike lanes shall be a minimum of six feet wide. Bike lanes shall be provided where shown in the Newberg transportation system plan.

"4. Parking Lanes. Where on–street parking is allowed on collector and arterial streets, the parking lane shall be a minimum of eight feet wide.

"5. Center Turn Lanes. Where a center turn lane is provided, it shall be a minimum of 12 feet wide.

"6. Limited Residential Streets. Limited residential streets shall be allowed only at the discretion of the review authority, and only in consideration of the following factors:

"a. The requirements of the fire chief shall be followed.

"b. The estimated traffic volume on the street is low, and in no case more than 600 average daily trips.

"c. Use for through streets or looped streets is preferred over cul–de–sac streets.

"d. Use for short blocks (under 400 feet) is preferred over longer blocks.

"e. The total number of residences or other uses accessing the street in that block is small, and in no case more than 30 residences.

"f. On–street parking usage is limited, such as by providing ample off–street parking, or by staggering driveways so there are few areas where parking is allowable on both sides.

"7. Sidewalks. Sidewalks shall be provided on both sides of all public streets. Minimum width is five feet.

"8. Planter Strips. Except where infeasible, a planter strip shall be provided between the sidewalk and the curb line, with a minimum width of five feet. This strip shall be landscaped in accordance with the standards in NDC 15.420.020. Curb–side sidewalks may be allowed on limited residential streets. Where curb–side sidewalks are allowed, the following shall be provided:

"a. Additional reinforcement is done to the sidewalk section at corners.

"b. Sidewalk width is six feet.

"9. Slope Easements. Slope easements shall be provided adjacent to the street where required to maintain the stability of the street.

"10. Intersections and Street Design. The street design standards in the Newberg public works design and construction standards shall apply to all public streets, alleys, bike facilities, and sidewalks in the city.

"* * * * *

"H. Modification of Street Right–of–Way and Improvement Width. The director, pursuant to the Type II review procedures of Chapter 15.220 NDC, may allow modification to the public street standards of subsection (G) of this section, when the criteria in both subsections (H)(1) and (2) of this section are satisfied:

"1. The modification is necessary to provide design flexibility in instances where:

"a. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or

"b. Lot shape or configuration precludes accessing a proposed development with a street which meets the full standards of this section; or

"c. A modification is necessary to preserve trees or other natural features determined by the city to be significant to the aesthetic character of the area; or

"d. A planned unit development is proposed and the modification of street standards is necessary to provide greater privacy or aesthetic quality to the development.

"2. Modification of the standards of this section shall only be approved if the director finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes.

Applicant's Response To NDC § 15.505.030(H):

The City Design Standards require a cul-de-sac for the terminus of a street it was learned at the pre–application conference. Our pre-application submittal contained a 26 foot roadway with a 5 foot sidewalk on one side. There was very little space to fit in an access due to the vast wetlands on this site. We were attempting not to impact the wetlands, which is allowed under NDC § 15.505.030(H.1.a-c). NDC § 15.505.030(H.1.d) does not apply as this is not a "planned unit development."

On September 10, 2019 a "**REQUEST FOR A REDUCTION IN RIGHT-OF-WAY/PAVEMENT WIDTH AND REDUCED CUL-DE-SAC SIZE FOR MEADOW CREEK APARTMENTS PHASE 2** ," letter was sent to the City (Exhibit 6B).

On September 17th, 2019 Welkin received an email response to our letter from Kristen Svicarovich, P.E. at the City of Newberg. It stated -

"Thank you for providing a design concept for addressing the need to terminate Coffee Lane with a cul-de-sac. We have reviewed the proposed design internally and have the following feedback:

- In the section of roadway that is a reduced width (26-feet wide), the road will need to be signed "no parking."
- The sidewalk shown on the south/west side of the roadway extension needs to be 6-feet wide since it is a curb-tight sidewalk.
- You will need to get concurrence from TVF&R for the proposed reduced size cul-de-sac – Please include myself and Keshia via CC in your correspondence with TVF&R for our records.
- In order to provide for the 10-foot public utility easement, we would like to see the cul-de-sac bulb shifted to the north to maximize the space available for a PUE on the south/west side behind the back of the sidewalk."

The proposed plan submittal meets the requested items above. Exhibit 6 and now 6A are concurrence emails from Ty Darby at TVFR stating the modified cul-de-sac design is acceptable to TVFR. These criterion are or can be met.

"* * * * *

"S. Public Walkways.

"1. Projects subject to Type II design review, partition, or subdivision approval may be required to provide public walkways where necessary for public safety and convenience, or where necessary to meet the standards of this code. Public walkways are meant to connect cul–de–sacs to adjacent areas, to pass through oddly shaped or unusually long blocks, to provide for networks of public paths according to adopted plans, or to provide access to schools, parks or other community destinations or public areas. Where practical, public walkway easements and locations may also be used to accommodate public utilities.

"2. Public walkways shall be located within a public access easement that is a minimum of 15 feet in width.

"3. A walk strip, not less than 10 feet in width, shall be paved in the center of all public walkway easements. Such paving shall conform to specifications in the Newberg public works design and construction standards.

"4. Public walkways shall be designed to meet the Americans with Disabilities Act requirements.

"5. Public walkways connecting one right–of–way to another shall be designed to provide as short and straight of a route as practical.

"6. The developer of the public walkway may be required to provide a homeowners' association or similar entity to maintain the public walkway and associated improvements.

"7. Lighting may be required for public walkways in excess of 250 feet in length.

"8. The review body may modify these requirements where it finds that topographic, preexisting development, or similar constraints exist.

"T. Street Trees. Street trees shall be provided for all projects subject to Type II design review, partition, or subdivision. Street trees shall be installed in accordance with the provisions of NCC 15.420.010(B)(4).

"U. Street Lights. All developments shall include underground electric service, light standards, wiring and lamps for street lights according to the specifications and standards of the Newberg public works design and construction standards. The developer shall install all such facilities and make the necessary arrangements with the serving electric utility as approved by the city. Upon the city's acceptance of the public improvements associated with the development, the street lighting system, exclusive of utility–owned service lines, shall be and become property of the city unless otherwise designated by the city through agreement with a private utility."

Applicant's Response To NDC § 15.505.030:

It is understood that no development will be approved unless the following improvements are provided for prior to occupancy or operation, unless future provision is assured in accordance with NDC 15.505.030(E), but for as exceptions are applied. Exhibits 6, 6A, and 6B indicates that an exception by the Public Works Department will be allowed for street width and location for the cul-de-sac, due to its proximity to the adjoining wetlands if the fire department is satisfied with the design. Exhibits 6A indicates the Tualatin Valley Fire Department is satisfied with the design. These criterion can be met.

3. Public Utility Standards
NDC § 15.505.040

NDC § 15.505.040 provides, in pertinent part:

"C. General Standards.

"1. The design and construction of all improvements within existing and proposed rights–of–way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall conform to the Newberg public works design and construction standards and require a public improvements permit.

"2. The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbances of soil and site. Installation of all proposed public and private utilities shall be coordinated by the developer and be approved by the city to ensure the orderly extension of such utilities within public right–of–way and easements.

"D. Standards for Water Improvements. All development that has a need for water service shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary wastewater and stormwater facilities, as applicable.

"1. All developments shall be required to be linked to existing water facilities adequately sized to serve their intended area by the construction of water distribution lines, reservoirs and pumping stations which connect to such water service facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

"2. Specific location, size and capacity of such facilities will be subject to the approval of the director with reference to the applicable water master plan. All water facilities shall conform with city pressure zones and shall be looped where necessary to provide adequate pressure and fire flows during peak demand at every point within the system in the development to which the water facilities will be connected. Installation costs shall remain entirely the developer's responsibility.

"3. The design of the water facilities shall take into account provisions for the future extension beyond the development to serve adjacent properties, which, in the judgment of the city, cannot be feasibly served otherwise.

"4. Design, construction and material standards shall be as specified by the director for the construction of such public water facilities in the city.

"E. Standards for Wastewater Improvements. All development that has a need for wastewater services shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary water services and stormwater facilities, as applicable.

"1. All septic tank systems and on–site sewage systems are prohibited. Existing septic systems must be abandoned or removed in accordance with Yamhill County standards.

"2. All properties shall be provided with gravity service to the city wastewater system, except for lots that have unique topographic or other natural features that make gravity wastewater extension impractical as determined by the director. Where gravity service is impractical, the developer shall provide all necessary pumps/lift stations and other improvements, as determined by the director.

"3. All developments shall be required to be linked to existing wastewater collection facilities adequately sized to serve their intended area by the construction of wastewater lines which connect to existing adequately sized wastewater facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

"4. Specific location, size and capacity of wastewater facilities will be subject to the approval of the director with reference to the applicable wastewater master plan. All wastewater facilities shall be sized to provide adequate capacity during peak flows from the entire area potentially served by such facilities. Installation costs shall remain entirely the developer's responsibility.

"5. Temporary wastewater service facilities, including pumping stations, will be permitted only if the director approves the temporary facilities, and the developer provides for all facilities that are necessary for transition to permanent facilities.

"6. The design of the wastewater facilities shall take into account provisions for the future extension beyond the development to serve upstream properties, which, in the judgment of the city, cannot be feasibly served otherwise.

"7. Design, construction and material standards shall be as specified by the director for the construction of such wastewater facilities in the city.

"F. Easements. Easements for public and private utilities shall be provided as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be recorded on easement forms approved by the city and designated on the final plat of all subdivisions and partitions. Minimum required easement width and locations are as provided in the Newberg public works design and construction standards."

Applicant's Response To NDC § 15.505.040:

The entirety of NDC § 15.505.040 can be accomplished by following the Public Works Standards. These criterion can be met.

4. Stormwater System Standards
NDC § 15.505.050

NDC § 15.505.050 provides, in pertinent part:

"C. General Requirement. All stormwater runoff shall be conveyed to a public storm wastewater or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

"D. Plan for Stormwater and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the State of Oregon prepares a stormwater report and erosion control plan for the project. This plan shall contain at a minimum:

"1. The methods to be used to minimize the amount of runoff, sedimentation, and pollution created from the development both during and after construction.

"2. Plans for the construction of stormwater facilities and any other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the stormwater plans.

"3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included in the stormwater report and shall be stamped by a licensed professional engineer in the State of Oregon. Peak design discharges shall be computed based upon the design criteria outlined in the public works design and construction standards for the city.

"E. Development Standards. Development subject to this section shall be planned, designed, constructed, and maintained in compliance with the Newberg public works design and construction standards."

Applicant's Response To NDC § 15.505.050:

The entirety of NDC § 15.505.050 can be accomplished by following the Public Works standards. These criterion can be met.

EXHIBIT A

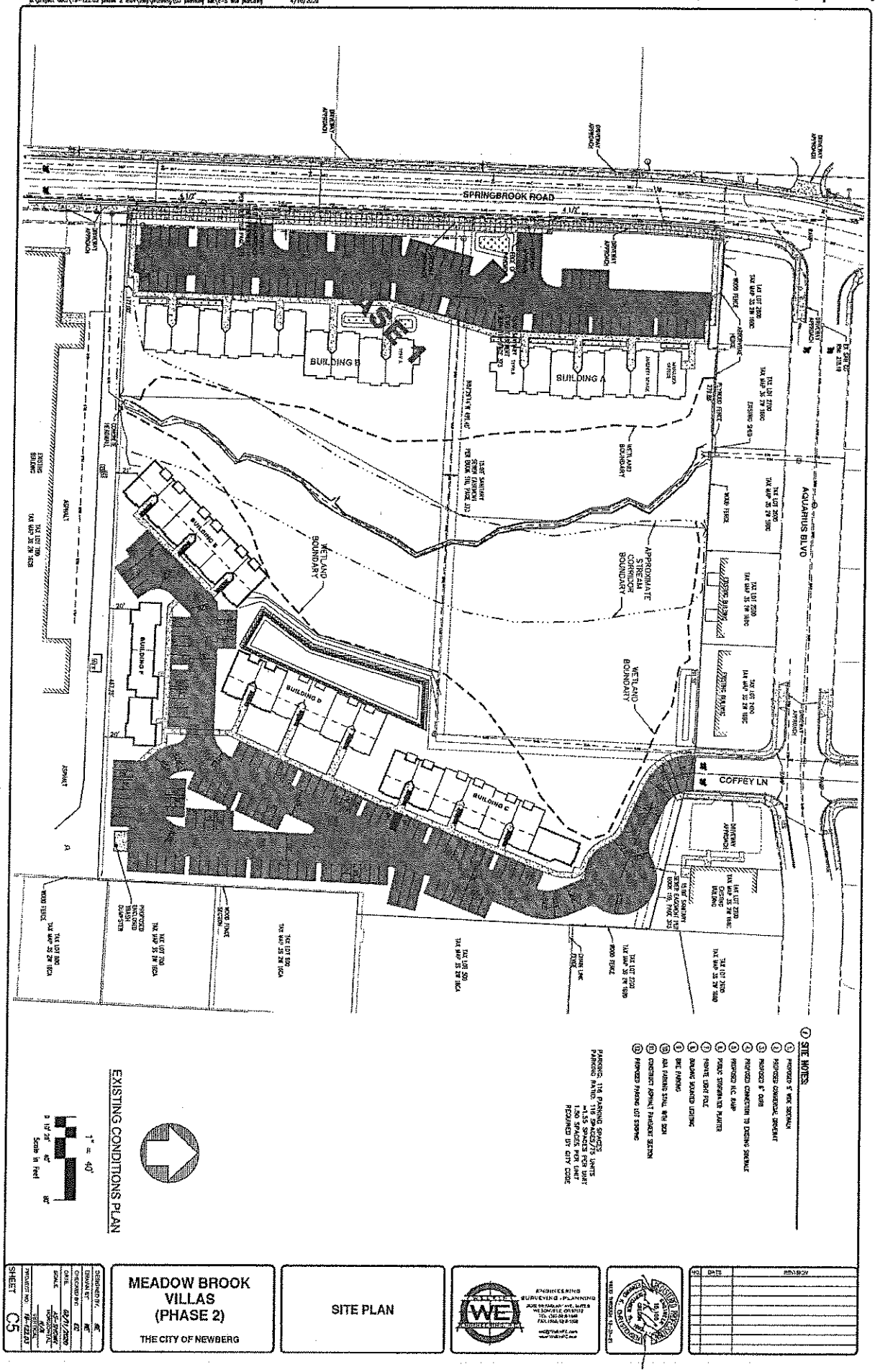

SPRINGBROOK ROAD
BUILDING A
BUILDING B
BUILDING C
BUILDING D
BUILDING E
BUILDING F
WETLAND BOUNDARY
APPROXIMATE STREAM CORRIDOR BOUNDARY
AQUARIUS BLVD
COFFEY LN
SITE NOTES
EXISTING CONDITIONS PLAN
1" = 40'
MEADOW BROOK VILLAS (PHASE 2)
THE CITY OF NEWBERG
SITE PLAN

EXHIBIT G

Ed Christensen

From: Darby, Ty M. <Ty.Darby@tvfr.com>
Sent: Friday, February 21, 2020 3:28 PM
To: Ed Christensen
Cc: Corey Bingham
Subject: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

Hi Ed,

The proposed FDC and Fire Hydrant layout is acceptable to the Fire District.

Thank you,

Ty

From: Ed Christensen <ekc@welkinpc.com>
Sent: Friday, February 21, 2020 2:01 PM
To: Darby, Ty M. <Ty.Darby@tvfr.com>
Subject: Phase 2 of Meadow Brook Vista

Hi Ty,

For the 2nd Phase of Meadow Brook Vista attached is the new water plan for your review and approval. We made the changes you requeted.

Thanks,

Ed

WELKIN ENGINEERING, P.C.
GREAT RESULTS ONE PROJECT AT A TIME
Edward K. Christensen, PE (OR, WA, CA)
President
ekc@welkinpc.com
25260 SW Parkway Ave., Ste G
Wilsonville, OR 97070
tel: (503) 598-1866
fax: (503) 598-1868
mobile: 503.380.5324
www.Welkinpc.com

EXHIBIT 6A

Ed Christensen

From: Darby, Ty M. <Ty.Darby@tvfr.com>
Sent: Thursday, April 16, 2020 10:30 AM
To: Ed Christensen
Subject: RE: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

Hi Ed,

This is acceptable to the Fire District.

Thank you,

Ty

From: Ed Christensen <ekc@welkinpc.com>
Sent: Wednesday, April 15, 2020 5:01 PM
To: Darby, Ty M. <Ty.Darby@tvfr.com>
Subject: RE: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

Ty,

Could you also reply to whether the 26' Coffey Lane with a 35' cul-de-sac bulb is acceptable. Both meet your Standards for Newberg.

Thank you and stay safe,

Ed

WELKIN ENGINEERING, P.C.
GREAT RESULTS ONE PROJECT AT A TIME
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President
ekc@welkinpc.com
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tel: (503) 598-1866
fax: (503) 598-1868
mobile: 503.380.5324
www.Welkinpc.com

From: Darby, Ty M. <Ty.Darby@tvfr.com>
Sent: Friday, February 21, 2020 3:28 PM
To: Ed Christensen <ekc@welkinpc.com>
Cc: Corey Bingham <Corey.Bingham@newbergoregon.gov>
Subject: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

Hi Ed,

EXHIBIT 6B

September 10, 2019
JO: 19-122.02

Kaaren Hofmann
City of Newberg
414 East First St.
Newberg, OR 97132

RE: REQUEST FOR A REDUCTION IN RIGHT-OF-WAY/PAVEMENT WIDTH AND REDUCED CUL-DE-SAC SIZE FOR MEADOW CREEK APARTMENTS PHASE 2 IN NEWBERG, OREGON

Dear Mrs. Hofmann:

We would like to request a reduction in right-of-way (ROW)/pavement width and reduced cul-de-sac size for Phase 2 of Meadow Creek apartments. The attached site plan indicates a 70 foot diameter cul-de-sac and a reduction in street pavement width to 26 feet. The 70 foot cul-de-sac is allowable per Standard Drawing 529 as approved for Fire Department Turn arounds. The reduced pavement width is so we can prevent wetland fill impacts for this short terminus 230 foot long dead end cul-de-sac. The 34 foot ROW will allow us to have ±6 feet of distance from the wetlands to build the roadway. We will also need relief from the Public Utility Easement on the southside of the cul-de-sac and around the cul-de-sac bulb.

We respectfully request your approval of these changes for this short extension of Coffee Lane.

Sincerely,
WELKIN ENGINEERING, PC

Edward K. Christensen, P.E.
President

Cc: Gabe Duus

25260 SW PARKWAY DR., SUITE G, WILSONVILLE, OR 97070
(503) 598-1866, fax (503) 598-1868
www.WelkinPC.com ekc@WelkinPC.com

City of Newberg
Community Development Department
P.O. Box 970 • 414 E First Street • Newberg, Oregon 97132
503-537-1240. Fax 503-537-1272 www.newbergoregon.gov

WE WANT YOUR COMMENTS ON A PROPOSED NEW DEVELOPMENT IN YOUR NEIGHBORHOOD

A property owner in your neighborhood submitted an application to the City of Newberg to construct 75–unit, two–bedroom apartment development on a 5.49–acre site in an R–2 zoning district located immediately east of the recently–approved Meadow Creek Apartments, "Phase 1," a 45–apartment development on a 3.18–acre site at 1306 N. Springbrook Road. The City approved the latter development on October 29, 2018, file number DR218–0003. The current proposal bears the designation "Phase 2." For more details about giving comments, please see the back of this sheet.

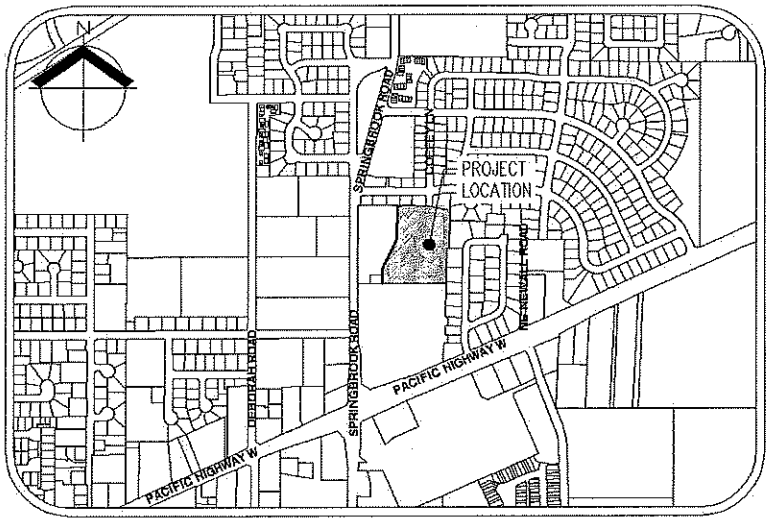
The development will include 75-units in 4 separate buildings. The site will contain 115 parking spaces, treated stormwater, a new cul-de-sac, and 32,845 square feet of landscaping. None of the existing trees or shrubs in the drainage way coursing through the site will be removed.

APPLICANT: ***Gabe Duus***
TELEPHONE: ***(360) 694-2552***

PROPERTY OWNER: ***Meadow Brook Villas, LLC***

LOCATION: ***1306 N. Springbrook Rd., Newberg, OR 97132***

TAX LOT NUMBER: ***Yamhill County Tax Map and Lot Number:*** 3216CB TL 100



VICINITY MAP
NOT TO SCALE

Working Together For A Better Community-Serious About Service"

We are mailing you information about this project because you own land within 500 feet of the proposed new project. We invite you to send any written comments for or against the proposal within 14 days from the date this notice is mailed.

If you mail your comments to the City, please put the following information on the outside of the envelope:

Written Comments: File No.XX **(City staff will give you the file number for your project at the time of application)**
City of Newberg
Community Development Department
PO Box 970
Newberg, OR 97132

You can look over all the information about this project or drop comments off at Newberg City Hall, 414 E. First Street. You can also buy copies of the information for a cost of 25 cents a page. If you have any questions about the project, you can call the Newberg Planning Division at 503-537-1240.

All written comments must be turned in by 4:30 p.m. on ***enter date two weeks from date you mailed notice.*** Any issue which might be raised in an appeal of this case to the Land Use Board of Appeals (LUBA) must be submitted to the City in writing before this date. You must include enough detail to enable the decision maker an opportunity to respond. The applicable criteria used to make a decision on this application for design review approval are found in Newberg Development Code 15.220.050(B).

The Community Development Director will make a decision at the end of a 14-day comment period. If you send in written comments about this project, you will be sent information about any decision made by the City relating to this project.

Date Mailed: ***Date notice is mailed***

31496
DIGREGORIO STEVEN &
DIGREGORIO JESSICA
3501 MADRONA DR
NEWBERG, OR 97132

31502
DIXON STEPHANIE & RAGLAND
KEITH
402 N MORTON ST
NEWBERG, OR 97132

32020
STREU NATHAN
1404 GEMINI LN
NEWBERG, OR 97132

282973
MAVEETY PATRICK
4604 COOPERS HAWK RD
KLAMATH FALLS, OR 97601

278425
WALTON LORIS & LOIS B WALTON
REVOCABLE TRUST
1605 CEDAR ST
NEWBERG, OR 97132

32262
AQUARIOUS BLVD LLC
22855 SW 110TH PL
TUALATIN, OR 97062

32299
LANE JULIE & THE JULIELANE
LIVING TRUST
6127 MERRIEWOOD DR
OAKLAND, CA 94611

32333
TDF LLC
16100 S W
WILSONVILLE, OR 97070

32360
MCQUEEN RENTALS I
23400 NE HYLAND DR
NEWBERG, OR 97132

32707
DELAGE MARGOT & MCNEILL
KATHRYN
PO BOX 80093
PORTLAND, OR 97280

32878
FISCHER LAUREE
PO BOX 279
DUNDEE, OR 97115

415866
BUTTRAM MIRANDA
1112 HADLEY RD
EL MONTE, CA 91732

497839
BILLINGS JIMMY & BILLINGS
SHELLEY
1104 HADLEY RD
NEWBERG, OR 97132

32253
JELLUM KRISTINE & JELLUM PAUL
15925 NE CHEHALEM DR
NEWBERG, OR 97132

32351
HARRIS JAMES
763 ESPLANADA WAY
STANFORD, CA 94305

32342
LEE DARREN & THE LEE FAMILY
1115 FORRESTAL LN
FOSTER CITY, CA 94404

32271
FUJIHARA NEAL & FUJIHARA NEAL
35960 GASKELL CT
FREMONT, CA 94536

32324
JELLUM KRISTINE & JELLUM PAUL
15925 NE CHEHALEM DR
NEWBERG, OR 97132

32280
NICKLOUS
PO BOX 819
CARLTON, OR 97111

31977
KELLEY CAROL & KELLEY DAVID
3408 AQUARIUS BLVD
NEWBERG, OR 97132

31931
LAFRENIERE SUSAN
3503 AQUARIUS BLVD
NEWBERG, OR 97132

32039
SINGH PARJIT
3504 AQUARIUS BLVD
NEWBERG, OR 97132

31922
BURGER MONA
3505 AQUARIUS BLVD
NEWBERG, OR 97132

32048
JOHNSON BRADLEY
3508 AQUARIUS BLVD
NEWBERG, OR 97132

31904
ERICKSON KELLY & ERICKSON
RYAN
3509 AQUARIUS BLVD
NEWBERG, OR 97132

32057
MOORE DAVID
3600 AQUARIUS BLVD
NEWBERG, OR 97132

31897
COAKLEY LINDA
3601 AQUARIUS BLVD
NEWBERG, OR 97132

32066
SIMPSON GLENN
3604 AQUARIUS BLVD
NEWBERG, OR 97132

31888
OSBORNE LINDA & OSBORNE
MICHAEL
3605 AQUARIUS BLVD
NEWBERG, OR 97132

278416
BODNAR KELLEY & BODNAR
TIMOTHY
1601 CEDAR ST
NEWBERG, OR 97132

32315
JELLUM KRISTINE & JELLUM PAUL
15925 NE CHEHALEM DR
NEWBERG, OR 97132

32137
MUSALL JEFFERY & MUSALL OKSANA
1502 COFFEY LN
NEWBERG, OR 97132

32155
SELLS TROY & SELLS KELLY
1503 COFFEY LN
NEWBERG, OR 97132

32119
FOSTER DARLENE
1504 COFFEY LN
NEWBERG, OR 97132

32093
FORTUNE JANIS
1506 COFFEY LN
NEWBERG, OR 97132

32182
SALEE TRAVIS
1507 COFFEY LN
NEWBERG, OR 97132

32084
HENRY SHAWN
1508 COFFEY LN
NEWBERG, OR 97132

32191
LAIDLAW BRETT
1509 COFFEY LN
NEWBERG, OR 97132

32208
QUINBY LINDA
1511 COFFEY LN
NEWBERG, OR 97132

32002
CROUSE SUSAN & DENHERDER EVERETT
1600 COFFEY LN
NEWBERG, OR 97132

32217
LIGHTNER DEBRA
1601 COFFEY LN
NEWBERG, OR 97132

29472
CHURCH OF JESUS
50 E NORTH TEMPLE
SALT LAKE CITY, UT 84150

31655
DEBORAH COURT
PO BOX 490
ENTERPRISE, OR 97828

32011
DAWSON JEFFEREY & DAWSON JENNIFER
1400 GEMINI LN
NEWBERG, OR 97132

31995
LYNN SHANNON
7415 SW EAST LAKE CT
WILSONVILLE, OR 97070

31959
LOWE BRIAN & LOWE SARAH
1500 GEMINI ST
NEWBERG, OR 97132

31281
GOOD PATRICIA
11865 SW TUALATIN RD
TUALATIN, OR 97062

31272
BUSH JAMES & NANCY
1505 GEMINI ST
NEWBERG, OR 97132

31263
ANGELECHIO BERYLE
1507 GEMINI ST
NEWBERG, OR 97132

31254
SMITH HANNAH
1601 GEMINI ST
NEWBERG, OR 97132

32510
HULSE LINDA & HULSE SAMUEL
1100 HADLEY RD
NEWBERG, OR 97132

497833
ROLL REMA & ROLL RODNEY
1102 HADLEY RD
NEWBERG, OR 97132

32529
ADAMEK DARREN & ADAMEK PAMELA
1110 HADLEY RD
NEWBERG, OR 97132

32903
BLANCHARD & BLANCHARD CHANELLE
1113 HADLEY RD
NEWBERG, OR 97132

32538
WILCOX JEPHTHAH & WILCOX SHAROLYN
1204 HADLEY RD
NEWBERG, OR 97132

32618
PEREZ MICHAEL & PETERSON RANDI
1205 HADLEY RD
NEWBERG, OR 97132

32609
BARRIOS GEOFFREY & BARRIOS SHANNON
1209 HADLEY RD
NEWBERG, OR 97132

32734
COLEMAN BRIAN & COLEMAN STACY
1300 HADLEY RD
NEWBERG, OR 97132

32592
FINK DUANE & FINK NANCY
1301 HADLEY RD
NEWBERG, OR 97132

32823
MEREDITH MARSI & MEREDITH RICHARD
1308 HADLEY RD
NEWBERG, OR 97132

32583
WOOLEN ILA & WOOLEN RODGER
1309 HADLEY RD
NEWBERG, OR 97132

527530
NEWBERG
3275 DOGWOOD DR S
SALEM, OR 97302

31511
PIZANO HECTOR & PIZANO MICAELA
PO BOX 1241
NEWBERG, OR 97132

31520
MONTANO MIGUEL
3508 MADRONA DR
NEWBERG, OR 97132

31548
NORMAN JENNIFER
3512 MADRONA DR
NEWBERG, OR 97132

32501
TAYLOR KEVIN
1004 N NEWALL RD
NEWBERG, OR 97132

32495
MCCLENNY CHRISTINA &
MCCLENNY COOPER
1005 N NEWALL RD
NEWBERG, OR 97132

32486
MEADE CHRISTOPHER
1009 N NEWALL RD
NEWBERG, OR 97132

32477
MASON MARCUS
1013 N NEWALL RD
NEWBERG, OR 97132

32468
MEHLHOFF GARY & MEHLHOFF NANCY
1150 NE 17TH ST
MCMINNVILLE, OR 97128

32547
MURPHY COLEEN
1002A E NORTH ST
NEWBERG, OR 97132

423704
FARRIS DALE & FARRIS REBECCA
1112 N NEWALL RD
NEWBERG, OR 97132

32440
ROSE DAVID
1113 N NEWALL RD
NEWBERG, OR 97132

32556
TAKASHIGE RODNEY & TAKASHIGE FLORENCE
1208 N NEWALL RD
NEWBERG, OR 97132

32422
NEWELL KENT & NEWELL KENT
1213 N NEWALL RD
NEWBERG, OR 97132

32565
WINDSOR GARY
1216 N NEWALL RD
NEWBERG, OR 97132

32413
DOLYNIUK THAD & DOLYNIUK KAREN
1313 N NEWALL RD
NEWBERG, OR 97132

32404
DOLYNIUK KAREN & DOLYNIUK THAD
1313 N NEWALL RD
NEWBERG, OR 97132

32397
TURNER MICHELLE
1317 N NEWALL RD
NEWBERG, OR 97132

32388
BROTHERS LADD
1321 N NEWALL RD
NEWBERG, OR 97132

29114
SPRINGBROOK PLAZA
19300 MERRIDY ST
NORTHRIDGE, CA 91324

251970
DEURIBE MARIA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

265643
RAMIREZ & ALDACO
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

456599
RADILLA MIRANDA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

400060
ESCODEDO SILVIA & JIMENEZ JORGE
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

262780
ESCOBEDO JOSE & ESCOBEDO PEDRO
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

252648
LAWSON KENNETH & LAWSON RUBY
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

248636
BENSON ARLEN & BENSON ELAINE
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

449697
BATES REBECCA
1339 NE SUNRISE LN
HILLSBORO, OR 97124

254325
GUTIERREZ RAFAEL & JIMENEZ LAURA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

252826
CARSLEY CHARLES & CARSLEY JUDITH
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

462975
BONNEVILLE ANDREW
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

253923
CORREA IGNACIA & RODRIGUEZ
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

253282
GERMAN HERMOSILLO
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

254566
ONEIL MELANIE
PO BOX 17
GUERNEVILLE, CA 95446

254520
MARES MICHELLE
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

254897
STEVAHN PAMELA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

253264
GARRITY LINDA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

519511
ESPERON ANTONIO & MARTINEZ FELICITAS
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

455411
ALVAREZ & BASURTO
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

525334
PAYNE ALICE & PAYNE JOHN
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

461565
SEELYE DANIEL
PO BOX 964
NEWBERG, OR 97132

254361
VERONICA MARIA & ZURITA HUMBERTO
1103 N MERIDIAN ST
NEWBERG, OR 97132

461486
FERRALL JANINE
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

254012
GRAHAM JOHN & WITTROCK JEAN
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

255422
MARSHALL MARTHA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

29347
AZALEA GARDENS
PO BOX 17
GUERNEVILLE, CA 95446

254842
MOORE MICHALL
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

255048
ABREGO BEATRIZ & PINTOR CARLOS
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

255342
URIBE MARIA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

400088
WATSON MICHAEL
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

255235
AGUILERA GABRIELA & MANUEL JUAN
707 MARIE AVE
NEWBERG, OR 97132

255486
GAMBOA PANFILO
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

255315
STEVAHN BARBARA & STEVAHN VERNOLD
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

458409
FERNANDEZ & VILLARRE
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

255351
MUELLER SARAH & STUTZMAN DEBORAH
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

458392
PIROS FAMILY
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

436193
LUNA NASHMY
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

425800
LUNA JOSE & VARGAS PATRICIA
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

425819
FINLEY ELLEN
1103 N SPRINGBROOK RD
NEWBERG, OR 97132

29445
NEWBERG VILLAGE
PO BOX 490
ENTERPRISE, OR 97828

29123
MEADOW BROOK
4695 SE DEER CREEK PL
GRESHAM, OR 97080

31664
SPRINGBROOK APTS
3811 SW BARBUR BLVD
PORTLAND, OR 97239

32244
HOUSING AUTHORITY
PO BOX 865
MCMINNVILLE, OR 97128

Land Use Notice

FILE # DR220-0002

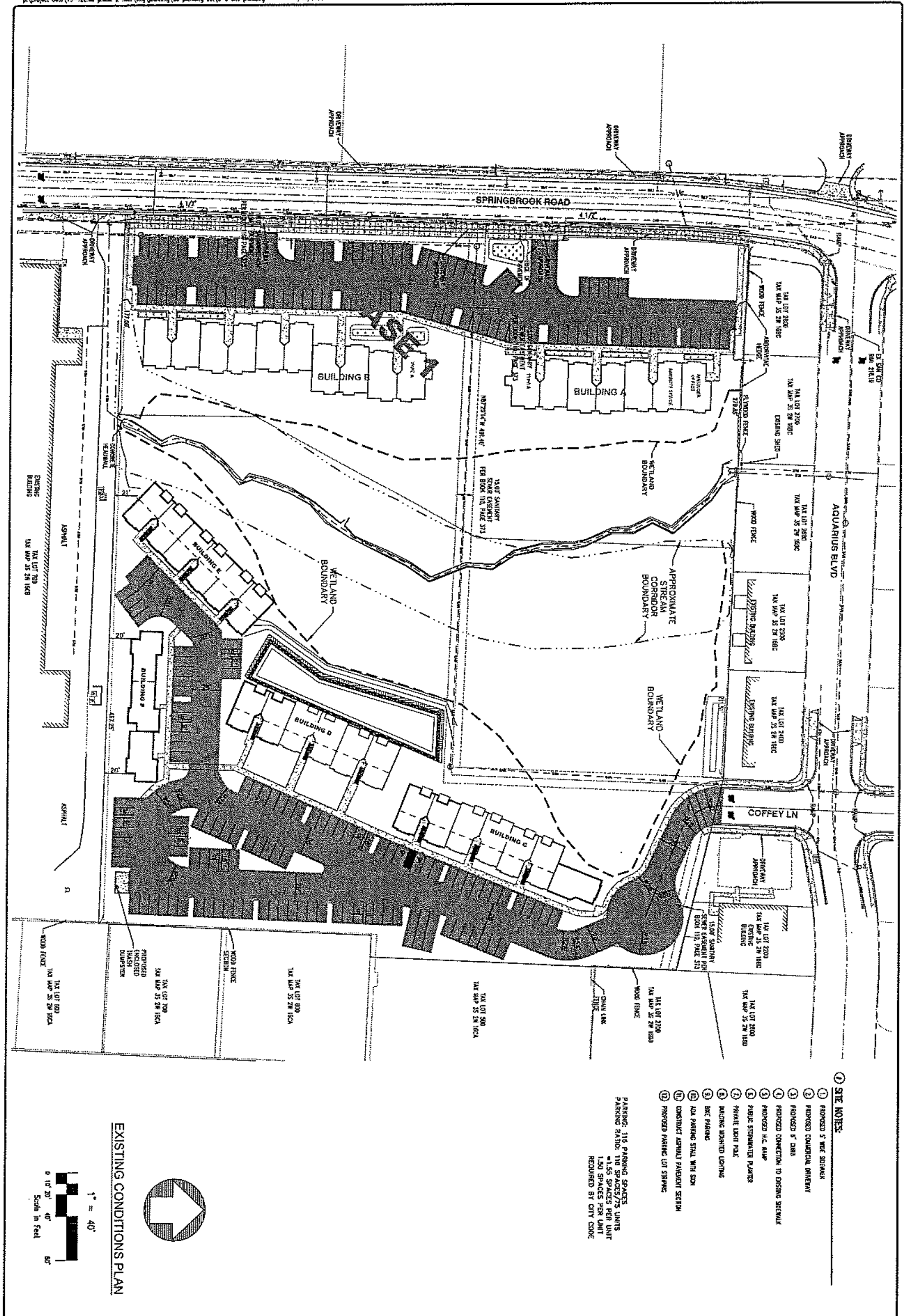
PROPOSAL: DESIGN REVIEW FOR A 2 BEDROOM, 75-UNIT APARTMENT PROJECT ON 5.49 ACRES. THE SITE WILL CONTAIN 113 ON-SITE PARKING SPACES.

FOR FURTHER INFORMATION, CONTACT:

City of Newberg
Community Development Department
414 E First Street
Phone: 503-537-1240

EXHIBIT A

p:\project data\19-122.03 phase 2 mcv\dwg\planning\03 planning set\c-5 site plan.dwg 4/15/2020



DESIGNED BY:	NE
DRAWN BY:	NE
CHECKED BY:	ED
DATE:	02/11/2020
SCALE:	AS-SHOWN HORIZONTAL; N/A VERTICAL
PROJECT NO:	19-122.03
SHEET	C5

MEADOW BROOK VILLAS (PHASE 2)

THE CITY OF NEWBERG

SITE PLAN

WE ENGINEERING, P.C.
ENGINEERING
SURVEYING + PLANNING

REGISTERED PROFESSIONAL ENGINEER
OREGON
EDWARD K. CHRISTENSEN
VALID THROUGH 12-31-21

NO.	DATE	REVISION

EXHIBIT G

Ed Christensen

From: Darby, Ty M. <Ty.Darby@tvfr.com>
Sent: Friday, February 21, 2020 3:28 PM
To: Ed Christensen
Cc: Corey Bingham
Subject: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

Hi Ed,

The proposed FDC and Fire Hydrant layout is acceptable to the Fire District.

Thank you,

Ty

From: Ed Christensen <ekc@welkinpc.com>
Sent: Friday, February 21, 2020 2:01 PM
To: Darby, Ty M. <Ty.Darby@tvfr.com>
Subject: Phase 2 of Meadow Brook Vista

Hi Ty,

For the 2nd Phase of Meadow Brook Vista attached is the new water plan for your review and approval. We made the changes you requeted.

Thanks,

Ed

WELKIN ENGINEERING, P.C.
GREAT RESULTS ONE PROJECT AT A TIME
Edward K. Christensen, PE (OR, WA, CA)
President
ekc@welkinpc.com
25260 SW Parkway Ave., Ste G
Wilsonville, OR 97070
tel: (503) 598-1866
fax: (503) 598-1868
mobile: 503.380.5324
www.Welkinpc.com

EXHIBIT 6A

Ed Christensen

From: Darby, Ty M. <Ty.Darby@tvfr.com>
Sent: Thursday, April 16, 2020 10:30 AM
To: Ed Christensen
Subject: RE: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

Hi Ed,

This is acceptable to the Fire District.

Thank you,

Ty

From: Ed Christensen <ekc@welkinpc.com>
Sent: Wednesday, April 15, 2020 5:01 PM
To: Darby, Ty M. <Ty.Darby@tvfr.com>
Subject: RE: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

The sender is from outside TVF&R – Do not click on links or attachments unless you are sure they are safe

Ty,

Could you also reply to whether the 26' Coffey Lane with a 35' cul-de-sac bulb is acceptable. Both meet your Standards for Newberg.

Thank you and stay safe,

Ed

WELKIN ENGINEERING, P.C.
GREAT RESULTS ONE PROJECT AT A TIME
Edward K. Christensen, PE (OR, WA, CA)
President
ekc@welkinpc.com
25260 SW Parkway Ave., Ste G
Wilsonville, OR 97070
tel: (503) 598-1866
fax: (503) 598-1868
mobile: 503.380.5324
www.Welkinpc.com

From: Darby, Ty M. <Ty.Darby@tvfr.com>
Sent: Friday, February 21, 2020 3:28 PM
To: Ed Christensen <ekc@welkinpc.com>
Cc: Corey Bingham <Corey.Bingham@newbergoregon.gov>
Subject: [EXTERNAL] RE: Phase 2 of Meadow Brook Vista

Hi Ed,

EXHIBIT 6B

September 10, 2019
JO: 19-122.02

Kaaren Hofmann
City of Newberg
414 East First St.
Newberg, OR 97132

RE: REQUEST FOR A REDUCTION IN RIGHT-OF-WAY/PAVEMENT WIDTH AND REDUCED CUL-DE-SAC SIZE FOR MEADOW CREEK APARTMENTS PHASE 2 IN NEWBERG, OREGON

Dear Mrs. Hofmann:

We would like to request a reduction in right-of-way (ROW)/pavement width and reduced cul-de-sac size for Phase 2 of Meadow Creek apartments. The attached site plan indicates a 70 foot diameter cul-de-sac and a reduction in street pavement width to 26 feet. The 70 foot cul-de-sac is allowable per Standard Drawing 529 as approved for Fire Department Turn arounds. The reduced pavement width is so we can prevent wetland fill impacts for this short terminus 230 foot long dead end cul-de-sac. The 34 foot ROW will allow us to have ±6 feet of distance from the wetlands to build the roadway. We will also need relief from the Public Utility Easement on the southside of the cul-de-sac and around the cul-de-sac bulb.

We respectfully request your approval of these changes for this short extension of Coffee Lane.

Sincerely,
WELKIN ENGINEERING, PC

Edward K. Christensen, P.E.
President

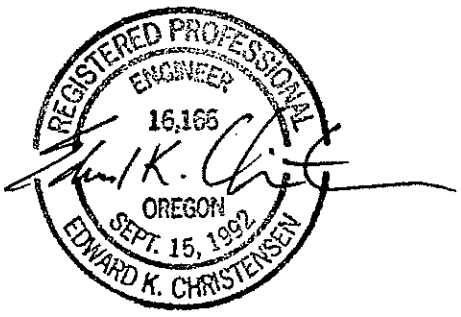
Cc: Gabe Duus

25260 SW PARKWAY DR., SUITE G, WILSONVILLE, OR 97070
(503) 598-1866, fax (503) 598-1868
www.WelkinPC.com ekc@WelkinPC.com

Storm Drainage Report for the Meadow Brook Villas Apartments Phase 2

1306 N. SPRINGBROOK RD. (OFF COFFEY LN.) IN NEWBERG, OREGON

Welkin JO: 19-122.03



Edward K. Christensen, P.E.

Submittal: 4/17/20

25260SWPARKWAYDR.,SUITEG,WILSONVILLE,OR 97070
(503) 598-1866, fax (503) 598-1868
www.WelkinPC.com ekc@WelkinPC.com

Table of Contents

Appendix A:

PROJECT OVERVIEW:

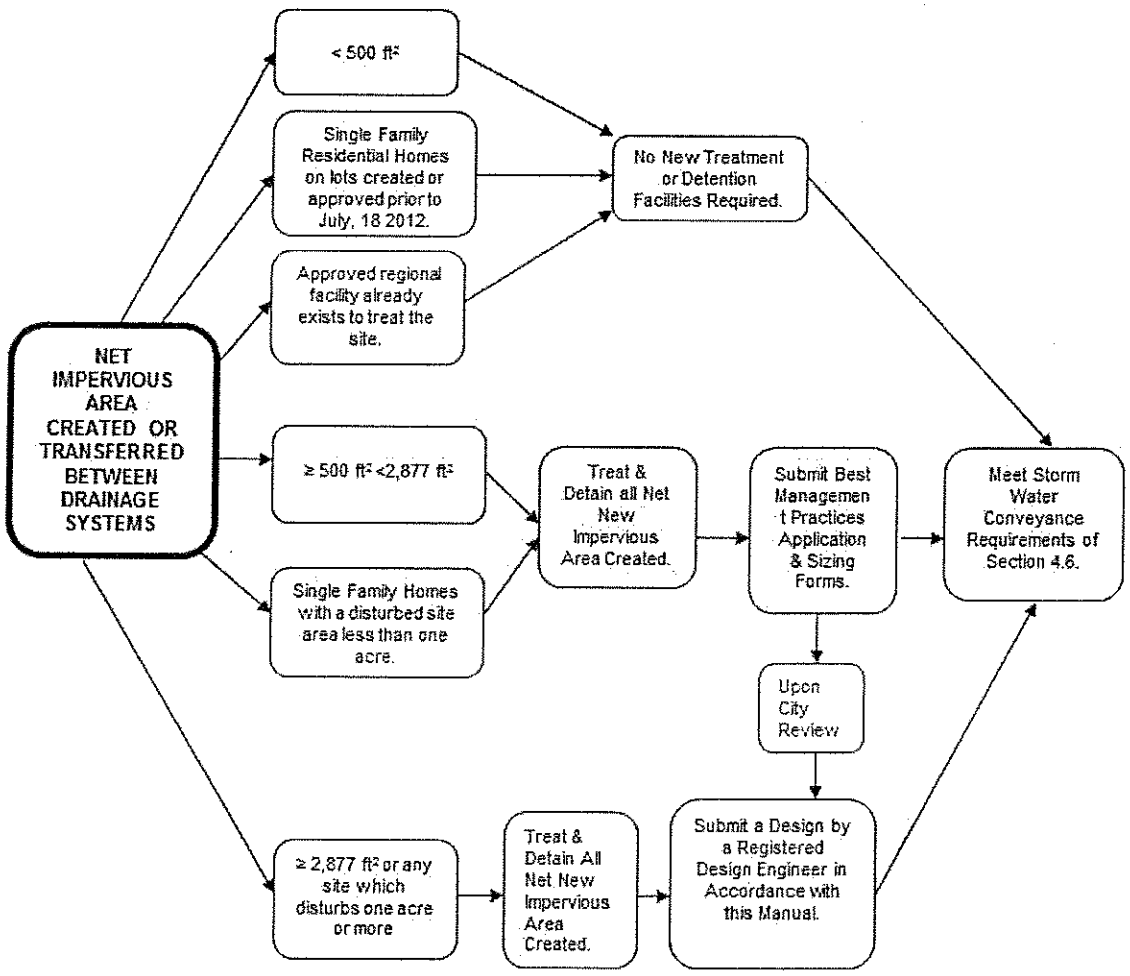
The apartment site is located on Coffey Lane. north of the Safeway store, south of Aquarius Ave. and east of NE Newhall Rd. The site mostly slopes towards an unnamed tributary creek of Springbrook Creek. The unnamed creek bisects the site. The apartments are arranged in a linear fashion paralleling the creek and its adjoining wetlands. The project will have minimal impact on the wetlands. The site has no structures on it currently.

The parcel slopes westerly from a high elevation of 222' to a low in the unnamed Creek of ±180'. Stormwater on the undeveloped site sheet flows the first 126' at an average slope of 1.82% into the unnamed creek. From there the creek slopes to the southern edge of the parcel at an average slope of 5.93%, where it flows into an existing 48" public storm pipe. There are no hazardous slopes within the site. The drainage way which flows through the site is a perennial drainage channel, with wetlands on both sides of the channel.

DEVELOPMENT OVERVIEW:

The project will contain 75 apartment units with 116 parking spaces. The apartment building roofs, and fronting sidewalks will all drain into a piping system and catch basins which will be run through a 17,494 cf Water Quality and Detention basin to the west of Building D. The Water Quality and Detention basin will use a -0.2' elevation difference between the bottom of the pond and the IE of the outlet to contain the Water Quality event and allow it to infiltrate into the ground. The entire water quality event will be infiltrated into the ground. The Water Quality and Detention basin will be surrounded on all 4 sides by a rockery or concrete retaining wall.

Figure 4.4 Storm water Quality & Quantity Design Flow Chart



STORMWATER SYSTEM DESIGN:

The subdivision is to be designed to convey the ½ the 2, the 2, 10, and 25-year storm events through the Water Quality and Detention basin, and reduce the flows to below predevelopment runoff levels. Using the Santa Barbara Urban Hydrograph (SBUH) method based on a Type IA rainfall distribution, the site has been analyzed to determine the proposed peak runoff rates with 1 inch for the water quality, ½ the 2-year, the 2, 10, and 25-year 24-hour storm events per the requirements of the City of Newberg – see Exhibits 1 A-D. The SBUH method uses runoff curve numbers in conjunction with the site's hydrologic soil group to model the site's runoff characteristics. The SBUH

method does not include infiltration systems and those are calculated separately.

STORMWATER SYSTEM					
Recurrence Interval, Years	½ the 2	2	10	25	100
24-Hour Rainfall (Inches)	1.25	2.5	3.5	4.0	4.50
Undeveloped runoff (cfs)	0.02	0.22	0.55	0.74	0.94
Developed runoff (cfs) After Detention	0.02 *	0.19	0.44	0.67	1.18

- See Stormwater Infiltration rates below.

The largest pipe proposed for the project is a 8 inch PVC for the flow control manhole outlet to handle the higher overflow water if necessary. From the SBUH calculations, our highest flow will be 1.18 cfs from the 100-Year storm. Exhibit 2 A&B provides by Chezy-Manning analysis that to convey the 100-Year flow with an 8" PVC pipe using a slope of 1.0% will convey 1.54 cfs, with an in pipe velocity of 4.53 fps.

WATER QUALITY:

All stormwater will be treated using the Water Quality pond. The bottom of the entire pond will be 0.2' lower than the outlet. The 1" Water Quality event has a developed site runoff volume of 5,904 cf. As noted below in the stormwater infiltration section, the infiltration rate for the pond will be 0.09 cfs. Exhibit 1A indicates a 1 inch peak flow rate of 0.47 cfs. Exhibit 1B is the SBUH for the 1 inch storm. Exhibit 1B also includes a spread sheet result for the quantity of stormwater exceeding the 0.09 cfs infiltration rate. After the storm runoff exceeds 0.09 cfs, the cumulative volume is calculated at the runoff rate minus the infiltration rate. The 1 inch runoff volume exceeding the infiltration rate combined is 954.72 cf. The volume of the 0.2 feet below the invert in the basin is 5,000 sf x 0.2 ft = 1,000 cf. So the 0.2 ft will act as a water quality detention basin, which exceeds the peak runoff volume, so the entire 1 inch runoff, will be infiltrated.

Stormwater for the new Coffey Ln. cul-de-sac and the throat of the apartment driveway will be treated in a bio-swale flow through planter. Exhibit 1C is the LIDA Form 451, which indicates 573.24 sf of planter will be required. The plan is to provide a 600 sf flow through planter.

STORMWATER INFILTRATION:

Infiltration for this site is moderate. On September 16, 2019 Welkin performed 5 infiltration tests on-site. The 5 tests were taken in the locations of the proposed stormwater detention facilities. The underlying soil in stormwater detention facility is Woodburn Silt Loam. Exhibit 4 A-H shows the location of the tests, the test results, and the US Depart of Conservation Saturated Hydraulic Conductivity rate for this soil. The field measurements indicated and average infiltration rate of 1.65 inches per hour. The US Depart of Conservation indicates that the Saturated Hydraulic Conductivity rate for this soil is 11.39 microns per second. 11.39 microns per second equates to 1.61 in per hour. The following calculations use the slower 1.61 inches per hour rate.

During a typical 24 hour storm with 5,000 sf stormwater detention facility, the infiltration would amount to: (1.61*24/12)*5,000 sf = 16.100 cubic feet. Using a 2/1 reduction in the infiltration rate, the infiltration system will infiltrate 8,050 cf/day. Since the 1" water quality storm event for the whole site creates only 5,904 cf of runoff, the entire water quality storm will be infiltrated. The rate of infiltration for the site is: 8,050 cf/day÷86,400sec/day = 0.093 cfs, which exceeds the ½ of the 2-Year flow rate of 0.02 cfs by a 4:1 margin.

100-YEAR RUNOFF:

The 100-year runoff was calculated to be 1.18 cfs after detention. The largest pipe proposed for the project is a 8 inch PVC between the flow control manhole to the outfall near the stream corridor. Exhibit 2 A-D provides by Chezy-Manning analysis that to convey the 100-Year flow with a slope of 1.0%, an 8 inch pipe will have a velocity of 4.53 fps and will convey 1.54 cfs or 0.36 cfs more than our 100-year storm.

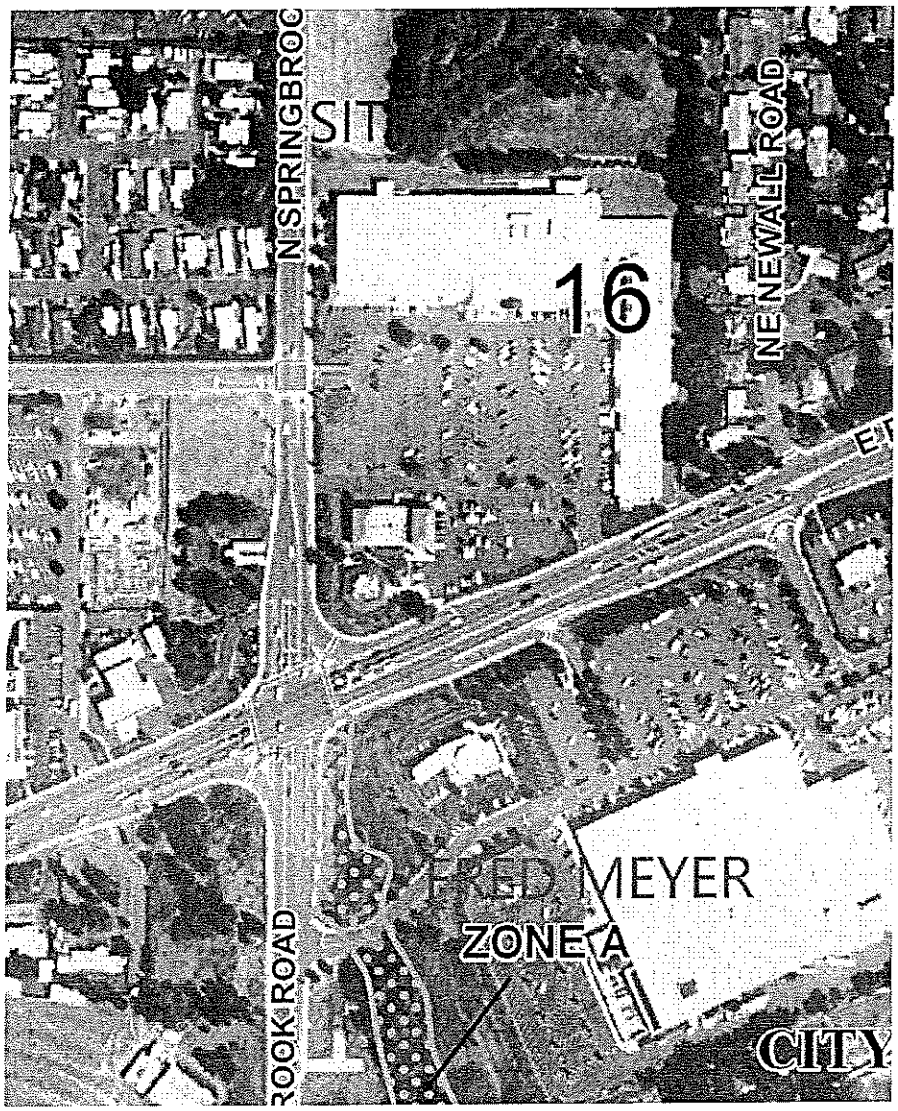
Should the 8 inch pipe become clogged, Exhibit 2E shows the runoff flow paths. The site slopes downward continuously from north to south. With the on-site sidewalks sloping towards the parking area, the Buildings C-F runoff will fall towards the parking area also and eventually runoff around Building E. The lowest Finished Floor for Building E is 220.5 feet. The Top of Curb elevation at southwestern end of Building E is 220.0 feet, providing an adequate relief for the 2.84 cfs storm. In case the 48 inch pipe got clogged and filled up the wetland basin, water would be conveyed to the Rite Aid parking lot and flow west to Springbrook Rd. and then south on Springbrook Rd, away from the site.

Runoff for the new Coffey Ln. cul-de-sac and the throat of the apartment driveway will flow through the planter. The 100-year storm on Coffey Ln. will result in 0.28 cfs of flow. It will enter the stream at the northern end of the site.

DOWNSTREAM ANALYSIS:

The project site is situated approximately ¼ mile upstream from the Fred Meyer entrance off of N. Springbrook Rd. There is a Zone A within the area cornered by

Highway 99E, Springbrook Rd., and Fred Meyer. The Zone A is limited and ends south of Hayes St. Although this area is indicated a Flood Zone A, the 2014 Stormwater Master Plan does not indicate any significant deficiencies downstream of the project site.



From the review of the 2014 Stormwater Master Plan and site considerations, it can be concluded that because the site is actually reducing runoff to before development levels of runoff, the site will have no impacts on the downstream system.

OPERATIONS AND MAINTENANCE:

The complex owners will be responsible for the maintenance of the private storm system, including the Storm Filter system. The Operation and Maintenance of the flow control storm drainage facility will be provided by the City of Newberg.

EXHIBIT 1A

Welkin *EKC 15:52 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
1 INCH DEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	smooth.surface	n=0.011	90.0	0.9'	1.00%	1.7'
2	shallow concentrated	paved,gravel	K=27	107.0	0.6'	0.56%	0.9'
3	pipe	plastic.pipe	n=0.011	318.0	1.5'	0.47%	1.2'
4	pipe	plastic.pipe	n=0.011	155.0	6.0'	3.87%	0.2'

total Time of Concentration = 4.0'

storm hyetograph: SCS TypeIA
return period = 1 year
storm duration = 24 hr.
total rainfall = 1.00 in.

pervious area = 0.52 A CN = 86.4 CALCULATED FOR THE SITE
impervious area = 1.92 A CN = 98
total site area = 2.44 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\1 inch.hyd

peak flow = 0.47cfs @ 7.83 hr.
runoff volume = 5,904 cu.ft.

1 INCH SBUH

147 10.00 0.47
0.00 0.00
0.17 0.00
0.33 0.00
0.50 0.00
0.67 0.00
0.83 0.00
1.00 0.00
1.17 0.00
1.33 0.00
1.50 0.00
1.67 0.00
1.83 0.00
2.00 0.00
2.17 0.01
2.33 0.01
2.50 0.01
2.67 0.01
2.83 0.02
3.00 0.02
3.17 0.02
3.33 0.02
3.50 0.03
3.67 0.03
3.83 0.03
4.00 0.04
4.17 0.04
4.33 0.04
4.50 0.04
4.67 0.04
4.83 0.05
5.00 0.06
5.17 0.06
5.33 0.06
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5.67 0.06
5.83 0.07
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6.50 0.08
6.67 0.08
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7.17 0.12
7.33 0.15
7.50 0.17
7.67 0.26
7.83 0.47
8.00 0.42
8.17 0.22
8.33 0.17
8.50 0.15
8.67 0.15
8.83 0.12
9.00 0.10
9.17 0.10
9.33 0.10
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9.67 0.10
9.83 0.10
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11.00 0.08
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12.67 0.09
12.83 0.08
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18.67 0.05
18.83 0.05
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19.17 0.05
19.33 0.05
19.50 0.05
19.67 0.05
19.83 0.05
20.00 0.05
20.17 0.05
20.33 0.05
20.50 0.05
20.67 0.05
20.83 0.05
21.00 0.05
21.17 0.05
21.33 0.05
21.50 0.05
21.67 0.05
21.83 0.05
22.00 0.05
22.17 0.05
22.33 0.05
22.50 0.05
22.67 0.05
22.83 0.05
23.00 0.05
23.17 0.05
23.33 0.05
23.50 0.05
23.67 0.05
23.83 0.05
24.00 0.05
24.17 0.02
24.33 0.00

MEADOW BROOK VILLAS PHASE 2
1" STORM PEAK FLOW ANALYSIS

TIME INCREMENT	FLOW RATE IN CFS MINUS 0.09 CFS INFILTRATION RATE
0.17 HRS	0.0017
0.17 HRS	0.0051
0.17 HRS	0.0051
0.17 HRS	0.0102
0.17 HRS	0.0136
0.17 HRS	0.0289
0.17 HRS	0.0646
0.17 HRS	0.0561
0.17 HRS	0.0221
0.17 HRS	0.0136
0.17 HRS	0.0102
0.17 HRS	0.0102
0.17 HRS	0.0051
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
0.17 HRS	0.0017
TOTAL PEAK FLOW VOLUME	954.72 CF
VOLUME OF 0.2' OF STORAGE IN DETENTION POND	1000 CF

1 C

City of Newberg LIDA Sizing Form

(Include this form with plan submittal)

Project Title: MEADOW CREEK VILLAS PHASE 2

Project Address: 1306 N. SPRINGBROOK RD

Project Taxlot/ Taxmap#: R3216CB 00200

Project Location: NORTH OF NEWBERG RITE AID

Contact Name/Title/Company: GABE DUUS, MANAGER, MEADOW BROOK VILLAS, LLC

Phone/e-mail: gabe@1sbld.com / (360) 694-2552

STEP 1: Determine Impervious Area Requiring Treatment

Total Gross Site Area (acres): _____

Pre. Dev. Impervious Area (ft): _____ (X)

Proposed Net New Impervious Area (ft): (PA)= (Y) - (X) 9554 (PA)

Post Dev. Impervious Area (ft): 9554 (Y)

STEP 2: Deduct Impervious Area LIDA Credits

Porous Pavement (sq. ft.): _____ (P)

Green Roof (sq. ft): _____ (G)

Other Credits as approved (sq. ft.): _____ (O)

Total Credits (sq. ft.): (C)= (P)+(G)+(O) _____ (C)

Impervious Area Requiring Treatment (sq. ft.): (IA)= (PA) - (C) _____ (IA)

STEP 3: Size LIDA Facilities for Remaining Impervious Area

	Impervious Area Treated (sq. ft.)	SF, Sizing Factor	LIDA Facility Size (sq. ft.)
Infiltration Planters/ Rain Garden		0.045	
Flow-through Planter	9554	0.060	573.24 / 600 PROVIDED
Public Flow-through Planter		0.060	

Total Impervious Area Treated (sq. ft.) _____ MUST BE EQUAL TO (IA)

City of Newberg
PUBLIC WORKS ENGINEERING DIVISION
414 E. FIRST STREET NEWBERG, OR 97132
PHONE: 503-537-1240
FAX: 503-537-1277

REVISIONS:

LIDA SIZING FORM

SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING 451

EXHIBIT 2A

Welkin ***EKC 15:21 11-Apr-20***

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
100-YEAR DEVELOPED-YEAR DEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	smooth.surface	n=0.011	90.0	0.9'	1.00%	1.7'
2	shallow concentrated	paved,gravel	K=27	107.0	0.6'	0.56%	0.9'
3	pipe	plastic.pipe	n=0.011	318.0	1.5'	0.47%	1.2'
4	pipe	plastic.pipe	n=0.011	155.0	6.0'	3.87%	0.2'

total Time of Concentration = 4.0'

storm hyetograph: SCS TypeIA
return period = 100 years
storm duration = 24 hr.
total rainfall = 4.50 in.

pervious area = 0.52 A CN = 86.4 CALCULATED FOR THE SITE
impervious area = 1.92 A CN = 98
total site area = 2.44 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\100-year developed.hyd

peak flow = 2.84cfs @ 7.83 hr.
runoff volume = 35,459 cu.ft.

2B

Welkin *EKC 09:28 23-Dec-19*

Project 19-122.03
MEADOW CREEK APARTMENTS - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
100-YEAR UNDEVELOPED SITE RUNOFF

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	dense.grasses	n=0.24	126.5	2.3'	1.82%	20.2'
2	shallow concentrated	high.grass	K=9	170.4	10.1'	5.93%	1.3'

total Time of Concentration = 21.5'

storm hyetograph: SCS TypeIA
return period = 100 years
storm duration = 24 hr.
total rainfall = 4.50 in.

pervious area = 2.27 A CN = 77 GpC:Res,2-A.lots
impervious area = 0.00 A CN = 98
total site area = 2.27 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\100-year undeveloped.hyd

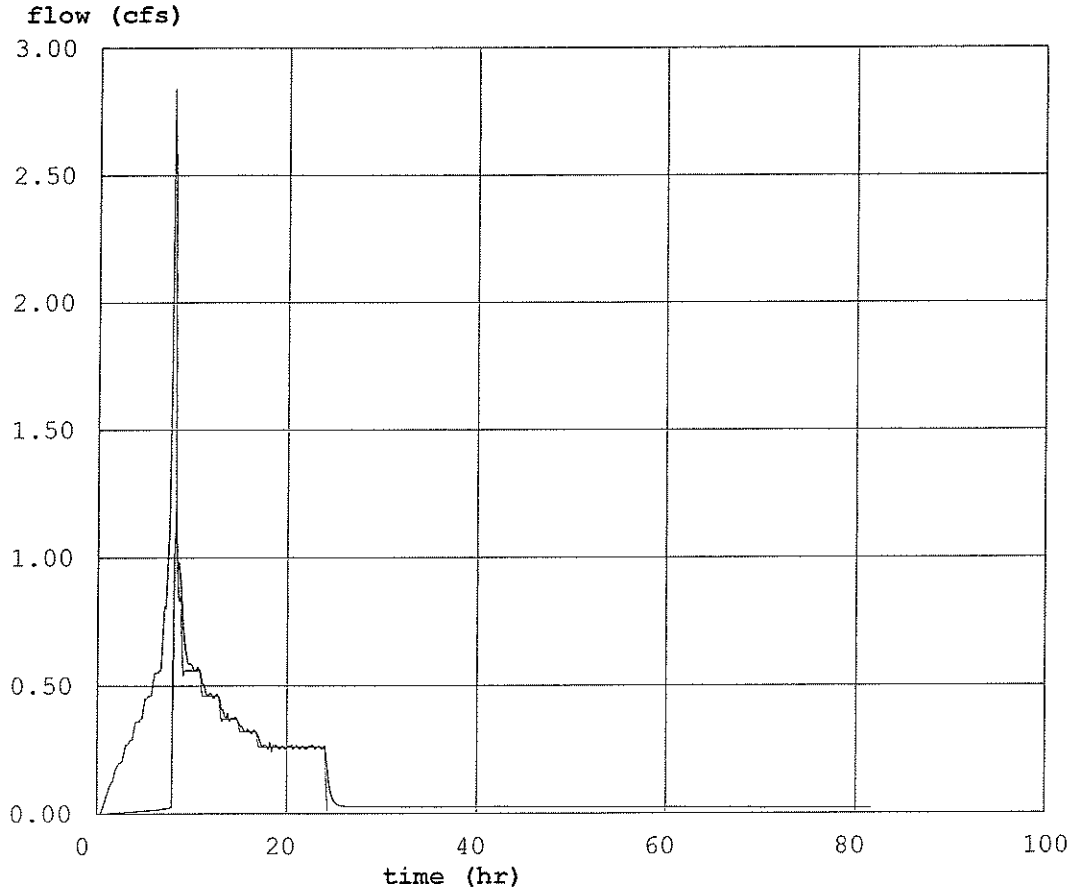
peak flow = 0.94cfs @ 8.00 hr.
runoff volume = 18,212 cu.ft.

2c

Welkin *EKC 15:44 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

DETENTION ROUTING
100-YEAR STORM DETENTION



DETENTION POND (stage-volume calculated)

elevation	area	volume
212.00	3000	0
214.00	4015	6990
216.00	6595	17494

STAGE	*VOLUME*
212.0	0
214.0	6990
216.0	17494

OUTLET TYPE	*ELEVATION*	*SIZE*
circ. orifice	212.0	dia.(in) = 0.68
circ. orifice	213.8	dia.(in) = 0.50
broad weir	214.9	width(in) = 37.70

inflow hydrograph: c:\program files\quick3\meadow brook - phase 2\100-year developed.hyd
outflow hydrograph: c:\program files\quick3\meadow brook - phase 2\100-year undeveloped.hyd

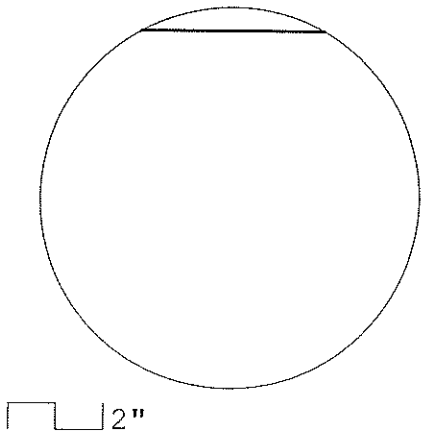
peaks: inflow = 2.84 cfs @ 7.83 hr.
outflow = 1.18 cfs @ 8.33 hr.
stage: 2.97 ft. detained volume: 12,073 c.f.

2D

WELKIN ENGINEERING *EKC 17:16 16-Apr-20*

Project 19-122.03
MEADOW BROOK VILLAS

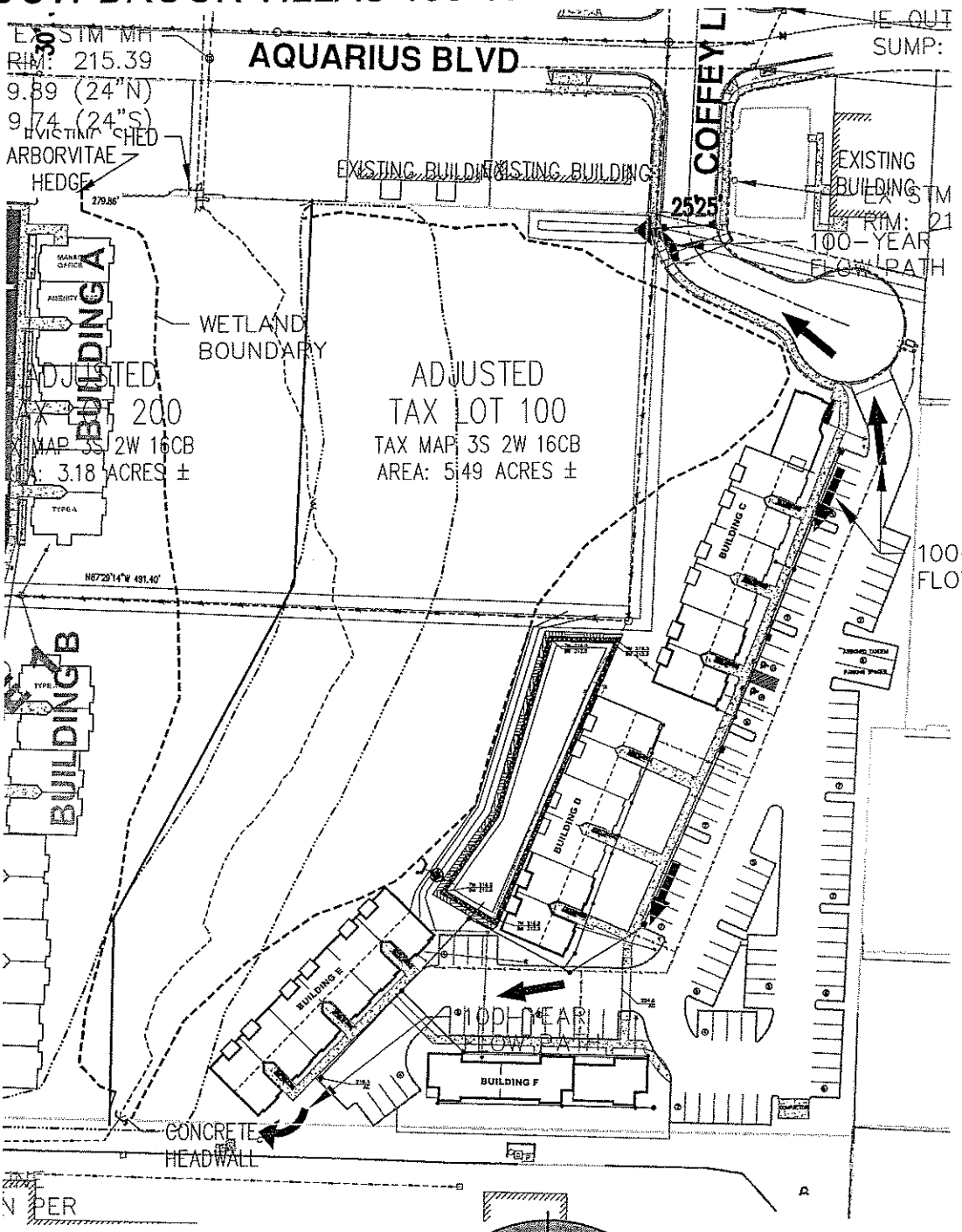
GRAVITY PIPE FLOW (Chezy-Manning)
100-YEAR FLOW FROM DETAINED PHASE 2



diameter = 8.0"
slope = 1.00%
material: spiral rib metal
Manning's n = 0.011
depth of flow = 93.82% of diameter (max)

wetted perimeter = 1.76'
area = 0.34 s.f.
hydraulic radius = 0.19'
velocity = 4.53 fps
flow = 1.54 cfs

MEADOW BROOK VILLAS 100-YEAR FLOW PATH EXHIBIT 2E



WELKIN ENGINEERING, P.C.

ENGINEERING
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WILSONVILLE, OR 97070
TEL: (503) 598-1866
FAX: (503) 598-1868
ekc@WelkinPC.com
www.WelkinPC.com

JOB: 19-122.03 EKC 1/16/20

WEPC DRAWING FILE: P:\Project Data\19-122.03 Phase 2 MCV\dwg\Planning\03 Planning Set\C-XX STORM GRADING V2016.dwg

Welkin *EKC 11:00 17-Apr-20*

Project 19-122.03
MEADOW CREEK VISTA - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
100-YEAR COFFEY LN. DEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	smooth.surface	n=0.011	90.0	3.4'	3.78%	1.0'
2	shallow concentrated	paved,gravel	K=27	215.0	4.9'	2.28%	0.9'
3	pipe	plastic.pipe	n=0.011	15.0	0.2'	1.00%	0.0'
4	intermittent channel	grass.channel	K=17	80.0	0.2'	0.25%	1.6'

total Time of Concentration = 3.5'

storm hyetograph: SCS TypeIA
return period = 100 years
storm duration = 24 hr.
total rainfall = 4.50 in.

pervious area = 0.00 A CN = 86.4 CALCULATED FOR THE SITE
impervious area = 0.22 A CN = 98
total site area = 0.22 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\coffey lane.hyd

peak flow = 0.28cfs @ 7.83 hr.
runoff volume = 3,405 cu.ft.

EXHIBIT 3A

Welkin *EKC 15:09 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
HALF THE 2-YEAR DEVELOPED-YEAR DEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	smooth.surface	n=0.011	90.0	0.9'	1.00%	1.7'
2	shallow concentrated	paved,gravel	K=27	107.0	0.6'	0.56%	0.9'
3	pipe	plastic.pipe	n=0.011	318.0	1.5'	0.47%	1.2'
4	pipe	plastic.pipe	n=0.011	155.0	6.0'	3.87%	0.2'

total Time of Concentration = 4.0'

storm hyetograph: SCS TypeIA
return period = 1 year
storm duration = 24 hr.
total rainfall = 1.25 in.

pervious area = 0.52 A CN = 86.4 CALCULATED FOR THE SITE
impervious area = 1.92 A CN = 98
total site area = 2.44 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\half the 2-year developed.h

peak flow = 0.63cfs @ 7.83 hr.
runoff volume = 7,868 cu.ft.

Welkin ***EKC 17:07 16-Apr-20***

Project 19-122.03
MEADOW CREEK VILLAS - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
1/2 THE 2-YEAR UNDEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	dense.grasses	n=0.24	126.5	2.3'	1.82%	20.2'
2	shallow concentrated	high.grass	K=9	170.4	10.1'	5.93%	1.3'

total Time of Concentration = 21.5'

storm hyetograph: SCS TypeIA
return period = 1 year
storm duration = 24 hr.
total rainfall = 1.25 in.

pervious area = 2.27 A CN = 77 GpC:Res,2-A.lots
impervious area = 0.00 A CN = 98
total site area = 2.27 A

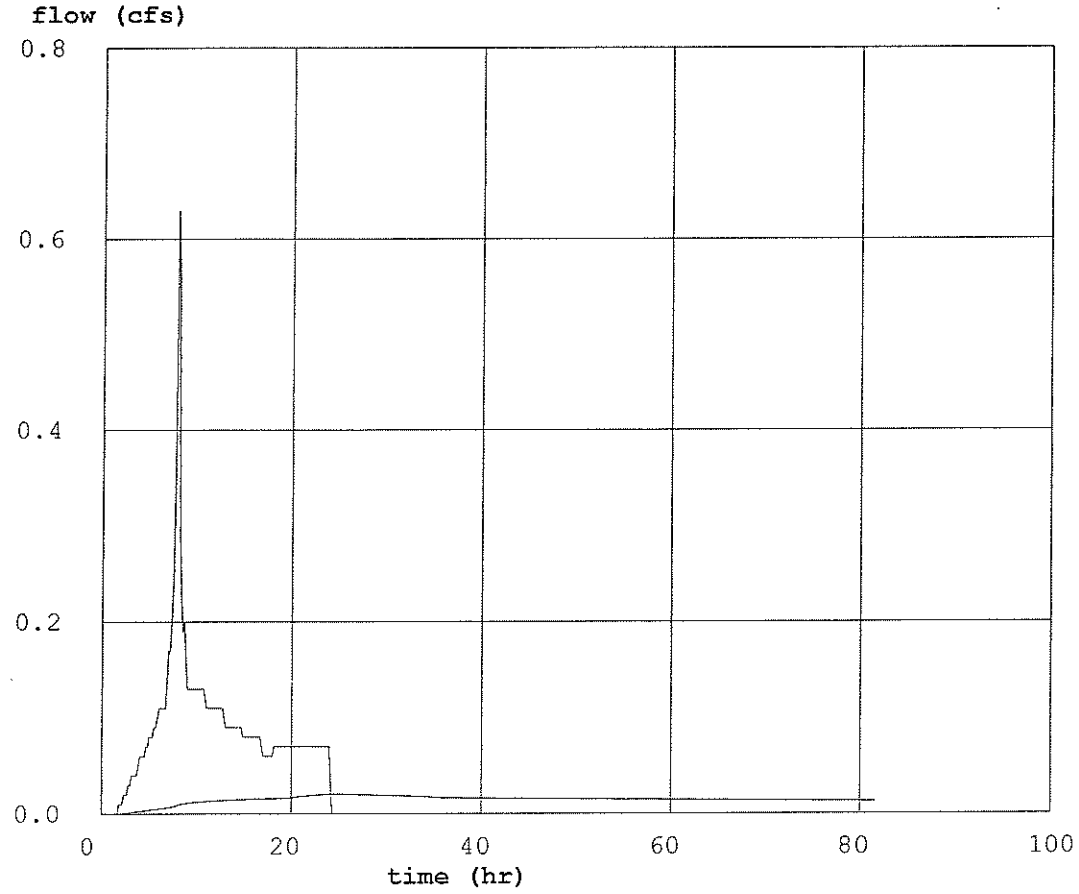
hydrograph file: c:\program files\quick3\meadow brook - phase 2\half the 2-year undeveloped

peak flow = 0.02cfs @ 24.00 hr.
runoff volume = 960 cu.ft.

Welkin *EKC 15:42 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

DETENTION ROUTING
HALF THE 2-YEAR STORM DETENTION



DETENTION POND (stage-volume calculated)

elevation	area	volume
212.00	3000	0
214.00	4015	6990
216.00	6595	17494

STAGE	*VOLUME*
212.0	0
214.0	6990
216.0	17494

OUTLET TYPE	*ELEVATION*	*SIZE*
circ. orifice	212.0	dia.(in) = 0.68
circ. orifice	213.8	dia.(in) = 0.50
broad weir	214.9	width(in) = 37.70

inflow hydrograph: c:\program files\quick3\meadow brook - phase 2\half the 2-year developed.hyd
outflow hydrograph: c:\program files\quick3\meadow brook - phase 2\half the 2-year undeveloped.hyd

peaks: inflow = 0.63 cfs @ 7.83 hr.
outflow = 0.02 cfs @ 24.67 hr.
stage: 1.97 ft. detained volume: 6,902 c.f.

Welkin *EKC 15:11 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
2-YEAR 'DEVELOPED-YEAR DEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	smooth.surface	n=0.011	90.0	0.9'	1.00%	1.7'
2	shallow concentrated	paved,gravel	K=27	107.0	0.6'	0.56%	0.9'
3	pipe	plastic.pipe	n=0.011	318.0	1.5'	0.47%	1.2'
4	pipe	plastic.pipe	n=0.011	155.0	6.0'	3.87%	0.2'

total Time of Concentration = 4.0'

storm hyetograph: SCS TypeIA
return period = 2 years
storm duration = 24 hr.
total rainfall = 2.50 in.

pervious area = 0.52 A CN = 86.4 CALCULATED FOR THE SITE
impervious area = 1.92 A CN = 98
total site area = 2.44 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\2-year developed.hyd

peak flow = 1.47cfs @ 7.83 hr.
runoff volume = 18,223 cu.ft.

3E

Welkin *EKC 09:30 23-Dec-19*

Project 19-122.03
MEADOW CREEK APARTMENTS - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
2-YEAR UNDEVELOPED SITE RUNOFF

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	dense.grasses	n=0.24	126.5	2.3'	1.82%	20.2'
2	shallow concentrated	high.grass	K=9	170.4	10.1'	5.93%	1.3'

total Time of Concentration = 21.5'

storm hyetograph: SCS TypeIA
return period = 2 years
storm duration = 24 hr.
total rainfall = 2.50 in.

pervious area = 2.27 A CN = 77 GpC:Res,2-A.lots
impervious area = 0.00 A CN = 98
total site area = 2.27 A

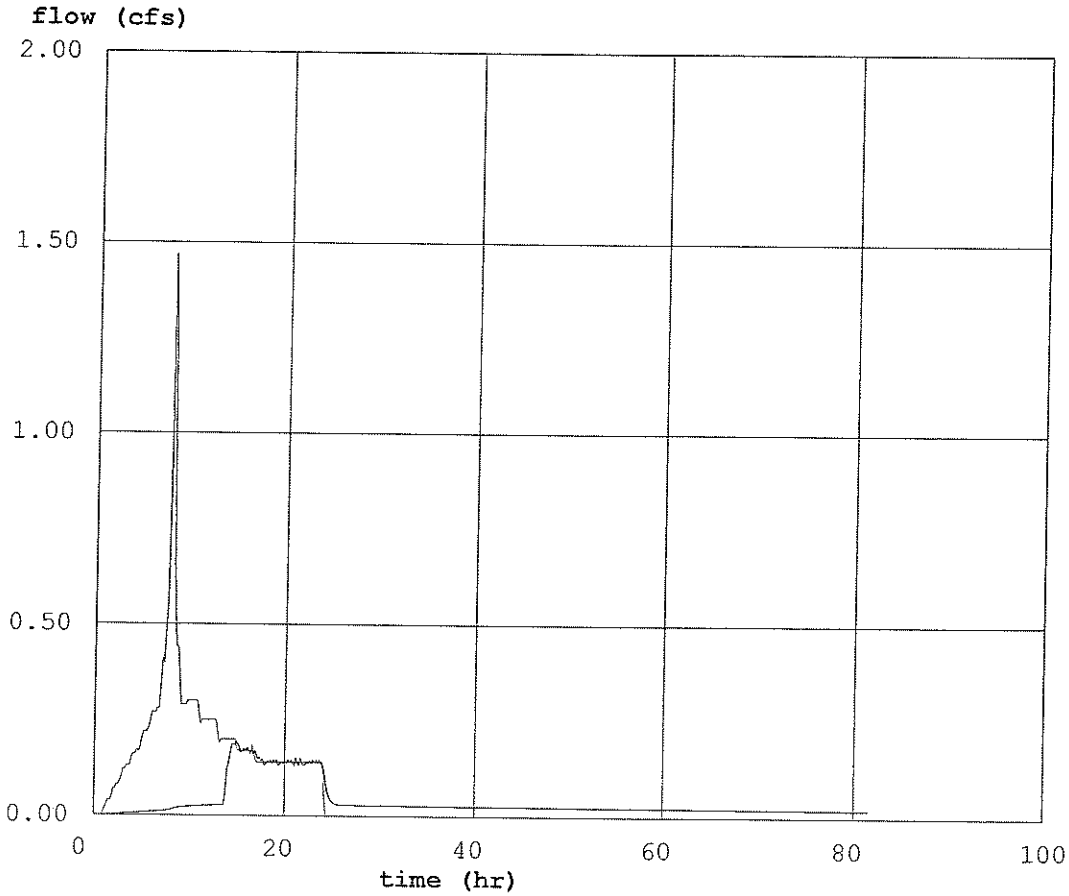
hydrograph file: c:\program files\quick3\meadow brook - phase 2\2-year undeveloped.hyd

peak flow = 0.22cfs @ 8.00 hr.
runoff volume = 6,096 cu.ft.

Welkin ***EKC 15:41 11-Apr-20***

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

DETENTION ROUTING
2-YEAR STORM DETENTION



DETENTION POND (stage-volume calculated)

elevation	area	volume
212.00	3000	0
214.00	4015	6990
216.00	6595	17494

STAGE	*VOLUME*
212.0	0
214.0	6990
216.0	17494

OUTLET TYPE	*ELEVATION*	*SIZE*
circ. orifice	212.0	dia.(in) = 0.68
circ. orifice	213.8	dia.(in) = 0.50
broad weir	214.9	width(in) = 37.70

inflow hydrograph: c:\program files\quick3\meadow brook - phase 2\2-year developed.hyd
outflow hydrograph: c:\program files\quick3\meadow brook - phase 2\2-year undeveloped.hyd

peaks: inflow = 1.47 cfs @ 7.83 hr.
outflow = 0.19 cfs @ 15.00 hr.
stage: 2.92 ft. detained volume: 11,797 c.f.

Welkin *EKC 15:16 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
10-YEAR DEVELOPED-YEAR DEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	smooth.surface	n=0.011	90.0	0.9'	1.00%	1.7'
2	shallow concentrated	paved,gravel	K=27	107.0	0.6'	0.56%	0.9'
3	pipe	plastic.pipe	n=0.011	318.0	1.5'	0.47%	1.2'
4	pipe	plastic.pipe	n=0.011	155.0	6.0'	3.87%	0.2'

total Time of Concentration = 4.0'

storm hyetograph: SCS TypeIA
return period = 10 years
storm duration = 24 hr.
total rainfall = 3.50 in.

pervious area = 0.52 A CN = 86.4 CALCULATED FOR THE SITE
impervious area = 1.92 A CN = 98
total site area = 2.44 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\10-year developed.hyd

peak flow = 2.15cfs @ 7.83 hr.
runoff volume = 26,789 cu.ft.

Welkin *EKC 09:29 23-Dec-19*

Project 19-122.03
MEADOW CREEK APARTMENTS - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
10-YEAR UNDEVELOPED SITE RUNOFF

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	dense.grasses	n=0.24	126.5	2.3'	1.82%	20.2'
2	shallow concentrated	high.grass	K=9	170.4	10.1'	5.93%	1.3'

total Time of Concentration = 21.5'

storm hyetograph: SCS TypeIA
return period = 10 years
storm duration = 24 hr.
total rainfall = 3.50 in.

pervious area = 2.27 A CN = 77 GpC:Res,2-A.lots
impervious area = 0.00 A CN = 98
total site area = 2.27 A

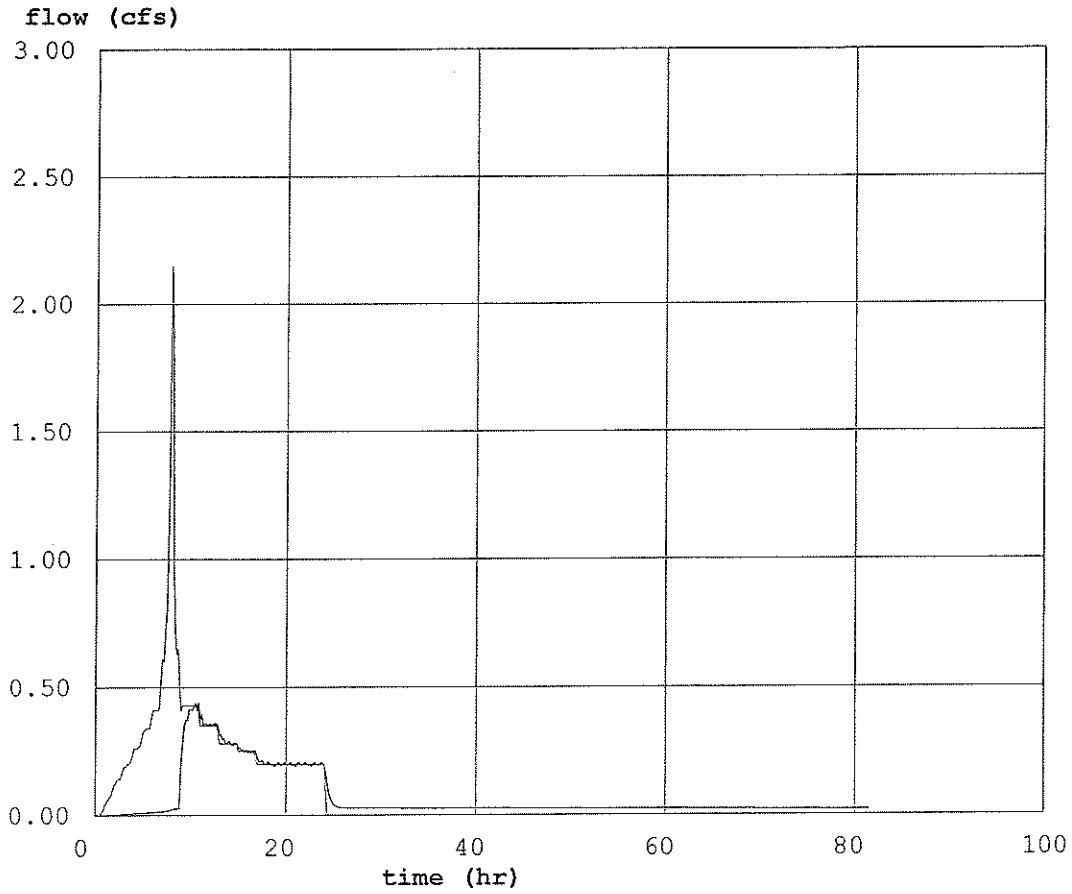
hydrograph file: c:\program files\quick3\meadow brook - phase 2\10-year undeveloped.hyd

peak flow = 0.55cfs @ 8.00 hr.
runoff volume = 11,783 cu.ft.

Welkin *EKC 15:42 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

DETENTION ROUTING
10-YEAR STORM DETENTION



DETENTION POND (stage-volume calculated)

elevation	area	volume
212.00	3000	0
214.00	4015	6990
216.00	6595	17494

STAGE	*VOLUME*
212.0	0
214.0	6990
216.0	17494

OUTLET TYPE	*ELEVATION*	*SIZE*
circ. orifice	212.0	dia.(in) = 0.68
circ. orifice	213.8	dia.(in) = 0.50
broad weir	214.9	width(in) = 37.70

inflow hydrograph: c:\program files\quick3\meadow brook - phase 2\10-year developed.hyd
outflow hydrograph: c:\program files\quick3\meadow brook - phase 2\10-year undeveloped.hyd

peaks: inflow = 2.15 cfs @ 7.83 hr.
outflow = 0.44 cfs @ 11.00 hr.
stage: 2.92 ft. detained volume: 11,847 c.f.

Welkin *EKC 15:19 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
25-YEAR DEVELOPED-YEAR DEVELOPED SITE

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	smooth.surface	n=0.011	90.0	0.9'	1.00%	1.7'
2	shallow concentrated	paved,gravel	K=27	107.0	0.6'	0.56%	0.9'
3	pipe	plastic.pipe	n=0.011	318.0	1.5'	0.47%	1.2'
4	pipe	plastic.pipe	n=0.011	155.0	6.0'	3.87%	0.2'

total Time of Concentration = 4.0'

storm hyetograph: SCS TypeIA
return period = 25 years
storm duration = 24 hr.
total rainfall = 4.00 in.

pervious area = 0.52 A CN = 86.4 CALCULATED FOR THE SITE
impervious area = 1.92 A CN = 98
total site area = 2.44 A

hydrograph file: c:\program files\quick3\meadow brook - phase 2\25-year developed.hyd

peak flow = 2.50cfs @ 7.83 hr.
runoff volume = 31,115 cu.ft.

3K

Welkin *EKC 09:30 23-Dec-19*

Project 19-122.03
MEADOW CREEK APARTMENTS - PHASE 2

RUNOFF by the SANTA BARBARA URBAN HYDROGRAPH
25-YEAR UNDEVELOPED SITE RUNOFF

2-year, 24-hour rainfall = 2.50"

	flow type	*description*	*coeff.*	*distance*	*fall*	*slope*	*T/C*
1	overland sheet	dense.grasses	n=0.24	126.5	2.3'	1.82%	20.2'
2	shallow concentrated	high.grass	K=9	170.4	10.1'	5.93%	1.3'

total Time of Concentration = 21.5'

storm hyetograph: SCS TypeIA
return period = 10 years
storm duration = 24 hr.
total rainfall = 4.00 in.

pervious area = 2.27 A CN = 77 GpC:Res,2-A.lots
impervious area = 0.00 A CN = 98
total site area = 2.27 A

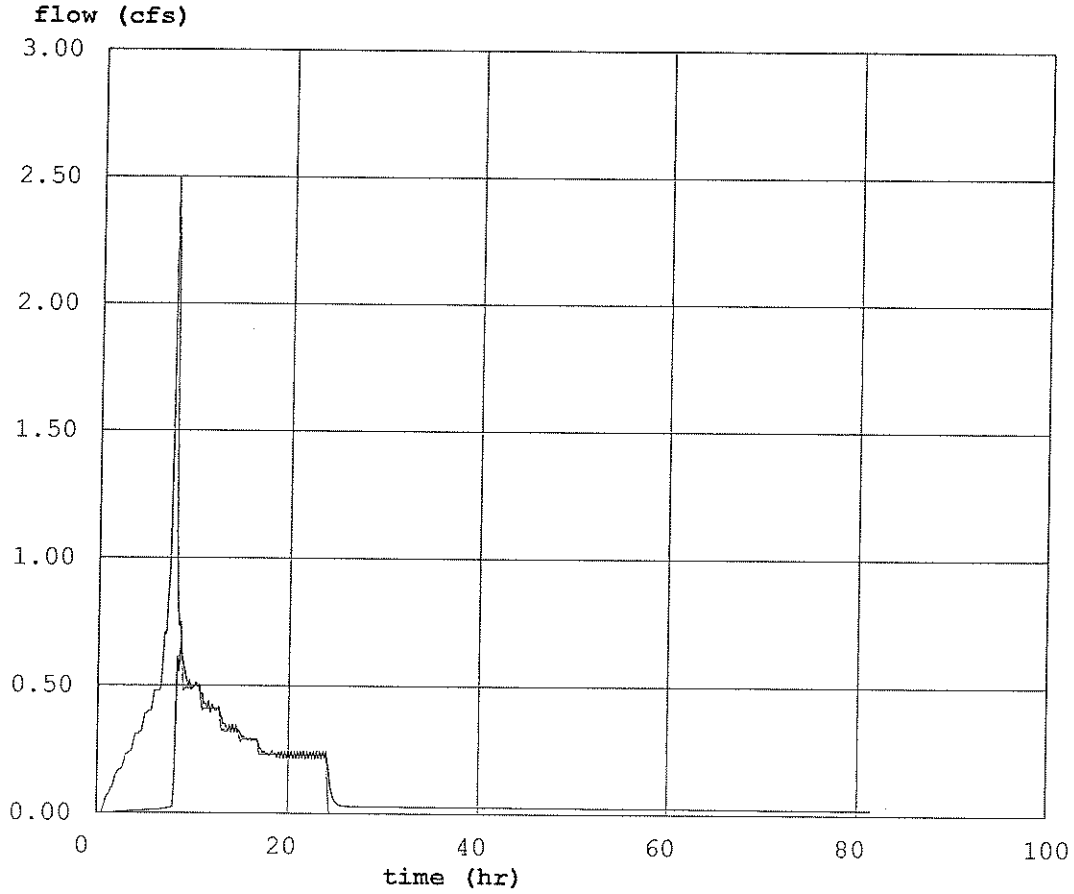
hydrograph file: c:\program files\quick3\meadow brook - phase 2\25-year undeveloped.hyd

peak flow = 0.74cfs @ 8.00 hr.
runoff volume = 14,928 cu.ft.

Welkin *EKC 15:43 11-Apr-20*

Project 19-212.03
MEADOW CREEK VISTA - PHASE 2

DETENTION ROUTING
25-YEAR STORM DETENTION



DETENTION POND (stage-volume calculated)

elevation	area	volume
212.00	3000	0
214.00	4015	6990
216.00	6595	17494

STAGE	*VOLUME*
212.0	0
214.0	6990
216.0	17494

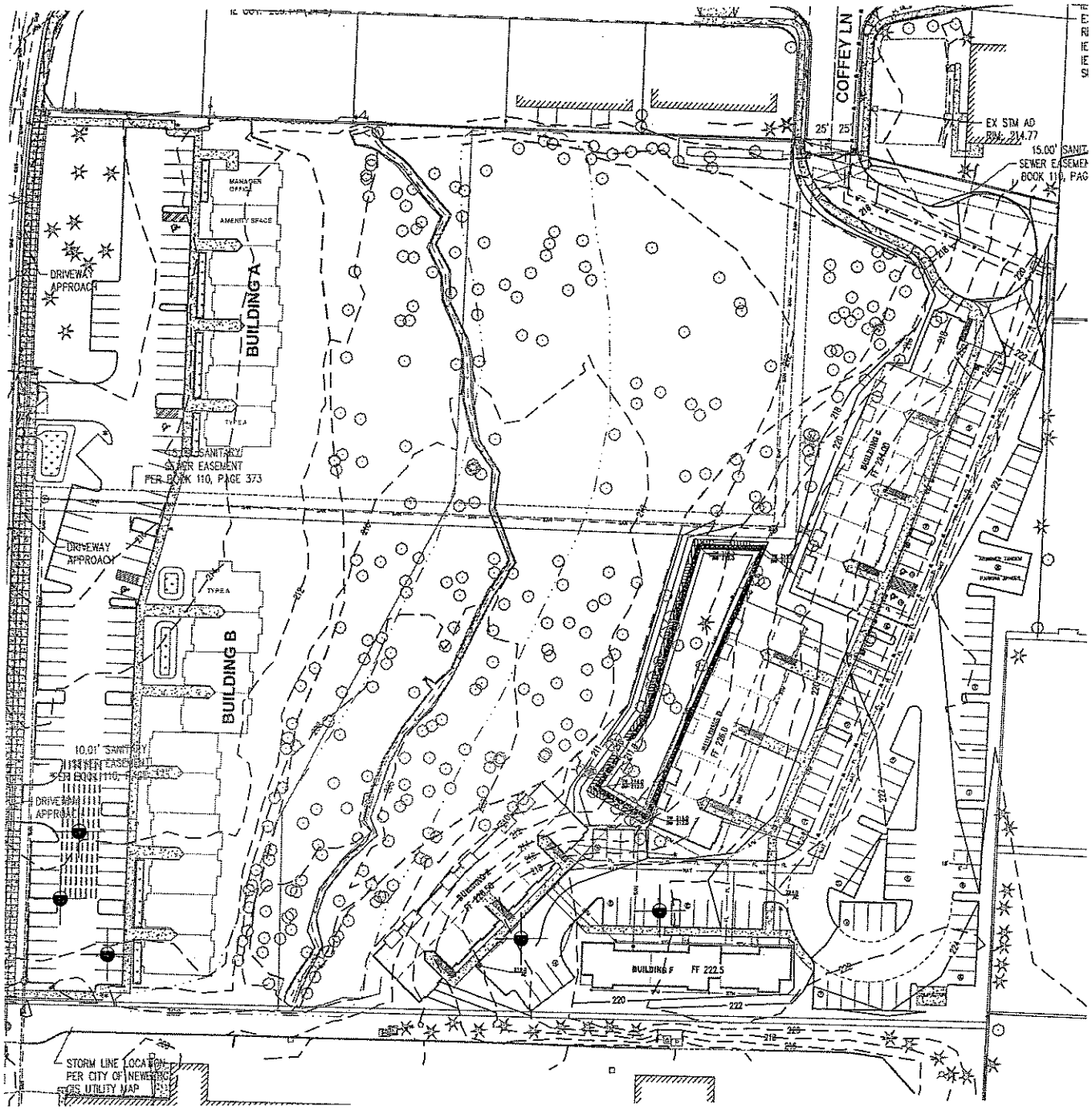
OUTLET TYPE	*ELEVATION*	*SIZE*
circ. orifice	212.0	dia.(in) = 0.68
circ. orifice	213.8	dia.(in) = 0.50
broad weir	214.9	width(in) = 37.70

inflow hydrograph: c:\program files\quick3\meadow brook - phase 2\25-year developed.hyd
outflow hydrograph: c:\program files\quick3\meadow brook - phase 2\25-year undeveloped.hyd

peaks: inflow = 2.50 cfs @ 7.83 hr.
outflow = 0.67 cfs @ 8.83 hr.
stage: 2.94 ft. detained volume: 11,909 c.f.

EXHIBIT 4A

FIELD INFILTRATION PIT LOCATION



1" = 100'

0 25' 50' 100' 200'

Scale in Feet

LEGEND

WELKIN ENGINEERING, P.C.

ENGINEERING
SURVEYING • PLANNING

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FAX: (503) 59 8-1868

ekc@WelkinPC.com
www.WelkinPC.com

JOB: 19-122.03 DC 01/20/2020

Figure E-3: Infiltration Test Data Table

Location: Newberg OR T.L. 3216CB-100	Date: 9-16-19	Test Hole Number: 1
Depth to bottom of hole: 71"	Diameter of hole: 16"	Test Method:
Tester's Name: Dan Sporer		503-598-1866
Tester's Company: Welkin Eng.		Tester's Contact Number:

Depth, feet	Soil Texture
0"-30"	mixed gravel, asphalt + dirt
30"-71"	silty clay

Time	Time interval, minutes	Measurement, feet	Drop in water level, feet	Percolation rate, inches per hour	Remarks
11:05	0	-65"	start	—	start
11:20	15 min	-66"	1"	4"/hr	
11:35	"	-66"	0	0	
11:50	"	-66 1/4"	1/4"	1"/hr	
12:05	"	-66 1/2	1/4	1"/hr	AVE: 1.5"/HR
12:15	0	-65	Start	—	START
12:25	15 min	-65 1/4	1/4	1"/hr	
12:40	15	-65 1/2	1/4	1" hr	
12:55	15	-65 1/2	0	—	
1:15	15	-66 1/2"	1"	4"/hr	END

AVG: 1.5"/HR

4C

Figure E-3: Infiltration Test Data Table

Location: Newberg OR T.L. 3216CB-100	Date: 9-16-19	Test Hole Number: 2
Depth to bottom of hole: 63"	Diameter of hole: 16"	Test Method:
Tester's Name: Dan Sporer		503-598-1866
Tester's Company:		Tester's Contact Number:

Depth, feet	Soil Texture
0-20"	mixed gravel to silt fill

Time	Time interval, minutes	Measurement, feet	Drop in water level, feet	Percolation rate, inches per hour	Remarks
12:45	0	-57"	0	—	Start
1:00	15	-57 1/2	1/2"	2"/hr	
1:15	"	-58	1"	4"/hr	
1:30	"	-58	0	0"	
1:45	"	-58 1/2	1/2"	2"/hr	END AVE: 2.0"/HR
1:50	0	-55 1/2"	Start	—	Start
2:05	15	-56	1/2"	2"/hr	
2:15	"	56	0	0	
2:30	"	56	0	0	
2:50	20	56 1/2	1/2	2"/hr	END AVE: 1.0"/HR

Σ AVE: 1.5"/HR

4D

Figure E-3: Infiltration Test Data Table

Location: Newberg	Date: 9-16-9	Test Hole Number: 3
Depth to bottom of hole: 48"	Diameter of hole: 16"	Test Method:
Tester's Name: Dan Sparr		
Tester's Company: Welkin Eng	Tester's Contact Number:	

Depth, feet	Soil Texture
0"-48"	Silty loam

Time	Time interval, minutes	Measurement, feet	Drop in water level, feet	Percolation rate, inches per hour	Remarks
1:15	0	-38 1/2"	0	—	Start
1:30	15	-39 1/2	1"	4"	
1:45	15	-40 1/4	3/4"	3"	
2:00	15	40 3/4	1/2"	2"	AVE: 2 1/4"/HR
2:20	20	36 3/4	0	—	~~Start~~
2:40	20	39 1/4	2 1/2	10"	NOT USED

Figure E-3: Infiltration Test Data Table

Location: Newberg	Date: 9-16-19	Test Hole Number: 4
Depth to bottom of hole:	Diameter of hole: 16"	Test Method:
Tester's Name: Dan Sparer Tester's Company: Welkin Eng	Tester's Contact Number:	

Depth, feet	Soil Texture
0-48"	Silty Loam

Time	Time interval, minutes	Measurement, feet	Drop in water level, feet	Percolation rate, inches per hour	Remarks
2:00	0	39 1/8	0	—	Start
2:15	15	39 3/4	5/8"	2 1/2"	
2:30	15	40 1/4	1/2"	2"	
2:45	15	40 1/2	1/4	1"	
3:00	15	41 3/8	7/8	3 1/2"	AVE: 2 1/4"/HR.

Figure E-3: Infiltration Test Data Table

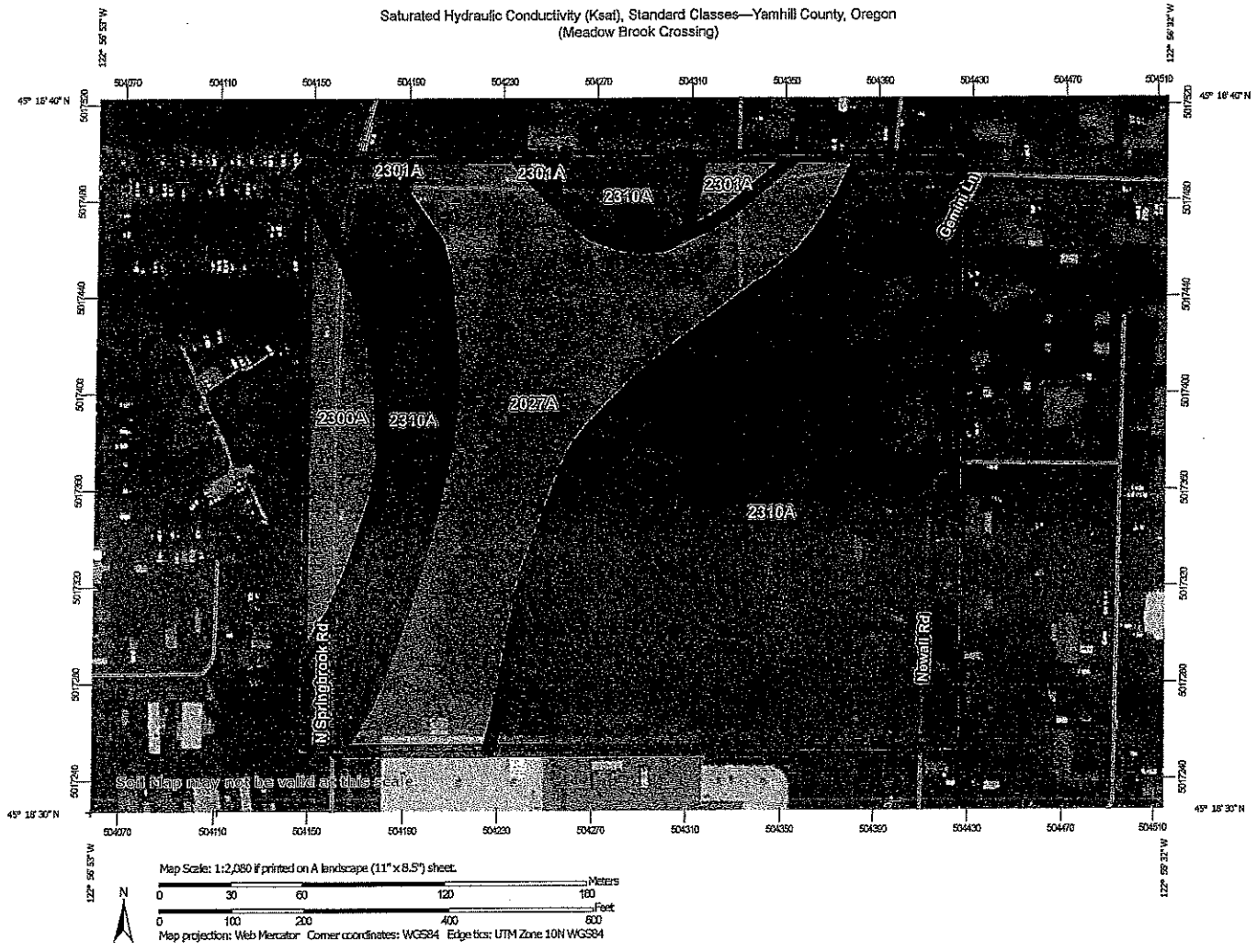
Location: T.L. 32 16CB-100	Date: 9-16-19	Test Hole Number: 5
Depth to bottom of hole: 4'	Diameter of hole: 16"	Test Method:
Tester's Name: Dan Sporer Tester's Company: Welkin Eng.	Tester's Contact Number: 503-598-1866	

Depth, feet	Soil Texture
0 - 12"	mix dirt + gravel fill
12 - 48"	silty clay

Time	Time interval, minutes	Measurement, feet	Drop in water level, feet	Percolation rate, inches per hour	Remarks
2:30	0	-40"	0	0	Start
2:45	15	-40 1/2"	1/2"	2"/hr	
3:00	15	-40 1/2	0	0	
3:15	15	-40 3/4	1/4"	1"/hr	
3:30	15	-40 3/4	0	0	AVG: 3/4"/HR

EXHIBIT 4 G

Saturated Hydraulic Conductivity (Ksat), Standard Classes—Yamhill County, Oregon
(Meadow Brook Crossing)



Map Scale: 1:2,080 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 30, 60, 120, 180

Feet: 0, 100, 200, 400, 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Saturated Hydraulic Conductivity (Ksat), Standard Classes

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
2027A	Verboort silty clay loam, 0 to 3 percent slopes	5.6846	4.7	27.4%
2300A	Aloha silt loam, 0 to 3 percent slopes	4.0748	1.1	6.2%
2301A	Amity silt loam, 0 to 3 percent slopes	7.6412	0.3	1.5%
2310A	Woodburn silt loam, 0 to 3 percent slopes	11.3924	11.0	64.8%
Totals for Area of Interest			**17.0**	**100.0%**

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits. The classes are:

Very low: 0.00 to 0.01

Low: 0.01 to 0.1

Moderately low: 0.1 to 1.0

Moderately high: 1 to 10

High: 10 to 100

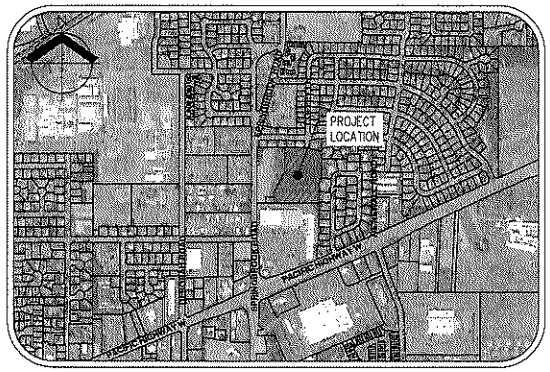
Very high: 100 to 705

Rating Options

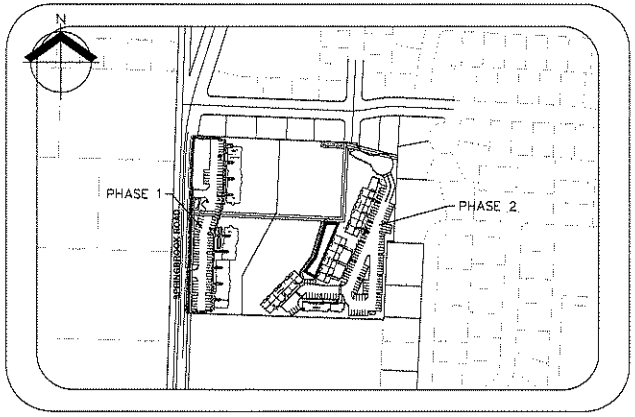
Units of Measure: micrometers per second

MEADOW BROOK VILLAS

CIVIL ENGINEERING DESIGN REVIEW PLANS (PHASE 2)



VICINITY MAP
NOT TO SCALE



SITE MAP
NOT TO SCALE

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM SEWER CLEAN OUT		
CONIFEROUS TREE			STORM SEWER CATCH BASIN		
FIRE HYDRANT			STORM SEWER MANHOLE		
WATER METER			GAS VALVE		
WATER VALVE			GUY WIRE ANCHOR		
DOUBLE CHECK VALVE			POWER POLE		
SANITARY SEWER CLEAN OUT			POWER VAULT		
SANITARY SEWER MANHOLE			POWER JUNCTION BOX		
SIGN			COMMUNICATIONS VAULT		
STREET LIGHT			COMMUNICATIONS RISER		

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE		
OVERHEAD WIRE	OHW	OHW
COMMUNICATIONS LINE	COM	COM
FIBER OPTIC LINE	OFO	OFO
GAS LINE	GAS	GAS
STORM SEWER LINE	STM	STM
SANITARY SEWER LINE	SAN	SAN
WATER LINE	WAT	WAT

PROPERTY DESCRIPTION:
YAMHILL COUNTY TAX MAP 3S 2W 16CB, TAX LOT 100 & 200.

PLANNING FILE NOS.
DR 218 - 0003
MISC 318 - 0002

VERTICAL DATUM
VERTICAL DATUM: ELEVATIONS ARE BASED YAMHILL COUNTY DLC NO. 52. LOCATED AT THE NW CORNER OF SPRINGBROOK WAY AND DOUGLAS AVENUE, THE RECORD ELEVATION WAS CONVERTED TO NAVD 88 USING A VERTCON DERIVED CONVERSION FACTOR OF 3.422, RESULTING IN A HELD ELEVATION OF 223.37 (NAVD 88).

ATTENTION EXCAVATORS:
OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

LEGEND NOTE:
REFER TO ARCHITECTURAL SITE PLAN FOR OBJECTS/FEATURES NOT SHOWN IN LEGEND AT LEFT.

CIVIL ENGINEERING/ LANDSCAPE ARCHITECTURE AND SURVEYING FIRM:
ED CHRISTENSEN, PE
WELKIN ENGINEERING, PC
25260 SW PARKWAY AVE., SUITE G
WILSONVILLE, OR 97070-6627

DEVELOPER/OWNER
MEADOW BROOK VILLAGE LLC
4695 SE DEER CREEK PL
GRESHAM, OR 97080
PH: (360) 694-7337
EMAIL: gabe@isbld.com

SHEET INDEX

DENSITY CALCULATION:

TOTAL SITE: 3.18 AC = ±138,520 SF
AREA IN SIDEWALK EASEMENT: ±2,700 SF
AREA IN STREAM CORRIDOR: ±4,320 SF
AREA OUTSIDE STREAM CORRIDOR AND EASEMENT: ±131,500 SF

EXPECTED MAXIMUM DENSITY: 138,500/3,000 = 46.17 = 46 UNITS
DENSITY OUTSIDE OF STREAM CORRIDOR AND EASEMENT: 131,500/3,000 = 43.77 = 43 UNITS
MAXIMUM ALLOWED INCREASE IN DENSITY (15.342.120.B.3): 20% 43.77 * 1.2 = 52.52

MAXIMUM ALLOWED DENSITY: 52 UNITS
PROPOSED UNITS: 42 (PHASE 1)

SITE COVERAGE CALCULATION:

TOTAL SITE: 3.18 AC = ±138,520 SF
BUILDING LOT COVERAGE: ±20,400 SF = ±14.7%
PARKING LOT COVERAGE: ±29,300 SF = ±21.2%
COMBINED LOT COVERAGE: ±49,700 SF = ±35.9%

REGISTERED PROFESSIONAL ENGINEER 16,166 OREGON DECEMBER 19, 1997 EDWARD K. CHRISTENSEN VALID THROUGH 12-31-21

ENGINEERING SURVEYING PLANNING WELKIN ENGINEERING

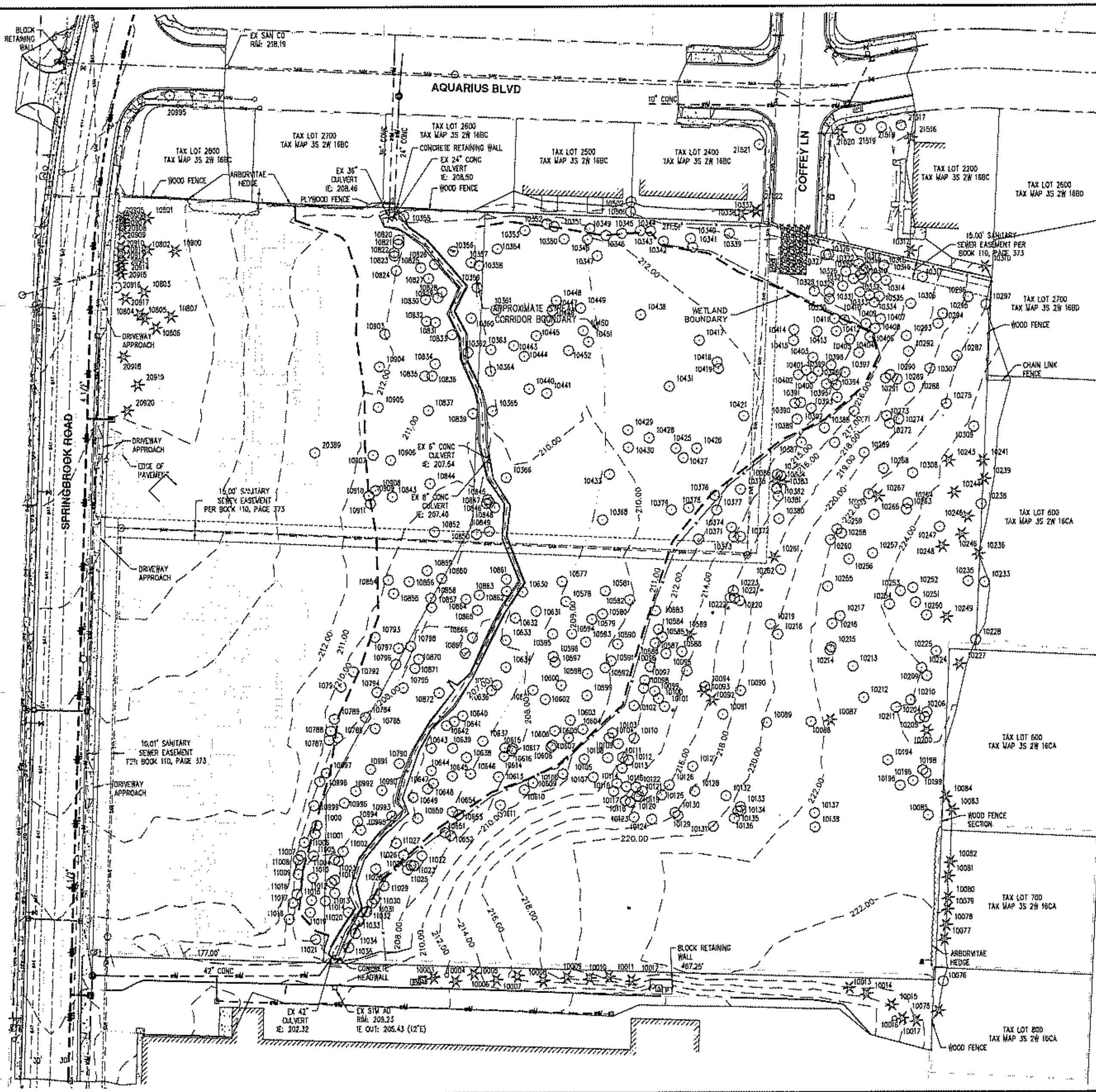
COVER SHEET/VICINITY MAP/SITE MAP/LEGEND

MEADOW BROOK VILLAS (PHASE 2)
THE CITY OF NEWBERG

DESIGNED BY:	WE
DRAWN BY:	WE
CHECKED BY:	EC
DATE:	02/22/2020
SCALE:	N/A HORIZONTAL N/A VERTICAL
PROJECT NO.	19-122.03
SHEET	C1

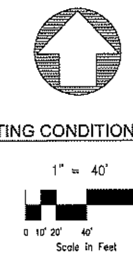
p:\projects\2019\19-122.03 phase 2 revs\dwg\planning\03 planning set\c1 cover sheet.dwg 4/16/2020

p:\project data\19-122.03 phase 2 mcv\dwg\planning\03 planning set\c2 ex conditions.dwg 4/16/2020



NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 17058372. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED ON MARCH 24–31, 2017 AND APRIL 5, 2019.
3. HORIZONTAL DATUM: A LOCAL DATUM PLANE SCALED FROM OREGON STATE PLANE NORTH 3601 NAD83(2011) EPOCH 2010.0000. THE STATE PLANE COORDINATES WERE DERIVED FROM THE TRIMBLE VRS NOW NETWORK.
4. VERTICAL DATUM: ELEVATIONS ARE BASED YAMHILL COUNTY DLC NO. 52., LOCATED AT THE NW CORNER OF SPRINGBROOK WAY AND DOUGLAS AVENUE, THE RECORD ELEVATION WAS CONVERTED TO NAVD 88 USING A VERTCON DERIVED CONVERSION FACTOR OF 3.422, RESULTING IN A HELD ELEVATION OF 223.37 (NAVD 88).
5. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
6. SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
7. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
8. CONTOUR INTERVAL IS 2 FOOT.
9. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.
10. WETLAND BOUNDARIES AND SAMPLE PLOTS SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC. ON 11/14/2016, 04/02/2019 AND WERE PROFESSIONALLY SURVEYED BY AKS ON 3/30/2017, AND 4/5/2019.



EXISTING CONDITIONS PLAN

1" = 40'

0 10' 20' 40' 80'
Scale in Feet

NO	DATE	REVISION

REGISTERED PROFESSIONAL ENGINEER 16,166 OREGON EDWARD K. CHRISTENSEN
VALID THROUGH 12-31-21

WE WELKIN ENGINEERING, P.C.
ENGINEERING SURVEYING • PLANNING

EXISTING CONDITIONS PLAN

MEADOW BROOK VILLAS (PHASE 2)
THE CITY OF NEWBERG

DESIGNED BY:	WE
DRAWN BY:	WE
CHECKED BY:	EC
DATE:	02/11/2020
SCALE:	AS-SHOWN HORIZONTAL N/A VERTICAL
PROJECT NO.	19-122.03
SHEET	C2

p:\project data\19-122.03 phase 2 mcr\dwg\planning\03 planning set\c2 ex conditions.dwg 4/16/2020

TREE NUMBER	SPECIES	DBH (INCHES)	TREE NUMBER	SPECIES	DBH (INCHES)	TREE NUMBER	SPECIES	DBH (INCHES)	TREE NUMBER	SPECIES	DBH (INCHES)	TREE NUMBER	SPECIES	DBH (INCHES)	TREE NUMBER	SPECIES	DBH (INCHES)	TREE NUMBER	SPECIES	DBH (INCHES)
10003	CONIFEROUS	18	10135	DECIDUOUS	7	10290	DECIDUOUS	8	10378	DECIDUOUS	21	10586	DECIDUOUS	6	10803	CONIFEROUS	16	11006	DECIDUOUS	9, 10
10004	CONIFEROUS	20	10136	DECIDUOUS	11	10291	DECIDUOUS	7	10379	DECIDUOUS	16	10587	DECIDUOUS	8	10804	CONIFEROUS	21	11007	DECIDUOUS	9, 9
10005	CONIFEROUS	22	10137	DECIDUOUS	8, 11	10292	DECIDUOUS	7	10380	DECIDUOUS	16	10588	DECIDUOUS	10	10805	CONIFEROUS	24	11008	DECIDUOUS	10
10006	CONIFEROUS	23	10138	DECIDUOUS	14, 18	10293	DECIDUOUS	10	10381	DECIDUOUS	16	10589	CONIFEROUS	20	10806	CONIFEROUS	10, 12, 16, 24	11009	DECIDUOUS	7, 9
10007	CONIFEROUS	22	10194	DECIDUOUS	14	10294	DECIDUOUS	18	10382	DECIDUOUS	19	10590	DECIDUOUS	11	10807	CONIFEROUS	15	11010	DECIDUOUS	11
10008	CONIFEROUS	18	10195	DECIDUOUS	8	10295	DECIDUOUS	6	10383	CONIFEROUS	12	10591	DECIDUOUS	13	10820	DECIDUOUS	17	11011	DECIDUOUS	10
10009	CONIFEROUS	13, 16, 19	10196	DECIDUOUS	9	10296	DECIDUOUS	13	10384	DECIDUOUS	8	10592	DECIDUOUS	9	10821	DECIDUOUS	15	11012	DECIDUOUS	6
10010	CONIFEROUS	22	10198	DECIDUOUS	8	10297	DECIDUOUS	13	10385	DECIDUOUS	10, 11	10593	DECIDUOUS	8, 18	10822	DECIDUOUS	13	11013	DECIDUOUS	13
10011	CONIFEROUS	11, 13	10199	DECIDUOUS	9	10306	DECIDUOUS	8	10386	CONIFEROUS	23	10594	DECIDUOUS	15	10823	DECIDUOUS	13	11014	DECIDUOUS	14
10012	CONIFEROUS	11, 16, 17	10200	CONIFEROUS	34	10307	DECIDUOUS	8	10387	DECIDUOUS	17	10595	DECIDUOUS	12	10824	DECIDUOUS	10, 15, 18	11015	DECIDUOUS	9
10013	CONIFEROUS	22	10204	DECIDUOUS	21	10308	DECIDUOUS	8	10388	DECIDUOUS	8	10596	DECIDUOUS	7, 11	10825	DECIDUOUS	15	11016	DECIDUOUS	7, 7, 7, 7, 8, 11
10014	CONIFEROUS	20	10205	DECIDUOUS	14	10309	DECIDUOUS	8	10389	DECIDUOUS	8, 17	10597	DECIDUOUS	23	10826	DECIDUOUS	10	11017	DECIDUOUS	6
10015	CONIFEROUS	21	10206	DECIDUOUS	7	10310	CONIFEROUS	32	10390	DECIDUOUS	14	10598	DECIDUOUS	12	10827	DECIDUOUS	13, 16	11018	DECIDUOUS	11, 16
10016	CONIFEROUS	12	10209	DECIDUOUS	12	10311	DECIDUOUS	54	10391	DECIDUOUS	17	10599	DECIDUOUS	18	10828	DECIDUOUS	13	11019	DECIDUOUS	8, 9
10017	CONIFEROUS	16	10210	DECIDUOUS	9	10312	CONIFEROUS	20	10392	DECIDUOUS	13	10600	DECIDUOUS	6, 7	10829	DECIDUOUS	10	11020	DECIDUOUS	9
10075	CONIFEROUS	25	10211	DECIDUOUS	18	10314	DECIDUOUS	10	10393	DECIDUOUS	6, 13	10601	DECIDUOUS	6, 6, 13, 13	10830	DECIDUOUS	12, 13	11021	DECIDUOUS	14
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10094	DECIDUOUS	7	10235	DECIDUOUS	13, 13, 13	10333	DECIDUOUS	10	10411	DECIDUOUS	12	10632	DECIDUOUS	13	10854	DECIDUOUS	9, 9, 10	20907	CONIFEROUS	9
10095	DECIDUOUS	11	10236	CONIFEROUS	38	10334	DECIDUOUS	7	10412	DECIDUOUS	6, 7, 7, 8	10633	DECIDUOUS	9, 16	10855	DECIDUOUS	7, 31	20908	CONIFEROUS	6
10096	DECIDUOUS	6	10238	DECIDUOUS	7	10335	DECIDUOUS	11	10413	DECIDUOUS	8, 10	10634	DECIDUOUS	16	10856	DECIDUOUS	6	20909	CONIFEROUS	8
10097	DECIDUOUS	6	10239	CONIFEROUS	16	10337	CONIFEROUS	21	10414	DECIDUOUS	12, 10	10635	DECIDUOUS	6, 13	10857	DECIDUOUS	6, 7, 9	20910	CONIFEROUS	12
10098	DECIDUOUS	7	10241	CONIFEROUS	21	10338	CONIFEROUS	16	10415	DECIDUOUS	9, 9, 10, 10	10636	DECIDUOUS	8, 8	10858	DECIDUOUS	7	20911	CONIFEROUS	7
10099	DECIDUOUS	6	10243	CONIFEROUS	33	10339	DECIDUOUS	17	10417	DECIDUOUS	6, 9, 10, 11, 13	10637	DECIDUOUS	11, 13	10859	DECIDUOUS	7, 8, 10	20912	CONIFEROUS	10
10100	DECIDUOUS	8	10244	CONIFEROUS	12	10340	DECIDUOUS	11	10418	DECIDUOUS	7, 11, 12, 12	10638	DECIDUOUS	6	10860	DECIDUOUS	9, 10	20913	CONIFEROUS	10
10101	DECIDUOUS	13	10245	CONIFEROUS	32	10341	DECIDUOUS	11	10419	DECIDUOUS	11	10639	DECIDUOUS	10	10861	DECIDUOUS	6, 7, 9	20914	CONIFEROUS	9
10102	DECIDUOUS	10	10246	CONIFEROUS	20	10342	DECIDUOUS	10, 15	10421	DECIDUOUS	10	10640	DECIDUOUS	14	10862	DECIDUOUS	18	20915	CONIFEROUS	10
10103	DECIDUOUS	13	10247	DECIDUOUS	12	10343	DECIDUOUS	18	10425	DECIDUOUS	8, 9, 10, 10, 12, 13	10641	DECIDUOUS	11	10863	DECIDUOUS	9	20916	DECIDUOUS	8
10104	DECIDUOUS	9	10248	CONIFEROUS	33	10344	DECIDUOUS	17	10426	DECIDUOUS	23	10642	DECIDUOUS	13	10864	DECIDUOUS	10	20917	CONIFEROUS	15
10105	DECIDUOUS	14	10249	CONIFEROUS	38	10345	DECIDUOUS	12	10427	DECIDUOUS	13	10643	DECIDUOUS	10	10865	DECIDUOUS	10, 14	20918	CONIFEROUS	32
10106	DECIDUOUS	11	10250	DECIDUOUS	15	10346	DECIDUOUS	10	10428	DECIDUOUS	9, 10	10644	DECIDUOUS	11	10866	DECIDUOUS	9, 9, 10	20919	CONIFEROUS	33
10107	DECIDUOUS	9	10251	DECIDUOUS	13	10347	DECIDUOUS	19	10429	DECIDUOUS	19	10645	DECIDUOUS	11, 11	10867	DECIDUOUS	10, 13	20920	CONIFEROUS	16
10108	DECIDUOUS	14	10252	DECIDUOUS	14	10348	DECIDUOUS	9	10430	DECIDUOUS	7, 8, 8, 8, 9, 10	10646	DECIDUOUS	9	10870	DECIDUOUS	7, 7	20995	DECIDUOUS	8, 7, 6
10109	DECIDUOUS	7	10253	DECIDUOUS	23	10349	DECIDUOUS	14	10431	DECIDUOUS	10, 11	10647	DECIDUOUS	19	10871	DECIDUOUS	9	21516	CONIFEROUS	7
10110	DECIDUOUS	14	10254	DECIDUOUS	11, 13	10350	DECIDUOUS	9	10433	DECIDUOUS	8	10648	DECIDUOUS	16	10872	DECIDUOUS	9	21517	DECIDUOUS	16
10111	DECIDUOUS	11	10255	DECIDUOUS	23	10351	DECIDUOUS	24	10438	DECIDUOUS	21	10649	DECIDUOUS	9	10903	DECIDUOUS	25	21518	DECIDUOUS	12
10112	DECIDUOUS	6, 9	10256	DECIDUOUS	10	10352	DECIDUOUS	12	10440	DECIDUOUS	18	10650	DECIDUOUS	9	10904	DECIDUOUS	23	21519	DECIDUOUS	12
10113	DECIDUOUS	8	10257	DECIDUOUS	9	10353	DECIDUOUS	21	10441	DECIDUOUS	9, 10	10651	DECIDUOUS	11	10905	DECIDUOUS	14, 15, 17	21520	CONIFEROUS	16
10114	DECIDUOUS	11	10258	DECIDUOUS	7	10354	DECIDUOUS	26	10443	DECIDUOUS	17	10652	DECIDUOUS	9, 9, 18	10906	DECIDUOUS	21, 21	21521	DECIDUOUS	24
10115	DECIDUOUS	15	10259	DECIDUOUS	9, 9, 10	10355	DECIDUOUS	20	10444	DECIDUOUS	16	10653	DECIDUOUS	7, 9, 16	10907	DECIDUOUS	18, 19			
10116	DECIDUOUS	11	10260	DECIDUOUS	17	10356	DECIDUOUS	25	10445	DECIDUOUS	20	10654	DECIDUOUS	6, 11	10908	DECIDUOUS	10			
10117	DECIDUOUS	7, 8, 11	10261	CONIFEROUS	13, 20	10357	DECIDUOUS	6, 13	10446	DECIDUOUS	12	10784	DECIDUOUS	10	10910	DECIDUOUS	19, 22			
10118	DECIDUOUS	13	10262	DECIDUOUS	8	10358	DECIDUOUS	13	10447	DECIDUOUS	14	10785	DECIDUOUS	6, 16	10911	DECIDUOUS	15			
10119	DECIDUOUS	9	10263	DECIDUOUS	10	10359	DECIDUOUS	19	10448	DECIDUOUS	16	10786	DECIDUOUS	8	10990	DECIDUOUS	6, 7			
10120	DECIDUOUS	11	10264	DECIDUOUS	11	10360	DECIDUOUS	20	10449	DECIDUOUS	6, 9	10787	DECIDUOUS	12	10991	DECIDUOUS	7, 11			
10121	DECIDUOUS	8	10265	DECIDUOUS	11	10361	DECIDUOUS	20	10450	DECIDUOUS	10, 11	10788	DECIDUOUS	6, 7	10992	DECIDUOUS	10, 11			
10122	DECIDUOUS	11	10266	DECIDUOUS	10	10362	DECIDUOUS	17	10451	DECIDUOUS	7, 8, 15	10789	DECIDUOUS	20	10993	DECIDUOUS	6, 11			
10123	DECIDUOUS	8, 9, 12	10267	CONIFEROUS	26	10363	DECIDUOUS	13	10452	DECIDUOUS	6, 6, 9, 20, 21	10790	DECIDUOUS	6, 9, 10, 13	10994	DECIDUOUS	6, 6, 7, 11			
10124	DECIDUOUS	13	10268	DECIDUOUS	17	10364	DECIDUOUS	10, 20	10501	DECIDUOUS	6	10791	DECIDUOUS	16, 16	10995	DECIDUOUS	9			
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10128	DECIDUOUS	7, 8, 9	10272	DECIDUOUS	7, 9, 9	10371	DECIDUOUS	6, 9	10579	DECIDUOUS	8	10795	DECIDUOUS	8, 14	10999	DECIDUOUS	10, 11			
10129	DECIDUOUS	10	10273	DECIDUOUS	6, 8, 9	10372	DECIDUOUS	7, 11	10580	DECIDUOUS	12, 12	10796	DECIDUOUS	7	11000	DECIDUOUS	9, 11, 11			
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10131	DECIDUOUS	7	10275	DECIDUOUS	18	10374	DECIDUOUS	14	10582	DECIDUOUS	12, 12	10798	DECIDUOUS	19	11002	DECIDUOUS	10			
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10133	DECIDUOUS	10	10288	DECIDUOUS	6, 9	10376	DECIDUOUS	17	10584	DECIDUOUS	7	10801	CONIFEROUS	25	11004	DECIDUOUS	7			
10134	DECIDUOUS	6, 7, 9	10289	DECIDUOUS	8	10377	DECIDUOUS	10	10585	DECIDUOUS	6	10802	CONIFEROUS	62	11005	DECIDUOUS	6, 9			

TREE TABLE

NO	DATE	REVISION

REGISTERED PROFESSIONAL ENGINEER 16,166 OREGON EDWARD K. CHRISTENSEN
VALID THROUGH 12-31-21

WE ENGINEERING
ENGINEERING · SURVEYING · PLANNING
WILSONVILLE, OR 97070

EXISTING TREE CHART

MEADOW BROOK VILLAS (PHASE 2)

THE CITY OF NEWBERG

DESIGNED BY: WE
DRAWN BY: WE
CHECKED BY: EC
DATE: 02/11/2020
SCALE: AS-SHOWN HORIZONTAL N/A VERTICAL
PROJECT NO. 19-122.03
SHEET C3

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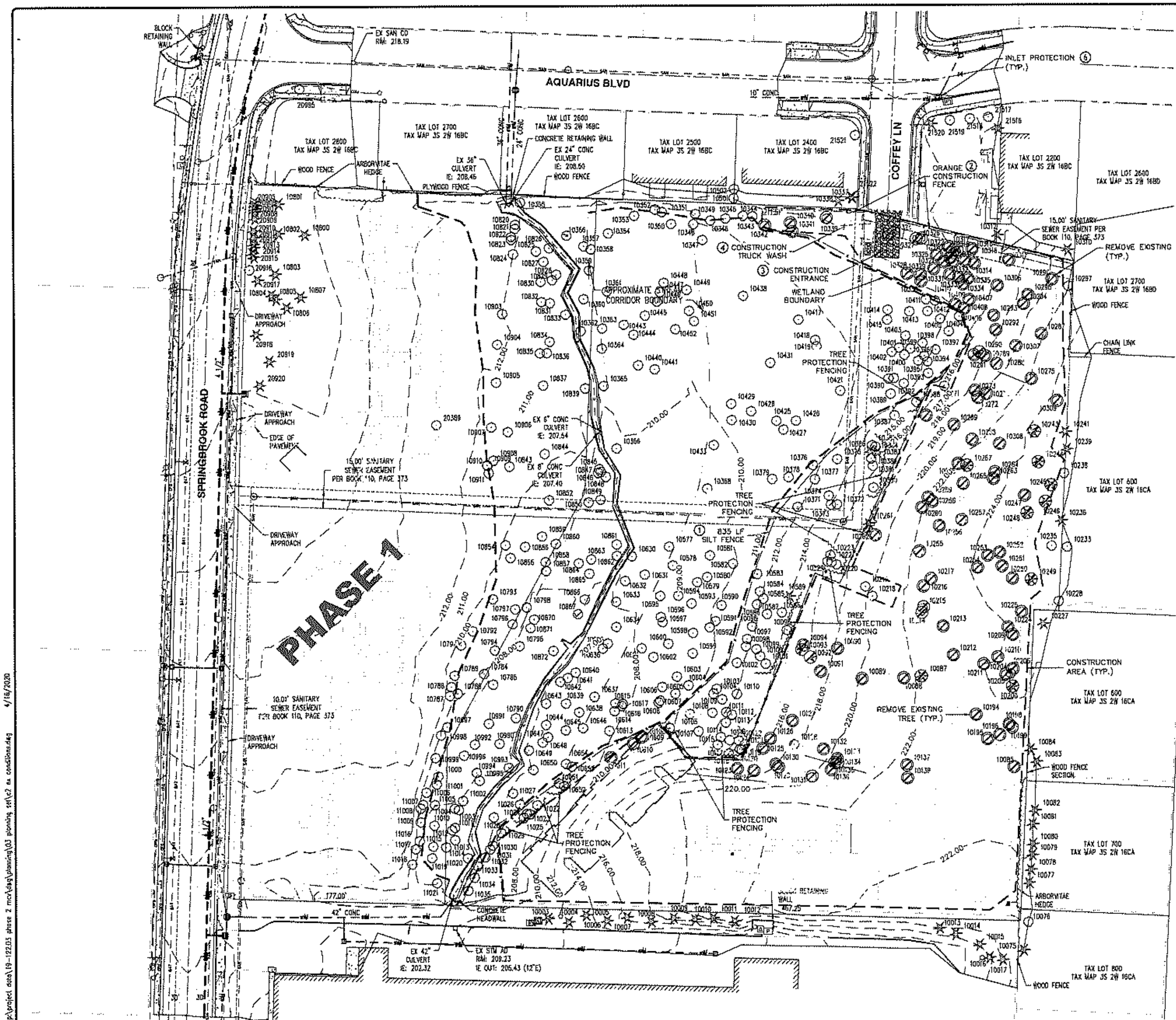


LEGEND

——x——	EROSION CONTROL FENCE
☐	INLET PROTECTION
	CONSTRUCTION ENTRANCE
	DISTURBANCE AREA
	EXISTING TREE TO BE REMOVED
	EXISTING TREE TO REMAIN
	TREE PROTECTION FENCING
⇨	DRAINAGE FLOW DIRECTION

PRE-CONSTRUCTION, CLEARING, AND DEMOLITION NOTES:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.
3. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.
4. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
5. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.
6. THESE EROSION AND SEDIMENT CONTROL PLANS ASSUME "DRY WEATHER" CONSTRUCTION. "WET WEATHER" CONSTRUCTION MEASURES NEED TO BE APPLIED BETWEEN OCTOBER 1ST AND MAY 31ST.

EROSION CONTROL NOTES

① INSTALL PERIMETER SEDIMENT CONTROL. USE SEDIMENT FENCE.
② INSTALL ORANGE CONSTRUCTION FENCE.
③ PROPOSED CONSTRUCTION ENTRANCE.
④ INSTALL CONCRETE TRUCK WASHOUT.
⑤ INSTALL TREE PROTECTION FENCING.
⑥ INSTALL EXISTING CURB INLET/CURB PROTECTION.

PRELIMINARY DEMOLITION, EROSION, & SEDIMENT CONTROL PLAN

1" = 40'

0 10' 20' 40' 80'
Scale in Feet

NO	DATE	REVISION

REGISTERED PROFESSIONAL ENGINEER 15,166 OREGON SEPTEMBER 15, 1987 EDWARD K. CHRISTENSEN
VALID THROUGH 12-31-21

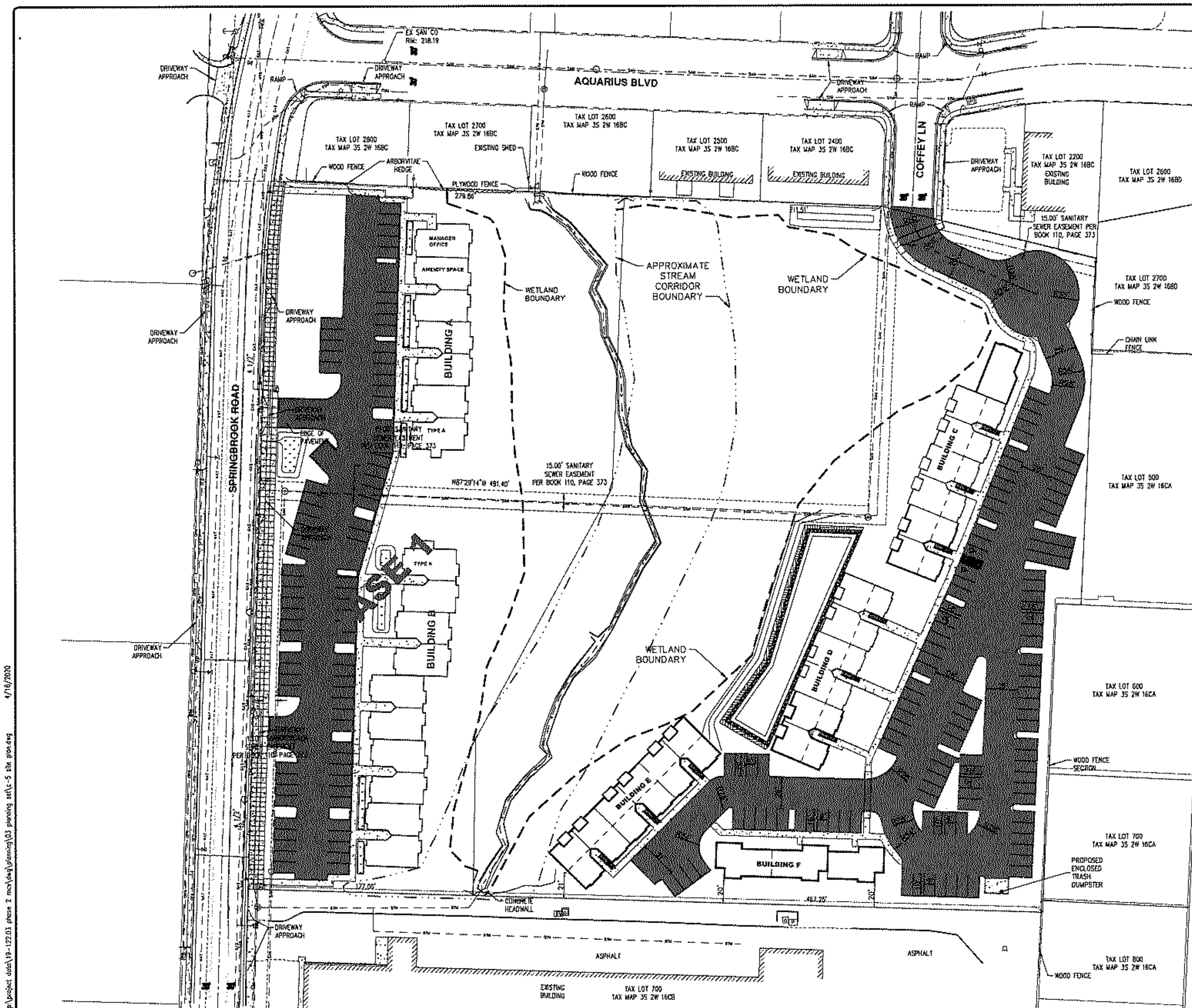
WELKIN ENGINEERING, P.C.
ENGINEERING SURVEYING - PLANNING

PRELIMINARY DEMOLITION, EROSION, & SEDIMENT CONTROL PLAN

MEADOW BROOK VILLAS (PHASE 2)

THE CITY OF NEWBERG

DESIGNED BY:	WE
DRAWN BY:	WE
CHECKED BY:	EC
DATE:	02/11/2020
SCALE:	AS-SHOWN HORIZONTAL, N/A VERTICAL
PROJECT NO	19-122.03
SHEET	C4



① SITE NOTES:

1. PROPOSED 5' WIDE SIDEWALK
2. PROPOSED COMMERCIAL DRIVEWAY
3. PROPOSED 6" CURB
4. PROPOSED CONNECTION TO EXISTING SIDEWALK
5. PROPOSED H.C. RAMP
6. PUBLIC STORMWATER PLANTER
7. PRIVATE LIGHT POLE
8. BUILDING MOUNTED LIGHTING
9. BIKE PARKING
10. ADA PARKING STALL WITH SIGN
11. CONSTRUCT ASPHALT PAVEMENT SECTION
12. PROPOSED PARKING LOT STRIPING

PARKING: 116 PARKING SPACES
PARKING RATIO: 116 SPACES/75 UNITS
=1.55 SPACES PER UNIT
1.50 SPACES PER UNIT
REQUIRED BY CITY CODE

EXISTING CONDITIONS PLAN

1" = 40'

0 10' 20' 40' 80'
Scale in Feet

NO	DATE	REVISION

REGISTERED PROFESSIONAL ENGINEER 16,166 OREGON EDWARD K. CHRISTENSEN
VALID THROUGH 12-31-21

WE ENGINEERING, SURVEYING, PLANNING

SITE PLAN

MEADOW BROOK VILLAS (PHASE 2)

THE CITY OF NEWBERG

DESIGNED BY:	WE
DRAWN BY:	WE
CHECKED BY:	EC
DATE:	02/11/2020
SCALE:	AS-SHOWN HORIZONTAL N/A VERTICAL
PROJECT NO:	19-122.03
SHEET	C5

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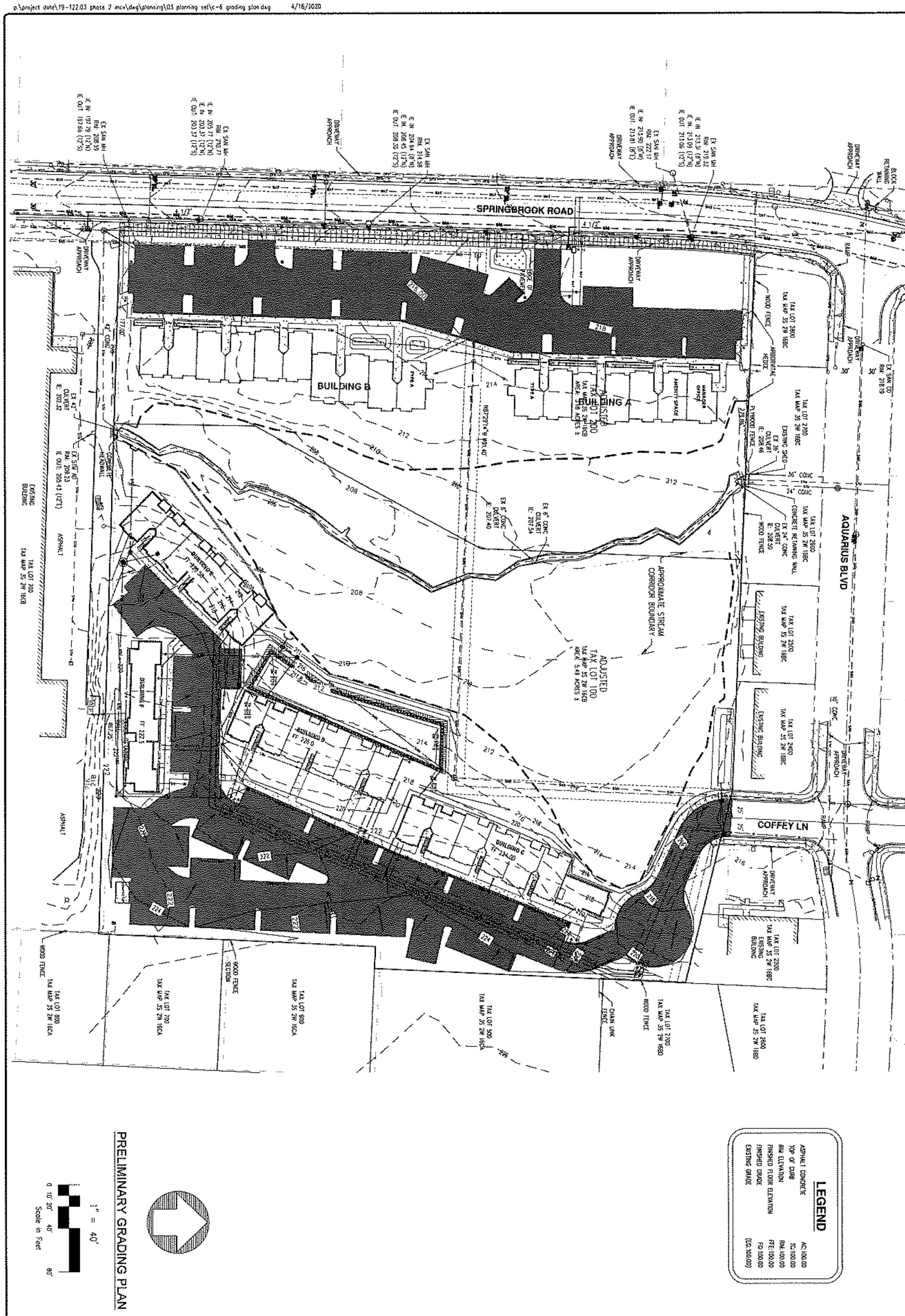


DESIGNED BY:	WE
DRAWN BY:	WE
CHECKED BY:	EC
DATE:	02/11/2020
SCALE:	AS SHOWN HORIZONTAL N/A VERTICAL
PROJECT NO:	19-122.03
SHEET	C6

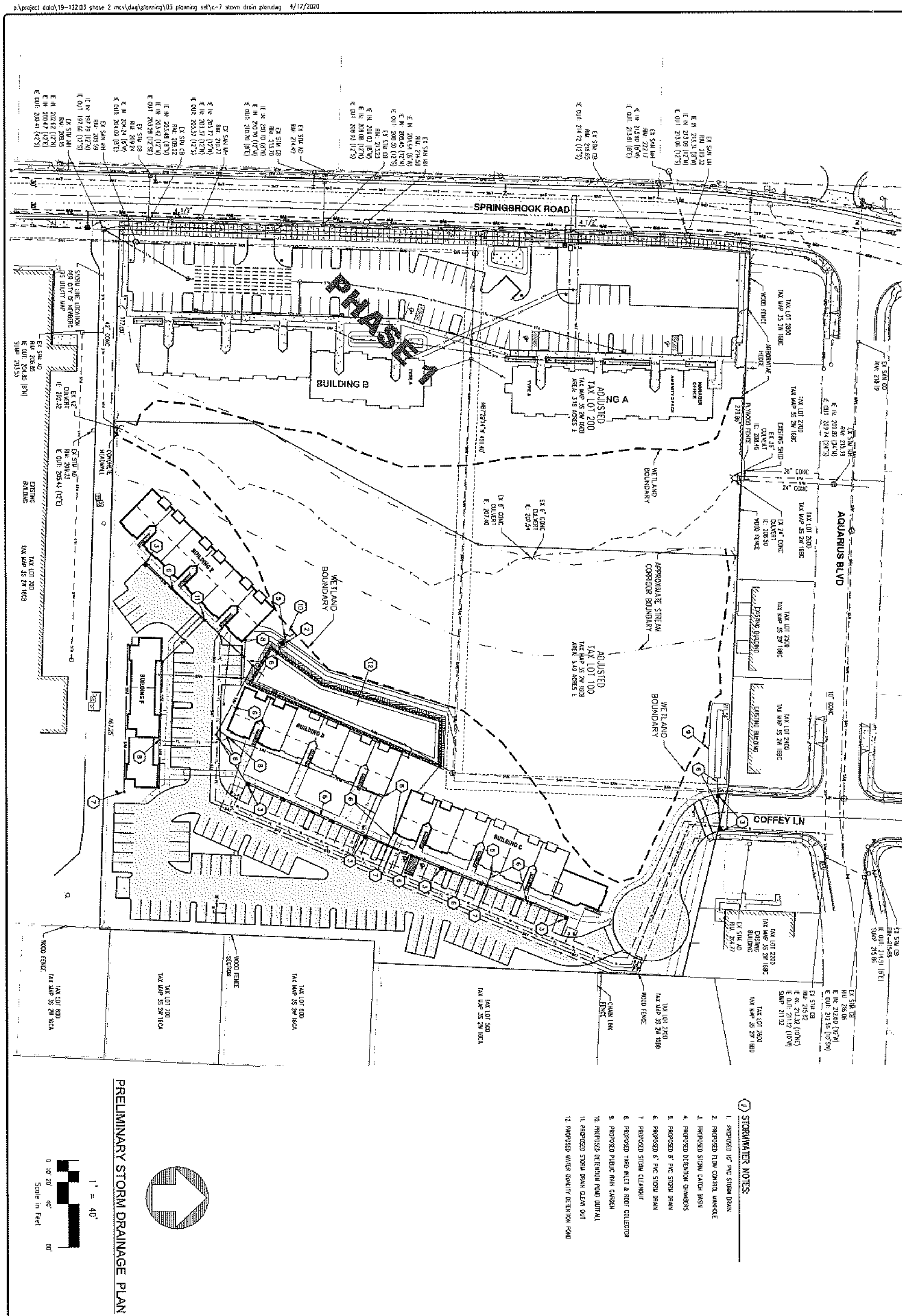
MEADOW BROOK VILLAS (PHASE 2)

THE CITY OF NEWBERG

PRELIMINARY GRADING PLAN

WELKIN ENGINEERING, P.C.
ENGINEERING
SURVEYING + PLANNING
25260 SW PARKWAY AVE, SUITE G
WILSONVILLE, OR 97070

NO.	DATE	REVISION



DESIGNED BY:	AE
DRAWN BY:	AE
CHECKED BY:	EC
DATE	02/11/2020
SCALE:	AS SHOWN
HORIZONTAL	N/A
VERTICAL	
PROJECT NO:	19-122.03
SHEET	C7

MEADOW BROOK VILLAS (PHASE 2)

THE CITY OF NEWBERG

PRELIMINARY STORM DRAINAGE PLAN

WELKIN ENGINEERING, P.C.
ENGINEERING · SURVEYING · PLANNING

NO	DATE	REVISION

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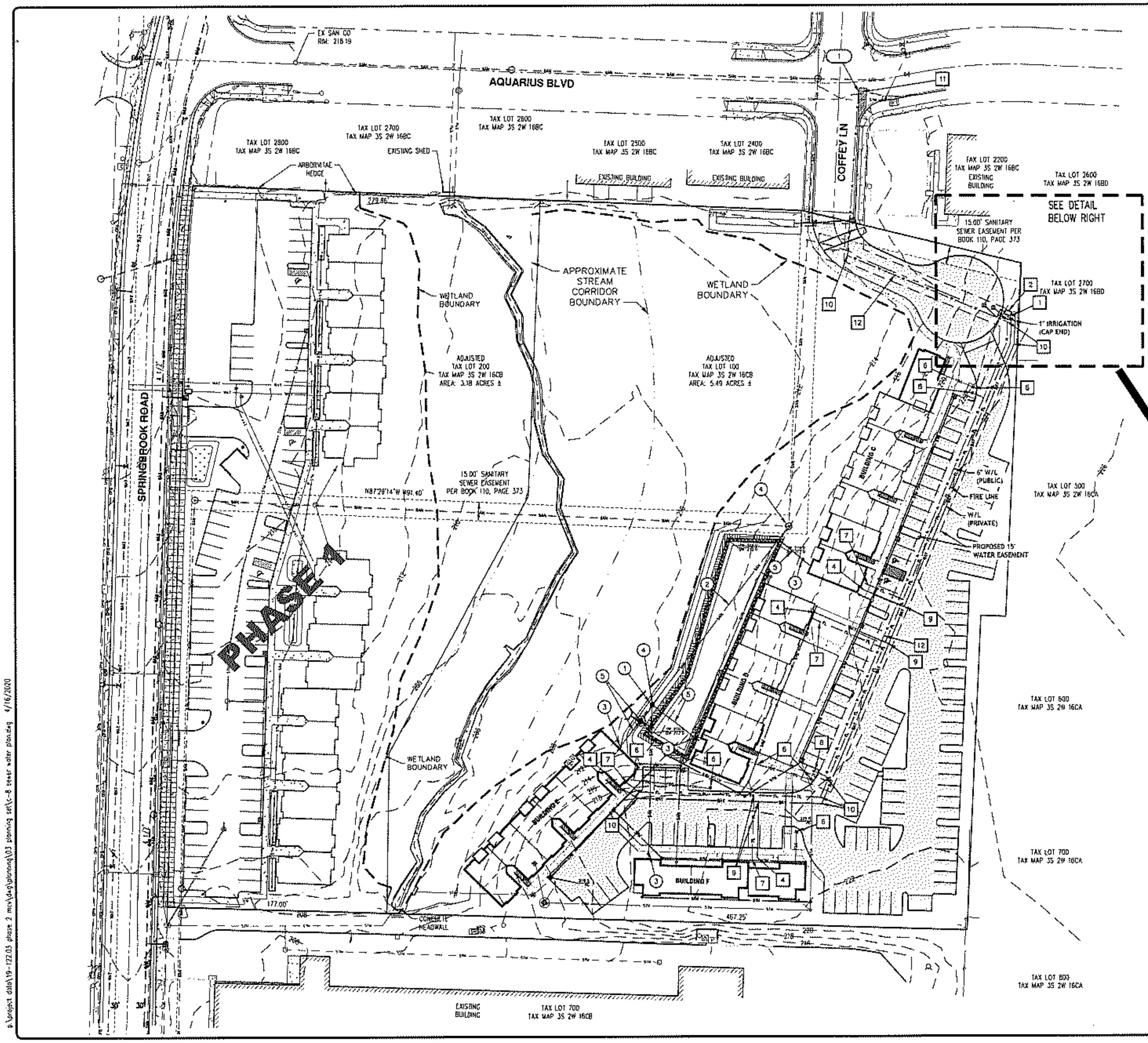


GENERAL NOTES:

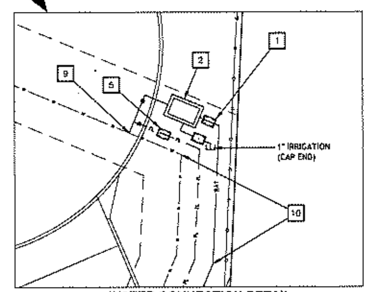
1. SAWCUT EXISTING PAVEMENT PER CITY OF NEWBERG STD. DETAIL

SANITARY NOTES:

1. PROPOSED SANITARY SEWER MANHOLE.
2. PROPOSED SANITARY SEWER LINE.
3. PROPOSED SANITARY CLEAN OUT.
4. CONNECT TO EXISTING/PROPOSED SANITARY SEWER MANHOLE.
5. PROPOSED SEWER LATERAL.

WATER NOTES:

1. PROPOSED DOMESTIC WATER METER
2. PROPOSED DOMESTIC DOUBLE CHECK VALVE
3. PROPOSED IRRIGATION DOUBLE CHECK VALVE
4. PROPOSED DOMESTIC CONNECTION TO BUILDING
5. PROPOSED FIRE WATER DOUBLE CHECK DETECTOR ASSEMBLY
6. PROPOSED 4" FIRE DEPARTMENT CONNECTION (FDC)
7. PROPOSED 6" FIRE WATER SERVICE TO BUILDING
8. PROPOSED FIRE HYDRANT
9. PROPOSED TEE - DOMESTIC
10. PROPOSED 90°, 45°, 22.5°, & 11.25° BEND
11. CONNECT WATER SERVICE LINE TO PROPOSED WATER MAIN
12. PROPOSED 6" WATER MAIN
13. PROPOSED REDUCER
14. CAP END



WATER CONNECTION DETAIL

SCALE: 1"=10'

1" = 40'

0 10' 20' 40' 80'

Scale in Feet

PRELIMINARY SANITARY SEWER & WATER PLAN

DESIGNED BY:	WE
DRAWN BY:	WE
CHECKED BY:	EC
DATE:	02/11/2020
SCALE:	AS-SHOWN HORIZONTAL N/A VERTICAL
PROJECT NO:	19-122.03
SHEET	C8

MEADOW BROOK VILLAS (PHASE 2)

THE CITY OF NEWBERG

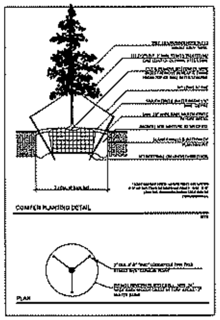
PRELIMINARY SANITARY SEWER & WATER PLAN

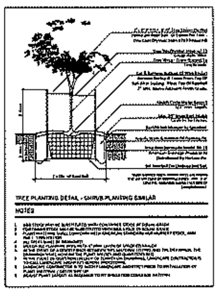
ENGINEERING SURVEYING • PLANNING

REGISTERED PROFESSIONAL ENGINEER 16,166 OREGON EDWARD K. CHRISTENSEN

VALID THROUGH 12-31-21

NO.	DATE	REVISION





PLANTING SCHEDULE:

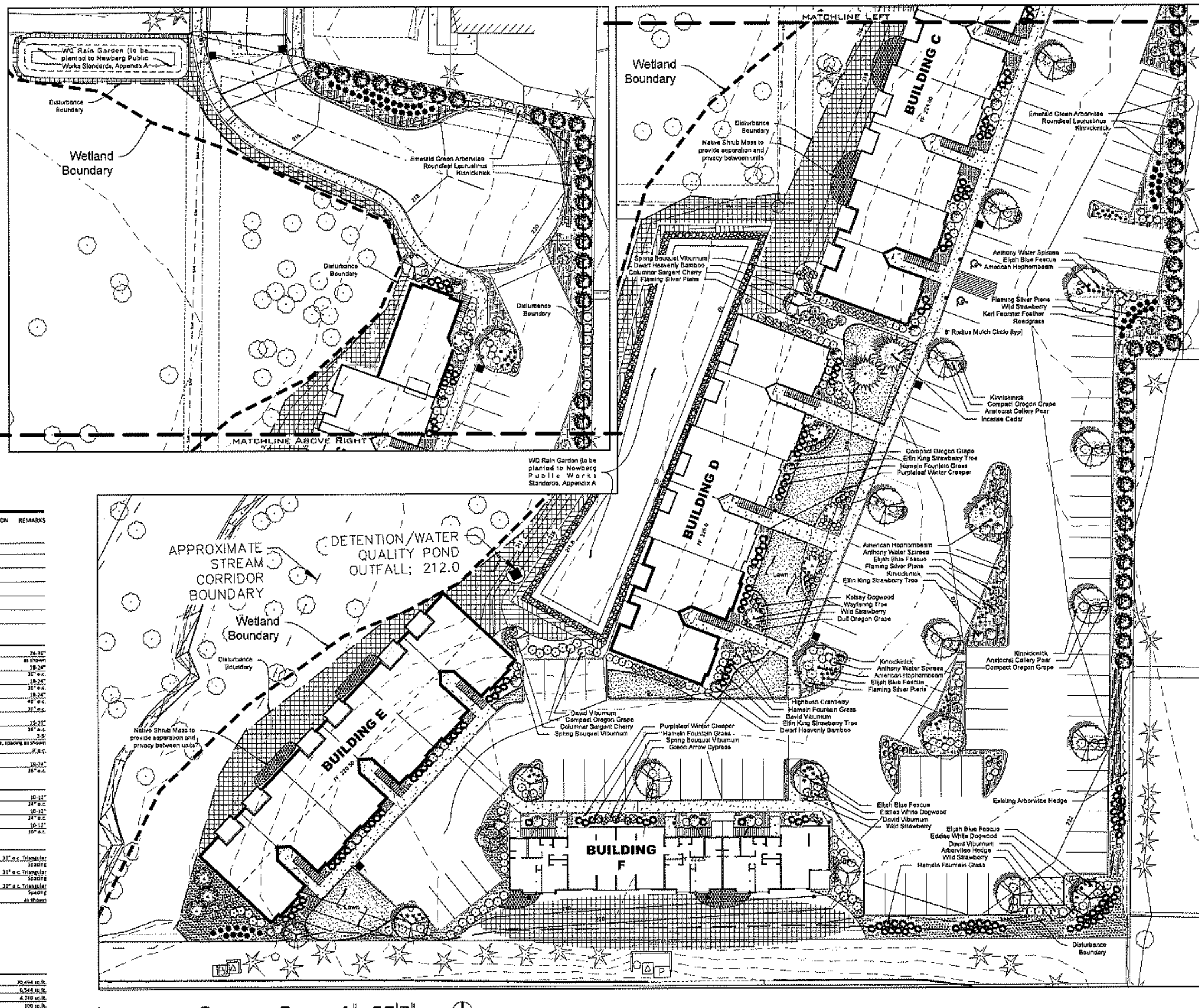
BOTANICAL NAME / COMMON NAME	QTY.	SIZE	CONDITION	REMARKS
TREES				
Calocedrus decurrens / Incense Cedar	xxx	6-7'	B&B	
Cornus nuttallii x florida 'Eddies White W.' / Eddies White Dogwood	xxx	2" Cal.	B&B	
Cupressus nootkatensis 'Green Arrow' / Green Arrow Cypress	xxx	6-7'	B&B	
Ostrya virginiana / American Hophornbeam	xxx	2" Cal.	B&B	
Prunus sargentii 'Columnaris' / Columnar Sargent Cherry	xxx	2" Cal.	B&B	
Pyrus calleryana 'Aristocrat' / Aristocrat Callery Pear	xxx	2" Cal.	B&B	
SHRUBS				
Arbutus unedo 'Elfin King' / Elfin King Strawberry Bush	xxx	5 Gal.	Can	24-30" as shown
Mahonia aquifolium 'Compacta' / Dwarf Oregon Grape	xxx	2 Gal.	Can	18-24" 30" o.c.
Nandina domestica 'Compacta' / Compact Heavenly Bamboo	xxx	2 Gal.	Can	18-24" 36" o.c.
Pieris japonica 'Flaming Silver' / Flaming Silver Pieris	xxx	2 Gal.	Can	18-24" 40" o.c.
Thuja occidentalis 'Smaragd' / Arborvitae	xxx	5-6'	B&B	30" o.c.
Viburnum davidii / David Viburnum	xxx	1 Gal.	Can	15-21" 36" o.c.
Viburnum lantana / Wayfaring Tree	xxx	5 Gal	Can	3-5' shaped as tree, spacing as shown
Viburnum tinus 'Robustum' / Roundleaf Laurustinus	xxx	5-6'	B&B	4' o.c.
Viburnum tinus 'Compactum' / Spring Bouquet Viburnum	xxx	2 Gal.	Can	18-24" 36" o.c.
GRASSES				
Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass	xxx	1 Gal.	Can	10-12" 24" o.c.
Festuca glauca 'Elijah Blue' / Blue Fescue	xxx	1 Gal.	Can	10-12" 24" o.c.
Pennisetum alopecuroides 'Hameln' / Dwarf Fountain Grass	xxx	1 Gal.	Can	10-12" 30" o.c.
GROUNDCOVER				
Arctostaphylos uva-ursi / Kinnickinnick	xxx	1 Gal.	Can	30" o.c. Triangular Spacing
Euonymus fortunei 'Coloratus' / Purple Winter Creeper	xxx	1 Gal.	Can	30" o.c. Triangular Spacing
Fragaria virginiana / Wild Stawberry	xxx	1 Gal.	Can	30" o.c. Triangular Spacing
Landscape Rocks / Native Basalt	xxx	3-5 cu.ft.		as shown

MEADOW AREA - Meadow Mix Hydroseed (include all disturbed area beyond "disturbance boundary")

NATIVE SHRUB AREA - Provide 3 Mahonia, 4 Spiraea, 6 Symphoricarpos / 200 sf.

LANDSCAPE AREAS:

Tree/Shrub Area:	20,494 sq.ft.
Water Quality Area:	6,544 sq.ft.
Turf	4,240 sq.ft.
Tree Mulch	100 sq.ft.
Parking Landscape Area (subset of Tree/Shrub Area: 25 sf/stall (126 stalls) min req. 3150sf	> 4,000 sq.ft.
Total Landscape Area:	31,378 sq.ft.



LANDSCAPE CONCEPT PLAN - 1"=20'0"

NORTH

REGISTERED 311 ANNE M. ROTOLO-MILLER OREGON LANDSCAPE ARCHITECT

BEIGHLEY & ASSOCIATES INC.
LANDSCAPE ARCHITECTURE AND PLANNING
12640 N.W. Cornell Road, Portland, Oregon 97229
Job #1913

Meadowbrook Croassing Aptmnts Ph 2

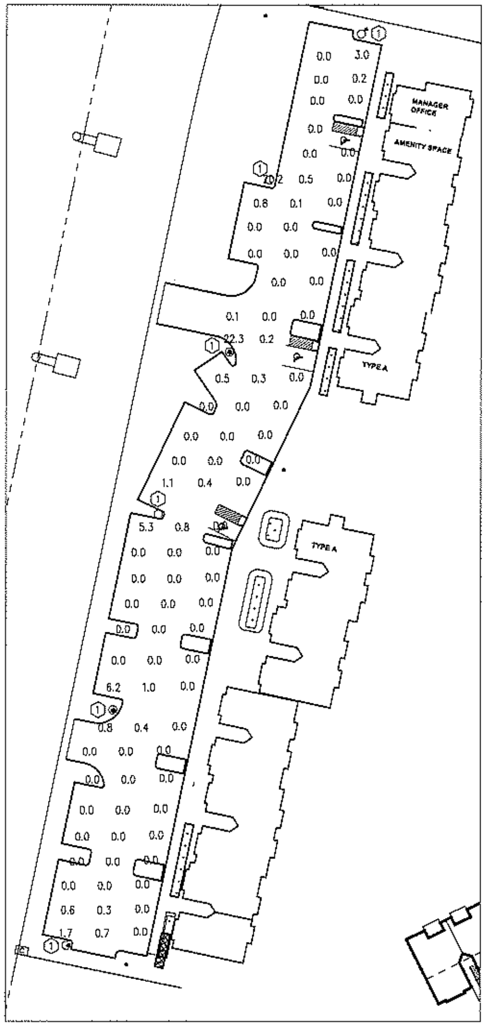
1306 Springbrook Road

Newberg *OREGON*

REV. Revisions	04.14.20
DRAWN	RCD
CHECKED	AMM
DATE	02.17.20
JOB NO.	19136

L-1

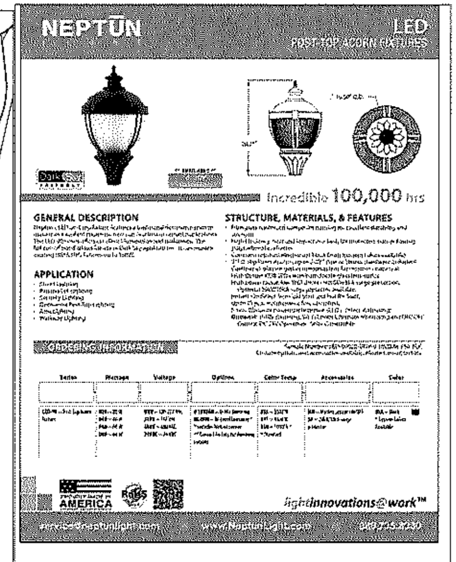
of x

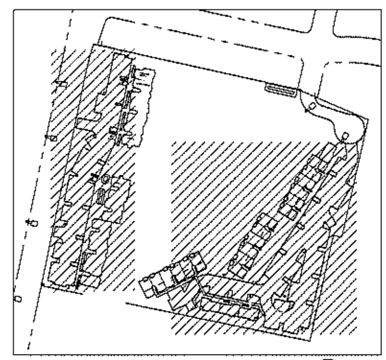


1 PHASE 1 SITE PHOTOMETERIC PLAN
1'-0"=32'-0"

2 PHASE 2 SITE PHOTOMETERIC PLAN
1'-0"=32'-0"

SP-2.00 PLAN NOTES
1 NEW SITE LIGHT TO BE INSTALLED, SEE CUT SHEET THIS SHEET. PROVIDE BASE PER MANUFACTURER.





3 KEY PLAN
NTS

EXPIRES 12/31/2021

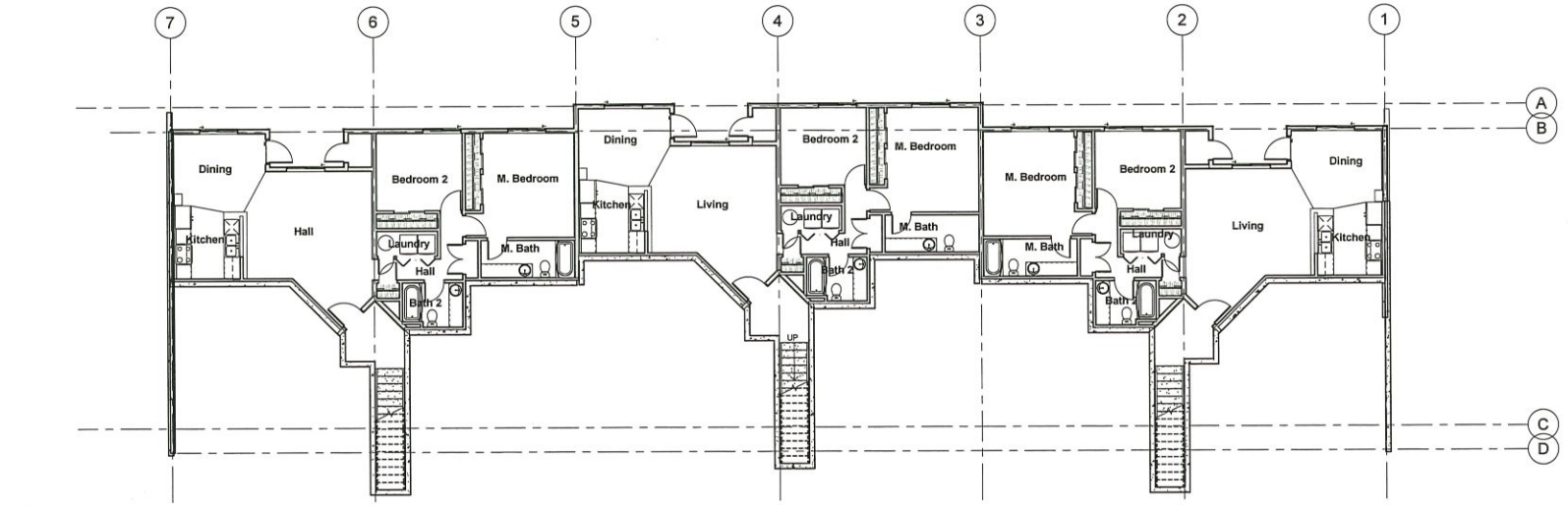
CBD ENGINEERING, LLC
35468 RIVERSIDE DR. SW
ALBANY, OREGON 97321
(541) 619-7287

MEADOW CREEK
APARTMENTS
CITY OF NEWBERG

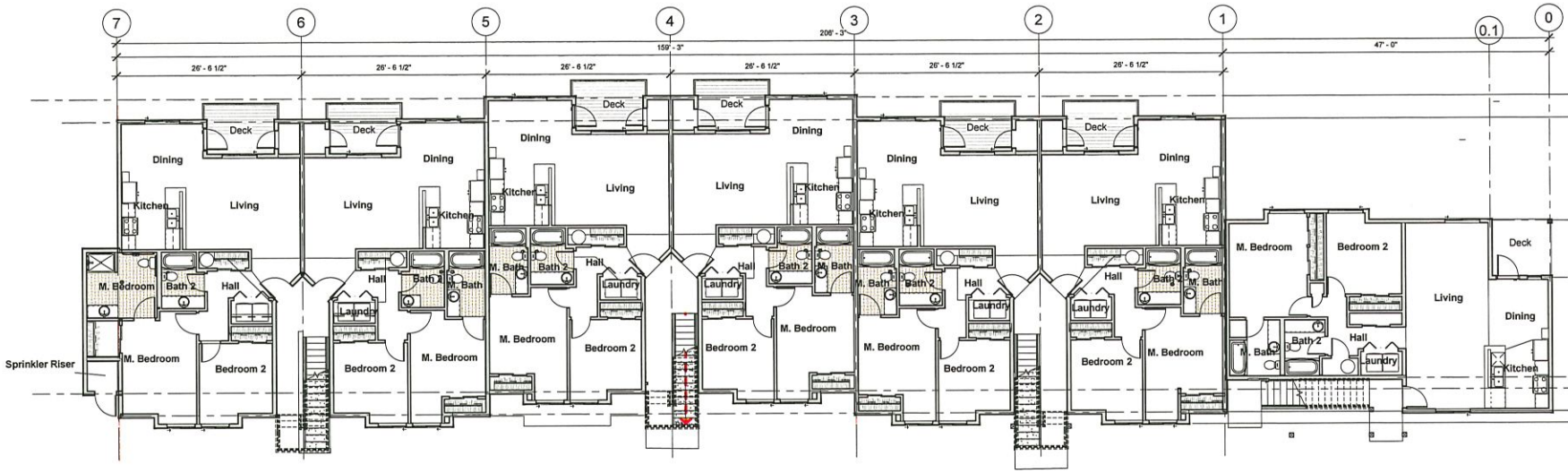
Issue:	DD SET
Date:	12/11/2019
Revision	Date:

SITE PHOTOMETERICS PLAN

SP2.00



1 Basement
1/8" = 1'-0"



2 Level 1.
1/8" = 1'-0"

Richards Architecture and Planning LLC
Box 5354
Lynnwood, WA
98046-5343
Tel/Fax 425.741.9493

REGISTERED ARCHITECT
PAUL J. RICHARDS
SEATTLE, WA
STATE OF OREGON

Meadow Brook Villas
Building C
Newberg, OR

Project number	A	Building E
Project Date		2/11/2020
Drawn by		Author
Checked by		Checker
Sheet Issued		02/12/20

Revisions

No.	Description	Date

B.1
B.2
B.3
C
D

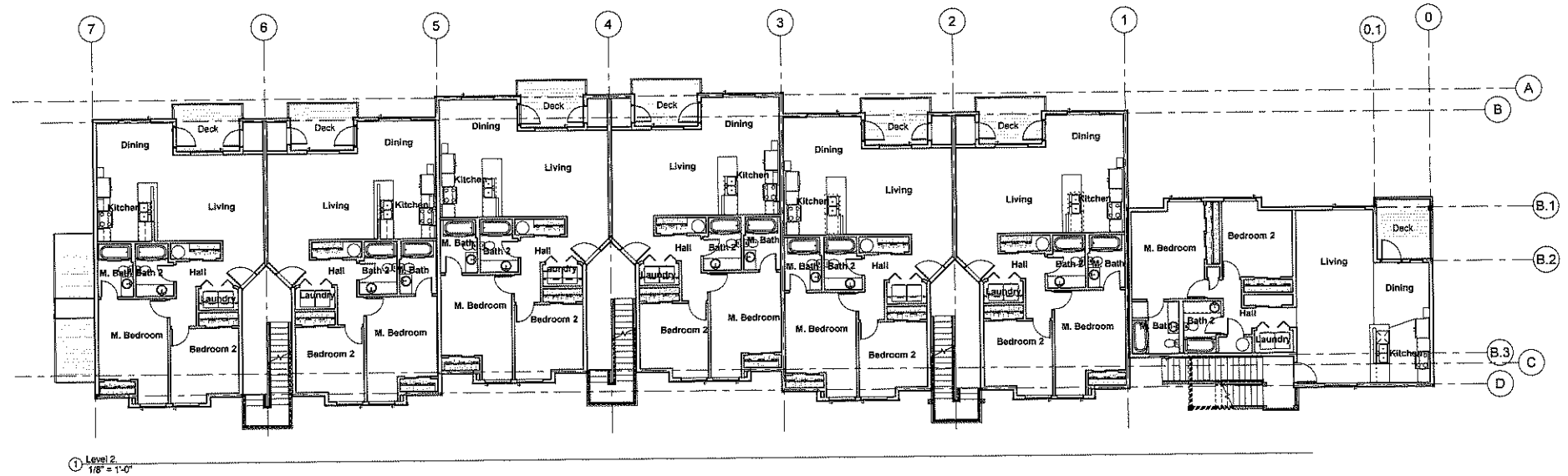
Jurisdiction Stamps

BASEMENT AND 1ST FLOOR PLANS

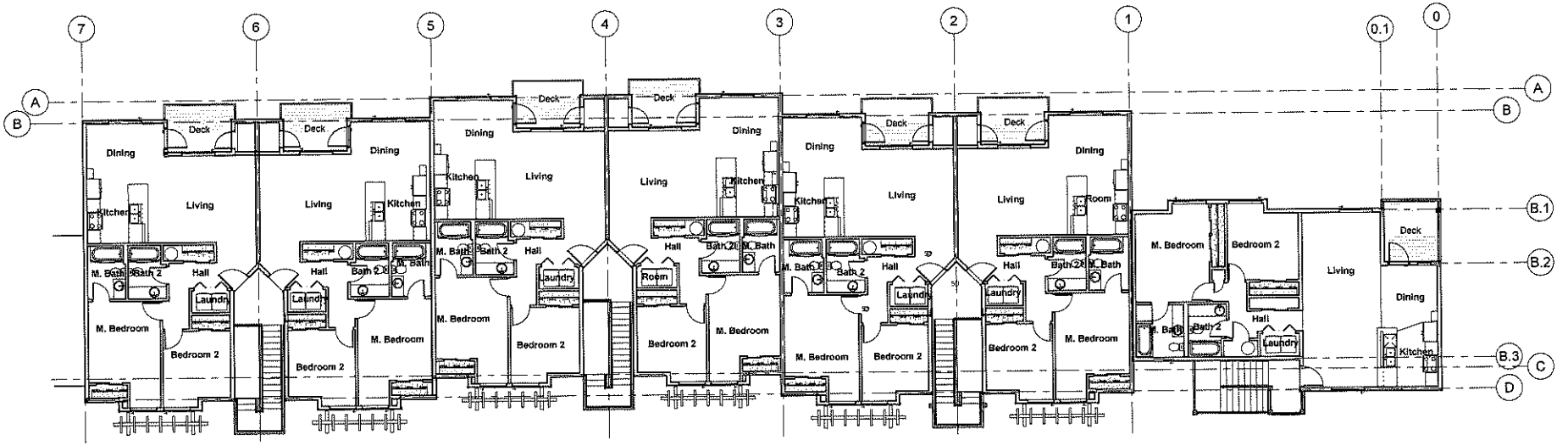
A101

Scale 1/8" = 1'-0"

2/27/2020 4:24:04 PM



1 Level 2
1/8" = 1'-0"



2 Level 3
1/8" = 1'-0"

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REGISTERED ARCHITECT
ERIC A. RICHARDS
SEATTLE WA
STATE OF OREGON

Meadow Brook Villas
Building C
Newberg, OR

Project number	Building E
Project Date	2/11/2020
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Jurisdiction Stamps

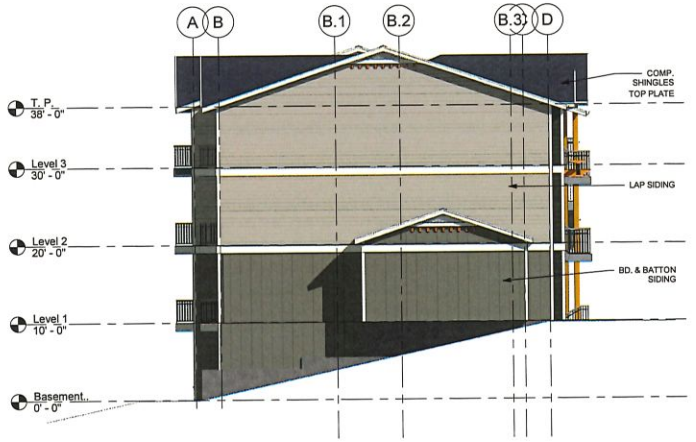
LEVEL 2 AND 3 FLOOR PLANS

A102

Scale 1/8" = 1'-0"

2/27/2020 4:24:57 PM

1 WEST ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"

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REGISTERED ARCHITECT
PAUL A. RICHARDS
SEATTLE, WA
STATE OF OREGON

Meadow Brook Villas
Building C
Newberg, OR

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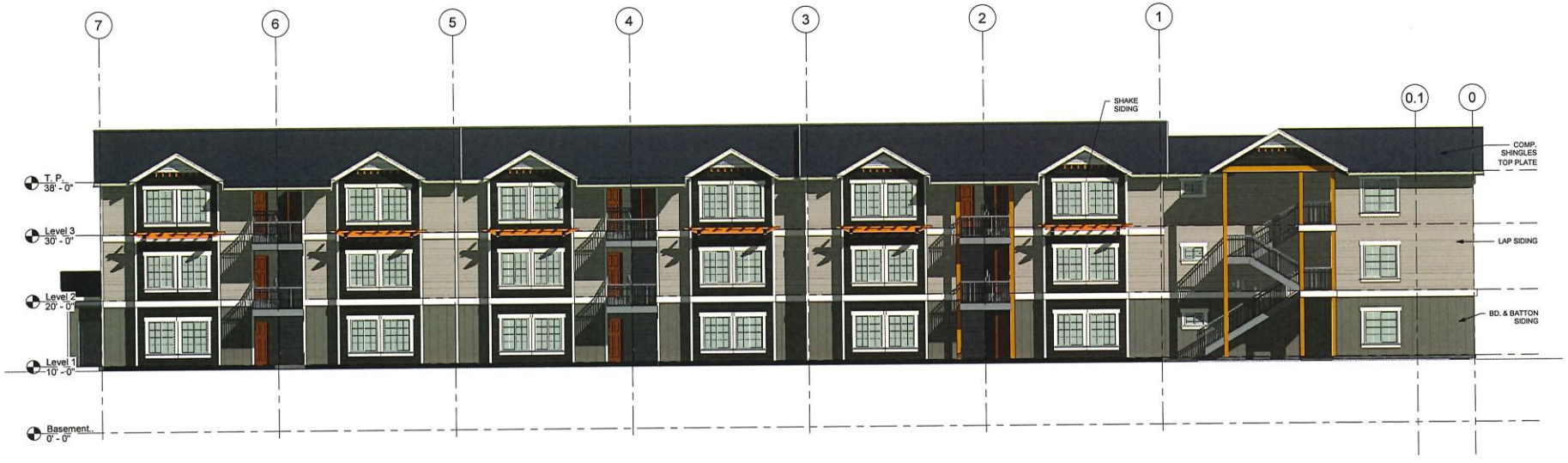
Jurisdiction Stamps

WEST AND SOUTH ELEVATIONS

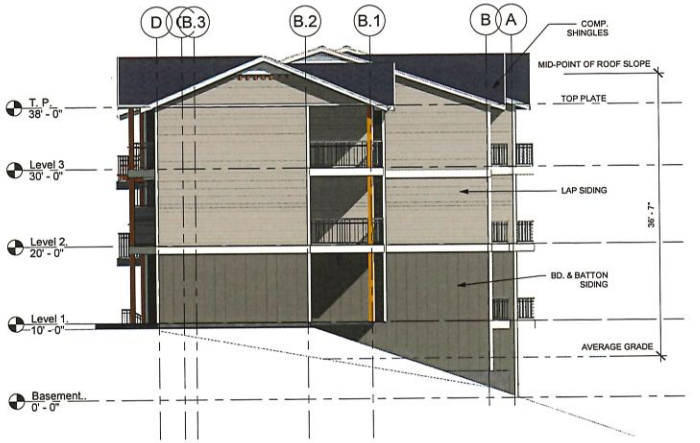
A103

Scale 1/8" = 1'-0"

2/27/2020 4:24:34 PM



1 EAST ELEVATION
1/8" = 1'-0"



2 NORTH ELEVATION
1/8" = 1'-0"

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REGISTERED ARCHITECT
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Meadow Brook Villas
Building C
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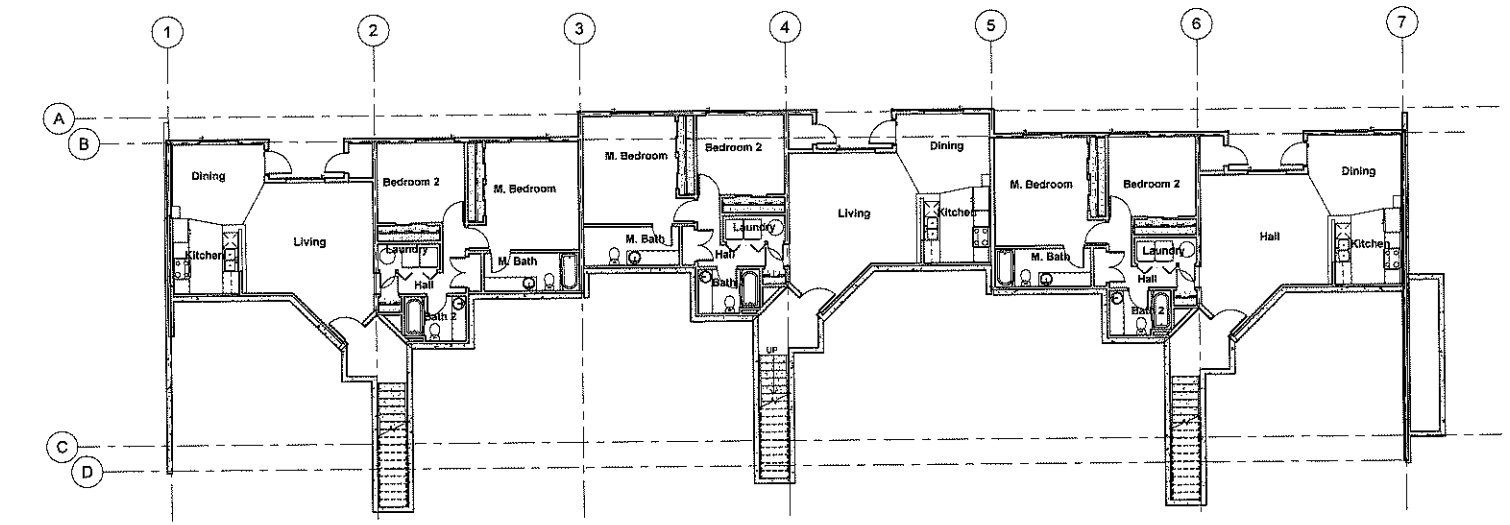
EAST AND NORTH ELEVATIONS

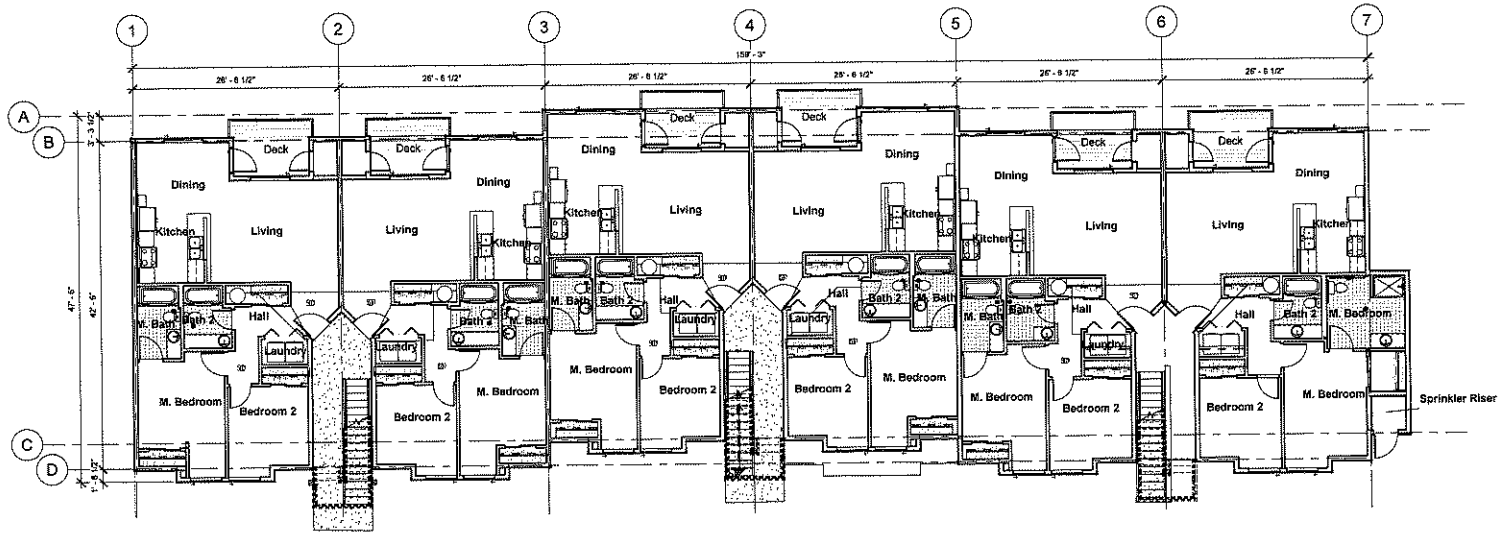
A104

Scale 1/8" = 1'-0"

2/27/2020 4:25:04 PM



① Basement
1/8" = 1'-0"



② Level 1
1/8" = 1'-0"

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REGISTERED ARCHITECT
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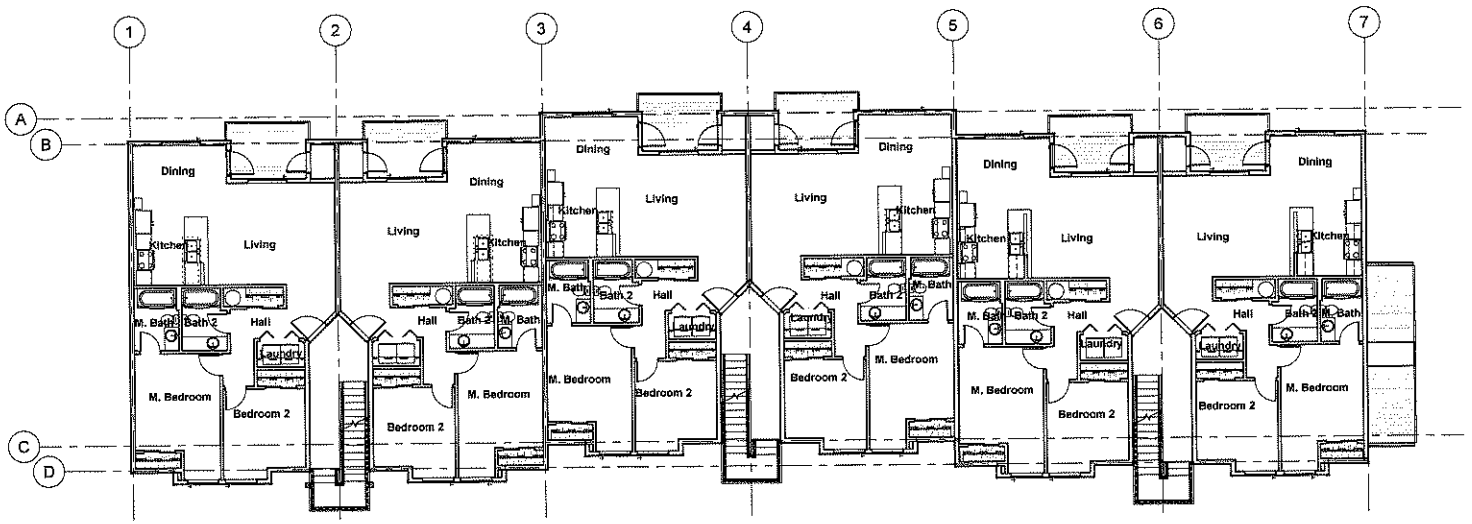
Jurisdiction Stamps

BASEMENT AND 1ST FLOOR PLANS

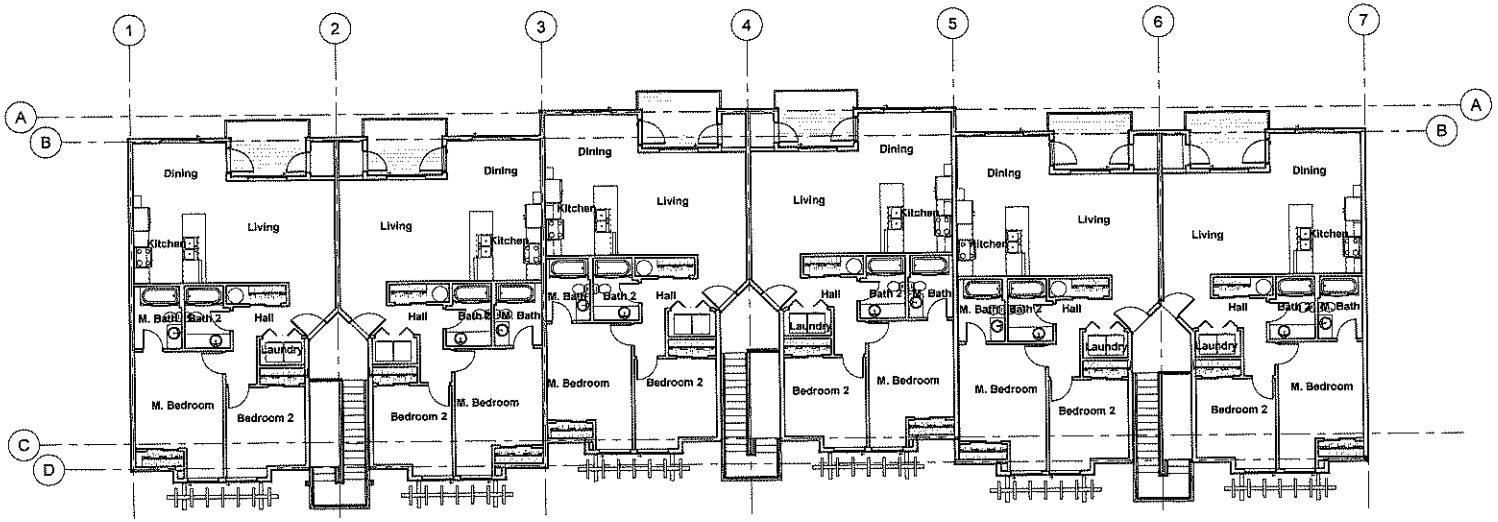
A101

Scale 1/8" = 1'-0"

2/27/2020 4:19:41 PM



1 Level 2
1/8" = 1'-0"



2 Level 3
1/8" = 1'-0"

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REGISTERED ARCHITECT
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Meadow Brook Villas
BUILDING D
Newberg, OR

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Jurisdiction Stamps

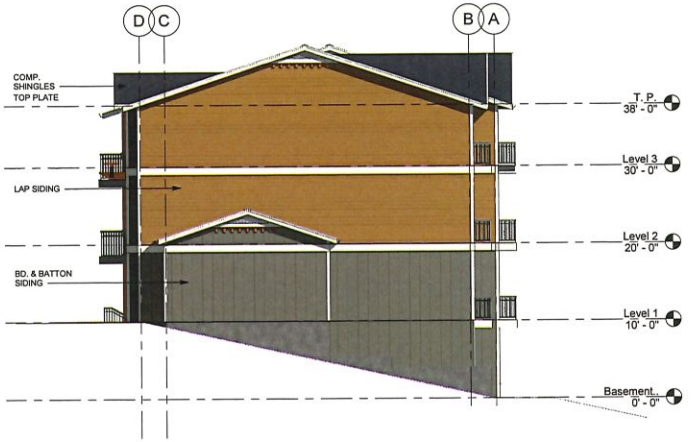
LEVEL 2 AND 3 FLOOR PLANS

A102

Scale 1/8" = 1'-0"

2/11/2020 4:19:44 PM

1 WEST ELEVATION
1/8" = 1'-0"



2 NORTH ELEVATION
1/8" = 1'-0"

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Meadow Brook Villas
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Jurisdiction Stamps

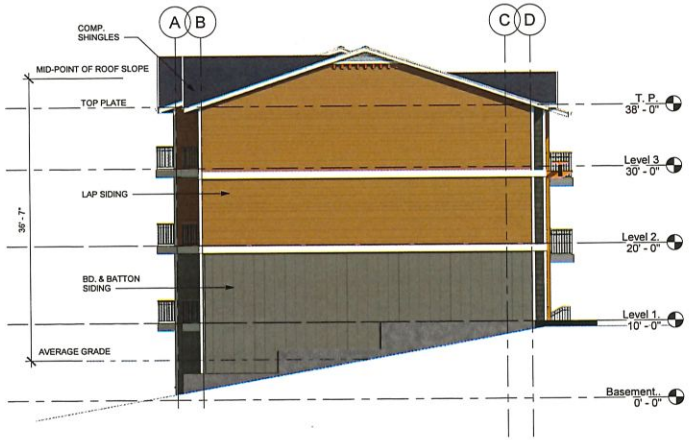
WEST AND NORTH ELEVATIONS

A103

Scale 1/8" = 1'-0"

2/27/2020 4:19:55 PM

1 EAST ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"

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REGISTERED ARCHITECT
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STATE OF OREGON

Meadow Brook Villas
BUILDING D
Newberg, OR

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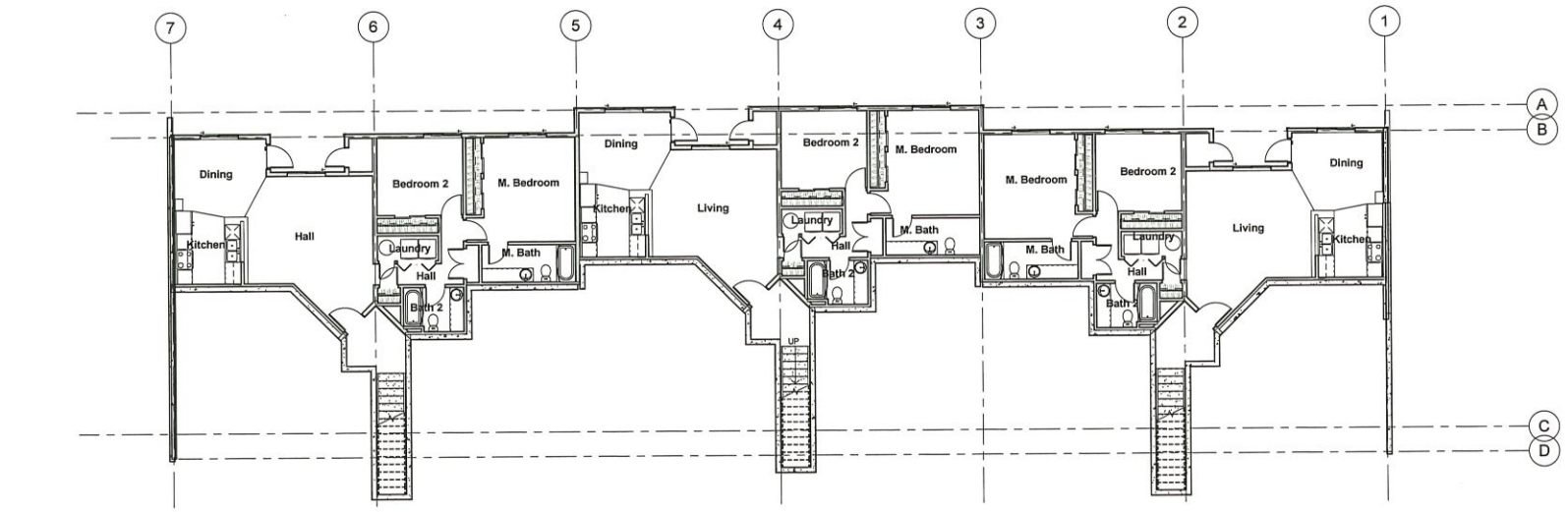
Jurisdiction Stamps

EAST AND SOUTH ELEVATIONS

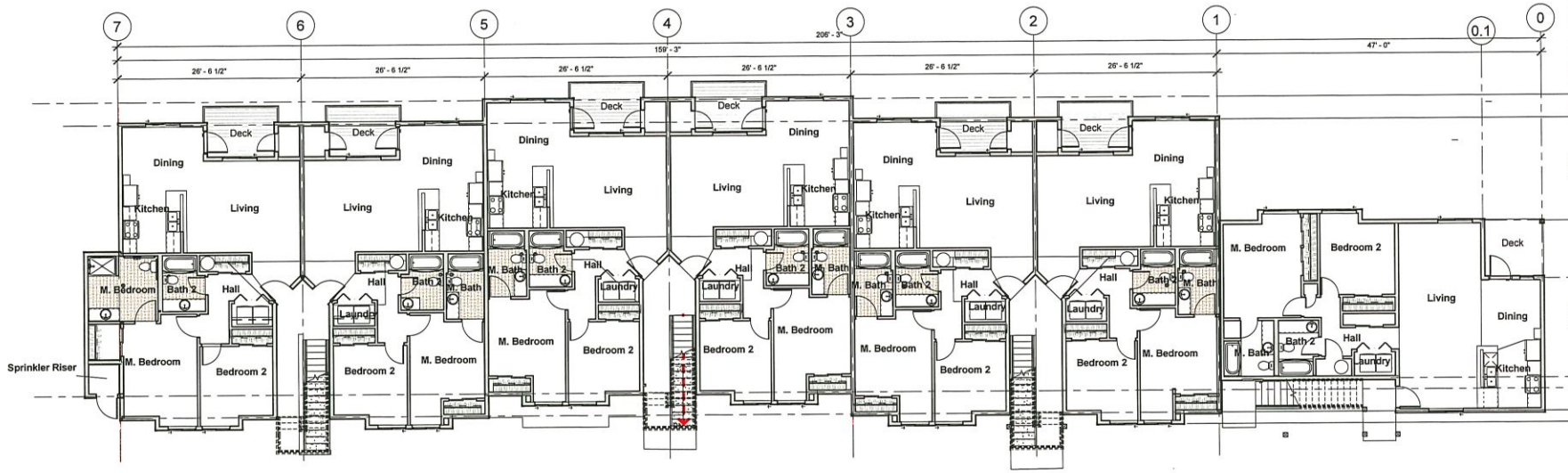
A104

Scale 1/8" = 1'-0"

2/27/2020 4:20:06 PM



1 Basement
1/8" = 1'-0"



2 Level 1
1/8" = 1'-0"

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REGISTERED ARCHITECT
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Meadow Brook Villas
Building E
Newberg, OR

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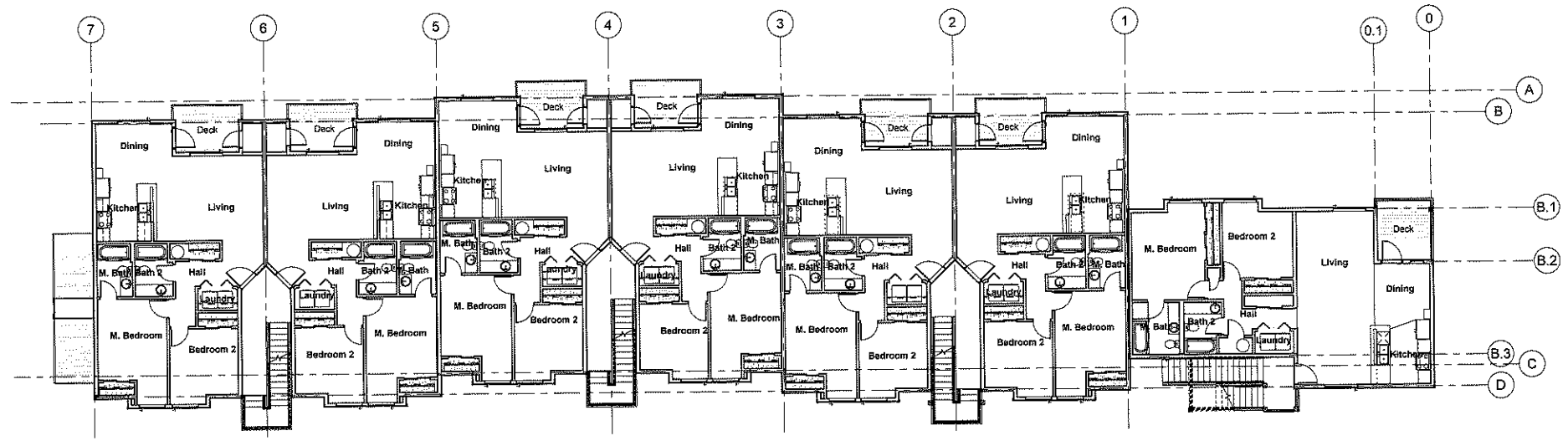
Jurisdiction Stamps

BASEMENT AND 1ST FLOOR PLANS

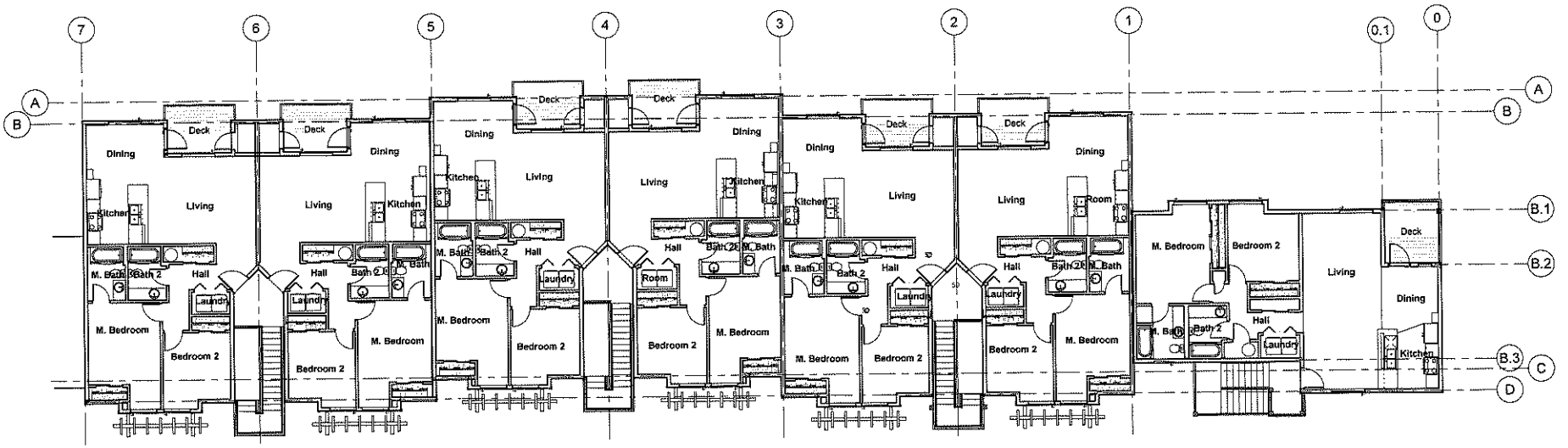
A101

Scale 1/8" = 1'-0"

2/27/2020 4:24:04 PM



1 Level 2
1/8" = 1'-0"



2 Level 3
1/8" = 1'-0"

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REGISTERED ARCHITECT
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STATE OF OREGON

Meadow Brook Villas
Building E
Newberg, OR

Project number	Building E
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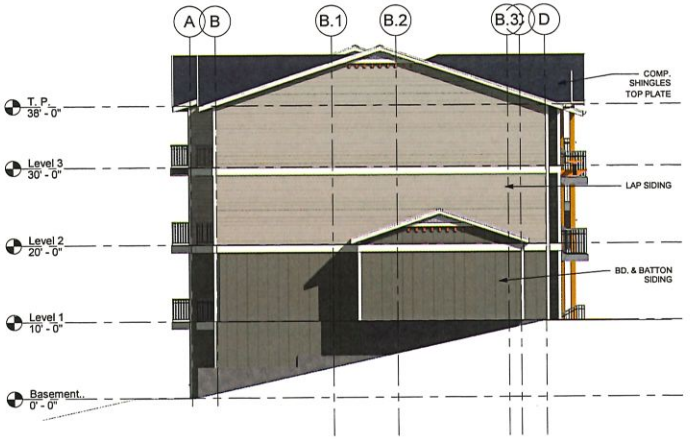
LEVEL 2 AND 3 FLOOR PLANS

A102

Scale 1/8" = 1'-0"

2/27/2020 4:24:07 PM

1 WEST ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"

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REGISTERED ARCHITECT
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Meadow Brook Villas
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Jurisdiction Stamps

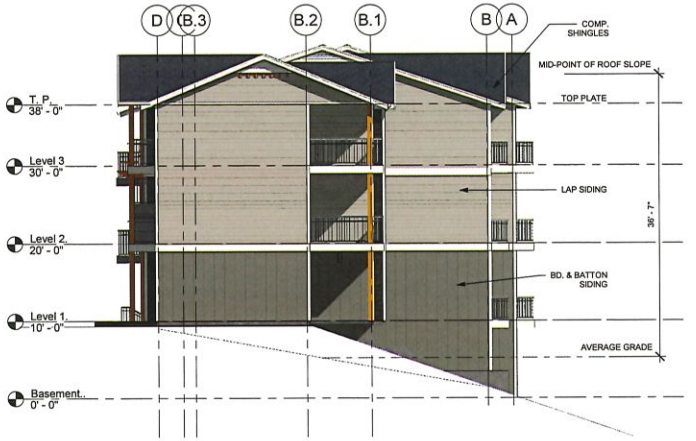
WEST AND SOUTH ELEVATIONS

A103

Scale 1/8" = 1'-0"

2/27/2020 4:24:34 PM

1 EAST ELEVATION
1/8" = 1'-0"



2 NORTH ELEVATION
1/8" = 1'-0"

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REGISTERED ARCHITECT
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Meadow Brook Villas
Building E
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Jurisdiction Stamps

EAST AND NORTH ELEVATIONS

A104

Scale 1/8" = 1'-0"

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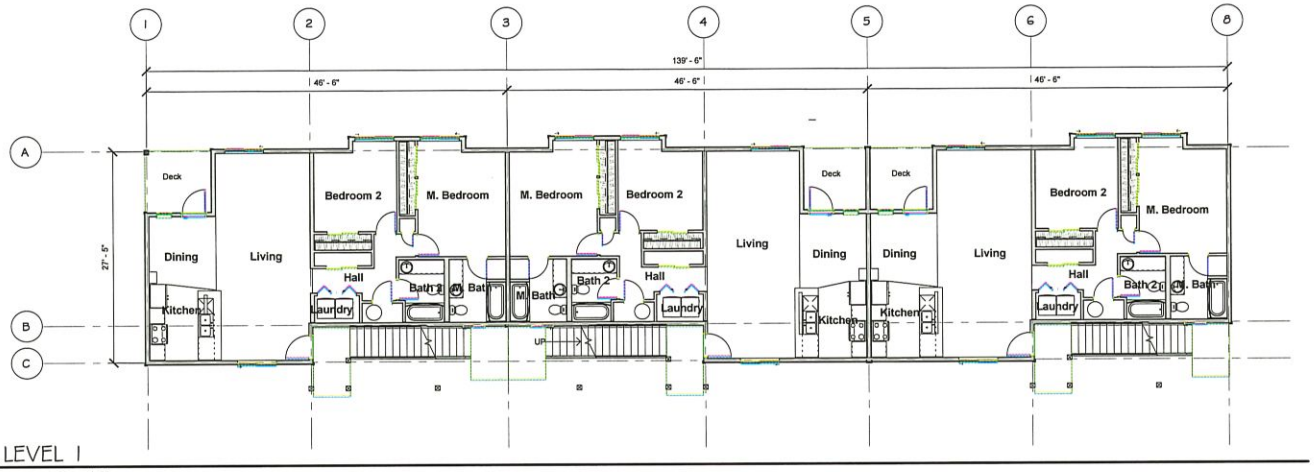
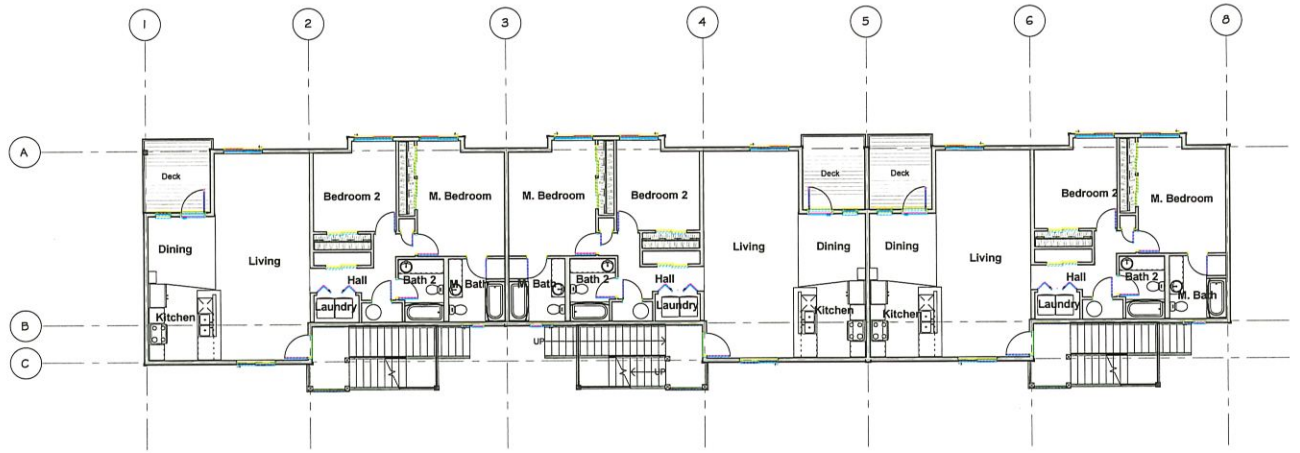


1 LEVEL 1
SCALE: 1/8" = 1'-0"



2 LEVEL 2.
SCALE: 1/8" = 1'-0"

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REGISTERED ARCHITECT
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SEATTLE, WA
STATE OF OREGON

Meadow Brook Villas
BUILDING F
Newberg, OR

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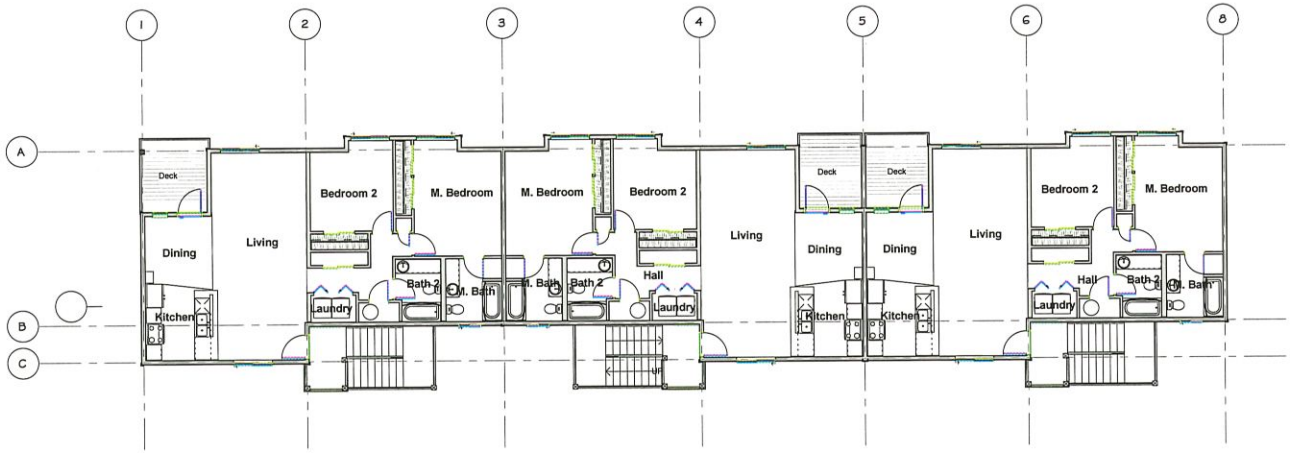
Jurisdiction Stamps

LEVELS 1 & 2 FLOOR PLANS

A101

Scale 1/8" = 1'-0"

2/27/2020 6:22:32 PM



1 LEVEL 3
1/8" = 1'-0"

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REGISTERED ARCHITECT
PAUL A. RICHARDS
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STATE OF OREGON

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BUILDING F
Newberg, OR

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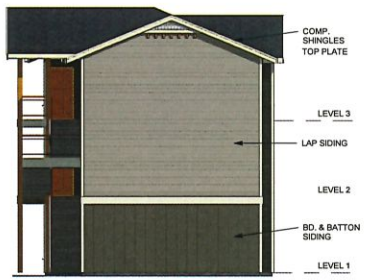
Jurisdiction Stamps

LEVEL 3 FLOOR PLAN

A102

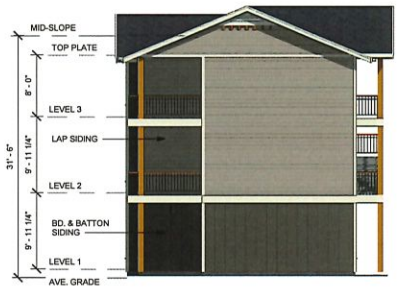
Scale 1/8" = 1'-0"

2/27/2020 6:22:33 PM



2 WEST ELEVATION.
SCALE: 1/8" = 1'-0"

1 NORTH ELEVATION.
SCALE: 1/8" = 1'-0"



4 EAST ELEVATION.
SCALE: 1/8" = 1'-0"

3 SOUTH ELEVATION.
SCALE: 1/8" = 1'-0"

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REGISTERED ARCHITECT
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STATE OF OREGON

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Newberg, OR

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Jurisdiction Stamps

ELEVATIONS

A200

Scale 1/8" = 1'-0"

2/27/2020 6:22:40 PM