

## NOTICE OF DECISION

Bell West Pump Station – Tax lots R3208 02700, 02800, & 02801  
Property Line Adjustment and Design Review – ADJP22-0003 / DR222-0004

May 20, 2022

Paul Chiu, PE  
City of Newberg  
Engineering Division  
414 E First Street  
Newberg, OR 97132

Sent via email: [paul.chiu@newbergoregon.gov](mailto:paul.chiu@newbergoregon.gov) , [southerlandg@aks-eng.com](mailto:southerlandg@aks-eng.com)

Dear Mr. Chiu,

The Newberg Community Development Director has approved the proposed property line adjustment and design review (ADJP22-0003 / DR222-0004) for the Bell West Pump Station development located primarily at tax lot R3208 02800, with adjacent work taking place on tax lots R3208 02700 and 02801, subject to the conditions listed in the attached report. The decision will become effective on June 3, 2022, unless an appeal is filed.

You may appeal this decision to the Newberg Planning Commission within 14 calendar days of this decision in accordance with Newberg Development Code 15.100.170. All appeals must be in writing on a form provided by the Planning Division. Anyone wishing to appeal must submit the written appeal form together with the required fee of \$550.20 to the Planning Division within 14 days of the date of this decision.

**The deadline for filing an appeal is 4:30 pm on June 2, 2022.**

At the conclusion of the appeal period, please remove all notices from the site.

This preliminary approval for the property line adjustment and the design review approval are only valid for one year from the effective date above. The property line adjustment must be finalized through the county recorder. The design review must have corresponding building or construction permits issued within this time period, if not then the approval becomes null, and void and no construction may take place. If you are approaching the expiration date, contact the Planning Division regarding extension opportunities.

Please note that final building plans submitted for building permit review must comply with the attached conditions. You must comply with all conditions required through the design review process before final occupancy will be granted.

If you have any questions, please contact me at [ashley.smith@newbergoregon.gov](mailto:ashley.smith@newbergoregon.gov) or 503-554-7768.

Sincerely,

A handwritten signature in blue ink that reads "Ashley Smith".

Ashley Smith  
Assistant Planner  
City of Newberg

## DECISION AND FINDINGS

Bell West Pump Station – R3208 02700, 02800 & 02801  
Property Line Adjustment and Design Review –ADJP22-0003 / DR222-0004  
North Valley Friends Church / City of Newberg

**FILE NO:** ADJP22-0003 / DR222-0004

**REQUEST:** Installation of water pump station and property line adjustment

**LOCATION:** South of NE Bell Road, east of N College Street

**TAX LOT:** R3208 02700, 02800, & 02801

**APPLICANT:** City of Newberg, Engineering Division, Paul Chiu, PE

**OWNER:** North Valley Friends Church

**ZONE:** I (Institutional)

**PLAN:** PQ (Public/Quasi-Public)

**OVERLAY:** Stream Corridor Overlay Subdistrict

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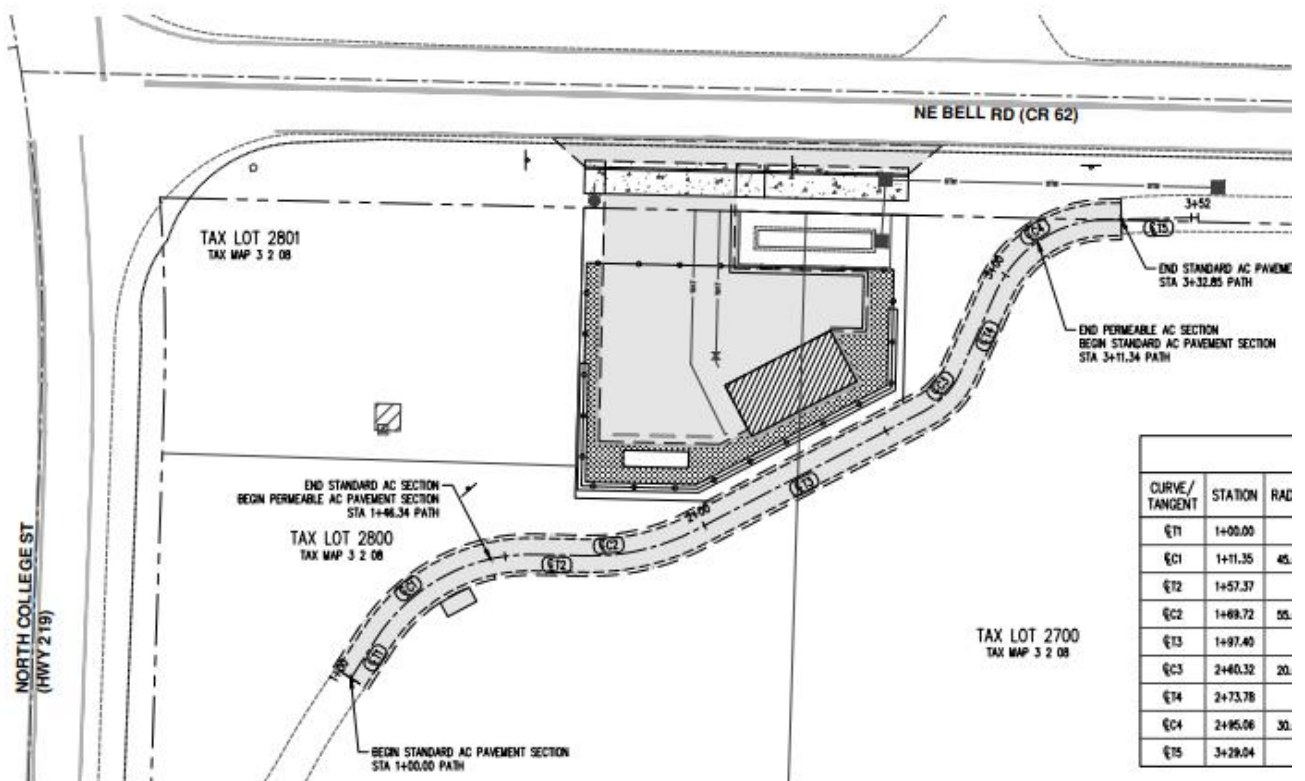
### Attachments:

1. Application Material and Supplemental Material
2. Agency Comments

## Section I: Application Information

### A. DESCRIPTION OF APPLICATION:

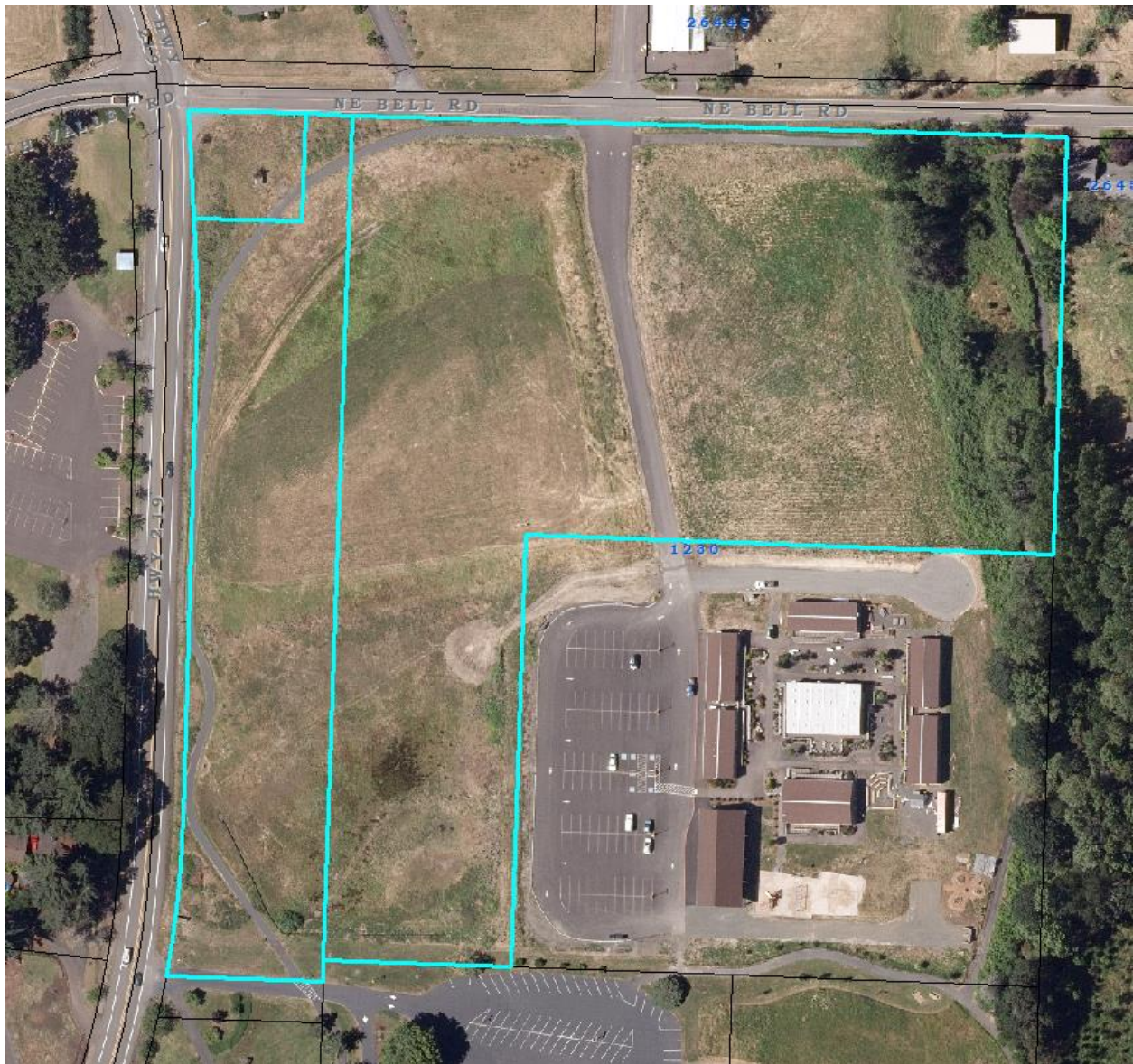
This is a proposal to perform a Type I Property Line Adjustment on tax lot R3208 2800. In doing so, this will create a development site for a water pump station that will house a component for the City of Newberg water system infrastructure. This pump station will replace an existing pump station and is planned to serve the immediate surrounding area, along with planned growth. This pump station is reviewed under the corresponding Type II Design Review in this report. The scope of work will also include the relocation of a walking trail that currently crosses three tax lots, R3208 2700, 2800, and 2801. The property line adjustment will reduce the size of tax lot R3208 02800 from 2.7 acres to 5,607 square feet and increase tax lot R3208 02700 from 7.96 acres to 10.58 acres. The walking trail will be relocated to only cross tax lot R3208 02700. Landscaping will be installed throughout the development site on both tax lots. Street frontage improvements will also be incorporated, along with required storm water infrastructure to serve the site.





**B. SITE INFORMATION:**

1. Location: South of NE Bell Road and East of N College Street (The pump house and main site improvements will be located on Tax lots R3208 02800, however adjacent work will occur on tax lots R3208 02700 and R3208 02801).

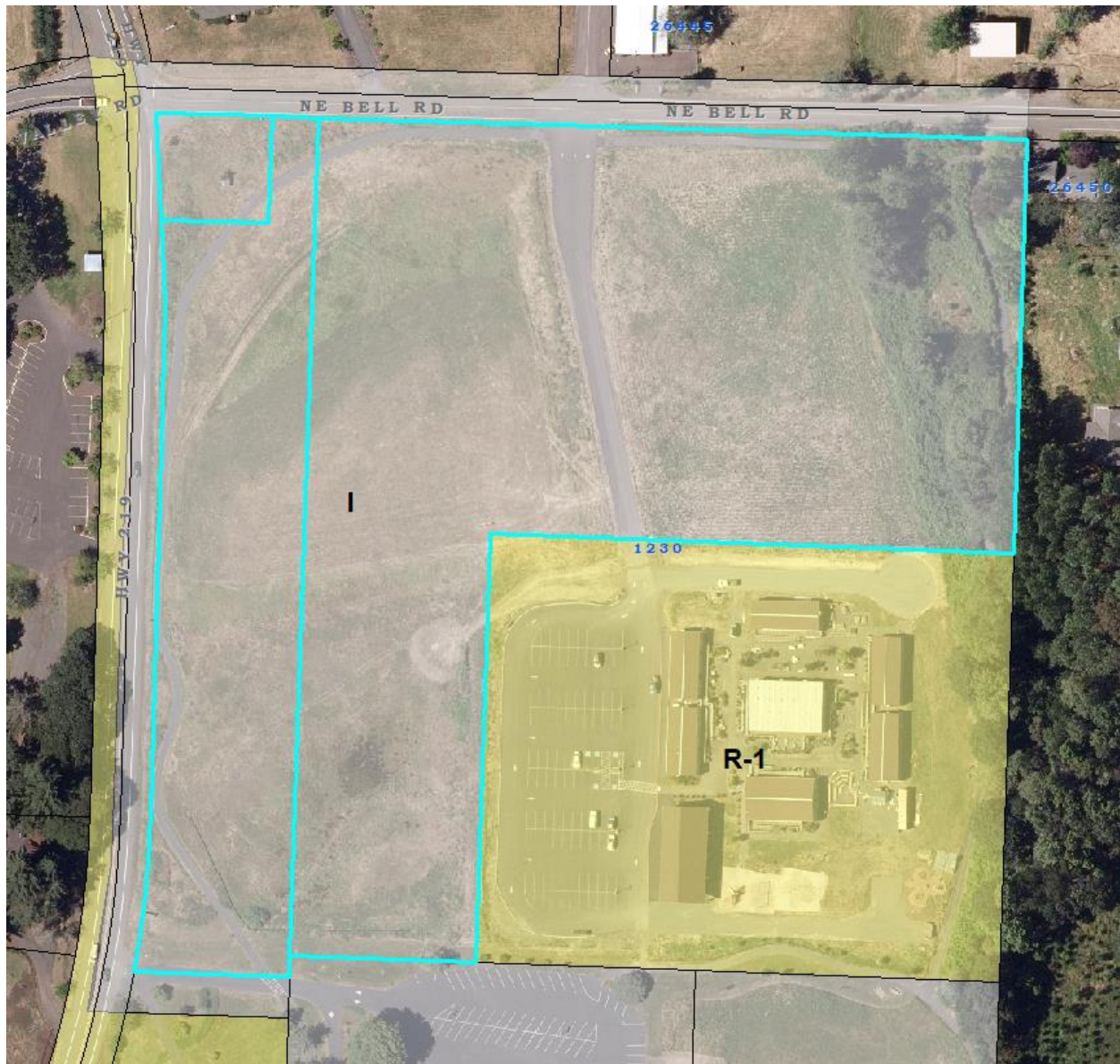


2. Size: Area of work approximately 4,923 square feet, affecting three tax lots, R3208 02700, 02800, & 02801.
3. Current Land Uses: Walking path, otherwise undeveloped.



4. Natural Features: None
5. Adjacent Land Uses:
  - a. North: NE Bell Road, City limits / Chehalem Valley Baptist Church, Rain Dance Ranch (Outside UGB)
  - b. South: North Valley Friends Church
  - c. East: Rural Residential (Outside UGB)
  - d. West: N College Street (Hwy 219), City limits / Newberg Gospel Chapel, Residential (Inside UGB outside city limits)

Zoning: The following zoning districts about the subject property.



- a. North: AF-10 and AF-20 (Yamhill County jurisdiction)
- b. East: AF-10 (Yamhill County jurisdiction)
- c. South: Institutional (I)
- d. West: PAI and VLDR-1 (Yamhill County jurisdiction)

2. Access and Transportation: A new access is proposed from NE Bell Road on the north side of the site. NE Bell Road is a major collector under Yamhill County jurisdiction.
3. Utilities:
  - a. Water: The pump station is designed to serve new transmission and discharge water lines within NE Bell Road. There is an existing 4-inch water line in NE Bell Road. It is owned by Chehalem Springs Water Association.
  - b. Wastewater: There are no public wastewater lines near the project site. No wastewater connections are required.
  - c. Stormwater: There is a 12-inch storm line on the north side of NE Bell Road. It is a culvert. A private storm line runs east along NE Bell Road. This line is shown in the pathway on private property.
  - d. Overhead Lines: Any new connection the property will need to be undergrounded. See NMC 15.430.010 for exception provisions.

**C. PROCESS:** The Design Review request is a Type II application and follows the procedures in Newberg Development Code 15.100.030. Following a 14-day public comment period, the Community Development Director makes a decision on the application based on the criteria listed in the attached findings. The Director's decision is final unless appealed.

Important dates related to this application are as follows:

1. 04/04/2022: The Community Development Director deemed the application complete.
2. 04/08/2022: The applicant mailed notice to the property owners within 500 feet of the site.
3. 04/08/2022: The applicant posted notice on the site.
4. 04/22/2022: The 14-day public comment period ended.
5. 05/20/2022: The Community Development Director issued a decision on the application.

**D. AGENCY COMMENTS:** The application was routed to several public agencies for review and comment (Attachment 2). Comments and recommendations from city departments have been incorporated into the findings and conditions. As of the writing of this report, the city received the following agency comments:

1. Building Official: Reviewed, no conflict.



2. City Manager: Reviewed, no conflict.
3. Community Development Director: Reviewed, no conflict.
4. Finance Department: Reviewed, no conflict.
5. ODOT Rail: Reviewed, no conflict.
6. Police Department: Reviewed, no conflict.
7. Public Works Director: Reviewed, no conflict.
8. Public Works Maintenance Superintendent: Reviewed, no conflict.
9. Public Works WWTP Superintendent: Reviewed, no conflict.
10. Public Works WWTP Compliance: Reviewed, no conflict.
11. Ziplly Fiber: Reviewed, comment (See Attachment 2 for original comment):
  - a. Ziplly has 200 pair copper cable along south ROW of NE Bell Rd. Developer/Customer will need to provide path from Communication Room (MPOE) to ROW for service.
12. Engineering: If more than \$30,000 of improvements are made to the property, street/frontage improvements can be required, see NMC 12.05.090.

**E. PUBLIC COMMENTS:**

No public comments were received on the application.

**Section II: Findings – File ADJP22-0003  
Property Line Adjustment – R3208 02800  
Bell West Pump Station – North Valley Friends Church / City of Newberg**

**15.230 Property consolidations and Property line adjustments.**

**15.230.020 Property line adjustments.**

**The following procedures apply to any property line adjustment:**

**A. The applicant shall file a Type I application on a form provided by the director. The application shall include a tentative property line adjustment plan meeting the requirements for a tentative partition plan, as set forth in NMC 15.235.040(B), and such other material as required by the director.**

**B. The director may approve, approve with conditions, or deny the application based on the following criteria:**

**1. The property line adjustment does not create more lots than existed prior to the adjustment.**

**Finding:** The applicant filed a Type I application, and the property line adjustment does not create any additional lots. There were two original lots involved with this development, tax lots R3208 02700 and 02800, these two lots will change in size but will remain unique lots. The criteria in NMC 15.230.020 have been met.

**2. The adjustment does not create any substandard condition relative to this code, including lot area, lot width, setbacks, and access. If any of the original lots do not meet these standards, the adjusted lots may remain nonconforming, provided:**

**a. The adjustment cannot reasonably or practically bring the lots into conformity.**

**b. The adjustment does not worsen the nonconforming status of the lots.**

**Finding:** Per staff calculations in the table below, the lot line adjustment will not create any substandard conditions, private or public streets were not included in the area calculations, and no new private streets were created. The criteria in 15.230.020(2) is met.

	<b><i>Tax Lot R3208 02800</i></b>	<b><i>Tax Lot R3208 02700</i></b>
<b><i>Area Before Adjustment</i></b>	2.7 acres	7.96 acres
<b><i>Area After Adjustment</i></b>	5,067 square feet	10.58 acres
<b><i>Lot Frontage Before Adjustment</i></b>	46 feet along NE Bell Road 742 feet along N College Street/Hwy 219	698 feet along NE Bell Road

<b><i>Lot Frontage After Adjustment</i></b>	79.1 feet along NE Bell Road 0 feet along N College Street/Hwy 219	665 feet along NE Bell Road 742 feet along N College Street/Hwy 219
<b><i>Average Lot Width and Depth After Adjustment</i></b>	Will be less than 15,000 sq ft. NMC 15.405.030(B) does not apply.	Width: 584 ft Depth: 625 ft
<b><i>Setbacks</i></b>	No buildings prior to adjustment	No buildings prior to adjustment
<b><i>Lot Access Prior to Adjustment</i></b>	Through tax lot R3208 02700	From NE Bell Road
<b><i>Lot Access After Adjustment</i></b>	See findings in Section III <b><i>15.415.040 Public access required.</i></b>	From NE Bell Road (no change)

- C. Following approval of the property line adjustment, the applicant shall:***
- 1. File deeds with the county recorder conforming to the approved property line adjustment and ORS 92.190.***
  - 2. File a survey with the county surveyor of the adjusted property line(s).  
Exceptions to this requirement are:***
    - a. Where all parcels affected are greater than 10 acres; or***
    - b. Where the adjustment relocates a common boundary of lots in a subdivision or a parcels in a partition a distance of even width along the common boundary.***
  - 3. File a copy of the recorded deeds and survey with the director. [Ord. 2537, 11-6-00. Code 2001 § 151.236.]***

**Finding:** The applicant will need to file all proper documentation per 15.230.020C with the county recorder and provide a copy of the final recorded deed and survey to the City.

**CONCLUSION:**

**Based on the above findings, the project meets the criteria required within the Newberg Development Code, subject to completion of the attached conditions.**



**Section III: Findings – File DR222-0004**  
**Design Review – R3208 02700, 02800, & 02801**  
**Bell West Pump Station – North Valley Friends Church / City of Newberg**

*Chapter 12.05 Street and Sidewalks*

*12.05.090 Permits and certificates.*

*A. Concurrent with the issuance of a building permit for the construction of a building for residential use or business structures or an addition to a dwelling or business structure, the value of which is \$30,000 or more except as the city engineer may require on building permits of lesser value in accordance with NMC 12.05.040, the owner, builder or contractor to whom the building permit is issued shall meet the following requirements:*

*1. Construct a sidewalk within the dedicated right-of-way for the full frontage in which a sidewalk in good repair does not exist. The sidewalk construction shall be completed within the building construction period or prior to issuance of an occupancy permit, whichever is the lesser.*

**Finding:** The submitted narrative proposes a 6-foot sidewalk along the entire frontage of the project site. The proposed curb tight sidewalk is inconsistent with the City of Newberg code requirements and standards for a major collector. The required half right-of-way cross section consists of the following:

- 1-foot between the right-of-way and back of sidewalk
- 5-foot-wide sidewalk
- 5.5-foot-wide planter strip
- 0.5-foot-wide curb
- 18-foot-wide pavement from curb to right-of-way center line.

Because final plans have not been submitted, construction plans showing sidewalks meeting the City of Newberg Public Works Design and Construction standards are to be submitted with the public works improvement permit application.

This criterion will be met if the aforementioned condition of approval is adhered to.

*2. Dedicate right-of-way in accordance with the city transportation plan.*

**Finding:** NE Bell Road is under the jurisdiction of Yamhill County. The half right-of -way width of 30-feet along the project site’s frontage of NE Bell Road shown on the submitted plan is adequate for a major collector. This requirement is met.

*Chapter 15.220 Site Design Review*

*15.220.020 Site design review applicability.*

***A. Applicability of Requirements. Site design review shall be required prior to issuance of building permits or commencement of work for all improvements noted below. Site design review permits shall be processed as either Type I or Type II, as noted below.***

***1. Type I.***

***a. Single-family dwellings;***

***b. Duplex dwellings;***

***c. Triplex dwellings;***

***d. Quadplex dwellings;***

***e. Townhouse dwellings;***

***f. Cottage cluster projects;***

***g. Institutional, commercial or industrial additions which do not exceed 1,000 square feet in gross floor area;***

***h. Multifamily additions which do not exceed 1,000 square feet in gross floor area and do not add any new units, or new construction incidental to the main use on an existing developed site which does not exceed 1,000 square feet in gross floor area and does not add any new units;***

***i. Institutional, commercial or industrial interior remodels which do not exceed 25 percent of the assessed valuation of the existing structure;***

***j. Multifamily remodels which do not exceed 25 percent of the assessed valuation of the existing structure and do not add any new units;***

***k. Signs which are not installed in conjunction with a new development or remodel;***

***l. Modifications, paving, landscaping, restriping, or regrading of an existing multifamily, institutional, commercial or industrial parking lot;***

***m. Fences and trash enclosures;***

***n. Accessory dwelling units.***

***2. Type II.***

- a. Any new development or remodel which is not specifically identified within subsection (A)(1) of this section.*
- b. Telecommunications facilities.*

**Finding:** This is a proposal for development of an approximate 400 square foot pump station, surrounding site enclosure, landscaping, and redevelopment of a walking path. It is not a development identified within subsection (A)(1) and therefore is reviewed under a Type II design review application. This criterion is met.

*15.220.050 Criteria for design review (Type II process).*

*B. Type II. The following criteria are required to be met in order to approve a Type II design review request:*

*1. Design compatibility. The proposed design review request incorporates an architectural design which is compatible with and/or superior to existing or proposed uses and structures in the surrounding area. This shall include, but not be limited to, building architecture, materials, colors, roof design, landscape design, and signage.*

**Finding:** There are no other buildings within the immediate vicinity of the proposed development other than a well house located on the neighboring tax lot to the west (R3208 02801). The applicant is stating that the pump station will be made of concrete masonry unit blocks, have a gabled roof, and will be built to code standards. Muted earth tone colors will be used. These criteria are met.

*15.425 Exterior Lighting*

*15.425.020 Applicability and exemptions.*

*A. Applicability. Outdoor lighting shall be required for safety and personal security in areas of assembly, parking, and traverse, as part of multifamily residential, commercial, industrial, public, recreational and institutional uses. The applicant for any Type I or Type II development permit shall submit, as part of the site plan, evidence that the proposed outdoor lighting plan will comply with this section. This information shall contain but not be limited to the following:*

- 1. The location, height, make, model, lamp type, wattage, and proposed cutoff angle of each outdoor lighting fixture.*
- 2. Additional information the director may determine is necessary, including but not limited to illuminance level profiles, hours of business operation, and percentage of site dedicated to parking and access.*
- 3. If any portion of the site is used after dark for outdoor parking, assembly or traverse, an illumination plan for these areas is required. The plan must address safety and personal security.*



**Finding:** Lighting information provided shows that there will be an exterior light near the door of the pump station. The site will be utilized only for routine maintenance or repair and will not include parking lot lighting.

The lighting will be an LED wall pack mounted between eight and fifteen feet above ground. This type of lighting is not listed in the shielding requirements and therefore the applicant will need to provide a photometric plan showing that the light will not exceed one-half-foot candle at the property line.

***2. Parking and On-Site Circulation. Parking areas shall meet the requirements of NMC 15.440.010. Parking studies may be required to determine if adequate parking and circulation are provided for uses not specifically identified in NMC 15.440.010. 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.***

**Finding:** See Finding of 15.440.010

***15.440.010 Required off-street parking.***

***A. Off-street parking shall be provided on the lot or 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 lot or development site or within 400 feet of the lot or development site which the parking is required to serve. All required parking must be under the same ownership as the lot or development site served except through special covenant agreements as approved by the city attorney, which bind the parking to the lot or development site.***

**Finding:** This development is for the construction of a water pump station to support basic utilities associated with city infrastructure. The site will not be utilized by staff, except for routine maintenance and repairs. The site provides adequate space for a vehicle to park, but a traditional parking lot is not required. Therefore, this criterion is not applicable.

***15.440.100 Facility requirements.***

***Bicycle parking facilities shall be provided for the uses shown in the following table. Fractional space requirements shall be rounded up to the next whole number.***

**Finding:** This site will not be open to the public and will only be utilized by city staff performing routine maintenance and repairs. A bicycle parking facility is not required, and this criterion is not applicable.

***3. Setbacks and General Requirements. The proposal shall comply with NMC 15.415.010 through 15.415.060 dealing with height restrictions and public access;***

*and NMC 15.405.010 through 15.405.040 and NMC 15.410.010 through 15.410.070 dealing with setbacks, coverage, vision clearance, and yard requirements.*

**Finding:** This criterion is addressed in the following findings.

***15.415.020 Building height limitation.***

***D. Institutional. The maximum height of any building or structure will be 75 feet except as follows:***

- 1. Within 50 feet of an interior property line abutting a C-1, R-1, R-2 or R-P district, no main building may exceed 30 feet.***
- 2. Within 50 feet of an interior property line abutting an R-3 district, no main building may exceed 45 feet.***
- 3. Within 100 feet of a property line abutting a public street or railroad right-of-way, or within 100 feet of property lines abutting parcels with an R-1, R-2, R-3, R-P, C-1, C-2, C-3, M-1, M-2, or M-3 zoning designation, no main building may exceed 50 feet in height.***
- 4. To utilize the maximum permitted height standard, at least 80 percent of the building's ground coverage must be beyond the setback area designated in subsection (D)(3) of this section. The maximum encroachment may not exceed 25 feet.***

**Finding:** The site is located within the Institutional zone and abuts a public a public street. A picture of the building design was provided; No elevation plans were submitted with the proposal however, the applicant's narrative states the pump station will not be over 50 feet. Height will be verified during building permit application. This criterion is met.

***15.415.040 Public access required.***

***No 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. New private streets may not be created to provide access except as allowed under NMC 15.332.020(B)(24), 15.336.020(B)(8), and in the M-4 zone. Existing private streets may not be used for access for new dwelling units, except as allowed under NMC 15.405.030. No 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.***

**Finding:** Tax lot R3208 02700 will continue to maintain access from NE Bell Rd. The new developments on tax lot R3208 02800 include creation of a 32-foot-wide driveway, with access from NE Bell Rd. No private streets are being created with this project. This criterion is met.

***15.405.010 Minimum and maximum lot area.***

***A. In the following districts, each lot or development site shall have an area as shown below except as otherwise permitted by this code:***

***4. Institutional districts shall have a minimum size of five contiguous acres in order to create a large enough campus to support institutional uses; however, additions to the district may be made in increments of any size.***

**Finding:** This development is proposed within an Institutional district. All lots within this Institutional district are owned by North Valley Friends Church, which combined together equal over 18 contiguous acres, well surpassing the 5-acre requirement of this code. This criterion is met.

***15.405.030 Lot dimensions and frontage.***

***A. Width. Widths of lots shall conform to the standards of this code.***

***B. Depth to Width Ratio. Each lot and parcel shall have an average depth between the front and rear lines of not more than two and one-half times the average width between the side lines. Depths of lots shall conform to the standards of this code. Development of lots under 15,000 square feet are exempt from the lot depth to width ratio requirement.***

***C. Area. Lot sizes shall conform to standards set forth in this code. Lot area calculations shall not include area contained in public or private streets as defined by this code.***

***D. Frontage.***

***1. No lot or development site shall have less than the following lot frontage standards:***

***a. Each 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. No new private streets, as defined in NMC 15.05.030, shall be created to provide frontage or access except as allowed by NMC 15.240.020(L)(2).***

**Finding:** Please refer to findings in the previous section, ADJP22-0003, NMC 15.230.020.

***15.405.040 Lot coverage and parking coverage requirements***

***C. All other districts and uses not listed in subsection (B) of this section shall not be limited as to lot coverage and parking coverage except as otherwise required by this code.***

**Finding:** The subject property is an Institutional district which is a use not listed in subsection B. Therefore, lot coverage and parking coverage requirements are not applicable to this project.

***15.410.020 Front yard setback.***

***D. Institutional and Community Facility. All lots or development sites in the I and CF district shall have a front yard of 25 feet. Outdoor activity facilities, such as pools, basketball courts, tennis courts, or baseball diamonds, including any accessory structures and uses, are not permitted within the required setback.***



**Finding:** Submitted plans show the pump station will be set back over 28 feet from the front property line that runs parallel to NE Bell Rd, surpassing the 25-foot front yard requirement. This criterion is met.

**15.410.030 Interior yard setback.**

***D. Institutional and Community Facility. All lots or development sites in the I and CF district shall have interior yards of not less than 10 feet, except outdoor activity facilities, such as pools, basketball courts, tennis courts, or baseball diamonds, including any accessory structures and uses, shall have an interior yard setback of 25 feet when abutting a residential district.***

**Finding:** Submitted plans show the pump station will maintain a minimum 10-foot setback from all interior property lines. This criterion is met.

**15.410.050 Special setback requirements to planned rights-of-way.**

***C. A lot or parcel of land in any district adjoining a street for which the planned right-of-way width and alignment have been determined shall have a building setback line equal to the yard required in the district, plus a distance of:***

- 1. Fifty feet from and parallel with the centerline of expressways.***
- 2. Thirty-five feet from and parallel with the centerline of major and minor arterials.***
- 3. Thirty feet from and parallel with the centerline of multifamily, commercial and industrial streets and single-family collector streets.***
- 4. Thirty feet from and parallel with the centerline of single-family local streets.***
- 5. Twenty-five feet from and parallel with the centerline of single-family hillside, cul-de-sacs and local streets which will never be extended more than 2,400 feet in length and which will have a relatively even division of traffic to two or more exits.***

**Finding:** Please refer to Engineering Department findings under Chapter 15.505 Public Improvement Standards for any requirements within rights-of-way.

**15.410.060 Vision clearance setback.**

***The following vision clearance standards shall apply in all zones (see Appendix A, Figure 9).***

- A. At the intersection of two streets, including private streets, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 50 feet in length.***
- B. At the intersection of a private drive and a street, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 25 feet in length.***

*C. Vision clearance triangles shall be kept free of all visual obstructions from two and one-half feet to nine feet above the curb line. Where curbs are absent, the edge of the asphalt or future curb location shall be used as a guide, whichever provides the greatest amount of vision clearance.*

**Finding:** This lot will not be located with an intersection of two streets, therefore only the 25-foot vision triangle on either side of the service drive coming from NE Bell Road apply. The submitted site plans show that all development items will be located outside of the 25-foot vision clearance triangle areas. The criteria of this section are met.

*15.410.070 Yard exceptions and permitted intrusions into required yard setbacks.*

*The following intrusions may project into required yards to the extent and under the conditions and limitations indicated:*

*A. Depressed Areas. In any district, open work fences, hedges, guard railings or other landscaping or architectural devices for safety protection around depressed ramps, stairs or retaining walls may be located in required yards; provided, that such devices are not more than three and one-half feet in height.*

*B. Accessory Buildings. In front yards on through lots, where a through lot has a depth of not more than 140 feet, accessory buildings may be located in one of the required front yards; provided, that every portion of such accessory building is not less than 10 feet from the nearest street line.*

*C. Projecting Building Features. The following building features may project into the required front yard no more than five feet and into the required interior yards no more than two feet; provided, that such projections are no closer than three feet to any interior lot line:*

- 1. Eaves, cornices, belt courses, sills, awnings, buttresses or other similar features.*
- 2. Chimneys and fireplaces, provided they do not exceed eight feet in width.*
- 3. Porches, platforms or landings which do not extend above the level of the first floor of the building.*
- 4. Mechanical structures (heat pumps, air conditioners, emergency generators and pumps).*

**Finding:** The proposed plans do not show any depressed areas, new accessory buildings or projecting building features within the required yard setbacks. The criteria of this section are met.

*D. Fences and Walls.*

- 3. If chain link (wire-woven) fences are used, they are manufactured of corrosion-proof materials of at least 11-1/2 gauge.*

**Finding:** The narrative states a black chain link fence will be installed and the site plan notes a six-foot black metal fence is proposed along with a slide gate. The chain link fence will need to be made of corrosion-proof materials of at least 11-1/2 gauge, information stating this will need to be submitted with the building permit application.

***4. The requirements of vision clearance shall apply to the placement of fences.***

**Finding:** See response to NMC 15.410.060.

***E. Parking and Service Drives (Also Refer to NMC 15.440.010 through 15.440.080).***

**Finding:** See response to NMC 15.440.010.

***F. Public Telephone Booths and Public Transit Shelters. Public telephone booths and public transit shelters shall be permitted; provided, that vision clearance is maintained for vehicle requirements for vision clearance.***

**Finding:** This criterion is not applicable because the applicant is not proposing any public telephone booths or public transit shelters. The standard is not applicable.

***4. Landscaping Requirements. The proposal shall comply with NMC 15.420.010 dealing with landscape requirements and landscape screening.***

***15.420.010 Required minimum standards.***

***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. Development in the C-3 (central business district) zoning district and M-4 (large lot industrial) zoning district is exempt from the 15 percent landscape area requirement of this section. Additional landscaping requirements in the C-4 district are described in NMC 15.352.040(K). In the AI airport industrial district, only a five percent landscaping standard is required with the goal of “softening” the buildings and making the development “green” with plants, where possible. The existence of the runway, taxiway, and approach open areas already provide generally for the 15 percent requirement. Developments in the AI airport industrial district with a public street frontage shall have said minimum landscaping between the front property line and the front of the building.***

**Finding:** After the associated property line adjustment is finalized, tax lot R3208 02800 will be 5,067 square feet. Tax lot R3208 02800 is where the pump station will be placed, and where the majority of all development work will take place. Tax lot R3208 02800 is required to have 15% landscaping, which would be a total of 760 square feet. The landscaping plan shows a total of 1,222 square feet being proposed. Tax lot R3208 02700 will have additional landscaping along the pedestrian path that is being relocated off of tax lot R3208 02800. Tax lot R3208 02700 has no improvements other than the pedestrian path relocation and a bench that will be relocated from tax lot R3208 02801 and placed along the path. The pedestrian path will be landscaped with evergreen shrubs and trees. This criterion is met.

*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:*

**Finding:** Areas within the site development that are not being improved, will be landscaped per provided landscape sheet, L000. This is addressed within the finding of section NMC 15.420.010. This criterion is met.

*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.*

*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.*

**Finding:** Tax lot R3280 02800 will have 79 feet of frontage along NE Bell Road, which is a major collector street. Landscaping plans and narrative convey two trees will be planted at 35 feet on center along this frontage and will include proper root barrier protection. This criterion is met.

*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.*

**Finding:** No accent trees are being proposed. This criterion is not applicable.

*d. All broad-leaved 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:*

<i>Gallon cans</i>	<i>3 feet on center</i>
<i>4" containers</i>	<i>2 feet on center</i>
<i>2-1/4" containers</i>	<i>18" on center</i>
<i>Rooted cuttings</i>	<i>12" on center</i>

**Finding:** Per the submitted landscaping plans, sheet L000, the majority of all landscaping will meet or exceed the planting schedule and size requirements outlined in subsections (d) and (e). This landscaping is meeting the requirements for tax lot R3208 02800, where the pump station will be located, and the adjacent pedestrian pathway located on tax lot R3208 02700. These criteria are met.

*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.*

**Finding:** The landscape plans and narrative submitted with the application state that a permanent, underground “design-build” automatic irrigation system will be installed as noted on Sheet L000. What is not clear is how the landscaping outside of tax lot R3208 02800 will be maintained. Specifically, the landscaping along the path that will be on North Valley Friends Church. Landscaping plans submitted with either the public improvement permits or building permits shall clearly notate how landscaping will be irrigated and maintained on tax lots R3208 02700 and R3208 02800.

*6. Required landscaping shall be continuously maintained.*

**Finding:** The applicant states that this requirement is understood, however specifics have not been given to who will maintain landscaping along the pedestrian path on tax lot R3208 02700. The applicant shall ensure landscaping is continuously maintained on all areas associated with this development, per NMC 15.420.010(B)(6).

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



**Finding:** The development is not located near any overhead utility lines. Per Engineering standards, all new utility lines will need to be placed underground. This criterion is met.

*8. Landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) will apply to development proposals unless the institution has addressed the requirements and standards by an approved site development master plan. With an approved site development master plan, the landscape requirements will be reviewed through an administrative Type I review process.*

**Finding:** The development is not being required to provide any parking or loading areas. This criterion is not applicable.

*9. In the M-4 zone, landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) do not apply unless within 50 feet of a residential district.*

**Finding:** This project is in an Institutional zone. This criterion is not applicable.

*C. Installation of Landscaping. All landscaping required by these provisions shall be installed prior to the issuance of occupancy permits, unless security equal to 110 percent of the cost of the landscaping as determined by the director is filed with the city, insuring such installation within six months of occupancy. A security – cash, certified check, time certificates of deposit, assignment of a savings account, bond or such other assurance of completion as shall meet with the approval of the city attorney – shall satisfy the security requirements. If the installation of the landscaping is not completed within the six-month period, or within an extension of time authorized by the director, the security may be used by the city to complete the installation. Upon completion of the installation, any portion of the remaining security deposited with the city shall be returned to the applicant.*

**Finding:** The applicant acknowledges that landscaping will need to be installed prior to occupancy and plans to do so. If that is not achievable, they will provide the appropriate security bond. This criterion is met.

*5. Signs. Signs shall comply with NMC 15.435.010 et seq dealing with signs*

*15.435.030 Permit required.*

*A. Except as follows, no person or entity shall place any sign within the city without first obtaining a permit from the director.*

*B. The following do not require sign permits, but must otherwise comply with the standards of this chapter:...*

**Finding:** No signage is being proposed at this time.

**6. Manufactured Dwelling, Mobile Home and RV Parks.** *Manufactured dwelling and mobile home parks shall also comply with the standards listed in NMC 15.445.075 through 15.445.100 in addition to the other clear and objective criteria listed in this section. RV parks also shall comply with NMC 15.445.170 in addition to the other criteria listed in this section.*

**Finding:** A manufactured dwelling or mobile home are not being proposed with this project. This criterion is not applicable.

**7. Zoning District Compliance.** *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 NMC 15.305.010 through 15.336.020. Through this site review process, the director may make a determination that a use is determined to be similar to those listed in the applicable zoning district, if it is not already specifically listed. In this case, the director shall make a finding that the use shall not have any different or more detrimental effects upon the adjoining neighborhood area than those specifically listed.*

**Finding:** The site is in an Institutional district This project is for a basic utility service to support city infrastructure. Per the zoning use table NMC 15.305, basic utilities are permitted within all zones. The criterion is met.

**8. Subdistrict Compliance.** *Properties located within subdistricts shall comply with the provisions of those subdistricts located in NMC 15.340.010 through 15.348.060.*

**Finding:** Part of tax lot R3280 02800 has a stream corridor overlay present. This is in the far east side of the tax lot. The majority of the site development work is occurring on tax lot R3208 02800, a portion of the walking trail is being developed on R3280 02700 and will be approximately 395 feet from the stream corridor overlay. This criterion is met.

**9. Alternative Circulation, Roadway Frontage Improvements and Utility Improvements**

**Finding:** Findings are addressed in following sections.

**15.220.030 Site design review requirements**

**B. Type II** *The following information is required to be submitted with all Type II applications for a site design review.*

**13. Roadways and Utilities.** *The proposed plans shall indicate any public improvements that will be constructed as part of the project, including, but not limited too, roadway and utility improvements.*

**Findings:** The applicant is proposing new sidewalks, street trees, curb and gutter, and new pavement. The project is a utility improvement. This requirement is met.

**14. 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. [Ord. 2619, 5-16-05; Ord. 2451, 12-2-96. Code 2001 § 151.192.]*

**Finding:** The proposed development is a pump station. It is unmanned and only visited occasionally by city staff. No traffic study is required. This criterion is not applicable.

#### ***Chapter 15.430 Underground Utility Installation***

##### ***15.430.010 Underground utility installation.***

***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.***

***C. The director may make exceptions to the requirement to underground utilities based on one or more of the following criteria:***

- 1. The cost of undergrounding the utility is extraordinarily expensive.***
- 2. There are physical factors that make undergrounding extraordinarily difficult.***
- 3. Existing utility facilities in the area are primarily overhead and are unlikely to be changed. [Ord. 2537, 11-6-00. Code 2001 § 151.589.]***

**Finding:** The submitted narrative describes all new utilities installed underground. Because final plans have not been submitted, construction plans showing utilities installed underground will be required with the public works improvement permit application.

This criterion will be met if the aforementioned condition of approval is adhered to.

#### ***Chapter 15.505 Public Improvement Standards***

##### ***15.505.010 Purpose.***

***This chapter provides standards for public infrastructure and utilities installed with new development, consistent with the policies of the City of Newberg comprehensive plan and adopted city master plans. The standards are intended to minimize disturbance to natural features, promote energy conservation and efficiency, minimize***

*and maintain development impacts on surrounding properties and neighborhoods, and ensure timely completion of adequate public facilities to serve new development. [Ord. 2810 § 2 (Exhs. B, C), 1219-16.]*

**15.505.020 Applicability.**

*The provision and utilization of public facilities and services within the City of Newberg shall apply to all land developments in accordance with this chapter. 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 NMC 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.*

**Finding:** All improvements reviewed under this application are identified in the NMC 15.505 section specific to them and are conditioned to comply with the Public Works Design and Construction Standards in those sections. This requirement is met.

*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.*

**Finding:** The applicant's narrative proposes 8 feet of new pavement on NE Bell Road and curb tight sidewalks. The proposed curb tight sidewalk is inconsistent with the City of Newberg code requirements and standards for a major collector. The required half right-of-way cross section consists of the following:

- 1-foot between the right-of-way and back of sidewalk
- 5-foot-wide sidewalk
- 5.5-foot-wide planter strip
- 0.5-foot-wide curb
- 18-foot-wide pavement from curb to right-of-way center line.

NE Bell Road is a major collector under the jurisdiction of Yamhill County. Because final plans have not been submitted, construction plans showing the new improvements on NE Bell Road designed according to the City of Newberg Public Works Design and Construction Standards will be required with the public works improvement permit application.

This criterion will be met if the aforementioned condition of approval is adhered to.

***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 NMC.***

**Finding:** The plans show an 18-inch transmission main, and an 18-inch discharge main connected to a water line in NE Bell Road labelled as “Proposed by Others”. Because final plans have not been submitted, construction plans showing connection to the proposed transmission and discharge water lines in NE Bell Road will be required with the public works improvement permit application. Fire flow test results need to be submitted with public works improvement permit application to be reviewed by the Fire Marshall for approval.

This criterion will be met if the aforementioned condition of approval is adhered to.

***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 NMC.***

**Finding:** The submitted plans do not show connection to public wastewater service. This pump station is unmanned and visited occasionally. No wastewater service is proposed. This criterion does not apply.

***E. Stormwater. All developments, lots, and parcels within the City of Newborn shall manage stormwater runoff as specified in Chapters 13.20 and 13.25 NMC.***

**Finding:** The applicant has submitted a preliminary stormwater report. A stormwater management facility is shown on the plans. The facility drains to an existing storm line running east along NE Bell Road to a drainage leading to Hess Creek. Please see conditions in NMC 15.505.050.

***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.***

**Finding:** The submitted narrative describes relocating the easement that exists for the private pathway that is being relocated. That easement is a private easement. See conditions in NMC 15.505.040.

***G. City Approval of Public Improvements Required. No building permit may be issued until all required public facility improvements are in place and approved by the director, or are otherwise bonded for in a manner approved by the review authority, in conformance with the provisions of this code and the Newberg Public Works Design and Construction Standards. [Ord. 2810 § 2 (Exhs. B, C), 12-19-16.]***

**Finding:** Any required public improvement permit(s) for this project must be submitted, approved, and issued prior to building permits being issued.



This criterion will be met as part of the permit review process.

**15.505.030 Street standards.**

**A. Purpose. The purpose of this section is to:**

- 1. Provide for safe, efficient, and convenient multi-modal transportation within the City of Newberg.**
- 2. Provide adequate access to all proposed and anticipated developments in the City of Newberg. For purposes of this section, “adequate access” means direct routes of travel between destinations; such destinations may include residential neighborhoods, parks, schools, shopping areas, and employment centers.**
- 3. Provide adequate area in all public rights-of-way for sidewalks, wastewater and water lines, stormwater facilities, natural gas lines, power lines, and other utilities commonly and appropriately placed in such rights-of-way. For purposes of this section, “adequate area” means space sufficient to provide all required public services to standards defined in this code and in the Newberg public works design and construction standards.**

**B. Applicability. The provisions of this section apply to:**

- 1. The creation, dedication, and/or construction of all public streets, bike facilities, or pedestrian facilities in all subdivisions, partitions, or other developments in the City of Newberg.**
- 2. The extension or widening of existing public street rights-of-way, easements, or street improvements including those which may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.**
- 3. The construction or modification of any utilities, pedestrian facilities, or bike facilities in public rights-of-way or easements.**
- 4. The designation of planter strips. Street trees are required subject to Chapter 15.420 NMC.**
- 5. Developments outside the city that tie into or take access from city streets.**

**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.**

**Finding:** The proposed project takes access from NE Bell Road, which is a major collector under the jurisdiction of Yamhill County. The applicant is proposing 8-feet of new pavement on the south side of NE Bell Road. The proposed street improvements are inconsistent with the City of Newberg code requirements and standards for a major collector. The required half right-of-way

cross section consists of the following:

- 1-foot between the right-of-way and back of sidewalk
- 5-foot-wide sidewalk
- 5.5-foot-wide planter strip
- 0.5-foot-wide curb
- 18-foot-wide pavement from curb to right-of-way center line.

Because final plans have not been submitted, construction plans showing the new improvements on NE Bell Road designed according to the City of Newberg Public Works Design and Construction Standards will be required with the public works improvement permit application.

This criterion will be met if the aforementioned condition of approval is adhered to.

*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.*

**Finding:** New streets are not required to serve the proposed project. These criteria do not apply.

*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.*

**Finding:** NE Bell Road is under the jurisdiction of Yamhill County. The half right-of-way width of 30-feet along the project site's frontage of NE Bell Road shown on the submitted plan is adequate for a major collector. This requirement is met.

- 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.*

**Finding:** The proposed project takes access from NE Bell Road, which is a major collector under the jurisdiction of Yamhill County. The applicant is proposing 8 feet of new pavement on the south side of NE Bell Road along the project frontage. The proposed street improvements are inconsistent with the City of Newberg code requirements and standards for a major collector. The required half right-of-way cross section consists of the following:

- 1-foot between the right-of-way and back of sidewalk
- 5-foot-wide sidewalk
- 5.5-foot-wide planter strip
- 0.5-foot-wide curb
- 18-foot-wide pavement from curb to right-of-way center line.

Because final plans have not been submitted, construction plans showing the new improvements on NE Bell Road designed according to the City of Newberg Public Works Design and Construction Standards will be required with the public works improvements permit application. The required half right-of-way cross section consists of the following; 1-foot between the right-of-way and back of sidewalk, minimum 5-foot-wide sidewalk, 5.5-foot-wide planter strip, 0.5-foot-wide curb, 18-foot-wide pavement from curb to right-of-way center line. The applicant is required to add sufficient paving on the south side of the project site's frontage to achieve the 18-foot width of pavement from curb to right-of-way center line.

This criterion will be met if the aforementioned condition of approval is adhered to.

*3. In lieu of the street improvement requirements outlined in NMC 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.*

**Finding:** The applicant is not proposing a fee in lieu of street improvements. This criterion is not applicable.

**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 proportional 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.*

**Finding:** The proposed improvements are directly related to the impacts of the development. This criterion is met.

**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*

<i>Type of Street</i>	<i>Right-of-Way Width</i>	<i>Curb-to-Curb Pavement Width</i>	<i>Motor Vehicle Travel Lanes</i>	<i>Median Type</i>	<i>Striped Bike Lane (Both Sides)</i>	<i>On-Street Parking</i>
<b>Arterial Streets</b>						
<i>Expressway**</i>	<i>ODOT</i>	<i>ODOT</i>	<i>ODOT</i>	<i>ODOT</i>	<i>ODOT</i>	<i>ODOT</i>
<i>Major arterial</i>	<i>95 – 100 feet</i>	<i>74 feet</i>	<i>4 lanes</i>	<i>TWLTL or median*</i>	<i>Yes</i>	<i>No*</i>
<i>Minor arterial</i>	<i>69 – 80 feet</i>	<i>48 feet</i>	<i>2 lanes</i>	<i>TWLTL or median*</i>	<i>Yes</i>	<i>No*</i>
<b>Collectors</b>						
<i>Major</i>	<i>57 – 80 feet</i>	<i>36 feet</i>	<i>2 lanes</i>	<i>None*</i>	<i>Yes</i>	<i>No*</i>

*Table 15.505.030(G) Street Design Standards*

<i>Type of Street</i>	<i>Right-of-Way Width</i>	<i>Curb-to-Curb Pavement Width</i>	<i>Motor Vehicle Travel Lanes</i>	<i>Median Type</i>	<i>Striped Bike Lane (Both Sides)</i>	<i>On-Street Parking</i>
<i>Minor</i>	<i>61 – 65 feet</i>	<i>40 feet</i>	<i>2 lanes</i>	<i>None*</i>	<i>Yes*</i>	<i>Yes*</i>
<i>Local Streets</i>						
<i>Local residential</i>	<i>54 – 60 feet</i>	<i>32 feet</i>	<i>2 lanes</i>	<i>None</i>	<i>No</i>	<i>Yes</i>
<i>Limited residential, parking both sides</i>	<i>44 – 50 feet</i>	<i>28 feet</i>	<i>2 lanes</i>	<i>None</i>	<i>No</i>	<i>Yes</i>
<i>Limited residential, parking one side</i>	<i>40 – 46 feet</i>	<i>26 feet</i>	<i>2 lanes</i>	<i>None</i>	<i>No</i>	<i>One side</i>
<i>Local commercial/Industrial</i>	<i>55 – 65 feet</i>	<i>34 feet</i>	<i>2 lanes</i>	<i>None*</i>	<i>No*</i>	<i>Yes*</i>

\* *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.*

**Finding:** NE Bell Road is a major collector under the jurisdiction of Yamhill County. There is 60-feet of right-of-way. The applicant proposes 8 feet of new pavement on the south side of the road. This provides for the full cross section of a major collector. This criterion is met.

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

**Finding:** NE Bell Road is a major collector. Required street improvements will result in the required 12-foot minimum lane width along the project site’s frontage. See conditions in NMC Section 15.505.030(E). This criterion is met.



**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.*

**Finding:** The applicant proposes the addition of new pavement. Required street improvements will provide for bike lanes should they be installed at a future time. See conditions in NMC Section 15.505.030(E). This criterion is met.

**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.*

**Finding:** Parking is not allowed on NE Bell Road. This criterion does not apply.

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

**Finding:** No center turn lane is proposed or required. This criterion is not applicable.

**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.*

**Finding:** Limited residential streets are not proposed. These criteria are not applicable.

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

**Finding:** The applicant proposes 6-foot-wide curb tight sidewalks along the public street frontages. The proposed curb tight sidewalk is inconsistent with the City of Newberg code requirements and standards for a major collector. The required half right-of-way cross section consists of the following:

- 1-foot between the right-of-way and back of sidewalk

- 5-foot-wide sidewalk
- 5.5-foot-wide planter strip
- 0.5-foot-wide curb
- 18-foot-wide pavement from curb to right-of-way center line.

Because final plans have not been submitted, the applicant is required to construct minimum 5-foot-wide Type ‘A’ sidewalks with planter strip in accordance with City of Newberg code requirements and Public Works Design and Construction Standards.

This criterion will be met if the aforementioned condition of approval is adhered to.

*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 NMC 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.*

**Finding:** The proposed plans do not show planter strips. The proposed curb tight sidewalk without planter strip between the curb and sidewalk is inconsistent with the City of Newberg code requirements and standards for a major collector. The required half right-of-way cross section consists of the following:

- 1-foot between the right-of-way and back of sidewalk
- 5-foot-wide sidewalk
- 5.5-foot-wide planter strip
- 0.5-foot-wide curb
- 18-foot-wide pavement from curb to right-of-way center line.

Because final plans have not been submitted, the applicant is required to construct minimum 5-foot-wide Type ‘A’ sidewalks with planter strip in accordance with City of Newberg code requirements and Public Works Design and Construction Standards

This criterion will be met if the aforementioned condition of approval is adhered to.

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

**Finding:** The applicant is not proposing a slope easement. This criterion does not apply.

***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.***

**Finding:** NE Bell Road is within the City of Newberg and under the jurisdiction of Yamhill County. The proposed street improvements shown on the submitted plans and described in the applicant's narrative are inconsistent with the City of Newberg code requirements and standards for a major collector. The required half right-of-way cross section consists of the following:

- 1-foot between the right-of-way and back of sidewalk
- 5-foot-wide sidewalk
- 5.5-foot-wide planter strip
- 0.5-foot-wide curb
- 18-foot-wide pavement from curb to right-of-way center line.

Because final plans have not been submitted and NE Bell Road is within the City of Newberg and under the jurisdiction of Yamhill County, construction plans showing the new improvements on NE Bell Road designed according to the City of Newberg Public Works Design and Construction Standards will be required with the public works improvement permit application. The required half right-of-way cross section consists of the following: 1-foot between the right-of-way and back of sidewalk, minimum 5-foot-wide sidewalk, 5.5-foot-wide planter strip, 0.5-foot-wide curb, 18-foot-wide pavement from curb to right-of-way center line. The applicant is required to add sufficient paving on the south side of the project site's frontage to achieve the 18-foot width of pavement from curb to right-of-way center line. The applicant will be required to obtain permit approval from Yamhill County for the NE Bell Road frontage improvements prior to the City of Newberg issuing a public improvement permit.

This criterion will be met if the aforementioned condition of approval is adhered to.

***11. The planning commission may approve modifications to street standards for the purpose of ingress or egress to a minimum of three and a maximum of six lots through a conditional use permit.***

**Finding:** The applicant is not proposing modifications to street standards for the purpose of ingress or egress. This criterion does not apply.

***H. Modification of Street Right-of-Way and Improvement Width. The director, pursuant to the Type II review procedures of Chapter 15.220 NMC, 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.*

**Finding:** The applicant has not proposed modifications to these street standards. This criterion does not apply.

*I. Temporary Turnarounds. Where a street will be extended as part of a future phase of a development, or as part of development of an abutting property, the street may be terminated with a temporary turnaround in lieu of a standard street connection or circular cul-de-sac bulb. The director and fire chief shall approve the temporary turnaround. It shall have an all-weather surface, and may include a hammerhead-type turnaround meeting fire apparatus access road standards, a paved or graveled circular turnaround, or a paved or graveled temporary access road. For streets extending less than 150 feet and/or with no significant access, the director may approve the street without a temporary turnaround. Easements or right-of-way may be required as necessary to preserve access to the turnaround.*

**Finding:** The applicant is not proposing a temporary turnaround. This criterion does not apply.

*J. Topography. The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of this code.*

**Finding:** The layout of streets is appropriate for the surrounding topography. This requirement is met.

*K. Future Extension of Streets. All new streets required for a subdivision, partition, or a project requiring site design review shall be constructed to be “to and through”: through the development and to the edges of the project site to serve adjacent properties for future development.*

**Finding:** No new streets are proposed or required. This requirement does not apply.

*L. Cul-de-Sacs.*

*1. Cul-de-sacs shall only be permitted when one or more of the circumstances listed in this section exist. When cul-de-sacs are justified, public walkway connections shall be provided wherever practical to connect with another street, walkway, school, or similar destination.*

*a. Physical or topographic conditions make a street connection impracticable. These conditions include but are not limited to controlled access streets, railroads, steep slopes, wetlands, or water bodies where a connection could not be reasonably made.*

*b. Buildings or other existing development on adjacent lands physically preclude a connection now or in the future, considering the potential for redevelopment.*

*c. Where streets or accessways would violate provisions of leases, easements, or similar restrictions.*

*d. Where the streets or accessways abut the urban growth boundary and rural resource land in farm or forest use, except where the adjoining land is designated as an urban reserve area.*

*2. Cul-de-sacs shall be no more than 400 feet long (measured from the centerline of the intersection to the radius point of the bulb).*

*3. Cul-de-sacs shall not serve more than 18 single-family dwellings.*

*Each cul-de-sac shall have a circular end with a minimum diameter of 96 feet, curb-to-curb, within a 109-foot minimum diameter right-of-way. For residential uses, a 35-foot radius may be allowed if the street has no parking, a mountable curb, curbside sidewalks, and sprinkler systems in every building along the street.*

**Finding:** The applicant is not proposing a cul-de-sac. These criteria are not applicable.

*M. Street Names and Street Signs. Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for new streets not in alignment with existing streets are subject to approval by the director and the fire chief and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the city. It shall be the responsibility of the land divider to provide street signs.*

**Finding:** The applicant is not proposing new street names. This requirement does not apply.

*N. Platting Standards for Alleys.*

*1. An alley may be required to be dedicated and constructed to provide adequate access for a development, as deemed necessary by the director.*

*2. The right-of-way width and paving design for alleys shall be not less than 20 feet wide. Slope easements shall be dedicated in accordance with specifications adopted by the city council under NMC 15.505.010 et seq.*

*3. Where two alleys intersect, 10-foot corner cut-offs shall be provided.*



**4. Unless otherwise approved by the city engineer where topographical conditions will not reasonably permit, grades shall not exceed 12 percent on alleys, and centerline radii on curves shall be not less than 100 feet.**

**5. All provisions and requirements with respect to streets identified in this code shall apply to alleys the same in all respects as if the word “street” or “streets” therein appeared as the word “alley” or “alleys” respectively.**

**Finding:** The applicant is not proposing alleys. These criteria do not apply.

**O. Platting Standards for Blocks.**

**1. Purpose. Streets and walkways can provide convenient travel within a neighborhood and can serve to connect people and land uses. Large, uninterrupted blocks can serve as a barrier to travel, especially walking and biking. Large blocks also can divide rather than unite neighborhoods. To promote connected neighborhoods and to shorten travel distances, the following minimum standards for block lengths are established.**

**2. Maximum Block Length and Perimeter. The maximum length and perimeters of blocks in the zones listed below shall be according to the following table. The review body for a subdivision, partition, conditional use permit, or a Type II design review may require installation of streets or walkways as necessary to meet the standards below.**

<b>Zone(s)</b>	<b>Maximum Block Length</b>	<b>Maximum Block Perimeter</b>
<b>R-1</b>	<b>800 feet</b>	<b>2,000 feet</b>
<b>R-2, R-3, RP, I</b>	<b>1,200 feet</b>	<b>3,000 feet</b>

**3. Exceptions.**

**a. If a public walkway is installed mid-block, the maximum block length and perimeter may be increased by 25 percent.**

**b. Where a proposed street divides a block, one of the resulting blocks may exceed the maximum block length and perimeter standards provided the average block length and perimeter of the two resulting blocks do not exceed these standards.**

**c. Blocks in excess of the above standards are allowed where access controlled streets, street access spacing standards, railroads, steep slopes, wetlands, water bodies, preexisting development, ownership patterns or similar circumstances restrict street and walkway location and design. In these cases, block length and perimeter shall be as small as practical.**

*Where a street cannot be provided because of these circumstances but a public walkway is still feasible, a public walkway shall be provided.*

*d. Institutional campuses located in an R1 zone may apply the standards for the institutional zone.*

*e. Where a block is in more than one zone, the standards of the majority of land in the proposed block shall apply.*

*f. Where a local street plan, concept master site development plan, or specific plan has been approved for an area, the block standards shall follow those approved in the plan. In approving such a plan, the review body shall follow the block standards listed above to the extent appropriate for the plan area.*

**Finding:** The proposed development does not create blocks. This requirement does not apply.

*P. Private Streets. New private streets, as defined in NMC 15.05.030, shall not be created, except as allowed by NMC 15.240.020(L)(2).*

**Finding:** No private streets are proposed. This requirement does not apply.

**Q. Traffic Calming.**

*1. The following roadway design features may be required in new street construction where traffic calming needs are anticipated:*

*a. Serpentine alignment.*

*b. Curb extensions.*

*c. Traffic diverters/circles.*

*d. Raised medians and landscaping.*

*e. Other methods shown effective through engineering studies.*

*2. Traffic-calming measures such as speed humps should be applied to mitigate traffic operations and/or safety problems on existing streets. They should not be applied with new street constructions.*

**Finding:** The applicant is not proposing traffic calming. This criterion does not apply.

**R. Vehicular Access Standards.**

*1. Purpose. The purpose of these standards is to manage vehicle access to maintain traffic flow, safety, roadway capacity, and efficiency. They help to maintain an adequate level of service consistent with the functional classification of the street. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access is limited and managed on these roads to promote efficient through movement. Local streets and alleys provide access to individual properties. Access is managed on these roads to maintain safe maneuvering of vehicles in and out of properties and to allow safe through movements. If vehicular access and circulation are not properly designed, these roadways will*

*be unable to accommodate the needs of development and serve their transportation function.*

*2. Access Spacing Standards. Public street intersection and driveway spacing shall follow the standards in Table 15.505.R below. The Oregon Department of Transportation (ODOT) has jurisdiction of some roadways within the Newberg city limits, and ODOT access standards will apply on those roadways.*

*Table 15.505.R. Access Spacing Standards*

<i>Roadway Functional Classification</i>	<i>Area<sup>1</sup></i>	<i>Minimum Public Street Intersection Spacing (Feet)<sup>2</sup></i>	<i>Driveway Setback from Intersecting Street<sup>3</sup></i>
<i>Expressway</i>	<i>All</i>	<i>Refer to ODOT Access Spacing Standards</i>	<i>NA</i>
<i>Major arterial</i>	<i>Urban CBD</i>	<i>Refer to ODOT Access Spacing Standards</i>	
<i>Minor arterial</i>	<i>Urban CBD</i>	<i>500 200</i>	<i>150 100</i>
<i>Major collector</i>	<i>All</i>	<i>400</i>	<i>150</i>
<i>Minor collector</i>	<i>All</i>	<i>300</i>	<i>100</i>

<sup>1</sup> *“Urban” refers to intersections inside the city urban growth boundary outside the central business district (C-3 zone).*

*“CBD” refers to intersections within the central business district (C-3 zone).*

*“All” refers to all intersections within the Newberg urban growth boundary.*

<sup>2</sup> *Measured centerline to centerline.*

<sup>3</sup> *The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible.*

**Finding:** The proposed driveway is 140 feet from the intersection of NE Bell Road and NE College Street intersection. This is 10 feet less than the required driveway setback of 150 feet. This is an unmanned facility with operations and maintenance staff visiting only occasionally. This requirement does not apply.

**3. Properties with Multiple Frontages.** *Where a property has frontage on more than one street, access shall be limited to the street with the lesser classification.*

**Finding:** The proposed development does not have multiple frontages. This requirement does not apply.

**4. Driveways.** *More than one driveway is permitted on a lot accessed from either a minor collector or local street as long as there is at least 40 feet of lot frontage separating each driveway approach. More than one driveway is permitted on a lot accessed from a major collector as long as there is at least 100 feet of lot frontage separating each driveway approach.*

**Finding:** The proposed development has one driveway. This requirement does not apply.

**5. Alley Access.** *Where a property has frontage on an alley and the only other frontages are on collector or arterial streets, access shall be taken from the alley only. The review body may allow creation of an alley for access to lots that do not otherwise have frontage on a public street provided all of the following are met:*

*a. The review body finds that creating a public street frontage is not feasible.*

*b. The alley access is for no more than six dwellings and no more than six lots.*

*c. The alley has through access to streets on both ends.*

*d. One additional parking space over those otherwise required is provided for each dwelling. Where feasible, this shall be provided as a public use parking space adjacent to the alley.*

**Finding:** The applicant's property does not have alley access. These criteria are not applicable.

**6. Closure of Existing Accesses.** *Existing accesses that are not used as part of development or redevelopment of a property shall be closed and replaced with curbing, sidewalks, and landscaping, as appropriate.*

**Finding:** There is no existing access to the property. This requirement does not apply.

**7. Shared Driveways.**

*a. The number of driveways onto arterial streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The city shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes. Where there is an abutting developable property, a shared driveway shall be provided as appropriate. When shared driveways are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway temporarily*

*ends at the property line, but may be accessed or extended in the future as the adjacent parcel develops. “Developable” means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).*

*b. Access easements (i.e., for the benefit of affected properties) and maintenance agreements shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.*

*c. No more than four lots may access one shared driveway.*

*d. Shared driveways shall be posted as no parking fire lanes where required by the fire marshal.*

*e. Where three lots or three dwellings share one driveway, one additional parking space over those otherwise required shall be provided for each dwelling. Where feasible, this shall be provided as a common use parking space adjacent to the driveway.*

**Finding:** No shared driveways are proposed. These criteria do not apply.

*8. Frontage Streets and Alleys. The review body for a partition, subdivision, or design review may require construction of a frontage street to provide access to properties fronting an arterial or collector street.*

**Finding:** No frontage street is proposed or required. This requirement does not apply.

*9. ODOT or Yamhill County Right-of-Way. Where a property abuts an ODOT or Yamhill County right-of-way, the applicant for any development project shall obtain an access permit from ODOT or Yamhill County.*

**Finding:** The proposed development abuts a Yamhill County right-of-way. The submitted narrative describes permission from Yamhill County for access. Because final plans have not been submitted, final plans including an access permit from Yamhill County will be required prior to issuance of the public work improvements permit application.

The criterion will be met if the aforementioned condition of approval is adhered to.

*10. Exceptions. The director may allow exceptions to the access standards above in any of the following circumstances:*

*a. Where existing and planned future development patterns or physical constraints, such as topography, parcel configuration, and similar conditions, prevent access in accordance with the above standards.*

*b. Where the proposal is to relocate an existing access for existing development, where the relocated access is closer to conformance with the standards above and does not increase the type or volume of access.*



*c. Where the proposed access results in safer access, less congestion, a better level of service, and more functional circulation, both on street and on site, than access otherwise allowed under these standards.*

**Finding:** The applicant is not requesting an exception. These criteria do not apply.

*11. Where an exception is approved, the access shall be as safe and functional as practical in the particular circumstance. The director may require that the applicant submit a traffic study by a registered engineer to show the proposed access meets these criteria.*

**Finding:** The applicant is not proposing any exceptions. This criterion is not applicable.

**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.*

**Finding:** A private walkway exists on the site and is being relocated south of the site. A public walkway is not required for this project. These criteria do not apply.

*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 NMC 15.420.010(B)(4).*

**Finding:** See findings for NMC 15.420.010.

*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.*

**Finding:** The applicant is not proposing new streetlights. It is unclear if the street lighting along NE Bell Road is adequate. Because final plans have not been submitted, final plans are to include a lighting analysis demonstrating that the existing street lighting meets City standards or provide additional Option A street lighting along the project frontage that is compliant with the City's Public Works Design and Construction Standards.

The criterion will be met if the aforementioned condition of approval is adhered to.

*V. Transit Improvements. Development proposals for sites that include or are adjacent to existing or planned transit facilities, as shown in the Newberg transportation system plan or adopted local or regional transit plan, shall be required to provide any of the following, as applicable and required by the review authority:*

- 1. Reasonably direct pedestrian connections between the transit facility and building entrances of the site. For the purpose of this section, "reasonably direct" means a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for users.*
- 2. A transit passenger landing pad accessible to disabled persons.*
- 3. An easement of dedication for a passenger shelter or bench if such facility is in an adopted plan.*
- 4. Lighting at the transit facility. [Ord. 2822 § 1 (Exh. A), 2-5-18; Ord. 2810 § 2 (Exhs. B, C), 12-19-16; Ord. 2763 § 1 (Exh. A § 19), 9-16-13; Ord. 2736 § 1 (Exh. A §§ 1, 3, 4), 3-21-11; Ord. 2619, 5-16-05; Ord. 2513, 8-2-99; Ord. 2507, 3-1-99; Ord. 2494, 4-6-98; Ord. 2451, 12-2-96. Code 2001 §§ 151.681, 151.683,*

*151.684 – 151.686, 151.689 – 151.692, 151.694, 151.695, 151.701 – 151.703, 151.705.]*

**Finding:** The applicant is not proposing transit improvements and the site is not adjacent to existing or planned transit facilities. This criterion does not apply.

***15.505.040 Public utility standards.***

***A. Purpose.*** *The purpose of this section is to provide adequate services and facilities appropriate to the scale and type of development.*

***B. Applicability.*** *This section applies to all development where installation, extension or improvement of water, wastewater, or private utilities is required to serve the development or use of the subject property.*

***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.***

**Finding:** A separate project involves the extension of water transmission and distribution lines within the NE Bell Road right-of-way. The proposed pump station will include connection to the new water facilities. The location, size, and capacity of these facilities conforms to the water master plan and supplement Pressure Zone 2. The submitted plans show a fire hydrant west of the proposed driveway. Because final plans have not been submitted, construction plans that address requirements for water services outlined in the Public Works Design and Construction Standards are required to be submitted with the permit applications.

This criterion will be met if the aforementioned condition of approval is adhered to.

***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.*

**Finding:** No wastewater service connection is proposed for this project. The pump station will be visited only occasionally by city staff. No wastewater connection is required. These criteria do not apply.

*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. [Ord. 2810 § 2 (Exhs. B, C), 12-19-16.]*

**Finding:** The submitted narrative describes relocating the easement that exists from North Valley Friends Church to Veritas School for a pathway. That easement is a private easement. A 10-foot public utility easement is required along the frontage. The submitted plans show a 15-foot utility easement labeled as “Doc 2004 – 25601 Reciprocal Easement, and Maintenance Agreement”. This easement and maintenance agreement will need to be updated to include the City of Newberg. Because final plans have not been submitted, final plans showing:

- a. A relocated easement to cover the relocated path on the lot to the south
- b. A 10-foot public utility easement along the site’s frontage
- c. An updated “Doc 2004-25601 Reciprocal Easement, and Maintenance Agreement” naming the City of Newberg as a party to both.

are to be submitted with the permit application. Recorded easements are to be submitted prior to occupancy.

This criterion will be met if the aforementioned condition of approval is adhered to.

#### ***15.505.050 Stormwater system standards.***

***A. Purpose. The purpose of this section is to provide for the drainage of surface water from all development; to minimize erosion; and to reduce degradation of water quality due to sediments and pollutants in stormwater runoff.***

***B. Applicability. The provisions of this section apply to all developments subject to site development review or land division review and to the reconstruction or expansion of such developments that increases the flow or changes the point of discharge to the city stormwater system. Additionally, the provisions of this section shall apply to all drainage facilities that impact any public storm drain system,***



*public right-of-way or public easement, including but not limited to off-street parking and loading areas.*

*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.*

**Finding:** The applicant has submitted a preliminary stormwater report. A stormwater management facility is shown on the plans. The facility drains to an existing storm line running east along NE Bell Road to a drainage leading to Hess Creek. The applicant stated that there is adequate downstream capacity. This will need to be confirmed in the final stormwater analysis. It is not clear if the proposed rain garden is intended to treat runoff from the pump station only or if it is intended to also treat runoff from the street improvements. A separate facility may be needed to treat runoff from the public right-of-way independent of the runoff from the proposed City owned private facility. Because final plans have not been submitted, a final stormwater report showing treatment and detention for all new impervious area run off (including the public street improvements), demonstrating downstream capacity and including construction plans for all necessary stormwater facilities shall be submitted with the permit application.

This requirement will be met if improvements that address the requirements outlined in the Public Works Design and Construction Standards in accordance with NMC 13.25 Stormwater Management are constructed.

*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.*

**Finding:** The proposed project will require a City of Newberg Erosion Control Permit. Because the applicant has not provided documentation of an erosion and sedimentation control permit for the development site, the applicant will be required to obtain a City of Newberg Erosion Control Permit prior to any ground disturbing activity.

The criterion will be met if the aforementioned condition of approval is adhered to.

*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. [Ord. 2810 § 2 (Exhs. B, C), 12-19-16.]*

**Finding:** The applicant has submitted a preliminary stormwater report. A stormwater management facility is shown on the plans. Because the applicant has not provided construction plans and a final stormwater report, the applicant will be required to provide detailed construction plans and a final stormwater report that address requirements outlined in the Public Works Design and Construction Standards in accordance with NMC 13.25 Stormwater Management.

The criterion will be met if the aforementioned condition of approval is adhered to.

**CONCLUSION:**

**Based on the above findings, the project meets the criteria required within the Newberg Development Code, subject to completion of the attached conditions.**

**Section IV: Conditions – File ADJP22-0003 and DR222-0004**  
**Property Line Adjustment and Design Review – R3208 02700, 02800, & 02801**  
**North Valley Friends Church / City of Newberg**  
**Bell West Pump Station**

**A. THE FOLLOWING MUST BE COMPLETED BEFORE THE CITY WILL ISSUE A BUILDING PERMIT:**

1. **Permit Submittal:** Submit a building permit application and two (2) complete working drawing sets of the proposed project. Show all the features of the plan approved through design review, including the following:
  - a. Any required public improvement permit(s) for this project must be submitted, approved, and issued prior to building permits being issued.
2. **Conditions of Approval:** Either write or otherwise permanently affix the conditions of approval contained within this report onto the first page of the plans submitted for building permit review.
3. **Property line adjustment:**
  - a. The applicant will need to file all proper documentation per 15.230.020C with the county recorder and provide a copy of the final recorded deed and survey to the City of Newberg.
4. **Sidewalks:**
  - a. Construction plans showing sidewalks meeting the City of Newberg Public Works Design and Construction standards are to be submitted with the public works improvement permit application.
  - b. The applicant is required to construct minimum 5-foot-wide Type ‘A’ sidewalks with planter strip in accordance with City of Newberg code requirements and Public Works Design and Construction Standards.
5. **Exterior and Street Lighting:**
  - a. The applicant will need to provide a photometric plan showing that the light will not exceed one-half-foot candle at the property line.
  - b. Final plans are to include a lighting analysis demonstrating that the existing street lighting meets City standards or provide additional Option A street lighting along the project frontage that is compliant with the City’s Public Works Design and Construction Standards.
6. **Fences:**
  - a. The chain link fence will need to be made of corrosion-proof materials of at least 11-1/2 gauge, information stating this will need to be submitted with the building permit application.
7. **Landscaping:**

- a. Landscaping plans submitted with either the public improvement permits or building permits shall clearly notate how landscaping will be irrigated and maintained on tax lots R3208 02700 and R3208 02800.
  - b. The applicant shall ensure landscaping is continuously maintained on all landscaping associated with this development, per NMC 15.420.010(B)(6).
8. **Underground Utilities:**
  - a. Construction plans showing utilities installed underground will be required with the public works improvement permit application
9. **Street Improvements:**
  - a. Construction plans showing the new improvements on NE Bell Road designed according to the City of Newberg Public Works Design and Construction Standards will be required with the public works improvement permit application.
  - b. The required half right-of-way cross section consists of the following; 1-foot between the right-of-way and back of sidewalk, minimum 5-foot-wide sidewalk, 5.5-foot-wide planter strip, 0.5-foot-wide curb, 18-foot-wide pavement from curb to right-of-way center line. The applicant is required to add sufficient paving on the south side of the project site's frontage to achieve the 18-foot width of pavement from curb to right-of-way center line.
10. **Water**
  - a. Construction plans showing connection to the proposed transmission and discharge water lines in NE Bell Road will be required with the public works improvement permit application.
  - b. Construction plans that address requirements for water services outlined in the Public Works Design and Construction Standards are required to be submitted with the permit applications.
11. **Fire Flow:**
  - a. Fire flow test results need to be submitted with public works improvement permit application to be reviewed by the Fire Marshall for approval.
12. **Permits:**
  - a. The applicant will be required to obtain permit approval from Yamhill County for the NE Bell Road frontage improvements prior to the City of Newberg issuing a public improvement permit.
  - b. Any required public improvement permit(s) for this project must be submitted, approved, and issued prior to building permits being issued.
  - c. Final plans including an access permit from Yamhill County will be required prior to issuance of the public work improvements permit application.

- d. The applicant will be required to obtain a City of Newberg Erosion Control Permit prior to any ground disturbing activity.

13. **Easements:**

- a. Final plans showing:
  - i. A relocated easement to cover the relocated path on the lot to the south
  - ii. A 10-foot public utility easement along the site's frontage
  - iii. An updated "Doc 2004-25601 Reciprocal Easement, and Maintenance Agreement" naming the City of Newberg as a party to both.

are to be submitted with the permit application. Recorded easements are to be submitted prior to occupancy.

14. **Stormwater:**

- a. A final stormwater report showing treatment and detention for all new impervious area run off (including the public street improvements), demonstrating downstream capacity and including construction plans for all necessary stormwater facilities shall be submitted with the permit application.
- b. The applicant will be required to provide detailed construction plans and a final stormwater report that address requirements outlined in the Public Works Design and Construction Standards in accordance with NMC 13.25 Stormwater Management.

**B. THE FOLLOWING MUST BE ACCOMPLISHED PRIOR TO OCCUPANCY**

- 1. **Fire Department Requirements:** This project is subject to compliance with all Fire Department (TVF&R) standards relating to access and fire protection.
- 2. **Design Review Conditions:** Contact the Planning Division (503-537-1240) to verify that all design review conditions have been completed.
- 3. **Site Inspection:** Contact the Building Division (503-537-1240) for Building, Mechanical, and Plumbing final inspections. Contact the TVF&R (503-649-8577) for Fire Safety final inspections. Contact Yamhill County (503-538-7302) for electrical final inspections. Contact the Planning Division (503-537-1240) for landscaping final inspections.

**C. DEVELOPMENT NOTES**

- 1. Systems development charges (SDCs) will be collected when building permits are issued. For questions regarding SDCs please contact the Engineering Division.





## **Attachment 1: Application Material**

# Bell West Pump Station Design Review/PLA Application

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**Date:** March 2022

**Submitted to:** City of Newberg  
Planning Department  
414 E 1<sup>st</sup> Street  
Newberg, OR 97132

**Applicant:** City of Newberg  
Engineering Services Division  
Public Works Department  
414 E 1<sup>st</sup> Street  
Newberg, OR 97132

**AKS Job Number:** 7936



12965 SW Herman Road, Suite 100  
Tualatin, OR 97062  
(503) 563-6151

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## Exhibits

- Exhibit A:** Preliminary Plans
  - Exhibit B:** Application Forms and Checklists
  - Exhibit C:** Yamhill County Assessor’s Map
  - Exhibit D:** Ownership Information
  - Exhibit E:** Sample Public Notice and Mailing Information
  - Exhibit F:** Preliminary Stormwater Report
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# Bell West Pump Station Design Review/PLA Application

<b>Submitted to:</b>	City of Newberg Community Development Planning Division 414 E 1 <sup>st</sup> Street Newberg, OR 97132
<b>Applicant:</b>	City of Newberg Engineering Division Public Works Department 414 E 1 <sup>st</sup> Street Newberg, OR 97132
<b>Property Owners:</b>	North Valley Friends Church 4020 N College Street Newberg, OR 97132
<b>Applicant's Consultant:</b>	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062
	Contact(s): Glen Southerland, AICP Email: SoutherlandG@aks-eng.com Phone: (503) 563-6151
<b>Site Location:</b>	South of NE Bell Road and east of N College Street (OR 219/Hillsboro-Silverton Highway No. 140), Newberg, OR
<b>Yamhill County Assessor's Map:</b>	3 2 08, Tax Lots 2700 and 2800
<b>Site Size:</b>	±8.35 acres (Tax Lot 2700 before adjustment) ±3.00 acres (Tax Lot 2800 before adjustment) ±5,067 square feet (Project site)
<b>Land Use Districts:</b>	Institutional (I) Stream Corridor (SC)

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## I. Executive Summary

On behalf of the City of Newberg (Applicant), AKS Engineering & Forestry, LLC submits this application for a Type II Design Review and Type I property line adjustment to accommodate water infrastructure improvements. The Preliminary Plans (Exhibit A) show the extent of the project including the pump station building, street frontage improvements, alteration of an existing pedestrian path, stormwater facility, landscaping, and other improvements.

The Bell West Pump Station will serve one of the City of Newberg’s water pressure zones, Zone 2, to supply constant pressure to customers within the area. The pump station is intended to replace the Oak Knoll Pump Station, which currently serves 40 residential lots and the Veritas School site. Near-term future developments in the area include the 12-lot Rourke Subdivision, and expansions of North Valley Friends Church (NVFC) as well as Veritas School. The pump will be housed within a structure with an adjacent standby generator.

This application includes the City application forms, written materials, and preliminary plans necessary for City staff to review and determine compliance with the applicable approval criteria. The evidence is substantial and supports the City’s approval of the application.

## II. Site Description/Setting

The subject site for this application is located on NE Bell Road within the City of Newberg and is comprised of Tax Lots 2700 and 2800 of Yamhill County Assessor’s Map 3 2 08. The site is located east of N College Street (Oregon Route 219/Hillsboro-Silverton Highway No. 140), immediately south of NE Bell Road, and north of the Veritas School.

The properties are largely vacant, with improvements to Tax Lots 2700 and 2800 consisting only of a driveway access to Veritas School, partial driveway access to North Valley Friends Church, and a pedestrian path following the street frontage of NE Bell Road and N College Street. Tax Lot 2700 features designated a Stream Corridor (SC) overlay at its eastern end; however, the project site is located ±450 feet west of the Stream Corridor.

Adjacent properties to the south feature single-family residential and institutional uses within the City of Newberg Institutional (I) and Low Density Residential (R-1) zoning districts. Properties to the west of the site are currently unincorporated and feature Yamhill County Very Low Density Residential (VLDR-1) and Public Assembly Institutional (PAI) zoning districts. Adjacent properties to the east are outside of the City of Newberg Urban Growth Boundary (UGB) and are designated as Agriculture/Forestry Small Holding (AF-10) zoning district. Properties to the north of the project site are outside of the Newberg UGB and are designated with Yamhill County AF-10 and Agriculture/Forestry (AF-20) zoning districts.

## III. Applicable Review Criteria

### Newberg Municipal Code

#### Title 15      Development Code

#### Chapter 15.05      GENERAL PROVISIONS

#### 15.05.030      Definitions.

“Basic utilities” means utilities that serve the needs of land uses in the immediate vicinity including wastewater and water lines, wastewater or water pump stations, water reservoirs, storm drains, stormwater retention or

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detention facilities, electric service substations, natural gas transmission lines, electric, telephone, and cable lines, and solar panels.

**Response:** The project involves a water pump station to serve existing and future customers within the City's Zone 2 water pressure zone, meeting the definition of a "basic utility."

Chapter 15.100 LAND USE PROCESSES AND PROCEDURES

Article I. Procedure Types and Determination of Proper Procedures

15.100.020 Type I procedure – Administrative decision.

- A. Type I development actions shall be decided by the director without public notice or public hearing. Notice of a decision shall be provided to the applicant. public hearing. Notice of a decision shall be provided to the applicant.
- B. Type I actions include, but are not limited to:
  - 1. Design review permits for single-family dwellings, duplex dwellings, additions, accessory dwelling units, accessory structures, or other additions specifically listed in NMC 15.220.020(A)(1).
  - 2. Home occupation permits.
  - 3. Signs, not in conjunction with a new development or major remodel.
  - 4. Adjustments.
  - 5. Processing final land division maps and plats.
  - 6. Determining compliance with the conditions of approval for a land use action processed under a Type II or Type III procedure.
- C. A Type I decision may be appealed by an affected party, Type I, in accordance with NMC 15.100.160 et seq.
- D. The director shall make a decision based on the information presented, and shall issue a development permit if the applicant has complied with all of the relevant requirements of the Newberg comprehensive plan and this code. The director may add conditions to the permit to ensure compliance with all requirements of this code, the comprehensive plan and other relevant policies and regulations.

**Response:** The requested property line adjustment is a Type I procedure pursuant to Section 15.230.020; however, it is being processed with the required Type II site design review, as outlined below.

15.100.030 Type II procedure.

- A. Type II development actions shall be decided by the director.
- B. Type II actions include, but are not limited to:
  - 1. Site design review.
  - [...]
- C. The applicant shall provide notice pursuant to the requirements of NMC 15.100.200 et seq.
- D. The director shall make a decision based on the information presented and shall issue a development permit if the applicant has

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complied with all of the relevant requirements of this code. The director may add conditions to the permit to ensure compliance with all requirements of this code.

- E. Appeals may be made by an affected party, Type II, in accordance with NMC 15.100.160 et seq. All Type II development action appeals shall be heard and decided by the planning commission.
- F. If the director's decision is appealed as provided in subsection (E) of this section, the hearing shall be conducted pursuant to the Type III quasi-judicial hearing procedures as identified in NMC 15.100.050.
- G. The decision of the planning commission on any appeal may be further appealed to the city council by an affected party, Type III, in accordance with NMC 15.100.160 et seq. and shall be a review of the record supplemented by written or oral arguments relevant to the record presented by the parties.
- H. An applicant shall have the option to request at the time the development permit application is submitted that the proposal be reviewed under the Type III procedure.

**Response:** This application includes a basic utility as defined by Newberg Municipal Code (NMC) 15.305.020. Per the Pre-Application Meeting Notes included as part of Exhibit B, this project involves a Type II Site Design Review. It is understood that the requirements and procedures listed in this section apply to this application.

15.100.090 Development permit application.

Applications for development permits shall be submitted upon forms established by the director. An application shall consist of all materials required by this code, including the following information:

- A. A completed development permit application form.
- B. Proof that the property affected by the application is in the exclusive ownership of the applicant, or that the applicant has the consent of all owners of the affected property.
- C. Other information required by this code.
- D. The applicable fees.

**Response:** This application includes a signed application form, ownership information, plans, legal description, and the required fees. These submittal requirements are met.

15.100.140 Permit decision – Type II.

- A. The director shall approve or deny the development permit for a Type II action within 60 days of accepting a complete permit application, unless it is a subdivision which has been converted to a Type III process pursuant to NMC 15.235.030(A).
- B. The applicant shall provide notice pursuant to NMC 15.100.200 et seq. together with a 14-day comment period for the submission of written comments prior to the decision.
- C. The decision of the director shall be based upon the application, the evidence, comments from referral agencies, and approvals required by others.

- 
- D. The director shall notify the applicant and others entitled to notice of the disposition of the application. The notice shall indicate the date that the decision will take effect and describe the right of appeal pursuant to NMC 15.100.160 et seq. A decision on a Type II development shall take effect on the fifteenth day following the notice of a decision unless an appeal is filed pursuant to NMC 15.100.160 et seq.
  - E. Approval or denial of a Type II development permit application shall be accompanied by written findings that explain the criteria, facts and justification for the decision.
  - F. The director shall approve a permit application if applicable approvals by others have been granted and the proposed development or land use request otherwise conforms to the requirements of this code. The director may add conditions to the permit to ensure compliance with all requirements of this code.
  - G. The director shall deny the permit application if required approvals are not obtained or the application otherwise fails to comply with code requirements.
  - H. Notice of approval or denial of a Type II decision shall be provided to the applicant, parties providing written testimony, or anyone requesting such notice. Notice shall include a description of the item, the decision, conditions that may have been added, and the rights of appeal.
  - I. Type II applications are required to be reviewed under the Type III procedures at the request of the applicant, or the application is a subdivision which has been converted to a Type III process pursuant to NMC 15.235.030(A), or through an appeal of the director's decision. Type II development permit applications that require a Type III procedure must conclude the hearing procedure before a land use or construction permit application can be considered to be complete by the director. Upon receiving a final decision by the hearing body on a Type III application, the subsequent review of a permit application may be reviewed by the director as a Type I process.

15.100.210 Mailed notice.

Mailed notice shall be provided as follows:

- A. Type I Actions. No public notice is required.
- B. Type II and Type III Actions. The applicant shall provide public notice to:
  - 1. The owner of the site for which the application is made; and
  - 2. Owners of property within 500 feet of the entire site for which the application is made. The list shall be compiled from the most recent property tax assessment roll. For purposes of review, this requirement shall be deemed met when the applicant can provide an affidavit or other certification that such notice was deposited in the mail or personally delivered.
  - 3. To the owner of a public use airport, subject to the provisions of ORS 215.416 or 227.175.

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- C. The director may request that the applicant provide notice to people other than those required in this section if the director believes they are affected or otherwise represent an interest that may be affected by the proposed development. This includes, but is not limited to, neighborhood associations, other governmental agencies, or other parties the director believes may be affected by the decision.
  - D. The director shall provide the applicant with the following information regarding the mailing of notice:
    - 1. The latest date by which the notice must be mailed;
    - 2. An affidavit of mailing (to be signed and returned) certifying that the notice was mailed, acknowledging that a failure to mail the notice in a timely manner constitutes an agreement by the applicant to defer the 120-day process limit and acknowledging that failure to mail will result in the automatic postponement of a decision on the application; and
    - 3. A sample notice.
  - E. The notice of a Type II and Type III development application shall be reasonably calculated to give actual notice and shall:
    - 1. Set forth the street address or other easily understood geographical reference to the subject property;
    - 2. List, by commonly used citation, the applicable criteria for the decision;
    - 3. Include the name and phone number of a local government contact person, the telephone number where additional information may be obtained and where information may be examined;
    - 4. Explain the nature of the application and the proposed use or uses which could be authorized;
    - 5. State that a copy of the application, all documents and evidence relied upon by the applicant and applicable criteria are available for inspection at no cost and will be provided at a reasonable cost.
  - F. Prior to mailing or posting any notice required by this code, the applicant shall submit a copy of the notice to the director.
  - G. The applicant shall mail the notice for Type II actions at least 14 days before a decision is rendered. The applicant shall file with the director an affidavit of mailing as identified in subsection (D) of this section within two business days after notice is mailed.
  - H. The applicant shall mail the notice for Type III actions at least 20 days before the first new hearing, or if two or more new hearings are allowed, 10 days before the first new hearing. The applicant shall file with the director an affidavit of mailing as identified in subsection (D) of this section within two business days after notice is mailed.
  - I. All public notices shall be deemed to have been provided or received upon the date the notice is deposited in the mail or personally delivered, whichever occurs first. The failure of a property owner to receive notice shall not invalidate an action if a good faith attempt was made to notify all persons entitled to notice. An affidavit of mailing issued by the person conducting the mailing shall be
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conclusive evidence of a good faith attempt to contact all persons listed in the affidavit.

- J. Failure to mail the notice and affirm that the mailing was completed in conformance with the code shall result in:
1. Postponement of a decision until the mailing requirements have been met; or
  2. Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or
  3. The entire process being invalidated; or
  4. Denial of the application.

15.100.220 Additional notice procedures of Type II development applications.

In addition to the requirements of NMC 15.100.210, mailed notice for development actions shall also contain the following:

- A. Provide a 14-day period from the date of mailing for the submission of written comments prior to the decision;
- B. State that issues that may provide a basis for appeal must be raised in writing during the comment period;
- C. State that issues must be raised with sufficient specificity to enable the local government to respond to the issue;
- D. State the place, date and time that comments are due;
- E. State that notice of the decision, including an explanation of appeal rights, will be provided to any person who submits comments under subsection (A) of this section;
- F. Briefly summarize the local decision-making process.
- G. Type II notice for subdivisions shall also include a description of how an interested party may request a public hearing before the planning commission.

15.100.260 Procedure for posted notice for Type II and III procedures.

- A. **Posted Notice Required.** Posted notice is required for all Type II and III procedures. The notice shall be posted on the subject property by the applicant.
- B. **Notice Information Provided by City.** The director shall provide the applicant with the following information regarding the posting of notice:
  1. The number of notices required;
  2. The latest date by which the notice must be posted;
  3. An affidavit of posting (to be signed and returned) certifying that the notice was posted on site, acknowledging that a failure to post the notice in a timely manner constitutes an agreement by the applicant to defer the 120-day process limit and acknowledging that failure to post will result in the automatic postponement of a decision on the application; and
  4. A sample notice.

- 
- C. Submission of Notice. Prior to posting any notice required by this section, the applicant shall submit a copy of the notice to the director for review.
  - D. Size, Number and Location Requirements. A waterproof notice which measures a minimum of two feet by three feet shall be placed on each frontage of the site. If a frontage is over 600 feet long, a notice is required for each 600 feet, or fraction of 600 feet. If possible, notices shall be posted within 10 feet of a street lot line and shall be visible to pedestrians and motorists in clear view from a public right-of-way. Notices shall not be posted in a public right-of-way or on trees.
  - E. Contents of Notice. The posted notice shall only contain the following information: planning action number, brief description of the proposal, phone number and address for contact at the Newberg planning and building department.
  - F. Standards and Timing, Type II Actions. The applicant shall post the notice at least 14 days before a decision is rendered. The applicant shall file with the director an affidavit of posting as identified in subsection (B) of this section within two business days after notice is posted.
  - G. Standards and Timing, Type III Actions. The applicant shall post the notice at least 10 days before the first scheduled hearing. The applicant shall file with the director an affidavit of posting as identified in subsection (B) of this section within two business days after notice is posted.
  - H. Removal of Notice. The applicant shall not remove the notice before the final decision. All posted notice shall be removed by the applicant within 10 days following the date of the final decision on the request.
  - I. Failure to Post Notice. The failure of the posted notice to remain on the property shall not invalidate the proceedings. Failure by the applicant to post a notice and affirm that the posting was completed in conformance with the code shall result in:
    - 1. Postponement of a decision until the mailing requirements have been met; or
    - 2. Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or
    - 3. The entire process being invalidated; or
    - 4. Denial of the application.

**Response:** The Applicant will provide public notice as required by Newberg Municipal Code (NMC) 15.100.210. A mailing list, sample notice, and sample site notice sign are included in Exhibit E. The criteria are met or will be met when applicable.

Division 15.200 Land Use Applications

Chapter 15.220 SITE DESIGN REVIEW

15.220.020 Site design review applicability.

- A. Applicability of Requirements. Site design review shall be required prior to issuance of building permits or commencement of work for all improvements noted below. Site design review permits shall be processed as either Type I or Type II, as noted below.

---

[...]

2. Type II.

- a. Any new development or remodel which is not specifically identified within subsection (A)(1) of this section.

**Response:** The proposed new institutional construction does not involve an addition or interior remodel and is otherwise not listed as a Type I review; therefore, a Type II Site Design Review is required.

B. Development in Accord with Plans. Construction, site development, and landscaping shall be carried out in substantial accord with the plans, drawings, sketches, and other documents approved as part of a final decision on a site design review.

C. Site Design Review Time Limit. An approved site design review plan intended to be constructed in a single phase shall be valid for one year from the date of the notice of final decision. A building permit must be acquired within this time period or the design review approval shall terminate. The director under a Type I procedure may grant an extension for up to six months if the applicant files a request in writing prior to the expiration of the approval and demonstrates compliance with the following:

1. The land use designation of the property has not been changed since the initial design review approval; and
2. The applicable standards in this code which applied to the project have not changed.

**Response:** The site design review time limit, as stated above for a Type II procedure, is applicable to this application. The Applicant will conduct construction in accordance with the applicable codes and requirements. These criteria are met.

15.220.030 Site design review requirements.

B. Type II. The following information is required to be submitted with all Type II applications for site design review:

1. Site Development Plan. A site development plan shall be to scale and shall indicate the following as appropriate to the nature of the use:
  - a. Access to site from adjacent right-of-way, streets and arterials;
  - b. Parking and circulation areas;
  - c. Location and design of buildings and signs;
  - d. Orientation of windows and doors;
  - e. Entrances and exits;
  - f. Private and shared outdoor recreation spaces;
  - g. Pedestrian circulation;
  - h. Outdoor play areas;
  - i. Service areas for uses such as mail delivery, trash disposal, above-ground utilities, loading and delivery;

- 
- j. Areas to be landscaped;
  - k. Exterior lighting;
  - l. Special provisions for handicapped persons;
  - m. Other site elements and spaces which will assist in the evaluation of site development;
  - n. Proposed grading, slopes, and proposed drainage;
  - o. Location and access to utilities including hydrant locations; and
  - p. Streets, driveways, and sidewalks.
2. Site Analysis Diagram. A site analysis diagram shall be to scale and shall indicate the following characteristics on the site and within 100 feet of the site:
    - a. Relationship of adjacent lands;
    - b. Location of species of trees greater than four inches in diameter at four feet above ground level;
    - c. Existing and proposed topography;
    - d. Natural drainage and proposed drainage and grading;
    - e. Natural features and structures having a visual or other significant relationship with the site.
  3. Architectural Drawings. Architectural drawings shall be prepared which identify floor plans and elevations.
  4. Landscape Plan. The landscape plan shall indicate:
    - a. The size, species and approximate locations of plant materials to be retained or placed on the site together with a statement which indicates the mature size and canopy shape of all plant materials;
    - b. Proposed site contouring; and
    - c. A calculation of the percentage of the site to be landscaped.
  5. Special Needs for Handicapped. Where appropriate, the design review plan shall indicate compliance with handicapped accessibility requirements including, but not limited to, the location of handicapped parking spaces, the location of accessible routes from the entrance to the public way, and ramps for wheelchairs.
  6. Existing Features and Natural Landscape. The plans shall indicate existing landscaping and existing grades. Existing trees or other features intended to be preserved or removed shall be indicated on the plans.
  7. Drives, Parking and Circulation. Proposed vehicular and pedestrian circulation, parking spaces, parking aisles, and the location and number of access points shall be indicated on the plans. Dimensions shall be provided on the plans for parking aisles, back-up areas, and other items as appropriate.

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8. **Drainage.** The direction and location of on- and off-site drainage shall be indicated on the plans. This shall include, but not be limited to, site drainage, parking lot drainage, size and location of storm drain lines, and any retention or detention facilities necessary for the project.
  9. **Buffering and Screening.** Buffering and screening of areas, structures and facilities for storage, machinery and equipment, services (mail, refuse, utility wires, and the like), loading and parking and similar accessory areas and structures shall be shown on the plans.
  10. **Signs and Graphics.** The location, colors, materials, and lighting of all exterior signs, graphics or other informational or directional features shall be shown on the plans.
  11. **Exterior Lighting.** Exterior lighting within the design review plan shall be indicated on the plans. The direction of the lighting, size and type of fixtures, and an indication of the amount of lighting shall be shown on the plans.
  12. **Trash and Refuse Storage.** All trash or refuse storage areas, along with appropriate screening, shall be indicated on the plans. Refuse storage areas must be constructed of brick, concrete block or other similar products as approved by the director.
  13. **Roadways and Utilities.** The proposed plans shall indicate any public improvements that will be constructed as part of the project, including, but not limited to, roadway and utility improvements.

**Response:** The Applicant has submitted preliminary development plans (Exhibit A) which include the information required by NMC 15.220.030.B (1) – (13), as appropriate, including scaled Site Development, Architectural, Landscaping, Lighting, and other plans and civil construction drawings with the required details listed. These criteria are met.

14. **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.

**Response:** The proposed facility is an unoccupied water pump station and associated improvements. The nature of the building—unoccupied by staff except during maintenance and operations visits—ensures that parking and traffic issues will not be created and far fewer than 40 trips per p.m. peak hour will be generated. As such, a traffic study is not required.

15.220.050 Criteria for design review.

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B. Type II. The following criteria are required to be met in order to approve a Type II design review request:

1. Design Compatibility. The proposed design review request incorporates an architectural design which is compatible with and/or superior to existing or proposed uses and structures in the surrounding area. This shall include, but not be limited to, building architecture, materials, colors, roof design, landscape design, and signage.

**Response:** The proposed building is compatible with surrounding structures. The exterior of the building is proposed to consist of architectural concrete masonry unit (CMU) blocks with a gable roof and colored with muted earth tones. An example of this type of station is provided as part of Exhibit A. These criteria are met.

2. Parking and On-Site Circulation. Parking areas shall meet the requirements of NMC 15.440.010. Parking studies may be required to determine if adequate parking and circulation are provided for uses not specifically identified in NMC 15.440.010. 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.

**Response:** The proposed project is a basic utility per NMC 15.05.030. The project does not generate trips, as the building will remain unoccupied except during infrequent maintenance and operations visits. The use category is also not listed with minimum parking requirements within NMC 15.440.030; as such, parking is not planned for the project. This standard does not apply to the project.

3. Setbacks and General Requirements. The proposal shall comply with NMC 15.415.010 through 15.415.060 dealing with height restrictions and public access; and NMC 15.405.010 through 15.405.040 and 15.410.010 through 15.410.070 dealing with setbacks, coverage, vision clearance, and yard requirements.

**Response:** The specific criteria are addressed later within this narrative. The proposed project meets each of the criteria listed in the above requirement.

4. Landscaping Requirements. The proposal shall comply with NMC 15.420.010 dealing with landscape requirements and landscape screening.

**Response:** The Landscape Plan, attached as part of Exhibit A, complies with NMC 15.420.010. That section is reviewed in its entirety later within this report. The criterion is met.

5. Signs. Signs shall comply with NMC 15.435.010 et seq. dealing with signs.

6. Manufactured Dwelling, Mobile Home and RV Parks. Manufactured dwelling and mobile home parks shall also comply with the standards listed in NMC 15.445.075 through 15.445.100 in addition to the other clear and objective criteria listed in this section. RV parks also



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shall comply with NMC 15.445.170 in addition to the other criteria listed in this section.

**Response:** These standards are not applicable. Signs and manufactured dwellings are not proposed as part of this application.

7. **Zoning District Compliance.** 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 NMC 15.305.010 through 15.336.020. Through this site review process, the director may make a determination that a use is determined to be similar to those listed in the applicable zoning district, if it is not already specifically listed. In this case, the director shall make a finding that the use shall not have any different or more detrimental effects upon the adjoining neighborhood area than those specifically listed.
8. **Subdistrict Compliance.** Properties located within subdistricts shall comply with the provisions of those subdistricts located in NMC 15.340.010 through 15.348.060.

**Response:** The project site is located within the I zoning district. The proposed use for the building is as a water utility pump station. This use is permitted within all zoning districts. There is no applicable subdistrict for the site. These provisions have been satisfied.

9. **Alternative Circulation, Roadway Frontage Improvements and Utility Improvements.** 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.

**Response:** The project is part of a City utility improvement project.

**Water:** An existing cast iron 4-inch water line in NE Bell Road is associated with the Chehalem Springs Water Association's Oliver Spring Water System. The pump station is designed to serve new 18-inch and 16-inch transmission and discharge water lines within NE Bell Road. The pump station will connect to these mains via two 18-inch connections on the project site.

**Sanitary Sewer:** There do not appear to be sanitary sewer utilities within NE Bell Road. However, the project does not require sanitary sewer services.

**Stormwater:** Stormwater is planned to lead from the site to a planted stormwater facility. From there, it is planned to overflow via a 12-inch-diameter reinforced concrete pipe, to an existing line leading to the north side of NE Bell Road. The stormwater management facility is planned to be planted to City specifications.

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Street/Frontage Improvements: Access to the proposed pump station will be through a 32-foot-wide driveway connection to NE Bell Road. Along the site's 79.2-foot frontage, sidewalk, street trees, and additional road surface with curb and gutter will be provided. Bell Road is classified as a Major Collector by the City's Transportation System Plan (TSP). The final width of the NE Bell Road right-of-way is planned to be 60 feet. The current right-of-way width is 60 feet, with 30 feet being provided between the pump station property and the NE Bell Road centerline, allowing appropriate future expansion of the roadway surface.

These criteria are met.

10. **Traffic Study Improvements.** If a traffic study is required, improvements identified in the traffic study shall be implemented as required by the director.

**Response:** As the pump station will generate no trips on surrounding streets and will only occasionally be visited by maintenance and operations staff, a traffic study was not required. This standard does not apply.

#### Chapter 15.230 PROPERTY CONSOLIDATIONS AND PROPERTY LINE ADJUSTMENTS

##### 15.230.020 Property line adjustments.

The following procedures apply to any property line adjustment:

- A. The applicant shall file a Type I application on a form provided by the director. The application shall include a tentative property line adjustment plan meeting the requirements for a tentative partition plan, as set forth in NMC 15.235.040(B), and such other material as required by the director.

**Response:** The above-listed submittal documents are included with this application. Therefore, this criterion is satisfied.

- B. The director may approve, approve with conditions, or deny the application based on the following criteria:
  1. The property line adjustment does not create more lots than existed prior to the adjustment.

**Response:** As shown on the Proposed Property Line Adjustment Plans included in Exhibit A, there are two lots before the adjustment, and there will be two lots after the adjustment. This criterion is met.

2. The adjustment does not create any substandard condition relative to this code, including lot area, lot width, setbacks, and access. If any of the original lots do not meet these standards, the adjusted lots may remain nonconforming, provided:
  - a. The adjustment cannot reasonably or practically bring the lots into conformity.
  - b. The adjustment does not worsen the nonconforming status of the lots.

**Response:** Tax Lots 2700 and 2800 have a zoning designation I. The table below summarizes the underlying zoning requirements for the lot area, lot width, access, and setbacks for properties within these zones.

**Table 1: Underlying Zoning Requirements**

Lot Area Requirements Section 15.405.010	Lot Width Requirements Section 15.405.030	Lot Frontage/Access Requirements	Setback Requirements Sections 15.410.020 and 15.410.030
<b>Institutional (I) Lot Requirements</b>			
Minimum of 5 contiguous acres. Additions to the district may be in increments of any size.	25 feet	25 feet	Front Yard Setback: 25 feet  Interior Yard Setback: Not less than 10 feet

As shown on the Preliminary Property Line Adjustment Plan included in Exhibit A, after the planned adjustment, each of the lots will meet the above requirements. Each of the lots currently conform to these standards and will continue to do so after the adjustment. This criterion is satisfied.

**Division 15.300 Zoning Districts**

**Chapter 15.302 Districts and Their Amendment**

**15.302.032 Purposes of each zoning district.**

- O. **I Institutional District.** The I institutional district is intended to support and promote institutional uses. The district provides for the establishment and growth of large institutional campuses as well as accessory and compatible uses. The institutional district is intended to be consistent with the public/quasi-public (PQ) designation of the comprehensive plan.

**Response:** The project involves a public water utility upgrade which will serve surrounding institutional and single-family residential uses. Basic Utilities are permitted within all zoning districts. The project is consistent with this purpose statement.

**15.302.040 Subdistricts.**

Subdistricts of each of the use districts may be established. The parent residential district requirements shall apply to those respective subdistricts except those regulations pertaining to lot area per dwelling unit or density.

- G. **SC Stream Corridor Overlay Subdistrict.** The stream corridor overlay subdistrict may be created within any zoning district. The stream corridor subdistrict is applied to areas which are classified as Statewide Goal 5 resources. The overlay shall be designated by the suffix SC added to the symbol of the parent district. The SC subdistrict provides additional land use regulations which govern properties located within the subdistrict. Where the provisions of the subdistrict are inconsistent with the parent district, the provisions of the subdistrict shall govern.

**Response:** Along its eastern boundary, the project site (Tax Lot 2700) features a Stream Corridor overlay associated with Hess Creek. The stream corridor is approximately 450 feet east of the project site and no activities have been planned in or adjacent to the stream corridor.

Chapter 15.303 USE CATEGORIES

15.303.370 Utility uses.

The following utility uses are defined in NMC 15.05.030:

- A. Basic utilities.
- B. Utility distribution plant or yard.
- C. Wastewater treatment plant.
- D. Telecommunication facility.

**Response:** The project involves a basic utility use as defined by NMC 15.05.030.

Chapter 15.305 ZONING USE TABLE

#	Use	I	Notes and Special Use Standards
370	Utilities		
Def.	Basic utilities	P	

**Response:** Basic utilities are proposed as part of the project and are permitted within the I zoning district.

Chapter 15.342 STREAM CORRIDOR OVERLAY (SC) SUBDISTRICT

15.342.010 Purpose.

The purpose of the stream corridor (SC) overlay subdistrict is to implement the goals and policies of the comprehensive plan relating to open space, scenic, and natural resources which are intended to “. . . ensure that adequate land shall be retained in permanent open space use and that natural scenic and historic resources are protected.” Furthermore, this subdistrict is intended to “. . . protect, conserve, enhance, and maintain the Willamette River Greenway.” The subdistrict allows for a balance of protection of open space, scenic and natural resources and environmentally sensitive development. The designation of lands within this subdistrict is used to provide reasonable regulation of development in or adjacent to stream corridors. This subdistrict does not provide for or authorize public access to private properties designated within this subdistrict. Additionally, the provisions of this subdistrict do not provide measures for the public acquisition of private property.

15.342.020 Where these regulations apply.

The regulations of this chapter apply to the portion of any lot or development site which is within an SC overlay subdistrict. Unless specifically exempted by NMC 15.342.040, these regulations apply to the following:

- A. New structures, additions, accessory structures, decks, addition of concrete or other impervious surfaces;
- B. Any action requiring a development permit by this code;
- C. Changing of topography by filling or grading;

- D. Installation or expansion of utilities including but not limited to phone, cable TV, electrical, wastewater, storm drain, water or other utilities;
- E. Installation of pathways, bridges, or other physical improvements which alter the lands within the stream corridor overlay subdistrict.

**Response:** The current extents of Tax Lot 2700, which comprise part of the project site prior to the property line adjustment, include an area of Stream Corridor overlay. The project involves new structures and the addition of impervious surfaces; however, the project is located approximately 450 feet away from the corridor and will be on a separate property following the planned property line adjustment.

Division 15.400 Development Standards

Chapter 15.405 LOT REQUIREMENTS

15.405.010 Minimum and maximum lot area.

- A. In the following districts, each lot or development site shall have an area as shown below except as otherwise permitted by this code:
  - 4. Institutional districts shall have a minimum size of five contiguous acres in order to create a large enough campus to support institutional uses; however, additions to the district may be made in increments of any size.

**Response:** The project site is located within the Institutional district and has an overall area of greater than 20 contiguous acres. The Institutional zoning district does not have other lot area standards. The Property Line Adjustment does not remove nor add area to the Institutional district. This criterion is met.

B. Lot or Development Site Area per Dwelling Unit.

**Response:** The project site is located within the I district and does not propose the construction of dwelling units; therefore, this standard does not apply.

15.405.020 Lot area exceptions.

The following shall be exceptions to the required lot areas:

- A. Lots of record with less than the area required by this code.
- B. Lots or development sites which, as a process of their creation, were approved in accordance with this code.
- C. Planned unit developments, provided they conform to requirements for planned unit development approval.

**Response:** The listed exceptions do not apply to this application.

15.405.030 Lot dimensions and frontage.

- A. Width. Widths of lots shall conform to the standards of this code.
- B. Depth to Width Ratio. Each lot and parcel shall have an average depth between the front and rear lines of not more than two and one-half times the average width between the side lines. Depths of lots shall conform to the standards of this code. Development of lots under 15,000 square feet are exempt from the lot depth to width ratio requirement.

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**Response:** The adjusted size of the project site is ±5,067 square feet (±0.11 acres); therefore, the lot is under 15,000 square feet and exempt from the lot depth to width ratio requirements. The lot also conforms to the depth to width standard above, with a ratio less than 2.5:1 (lot depth – ±71 feet, lot width – ±79.2 feet).

C. Area. Lot sizes shall conform to standards set forth in this code. Lot area calculations shall not include area contained in public or private streets as defined by this code.

**Response:** The lot sizes proposed do not include area contained within public or private streets and conform to the standards of the I zoning district. This criterion is met.

D. Frontage.

1. No lot or development site shall have less than the following lot frontage standards:

a. Each 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. No new private streets, as defined in NMC 15.05.030, shall be created to provide frontage or access except as allowed by NMC 15.240.020(L)(2).

**Response:** Each planned lot following the property line adjustment has a minimum width and street frontage of at least 25 feet. Private streets are not created with this proposal. This criterion is met.

2. The above standards apply with the following exceptions:

a. Legally created lots of record in existence prior to the effective date of the ordinance codified in this code.

b. Lots or development sites which, as a process of their creation, were approved with sub-standard widths in accordance with provisions of this code.

c. Existing private streets may not be used for new dwelling units, except private streets that were created prior to March 1, 1999, including paving to fire access roads standards and installation of necessary utilities, and private streets allowed in the airport residential and airport industrial districts. However, existing single-family detached dwellings on existing private streets may be converted to duplex dwellings.

**Response:** The listed exceptions do not apply to this application for site design review and property line adjustment.

15.405.040 Lot coverage and parking coverage requirements.

A. Purpose. The lot coverage and parking coverage requirements below are intended to:

1. Limit the amount of impervious surface and storm drain runoff on residential lots.



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2. Provide open space and recreational space on the same lot for occupants of that lot.
  3. Limit the bulk of residential development to that appropriate in the applicable zone.
- C. All other districts and uses not listed in subsection (B) of this section shall not be limited as to lot coverage and parking coverage except as otherwise required by this code.

**Response:** The project involves a basic utility use within the I zoning district. These standards related to lot and parking coverage do not apply to this application.

Chapter 15.410 YARD SETBACK REQUIREMENTS

15.410.010 General yard regulations.

- A. No yard or open space provided around any building for the purpose of complying with the provisions of this code shall be considered as providing a yard or open space for any other building.
- B. No yard or open space on adjoining property shall be considered as providing required yard or open space for another lot or development site under the provisions of this code.
- C. No front yards provided around any building for the purpose of complying with the regulations of this code shall be used for public or private parking areas or garages, or other accessory buildings, except as specifically provided elsewhere in this code.
- D. When the common property line separating two or more contiguous lots is covered by a building or a permitted group of buildings with respect to such common property line or lines does not fully conform to the required yard spaces on each side of such common property line or lines, such lots shall constitute a single development site and the yards as required by this code shall then not apply to such common property lines.

**Response:** These standards are understood and the Preliminary Plans reflect that these yard regulations are met.

15.410.020 Front yard setback.

- D. Institutional and Community Facility. All lots or development sites in the I and CF district shall have a front yard of 25 feet. Outdoor activity facilities, such as pools, basketball courts, tennis courts, or baseball diamonds, including any accessory structures and uses, are not permitted within the required setback.

**Response:** Front yard setbacks have been illustrated as being  $\pm 28.9$  feet from the front property line to the face of the pump station building. This criterion is met.

15.410.030 Interior yard setback.

- D. Institutional and Community Facility. All lots or development sites in the I and CF district shall have interior yards of not less than 10 feet, except outdoor activity facilities, such as pools, basketball courts, tennis courts, or baseball diamonds, including any accessory structures and uses, shall have an interior yard setback of 25 feet when abutting a residential district.

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**Response:** Interior yards of 10 feet or greater are planned within this I district project site. This criterion is satisfied.

15.410.040 Setback and yard restrictions as to schools, churches, public buildings.

- A. Building Setback. No buildings shall be erected, used or maintained for a school, church or public or semi-public building or use, institution or similar use under the regulations of this code unless such building is removed at least 25 feet from every boundary line of any property included in any residential district.

**Response:** Per NMC 15.05.030, a pump station is a “public building;” however, the project site is not located within a residential district. This standard does not apply.

- B. Required Yard. No required front or interior yard of the lot on which such building or use is located shall be used for play or parking purposes.

**Response:** The proposed pump station does not include play or parking areas. This standard does not apply.

15.410.050 Special setback requirements to planned rights-of-way.

- A. Yard Requirements for Property Abutting Partial or Future Street Rights-of-Way.

1. Except as provided in subsection (A)(2) of this section, no building shall be erected on a lot which abuts a street having only a portion of its required width dedicated, unless the yards provided and maintained in connection with such building have a width and/or depth needed to complete the street width plus the width and/or depths of the yards required on the lot by this code.
2. Where a comprehensive plan street design or a future street plan exists, the placement of buildings and the establishment of yards where required by this code shall relate to the future street boundaries as determined by said plans.

**Response:** Bell Road is classified as a Major Collector by the City’s TSP. The NE Bell Road right-of-way is planned to have a final width of 60 feet. The current right-of-way width is 60 feet, with 30 feet being provided between the pump station property and the NE Bell Road centerline, allowing appropriate future expansion of the roadway surface.

- B. Planned Street Right-of-Way Widths. Planned street right-of-way widths are established as indicated in subsection (C) of this section for the various categories of streets shown in the transportation system plan.

- C. A lot or parcel of land in any district adjoining a street for which the planned right-of-way width and alignment have been determined shall have a building setback line equal to the yard required in the district, plus a distance of:

1. Fifty feet from and parallel with the centerline of expressways.
2. Thirty-five feet from and parallel with the centerline of major and minor arterials.

3. Thirty feet from and parallel with the centerline of multifamily, commercial and industrial streets and single-family collector streets.
4. Thirty feet from and parallel with the centerline of single-family local streets.
5. Twenty-five feet from and parallel with the centerline of single-family hillside, cul-de-sacs and local streets which will never be extended more than 2,400 feet in length and which will have a relatively even division of traffic to two or more exits.

Exceptions to the above five classifications are shown in the transportation system plan.

**Response:** This section refers to properties abutting partial-street rights-of-way and future street rights-of-way as outlined within the City’s TSP. NE Bell Road currently provides 60 feet of right-of-way width. While the current project does not involve a right-of-way dedication, the property is located 30 feet away from the centerline, allowing an appropriate width for future expansions of the road surface. Future improvements include a left turn lane onto southbound N College Street, per the Yamhill County TSP. A building setback line equal to the yard required by the I zoning district is provided. These standards, where applicable, are met.

- D. The centerline of planned streets shall be either the officially surveyed centerline or a centerline as on a precise plan. In the event of conflict between the two, the latter-described line shall prevail. In all other cases, a line midway between properties abutting the right-of-way shall be the centerline for the purposes of this code.

**Response:** This standard is understood.

15.410.060 Vision clearance setback.

The following vision clearance standards shall apply in all zones (see Appendix A, Figure 9).

- A. At the intersection of two streets, including private streets, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 50 feet in length.
- B. At the intersection of a private drive and a street, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 25 feet in length.
- C. Vision clearance triangles shall be kept free of all visual obstructions from two and one-half feet to nine feet above the curb line. Where curbs are absent, the edge of the asphalt or future curb location shall be used as a guide, whichever provides the greatest amount of vision clearance.

**Response:** Appropriate vision clearance triangles have been provided and are demonstrated within the Preliminary Plans attached as Exhibit A. The required vision clearance triangles will be kept free of visual obstructions between 2.5 feet and 9 feet above the curb line. These criteria are met.

15.410.070 Yard exceptions and permitted intrusions into required yard setbacks.

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The following intrusions may project into required yards to the extent and under the conditions and limitations indicated:

- A. Depressed Areas. In any district, open work fences, hedges, guard railings or other landscaping or architectural devices for safety protection around depressed ramps, stairs or retaining walls may be located in required yards; provided, that such devices are not more than three and one-half feet in height.
- B. Accessory Buildings. In front yards on through lots, where a through lot has a depth of not more than 140 feet, accessory buildings may be located in one of the required front yards; provided, that every portion of such accessory building is not less than 10 feet from the nearest street line.
- C. Projecting Building Features. The following building features may project into the required front yard no more than five feet and into the required interior yards no more than two feet; provided, that such projections are no closer than three feet to any interior lot line:
  - 1. Eaves, cornices, belt courses, sills, awnings, buttresses or other similar features.
  - 2. Chimneys and fireplaces, provided they do not exceed eight feet in width.
  - 3. Porches, platforms or landings which do not extend above the level of the first floor of the building.
  - 4. Mechanical structures (heat pumps, air conditioners, emergency generators and pumps).

**Response:** The listed required yard intrusions are understood but are not anticipated at this time. These standards do not apply.

- D. Fences and Walls.
  - 3. If chain link (wire-woven) fences are used, they are manufactured of corrosion-proof materials of at least 11-1/2 gauge.
  - 4. The requirements of vision clearance shall apply to the placement of fences.

**Response:** Fences and walls are anticipated to meet the requirements of this Section. Provided fencing is planned to be black chain link. Vision clearance areas are illustrated on the Preliminary Plans (Exhibit A). These criteria are met.

- E. Parking and Service Drives (Also Refer to NMC 15.440.010 through 15.440.080).
  - 4. In the I district, public or private parking areas or parking spaces may be no closer to a front property line than 20 feet, and no closer to an interior property line than five feet.

**Response:** Parking is not planned for this project, as the facility will not be occupied by staff. This standard does not apply.

Chapter 15.415 BUILDING AND SITE DESIGN STANDARDS

15.415.010 Main buildings and uses as accessory buildings.

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- A. Hereinafter, any building which is the only building on a lot is a main building.

**Response:** This standard is understood.

15.415.020 Building height limitation.

- D. Institutional. The maximum height of any building or structure will be 75 feet except as follows:
3. Within 100 feet of a property line abutting a public street or railroad right-of-way, or within 100 feet of property lines abutting parcels with an R-1, R-2, R-3, R-P, C-1, C-2, C-3, M-1, M-2, or M-3 zoning designation, no main building may exceed 50 feet in height.
  4. To utilize the maximum permitted height standard, at least 80 percent of the building's ground coverage must be beyond the setback area designated in subsection (D)(3) of this section. The maximum encroachment may not exceed 25 feet.

**Response:** The project site abuts a public street; however, pump station structure is planned to be less than 50 feet in height. These criteria are met.

- 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.

**Response:** Project buildings are not anticipated to exceed the listed maximum heights and an alternative building height is not sought. These criteria are met.

15.415.030 Building height exemptions.

Roof structures and architectural features for the housing of elevators, stairways, tanks, ventilating fans and similar equipment required to operate and maintain the building, fire or parapet walls, skylights, towers, flagpoles, chimneys, smokestacks, wireless masts, TV antennas, steeples and similar structures may be erected above the height limits prescribed in this code; provided, that no roof structure, feature or any other device above the prescribed height limit shall be allowed or used for the purpose of providing additional floor space. Further, no roof structure or architectural feature under this exemption shall be erected more than 18 feet above the height of the main building, whether such structure is attached to it or freestanding, nor shall any such structure or feature exceed the height limits of the airport overlay subdistrict.

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**Response:** These standards are understood.

15.415.040 Public access required.

No 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. New private streets may not be created to provide access except as allowed under NMC 15.332.020(B)(24), 15.336.020(B)(8), and in the M-4 zone. Existing private streets may not be used for access for new dwelling units, except as allowed under NMC 15.405.030. No 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.

**Response:** The project site fronts NE Bell Road, a public street, and provides access per Oregon Fire Code. This criterion is met.

Chapter 15.420 LANDSCAPING AND OUTDOOR AREAS

15.420.010 Required minimum standards.

B. Required Landscaped Area. The following landscape requirements are established for all developments except single-family detached dwellings, duplex dwellings, triplex dwellings, quadplex dwellings, townhouse dwellings and cottage cluster projects:

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. Development in the C-3 (central business district) zoning district and M-4 (large lot industrial) zoning district is exempt from the 15 percent landscape area requirement of this section. Additional landscaping requirements in the C-4 district are described in NMC 15.352.040(K). In the AI airport industrial district, only a five percent landscaping standard is required with the goal of “softening” the buildings and making the development “green” with plants, where possible. The existence of the runway, taxiway, and approach open areas already provide generally for the 15 percent requirement. Developments in the AI airport industrial district with a public street frontage shall have said minimum landscaping between the front property line and the front of the building.

**Response:** Development within the I zoning district is required to provide a minimum of 15 percent of the site as landscaping. Approximately 28 percent of the site has been proposed as landscaping, including along the perimeter of the site and within the stormwater rain garden. Additionally, the project intends to supplement landscaping along the relocated pathway adjacent to the site. This criterion is met.

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

**Response:** Areas of the project not proposed for improvements are planned for landscaping. This criterion is met.

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

[...]



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**Response:** Parking and loading areas are not planned as part of this project. These standards do not apply.

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.

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.

**Response:** The project site abuts a Major Collector street. Two street trees are planned for the site frontage; both will be American Hophornbeam and spaced 35 feet on-center. The trees to be planted are anticipated to be 2-inch caliper at minimum and balled and burlapped. This criterion is met.

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.

**Response:** Selected shrubs have been planned to come from both 2-gallon and 1-gallon containers. Many of these shrub plantings have been selected to enhance an off-site pathway adjacent to the project site. Selections on site are planned to supplement the fencing or screen the generator or pump station building. Spacing for these species have been shown on the Landscape Plan (Sheet L000 of Exhibit A). This criterion is met.

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

**Response:** Plant selections have been illustrated where appropriate and generally meet the above requirements.

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

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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.

**Response:** A permanent, underground “design-build” automatic irrigation system will be provided to water the project trees and planting beds. This criterion is met.

6. Required landscaping shall be continuously maintained.

**Response:** This standard is understood.

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

8. Landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) will apply to development proposals unless the institution has addressed the requirements and standards by an approved site development master plan. With an approved site development master plan, the landscape requirements will be reviewed through an administrative Type I review process.

9. In the M-4 zone, landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) do not apply unless within 50 feet of a residential district.

**Response:** The project site is not located adjacent to overhead utility lines, is not located within the M-4 zone, and does not provide parking and loading areas. These standards do not apply to the application.

C. Installation of Landscaping. All landscaping required by these provisions shall be installed prior to the issuance of occupancy permits, unless security equal to 110 percent of the cost of the landscaping as determined by the director is filed with the city, insuring such installation within six months of occupancy. A security – cash, certified check, time certificates of deposit, assignment of a savings account, bond or such other assurance of completion as shall meet with the approval of the city attorney – shall satisfy the security requirements. If the installation of the landscaping is not completed within the six-month period, or within an extension of time authorized by the director, the security may be used by the city to complete the installation. Upon completion of the installation, any portion of the remaining security deposited with the city shall be returned to the applicant.

**Response:** These standards are understood.

15.420.020 Landscaping and amenities in public rights-of-way.

The following standards are intended to create attractive streetscapes and inviting pedestrian spaces. A review body may require any of the following landscaping and amenities to be placed in abutting public rights-of-way as part of multifamily, commercial, industrial, or institutional design reviews, or for subdivisions and planned unit developments. In addition, any entity improving existing rights-of-way should consider including these elements in

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the project. A decision to include any amenity shall be based on comprehensive plan guidelines, pedestrian volumes in the area, and the nature of surrounding development.

**Response:** This application is for an institutional design review and must therefore consider inclusion of these planting requirements.

- 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 NMC 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.

**Response:** The Preliminary Plans (Exhibit A) show that proposed low shrubs and required street trees are consistent with NMC 15.420.010(B)(4) and this section. These criteria are met.

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).

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- 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.

**Response:** Street lighting is provided on NE Bell Road opposite the project site. Due to the project site's extreme northern location within Newberg, pedestrian activity is likely to be minimal, especially during evening hours, as there are no nearby transit stops, nighttime service districts, or other pedestrian amenities. These criteria are met.

- 4. Street furniture such as benches and waste receptacles shall be provided for spaces near sidewalks only.
  - a. Furniture should be sited in areas with the heaviest pedestrian activity, such as downtown, shopping districts, and shopping centers.
  - b. Benches should be arranged to facilitate conversation between individuals with L-shaped arrangements and should face the area focal point, such as shops, fountains, plazas, and should divert attention away from nearby traffic.

**Response:** Consistent with other sites within areas without heavy pedestrian activity, street furniture is not planned for this area. These standards do not apply.

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

**Response:** Paving and curb cuts will enable safe pedestrian crossing and meet all applicable Americans with Disabilities Act (ADA) requirements for accessibility from the City. This criterion is 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 NMC 15.420.010(B)(4).

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- 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.

**Response:** Planter strips along the site’s NE Bell Road frontage are not planned. The project will provide curb-tight sidewalks with street trees and adjoining ground cover behind the sidewalk. Please see the Landscaping Plan (Sheet L000 of Exhibit A) for further details. These criteria are met.

- C. **Maintenance.** All landscapes shall be maintained for the duration of the planting to encourage health of plant material as well as public health and safety. All street trees and shrubs shall be pruned to maintain health and structure of the plant material for public safety purposes.

**Response:** Landscape maintenance will be the responsibility of the property owner. This criterion is met.

**Plant Material Matrix – Newberg Transportation Planning Rule Implementation**

	Median		Pedestrian Space	Planting Strip		
	Central Business District/Urban Application	Low Density Application		Frequent On-Street Parking	Infrequent On-Street Parking	Without On-Street Parking
Plant Material	Trees, shrubs and ground cover		Trees, shrubs and ground cover (where applicable)	Trees in tree wells with grates	Trees and ground cover	Trees, shrubs and ground cover
Tree and Shrub Arrangement	Single row of trees planted in triangular pattern, equally spaced, shrubs as desired	Single row of trees planted in triangular pattern, arranged in clusters, shrubs as desired	Refer to median or planting strip specifications as applicable	Single row of trees planted in linear pattern, equally spaced	Refer to tree specifications for median as applicable, ground cover as desired	Refer to tree specifications for median as applicable, ground cover as desired
Tree Form	Columnar to round tree canopy	Round to broad tree canopy	Refer to median or planting strip specifications as applicable	Refer to median recommendations as applicable	Refer to median recommendations as applicable	Refer to median recommendations as applicable
Examples of Recommended Tree Species	Bradford Flowering Pear ( <i>Pyrus calleryana</i> “Bradford”), Flowering Cherry ( <i>Prunus serrulata</i> , several varieties), Red Sunset Maple ( <i>Acer rubrum</i> ), Londos Plana ( <i>Platanus acerifolia</i> )	Flowering Cherry ( <i>Prunus serrulata</i> , several varieties), Flowering Dogwood ( <i>Cornus</i> species, several varieties), Hawthorn ( <i>Crataegus</i> species, several species), Red Sunset Maple ( <i>Acer rubrum</i> ), Red Oak ( <i>Quercus rubra</i> )	Refer to median or planting strip specifications as applicable	Refer to median recommendations as applicable, lowest tree limb height of 10 feet	Refer to median recommendations as applicable, lowest tree limb height of 10 feet	Refer to median recommendations as applicable, lowest tree limb height of 10 feet
Shrub and Ground Cover Characteristics (i.e., environmental tolerance, mature size)	Pollutant and reflected heat tolerant	Pollutant and reflected heat tolerant	2.5 feet maximum height, pollutant and reflected heat tolerant	Not applicable	2.5 feet maximum height, pollutant and reflected heat tolerant	2.5 feet maximum height, pollutant and reflected heat tolerant
Examples of Recommended Shrub Species	Lonicera japonica (Privet Honeysuckle), Sargent Juniper ( <i>Juniperus sargentii</i> ), Cotoneaster (Cotoneaster, various varieties), Winter Creeper ( <i>Euonymus fortunei</i> )	Lonicera japonica (Privet Honeysuckle), Sargent Juniper ( <i>Juniperus sargentii</i> ), Cotoneaster (Cotoneaster, various varieties), Winter Creeper ( <i>Euonymus fortunei</i> )	Sargent Juniper ( <i>Juniperus sargentii</i> ), Cotoneaster (Cotoneaster, low varieties), Winter Creeper ( <i>Euonymus fortunei</i> )	Not applicable	Sargent Juniper ( <i>Juniperus sargentii</i> ), Cotoneaster (Cotoneaster, prostrate varieties)	Sargent Juniper ( <i>Juniperus sargentii</i> ), Cotoneaster (Cotoneaster, various varieties), Winter Creeper ( <i>Euonymus fortunei</i> )



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Chapter 15.425 EXTERIOR LIGHTING

15.425.010 Purpose.

The purpose of this chapter is to regulate the placement, orientation, distribution patterns, and fixture types of on-site outdoor lighting. The intent of this section is to provide minimum lighting standards that promote safety, utility, and security, prevent glare on public roadways, and protect the privacy of residents.

15.425.020 Applicability and exemptions.

A. Applicability. Outdoor lighting shall be required for safety and personal security in areas of assembly, parking, and traverse, as part of multifamily residential, commercial, industrial, public, recreational and institutional uses. The applicant for any Type I or Type II development permit shall submit, as part of the site plan, evidence that the proposed outdoor lighting plan will comply with this section. This information shall contain but not be limited to the following:

1. The location, height, make, model, lamp type, wattage, and proposed cutoff angle of each outdoor lighting fixture.
2. Additional information the director may determine is necessary, including but not limited to illuminance level profiles, hours of business operation, and percentage of site dedicated to parking and access.
3. If any portion of the site is used after dark for outdoor parking, assembly or traverse, an illumination plan for these areas is required. The plan must address safety and personal security.

**Response:** Lighting is anticipated on the pump station building adjacent to the entrance door. Information for this light fixture, including the location, height, make, model, lamp type, wattage, and cutoff angle, is included as part of Exhibit A. As parking is not required nor proposed for the site, illumination of parking is not planned. These criteria are met.

15.425.030 Alternative materials and methods of construction, installation, or operation.

The provisions of this section are not intended to prevent the use of any design, material, or methods of installation or operation not specifically prescribed by this section, provided any such alternate has been approved by the director. Alternatives must be an approximate equivalent to the applicable specific requirement of this section and must comply with all other applicable standards in this section.

**Response:** Because LED fixtures greater than 50 watts are not listed within the Table of Shielding Requirements, this section is applicable. The fixtures proposed are subject to the alternative approval of the director.

15.425.040 Requirements.

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.

**Response:** The selected lighting is anticipated to be mounted on the pump station building at approximately eight feet in height, but less than 15 feet above ground level. Therefore, the standards of this section are met.

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.

**Response:** High-level light fixtures, i.e. fixtures installed higher than 15 feet, are not planned. These standards do not apply.

**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 NMC 15.425.030

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

**Response:** The selected lighting fixture types are not listed within the Table of Shielding Requirements and are therefore subject to the standards of NMC 15.425.030.

**Chapter 15.430 UNDERGROUND UTILITY INSTALLATION**

**15.430.010 Underground utility installation.**

- 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.

**Response:** All new utility service lines are to be located underground, per the requirements of this section. These criteria are met.

- 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.
- C. The director may make exceptions to the requirement to underground utilities based on one or more of the following criteria:

1. The cost of undergrounding the utility is extraordinarily expensive.
2. There are physical factors that make undergrounding extraordinarily difficult.
3. Existing utility facilities in the area are primarily overhead and are unlikely to be changed.

**Response:** The project site does is not adjacent to existing overhead utilities and features a 79.2-foot frontage on NE Bell Road. There are no overhead utilities that will be relocated, nor is an addition or remodel requiring a Type II design review or annexation of a developed area proposed as part of this project. Existing overhead utilities are located along the northern edge of NE Bell Road. These standards do not apply.

**Chapter 15.440 OFF-STREET PARKING, BICYCLE PARKING, AND PRIVATE WALKWAYS**

**Article I. Off-Street Parking Requirements**

**15.440.010 Required off-street parking.**

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.

1. In cases where the applicant is proposing off-street parking, refer to subsection (F) of this section for the maximum number of parking spaces.

**Response:** Parking is not required for basic utility uses. The proposed building will be unstaffed and generally unoccupied and only occasionally visited by operations and maintenance staff, this basic utility does not propose parking; therefore, these standards are not applicable.

**Article II. Bicycle Parking**

**15.440.090 Purpose.**

Cycling is a healthy activity for travel and recreation. In addition, by maximizing bicycle travel, the community can reduce negative effects of automobile travel, such as congestion and pollution. To maximize bicycle travel, developments must provide effective support facilities. At a minimum, developments need to provide a secure place for employees, customers, and residents to park their bicycles.

**15.440.100 Facility requirements.**

Bicycle parking facilities shall be provided for the uses shown in the following table. Fractional space requirements shall be rounded up to the next whole number.

Use	Minimum Number of Bicycle Parking Spaces Required
New commercial, industrial, office, and institutional developments, including additions that total 4,000 square feet or more	One bicycle parking space for every 10,000 square feet of gross floor area. In C-4 districts, two bicycle parking spaces, or one per 5,000 square feet of building area, must be provided, whichever is greater

Notes:

- a. Short-term bicycle parking is parking intended to be used for durations less than two hours. Short-term bicycle parking shall consist of a stationary rack or other approved structure to which the bicycle can be locked securely and shall be located within 50 feet of the main building entrance or one of several main entrances, and no further from an entrance than the closest automobile parking space. Shelter or cover may be required for a specified percentage of short-term parking.
- b. Long-term bicycle parking is parking intended to be used for durations over two hours. Long-term parking shall consist of a lockable enclosure, a secure room in a building on-site, monitored parking, or another form of fully sheltered and secure parking.

**Response:** As previously described, bicycle parking requirements do not apply to this project. Access to the subject property (a water pump station) is restricted to all but City operations and maintenance staff and is enclosed by a gated security fence. The site is unstaffed and generally unoccupied. City staff arrive and depart the site infrequently, and when they do, they bring equipment that cannot be transported by bicycle and must be brought on-site by motor vehicles. Therefore, these standards do not apply.

**Article III. Private Walkways**

**15.440.120 Purpose**

Sidewalks and private walkways are part of the city’s transportation system. Requiring their construction is part of the city’s plan to encourage multimodal travel and to reduce reliance on the automobile. Considerable funds have and will be expended to install sidewalks along the streets in the city. Yet there is little point to this expense if it is not possible for people to walk from the sidewalk to the developments along each side. The following requirements are intended to provide safe and convenient paths for employees, customers, and residents to walk from public sidewalks to development entrances, and to walk between buildings on larger sites.

**15.440.130 Where required.**

Private walkways shall be constructed as part of any development requiring Type II design review, including mobile home parks. In addition, they may be required as part of conditional use permits or planned unit developments. In the airport industrial (AI) district and residential (AR) district, on-site walks are not required in aircraft operations areas, such as parking aprons, taxiways, and runways.

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**Response:** As previously described, the planned facility is not open to the public. To comply with federal security requirements for a public utility (water provider), access to the site is currently and will remain restricted (by a gated security fence) to City operations and maintenance staff only. Because of these security measures, safety concerns, and operations issues, pedestrian access to the water facility from a nearby roadway is not safe or desirable and is not planned to be provided. Internal circulation on the site is planned via the hard-surfaced driveway. These standards do not apply to the project.

**Chapter 15.505 PUBLIC IMPROVEMENTS STANDARDS.**

**15.505.010 Purpose.**

This chapter provides standards for public infrastructure and utilities installed with new development, consistent with the policies of the City of Newberg comprehensive plan and adopted city master plans. The standards are intended to minimize disturbance to natural features, promote energy conservation and efficiency, minimize and maintain development impacts on surrounding properties and neighborhoods, and ensure timely completion of adequate public facilities to serve new development.

**15.505.020 Applicability.**

The provision and utilization of public facilities and services within the City of Newberg shall apply to all land developments in accordance with this chapter. 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 NMC 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 NMC.
- 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 NMC.
- 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 NMC.
- 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.
- G. **City Approval of Public Improvements Required.** No building permit may be issued until all required public facility improvements are in place and approved by the director, or are otherwise bonded for in a manner approved by the review authority, in conformance with the

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provisions of this code and the Newberg Public Works Design and Construction Standards.

**Response:** The above standards are understood and the applicable standards are addressed within their appropriate sections below.

15.505.030 Street standards.

A. Purpose. The purpose of this section is to:

1. Provide for safe, efficient, and convenient multi-modal transportation within the City of Newberg.
2. Provide adequate access to all proposed and anticipated developments in the City of Newberg. For purposes of this section, “adequate access” means direct routes of travel between destinations; such destinations may include residential neighborhoods, parks, schools, shopping areas, and employment centers.
3. Provide adequate area in all public rights-of-way for sidewalks, wastewater and water lines, stormwater facilities, natural gas lines, power lines, and other utilities commonly and appropriately placed in such rights-of-way. For purposes of this section, “adequate area” means space sufficient to provide all required public services to standards defined in this code and in the Newberg public works design and construction standards.

B. Applicability. The provisions of this section apply to:

1. The creation, dedication, and/or construction of all public streets, bike facilities, or pedestrian facilities in all subdivisions, partitions, or other developments in the City of Newberg.
2. The extension or widening of existing public street rights-of-way, easements, or street improvements including those which may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.
3. The construction or modification of any utilities, pedestrian facilities, or bike facilities in public rights-of-way or easements.
4. The designation of planter strips. Street trees are required subject to Chapter 15.420 NMC.
5. Developments outside the city that tie into or take access from city streets.

**Response:** The applicable requirements of NMC 15.505.030 are addressed below.

- 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



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Municipal Code, the Newberg public works design and construction standards, the Newberg transportation system plan, and other adopted city plans.

**Response:** The Newberg TSP does not identify planned roadways for the subject property. The Preliminary Plans (Exhibit A) contain improvements to NE Bell Road which conform to the standards of the Newberg Municipal Code, Newberg Public Works Design and Construction Standards, and the Newberg Transportation System Plan. This criterion is met.

- 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:

**Response:** The project does not involve the construction of a new street. This standard does not apply.

- 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 NMC 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.

**Response:** The application includes improvement of NE Bell Road as illustrated within the Preliminary Plans (Exhibit A). The applicable criteria are met.

- 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 proportional 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.

**Response:** These standards are understood.

**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
<b>Collectors</b>						
Major	57 - 80 feet	36 feet	2 lanes	None*	Yes	No*
* 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.						

**Response:** The right-of-way width, curb-to-curb pavement width, and other design features are shown on the Preliminary Plans (Exhibit A) and are consistent with the Street Design Standards. This criterion is met.

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

**Response:** The project is adjacent to NE Bell Road, a major collector. With the provision of additional paving along the project frontage, the travel lane has been expanded to 17 feet in width. These improvements are pictured within the Preliminary Plans (Exhibit A). This criterion is met.

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.

**Response:** The adjacent section of NE Bell Road does not currently provide bicycle lanes. Bike lanes are not prescribed by any specific project within the City’s TSP but are included within the Typical Major Collector Cross-section included in the TSP. That cross-section includes 5-foot sidewalks, 5.5-foot planter strips, 6-foot bike lanes, and 12-foot drive lanes. An

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approximately 8-foot-wide road surface expansion has been planned in order to provide these facilities for the southside of NE Bell Road along the project’s frontage. This project involves the addition of a curb-tight six-foot-wide sidewalk along the street. This code criterion is met or exceeded.

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.

**Response:** Parking is not allowed along the adjacent Major Collector street. This standard does not apply.

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

**Response:** The NE Bell Road right-of-way adjacent to the project site does not provide a center turn lane. The project provides a portion of the road surface required for future construction of a center turn lane. This standard does not apply.

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

**Response:** Sidewalks six-feet in width have been planned along the south side of NE Bell Road. This criterion is met.

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 NMC 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.

**Response:** As stated above, the project is adjacent to a Major Collector and plans to construct six-foot-wide curb-side sidewalks. These criteria are met.

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

**Response:** Slope easements are not anticipated for this site, which generally has flat topography adjacent to the street. This standard does not apply.

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.

**Response:** As demonstrated within the Preliminary Plans (Exhibit A), designs for streets adjacent to the project meet the standards within the Newberg Public Works Design and Construction Standards. Therefore, this criterion is met.

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11. The planning commission may approve modifications to street standards for the purpose of ingress or egress to a minimum of three and a maximum of six lots through a conditional use permit.

**Response:** This application does not involve modification of street standards for the purposes of ingress and egress. This standard does not apply.

H. **Modification of Street Right-of-Way and Improvement Width.** The director, pursuant to the Type II review procedures of Chapter 15.220 NMC, 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.

**Response:** A modification of the standards of this section is not being requested; therefore, these standards do not apply.

I. **Temporary Turnarounds.** Where a street will be extended as part of a future phase of a development, or as part of development of an abutting property, the street may be terminated with a temporary turnaround in lieu of a standard street connection or circular cul-de-sac bulb. The director and fire chief shall approve the temporary turnaround. It shall have an all-weather surface, and may include a hammerhead-type turnaround meeting fire apparatus access road standards, a paved or graveled circular turnaround, or a paved or graveled temporary access road. For streets extending less than 150 feet and/or with no significant access, the director may approve the street without a temporary turnaround. Easements or right-of-way may be required as necessary to preserve access to the turnaround.

**Response:** Temporary turnarounds have not been planned as part of this project. This standard does not apply.

J. **Topography.** The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of this code.

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**Response:** Exhibit A shows that the street gives suitable recognition to the site’s topographical conditions. The site is relatively flat adjacent to NE Bell Road and slopes to the southeast at the southern extents of the site. The planned expansion of NE Bell Road does not require substantial cut or fill; therefore, this criterion is met.

[...]

**Q. Traffic Calming.**

1. The following roadway design features may be required in new street construction where traffic calming needs are anticipated:
  - a. Serpentine alignment.
  - b. Curb extensions.
  - c. Traffic diverters/circles.
  - d. Raised medians and landscaping.
  - e. Other methods shown effective through engineering studies.
2. Traffic-calming measures such as speed humps should be applied to mitigate traffic operations and/or safety problems on existing streets. They should not be applied with new street constructions.

**Response:** The project does not include traffic calming measures, as they are not anticipated to be needed. The adjacent section NE Bell Road is an existing street close to a four-way stop at its intersection with N College Street. These standards do not apply.

**R. Vehicular Access Standards.**

1. **Purpose.** The purpose of these standards is to manage vehicle access to maintain traffic flow, safety, roadway capacity, and efficiency. They help to maintain an adequate level of service consistent with the functional classification of the street. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access is limited and managed on these roads to promote efficient through movement. Local streets and alleys provide access to individual properties. Access is managed on these roads to maintain safe maneuvering of vehicles in and out of properties and to allow safe through movements. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

**Response:** New Collector and Arterial streets are not proposed. Access to the property is anticipated to be infrequent; therefore, the function, traffic flow, safety, capacity, and efficiency of NE Bell Road is not projected to be impacted negatively.

2. **Access Spacing Standards.** Public street intersection and driveway spacing shall follow the standards in Table 15.505.R below. The Oregon Department of Transportation (ODOT) has jurisdiction of some roadways within the Newberg city limits, and ODOT access standards will apply on those roadways.

Table 15.505.R. Access Spacing Standards			
Roadway Functional Classification	Area <sup>1</sup>	Minimum Public Street Intersection Spacing (Feet) <sup>2</sup>	Driveway Setback from Intersecting Street <sup>3</sup>
Expressway	All	Refer to ODOT Access Spacing Standards	NA
Major arterial	Urban CBD	Refer to ODOT Access Spacing Standards	
Minor arterial	Urban CBD	500 200	150 100
Major collector	All	400	150
Minor collector	All	300	100
<sup>1</sup> “Urban” refers to intersections inside the city urban growth boundary outside the central business district (C-3 zone). “CBD” refers to intersections within the central business district (C-3 zone). “All” refers to all intersections within the Newberg urban growth boundary. <sup>2</sup> Measured centerline to centerline. <sup>3</sup> The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible.			

**Response:** The project includes a Major Collector, NE Bell Road, adjacent to the project site. Measured centerline to centerline, the driveway is located ±159 feet from the NE Bell Road/N College Street intersection. Measured from curb line to edge of the driveway, the driveway is located ±140 feet from the NE Bell Road/N College Street intersection. Additionally, the proposed use generates no daily trips and will likely be seldom visited, except by operations and maintenance staff. NE Bell Road is a county road and spacing of public street intersections and surrounding driveways is to be determined by Yamhill County. Correspondence with Yamhill County has determined that the driveway location and access spacing for the project is adequate.

3. **Properties with Multiple Frontages.** Where a property has frontage on more than one street, access shall be limited to the street with the lesser classification.

**Response:** The property, after adjustment, is not proposed to have multiple street frontages. Therefore, this standard does not apply.

4. **Driveways.** More than one driveway is permitted on a lot accessed from either a minor collector or local street as long as there is at least 40 feet of lot frontage separating each driveway approach. More than one driveway is permitted on a lot accessed from a major collector as long as there is at least 100 feet of lot frontage separating each driveway approach.

**Response:** Multiple driveways are not planned for the project. This standard does not apply.

5. **Alley Access.** Where a property has frontage on an alley and the only other frontages are on collector or arterial streets, access shall be taken from the alley only. The review body may allow creation of an alley for access to lots that do not



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otherwise have frontage on a public street provided all of the following are met:

[...]

**Response:** Alley access has not been proposed for this project. These standards do not apply.

6. Closure of Existing Accesses. Existing accesses that are not used as part of development or redevelopment of a property shall be closed and replaced with curbing, sidewalks, and landscaping, as appropriate.

**Response:** Existing accesses do not exist within the project area nor are existing accesses planned for closure. This standard does not apply.

7. Shared Driveways.
  - a. The number of driveways onto arterial streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The city shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes. Where there is an abutting developable property, a shared driveway shall be provided as appropriate. When shared driveways are required, they shall be stubbed to adjacent developable parcels to indicate future extension. “Stub” means that a driveway temporarily ends at the property line, but may be accessed or extended in the future as the adjacent parcel develops. “Developable” means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).
  - b. Access easements (i.e., for the benefit of affected properties) and maintenance agreements shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
  - c. No more than four lots may access one shared driveway.
  - d. Shared driveways shall be posted as no parking fire lanes where required by the fire marshal.
  - e. Where three or more lots share one driveway, one additional parking space over those otherwise required shall be provided for each dwelling. Where feasible, this shall be provided as a common use parking space adjacent to the driveway.

**Response:** Shared driveways are not planned as part of this project. These standards do not apply.

8. Frontage Streets and Alleys. The review body for a partition, subdivision, or design review may require construction of a frontage street to provide access to properties fronting an arterial or collector street.

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**Response:** A frontage street is neither required nor proposed. This standard does not apply to the project.

9. ODOT or Yamhill County Right-of-Way. Where a property abuts an ODOT or Yamhill County right-of-way, the applicant for any development project shall obtain an access permit from ODOT or Yamhill County.

**Response:** This standard is understood, and access permits will be obtained from Yamhill County as the authority having roadway jurisdiction. This criterion is met.

10. Exceptions. The director may allow exceptions to the access standards above in any of the following circumstances:
  - a. Where existing and planned future development patterns or physical constraints, such as topography, parcel configuration, and similar conditions, prevent access in accordance with the above standards.
  - b. Where the proposal is to relocate an existing access for existing development, where the relocated access is closer to conformance with the standards above and does not increase the type or volume of access.
  - c. Where the proposed access results in safer access, less congestion, a better level of service, and more functional circulation, both on street and on site, than access otherwise allowed under these standards.
11. Where an exception is approved, the access shall be as safe and functional as practical in the particular circumstance. The director may require that the applicant submit a traffic study by a registered engineer to show the proposed access meets these criteria.

**Response:** The proposed access serves an unstaffed water pump station visited only occasionally by operations and maintenance staff. As a result, the site is not anticipated to cause safety issues, congestion, degraded levels of service, or inefficient circulation. The site location and access driveway are generally required by the physical constraints of the property, including the grade, necessary location adjacent to the street, and existing development such as the NVFC walkway. These standards do not apply.

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.

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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.

**Response:** Public walkways have not been planned, as they are not necessary to improve circulation and convenience for pedestrians traveling to and through the site. The project does involve the relocation of an existing private walkway. The private walkway exists within a 15-foot-wide reciprocal access easement (2004-25601) between Veritas School and North Valley Friends Church. These standards, as they apply to public walkways, do not apply to this project.

- 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 NMC 15.420.010(B)(4).

**Response:** Compliance with NMC 15.420.010(B)(4) is demonstrated in the narrative response to that subsection.

- 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.

**Response:** Street lights are not planned as part of this project, as an existing street light is provided immediately north of the project's NE Bell Road frontage. This standard does not apply to the project.

- V. **Transit Improvements.** Development proposals for sites that include or are adjacent to existing or planned transit facilities, as shown in the Newberg transportation system plan or adopted local or regional

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transit plan, shall be required to provide any of the following, as applicable and required by the review authority:

1. Reasonably direct pedestrian connections between the transit facility and building entrances of the site. For the purpose of this section, “reasonably direct” means a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for users.
2. A transit passenger landing pad accessible to disabled persons.
3. An easement of dedication for a passenger shelter or bench if such facility is in an adopted plan.
4. Lighting at the transit facility.

**Response:** The project site is not located adjacent to existing or planned transit facilities; therefore, these standards do not apply.

15.505.040 Public utility standards.

- A. Purpose. The purpose of this section is to provide adequate services and facilities appropriate to the scale and type of development.
- B. Applicability. This section applies to all development where installation, extension or improvement of water, wastewater, or private utilities is required to serve the development or use of the subject property.
- 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.

**Response:** The Preliminary Plans (Exhibit A) show that public improvements have been designed to conform to the Newberg Public Works Design and Construction Standards. This criterion is met.

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.

**Response:** The Preliminary Plans (Exhibit A) illustrate the location, design, installation, and maintenance, where applicable, of all utility lines and facilities. These placements are shown to illustrate the minimum feasible disturbances of soil and site to the greatest extent practicable. The developer will coordinate with the City and Yamhill County, where applicable, on the installation of all proposed public and private utilities to ensure the orderly extension of utilities within the public right-of-way and easements. This criterion is met.

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- 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.

**Response:** Extension of and connection to the necessary water and stormwater improvements is planned. Utility locations and details are available within the Preliminary Plans (Exhibit A).

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.

**Response:** The project involves the extension of water distribution lines within the NE Bell Road right-of-way. The pump station, by its nature, will include adequate connection to the new water facilities in order to serve the public. The location, size, and capacity of these facilities conforms to the water master plan and supplement Pressure Zone 2. The pump station will help serve adjacent properties through extensions of the City's water system. The addition of a fire hydrant west of the proposed driveway will allow for additional fire protection within the area. The design, construction, and materials are in keeping with the requirements for public water facilities within the City. These criteria are met.

- 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.

[...]

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**Response:** The pump station facility does not require wastewater improvements, as facilities which require those improvements are not planned. These standards do not apply to the project.

- 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.

**Response:** The project involves the relocation of an existing pathway outside of the project site. The pathway and easement will be relocated once completed. Easements will be recorded on easement forms approved by the City and designated on the final plat. This criterion is met.

15.505.050 Stormwater system standards.

- A. Purpose. The purpose of this section is to provide for the drainage of surface water from all development; to minimize erosion; and to reduce degradation of water quality due to sediments and pollutants in stormwater runoff.
- B. Applicability. The provisions of this section apply to all developments subject to site development review or land division review and to the reconstruction or expansion of such developments that increases the flow or changes the point of discharge to the city stormwater system. Additionally, the provisions of this section shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or public easement, including but not limited to off-street parking and loading areas.
- 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.

**Response:** The Preliminary Plans show stormwater runoff will be collected by a proposed on-site stormwater facility. This stormwater management rain garden, planted to the City's standards, will lead to an existing stormwater line east of the. The City is responsible for the costs associated with designing and constructing the facilities necessary. These criteria are met.

- 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.

**Response:** A Preliminary Stormwater Report has been included with the application materials (Exhibit F) which complies with the standards listed above. This criterion is met.

- 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.

**Response:** Development subject to this section has been planned, designed, and will be constructed and maintained in compliance with the Newberg Public Works Design and Construction Standards. This criterion is met.

#### **IV. Conclusion**

The required findings have been made and this written narrative and accompanying documentation demonstrate that the application is consistent with the applicable provisions of the Newberg Development Code. The evidence in the record is substantial and supports approval of the application. Therefore, the Applicant respectfully requests that the City approve these Design Review and Property Line Adjustment applications.

## Exhibit A: Preliminary Plans

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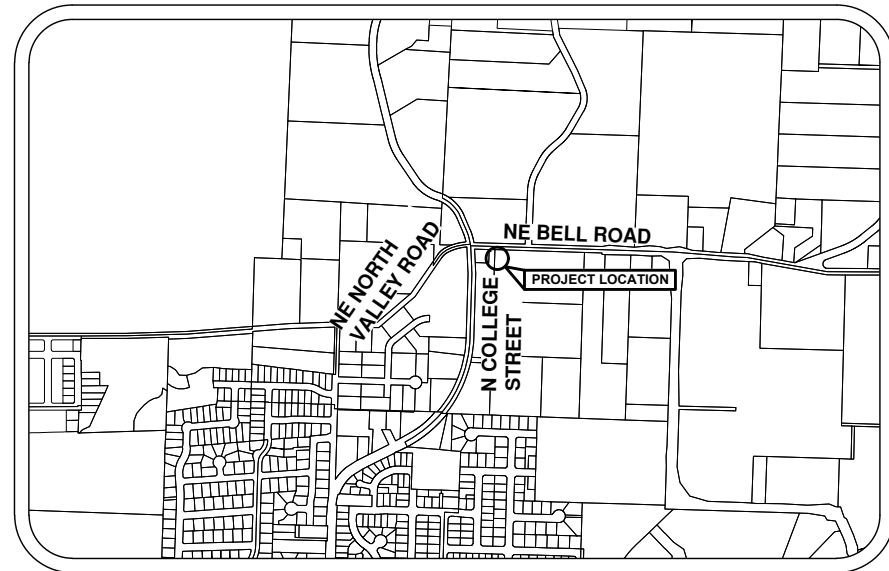
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# BELL WEST PUMP STATION

## PRELIMINARY LAND USE PLANS

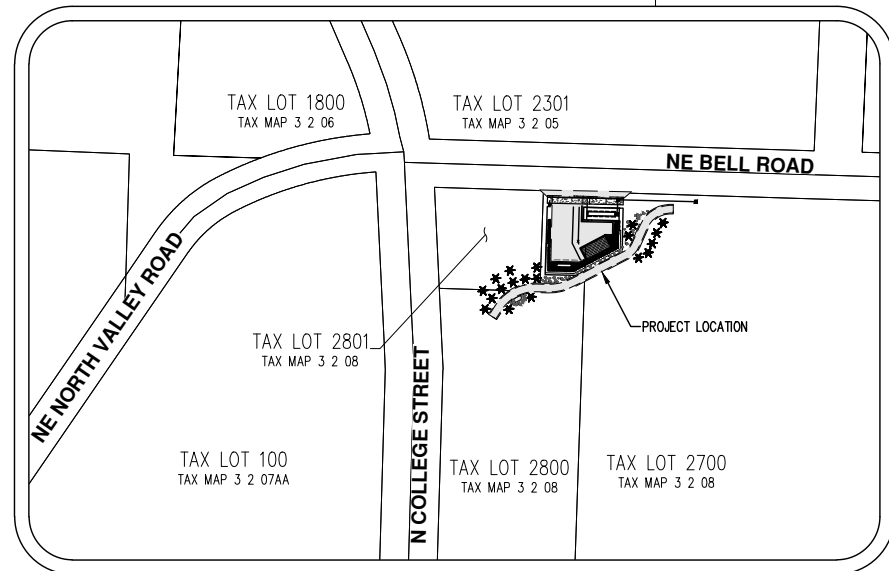
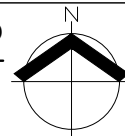
## SHEET INDEX

C000	COVER SHEET AND SITE AND VICINITY MAP
C001	CONSTRUCTION NOTES AND LEGEND
C002	EXISTING CONDITIONS
C010	SITE PLAN
C050	EROSION AND SEDIMENT CONTROL PLAN
C070	GRADING PLAN
C100	PATH PLAN AND PROFILE
C200	COMPOSITE UTILITY PLAN
C800	DETAILS
C801	DETAILS
L000	LANDSCAPE PLAN



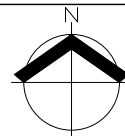
**VICINITY MAP**

1"=750'



**SITE MAP**

1"=100'



**OWNER:**

CITY OF NEWBERG  
CONTACT: PAUL CHIU, PE  
414 E 1ST STREET  
NEWBERG, OR 97132  
PH: 503.554.1751

**CIVIL ENGINEERING/  
SURVEYING FIRM:**

**PIPELINES & SITE DESIGN:**

AKS ENGINEERING & FORESTRY, LLC  
CONTACT: JOHN CHRISTIANSEN, PE  
12965 SW HERMAN ROAD, SUITE 100  
TUALATIN, OREGON 97062  
PH: 503.563.6151

**PUMP STATION DESIGN:**

KENNEDY JENKS CONSULTANTS, INC.  
CONTACT: SHAWN SPARGO, PE  
421 SW 6TH AVENUE, SUITE 1000  
PORTLAND, OR 97204  
PH: 503.423.4041

**GEOTECHNICAL  
ENGINEERING FIRM:**

SHANNON & WILSON  
3990 SW COLLINS WAY #100  
LAKE OSWEGO, OR 97035  
PH: 503.210.4750

**PROJECT LOCATION:**

LOCATED EAST AND SOUTH OF THE  
INTERSECTION OF NE NORTH VALLEY  
ROAD-NE BELL STREET AND N COLLEGE  
STREET IN NEWBERG, OREGON.

**PROPERTY DESCRIPTION:**

LOCATED IN SECTIONS 7 AND 8,  
TOWNSHIP 3 SOUTH, RANGE 2 WEST,  
WILLAMETTE MERIDIAN, CITY OF NEWBERG,  
YAMHILL COUNTY, OREGON.

**VERTICAL DATUM:**

VERTICAL DATUM: ELEVATIONS ARE BASED ON TRIMBLE VRS NOW NETWORK OBSERVATIONS (NAVD88) AND CHECKED AGAINST YAMHILL COUNTY STATION NO. 22. LOCATED AT THE NORTHERLY RIGHT-OF-WAY LANE OF DOUGLAS AVENUE AND ON THE CENTERLINE OF SPRINGBROOK WAY. ELEVATION = 337.24 FEET (NAVD 88).

**HORIZONTAL DATUM:**

HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING BY A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0001140578 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL STATE PLANE GRID COORDINATES N615930.512 E7567435.489 AND A MERIDIAN CONVERGENCE ANGLE OF -1'45"02". STATE PLANE COORDINATES WERE DERIVED FROM GPS OBSERVATIONS USING THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.

**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 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503.232.1987. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING ANY EXCAVATION.  
CALL BEFORE YOU DIG - PORTLAND METRO AREA 503.232.1987 OR 811



Know what's below.  
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## STREET AND UTILITY CONTACTS

**STORMWATER/  
SANITARY SEWER:**

CITY OF NEWBERG  
414 E 1ST STREET  
NEWBERG, OR 97132  
PH: 503.537.1223

**WATER:**

HILAND WATER CORPORATION-J J  
WATER COMPANY  
OLIVER SPRINGS  
700 NORTH COLLEGE STREET  
NEWBERG, OR 97132  
PH: 503.554.8333

CITY OF NEWBERG  
414 E 1ST STREET  
NEWBERG, OR 97132  
PH: 503.537.1205

**GAS:**

NW NATURAL  
220 NW 2ND AVENUE  
PORTLAND, OREGON 97209  
PH: 503.226.4211

**STREETS:**

CITY OF NEWBERG  
500 W THIRD STREET  
NEWBERG, OR 97132  
PH: 503.537.1234

OREGON DEPARTMENT OF TRANSPORTATION  
9200 SE LAWNFIELD ROAD  
CLACKAMAS, OREGON 97015  
PH: 971.673.6200

YAMHILL COUNTY  
535 NE 5TH STREET  
MCMINNVILLE, OR 97128  
PH: 503.472.9371

**POWER:**

PORTLAND GENERAL ELECTRIC  
3700 SE 17TH AVENUE  
PORTLAND, OREGON 97202  
PH: 503.736.5450

**COMMUNICATIONS:**

SPRINT/NEXTEL  
1004 N SPRINGBROOK ROAD  
NEWBERG, OR  
PH: 503.487.0445

COMCAST CABLE  
10831 SW CASCADE AVENUE  
TIGARD, OREGON 97223  
PH: 503.596.3754

ZIPLY FIBER  
276 LACLAIR STREET  
COOS BAY, OR 97420  
PH: 1.855.381.0562

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30% SUBMITTAL					SCALES 0" = 1" 0" = 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.		DESIGNED <b>JAW</b>	CITY OF NEWBERG NEWBERG, OREGON  BELL WEST PUMP STATION AND PIPELINE	<b>COVER SHEET AND SITE AND VICINITY MAP</b>	SCALE NO SCALE
	PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION  THIS DOCUMENT IS AN INTERIM DOCUMENT AND NOT SUITABLE FOR CONSTRUCTION. AS AN INTERIM DOCUMENT, IT MAY CONTAIN DATA THAT IS POTENTIALLY INACCURATE OR INCOMPLETE AND IS NOT TO BE RELIED UPON WITHOUT THE EXPRESS WRITTEN CONSENT OF THE PREPARER.	NO	REVISION	DATE			BY			DRAWN <b>GMB/LAH</b>

**GENERAL CONSTRUCTION NOTES:**

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DOCUMENTS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DOCUMENTS AND IN FULL COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING ANY UTILITIES DAMAGED DURING CONSTRUCTION. SHOW THESE UTILITIES ON THE AS-BUILTS. IF A UTILITY IS DAMAGED, THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY IMMEDIATELY.
- NOTIFY THE UTILITY PROVIDER IMMEDIATELY OF ALL UTILITIES EXPOSED. UNIDENTIFIED UTILITIES SHALL NOT BE DISRUPTED OR CUT UNTIL THE UTILITY PROVIDER HAS APPROVED THE CUT OR DISRUPTION. UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK.
- CONTRACTOR MUST VERIFY ALL EXISTING UTILITIES FOR BOTH VERTICAL ELEVATION AND HORIZONTAL LOCATION PRIOR TO COMMENCING CONSTRUCTION (POTHOLE BEFORE DIGGING IF NECESSARY). NOTIFY ENGINEER IF CONFLICTS ARISE.
- THE CONTRACTOR SHALL MAINTAIN BENCHMARKS, PROPERTY CORNERS, MONUMENTS, AND OTHER REFERENCE POINTS. IF SUCH POINTS ARE DISTURBED OR DESTROYED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND PAY FOR THEIR REPLACEMENT BY EMPLOYING A PROFESSIONAL LAND SURVEYOR TO RESET PROPERTY CORNERS AND OTHER SUCH MONUMENTS.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND ALL APPLICABLE JURISDICTIONS 48-HOURS PRIOR TO ANY STAGED INSPECTION.
- A COPY OF THE PERMIT WITH ALL ATTACHMENTS, A COPY OF THE APPROVED CONSTRUCTION PLANS, AND ALL AMENDMENTS SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ALL WORK SHALL CONFORM TO THE PERMIT TERMS, CONDITIONS/PROVISIONS, APPROVED CONSTRUCTION PLANS, APPROVED PLAN AMENDMENTS, AND THESE GENERAL CONDITIONS. CHANGES TO ANY OF THE AFORESAID MUST BE APPROVED BY THE PROJECT ENGINEER AND APPLICABLE JURISDICTION, IN ADVANCE OF WORK PERFORMANCE.
- THESE PLANS AND SPECIFICATIONS ASSUME "DRY WEATHER" CONSTRUCTION. ADDITIONAL MEASURES MAY BE REQUIRED FOR "WET WEATHER" CONSTRUCTION.
- EXISTING LANDSCAPING MATERIALS, IRRIGATION, APPURTENANCES, AND STRUCTURES, WHICH ARE NOT TO BE REMOVED, SHALL BE PROTECTED FROM DAMAGE AT ALL TIMES. DAMAGE CAUSED BY CONSTRUCTION OPERATIONS SHALL BE REPLACED OR REPAIRED TO EXISTING OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- PROPERTY AND RIGHT-OF-WAY LINES SHOWN ARE APPROXIMATE. THESE PLANS ARE NOT MEANT TO SERVE BOUNDARY SURVEY PURPOSES.
- THERE SHALL BE NO ALTERATION OR VARIANCE FROM THE APPROVED PLANS WITHOUT APPROVAL OF THE PROJECT ENGINEER.
- CONTRACTOR SHALL CONFORM TO OSHA REQUIREMENTS AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE FOR SITE JOB SAFETY NECESSARY TO PROTECT THE PUBLIC FROM AREAS OF CONSTRUCTION AND CONSTRUCTION ACTIVITY.
- THE PROJECT ENGINEER IS NOT RESPONSIBLE FOR REVIEWING THE CONTRACTOR'S SAFETY PRECAUTIONS OR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES REQUIRED FOR THE CONTRACTOR TO PERFORM THEIR WORK.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND OBTAINING ALL REQUIRED TESTING AND INSPECTIONS FOR THE PROJECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL REQUIRED OR NECESSARY INSPECTIONS ARE COMPLETED BY AUTHORIZED INSPECTORS PRIOR TO PROCEEDING WITH SUBSEQUENT WORK WHICH COVERS OR THAT IS DEPENDENT ON THE WORK TO BE INSPECTED.
- ANY INSPECTION/OBSERVATION BY THE PROJECT ENGINEER OR PROJECT INSPECTOR SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, STANDARDS, PLANS, SPECIFICATIONS, AND PROJECT CONTRACT DOCUMENTS.
- DEBRIS AND TRASH SHALL NOT BE BURIED OR STOCKPILED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL MAINTAIN RECORDS TO DEMONSTRATE PROPER DISPOSAL ACTIVITIES, TO BE PROVIDED TO THE OWNER OR PROJECT ENGINEER UPON REQUEST.
- CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND APPROVALS FOR OFF SITE DISPOSAL FACILITIES AND SUPPLY A COPY OF APPROVALS TO THE OWNER'S REPRESENTATIVE UPON REQUEST.
- ALL FACILITIES SHALL BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO SUPPORT, MAINTAIN, OR OTHERWISE PROTECT EXISTING UTILITIES AND OTHER FACILITIES AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER-THAN-ORIGINAL CONDITION.
- UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT "REDLINE DRAWINGS" TO THE PROJECT ENGINEER. "REDLINE DRAWINGS" DOCUMENT ALL DEVIATIONS AND REVISIONS TO THE APPROVED PLANS; THEY ALSO RECORD A DESCRIPTION OF CONSTRUCTION MATERIALS ACTUALLY USED (PIPE MATERIAL, ETC).
- CONTRACTOR SHALL KEEP RECORDS OF ALL CONSTRUCTION THAT DIFFERS FROM THE APPROVED PLANS AND SHALL MAINTAIN "RECORD DRAWINGS" DURING THE CONSTRUCTION PERIOD. "RECORD DRAWINGS" SHALL BE SUBMITTED TO THE ENGINEER AT THE END OF THE PROJECT.
- CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND OWNER OF ANY SEPTIC TANKS, WELLS, OR FUEL TANKS ENCOUNTERED DURING CONSTRUCTION.
- IF GROUND WATER SPRINGS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE PROJECT ENGINEER. THE PROJECT ENGINEER SHALL DIRECT THE CONTRACTOR TO TAKE MEASURES TO ENSURE THAT THE WATER IS NOT CONVEYED THROUGH UTILITY TRENCHES AND THE NATURAL FLOW PATH OF THE SPRING IS ALTERED AS LITTLE AS PRACTICABLE.
- CONTRACTOR SHALL MAKE A REASONABLE EFFORT TO PRESERVE EXISTING IMPROVEMENTS, LANDSCAPING, AND VEGETATION THROUGHOUT CONSTRUCTION.
- PRIOR TO ORDERING ANY MATERIALS, THE CONTRACTOR SHALL PROVIDE MANUFACTURER'S SPECIFICATION SHEETS FOR ALL MATERIALS TO BE USED.
- PLEASE NOTE THAT AKS AND KENNEDY JENKS ARE NOT SAFETY INSPECTION COMPANIES. AKS AND KENNEDY JENKS HAVE NOT BEEN RETAINED TO PROVIDE ANY SAFETY RELATED SERVICES FOR THIS PROJECT.

**STANDARD EROSION AND SEDIMENT CONTROL NOTES:**

- WHEN RAINFALL AND RUNOFF OCCURS, DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROL BMPs AND DISCHARGE OUTFALLS MUST BE PROVIDED BY SOMEONE KNOWLEDGEABLE AND EXPERIENCED IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL BMPs WHO WORKS FOR THE CONTRACTOR.
- CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR.
- DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
- SEDIMENT CONTROL BMPs MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED.
- ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROL BMPs INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. UNLESS OTHERWISE APPROVED, A SURFACE MOUNTED AND ATTACHABLE, U-SHAPED FILTER BAG IS REQUIRED FOR ALL CURB INLET CATCH BASINS.
- SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVES THE SITE MUST BE CLEANED UP WITHIN 24-HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24-HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
- SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
- SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF ONE THIRD THE BARRIER HEIGHT, AND PRIOR TO THE CONTROL MEASURES REMOVAL.
- CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
- ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
- CONTRACTOR MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
- THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL BMPs, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE AND FEDERAL REGULATIONS.
- CONTRACTOR TO SUBMIT VEGETATIVE SEED MIXES FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT. SEED MIX SHALL BE SELECTED TO CLOSELY MATCH EXISTING GROUND COVER.
- WATER-TIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPs; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
- ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
- THE ESC PLAN MUST BE KEPT ONSITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
- THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
- WRITTEN ESC LOGS ARE SUGGESTED TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
- IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPs MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
- ALL EXPOSED SOILS MUST BE COVERED DURING WET WEATHER PERIOD.

**WATER SYSTEM CONSTRUCTION NOTES:**

- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE COUNTY CODES AND STANDARDS, THE OREGON STATE HEALTH DIVISION ADMINISTRATION RULES, A.W.W.A. STANDARDS, A.P.W.A. STANDARDS, AND THE CITY STANDARDS.
- ALL PIPE SHALL HAVE MINIMUM COVER OF THREE-FEET BELOW THE FINISH GRADES IN EASEMENTS AND STREET RIGHTS-OF-WAY.
- ANY CROSSING OF WATER MAINS BY SANITARY SEWER SHALL BE MADE AT APPROXIMATELY 90 DEGREES AND HAVE 18-INCHES OF VERTICAL CLEARANCE OR SHALL BE INVESTIGATED AND HAVE POTENTIAL MODIFICATIONS MADE TO THE SANITARY AND/OR WATER MAIN IN ACCORDANCE WITH OAR 333-061-0050(9).
- ALL CROSSINGS WHICH REQUIRE EXCAVATION BELOW AN EXISTING UTILITY LINE SHALL BE BACKFILLED WITH CLSM TO SUPPORT THE EXISTING UTILITY WHERE ADEQUATE COMPACTION CANNOT BE ACHIEVED WITH CONVENTIONAL BACKFILL MATERIALS AND METHODS.
- JOINT DEFLECTIONS ARE ALLOWED ONLY WITH THE APPROVAL OF THE PROJECT ENGINEER AND INSPECTOR AND MUST COMPLY WITH CITY OF NEWBERG STANDARDS.
- OREGON STATE HEALTH DIVISION BACTERIOLOGICAL TESTS SHALL BE TAKEN BY AN OREGON ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM (ORLAP) ACCREDITED DRINKING WATER LABORATORY. CONTRACTOR TO PREPARE ABOVE-GRADE LOCATIONS FOR PROPER SAMPLING APPROXIMATELY EVERY 1,000- FEET ALONG NEW MAINS AT APPROXIMATE LOCATIONS AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY 2-INCH TEST AND FLUSHING/SAMPLE RISERS ABOVE GROUND INCLUDING A 600 STYLE CORPORATION STOP AT THE MAIN, INSTALLED HIGH ENOUGH TO PREVENT SPLASH BACK AND CONTAMINATION. RISERS SHALL HAVE A BALL VALVE CURBSTOP TO CONTROL FLOW AND SAMPLE POINT SHALL HAVE A MALE OUTLET TO ENSURE A HIGH QUALITY SAMPLE. HYDRANTS MAY NOT BE USED AS TEMPORARY SAMPLE POINTS.
- HYDROSTATIC TESTS SHALL CONFORM WITH ALL APPLICABLE CODES AND BE MONITORED BY THE INSPECTOR OR PROJECT ENGINEER.
- DISINFECTION: PIPELINES SHALL BE FLUSHED AND DISINFECTED BEFORE PLACING INTO SERVICE, AFTER PERFORMING HYDROSTATIC TESTING. DISINFECTION SHALL CONFORM WITH ALL APPLICABLE CODES. THE HIGHLY CHLORINATED WATER USED FOR DISINFECTION SHALL NOT BE DISCHARGED INTO SURFACE WATERS. APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS CONCERNING DISCHARGE SHALL BE FOLLOWED. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.
- PRIOR TO TAPPING INTO OR CONNECTING TO EXISTING WATER MAINS, THE CONTRACTOR WILL CONTACT THE CITY 48-HOURS IN ADVANCE.
- UNLESS OTHERWISE NOTED, STATIONING ON PLANS REFERS TO CENTERLINE OF PROPOSED WATER MAIN AND STATIONING AND DIMENSIONS SHOWN ARE BASED ON HORIZONTAL DISTANCES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING SITE CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING THE WORK. ANY CONFLICT BETWEEN DETAILS OR DIMENSIONS ON THE DRAWINGS SHALL BE REPORTED PROMPTLY TO THE PROJECT ENGINEER.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS GRADE WHEN INSTALLING THE NEW WATER MAIN. DO NOT CONSTRUCT HIGH POINTS IN PROFILE UNLESS SPECIFICALLY SHOWN IN PLANS AND DETAILS.

**LEGEND**

	EXISTING	PROPOSED	EXISTING	PROPOSED
DECIDUOUS TREE				
CONIFEROUS TREE				
FIRE HYDRANT				
WATER BLOWOFF				
WATER METER				
WATER VALVE				
DOUBLE CHECK VALVE				
AIR RELEASE VALVE				
SANITARY SEWER CLEAN OUT				
SANITARY SEWER MANHOLE				
SIGN				
STREET LIGHT				
MAILBOX				
RIGHT-OF-WAY LINE				
BOUNDARY LINE				
PROPERTY LINE				
CENTERLINE				
DITCH				
CURB				
EDGE OF PAVEMENT				
EASEMENT				
FENCE LINE				
GRAVEL EDGE				
POWER LINE				
OVERHEAD WIRE				
COMMUNICATIONS LINE				
FIBER OPTIC LINE				
GAS LINE				
STORM DRAIN LINE				
SANITARY SEWER LINE				
WATER LINE				

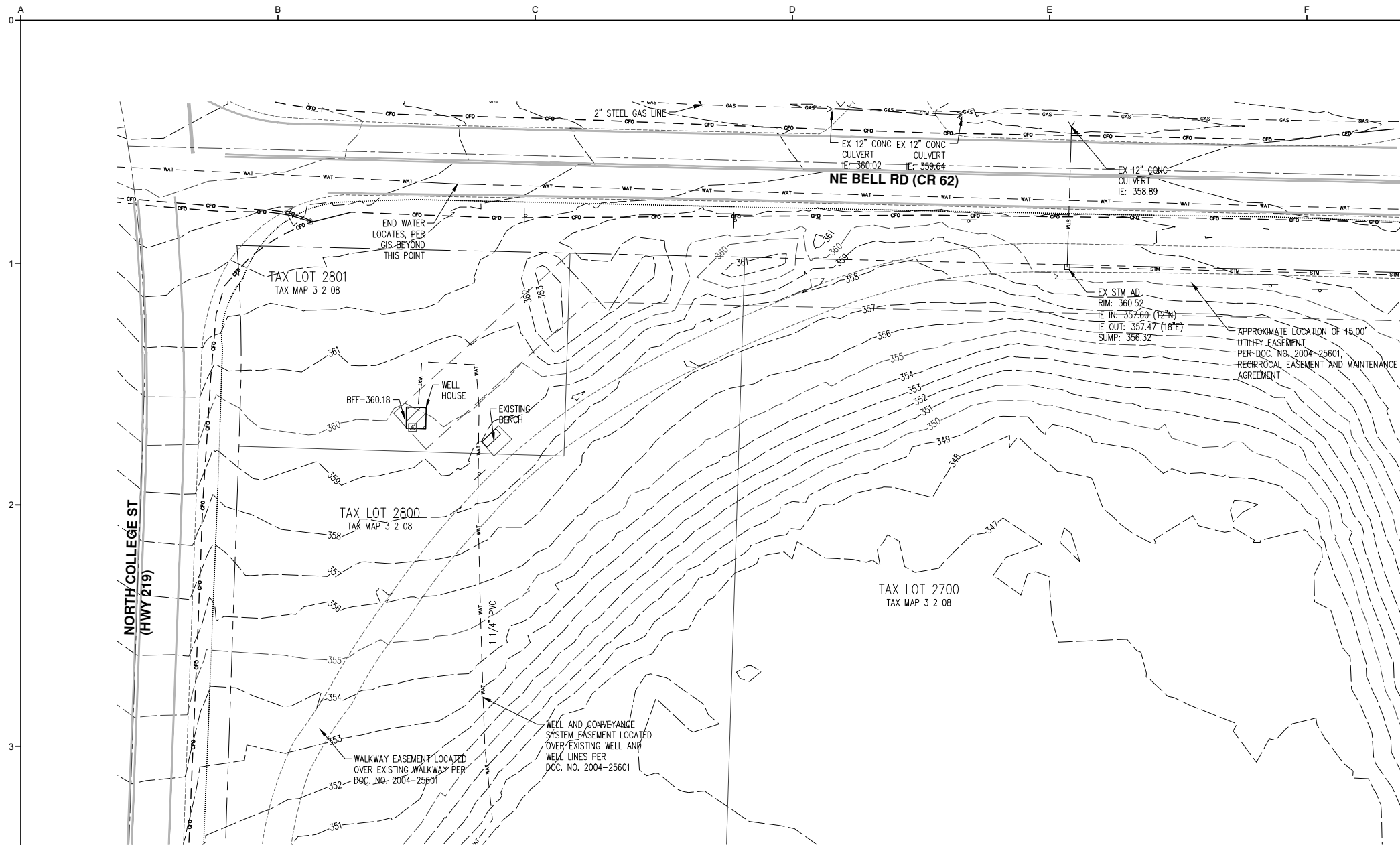
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	PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION							DRAWN	GMB/LAH		JOB NO	2076014.00
THIS DOCUMENT IS AN INTERIM DOCUMENT AND NOT SUITABLE FOR CONSTRUCTION. AS AN INTERIM DOCUMENT, IT MAY CONTAIN DATA THAT IS POTENTIALLY INACCURATE OR INCOMPLETE AND IS NOT TO BE RELIED UPON WITHOUT THE EXPRESS WRITTEN CONSENT OF THE PREPARER.	NO	REVISION	DATE	BY	CHECKED	JAW	DATE	03/11/2022				
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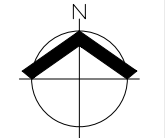
EXISTING		EXISTING	
DECIDUOUS TREE		STORM DRAIN CLEAN OUT	
CONIFEROUS TREE		STORM DRAIN CATCH BASIN	
FIRE HYDRANT		STORM DRAIN AREA DRAIN	
WATER BLOWOFF		STORM DRAIN MANHOLE	
WATER METER		GAS METER	
WATER VALVE		GAS VALVE	
DOUBLE CHECK VALVE		GUY WIRE ANCHOR	
AIR RELEASE VALVE		UTILITY POLE	
SANITARY SEWER CLEAN OUT		POWER VAULT	
SANITARY SEWER MANHOLE		POWER JUNCTION BOX	
SIGN		POWER PEDESTAL	
STREET LIGHT		COMMUNICATIONS VAULT	
MAILBOX		COMMUNICATIONS JUNCTION BOX	
		COMMUNICATIONS RISER	
EXISTING			
RIGHT-OF-WAY LINE			
BOUNDARY LINE			
PROPERTY LINE			
CENTERLINE			
DITCH			
CURB			
EDGE OF PAVEMENT			
EASEMENT			
FENCE LINE			
GRAVEL EDGE			
POWER LINE		PWR	
OVERHEAD WIRE		OHW	
COMMUNICATIONS LINE		COM	
FIBER OPTIC LINE		FYO	
GAS LINE		GAS	
STORM DRAIN LINE		STM	
SANITARY SEWER LINE		SAN	
WATER LINE		WAT	

**NOTES:**

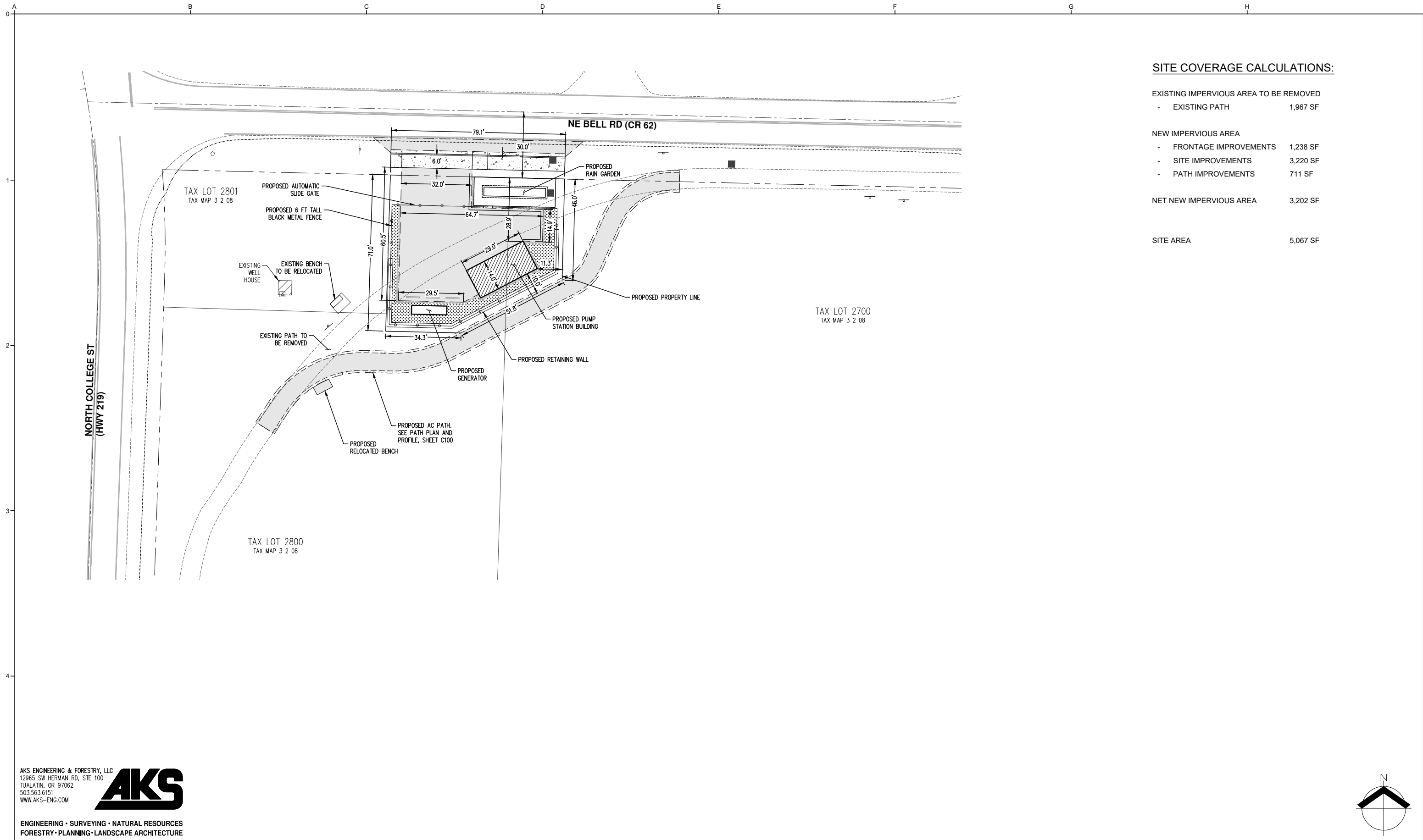
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 21141100 & 21141113. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- FIELD WORK WAS CONDUCTED MAY 20TH - JUNE 16TH 2021.
- VERTICAL DATUM: ELEVATIONS ARE BASED ON TRIMBLE VRS NOW NETWORK OBSERVATIONS (NAVD88) AND CHECKED AGAINST YAMHILL COUNTY STATION NO. 22. LOCATED AT THE NORTHERLY RIGHT-OF-WAY LANE OF DOUGLAS AVENUE AND ON THE CENTERLINE OF SPRINGBROOK WAY. ELEVATION = 337.24 FEET (NAVD 88).
- HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING BY A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0001140578 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL STATE PLANE GRID COORDINATES N615930.512 E7567435.489 AND A MERIDIAN CONVERGENCE ANGLE OF -1'45'02". STATE PLANE COORDINATES WERE DERIVED FROM GPS OBSERVATIONS USING THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
- THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
- BUILDING FOOTPRINTS ARE DRAWN FROM AERIAL UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- SUBJECT TO A RIGHT TO REFUSAL ALLOWING VERITAS SCHOOL THE FIRST OPTION TO PURCHASE LAND FROM NORTH VALLEY FRIENDS CHURCH PER DOC. NO. 20045602, ALSO SUBJECT A RIGHT TO REFUSAL ALLOWING NORTH VALLEY FRIENDS CHURCH FIRST OPTION TO PURCHASE LAND FROM VERITAS SCHOOL PER DOC. NO. 200425603.
- ALSO SUBJECT TO A DEVELOPMENT AGREEMENT BETWEEN NORTH VALLEY FRIENDS CHURCH AND THE CITY OF NEWBERG ALLOWING SITE DEVELOPMENT ON LAND OWNED BY NORTH VALLEY FRIENDS CHURCH PER DOC. NO. 200314309.



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									DRAWN <b>GMB/LAH</b>				JOB NO 2076014.00
										DATE 03/11/2022	<b>EXISTING CONDITIONS</b>	SHEET OF	
												<b>C002</b>	



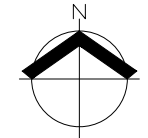
**SITE COVERAGE CALCULATIONS:**

<b>EXISTING IMPERVIOUS AREA TO BE REMOVED</b>	
- EXISTING PATH	1,967 SF
<b>NEW IMPERVIOUS AREA</b>	
- FRONTAGE IMPROVEMENTS	1,238 SF
- SITE IMPROVEMENTS	3,220 SF
- PATH IMPROVEMENTS	711 SF
<b>NET NEW IMPERVIOUS AREA</b>	<b>3,202 SF</b>
<b>SITE AREA</b>	<b>5,067 SF</b>

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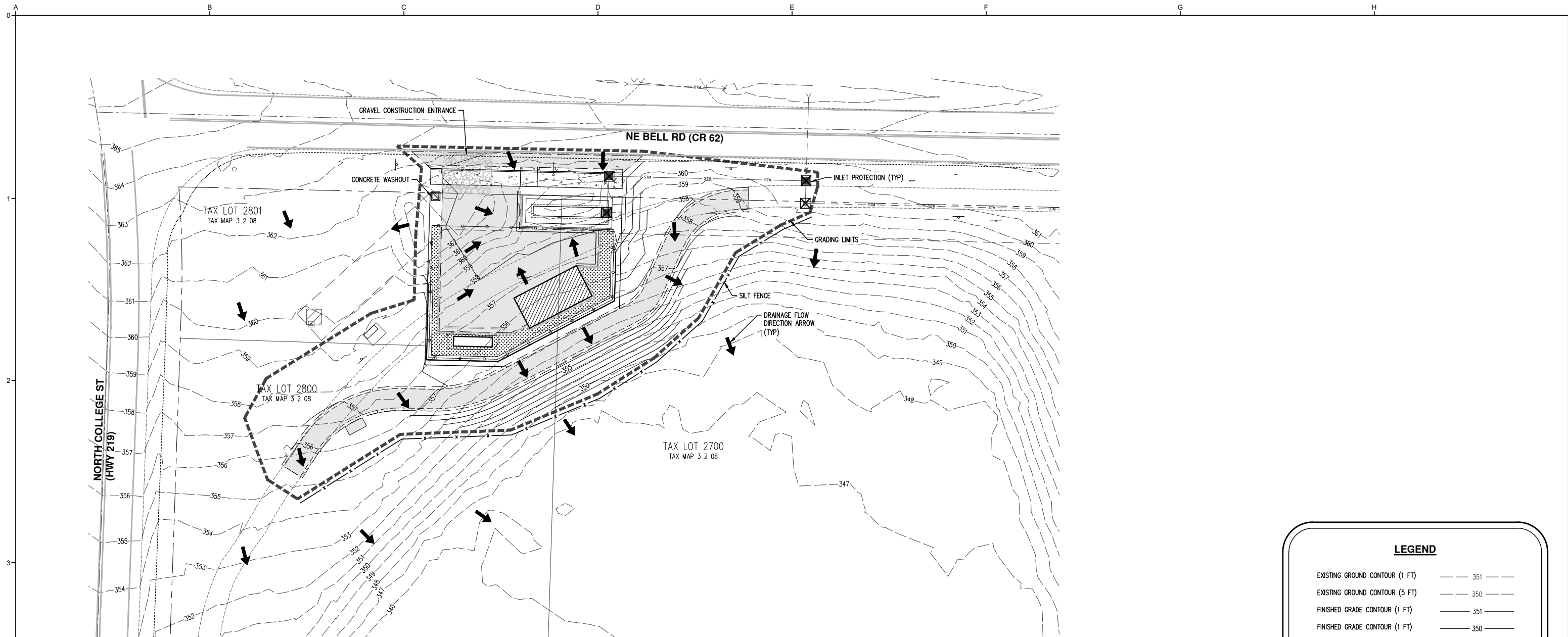


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30% SUBMITTAL					<b>SCALES</b> 0" = 1" 0" = 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.		DESIGNED	CITY OF NEWBERG NEWBERG, OREGON	SCALE 1" = 20'
	PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION								
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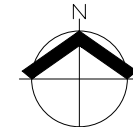


LEGEND	
EXISTING GROUND CONTOUR (1 FT)	--- 351 ---
EXISTING GROUND CONTOUR (5 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 351 ---
FINISHED GRADE CONTOUR (1 FT)	--- 350 ---
GRADING LIMITS	-----
SAWCUT LINE	-----
ORANGE SILT FENCE (TO BE INSTALLED PRIOR TO GRADING)	- x - x -
GRAVEL CONSTRUCTION ENTRANCE	
INLET PROTECTION	
CONCRETE WASHOUT AREA	
DRAINAGE FLOW DIRECTION ARROW	

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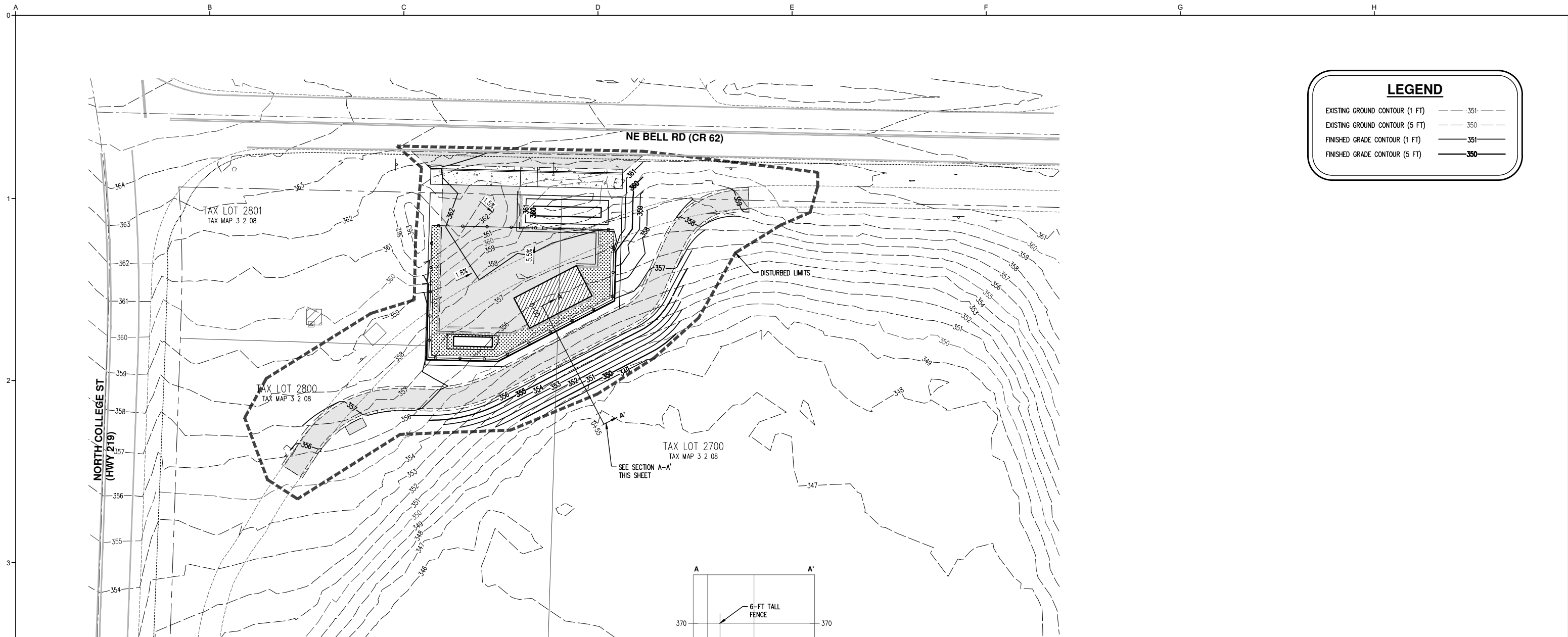


DESIGNED  
**JAW**  
 DRAWN  
**GMB/LAH**  
 CHECKED  
**JAW**

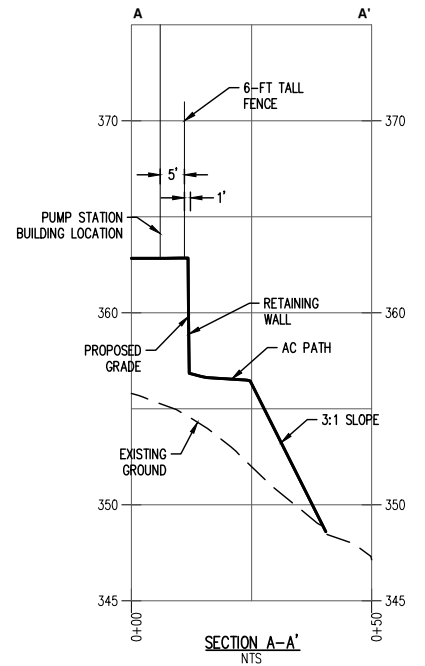
CITY OF NEWBERG  
 NEWBERG, OREGON  
**BELL WEST PUMP STATION  
 AND PIPELINE**  
 Kennedy Jenks

**EROSION AND SEDIMENT CONTROL PLAN**

SCALE  
1" = 20'  
 JOB NO  
2076014.00  
 DATE  
03/11/2022  
 SHEET OF  
**C050**



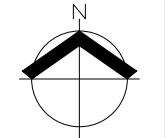
LEGEND	
EXISTING GROUND CONTOUR (1 FT)	--- 351 ---
EXISTING GROUND CONTOUR (5 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 351 ---
FINISHED GRADE CONTOUR (5 FT)	--- 350 ---



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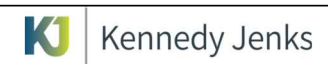


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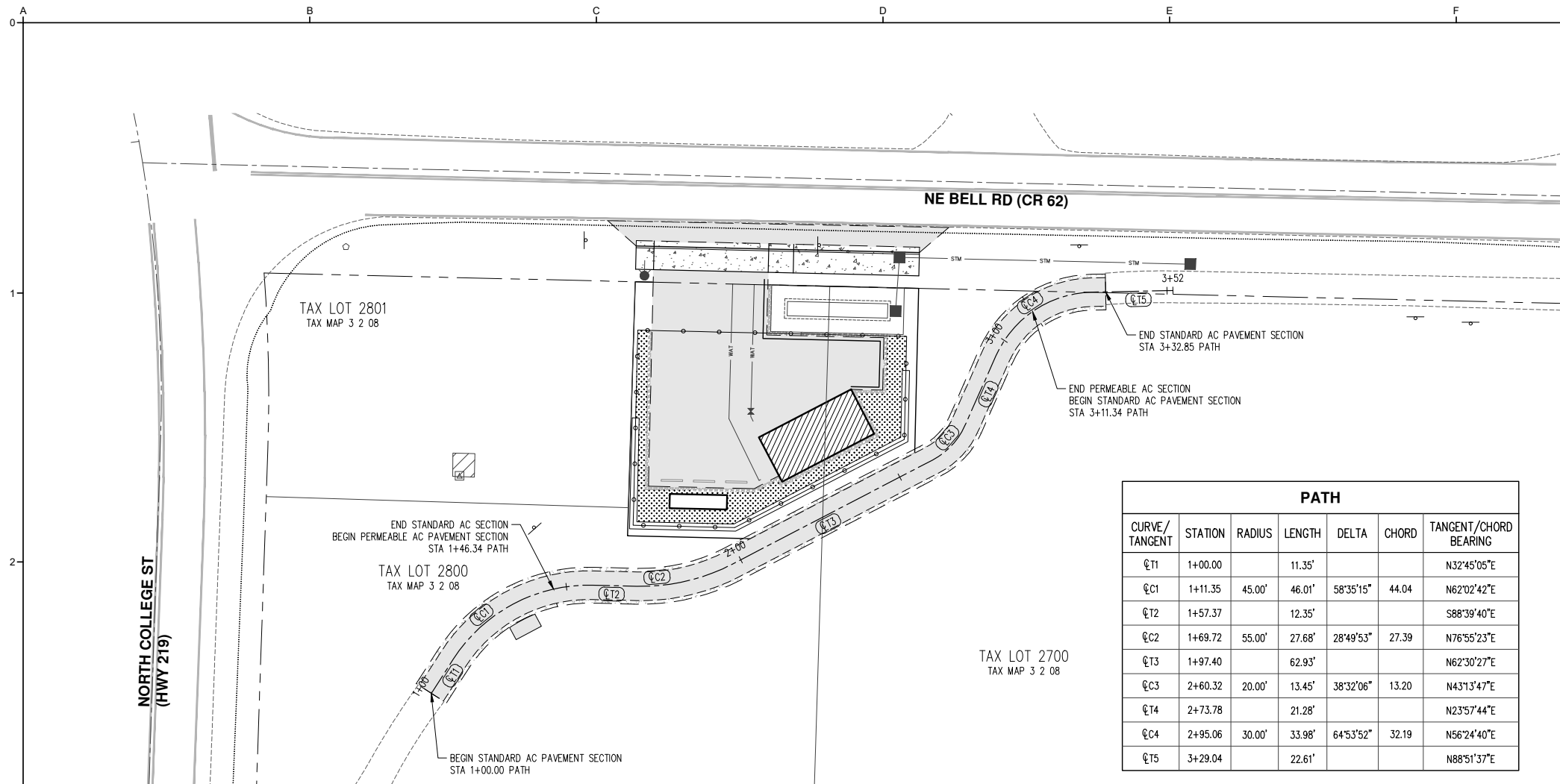


DESIGNED <b>JAW</b>	CITY OF NEWBERG NEWBERG, OREGON <b>BELL WEST PUMP STATION AND PIPELINE</b>
DRAWN <b>GMB/LAH</b>	
CHECKED <b>JAW</b>	

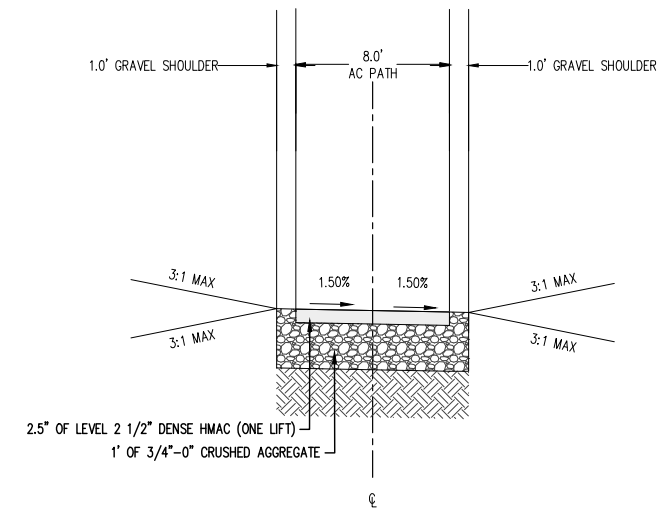


**GRADING PLAN**

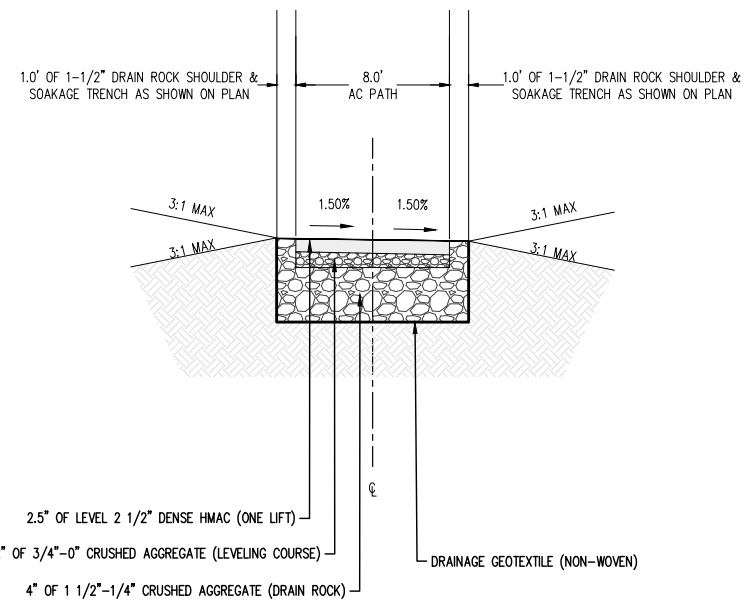
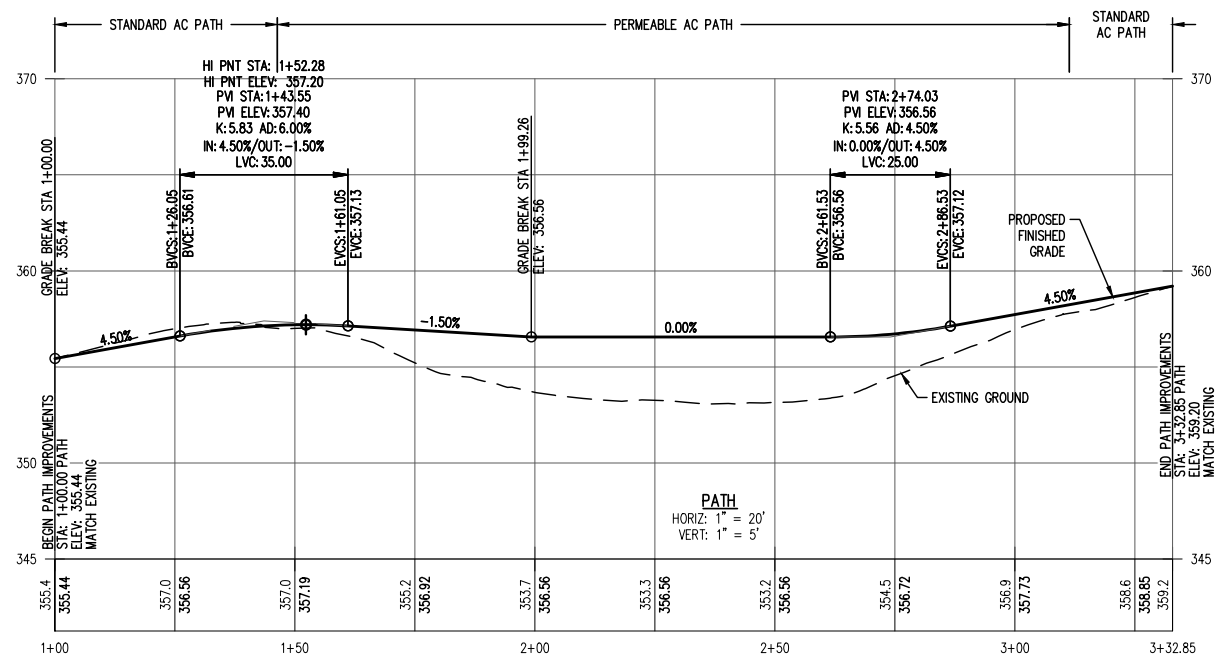
SCALE	1" = 20'
JOB NO	2076014.00
DATE	03/11/2022
SHEET OF	<b>C070</b>



PATH						
CURVE/TANGENT	STATION	RADIUS	LENGTH	DELTA	CHORD	TANGENT/CHORD BEARING
Q11	1+00.00		11.35'			N32°45'05"E
Q12	1+11.35	45.00'	46.01'	58°35'15"	44.04	N62°02'42"E
Q13	1+57.37		12.35'			S88°39'40"E
Q14	1+69.72	55.00'	27.68'	28°49'53"	27.39	N76°55'23"E
Q15	1+97.40		62.93'			N62°30'27"E
Q16	2+60.32	20.00'	13.45'	38°32'06"	13.20	N43°13'47"E
Q17	2+73.78		21.28'			N23°57'44"E
Q18	2+95.06	30.00'	33.98'	64°53'52"	32.19	N56°24'40"E
Q19	3+29.04		22.61'			N88°51'37"E



**STANDARD AC PATH**  
TYPICAL SECTION  
STA 1+00.00 TO 1+46.34  
STA 3+11.34 TO 3+32.85  
NTS



**"PERMEABLE" AC PATH**  
TYPICAL SECTION  
STA 1+46.34 TO 3+11.34  
NTS

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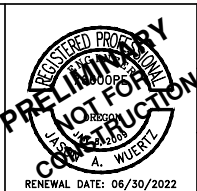
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NO	REVISION	DATE	BY

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0" = 25mm  
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DESIGNED  
**JAW**

DRAWN  
**GMB/LAH**

CHECKED  
**JAW**

CITY OF NEWBERG  
NEWBERG, OREGON

**BELL WEST PUMP STATION AND PIPELINE**

**KJ Kennedy Jenks**

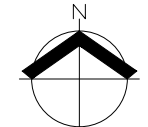
**PATH PLAN AND PROFILE**

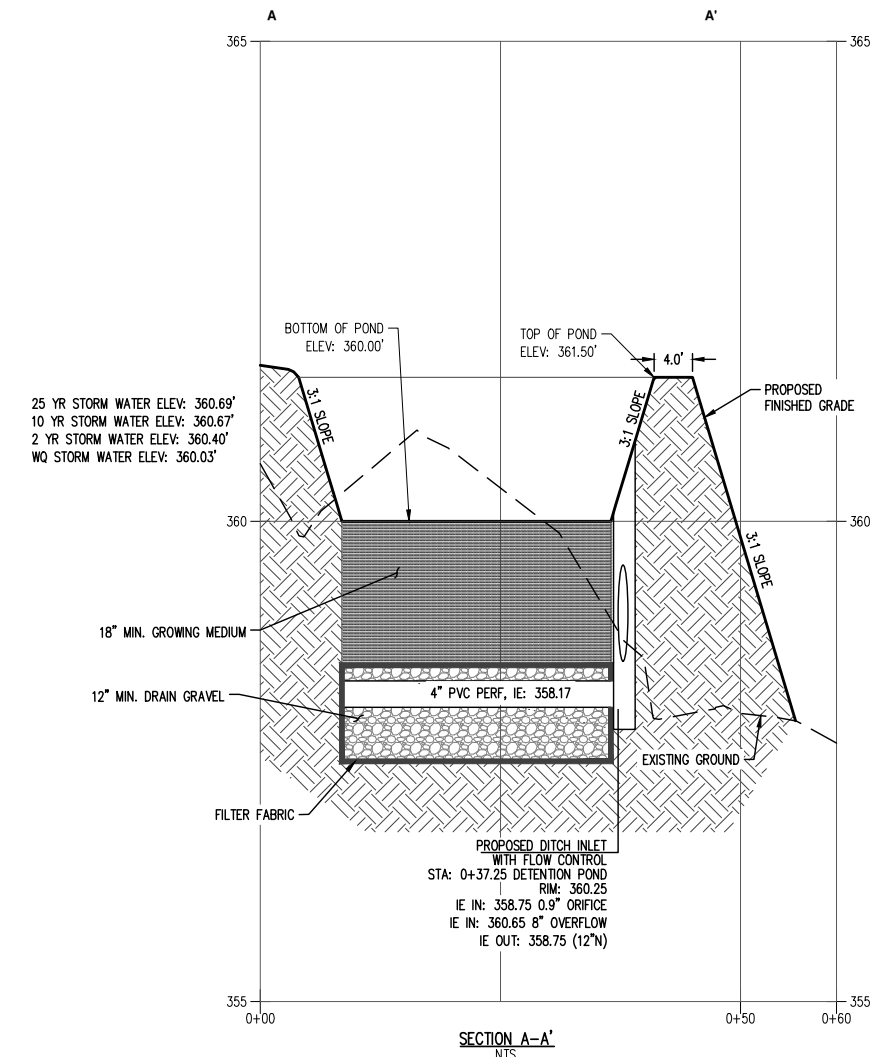
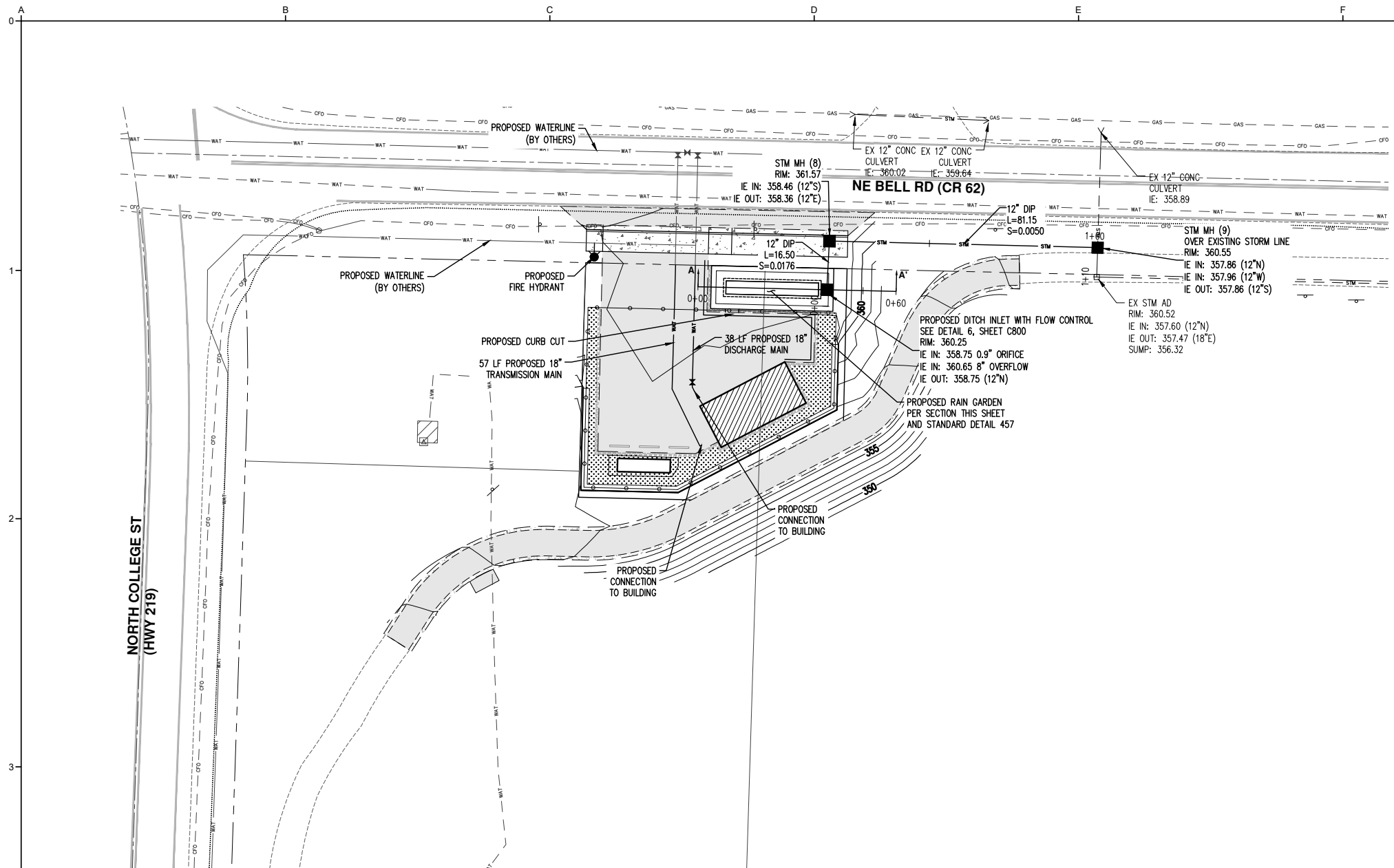
SCALE  
1" = 20'

JOB NO  
2076014.00

DATE  
03/11/2022

SHEET OF  
**C100**



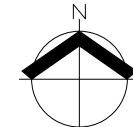


NOTE: SEE CITY OF NEWBERG STANDARD DETAIL 457 FOR ADDITIONAL INFORMATION

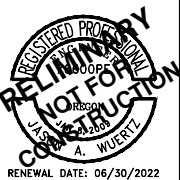
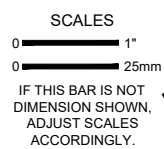
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**JAW**

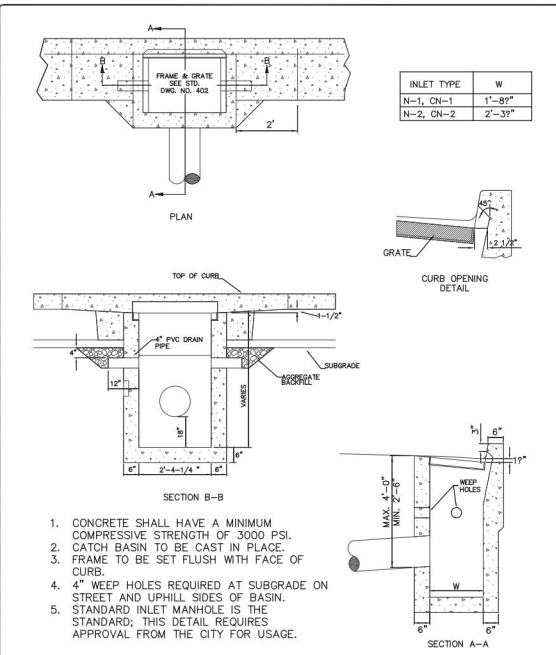
CITY OF NEWBERG  
 NEWBERG, OREGON  
**BELL WEST PUMP STATION  
 AND PIPELINE**  
 Kennedy Jenks

**COMPOSITE UTILITY PLAN**

SCALE  
1" = 20'  
 JOB NO  
2076014.00  
 DATE  
03/11/2022  
 SHEET OF  
**C200**



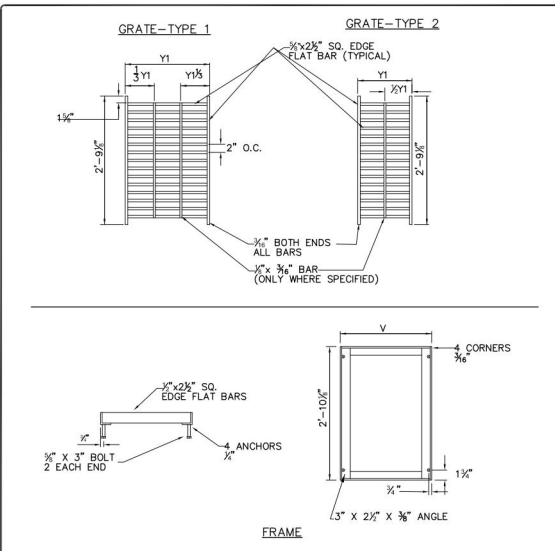
0  
1  
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4



City of Newberg  
PUBLIC WORKS ENGINEERING DIVISION  
404 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1514  
FAX: 503-537-1577

REVISIONS:

SCALE: N.T.S.  
DATE: MARCH 2014  
APPROVED BY: J. HARRIS  
STANDARD DRAWING: 401



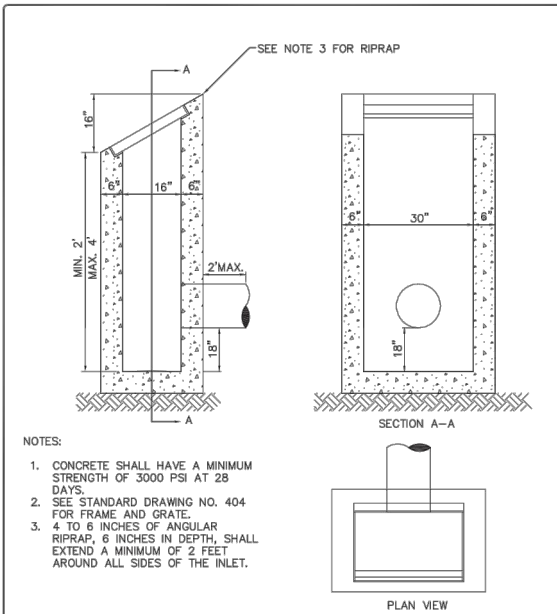
NOTES:  
1. ALL MATERIAL TO BE A-36 STEEL.  
2. CROSS BARS TO BE FLUSH WITH SURFACE AND MAY BE FILLET WELDED.

INLET TYPE	V	Y1	NO. OF BARS	TYPE	REMARKS
N-1, CN-1	2'-3 3/4"	2'-2 3/4"	17	1	
N-2, N-2	2'-9 1/4"	1'-4"	17	2	2 GRATES

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REVISIONS:

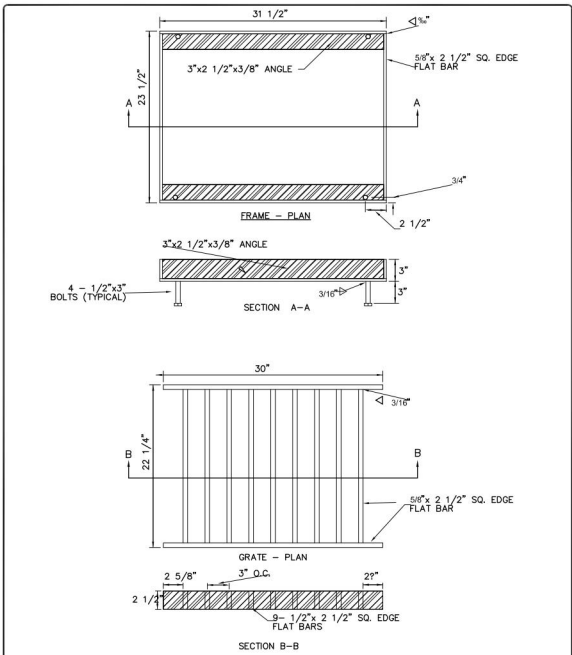
SCALE: N.T.S.  
DATE: MARCH 2014  
APPROVED BY: J. HARRIS  
STANDARD DRAWING: 402



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REVISIONS:

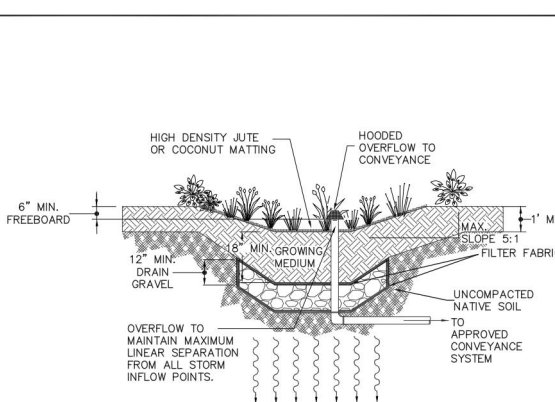
SCALE: N.T.S.  
DATE: MARCH 2014  
APPROVED BY: J. HARRIS  
STANDARD DRAWING: 403



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404 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1514  
FAX: 503-537-1577

REVISIONS:

SCALE: N.T.S.  
DATE: May 2007  
APPROVED BY: D. Banicic  
STANDARD DRAWING: 404

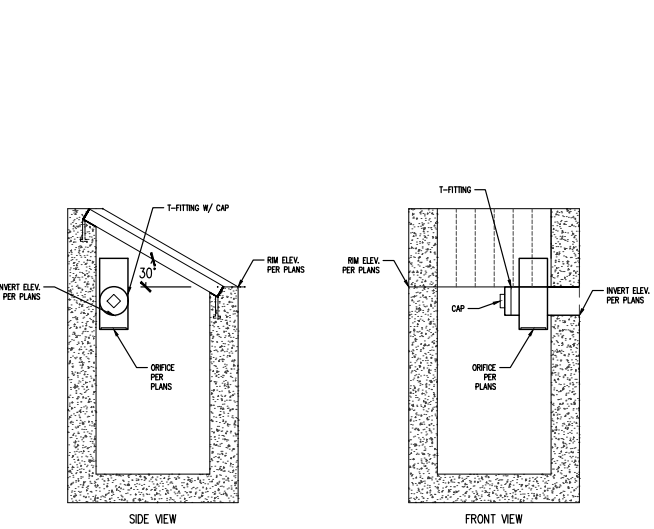


- NOTES:  
1. PROVIDE OVERFLOW CONVEYANCE SYSTEM, OVERFLOW CONVEYANCE HEIGHT TO ALLOW 6" MAXIMUM PONDING, PIPING TO A MINIMUM OF THE PLUMBING CODE OR CONVEY THE 25 YEAR STORM.  
2. FLOW DISSIPATORS SHOULD BE USED IF ENTRY SLOPE TO THE BASIN IS GREATER THAN 5:1.  
3. SEPARATION BETWEEN DRAIN GRAVEL AND GROWING MEDIUM SHALL BE PERMEABLE FILTER FABRIC.  
4. TREATMENT AREA SHALL HAVE HIGH DENSITY JUTE OR COCONUT MATTING OVER 18" MINIMUM OF GROWING MEDIUM OR BASE STABILIZATION METHOD AS APPROVED BY THE CITY.  
5. REFER TO APPENDIX A OF THE STANDARDS DESIGN MANUAL FOR PLANTING REQUIREMENTS.  
6. TOP OF BANK OF FACILITY MUST BE LOCATED 10' FROM ANY STRUCTURE AND 3' FROM ADJACENT PROPERTY LINES.

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PHONE: 503-537-1514  
FAX: 503-537-1577

REVISIONS:

SCALE: N.T.S.  
DATE: MARCH 2014  
APPROVED BY: JAY H.  
STANDARD DRAWING: 457



City of Newberg  
PUBLIC WORKS ENGINEERING DIVISION  
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PHONE: 503-537-1514  
FAX: 503-537-1577

REVISIONS:

SCALE: N.T.S.  
DATE: MARCH 2014  
APPROVED BY: JAY H.  
STANDARD DRAWING: 457

DITCH INLET WITH FLOW CONTROL ORIFICE

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NO	REVISION	DATE	BY

SCALES

0 — 1"

0 — 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER  
JAY H. WUERTEL  
RENEWAL DATE: 06/30/2022

DESIGNED  
**JAW**

DRAWN  
**GMB/LAH**

CHECKED  
**JAW**

CITY OF NEWBERG  
NEWBERG, OREGON

BELL WEST PUMP STATION AND PIPELINE

Kennedy Jenks

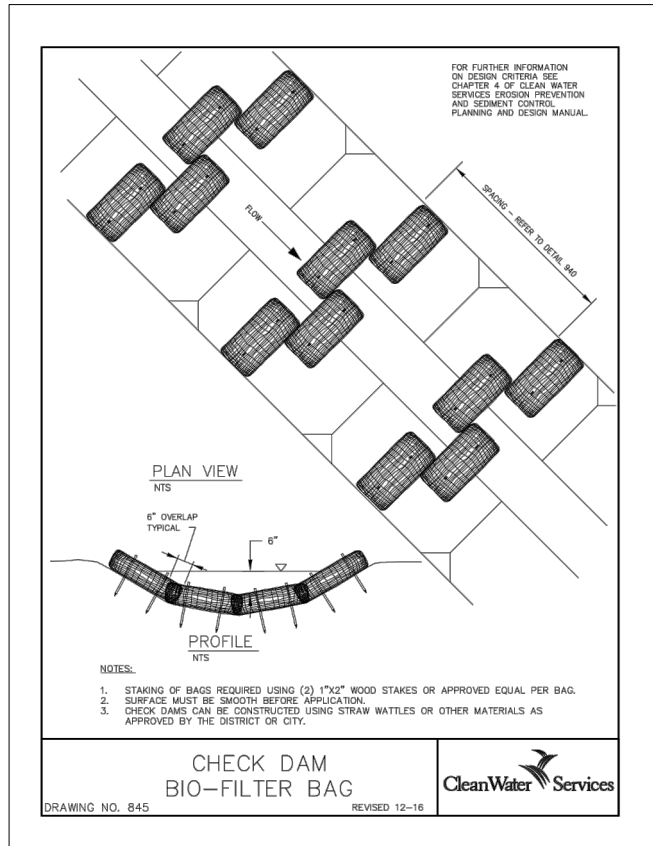
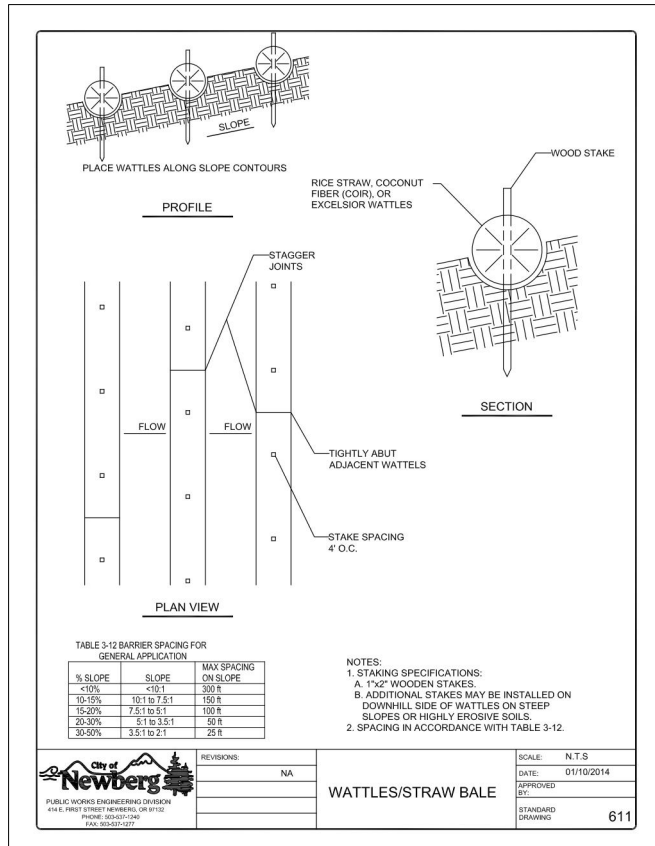
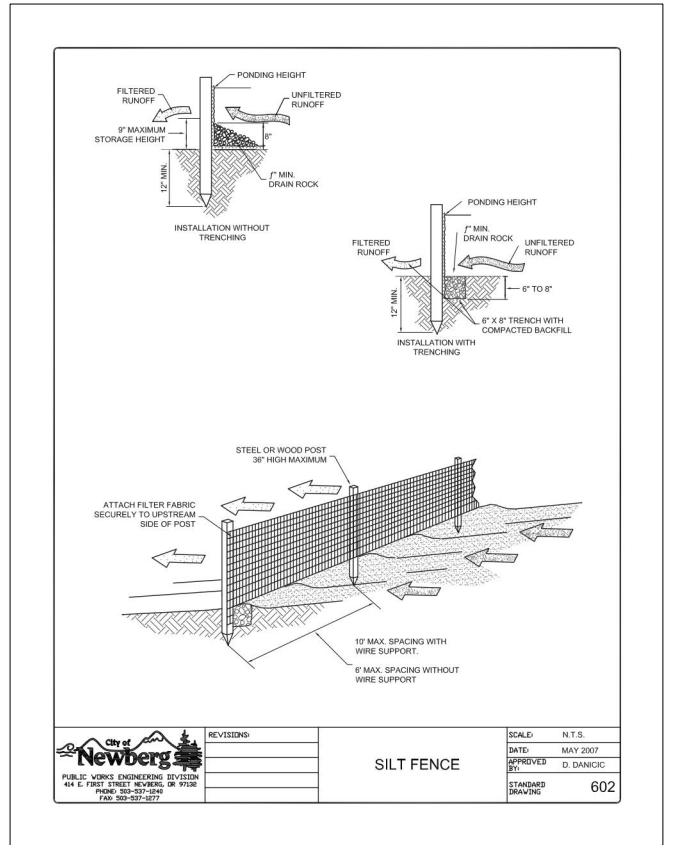
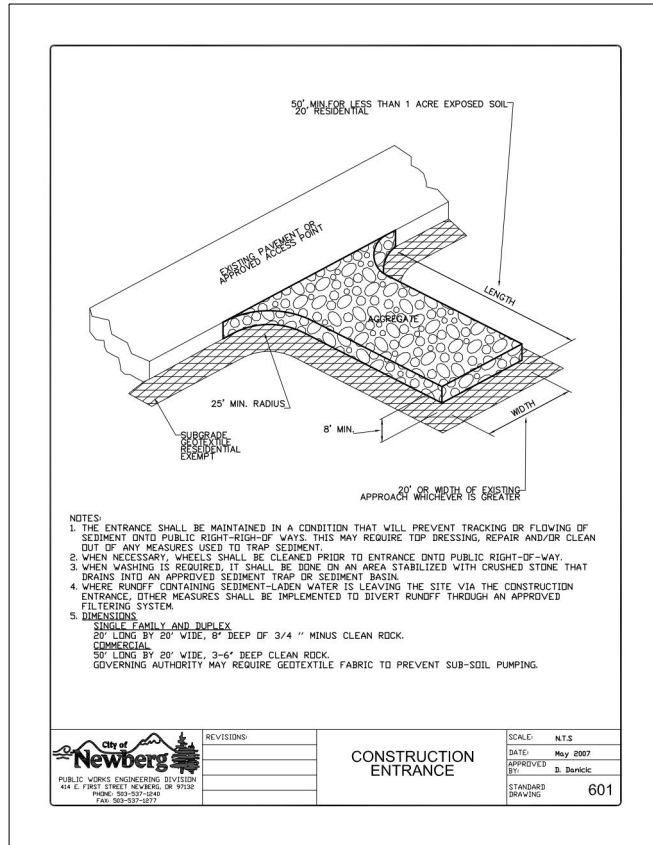
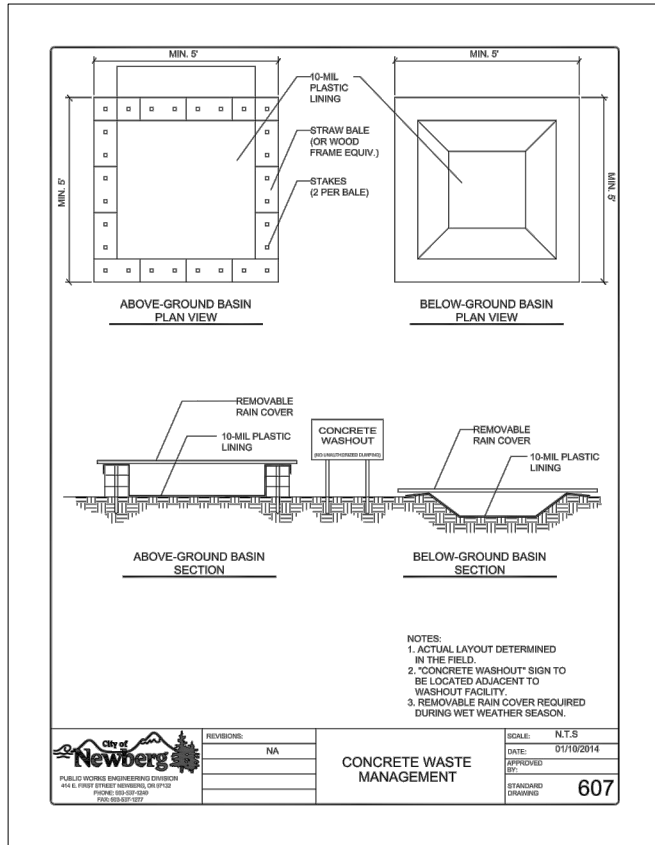
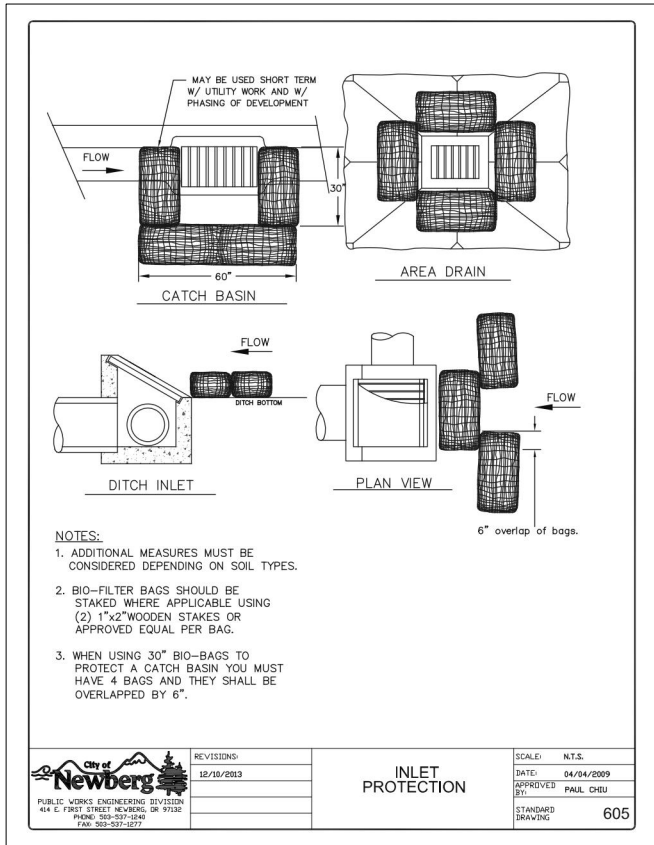
**DETAILS**

SCALE: NO SCALE

JOB NO: 2076014.00

DATE: 03/11/2022

SHEET OF **C800**



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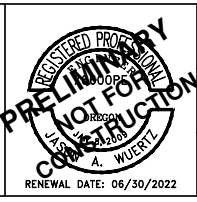
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NO	REVISION	DATE	BY



DESIGNED: **JAW**  
 DRAWN: **GMB/LAH**  
 CHECKED: **JAW**

CITY OF NEWBERG  
 NEWBERG, OREGON

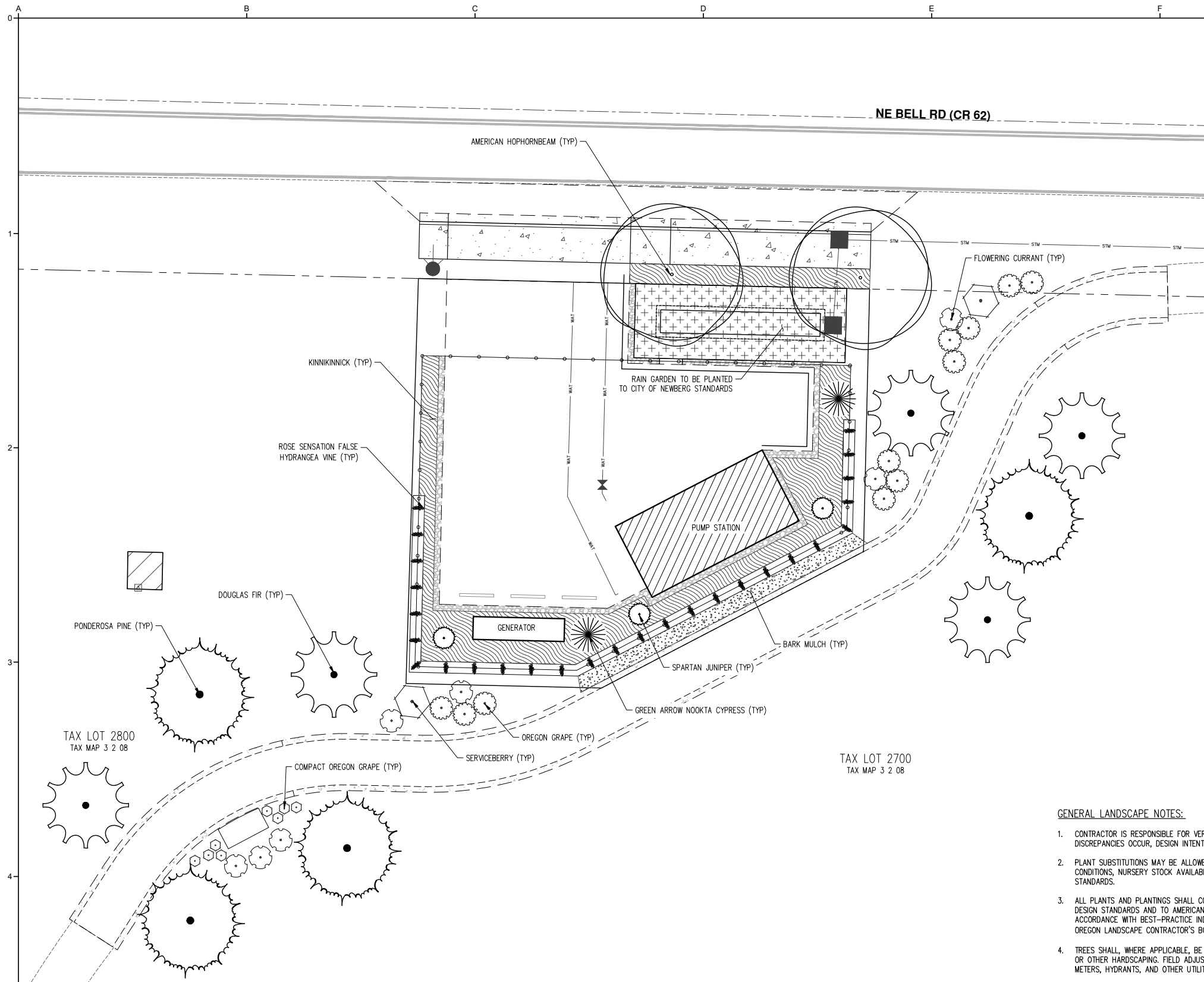
**BELL WEST PUMP STATION AND PIPELINE**

**Kennedy Jenks**

**DETAILS**

SCALE: NO SCALE  
 JOB NO: 2076014.00  
 DATE: 03/11/2022  
 SHEET OF: **C801**





**PLANT SCHEDULE**

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	2	CHAMAECYPARIS NOOTKATENSIS 'GREEN ARROW'	GREEN ARROW NOOKTA CYPRESS	4'-5' HT. B&B	AS SHOWN
	3	JUNIPERUS CHINENSIS 'SPARTAN'	SPARTAN JUNIPER	4'-5' HT. B&B	AS SHOWN
	2	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	2" CAL. B&B/MIN	AS SHOWN
	4	PINUS PONDEROSA	PONDEROSA PINE	5'-6' HT/B&B	AS SHOWN
	5	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	5'-6' HT. B&B	AS SHOWN

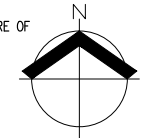
SHRUBS/VINES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	2	AMELANCHIER ALNIFOLIA	SERVICEBERRY	2 GAL. CONT.	AS SHOWN
	11	MAHONIA AQUIFOLIUM	OREGON GRAPE	2 GAL. CONT.	48" o.c.
	8	MAHONIA AQUIFOLIUM 'COMPACTA'	COMPACT OREGON GRAPE	1 GAL. CONT.	24" o.c.
	7	RIBES SANGUINEUM	RED FLOWERING CURRANT	2 GAL. CONT.	48" o.c.
	27	SCHIZOPHRAGMA HYDRANGEOIDES 'MINSSENS' TM	ROSE SENSATION FALSE HYDRANGEA VINE	1 GAL. CONT.	60" o.c.

GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	183	ARCTOSTAPHYLOS UVA-URSI	KINNIKINICK	1 GAL. CONT.	24" o.c.
	±152 SF		BARK MULCH		

**GENERAL LANDSCAPE NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT AND MATERIAL QUANTITIES. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
- PLANT SUBSTITUTIONS MAY BE ALLOWED, WITH APPROVAL BASED ON UNFORESEEN SITE CONDITIONS, NURSERY STOCK AVAILABILITY, ETC. WHERE ALLOWED BY CITY OF NEWBERG DESIGN STANDARDS.
- ALL PLANTS AND PLANTINGS SHALL CONFORM TO APPLICABLE CITY OF NEWBERG LANDSCAPE DESIGN STANDARDS AND TO AMERICAN NURSERY STANDARDS ANSI Z60.1. PLANT IN ACCORDANCE WITH BEST-PRACTICE INDUSTRY STANDARDS, SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB).
- TREES SHALL, WHERE APPLICABLE, BE PLANTED A MINIMUM OF 3' O.C. FROM BACK OF SIDEWALK OR OTHER HARDSCAPING. FIELD ADJUST IF NECESSARY TO AVOID CONFLICTS WITH LIGHTS, WATER METERS, HYDRANTS, AND OTHER UTILITIES.
- HATCHED AREAS ARE MEANT TO CONVEY GENERAL PLANT LOCATION. PLANT COVERAGE, SPACING, AND LAYOUT SHALL BE CONSISTENT WITH THE SPACING LISTED IN THE PLANT LEGEND FOR FULL COVERAGE. FIELD ADJUST PLANTING AS REQUIRED TO AVOID CONFLICTS WITH UTILITIES, LIGHTS, VAULTS, EXISTING VEGETATION, ETC.
- LAWN WITHIN DISTURBED AREAS, WHETHER EXPLICITLY SHOWN ON THE PLANS OR NOT, SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
- IRRIGATION: LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING A PERMANENT, UNDERGROUND 'DESIGN-BUILD' AUTOMATIC IRRIGATION SYSTEM TO WATER ALL TREES AND PLANTING BEDS. COORDINATE POINT OF CONNECTION, DOUBLE CHECK VALVE ASSEMBLY OF A TYPE APPROVED BY LOCAL AND STATE JURISDICTIONS, AND SLEEVING LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF HARD SURFACING (SIDEWALKS, DRIVEWAYS, ETC.).
- SOIL PREPARATION: GROWING MEDIUM IN ALL NEW PLANTING BEDS SHALL BE SUFFICIENT DEPTH FOR HEALTHY PLANT ESTABLISHMENT AND GROWTH. EXISTING, NON-COMPACTED, NATIVE SOIL MAY COUNT TOWARDS THIS REQUIREMENT. REUSE SURFACE SOIL STOCKPILED ON THE SITE AND/OR IMPORT NEW TOPSOIL TO MAKE UP REQUIRED AMOUNTS FOR INSTALLATION.
- MULCH: APPLY 3" DEEP WELL-AGED MEDIUM GRIND OR SHREDDED DARK HEMLOCK BARK MULCH UNDER AND AROUND ALL TREES, SHRUBS, AND GROUND COVER NOT IN STORMWATER FACILITY. DO NOT COVER FOLIAGE OR ROOT CROWNS OF PLANTS WITH BARK MULCH. TREES AND OTHER PLANTS SHALL BE SET TO ACCOMMODATE MULCH APPLICATION WITHOUT BURYING ROOT CROWNS.
- MAINTENANCE: ALL LANDSCAPE AREAS SHALL BE MAINTAINED FOR THE DURATION OF THE PLANTING TO ENCOURAGE HEALTH OF PLANT MATERIAL AS WELL AS PUBLIC HEALTH AND SAFETY. ALL TREES AND SHRUBS SHALL BE PRUNED TO MAINTAIN HEALTH AND STRUCTURE OF THE PLANT MATERIAL FOR PUBLIC SAFETY PURPOSES.



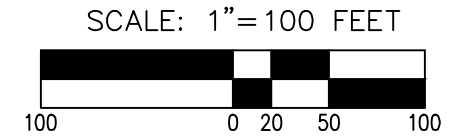
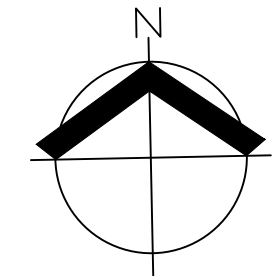
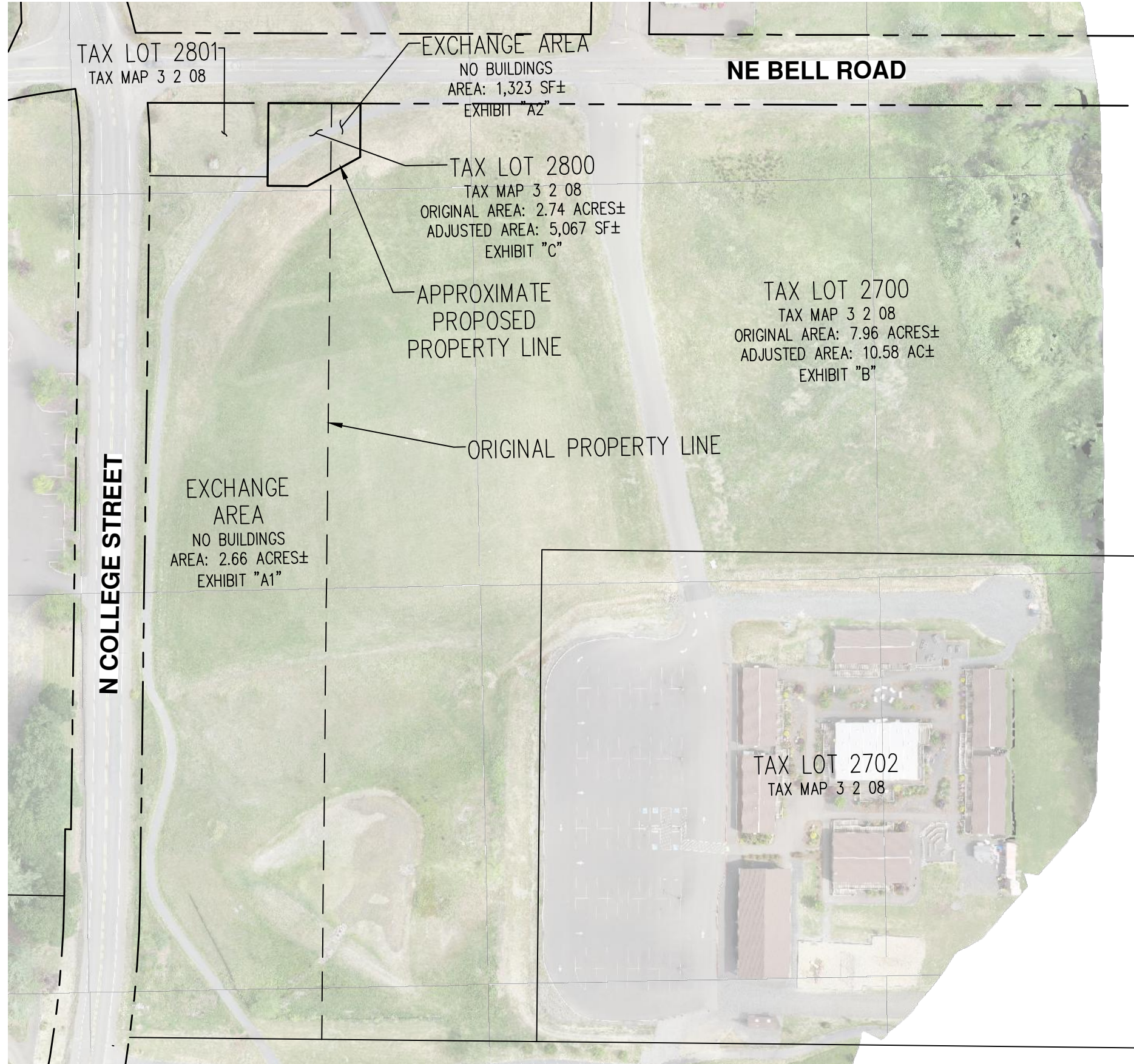
AKS ENGINEERING & FORESTRY, LLC  
 12965 SW HERMAN RD, STE 100  
 TUALATIN, OR 97062  
 503.563.6151  
 WWW.AKS-ENG.COM



ENGINEERING • SURVEYING • NATURAL RESOURCES  
 FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE

30% SUBMITTAL					DESIGNED	ZTN	CITY OF NEWBERG NEWBERG, OREGON	SCALE 1" = 10'
					DRAWN	ZTN		
PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION					CHECKED	TEB	BELL WEST PUMP STATION AND PIPELINE	JOB NO 2076014.00
THIS DOCUMENT IS AN INTERIM DOCUMENT AND NOT SUITABLE FOR CONSTRUCTION. AS AN INTERIM DOCUMENT, IT MAY CONTAIN DATA THAT IS POTENTIALLY INACCURATE OR INCOMPLETE AND IS NOT TO BE RELIED UPON WITHOUT THE EXPRESS WRITTEN CONSENT OF THE PREPARER.	NO	REVISION	DATE	BY	Kennedy Jenks			DATE 03/11/2022





NOTE: PROPOSED PROPERTY LINES ARE APPROXIMATE. NOT FOR LEGAL OR SURVEY PURPOSES. SUBJECT TO CHANGE WITH DESIGN.

DATE: 03/04/2022

<b>PROPOSED PROPERTY LINE ADJUSTMENT</b>		EXHIBIT
<b>BELL RD PUMP STATION</b>		<b>A</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: GMB CHKD: JAW AKS JOB: 7936





## EXHIBIT A1

### Transfer Area Description (Tax Lot 320802800 to Tax Lot 320802700)

A tract of land located in the Northwest One-Quarter of Section 8, Township 3 South, Range 2 West, Willamette Meridian, Yamhill County, Oregon, and being more particularly described as follows:

Beginning at a point on the west line of Parcel 2 of Instrument Number 201900983, Records of Yamhill County, said point bears South 85°29'59" East 1068.45 feet, South 88°39'40" East 103.65 feet, and South 01°46'05" West 59.93 feet from the northwest corner of said Section 8; thence along said west line, South 01°46'05" West 743.27 feet to the north line of Parcel 1 of said Instrument Number 201900983; thence along said north line, North 88°13'55" West 164.97 feet to the east line of N College Street (30.00 feet from centerline); thence along said east right-of-way line on a non-tangent curve to the left (Radial Bearing of North 81°01'17" West) with a Radius of 984.94 feet, a Delta of 07°02'41", a Length of 121.10 feet, and a Chord of North 05°27'22" East 121.03 feet; thence continuing along said east right-of-way line, North 01°56'02" East 618.85 feet to the south line of Parcel 4 of said Instrument Number 201900983; thence along said south line, South 88°14'57" East 101.11 feet to the east line of said Parcel 4; thence along the southerly extension of said east line, South 01°45'03" West 7.86 feet; thence leaving said southerly extension, South 88°39'40" East 34.25 feet; thence North 62°29'51" East 22.96 feet to the Point of Beginning.

The above described tract of land contains 2.66 acres (115,724 square feet), more or less.

3/4/2022





## EXHIBIT A2

### Transfer Area Description (Tax Lot 320802700 to Tax Lot 320802800)

A tract of land located in the Northwest One-Quarter of Section 8, Township 3 South, Range 2 West, Willamette Meridian, Yamhill County, Oregon, and being more particularly described as follows:

Beginning at a point on the south right-of-way line of Bell Road (30.00 feet from centerline), also being on the west line of Parcel 3 of Instrument Number 201900983, Records of Yamhill County, said point bears South 85°29'59" East 1068.45 feet and South 88°39'40" East 157.96 feet from the northwest corner of said Section 8; thence along said south right-of-way line, South 88°39'40" East 24.78 feet; thence leaving said south right-of-way line, South 01°20'20" West 46.03 feet; thence South 62°29'51" West 28.80 feet to said west line; thence along said west line, North 01°46'05" East 59.93 feet to the Point of Beginning.

The above described tract of land contains 1,323 square feet, more or less.

3/4/2022





## EXHIBIT B

### Adjusted Tax Lot 320802700 Description

A tract of land located in the Northwest One-Quarter of Section 8, Township 3 South, Range 2 West, Willamette Meridian, Yamhill County, Oregon, and being more particularly described as follows:

Beginning at a point on the south right-of-way line of Bell Road (30.00 feet from centerline), said point bears South 85°29'59" East 1068.45 feet and South 88°39'40" East 182.74 feet from the northwest corner of said Section 8; thence along said south right-of-way line, South 88°39'40" East 675.03 feet to the west line of Instrument Number 202018498, Records of Yamhill County; thence along said west line, South 01°43'35" West 386.27 feet to the north line of Instrument Number 200504185, Records of Yamhill County; thence along said north line, North 88°13'55" West 515.43 feet to the west line of said deed; thence along said west line, South 01°46'05" West 422.17 feet to the north line of Parcel 1 of said Instrument Number 201900983; thence along said north line, North 88°13'55" West 349.61 feet to the east right-of-way line of N College Street (30.00 feet from centerline); thence along said east right-of-way line on a non-tangent curve to the left (Radial Bearing of North 81°01'17" West) with a Radius of 984.94 feet, a Delta of 07°02'41", a Length of 121.10 feet, and a Chord of North 05°27'22" East 121.03 feet; thence continuing along said east right-of-way line, North 01°56'02" East 618.85 feet to the south line of Parcel 4 of said Instrument Number 201900983; thence along said south line, South 88°14'57" East 101.11 feet to the east line of said Parcel 4; thence along the southerly extension of said east line, South 01°45'03" West 7.86 feet; thence leaving said southerly extension the following three (3) courses: South 88°39'40" East 34.25 feet, North 62°29'51" East 51.76 feet, North 01°20'20" East 46.03 feet to the Point of Beginning.

The above described tract of land contains 10.58 acres (460,874 square feet), more or less.

3/4/2022





## EXHIBIT C

### Adjusted Tax Lot 320802800 Description

A tract of land located in the Northwest One-Quarter of Section 8, Township 3 South, Range 2 West, Willamette Meridian, Yamhill County, Oregon, and being more particularly described as follows:

Beginning at a point on the south right-of-way line of NE Bell Road (30.00 feet from centerline), also being on the east line of Parcel 4 of Instrument Number 201900983, Records of Yamhill County, said point bears South 85°29'59" East 1068.45 feet and South 88°39'40" East 103.65 feet from the northwest corner of said Section 8; thence along said south right-of-way line, South 88°39'40" East 79.08 feet; thence leaving said south right-of-way line, South 01°20'20" West 46.03 feet; thence South 62°29'51" West 51.76 feet; thence North 88°39'40" West 34.25 feet to the southerly extension of the east line of said Parcel 4; thence along said southerly extension and the east line of said Parcel 4, North 01°45'03" East 71.00 feet to the Point of Beginning.

The above described tract of land contains 5,067 square feet, more or less.

3/4/2022







# C-WP-C-TR-SCCT Series

Traditional-Style LED Wall Pack | Wattage and Color Temperature Selectable  
w/ Integrated Emergency Battery Backup Option

Replaces up to 400W MH



## THREE WALL PACKS IN ONE

Our C-Lite Traditional-Style LED Wall Pack delivers up to 14,400 lumens. Select between four different wattages on each model and also choose your desired color temp (3000K, 4000K, or 5000K). Each model is shipped with the default setting at the highest wattage and at 4000K. Integrated battery backup option available.



## PRODUCT SPECIFICATIONS

### OVERVIEW

- Max. Delivered Lumens: Up to 6500 Lumens (**S6L**), Up to 10,200 Lumens (**S10L**), Up to 14,400 Lumens (**S14L**)
- CRI: ≥ 70
- SCCT: Selectable 3000K, 4000K or 5000K
- Input Power: Up to 46W (**S6L**), Up to 71W (**S10L**), Up to 100W (**S14L**)
- Estimated L70 Lifetime @ 25°C: > 50,000 Hours
- Power Factor: > 0.9
- Total Harmonic Distortion: <20%
- Limited Warranty: 5-Year\*
- Replaces: 150W PSMH (**S6L**), 250W PSMH (**S10L**), 400W MH (**S14L**)

FEATURES	RECOMMENDED USE	INPUT VOLTAGE
<ul style="list-style-type: none"> <li>• Select your CCT with choices of 3000K, 4000K or 5000K</li> <li>• (<b>S6L</b>): 46W unit has wattage options of 46W (6500L), 42W (6250L), 30W (4470L) or 16W (2380L)</li> <li>• (<b>S10L</b>): 71W unit has wattage options of 71W (10,200L), 61W (9090L), 41W (6110L) or 21W (3130L)</li> <li>• (<b>S14L</b>): 100W unit has wattage options of 100W (14,400L), 92W (13,800L) 62W (9300L) or 32W (4800L)</li> <li>• FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Commercial</li> <li>• Entryways</li> <li>• Perimeter Lighting</li> <li>• Security</li> </ul>	<ul style="list-style-type: none"> <li>• Universal (120V - 277V)</li> </ul>

### CERTIFICATIONS:



\*See Warranty & Certifications on pg. 3

CA RESIDENTS WARNING: Cancer and Reproductive Harm –  
www.p65warnings.ca.gov

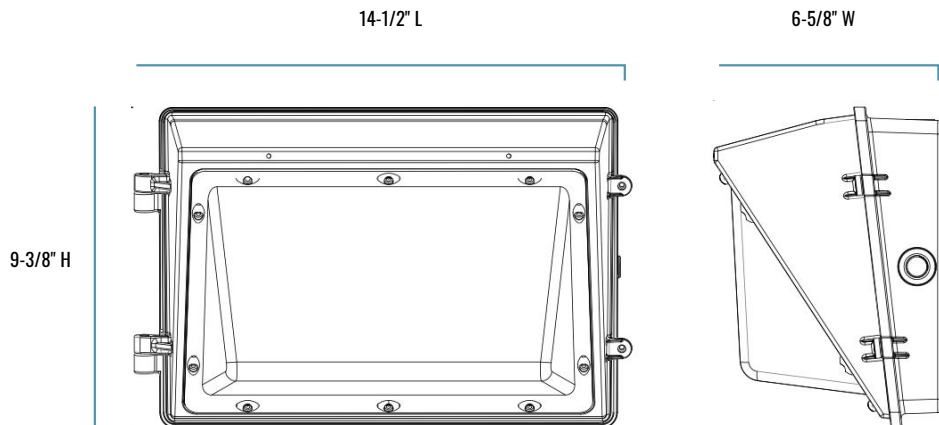
# C-WP-C-TR-SCCT Series

## ORDERING INFORMATION

Example SKU: C-WP-C-TR-S6L-SCCT-UL-DB-EM

C-WP	C	TR		SCCT	UL	DB	
PRODUCT	SERIES	STYLE	LUMEN PACKAGE	SCCT	VOLTAGE	HOUSING COLOR	INTEGRATED EMERGENCY BATTERY BACKUP OPTION
C-WP	C	TR Traditional-Style	<b>S14L</b> Up to 14,400 Lumens <b>S10L</b> Up to 10,200 Lumens <b>S6L</b> Up to 6500 Lumens	<b>SCCT</b> Warm White (3000K) Neutral White (4000K*) Cool White (5000K)	<b>UL</b> Universal (120-277V)	<b>DB</b> Dark Bronze	<b>[BLANK]</b> w/out Emergency Battery Backup <b>EM</b> w/ Emergency Battery Backup - 8W Battery - Provides 90 minutes of emergency operation - 1100 lumens in emergency mode

\*Default settings at time of shipping are highest product wattage and 4000K.



## SERIES OVERVIEW

DIMENSIONS	PRODUCT WEIGHT	MOUNTING HEIGHT	SPACING
14-1/2" L x 6-5/8" W x 9-3/8" H	5.86 lbs. (6L), 6.15 lbs. (10L), 6.23 lbs. (14L), 5.93 lbs. (6L-EM), 6.22 lbs. (10L-EM), 6.31 lbs. (14L-EM)	8 to 20 feet (6L) & 12 to 25 feet (10L & 14L)	3 to 4 times the mounting height

## FIXTURE SPECIFICATIONS

<b>HOUSING</b>	UV-stabilized dark bronze powder-coated finish, die-cast aluminum body
<b>LENS ASSEMBLY</b>	High-impact polycarbonate
<b>MOUNTING</b>	4 knockouts provided on each side of back box (right, left, top and bottom) for surface conduit mounting or mounting over 3" octagonal, 4" octagonal, or 4" square junction boxes



# C-WP-C-TR-SCCT Series

## LUMINAIRE AND ELECTRICAL PERFORMANCE

OPERATING TEMPERATURE RANGE	ESTIMATED L <sub>70</sub> LIFETIME @ 25°C (77°F)	POWER FACTOR	TOTAL HARMONIC DISTORTION
<b>w/out EM mode:</b> -40°F to -104°F (-40°C to 40°C) <b>w/ EM mode:</b> 0°C to 40°C (32°F to 104°F)	> 50,000 Hours	> 0.9	<20%

SKU	REPLACES	LUMEN OUTPUT	BUG RATINGS*	SYSTEM WATTS	CURRENT DRAW (AMPS)			
					120V	208V	240V	277V
C-WP-C-TR-S6L-SCCT-UL-DB	150W PSMH	Up to 6500 Lumens	B1-U4-G3	46W	0.36	0.21	0.18	0.16
C-WP-C-TR-S10L-SCCT-UL-DB	250W PSMH	Up to 10,200 Lumens	B2-U4-G4	71W	0.57	0.33	0.28	0.25
C-WP-C-TR-S14L-SCCT-UL-DB	400W MH	Up to 14,400 Lumens	B2-U5-G5	100W	0.80	0.46	0.40	0.35

\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt.

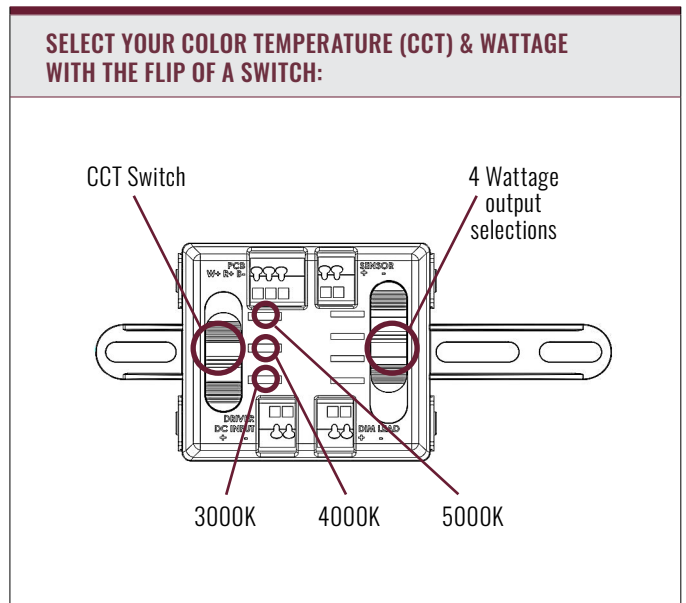
## WARRANTY AND CERTIFICATIONS

WARRANTY	cULus LISTED	DLC
5-Year Warranty*	Wet Listed	DLC Premium 5.1 *DLC Standard ( <b>S10L Series</b> )

## ACCESSORIES

	<b>UNIVERSAL BUTTON PHOTOCELL (120V-277V)</b>
	SKU: <b>CCR-PHC-0306-GC</b> USE: Photocell is field installed and drilling of the back box is required. 500W Max.
	<b>UNIVERSAL BUTTON PHOTOCELL (120V-277V)</b>
	SKU: <b>JL-423CZ</b> USE: Photocell is field installed and drilling of the back box is required. 1000W Max.

## LOCATION OF SWITCHES



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US: [creelighting.com](http://creelighting.com), [e-conolight.com](http://e-conolight.com)

Distribution/Sales: 855-617-2733 Customer Service: 888-243-9445

Rev. Date: V2 01/18/2022

For informational purposes only. Content is subject to change. \*See [lighting.cree.com/warranty](http://lighting.cree.com/warranty) for details

**C-LITE**  
LED LIGHTING

## **Exhibit B: Application Forms and Checklists**

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# Type I Application (Administrative Review)

**Applicant's Consultant:**

AKS Engineering & Forestry, LLC - Glen Southerland, AICP  
 12965 SW Herman Road, Suite 100  
 Tualatin, OR 97062  
 Phone: (503) 563-6151  
 Email: SoutherlandG@aks-eng.com

File #: \_\_\_\_\_

**TYPES – PLEASE CHECK ONE:**

- Code Adjustment  
 Final Plat  
 Minor Design Review  
 Property Line Adjustment

- Property Line Consolidation  
 Type I Extension or Type I Minor/Major Modification  
 Type II or Type III Extension or Minor Modification  
 Other: (Explain) \_\_\_\_\_

**APPLICANT INFORMATION:**

APPLICANT: City of Newberg, Engineering Division - Paul Chiu, PE  
 ADDRESS: 414 E 1st Street, Newberg, OR 97132  
 EMAIL ADDRESS: paul.chiu@newbergoregon.gov  
 PHONE: (503) 554-1751 MOBILE: \_\_\_\_\_ FAX: (503) 537-1277  
 OWNER (if different from above): North Valley Friends Church PHONE: (503) 538-5340  
 ADDRESS: 4020 N College Street, Newberg, OR 97132  
 ENGINEER/SURVEYOR: AKS Engineering & Forestry, LLC - Jason Wuertz, PE PHONE: (503) 563-6151  
 ADDRESS: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

**GENERAL INFORMATION:**

PROJECT NAME: Bell West Pump Station PROJECT LOCATION: South of NE Bell Rd., east of N College St.  
 PROJECT DESCRIPTION/USE: Basic utility - water pump station PROJECT VALUATION: \_\_\_\_\_  
 MAP/TAX LOT NO. (i.e. 3200AB-400): R3208-02700 & 02800 ZONE: I SITE SIZE: ±4,973 SQ. FT.  ACRE   
 COMP PLAN DESIGNATION: PQ Public/Quasi-Public TOPOGRAPHY: Flat / sloping southeast  
 CURRENT USE: Vacant / Undeveloped  
 SURROUNDING USES:  
 NORTH: Church, rural residential SOUTH: Church, school, urban residential  
 EAST: Church, rural residential WEST: Church, urban residential

**SPECIFIC PROJECT CRITERIA AND REQUIREMENTS ARE ATTACHED**

General Checklist:  Fees  Current Title Report  Written Criteria Response  Owner Signature

For detailed checklists, applicable criteria for the written criteria response, and number of copies per application type, turn to:

Code Adjustment .....	p. 4
Final Plat .....	p. 6
Minor Design Review .....	p. 10
Property Line Consolidation.....	p. 11
Property Line Adjustment.....	p. 12

The above statements and information herein contained are in all respects true, complete, and correct to the best of my knowledge and belief. Tentative plans must substantially conform to all standards, regulations, and procedures officially adopted by the City of Newberg. All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process.

Paul Chiu 3/8/2022  
 Applicant Signature Date

Paul Chiu (Bell West Project Manager)  
 Print Name

Andy Baker 3/9/2022  
 Owner Signature Date

Andy Baker Trustee  
 Print Name





# TYPE II APPLICATION – LAND USE

**Applicant's Consultant:**

AKS Engineering & Forestry, LLC - Glen Southerland, AICP  
 12965 SW Herman Road, Suite 100  
 Tualatin, OR 97062  
 Phone: (503) 563-6151  
 Email: SoutherlandG@aks-eng.com

File #: \_\_\_\_\_

**TYPES – PLEASE CHECK ONE:**

- Design review  
 Tentative Plan for Partition  
 Tentative Plan for Subdivision  
 Type II Major Modification  
 Variance  
 Other: (Explain) \_\_\_\_\_

**APPLICANT INFORMATION:**

APPLICANT: City of Newberg, Engineering Division - Paul Chiu, PE  
 ADDRESS: 414 E 1st Street, Newberg, OR 97132  
 EMAIL ADDRESS: paul.chiu@newbergoregon.gov  
 PHONE: (503) 554-1751 MOBILE: \_\_\_\_\_ FAX: (503) 537-1277  
 OWNER (if different from above): North Valley Friends Church PHONE: (503) 538-5340  
 ADDRESS: 4020 N College Street, Newberg, OR 97132  
 ENGINEER/SURVEYOR: AKS Engineering & Forestry, LLC - Jason Wuertz, PE PHONE: (503) 563-6151  
 ADDRESS: 12965 SW Herman Road, Suite 100, Tualatin, OR 97062

**GENERAL INFORMATION:**

PROJECT NAME: Bell West Pump Station PROJECT LOCATION: South of NE Bell Rd., east of N College St.  
 PROJECT DESCRIPTION/USE: Basic utility - water pump station PROJECT VALUATION: \_\_\_\_\_  
 MAP/TAX LOT NO. (i.e. 3200AB-400): R3208-02700 & 02800 ZONE: 1 SITE SIZE: ±4,973 SQ. FT.  ACRE   
 COMP PLAN DESIGNATION: PQ Public/Quasi-Public TOPOGRAPHY: Flat / sloping southeast  
 CURRENT USE: Vacant / Undeveloped  
 SURROUNDING USES:  
 NORTH: Church, rural residential SOUTH: Church, school, urban residential  
 EAST: Church, rural residential WEST: Church, urban residential

**SPECIFIC PROJECT CRITERIA AND REQUIREMENTS ARE ATTACHED**

General Checklist:  Fees  Public Notice Information  Current Title Report  Written Criteria Response  Owner Signature

For detailed checklists, applicable criteria for the written criteria response, and number of copies per application type, turn to:

Design Review .....	p. 12
Partition Tentative Plat .....	p. 14
Subdivision Tentative Plat .....	p. 17
Variance Checklist .....	p. 20

The above statements and information herein contained are in all respects true, complete, and correct to the best of my knowledge and belief. Tentative plans must substantially conform to all standards, regulations, and procedures officially adopted by the City of Newberg. All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process.

Paul Chiu 3/8/2022  
 Applicant Signature Date

Paul Chiu (Bell West Project Manager)  
 Print Name

Andy Baker 3/9/2022  
 Owner Signature Date

Andy Baker trustee  
 Print Name

# NEWBERG PERMIT CENTER FEE SCHEDULE Effective Date: April 1, 2021

**5% Technology fee will be added to total fees (resolution No. 2016-3268)**

**PRE-APPLICATION REVIEW** ..... \$100

**TYPE I (ADMINISTRATIVE REVIEW)**

ANY TYPE I ACTION NOT SPECIFICALLY LISTED IN THIS SECTION .....	\$182
PROPERTY CONSOLIDATION .....	\$182
CODE ADJUSTMENT.....	\$455
DESIGN REVIEW - TYPE I (DUPLIX OR COM. /IND. MINOR ADDITION REVIEW) .....	0.3% OF PROJECT VALUE, \$455 MINIMUM
MINOR MODIFICATION OR EXTENSION OF TYPE I DECISION.....	\$182
MAJOR MODIFICATION OF TYPE I DECISION .....	50% OF ORIGINAL FEE
PARTITION FINAL PLAT .....	\$913 + \$80 PER PARCEL
<b>PROPERTY LINE ADJUSTMENT .....</b>	<b>\$913</b>
SIGN REVIEW .....	\$10 PLUS \$1.00 PER SQ. FT. OF SIGN FACE
SUBDIVISION, PUD, OR CONDOMINIUM FINAL PLAT.....	\$1830 + \$80 PER LOT OR UNIT

**TYPE II (LAND USE DECISION)**

ANY TYPE II ACTION NOT SPECIFICALLY LISTED IN THIS SECTION .....	\$913
MINOR MODIFICATION OR EXTENSION OF TYPE II DECISION .....	\$182
MAJOR MODIFICATION OF TYPE II DECISION.....	50% OF ORIGINAL FEE
<b>DESIGN REVIEW (INCLUDING MOBILE/MANUFACTURED HOME PARKS) .....</b>	<b>0.6% OF TOTAL PROJECT COST, \$913 MINIMUM*</b>
PARTITION PRELIMINARY PLAT .....	\$913 PLUS \$80 PER PARCEL
SUBDIVISION PRELIMINARY PLAT.....	\$1830 PLUS \$80 PER LOT
VARIANCE.....	\$913

**TYPE III (QUASI-JUDICIAL REVIEW)**

ANY TYPE III ACTION NOT SPECIFICALLY LISTED IN THIS SECTION .....	\$1939
ANNEXATION .....	\$2549 PLUS \$244 PER ACRE
COMPREHENSIVE PLAN AMENDMENT (SITE SPECIFIC) .....	\$2389
CONDITIONAL USE PERMIT.....	\$1939
MINOR MODIFICATION OR EXTENSION OF TYPE III DECISION .....	\$182
MAJOR MODIFICATION OF TYPE III DECISION .....	50% OF ORIGINAL FEE
HISTORIC LANDMARK ESTABLISHMENT OR MODIFICATION .....	\$0
HISTORIC LANDMARK ELIMINATION .....	\$2223
SUBDIVISION PRELIMINARY PLAT.....	\$1830 PLUS \$80 PER LOT
PLANNED UNIT DEVELOPMENT .....	\$3872+\$80 PER LOT OR UNIT
ZONING AMENDMENT (SITE SPECIFIC).....	\$2415

**TYPE IV (LEGISLATIVE AMENDMENTS)**

COMPREHENSIVE PLAN TEXT AMENDMENT OR LARGE SCALE MAP REVISION .....	\$2747
DEVELOPMENT CODE TEXT AMENDMENT OR LARGE SCALE MAP REVISION.....	\$2747

**APPEALS**

TYPE I OR II APPEAL TO PLANNING COMMISSION .....	\$524
TYPE I OR II APPEAL TO CITY COUNCIL .....	\$950
TYPE III APPEAL TO CITY COUNCIL .....	\$1115
TYPE I ADJUSTMENTS OR TYPE II VARIANCES (THAT ARE NOT DESIGNED TO REGULATE THE PHYSICAL CHARACTERISTICS OF A USE PERMITTED OUTRIGHT) .....	\$294
EXHIBITOR LICENSE FEE APPEAL TO THE CITY COUNCI .....	50% OF EXIBITOR LICENSE FEE

**OTHER FEES**

<b>TECHNOLOGY FEE (This fee will be added to all Planning, Engineering and Building Fees, does not apply to SDC fees) 5% OF TOTAL</b>	
EXPEDITED LAND DIVISION.....	\$6803 + \$80 PER LOT OR UNIT
URBAN GROWTH BOUNDARY AMENDMENT.....	\$4348
VACATION OF PUBLIC RIGHT-OF-WAY.....	\$1804
FEE-IN-LIEU OF PARKING PROGRAM.....	\$13,780 PER VEHICLE SPACE
BIKE RACK COST SHARING PROGRAM .....	\$100 PER RACK

**LICENSE FEES**

GENERAL BUSINESS .....	\$50
HOME OCCUPATION .....	\$25
PEDDLER/SOLICITOR/STREET VENDOR.....	No fee (Business License fee only)
EXHIBITOR.....	\$134
TEMPORARY MERCHANT .....	\$109/45 days or \$361/perpetual

**ADDITIONAL LAND USE REVIEW FEES - ENGINEERING DEPARTMENT**

Planning Review, Partition, Subdivision & PUD's (Type 11/111 Application) - \$296.71 - 19 lots, Plus \$13.90 per lot over 19 lots

Final Plat Review, Partition and subdivision .....\$296.71 Plus .....\$7.45 per lot or parcel

**Development review for public improvements on Commercial, Industrial, Multifamily Developments & Institutional zones**

**\$414.95 1st Acre \$237.02 Additional acre**

ADOPTION AND REVISION HISTORY:  
Adopted by: Resolution 98-2122, July 6, 1998  
Amended by: Resolution 99-2214, December 8, 1999  
Resolution 2000-2265, October 2, 2000  
Resolution 2001-2318, November 19, 2001  
Executive Order January 2, 2007 (Reso. 99-2210)  
Executive Order October 24, 2008  
Executive Order, December 16, 2002 pursuant to Resolution 99-2210

Executive Order, January 22, 2002 pursuant to Resolution 99-2210  
Resolution 2004-2466, November 3, 2003  
Resolution 2007-2752, December 3, 2007  
Executive Order November 29, 2011(2011-32)  
Executive Order October 24, 2012(2012-34)  
Resolution 2014-3140, May 19, 2014  
Executive Order April 1, 2015 (2015-42)  
Resolution 2016-3268, April 18, 2016

Resolution 2017-3361 March 2017  
Resolution 2018-3443 March 2018  
Resolution 2019-3539 March 2019  
Resolution 2020-3646 March 2020  
Resolution 2021-3722 March 2021

## § 15.230.020 PROPERTY LINE ADJUSTMENT

**Definition:** The adjustment of common property lines between two or more abutting properties. Approval of a property line adjustment cannot be granted unless certain criteria have been satisfied. Property line adjustment approval shall be based on written findings to the applicable criteria.

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### PROPERTY LINE ADJUSTMENT PROCESS & CRITERIA

**Process:** Coordinate with a surveyor to draw up new property surveys and legal descriptions for the parcels affected by the property line adjustment. Coordinate with a title company to write up property conveyance deeds for the portion of property to be adjusted in order to effect the property line adjustment. The Planning Division and City Surveyor will review the deeds, property surveys, and legal descriptions for approval. After approval, the deeds will need to be recorded with the Yamhill County Recorder and the new property surveys and legal descriptions will need to be filed with the County Surveyor. A copy of the documents will need to be returned to the City after recording.

**Criteria:** Type I applications require a written response to applicable criteria to determine whether approval is justified. Please provide a written response to each of the applicable criteria for a Type I design review. **Your written response should address how you meet each of the following criteria.**

- (1) The property line adjustment does not create more lots than existed prior to the adjustment.
- (2) The adjustment does not create any substandard condition relative to this code, including lot area, lot width, setbacks, and access. If any of the original lots do not meet these standards, the adjusted lots may remain non-conforming provided:
  - (a) The adjustment cannot reasonably or practically bring the lots into conformity.
  - (b) The adjustment does not worsen the non-conforming status of the lots.

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### PROPERTY LINE ADJUSTMENT APPLICATION CHECKLIST

- FEES**
- APPLICATION FORM**
- CURRENT TITLE REPORT**
- WRITTEN CRITERIA RESPONSE** – See above for the applicable criteria.
- PROPERTY CONVEYANCE DEEDS** – For the portion of property to be conveyed to complete the property line adjustment.
- LEGAL DESCRIPTION** – Provide the following legal descriptions:
  - Current legal descriptions of the affected parcels
  - A legal description of the portion of property to be conveyed
  - New legal descriptions of the affected parcels after the property line adjustment
- SITE PLAN** – Make sure the plans are prepared so that they are at least 8 ½ x 11 inches in size and the scale is standard. Include the following information on the plans:
  - Existing Site Features:
  - Show existing landscaping, grades, slopes and structures. Indicate items to be preserved and removed. Note distances to property lines for all structures.
  - Show the location and sizes of all existing sewer and water lines in the area affected by the adjustment.
  - Dimensions: Show the dimensions of all affected lots, before and after the proposed property line adjustment.
  - Other: Show any other site elements which will assist in the evaluation of the site and the project.

## DESIGN REVIEW CHECKLIST

The following items must be submitted with each application. Incomplete applications will not be processed. Incomplete or missing information may delay the review process. Check with the Planning Division regarding additional requirements for your project.

**FEES**

**PUBLIC NOTICE INFORMATION** – Draft of mailer notice and sign; mailing list of all properties within 500’.

**CURRENT TITLE REPORT** (within 60 days old)

**SUBMIT one original and three copies 8-1/2" x 11" or 11" x 17" reproducible document together with 20 copies of the following information. In addition, submit two (2) full size copies of all plans.**

**WRITTEN CRITERIA RESPONSE** – Address the criteria listed on page 12.

**SITE DEVELOPMENT PLAN.** Make sure the plans are prepared so that they are at least 8 ½ x 11 inches in size and the scale is standard, being 10, 20, 30, 40, 50, 100 or multiples of 100 to the inch (such as 1":10', 1":20' or other multiples of 10). Include the following information in the plan set (information may be shown on multiple pages):

- Existing Site Features:** Show existing landscaping, grades, slopes, wetlands and structures on the site and for areas within 100' of the site. Indicate items to be preserved and removed.
- Drainage & Grading:** Show the direction and location of on and off-site drainage on the plans. This shall include site drainage, parking lot drainage, size and location of storm drain lines, and any retention or detention facilities necessary for the project. Provide an engineered grading plan if necessary. A preliminary storm water report is required (see Public works Design and Construction standards).
- Utilities:** Show the location of and access to all public and private utilities, including sewer, water, storm water and any overhead utilities.
- Public Improvements:** Indicate any public improvements that will be constructed as part of the project, including sidewalks, roadways, and utilities.
- Access, Parking, and Circulation:** Show proposed vehicular and pedestrian circulation, parking spaces, parking aisles, and the location and number of access points from adjacent streets. Provide dimensions for parking aisles, back-up areas, and other items as appropriate. Indicate where required bicycle parking will be provided on the site along with the dimensions of the parking spaces.
- Site Features:** Indicate the location and design of all on-site buildings and other facilities such as mail delivery, trash disposal, above ground utilities, loading areas, and outdoor recreation areas. Include appropriate buffering and screening as required by the code.
- Exterior Lighting Plan:** Show all exterior lighting, including the direction of the lighting, size and type of fixtures, and an indication of the amount of lighting using foot candles for analysis.
- Landscape Plan:** Include a comprehensive plan that indicates the size, species and locations of all planned landscaping for the site. The landscape plan should have a legend that indicates the common and botanical names of plants, quantity and spacing, size (caliper, height, or container size), planned landscaping materials, and description of the irrigation system. Include a calculation of the percentage of landscaped area.
- ADA Plan Compliance:** Indicate compliance with any applicable ADA provisions, including the location of accessible parking spaces, accessible routes from the entrance to the public way, and ramps for wheelchairs.  
N/A
- Architectural Drawings:** Provide floor plans and elevations for all planned structures.
- Signs and Graphics:** Show the location, size, colors, materials, and lighting of all exterior signs, graphics or other informational or directional features if applicable.
- Other:** Show any other site elements which will assist in the evaluation of the site and the project.  
N/A

**TRAFFIC STUDY**

N/A A traffic study shall be submitted for any project that generates in excess of forty (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 forty (40) trips per p.m. peak hour where the use is located immediately adjacent to an intersection functioning at a poor level of service.

## **Exhibit C: Yamhill County Assessor's Map**

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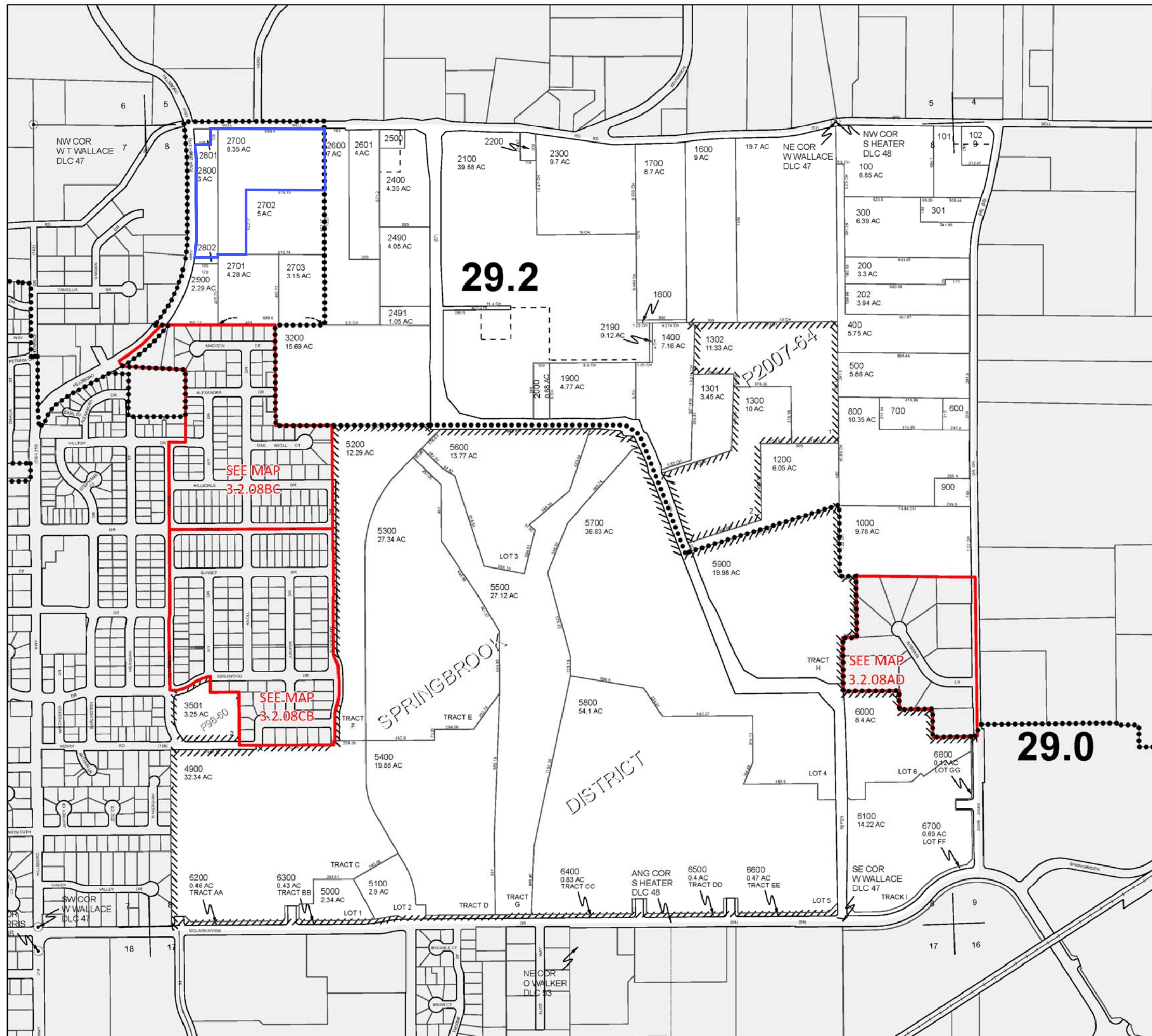
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ASSESSMENT & TAX  
CARTOGRAPHY

SECTION 8 T.3S. R.2W. W.M.  
YAMHILL COUNTY OREGON  
1" = 400'



CANCELLED TAXLOTS:

- 4800
- 4700
- 4600
- 4500
- 4401
- 4400
- 4300
- 4200
- 4101
- 4100
- 4000
- 3900
- 3800
- 3700
- 3601
- 3600
- 3504
- 3503
- 3502
- 3400
- 3300
- 3100
- 3001
- 3000
- 1100
- 201

DATE PRINTED: 6/24/2019

This product is for Assessment and Taxation (A&T) purposes only and has not been prepared or is suitable for legal, engineering, surveying or any purposes other than assessment and taxation.

## **Exhibit D: Ownership Information**

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**First American**

**First American Title Insurance Company**

775 NE Evans Street  
McMinnville, OR 97128  
Phn - (503)376-7363  
Fax - (866)800-7294

**YAMHILL COUNTY TITLE UNIT**  
FAX (866)800-7294

Title Officer: Clayton Carter  
(503)376-7363  
ctcarter@firstam.com

Supplemental  
**LOT BOOK SERVICE**

AKS Engineering & Forestry LLC  
12965 SW Herman Road, Suite 100  
Tualatin, OR 97062

Order No.: 1039-3764360  
March 10, 2022

Attn: Rudy Borowczak  
Phone No.: (503)563-6151 - Fax No.: (503)563-6152  
Email: borowczakr@aks-eng.com

Re:

Fee: \$500.00

We have searched our Tract Indices as to the following described property:

The land referred to in this report is described in Exhibit A attached hereto.

and as of March 8, 2022 at 8:00 a.m.

We find that the last deed of record runs to

North Valley Friends Church, an Oregon Non-profit Corporation

We find the following apparent encumbrances within ten (10) years prior to the effective date hereof:

1. Taxes, including the current fiscal year, not assessed because of 307.140-Churches & Religious Exemption. If the exempt status is terminated an additional tax may be levied. Account Nos. 25813, 25831 , 25779, 25724, and 529354.
2. Taxes for the current fiscal year are reduced by reason of 307.140-Churches & Religious Exemption. If the exempt status is terminated under the statute prior to July 1, said property will be taxed at 100% of the assessed value.  
(Affects APN 25706)
3. Potential Additional Tax Liability for disqualification in the amount of \$56.06. (Affects APN 25813)

4. Potential Additional Tax Liability for disqualification in the amount of \$223.90. (Affects APN 25831)
5. Potential Additional Tax Liability for disqualification in the amount of \$928.05 (Affects APN 25779)
6. The rights of the public in and to that portion of the premises herein described lying within the limits of streets, roads and highways.
7. Development Agreement and the terms and conditions thereof:  
Between: North Valley Friends Church  
And: City of Newberg, an Oregon municipal corporation  
Recording Information: June 16, 2003 as Instrument No. 200314309, Deed and Mortgage Records
8. Reciprocal Easement and Maintenance Agreement and the terms and conditions thereof:  
Between: North Valley Friends Church  
And: Veritas School, an Oregon nonprofit corporation  
Recording Information: December 17, 2004 as Instrument No. 200425601, Deed and Mortgage Records
9. Right of First Refusal between North Valley Friends Church and Veritas School, including terms and provisions thereof.  
Recorded: December 17, 2004 as Instrument No. 200425602, Deed and Mortgage Records
10. Right of First Refusal between Veritas School and North Valley Friends Church, including terms and provisions thereof.  
Recorded: December 17, 2004 as Instrument No. 200425603, Deed and Mortgage Records
11. Easement, including terms and provisions contained therein:  
Recording Information: September 24, 2013 as Instrument No. 201315144, Deed and Mortgage Records  
In Favor of: City of Newberg, a municipal corporation  
For: Constructing, installing, using, repairing, and maintaining a public sanitary sewer line and/or a public water line
12. Easement, including terms and provisions contained therein:  
Recording Information: April 16, 2014 as Instrument No. 201404207, Deed and Mortgage Records  
In Favor of: City of Newberg, a municipal corporation  
For: Constructing, installing, using, repairing, and maintaining a public sanitary sewer line and a public water line
13. Easement, including terms and provisions contained therein:  
Recording Information: April 16, 2014 as Instrument No. 201404208, Deed and Mortgage Records  
In Favor of: City of Newberg, a municipal corporation  
For: Constructing, installing, using, repairing, and maintaining a public sanitary sewer line and a public water line

We have also searched our General Index for Judgments and State and Federal Liens against the Grantee(s) named above and find:

NONE

We find the following unpaid taxes and city liens:

NOTE: Taxes for the year 2021-2022 PAID IN FULL

Tax Amount:	\$1,989.58
Map No.:	R3208 02701
Property ID:	25724
Tax Code No.:	29.0

NOTE: Taxes for the year 2021-2022 PAID IN FULL

Tax Amount:	\$2,249.83
Map No.:	R3208 02700
Property ID:	25706
Tax Code No.:	29.0

NOTE: Taxes for the year 2021-2022 PAID IN FULL

Tax Amount:	\$1,172.19
Map No.:	R3208 02800
Property ID:	25779
Tax Code No.:	29.0

NOTE: Taxes for the year 2021-2022 PAID IN FULL

Tax Amount:	\$EXEMPT
Map No.:	R3208 02703
Property ID:	529354
Tax Code No.:	29.0

NOTE: Taxes for the year 2021-2022 PAID IN FULL

Tax Amount:	\$EXEMPT
Map No.:	R3208 02801
Property ID:	25813
Tax Code No.:	29.0

NOTE: Taxes for the year 2021-2022 PAID IN FULL

Tax Amount:	\$EXEMPT
Map No.:	R3208 02802
Property ID:	25831
Tax Code No.:	29.0

THIS IS NOT a title report since no examination has been made of the title to the above described property. Our search for apparent encumbrances was limited to our Tract Indices, and therefore above listings do not include additional matters which might have been disclosed by an examination of the record title. We assume no liability in connection with this Lot Book Service and will not be responsible for errors or omissions therein. The charge for this service will not include supplemental reports, rechecks or other services.

**Exhibit "A"**

Real property in the County of YAMHILL, State of Oregon, described as follows:

**PARCEL 1:**

A TRACT OF LAND IN THE WILLIAM T. WALLACE DONATION LAND CLAIM #47 IN SECTION 8, TOWNSHIP 3 SOUTH, RANGE 2 WEST OF THE WILLAMETTE MERIDIAN IN YAMHILL COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY MARGIN OF STATE SECONDARY HIGHWAY #219 (HILLSBORO-SILVERTON HIGHWAY) 1320 FEET SOUTH AND 869.85 FEET EAST OF THE NORTHWEST CORNER OF SAID DONATION LAND CLAIM; THENCE EAST 355.13 FEET TO THE TRUE POINT OF BEGINNING, SAID POINT ALSO BEING THE SOUTHEAST CORNER OF THAT CERTAIN TRACT OF LAND CONVEYED TO HARLIN M. HUFFMAN, ET UX, BY DEED RECORDED SEPTEMBER 18, 1968 IN FILM VOLUME 72, PAGE 644, DEED AND MORTGAGE RECORDS; THENCE EAST PARALLEL TO THE NORTH LINE OF SECTION 8, A DISTANCE OF 400 FEET; THENCE NORTH 00°02½' WEST 465.73 FEET; THENCE WEST 580 FEET, MORE OR LESS, TO THE EASTERLY MARGIN OF SAID HIGHWAY; THENCE SOUTHWESTERLY ALONG SAID EASTERLY MARGIN, 60 FEET, MORE OR LESS, TO THE NORTHWEST CORNER OF SAID HUFFMAN TRACT; THENCE EAST ALONG THE NORTH LINE OF SAID HUFFMAN TRACT, 178 FEET TO THE NORTHEAST CORNER THEREOF; THENCE SOUTH 00°02½' EAST ALONG THE EAST LINE OF SAID HUFFMAN TRACT, 405.73 FEET TO THE TRUE PLACE OF BEGINNING.

**PARCEL 2:**

A TRACT OF LAND IN THE WILLIAM T. WALLACE DONATION LAND CLAIM #47 IN SECTION 8, TOWNSHIP 3 SOUTH, RANGE 2 WEST OF THE WILLAMETTE MERIDIAN IN YAMHILL COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING 64.60 RODS EAST OF THE NORTHWEST CORNER OF THE WILLIAM T. WALLACE DONATION LAND CLAIM IN SAID SECTION, TOWNSHIP AND RANGE; THENCE EAST 105 FEET; THENCE SOUTH 105 FEET; THENCE WEST 105 FEET; THENCE NORTH 105 FEET TO THE PLACE OF BEGINNING.

**PARCEL 3:**

PART OF THE WILLIAM T. WALLACE DONATION LAND CLAIM #47, IN SECTIONS 7 AND 8, TOWNSHIP 3 SOUTH, RANGE 2 WEST OF THE WILLAMETTE MERIDIAN IN YAMHILL COUNTY, OREGON, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 80 RODS SOUTH AND 116 RODS EAST OF THE NORTHWEST CORNER OF SAID WALLACE DONATION LAND CLAIM, SAID POINT BEING SITUATED ON THE NORTH LINE OF A CERTAIN TRACT OF LAND CONVEYED TO LLOYD A. PETRIE AND WIFE BY DEED RECORDED NOVEMBER 1, 1950 IN BOOK 159, PAGE 465, DEED RECORDS, SAID POINT ALSO BEING THE SOUTHWEST CORNER OF A CERTAIN TRACT OF LAND CONVEYED TO EARL E. WALKER AND WIFE BY DEED RECORDED MARCH 16, 1954 IN BOOK 172, PAGE 579, DEED RECORDS; THENCE NORTH 80 RODS ALONG THE WEST LINE OF SAID WALKER TRACT; THENCE WEST 41.60 RODS TO THE NORTHEAST CORNER OF A CERTAIN TRACT OF LAND CONVEYED TO J. H. PETERS AND WIFE BY DEED RECORDED DECEMBER 24, 1924 IN BOOK 91, PAGE 291, DEED RECORDS; THENCE SOUTH 80 RODS ALONG THE EAST LINE OF SAID PETERS TRACT TO THE SOUTHEAST CORNER OF SAID PETERS TRACT; THENCE EAST 42.40 RODS TO THE PLACE OF BEGINNING.

SAVE AND EXCEPT THAT PORTION OF THE ABOVE DESCRIBED REAL PROPERTY TO J. WILLIAM ROURKE, JR., PAUL STRAIT AND AL LEHMAN BY WARRANTY DEED RECORDED MAY 12, 1972, IN FILM



VOLUME 89 ON PAGE 700, DEED AND MORTGAGE RECORDS, YAMHILL COUNTY, OREGON.

SAVE AND EXCEPT THAT PORTION IN DEED RECORDED MARCH 1, 2005 AS INSTRUMENT NO. 200504184, DEED AND MORTGAGE RECORDS, YAMHILL COUNTY, OREGON.

PARCEL 4:

BEING A PART OF THE WILLIAM T. WALLACE DONATION LAND CLAIM #47, NOTIFICATION NO. 1477, IN SECTIONS 7 AND 8, TOWNSHIP 3 SOUTH, RANGE 2 WEST OF THE WILLAMETTE MERIDIAN YAMHILL COUNTY, OREGON, THE BEGINNING POINT FOR LAND CONVEYED BEING 80 RODS SOUTH AND 64.60 RODS EAST OF THE NORTHWEST CORNER OF SAID WILLIAM T. WALLACE DONATION LAND CLAIM; THENCE EAST 10 RODS; THENCE NORTH 80 RODS; THENCE WEST 10 RODS; THENCE SOUTH 80 RODS TO THE PLACE OF BEGINNING.

EXCEPTING THEREFROM THE TRACT CONVEYED TO HARLIN M. HUFFMAN AND WIFE BY DEED RECORDED SEPTEMBER 18, 1968 IN FILM VOLUME 72, PAGE 644, DEED AND MORTGAGE RECORDS, YAMHILL COUNTY, OREGON.

SAVE AND EXCEPT THAT PORTION OF THE ABOVE DESCRIBE REAL PROPERTY TO J. WILLIAM ROURKE, JR., PAUL STRAIT AND AL LEHMAN BY WARRANTY DEED RECORDED MAY 12, 1972, IN FILM VOLUME 89 ON PAGE 700, DEED AND MORTGAGE RECORDS, YAMHILL COUNTY, OREGON.



*First American*

First American Title Insurance Company  
775 NE Evans Street  
McMinnville, OR 97128

### **Illegal Restrictive Covenants**

Please be advised that any provision contained in this document, or in a document that is attached, linked, or referenced in this document, that under applicable law illegally discriminates against a class of individuals based upon personal characteristics such as race, color, religion, sex, sexual orientation, gender identity, familial status, disability, national origin, or any other legally protected class, is illegal and unenforceable by law.

**AFTER RECORDING RETURN TO:**  
City of Newberg - Community Development  
PO Box 970 - 414 East First Street  
Newberg, OR 97132

OFFICIAL YAMHILL COUNTY RECORDS  
CHARLES STERN, COUNTY CLERK

200314309



\$51.00

DMR-AGRDMR Cnt=1 Stn=2 ANITA  
\$30.00 \$10.00 \$11.00

06/16/2003 04:19:57 PM

## DEVELOPMENT AGREEMENT

This Development Agreement (this "Agreement"), dated as of this 5<sup>th</sup> day of May, 2003, is made by and between North Valley Friends Church ("NVF") and the City of Newberg, an Oregon municipal corporation ("City"), collectively referred to as the "Parties."

### RECITALS:

- A. NVF owns real property outside the boundary of the City, on real property more particularly depicted on Exhibit A (the "NVF Property"). The NVF property is within the Newberg Urban Reserve Area.
- B. NVF wishes to develop the property, including a private school, two duplexes, social services buildings, and other improvements as described in City File URA 8-02 (County Docket C-15-01) (the "Project").
- C. City wishes to accommodate said request consistent with its Comprehensive Plan. This normally requires an Urban Growth Boundary amendment, annexation to the City, and extension of street and utility services prior to the use.
- D. NVF wishes to develop in accordance with applicable plans and ordinances, but is concerned with the time and money required to do so.
- E. The Parties met to develop this agreement to accommodate both NVF's goals of developing their facilities in a timely and cost efficient manner, and the City's goals of providing for ultimate annexation and service provision to the area.

THIS IS AN ACCOMMODATION RECORDING ONLY  
IT HAS NOT BEEN EXAMINED AS TO ITS CONTENT  
NORTHWEST TITLE COMPANY

## AGREEMENT:

NOW, THEREFORE, in consideration of the foregoing, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties agree as follows:

- I. Sewer Service:
  - A. City will not make the standard requirement of full extension of the a public sewer main along the both the Bell Road and College Street frontages of the property as part of development approval for the Project.
  - B. As part of construction of the Project, NVF will extend a public sewer line to the boundary of its property and connect newly constructed buildings to this line. NVF may choose to connect other buildings on the site to this line.
  - C. City will agree to allow this connection while an annexation application is pending and prior to the annexation being approved.
  - D. If NVF needs to obtain easements to extend this sewer line, the City will assist in the process. City will consider using its powers of condemnation should it be necessary.
  - E. City will help create an "advance financing district" to help NVF recover costs of extending the line when adjoining properties develop.
  - F. NVF agrees to participate in and waives its rights to remonstrance against a future Local Improvement District to extend a municipal sewer line along the frontage of the NVF Property. NVF may choose to agree or not agree to a project similar to an LID that would extend the municipal sewer line.
  
- II. Water
  - A. City will not make the standard requirement of full extension of a public water main to the property and along all frontages as a condition of approval for the Project.

- B. NVF will extend a City standard water main along the frontage of its property and connect its buildings to the system in accordance with City standards at the time all of the following occur:
- a. A reservoir or pump station is developed to serve properties at the elevation level of the NVF property.
  - b. A water line is extended to the NVF property line.
  - c. Extension of the water main along the NVF frontage is necessary to serve other properties in the immediate area.

NVF will be allowed to use its well water system for irrigation if it so chooses.

- C. While extension along both the Bell Road and College Street frontages of the property is desired, the Parties agree to limit the NVF cost for the future extension required by this agreement to not more than \$90,000. This cap shall be adjusted to account for inflation after the date of this agreement.
- D. City will agree to allow the initial development of the site to proceed prior to the time stated above without connection to City water or extension of the water mains. NVF may request connection to City water prior to this time, which City will approve in accordance with City standards.

### III. Streets

- A. City will not make the standard requirement of improvement to College Street and Bell Road 3/4 street with curb, gutter, and sidewalk along the entire frontage of the NVF property as a condition of the Project.
- B. At time of development, NVF will connect their proposed on-site walking path to College Street and Bell Road at the ends of the property and at the intersection. The path in those sections will have a hard surface suitable for ADA access.
- C. At time of development, NVF will dedicate sufficient right-of-way on Bell Road and College Street for future widening.
- D. For College Street, NVF will install full curb and gutter along the Property's frontage when the opposite side of College Street is improved from the south end of the NVF property to Bell Road. This may be done as part of a Local Improvement District or similar project. The on-site path will take the place of standard sidewalk.
- E. For Bell Road, NVF will widen the roadway with a paved shoulder along its frontage when similar or greater improvements are installed from the edge of the Property to Aspen Way. This may be done as part of a Local Improvement

District or similar project. The on-site path will take the place of standard sidewalk.

- IV. Urban Growth Boundary Amendment, Annexation. NVF will file and diligently pursue (i.e. attend meetings with ample notice, not fight against, and so forth) an application for an Urban Growth Boundary Amendment and Annexation to the City prior to applying for County building permits for the first phase. The first phase will be considered to include the school, the ballfields, one duplex, and the walking trail (Items H, I, K, and half of L as shown in City File URA-8-02/County Docket C-15-01).
- A. NVF may develop this first phase prior to annexation to the City. It is understood that City permit fees and system development charges will not be paid for this first phase developed under Yamhill County jurisdiction, with the exception of fees directly associated with connection to the sanitary sewer system, including sewer system development charges and public sewer line plan review and inspection fees.
- B. City will recommend that, at the time of annexation, a zoning be applied to the property that will allow the uses proposed in City File URA-8-02/County Docket C-15-01, including a school, two duplexes, and social service buildings.
- V. County Conditional Use Permit Application and Fees.
- A. City agrees to not object to the NVF conditional use permit application, County Docket C-15-01, provided the decision complies with the terms of this agreement.
- B. City and NVF agree and understand that the first phase will be conducted under Yamhill County jurisdiction and that City fees, including system development charges, will not be required for this first phase, with the exception of fees directly associated with connection to the sanitary sewer system, including sewer system development charges and public sewer line plan review and inspection fees. City fees, including system development charges, will be required for future phases undertaken after annexation to the City. City fees for Urban Growth Boundary Amendment and Annexation also will be required.
- VI. Termination:
- A. This agreement shall terminate upon completion of the terms herein.
- B. This agreement shall be null and void if NVF chooses to not commence the Project.



Yamhill County (UGB amendment only) and the City of Newberg within three years of application, or if the public vote required for annexation fails after two attempts within those three years, this agreement shall be terminate. In this case, the City shall allow continuation of the sewer connections allowed under this agreement, and NVF may pursue development of future phases under Yamhill County jurisdiction outside this agreement.

VII. Covenant Running with the Land. This Agreement is an instrument affecting the title or possession of the Property. All of the terms, covenants and conditions herein imposed, are for the benefit of the City and the real property or interest therein. This Agreement shall be binding upon the Property and the successors in interest of the owner, and shall act as covenants running with the land. Upon sale or division of the Property, the terms of this agreement shall apply separately to each parcel, and the owner of each parcel shall succeed to the obligation imposed upon owner by this agreement.

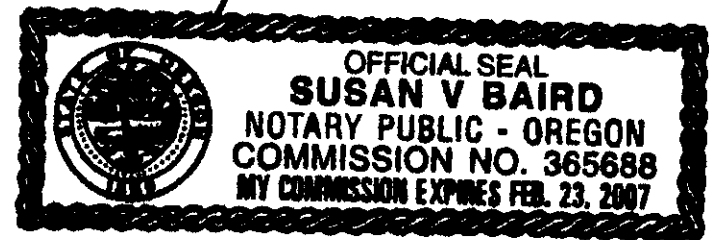
IN WITNESS WHEREOF, I/we have executed said document on this 5<sup>th</sup> day of May, 2003.

OWNER(S):  
NORTH VALLEY FRIENDS CHURCH

By [Signature]

By Bruce Longstrot

STATE OF OREGON )  
City of Newberg ) ss.  
County of Yamhill )



This instrument was acknowledged before me by Jim Fisher & Bruce Longstrot to be known to be the Stewards of Long Term Planning Comm / Board, by authority of NVF Meeting, on behalf of North Valley Friends Church.

CITY OF NEWBERG

ACCERTED AS TO FORM:

By [Signature]  
James H. Bennett, City Manager

By [Signature] 5/5/03  
Terrence D. Mahr, City Attorney

# Exhibit A

**PARCEL 1:** A tract of land in the William T. Wallace Donation Land Claim #47 in Section 8, Township 3 South, Range 2 West of the Willamette Meridian in Yamhill County, Oregon, more particularly described as follows:  
Beginning at a point on the Easterly margin of State Secondary Highway #219 (Hillsboro-Silverton Highway) 1320 feet South and 869.65 feet East of the Northwest corner of said Donation Land Claim; thence East 355.13 feet to the true point of beginning, said point also being the Southeast corner of that certain tract of land conveyed to Harlin M. Huffman, et ux, by deed recorded September 18, 1968 in Film Volume 72, Page 644, Deed and Mortgage Records: thence East parallel to the North line of Section 8, a distance of 400 feet; thence North  $00^{\circ}02\frac{1}{2}'$  West 465.73 feet; thence West 580 feet, more or less, to the Easterly margin of said highway; thence Southwesterly along said Easterly margin, 60 feet, more or less, to the Northwest corner of said Huffman tract; thence East along the North line of said Huffman tract, 178 feet to the Northeast corner thereof; thence South  $00^{\circ}02\frac{1}{2}'$  East along the East line of said Huffman tract, 405.73 feet to the true place of beginning.

**PARCEL 2:** A tract of land in the William T. Wallace Donation Land Claim #47 in Section 8, Township 3 South, Range 2 West of the Willamette Meridian in Yamhill County, Oregon, more particularly described as follows:  
Beginning 64.60 rods East of the Northwest corner of the William T. Wallace Donation Land Claim in said Section, Township and Range; thence East 105 feet; thence South 105 feet; thence West 105 feet; thence North 105 feet to the place of beginning.

---Parcel 1: Part of the William T. Wallace D.L.C. #47, in Sections 7 and 8, Township 3 South, Range 2 West of the W.M. in Yamhill County, Oregon, described as follows:

Beginning at a point 80 rods South and 116 rods East of the NW corner of said Wallace D.L.C., said point being situated on the North line of a certain tract of land conveyed to Lloyd A. Petrie and wife by deed recorded 11-1-50 in Book 159, Page 465, Deed Records, said point also being the SW corner of a certain tract of land conveyed to Earl E. Walker and wife by deed recorded March 16, 1954 in Book 172, Page 579, Deed Records; thence N. 80 rods along the W line of said Walker tract; thence West 41.60 rods to the NE corner of a certain tract of land conveyed to J. H. Peters and wife by deed recorded 12-24-24 in Book 91, Page 291, Deed Records; thence South 80 rods along the East line of said Peters tract to the SE corner of said Peters tract; thence East 42.40 rods to the place of beginning.

Parcel 2: Being a part of the William T. Wallace D.L.C. #47, Notification No. 1477, in Sections 7 and 8, Township 3 South, Range 2 West of the W.M. Yamhill County, Oregon, the beginning point for land conveyed being 80 rods South and 64.60 rods East of the NW corner of said Wm. T. Wallace D.L.C.; thence East 10 rods; thence North 80 rods; thence West 10 rods; thence South 80 rods to the place of beginning.

EXCEPTING THEREFROM the tract conveyed to Harlin M. Huffman and wife by deed recorded 9-18-68 in Film Volume 72, Page 644, Deed and Mortgage Records, Yamhill County, Oregon.

SUBJECT to rights of the public in streets, roads and highways.  
SUBJECT to a non-exclusive right of way from E. B. Stanley, et ux and Elmer L. Blomberg, et ux to Harlin M. Huffman, et ux recorded in Film Volume 72, Page 644, on 9-18-68, Deed and Mortgage Records.

SAVE AND EXCEPT that portion of the above described real property conveyed by the grantors above named to J. William Rourke, Jr., Paul Strait and Al Lehman by warranty deed recorded May 12, 1972, in Film Volume 89 on Page 700, Yamhill County Records.---

AFTER RECORDING, RETURN TO:

VERITAS School  
401 Mission Drive  
Newberg, OR 97132

North Valley Friends Church  
4020 N. College Street  
Newberg, OR 97132

No Change in Tax Statement

OFFICIAL YAMHILL COUNTY RECORDS  
JAN COLEMAN, COUNTY CLERK

200425601



\$76.00

12/17/2004 03:10:07 PM

DMR-EDMR Cnt=2 Stn=2 ANITA  
\$5.00 \$50.00 \$10.00 \$11.00

### RECIPROCAL EASEMENT AND MAINTENANCE AGREEMENT

THIS RECIPROCAL EASEMENT AND MAINTENANCE AGREEMENT is by and between North Valley Friends Church (hereinafter called "NVFC") and VERITAS School, an Oregon nonprofit corporation (hereinafter called "VERITAS").

#### RECITALS

- A. NVFC, (Oregon Non-profit Corporation), is the owner in fee simple of that certain real property described on Exhibit A attached hereto and incorporated herein by reference (herein called "Parcel 1").
- B. VERITAS is the owner in fee simple of that certain real property described on Exhibit B attached hereto and incorporated herein by reference (herein called "Parcel 2").
- C. Parcel 1 and Parcel 2 are contiguous and are represented on the site plan attached hereto as Exhibit C and incorporated here by reference ("Site Plan"). Parcel 1 and Parcel 2 are sometimes herein collectively referred to as the "Parcels," and individually as the "Parcel."
- D. The parties desire to create this agreement to provide for ingress, egress, construction, maintenance and use of the driveways, walking path and utilities. (see attached "Exhibit C").

#### AGREEMENT

NOW, THEREFORE, the parties hereto agree as follows:

- 1. NVFC hereby grants, conveys and transfers to VERITAS on the terms and conditions set forth herein a perpetual non-exclusive easement across and upon Bell Road access to Parcel 2, now existing (as shown on Exhibit C) or constructed in the future on Parcel 1 which allows for access, ingress, egress, construction, maintenance and use from public areas.

Tigor Title Insurance Company

TO- 829338

①

a. NVFC hereby grants, conveys and transfers to VERITAS on the terms and conditions set forth herein a perpetual non-exclusive easement for use of walking trail now existing (as shown on Exhibit C) or constructed in the future on Parcel 1.

2. VERITAS hereby grants, conveys and transfers to NVFC, on the terms and conditions set forth herein, a perpetual non-exclusive easement for use of walking trail now existing (as shown on Exhibit C) or constructed in the future on Parcel 2.

3. NVFC hereby grants, conveys and transfers to VERITAS, on the terms and conditions set forth herein, perpetual, non-exclusive easements to use that portion of Parcel 1 depicted and described on Exhibit C, to install, maintain, use, repair or replace all utilities to be provided to Parcel 2. Utilities are defined as: sanitary sewer, water, natural gas, telephone, electricity, cable, storm water and the like (Utility zones are approximate and will be updated upon completion with as-built drawings).

(a) NVFC also grants VERITAS an easement for joint use of the well, associated conveyances, lines or support infrastructure in the northwest corner of NVFC property for domestic and irrigation purposes to serve VERITAS' development until such time as City water is available to Parcel 2 and connection to the public water system is made. NVFC has provided a flow test that shows the well produces 18 gallons per minute. VERITAS and NVFC will not engage in activities that interfere with the other's use of the well. VERITAS is not guaranteed sufficient water for irrigation or domestic purposes. VERITAS may desire to drill new well for irrigation of ball fields. VERITAS' first priority will be to drill on VERITAS' own property. In the event that VERITAS' property is not best suited for a new well location, NVFC will allow new well to be drilled on their property and provide necessary access and easements. Exhibit C will be updated with As-Built information and distributed to both parties.

4. NVFC hereby grants, conveys and transfers to VERITAS, on the terms and conditions set forth herein, a perpetual, non-exclusive easement to construct maintain and use of conveyance system for surface and stormwater (including water collected from roof drains) from Parcel 2 to stormwater detention/treatment facility as depicted and described on Exhibit C (Exhibit C will be updated with as-built information upon completion.).

5. The Easements set forth in paragraphs 1-4 above are sometimes herein collectively called the "Easement". The locations of the Easements are shown on Exhibit C. The Easement shall be for the benefit of the parties, their tenants, licensees, employees, and invitees.

6. The owners may relocate Easements to mutually agreeable locations, which the parties shall document in recordable form. Any dispute under this paragraph will be resolved as prescribed in section 10 below.

7. Those Easements located on Parcel 2 are appurtenant to Parcel 1, shall run with and benefit Parcel 1, shall run with and burden Parcel 2, and shall be binding on and inure to the benefit of the parties hereto, their successors, heirs or assigns. Those easements located on Parcel 1 are appurtenant to Parcel 2, shall run with and benefit Parcel 2, shall run with and burden Parcel 1, and shall be binding on and inure to the benefit of the parties hereto, their successors,

heirs or assigns. Each owner of a Parcel shall be responsible for any real property taxes or specific assessments on the Parcel owned by that owner. NVFC shall be responsible for the maintenance and repair of the parking areas on Parcel 1 and the College Street entrance. VERITAS shall be responsible for the maintenance and repair of the parking area on Parcel 2 and the Bell Road entrance.

8. Each party shall indemnify, defend and hold harmless the other from any cost, loss, claim or liability, including attorneys fees, arising out of the party's use of its respective Easements, except for allocation of repair and maintenance costs set forth above.

9. In construing this Easement, Agreement, it is understood that if the Easement Agreement so requires it to be meaningful, the singular or plural shall be taken to the mean or indicated the other, and, similarly, with respect to use of the masculine, feminine and the neuter, and that generally all grammatical changes shall be made, assumed or implied where the context reasonably requires.

10. In the case of any future disagreements between the VERITAS and NVFC over this Easement or in regard to any joint usage arrangements, both parties agree to first use the services of a mutually agreed upon, Christian mediation service to help resolve the dispute if third party intervention is deemed necessary. In the event legal action is instituted to enforce any term of this Agreement, the prevailing party shall recover from the losing party reasonable attorney fees incurred in such action as set by the trial court and, in the event of appeal, as set by the appellate courts.

11.

IN WITNESS WHEREOF, the parties have caused this Easement Agreement to be executed this 23<sup>rd</sup> day of November, 2004.

###

NORTH VALLEY FRIENDS CHURCH, an Oregon nonprofit corporation,

VERITAS SCHOOL, an Oregon nonprofit corporation

By Representatives:

James L. Fischer Jr.  
James A. Holt  
James L. Fischer Jr.

By Representatives:

Daniel Wilson  
Sean Boyle  
David Mehler

STATE OF OREGON )  
 )ss.  
County of Yamhill )

A. Holt

On the 23 day of November, 2004, personally appeared James L. Fischer Jr. and son as Representatives of North Valley Friends Church, an Oregon non-profit corp. company.\*



Debbie Kay Lee  
Notary Public for OREGON  
My Commission Expires: 1-22-06

STATE OF OREGON )  
 )ss.  
County of Yamhill )

On the day of \_\_\_\_\_, 20\_\_\_\_, personally appeared \_\_\_\_\_ as \_\_\_\_\_ of Clackamas River Water, a domestic water supply district.

\_\_\_\_\_  
Notary Public for OREGON  
My Commission Expires: \_\_\_\_\_

\* and Daniel Wilson, Sean Boyle and David Mehler personally appeared before me, as Representatives of Vertias School an Oregon Non-Profit Corporation.



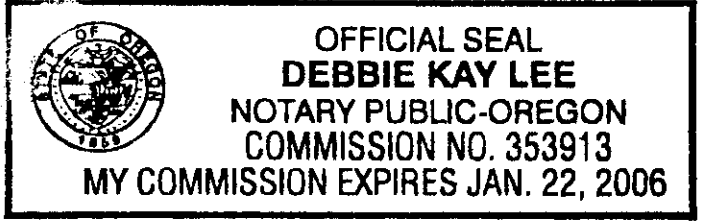
STATE OF OREGON,

County of Yamhill } ss.

On 11-29-2004 DATE, before me personally appeared J W m Bourke JR.

whose identity was established to my satisfaction, and who executed the foregoing instrument, acknowledging to me that the same was executed freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal on the date first written above.



Debbie Kay Lee  
Notary Public for Oregon  
My commission expires 1-22-06

*Exhibit 1  
Parcel 2*

Matt Dunckel & Assoc.  
3765 Riverside Drive  
McMinnville, Oregon. 97128  
Phone: 472-7904  
Fax: 472-0367

Date: 25 June 2004

**NORTH VALLEY FRIENDS CHURCH - Legal Description  
of LT 2700(5.00 ac.)**

A tract of land in Section 8, Township 3 South, Range 2 West, Yamhill County, Oregon, being more particularly described as follows:

Beginning at a point that is South 80 rods (1320.00') and East 116 rods (1914.00 feet) from the northwest corner of the William T. Wallace Donation Land Claim #47; thence North 465.46 feet to the TRUE POINT OF BEGINNING; thence North 422.17 feet; thence North 89°56'45" West 515.74 feet; thence South 422.17 feet; thence South 89°56'45" East 515.74 feet to the point of beginning.

TOGETHER WITH A 30' WIDE ACCESS & UTILITIES EASEMENT the centerline of which is described as follows:

Exhibit 1  
Parcel 1

Matt Dunckel & Assoc.  
3765 Riverside Drive  
McMinnville, Oregon. 97128  
Phone: 472-7904  
Fax: 472-0367

Date: 22 Nov. 2004

NORTH VALLEY FRIENDS CHURCH - Legal Description  
of LT 2800(10.6 ac.)

A tract of land in Section 8, Township 3 South, Range 2 West, Yamhill County, Oregon, being more particularly described as follows:

Beginning at a point that is South 80 rods (1320.00') and East 116 rods (1914.00 feet) from the northwest corner of the William T. Wallace Donation Land Claim #47; thence North 465.46 feet; thence continuing North 422.17 feet to the TRUE POINT OF BEGINNING; thence North 421.76 feet to the north line of said Section 8; thence North 89°56'45' West 683.10 feet along said north line; thence continuing North 89°56'45' West 60.00 feet to the northeast corner of that tract of land described as Parcel 2 in deed from J. WILLIAM ROURKE, JR. and PAUL STRAIT and AL LEHMAN to NORTH VALLEY FRIENDS CHURCH and recorded in Volume 90 Page 176, Yamhill County Deed Records; thence South 00°03'15" West 105.00 feet to the southeast corner of said Parcel 2; thence North 89°56'45' West 101.22 feet along the south line of Parcel 2 to the east margin of Highway No. 219; thence South 00°17'10" West 619.05 feet along said east margin to the beginning of a curve concave to the west having a radius of 985.00 feet; thence southerly 29.46 feet along said curve (chord=South 01°08'42" West 29.46 feet) to the west line of that tract of land described as Parcel 2 in deed from ELMER L. BLOMBERG and HILMA C. BLOMBERG to J. WILLIAM ROURKE, JR. and PAUL STRAIT and AL LEHMAN and recorded in Film Volume 113 Page 761; thence South 90.42 feet along said west line to the southwest corner of said tract; thence South 89°56'45' East 332.36 feet along the south lines of Parcels 2 and 1 of said; thence North 422.17 feet; thence South 89°56'45" East 515.74 feet to the TRUE POINT OF BEGINNING.

NW corner of the  
WILLIAM WALLACE D.L.C. #47  
Yamhill Co. P & BC

6 | 5  
7 | 8

NW corner of Section 8,  
Yamhill Co. P & BC,  
down 1.2'

# Record of Survey for: North Valley Friends Church

Location: The Northwest 1/4 of Section 8, Township 3 South, Range 2 West,  
Willamette Meridian, part of the William T. Wallace D.L.C. No. 47,  
Yamhill County, Oregon.

Tax Lot: 3206 - 2701, 2800, 2801 & 2802

Date: 20 June 2004

Scale: 1" = 100'

## Legend

- = Monument found, flush to 0.1" down, in good condition unless otherwise noted. Origin etched if known.
- = set 5/8" iron rod with yellow plastic cap marked "Dunckel & Associates"
- = Easement
- (#1) = data of record per Film Volume 113 Page 781
- (#2) = data of record per CSP-4521
- (#3) = data of record per Film Volume 80 Page 178
- (#4) = data of record per Film Volume 98 Page 455

SW Corner of the  
William Wallace D.L.C. No. 47,  
Yamhill Co. P & BC

669.29' (869.85' #2)

17° CSP-4521

N80°00'00"E - East 1814.00'  
(East 1914.00', 116 roadway)  
held dead bearing & distance

355.22' (355.13' #2)

17° CSP-4521,  
0.66' north of line,  
held for east line of ROUJKE

TL 2800  
JOSEPH W. ROUJKE, JR.  
MYLENE E. ROUJKE  
F.V. 98, PG. 455

17° CSP-4521,  
held for west line  
of ROUJKE

5/8" W, CSP-4521,  
S48°14'W 0.48' from  
corner, 0.35' westerly of  
 Hwy. R/W

17° CSP-4521,  
S49°22'08"E 0.28'  
from corner of  
 easement

Δ = 033558'  
R = 895.00'  
L = 81.31'  
Chord = 81.30'  
N 08°03'42"E

5/8" W, smooth,  
O.D. 0.17,  
S10°42'34"-56.76' held  
for Hwy. R/W

TL 2800  
J. WILLIAM ROUJKE, JR.  
PAUL STRAIT  
AL LEHMAN  
F.V. 113, PG. 781  
Pg. 2

TL 2801  
NORTH VALLEY  
FRIENDS CHURCH  
F.V. PG. 178

TL 2700  
5.00 Acres

12.76 Acres  
513.73'

12.76 Acres  
513.73'

12.76 Acres  
513.73'

5/8" Smooth 1/2" bent,  
held on Hwy. R/W  
Station 4151-44.1 PG.

5/8" Smooth 1/2" bent,  
held on Hwy. R/W  
Station 4151-44.1 PG.

North 1/4 corner of Section 8,  
Found from Pipe and Brass Cap

TL = 2800  
INST. 1807-08818  
ROBIN RANDALL

Matt Dunckel & Assoc.  
3765 Riverdale Drive  
McMinnville, Oregon 97128  
Phone: 503-472-7904  
Fax: 503-472-0387  
Email: matt@dwadnk.com

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
MATTHEW E. DUNCKEL  
1948

Renews 31 December 2005  
4878

Parcel 3

Parcel 1

01/8

NW corner of the  
WILLIAM WALLACE D.L.C.#7  
Yamhill Co. IP & BC

6 | 5  
7 | 8

NW corner of Section &  
Yamhill Co. IP & BC  
down 1.2'

# Record of Survey for: North Valley Friends Church

Location: The Northwest 1/4 of Section 8, Township 3 South, Range 2 West,  
Willamette Meridian, part of the William T. Wallace D.L.C. No. 47,  
Yamhill County, Oregon.

Tax Lot: 3208- 2700, 2701, 2800, 2801 & 2802

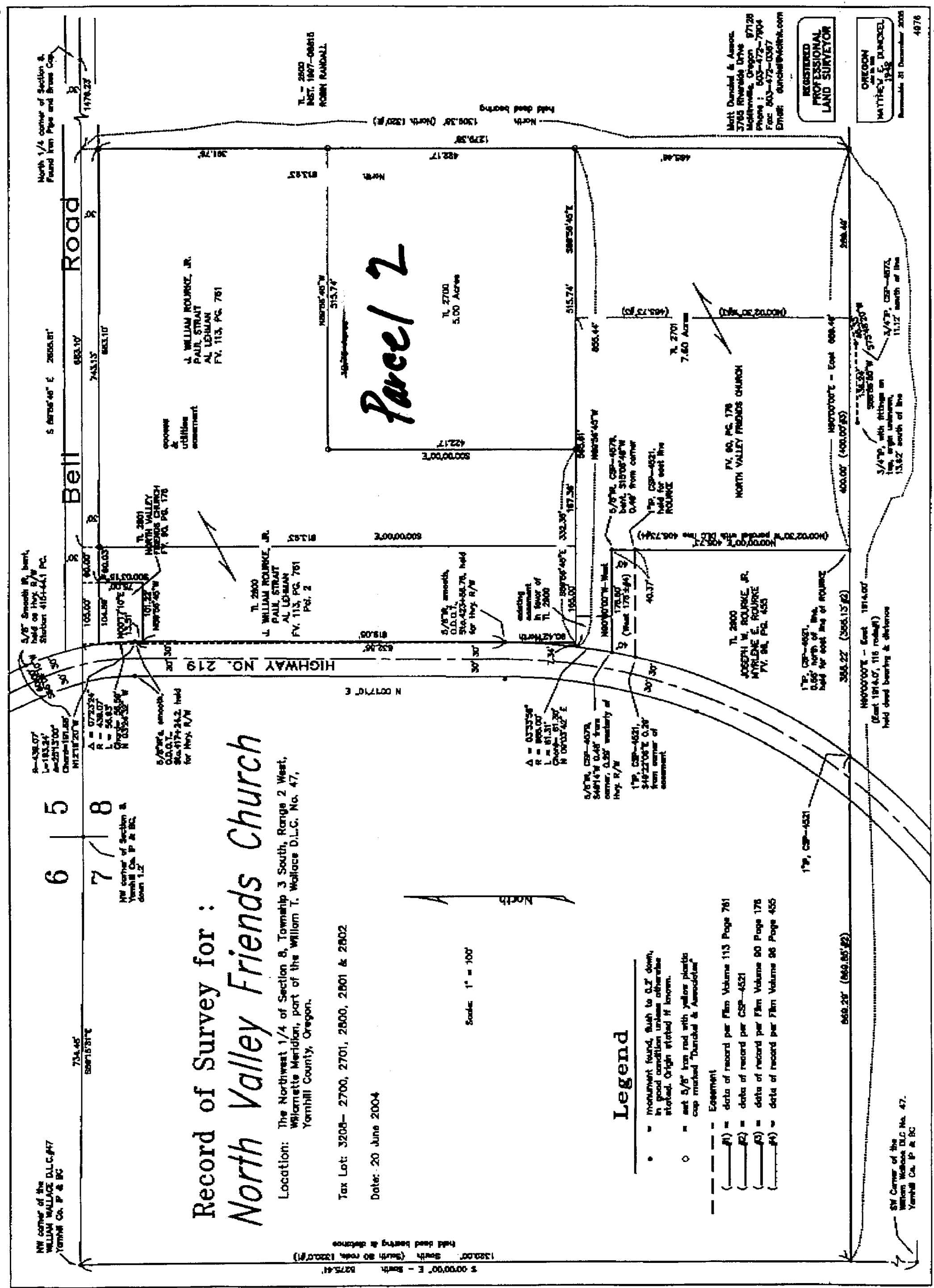
Date: 20 June 2004

Scale: 1" = 100'

## Legend

- = monument found, flush to 0.2" down, in good condition unless otherwise stated. Origin stated if known.
- = set 5/8" brass rod with yellow plastic cap marked "Dunichel & Associates"
- - - Easement
- (#1) = data of record per Film Volume 113 Page 761
- (#2) = data of record per CSP-4521
- (#3) = data of record per Film Volume 90 Page 176
- (#4) = data of record per Film Volume 98 Page 455

SW Corner of the  
William Wallace D.L.C. No. 47,  
Yamhill Co. IP & BC



Mark Dunichel & Assoc.  
3746 Riverside Drive #7126  
McMinnville, Oregon 97128  
Phone: 503-472-7904  
Fax: 503-472-0397  
Email: dunichel@netnet.com

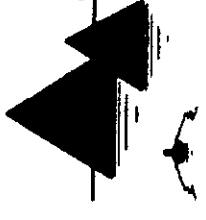
REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
MATTHEW C. DUNICHEL  
1938

Renewable 31 December 2008  
4976

01/9

10/10



**Anderson Engineering**

Civil Engineering Land Surveying Mapping

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

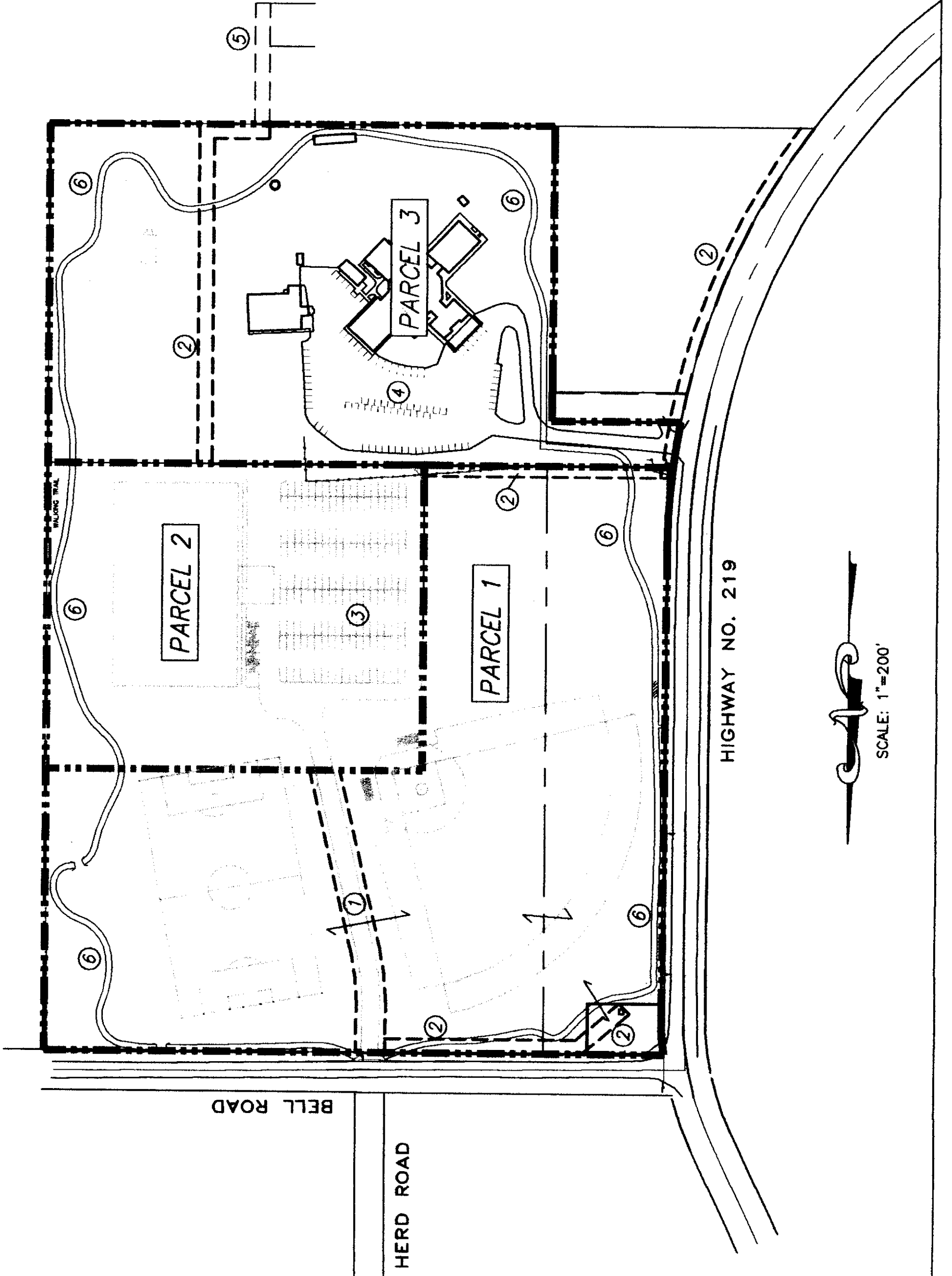
*Lawrence J. Anderson*

OREGON  
FEBRUARY 14, 1985  
LAWRENCE J. ANDERSON  
2122

Renewable 31 December 2005

LEGEND

- ① 40' ACCESS AND UTILITY EASEMENT
- ② 15' UTILITY EASEMENT
- ③ SHARED PARKING AND ACCESS AREA
- ④ SHARED PARKING AND ACCESS AREA
- ⑤ 20' UTILITY EASEMENT (OFF-SITE)
- ⑥ 15' WALKING PATH EASEMENT



HIGHWAY NO. 219



SCALE: 1"=200'

Veritas School /  
North Valley Friends Church  
Joint Use Agreement

**EXHIBIT - C**



Tigor Title Insurance Company

OFFICIAL YAMHILL COUNTY RECORDS  
JAN COLEMAN, COUNTY CLERK

200425602



\$71.00

00186522200400256020100106

12/17/2004 03:10:07 PM

DMR-RFRDMR Cnt=1 Stn=2 ANITA  
\$50.00 \$10.00 \$11.00

**RIGHT OF FIRST REFUSAL**

DATE: 11-23-04, 2004 ("Effective Date")

PARTIES: NORTH VALLEY FRIENDS CHURCH ("NVFC")  
4020 N. College Street  
Newberg, OR 97132

VERITAS SCHOOL ("VERITAS")  
401 Mission Drive  
Newberg, OR 97132

**RECITALS**

A. NVFC is the owner of a certain parcel of real property located in Yamhill County, Oregon, as described in Exhibit 1, Parcel 1 attached to and made a part of this Agreement (the "Property").

B. The parties have executed a Reciprocal Easement Agreement and a Joint Use Agreement, and VERITAS has or will make improvements to NVFC's Property.

C. NVFC is willing to grant to VERITAS the right to purchase the Property before offering the Property for sale to third parties. NVFC and VERITAS desire to evidence their agreement regarding this purchase right.

**AGREEMENT**

Therefore, in valuable consideration to NVFC, as set forth in the Reciprocal Easement and the Joint Use Agreement, the receipt and sufficiency of which is hereby acknowledged, NVFC and VERITAS agree as follows:

**1. Right of First Refusal.** NVFC agrees not to sell, transfer, exchange, grant an option to purchase, lease, or otherwise dispose of the Property or any part of, or interest in, the Property without first offering the Property to VERITAS on the terms and conditions set forth in this Agreement.

A. NVFC will grant to VERITAS a right of first refusal if it decides to sell the athletic field lots or its other contiguous properties. VERITAS shall have 90 days to exercise the first right of refusal with two years to complete the purchase. If this option is exercised, VERITAS shall provide a non-refundable, earnest money deposit of 5% of the purchase price by the end of the 90-day period. At the end of the first year there would be another 5% non-refundable earnest money due to maintain option for a second year. If the lot containing the athletic fields or the other property is not purchased by VERITAS, NVFC will reimburse VERITAS for the original development costs of those facilities (see Sale Agreement 6.4.ii). Also, VERITAS shall have the right to approve or

TO- 829338

disapprove the eventual purchaser of the property if the right of first refusal is not exercised, which approval may not be unreasonably withheld. For purposes of this Agreement, not unreasonably withheld shall mean incompatible with a school use. Under all circumstances, VERITAS shall have the right to use the athletic fields under the Joint Use Agreement for at least 15 years from the date of school occupancy.

**B.** If VERITAS fails to timely exercise its right to purchase the Property pursuant to the terms of this Agreement, or fails to make payments as required, then NVFC shall be entitled to sell the Property according to the terms of the Offer to the Third-Party Offeror.

**2. Term.** The term of this Right of First Refusal commences as of the date of this Agreement and terminates on the consummation of a sale of the Property to a third party. VERITAS shall cooperate in providing NVFC with any instruments that NVFC reasonably may require for the purpose of removing from the public record any cloud on title to the Property attributable in any manner to the grant or existence of this right of first refusal, pursuant to paragraph 8.

**3. Excluded Transfers.** The right of first refusal created by this Agreement shall not apply to any sale or conveyance of the Property by NVFC to any partnership, limited partnership, joint venture, corporation, or other entity in which NVFC owns and controls at least a fifty-one percent (51%) ownership interest.

**4. Notices.** All notices required or permitted to be given under this Agreement shall be in writing and shall be deemed given and received two days after deposit in the United States Mail, certified or registered form, postage prepaid, return receipt requested, addressed as follows:

To Owner: NORTH VALLEY FRIENDS CHURCH  
4020 N. College Street  
Newberg, OR 97132

To Grantee: VERITAS SCHOOL  
401 Mission Drive  
Newberg, OR 97132

Notice given in any other manner shall be effective when it is received by the party for whom it is intended. Either party may change its address by giving 10 days' advance notice to the other party.

**5. Governing Law.** This Agreement shall be construed and enforced in accordance with the laws of the state of Oregon.

**6. Binding Effect.** This Agreement shall be binding on and inure to the benefit of the parties and their respective heirs and successors.

7. **Headings.** The captions and headings used in this Agreement are for reference only and shall not be construed to define or limit the scope or content of this Agreement.

8. **Recording.** Upon request of VERITAS, NVFC agrees to join in executing a memorandum of this Agreement, to be filed for record in the Official Records of Yamhill County, Oregon, to give notice to the public of the rights of Grantee under this Agreement. VERITAS shall pay the cost of recording the memorandum. The memorandum shall note the date this Agreement expires and VERITAS shall join in executing a termination agreement when this Agreement has expired or terminated, failing which, NVFC may execute the termination agreement on behalf of VERITAS.

9. **Entire Agreement.** This Agreement contains the final and entire understanding between NVFC and VERITAS with respect to its subject matter and is intended to be an integration of all prior negotiations and understandings. NVFC and VERITAS shall not be bound by any terms, conditions, statements, warranties, or representations not contained in this Agreement. No change or modification of this Agreement shall be valid unless it is in writing and is signed by both NVFC and VERITAS.

10. **Waiver.** A failure by NVFC or VERITAS to enforce any right under this Agreement shall not be deemed to be a waiver of that right or of any other right.

11. **Remedies.** In the case of any future disagreements between the Owner and Grantee over this agreement, both parties agree to first use the services of a mutually agreed upon, Christian mediation service to help resolve the dispute if third party intervention is deemed necessary. In the event legal action is instituted to enforce any term of this Agreement, the prevailing party shall recover from the losing party reasonable attorney fees incurred in such action as set by the trial court and, in the event of appeal, as set by the appellate courts.

12. **Counterparts; Pronouns.** This Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement and shall be effective when one or more counterparts have been signed and delivered by NVFC and VERITAS. With respect to any pronouns used herein, each gender used shall include the other gender and the singular and the plural, as the context may require.

13. **Time Is of the Essence.** Time is of the essence regarding this Agreement.

14. **Authority to Execute.** Each person executing this Agreement on behalf of NVFC and VERITAS, respectively, warrants his or her authority to do so.

15. **Statutory Disclaimer.** THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USED AND TO DETERMINE

ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

**16. Warranties.** NVFC warrants and represents to Grantee that (1) NVFC owns fee title to the Property; (2) NVFC has the authority to execute this Agreement, and executing it does not violate any agreement to which NVFC is a party or any covenant by which the Property is bound; and (3) NVFC has no knowledge of any condition affecting the Property that would materially and adversely affect the ability of Grantee to use the Property for Description purposes, except as disclosed to VERITAS in writing.

Executed as of the day and year first above written.

OWNER:

GRANTEE:

NORTH VALLEY FRIENDS CHURCH

VERITAS SCHOOL

By Representatives:

By Representatives:

~~James L Fisher Jr~~  
~~Jon A Holt~~  
~~John Kunkle~~  
James L Fisher Jr  
Jon A. Holt  
John Kunkle

Sean Boyle, ~~Keith Hansen,~~  
DAVID McFARLANE  
Keith Hansen,  
Daniel Wilson, Daniel Wilson

**NOTARY FOR BUYER(S) / SELLER(S)**

**Newberg Office**

619 E. Hancock St • Newberg OR 97132  
(503) 538-0656 • FAX: (503) 538-0671

**REFERENCE ORDER NUMBER: 829338**

Veritas School

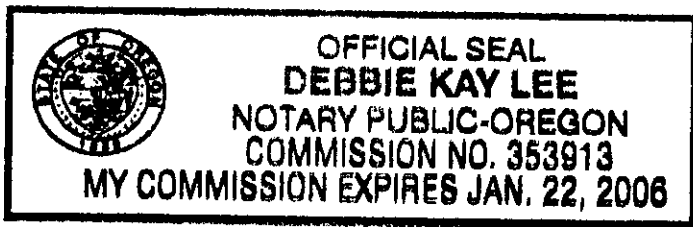
STATE OF: OR  
COUNTY OF: YAMHILL

On this November 23, 2004, before me appeared Sean Boyle, David Mehler, Daniel Wilson all to me personally known, who being duly sworn, did say that They are the Representatives of Veritas School, the within named Non-Profit Corporation, and that the said instrument was executed on behalf of said Corporation by authority of its Board of Directors, and acknowledge said instrument to be the free act and deed of said Corporation.

In testimony whereof, I have hereunto set my hand and affixed my official seal the day and year last above written.

Debbie Kay Lee  
Notary Public for Oregon

My Commission Expires: 1-22-06



North Valley Friends Church

STATE OF: OR  
COUNTY OF: YAMHILL

On this November 23, 2004, before me appeared James L. Fisher Jr. and Jon A. Holt both to me personally known, who being duly sworn, did say that They are the Representatives of North Valley Friends Church, the within named Non-Profit Corporation, and that the said instrument was executed on behalf of said Corporation by authority of its Board of Directors, and North Valley Friends Church acknowledge said instrument to be the free act and deed of said Corporation.

In testimony whereof, I have hereunto set my hand and affixed my official seal the day and year last above written.

Debbie Kay Lee  
Notary Public for Oregon

My Commission Expires: 1-22-06



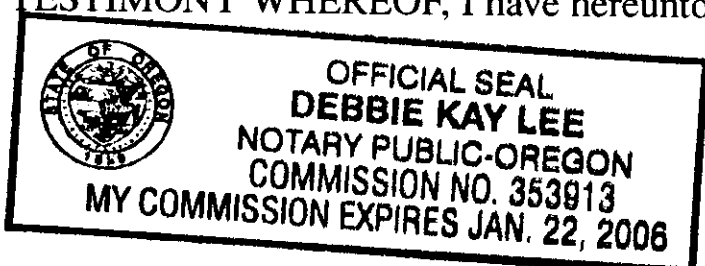
STATE OF OREGON,

County of Yamhill } ss.

On 11-29-04 DATE, before me personally appeared James Bourke Jr

whose identity was established to my satisfaction, and who executed the foregoing instrument, acknowledging to me that the same was executed freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal on the date first written above.



Debbie Kay Lee  
Notary Public for Oregon  
My commission expires 1-22-06

5/10

Exhibit 1  
Parcel 1

Matt Dunckel & Assoc.  
3765 Riverside Drive  
McMinnville, Oregon. 97128  
Phone: 472-7904  
Fax: 472-0367

Date: 22 Nov. 2004

NORTH VALLEY FRIENDS CHURCH - Legal Description  
of LT 2800(10.6 ac.)

A tract of land in Section 8, Township 3 South, Range 2 West, Yamhill County, Oregon, being more particularly described as follows:

Beginning at a point that is South 80 rods (1320.00') and East 116 rods (1914.00 feet) from the northwest corner of the William T. Wallace Donation Land Claim #47; thence North 465.46 feet; thence continuing North 422.17 feet to the TRUE POINT OF BEGINNING; thence North 421.76 feet to the north line of said Section 8; thence North 89°56'45' West 683.10 feet along said north line; thence continuing North 89°56'45' West 60.00 feet to the northeast corner of that tract of land described as Parcel 2 in deed from J. WILLIAM ROURKE, JR. and PAUL STRAIT and AL LEHMAN to NORTH VALLEY FRIENDS CHURCH and recorded in Volume 90 Page 176, Yamhill County Deed Records; thence South 00°03'15" West 105.00 feet to the southeast corner of said Parcel 2; thence North 89°56'45' West 101.22 feet along the south line of Parcel 2 to the east margin of Highway No. 219; thence South 00°17'10" West 619.05 feet along said east margin to the beginning of a curve concave to the west having a radius of 985.00 feet; thence southerly 29.46 feet along said curve (chord=South 01°08'42" West 29.46 feet) to the west line of that tract of land described as Parcel 2 in deed from ELMER L. BLOMBERG and HILMA C. BLOMBERG to J. WILLIAM ROURKE, JR. and PAUL STRAIT and AL LEHMAN and recorded in Film Volume 113 Page 761; thence South 90.42 feet along said west line to the southwest corner of said tract; thence South 89°56'45' East 332.36 feet along the south lines of Parcels 2 and 1 of said; thence North 422.17 feet; thence South 89°56'45" East 515.74 feet to the TRUE POINT OF BEGINNING.

6/10



NW corner of the  
WILLIAM WALLACE D.L.C.#47  
Yamhill Co. P & BC

6 | 5  
7 | 8

NW corner of Section 8,  
Yamhill Co. P & BC,  
down 1.2'

# Record of Survey for: North Valley Friends Church

Location: The Northwest 1/4 of Section 8, Township 3 South, Range 2 West,  
Willamette Meridian, part of the William T. Wallace D.L.C. No. 47,  
Yamhill County, Oregon.

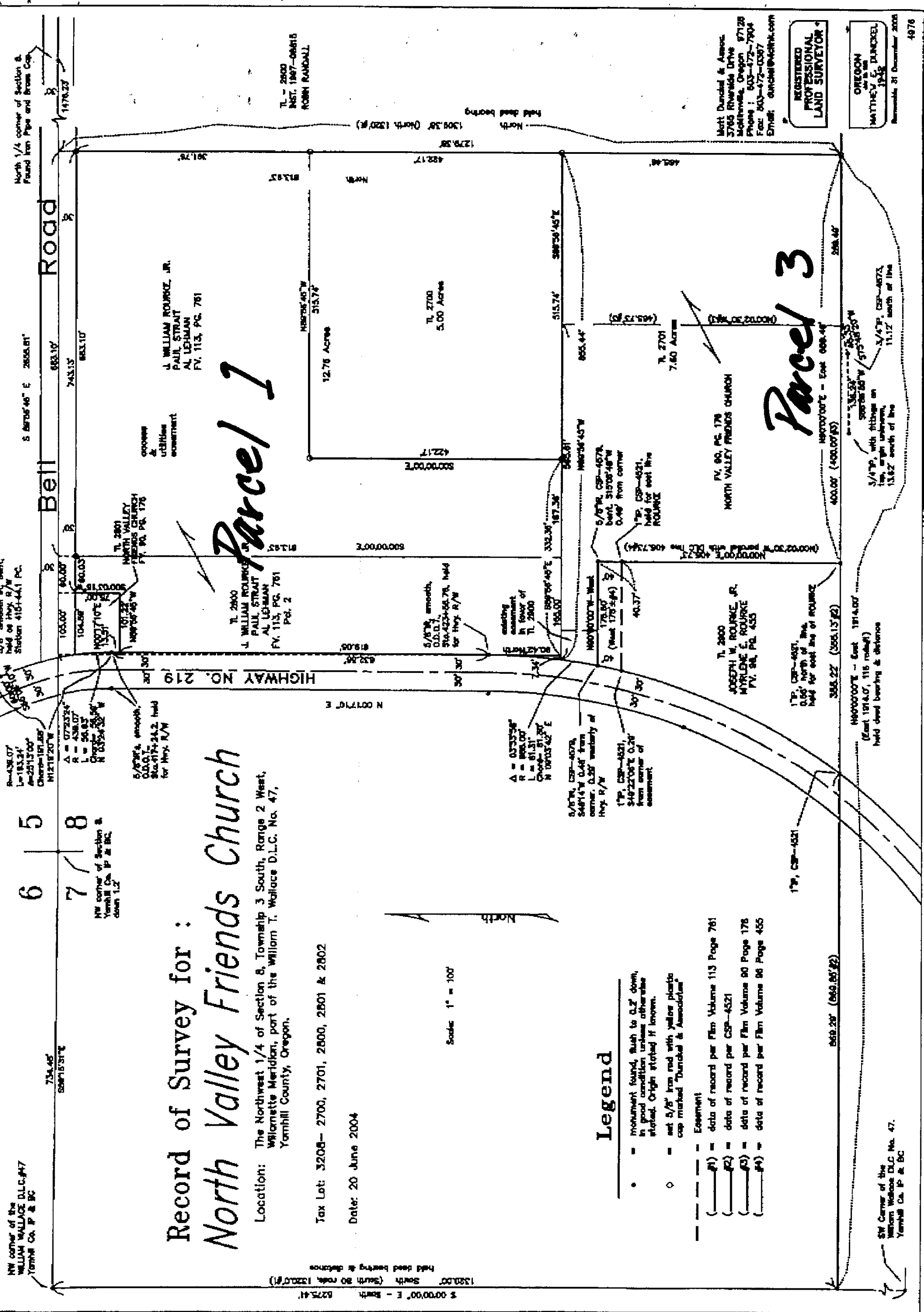
Tax Lot: 3208 - 2700, 2701, 2800, 2801 & 2802

Date: 20 June 2004

Scale: 1" = 100'

## Legend

- = monument found, flush to 0.2' down, in good condition unless otherwise stated. Origin stated if known.
- ◊ = set 5/8" iron rod with yellow plastic cap marked "Dundell & Associates"
- = Easement
- (#1) = date of record per Film Volume 113 Page 761
- (#2) = date of record per CSP-4521
- (#3) = date of record per Film Volume 90 Page 178
- (#4) = date of record per Film Volume 96 Page 455



**Parcel 3**

**Parcel 1**

Matt Dundell & Assoc.  
5765 Riverside Drive  
McMinnville, Oregon 97128  
Phone: 503-472-7904  
Fax: 503-472-0357  
Email: mdundell@ndak.com

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
MATT DUNDELL  
MATTHEW E. DUNDELL  
1995  
Renews 31 December 2008  
4876

SW Corner of the  
William Wallace D.L.C. No. 47,  
Yamhill Co. P & BC

7/10

*This Legal is for Parcel 3, Dunckel  
is preparing legal for Parcel 1*

Matt Dunckel & Assoc.  
3765 Riverside Drive  
McMinnville, Oregon. 97128  
Phone: 472-7904  
Fax: 472-0367

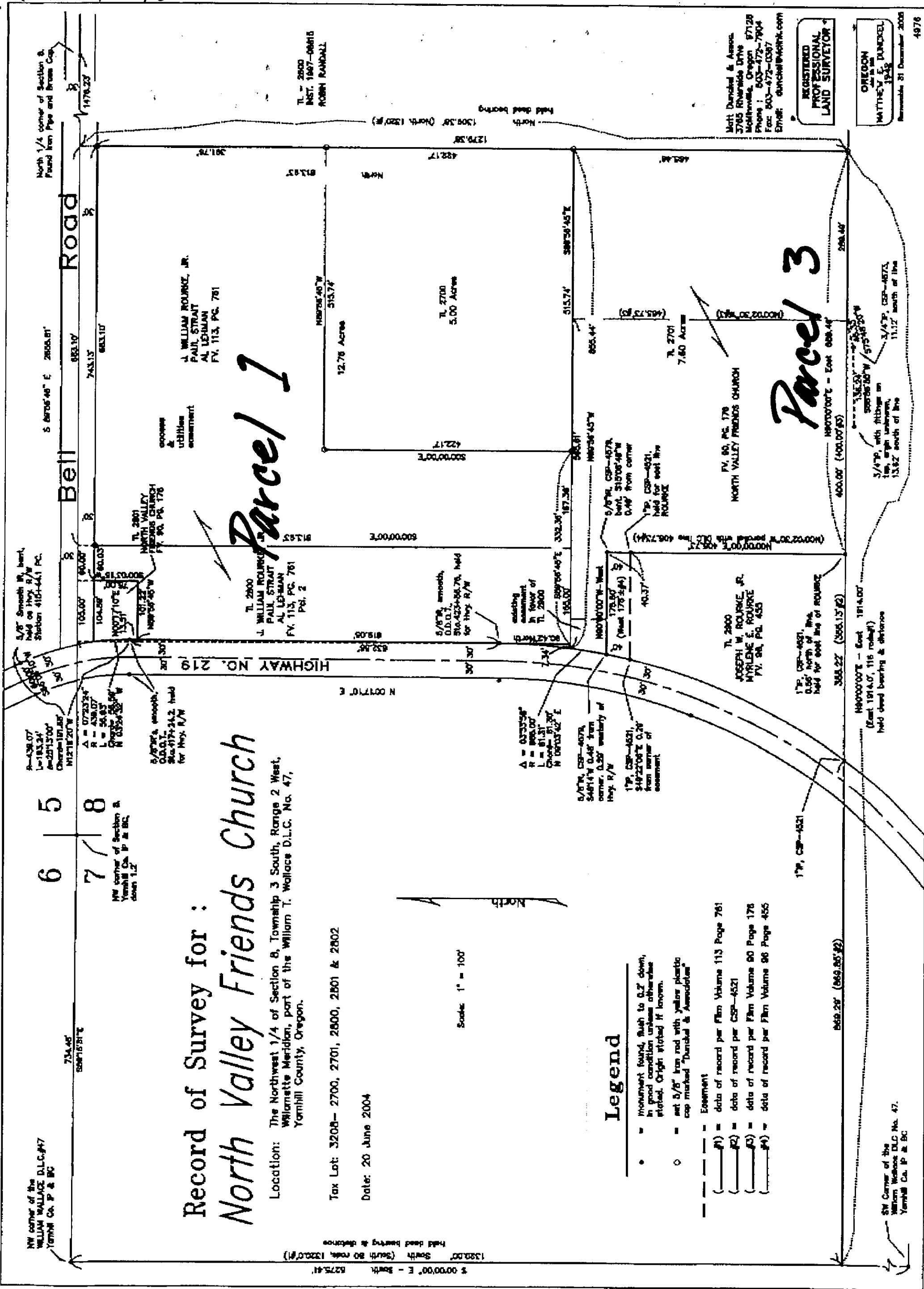
Date: 25 June 2004

NNORTH VALLEY FRIENDS CHURCH - Legal Description  
of TL 2701(7.6 ac.)

A tract of land in Section 8, Township 3 South, Range 2 West, Yamhill County, Oregon, being more particularly described as follows:

Beginning at a point that is South 80 rods (1320.00') and East 116 rods (1914.00 feet) from the northwest corner of the William T. Wallace Donation Land Claim #47; thence North 465.46 feet; thence North 89°56'45" West 855.44 feet to the easterly margin of State Highway No. 219; thence southerly 61.31 feet along said easterly margin which is a curve concave to the west having a radius of 985.00 feet (chord=South 09°03'42" West 61.30 feet) to the northwest corner of that tract of land described in deed from HARLIN M. HUFFMAN and EDITH L. HUFFMAN to JOSEPH W. ROURKE, JR. and MYLENE E. ROURKE and recorded in Film Volume 96 Page 455, Yamhill County Deed Records; thence East 175.60 feet to the northwest corner of said tract; thence South 405.73 feet to the southeast corner of said tract; thence East 689.49 feet to the point of beginning.

9/10



# Record of Survey for : North Valley Friends Church

Location: The Northwest 1/4 of Section 8, Township 3 South, Range 2 West,  
Williamette Meridian, part of the William T. Wallace D.L.C. No. 47,  
Yamhill County, Oregon.

Tax Lot: 3208- 2700, 2701, 2800, 2801 & 2802

Date: 20 June 2004

Scale: 1" = 100'

## Legend

- Monument found, flush to 0.2' down, in good condition unless otherwise stated. Origin stipled if known.
- set 5/8" iron rod with yellow plastic cap marked "Dumdel & Associates"
- - - Easement
- (#1) = data of record per Film Volume 113 Page 761
- (#2) = data of record per CSP-4521
- (#3) = data of record per Film Volume 90 Page 178
- (#4) = data of record per Film Volume 96 Page 455

SW Corner of the Merion Block D.L.C. No. 47, Yamhill Co. P & BC

NW corner of the William Wallace D.L.C. #47 Yamhill Co. P & BC

SW corner of Section 8, Yamhill Co. P & BC, down 1.2'

1/8" smooth iron, bent, held on Hwy R/W Station 4151-441 PC.

1/8" smooth iron, bent, held on Hwy R/W Station 4151-441 PC.

North 1/4 corner of Section 8, Found Iron Pipe and Brass Cap.

TL - 2800 DIST. 1997-08/15 ROBIN RANDALL

J. WILLIAM ROURKE, JR.  
PAUL STRAUT  
AL LEHMAN  
F.V. 113, PG. 761

J. WILLIAM ROURKE, JR.  
PAUL STRAUT  
AL LEHMAN  
F.V. 113, PG. 761  
Pg. 2

J. WILLIAM ROURKE, JR.  
PAUL STRAUT  
AL LEHMAN  
F.V. 113, PG. 761

TL 2700  
5.00 Acres

TL 2701  
7.80 Acres

TL 2800  
5.00 Acres

TL 2701  
7.80 Acres

JOSEPH W. ROURKE, JR.  
MYRENE E. ROURKE  
F.V. 98, PG. 455

JOSEPH W. ROURKE, JR.  
MYRENE E. ROURKE  
F.V. 98, PG. 455

NORTH VALLEY FRIENDS CHURCH  
F.V. 98, PG. 178

NORTH VALLEY FRIENDS CHURCH  
F.V. 98, PG. 178

NORTH VALLEY FRIENDS CHURCH  
F.V. 98, PG. 178

NORTH VALLEY FRIENDS CHURCH  
F.V. 98, PG. 178

NORTH VALLEY FRIENDS CHURCH  
F.V. 98, PG. 178

TL - 2800 DIST. 1997-08/15 ROBIN RANDALL

TL - 2800 DIST. 1997-08/15 ROBIN RANDALL

Matt Dumdel & Assoc.  
3785 Riverside Drive  
McMinnville, Oregon 97128  
Phone: 503-472-7904  
Fax: 503-472-0097  
Email: dumdel@acorn.com

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
MATTHEW E. DUMDEL  
1952  
Renews 31 December 2008  
4978

889.28' (869.85'±)

368.22' (358.13'±)

400.00' (400.00'±)

268.48'

451.48'

1279.38'

452.17'

855.44'

515.74'

332.36' (187.36'±)

178.80'

40.37'

168.00'

101.22'

104.08'

101.22'

101.22'

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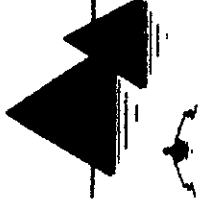
101.22'

101.22'

101.22'

101.22'

10/01



**Anderson Engineering**

Civil Engineering Land Surveying Mapping

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

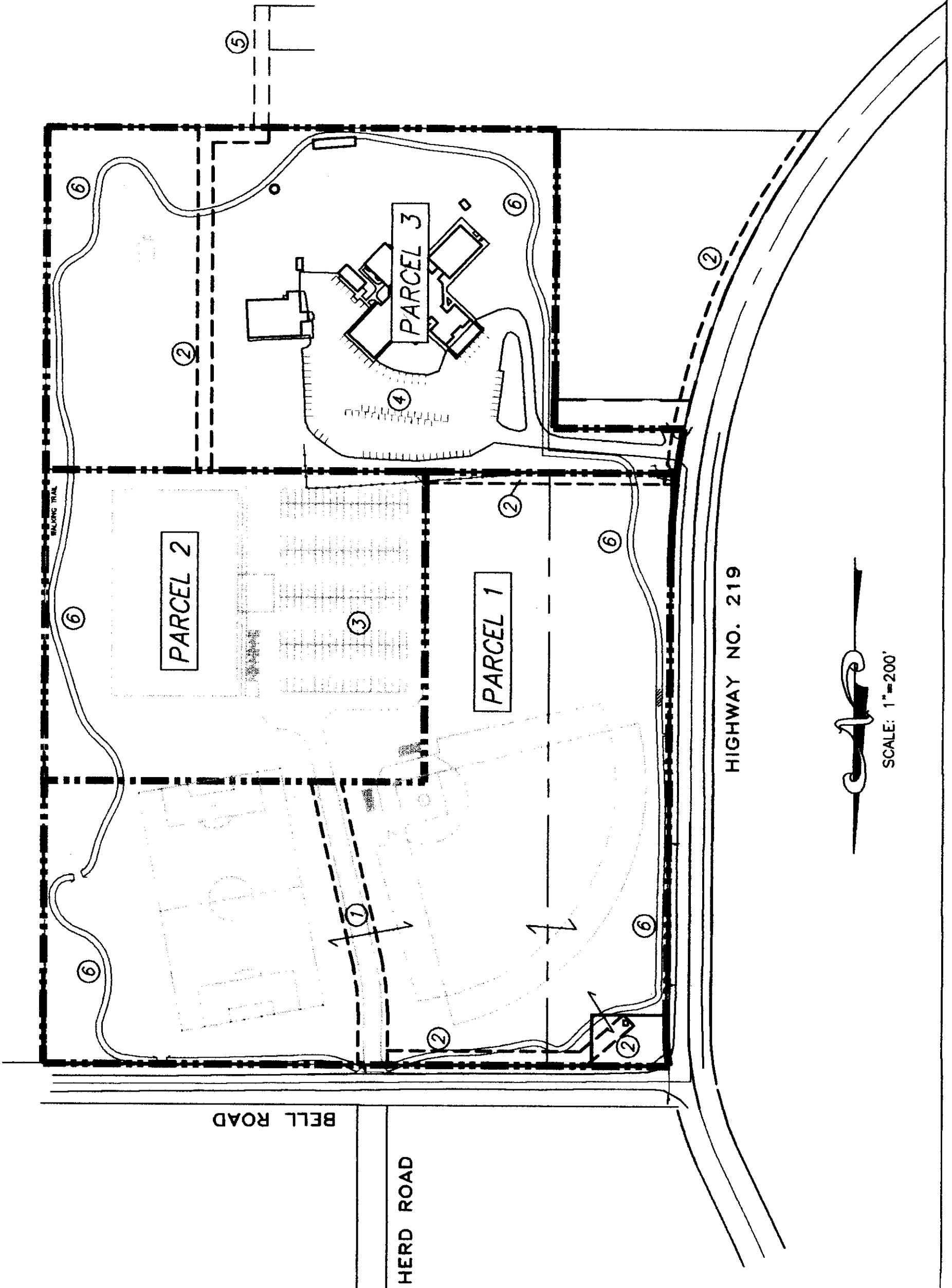
*Lawrence J. Anderson*

OREGON  
February 14, 1983  
LAWRENCE J. ANDERSON  
2122

Renewable 31 December 2005

LEGEND

- ① 40' ACCESS AND UTILITY EASEMENT
- ② 15' UTILITY EASEMENT
- ③ SHARED PARKING AND ACCESS AREA
- ④ SHARED PARKING AND ACCESS AREA
- ⑤ 20' UTILITY EASEMENT (OFF-SITE)
- ⑥ 15' WALKING PATH EASEMENT



HIGHWAY NO. 219



SCALE: 1"=200'

Veritas School /  
North Valley Friends Church  
Joint Use Agreement

**EXHIBIT - C**

OFFICIAL YAMHILL COUNTY RECORDS  
JAN COLEMAN, COUNTY CLERK

200425603



\$106.00

00186523200400256030170171

12/17/2004 03:10:07 PM

DMR-RFRDMR Cnt=1 Stn=2 ANITA  
\$85.00 \$10.00 \$11.00

### RIGHT OF FIRST REFUSAL

DATE: November 23, 2004 ("Effective Date")

PARTIES: VERITAS SCHOOL ("VERITAS")  
401 Mission Drive  
Newberg, OR 97132

NORTH VALLEY FRIENDS CHURCH ("NVFC")  
4020 N. College Street  
Newberg, OR 97132

### RECITALS

A. VERITAS is the owner of a certain parcel of real property located in Yamhill County, Oregon, as described in Exhibit 1, Parcel 2 attached to and made a part of this Agreement (the "Property").

B. The parties have executed a Reciprocal Easement Agreement and a Joint Use Agreement.

C. VERITAS is willing to grant to NVFC the right to purchase the Property before offering the Property for sale to third parties. VERITAS and NVFC desire to evidence their agreement regarding this purchase right.

### AGREEMENT

Therefore, in valuable consideration to VERITAS, as set forth in the Reciprocal Easement and the Joint Use Agreement, the receipt and sufficiency of which is hereby acknowledged, VERITAS and NVFC agree as follows:

1. **Right of First Refusal.** VERITAS agrees not to sell, transfer, exchange, grant an option to purchase, lease, or otherwise dispose of the Property or any part of, or interest in, the Property without first offering the Property to NVFC on the terms and conditions set forth in this Agreement.

A. VERITAS will grant NVFC a right of first refusal to purchase the Property. Among other things, it will provide that NVFC will have 90 days in which to determine whether to exercise the right of purchase and with a two-year period thereafter to complete purchase. If this option is exercised, the NVFC shall provide a non-refundable, earnest money deposit of 5% of the purchase price by the end of the 90-day period. At the end of the first year there would be another 5% non-refundable earnest money due to maintain option for a second year. If the right of first refusal is not exercised, NVFC will have the right to approve or disapprove the eventual purchaser of

the Property, which approval may not be unreasonably withheld. For purposes of this Agreement, not unreasonably withheld shall mean a proposed use incompatible with a Church use.

**B.** If NVFC fails to timely exercise its right to purchase the Property pursuant to the terms of this Agreement, or fails to make payments as required, then VERITAS shall be entitled to sell the Property according to the terms of the Offer to the Third-Party Offeror.

**2. Term.** The term of this Right of First Refusal commences as of the date of this Agreement and terminates on the consummation of a sale of the Property to a third party. NVFC shall cooperate in providing VERITAS with any instruments that VERITAS reasonably may require for the purpose of removing from the public record any cloud on title to the Property attributable in any manner to the grant or existence of this right of first refusal, pursuant to paragraph 8.

**3. Excluded Transfers.** The right of first refusal created by this Agreement shall not apply to any sale or conveyance of the Property by VERITAS to any partnership, limited partnership, joint venture, corporation, or other entity in which VERITAS owns and controls at least a fifty-one percent (51%) ownership interest.

**4. Notices.** All notices required or permitted to be given under this Agreement shall be in writing and shall be deemed given and received two days after deposit in the United States Mail, certified or registered form, postage prepaid, return receipt requested, addressed as follows:

To Owner: Veritas School  
401 Mission Drive  
Newberg, OR 97132

To Grantee: North Valley Friends Church  
4020 N. College Street  
Newberg, OR 97132

Notice given in any other manner shall be effective when it is received by the party for whom it is intended. Either party may change its address by giving 10 days' advance notice to the other party.

**5. Governing Law.** This Agreement shall be construed and enforced in accordance with the laws of the state of Oregon.

**6. Binding Effect.** This Agreement shall be binding on and inure to the benefit of the parties and their respective heirs and successors.

**7. Headings.** The captions and headings used in this Agreement are for reference only and shall not be construed to define or limit the scope or content of this Agreement.



**8. Recording.** Upon request of NVFC, VERITAS agrees to join in executing a memorandum of this Agreement, to be filed for record in the Official Records of Yamhill County, Oregon, to give notice to the public of the rights of Grantee under this Agreement. NVFC shall pay the cost of recording the memorandum. The memorandum shall note the date this Agreement expires and NVFC shall join in executing a termination agreement when this Agreement has expired or terminated, failing which, VERITAS may execute the termination agreement on behalf of NVFC.

**9. Entire Agreement.** This Agreement contains the final and entire understanding between VERITAS and NVFC with respect to its subject matter and is intended to be an integration of all prior negotiations and understandings. VERITAS and NVFC shall not be bound by any terms, conditions, statements, warranties, or representations not contained in this Agreement. No change or modification of this Agreement shall be valid unless it is in writing and is signed by both VERITAS and NVFC.

**10. Waiver.** A failure by VERITAS or NVFC to enforce any right under this Agreement shall not be deemed to be a waiver of that right or of any other right.

**11. Remedies.** In the case of any future disagreements between the Owner and Grantee over this agreement, both parties agree to first use the services of a mutually agreed upon, Christian mediation service to help resolve the dispute if third party intervention is deemed necessary. In the event legal action is instituted to enforce any term of this Agreement, the prevailing party shall recover from the losing party reasonable attorney fees incurred in such action as set by the trial court and, in the event of appeal, as set by the appellate courts.

**12. Counterparts; Pronouns.** This Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement and shall be effective when one or more counterparts have been signed and delivered by VERITAS and NVFC. With respect to any pronouns used herein, each gender used shall include the other gender and the singular and the plural, as the context may require.

**13. Time Is of the Essence.** Time is of the essence regarding this Agreement.

**14. Authority to Execute.** Each person executing this Agreement on behalf of VERITAS and NVFC, respectively, warrants his or her authority to do so.

**15. Statutory Disclaimer.** THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USED AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

**16. Warranties.** VERITAS warrants and represents to Grantee that (1) VERITAS owns fee title to the Property; (2) VERITAS has the authority to execute this Agreement, and executing it does not violate any agreement to which VERITAS is a party or any covenant by which the Property is bound; and (3) VERITAS has no knowledge of any condition affecting the Property that would materially and adversely affect the ability of Grantee to use the Property for Description purposes, except as disclosed to NVFC in writing.

Executed as of the day and year first above written.

OWNER:

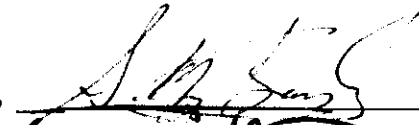


GRANTEE:

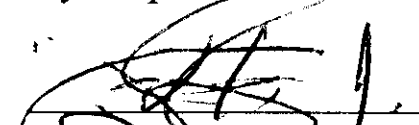

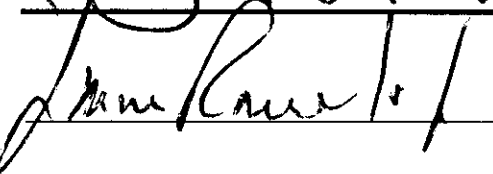
VERITAS SCHOOL

NORTH VALLEY FRIENDS CHURCH

By Representatives:

By Representatives:

Sean Boyle,   
~~DAVID MEHLER~~   
Keith Hansen, 

 James L. Fisher Jr.  
 Jon A. Holt  
 J. M. Kusski

Daniel Wilson, 

**NOTARY FOR BUYER(S) / SELLER(S)**

**Newberg Office**

619 E. Hancock St • Newberg OR 97132  
(503) 538-0656 • FAX: (503) 538-0671

**REFERENCE ORDER NUMBER: 829338**

Veritas School

STATE OF: OR  
COUNTY OF: YAMHILL

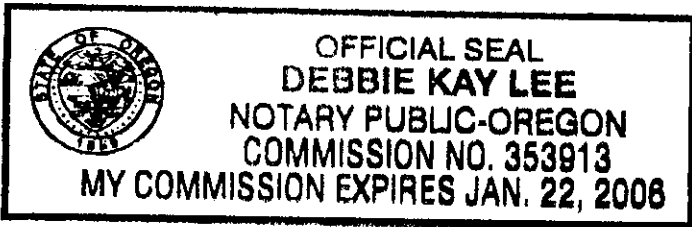
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In testimony whereof, I have hereunto set my hand and affixed my official seal the day and year last above written.

*Debbie Kay Lee*

Notary Public for Oregon

My Commission Expires: 1-22-06



North Valley Friends Church

STATE OF: OR  
COUNTY OF: YAMHILL

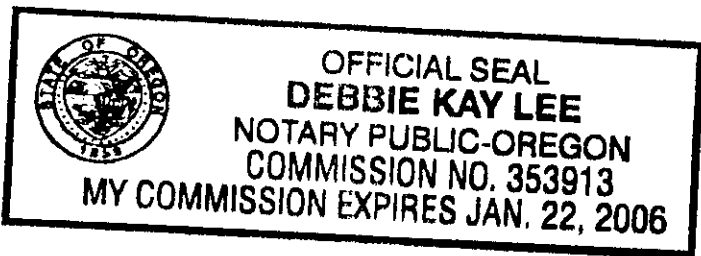
On this November 23, 2004, before me appeared James L. Fisher Jr. and Jon A. Holt both to me personally known, who being duly sworn, did say that They are the Representatives of North Valley Friends Church, the within named Non-Profit Corporation, and that the said instrument was executed on behalf of said Corporation by authority of its Board of Directors, and North Valley Friends Church acknowledge said instrument to be the free act and deed of said Corporation.

In testimony whereof, I have hereunto set my hand and affixed my official seal the day and year last above written.

*Debbie Kay Lee*

Notary Public for Oregon

My Commission Expires: 1-22-06



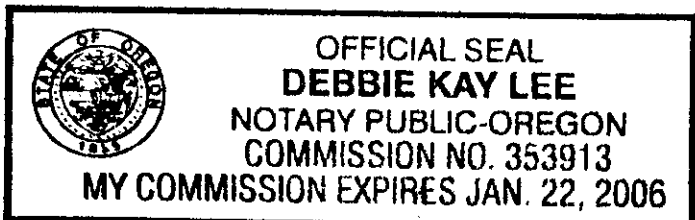
STATE OF OREGON,

County of Yamhill } ss.

On 11-29-04 DATE, before me personally appeared Tim Bourke JR

whose identity was established to my satisfaction, and who executed the foregoing instrument, acknowledging to me that the same was executed freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal on the date first written above.



*Debbie Kay Lee*

Notary Public for Oregon

My commission expires 1-22-06

*Exhibit 1  
Parcel 2*

Matt Dunckel & Assoc.  
3765 Riverside Drive  
McMinnville, Oregon. 97128  
Phone: 472-7904  
Fax: 472-0367

Date: 25 June 2004

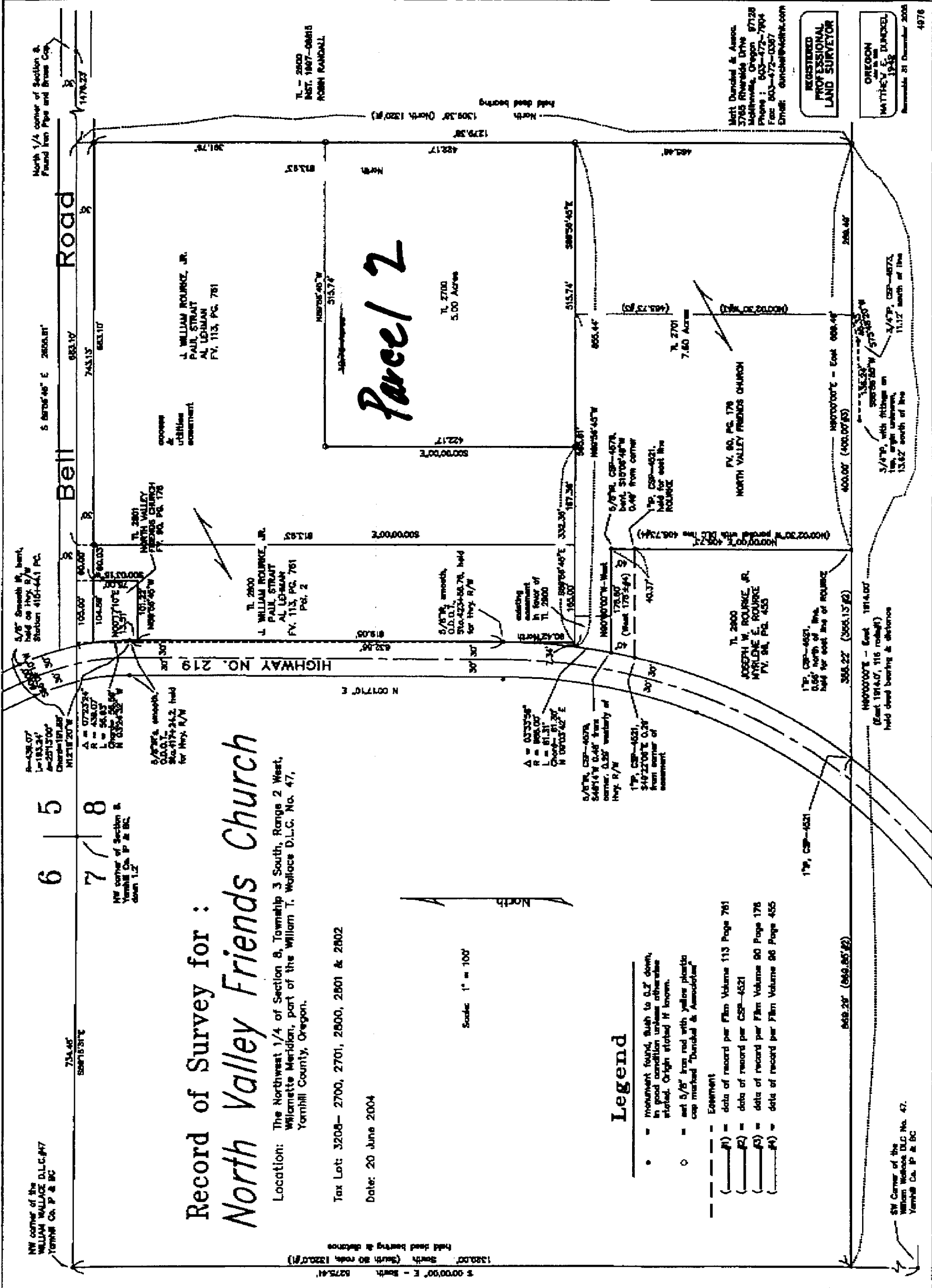
**NORTH VALLEY FRIENDS CHURCH - Legal Description  
of LT 2700(5.00 ac.)**

A tract of land in Section 8, Township 3 South, Range 2 West, Yamhill County, Oregon, being more particularly described as follows:

Beginning at a point that is South 80 rods (1320.00') and East 116 rods (1914.00 feet) from the northwest corner of the William T. Wallace Donation Land Claim #47; thence North 465.46 feet to the TRUE POINT OF BEGINNING; thence North 422.17 feet; thence North 89°56'45" West 515.74 feet; thence South 422.17 feet; thence South 89°56'45" East 515.74 feet to the point of beginning.

TOGETHER WITH A 30' WIDE ACCESS & UTILITIES EASEMENT the centerline of which is described as follows:

L114



# Record of Survey for: North Valley Friends Church

Location: The Northwest 1/4 of Section 8, Township 3 South, Range 2 West, Willamette Meridian, part of the William T. Wallace D.L.C. No. 47, Yamhill County, Oregon.

Tax Lot: 3208- 2700, 2701, 2800, 2801 & 2802  
Date: 20 June 2004

Scale: 1" = 100'

## Legend

- Monument found, flush to O.Z. down, in good condition unless otherwise stated. Origin etched if known.
- set 5/8" iron rod with yellow plastic cap marked "Dunichal & Associates"
- - - Easement
- (1) = data of record per Film Volume 113 Page 761
- (2) = data of record per CSP-4521
- (3) = data of record per Film Volume 90 Page 178
- (4) = data of record per Film Volume 96 Page 455

SW Corner of the William Wallace DLG No. 47, Yamhill Co. P & BC

REGISTERED PROFESSIONAL LAND SURVEYOR

MATTHEY E. DUNCKEL  
1323  
November 31 December 2008  
4976

Matt Dunichal & Assoc.  
3765 Riverside Drive  
McMinnville, Oregon 97128  
Phone: 503-472-7904  
Fax: 503-472-0367  
Email: dunchal@vnet.com



**Anderson Engineering**  
CMI Engineering Land Surveying Mapping

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Jerry Anderson*  
OREGON  
FEBRUARY 14, 1983  
LAVRENCE J. ANDERSON  
2122

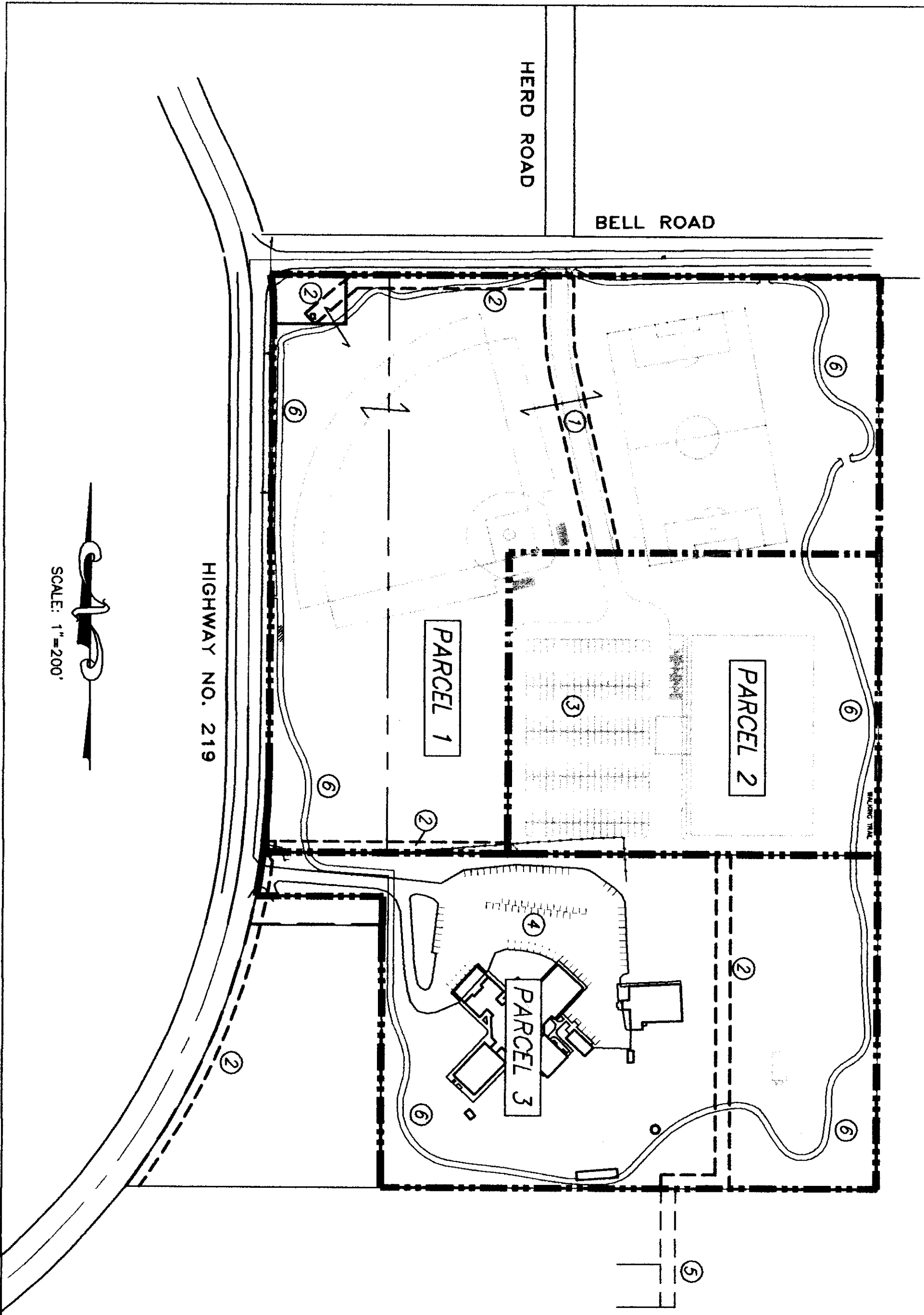
Renewable 31 December 2005

LEGEND

- ① 40' ACCESS AND UTILITY EASEMENT
- ② 15' UTILITY EASEMENT
- ③ SHARED PARKING AND ACCESS AREA
- ④ SHARED PARKING AND ACCESS AREA
- ⑤ 20' UTILITY EASEMENT (OFF-SITE)
- ⑥ 15' WALKING PATH EASEMENT

Veritas School /  
North Valley Friends Church  
Joint Use Agreement

**EXHIBIT - C**



SCALE: 1"=200'



**JOINT USE AGREEMENT  
FOR  
CONSTRUCTION, OPERATION AND MAINTENANCE  
OF  
ATHLETIC FACILITIES**

THIS Joint Use Agreement ("Agreement") dated the 23<sup>rd</sup> day of November, 2004 between North Valley Friends Church, an Oregon nonprofit corporation (NVFC) and Veritas School, an Oregon nonprofit corporation (VERITAS) is for the construction, operation and maintenance of Athletic Facilities for recreational purposes.

**RECITALS**

WHEREAS, NVFC owns certain real property described in Exhibit 1 (hereafter "Property");

WHEREAS, NVFC and VERITAS have a need for athletic facilities, described in greater detail in Exhibit 2 attached hereto (hereafter "Athletic Facilities"), for recreational purposes and wish to use NVFC's property and NVFC is willing to allow such use; and,

WHEREAS, VERITAS is willing to oversee and be responsible for the design, development and construction of Athletic Facilities on NVFC's Property described in Exhibit 2 attached hereto (hereafter "Site") and to use, operate and maintain such facilities primarily for the benefit of VERITAS and also for the benefit NVFC; and being fully advised,

NOW, THEREFORE, NVFC and VERITAS hereby agree as follows:

**Section 1 Use and Occupancy.**

1.1 Grant of Permit for Use and Occupancy. NVFC hereby grants to VERITAS the use and occupancy of the Site commencing upon the date of execution of this Agreement and consistent with its terms.

1.2 Term. Unless terminated earlier pursuant to this Agreement, the term of such use and occupancy shall be perpetual.

1.3 If the lot containing the athletic fields or the other property is sold according to related agreements, NVFC will reimburse VERITAS for the original development costs of those facilities. Under all circumstances, VERITAS shall have the right to use the athletic fields under the Joint Use Agreement for at least 15 years from the date of school occupancy.

1.4 Joint Use. VERITAS shall have priority usage of these athletic facilities. A mutually agreeable schedule will be developed annually and reviewed quarterly by both parties.

1.5 Usage Rules. VERITAS will work with NVFC to establish athletic field and parking usage rules.

## **Section 2 Consideration.**

Consideration for the grant of this Joint Use Agreement to use and occupy the Site and to locate Athletic Facilities on the Site shall be the sole obligation of VERITAS to finance the design, construction, and operation of the Athletic Facilities, and to allow use by NVFC as mutually agreed. Consideration will also be given by both parties to utilize each others facilities as mutually agreed. Any use not specifically addressed in this agreement will have to be requested and accepted in writing and coordinated by each party's designated representative.

## **Section 3 Construction, Operation, Maintenance and Repairs.**

VERITAS shall oversee the construction of the Athletic Facilities described in Exhibit B. Final design of the athletic facilities are subject to approval by both parties, which approval may not be unreasonably withheld. VERITAS shall be responsible for payment of all charges, fees, taxes or other charges associated with such construction. This shall include all irrigation and sanitary facilities. The type of irrigation and sanitary facilities will be as determined by VERITAS. Once operational, the VERITAS shall be solely obligated to operate, maintain and repair all facilities constructed by VERITAS on the Site. VERITAS desires to pursue a partnership with a third party (i.e.: Chehalem Park and Recreation District) to participate in development and maintenance activities in exchange for partial use of facilities.

## **Section 4 Alterations.**

VERITAS may, at any time during the term of this Agreement, at its sole cost and expense, construct, maintain and operate on the Site such improvements as are consistent with the terms of this Agreement and which VERITAS determines are necessary and appropriate. VERITAS may remove trees and vegetation with the prior approval of NVFC.

## **Section 5 Liens.**

VERITAS will provide a performance bond for the initial site grading and construction of the athletic facilities or demonstrate their ability to cover costs through a mutually agreeable method. Except as may be provided in the sale Agreement where both parties share in construction, VERITAS shall not place on the Site any encumbrance

or lien nor suffer any levy or attachment to be made upon the Site or any material or mechanic's lien or any unauthorized encumbrance or lien attached to the Site, and in the event any such encumbrance or lien does attach, shall remove or discharge, or cause to be removed or discharged, the lien or encumbrance within thirty (30) days after written demand by NVFC, and in the event VERITAS fails to do so, NVFC may take appropriate actions to remove any such lien or encumbrance and VERITAS shall be liable to NVFC for all costs and expenses incurred in connection with the removal of such attachment or lien.

## **Section 6 Insurance by VERITAS.**

VERITAS shall obtain insurance in connection with the construction, maintenance and operation of the Athletic Facilities. Such insurance policy shall name the NVFC, its officers, agents, and employees as additional insureds. The coverages are:

- General Aggregate Limit - \$3,000,000
- Operations Aggregate Limit - \$3,000,000
- Personal Injury Limit \$1,000,000
- Property Damage Liability Limit - \$1,000,000

## **Section 7 Insurance by NVFC**

NVFC shall provide insurance to cover said exposure with the same limits as provided by VERITAS noted in Section 6. The coverages are:

- General Aggregate Limit - \$3,000,000
- Operations Aggregate Limit - \$3,000,000
- Personal Injury Limit \$1,000,000
- Property Damage Liability Limit - \$1,000,000

## **Section 8 Assignment.**

The rights of either party under this Agreement may not be assigned to a third party without express written consent of the other party to this Agreement. A right of the use (other than as a member of the public) of any portion of the Site may not be conferred on any person by any other means without the prior written consent of the other party. The parties anticipate good faith negotiations with Chehalem Park and Recreation to become a party to this agreement by addendum or a superceding agreement.

## **Section 9 Opportunity to Cure.**

Failure of either party to comply with any term or condition or fulfill any obligation of this Agreement within twenty (20) days after written notice by the other party specifying the nature of the default with reasonable particularity shall constitute a default. If the default is of such nature that it cannot be completely remedied within the twenty-day period, this provision shall be complied with if either party begins correction

of the default within the twenty-day period and thereafter proceeds with reasonable diligence and good faith to affect the remedy as soon as practical.

### **Section 10 Parking.**

VERITAS and NVFC agree to share each others parking facilities. Each party will utilize their own parking facilities as first priority. Each party agrees to use reasonable efforts to accommodate each other in unforeseen circumstances or special events. Terms and conditions of shared parking will be reviewed annually by both parties.

### **Section 11 Miscellaneous**

11.1 Remedies. In the case of any future disagreements between the parties over this agreement or in regard to any joint usage arrangements, both parties agree to first use the services of a mutually agreed upon, Christian mediation service to help resolve the dispute if third party intervention is deemed necessary. In the event legal action is instituted to enforce any term of this Agreement, the prevailing party shall recover from the losing party reasonable attorney fees incurred in such action as set by the trial court and, in the event of appeal, as set by the appellate courts.

11.2 Notices. Until further written notice, any notice required or permitted under this Agreement shall be given when actually delivered or forty-eight (48) hours after deposited in the United States mail, certified mail, addressed to the address as specified below:

NVFC:           North Valley Friends Church  
                  4020 N. College Street  
                  Newberg, OR 97132

VERITAS:       Veritas School  
                  401 Mission Drive  
                  Newberg, OR 97132

11.3 Governing Law.

This Agreement shall be governed by the laws of the State of Oregon.

11.4 Entire Agreement.

This Agreement shall constitute the entire agreement between the parties and any prior understanding or representation of any kind preceding the date of this Agreement shall not be binding upon either party except to the extent incorporated into this

Agreement. Amendments shall be in writing and signed by two authorized individuals from each party.

11.5 Waiver.

No term or provision of this Agreement shall be waived and no breach excused, unless such waiver or consent shall be in writing and signed by a duly authorized officer of the party claimed to have waived or consented to such breach. Any consent by either to, or waiver of, a breach by the other party shall not constitute a waiver of or consent to any subsequent or different breach. If either party shall fail to enforce a breach of this Agreement by the other party, such failure to enforce shall not be considered consent to or a waiver of said breach of any subsequent breach for any purpose whatsoever.

11.6 Headings.

The titles and headings to the paragraphs of this Agreement are solely for the convenience of the parties and shall not be used to explain, modify, simplify or aid in the interpretation of the provisions of this Agreement.

IN WITNESS THEREOF, the parties have entered into this Agreement as of the date first above written.

**NORTH VALLEY FRIENDS CHURCH,  
an Oregon nonprofit corporation**

*James Rausch*  
N. V. F. Church, REVEREND

By *Jon A. Holt* Jon A. Holt

By *James L. Fisher Jr* JAMES L FISHER JR

**VERITAS SCHOOL, an Oregon  
nonprofit corporation**

By *Seán Boyle* Seán Boyle

By *David Mather* DAVID MATHER  
*Daniel Wilson* DANIEL WILSON

**NOTARY FOR BUYER(S) / SELLER(S)**

**Newberg Office**

619 E. Hancock St • Newberg OR 97132  
(503) 538-0656 • FAX: (503) 538-0671

**REFERENCE ORDER NUMBER: 829338**

Veritas School

STATE OF: OR  
COUNTY OF: YAMHILL

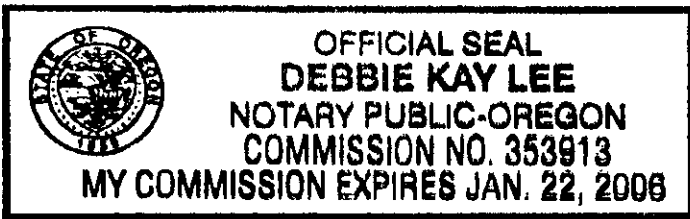
On this November 23, 2004, before me appeared Sean Boyle, David Mehler, Daniel Wilson all to me personally known, who being duly sworn, did say that They are the Representatives of Veritas School, the within named Non-Profit Corporation, and that the said instrument was executed on behalf of said Corporation by authority of its Board of Directors, and acknowledge said instrument to be the free act and deed of said Corporation.

In testimony whereof, I have hereunto set my hand and affixed my official seal the day and year last above written.

*Debbie Kay Lee*

Notary Public for Oregon

My Commission Expires: 1-22-06



North Valley Friends Church

STATE OF: OR  
COUNTY OF: YAMHILL

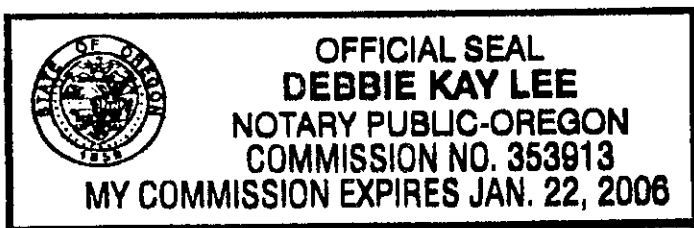
On this November 23, 2004, before me appeared James L. Fisher Jr. and Jon A. Holt both to me personally known, who being duly sworn, did say that They are the Representatives of North Valley Friends Church, the within named Non-Profit Corporation, and that the said instrument was executed on behalf of said Corporation by authority of its Board of Directors, and North Valley Friends Church acknowledge said instrument to be the free act and deed of said Corporation.

In testimony whereof, I have hereunto set my hand and affixed my official seal the day and year last above written.

*Debbie Kay Lee*

Notary Public for Oregon

My Commission Expires: 1-22-06



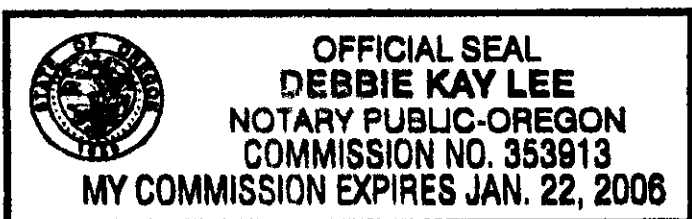
STATE OF OREGON,

County of Yamhill } ss.

On 11-29-2004 DATE, before me personally appeared J W M Bourke JR

whose identity was established to my satisfaction, and who executed the foregoing instrument, acknowledging to me that the same was executed freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal on the date first written above.



*Debbie Kay Lee*

Notary Public for Oregon

My commission expires 1-22-06



Matt Dunckel & Assoc.  
3765 Riverside Drive  
McMinnville, Oregon. 97128  
Phone: 472-7904  
Fax: 472-0367

Date: 22 Nov. 2004

NORTH VALLEY FRIENDS CHURCH - Legal Description  
of LT 2800(10.6 ac.)

A tract of land in Section 8, Township 3 South, Range 2 West, Yamhill County, Oregon, being more particularly described as follows:

Beginning at a point that is South 80 rods (1320.00') and East 116 rods (1914.00 feet) from the northwest corner of the William T. Wallace Donation Land Claim #47; thence North 465.46 feet; thence continuing North 422.17 feet to the TRUE POINT OF BEGINNING; thence North 421.76 feet to the north line of said Section 8; thence North  $89^{\circ}56'45''$  West 683.10 feet along said north line; thence continuing North  $89^{\circ}56'45''$  West 60.00 feet to the northeast corner of that tract of land described as Parcel 2 in deed from J. WILLIAM ROURKE, JR. and PAUL STRAIT and AL LEHMAN to NORTH VALLEY FRIENDS CHURCH and recorded in Volume 90 Page 176, Yamhill County Deed Records; thence South  $00^{\circ}03'15''$  West 105.00 feet to the southeast corner of said Parcel 2; thence North  $89^{\circ}56'45''$  West 101.22 feet along the south line of Parcel 2 to the east margin of Highway No. 219; thence South  $00^{\circ}17'10''$  West 619.05 feet along said east margin to the beginning of a curve concave to the west having a radius of 985.00 feet; thence southerly 29.46 feet along said curve (chord=South  $01^{\circ}08'42''$  West 29.46 feet) to the west line of that tract of land described as Parcel 2 in deed from ELMER L. BLOMBERG and HILMA C. BLOMBERG to J. WILLIAM ROURKE, JR. and PAUL STRAIT and AL LEHMAN and recorded in Film Volume 113 Page 761; thence South 90.42 feet along said west line to the southwest corner of said tract; thence South  $89^{\circ}56'45''$  East 332.36 feet along the south lines of Parcels 2 and 1 of said; thence North 422.17 feet; thence South  $89^{\circ}56'45''$  East 515.74 feet to the TRUE POINT OF BEGINNING.

NE corner of the  
WILLIAM WALLACE D.L.C. #47  
Yamhill Co. P & DC

704.44'

5875.31'

6 | 5  
7 | 8

NE corner of Section 8,  
Yamhill Co. P & DC,  
down 12'

5/8" smooth,  
L-1183.24'  
L-1183.24'  
Chert-181.48'  
N 03°44'52" E  
N 03°44'52" E

5/8" smooth,  
L-1183.24'  
L-1183.24'  
Chert-181.48'  
N 03°44'52" E  
N 03°44'52" E

# Record of Survey for : North Valley Friends Church

Location: The Northwest 1/4 of Section 8, Township 3 South, Range 2 West,  
Willamette Meridian, part of the William T. Wallace D.L.C. No. 47,  
Yamhill County, Oregon.

Tax Lot: 3208-2700, 2701, 2800, 2801 & 2802

Date: 20 June 2004

0°00'00" E - South 5275.41'  
1320.00' South (South 60 rods, 1320.0')  
held dead bearing & distance

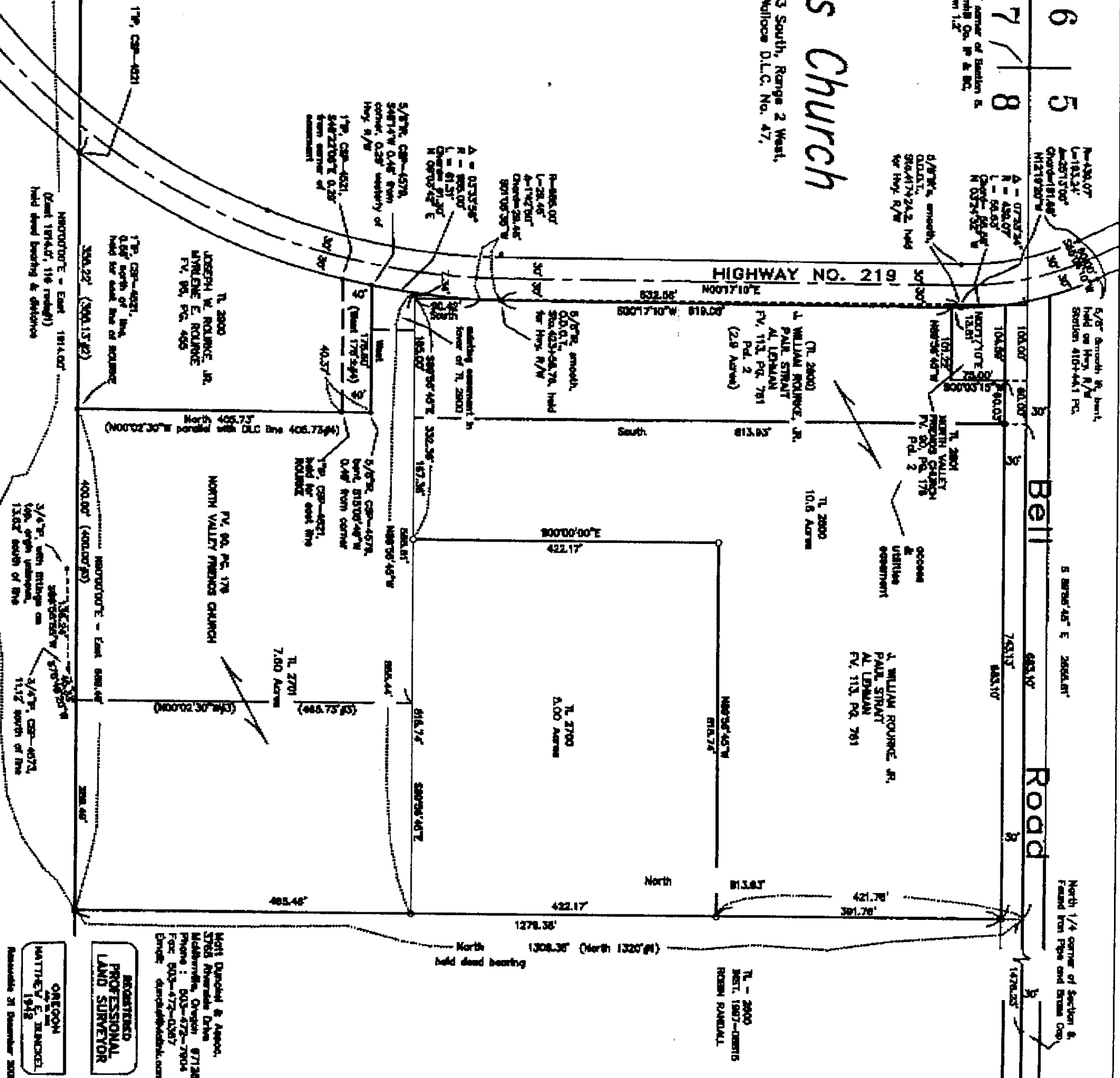
Scale: 1" = 100'

North

## Legend

- measurement found flush to 0.2' down, in good condition unless otherwise stated. Origin etched if known.
- and 5/8" brass rod with yellow plastic cap marked "David & Associates"
- Easement
- (1) - date of record per Film Volume 113 Page 761
- (2) - date of record per CSP-4521
- (3) - date of record per Film Volume 90 Page 176
- (4) - date of record per Film Volume 95 Page 406

SW corner of the  
William Wallace D.L.C. No. 47,  
Yamhill Co. P & DC



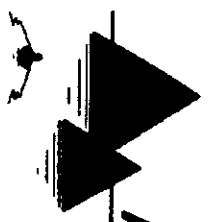
OREGON  
REGISTERED  
PROFESSIONAL  
LAND SURVEYOR  
MATTHEW S. JENCKEL  
1942

North Dupont & Assoc.  
2705 Riverside Drive  
Medford, Oregon 97504  
Phone: 503-472-7804  
Fax: 503-472-0307  
Email: dmj@northdupont.com

Revised: 21 December 2008  
4876

16/17

17/17



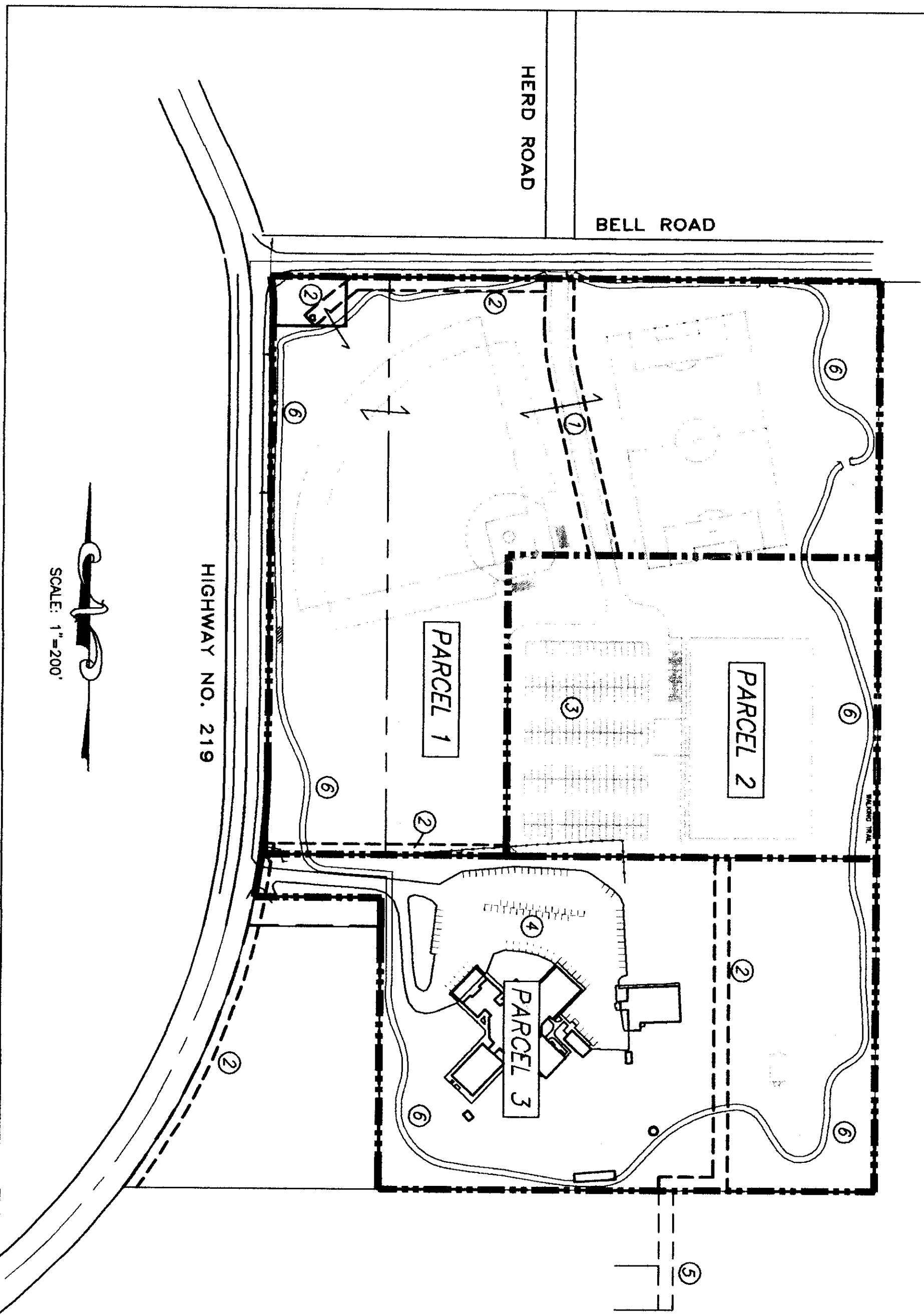
**Anderson Engineering**  
Civil Engineering Land Surveying Mapping

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR  
*Lawrence J. Anderson*  
OREGON  
February 14, 1983  
LAWRENCE J. ANDERSON  
2122

Renewable 31 December 2005

**LEGEND**

- ① 40' ACCESS AND UTILITY EASEMENT
- ② 15' UTILITY EASEMENT
- ③ SHARED PARKING AND ACCESS AREA
- ④ SHARED PARKING AND ACCESS AREA
- ⑤ 20' UTILITY EASEMENT (OFF-SITE)
- ⑥ 15' WALKING PATH EASEMENT



Veritas School /  
North Valley Friends Church  
Joint Use Agreement

**EXHIBIT - C**

**PUBLIC UTILITY EASEMENT**

In consideration of the sum of \$0.00 and other valuable consideration, VERITAS SCHOOL, AN OREGON NON-PROFIT CORPORATION, herein called Grantor, does hereby convey to the City of Newberg, a municipal corporation, hereinafter called Grantee, a perpetual and permanent easement, for the purposes of constructing, installing, using, repairing, and maintaining a public sanitary sewer line and/or a public water line and across the following described real property:

See attached Exhibit A

**TO HAVE AND TO HOLD** said easement to said Grantee, for the use and purpose herein above described.

It is further understood that:

1. The Grantor(s) hereby release(s) the City of Newberg, its agents and employees, assigns and successors of any and all liability for damage to the remaining lands resulting from this conveyance and further absolves the Grantee from any damage not controlled by their actions.
2. The rights granted herein shall not be construed to interfere with or restrict use of the premises by Grantor(s), their heirs or assigns, with respect to the construction and maintenance of property improvements along and adjacent to the premises herein described, so long as the same are so constructed as to not impair or interfere with the use and maintenance of access of utilities herein above authorized.
3. The Grantee hereby agrees to restore the easement to its original condition, as close as is practical to do so, upon completion of the construction.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007.

IN WITNESS WHEREOF, the parties have executed this document on this 13 day of Aug. 2013

VERITAS SCHOOL

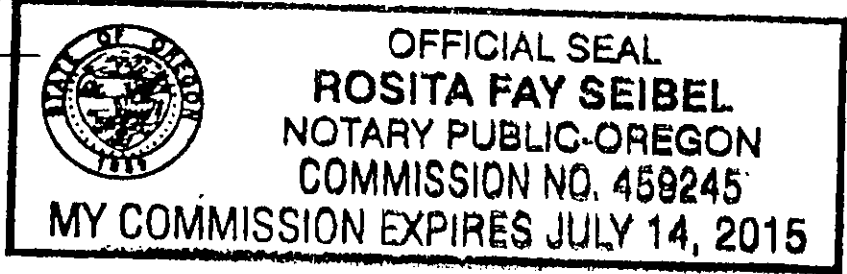
Mark D. Hall  
Representative

STATE OF OR )  
County of Yamhill ) s.s.

This instrument was acknowledged before me this 13<sup>th</sup> day of Aug. 2013 by Mark D. Hall

Notary Public for Oregon  
My Commission expires: 7/14/15

Rosita Seibel, Notary



CITY OF NEWBERG  
ACCEPTED:

Norma I. Alley  
Norma I. Alley, City Recorder  
Dated: September 16, 2013

APPROVED AS TO FORM

Terrence D. Mahr  
Terrence D. Mahr, City Attorney  
Dated: 9/11/2013

**THIS IS A TRUE COPY OF THE ORIGINAL, WHICH IS ATTACHED AS "EXHIBIT A"**

OFFICIAL YAMHILL COUNTY RECORDS  
BRIAN VAN BERGEN, COUNTY CLERK

**201315144**



**\$51.00**

00425024201300151440040046

**09/24/2013 02:38:32 PM**

**AFTER RECORDING RETURN TO:**  
City of Newberg – Engineering Division  
PO Box 970 - 414 E. First Street  
Newberg, OR 97132

*Exhibit A*

**PUBLIC UTILITY EASEMENT**

In consideration of the sum of \$0.00 and other valuable consideration, VERITAS SCHOOL, AN OREGON NON-PROFIT CORPORATION, herein called Grantor, does hereby convey to the City of Newberg, a municipal corporation, hereinafter called Grantee, a perpetual and permanent easement, for the purposes of constructing, installing, using, repairing, and maintaining a public sanitary sewer line and/or a public water line and across the following described real property:

See attached Exhibit A

**TO HAVE AND TO HOLD** said easement to said Grantee, for the use and purpose herein above described.

It is further understood that:

1. The Grantor(s) hereby release(s) the City of Newberg, its agents and employees, assigns and successors of any and all liability for damage to the remaining lands resulting from this conveyance and further absolves the Grantee from any damage not controlled by their actions.
2. The rights granted herein shall not be construed to interfere with or restrict use of the premises by Grantor(s), their heirs or assigns, with respect to the construction and maintenance of property improvements along and adjacent to the premises herein described, so long as the same are so constructed as to not impair or interfere with the use and maintenance of access of utilities herein above authorized.
3. The Grantee hereby agrees to restore the easement to its original condition, as close as is practical to do so, upon completion of the construction.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007.

IN WITNESS WHEREOF, the parties have executed this document on this 13 day of Aug. 2013

VERITAS SCHOOL

*Mark D. Hall*, *Chairman*  
Representative

STATE OF OR )  
County of Yamhill ) s.s.

This instrument was acknowledged before me this 13<sup>th</sup> day of Aug. 2013 by  
*Mark D. Hall*

Notary Public for Oregon  
My Commission expires: 7/14/15

*Rosita Seibel*, Notary



CITY OF NEWBERG  
ACCEPTED:

*Norma I. Alley*  
Norma I. Alley, City Recorder  
Dated: September 16, 2013

APPROVED AS TO FORM

*Terrence D. Mahr*  
Terrence D. Mahr, City Attorney 9/11/2013  
Dated: \_\_\_\_\_

FIRST AMERICAN TITLE

August 08, 2013

**VERITAS SCHOOL SITE  
UTILITY EASEMENT DEDICATION**

**LEGAL DESCRIPTION – For a Public Utility Easement across Tax Lots 3208-2702.**

Situated in the Northwest Quarter of Section 8, Township 3 South, Range 2 West, Willamette Meridian, Yamhill County, Oregon.

A strip of land, 10.00 feet in width across that certain property described in deed to Veritas School, recorded March 1, 2005, as Instrument No. 200504185, Yamhill County Deed Records, said strip being more particularly described as follows:

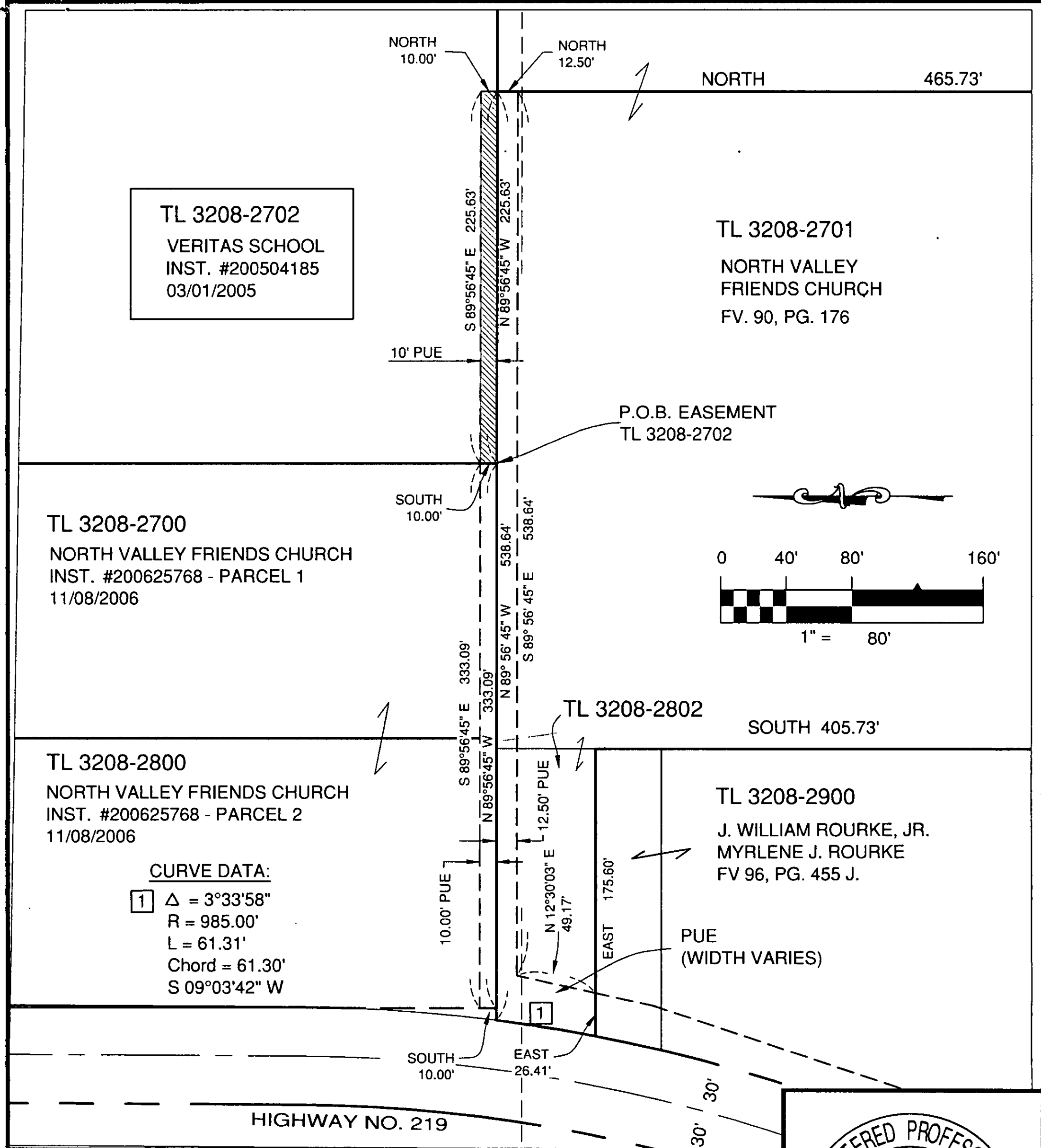
Beginning at the southwest corner of said Veritas School property - Instrument No. 200504185; thence along the south line of the Veritas School property, South 89° 56' 45" East 225.63 feet; thence North 10.00 feet; thence parallel with and 10.00 feet distant from the south line of said Veritas School property, North 89° 56' 45" West 225.63 feet to the west line of said Veritas School property; thence South 10.00 feet to the southwest corner of said Veritas School property and the Point of Beginning.

The intent of this description is to create a 10-foot wide utility easement along the south boundary of the school property from the west boundary of the school property to a line 225.63 feet east.

**EXHIBIT "A"**

*Pg. 1 of 2*





VERITAS SCHOOL UTILITIES PROJECT EASEMENT EXHIBIT		VERITAS SCHOOL SITE INST. #200504185 TAX LOT: 3208-2702 Section 8, T. 3 S., R. 2 W., WM	
DATE: 7/28/2013	<b>EXHIBIT "A"</b> <i>pg 2 of 2</i>	LAEI 112 N. Springbrook Road Newberg, Oregon 97132 Phone: (503) 537-1110 email: andeng1@comcast.net	
DRAWN: LJA			
SCALE: 1" = 80'			

REGISTERED PROFESSIONAL ENGINEER  
 13,623  
 LAWRENCE J. ANDERSON  
 OREGON  
 JULY 16, 1987  
 Renewable 31 December 2013

**AFTER RECORDING RETURN TO:**  
City of Newberg – Engineering Division  
PO Box 970 - 414 E. First Street  
Newberg, OR 97132

**PUBLIC UTILITY EASEMENT**

In consideration of the sum of \$0.00 and other valuable consideration, NORTH VALLEY FRIENDS CHURCH, AN OREGON NON-PROFIT CORPORATION, herein called Grantor, does hereby convey to the City of Newberg, a municipal corporation, hereinafter called Grantee, a perpetual and permanent easement, for the purposes of constructing, installing, using, repairing, and maintaining a public sanitary sewer line and a public water line and across the following described real property:

Situated in the William T. Wallace Donation Land Claim #47, in Section 8, Township 3 South, Range 2 West of the Willamette Meridian in Yamhill County, Oregon;

A strip of land of varying width, across that certain tract of land conveyed to North Valley Friends Church by deed recorded in Film Volume 90, Page 176, Yamhill County Deed Records, said easement as depicted on map marked Exhibit A:

**TO HAVE AND TO HOLD** said easement to said Grantee, for the use and purpose herein above described.

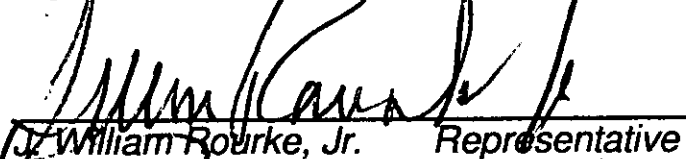
It is further understood that:

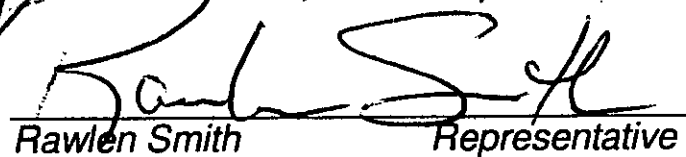
1. The Grantor(s) hereby release(s) the City of Newberg, its agents and employees, assigns and successors of any and all liability for damage to the remaining lands resulting from this conveyance and further absolves the Grantee from any damage not controlled by their actions.
2. The rights granted herein shall not be construed to interfere with or restrict use of the premises by Grantor(s), their heirs or assigns, with respect to the construction and maintenance of property improvements along and adjacent to the premises herein described, so long as the same are so constructed as to not impair or interfere with the use and maintenance of access of utilities herein above authorized.
3. The Grantee hereby agrees to restore the easement to its original condition, as close as is practical to do so, upon completion of the construction.

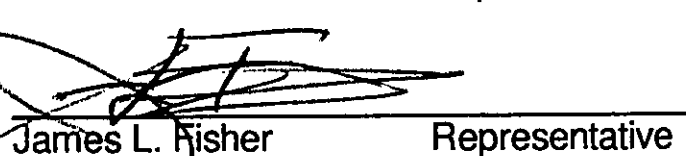
BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007.

IN WITNESS WHEREOF, the parties have executed this document on this 28 day of JULY, 2013

**NORTH VALLEY FRIENDS CHURCH**

  
William Rourke, Jr. Representative

  
Rawlen Smith Representative

  
James L. Fisher Representative

OFFICIAL YAMHILL COUNTY RECORDS  
BRIAN VAN BERGEN, COUNTY CLERK

201404207



\$51.00

00435549201400042070030031

04/16/2014 12:11:38 PM

**AFTER RECORDING RETURN TO:**

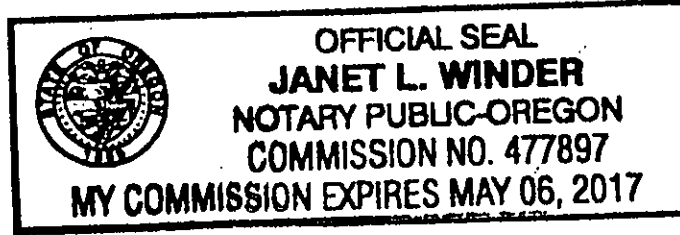
City of Newberg – Engineering Division  
PO Box 970 - 414 E. First Street  
Newberg, OR 97132

STATE OF Oregon }  
County of Yamhill } s.s.

28th  
31  
9th

This instrument was acknowledged before me this 31 day of July, 13, by J. William Rourke, Jr., Rawlen Smith and James L. Fisher.

Janet L. Winder  
Janet L. Winder  
Notary Public for Oregon  
My Commission expires: 5/16/2017

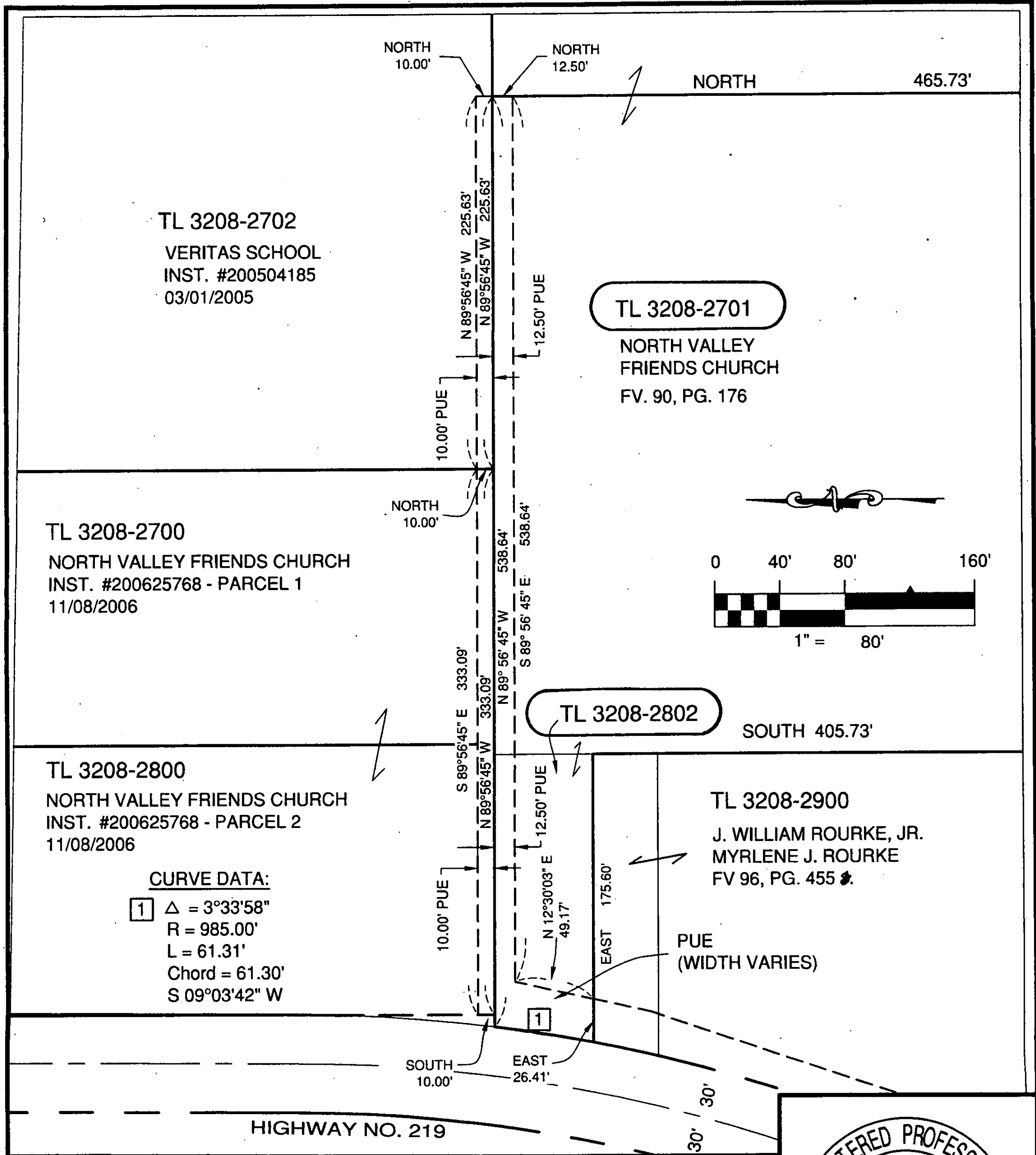


CITY OF NEWBERG  
ACCEPTED:

Norma I. Alley  
Norma I. Alley, City Recorder  
Dated: April 15, 2014

APPROVED AS TO FORM

Terrence D. Mahr  
Terrence D. Mahr, City Attorney  
Dated: 7/15/14



VERITAS SCHOOL  
 UTILITIES PROJECT  
 EASEMENT EXHIBIT

TAX LOTS:  
 3208-2701, 2802, 2700, 2800

**EXHIBIT "A"**  
 Section 8, T. 3 S., R. 2 W., WM.,  
 NEWBERG, YAMHILL CO., OR.

DATE: 7/28/2013  
 DRAWN: LJA  
 SCALE: 1" = 80'

**LAEI**  
 112 N. Springbrook Road  
 Newberg, Oregon 97132  
 Phone: (503) 537-1110  
 email: andeng1@comcast.net

REGISTERED PROFESSIONAL  
 ENGINEER  
 13,623  
 OREGON  
 JULY 16, 1987  
 LAWRENCE J. ANDERSON

Renewable 31 December 2013

**AFTER RECORDING RETURN TO:**  
City of Newberg – Engineering Division  
PO Box 970 - 414 E. First Street  
Newberg, OR 97132

**PUBLIC UTILITY EASEMENT**

In consideration of the sum of \$0.00 and other valuable consideration, NORTH VALLEY FRIENDS CHURCH, AN OREGON NON-PROFIT CORPORATION, herein called Grantor, does hereby convey to the City of Newberg, a municipal corporation, hereinafter called Grantee, a perpetual and permanent easement, for the purposes of constructing, installing, using, repairing, and maintaining a public sanitary sewer line and a public water line and across the following described real property:

Situated in the William T. Wallace Donation Land Claim #47, in Section 8, Township 3 South, Range 2 West of the Willamette Meridian in Yamhill County, Oregon;

A strip of land 10 feet in width, across that certain tract of land conveyed to North Valley Friends Church by deed recorded in Instrument #200625768, Yamhill County Deed Records, said easement as depicted on map marked Exhibit A:

**TO HAVE AND TO HOLD** said easement to said Grantee, for the use and purpose herein above described.


It is further understood that:

1. The Grantor(s) hereby release(s) the City of Newberg, its agents and employees, assigns and successors of any and all liability for damage to the remaining lands resulting from this conveyance and further absolves the Grantee from any damage not controlled by their actions.
2. The rights granted herein shall not be construed to interfere with or restrict use of the premises by Grantor(s), their heirs or assigns, with respect to the construction and maintenance of property improvements along and adjacent to the premises herein described, so long as the same are so constructed as to not impair or interfere with the use and maintenance of access of utilities herein above authorized.
3. The Grantee hereby agrees to restore the easement to its original condition, as close as is practical to do so, upon completion of the construction.

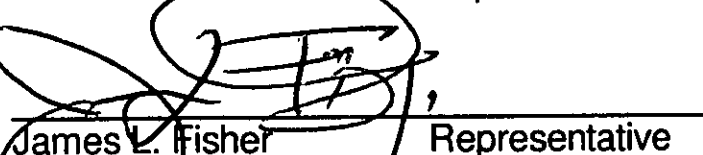
BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007.

IN WITNESS WHEREOF, the parties have executed this document on this 26 day of July 2013

**NORTH VALLEY FRIENDS CHURCH**

  
William Rourke, Jr. Representative

  
Rawlen Smith Representative

  
James L. Fisher Representative

OFFICIAL YAMHILL COUNTY RECORDS  
BRIAN VAN BERGEN, COUNTY CLERK

201404208



00435550201400042080030035

\$51.00

04/16/2014 12:12:20 PM

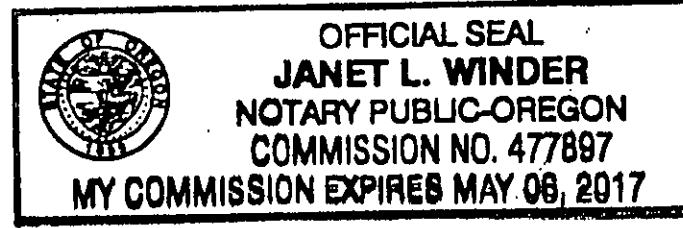
**AFTER RECORDING RETURN TO:**  
City of Newberg – Engineering Division  
PO Box 970 - 414 E. First Street  
Newberg, OR 97132

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STATE OF Oregon )  
County of Murphy ) s.s.

This instrument was acknowledged before me this 28<sup>th</sup> day of July, 13, by J. William Rourke, Jr., Rawlen Smith and James L. Fisher.

Janet L. Winder  
Notary Public for Oregon  
My Commission expires: 5/6/2017



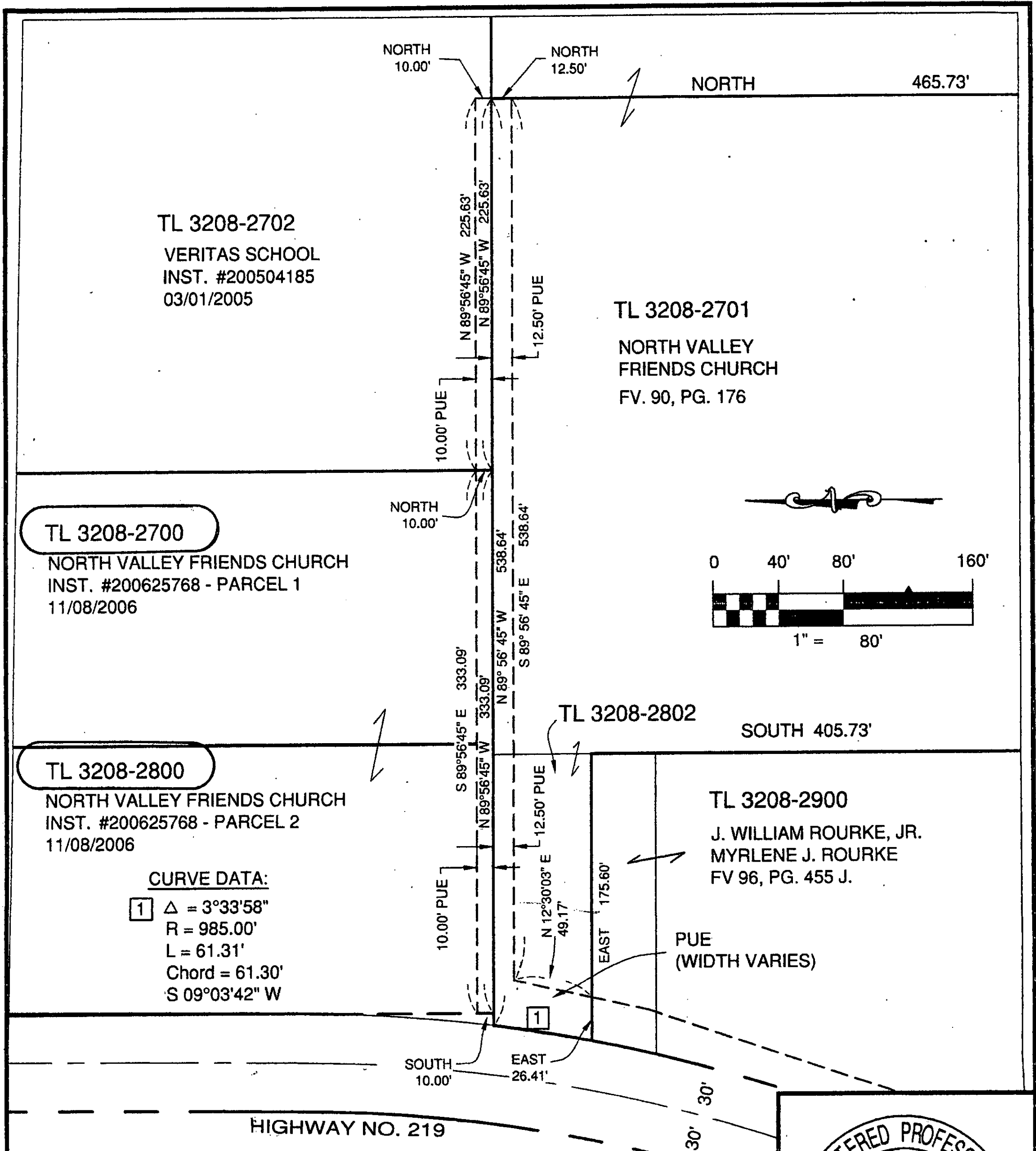
CITY OF NEWBERG  
ACCEPTED:

Norma I. Alley  
Norma I. Alley, City Recorder  
Dated: April 15, 2014

APPROVED AS TO FORM

Terrence D. Mahr  
Terrence D. Mahr, City Attorney  
Dated: 4/15/14





VERITAS SCHOOL  
UTILITIES PROJECT  
EASEMENT EXHIBIT

TAX LOTS:  
3208-2701, 2802, 2700, 2800

DATE: 7/28/2013  
DRAWN: LJA  
SCALE: 1" = 80'

**EXHIBIT "A"**  
Section 8, T. 3 S., R. 2 W., WM.,  
NEWBERG, YAMHILL CO., OR.

LAEI  
112 N. Springbrook Road  
Newberg, Oregon 97132  
Phone: (503) 537-1110  
email: andeng1@comcast.net

REGISTERED PROFESSIONAL  
ENGINEER  
13,623  
OREGON  
JULY 16, 1987  
LAWRENCE J. ANDERSON

Renewable 31 December 2013

**Exhibit E:**  
**Sample Public Notice and Mailing Information**

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# Community Development Department

P.O. Box 970 • 414 E First Street • Newberg, Oregon 97132

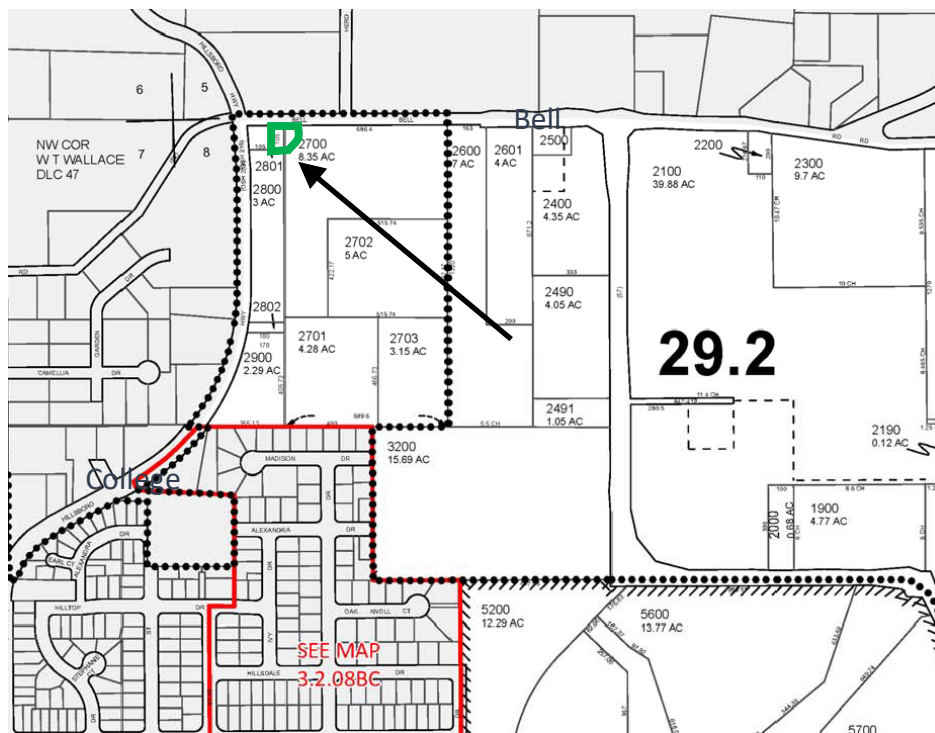
503-537-1240. Fax 503-537-1272 [www.newbergoregon.gov](http://www.newbergoregon.gov)

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

The City of Newberg has submitted an application to construct a water pump station in your area. You are invited to take part in the City's review of this project by sending in your written comments. You also may request that the Planning Commission hold a hearing on the application. For more details about giving comments, please see the back of this sheet.

The project involves the creation of a water pump station that, in conjunction with additional planned infrastructure improvements, will serve surrounding neighborhoods. The project involves the construction of a pump station, standby generator, street frontage improvements, stormwater facility, landscaping, and the relocation and enhancement of an existing pathway. The site is approximately ±4,973 square feet in size, fronts NE Bell Road, and is zoned I (Institutional).

APPLICANT: City of Newberg – Paul Chiu, PE  
APPLICANT'S CONSULTANT: **AKS Engineering & Forestry, LLC**  
Glen Southerland, AICP  
TELEPHONE: **(503) 563-6151**  
EMAIL: SoutherlandG@aks-eng.com  
PROPERTY OWNER: North Valley Friends Church  
LOCATION: **Adjacent to 26288 NE BELL RD**  
TAX LOT NUMBER: **Yamhill County Tax Map 3 2 08 Lot Number 2700 & 2800**



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. You also may request that the Newberg Planning Commission hold a hearing on the application by sending a written request during this 14-day period and identifying the issues you would like the Planning Commission to address.

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 of Newberg  
Community Development Department  
PO Box 970  
Newberg, OR 97132

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 preliminary subdivision plan approval are found in Newberg Development Code 15.235.060(A).

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.

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**



First American Title  
**Radius Search Disclaimer**

**Subject:** R3208-2700 & 2800 (YAMHILL)  
**Date of Production:** 03.02.2022

The ownership information enclosed is time sensitive and should be utilized as soon as possible.

This mailing list was produced from third party sources. No liability is assumed for any errors with this report.

**Thank you for your business and for choosing First American Title.**

**503.219.TRIO (8746)**  
**cs.oregon@firstam.com**

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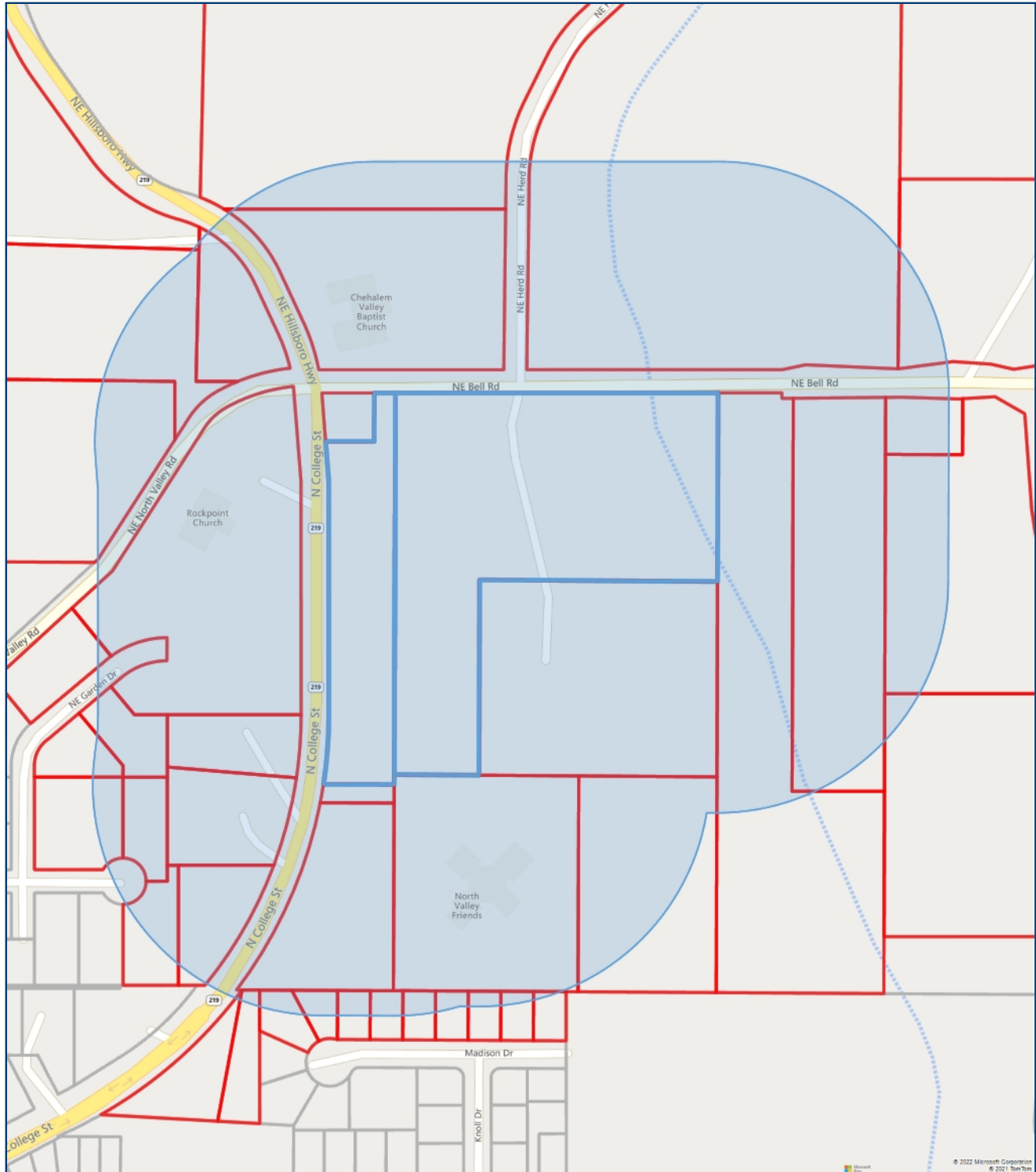
**First American Title™**



# 500 ft Buffer

26500 NE Bell Rd, Newberg, OR 97132

Report Generated: 3/2/2022



The present data and maps are intended for informational purposes only. Some information has been procured from third-party sources and has not been independently verified. Individual parts are owned by their respective copyright owners and not by First American. First American Title Company makes no express or implied warranty respecting the information presented and assumes no responsibility for errors or omissions.





Date of Production: 03/02/2022

## TERMS AND CONDITIONS OF INFORMATION REPORTS

IMPORTANT - READ CAREFULLY: AN INFORMATION REPORT IS NOT AN INSURED PRODUCT OR SERVICE OR A REPRESENTATION OF THE CONDITION OF TITLE TO REAL PROPERTY. IT IS NOT AN ABSTRACT, LEGAL OPINION, OPINION OF TITLE, TITLE INSURANCE COMMITMENT OR PRELIMINARY REPORT, OR ANY FORM OF TITLE INSURANCE OR GUARANTY. THE INFORMATION REPORT IS ISSUED EXCLUSIVELY FOR THE BENEFIT OF THE REQUESTOR, AND MAY NOT BE USED OR RELIED UPON BY ANY OTHER PERSON. THE INFORMATION REPORT MAY NOT BE REPRODUCED IN ANY MANNER WITHOUT FIRST AMERICAN TITLE'S PRIOR WRITTEN CONSENT. FIRST AMERICAN TITLE DOES NOT REPRESENT OR WARRANT THAT THE INFORMATION CONTAINED IN THE INFORMATION REPORT IS COMPLETE OR FREE FROM ERROR, AND THE INFORMATION THEREIN IS PROVIDED WITHOUT ANY WARRANTIES OF ANY KIND, AS-IS, AND WITH ALL FAULTS. AS A MATERIAL PART OF THE CONSIDERATION GIVEN IN EXCHANGE FOR THE ISSUANCE OF AN INFORMATION REPORT, REQUESTOR AGREES THAT FIRST AMERICAN TITLE'S SOLE LIABILITY FOR ANY LOSS OR DAMAGE CAUSED BY AN ERROR OR OMISSION DUE TO INACCURATE INFORMATION OR NEGLIGENCE IN PREPARING THE INFORMATION REPORT SHALL BE LIMITED TO THE GREATOR OF THE FEE CHARGED FOR THE INFORMATION REPORT OR \$15. REQUESTOR ACCEPTS THE INFORMATION REPORT WITH THIS LIMITATION AND AGREES THAT FIRST AMERICAN TITLE WOULD NOT HAVE ISSUED THE INFORMATION REPORT BUT FOR THE LIMITATION OF LIABILITY DESCRIBED ABOVE. FIRST AMERICAN TITLE MAKES NO REPRESENTATION OR WARRANTY AS TO THE LEGALITY OR PROPRIETY OF REQUESTOR'S USE OF THE INFORMATION CONTAINED IN THE INFORMATION REPORT.



R3207AA 01500  
Damon & Miriam Ellis  
917 NE Camelia Dr  
Newberg, OR 97132

R3208BC 00205  
Ronald & Carolyn Gross  
10995 SE Quarry Rd  
Dayton, OR 97114

R3208BC 00208  
James & Melinda Allison  
1125 E Madison Dr  
Newberg, OR 97132

R3208BC 00207  
Eric & Colleen Hemmer  
1115 E Madison Dr  
Newberg, OR 97132

R3208BC 00206  
Nancy & Edward Macy  
1101 E Madison Dr  
Newberg, OR 97132

R3208 02601  
John & Troy Rutten  
26530 NE Bell Rd  
Newberg, OR 97132

R3208 02400  
Somerset Ventures Iii Llc  
Po Box 1060  
Newberg, OR 97132

R3208 02490  
Rain Dance Ranch Llamas Llc  
Po Box 1060  
Newberg, OR 97132

R3207AA 01400  
James & Bonnie Kiser  
909 NE Camelia Dr  
Newberg, OR 97132

R3207AA 01705  
Jeffery & Kristen Kosmicki  
Po Box 971  
Newberg, OR 97132

R3208 02703  
North Valley Friends Church  
4020 N College St  
Newberg, OR 97132

R3207AA 00490  
Robert & Nancy Schumacher  
916 NE Camelia Dr  
Newberg, OR 97132

R3208BC 00204  
Leslie & Nathan Murray  
1007 E Madison Dr  
Newberg, OR 97132

R3207AA 01401  
Jeremy & Laila Allen  
4054 NE Garden Dr  
Newberg, OR 97132

R3208BC 00100  
Veritas School  
26288 NE Bell Rd  
Newberg, OR 97132

R3208BC 00200  
Veritas School  
26288 NE Bell Rd  
Newberg, OR 97132

R3208BC 00203  
Jaemi & Kyle Mesneak  
1001 E Madison Dr  
Newberg, OR 97132

R3208BC 00210  
Jeremy & Rosann Johnson  
1215 E Madison Dr  
Newberg, OR 97132

R3208BC 00209  
Jeffery & Heidi Jones  
17305 NE Leander Dr  
Sherwood, OR 97140

R3208BC 00211  
Gregory & Elizabeth Woolsey  
1225 E Madison Dr  
Newberg, OR 97132

R3208 02702  
Veritas School  
26288 NE Bell Rd  
Newberg, OR 97132

R3208 02600  
Curt Wilson  
26450 NE Bell Rd  
Newberg, OR 97132

R3207AA 01600  
Olson Melvin R & Marilyn K Olson Melvin  
12575 Greenleaf Dr  
Newberg, OR 97132

R3208 02701  
North Valley Friends Church  
4020 N College St  
Newberg, OR 97132

R3208 02500  
Mark Wanker  
21373 SW Johnson Rd  
West Linn, OR 97068

R3206 01700  
Sigmund Holdings Llc  
Po Box 3189  
Newberg, OR 97132

R3206 01800  
Sommer Tolleson & David Langler  
4788 Coho Ln  
West Linn, OR 97068

R3205 02700  
Rain Dance Ranch Llamas Llc  
Po Box 1060  
Newberg, OR 97132

R3205 02301  
Chehalem Valley Baptist Church  
26155 NE Bell Rd  
Newberg, OR 97132

R3207AA 01900  
Michael Shmulevsky & Natalya  
25935 NE North Valley Rd  
Newberg, OR 97132

R3208 02700  
North Valley Friends Church  
4020 N College St  
Newberg, OR 97132

R3208 02801  
North Valley Friends Church  
4020 N College St  
Newberg, OR 97132

R3207AA 00100  
Newberg Gospel Chapel Inc  
4301 N College St  
Newberg, OR 97132

R3205 02300  
Rain Dance Ranch Llamas Llc  
Po Box 1060  
Newberg, OR 97132

R3206 02000  
Constance Farrar  
16275 NE Hillsboro Hwy  
Newberg, OR 97132

R3205 02401  
Rain Dance Ranch Llamas Llc  
Po Box 1060  
Newberg, OR 97132

R3207AA 00200  
Debralyn Evans  
4009 N College St  
Newberg, OR 97132

R3208 02900  
J William & Myrlene Rourke  
1201 E Fulton St APT 13  
Newberg, OR 97132

R3207AA 00300  
Lawrence Joholske & Sandra Stone  
3993 N College St  
Newberg, OR 97132

R3208 02802  
North Valley Friends Church  
4020 N College St  
Newberg, OR 97132

R3208 02800  
North Valley Friends Church  
4020 N College St  
Newberg, OR 97132

R3207AA 00400  
Jerry & Marie Brown  
1180 SW 9th St  
Dundee, OR 97115



Customer Service Department  
Phone: 503.219.8746(TRIO)  
Email: cs.oregon@firstam.com  
Report Generated: 3/2/2022

## Ownership

Legal Owner(s): North Valley Friends Church	Parcel #: R3208 02700
Site Address: 26500 NE Bell Rd Newberg, OR 97132	APN: 25706
Mailing Address: 4020 N College St Newberg, OR 97132	County: Yamhill

## Property Characteristics

Bedrooms: 0	Year Built: 0	Lot SqFt: 363726
Total Bathrooms: 0	Building SqFt: 0	Lot Acres: 8.35
Full Bathrooms: 0	First Floor SqFt: 0	Roof Type:
Half Bathrooms: 0	Basement Sqft: 0	Roof Shape:
Units: 0	Basment Type:	Porch Type:
Stories:		Building Style:
Fire Place: N		Garage:
Air Conditioning:		Garage SqFt: 0
Heating Type:		Parking Spots: 0
Electric Type:		Pool:

## Property Information

Land Use: VACANT	Zoning: AF-10
Improvement Type: Institutional-Vacant Land	School District: Newberg School
Legal Description: SEE METES & BOUNDS	Neighborhood:
	Subdivision:

## Assessor & Tax

Market Land: \$207,411	Taxes: \$2,249.83
Market Total: \$207,411	% Improved: 0
Market Structure: \$0	Levy Code:
Assessed Total: \$202,887	Millage Rate:

## Sale History

Last Sale Date: 3/1/2005	Doc #: 200504185	Last Sale Price: \$250,000
Prior Sale Date:	Prior Doc #:	Prior Sale Price: \$0

## Mortgage

1st Mortgage Date: 3/1/2005	Doc #: 200504186	
1st Mortgage Type:	1st Mortgage Lender: Us Bank Na	1st Mortgage: \$0
2nd Mortgage Type:		2nd Mortgage: \$0



Customer Service Department  
Phone: 503.219.8746(TRIO)  
Email: cs.oregon@firstam.com  
Report Generated: 3/2/2022

## Ownership

Legal Owner(s): North Valley Friends Church	Parcel #: R3208 02800
Site Address: No Site Address Newberg, OR 97132	APN: 25779
Mailing Address: 4020 N College St Newberg, OR 97132	County: Yamhill

## Property Characteristics

Bedrooms: 0	Year Built: 0	Lot SqFt: 130680
Total Bathrooms: 0	Building SqFt: 0	Lot Acres: 3.00
Full Bathrooms: 0	First Floor SqFt: 0	Roof Type:
Half Bathrooms: 0	Basement Sqft: 0	Roof Shape:
Units: 0	Basment Type:	Porch Type:
Stories:		Building Style:
Fire Place: N		Garage:
Air Conditioning:		Garage SqFt: 0
Heating Type:		Parking Spots: 0
Electric Type:		Pool:

## Property Information

Land Use: VACANT	Zoning: AF-10
Improvement Type: Residential-Vacant Land	School District: Newberg School
Legal Description: SEE METES & BOUNDS	Neighborhood:
	Subdivision:

## Assessor & Tax

Market Land: \$74,519	Taxes: \$1,172.19
Market Total: \$74,519	% Improved: 0
Market Structure: \$0	Levy Code:
Assessed Total: \$74,519	Millage Rate:

## Sale History

Last Sale Date:	Doc #:	Last Sale Price: \$0
Prior Sale Date:	Prior Doc #:	Prior Sale Price: \$0

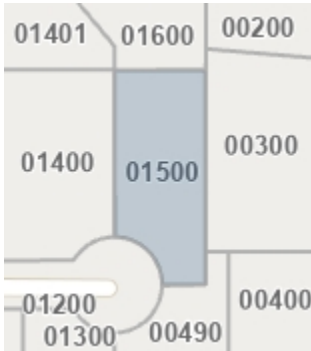
## Mortgage

1st Mortgage Date:	Doc #:	
1st Mortgage Type:	1st Mortgage Lender:	1st Mortgage: \$0
2nd Mortgage Type:		2nd Mortgage: \$0



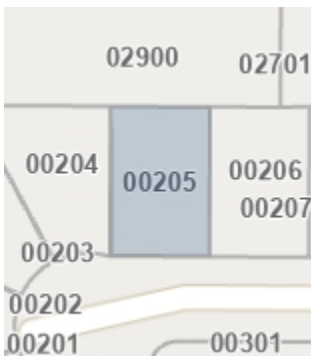
First American Title™

Customer Service Department  
Phone: 503.219.8746(TRIO)  
Email: cs.oregon@firstam.com  
Report Generated: 3/2/2022



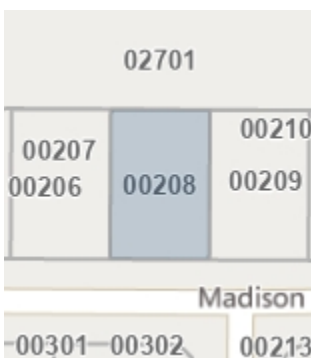
Legal Owner: Damon & Miriam Ellis  
Site Address: 917 NE Camelia Dr Newberg, OR 97132  
Mailing Address: 917 NE Camelia Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 1  
Building SqFt: 1,104                      Lot Acres: 0.45  
Year Built: 1956  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 01500 LOT 13

APN: 24930  
Ref Parcel #: R3207AA 01500  
Taxes: \$2,473.90  
Market Value: \$379,484  
Assessed Value: \$186,862  
Sales Price: \$235,950  
Transfer Date: 8/27/2014



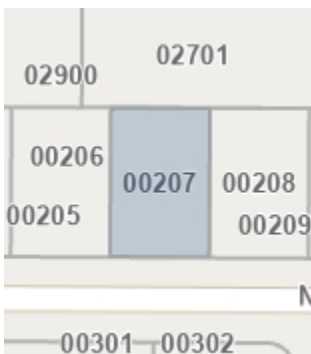
Legal Owner: Ronald & Carolyn Gross  
Site Address: 1015 E Madison Dr Newberg, OR 97132  
Mailing Address: 10995 SE Quarry Rd Dayton, OR 97114  
Bedrooms: 3  
Bathrooms: 3  
Building SqFt: 2,332                      Lot Acres: 0.17  
Year Built: 2002  
School District: Newberg School District 29j  
Neighborhood:  
Legal: LOT 14 IN THE SUMMIT AT OAK KNOLL NO.3

APN: 519793  
Ref Parcel #: R3208BC 00205  
Taxes: \$5,690.02  
Market Value: \$557,281  
Assessed Value: \$356,270  
Sales Price: \$439,900  
Transfer Date: 7/31/2018



Legal Owner: James & Melinda Allison  
Site Address: 1125 E Madison Dr Newberg, OR 97132  
Mailing Address: 1125 E Madison Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 3  
Building SqFt: 2,161                      Lot Acres: 0.17  
Year Built: 2002  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00208 LOT 17

APN: 519802  
Ref Parcel #: R3208BC 00208  
Taxes: \$5,391.72  
Market Value: \$532,789  
Assessed Value: \$337,592  
Sales Price: \$0  
Transfer Date:



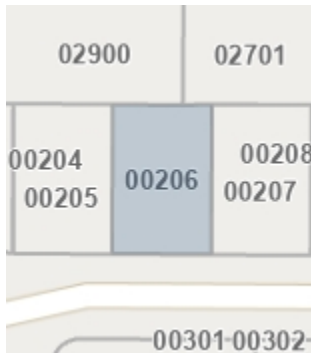
Legal Owner: Eric & Colleen Hemmer  
Site Address: 1115 E Madison Dr Newberg, OR 97132  
Mailing Address: 1115 E Madison Dr Newberg, OR 97132  
Bedrooms: 5  
Bathrooms: 2.5  
Building SqFt: 3,001                      Lot Acres: 0.17  
Year Built: 2002  
School District: Newberg School District 29j  
Neighborhood:  
Legal: LOT 16 IN THE SUMMIT AT OAK KNOLL NO.3

APN: 519799  
Ref Parcel #: R3208BC 00207  
Taxes: \$6,070.26  
Market Value: \$603,754  
Assessed Value: \$380,078  
Sales Price: \$515,000  
Transfer Date: 8/31/2018



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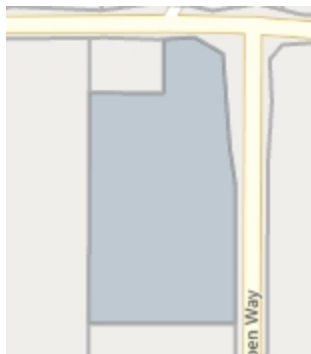
Legal Owner: Nancy & Edward Macy  
Site Address: 1101 E Madison Dr Newberg, OR 97132  
Mailing Address: 1101 E Madison Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 3  
Building SqFt: 2,555                      Lot Acres: 0.17  
Year Built: 2002  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00206 LOT 15

APN: 519796  
Ref Parcel #: R3208BC 00206  
Taxes: \$6,119.58  
Market Value: \$583,911  
Assessed Value: \$383,166  
Sales Price: \$285,000  
Transfer Date: 1/6/2012



Legal Owner: John & Troy Rutten  
Site Address: 26530 NE Bell Rd Newberg, OR 97132  
Mailing Address: 26530 NE Bell Rd Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 2,071                      Lot Acres: 4.00  
Year Built: 2003  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 TAXLOT 02601

APN: 25653  
Ref Parcel #: R3208 02601  
Taxes: \$5,169.80  
Market Value: \$570,537  
Assessed Value: \$390,492  
Sales Price: \$0  
Transfer Date:



Legal Owner: Somerset Ventures lli Llc  
Site Address: 4213 NE Aspen Way Newberg, OR 97132  
Mailing Address: Po Box 1060 Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 2,032                      Lot Acres: 4.35  
Year Built: 1993  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 TAXLOT 02400

APN: 25564  
Ref Parcel #: R3208 02400  
Taxes: \$4,779.03  
Market Value: \$570,968  
Assessed Value: \$360,976  
Sales Price: \$500,000  
Transfer Date: 4/7/2006



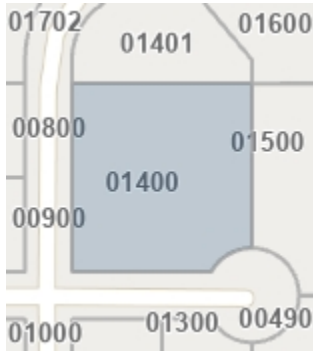
Legal Owner: Rain Dance Ranch Llamas Llc  
Site Address: 4001 NE Aspen Way Newberg, OR 97132  
Mailing Address: Po Box 1060 Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 1,367                      Lot Acres: 4.05  
Year Built: 1978  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 TAXLOT 02490

APN: 25582  
Ref Parcel #: R3208 02490  
Taxes: \$4,077.07  
Market Value: \$313,666  
Assessed Value: \$313,666  
Sales Price: \$750,000  
Transfer Date: 8/13/2007



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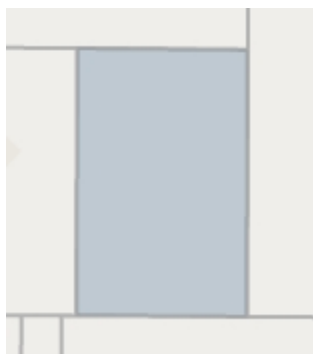
Legal Owner: James & Bonnie Kiser  
Site Address: 909 NE Camelia Dr Newberg, OR 97132  
Mailing Address: 909 NE Camelia Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2.5  
Building SqFt: 1,953                      Lot Acres: 0.85  
Year Built: 1956  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 01400 LOT 11

APN: 24921  
Ref Parcel #: R3207AA 01400  
Taxes: \$3,716.10  
Market Value: \$610,932  
Assessed Value: \$280,689  
Sales Price: \$347,000  
Transfer Date: 9/25/2009



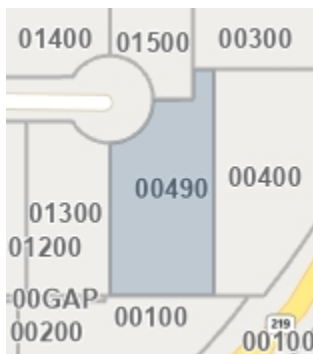
Legal Owner: Jeffery & Kristen Kosmicki  
Site Address: 4075 NE Garden Dr Newberg, OR 97132  
Mailing Address: Po Box 971 Newberg, OR 97132  
Bedrooms: 4  
Bathrooms: 3  
Building SqFt: 4,696                      Lot Acres: 0.68  
Year Built: 2006  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 01705 LOT 4

APN: 532585  
Ref Parcel #: R3207AA 01705  
Taxes: \$5,431.38  
Market Value: \$930,890  
Assessed Value: \$410,250  
Sales Price: \$130,000  
Transfer Date: 1/12/2006



Legal Owner: North Valley Friends Church  
Site Address: 4026 N College St Newberg, OR 97132  
Mailing Address: 4020 N College St Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                      Lot Acres: 3.15  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 529354  
Ref Parcel #: R3208 02703  
Taxes: \$0.00  
Market Value: \$78,245  
Assessed Value: \$78,245  
Sales Price: \$0  
Transfer Date:



Legal Owner: Robert & Nancy Schumacher  
Site Address: 916 NE Camelia Dr Newberg, OR 97132  
Mailing Address: 916 NE Camelia Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 3  
Building SqFt: 1,526                      Lot Acres: 0.55  
Year Built: 1957  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 00490

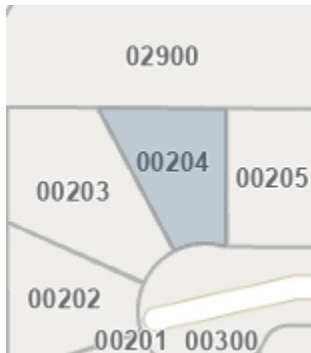
APN: 24823  
Ref Parcel #: R3207AA 00490  
Taxes: \$2,985.37  
Market Value: \$464,428  
Assessed Value: \$225,495  
Sales Price: \$300,000  
Transfer Date: 3/9/2007





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Legal Owner: Leslie & Nathan Murray  
Site Address: 1007 E Madison Dr Newberg, OR 97132  
Mailing Address: 1007 E Madison Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 1,863                      Lot Acres: 0.17  
Year Built: 2002  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00204 LOT 13

APN: 519790  
Ref Parcel #: R3208BC 00204  
Taxes: \$4,774.24  
Market Value: \$488,299  
Assessed Value: \$298,930  
Sales Price: \$0  
Transfer Date: 12/1/2010



Legal Owner: Jeremy & Laila Allen  
Site Address: 4054 NE Garden Dr Newberg, OR 97132  
Mailing Address: 4054 NE Garden Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2.5  
Building SqFt: 3,229                      Lot Acres: 0.40  
Year Built: 2007  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 01401

APN: 532612  
Ref Parcel #: R3207AA 01401  
Taxes: \$4,534.47  
Market Value: \$772,555  
Assessed Value: \$342,503  
Sales Price: \$615,000  
Transfer Date: 4/30/2021



Legal Owner: Veritas School  
Site Address: No Site Address Newberg, OR 97132  
Mailing Address: 26288 NE Bell Rd Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                              Lot Acres: 0.70  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: PARCEL 2 P1999-49

APN: 515917  
Ref Parcel #: R3208BC 00100  
Taxes: \$105.07  
Market Value: \$207,813  
Assessed Value: \$6,579  
Sales Price: \$2,500  
Transfer Date: 10/4/2012



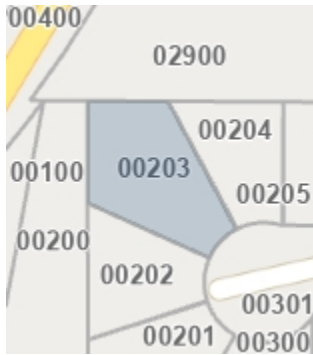
Legal Owner: Veritas School  
Site Address: No Site Address Newberg, OR 97132  
Mailing Address: 26288 NE Bell Rd Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                              Lot Acres: 0.43  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: LOT A IN THE SUMMIT AT OAK KNOLL NO.3

APN: 25877  
Ref Parcel #: R3208BC 00200  
Taxes: \$1,041.70  
Market Value: \$114,985  
Assessed Value: \$65,224  
Sales Price: \$2,500  
Transfer Date: 10/4/2012



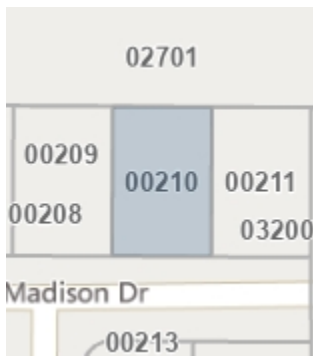
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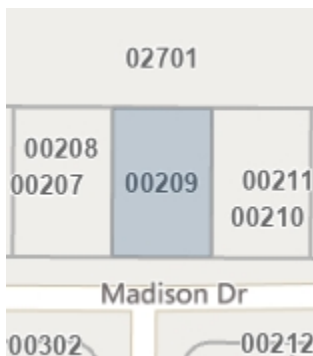
Legal Owner: Jaemi & Kyle Mesneak  
Site Address: 1001 E Madison Dr Newberg, OR 97132  
Mailing Address: 1001 E Madison Dr Newberg, OR 97132  
Bedrooms: 4  
Bathrooms: 3  
Building SqFt: 2,508                      Lot Acres: 0.26  
Year Built: 2002  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00203 LOT 12

APN: 519787  
Ref Parcel #: R3208BC 00203  
Taxes: \$5,703.66  
Market Value: \$605,212  
Assessed Value: \$357,124  
Sales Price: \$529,655  
Transfer Date: 6/30/2021



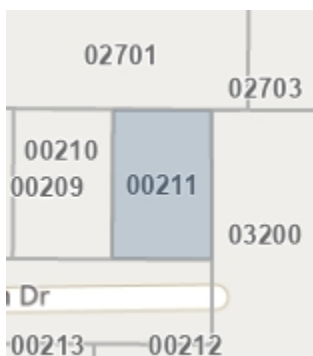
Legal Owner: Jeremy & Rosann Johnson  
Site Address: 1215 E Madison Dr Newberg, OR 97132  
Mailing Address: 1215 E Madison Dr Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 3  
Building SqFt: 2,410                      Lot Acres: 0.17  
Year Built: 2001  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00210 LOT 19

APN: 519808  
Ref Parcel #: R3208BC 00210  
Taxes: \$5,422.94  
Market Value: \$550,090  
Assessed Value: \$339,547  
Sales Price: \$630,000  
Transfer Date: 11/30/2021



Legal Owner: Jeffery & Heidi Jones  
Site Address: 1201 E Madison Dr Newberg, OR 97132  
Mailing Address: 17305 NE Leander Dr Sherwood, OR 97140  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 1,744                      Lot Acres: 0.17  
Year Built: 2001  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00209 LOT 18

APN: 519805  
Ref Parcel #: R3208BC 00209  
Taxes: \$4,155.49  
Market Value: \$434,907  
Assessed Value: \$260,188  
Sales Price: \$212,500  
Transfer Date: 11/15/2011



Legal Owner: Gregory & Elizabeth Woolsey  
Site Address: 1225 E Madison Dr Newberg, OR 97132  
Mailing Address: 1225 E Madison Dr Newberg, OR 97132  
Bedrooms: 4  
Bathrooms: 3  
Building SqFt: 2,372                      Lot Acres: 0.17  
Year Built: 2001  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00211 LOT 20

APN: 519811  
Ref Parcel #: R3208BC 00211  
Taxes: \$5,391.36  
Market Value: \$532,009  
Assessed Value: \$337,570  
Sales Price: \$0  
Transfer Date:



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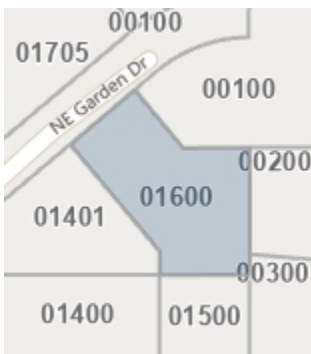
Legal Owner: Veritas School  
Site Address: No Site Address Newberg, OR 97132  
Mailing Address: 26288 NE Bell Rd Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                      Lot Acres: 5.00  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 529351  
Ref Parcel #: R3208 02702  
Taxes: \$0.00  
Market Value: \$3,228,094  
Assessed Value: \$383,481  
Sales Price: \$0  
Transfer Date:



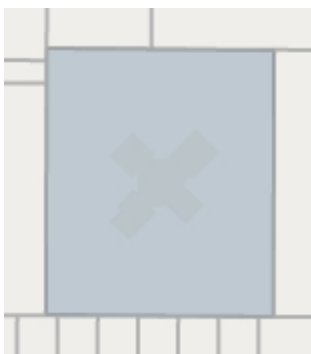
Legal Owner: Curt Wilson  
Site Address: 26450 NE Bell Rd Newberg, OR 97132  
Mailing Address: 26450 NE Bell Rd Newberg, OR 97132  
Bedrooms: 4  
Bathrooms: 1  
Building SqFt: 2,064                      Lot Acres: 7.00  
Year Built: 1958  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 25626  
Ref Parcel #: R3208 02600  
Taxes: \$2,375.13  
Market Value: \$840,449  
Assessed Value: \$179,401  
Sales Price: \$549,000  
Transfer Date: 10/16/2020



Legal Owner: Olson Melvin R & Marilyn K Olson Melvin & Marilyn Trust  
Site Address: 12575 Greenleaf Dr Newberg, OR 97132  
Mailing Address: 12575 Greenleaf Dr Newberg, OR 97132  
Bedrooms: 5  
Bathrooms: 2  
Building SqFt: 3,766                      Lot Acres: 0.52  
Year Built: 1961  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 01600

APN: 24949  
Ref Parcel #: R3207AA 01600  
Taxes: \$5,263.59  
Market Value: \$679,077  
Assessed Value: \$397,576  
Sales Price: \$0  
Transfer Date:



Legal Owner: North Valley Friends Church  
Site Address: 4020 N College St Newberg, OR 97132  
Mailing Address: 4020 N College St Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 1,510                      Lot Acres: 4.28  
Year Built: 2009  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 25724  
Ref Parcel #: R3208 02701  
Taxes: \$1,989.58  
Market Value: \$1,976,504  
Assessed Value: \$1,597,100  
Sales Price: \$0  
Transfer Date:



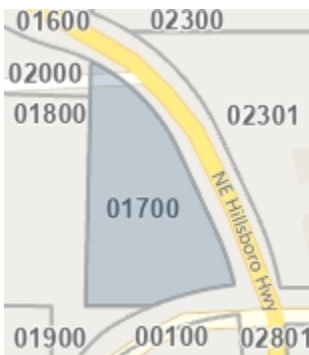
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Legal Owner: Mark Wanker  
Site Address: 26600 NE Bell Rd Newberg, OR 97132  
Mailing Address: 21373 SW Johnson Rd West Linn, OR  
Bedrooms: 2  
Bathrooms: 1  
Building SqFt: 1,176                      Lot Acres: 0.47  
Year Built: 1966  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 TAXLOT 02500

APN: 25608  
Ref Parcel #: R3208 02500  
Taxes: \$3,015.43  
Market Value: \$398,407  
Assessed Value: \$227,765  
Sales Price: \$0  
Transfer Date:



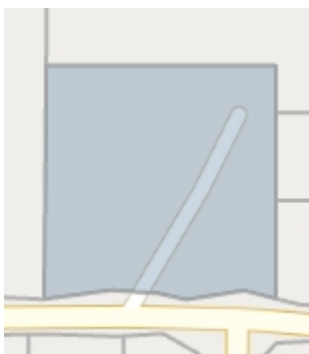
Legal Owner: Sigmund Holdings Llc  
Site Address: No Site Address Newberg, OR 97132  
Mailing Address: Po Box 3189 Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                              Lot Acres: 0.98  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 06 TAXLOT 01700

APN: 22870  
Ref Parcel #: R3206 01700  
Taxes: \$111.77  
Market Value: \$78,496  
Assessed Value: \$8,442  
Sales Price: \$620,000  
Transfer Date: 12/4/2020



Legal Owner: Sommer Tolleson & David Langler  
Site Address: 26025 NE North Valley Rd Newberg, OR 97132  
Mailing Address: 4788 Coho Ln West Linn, OR 97068  
Bedrooms: 2  
Bathrooms: 1.5  
Building SqFt: 1,891                      Lot Acres: 4.06  
Year Built: 1945  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 06 TAXLOT 01800

APN: 22898  
Ref Parcel #: R3206 01800  
Taxes: \$5,237.39  
Market Value: \$555,005  
Assessed Value: \$395,597  
Sales Price: \$749,000  
Transfer Date: 2/8/2021



Legal Owner: Rain Dance Ranch Llamas Llc  
Site Address: 26625 NE Bell Rd Newberg, OR 97132  
Mailing Address: Po Box 1060 Newberg, OR 97132  
Bedrooms: 2  
Bathrooms: 1  
Building SqFt: 1,436                      Lot Acres: 4.02  
Year Built: 1954  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 05 TAXLOT 02700

APN: 22601  
Ref Parcel #: R3205 02700  
Taxes: \$3,680.33  
Market Value: \$590,981  
Assessed Value: \$277,987  
Sales Price: \$0  
Transfer Date:



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Legal Owner: Chehalem Valley Baptist Church  
Site Address: 26155 NE Bell Rd Newberg, OR 97132  
Mailing Address: 26155 NE Bell Rd Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0 Lot Acres: 4.00  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 22530  
Ref Parcel #: R3205 02301  
Taxes: \$0.00  
Market Value: \$1,515,793  
Assessed Value: \$1,226,814  
Sales Price: \$0  
Transfer Date:



Legal Owner: Michael Shmulevsky & Natalya Balanetskaya  
Site Address: 25935 NE North Valley Rd Newberg, OR 97132  
Mailing Address: 25935 NE North Valley Rd Newberg, OR  
Bedrooms: 4  
Bathrooms: 3  
Building SqFt: 3,052 Lot Acres: 7.00  
Year Built: 1994  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 01900

APN: 24976  
Ref Parcel #: R3207AA 01900  
Taxes: \$7,178.23  
Market Value: \$876,719  
Assessed Value: \$542,195  
Sales Price: \$865,000  
Transfer Date: 7/3/2017



Legal Owner: North Valley Friends Church  
Site Address: 26500 NE Bell Rd Newberg, OR 97132  
Mailing Address: 4020 N College St Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0 Lot Acres: 8.35  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 25706  
Ref Parcel #: R3208 02700  
Taxes: \$2,249.83  
Market Value: \$207,411  
Assessed Value: \$202,887  
Sales Price: \$250,000  
Transfer Date: 3/1/2005



Legal Owner: North Valley Friends Church  
Site Address: No Site Address Newberg, OR 97132  
Mailing Address: 4020 N College St Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0 Lot Acres: 0.26  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 25813  
Ref Parcel #: R3208 02801  
Taxes: \$0.00  
Market Value: \$6,458  
Assessed Value: \$6,458  
Sales Price: \$0  
Transfer Date:



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Legal Owner: Newberg Gospel Chapel Inc  
Site Address: 4301 N College St Newberg, OR 97132  
Mailing Address: 4301 N College St Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 1  
Building SqFt: 1,568                      Lot Acres: 5.33  
Year Built: 1900  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 24789  
Ref Parcel #: R3207AA 00100  
Taxes: \$948.83  
Market Value: \$1,170,966  
Assessed Value: \$796,312  
Sales Price: \$0  
Transfer Date:



Legal Owner: Rain Dance Ranch Llamas Llc  
Site Address: 16225 NE Herd Rd Newberg, OR 97132  
Mailing Address: Po Box 1060 Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                              Lot Acres: 14.50  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 05 TAXLOT 02300

APN: 22521  
Ref Parcel #: R3205 02300  
Taxes: \$3,598.23  
Market Value: \$520,893  
Assessed Value: \$271,786  
Sales Price: \$300,000  
Transfer Date: 5/9/2012



Legal Owner: Constance Farrar  
Site Address: 16275 NE Hillsboro Hwy Newberg, OR 97132  
Mailing Address: 16275 NE Hillsboro Hwy Newberg, OR  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 1,985                      Lot Acres: 14.16  
Year Built: 1946  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 06 TAXLOT 02000

APN: 22923  
Ref Parcel #: R3206 02000  
Taxes: \$3,203.42  
Market Value: \$710,362  
Assessed Value: \$241,965  
Sales Price: \$0  
Transfer Date:



Legal Owner: Rain Dance Ranch Llamas Llc  
Site Address: 26355 NE Bell Rd Newberg, OR 97132  
Mailing Address: Po Box 1060 Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 1  
Building SqFt: 1,714                      Lot Acres: 15.00  
Year Built: 1890  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 05 TAXLOT 02401

APN: 501055  
Ref Parcel #: R3205 02401  
Taxes: \$962.56  
Market Value: \$554,301  
Assessed Value: \$72,705  
Sales Price: \$0  
Transfer Date:





First American Title™

Customer Service Department  
Phone: 503.219.8746(TRIO)  
Email: cs.oregon@firstam.com  
Report Generated: 3/2/2022



Legal Owner: Debralyn Evans  
Site Address: 4009 N College St Newberg, OR 97132  
Mailing Address: 4009 N College St Newberg, OR 97132  
Bedrooms: 3  
Bathrooms: 2.5  
Building SqFt: 2,419                      Lot Acres: 0.80  
Year Built: 1962  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 00200

APN: 24798  
Ref Parcel #: R3207AA 00200  
Taxes: \$4,277.82  
Market Value: \$445,615  
Assessed Value: \$323,118  
Sales Price: \$425,000  
Transfer Date: 6/12/2015



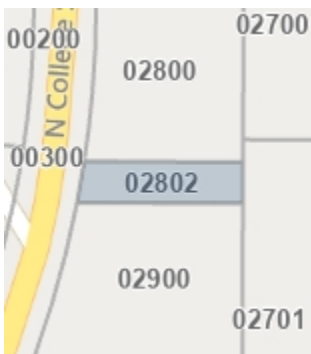
Legal Owner: J William & Myrlene Rourke  
Site Address: 4016 N College St Newberg, OR 97132  
Mailing Address: 1201 E Fulton St APT 13 Newberg, OR  
Bedrooms: 3  
Bathrooms: 2  
Building SqFt: 2,088                      Lot Acres: 2.29  
Year Built: 1973  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 25859  
Ref Parcel #: R3208 02900  
Taxes: \$5,124.26  
Market Value: \$693,913  
Assessed Value: \$387,052  
Sales Price: \$0  
Transfer Date:



Legal Owner: Lawrence Joholske & Sandra Stone  
Site Address: 3993 N College St Newberg, OR 97132  
Mailing Address: 3993 N College St Newberg, OR 97132  
Bedrooms: 4  
Bathrooms: 4.5  
Building SqFt: 3,320                      Lot Acres: 1.20  
Year Built: 2016  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 00300

APN: 24805  
Ref Parcel #: R3207AA 00300  
Taxes: \$5,013.54  
Market Value: \$884,660  
Assessed Value: \$378,689  
Sales Price: \$961,000  
Transfer Date: 10/27/2020



Legal Owner: North Valley Friends Church  
Site Address: No Site Address Newberg, OR 97132  
Mailing Address: 4020 N College St Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                              Lot Acres: 0.14  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 25831  
Ref Parcel #: R3208 02802  
Taxes: \$0.00  
Market Value: \$3,478  
Assessed Value: \$3,478  
Sales Price: \$0  
Transfer Date:





First American Title™

Customer Service Department  
Phone: 503.219.8746(TRIO)  
Email: cs.oregon@firstam.com  
Report Generated: 3/2/2022



Legal Owner: North Valley Friends Church  
Site Address: No Site Address Newberg, OR 97132  
Mailing Address: 4020 N College St Newberg, OR 97132  
Bedrooms: 0  
Bathrooms: 0  
Building SqFt: 0                      Lot Acres: 3.00  
Year Built: 0  
School District: Newberg School District 29j  
Neighborhood:  
Legal: SEE METES & BOUNDS

APN: 25779  
Ref Parcel #: R3208 02800  
Taxes: \$1,172.19  
Market Value: \$74,519  
Assessed Value: \$74,519  
Sales Price: \$0  
Transfer Date:



Legal Owner: Jerry & Marie Brown  
Site Address: 3909 N College St Newberg, OR 97132  
Mailing Address: 1180 SW 9th St Dundee, OR 97115  
Bedrooms: 2  
Bathrooms: 1  
Building SqFt: 736                      Lot Acres: 0.80  
Year Built: 1950  
School District: Newberg School District 29j  
Neighborhood:  
Legal: TOWNSHIP 3S RANGE 2W SECTION 07 QTR A QQTR A TAXLOT 00400

APN: 24814  
Ref Parcel #: R3207AA 00400  
Taxes: \$1,942.55  
Market Value: \$388,337  
Assessed Value: \$146,727  
Sales Price: \$0  
Transfer Date:

## **Exhibit F: Preliminary Stormwater Report**

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# *Bell West Pump Station Newberg, Oregon*

## **Preliminary Stormwater Report**

**Date:** March 2022

**Client:** City of Newberg  
414 E 1<sup>st</sup> Street  
Newberg, OR 97132

**Engineering Contact:** Jason Wuertz, PE  
wuertzj@aks-eng.com | 503-563-6151

**Prepared By:** Jason Wuertz, PE

**Engineering Firm:** AKS Engineering & Forestry, LLC  
12965 SW Herman Road, Suite 100  
Tualatin, OR 97062

**AKS Job Number:** 7936



EXPIRES:

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# **Stormwater Report**

## **BELL WEST PUMP STATION**

### **NEWBERG, OREGON**

#### **1.0 Purpose of Report**

The purpose of this report is to analyze the effects of the proposed development on the existing stormwater system and document the criteria, methodology, and informational sources used to design the proposed stormwater system.

#### **2.0 Project Location/Description**

The project site is located southeast of the intersection of NE Bell Road and N College Street within the City of Newberg (City). The proposed development will reside on Tax Lot 2800 OF Yamhill County Assessor's Map 3 2 08, Oregon.

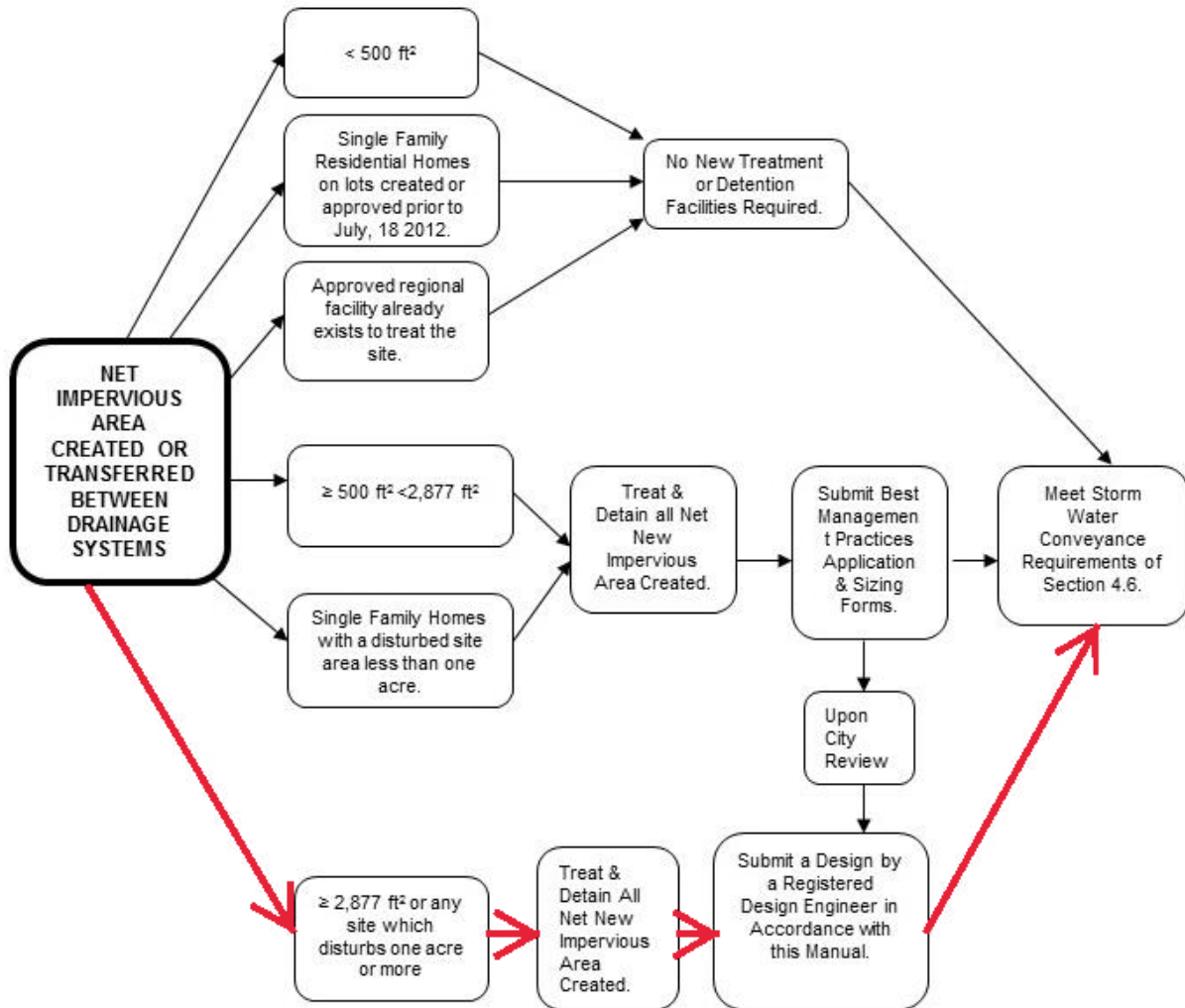
The project includes the construction of a pre-manufactured building to house a new pump station and associated facility improvements, paved driveway and parking areas, landscaping, underground utilities, and stormwater management facilities. Approximately 3,141 square feet of net new impervious area will be created on the site.

Stormwater management is provided primarily through an aboveground rain garden with a flow control structure. Associated landscaping will be planted per City standards. All stormwater facilities are modeled assuming no infiltration, although some infiltration will occur. The rain garden is designed to release the post-developed peak flows at or below predeveloped rates. The rain garden is also designed to meet applicable water quality standards. Stormwater will be conveyed from the rain garden to an existing storm line.

#### **3.0 Regulatory Design Criteria**

Stormwater design criteria are dictated by the City of Newberg *Public Works Design and Construction Standards* (August 2015). The proposed development will create more than 2,877 square feet of net new impervious area; therefore, per Figure 4.4 (below) in the City *Public Works Design and Construction Standards* (Standards), stormwater treatment and detention are required as part of the project. The proposed design meets the requirements of Section 4.6 of the City Standards and is designed by a registered Civil Engineer.

**FIGURE 4.4: STORMWATER QUALITY & QUANTITY DESIGN FLOWCHART** (modified from figure in City Standards)



### 3.1 STORMWATER QUANTITY

Section 4.7.1.III of the City Standards, below, requires that the post-development runoff rates from the site will not exceed the predevelopment runoff rates. Water quantity design methodology is outlined in Section 5.3 of this report.

#### 4.7.1.III Water Quantity Facility Design & Control Standards

*Stormwater quantity on-site detention facilities shall be designed to capture runoff so the post-development runoff rates from the site do not exceed the predevelopment runoff rates from the site, based on 24-hour storm events ranging from the ½ of the 2-year return storm to the 25-year return storm. Specifically, the ½ of the 2, 2, 10, and 25-year post-development runoff rates will not exceed their respective ½ of the 2, 2, 10, and 25-year pre-development runoff rates.*

### 3.2 STORMWATER QUALITY

Per Chapter 13.25, Article IV, of the City Municipal Code, the proposed development is required to construct permanent water quality facilities to reduce contaminants entering the stormwater system. The

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storm event used to design the water quality facility is based on the water quality storm identified in Section 4.8.5 of the City Standards, below. Water quality design methodology is outlined in Section 5.2 of this report.

4.8.5 Water Quality Storm

*The storm defines both the volume and rate of runoff. The stormwater quality only facilities shall be designed for a dry weather storm event totaling 1.0 inches of precipitation falling in 24 hours.*

## 4.0 Design Parameters

### 4.1 DESIGN STORMS

Per Section 4.5.1 of the City Standards, the stormwater analysis uses the 24-hour storm for the evaluation and design of the existing and proposed stormwater facilities. The following 24-hour rainfall depths were used as the design storm for each recurrence interval.

<b>Recurrence Interval (Years)</b>	<b>Total Precipitation Depth (Inches)</b>
Water Quality	1.00
2	2.50
10	3.50
25	4.00

The stormwater pipes were sized using Manning’s equation based on peak flows for the 25-year storm.

### 4.2 PREDEVELOPED SITE CONDITIONS

#### 4.2.1 Site Topography

Topography on the site generally slopes toward the southeast corner of the property at an approximate 2 to 8 percent grade. Eventually, stormwater across the site drains into open field south of the property.

#### 4.2.2 Land Use

The existing site is currently undeveloped. The zoning district for the property is Institutional (I).

### 4.3 SOIL TYPE

Per Section 4.5.4, Santa Barbara Urban Hydrograph (SBUH), of the City Standards:

*II. Curve numbers shall be derived from the National Resources Conservation Service’s (NRCS) runoff curve numbers contained in Technical Release 55 (TR-55)-Urban Hydrology for Small Watersheds.*

*III. Soil types shall be derived from the NRCS Soil Survey for Yamhill County.*

The soils for the site are classified as cove silty clay loam (3 to 8 percent slopes, Hydrologic Group D) per the National Resources Conservation Service’s (NRCS’s) Soil Survey for Yamhill County. Information for these soils is contained in Appendix E of this report. The current existing cover types of the modeled area are classified as having 4,973 square feet of fair condition pasture/grassland/range.



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#### 4.4 POST-DEVELOPED SITE CONDITIONS

##### 4.4.1 Site Topography

The on-site slopes will be modified with cuts and fills to accommodate the construction of the pre-manufactured building, paved driveway and parking areas, and stormwater management facilities, but finished grades will generally follow the existing grades.

##### 4.4.2 Land Use

The site land use will consist of a municipal water booster pump station housed in a pre-manufactured building, paved driveway and parking areas, landscaping, and associated stormwater management facilities.

##### 4.4.3 Post-Developed Input Parameters

See analysis performed with HydroCAD 10 computer software for water quantity and quality design in the attached appendices.

## 5.0 Design Methodology

The SBUH Method was used to analyze stormwater runoff from the site. This method uses the Soil Conservation Service (SCS) Type 1A 24-hour design storm. HydroCAD 10 computer software aided in the analysis. Representative runoff curve numbers (CN) were obtained from the NRCS *Urban Hydrology for Small Watersheds* (Technical Release 55) and are included in Appendix F.

### 5.1 FACILITY SELECTION

Based on City Standards, Section 4.6.8, Facility Selection Hierarchy (Table 5-1 below), a rain garden with a flow control structure has been selected as the primary water quality and quantity facility, which is considered a Low Impact Development Approaches (LIDA) Facility and Regional Facility.

<b>Detention Facilities</b>	<b>Water Quality Facilities</b>
LIDA Facilities/Regional Facility	LIDA Facilities/Regional Facility
Surface Pond	Swale
Underground Tank/Pipes	Proprietary Treatment Systems
Fee in lieu of construction payment	Fee in lieu of construction payment

### 5.2 PROPOSED STORMWATER QUALITY CONTROL FACILITY DESIGN

The stormwater quality facility has been designed based on City Standards, Section 4.8. A rain garden has been designed according to City of Newberg Standard Drawing 457 to provide water quality treatment. The facility is designed such that all stormwater runoff from the water quality storm event will filter through the growing medium and either infiltrate or discharge through a perforated pipe. Water quality treatment is provided by filtration through the growing medium.

The hydraulic analysis of the detention system was modeled using HydroCAD 10 computer software. Complete stormwater calculations are show in appendix D.

The rain garden meets the water quality requirements in the City Standards.

### 5.3 PROPOSED STORMWATER QUANTITY CONTROL FACILITY DESIGN

The stormwater quantity control facility has been designed based on City Standards, Section 4.7. The detention system uses an aboveground rain garden and a flow control system. The overall system has been designed to release the post-development runoff at or below predevelopment runoff rates.

Based on previous projects in the Newberg area, infiltration rates are expected to be low. Infiltration was not considered in the modeling of the stormwater system; however, the pond will be unlined to encourage as much infiltration as possible.

The hydraulic analysis of the detention system was modeled using HydroCAD 10 computer software. A summary of the pre- and post-development flow rates are shown in Table 5-3 below. Complete stormwater quantity calculations are shown in the appendix D.

Table 5-3: WATER QUANTITY SUMMARY			
Recurrence Interval (Years)	Peak Predevelopment Flows (cubic feet per second)	Peak Post-Development Flows (After LIDA and Detention) (cubic feet per second)	Peak Flow Decrease (cubic feet per second)
1/2 of 2	0.02	0.01	0.01
2	0.03	0.03	0.00
10	0.05	0.04	0.01
25	0.07	0.07	0.00

As shown in the table above, the detained peak post-development flows are equal to or less than the peak predevelopment flows produced by the overall site. (Basin 1PRE is shown on the attached Predevelopment Basin Map in Appendix A).

### 6.0 Downstream Analysis

A downstream analysis incorporating the subject site has been performed per City Standards. AKS Engineering and Forestry, LLC (AKS) performed a visual inspection of the downstream system on October 6, 2019. The inspected path started at the proposed site. The proposed stormwater system will discharge into an existing culvert at NE Bell Road. This culvert discharges into the unnamed channel east of site. From there, the drainage channel flows south, eventually merging with Hess Creek. During the visual inspection, AKS did not identify any observable downstream impacts to existing stormwater structures. No visible erosion was present at the existing stormwater outfall or within the drainage channel.

### 7.0 Conclusion

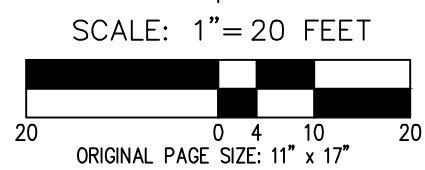
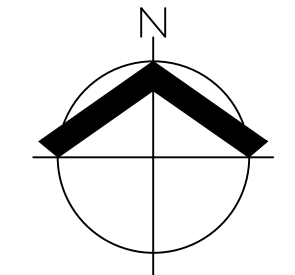
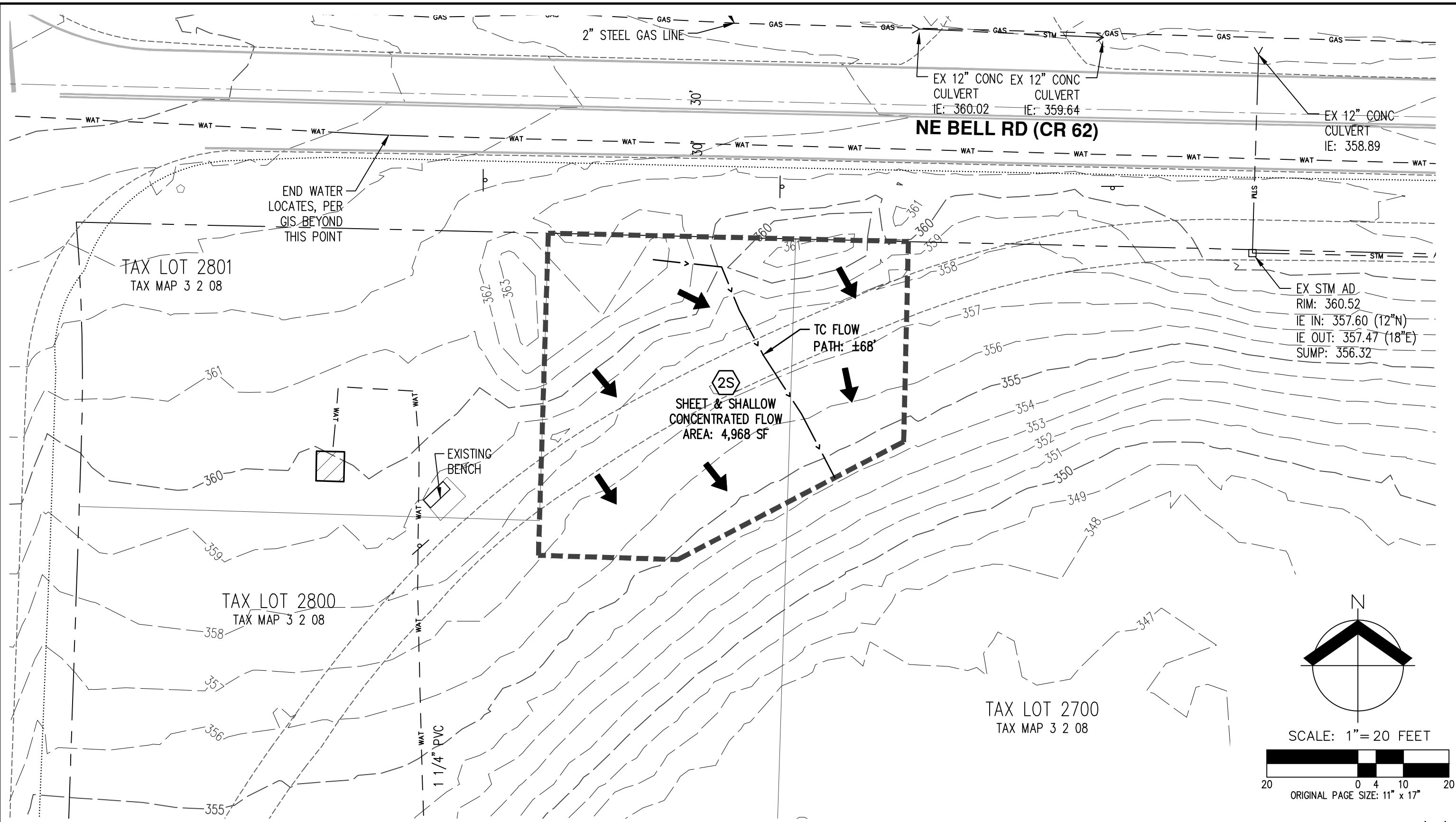
The stormwater system for the proposed development has been designed to meet the requirements of the City of Newberg Municipal Code, Section 13.25, and complies with the requirements in the City of Newberg *Public Works Design and Construction Standards*.

## **APPENDIX A: PREDEVELOPED BASIN MAPS**

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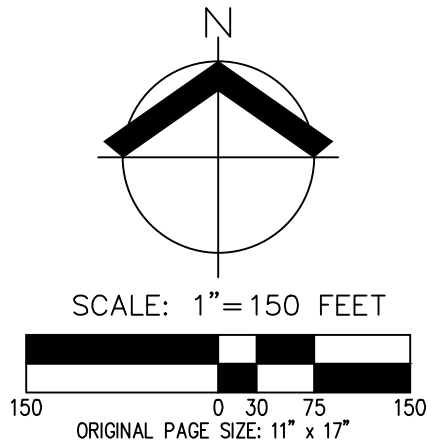
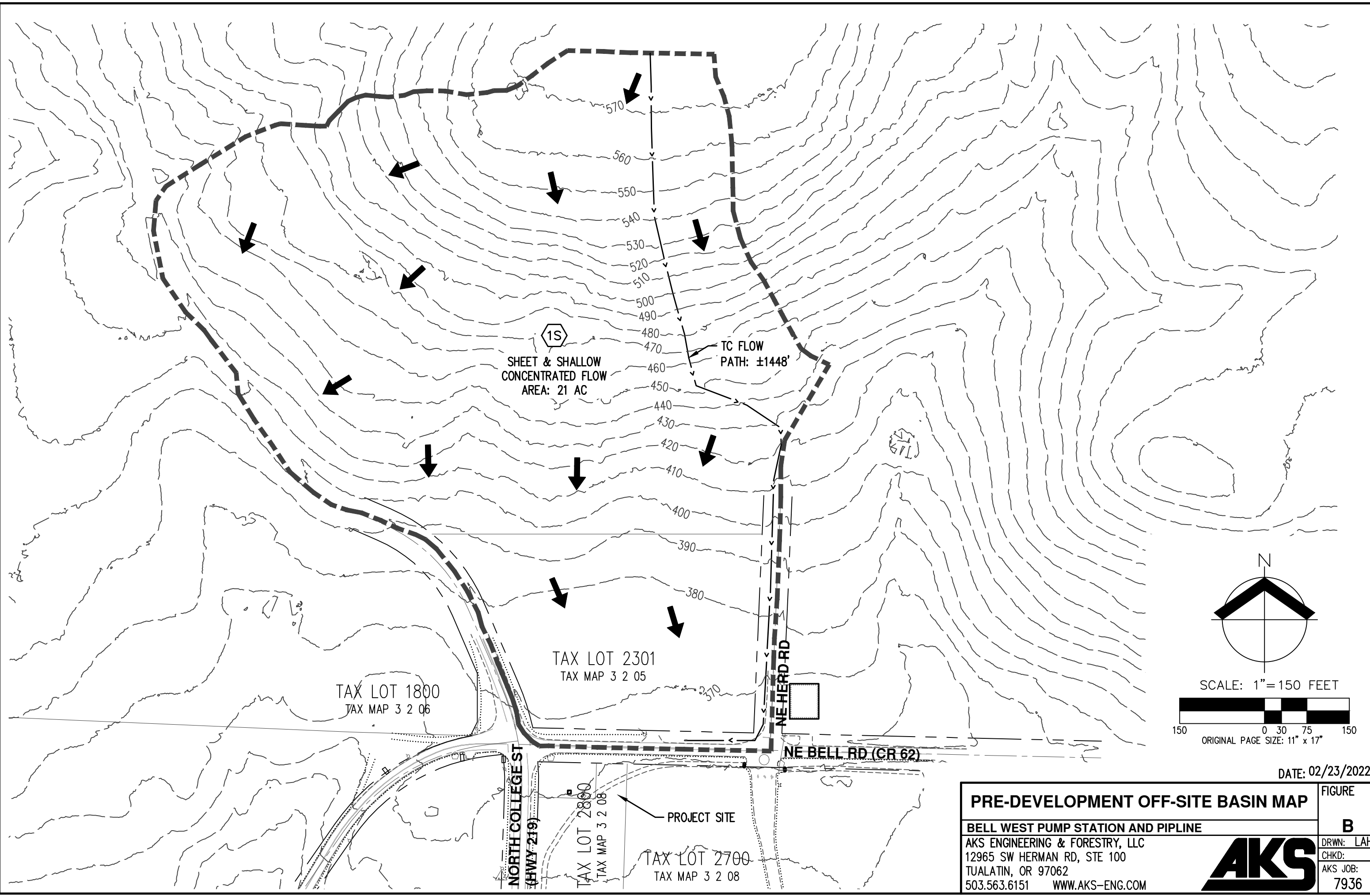
DWG: 7936 PUMP STATION PRE-DEVELOPED 1 A



DATE: 02/23/2022

<b>PRE-DEVELOPMENT BASIN MAP</b>		FIGURE
<b>BELL WEST PUMP STATION AND PIPELINE</b>		<b>A</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: LAH CHKD: AKS JOB: 7936

DWG: 7936 PUMP STATION PRE-DEVELOPED 1 B



DATE: 02/23/2022

**PRE-DEVELOPMENT OFF-SITE BASIN MAP**

FIGURE

**BELL WEST PUMP STATION AND PIPELINE**

**B**

AKS ENGINEERING & FORESTRY, LLC  
12965 SW HERMAN RD, STE 100  
TUALATIN, OR 97062  
503.563.6151 WWW.AKS-ENG.COM

DRWN: LAH  
CHKD:  
AKS JOB:  
7936



PROJECT SITE

TAX LOT 2700  
TAX MAP 3 2 08

TAX LOT 2800  
TAX MAP 3 2 08

TAX LOT 1800  
TAX MAP 3 2 06

TAX LOT 2301  
TAX MAP 3 2 05

1S  
SHEET & SHALLOW  
CONCENTRATED FLOW  
AREA: 21 AC

TC FLOW  
PATH: ±1448'

NE BELL RD (CR 62)

NE HERD RD

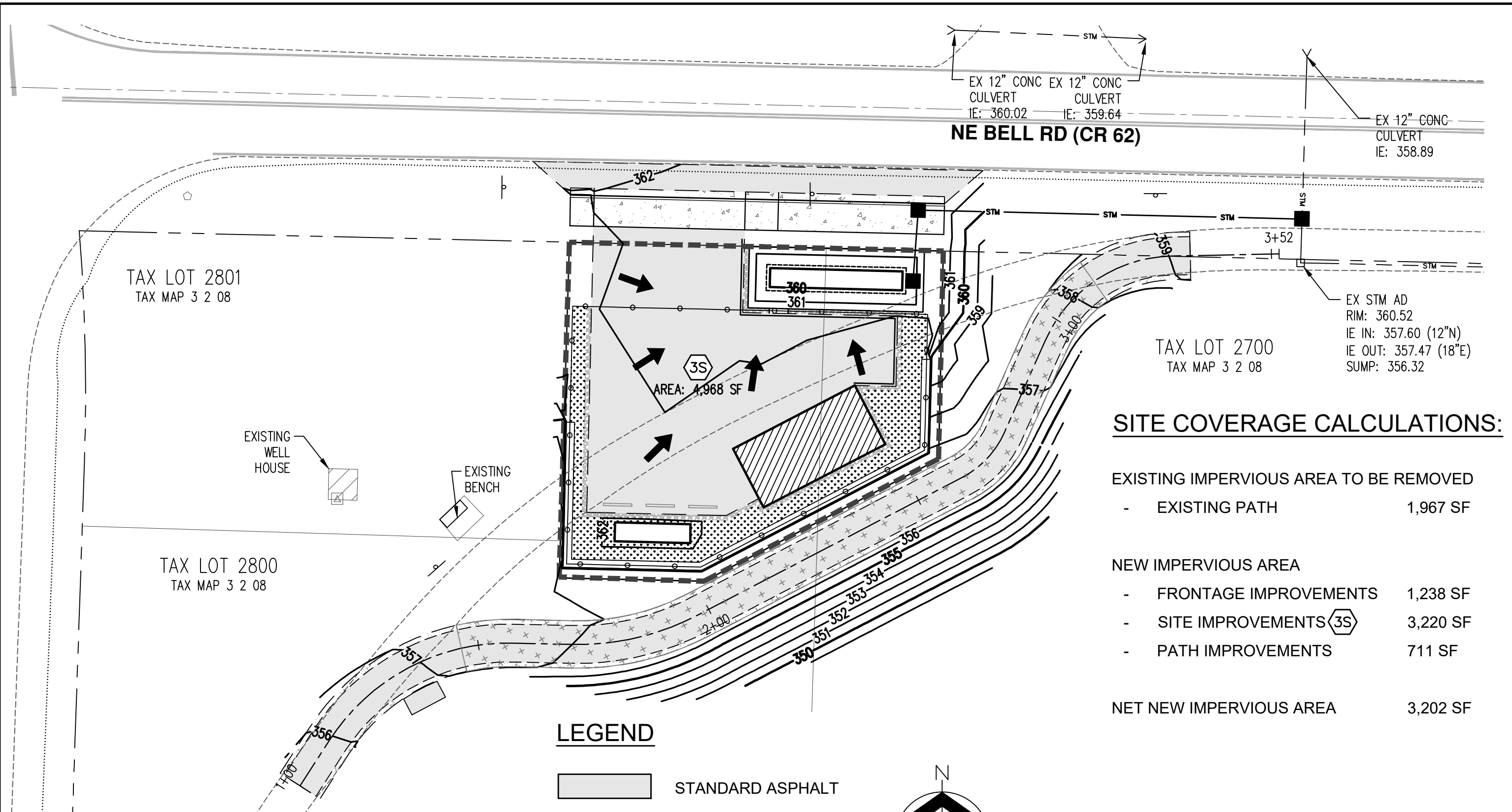
NORTH COLLEGE ST  
(HWY 219)

## **APPENDIX B: POST-DEVELOPED BASIN MAP**

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DWG: 7936 PUMP STATION POST-DEVELOPED | 0010



EX 12" CONC CULVERT  
IE: 360.02

EX 12" CONC CULVERT  
IE: 359.64

**NE BELL RD (CR 62)**

EX 12" CONC CULVERT  
IE: 358.89

TAX LOT 2801  
TAX MAP 3 2 08

TAX LOT 2800  
TAX MAP 3 2 08


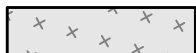

TAX LOT 2700  
TAX MAP 3 2 08

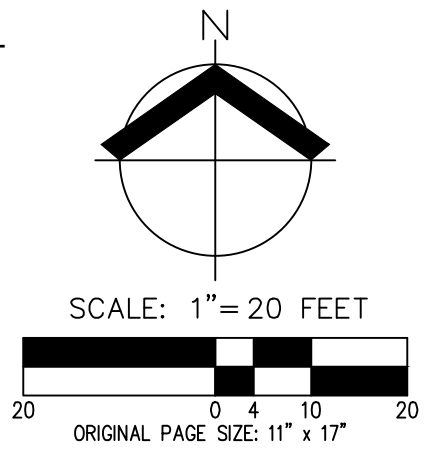
EX STM AD  
RIM: 360.52  
IE IN: 357.60 (12"N)  
IE OUT: 357.47 (18"E)  
SUMP: 356.32

**SITE COVERAGE CALCULATIONS:**

EXISTING IMPERVIOUS AREA TO BE REMOVED	
- EXISTING PATH	1,967 SF
NEW IMPERVIOUS AREA	
- FRONTAGE IMPROVEMENTS	1,238 SF
- SITE IMPROVEMENTS (3S)	3,220 SF
- PATH IMPROVEMENTS	711 SF
<b>NET NEW IMPERVIOUS AREA</b>	<b>3,202 SF</b>

**LEGEND**

-  STANDARD ASPHALT
-  PERVIOUS ASPHALT
-  LANDSCAPING



DATE: 02/23/2022

<b>POST-DEVELOPMENT BASIN MAP</b>		FIGURE
<b>BELL WEST PUMP STATION AND PIPELINE</b>		<b>C</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: LAH CHKD: AKS JOB: 7936





## **APPENDIX C: CONSTRUCTION PLANS**

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**GENERAL CONSTRUCTION NOTES:**

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DOCUMENTS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DOCUMENTS AND IN FULL COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING ANY UTILITIES DAMAGED DURING CONSTRUCTION. SHOW THESE UTILITIES ON THE AS-BUILTS. IF A UTILITY IS DAMAGED, THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY IMMEDIATELY.
- NOTIFY THE UTILITY PROVIDER IMMEDIATELY OF ALL UTILITIES EXPOSED. UNIDENTIFIED UTILITIES SHALL NOT BE DISRUPTED OR CUT UNTIL THE UTILITY PROVIDER HAS APPROVED THE CUT OR DISRUPTION. UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK.
- CONTRACTOR MUST VERIFY ALL EXISTING UTILITIES FOR BOTH VERTICAL ELEVATION AND HORIZONTAL LOCATION PRIOR TO COMMENCING CONSTRUCTION (POTHOLE BEFORE DIGGING IF NECESSARY). NOTIFY ENGINEER IF CONFLICTS ARISE.
- THE CONTRACTOR SHALL MAINTAIN BENCHMARKS, PROPERTY CORNERS, MONUMENTS, AND OTHER REFERENCE POINTS. IF SUCH POINTS ARE DISTURBED OR DESTROYED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND PAY FOR THEIR REPLACEMENT BY EMPLOYING A PROFESSIONAL LAND SURVEYOR TO RESET PROPERTY CORNERS AND OTHER SUCH MONUMENTS.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND ALL APPLICABLE JURISDICTIONS 48-HOURS PRIOR TO ANY STAGED INSPECTION.
- A COPY OF THE PERMIT WITH ALL ATTACHMENTS, A COPY OF THE APPROVED CONSTRUCTION PLANS, AND ALL AMENDMENTS SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ALL WORK SHALL CONFORM TO THE PERMIT TERMS, CONDITIONS/PROVISIONS, APPROVED CONSTRUCTION PLANS, APPROVED PLAN AMENDMENTS, AND THESE GENERAL CONDITIONS. CHANGES TO ANY OF THE AFORESAID MUST BE APPROVED BY THE PROJECT ENGINEER AND APPLICABLE JURISDICTION, IN ADVANCE OF WORK PERFORMANCE.
- THESE PLANS AND SPECIFICATIONS ASSUME "DRY WEATHER" CONSTRUCTION. ADDITIONAL MEASURES MAY BE REQUIRED FOR "WET WEATHER" CONSTRUCTION.
- EXISTING LANDSCAPING MATERIALS, IRRIGATION, APPURTENANCES, AND STRUCTURES, WHICH ARE NOT TO BE REMOVED, SHALL BE PROTECTED FROM DAMAGE AT ALL TIMES. DAMAGE CAUSED BY CONSTRUCTION OPERATIONS SHALL BE REPLACED OR REPAIRED TO EXISTING OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- PROPERTY AND RIGHT-OF-WAY LINES SHOWN ARE APPROXIMATE. THESE PLANS ARE NOT MEANT TO SERVE BOUNDARY SURVEY PURPOSES.
- THERE SHALL BE NO ALTERATION OR VARIANCE FROM THE APPROVED PLANS WITHOUT APPROVAL OF THE PROJECT ENGINEER.
- CONTRACTOR SHALL CONFORM TO OSHA REQUIREMENTS AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE FOR SITE JOB SAFETY NECESSARY TO PROTECT THE PUBLIC FROM AREAS OF CONSTRUCTION AND CONSTRUCTION ACTIVITY.
- THE PROJECT ENGINEER IS NOT RESPONSIBLE FOR REVIEWING THE CONTRACTOR'S SAFETY PRECAUTIONS OR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES REQUIRED FOR THE CONTRACTOR TO PERFORM THEIR WORK.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND OBTAINING ALL REQUIRED TESTING AND INSPECTIONS FOR THE PROJECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL REQUIRED OR NECESSARY INSPECTIONS ARE COMPLETED BY AUTHORIZED INSPECTORS PRIOR TO PROCEEDING WITH SUBSEQUENT WORK WHICH COVERS OR THAT IS DEPENDENT ON THE WORK TO BE INSPECTED.
- ANY INSPECTION/OBSERVATION BY THE PROJECT ENGINEER OR PROJECT INSPECTOR SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, STANDARDS, PLANS, SPECIFICATIONS, AND PROJECT CONTRACT DOCUMENTS.
- DEBRIS AND TRASH SHALL NOT BE BURIED OR STOCKPILED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL MAINTAIN RECORDS TO DEMONSTRATE PROPER DISPOSAL ACTIVITIES, TO BE PROVIDED TO THE OWNER OR PROJECT ENGINEER UPON REQUEST.
- CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND APPROVALS FOR OFF SITE DISPOSAL FACILITIES AND SUPPLY A COPY OF APPROVALS TO THE OWNER'S REPRESENTATIVE UPON REQUEST.
- ALL FACILITIES SHALL BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO SUPPORT, MAINTAIN, OR OTHERWISE PROTECT EXISTING UTILITIES AND OTHER FACILITIES AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER-THAN-ORIGINAL CONDITION.
- UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT "REDLINE DRAWINGS" TO THE PROJECT ENGINEER. "REDLINE DRAWINGS" DOCUMENT ALL DEVIATIONS AND REVISIONS TO THE APPROVED PLANS; THEY ALSO RECORD A DESCRIPTION OF CONSTRUCTION MATERIALS ACTUALLY USED (PIPE MATERIAL, ETC).
- CONTRACTOR SHALL KEEP RECORDS OF ALL CONSTRUCTION THAT DIFFERS FROM THE APPROVED PLANS AND SHALL MAINTAIN "RECORD DRAWINGS" DURING THE CONSTRUCTION PERIOD. "RECORD DRAWINGS" SHALL BE SUBMITTED TO THE ENGINEER AT THE END OF THE PROJECT.
- CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND OWNER OF ANY SEPTIC TANKS, WELLS, OR FUEL TANKS ENCOUNTERED DURING CONSTRUCTION.
- IF GROUND WATER SPRINGS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE PROJECT ENGINEER. THE PROJECT ENGINEER SHALL DIRECT THE CONTRACTOR TO TAKE MEASURES TO ENSURE THAT THE WATER IS NOT CONVEYED THROUGH UTILITY TRENCHES AND THE NATURAL FLOW PATH OF THE SPRING IS ALTERED AS LITTLE AS PRACTICABLE.
- CONTRACTOR SHALL MAKE A REASONABLE EFFORT TO PRESERVE EXISTING IMPROVEMENTS, LANDSCAPING, AND VEGETATION THROUGHOUT CONSTRUCTION.
- PRIOR TO ORDERING ANY MATERIALS, THE CONTRACTOR SHALL PROVIDE MANUFACTURER'S SPECIFICATION SHEETS FOR ALL MATERIALS TO BE USED.
- PLEASE NOTE THAT AKS AND KENNEDY JENKS ARE NOT SAFETY INSPECTION COMPANIES. AKS AND KENNEDY JENKS HAVE NOT BEEN RETAINED TO PROVIDE ANY SAFETY RELATED SERVICES FOR THIS PROJECT.

**STANDARD EROSION AND SEDIMENT CONTROL NOTES:**

- WHEN RAINFALL AND RUNOFF OCCURS, DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROL BMPs AND DISCHARGE OUTFALLS MUST BE PROVIDED BY SOMEONE KNOWLEDGEABLE AND EXPERIENCED IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL BMPs WHO WORKS FOR THE CONTRACTOR.
- CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR.
- DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
- SEDIMENT CONTROL BMPs MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED.
- ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROL BMPs INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. UNLESS OTHERWISE APPROVED, A SURFACE MOUNTED AND ATTACHABLE, U-SHAPED FILTER BAG IS REQUIRED FOR ALL CURB INLET CATCH BASINS.
- SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVES THE SITE MUST BE CLEANED UP WITHIN 24-HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24-HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
- SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
- SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF ONE THIRD THE BARRIER HEIGHT, AND PRIOR TO THE CONTROL MEASURES REMOVAL.
- CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
- ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
- CONTRACTOR MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
- THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL BMPs, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE AND FEDERAL REGULATIONS.
- CONTRACTOR TO SUBMIT VEGETATIVE SEED MIXES FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT. SEED MIX SHALL BE SELECTED TO CLOSELY MATCH EXISTING GROUND COVER.
- WATER-TIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPs; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
- ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
- THE ESC PLAN MUST BE KEPT ONSITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
- THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
- WRITTEN ESC LOGS ARE SUGGESTED TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
- IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPs MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
- ALL EXPOSED SOILS MUST BE COVERED DURING WET WEATHER PERIOD.

**WATER SYSTEM CONSTRUCTION NOTES:**

- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE COUNTY CODES AND STANDARDS, THE OREGON STATE HEALTH DIVISION ADMINISTRATION RULES, A.W.W.A. STANDARDS, A.P.W.A. STANDARDS, AND THE CITY STANDARDS.
- ALL PIPE SHALL HAVE MINIMUM COVER OF THREE- FEET BELOW THE FINISH GRADES IN EASEMENTS AND STREET RIGHTS-OF-WAY.
- ANY CROSSING OF WATER MAINS BY SANITARY SEWER SHALL BE MADE AT APPROXIMATELY 90 DEGREES AND HAVE 18-INCHES OF VERTICAL CLEARANCE OR SHALL BE INVESTIGATED AND HAVE POTENTIAL MODIFICATIONS MADE TO THE SANITARY AND/OR WATER MAIN IN ACCORDANCE WITH OAR 333-061-0050(9).
- ALL CROSSINGS WHICH REQUIRE EXCAVATION BELOW AN EXISTING UTILITY LINE SHALL BE BACKFILLED WITH CLSM TO SUPPORT THE EXISTING UTILITY WHERE ADEQUATE COMPACTION CANNOT BE ACHIEVED WITH CONVENTIONAL BACKFILL MATERIALS AND METHODS.
- JOINT DEFLECTIONS ARE ALLOWED ONLY WITH THE APPROVAL OF THE PROJECT ENGINEER AND INSPECTOR AND MUST COMPLY WITH CITY OF NEWBERG STANDARDS.
- OREGON STATE HEALTH DIVISION BACTERIOLOGICAL TESTS SHALL BE TAKEN BY AN OREGON ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM (ORLAP) ACCREDITED DRINKING WATER LABORATORY. CONTRACTOR TO PREPARE ABOVE-GRADE LOCATIONS FOR PROPER SAMPLING APPROXIMATELY EVERY 1,000- FEET ALONG NEW MAINS AT APPROXIMATE LOCATIONS AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY 2-INCH TEST AND FLUSHING/SAMPLE RISERS ABOVE GROUND INCLUDING A 600 STYLE CORPORATION STOP AT THE MAIN, INSTALLED HIGH ENOUGH TO PREVENT SPLASH BACK AND CONTAMINATION. RISERS SHALL HAVE A BALL VALVE CURBSTOP TO CONTROL FLOW AND SAMPLE POINT SHALL HAVE A MALE OUTLET TO ENSURE A HIGH QUALITY SAMPLE. HYDRANTS MAY NOT BE USED AS TEMPORARY SAMPLE POINTS.
- HYDROSTATIC TESTS SHALL CONFORM WITH ALL APPLICABLE CODES AND BE MONITORED BY THE INSPECTOR OR PROJECT ENGINEER.
- DISINFECTION: PIPELINES SHALL BE FLUSHED AND DISINFECTED BEFORE PLACING INTO SERVICE, AFTER PERFORMING HYDROSTATIC TESTING. DISINFECTION SHALL CONFORM WITH ALL APPLICABLE CODES. THE HIGHLY CHLORINATED WATER USED FOR DISINFECTION SHALL NOT BE DISCHARGED INTO SURFACE WATERS. APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS CONCERNING DISCHARGE SHALL BE FOLLOWED. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.
- PRIOR TO TAPPING INTO OR CONNECTING TO EXISTING WATER MAINS, THE CONTRACTOR WILL CONTACT THE CITY 48-HOURS IN ADVANCE.
- UNLESS OTHERWISE NOTED, STATIONING ON PLANS REFERS TO CENTERLINE OF PROPOSED WATER MAIN AND STATIONING AND DIMENSIONS SHOWN ARE BASED ON HORIZONTAL DISTANCES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING SITE CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING THE WORK. ANY CONFLICT BETWEEN DETAILS OR DIMENSIONS ON THE DRAWINGS SHALL BE REPORTED PROMPTLY TO THE PROJECT ENGINEER.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS GRADE WHEN INSTALLING THE NEW WATER MAIN. DO NOT CONSTRUCT HIGH POINTS IN PROFILE UNLESS SPECIFICALLY SHOWN IN PLANS AND DETAILS.

**LEGEND**

	EXISTING	PROPOSED	EXISTING	PROPOSED
DECIDUOUS TREE				
CONIFEROUS TREE				
FIRE HYDRANT				
WATER BLOWOFF				
WATER METER				
WATER VALVE				
DOUBLE CHECK VALVE				
AIR RELEASE VALVE				
SANITARY SEWER CLEAN OUT				
SANITARY SEWER MANHOLE				
SIGN				
STREET LIGHT				
MAILBOX				
	<b>EXISTING</b>		<b>PROPOSED</b>	
RIGHT-OF-WAY LINE				
BOUNDARY LINE				
PROPERTY LINE				
CENTERLINE				
DITCH				
CURB				
EDGE OF PAVEMENT				
EASEMENT				
FENCE LINE				
GRAVEL EDGE				
POWER LINE				
OVERHEAD WIRE				
COMMUNICATIONS LINE				
FIBER OPTIC LINE				
GAS LINE				
STORM DRAIN LINE				
SANITARY SEWER LINE				
WATER LINE				

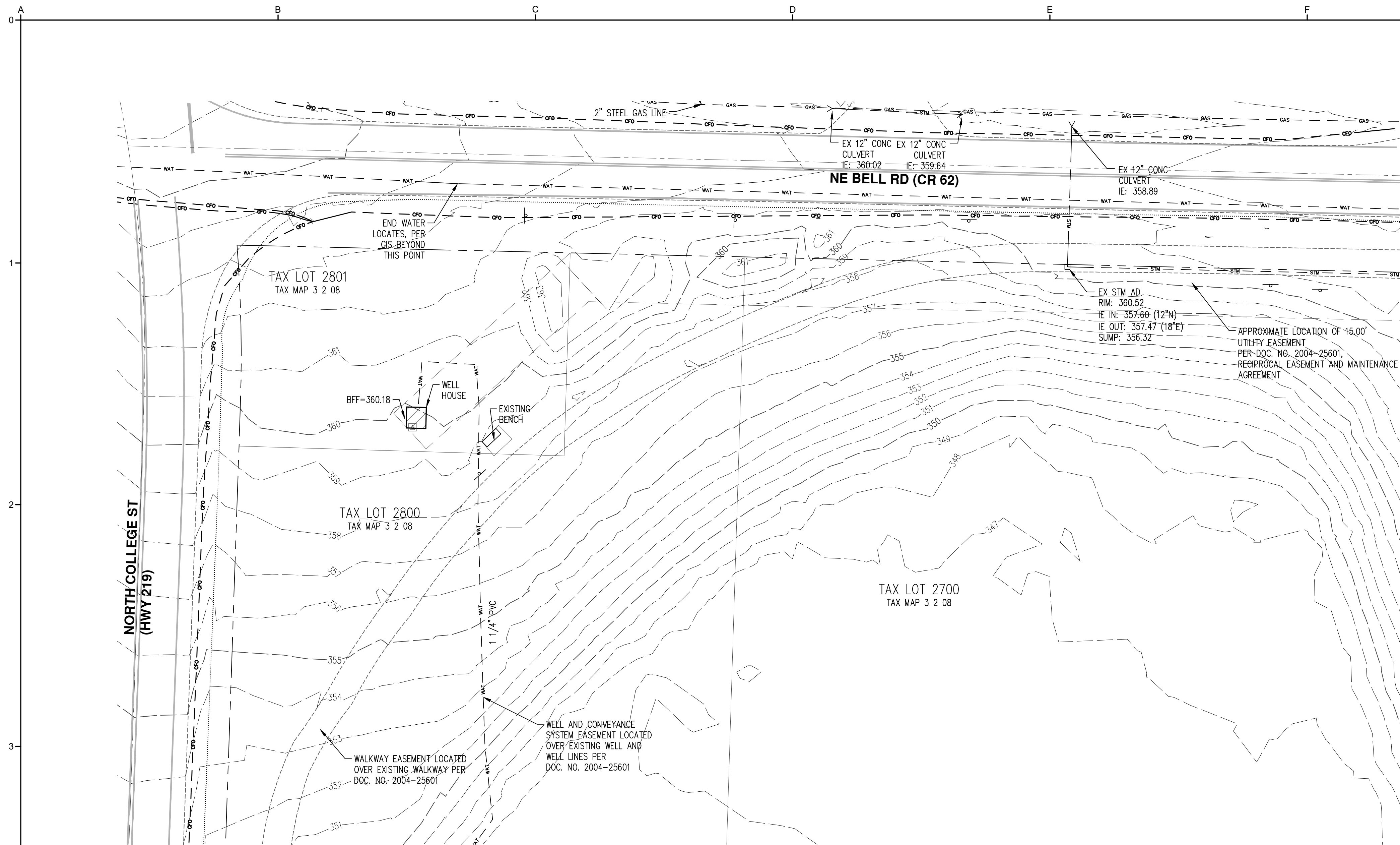
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<b>30% SUBMITTAL</b>						 IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.		DESIGNED	CITY OF NEWBERG NEWBERG, OREGON	<b>CONSTRUCTION NOTES AND LEGEND</b>	SCALE	NO SCALE
	PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION								DRAWN		BELL WEST PUMP STATION AND PIPELINE	JOB NO
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	NO	REVISION	DATE	BY						SHEET	OF <b>C001</b>	





### LEGEND

EXISTING		EXISTING	
DECIDUOUS TREE		STORM DRAIN CLEAN OUT	
CONIFEROUS TREE		STORM DRAIN CATCH BASIN	
FIRE HYDRANT		STORM DRAIN AREA DRAIN	
WATER BLOWOFF		STORM DRAIN MANHOLE	
WATER METER		GAS METER	
WATER VALVE		GAS VALVE	
DOUBLE CHECK VALVE		GUY WIRE ANCHOR	
AIR RELEASE VALVE		UTILITY POLE	
SANITARY SEWER CLEAN OUT		POWER VAULT	
SANITARY SEWER MANHOLE		POWER JUNCTION BOX	
SIGN		POWER PEDESTAL	
STREET LIGHT		COMMUNICATIONS VAULT	
MAILBOX		COMMUNICATIONS JUNCTION BOX	
		COMMUNICATIONS RISER	

EXISTING	
RIGHT-OF-WAY LINE	
BOUNDARY LINE	
PROPERTY LINE	
CENTERLINE	
DITCH	
CURB	
EDGE OF PAVEMENT	
EASEMENT	
FENCE LINE	
GRAVEL EDGE	
POWER LINE	
OVERHEAD WIRE	
COMMUNICATIONS LINE	
FIBER OPTIC LINE	
GAS LINE	
STORM DRAIN LINE	
SANITARY SEWER LINE	
WATER LINE	

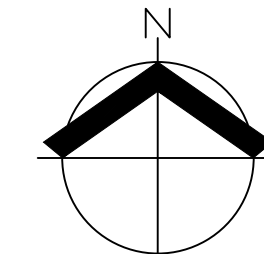
**NOTES:**

- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 21141100 & 21141113. 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.
- FIELD WORK WAS CONDUCTED MAY 20TH - JUNE 16TH 2021.
- VERTICAL DATUM: ELEVATIONS ARE BASED ON TRIMBLE VRS NOW NETWORK OBSERVATIONS (NAVD88) AND CHECKED AGAINST YAMHILL COUNTY STATION NO. 22. LOCATED AT THE NORTHERLY RIGHT-OF-WAY LANE OF DOUGLAS AVENUE AND ON THE CENTERLINE OF SPRINGBROOK WAY. ELEVATION = 337.24 FEET (NAVD 88).
- HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING BY A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0001140578 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL STATE PLANE GRID COORDINATES N615930.512 E7567435.489 AND A MERIDIAN CONVERGENCE ANGLE OF -1'45'02". STATE PLANE COORDINATES WERE DERIVED FROM GPS OBSERVATIONS USING THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
- THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
- BUILDING FOOTPRINTS ARE DRAWN FROM AERIAL UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- SUBJECT TO A RIGHT TO REFUSAL ALLOWING VERITAS SCHOOL THE FIRST OPTION TO PURCHASE LAND FROM NORTH VALLEY FRIENDS CHURCH PER DOC. NO. 20045602, ALSO SUBJECT A RIGHT TO REFUSAL ALLOWING NORTH VALLEY FRIENDS CHURCH FIRST OPTION TO PURCHASE LAND FROM VERITAS SCHOOL PER DOC. NO. 200425603.
- ALSO SUBJECT TO A DEVELOPMENT AGREEMENT BETWEEN NORTH VALLEY FRIENDS CHURCH AND THE CITY OF NEWBERG ALLOWING SITE DEVELOPMENT ON LAND OWNED BY NORTH VALLEY FRIENDS CHURCH PER DOC. NO. 200314309.

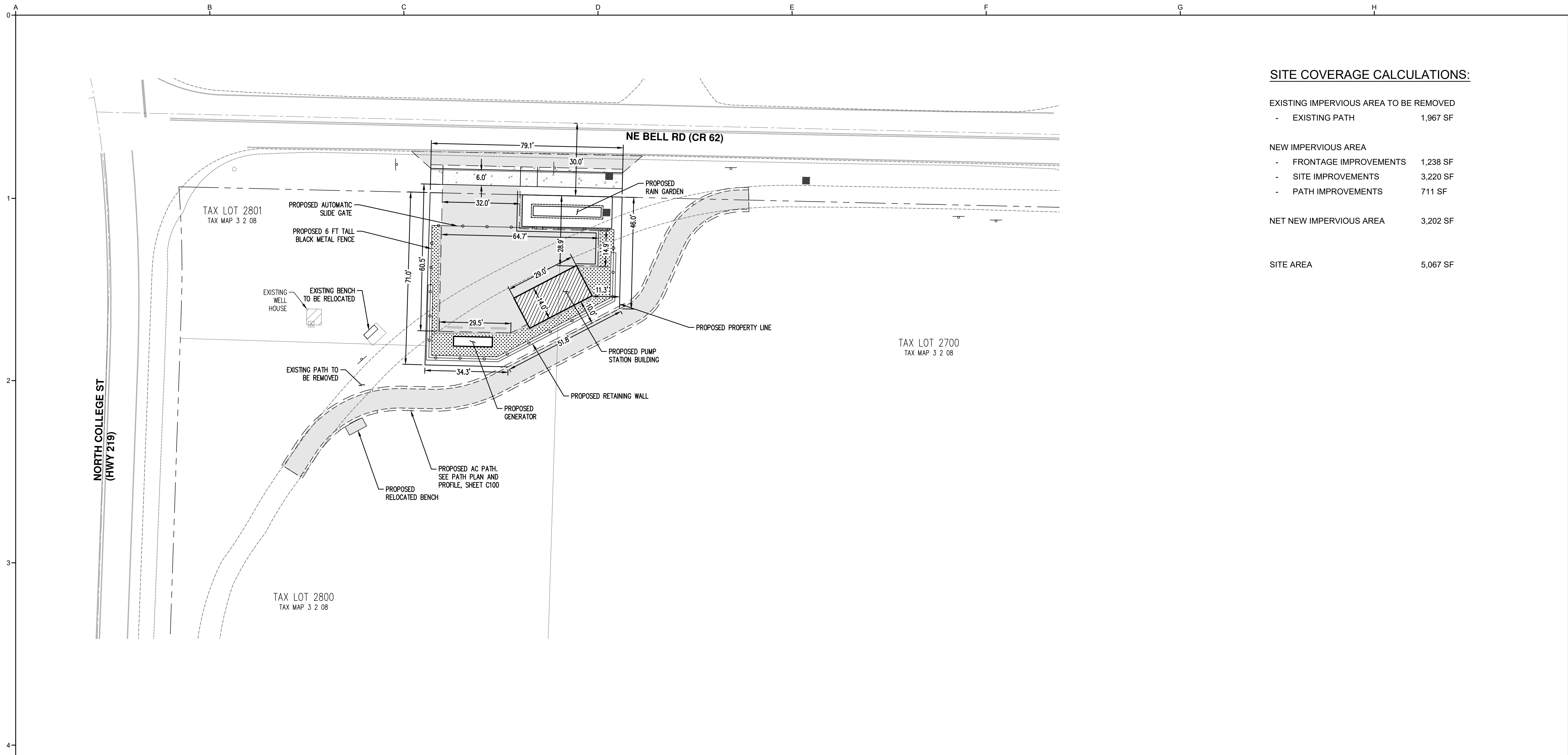
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	PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION THIS DOCUMENT IS AN INTERIM DOCUMENT AND NOT SUITABLE FOR CONSTRUCTION. AS AN INTERIM DOCUMENT, IT MAY CONTAIN DATA THAT IS POTENTIALLY INACCURATE OR INCOMPLETE AND IS NOT TO BE RELIED UPON WITHOUT THE EXPRESS WRITTEN CONSENT OF THE PREPARER.						DRAWN <b>GMB/LAH</b>		



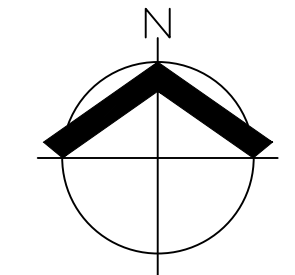
**SITE COVERAGE CALCULATIONS:**

<b>EXISTING IMPERVIOUS AREA TO BE REMOVED</b>	
- EXISTING PATH	1,967 SF
<b>NEW IMPERVIOUS AREA</b>	
- FRONTAGE IMPROVEMENTS	1,238 SF
- SITE IMPROVEMENTS	3,220 SF
- PATH IMPROVEMENTS	711 SF
<b>NET NEW IMPERVIOUS AREA</b>	<b>3,202 SF</b>
<b>SITE AREA</b>	<b>5,067 SF</b>

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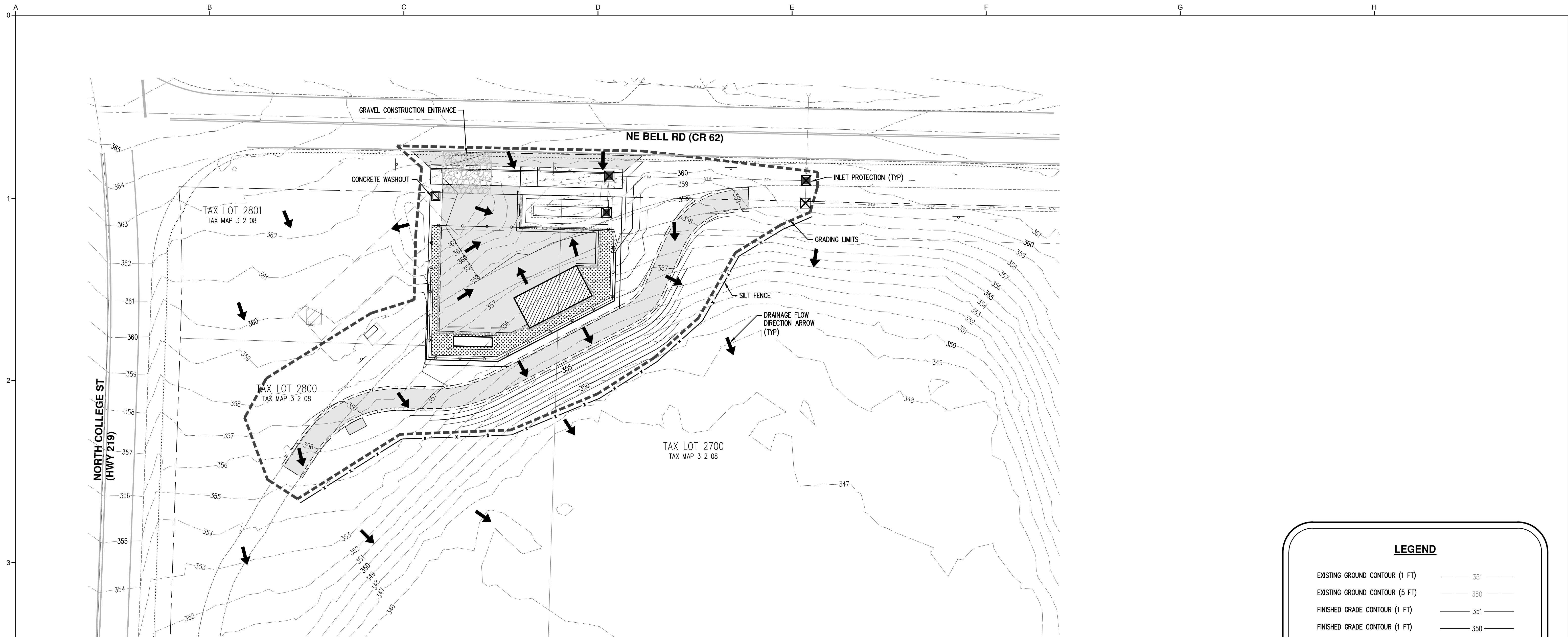


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							CHECKED			
							JAW GMB/LAH JAW			



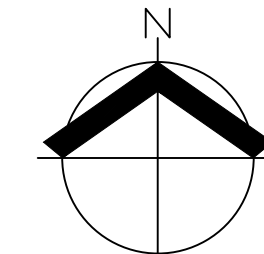


LEGEND	
EXISTING GROUND CONTOUR (1 FT)	--- 351 ---
EXISTING GROUND CONTOUR (5 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 351 ---
FINISHED GRADE CONTOUR (1 FT)	--- 350 ---
GRADING LIMITS	-----
SAWCUT LINE	-----
ORANGE SILT FENCE (TO BE INSTALLED PRIOR TO GRADING)	- x - x -
GRAVEL CONSTRUCTION ENTRANCE	
INLET PROTECTION	
CONCRETE WASHOUT AREA	
DRAINAGE FLOW DIRECTION ARROW	

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NO	REVISION	DATE	BY	

SCALES  
 0" = 1"  
 0" = 25mm  
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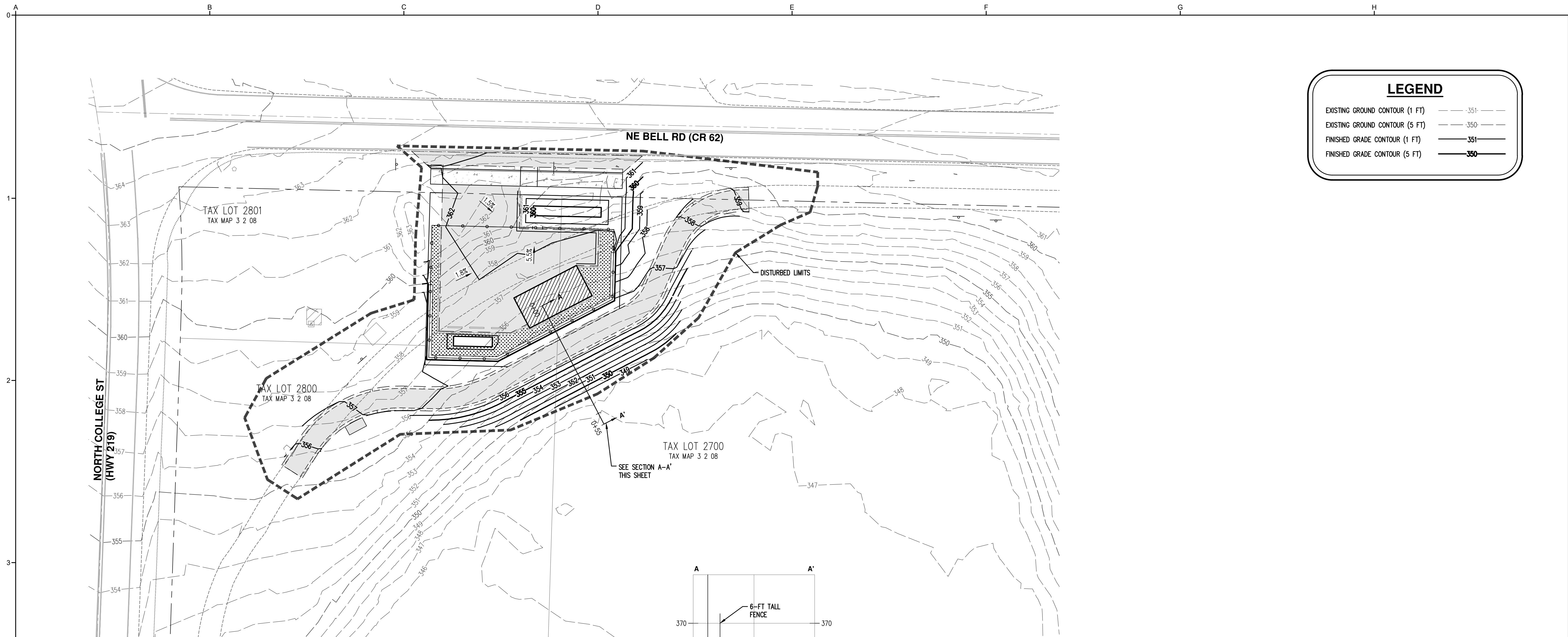
DESIGNED  
**JAW**  
 DRAWN  
**GMB/LAH**  
 CHECKED  
**JAW**

CITY OF NEWBERG  
 NEWBERG, OREGON  
 BELL WEST PUMP STATION  
 AND PIPELINE  
 Kennedy Jenks

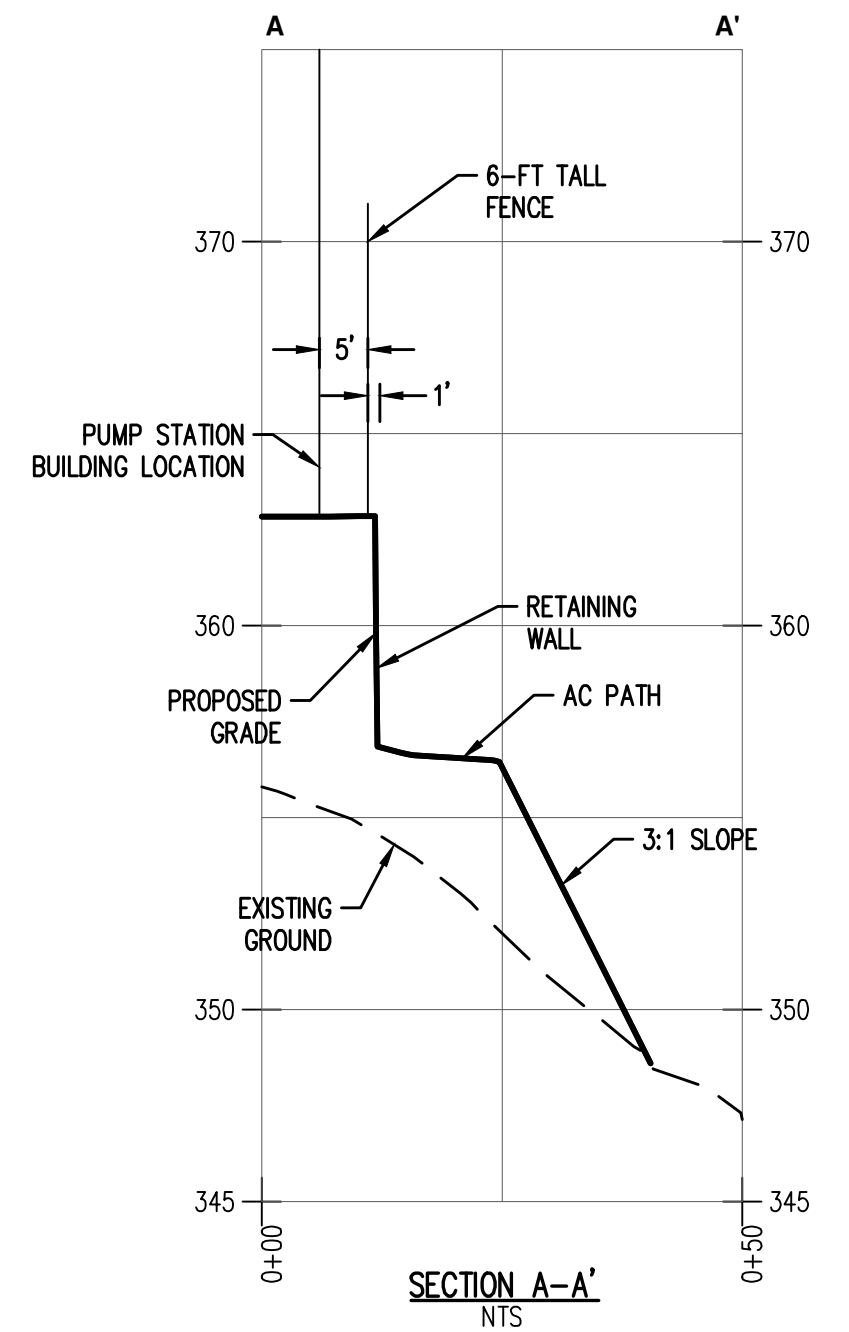
# EROSION AND SEDIMENT CONTROL PLAN

SCALE  
1" = 20'  
 JOB NO  
2076014.00  
 DATE  
03/11/2022  
 SHEET OF  
**C050**





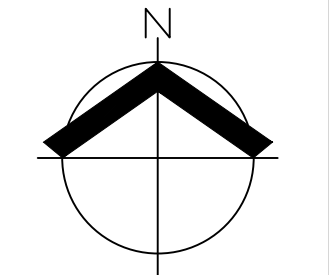
LEGEND	
EXISTING GROUND CONTOUR (1 FT)	--- 351 ---
EXISTING GROUND CONTOUR (5 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 351 ---
FINISHED GRADE CONTOUR (5 FT)	--- 350 ---



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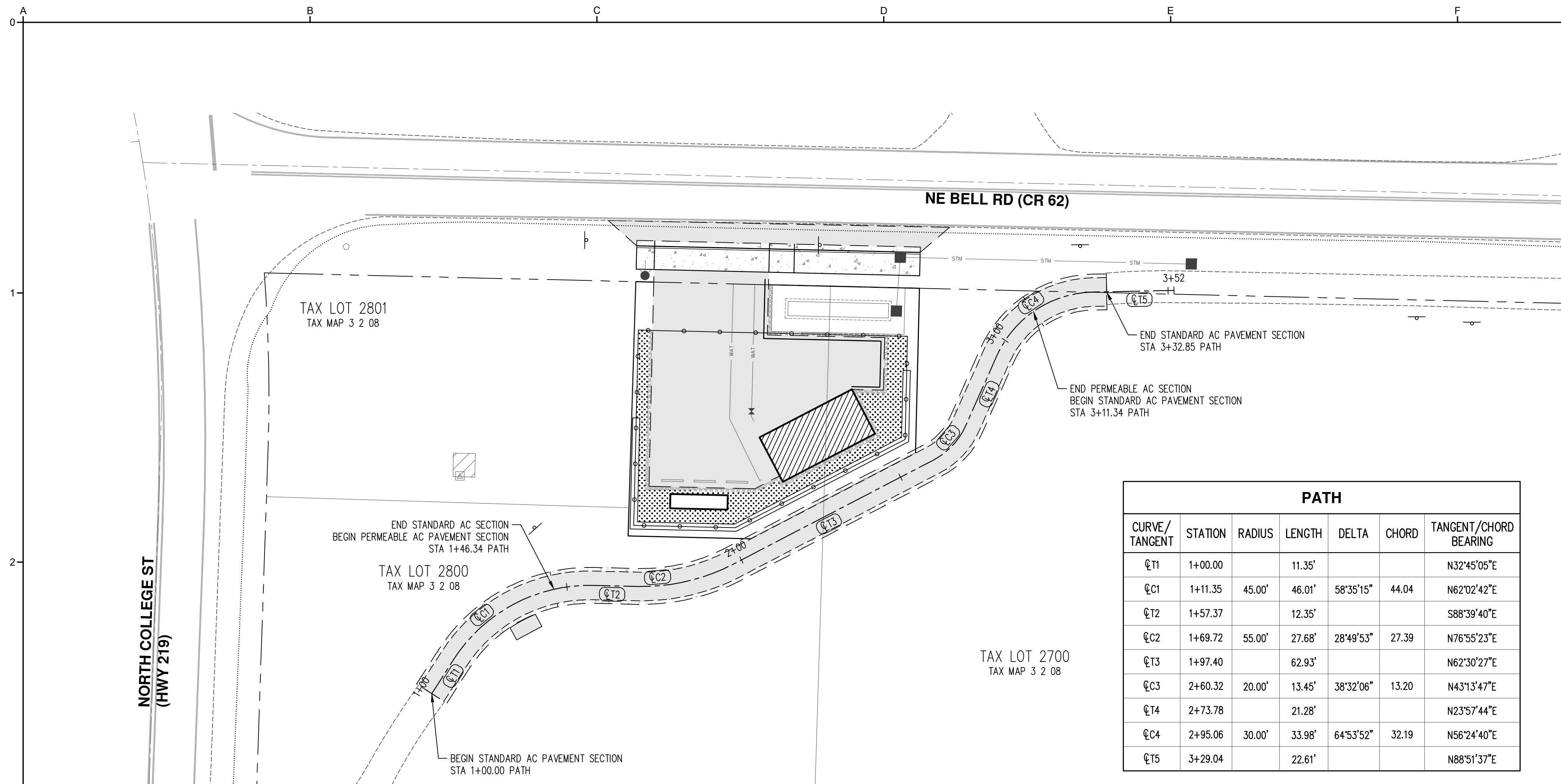


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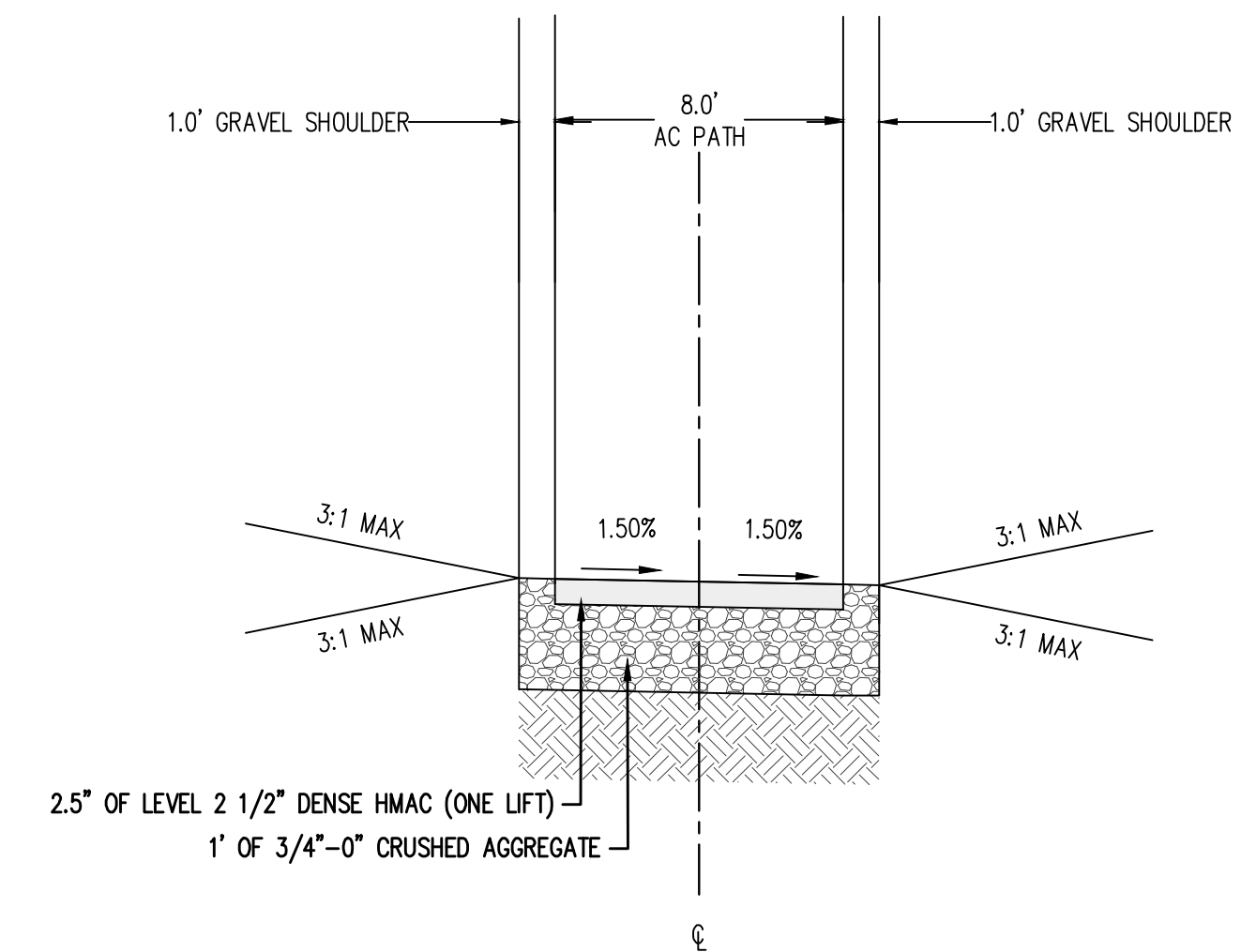


30% SUBMITTAL		SCALES			DESIGNED	CITY OF NEWBERG	SCALE 1" = 20' JOB NO 2076014.00 DATE 03/11/2022 SHEET OF <b>C070</b>
PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION		0" = 1" 0" = 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.			DRAWN	NEWBERG, OREGON	
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						Kennedy Jenks	

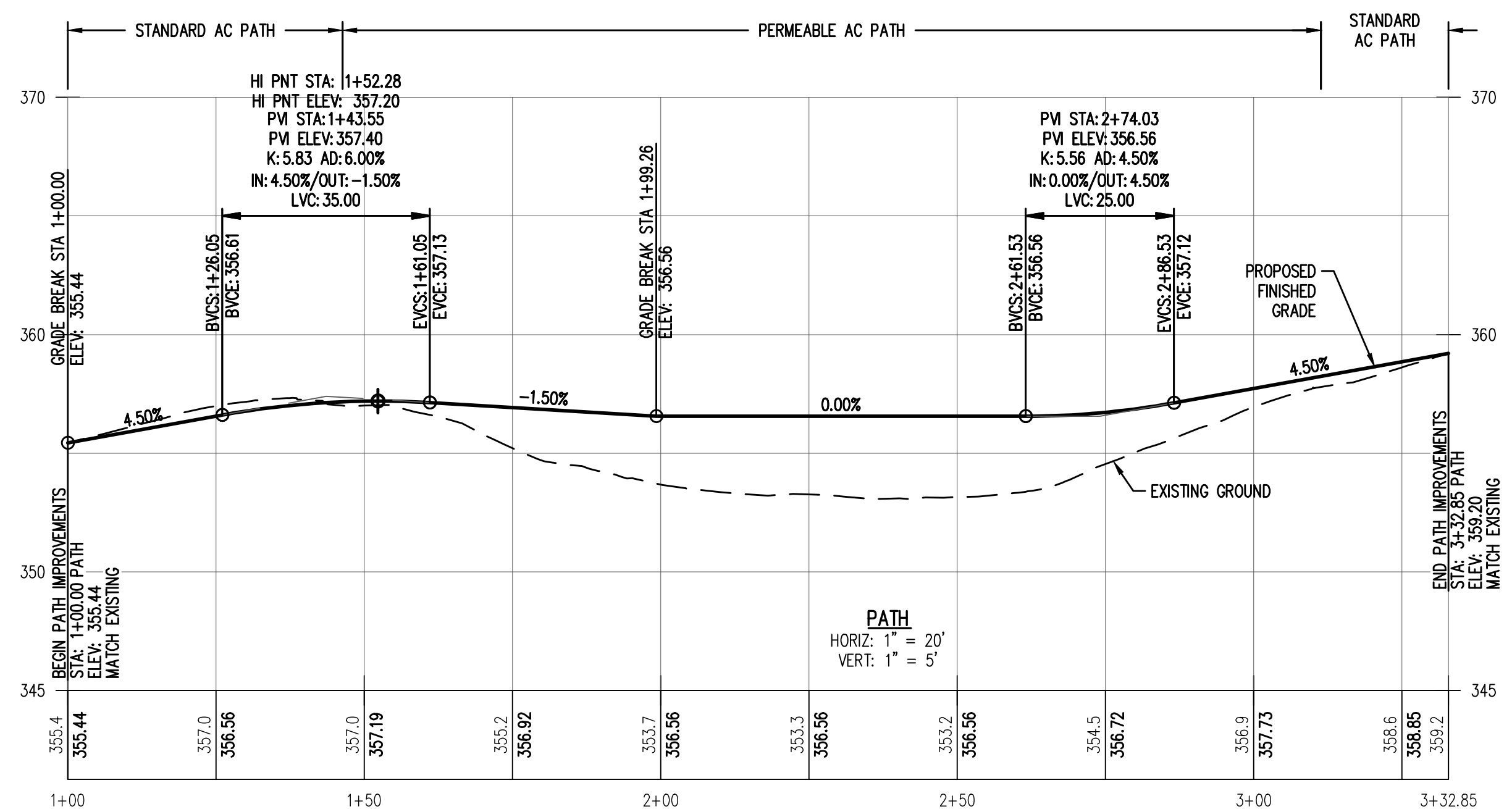




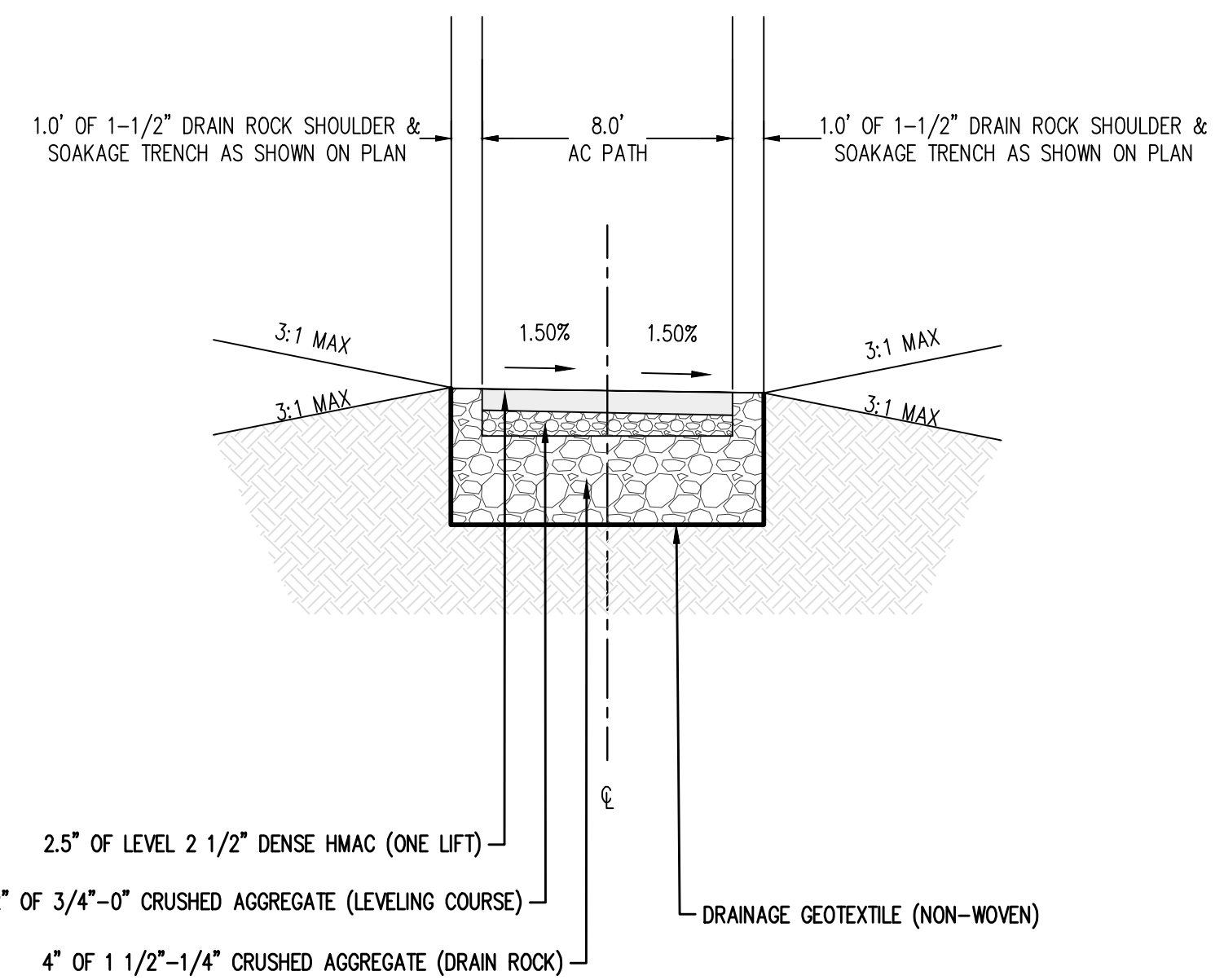
PATH						
CURVE/TANGENT	STATION	RADIUS	LENGTH	DELTA	CHORD	TANGENT/CHORD BEARING
Q11	1+00.00		11.35'			N32°45'05"E
Q11	1+11.35	45.00'	46.01'	58°35'15"	44.04	N62°02'42"E
Q12	1+57.37		12.35'			S88°39'40"E
Q12	1+69.72	55.00'	27.68'	28°49'53"	27.39	N76°55'23"E
Q13	1+97.40		62.93'			N62°30'27"E
Q13	2+60.32	20.00'	13.45'	38°32'06"	13.20	N43°13'47"E
Q14	2+73.78		21.28'			N23°57'44"E
Q14	2+95.06	30.00'	33.98'	64°53'52"	32.19	N56°24'40"E
Q15	3+29.04		22.61'			N88°51'37"E



**STANDARD AC PATH**  
TYPICAL SECTION  
STA 1+00.00 TO 1+46.34  
STA 3+11.34 TO 3+32.85  
NTS



**PATH**  
HORIZ: 1" = 20'  
VERT: 1" = 5'



**"PERMEABLE" AC PATH**  
TYPICAL SECTION  
STA 1+46.34 TO 3+11.34  
NTS

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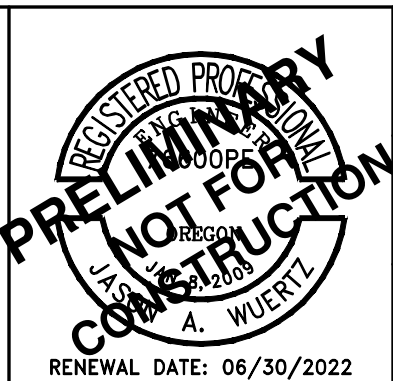
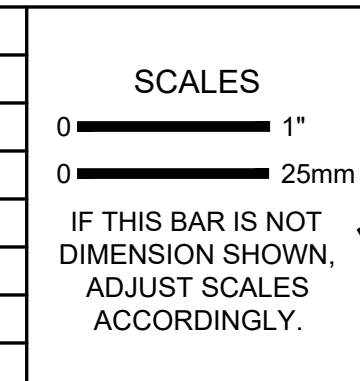
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**JAW**

CITY OF NEWBERG  
NEWBERG, OREGON

**BELL WEST PUMP STATION  
AND PIPELINE**

**KJ Kennedy Jenks**

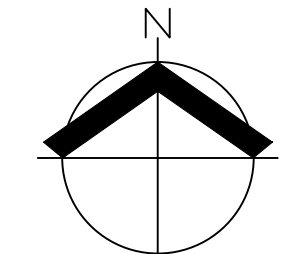
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PROFILE**

SCALE  
1" = 20'

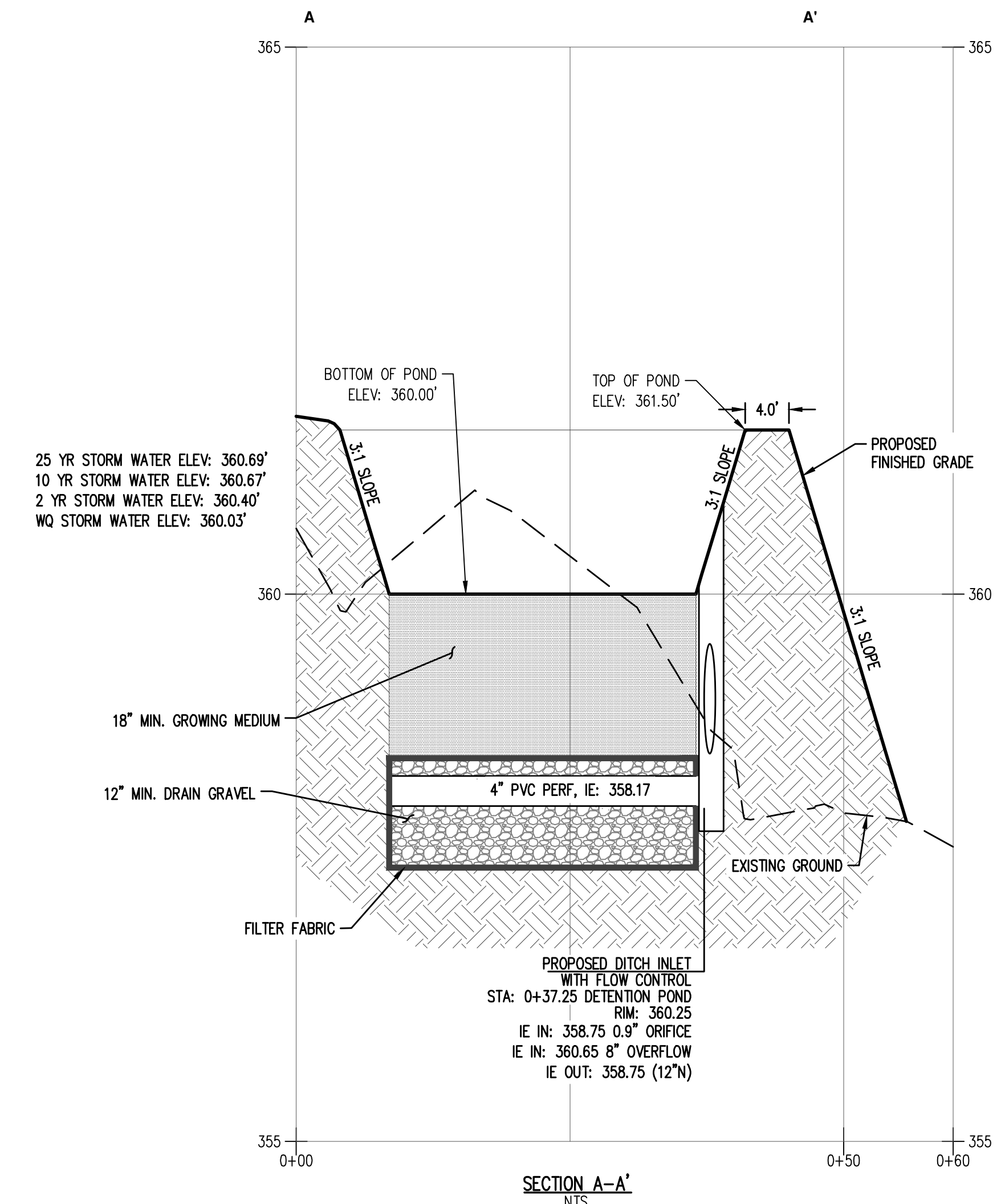
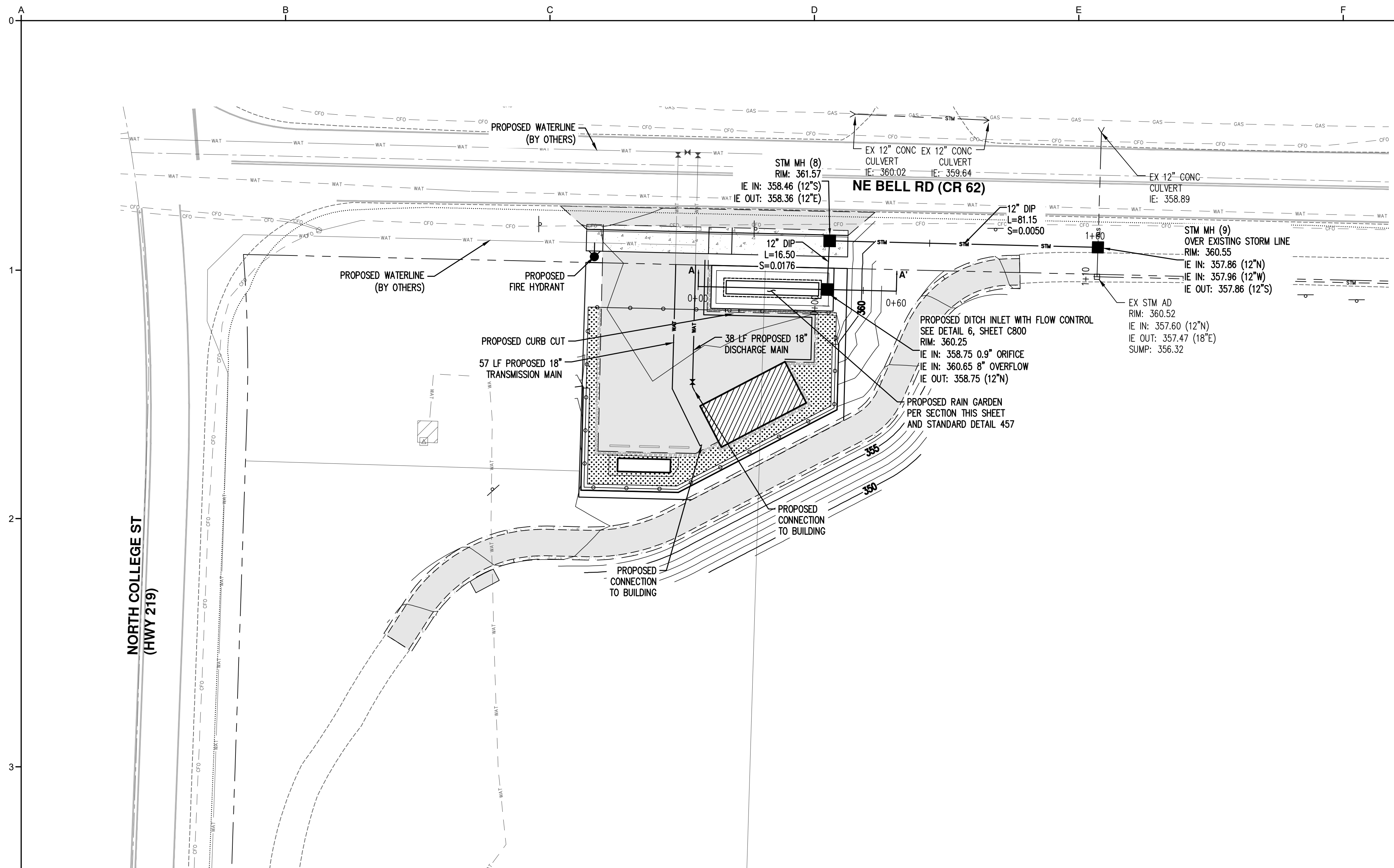
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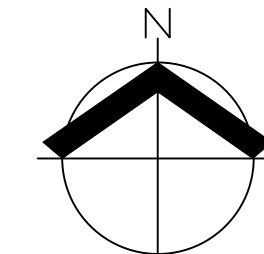


NOTE: SEE CITY OF NEWBERG STANDARD DETAIL 457 FOR ADDITIONAL INFORMATION

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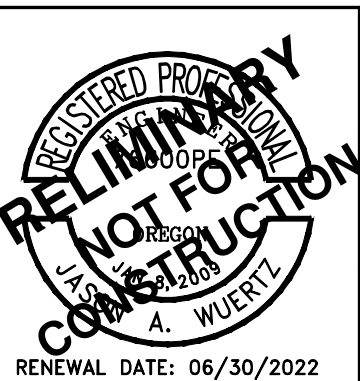
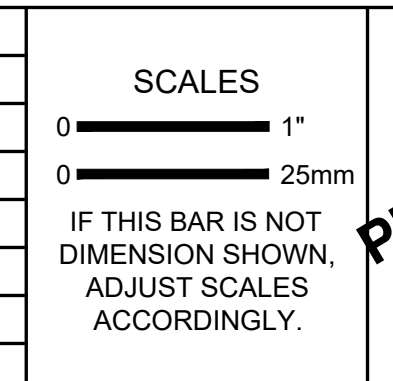


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**BELL WEST PUMP STATION  
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**COMPOSITE UTILITY PLAN**

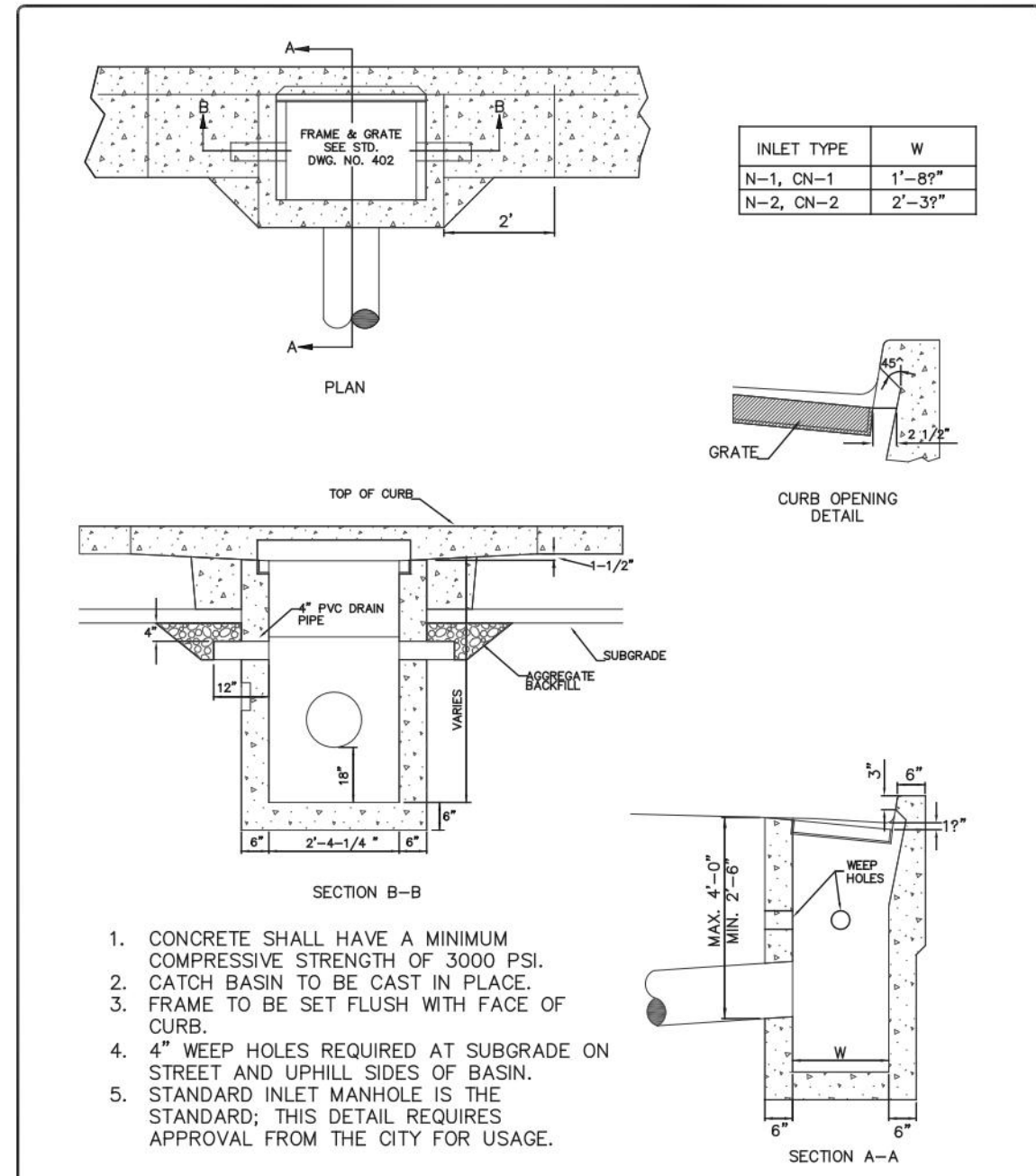
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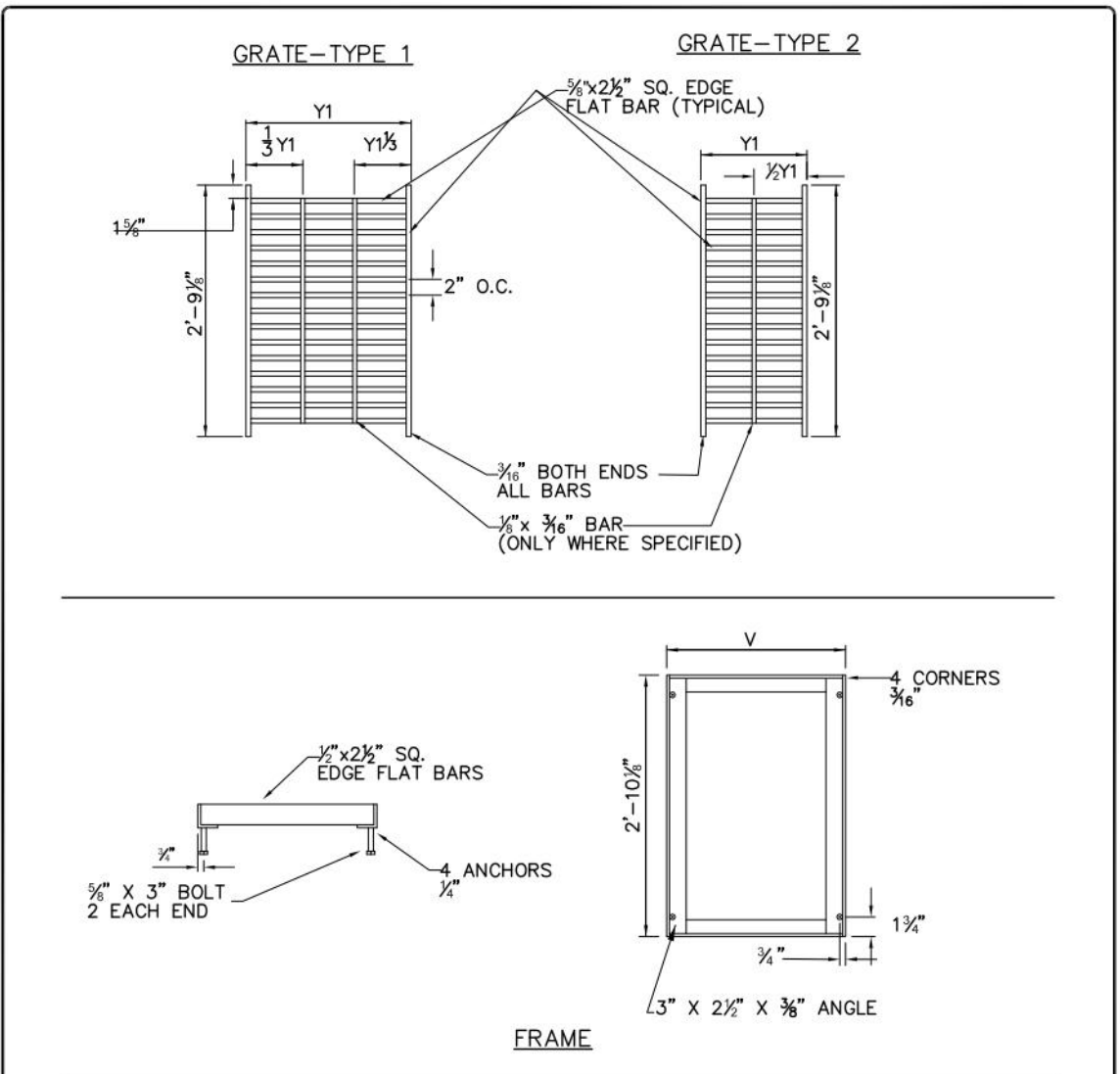
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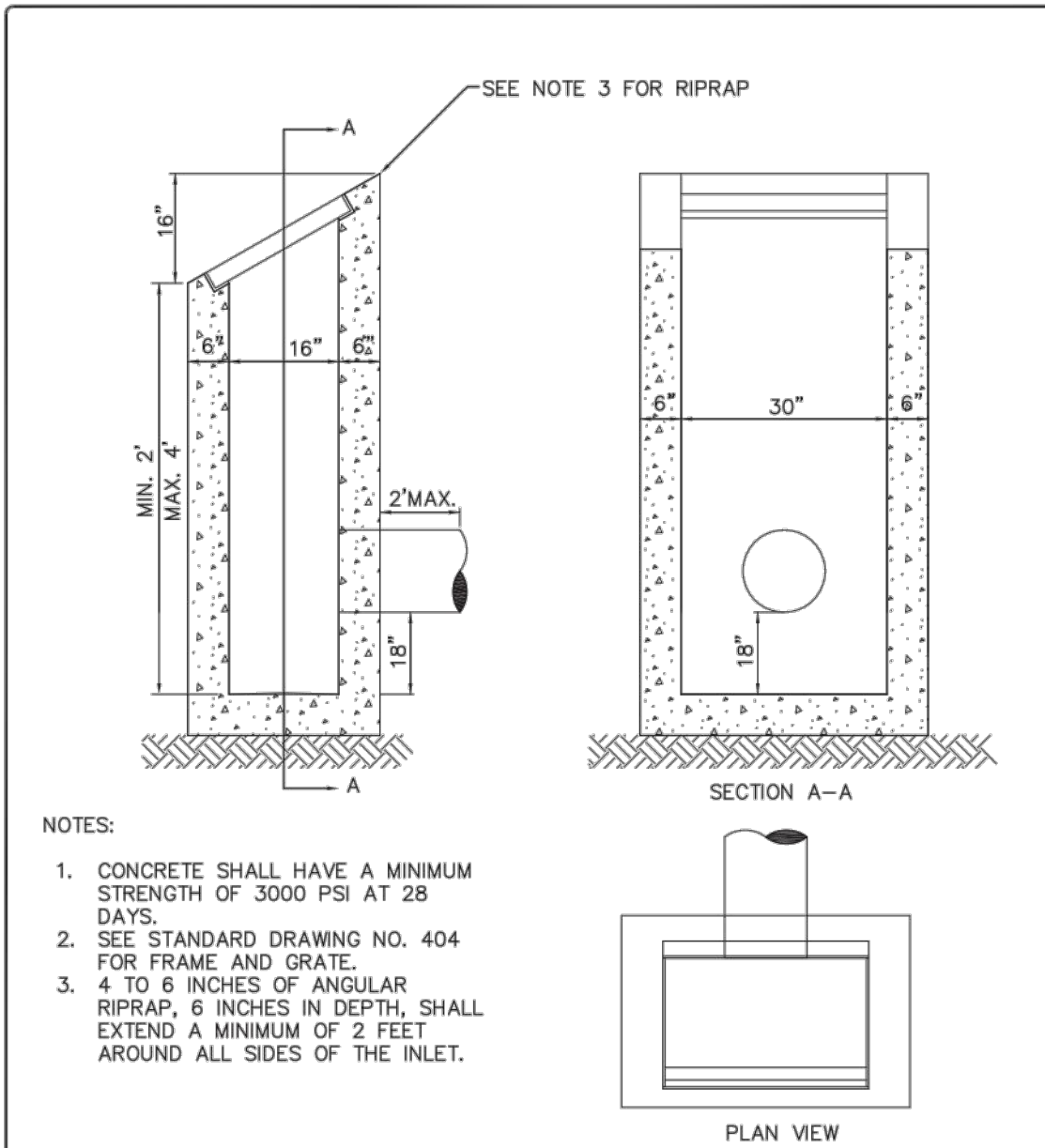


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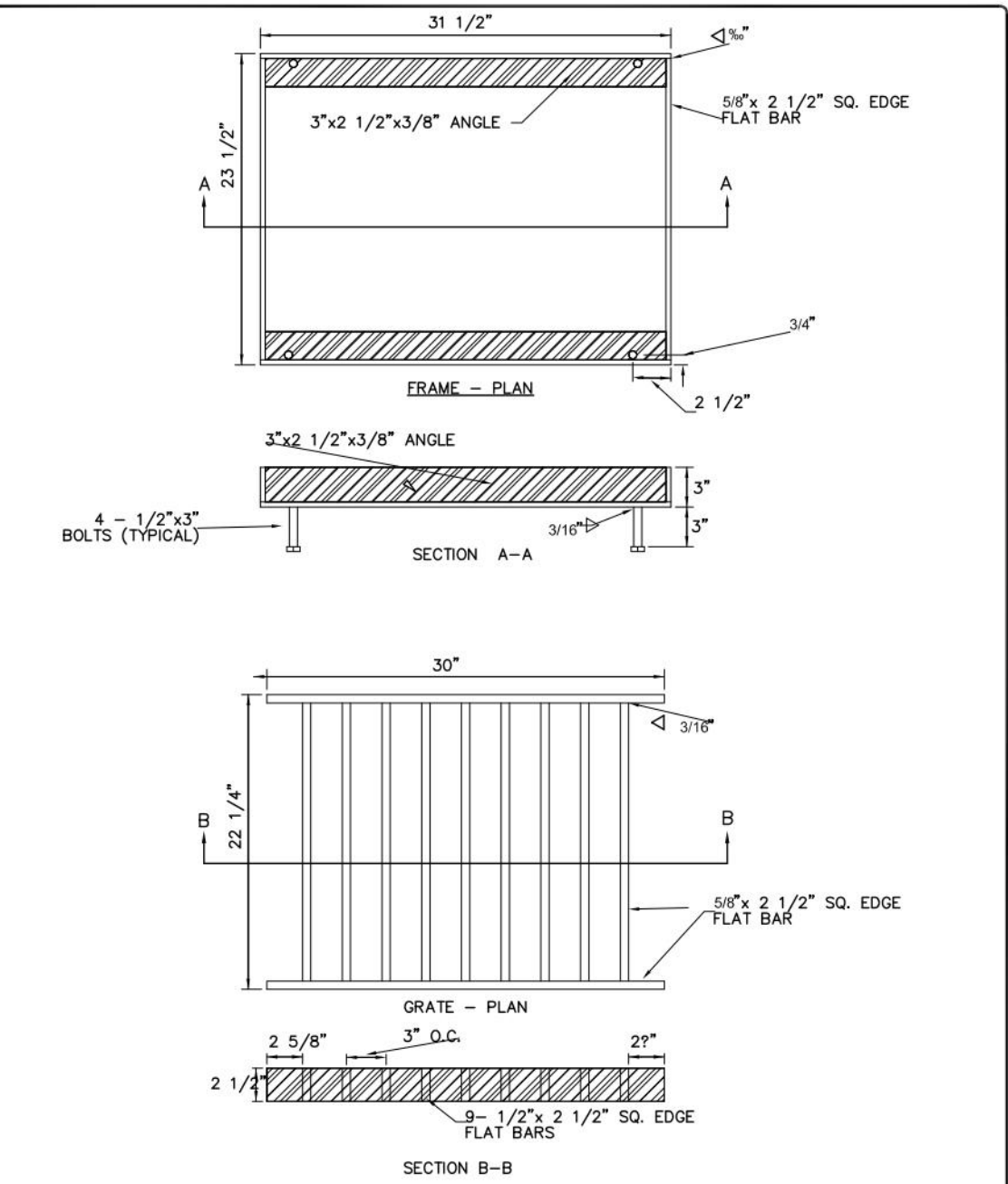


INLET TYPE	V	Y1	NO. OF BARS	TYPE	REMARKS
N-1, CN-1	2'-3 1/4"	2'-2 1/4"	17	1	
N-2, N-2	2'-9 1/4"	1'-4"	17	2	2 GRATES

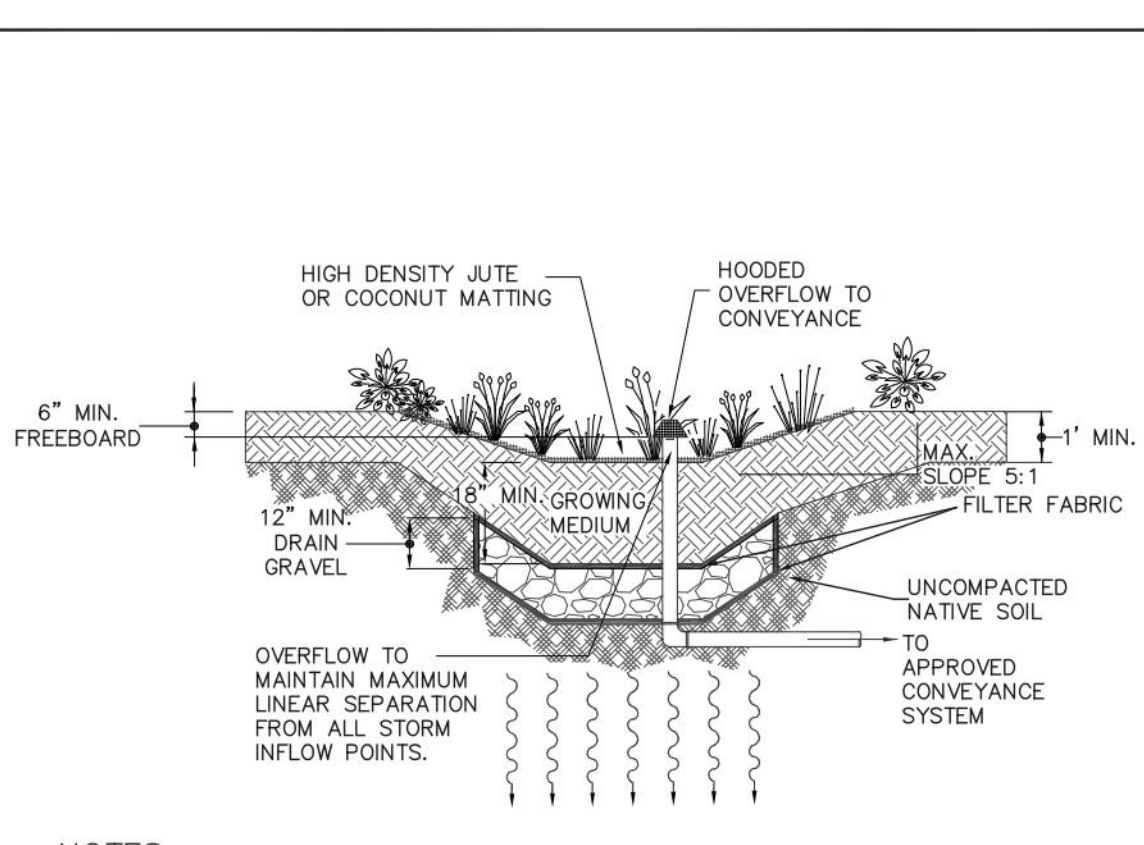
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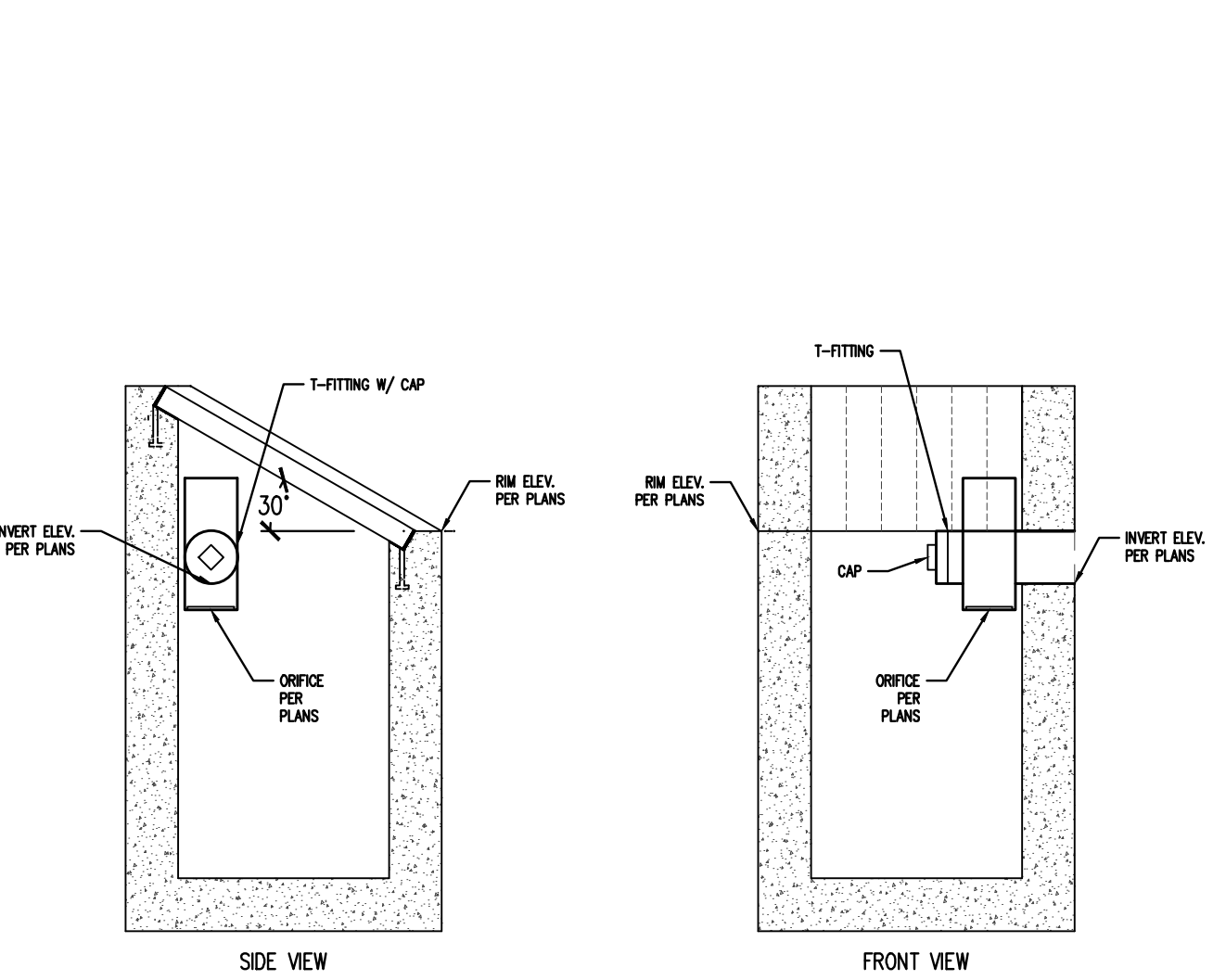


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- NOTES:
- PROVIDE OVERFLOW CONVEYANCE SYSTEM, OVERFLOW CONVEYANCE HEIGHT TO ALLOW 6" MAXIMUM PONDING, PIPING TO A MINIMUM OF THE PLUMBING CODE OR CONVEY THE 25 YEAR STORM.
  - FLOW DISSIPATORS SHOULD BE USED IF ENTRY SLOPE TO THE BASIN IS GREATER THAN 5:1.
  - SEPARATION BETWEEN DRAIN GRAVEL AND GROWING MEDIUM SHALL BE PERMEABLE FILTER FABRIC.
  - TREATMENT AREA SHALL HAVE HIGH DENSITY JUTE OR COCONUT MATTING OVER 18" MINIMUM OF GROWING MEDIUM OR BASE STABILIZATION METHOD AS APPROVED BY THE CITY.
  - REFER TO APPENDIX A OF THE STANDARDS DESIGN MANUAL FOR PLANTING REQUIREMENTS.
  - TOP OF BANK OF FACILITY MUST BE LOCATED 10' FROM ANY STRUCTURE AND 3' FROM ADJACENT PROPERTY LINES.

City of Newberg	REVISIONS:	SCALE: N.T.S.
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DITCH INLET WITH FLOW CONTROL ORIFICE

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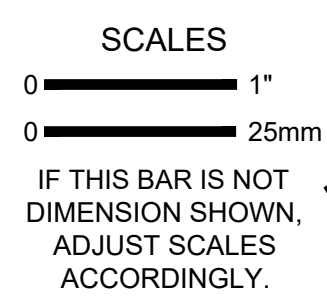
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A. WUERTEL  
RENEWAL DATE: 06/30/2022

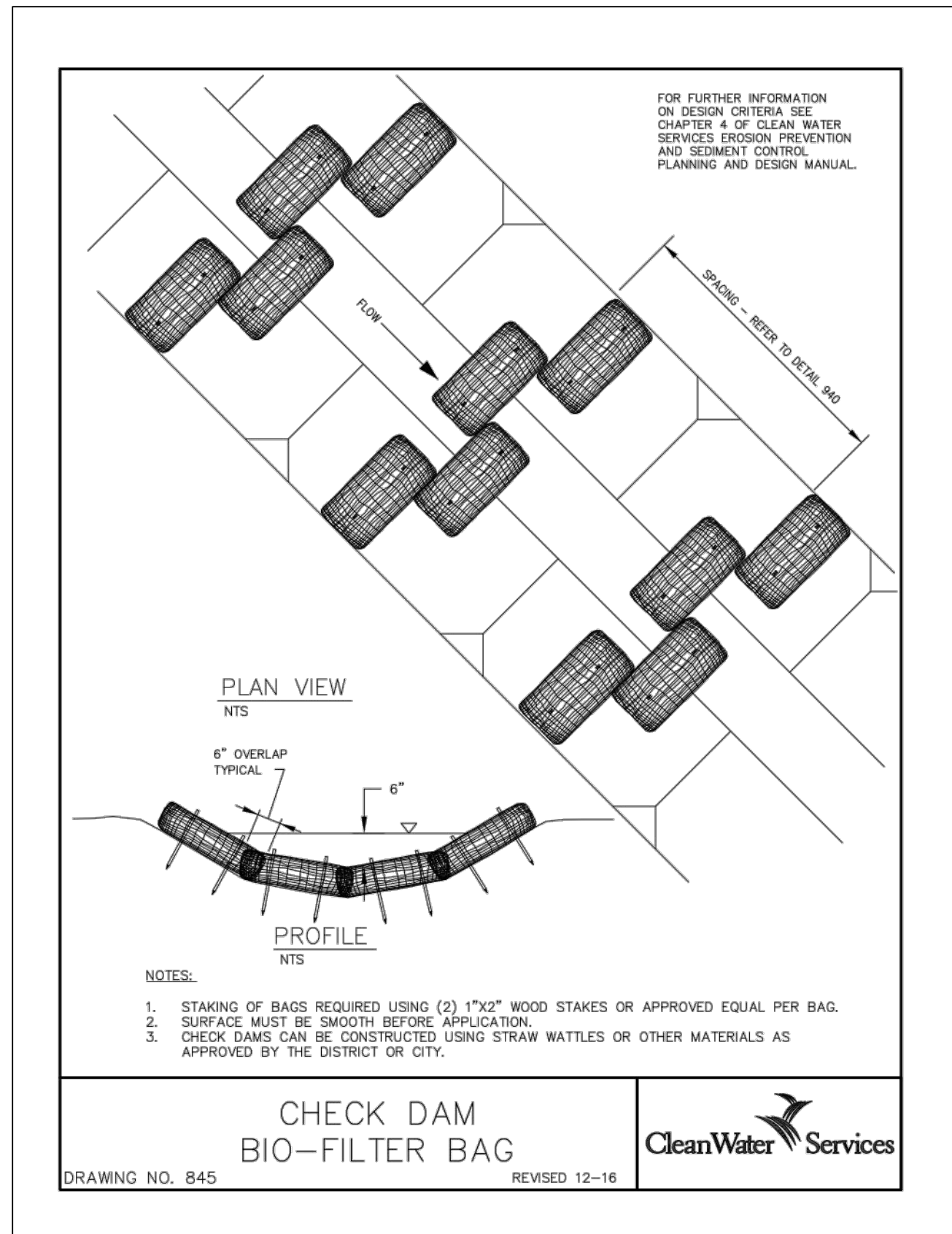
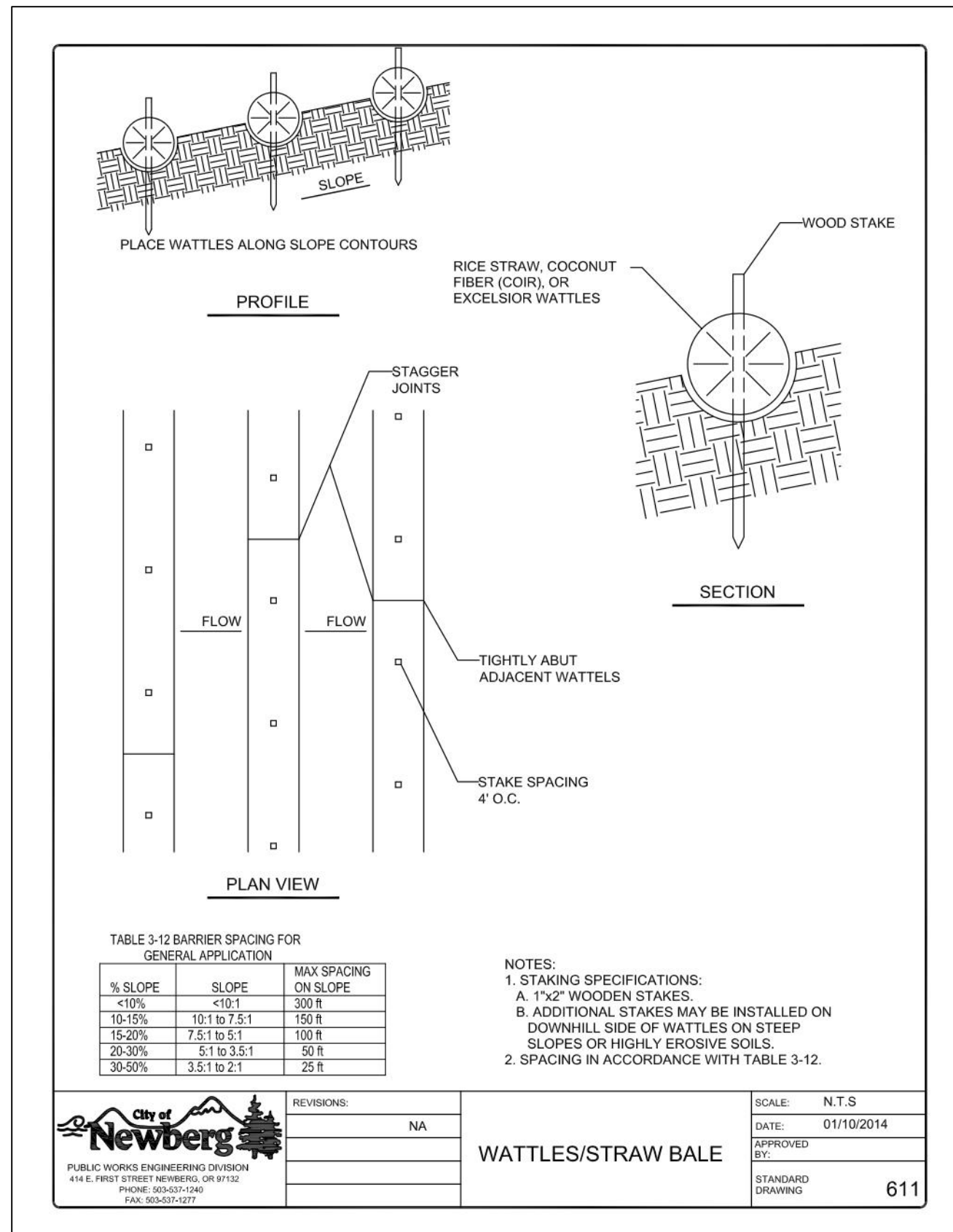
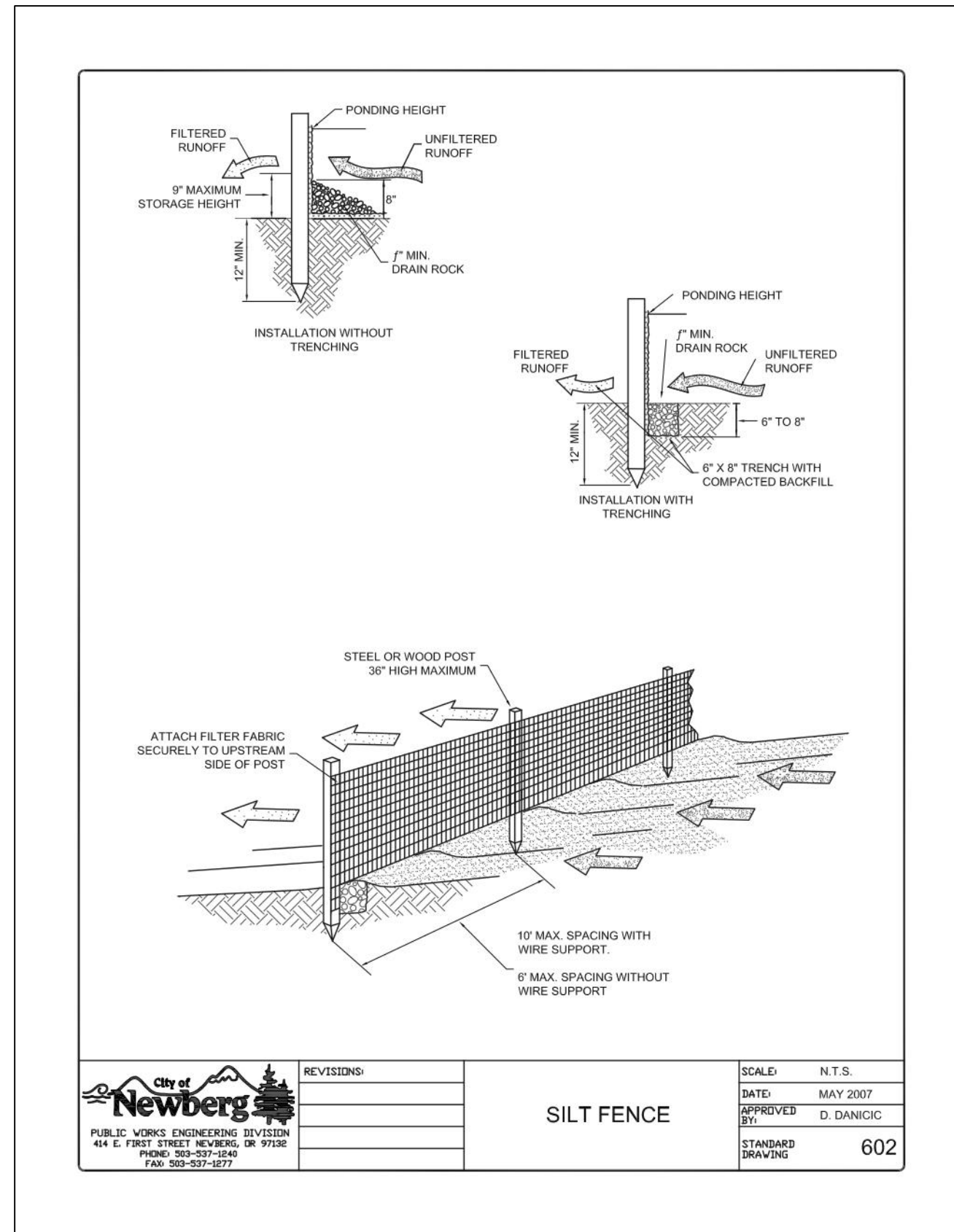
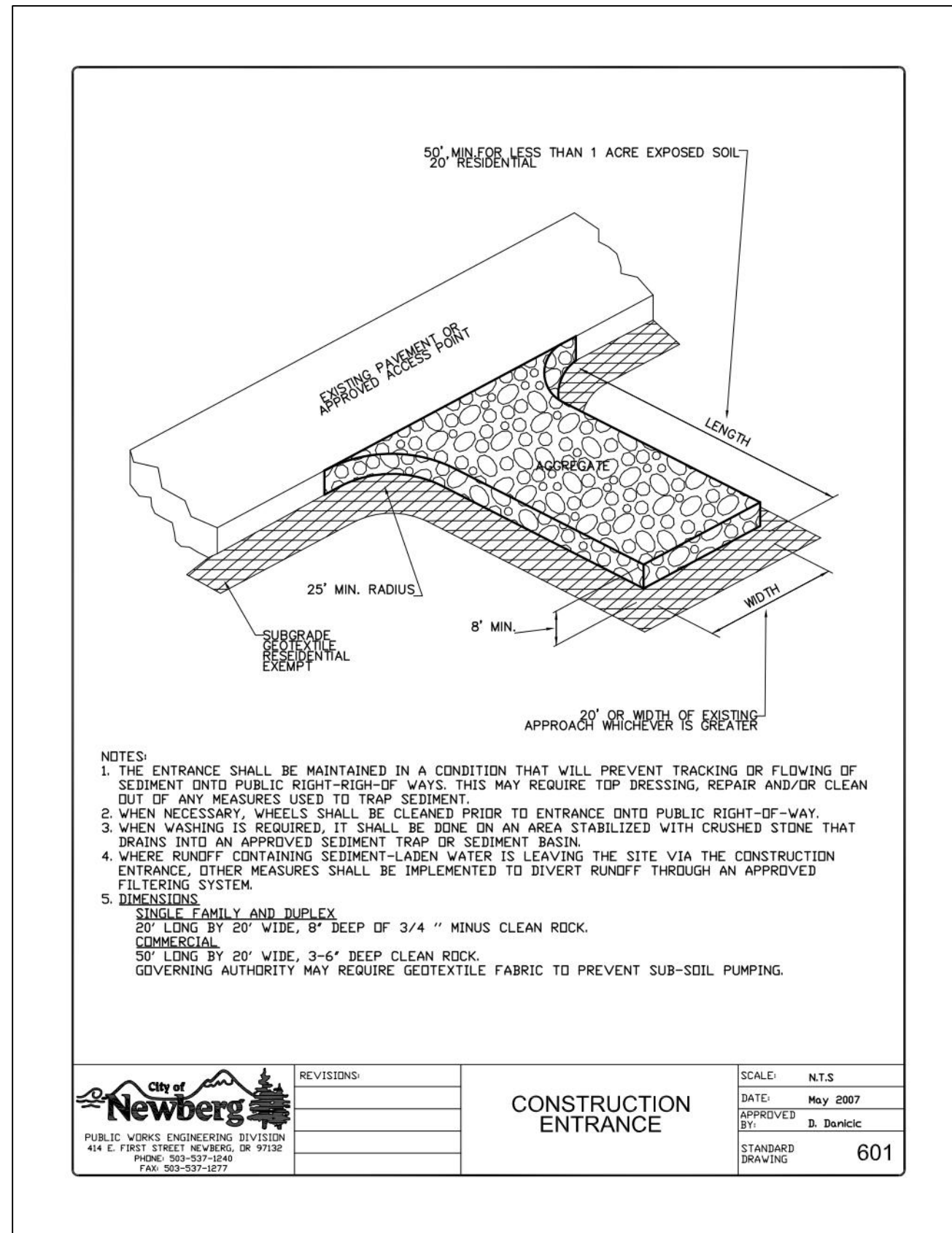
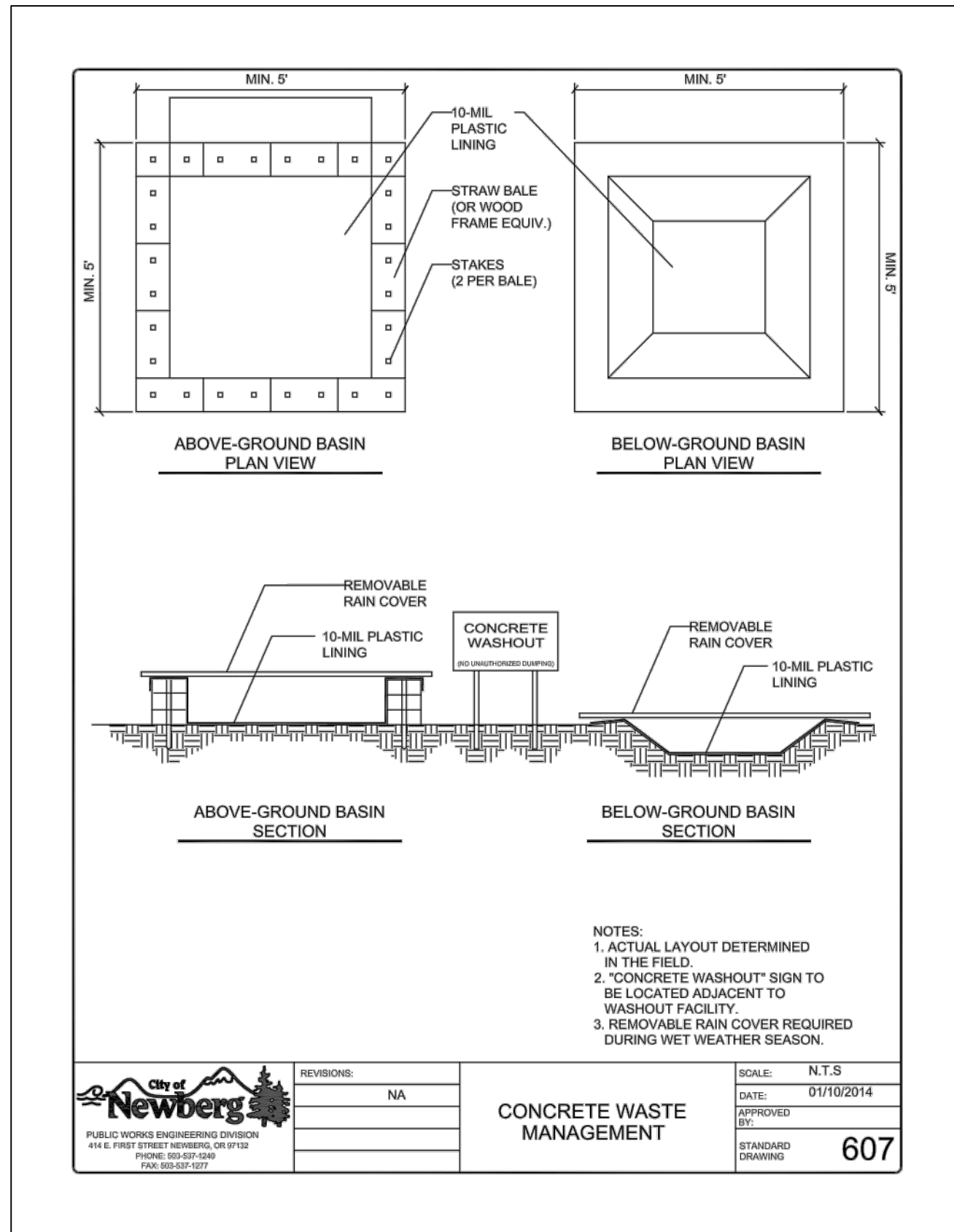
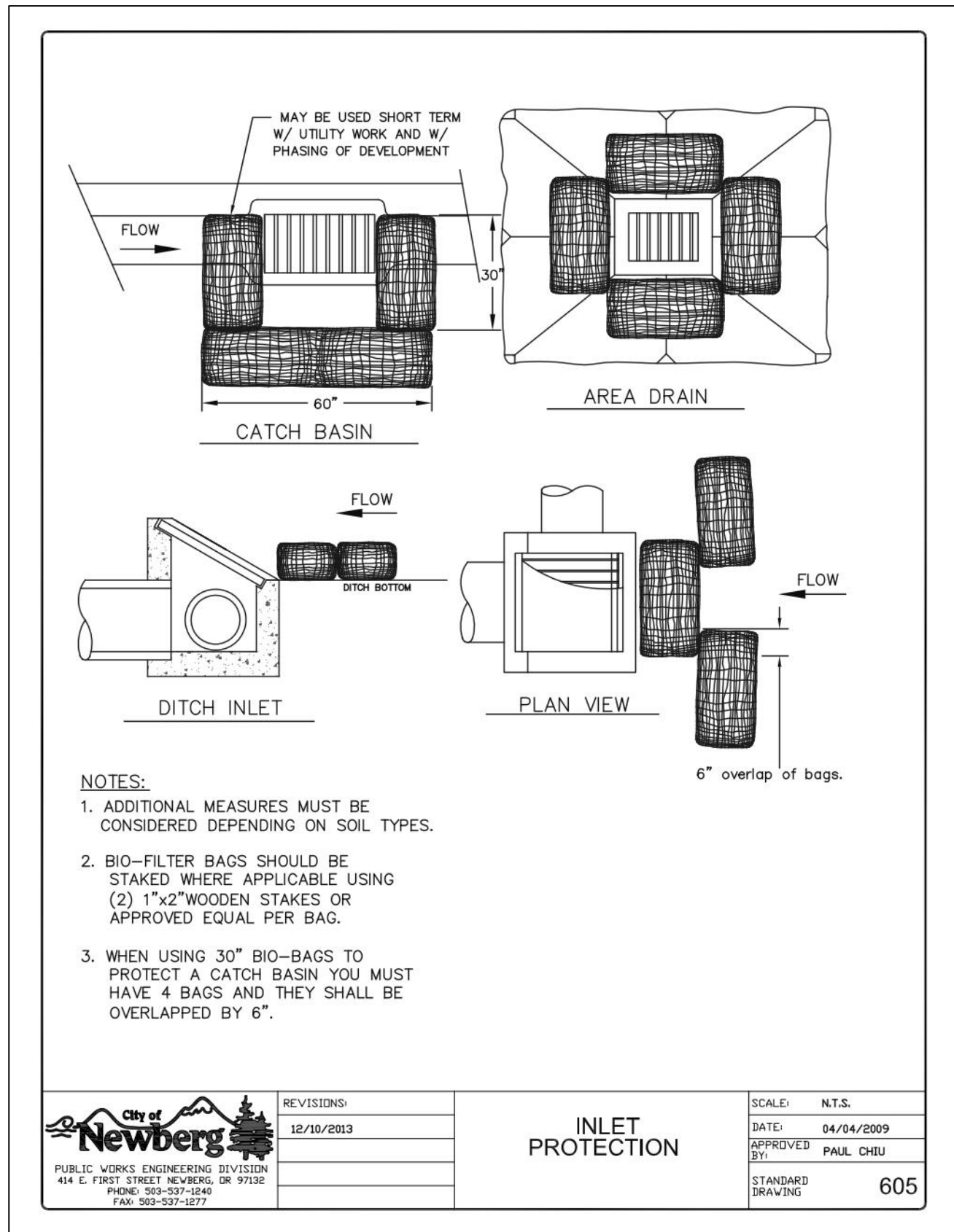
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NEWBERG, OREGON  
BELL WEST PUMP STATION  
AND PIPELINE  
Kennedy Jenks

DETAILS

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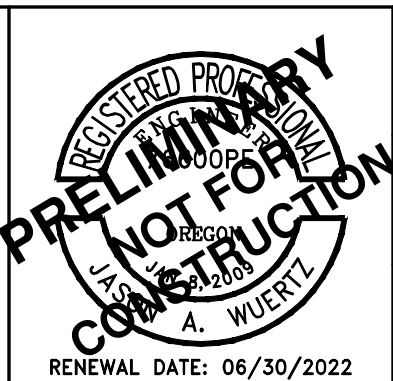
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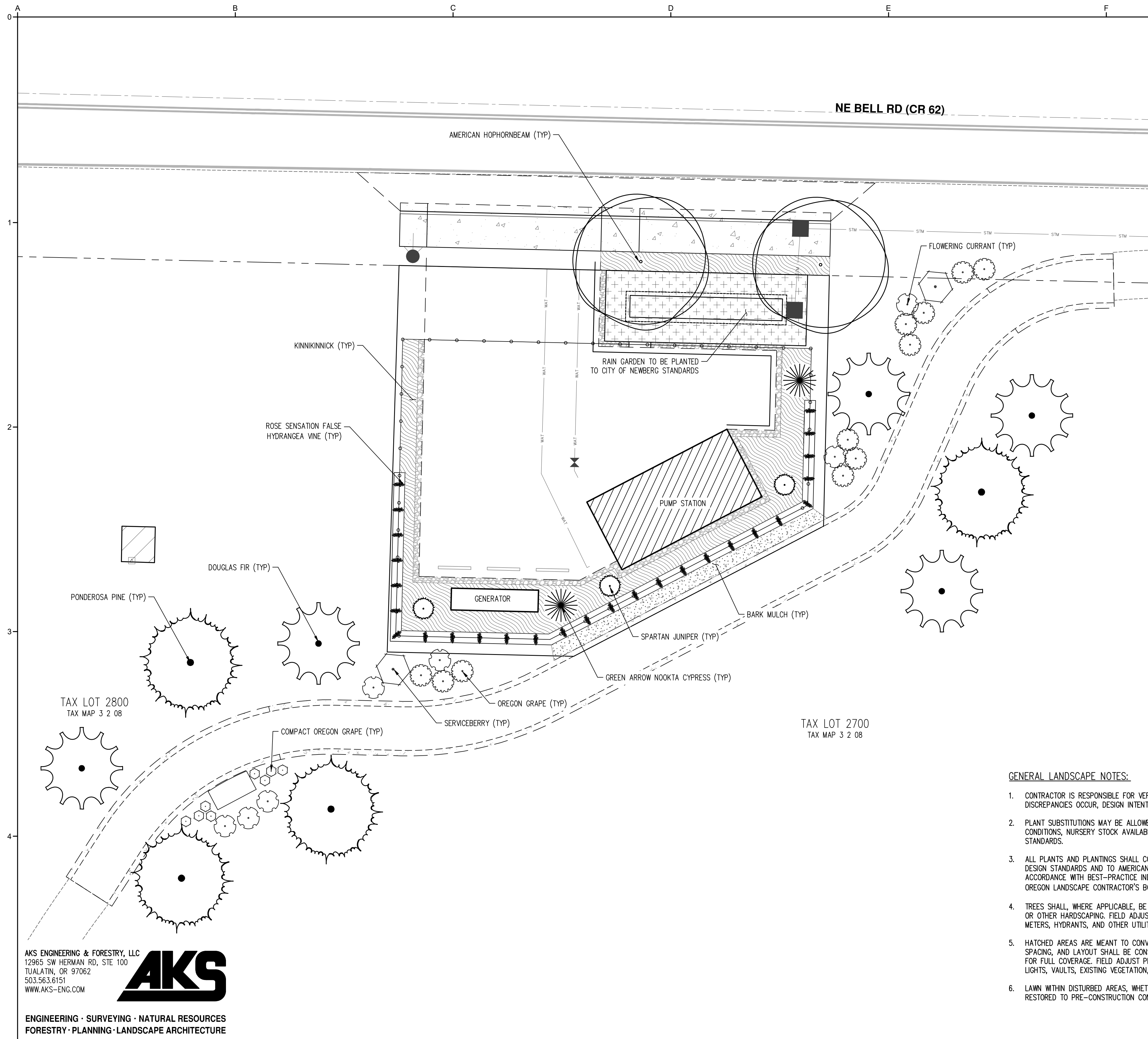
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**Kennedy Jenks**

**DETAILS**

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**PLANT SCHEDULE**

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	2	CHAMAECYPARIS NOOTKATENSIS 'GREEN ARROW'	GREEN ARROW NOOKTA CYPRESS	4'-5' HT. B&B	AS SHOWN
	3	JUNIPERUS CHINENSIS 'SPARTAN'	SPARTAN JUNIPER	4'-5' HT. B&B	AS SHOWN
	2	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	2" CAL. B&B/MIN	AS SHOWN
	4	PINUS PONDEROSA	PONDEROSA PINE	5'-6' HT/B&B	AS SHOWN
	5	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	5'-6' HT. B&B	AS SHOWN

SHRUBS/VINES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	2	AMELANCHIER ALNIFOLIA	SERVICEBERRY	2 GAL. CONT.	AS SHOWN
	11	MAHONIA AQUIFOLIUM	OREGON GRAPE	2 GAL. CONT.	48" o.c.
	8	MAHONIA AQUIFOLIUM 'COMPACTA'	COMPACT OREGON GRAPE	1 GAL. CONT.	24" o.c.
	7	RIBES SANGUINEUM	RED FLOWERING CURRANT	2 GAL. CONT.	48" o.c.
	27	SCHIZOPHRAGMA HYDRANGEOIDES 'MINSSENS' TM	ROSE SENSATION FALSE HYDRANGEA VINE	1 GAL. CONT.	60" o.c.

GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	183	ARCTOSTAPHYLOS UVA-URSI	KINNIKINICK	1 GAL. CONT.	24" o.c.
	±152 SF		BARK MULCH		

**GENERAL LANDSCAPE NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT AND MATERIAL QUANTITIES. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
- PLANT SUBSTITUTIONS MAY BE ALLOWED, WITH APPROVAL BASED ON UNFORESEEN SITE CONDITIONS, NURSERY STOCK AVAILABILITY, ETC. WHERE ALLOWED BY CITY OF NEWBERG DESIGN STANDARDS.
- ALL PLANTS AND PLANTINGS SHALL CONFORM TO APPLICABLE CITY OF NEWBERG LANDSCAPE DESIGN STANDARDS AND TO AMERICAN NURSERY STANDARDS ANSI Z60.1. PLANT IN ACCORDANCE WITH BEST-PRACTICE INDUSTRY STANDARDS, SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB).
- TREES SHALL, WHERE APPLICABLE, BE PLANTED A MINIMUM OF 3' O.C. FROM BACK OF SIDEWALK OR OTHER HARDSCAPING. FIELD ADJUST IF NECESSARY TO AVOID CONFLICTS WITH LIGHTS, WATER METERS, HYDRANTS, AND OTHER UTILITIES.
- HATCHED AREAS ARE MEANT TO CONVEY GENERAL PLANT LOCATION. PLANT COVERAGE, SPACING, AND LAYOUT SHALL BE CONSISTENT WITH THE SPACING LISTED IN THE PLANT LEGEND FOR FULL COVERAGE. FIELD ADJUST PLANTING AS REQUIRED TO AVOID CONFLICTS WITH UTILITIES, LIGHTS, VAULTS, EXISTING VEGETATION, ETC.
- LAWN WITHIN DISTURBED AREAS, WHETHER EXPLICITLY SHOWN ON THE PLANS OR NOT, SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
- IRRIGATION: LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING A PERMANENT, UNDERGROUND 'DESIGN-BUILD' AUTOMATIC IRRIGATION SYSTEM TO WATER ALL TREES AND PLANTING BEDS. COORDINATE POINT OF CONNECTION, DOUBLE CHECK VALVE ASSEMBLY OF A TYPE APPROVED BY LOCAL AND STATE JURISDICTIONS, AND SLEEVING LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF HARD SURFACING (SIDEWALKS, DRIVEWAYS, ETC.).
- SOIL PREPARATION: GROWING MEDIUM IN ALL NEW PLANTING BEDS SHALL BE SUFFICIENT DEPTH FOR HEALTHY PLANT ESTABLISHMENT AND GROWTH. EXISTING, NON-COMPACTED, NATIVE SOIL MAY COUNT TOWARDS THIS REQUIREMENT. REUSE SURFACE SOIL STOCKPILED ON THE SITE AND/OR IMPORT NEW TOPSOIL TO MAKE UP REQUIRED AMOUNTS FOR INSTALLATION.
- MULCH: APPLY 3" DEEP WELL-AGED MEDIUM GRIND OR SHREDDED DARK HEMLOCK BARK MULCH UNDER AND AROUND ALL TREES, SHRUBS, AND GROUNDCOVER NOT IN STORMWATER FACILITY. DO NOT COVER FOLIAGE OR ROOT CROWNS OF PLANTS WITH BARK MULCH. TREES AND OTHER PLANTS SHALL BE SET TO ACCOMMODATE MULCH APPLICATION WITHOUT BURYING ROOT CROWNS.
- MAINTENANCE: ALL LANDSCAPE AREAS SHALL BE MAINTAINED FOR THE DURATION OF THE PLANTING TO ENCOURAGE HEALTH OF PLANT MATERIAL AS WELL AS PUBLIC HEALTH AND SAFETY. ALL TREES AND SHRUBS SHALL BE PRUNED TO MAINTAIN HEALTH AND STRUCTURE OF THE PLANT MATERIAL FOR PUBLIC SAFETY PURPOSES.

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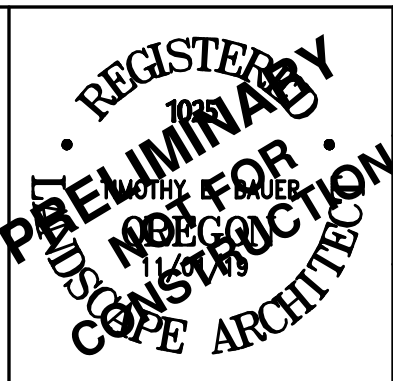
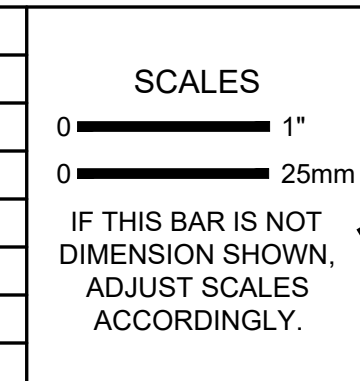
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**BELL WEST PUMP STATION  
 AND PIPELINE**

**KJ Kennedy Jenks**

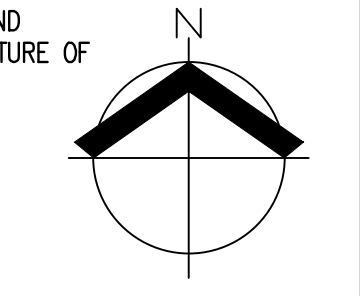
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SCALE  
1" = 10'

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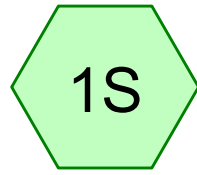


## **APPENDIX D: STORMWATER MODEL STORM EVENT ANALYSIS**

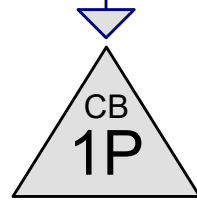
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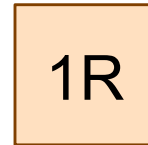
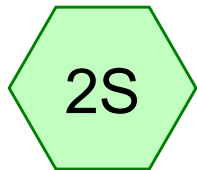




Pre Dev

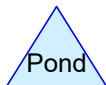
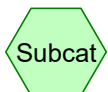


12" Existing Pipe



Project Site - PRE

18" PIPE



Routing Diagram for 7936 Pre Dev - 20220210

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**Area Listing (all nodes)**

Area (sq-ft)	CN	Description (subcatchment-numbers)
65,340	61	>75% Grass cover, Good, HSG B (1S)
1,014,948	80	>75% Grass cover, Good, HSG D (1S)
4,962	84	Pasture/grassland/range, Fair, HSG D (2S)
87,120	98	Paved parking, HSG B (1S)
<b>1,172,370</b>	<b>80</b>	<b>TOTAL AREA</b>

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Page 3

**Soil Listing (all nodes)**

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
152,460	HSG B	1S
0	HSG C	
1,019,910	HSG D	1S, 2S
0	Other	
<b>1,172,370</b>		<b>TOTAL AREA</b>

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**Ground Covers (all nodes)**

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	65,340	0	1,014,948	0	1,080,288	>75% Grass cover, Good
0	0	0	4,962	0	4,962	Pasture/grasslan d/range, Fair
0	87,120	0	0	0	87,120	Paved parking
<b>0</b>	<b>152,460</b>	<b>0</b>	<b>1,019,910</b>	<b>0</b>	<b>1,172,370</b>	<b>TOTAL AREA</b>

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**Pipe Listing (all nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1R	356.55	347.15	312.0	0.0301	0.013	18.0	0.0	0.0
2	1P	358.89	357.60	44.0	0.0293	0.012	12.0	0.0	0.0

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment 1S: Pre Dev**

Runoff Area=26.800 ac 7.46% Impervious Runoff Depth=0.89"  
Flow Length=1,500' Tc=20.9 min CN=80 Runoff=3.54 cfs 86,475 cf

**Subcatchment 2S: Project Site - PRE**

Runoff Area=4,962 sf 0.00% Impervious Runoff Depth=1.12"  
Flow Length=150' Slope=0.1500 '/' Tc=6.8 min CN=84 Runoff=0.03 cfs 461 cf

**Reach 1R: 18" PIPE**

Avg. Flow Depth=0.45' Max Vel=8.00 fps Inflow=3.56 cfs 86,936 cf  
18.0" Round Pipe n=0.013 L=312.0' S=0.0301 '/' Capacity=18.23 cfs Outflow=3.56 cfs 86,936 cf

**Pond 1P: 12" Existing Pipe**

Peak Elev=360.94' Inflow=3.54 cfs 86,475 cf  
12.0" Round Culvert n=0.012 L=44.0' S=0.0293 '/' Outflow=3.54 cfs 86,475 cf

**Total Runoff Area = 1,172,370 sf Runoff Volume = 86,936 cf Average Runoff Depth = 0.89"**  
**92.57% Pervious = 1,085,250 sf 7.43% Impervious = 87,120 sf**



**Summary for Subcatchment 1S: Pre Dev**

Runoff = 3.54 cfs @ 8.01 hrs, Volume= 86,475 cf, Depth= 0.89"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 2 YEAR Rainfall=2.50"

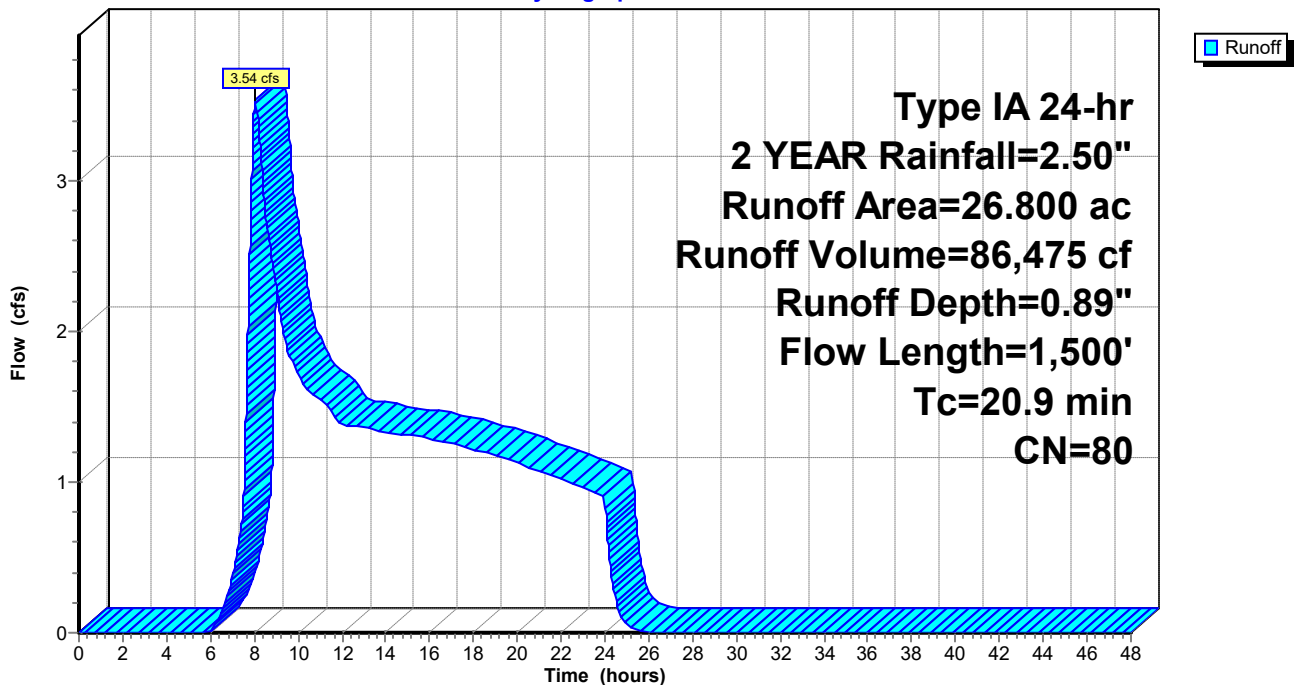
Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
2.000	98	Paved parking, HSG B
2.900	80	>75% Grass cover, Good, HSG D
12.400	80	>75% Grass cover, Good, HSG D
1.000	80	>75% Grass cover, Good, HSG D
7.000	80	>75% Grass cover, Good, HSG D

26.800	80	Weighted Average
24.800	79	92.54% Pervious Area
2.000	98	7.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	300	0.1500	0.42		<b>Sheet Flow, 300-ft</b> Grass: Short n= 0.150 P2= 2.50"
9.0	1,200	0.1000	2.21		<b>Shallow Concentrated Flow, 1200-ft</b> Short Grass Pasture Kv= 7.0 fps
20.9	1,500	Total			

**Subcatchment 1S: Pre Dev**

Hydrograph



**Summary for Subcatchment 2S: Project Site - PRE**

Runoff = 0.03 cfs @ 8.00 hrs, Volume= 461 cf, Depth= 1.12"

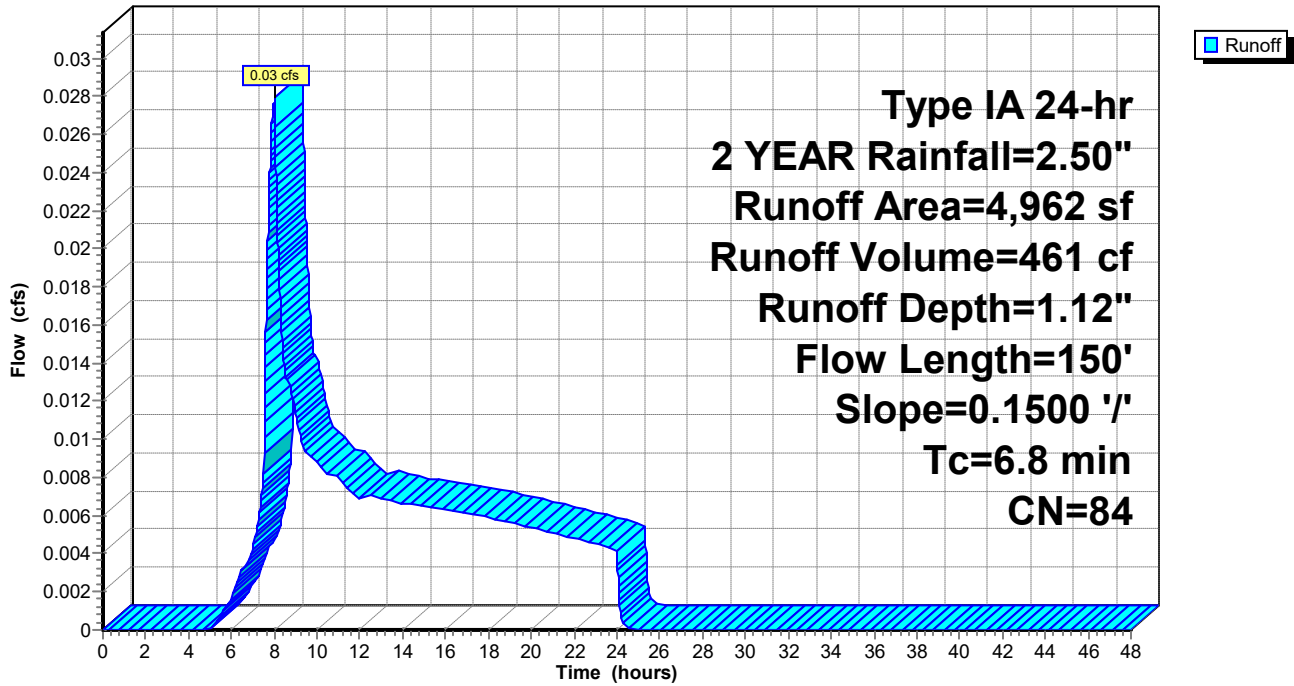
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 2 YEAR Rainfall=2.50"

Area (sf)	CN	Description
4,962	84	Pasture/grassland/range, Fair, HSG D
4,962	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	150	0.1500	0.37		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.50"

**Subcatchment 2S: Project Site - PRE**

Hydrograph



### Summary for Reach 1R: 18" PIPE

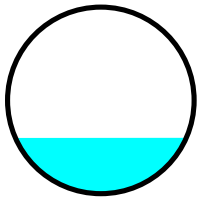
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 1,172,370 sf, 7.43% Impervious, Inflow Depth = 0.89" for 2 YEAR event  
 Inflow = 3.56 cfs @ 8.01 hrs, Volume= 86,936 cf  
 Outflow = 3.56 cfs @ 8.03 hrs, Volume= 86,936 cf, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Max. Velocity= 8.00 fps, Min. Travel Time= 0.7 min  
 Avg. Velocity = 5.08 fps, Avg. Travel Time= 1.0 min

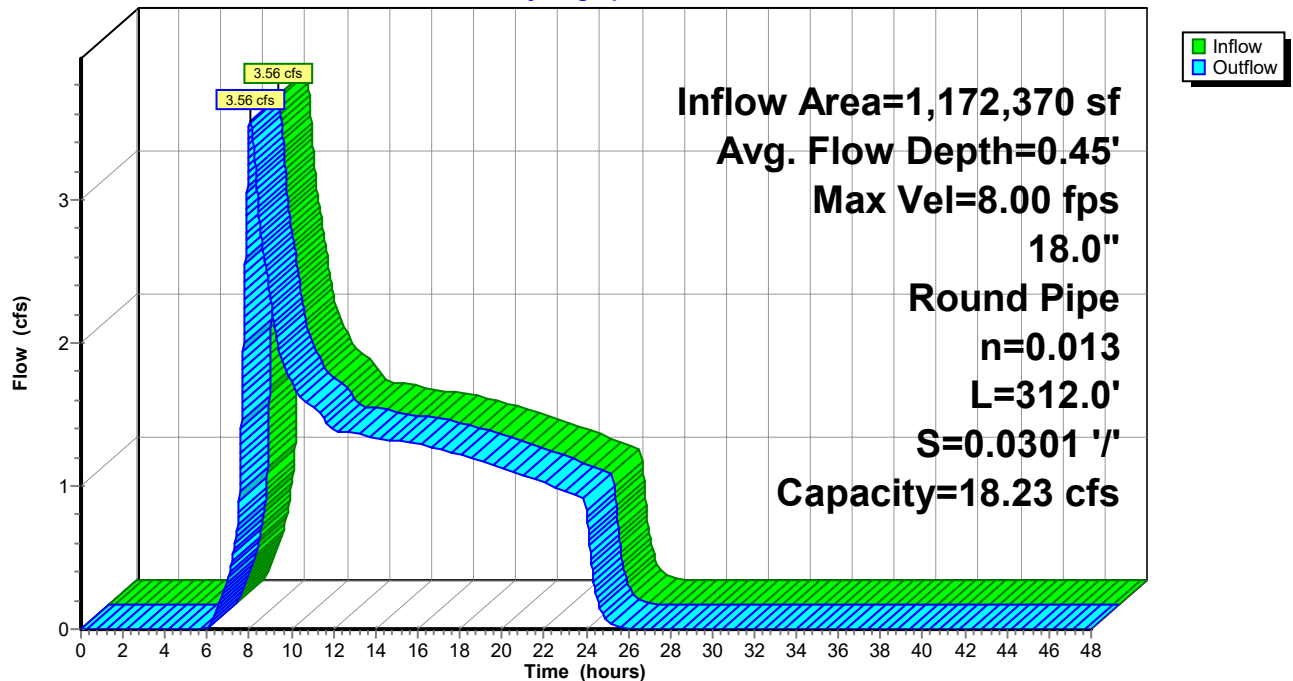
Peak Storage= 139 cf @ 8.03 hrs  
 Average Depth at Peak Storage= 0.45'  
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 18.23 cfs

18.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 312.0' Slope= 0.0301 '/'  
 Inlet Invert= 356.55', Outlet Invert= 347.15'



### Reach 1R: 18" PIPE

Hydrograph



### Summary for Pond 1P: 12" Existing Pipe

[57] Hint: Peaked at 360.94' (Flood elevation advised)

Inflow Area = 1,167,408 sf, 7.46% Impervious, Inflow Depth = 0.89" for 2 YEAR event  
 Inflow = 3.54 cfs @ 8.01 hrs, Volume= 86,475 cf  
 Outflow = 3.54 cfs @ 8.01 hrs, Volume= 86,475 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 3.54 cfs @ 8.01 hrs, Volume= 86,475 cf

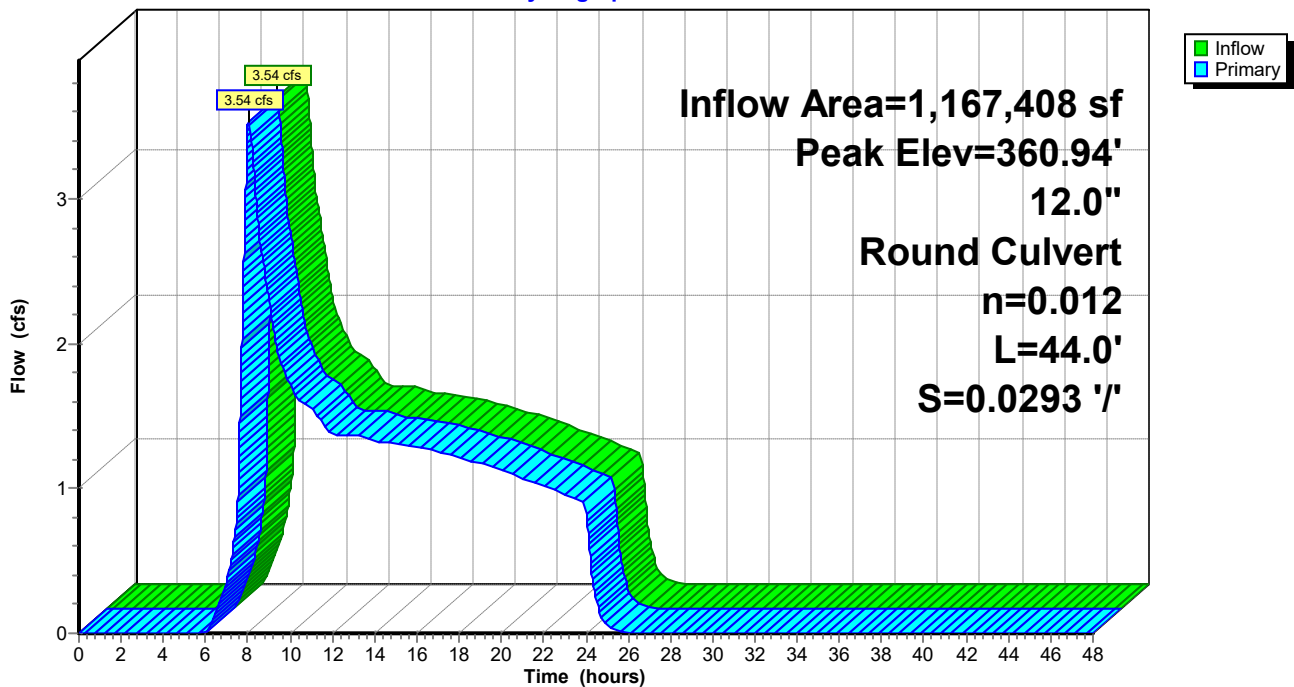
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.94' @ 8.01 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 44.0' Ke= 1.000 Inlet / Outlet Invert= 358.89' / 357.60' S= 0.0293 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.53 cfs @ 8.01 hrs HW=360.94' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 3.53 cfs @ 4.50 fps)

### Pond 1P: 12" Existing Pipe

Hydrograph



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment 1S: Pre Dev**

Runoff Area=26.800 ac 7.46% Impervious Runoff Depth=1.64"  
Flow Length=1,500' Tc=20.9 min CN=80 Runoff=7.79 cfs 159,192 cf

**Subcatchment 2S: Project Site - PRE**

Runoff Area=4,962 sf 0.00% Impervious Runoff Depth=1.94"  
Flow Length=150' Slope=0.1500 '/' Tc=6.8 min CN=84 Runoff=0.05 cfs 801 cf

**Reach 1R: 18" PIPE**

Avg. Flow Depth=0.69' Max Vel=9.92 fps Inflow=7.84 cfs 159,993 cf  
18.0" Round Pipe n=0.013 L=312.0' S=0.0301 '/' Capacity=18.23 cfs Outflow=7.83 cfs 159,993 cf

**Pond 1P: 12" Existing Pipe**

Peak Elev=366.93' Inflow=7.79 cfs 159,192 cf  
12.0" Round Culvert n=0.012 L=44.0' S=0.0293 '/' Outflow=7.79 cfs 159,192 cf

**Total Runoff Area = 1,172,370 sf Runoff Volume = 159,993 cf Average Runoff Depth = 1.64"**  
**92.57% Pervious = 1,085,250 sf 7.43% Impervious = 87,120 sf**

**Summary for Subcatchment 1S: Pre Dev**

Runoff = 7.79 cfs @ 8.01 hrs, Volume= 159,192 cf, Depth= 1.64"

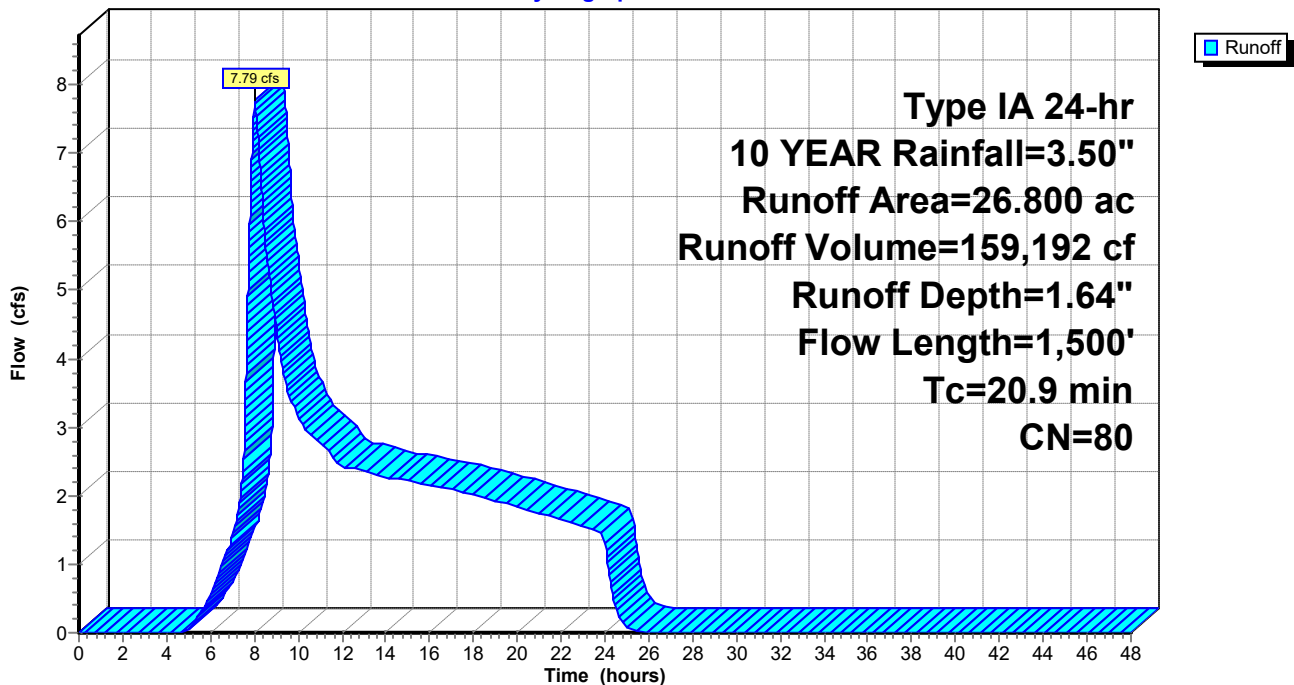
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 10 YEAR Rainfall=3.50"

Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
2.000	98	Paved parking, HSG B
2.900	80	>75% Grass cover, Good, HSG D
12.400	80	>75% Grass cover, Good, HSG D
1.000	80	>75% Grass cover, Good, HSG D
7.000	80	>75% Grass cover, Good, HSG D
26.800	80	Weighted Average
24.800	79	92.54% Pervious Area
2.000	98	7.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	300	0.1500	0.42		<b>Sheet Flow, 300-ft</b> Grass: Short n= 0.150 P2= 2.50"
9.0	1,200	0.1000	2.21		<b>Shallow Concentrated Flow, 1200-ft</b> Short Grass Pasture Kv= 7.0 fps
20.9	1,500	Total			

**Subcatchment 1S: Pre Dev**

Hydrograph





**Summary for Subcatchment 2S: Project Site - PRE**

Runoff = 0.05 cfs @ 7.98 hrs, Volume= 801 cf, Depth= 1.94"

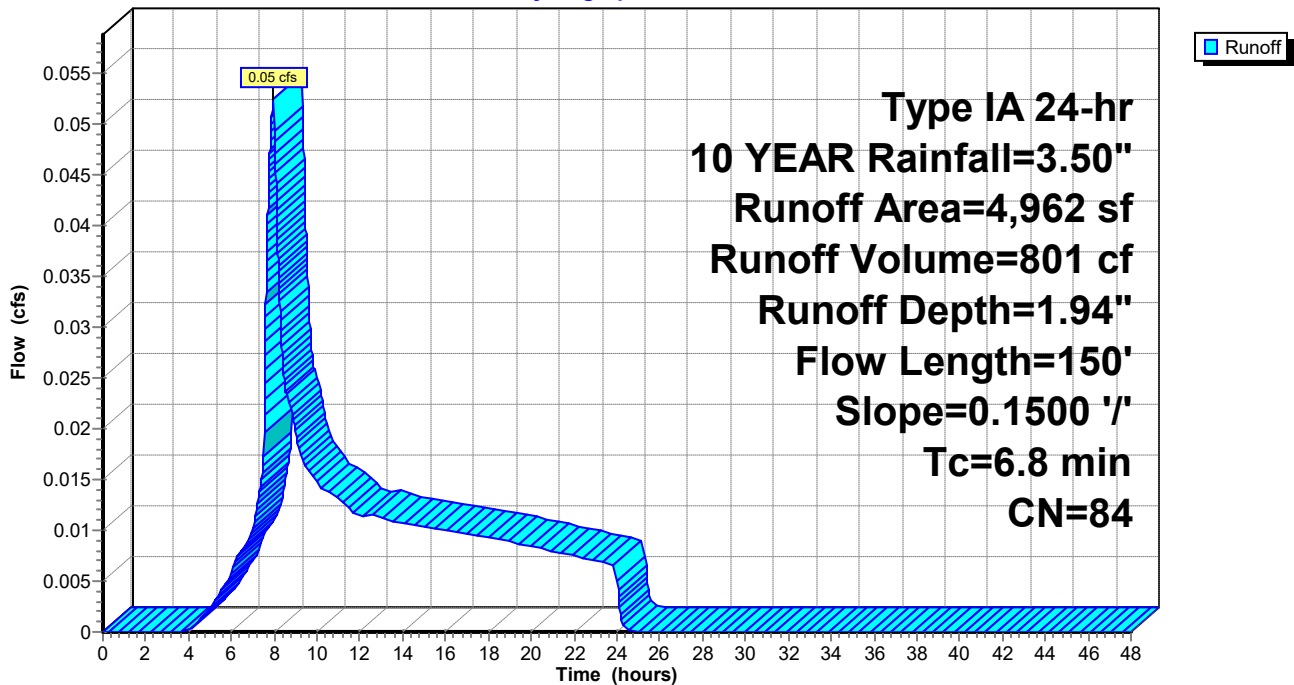
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 10 YEAR Rainfall=3.50"

Area (sf)	CN	Description
4,962	84	Pasture/grassland/range, Fair, HSG D
4,962	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	150	0.1500	0.37		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.50"

**Subcatchment 2S: Project Site - PRE**

Hydrograph



### Summary for Reach 1R: 18" PIPE

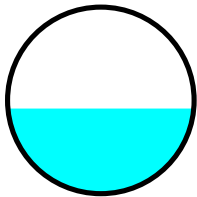
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area =	1,172,370 sf,	7.43% Impervious,	Inflow Depth = 1.64"	for 10 YEAR event
Inflow =	7.84 cfs @	8.01 hrs,	Volume=	159,993 cf
Outflow =	7.83 cfs @	8.02 hrs,	Volume=	159,993 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Max. Velocity= 9.92 fps, Min. Travel Time= 0.5 min  
 Avg. Velocity = 5.90 fps, Avg. Travel Time= 0.9 min

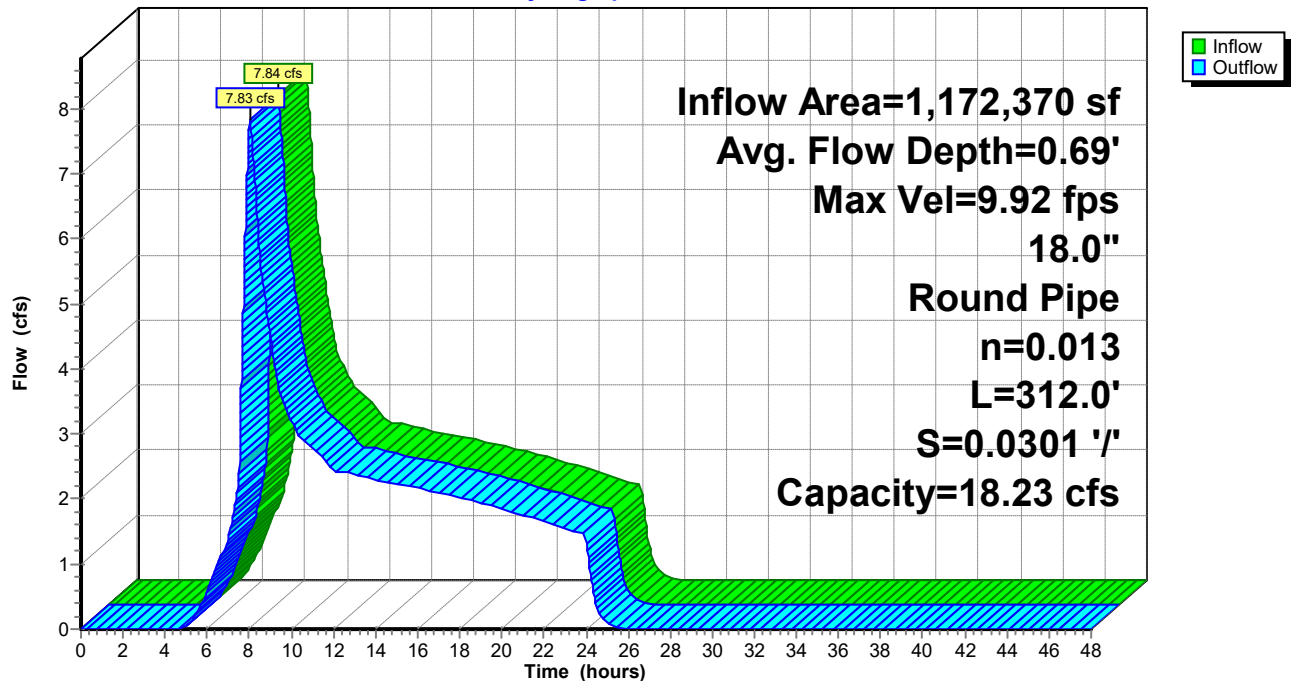
Peak Storage= 246 cf @ 8.02 hrs  
 Average Depth at Peak Storage= 0.69'  
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 18.23 cfs

18.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 312.0' Slope= 0.0301 '/'  
 Inlet Invert= 356.55', Outlet Invert= 347.15'



### Reach 1R: 18" PIPE

Hydrograph



### Summary for Pond 1P: 12" Existing Pipe

[57] Hint: Peaked at 366.93' (Flood elevation advised)

Inflow Area = 1,167,408 sf, 7.46% Impervious, Inflow Depth = 1.64" for 10 YEAR event  
 Inflow = 7.79 cfs @ 8.01 hrs, Volume= 159,192 cf  
 Outflow = 7.79 cfs @ 8.01 hrs, Volume= 159,192 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 7.79 cfs @ 8.01 hrs, Volume= 159,192 cf

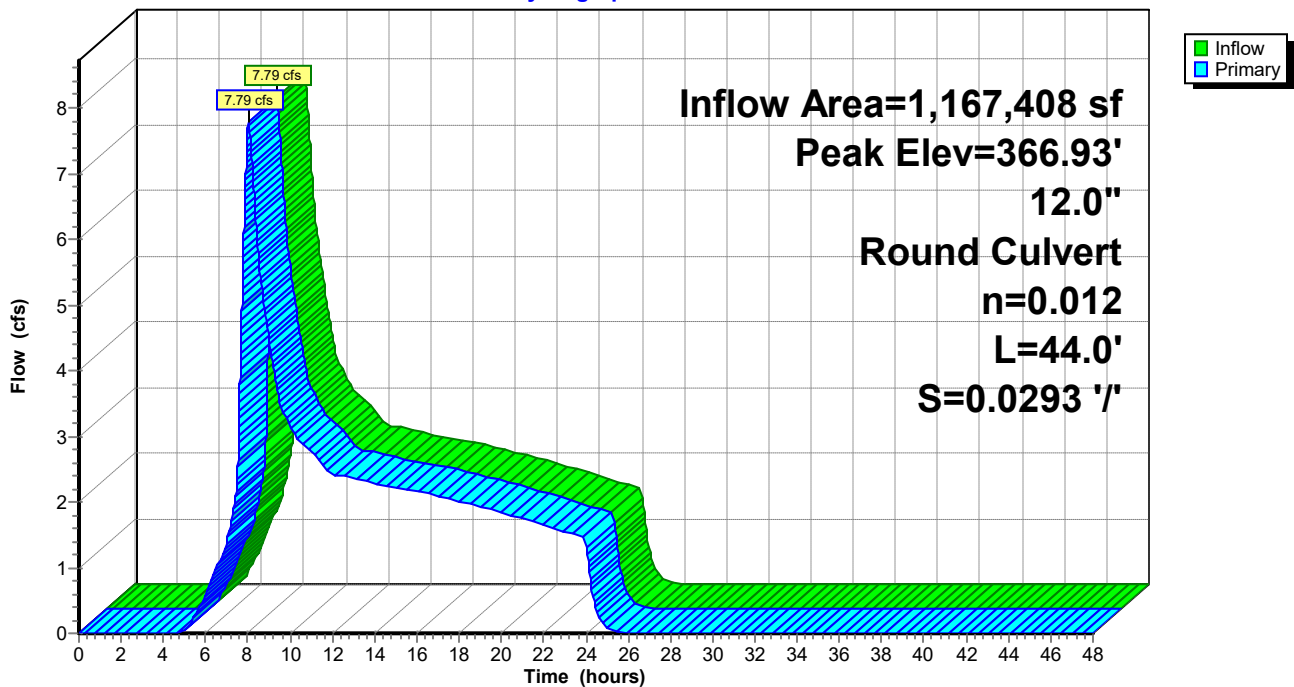
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 366.93' @ 8.01 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 44.0' Ke= 1.000 Inlet / Outlet Invert= 358.89' / 357.60' S= 0.0293 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

**Primary OutFlow** Max=7.79 cfs @ 8.01 hrs HW=366.93' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 7.79 cfs @ 9.91 fps)

### Pond 1P: 12" Existing Pipe

Hydrograph



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment 1S: Pre Dev** Runoff Area=26.800 ac 7.46% Impervious Runoff Depth=2.04"  
Flow Length=1,500' Tc=20.9 min CN=80 Runoff=10.15 cfs 198,621 cf

**Subcatchment 2S: Project Site - PRE** Runoff Area=4,962 sf 0.00% Impervious Runoff Depth=2.37"  
Flow Length=150' Slope=0.1500 '/' Tc=6.8 min CN=84 Runoff=0.07 cfs 980 cf

**Reach 1R: 18" PIPE** Avg. Flow Depth=0.80' Max Vel=10.61 fps Inflow=10.21 cfs 199,602 cf  
18.0" Round Pipe n=0.013 L=312.0' S=0.0301 '/' Capacity=18.23 cfs Outflow=10.20 cfs 199,602 cf

**Pond 1P: 12" Existing Pipe** Peak Elev=372.19' Inflow=10.15 cfs 198,621 cf  
12.0" Round Culvert n=0.012 L=44.0' S=0.0293 '/' Outflow=10.15 cfs 198,621 cf

**Total Runoff Area = 1,172,370 sf Runoff Volume = 199,602 cf Average Runoff Depth = 2.04"**  
**92.57% Pervious = 1,085,250 sf 7.43% Impervious = 87,120 sf**

**Summary for Subcatchment 1S: Pre Dev**

Runoff = 10.15 cfs @ 8.01 hrs, Volume= 198,621 cf, Depth= 2.04"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 25 YEAR Rainfall=4.00"

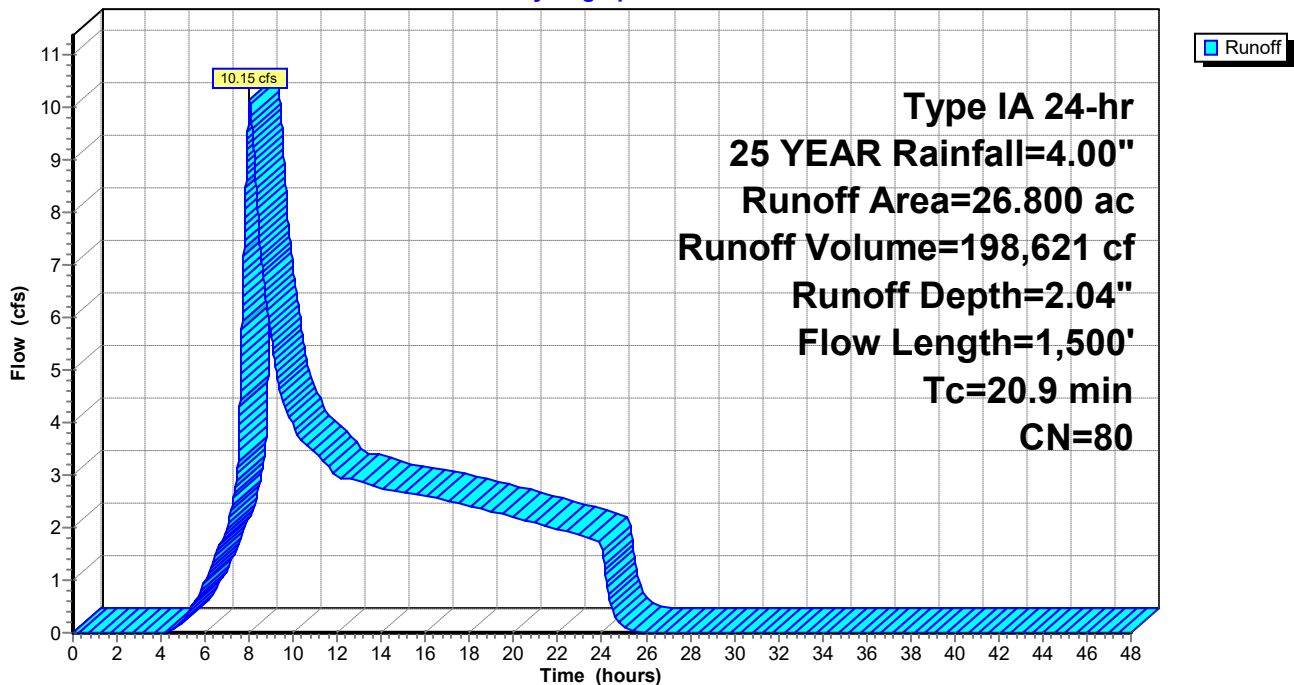
Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
2.000	98	Paved parking, HSG B
2.900	80	>75% Grass cover, Good, HSG D
12.400	80	>75% Grass cover, Good, HSG D
1.000	80	>75% Grass cover, Good, HSG D
7.000	80	>75% Grass cover, Good, HSG D

26.800	80	Weighted Average
24.800	79	92.54% Pervious Area
2.000	98	7.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	300	0.1500	0.42		<b>Sheet Flow, 300-ft</b> Grass: Short n= 0.150 P2= 2.50"
9.0	1,200	0.1000	2.21		<b>Shallow Concentrated Flow, 1200-ft</b> Short Grass Pasture Kv= 7.0 fps
20.9	1,500	Total			

**Subcatchment 1S: Pre Dev**

Hydrograph



**Summary for Subcatchment 2S: Project Site - PRE**

Runoff = 0.07 cfs @ 7.97 hrs, Volume= 980 cf, Depth= 2.37"

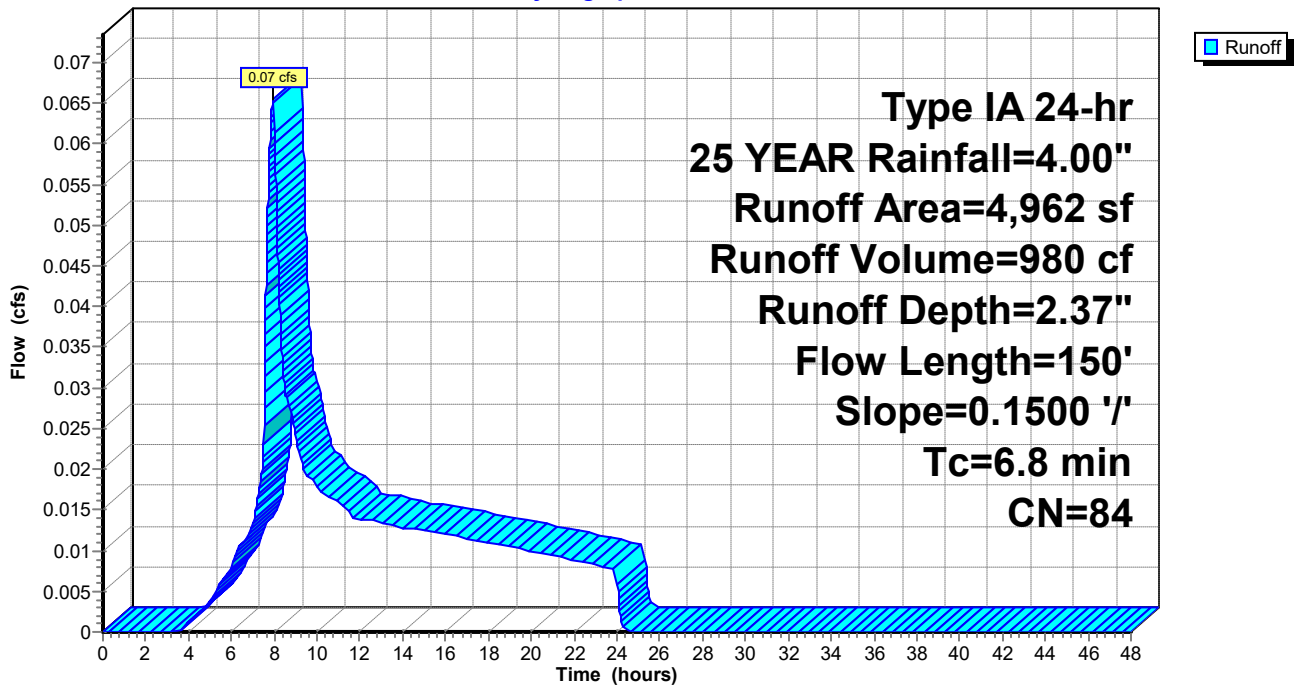
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 25 YEAR Rainfall=4.00"

Area (sf)	CN	Description
4,962	84	Pasture/grassland/range, Fair, HSG D
4,962	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	150	0.1500	0.37		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.50"

**Subcatchment 2S: Project Site - PRE**

Hydrograph





### Summary for Reach 1R: 18" PIPE

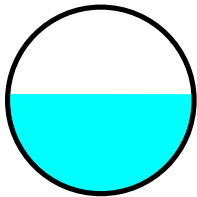
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area =	1,172,370 sf,	7.43% Impervious,	Inflow Depth = 2.04"	for 25 YEAR event
Inflow =	10.21 cfs @	8.01 hrs,	Volume=	199,602 cf
Outflow =	10.20 cfs @	8.01 hrs,	Volume=	199,602 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Max. Velocity= 10.61 fps, Min. Travel Time= 0.5 min  
 Avg. Velocity = 6.23 fps, Avg. Travel Time= 0.8 min

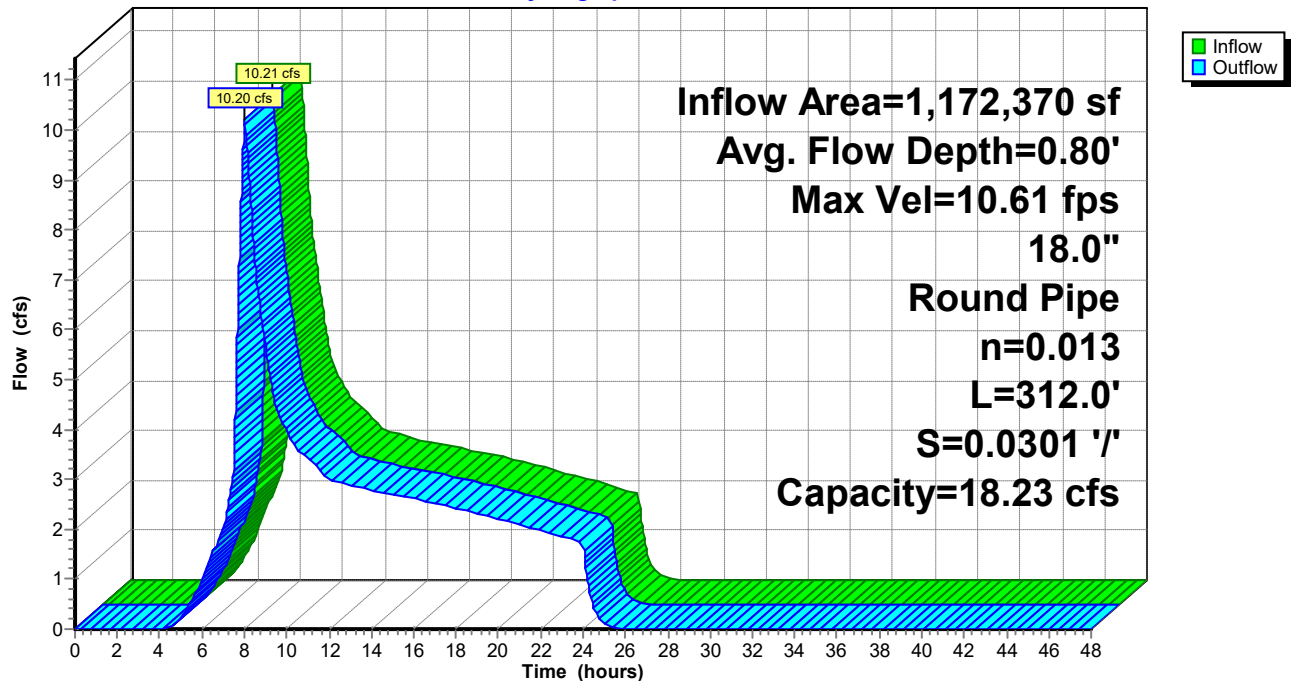
Peak Storage= 300 cf @ 8.01 hrs  
 Average Depth at Peak Storage= 0.80'  
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 18.23 cfs

18.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 312.0' Slope= 0.0301 '/'  
 Inlet Invert= 356.55', Outlet Invert= 347.15'



### Reach 1R: 18" PIPE

Hydrograph



### Summary for Pond 1P: 12" Existing Pipe

[57] Hint: Peaked at 372.19' (Flood elevation advised)

Inflow Area = 1,167,408 sf, 7.46% Impervious, Inflow Depth = 2.04" for 25 YEAR event  
 Inflow = 10.15 cfs @ 8.01 hrs, Volume= 198,621 cf  
 Outflow = 10.15 cfs @ 8.01 hrs, Volume= 198,621 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 10.15 cfs @ 8.01 hrs, Volume= 198,621 cf

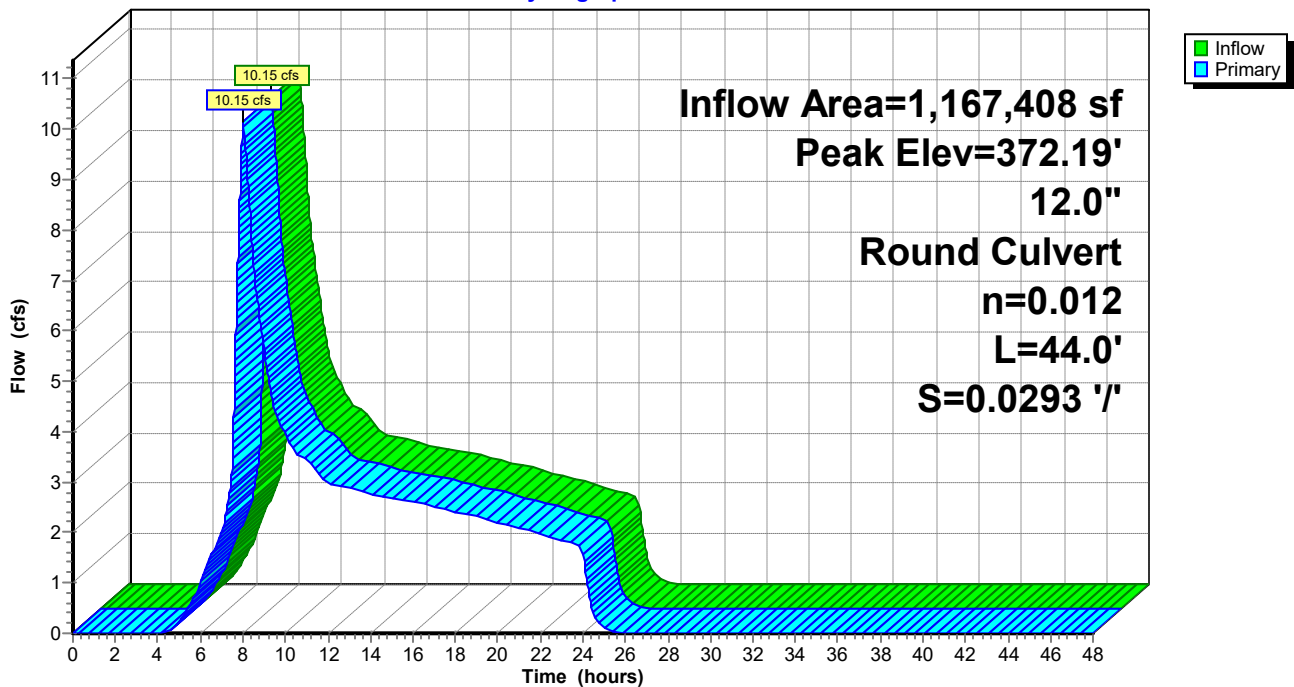
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 372.19' @ 8.01 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 44.0' Ke= 1.000 Inlet / Outlet Invert= 358.89' / 357.60' S= 0.0293 '/ Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

**Primary OutFlow** Max=10.14 cfs @ 8.01 hrs HW=372.18' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 10.14 cfs @ 12.92 fps)

### Pond 1P: 12" Existing Pipe

Hydrograph



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment 1S: Pre Dev**

Runoff Area=26.800 ac 7.46% Impervious Runoff Depth=0.08"  
Flow Length=1,500' Tc=20.9 min CN=80 Runoff=0.18 cfs 8,107 cf

**Subcatchment 2S: Project Site - PRE**

Runoff Area=4,962 sf 0.00% Impervious Runoff Depth=0.15"  
Flow Length=150' Slope=0.1500 '/' Tc=6.8 min CN=84 Runoff=0.00 cfs 63 cf

**Reach 1R: 18" PIPE**

Avg. Flow Depth=0.11' Max Vel=3.30 fps Inflow=0.18 cfs 8,170 cf  
18.0" Round Pipe n=0.013 L=312.0' S=0.0301 '/' Capacity=18.23 cfs Outflow=0.18 cfs 8,170 cf

**Pond 1P: 12" Existing Pipe**

Peak Elev=359.13' Inflow=0.18 cfs 8,107 cf  
12.0" Round Culvert n=0.012 L=44.0' S=0.0293 '/' Outflow=0.18 cfs 8,107 cf

**Total Runoff Area = 1,172,370 sf Runoff Volume = 8,170 cf Average Runoff Depth = 0.08"**  
**92.57% Pervious = 1,085,250 sf 7.43% Impervious = 87,120 sf**

**Summary for Subcatchment 1S: Pre Dev**

Runoff = 0.18 cfs @ 19.11 hrs, Volume= 8,107 cf, Depth= 0.08"

Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr WQ Rainfall=1.00"

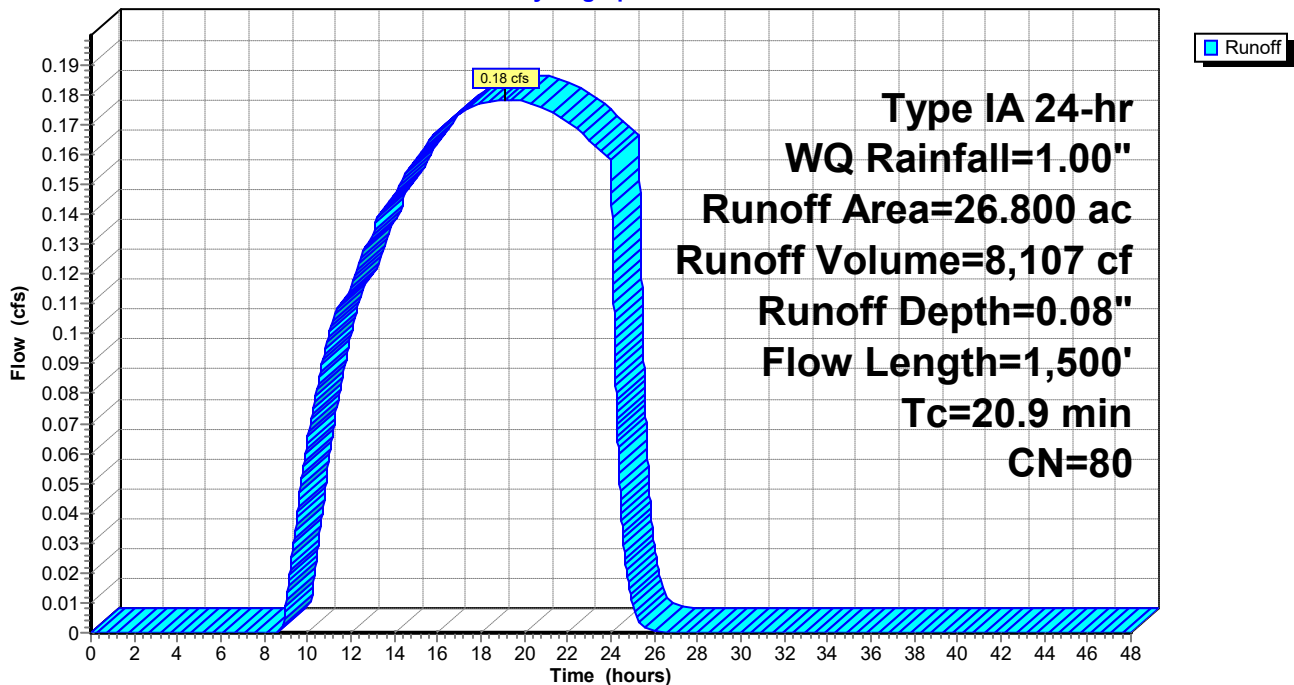
Area (ac)	CN	Description
1.500	61	>75% Grass cover, Good, HSG B
2.000	98	Paved parking, HSG B
2.900	80	>75% Grass cover, Good, HSG D
12.400	80	>75% Grass cover, Good, HSG D
1.000	80	>75% Grass cover, Good, HSG D
7.000	80	>75% Grass cover, Good, HSG D

26.800	80	Weighted Average
24.800	79	92.54% Pervious Area
2.000	98	7.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	300	0.1500	0.42		<b>Sheet Flow, 300-ft</b>
9.0	1,200	0.1000	2.21		Grass: Short n= 0.150 P2= 2.50" <b>Shallow Concentrated Flow, 1200-ft</b>
20.9	1,500	Total			Short Grass Pasture Kv= 7.0 fps

**Subcatchment 1S: Pre Dev**

Hydrograph



**Summary for Subcatchment 2S: Project Site - PRE**

Runoff = 0.00 cfs @ 16.66 hrs, Volume= 63 cf, Depth= 0.15"

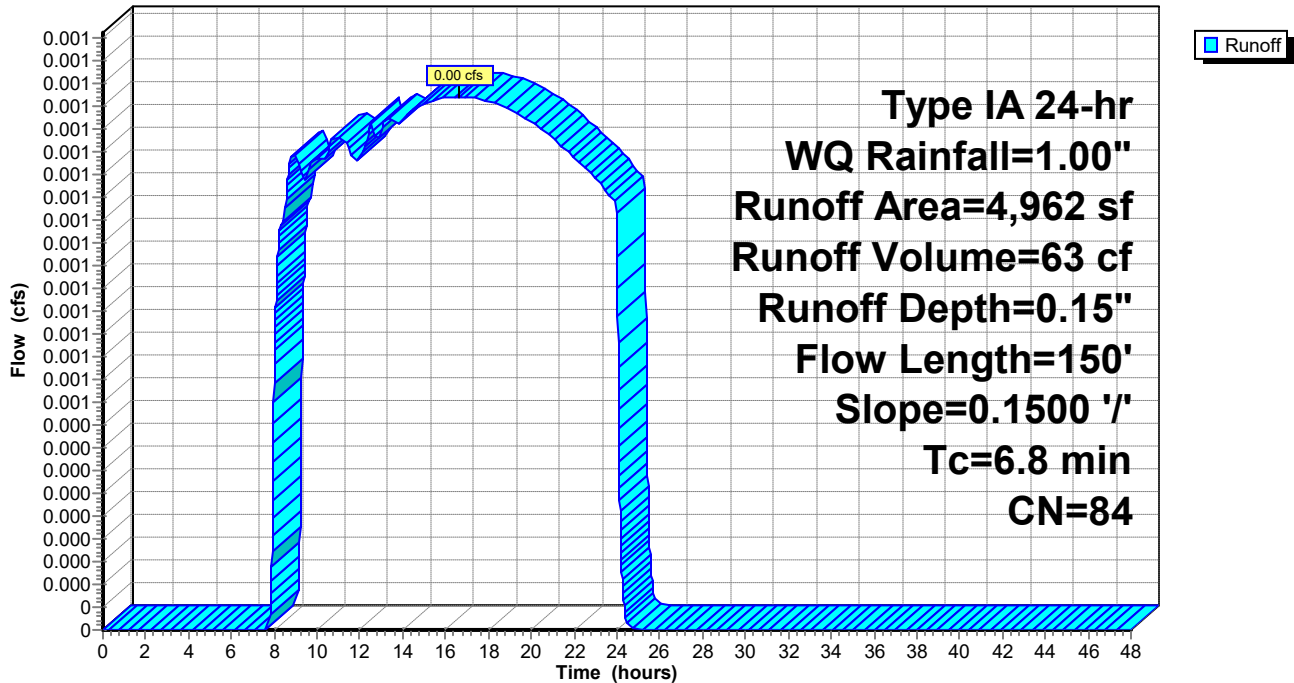
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
4,962	84	Pasture/grassland/range, Fair, HSG D
4,962	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	150	0.1500	0.37		<b>Sheet Flow,</b> Grass: Short n= 0.150 P2= 2.50"

**Subcatchment 2S: Project Site - PRE**

Hydrograph



### Summary for Reach 1R: 18" PIPE

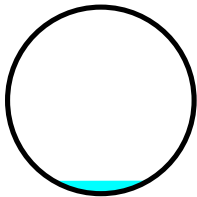
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 1,172,370 sf, 7.43% Impervious, Inflow Depth = 0.08" for WQ event  
 Inflow = 0.18 cfs @ 19.10 hrs, Volume= 8,170 cf  
 Outflow = 0.18 cfs @ 19.12 hrs, Volume= 8,170 cf, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Max. Velocity= 3.30 fps, Min. Travel Time= 1.6 min  
 Avg. Velocity = 2.71 fps, Avg. Travel Time= 1.9 min

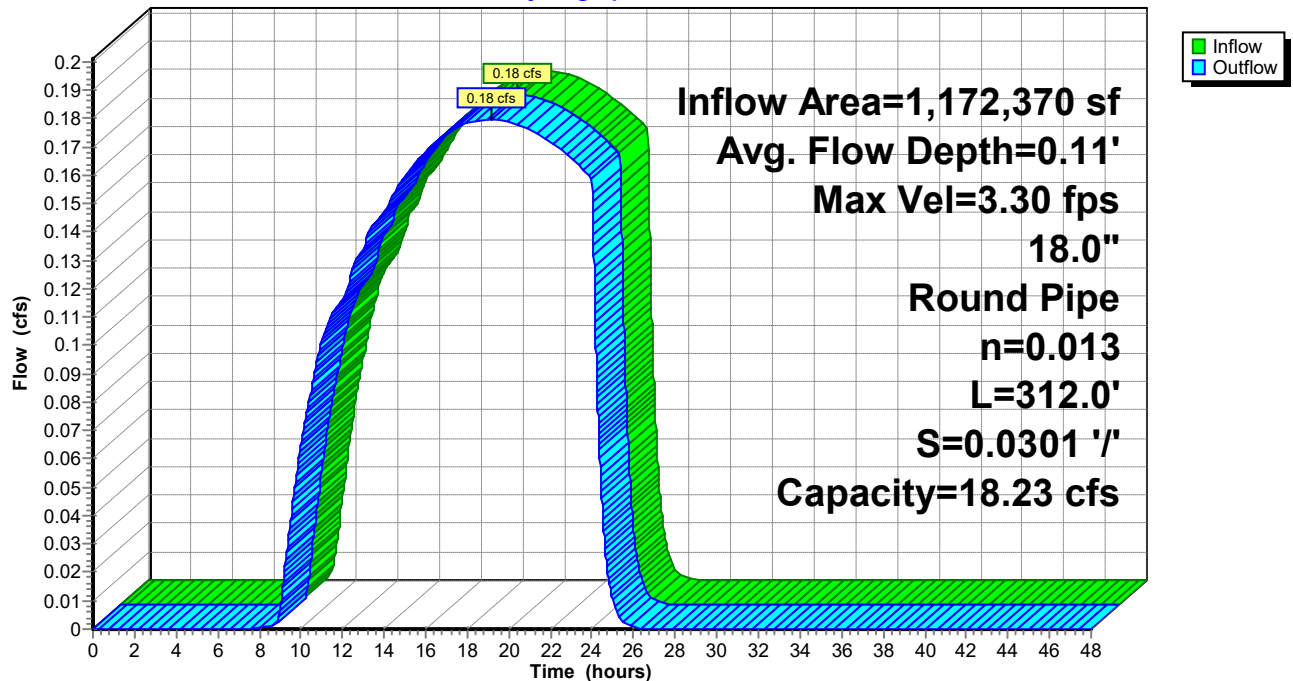
Peak Storage= 17 cf @ 19.12 hrs  
 Average Depth at Peak Storage= 0.11'  
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 18.23 cfs

18.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 312.0' Slope= 0.0301 '/'  
 Inlet Invert= 356.55', Outlet Invert= 347.15'



### Reach 1R: 18" PIPE

Hydrograph





### Summary for Pond 1P: 12" Existing Pipe

[57] Hint: Peaked at 359.13' (Flood elevation advised)

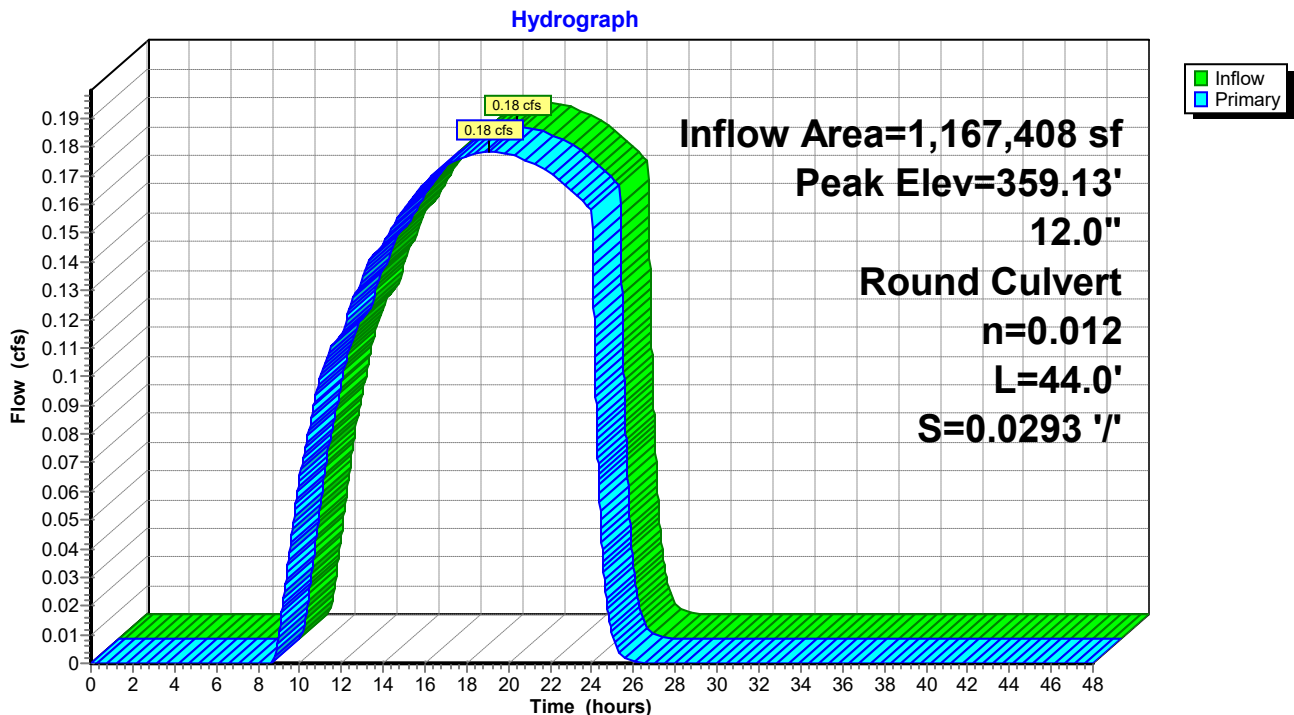
Inflow Area = 1,167,408 sf, 7.46% Impervious, Inflow Depth = 0.08" for WQ event  
 Inflow = 0.18 cfs @ 19.11 hrs, Volume= 8,107 cf  
 Outflow = 0.18 cfs @ 19.11 hrs, Volume= 8,107 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.18 cfs @ 19.11 hrs, Volume= 8,107 cf

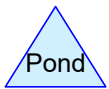
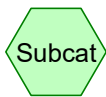
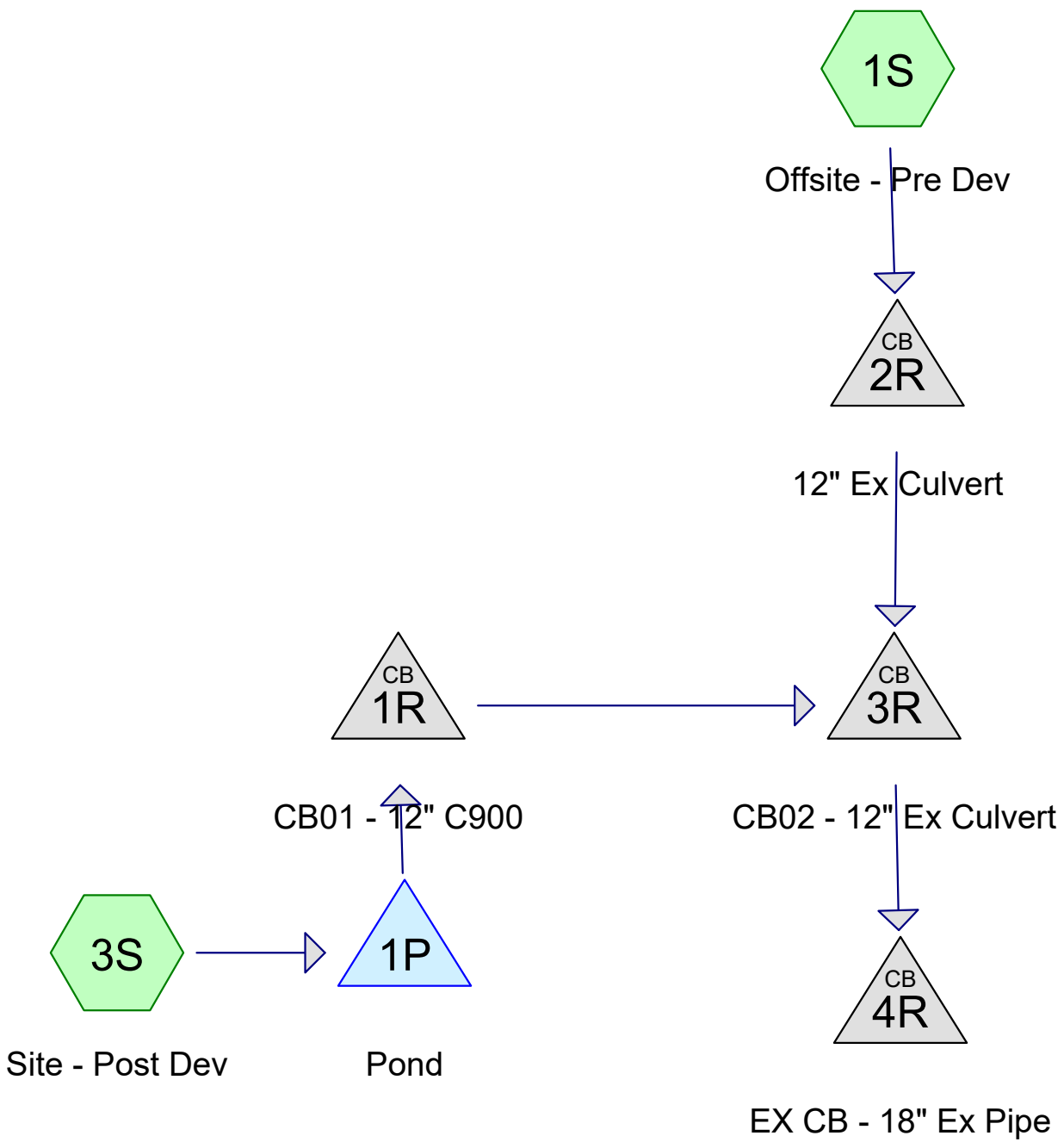
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.13' @ 19.11 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 44.0' Ke= 1.000 Inlet / Outlet Invert= 358.89' / 357.60' S= 0.0293 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.18 cfs @ 19.11 hrs HW=359.13' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 0.18 cfs @ 1.25 fps)

### Pond 1P: 12" Existing Pipe





**Routing Diagram for 7936 Post Dev - 20220223**  
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**7936 Post Dev - 20220223**

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**Area Listing (all nodes)**

Area (sq-ft)	CN	Description (subcatchment-numbers)
3,141	98	(3S)
1,821	80	>75% Grass cover, Good, HSG D (3S)
348,480	82	Woods/grass comb., Fair, HSG D (1S)
566,280	72	Woods/grass comb., Good, HSG C (1S)
<b>919,722</b>	<b>76</b>	<b>TOTAL AREA</b>

**7936 Post Dev - 20220223**

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**Soil Listing (all nodes)**

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
566,280	HSG C	1S
350,301	HSG D	1S, 3S
3,141	Other	3S
<b>919,722</b>		<b>TOTAL AREA</b>

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**Ground Covers (all nodes)**

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	0	0	3,141	3,141	
0	0	0	1,821	0	1,821	>75% Grass cover, Good
0	0	0	348,480	0	348,480	Woods/grass comb., Fair
0	0	566,280	0	0	566,280	Woods/grass comb., Good
<b>0</b>	<b>0</b>	<b>566,280</b>	<b>350,301</b>	<b>3,141</b>	<b>919,722</b>	<b>TOTAL AREA</b>

**7936 Post Dev - 20220223**

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**Pipe Listing (all nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	358.75	358.68	15.0	0.0047	0.013	12.0	0.0	0.0
2	1R	358.36	357.96	81.2	0.0049	0.013	12.0	0.0	0.0
3	2R	358.89	357.86	35.0	0.0294	0.013	12.0	0.0	0.0
4	3R	357.86	357.60	9.0	0.0289	0.013	12.0	0.0	0.0
5	4R	357.47	356.65	112.0	0.0073	0.013	18.0	0.0	0.0



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment1S: Offsite - Pre Dev** Runoff Area=21.000 ac 0.00% Impervious Runoff Depth=0.10"  
Flow Length=1,450' Tc=46.4 min CN=76 Runoff=0.17 cfs 7,720 cf

**Subcatchment3S: Site - Post Dev** Runoff Area=4,962 sf 63.30% Impervious Runoff Depth=0.54"  
Tc=5.0 min CN=91 Runoff=0.01 cfs 224 cf

**Pond 1P: Pond** Peak Elev=360.11' Storage=14 cf Inflow=0.01 cfs 224 cf  
Outflow=0.01 cfs 224 cf

**Pond 1R: CB01 - 12" C900** Peak Elev=358.41' Inflow=0.01 cfs 224 cf  
12.0" Round Culvert n=0.013 L=81.2' S=0.0049 '/' Outflow=0.01 cfs 224 cf

**Pond 2R: 12" Ex Culvert** Peak Elev=359.09' Inflow=0.17 cfs 7,720 cf  
12.0" Round Culvert n=0.013 L=35.0' S=0.0294 '/' Outflow=0.17 cfs 7,720 cf

**Pond 3R: CB02 - 12" Ex Culvert** Peak Elev=358.06' Inflow=0.17 cfs 7,944 cf  
12.0" Round Culvert n=0.013 L=9.0' S=0.0289 '/' Outflow=0.17 cfs 7,944 cf

**Pond 4R: EX CB - 18" Ex Pipe** Peak Elev=357.67' Inflow=0.17 cfs 7,944 cf  
18.0" Round Culvert n=0.013 L=112.0' S=0.0073 '/' Outflow=0.17 cfs 7,944 cf

**Total Runoff Area = 919,722 sf Runoff Volume = 7,944 cf Average Runoff Depth = 0.10"**  
**99.66% Pervious = 916,581 sf 0.34% Impervious = 3,141 sf**

**Summary for Subcatchment 1S: Offsite - Pre Dev**

Runoff = 0.17 cfs @ 19.66 hrs, Volume= 7,720 cf, Depth= 0.10"

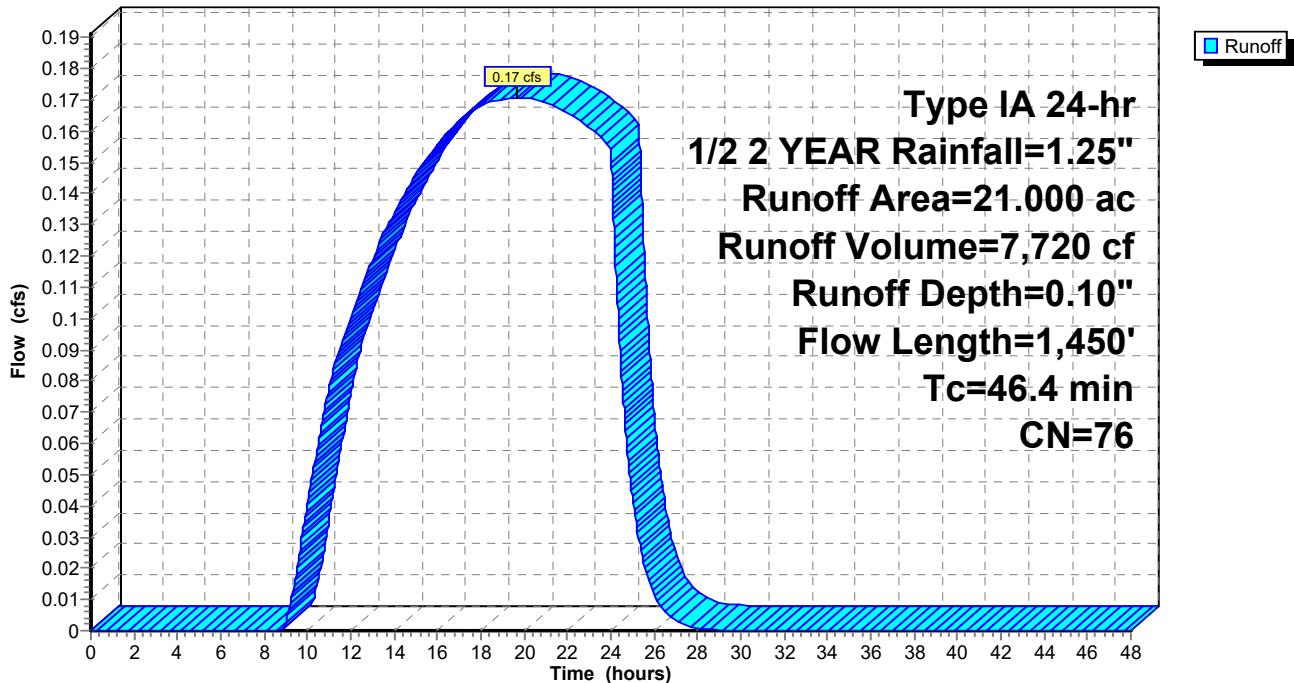
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

Area (ac)	CN	Description
8.000	82	Woods/grass comb., Fair, HSG D
13.000	72	Woods/grass comb., Good, HSG C
21.000	76	Weighted Average
21.000	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.6	300	0.2000	0.12		<b>Sheet Flow, 300-ft</b> Woods: Dense underbrush n= 0.800 P2= 2.50"
2.6	300	0.1500	1.94		<b>Shallow Concentrated Flow, Shallow Concentrated</b> Woodland Kv= 5.0 fps
3.2	850	0.1000	4.45	44.48	<b>Parabolic Channel,</b> W=15.00' D=1.00' Area=10.0 sf Perim=15.2' n= 0.080 Earth, long dense weeds
46.4	1,450	Total			

**Subcatchment 1S: Offsite - Pre Dev**

Hydrograph



**Summary for Subcatchment 3S: Site - Post Dev**

Runoff = 0.01 cfs @ 7.99 hrs, Volume= 224 cf, Depth= 0.54"

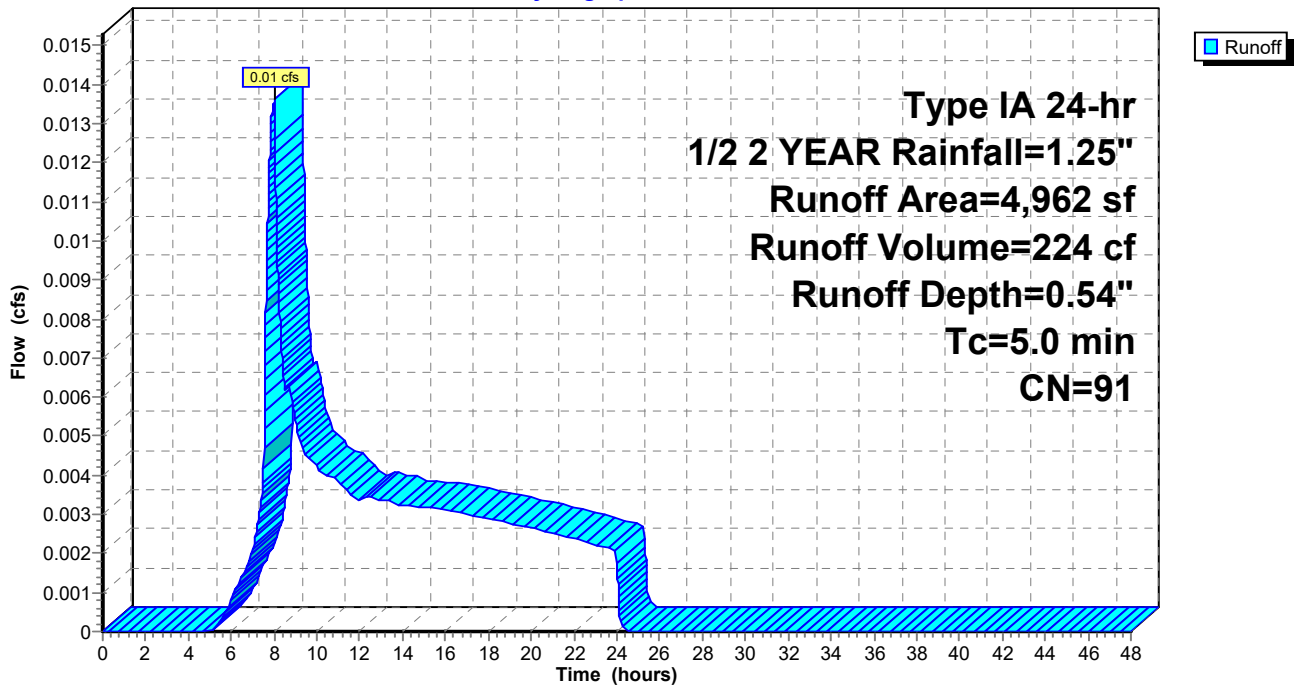
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

Area (sf)	CN	Description
1,821	80	>75% Grass cover, Good, HSG D
* 3,141	98	
4,962	91	Weighted Average
1,821	80	36.70% Pervious Area
3,141	98	63.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

**Subcatchment 3S: Site - Post Dev**

Hydrograph



**Summary for Pond 1P: Pond**

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=644)

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 0.54" for 1/2 2 YEAR event  
 Inflow = 0.01 cfs @ 7.99 hrs, Volume= 224 cf  
 Outflow = 0.01 cfs @ 8.67 hrs, Volume= 224 cf, Atten= 54%, Lag= 40.5 min  
 Primary = 0.01 cfs @ 8.67 hrs, Volume= 224 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.11' @ 8.67 hrs Surf.Area= 136 sf Storage= 14 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 8.5 min ( 830.7 - 822.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	431 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
360.00	112	0	0
360.50	217	82	82
361.50	481	349	431

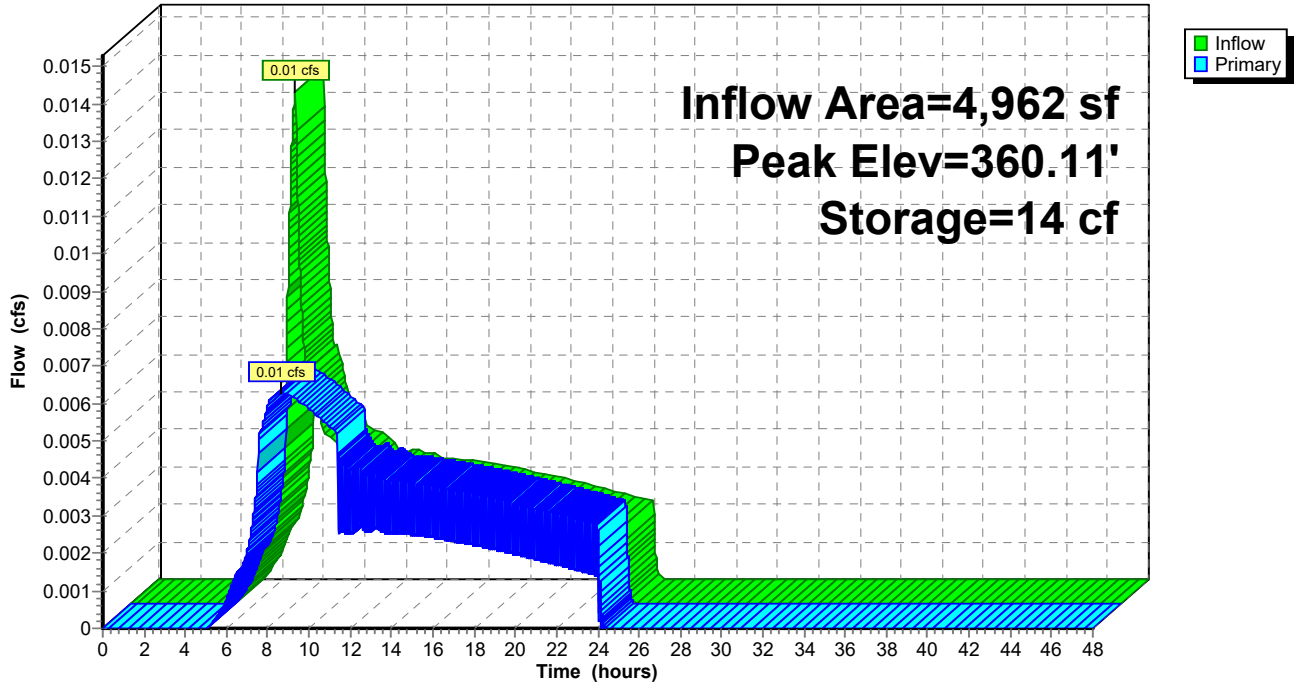
Device	Routing	Invert	Outlet Devices
#1	Primary	358.75'	<b>12.0" Round Outlet Pipe</b> L= 15.0' Ke= 1.000 Inlet / Outlet Invert= 358.75' / 358.68' S= 0.0047 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	358.75'	<b>0.9" Horiz. Orifice/Grate</b> C= 0.620
#3	Device 2	360.25'	<b>2.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 2	360.00'	<b>2.000 in/hr Exfiltration over Surface area</b>
#5	Device 1	360.65'	<b>8.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.01 cfs @ 8.67 hrs HW=360.11' TW=358.41' (Dynamic Tailwater)

- 1=Outlet Pipe (Passes 0.01 cfs of 2.63 cfs potential flow)
- 2=Orifice/Grate (Passes 0.01 cfs of 0.03 cfs potential flow)
- 3=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)
- 4=Exfiltration (Exfiltration Controls 0.01 cfs)
- 5=Orifice/Grate ( Controls 0.00 cfs)

### Pond 1P: Pond

Hydrograph



**Summary for Pond 1R: CB01 - 12" C900**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 0.54" for 1/2 2 YEAR event  
 Inflow = 0.01 cfs @ 8.67 hrs, Volume= 224 cf  
 Outflow = 0.01 cfs @ 8.67 hrs, Volume= 224 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.01 cfs @ 8.67 hrs, Volume= 224 cf

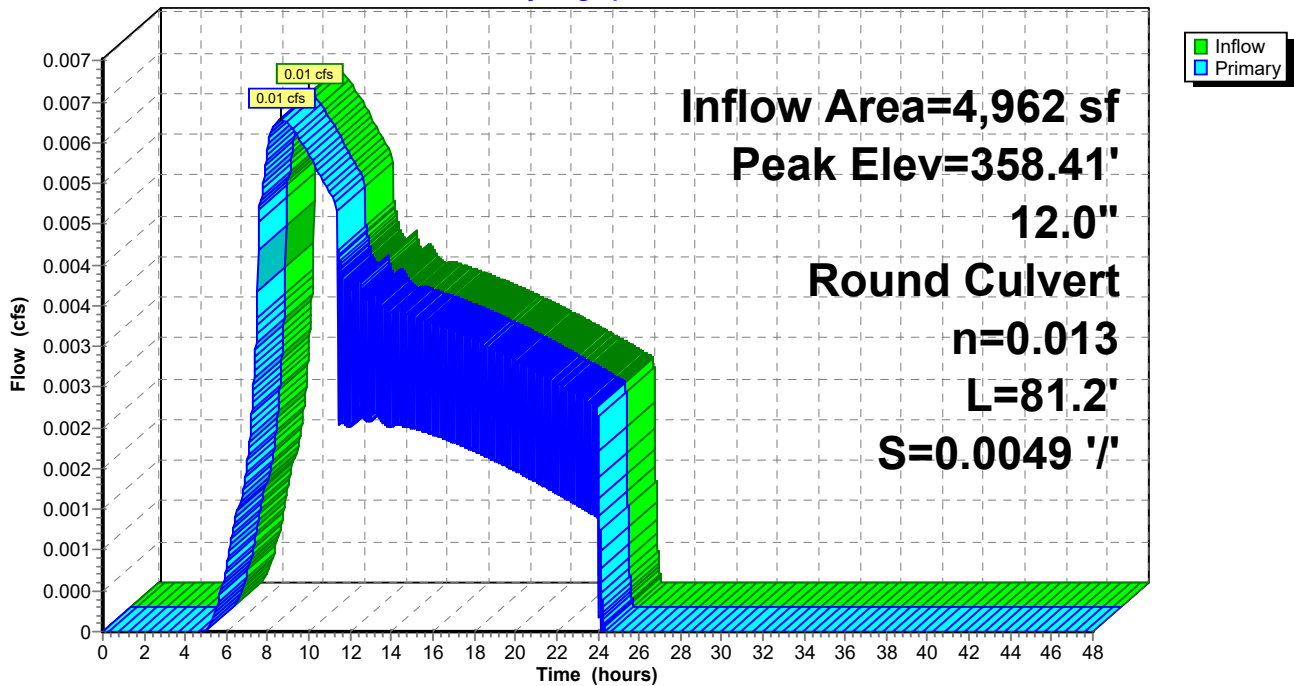
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.41' @ 8.67 hrs  
 Flood Elev= 361.57'

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.36'	<b>12.0" Round Culvert</b> L= 81.2' Ke= 0.500 Inlet / Outlet Invert= 358.36' / 357.96' S= 0.0049 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.01 cfs @ 8.67 hrs HW=358.41' TW=357.90' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 0.01 cfs @ 0.67 fps)

**Pond 1R: CB01 - 12" C900**

Hydrograph





**Summary for Pond 2R: 12" Ex Culvert**

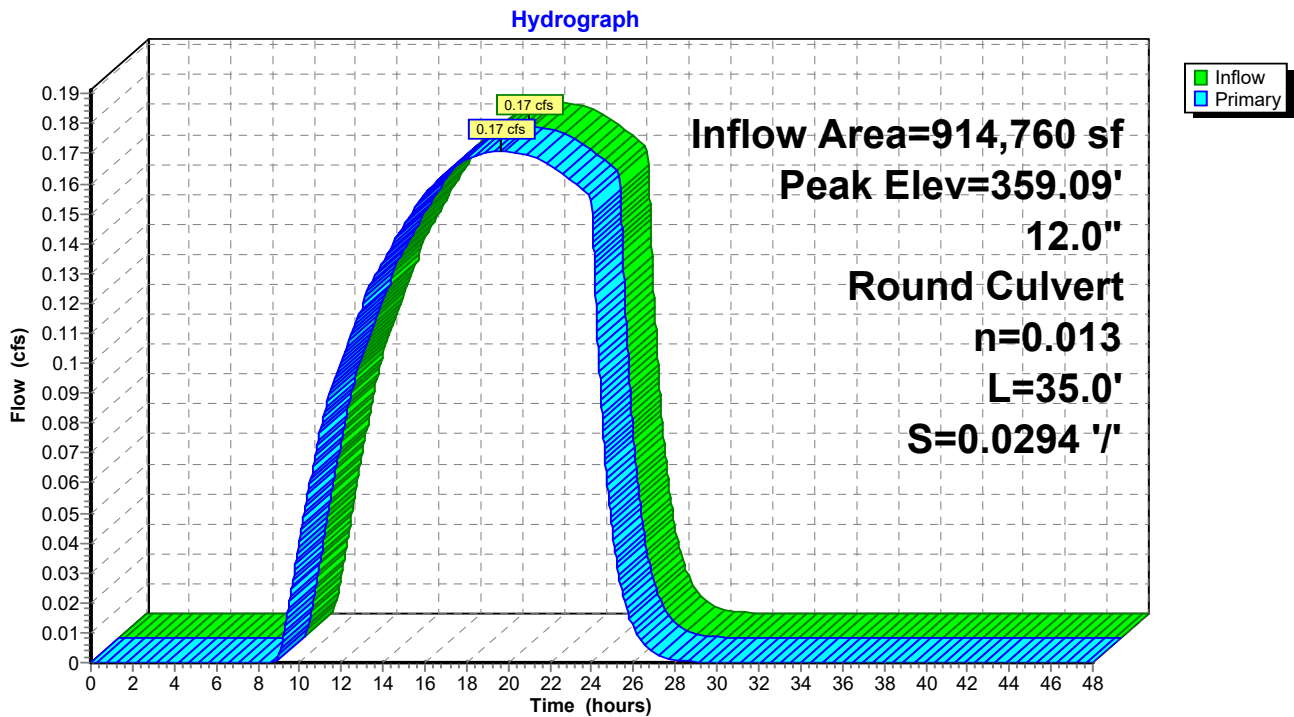
Inflow Area = 914,760 sf, 0.00% Impervious, Inflow Depth = 0.10" for 1/2 2 YEAR event  
 Inflow = 0.17 cfs @ 19.66 hrs, Volume= 7,720 cf  
 Outflow = 0.17 cfs @ 19.65 hrs, Volume= 7,720 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.17 cfs @ 19.65 hrs, Volume= 7,720 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.09' @ 19.65 hrs  
 Flood Elev= 361.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 35.0' Ke= 0.500 Inlet / Outlet Invert= 358.89' / 357.86' S= 0.0294 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.17 cfs @ 19.65 hrs HW=359.09' TW=358.06' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 0.17 cfs @ 1.52 fps)

**Pond 2R: 12" Ex Culvert**



**Summary for Pond 3R: CB02 - 12" Ex Culvert**

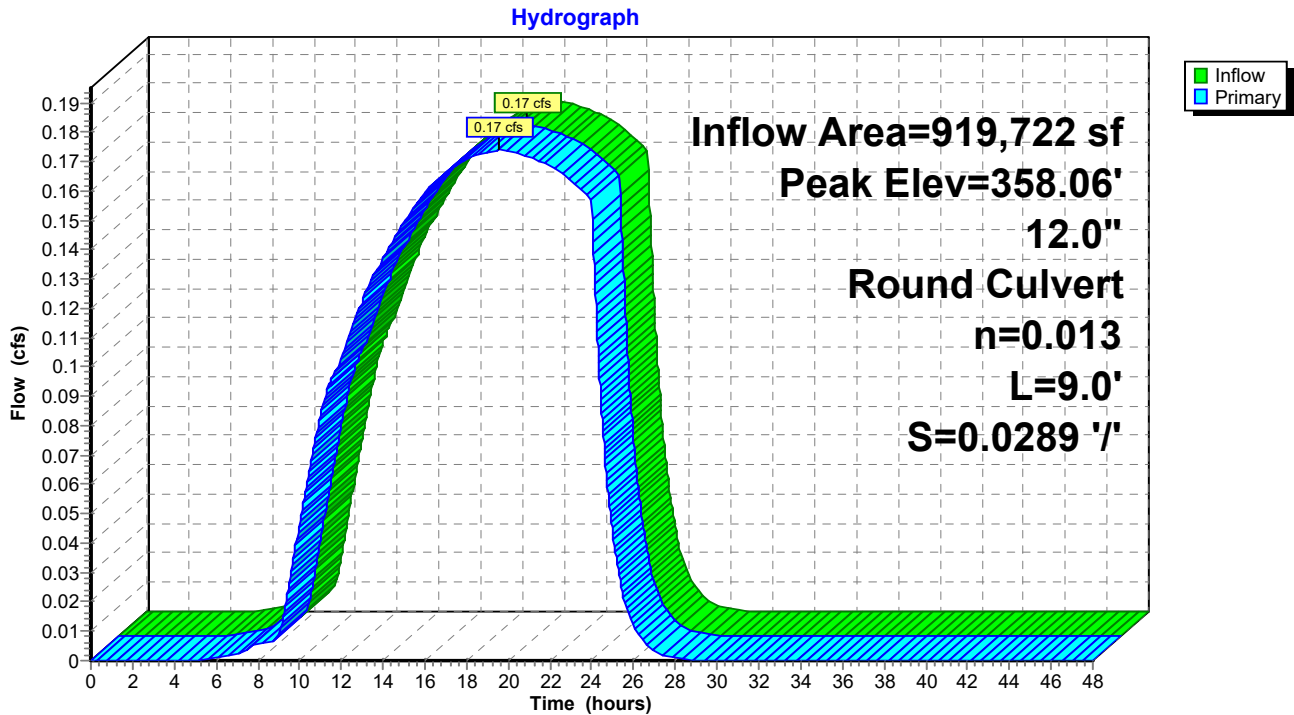
Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 0.10" for 1/2 2 YEAR event  
 Inflow = 0.17 cfs @ 19.59 hrs, Volume= 7,944 cf  
 Outflow = 0.17 cfs @ 19.59 hrs, Volume= 7,944 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.17 cfs @ 19.59 hrs, Volume= 7,944 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.06' @ 19.59 hrs  
 Flood Elev= 360.55'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.86'	<b>12.0" Round Culvert</b> L= 9.0' Ke= 0.500 Inlet / Outlet Invert= 357.86' / 357.60' S= 0.0289 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.17 cfs @ 19.59 hrs HW=358.06' TW=357.67' (Dynamic Tailwater)  
 ←1=Culvert (Inlet Controls 0.17 cfs @ 1.53 fps)

**Pond 3R: CB02 - 12" Ex Culvert**



**Summary for Pond 4R: EX CB - 18" Ex Pipe**

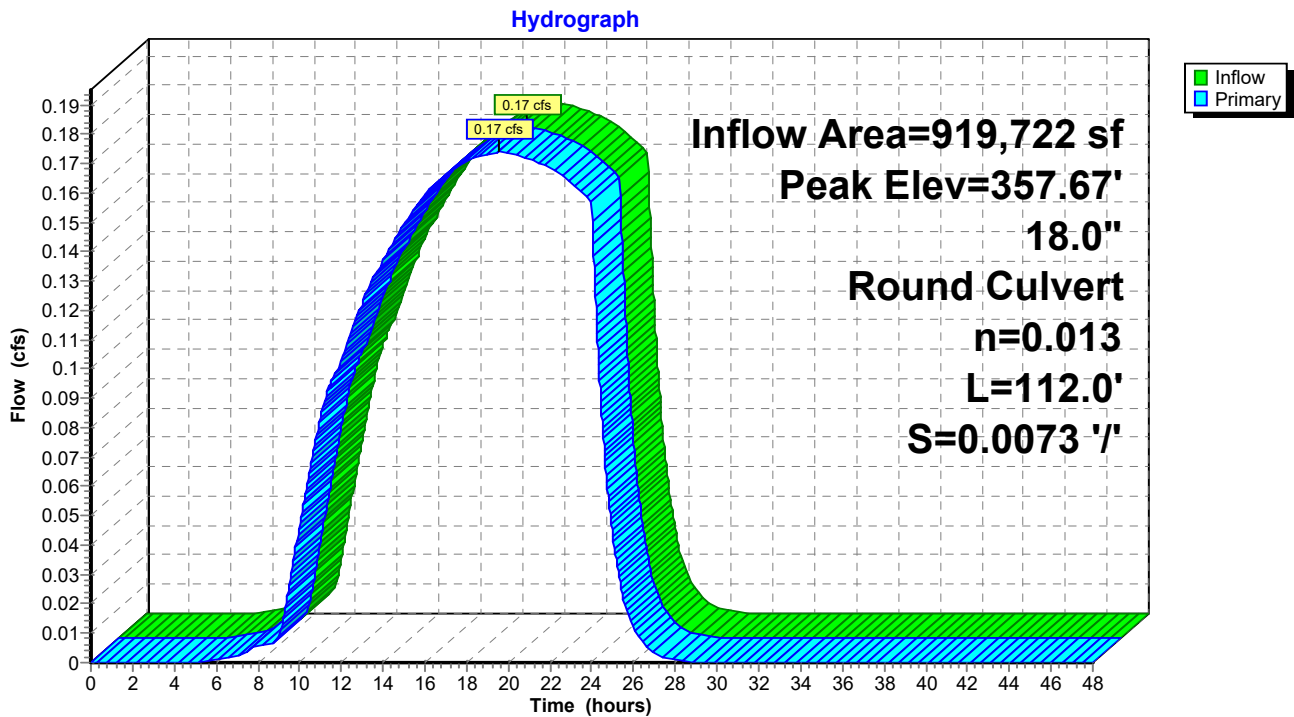
Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 0.10" for 1/2 2 YEAR event  
 Inflow = 0.17 cfs @ 19.59 hrs, Volume= 7,944 cf  
 Outflow = 0.17 cfs @ 19.59 hrs, Volume= 7,944 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.17 cfs @ 19.59 hrs, Volume= 7,944 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 357.67' @ 19.59 hrs  
 Flood Elev= 360.52'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.47'	<b>18.0" Round Culvert</b> L= 112.0' Ke= 0.500 Inlet / Outlet Invert= 357.47' / 356.65' S= 0.0073 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=0.17 cfs @ 19.59 hrs HW=357.67' (Free Discharge)  
 ↳ 1=Culvert (Barrel Controls 0.17 cfs @ 1.96 fps)

**Pond 4R: EX CB - 18" Ex Pipe**



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment1S: Offsite - Pre Dev** Runoff Area=21.000 ac 0.00% Impervious Runoff Depth=0.69"  
Flow Length=1,450' Tc=46.4 min CN=76 Runoff=1.26 cfs 52,945 cf

**Subcatchment3S: Site - Post Dev** Runoff Area=4,962 sf 63.30% Impervious Runoff Depth=1.61"  
Tc=5.0 min CN=91 Runoff=0.05 cfs 666 cf

**Pond 1P: Pond** Peak Elev=360.40' Storage=61 cf Inflow=0.05 cfs 666 cf  
Outflow=0.03 cfs 666 cf

**Pond 1R: CB01 - 12" C900** Peak Elev=358.52' Inflow=0.03 cfs 666 cf  
12.0" Round Culvert n=0.013 L=81.2' S=0.0049 '/' Outflow=0.03 cfs 666 cf

**Pond 2R: 12" Ex Culvert** Peak Elev=359.48' Inflow=1.26 cfs 52,945 cf  
12.0" Round Culvert n=0.013 L=35.0' S=0.0294 '/' Outflow=1.26 cfs 52,945 cf

**Pond 3R: CB02 - 12" Ex Culvert** Peak Elev=358.46' Inflow=1.28 cfs 53,611 cf  
12.0" Round Culvert n=0.013 L=9.0' S=0.0289 '/' Outflow=1.28 cfs 53,611 cf

**Pond 4R: EX CB - 18" Ex Pipe** Peak Elev=358.00' Inflow=1.28 cfs 53,611 cf  
18.0" Round Culvert n=0.013 L=112.0' S=0.0073 '/' Outflow=1.28 cfs 53,611 cf

**Total Runoff Area = 919,722 sf Runoff Volume = 53,611 cf Average Runoff Depth = 0.70"**  
**99.66% Pervious = 916,581 sf 0.34% Impervious = 3,141 sf**

**Summary for Subcatchment 1S: Offsite - Pre Dev**

Runoff = 1.26 cfs @ 8.79 hrs, Volume= 52,945 cf, Depth= 0.69"

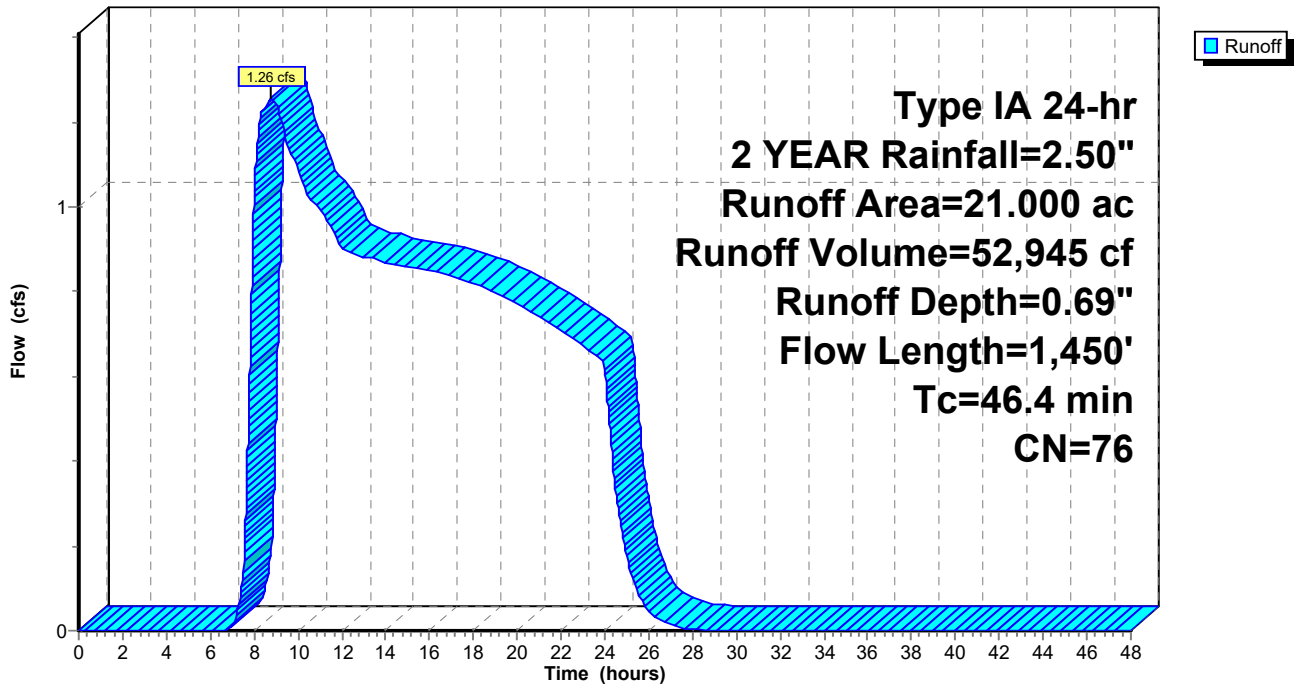
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 2 YEAR Rainfall=2.50"

Area (ac)	CN	Description
8.000	82	Woods/grass comb., Fair, HSG D
13.000	72	Woods/grass comb., Good, HSG C
21.000	76	Weighted Average
21.000	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.6	300	0.2000	0.12		<b>Sheet Flow, 300-ft</b> Woods: Dense underbrush n= 0.800 P2= 2.50"
2.6	300	0.1500	1.94		<b>Shallow Concentrated Flow, Shallow Concentrated</b> Woodland Kv= 5.0 fps
3.2	850	0.1000	4.45	44.48	<b>Parabolic Channel,</b> W=15.00' D=1.00' Area=10.0 sf Perim=15.2' n= 0.080 Earth, long dense weeds
46.4	1,450	Total			

**Subcatchment 1S: Offsite - Pre Dev**

Hydrograph



**Summary for Subcatchment 3S: Site - Post Dev**

Runoff = 0.05 cfs @ 7.93 hrs, Volume= 666 cf, Depth= 1.61"

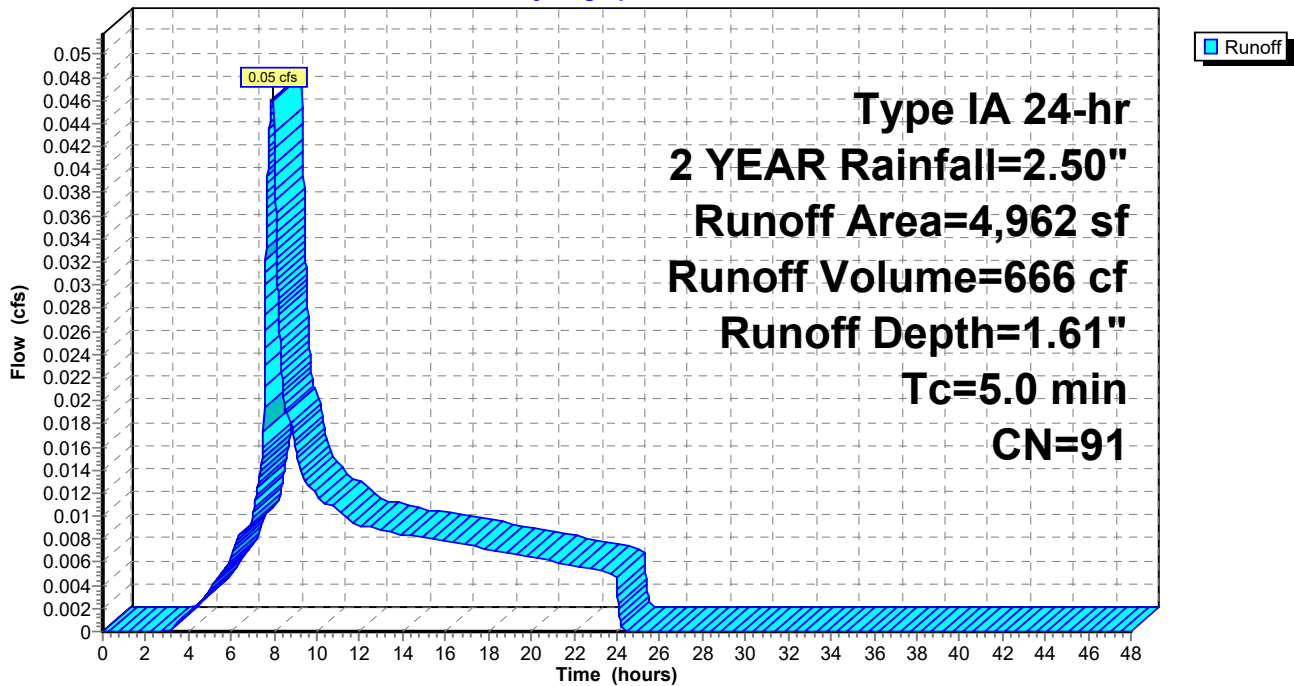
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 2 YEAR Rainfall=2.50"

Area (sf)	CN	Description
1,821	80	>75% Grass cover, Good, HSG D
* 3,141	98	
4,962	91	Weighted Average
1,821	80	36.70% Pervious Area
3,141	98	63.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

**Subcatchment 3S: Site - Post Dev**

Hydrograph





**Summary for Pond 1P: Pond**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 1.61" for 2 YEAR event  
 Inflow = 0.05 cfs @ 7.93 hrs, Volume= 666 cf  
 Outflow = 0.03 cfs @ 8.20 hrs, Volume= 666 cf, Atten= 39%, Lag= 16.2 min  
 Primary = 0.03 cfs @ 8.20 hrs, Volume= 666 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.40' @ 8.20 hrs Surf.Area= 196 sf Storage= 61 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 50.2 min ( 807.3 - 757.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	431 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
360.00	112	0	0
360.50	217	82	82
361.50	481	349	431

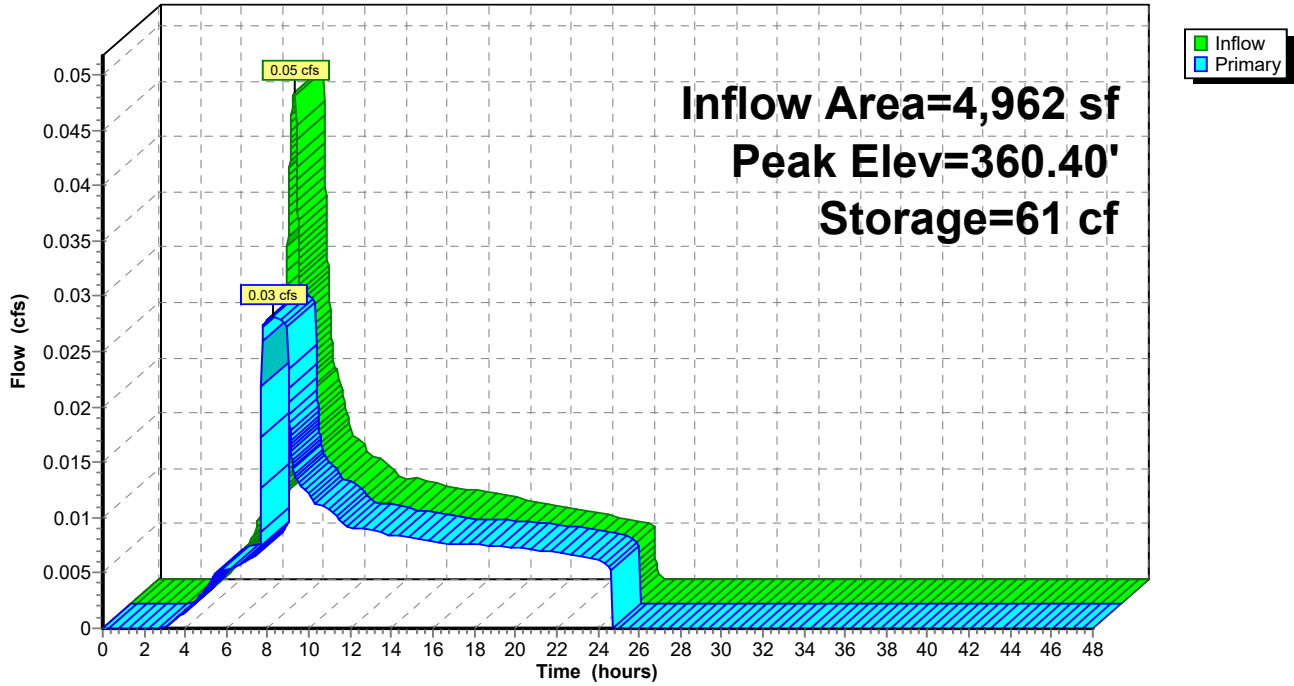
Device	Routing	Invert	Outlet Devices
#1	Primary	358.75'	<b>12.0" Round Outlet Pipe</b> L= 15.0' Ke= 1.000 Inlet / Outlet Invert= 358.75' / 358.68' S= 0.0047 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	358.75'	<b>0.9" Horiz. Orifice/Grate</b> C= 0.620
#3	Device 2	360.25'	<b>2.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 2	360.00'	<b>2.000 in/hr Exfiltration over Surface area</b>
#5	Device 1	360.65'	<b>8.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.03 cfs @ 8.20 hrs HW=360.40' TW=358.51' (Dynamic Tailwater)

- 1=Outlet Pipe (Passes 0.03 cfs of 3.04 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.03 cfs @ 6.39 fps)
- 3=Broad-Crested Rectangular Weir (Passes < 0.32 cfs potential flow)
- 4=Exfiltration (Passes < 0.01 cfs potential flow)
- 5=Orifice/Grate ( Controls 0.00 cfs)

### Pond 1P: Pond

Hydrograph



**Summary for Pond 1R: CB01 - 12" C900**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 1.61" for 2 YEAR event  
 Inflow = 0.03 cfs @ 8.20 hrs, Volume= 666 cf  
 Outflow = 0.03 cfs @ 8.20 hrs, Volume= 666 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.03 cfs @ 8.20 hrs, Volume= 666 cf

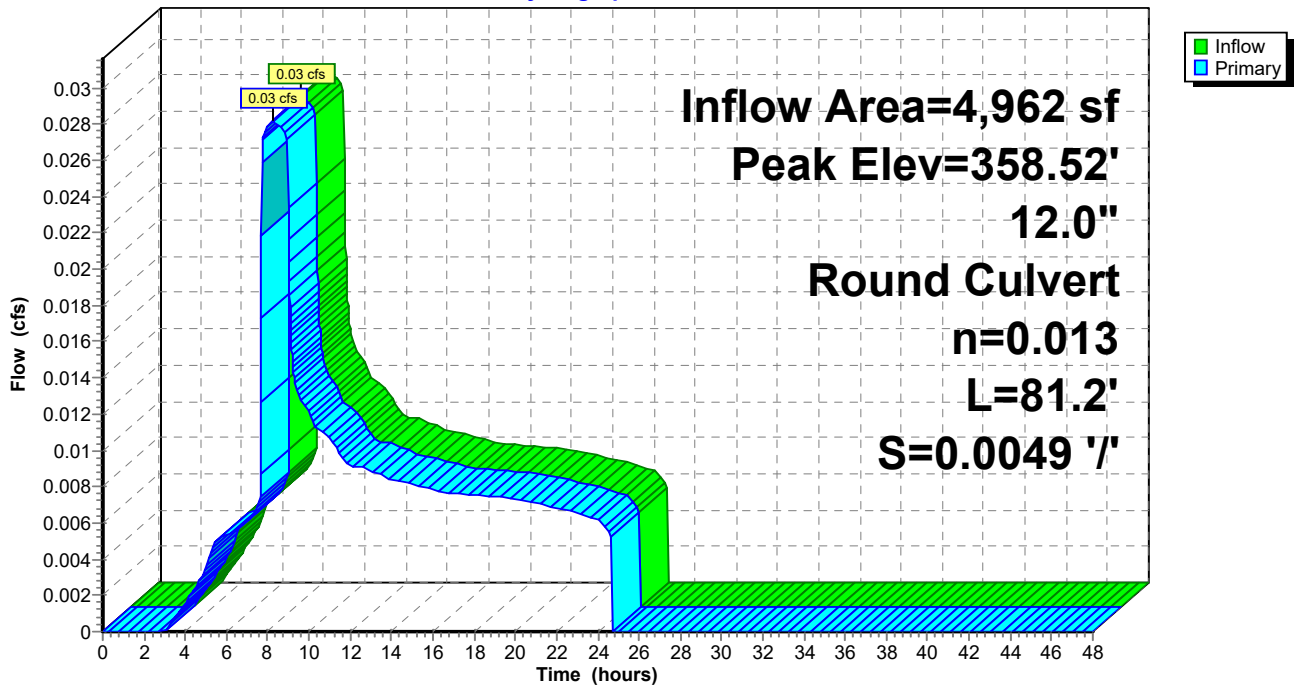
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.52' @ 8.75 hrs  
 Flood Elev= 361.57'

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.36'	<b>12.0" Round Culvert</b> L= 81.2' Ke= 0.500 Inlet / Outlet Invert= 358.36' / 357.96' S= 0.0049 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.03 cfs @ 8.20 hrs HW=358.51' TW=358.44' (Dynamic Tailwater)  
 ↑1=Culvert (Outlet Controls 0.03 cfs @ 0.57 fps)

**Pond 1R: CB01 - 12" C900**

Hydrograph



**Summary for Pond 2R: 12" Ex Culvert**

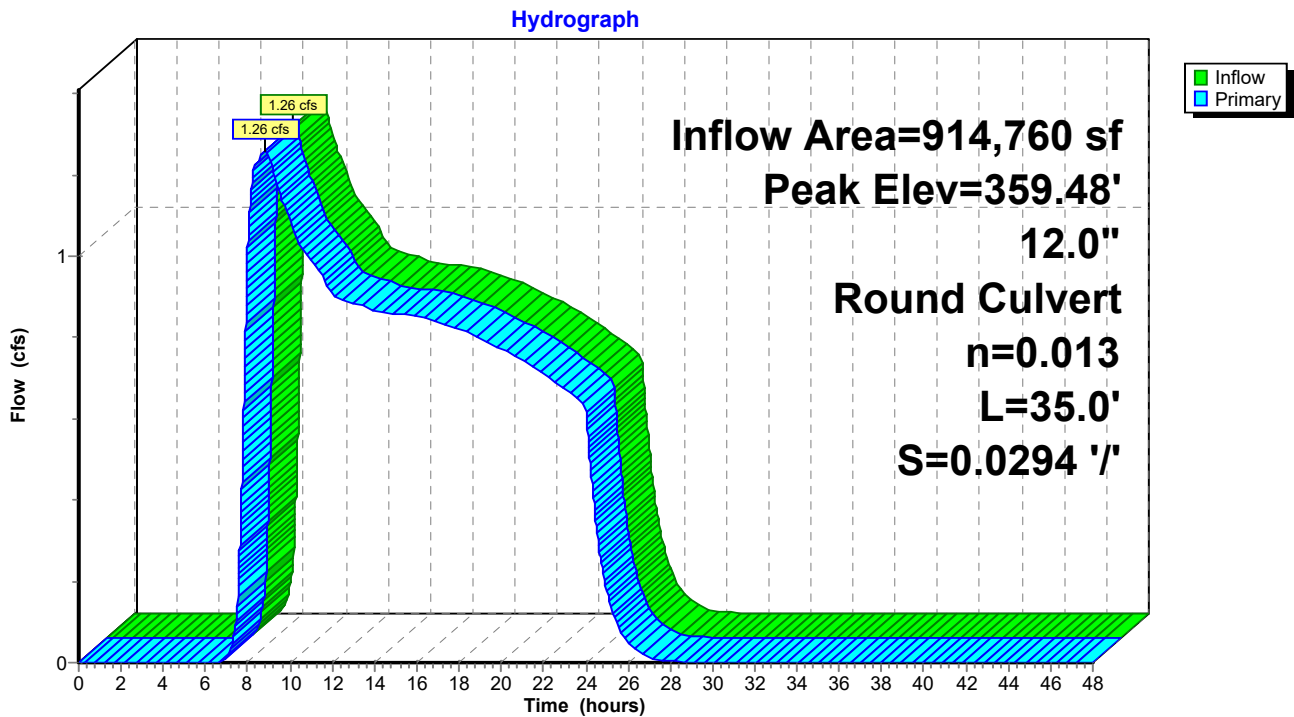
Inflow Area = 914,760 sf, 0.00% Impervious, Inflow Depth = 0.69" for 2 YEAR event  
 Inflow = 1.26 cfs @ 8.79 hrs, Volume= 52,945 cf  
 Outflow = 1.26 cfs @ 8.79 hrs, Volume= 52,945 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 1.26 cfs @ 8.79 hrs, Volume= 52,945 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.48' @ 8.79 hrs  
 Flood Elev= 361.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 35.0' Ke= 0.500 Inlet / Outlet Invert= 358.89' / 357.86' S= 0.0294 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.26 cfs @ 8.79 hrs HW=359.48' TW=358.46' (Dynamic Tailwater)  
 ←1=Culvert (Inlet Controls 1.26 cfs @ 2.61 fps)

**Pond 2R: 12" Ex Culvert**



**Summary for Pond 3R: CB02 - 12" Ex Culvert**

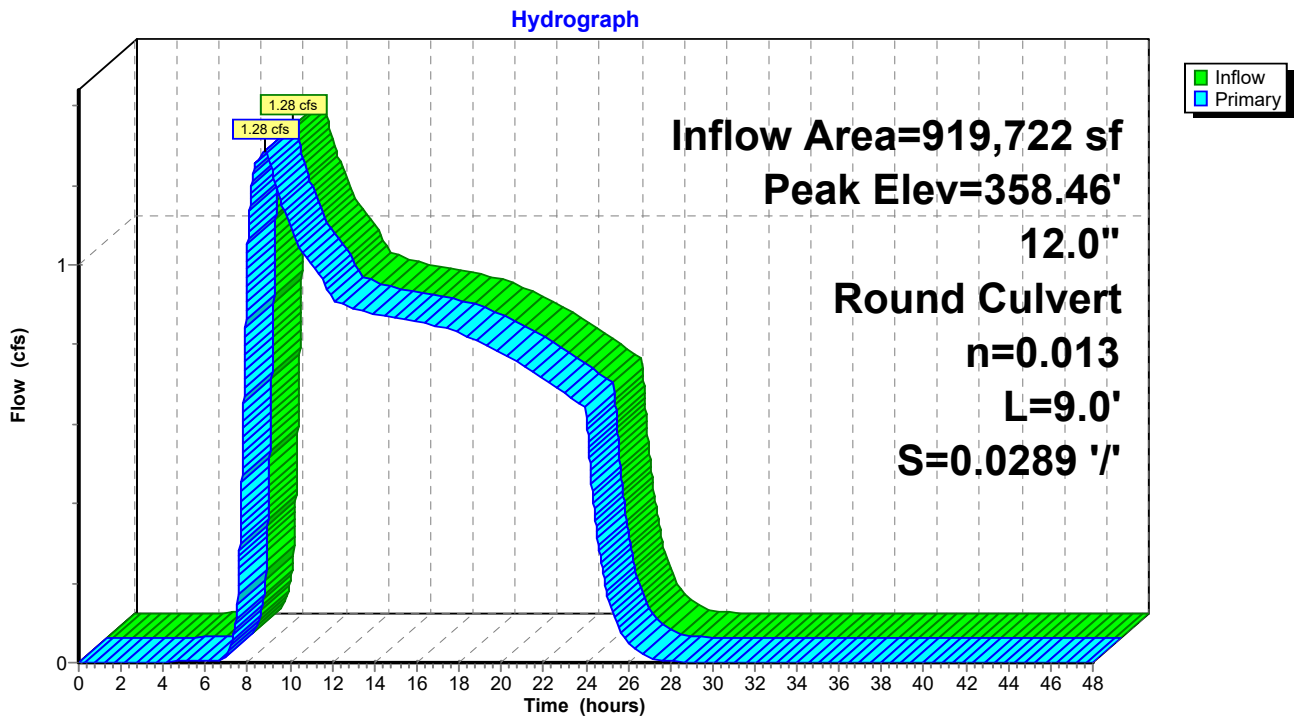
Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 0.70" for 2 YEAR event  
 Inflow = 1.28 cfs @ 8.79 hrs, Volume= 53,611 cf  
 Outflow = 1.28 cfs @ 8.79 hrs, Volume= 53,611 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 1.28 cfs @ 8.79 hrs, Volume= 53,611 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.46' @ 8.79 hrs  
 Flood Elev= 360.55'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.86'	<b>12.0" Round Culvert</b> L= 9.0' Ke= 0.500 Inlet / Outlet Invert= 357.86' / 357.60' S= 0.0289 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.28 cfs @ 8.79 hrs HW=358.46' TW=358.00' (Dynamic Tailwater)  
 ←1=Culvert (Inlet Controls 1.28 cfs @ 2.63 fps)

**Pond 3R: CB02 - 12" Ex Culvert**



**Summary for Pond 4R: EX CB - 18" Ex Pipe**

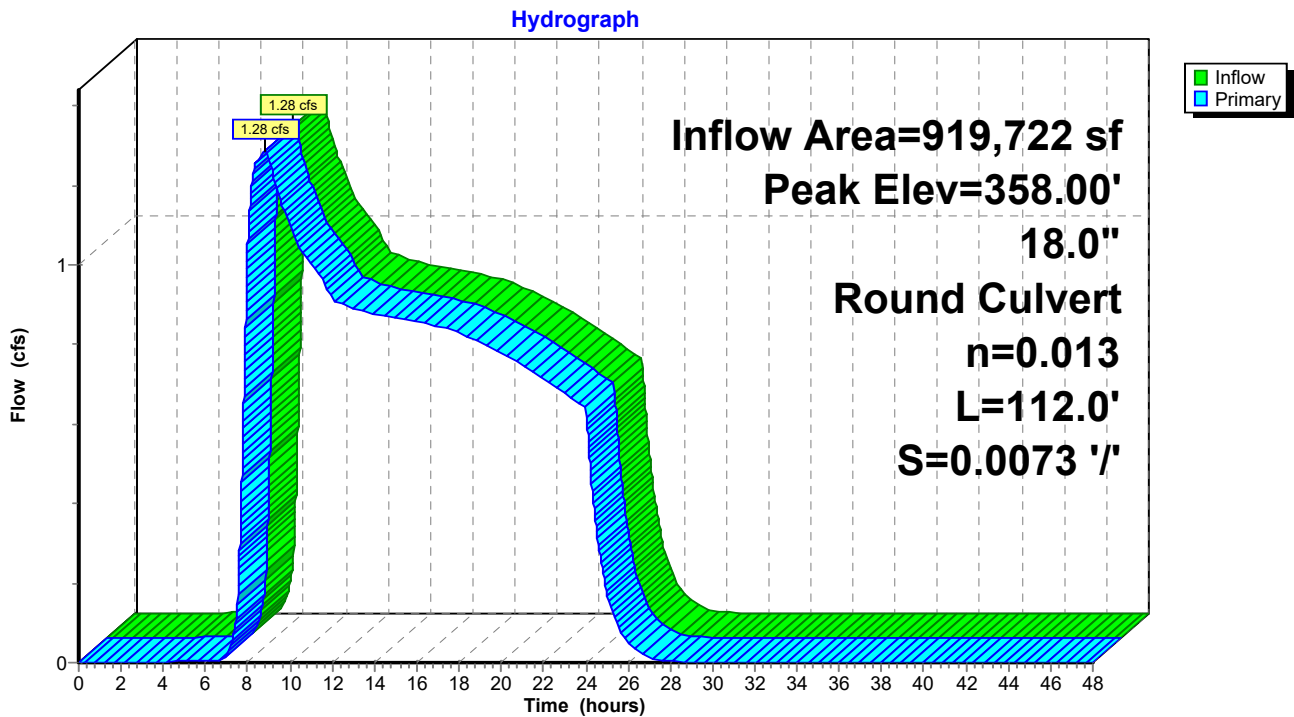
Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 0.70" for 2 YEAR event  
 Inflow = 1.28 cfs @ 8.79 hrs, Volume= 53,611 cf  
 Outflow = 1.28 cfs @ 8.79 hrs, Volume= 53,611 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 1.28 cfs @ 8.79 hrs, Volume= 53,611 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.00' @ 8.79 hrs  
 Flood Elev= 360.52'

Device	Routing	Invert	Outlet Devices
#1	Primary	357.47'	<b>18.0" Round Culvert</b> L= 112.0' Ke= 0.500 Inlet / Outlet Invert= 357.47' / 356.65' S= 0.0073 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=1.28 cfs @ 8.79 hrs HW=358.00' (Free Discharge)  
 ↳1=Culvert (Barrel Controls 1.28 cfs @ 3.38 fps)

**Pond 4R: EX CB - 18" Ex Pipe**





Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment1S: Offsite - Pre Dev** Runoff Area=21.000 ac 0.00% Impervious Runoff Depth=1.37"  
Flow Length=1,450' Tc=46.4 min CN=76 Runoff=3.25 cfs 104,078 cf

**Subcatchment3S: Site - Post Dev** Runoff Area=4,962 sf 63.30% Impervious Runoff Depth=2.54"  
Tc=5.0 min CN=91 Runoff=0.07 cfs 1,051 cf

**Pond 1P: Pond** Peak Elev=360.67' Storage=122 cf Inflow=0.07 cfs 1,051 cf  
Outflow=0.04 cfs 1,051 cf

**Pond 1R: CB01 - 12" C900** Peak Elev=359.13' Inflow=0.04 cfs 1,051 cf  
12.0" Round Culvert n=0.013 L=81.2' S=0.0049 '/ Outflow=0.04 cfs 1,051 cf

**Pond 2R: 12" Ex Culvert** Peak Elev=360.13' Inflow=3.25 cfs 104,078 cf  
12.0" Round Culvert n=0.013 L=35.0' S=0.0294 '/ Outflow=3.25 cfs 104,078 cf

**Pond 3R: CB02 - 12" Ex Culvert** Peak Elev=359.13' Inflow=3.29 cfs 105,129 cf  
12.0" Round Culvert n=0.013 L=9.0' S=0.0289 '/ Outflow=3.29 cfs 105,129 cf

**Pond 4R: EX CB - 18" Ex Pipe** Peak Elev=358.37' Inflow=3.29 cfs 105,129 cf  
18.0" Round Culvert n=0.013 L=112.0' S=0.0073 '/ Outflow=3.29 cfs 105,129 cf

**Total Runoff Area = 919,722 sf Runoff Volume = 105,129 cf Average Runoff Depth = 1.37"**  
**99.66% Pervious = 916,581 sf 0.34% Impervious = 3,141 sf**

**Summary for Subcatchment 1S: Offsite - Pre Dev**

Runoff = 3.25 cfs @ 8.26 hrs, Volume= 104,078 cf, Depth= 1.37"

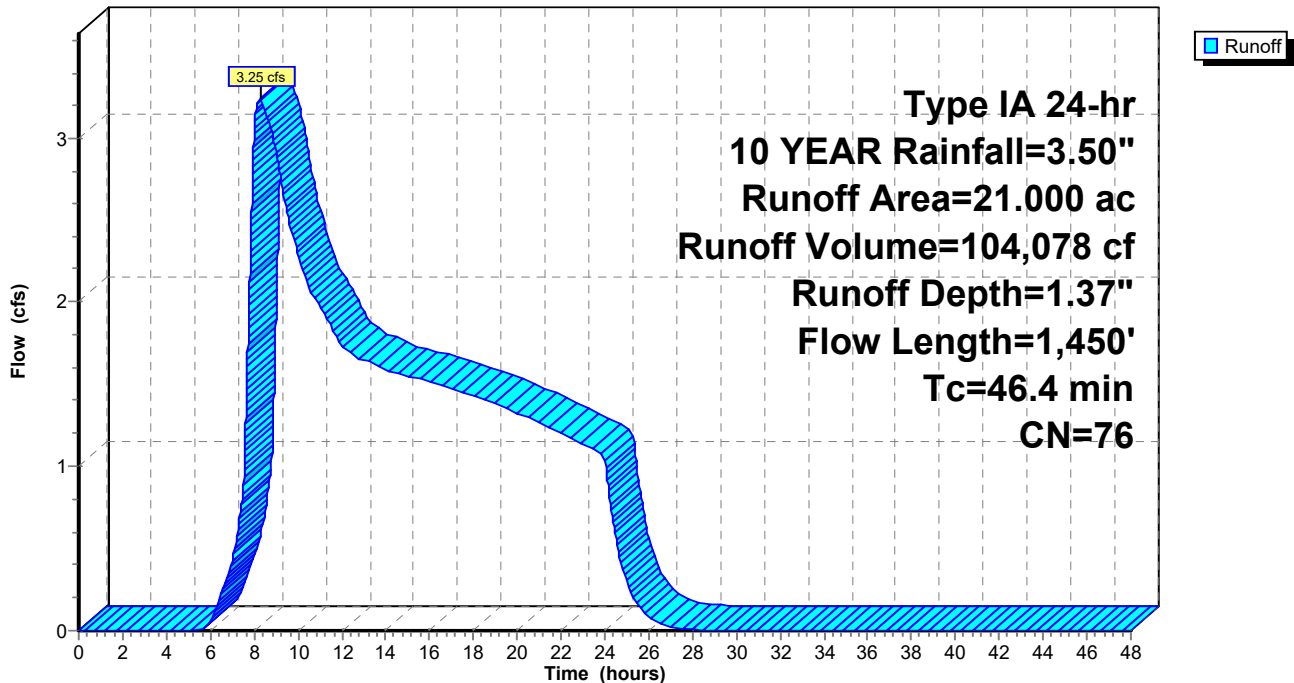
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 10 YEAR Rainfall=3.50"

Area (ac)	CN	Description
8.000	82	Woods/grass comb., Fair, HSG D
13.000	72	Woods/grass comb., Good, HSG C
21.000	76	Weighted Average
21.000	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.6	300	0.2000	0.12		<b>Sheet Flow, 300-ft</b> Woods: Dense underbrush n= 0.800 P2= 2.50"
2.6	300	0.1500	1.94		<b>Shallow Concentrated Flow, Shallow Concentrated</b> Woodland Kv= 5.0 fps
3.2	850	0.1000	4.45	44.48	<b>Parabolic Channel,</b> W=15.00' D=1.00' Area=10.0 sf Perim=15.2' n= 0.080 Earth, long dense weeds
46.4	1,450	Total			

**Subcatchment 1S: Offsite - Pre Dev**

Hydrograph



**Summary for Subcatchment 3S: Site - Post Dev**

Runoff = 0.07 cfs @ 7.91 hrs, Volume= 1,051 cf, Depth= 2.54"

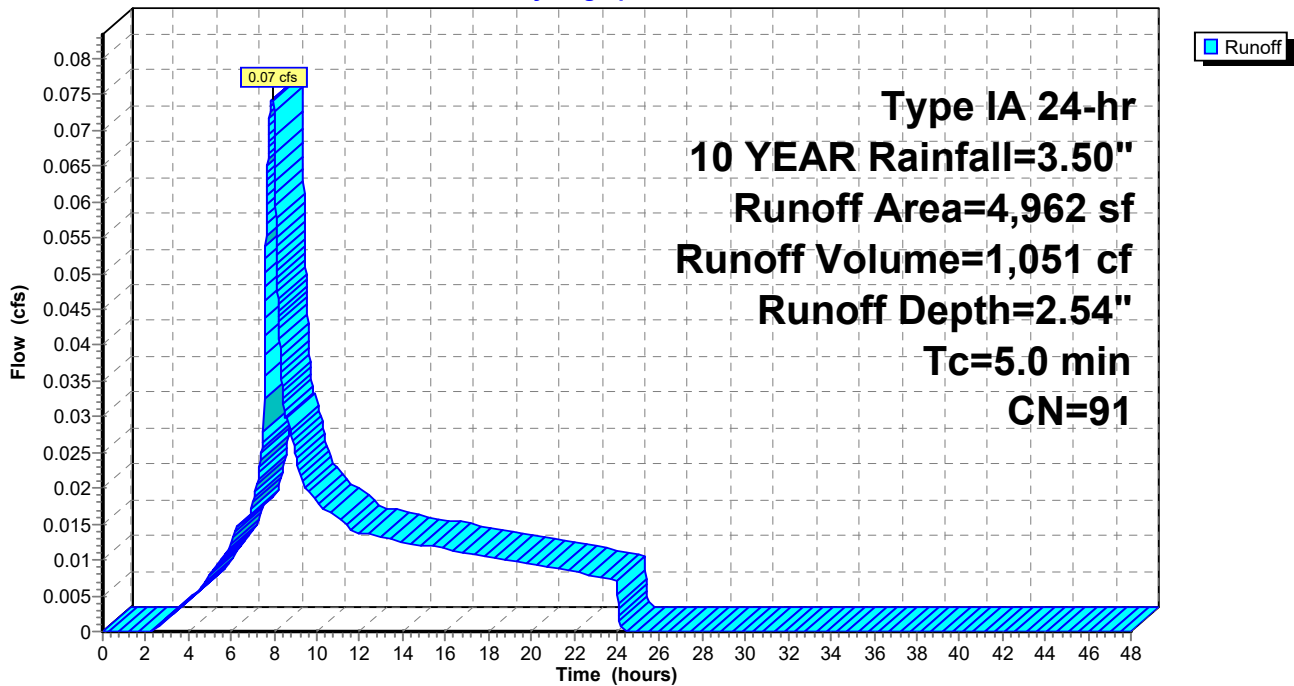
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 10 YEAR Rainfall=3.50"

Area (sf)	CN	Description
1,821	80	>75% Grass cover, Good, HSG D
* 3,141	98	
4,962	91	Weighted Average
1,821	80	36.70% Pervious Area
3,141	98	63.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

**Subcatchment 3S: Site - Post Dev**

Hydrograph



**Summary for Pond 1P: Pond**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 2.54" for 10 YEAR event  
 Inflow = 0.07 cfs @ 7.91 hrs, Volume= 1,051 cf  
 Outflow = 0.04 cfs @ 8.26 hrs, Volume= 1,051 cf, Atten= 45%, Lag= 20.6 min  
 Primary = 0.04 cfs @ 8.26 hrs, Volume= 1,051 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.67' @ 8.26 hrs Surf.Area= 261 sf Storage= 122 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 49.6 min ( 782.2 - 732.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	431 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
360.00	112	0	0
360.50	217	82	82
361.50	481	349	431

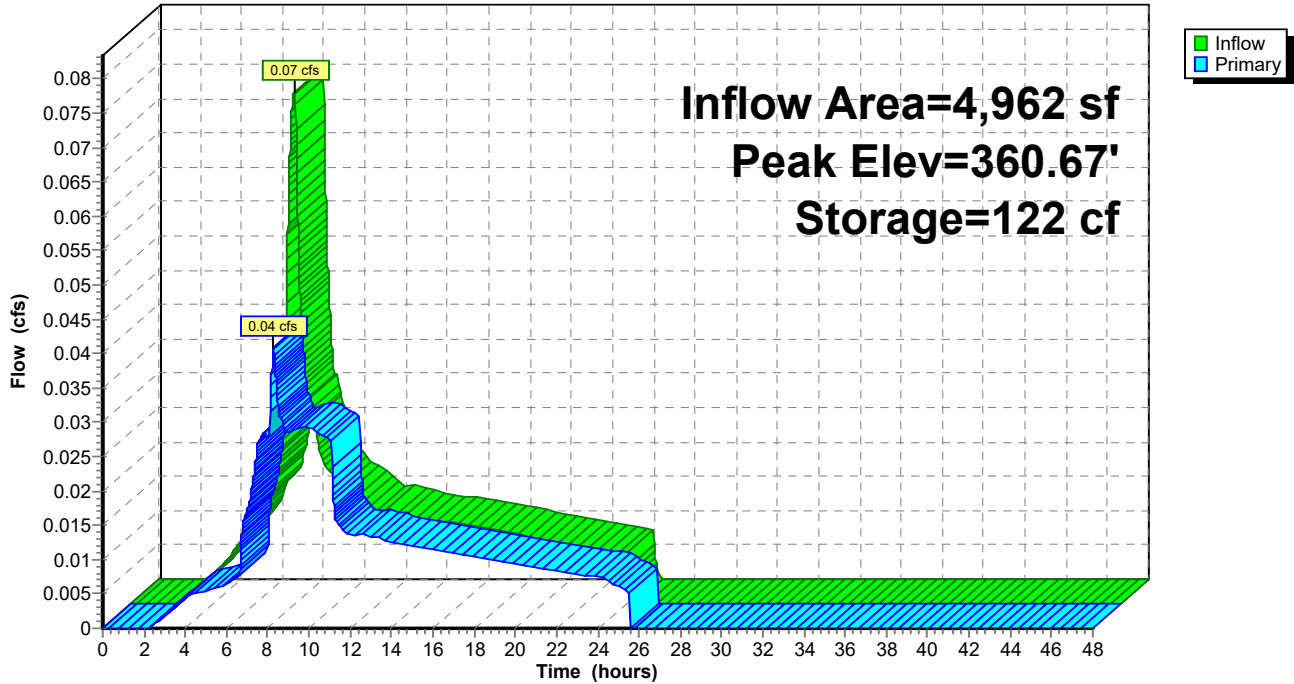
Device	Routing	Invert	Outlet Devices
#1	Primary	358.75'	<b>12.0" Round Outlet Pipe</b> L= 15.0' Ke= 1.000 Inlet / Outlet Invert= 358.75' / 358.68' S= 0.0047 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	358.75'	<b>0.9" Horiz. Orifice/Grate</b> C= 0.620
#3	Device 2	360.25'	<b>2.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 2	360.00'	<b>2.000 in/hr Exfiltration over Surface area</b>
#5	Device 1	360.65'	<b>8.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.04 cfs @ 8.26 hrs HW=360.67' TW=359.13' (Dynamic Tailwater)

- 1=Outlet Pipe (Passes 0.04 cfs of 3.37 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.03 cfs @ 6.17 fps)
- 3=Broad-Crested Rectangular Weir (Passes < 1.57 cfs potential flow)
- 4=Exfiltration (Passes < 0.01 cfs potential flow)
- 5=Orifice/Grate (Weir Controls 0.01 cfs @ 0.41 fps)

### Pond 1P: Pond

Hydrograph



**Summary for Pond 1R: CB01 - 12" C900**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 2.54" for 10 YEAR event  
 Inflow = 0.04 cfs @ 8.26 hrs, Volume= 1,051 cf  
 Outflow = 0.04 cfs @ 8.26 hrs, Volume= 1,051 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.04 cfs @ 8.26 hrs, Volume= 1,051 cf

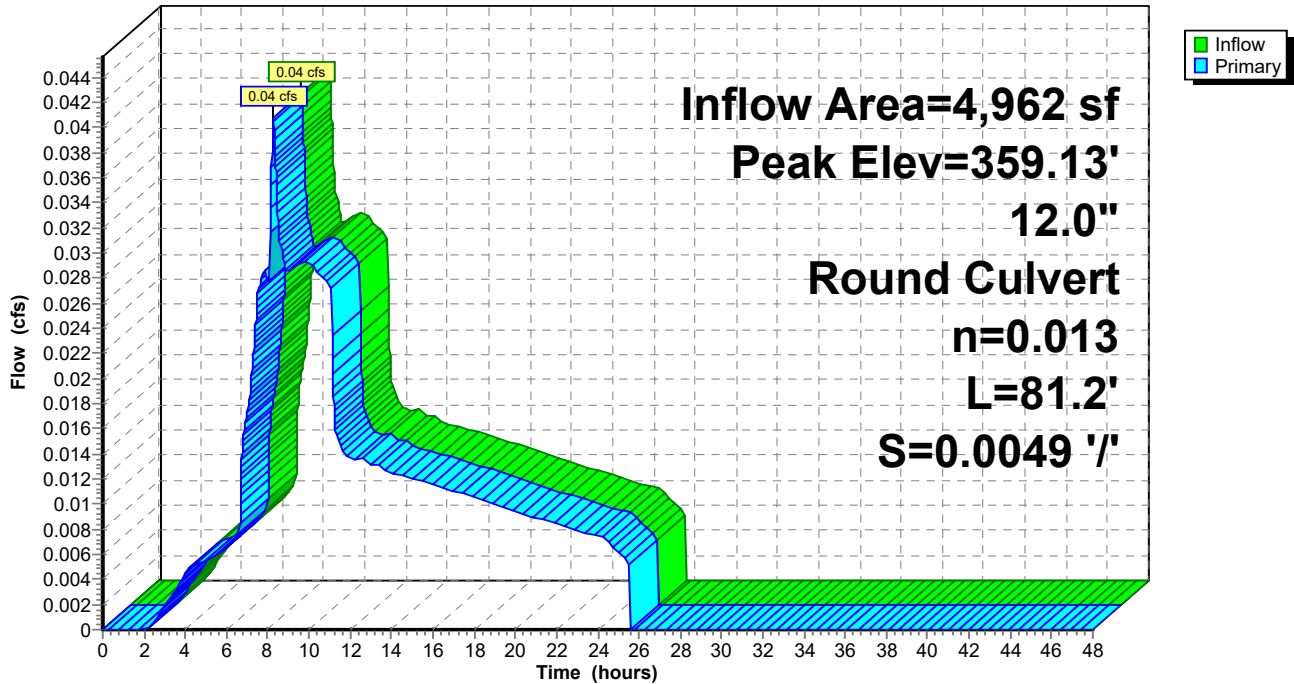
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.13' @ 8.27 hrs  
 Flood Elev= 361.57'

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.36'	<b>12.0" Round Culvert</b> L= 81.2' Ke= 0.500 Inlet / Outlet Invert= 358.36' / 357.96' S= 0.0049 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.01 cfs @ 8.26 hrs HW=359.13' TW=359.13' (Dynamic Tailwater)  
 ↑1=Culvert (Outlet Controls 0.01 cfs @ 0.03 fps)

**Pond 1R: CB01 - 12" C900**

Hydrograph





**Summary for Pond 2R: 12" Ex Culvert**

Inflow Area = 914,760 sf, 0.00% Impervious, Inflow Depth = 1.37" for 10 YEAR event  
 Inflow = 3.25 cfs @ 8.26 hrs, Volume= 104,078 cf  
 Outflow = 3.25 cfs @ 8.26 hrs, Volume= 104,078 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 3.25 cfs @ 8.26 hrs, Volume= 104,078 cf

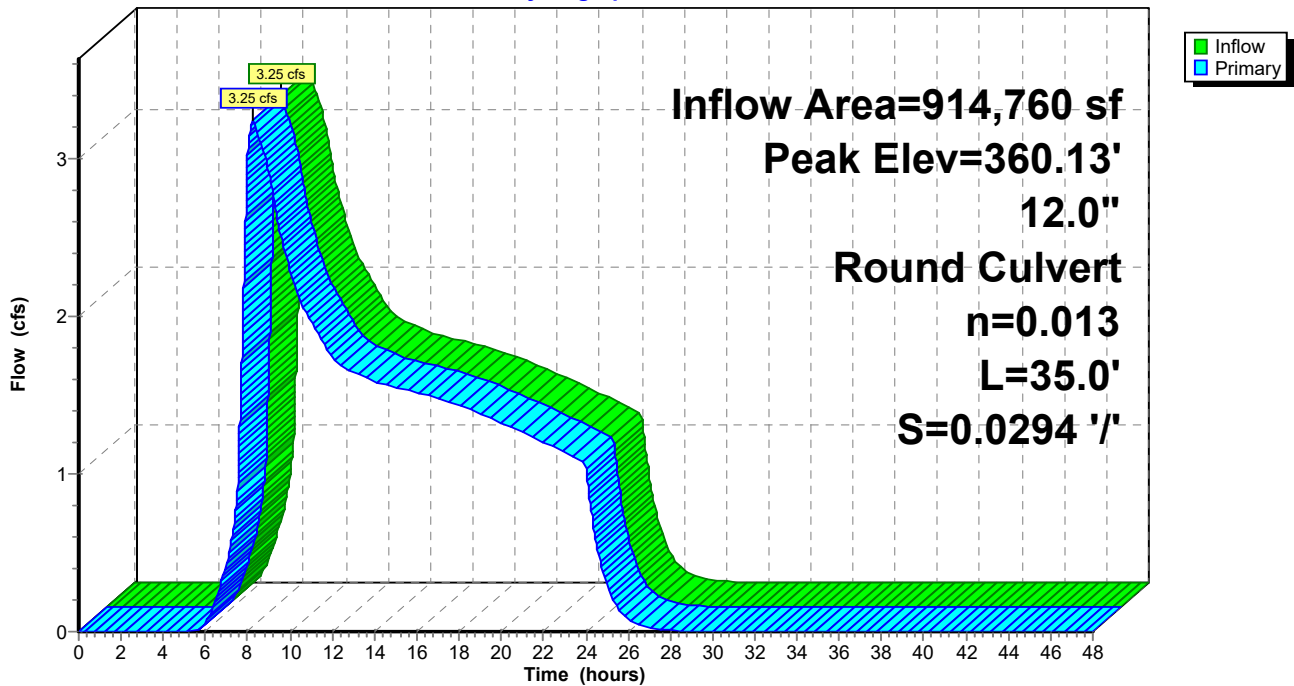
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.13' @ 8.26 hrs  
 Flood Elev= 361.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 35.0' Ke= 0.500 Inlet / Outlet Invert= 358.89' / 357.86' S= 0.0294 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.25 cfs @ 8.26 hrs HW=360.13' TW=359.13' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 3.25 cfs @ 4.13 fps)

**Pond 2R: 12" Ex Culvert**

Hydrograph



### Summary for Pond 3R: CB02 - 12" Ex Culvert

[80] Warning: Exceeded Pond 1R by 0.02' @ 7.91 hrs (0.14 cfs 193 cf)

Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 1.37" for 10 YEAR event  
 Inflow = 3.29 cfs @ 8.26 hrs, Volume= 105,129 cf  
 Outflow = 3.29 cfs @ 8.26 hrs, Volume= 105,129 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 3.29 cfs @ 8.26 hrs, Volume= 105,129 cf

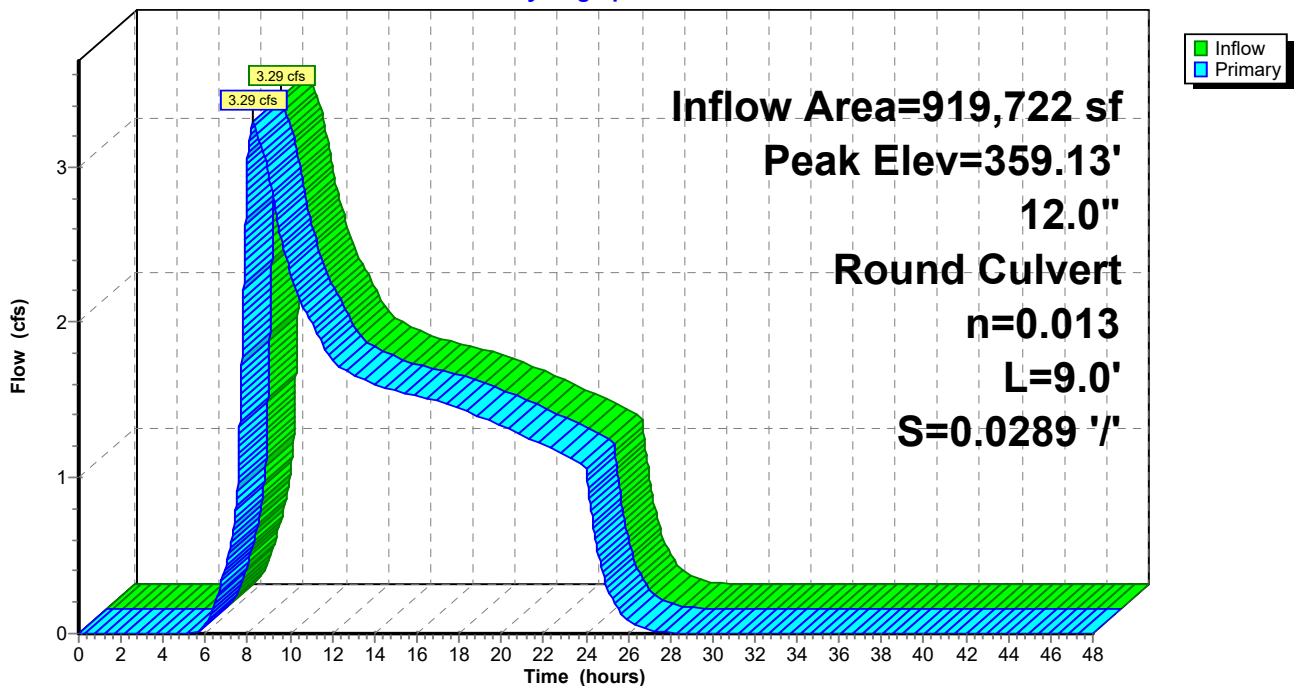
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.13' @ 8.26 hrs  
 Flood Elev= 360.55'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.86'	<b>12.0" Round Culvert</b> L= 9.0' Ke= 0.500 Inlet / Outlet Invert= 357.86' / 357.60' S= 0.0289 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.29 cfs @ 8.26 hrs HW=359.13' TW=358.37' (Dynamic Tailwater)  
 ↳1=Culvert (Inlet Controls 3.29 cfs @ 4.18 fps)

### Pond 3R: CB02 - 12" Ex Culvert

Hydrograph



**Summary for Pond 4R: EX CB - 18" Ex Pipe**

Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 1.37" for 10 YEAR event  
 Inflow = 3.29 cfs @ 8.26 hrs, Volume= 105,129 cf  
 Outflow = 3.29 cfs @ 8.26 hrs, Volume= 105,129 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 3.29 cfs @ 8.26 hrs, Volume= 105,129 cf

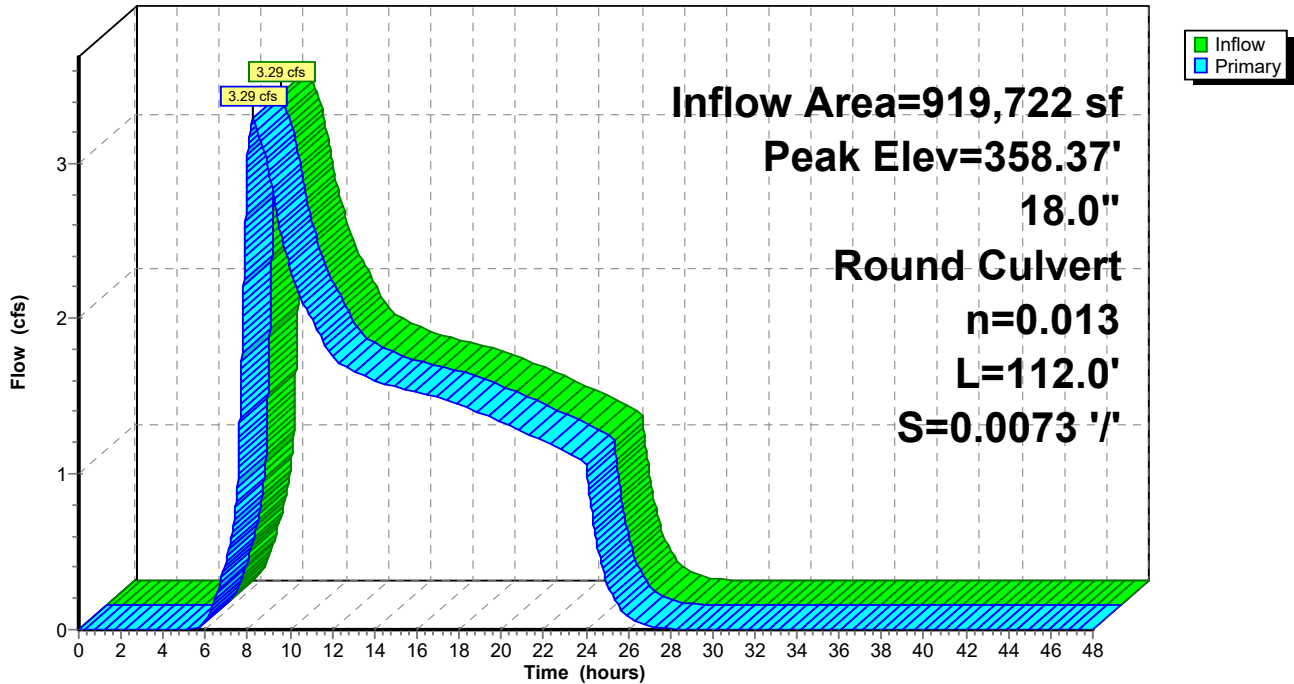
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.37' @ 8.26 hrs  
 Flood Elev= 360.52'

Device	Routing	Invert	Outlet Devices
#1	Primary	357.47'	<b>18.0" Round Culvert</b> L= 112.0' Ke= 0.500 Inlet / Outlet Invert= 357.47' / 356.65' S= 0.0073 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.29 cfs @ 8.26 hrs HW=358.37' (Free Discharge)  
 ↳1=Culvert (Barrel Controls 3.29 cfs @ 4.24 fps)

**Pond 4R: EX CB - 18" Ex Pipe**

Hydrograph



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment1S: Offsite - Pre Dev** Runoff Area=21.000 ac 0.00% Impervious Runoff Depth=1.74"  
Flow Length=1,450' Tc=46.4 min CN=76 Runoff=4.44 cfs 132,529 cf

**Subcatchment3S: Site - Post Dev** Runoff Area=4,962 sf 63.30% Impervious Runoff Depth=3.02"  
Tc=5.0 min CN=91 Runoff=0.09 cfs 1,248 cf

**Pond 1P: Pond** Peak Elev=360.69' Storage=128 cf Inflow=0.09 cfs 1,248 cf  
Outflow=0.07 cfs 1,248 cf

**Pond 1R: CB01 - 12" C900** Peak Elev=359.98' Inflow=0.07 cfs 1,248 cf  
12.0" Round Culvert n=0.013 L=81.2' S=0.0049 '/ Outflow=0.07 cfs 1,248 cf

**Pond 2R: 12" Ex Culvert** Peak Elev=361.36' Inflow=4.44 cfs 132,529 cf  
12.0" Round Culvert n=0.013 L=35.0' S=0.0294 '/ Outflow=4.44 cfs 132,529 cf

**Pond 3R: CB02 - 12" Ex Culvert** Peak Elev=359.98' Inflow=4.50 cfs 133,777 cf  
12.0" Round Culvert n=0.013 L=9.0' S=0.0289 '/ Outflow=4.50 cfs 133,777 cf

**Pond 4R: EX CB - 18" Ex Pipe** Peak Elev=358.56' Inflow=4.50 cfs 133,777 cf  
18.0" Round Culvert n=0.013 L=112.0' S=0.0073 '/ Outflow=4.50 cfs 133,777 cf

**Total Runoff Area = 919,722 sf Runoff Volume = 133,777 cf Average Runoff Depth = 1.75"**  
**99.66% Pervious = 916,581 sf 0.34% Impervious = 3,141 sf**

**Summary for Subcatchment 1S: Offsite - Pre Dev**

Runoff = 4.44 cfs @ 8.22 hrs, Volume= 132,529 cf, Depth= 1.74"

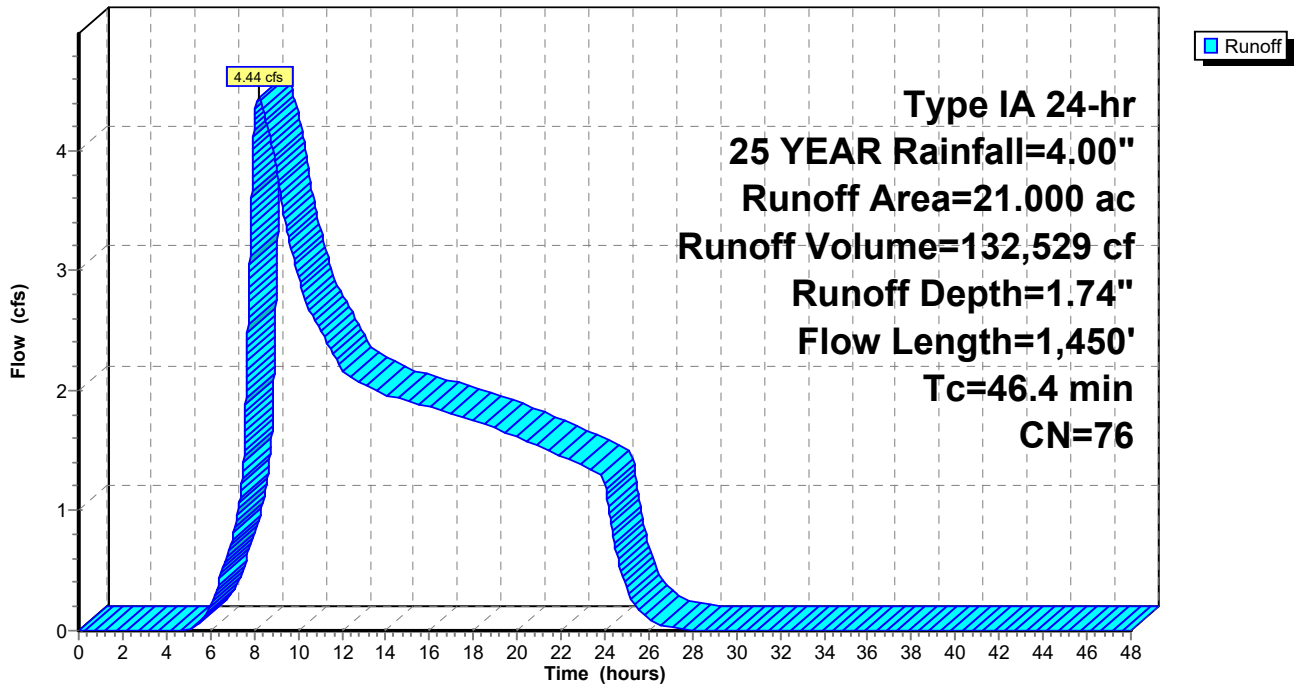
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 25 YEAR Rainfall=4.00"

Area (ac)	CN	Description
8.000	82	Woods/grass comb., Fair, HSG D
13.000	72	Woods/grass comb., Good, HSG C
21.000	76	Weighted Average
21.000	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.6	300	0.2000	0.12		<b>Sheet Flow, 300-ft</b> Woods: Dense underbrush n= 0.800 P2= 2.50"
2.6	300	0.1500	1.94		<b>Shallow Concentrated Flow, Shallow Concentrated</b> Woodland Kv= 5.0 fps
3.2	850	0.1000	4.45	44.48	<b>Parabolic Channel,</b> W=15.00' D=1.00' Area=10.0 sf Perim=15.2' n= 0.080 Earth, long dense weeds
46.4	1,450	Total			

**Subcatchment 1S: Offsite - Pre Dev**

Hydrograph



**Summary for Subcatchment 3S: Site - Post Dev**

Runoff = 0.09 cfs @ 7.91 hrs, Volume= 1,248 cf, Depth= 3.02"

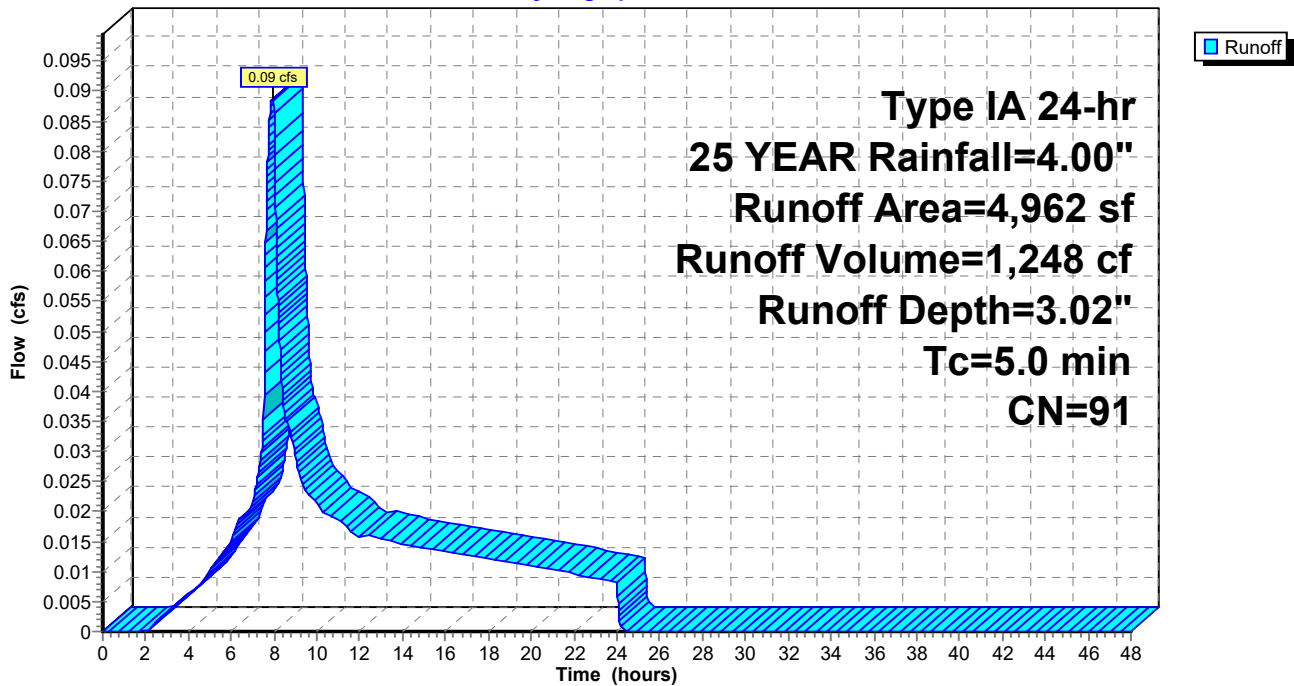
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 25 YEAR Rainfall=4.00"

Area (sf)	CN	Description
1,821	80	>75% Grass cover, Good, HSG D
* 3,141	98	
4,962	91	Weighted Average
1,821	80	36.70% Pervious Area
3,141	98	63.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

**Subcatchment 3S: Site - Post Dev**

Hydrograph





**Summary for Pond 1P: Pond**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 3.02" for 25 YEAR event  
 Inflow = 0.09 cfs @ 7.91 hrs, Volume= 1,248 cf  
 Outflow = 0.07 cfs @ 8.05 hrs, Volume= 1,248 cf, Atten= 17%, Lag= 8.8 min  
 Primary = 0.07 cfs @ 8.05 hrs, Volume= 1,248 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.69' @ 8.06 hrs Surf.Area= 267 sf Storage= 128 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 46.5 min ( 770.6 - 724.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	431 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
360.00	112	0	0
360.50	217	82	82
361.50	481	349	431

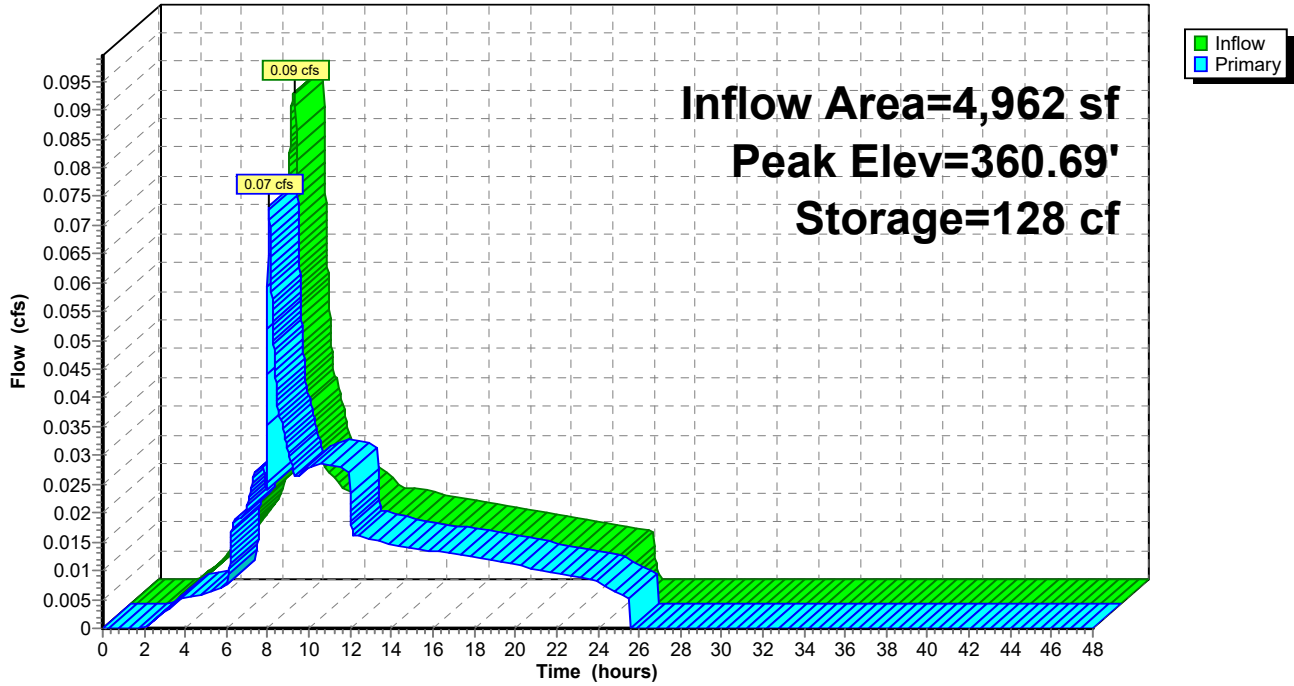
Device	Routing	Invert	Outlet Devices
#1	Primary	358.75'	<b>12.0" Round Outlet Pipe</b> L= 15.0' Ke= 1.000 Inlet / Outlet Invert= 358.75' / 358.68' S= 0.0047 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	358.75'	<b>0.9" Horiz. Orifice/Grate</b> C= 0.620
#3	Device 2	360.25'	<b>2.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 2	360.00'	<b>2.000 in/hr Exfiltration over Surface area</b>
#5	Device 1	360.65'	<b>8.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.07 cfs @ 8.05 hrs HW=360.69' TW=359.89' (Dynamic Tailwater)

- 1=Outlet Pipe (Passes 0.07 cfs of 2.54 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.02 cfs @ 4.46 fps)
- 3=Broad-Crested Rectangular Weir (Passes < 1.72 cfs potential flow)
- 4=Exfiltration (Passes < 0.01 cfs potential flow)
- 5=Orifice/Grate (Weir Controls 0.05 cfs @ 0.65 fps)

### Pond 1P: Pond

Hydrograph



**Summary for Pond 1R: CB01 - 12" C900**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 3.02" for 25 YEAR event  
 Inflow = 0.07 cfs @ 8.05 hrs, Volume= 1,248 cf  
 Outflow = 0.07 cfs @ 8.05 hrs, Volume= 1,248 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.07 cfs @ 8.05 hrs, Volume= 1,248 cf

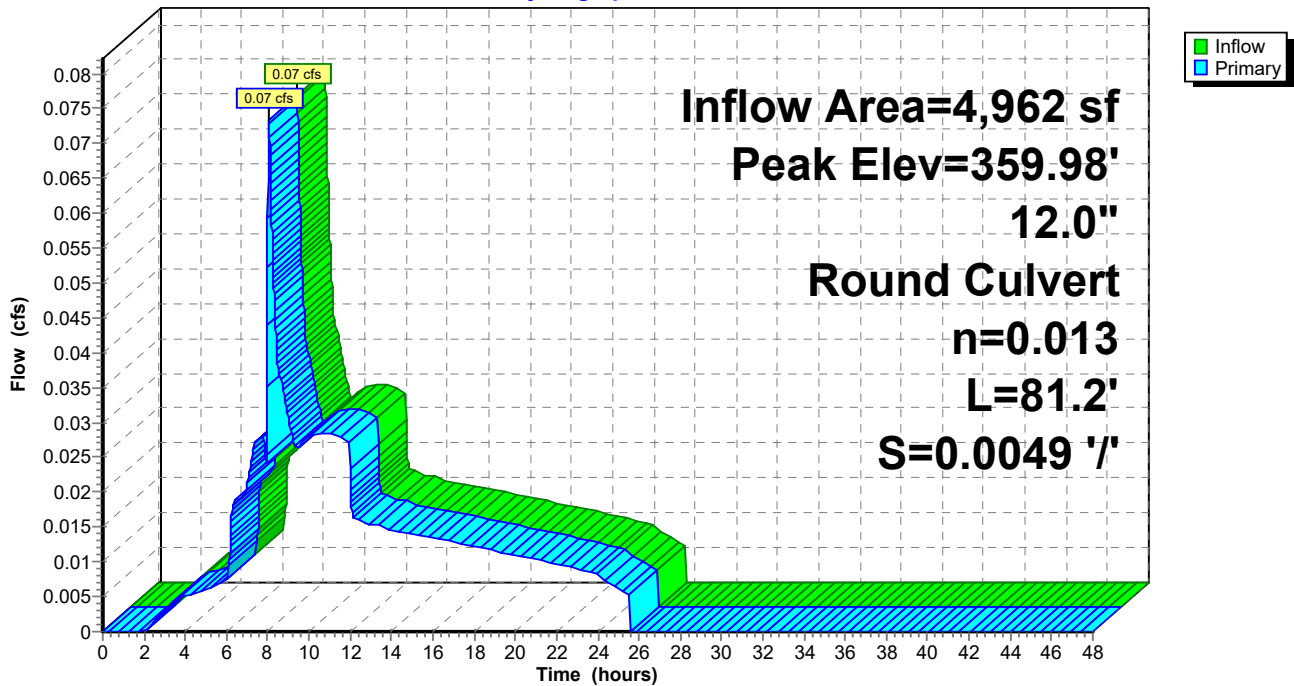
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.98' @ 8.22 hrs  
 Flood Elev= 361.57'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.36'	<b>12.0" Round Culvert</b> L= 81.2' Ke= 0.500 Inlet / Outlet Invert= 358.36' / 357.96' S= 0.0049 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 8.05 hrs HW=359.89' TW=359.90' (Dynamic Tailwater)  
 ↑1=Culvert ( Controls 0.00 cfs)

**Pond 1R: CB01 - 12" C900**

Hydrograph



**Summary for Pond 2R: 12" Ex Culvert**

Inflow Area = 914,760 sf, 0.00% Impervious, Inflow Depth = 1.74" for 25 YEAR event  
 Inflow = 4.44 cfs @ 8.22 hrs, Volume= 132,529 cf  
 Outflow = 4.44 cfs @ 8.22 hrs, Volume= 132,529 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 4.44 cfs @ 8.22 hrs, Volume= 132,529 cf

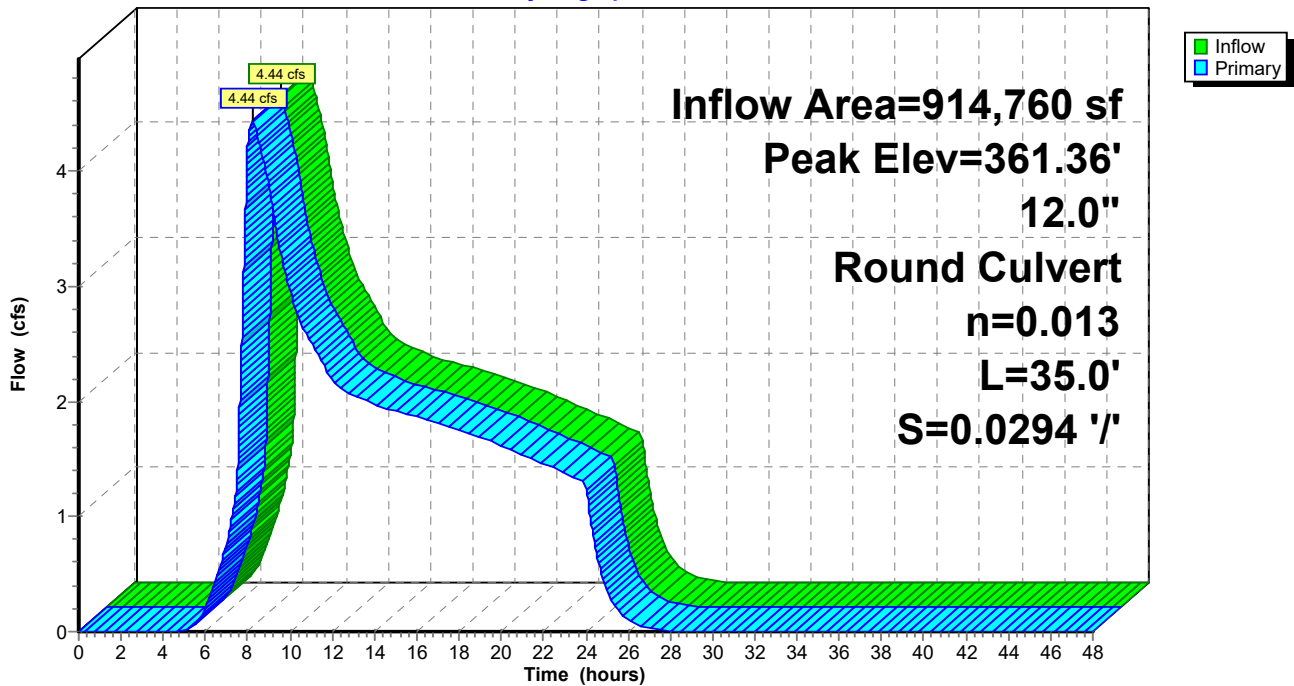
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.36' @ 8.22 hrs  
 Flood Elev= 361.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 35.0' Ke= 0.500 Inlet / Outlet Invert= 358.89' / 357.86' S= 0.0294 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=4.44 cfs @ 8.22 hrs HW=361.36' TW=359.98' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 4.44 cfs @ 5.65 fps)

**Pond 2R: 12" Ex Culvert**

Hydrograph



**Summary for Pond 3R: CB02 - 12" Ex Culvert**

[80] Warning: Exceeded Pond 1R by 0.04' @ 7.98 hrs (0.66 cfs 655 cf)

Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 1.75" for 25 YEAR event  
 Inflow = 4.50 cfs @ 8.21 hrs, Volume= 133,777 cf  
 Outflow = 4.50 cfs @ 8.21 hrs, Volume= 133,777 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 4.50 cfs @ 8.21 hrs, Volume= 133,777 cf

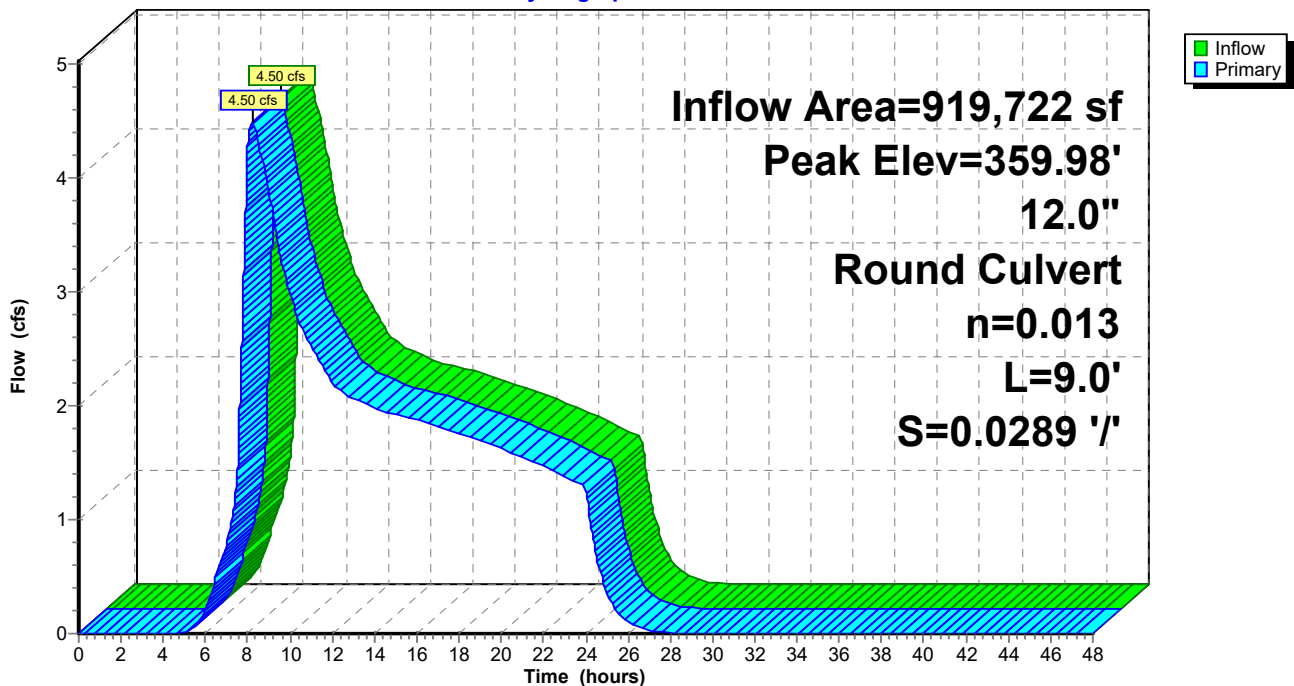
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.98' @ 8.21 hrs  
 Flood Elev= 360.55'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.86'	<b>12.0" Round Culvert</b> L= 9.0' Ke= 0.500 Inlet / Outlet Invert= 357.86' / 357.60' S= 0.0289 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=4.50 cfs @ 8.21 hrs HW=359.98' TW=358.56' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 4.50 cfs @ 5.72 fps)

**Pond 3R: CB02 - 12" Ex Culvert**

Hydrograph



**Summary for Pond 4R: EX CB - 18" Ex Pipe**

Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 1.75" for 25 YEAR event  
 Inflow = 4.50 cfs @ 8.21 hrs, Volume= 133,777 cf  
 Outflow = 4.50 cfs @ 8.21 hrs, Volume= 133,777 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 4.50 cfs @ 8.21 hrs, Volume= 133,777 cf

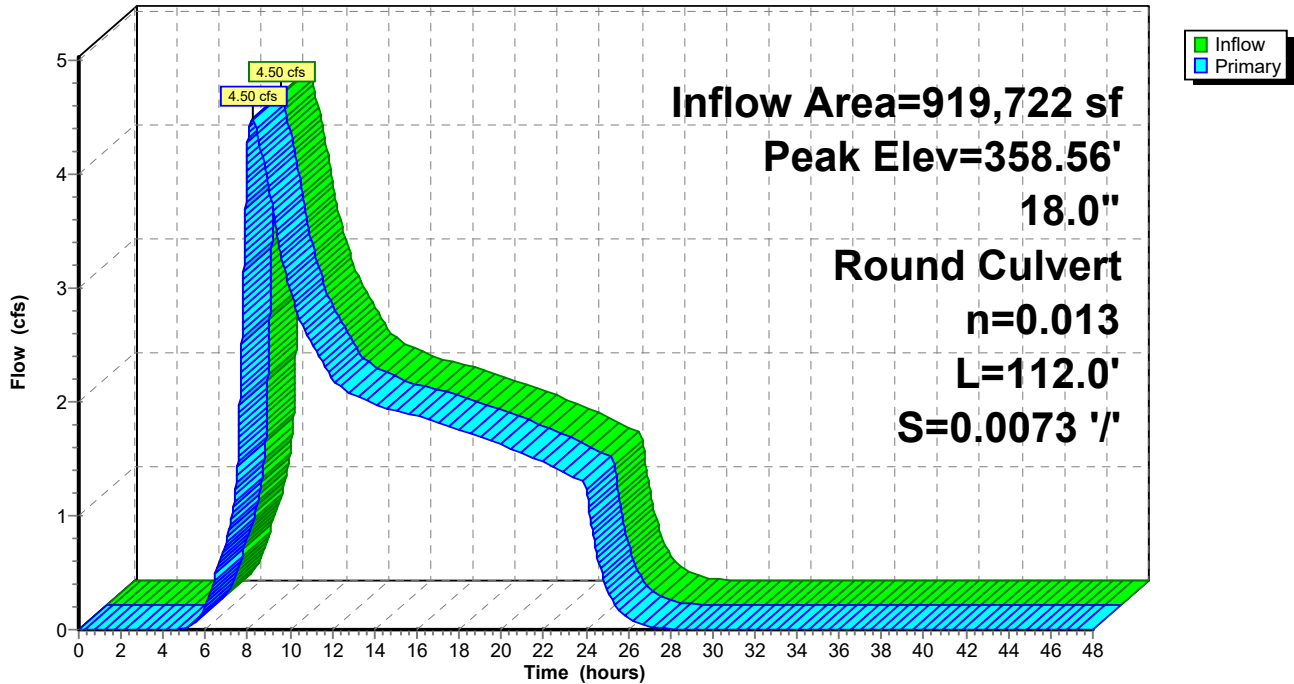
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.56' @ 8.21 hrs  
 Flood Elev= 360.52'

Device	Routing	Invert	Outlet Devices
#1	Primary	357.47'	<b>18.0" Round Culvert</b> L= 112.0' Ke= 0.500 Inlet / Outlet Invert= 357.47' / 356.65' S= 0.0073 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=4.50 cfs @ 8.21 hrs HW=358.56' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 4.50 cfs @ 4.55 fps)

**Pond 4R: EX CB - 18" Ex Pipe**

Hydrograph





Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment1S: Offsite - Pre Dev** Runoff Area=21.000 ac 0.00% Impervious Runoff Depth=2.13"  
Flow Length=1,450' Tc=46.4 min CN=76 Runoff=5.72 cfs 162,355 cf

**Subcatchment3S: Site - Post Dev** Runoff Area=4,962 sf 63.30% Impervious Runoff Depth=3.50"  
Tc=5.0 min CN=91 Runoff=0.10 cfs 1,446 cf

**Pond 1P: Pond** Peak Elev=360.97' Storage=213 cf Inflow=0.10 cfs 1,446 cf  
Outflow=0.83 cfs 1,446 cf

**Pond 1R: CB01 - 12" C900** Peak Elev=361.13' Inflow=0.83 cfs 1,446 cf  
12.0" Round Culvert n=0.013 L=81.2' S=0.0049 '/' Outflow=0.83 cfs 1,446 cf

**Pond 2R: 12" Ex Culvert** Peak Elev=363.64' Inflow=5.72 cfs 162,355 cf  
12.0" Round Culvert n=0.013 L=35.0' S=0.0294 '/' Outflow=5.72 cfs 162,355 cf

**Pond 3R: CB02 - 12" Ex Culvert** Peak Elev=361.53' Inflow=6.34 cfs 163,801 cf  
12.0" Round Culvert n=0.013 L=9.0' S=0.0289 '/' Outflow=6.34 cfs 163,801 cf

**Pond 4R: EX CB - 18" Ex Pipe** Peak Elev=358.85' Inflow=6.34 cfs 163,801 cf  
18.0" Round Culvert n=0.013 L=112.0' S=0.0073 '/' Outflow=6.34 cfs 163,801 cf

**Total Runoff Area = 919,722 sf Runoff Volume = 163,801 cf Average Runoff Depth = 2.14"**  
**99.66% Pervious = 916,581 sf 0.34% Impervious = 3,141 sf**

**Summary for Subcatchment 1S: Offsite - Pre Dev**

Runoff = 5.72 cfs @ 8.20 hrs, Volume= 162,355 cf, Depth= 2.13"

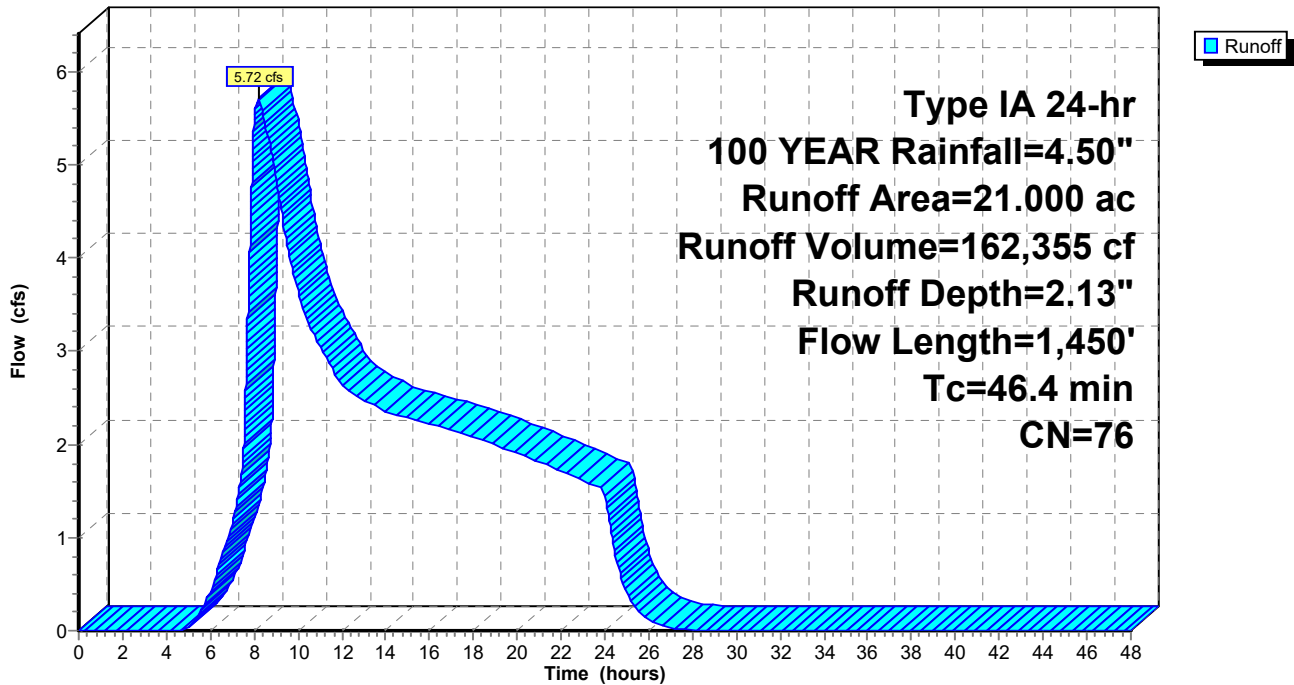
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 100 YEAR Rainfall=4.50"

Area (ac)	CN	Description
8.000	82	Woods/grass comb., Fair, HSG D
13.000	72	Woods/grass comb., Good, HSG C
21.000	76	Weighted Average
21.000	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.6	300	0.2000	0.12		<b>Sheet Flow, 300-ft</b> Woods: Dense underbrush n= 0.800 P2= 2.50"
2.6	300	0.1500	1.94		<b>Shallow Concentrated Flow, Shallow Concentrated</b> Woodland Kv= 5.0 fps
3.2	850	0.1000	4.45	44.48	<b>Parabolic Channel,</b> W=15.00' D=1.00' Area=10.0 sf Perim=15.2' n= 0.080 Earth, long dense weeds
46.4	1,450	Total			

**Subcatchment 1S: Offsite - Pre Dev**

Hydrograph



**Summary for Subcatchment 3S: Site - Post Dev**

Runoff = 0.10 cfs @ 7.90 hrs, Volume= 1,446 cf, Depth= 3.50"

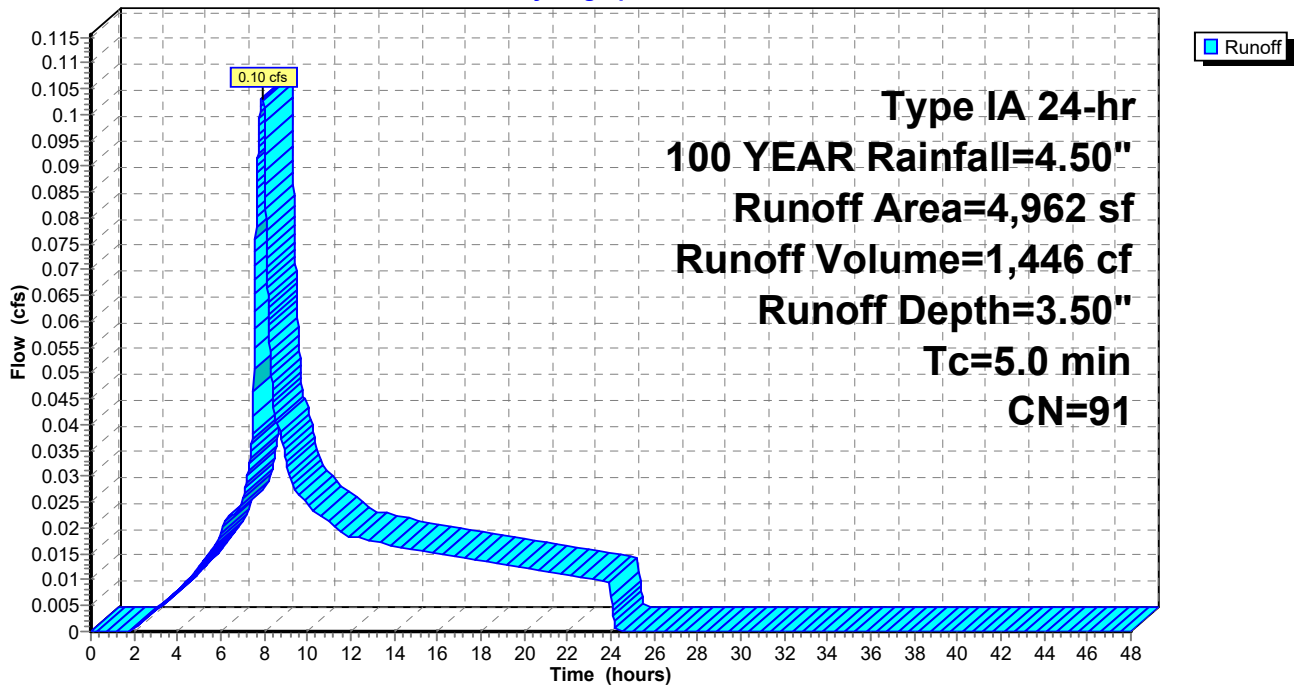
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr 100 YEAR Rainfall=4.50"

Area (sf)	CN	Description
1,821	80	>75% Grass cover, Good, HSG D
* 3,141	98	
4,962	91	Weighted Average
1,821	80	36.70% Pervious Area
3,141	98	63.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

**Subcatchment 3S: Site - Post Dev**

Hydrograph



**Summary for Pond 1P: Pond**

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=8)

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 3.50" for 100 YEAR event  
 Inflow = 0.10 cfs @ 7.90 hrs, Volume= 1,446 cf  
 Outflow = 0.83 cfs @ 8.44 hrs, Volume= 1,446 cf, Atten= 0%, Lag= 32.2 min  
 Primary = 0.83 cfs @ 8.44 hrs, Volume= 1,446 cf

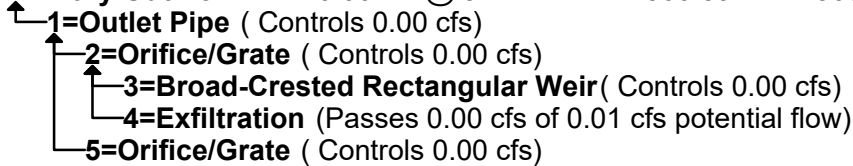
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.97' @ 8.35 hrs Surf.Area= 341 sf Storage= 213 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 46.1 min ( 763.0 - 716.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	431 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
360.00	112	0	0
360.50	217	82	82
361.50	481	349	431

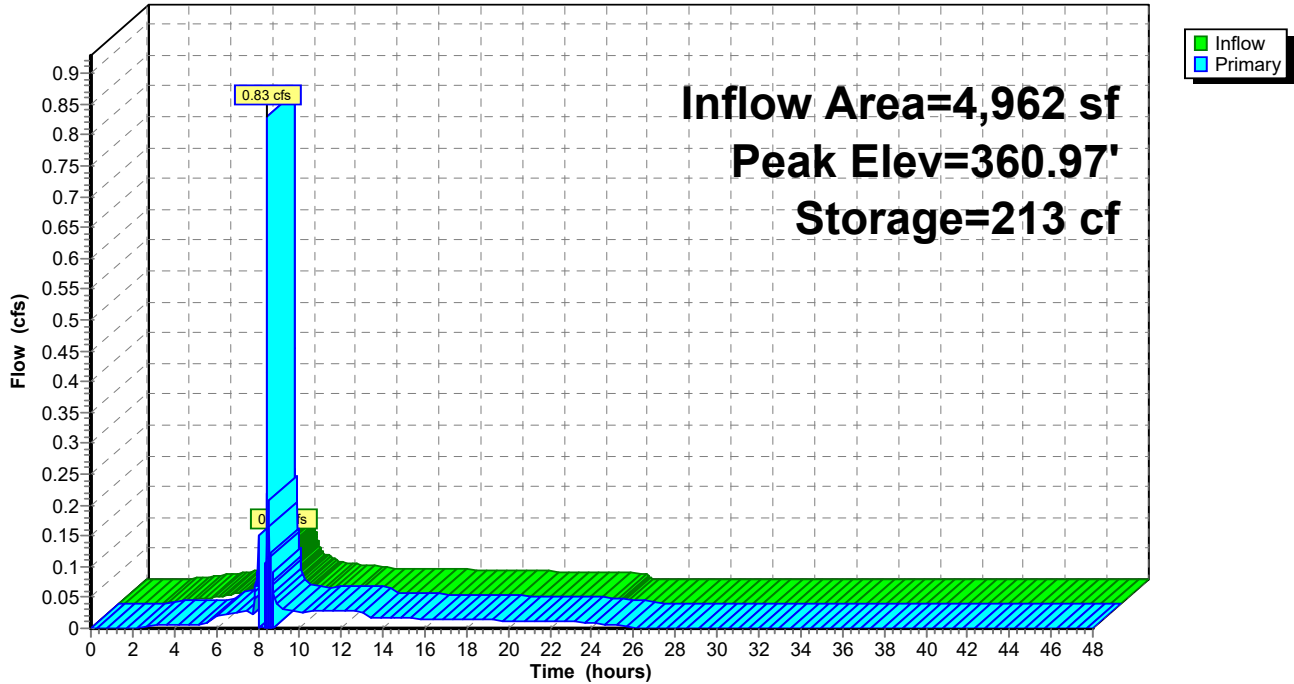
Device	Routing	Invert	Outlet Devices
#1	Primary	358.75'	<b>12.0" Round Outlet Pipe</b> L= 15.0' Ke= 1.000 Inlet / Outlet Invert= 358.75' / 358.68' S= 0.0047 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	358.75'	<b>0.9" Horiz. Orifice/Grate</b> C= 0.620
#3	Device 2	360.25'	<b>2.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 2	360.00'	<b>2.000 in/hr Exfiltration over Surface area</b>
#5	Device 1	360.65'	<b>8.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.00 cfs @ 8.44 hrs HW=360.89' TW=360.93' (Dynamic Tailwater)



### Pond 1P: Pond

Hydrograph



**Summary for Pond 1R: CB01 - 12" C900**

[80] Warning: Exceeded Pond 1P by 0.24' @ 8.49 hrs (0.84 cfs 965 cf)

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 3.50" for 100 YEAR event  
 Inflow = 0.83 cfs @ 8.44 hrs, Volume= 1,446 cf  
 Outflow = 0.83 cfs @ 8.44 hrs, Volume= 1,446 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.83 cfs @ 8.44 hrs, Volume= 1,446 cf

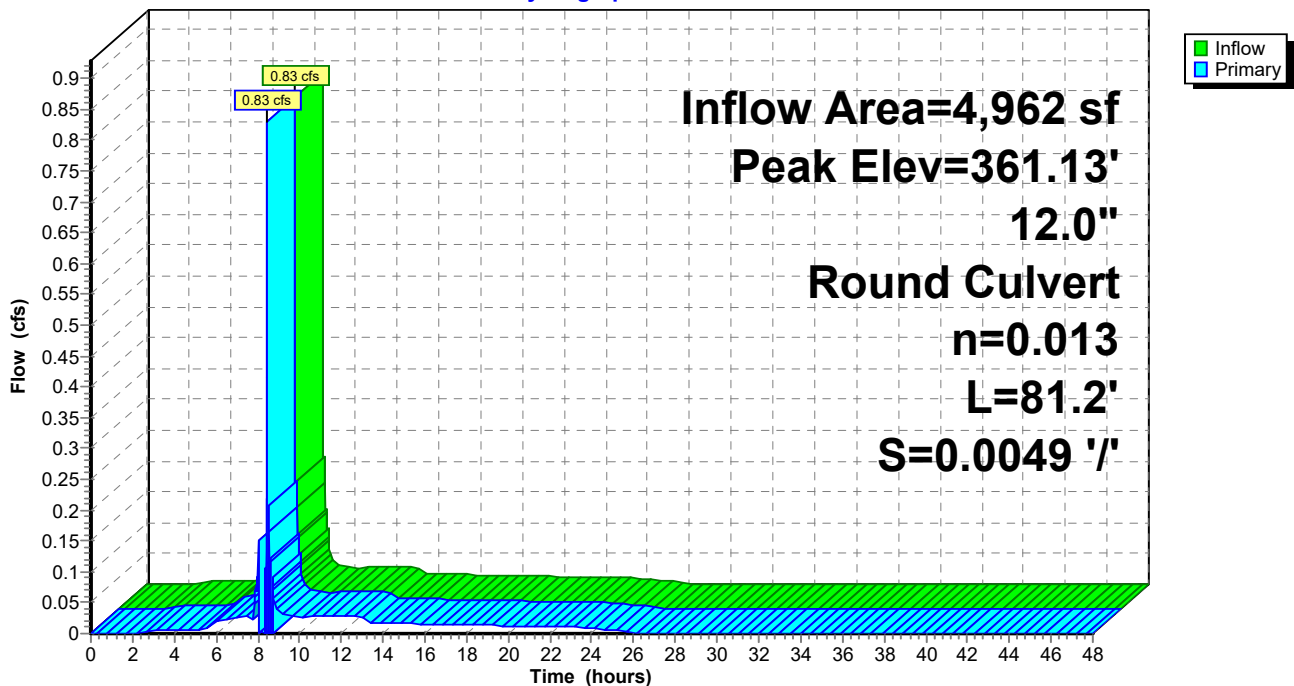
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.13' @ 8.41 hrs  
 Flood Elev= 361.57'

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.36'	<b>12.0" Round Culvert</b> L= 81.2' Ke= 0.500 Inlet / Outlet Invert= 358.36' / 357.96' S= 0.0049 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 8.44 hrs HW=360.93' TW=361.53' (Dynamic Tailwater)  
 ↑1=Culvert ( Controls 0.00 cfs)

**Pond 1R: CB01 - 12" C900**

Hydrograph





### Summary for Pond 2R: 12" Ex Culvert

[58] Hint: Peaked 2.14' above defined flood level

Inflow Area = 914,760 sf, 0.00% Impervious, Inflow Depth = 2.13" for 100 YEAR event  
 Inflow = 5.72 cfs @ 8.20 hrs, Volume= 162,355 cf  
 Outflow = 5.72 cfs @ 8.20 hrs, Volume= 162,355 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 5.72 cfs @ 8.20 hrs, Volume= 162,355 cf

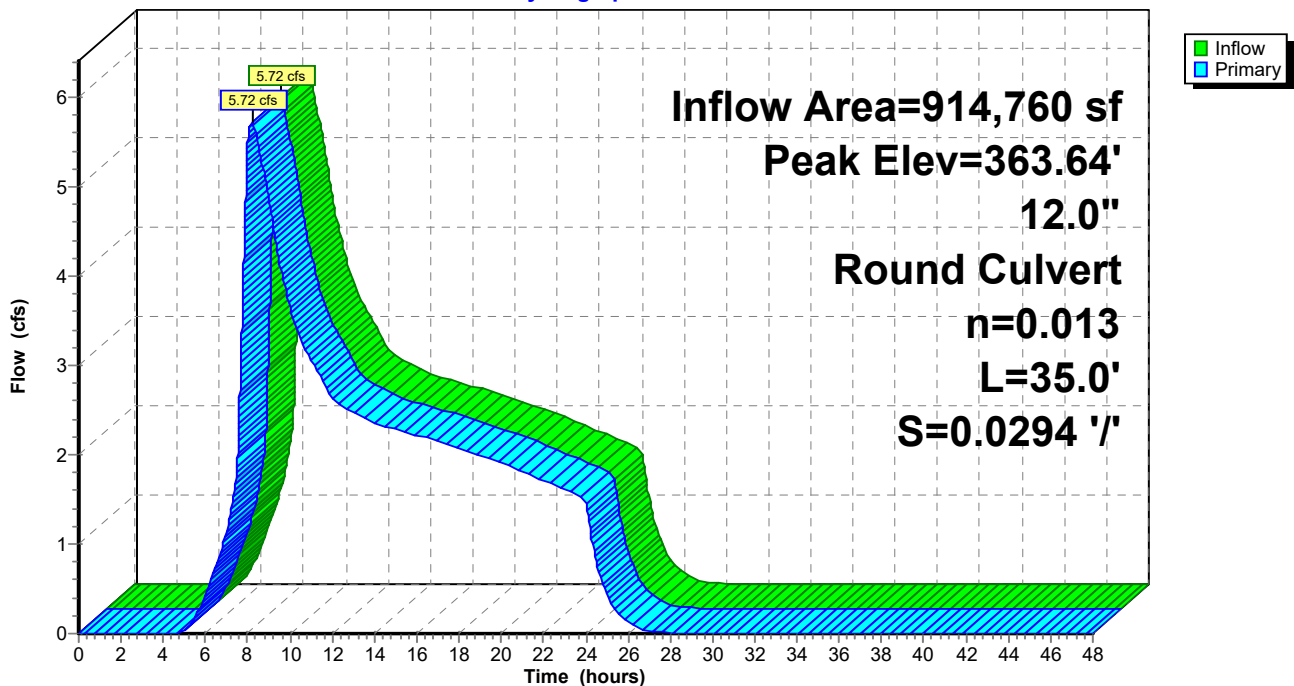
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 363.64' @ 8.45 hrs  
 Flood Elev= 361.50'

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 35.0' Ke= 0.500 Inlet / Outlet Invert= 358.89' / 357.86' S= 0.0294 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.72 cfs @ 8.20 hrs HW=363.33' TW=361.04' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 5.72 cfs @ 7.28 fps)

### Pond 2R: 12" Ex Culvert

Hydrograph



### Summary for Pond 3R: CB02 - 12" Ex Culvert

[58] Hint: Peaked 0.98' above defined flood level

[80] Warning: Exceeded Pond 1R by 2.50' @ 8.43 hrs (4.31 cfs 2,511 cf)

Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 2.14" for 100 YEAR event  
 Inflow = 6.34 cfs @ 8.44 hrs, Volume= 163,801 cf  
 Outflow = 6.34 cfs @ 8.44 hrs, Volume= 163,801 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 6.34 cfs @ 8.44 hrs, Volume= 163,801 cf

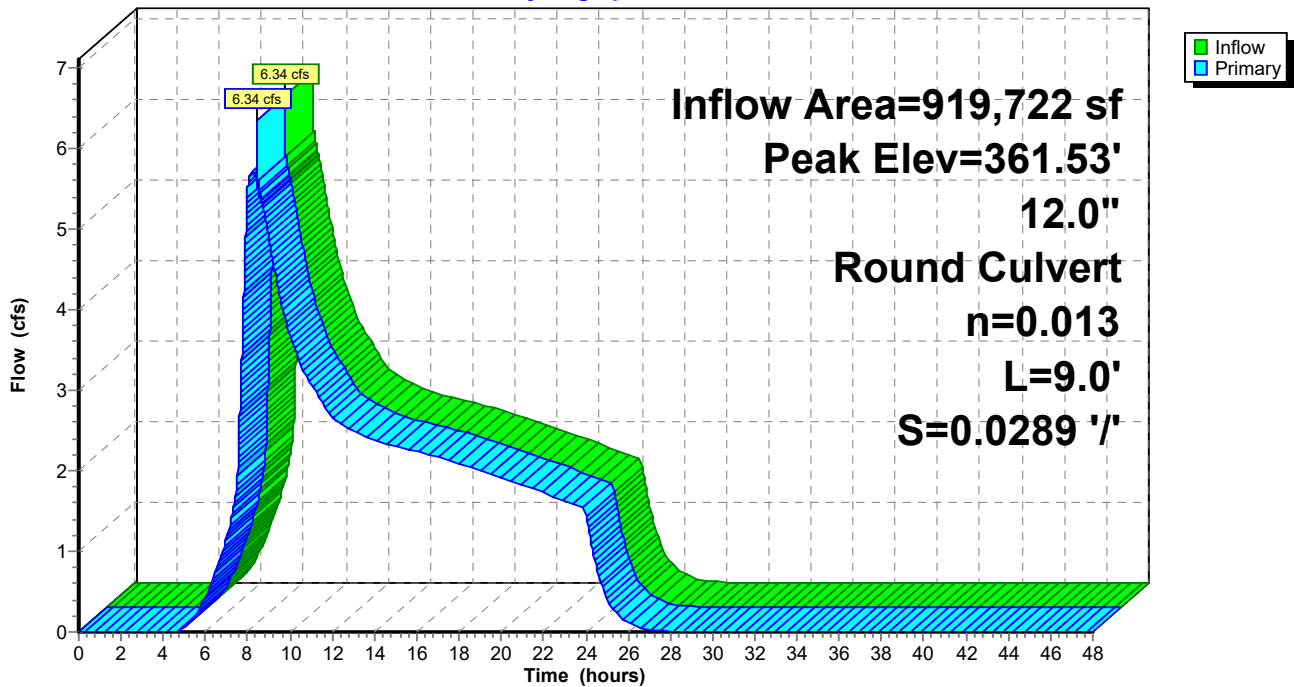
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 361.53' @ 8.44 hrs  
 Flood Elev= 360.55'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.86'	<b>12.0" Round Culvert</b> L= 9.0' Ke= 0.500 Inlet / Outlet Invert= 357.86' / 357.60' S= 0.0289 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=6.19 cfs @ 8.44 hrs HW=361.52' TW=358.85' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 6.19 cfs @ 7.88 fps)

### Pond 3R: CB02 - 12" Ex Culvert

Hydrograph



**Summary for Pond 4R: EX CB - 18" Ex Pipe**

Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 2.14" for 100 YEAR event  
 Inflow = 6.34 cfs @ 8.44 hrs, Volume= 163,801 cf  
 Outflow = 6.34 cfs @ 8.44 hrs, Volume= 163,801 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 6.34 cfs @ 8.44 hrs, Volume= 163,801 cf

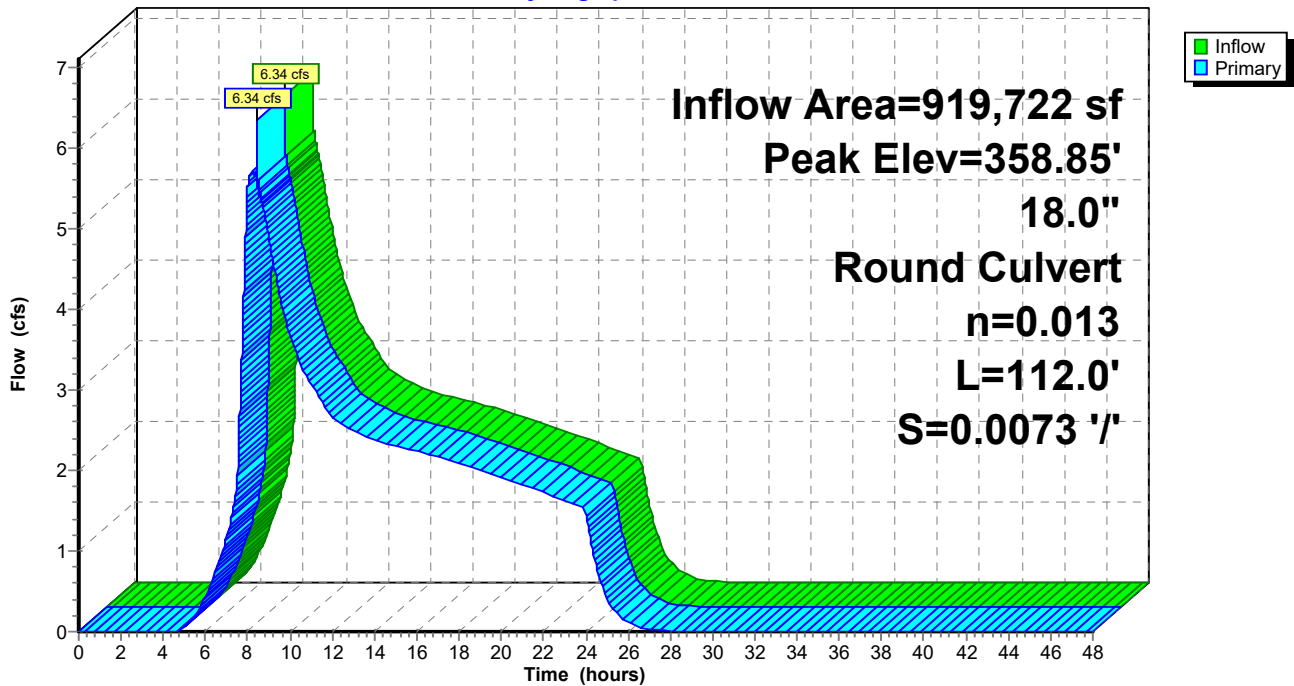
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.85' @ 8.44 hrs  
 Flood Elev= 360.52'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.47'	<b>18.0" Round Culvert</b> L= 112.0' Ke= 0.500 Inlet / Outlet Invert= 357.47' / 356.65' S= 0.0073 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=6.33 cfs @ 8.44 hrs HW=358.85' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 6.33 cfs @ 4.88 fps)

**Pond 4R: EX CB - 18" Ex Pipe**

Hydrograph



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points  
Runoff by SBUH method, Weighted-CN  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment1S: Offsite - Pre Dev** Runoff Area=21.000 ac 0.00% Impervious Runoff Depth=0.04"  
Flow Length=1,450' Tc=46.4 min CN=76 Runoff=0.08 cfs 2,934 cf

**Subcatchment3S: Site - Post Dev** Runoff Area=4,962 sf 63.30% Impervious Runoff Depth=0.36"  
Tc=5.0 min CN=91 Runoff=0.01 cfs 149 cf

**Pond 1P: Pond** Peak Elev=360.03' Storage=3 cf Inflow=0.01 cfs 149 cf  
Outflow=0.01 cfs 149 cf

**Pond 1R: CB01 - 12" C900** Peak Elev=358.41' Inflow=0.01 cfs 149 cf  
12.0" Round Culvert n=0.013 L=81.2' S=0.0049 '/' Outflow=0.01 cfs 149 cf

**Pond 2R: 12" Ex Culvert** Peak Elev=359.03' Inflow=0.08 cfs 2,934 cf  
12.0" Round Culvert n=0.013 L=35.0' S=0.0294 '/' Outflow=0.08 cfs 2,934 cf

**Pond 3R: CB02 - 12" Ex Culvert** Peak Elev=358.00' Inflow=0.09 cfs 3,083 cf  
12.0" Round Culvert n=0.013 L=9.0' S=0.0289 '/' Outflow=0.09 cfs 3,083 cf

**Pond 4R: EX CB - 18" Ex Pipe** Peak Elev=357.61' Inflow=0.09 cfs 3,083 cf  
18.0" Round Culvert n=0.013 L=112.0' S=0.0073 '/' Outflow=0.09 cfs 3,083 cf

**Total Runoff Area = 919,722 sf Runoff Volume = 3,083 cf Average Runoff Depth = 0.04"**  
**99.66% Pervious = 916,581 sf 0.34% Impervious = 3,141 sf**

**Summary for Subcatchment 1S: Offsite - Pre Dev**

Runoff = 0.08 cfs @ 21.92 hrs, Volume= 2,934 cf, Depth= 0.04"

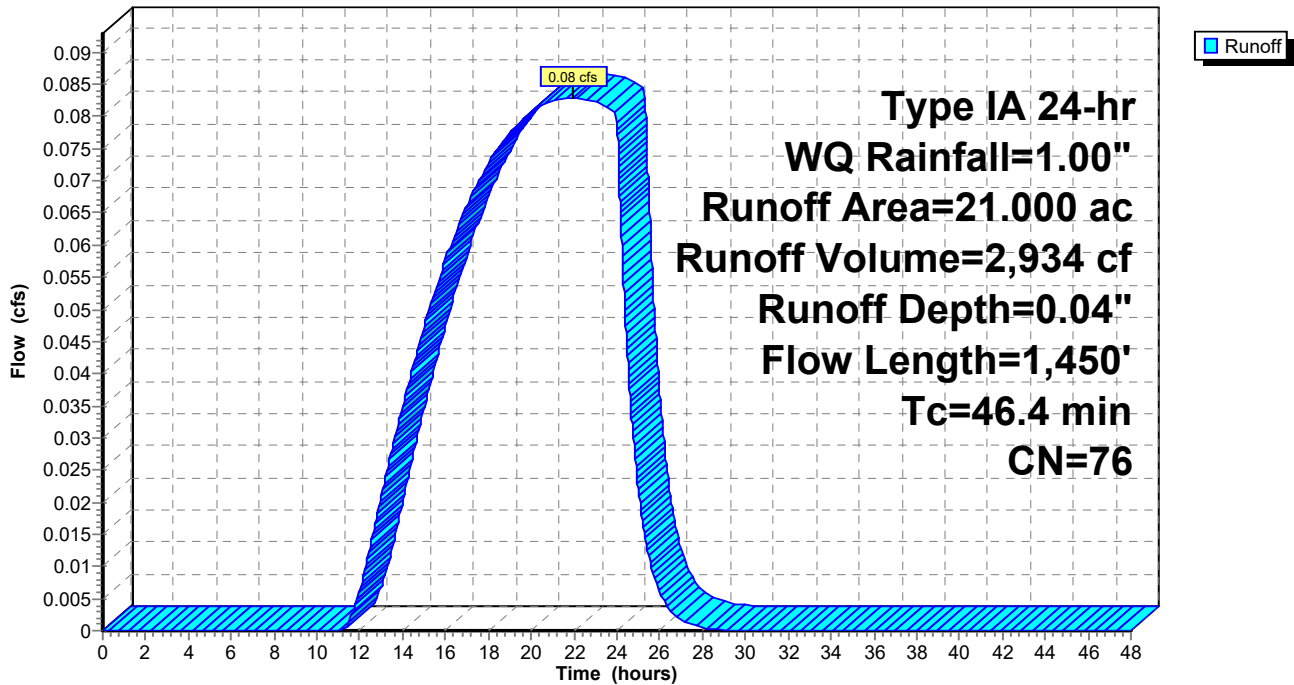
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type IA 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
8.000	82	Woods/grass comb., Fair, HSG D
13.000	72	Woods/grass comb., Good, HSG C
21.000	76	Weighted Average
21.000	76	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.6	300	0.2000	0.12		<b>Sheet Flow, 300-ft</b> Woods: Dense underbrush n= 0.800 P2= 2.50"
2.6	300	0.1500	1.94		<b>Shallow Concentrated Flow, Shallow Concentrated</b> Woodland Kv= 5.0 fps
3.2	850	0.1000	4.45	44.48	<b>Parabolic Channel,</b> W=15.00' D=1.00' Area=10.0 sf Perim=15.2' n= 0.080 Earth, long dense weeds
46.4	1,450	Total			

**Subcatchment 1S: Offsite - Pre Dev**

Hydrograph



**Summary for Subcatchment 3S: Site - Post Dev**

Runoff = 0.01 cfs @ 8.00 hrs, Volume= 149 cf, Depth= 0.36"

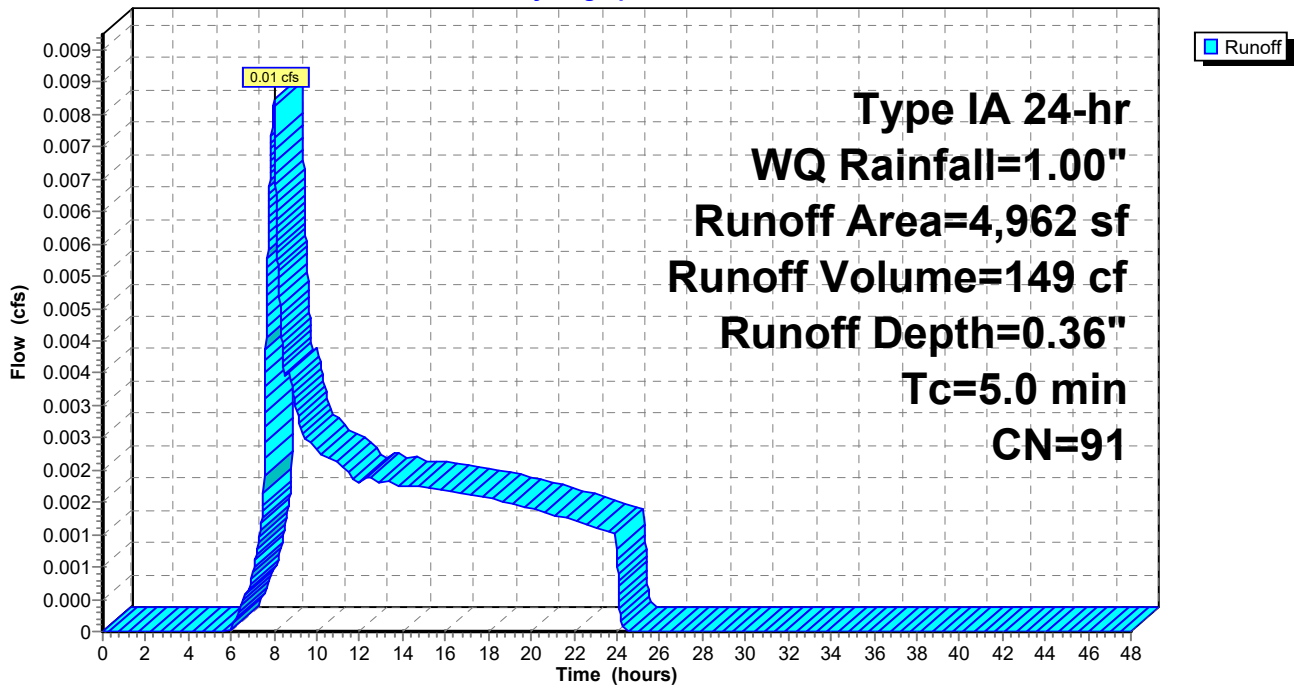
Runoff by SBUH method, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Type IA 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
1,821	80	>75% Grass cover, Good, HSG D
* 3,141	98	
4,962	91	Weighted Average
1,821	80	36.70% Pervious Area
3,141	98	63.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

**Subcatchment 3S: Site - Post Dev**

Hydrograph





**Summary for Pond 1P: Pond**

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=766)

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 0.36" for WQ event  
 Inflow = 0.01 cfs @ 8.00 hrs, Volume= 149 cf  
 Outflow = 0.01 cfs @ 8.21 hrs, Volume= 149 cf, Atten= 34%, Lag= 12.6 min  
 Primary = 0.01 cfs @ 8.21 hrs, Volume= 149 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 360.03' @ 8.21 hrs Surf.Area= 118 sf Storage= 3 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)  
 Center-of-Mass det. time= 1.0 min ( 850.1 - 849.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	360.00'	431 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
360.00	112	0	0
360.50	217	82	82
361.50	481	349	431

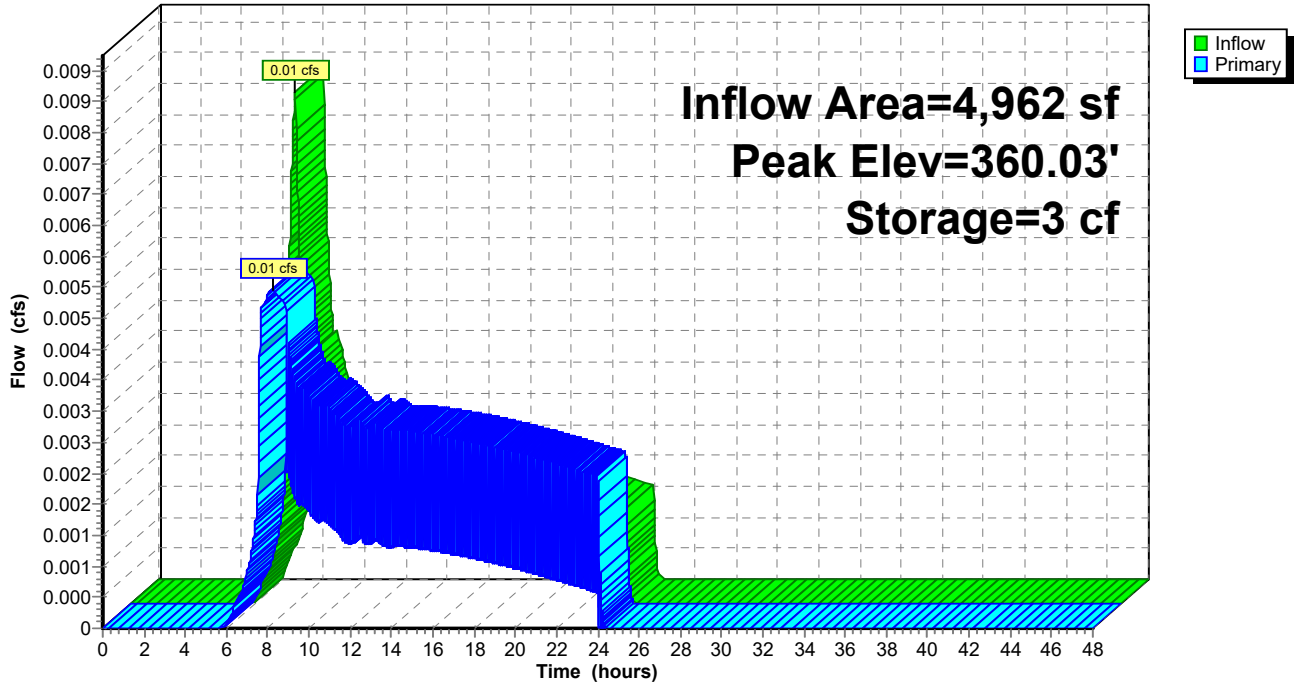
Device	Routing	Invert	Outlet Devices
#1	Primary	358.75'	<b>12.0" Round Outlet Pipe</b> L= 15.0' Ke= 1.000 Inlet / Outlet Invert= 358.75' / 358.68' S= 0.0047 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	358.75'	<b>0.9" Horiz. Orifice/Grate</b> C= 0.620
#3	Device 2	360.25'	<b>2.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 2	360.00'	<b>2.000 in/hr Exfiltration over Surface area</b>
#5	Device 1	360.65'	<b>8.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.01 cfs @ 8.21 hrs HW=360.03' TW=358.41' (Dynamic Tailwater)

- 1=Outlet Pipe (Passes 0.01 cfs of 2.50 cfs potential flow)
- 2=Orifice/Grate (Passes 0.01 cfs of 0.02 cfs potential flow)
- 3=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)
- 4=Exfiltration (Exfiltration Controls 0.01 cfs)
- 5=Orifice/Grate ( Controls 0.00 cfs)

### Pond 1P: Pond

Hydrograph



**Summary for Pond 1R: CB01 - 12" C900**

Inflow Area = 4,962 sf, 63.30% Impervious, Inflow Depth = 0.36" for WQ event  
 Inflow = 0.01 cfs @ 8.21 hrs, Volume= 149 cf  
 Outflow = 0.01 cfs @ 8.21 hrs, Volume= 149 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.01 cfs @ 8.21 hrs, Volume= 149 cf

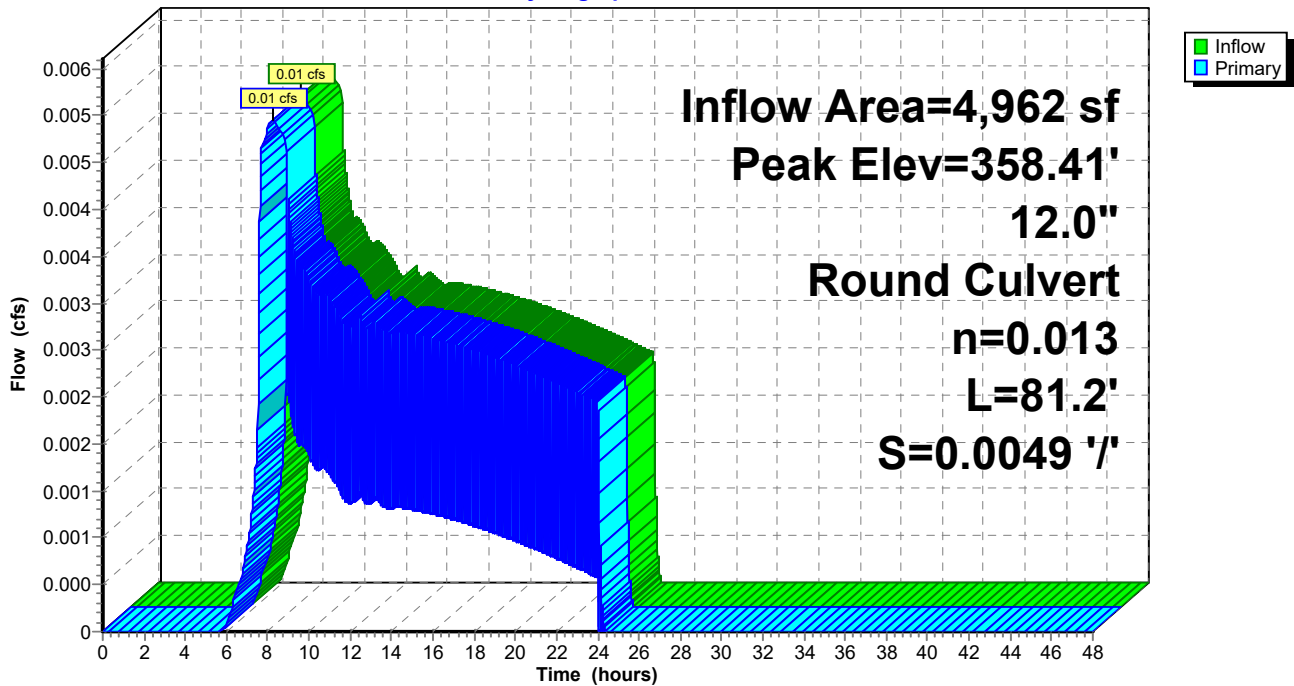
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.41' @ 8.21 hrs  
 Flood Elev= 361.57'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.36'	<b>12.0" Round Culvert</b> L= 81.2' Ke= 0.500 Inlet / Outlet Invert= 358.36' / 357.96' S= 0.0049 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.01 cfs @ 8.21 hrs HW=358.41' TW=357.89' (Dynamic Tailwater)  
 ↑1=Culvert (Barrel Controls 0.01 cfs @ 0.64 fps)

**Pond 1R: CB01 - 12" C900**

Hydrograph



### Summary for Pond 2R: 12" Ex Culvert

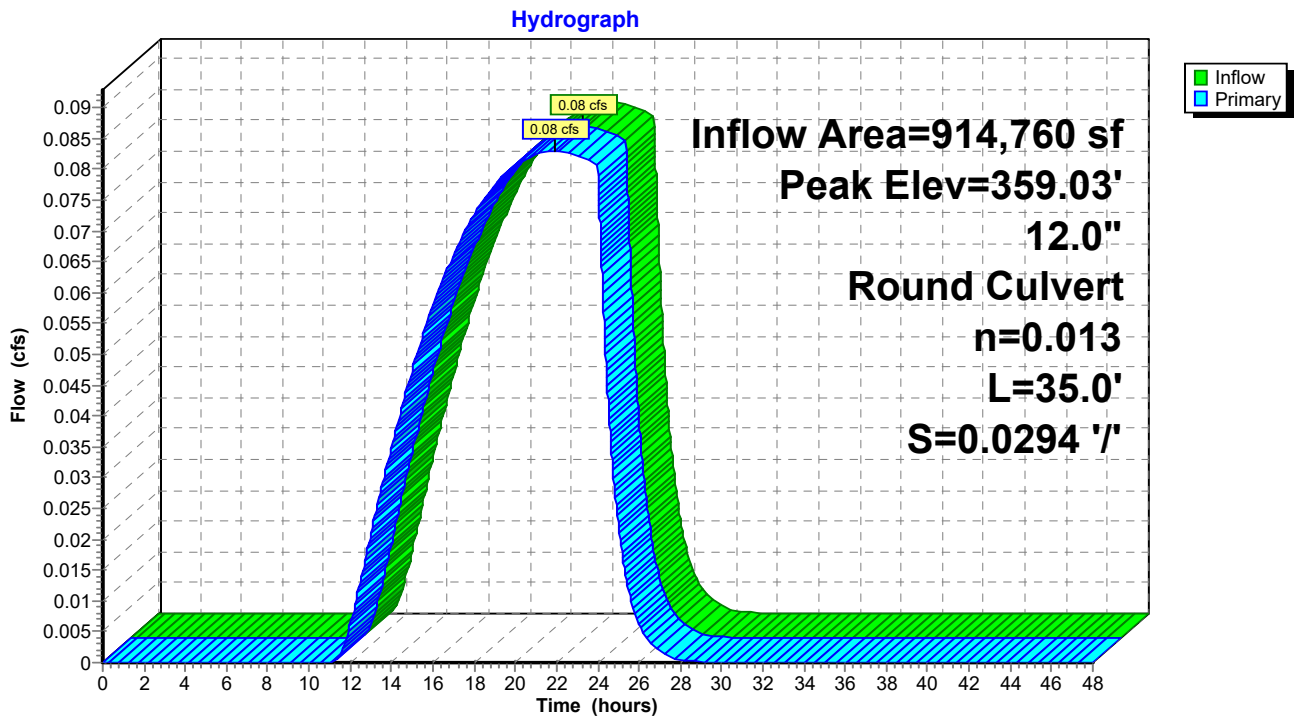
Inflow Area = 914,760 sf, 0.00% Impervious, Inflow Depth = 0.04" for WQ event  
 Inflow = 0.08 cfs @ 21.92 hrs, Volume= 2,934 cf  
 Outflow = 0.08 cfs @ 21.92 hrs, Volume= 2,934 cf, Atten= 0%, Lag= 0.1 min  
 Primary = 0.08 cfs @ 21.92 hrs, Volume= 2,934 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 359.03' @ 21.92 hrs  
 Flood Elev= 361.50'

Device #	Routing	Invert	Outlet Devices
#1	Primary	358.89'	<b>12.0" Round Culvert</b> L= 35.0' Ke= 0.500 Inlet / Outlet Invert= 358.89' / 357.86' S= 0.0294 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.08 cfs @ 21.92 hrs HW=359.03' TW=358.00' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 0.08 cfs @ 1.27 fps)

### Pond 2R: 12" Ex Culvert



**Summary for Pond 3R: CB02 - 12" Ex Culvert**

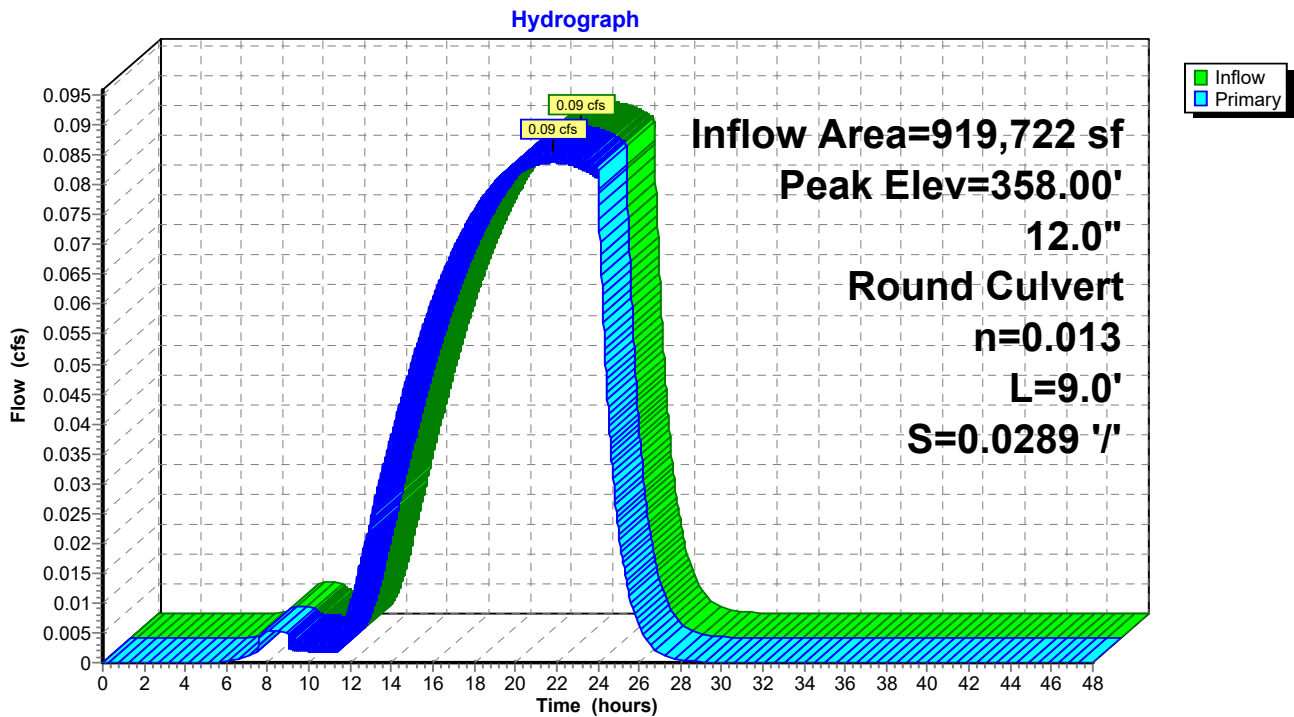
Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 0.04" for WQ event  
 Inflow = 0.09 cfs @ 21.83 hrs, Volume= 3,083 cf  
 Outflow = 0.09 cfs @ 21.83 hrs, Volume= 3,083 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.09 cfs @ 21.83 hrs, Volume= 3,083 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 358.00' @ 21.83 hrs  
 Flood Elev= 360.55'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.86'	<b>12.0" Round Culvert</b> L= 9.0' Ke= 0.500 Inlet / Outlet Invert= 357.86' / 357.60' S= 0.0289 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.09 cfs @ 21.83 hrs HW=358.00' TW=357.61' (Dynamic Tailwater)  
 ↑1=Culvert (Inlet Controls 0.09 cfs @ 1.28 fps)

**Pond 3R: CB02 - 12" Ex Culvert**



**Summary for Pond 4R: EX CB - 18" Ex Pipe**

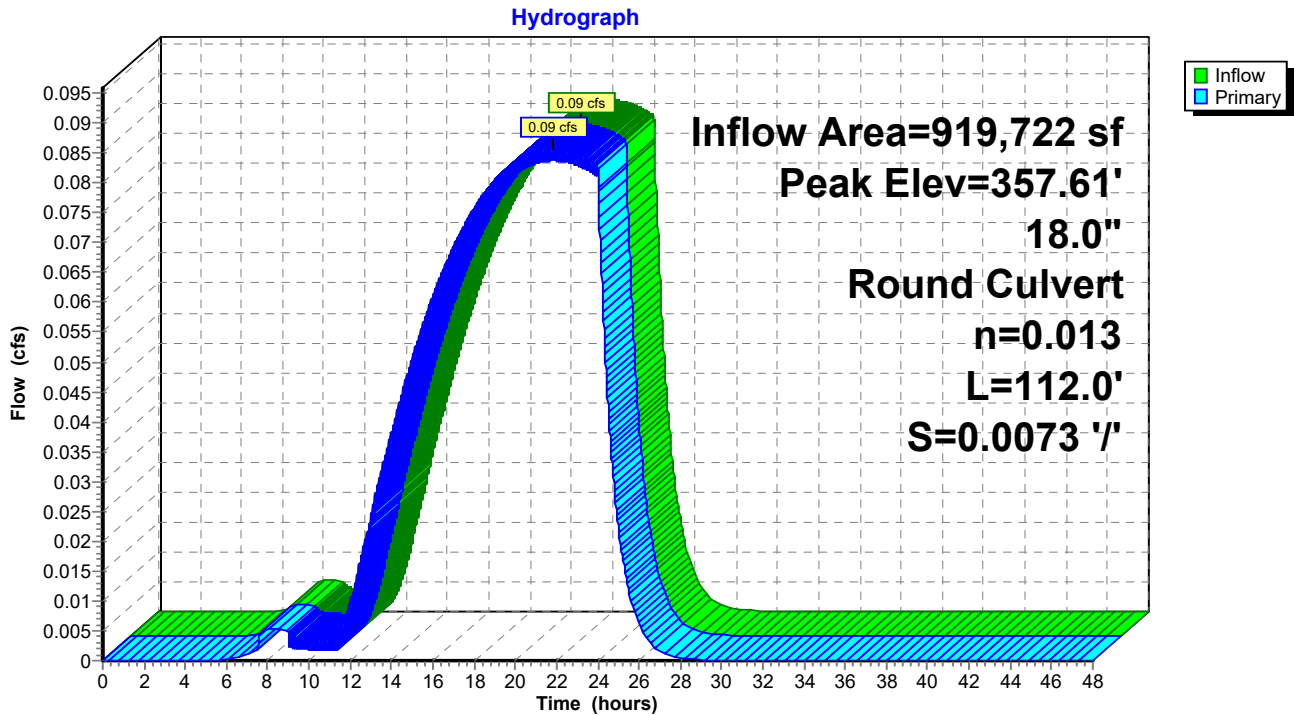
Inflow Area = 919,722 sf, 0.34% Impervious, Inflow Depth = 0.04" for WQ event  
 Inflow = 0.09 cfs @ 21.83 hrs, Volume= 3,083 cf  
 Outflow = 0.09 cfs @ 21.83 hrs, Volume= 3,083 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 0.09 cfs @ 21.83 hrs, Volume= 3,083 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
 Peak Elev= 357.61' @ 21.83 hrs  
 Flood Elev= 360.52'

Device #	Routing	Invert	Outlet Devices
#1	Primary	357.47'	<b>18.0" Round Culvert</b> L= 112.0' Ke= 0.500 Inlet / Outlet Invert= 357.47' / 356.65' S= 0.0073 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=0.09 cfs @ 21.83 hrs HW=357.61' (Free Discharge)  
 1=Culvert (Barrel Controls 0.09 cfs @ 1.59 fps)

**Pond 4R: EX CB - 18" Ex Pipe**





## **APPENDIX E: USDA-NRCS SOIL RESOURCE REPORT**

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United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Yamhill County, Oregon



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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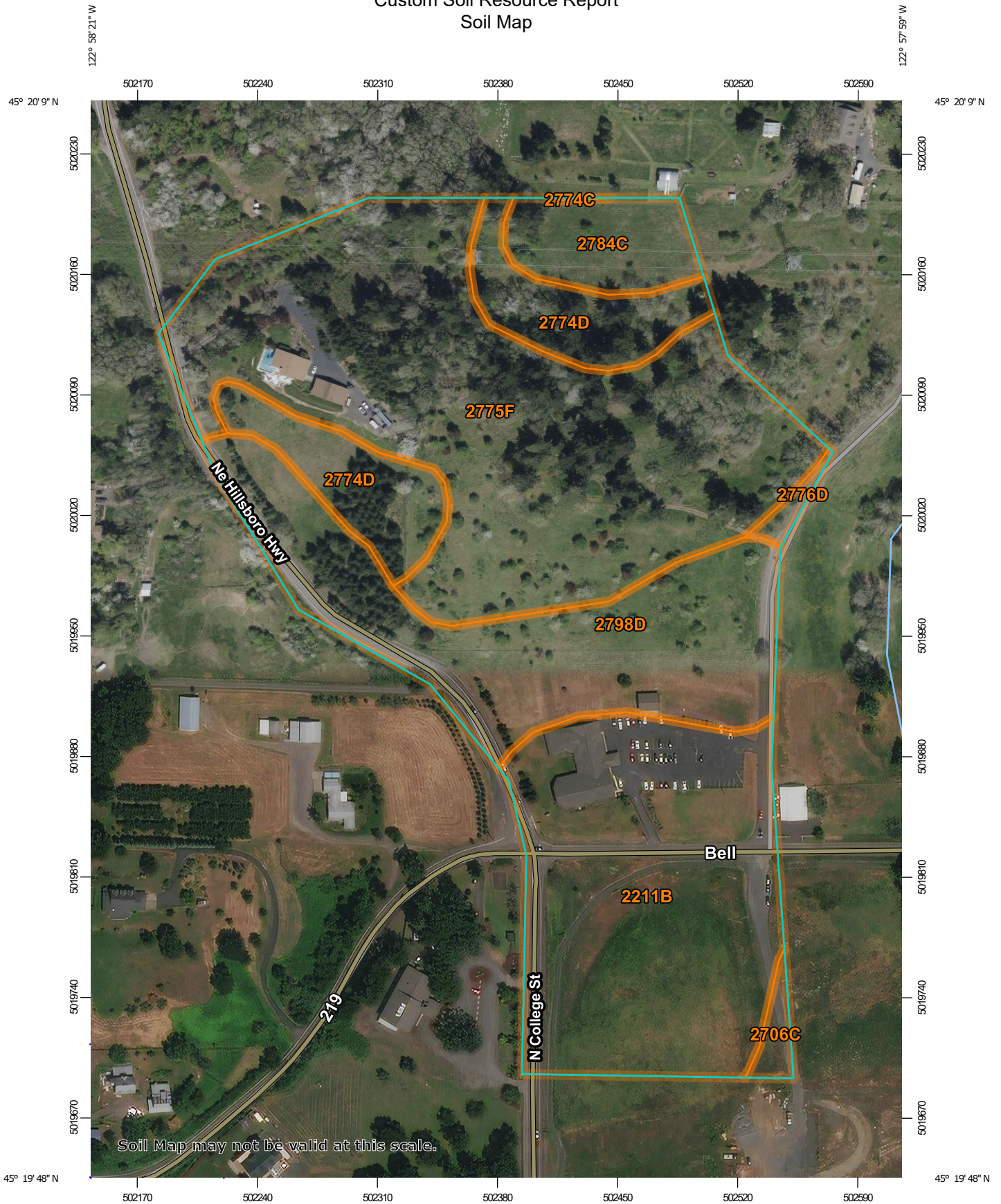
# Soil Map

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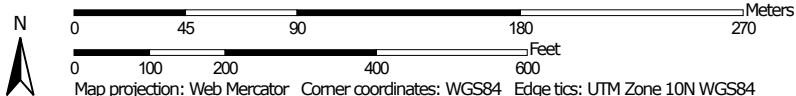
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map




Map Scale: 1:3,050 if printed on A portrait (8.5" x 11") sheet.




### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)




















**Soils**







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

**Special Point Features**






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yamhill County, Oregon  
 Survey Area Data: Version 10, Oct 27, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2015—Apr 18, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2211B	Cove silty clay loam, 3 to 8 percent slopes	7.5	25.1%
2706C	Hazelair silty clay loam, 2 to 12 percent slopes	0.2	0.8%
2774C	Saum silt loam, 2 to 12 percent slopes	0.0	0.0%
2774D	Saum silt loam, 12 to 20 percent slopes	2.9	9.9%
2775F	Saum-Ritner complex, 30 to 75 percent slopes	11.9	39.8%
2776D	Panther-Witham complex, hummocky, 2 to 25 percent slopes	0.2	0.5%
2784C	Witzel-Ritner complex, 2 to 12 percent slopes, stony	1.4	4.5%
2798D	Witham silty clay loam, hummocky, 2 to 25 percent slopes	5.8	19.3%
<b>Totals for Area of Interest</b>		<b>29.9</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the

## Custom Soil Resource Report

scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## Yamhill County, Oregon

### 2211B—Cove silty clay loam, 3 to 8 percent slopes

#### Map Unit Setting

*National map unit symbol:* 21yjp

*Elevation:* 120 to 500 feet

*Mean annual precipitation:* 40 to 60 inches

*Mean annual air temperature:* 50 to 54 degrees F

*Frost-free period:* 165 to 210 days

*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Cove and similar soils:* 89 percent

*Minor components:* 11 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Cove

##### Setting

*Landform:* Alluvial fans, terraces

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Concave, linear

*Parent material:* Clayey alluvium

##### Typical profile

*A1 - 0 to 8 inches:* silty clay loam

*A2 - 8 to 13 inches:* silty clay

*AB - 13 to 18 inches:* clay

*Bg - 18 to 40 inches:* clay

*Cg - 40 to 60 inches:* clay

##### Properties and qualities

*Slope:* 3 to 8 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* About 0 to 8 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* High (about 10.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 3w

*Hydrologic Soil Group:* D

*Ecological site:* R002XC005OR - High Floodplain Group

*Hydric soil rating:* Yes

#### Minor Components

##### Chehalem, volcanic

*Percent of map unit:* 5 percent

*Landform:* Alluvial fans

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*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Cove, flooded**

*Percent of map unit:* 3 percent  
*Landform:* Flood plains  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

### **Waldo**

*Percent of map unit:* 2 percent  
*Landform:* Flood plains  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave, linear  
*Other vegetative classification:* Poorly Drained (G002XY006OR)  
*Hydric soil rating:* Yes

### **Abiqua**

*Percent of map unit:* 1 percent  
*Landform:* Alluvial fans  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Other vegetative classification:* Well drained < 15% Slopes (G002XY002OR)  
*Hydric soil rating:* No

## **2706C—Hazelair silty clay loam, 2 to 12 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1j8bg  
*Elevation:* 200 to 400 feet  
*Mean annual precipitation:* 40 to 60 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 165 to 210 days  
*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Hazelair and similar soils:* 81 percent  
*Minor components:* 19 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Hazelair**

#### **Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope



## Custom Soil Resource Report

*Landform position (three-dimensional):* Interfluve, base slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear, convex

*Parent material:* Silty glaciolacustrine deposits and colluvium over clayey residuum derived from sandstone and siltstone

### Typical profile

*Ap - 0 to 7 inches:* silty clay loam

*A - 7 to 11 inches:* silty clay loam

*Bw - 11 to 18 inches:* silty clay

*2Bg - 18 to 24 inches:* clay

*2C - 24 to 30 inches:* clay

*2Cr - 30 to 40 inches:* weathered bedrock

### Properties and qualities

*Slope:* 2 to 12 percent

*Depth to restrictive feature:* 20 to 39 inches to paralithic bedrock

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* About 11 to 18 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* Low (about 5.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Ecological site:* R002XC010OR - Claypan Low Hill Group

*Forage suitability group:* Somewhat Poorly Drained (G002XY005OR)

*Other vegetative classification:* Somewhat Poorly Drained (G002XY005OR)

*Hydric soil rating:* No

### Minor Components

#### Helmick

*Percent of map unit:* 10 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Summit, toeslope

*Landform position (three-dimensional):* Interfluve, base slope

*Down-slope shape:* Linear

*Across-slope shape:* Concave, linear

*Other vegetative classification:* Somewhat Poorly Drained (G002XY005OR)

*Hydric soil rating:* No

#### Goodin

*Percent of map unit:* 3 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Summit, toeslope

*Landform position (three-dimensional):* Interfluve, base slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear, convex

*Hydric soil rating:* No

#### Chehulpum

*Percent of map unit:* 3 percent

## Custom Soil Resource Report

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope  
*Landform position (three-dimensional):* Interfluve, base slope  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Convex  
*Other vegetative classification:* Well drained < 15% Slopes (G002XY002OR)  
*Hydric soil rating:* No

### **Melbourne**

*Percent of map unit:* 2 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope  
*Landform position (three-dimensional):* Interfluve, base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Panther, hummocky**

*Percent of map unit:* 1 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## **2774C—Saum silt loam, 2 to 12 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1j8cq  
*Elevation:* 240 to 1,130 feet  
*Mean annual precipitation:* 40 to 60 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 165 to 210 days  
*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Saum and similar soils:* 93 percent  
*Minor components:* 7 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Saum**

#### **Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope  
*Landform position (three-dimensional):* Interfluve, base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave, linear

## Custom Soil Resource Report

*Parent material:* Loamy colluvium derived from basalt over clayey residuum weathered from basalt

### Typical profile

*Ap - 0 to 7 inches:* silt loam  
*A - 7 to 13 inches:* silt loam  
*BA - 13 to 22 inches:* silt loam  
*Bw - 22 to 35 inches:* silty clay loam  
*2Bt - 35 to 50 inches:* silty clay  
*2BCt - 50 to 68 inches:* clay

### Properties and qualities

*Slope:* 2 to 12 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* High (about 11.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 2e  
*Hydrologic Soil Group:* C  
*Ecological site:* F002XB006OR - Foothill Group  
*Hydric soil rating:* No

### Minor Components

#### Cottrell

*Percent of map unit:* 2 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

#### Parrett

*Percent of map unit:* 2 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope  
*Landform position (three-dimensional):* Interfluvium, base slope  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Linear, convex  
*Hydric soil rating:* No

#### Ritner

*Percent of map unit:* 1 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope  
*Landform position (three-dimensional):* Interfluvium, base slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear, convex  
*Hydric soil rating:* No

**Witzel**

*Percent of map unit:* 1 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope  
*Landform position (three-dimensional):* Interfluve, base slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Macdunn**

*Percent of map unit:* 1 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit, toeslope  
*Landform position (three-dimensional):* Interfluve, base slope  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**2774D—Saum silt loam, 12 to 20 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 1j8cr  
*Elevation:* 240 to 1,150 feet  
*Mean annual precipitation:* 40 to 60 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 165 to 210 days  
*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Saum and similar soils:* 93 percent  
*Minor components:* 7 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Saum**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Shoulder, backslope, footslope  
*Landform position (three-dimensional):* Side slope, base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Loamy colluvium derived from basalt over clayey residuum weathered from basalt

**Typical profile**

*Ap - 0 to 7 inches:* silt loam  
*A - 7 to 13 inches:* silt loam  
*BA - 13 to 22 inches:* silt loam  
*Bw - 22 to 35 inches:* silty clay loam  
*2Bt - 35 to 50 inches:* silty clay

## Custom Soil Resource Report

2BCt - 50 to 68 inches: clay

### Properties and qualities

*Slope:* 12 to 20 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* High (about 11.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* C

*Ecological site:* F002XB006OR - Foothill Group

*Hydric soil rating:* No

### Minor Components

#### Cottrell

*Percent of map unit:* 2 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Linear

*Across-slope shape:* Concave

*Hydric soil rating:* No

#### Parrett

*Percent of map unit:* 2 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Nose slope, side slope, base slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear, convex

*Hydric soil rating:* No

#### Witzel

*Percent of map unit:* 1 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Shoulder, backslope

*Landform position (three-dimensional):* Nose slope, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

#### Macdunn

*Percent of map unit:* 1 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope, base slope

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

**Ritner**

*Percent of map unit:* 1 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Shoulder, backslope  
*Landform position (three-dimensional):* Nose slope, side slope  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**2775F—Saum-Ritner complex, 30 to 75 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 1j8ct  
*Elevation:* 450 to 1,190 feet  
*Mean annual precipitation:* 40 to 50 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 165 to 210 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Saum and similar soils:* 62 percent  
*Ritner and similar soils:* 22 percent  
*Minor components:* 16 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Saum**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Nose slope, side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Loamy colluvium derived from basalt over clayey colluvium derived from basalt

**Typical profile**

*Ap - 0 to 7 inches:* silt loam  
*A - 7 to 13 inches:* silt loam  
*BA - 13 to 22 inches:* silt loam  
*Bw - 22 to 35 inches:* silty clay loam  
*2Bt - 35 to 50 inches:* silty clay  
*2BCt - 50 to 68 inches:* clay

**Properties and qualities**

*Slope:* 30 to 75 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)



## Custom Soil Resource Report

*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* High (about 11.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* C  
*Ecological site:* F002XB006OR - Foothill Group  
*Hydric soil rating:* No

### Description of Ritner

#### Setting

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Nose slope, side slope  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Convex  
*Parent material:* Cobbly and gravelly colluvium derived from basalt

#### Typical profile

*O<sub>i</sub> - 0 to 1 inches:* slightly decomposed plant material  
*A - 1 to 6 inches:* gravelly silty clay loam  
*BA - 6 to 16 inches:* gravelly silty clay loam  
*Bw<sub>1</sub> - 16 to 25 inches:* very gravelly silty clay  
*Bw<sub>2</sub> - 25 to 39 inches:* very cobbly silty clay  
*2R - 39 to 43 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 30 to 75 percent  
*Depth to restrictive feature:* 20 to 39 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (K<sub>sat</sub>):* Moderately high to high  
(0.20 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Low (about 5.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7s  
*Hydrologic Soil Group:* C  
*Ecological site:* F002XC013OR - Foothill Group  
*Hydric soil rating:* No

### Minor Components

#### Parrett

*Percent of map unit:* 10 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Nose slope, side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex

## Custom Soil Resource Report

*Hydric soil rating:* No

### **Macdunn**

*Percent of map unit:* 5 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Nose slope, side slope

*Down-slope shape:* Linear

*Across-slope shape:* Concave, linear

*Hydric soil rating:* No

### **Witzel**

*Percent of map unit:* 1 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Nose slope, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

## **2776D—Panther-Witham complex, hummocky, 2 to 25 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1j8cv

*Elevation:* 190 to 1,260 feet

*Mean annual precipitation:* 40 to 60 inches

*Mean annual air temperature:* 50 to 54 degrees F

*Frost-free period:* 165 to 210 days

*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Panther, hummocky, and similar soils:* 50 percent

*Witham, hummocky, and similar soils:* 35 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Panther, Hummocky**

#### **Setting**

*Landform:* Earthflows

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave, linear

*Across-slope shape:* Concave

*Parent material:* Loamy earthflow deposits derived from volcanic and sedimentary rock over clayey earthflow deposits derived from sandstone and siltstone

#### **Typical profile**

*Ap - 0 to 5 inches:* silty clay loam

*A - 5 to 11 inches:* silty clay loam

## Custom Soil Resource Report

*Bssg1 - 11 to 23 inches: clay*  
*Bssg2 - 23 to 45 inches: clay*  
*BCg - 45 to 60 inches: paragravelly clay*

### Properties and qualities

*Slope: 2 to 25 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Poorly drained*  
*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)*  
*Depth to water table: About 0 to 5 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Available water supply, 0 to 60 inches: High (about 9.1 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 4w*  
*Hydrologic Soil Group: D*  
*Ecological site: R002XC010OR - Claypan Low Hill Group*  
*Hydric soil rating: Yes*

## Description of Witham, Hummocky

### Setting

*Landform: Earthflows*  
*Landform position (two-dimensional): Footslope*  
*Landform position (three-dimensional): Base slope*  
*Down-slope shape: Linear*  
*Across-slope shape: Convex, linear*  
*Parent material: Loamy earthflow deposits derived from volcanic and sedimentary rock over clayey earthflow deposits derived from sandstone and siltstone*

### Typical profile

*A - 0 to 11 inches: silty clay loam*  
*2Bss1 - 11 to 31 inches: clay*  
*2Bssg2 - 31 to 43 inches: clay*  
*2C - 43 to 61 inches: paragravelly silty clay*

### Properties and qualities

*Slope: 2 to 25 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Somewhat poorly drained*  
*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)*  
*Depth to water table: About 10 to 20 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Available water supply, 0 to 60 inches: High (about 9.7 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 4e*  
*Hydrologic Soil Group: D*  
*Ecological site: R002XC010OR - Claypan Low Hill Group*  
*Hydric soil rating: No*

**Minor Components**

**Melbourne, hummocky**

*Percent of map unit:* 5 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex, linear  
*Hydric soil rating:* No

**Gellatly**

*Percent of map unit:* 5 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Saum**

*Percent of map unit:* 5 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**2784C—Witzel-Ritner complex, 2 to 12 percent slopes, stony**

**Map Unit Setting**

*National map unit symbol:* 1j8d9  
*Elevation:* 220 to 1,160 feet  
*Mean annual precipitation:* 40 to 50 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 165 to 210 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Witzel, stony, and similar soils:* 74 percent  
*Ritner, stony, and similar soils:* 20 percent  
*Minor components:* 6 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Witzel, Stony**

**Setting**

*Landform:* Hillslopes

## Custom Soil Resource Report

*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Interfluve  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Gravelly colluvium derived from basalt

### Typical profile

*A - 0 to 7 inches:* very gravelly silt loam  
*Bw - 7 to 16 inches:* extremely cobbly loam  
*R - 16 to 20 inches:* unweathered bedrock

### Properties and qualities

*Slope:* 2 to 12 percent  
*Surface area covered with cobbles, stones or boulders:* 0.1 percent  
*Depth to restrictive feature:* 12 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.20 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Very low (about 1.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6s  
*Hydrologic Soil Group:* D  
*Ecological site:* R002XC009OR - Bald Group  
*Hydric soil rating:* No

## Description of Ritner, Stony

### Setting

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Interfluve  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Linear  
*Parent material:* Cobbly and gravelly colluvium derived from basalt

### Typical profile

*Oi - 0 to 1 inches:* slightly decomposed plant material  
*A1 - 1 to 4 inches:* gravelly silty clay loam  
*A2 - 4 to 11 inches:* cobbly silty clay loam  
*Bw - 11 to 30 inches:* extremely stony silty clay  
*R - 30 to 34 inches:* unweathered bedrock

### Properties and qualities

*Slope:* 2 to 12 percent  
*Surface area covered with cobbles, stones or boulders:* 0.1 percent  
*Depth to restrictive feature:* 20 to 39 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.20 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None

## Custom Soil Resource Report

*Available water supply, 0 to 60 inches:* Very low (about 2.9 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4s

*Hydrologic Soil Group:* C

*Ecological site:* F002XC013OR - Foothill Group

*Hydric soil rating:* No

### **Minor Components**

#### **Macdunn**

*Percent of map unit:* 2 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Interfluve

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Parrett**

*Percent of map unit:* 2 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Interfluve

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Rock outcrop, basalt**

*Percent of map unit:* 1 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Interfluve

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

#### **Saum**

*Percent of map unit:* 1 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Summit

*Landform position (three-dimensional):* Interfluve

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

## 2798D—Witham silty clay loam, hummocky, 2 to 25 percent slopes

### Map Unit Setting

*National map unit symbol:* 1vkrf

*Elevation:* 210 to 1,170 feet

*Mean annual precipitation:* 40 to 60 inches

*Mean annual air temperature:* 50 to 54 degrees F

*Frost-free period:* 165 to 210 days

*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Witham, hummocky, and similar soils:* 75 percent

*Minor components:* 25 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Witham, Hummocky

#### Setting

*Landform:* Earthflows

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Linear

*Across-slope shape:* Convex, linear

*Parent material:* Loamy earthflow deposits derived from volcanic and sedimentary rock over clayey earthflow deposits derived from sandstone and siltstone

#### Typical profile

*A - 0 to 11 inches:* silty clay loam

*2Bss1 - 11 to 31 inches:* clay

*2Bssg2 - 31 to 43 inches:* clay

*2C - 43 to 61 inches:* paragravelly silty clay

#### Properties and qualities

*Slope:* 2 to 25 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* About 10 to 20 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* High (about 9.7 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Ecological site:* R002XC010OR - Claypan Low Hill Group

*Hydric soil rating:* No



**Minor Components**

**Panther, hummocky**

*Percent of map unit:* 10 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

**Melbourne**

*Percent of map unit:* 5 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Gellatly**

*Percent of map unit:* 5 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Saum**

*Percent of map unit:* 5 percent  
*Landform:* Earthflows  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

# References

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

## **APPENDIX F: TR-55 RUNOFF CURVE NUMBERS**

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# TR55 RUNOFF CURVE NUMBERS

**Table 2-2a** Runoff curve numbers for urban areas <sup>1/</sup>

Cover description	Average percent impervious area <sup>2/</sup>	Curve numbers for hydrologic soil group			
		A	B	C	D
<i>Fully developed urban areas (vegetation established)</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.) <sup>3/</sup> :					
Poor condition (grass cover < 50%) .....		68	79	86	89
Fair condition (grass cover 50% to 75%) .....		49	69	79	84
Good condition (grass cover > 75%) .....		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way) .....		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way) .....		98	98	98	98
Paved; open ditches (including right-of-way) .....		83	89	92	93
Gravel (including right-of-way) .....		76	85	89	91
Dirt (including right-of-way) .....		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) <sup>4/</sup> .....		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders) .....		96	96	96	96
Urban districts:					
Commercial and business .....	85	89	92	94	95
Industrial .....	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses) .....	65	77	85	90	92
1/4 acre .....	38	61	75	83	87
1/3 acre .....	30	57	72	81	86
1/2 acre .....	25	54	70	80	85
1 acre .....	20	51	68	79	84
2 acres .....	12	46	65	77	82
<i>Developing urban areas</i>					
Newly graded areas (pervious areas only, no vegetation) <sup>5/</sup> .....					
		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

<sup>1</sup> Average runoff condition, and  $I_a = 0.2S$ .

<sup>2</sup> The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

<sup>3</sup> CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

<sup>4</sup> Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

<sup>5</sup> Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

**Table 2-2b** Runoff curve numbers for cultivated agricultural lands <sup>1/</sup>

Cover description			Curve numbers for hydrologic soil group			
Cover type	Treatment <sup>2/</sup>	Hydrologic condition <sup>3/</sup>	A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
C&T+ CR	Poor	65	73	79	81	
	Good	61	70	77	80	
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T+ CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

<sup>1</sup> Average runoff condition, and  $I_a=0.2S$

<sup>2</sup> Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.

<sup>3</sup> Hydraulic condition is based on combination factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good  $\geq 20\%$ ), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

Table 2-2c Runoff curve numbers for other agricultural lands <sup>1/</sup>

Cover description	Hydrologic condition	Curve numbers for hydrologic soil group			
		A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. <sup>2/</sup>	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. <sup>3/</sup>	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 <sup>4/</sup>	48	65	73
Woods—grass combination (orchard or tree farm). <sup>5/</sup>	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. <sup>6/</sup>	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 <sup>4/</sup>	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

<sup>1</sup> Average runoff condition, and  $I_a = 0.2S$ .

<sup>2</sup> *Poor*: <50% ground cover or heavily grazed with no mulch.

*Fair*: 50 to 75% ground cover and not heavily grazed.

*Good*: > 75% ground cover and lightly or only occasionally grazed.

<sup>3</sup> *Poor*: <50% ground cover.

*Fair*: 50 to 75% ground cover.

*Good*: >75% ground cover.

<sup>4</sup> Actual curve number is less than 30; use CN = 30 for runoff computations.

<sup>5</sup> CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

<sup>6</sup> *Poor*: Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.

*Fair*: Woods are grazed but not burned, and some forest litter covers the soil.

*Good*: Woods are protected from grazing, and litter and brush adequately cover the soil.



**Table 2-2d** Runoff curve numbers for arid and semiarid rangelands <sup>1/</sup>

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition <sup>2/</sup>	A <sup>3/</sup>	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

<sup>1</sup> Average runoff condition, and  $I_a = 0.2S$ . For range in humid regions, use table 2-2c.

<sup>2</sup> Poor: <30% ground cover (litter, grass, and brush overstory).

Fair: 30 to 70% ground cover.

Good: > 70% ground cover.

<sup>3</sup> Curve numbers for group A have been developed only for desert shrub.

## **APPENDIX G: OPERATIONS AND MAINTENANCE**

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## STANDARD O&M PLAN FOR THE SIMPLIFIED AND PRESUMPTIVE APPROACHES

### 3.1.1.9. Basins

Structural components must be operated and maintained in accordance with the design specifications.	
MAINTENANCE INDICATOR	CORRECTIVE ACTION
Clogged inlets or outlets	Remove sediment, debris, and blockages from catch basins, trench drains, curb inlets, and pipes to maintain at least 50% conveyance at all times
Broken inlets or outlets, including grates	Repair or replace broken downspouts, curb cuts, standpipes, and screens as needed.
Cracked or exposed drain pipes	Repair or seal cracks. Replace when repair is insufficient. Cover with 6 inches of growing medium to prevent freeze/thaw and UV damage.
Check dams missing/broken	Maintain or replace rock check dams as per design specifications.
Perforated liner	Replace or repair liner as needed.
Vegetation must cover at least 90% of the facility at maturity.	
MAINTENANCE INDICATOR	CORRECTIVE ACTION
Dead or stressed vegetation	Replant per original planting plan, or substitute from the plant list in <a href="#">Section 2.4.1</a> . Irrigate and mulch as needed; prune tall, dry grasses and remove clippings.
Tall grass and vegetation	Maintain grass height at 6"-9". Trim to allow sight lines and foot traffic, also to ensure inlets and outlets freely convey stormwater into and/or out of facility.
Weeds	Manually remove weeds.
Growing medium must sustain healthy plant cover and infiltrate within 48 hours.	
MAINTENANCE INDICATOR	CORRECTIVE ACTION
Gullies, erosion, exposed soil, sediment accumulation	Fill in and lightly compact areas of erosion with City-approved soil mix (see <a href="#">Section 2.3.6</a> ) and replant according to planting plan or substitute from the plant list in <a href="#">Section 2.4.1</a> . Erosion more than 2 inches deep must be addressed. Sediment more than 4 inches deep must be removed.
Scouring at the inlet(s)	Ensure splash blocks or inlet gravel/rock are adequate.
Slope slippage	Stabilize 3:1 slopes/banks with plantings from the original planting plan or from the plant list in <a href="#">Section 2.4.1</a> .
Ponding	Rake, till, or amend soil surface with City-approved soil mix to restore infiltration rate. Remove sediment at entrance.

### Annual Maintenance Schedule

<b>Summer</b>	Make structural repairs; clean gutters and downspouts; remove any build-up of weeds or organic debris.
<b>Fall</b>	Replant exposed soil and replace dead plants. Remove sediment and plant debris.
<b>Winter</b>	Clear gutters and downspouts.
<b>Spring</b>	Remove sediment and plant debris. Replant exposed soil and replace dead plants.
<b>All seasons</b>	Weed as necessary.

**Maintenance Records:** All facility operators are required to keep an inspection and maintenance log. Record date, description, and contractor (if applicable) for all repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the City inspector.

**Fertilizers/Pesticides/Herbicides.** Their use is strongly discouraged because of the potential for damage to downstream systems. If pesticides or herbicides are required, use the services of a licensed applicator and products approved for aquatic use.

**Access:** Maintain ingress/egress per design standards.

**Infiltration/Flow Control:** All facilities must drain within 48 hours. Record time/date, weather, and conditions when ponding occurs.

**Pollution Prevention:** All sites must implement Best Management Practices to prevent contamination of stormwater. Call 503-823-7180 to report spills. Never wash spills into a stormwater facility. If contamination occurs, document the circumstances and the corrective action taken; include the time/date, weather, and site conditions.

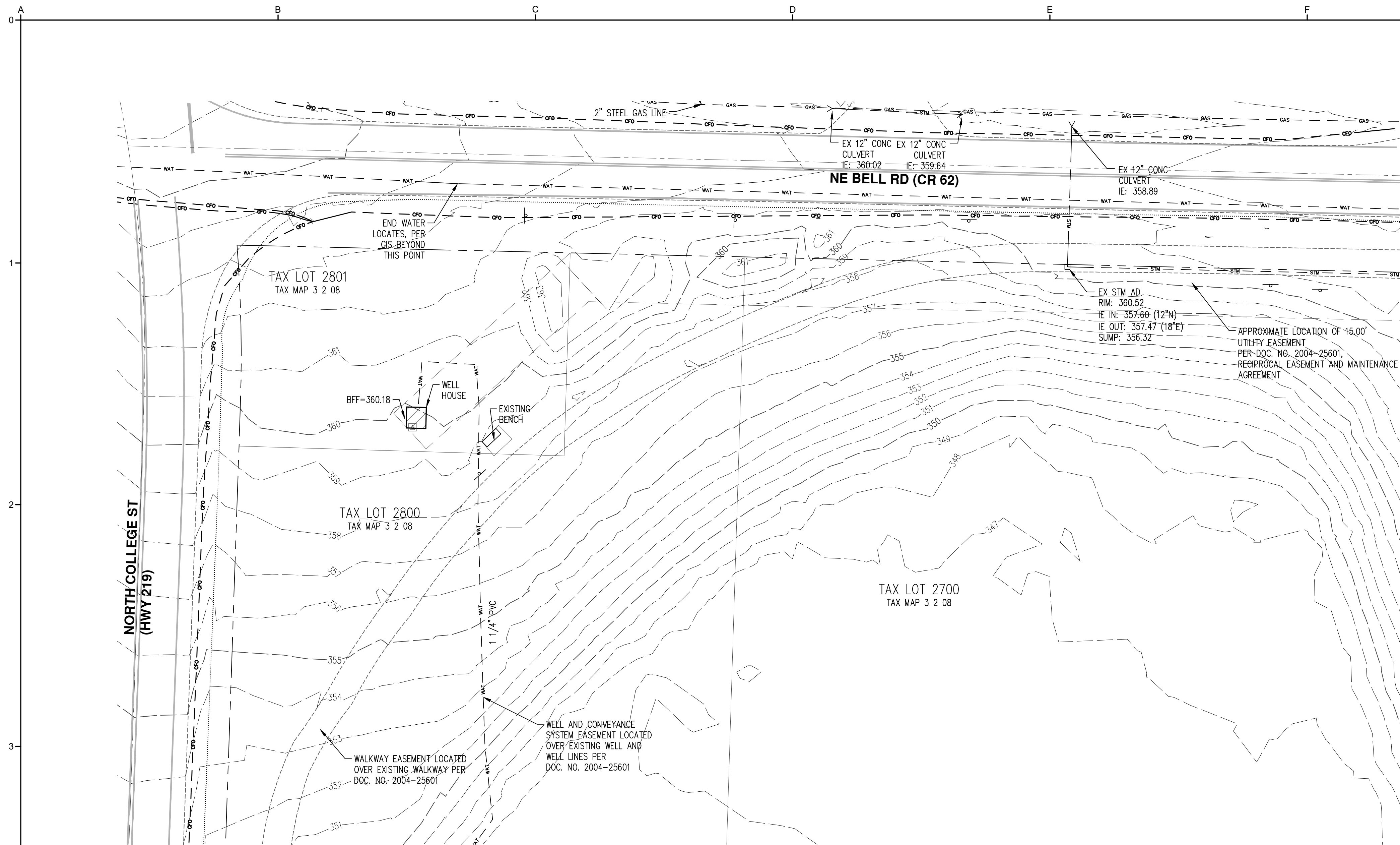
**Vectors (Mosquitoes and Rats):** Facilities must not harbor mosquito larvae or rodents. Record the time/date, weather, and site conditions when vector activity is observed. Record when vector abatement started and ended.











EXISTING		EXISTING	
DECIDUOUS TREE		STORM DRAIN CLEAN OUT	
CONIFEROUS TREE		STORM DRAIN CATCH BASIN	
FIRE HYDRANT		STORM DRAIN AREA DRAIN	
WATER BLOWOFF		STORM DRAIN MANHOLE	
WATER METER		GAS METER	
WATER VALVE		GAS VALVE	
DOUBLE CHECK VALVE		GUY WIRE ANCHOR	
AIR RELEASE VALVE		UTILITY POLE	
SANITARY SEWER CLEAN OUT		POWER VAULT	
SANITARY SEWER MANHOLE		POWER JUNCTION BOX	
SIGN		POWER PEDESTAL	
STREET LIGHT		COMMUNICATIONS VAULT	
MAILBOX		COMMUNICATIONS JUNCTION BOX	
		COMMUNICATIONS RISER	

EXISTING	
RIGHT-OF-WAY LINE	
BOUNDARY LINE	
PROPERTY LINE	
CENTERLINE	
DITCH	
CURB	
EDGE OF PAVEMENT	
EASEMENT	
FENCE LINE	
GRAVEL EDGE	
POWER LINE	
OVERHEAD WIRE	
COMMUNICATIONS LINE	
FIBER OPTIC LINE	
GAS LINE	
STORM DRAIN LINE	
SANITARY SEWER LINE	
WATER LINE	

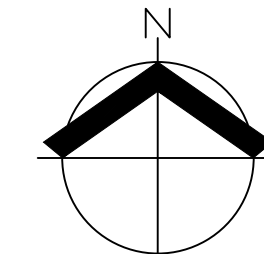
**NOTES:**

- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 21141100 & 21141113. 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.
- FIELD WORK WAS CONDUCTED MAY 20TH - JUNE 16TH 2021.
- VERTICAL DATUM: ELEVATIONS ARE BASED ON TRIMBLE VRS NOW NETWORK OBSERVATIONS (NAVD88) AND CHECKED AGAINST YAMHILL COUNTY STATION NO. 22. LOCATED AT THE NORTHERLY RIGHT-OF-WAY LANE OF DOUGLAS AVENUE AND ON THE CENTERLINE OF SPRINGBROOK WAY. ELEVATION = 337.24 FEET (NAVD 88).
- HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING BY A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0001140578 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL STATE PLANE GRID COORDINATES N615930.512 E7567435.489 AND A MERIDIAN CONVERGENCE ANGLE OF -1'45"02". STATE PLANE COORDINATES WERE DERIVED FROM GPS OBSERVATIONS USING THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
- THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
- BUILDING FOOTPRINTS ARE DRAWN FROM AERIAL UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- SUBJECT TO A RIGHT TO REFUSAL ALLOWING VERITAS SCHOOL THE FIRST OPTION TO PURCHASE LAND FROM NORTH VALLEY FRIENDS CHURCH PER DOC. NO. 20045602, ALSO SUBJECT A RIGHT TO REFUSAL ALLOWING NORTH VALLEY FRIENDS CHURCH FIRST OPTION TO PURCHASE LAND FROM VERITAS SCHOOL PER DOC. NO. 200425603.
- ALSO SUBJECT TO A DEVELOPMENT AGREEMENT BETWEEN NORTH VALLEY FRIENDS CHURCH AND THE CITY OF NEWBERG ALLOWING SITE DEVELOPMENT ON LAND OWNED BY NORTH VALLEY FRIENDS CHURCH PER DOC. NO. 200314309.

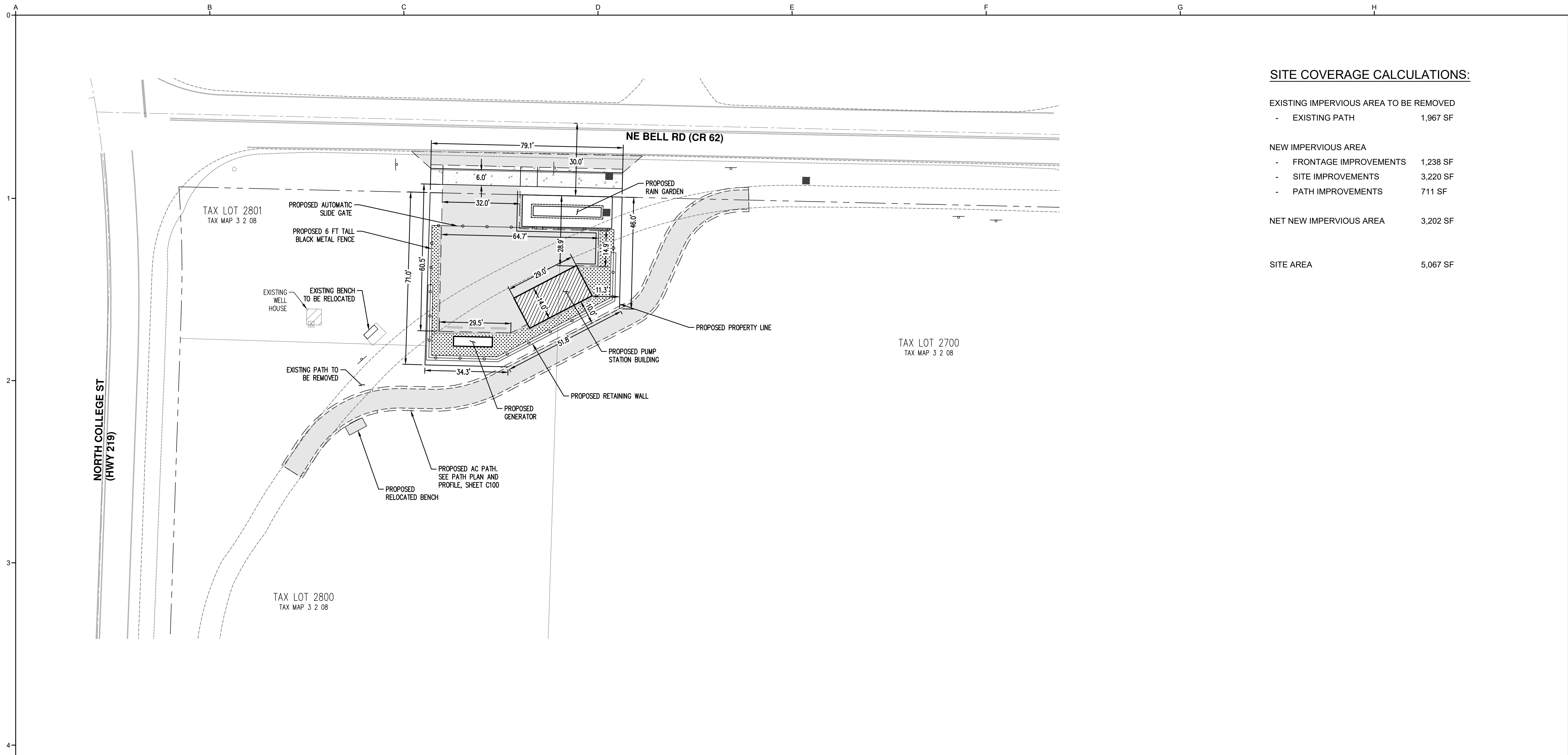
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30% SUBMITTAL	NO				SCALES 0" = 1" 0" = 25mm IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.	<b>PRELIMINARY          NOT FOR          CONSTRUCTION</b>	DESIGNED <b>JAW</b>	CITY OF NEWBERG NEWBERG, OREGON  BELL WEST PUMP STATION AND PIPELINE  Kennedy Jenks	SCALE 1" = 20'
	PRELIMINARY DESIGN PHASE NOT FOR CONSTRUCTION  THIS DOCUMENT IS AN INTERIM DOCUMENT AND NOT SUITABLE FOR CONSTRUCTION. AS AN INTERIM DOCUMENT, IT MAY CONTAIN DATA THAT IS POTENTIALLY INACCURATE OR INCOMPLETE AND IS NOT TO BE RELIED UPON WITHOUT THE EXPRESS WRITTEN CONSENT OF THE PREPARER.	REVISION	DATE	BY			DRAWN <b>GMB/LAH</b>		SHEET OF <b>C002</b>



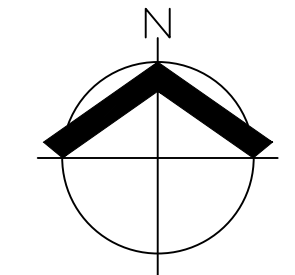
**SITE COVERAGE CALCULATIONS:**

<b>EXISTING IMPERVIOUS AREA TO BE REMOVED</b>	
- EXISTING PATH	1,967 SF
<b>NEW IMPERVIOUS AREA</b>	
- FRONTAGE IMPROVEMENTS	1,238 SF
- SITE IMPROVEMENTS	3,220 SF
- PATH IMPROVEMENTS	711 SF
<b>NET NEW IMPERVIOUS AREA</b>	<b>3,202 SF</b>
<b>SITE AREA</b>	<b>5,067 SF</b>

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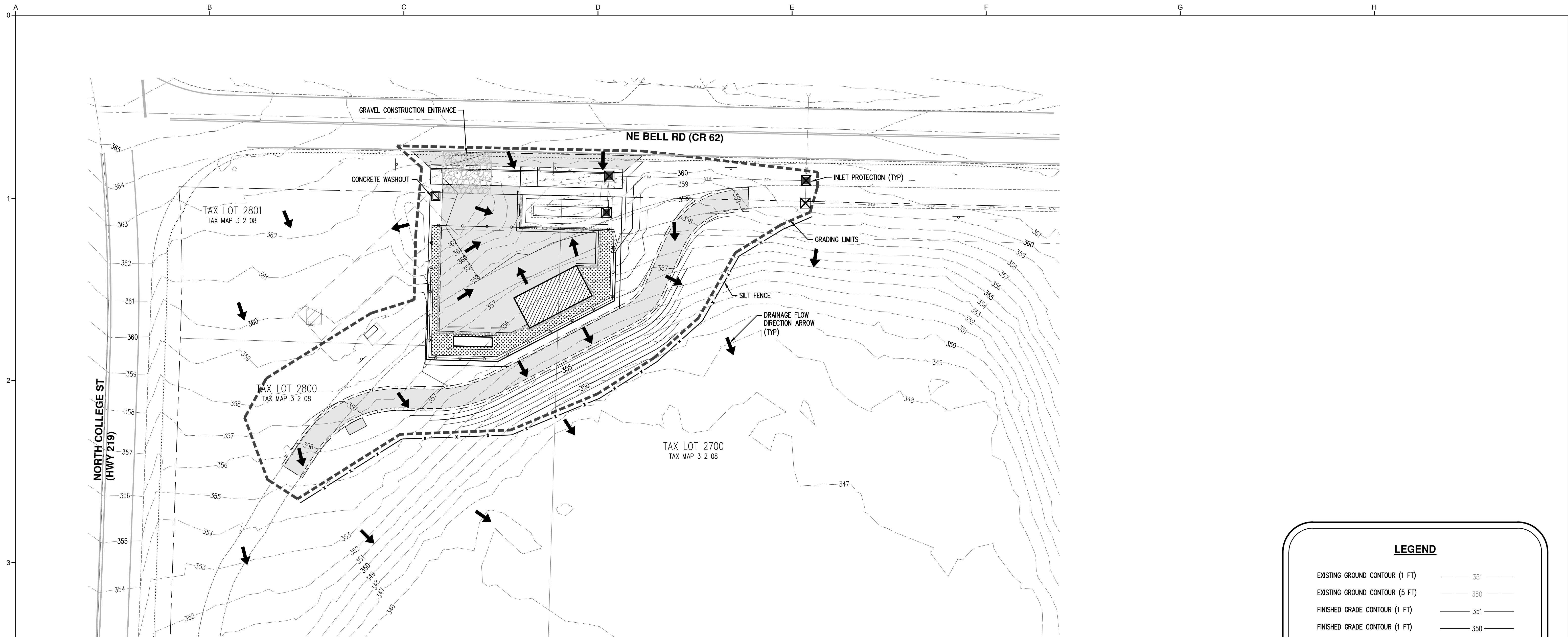


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							CHECKED			
							JAW GMB/LAH JAW			



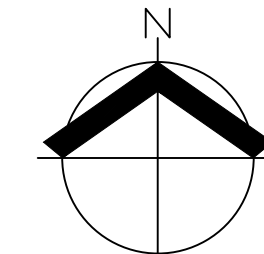


LEGEND	
EXISTING GROUND CONTOUR (1 FT)	--- 351 ---
EXISTING GROUND CONTOUR (5 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 351 ---
FINISHED GRADE CONTOUR (1 FT)	--- 350 ---
GRADING LIMITS	-----
SAWCUT LINE	-----
ORANGE SILT FENCE (TO BE INSTALLED PRIOR TO GRADING)	- x - x -
GRAVEL CONSTRUCTION ENTRANCE	
INLET PROTECTION	
CONCRETE WASHOUT AREA	
DRAINAGE FLOW DIRECTION ARROW	

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NO	REVISION	DATE	BY	

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 0" = 25mm  
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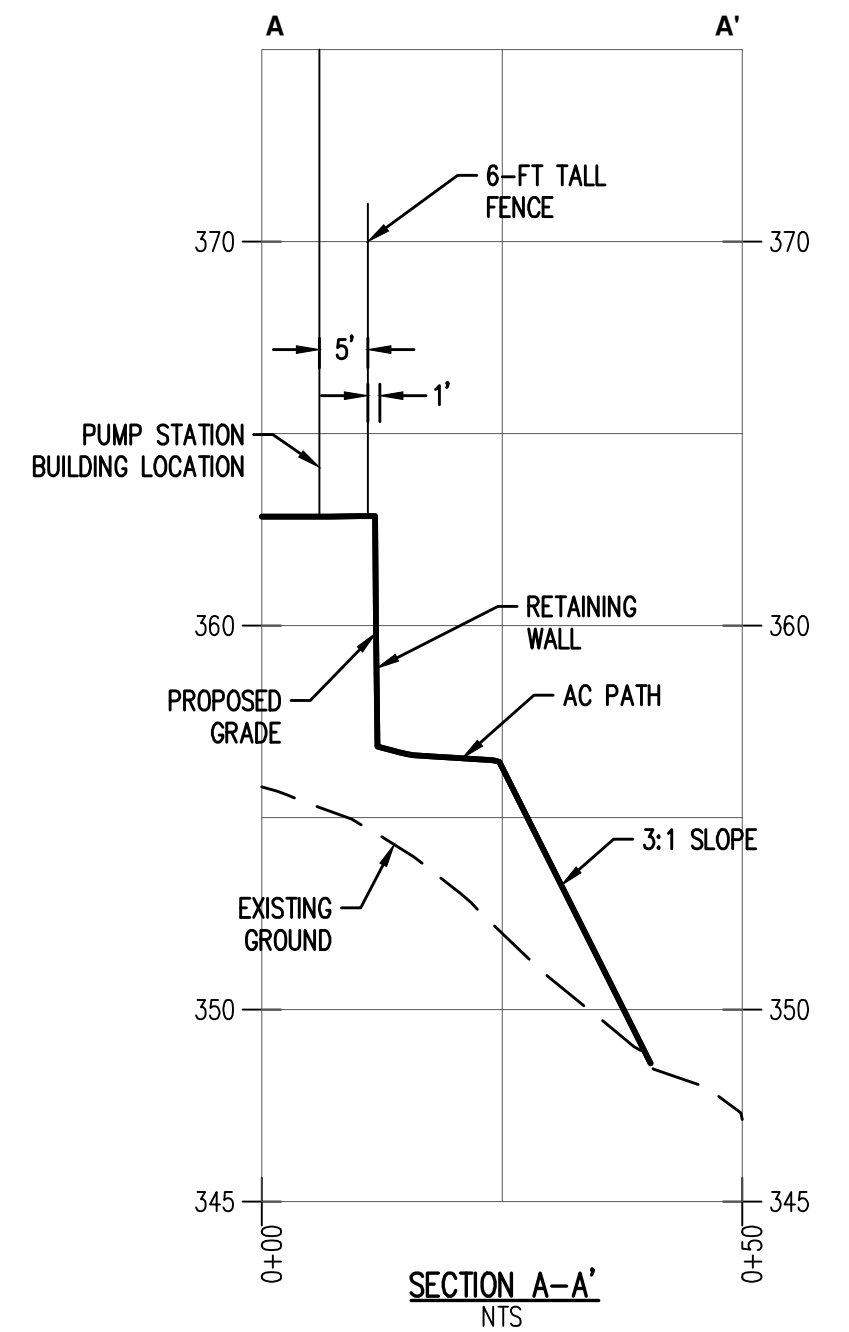
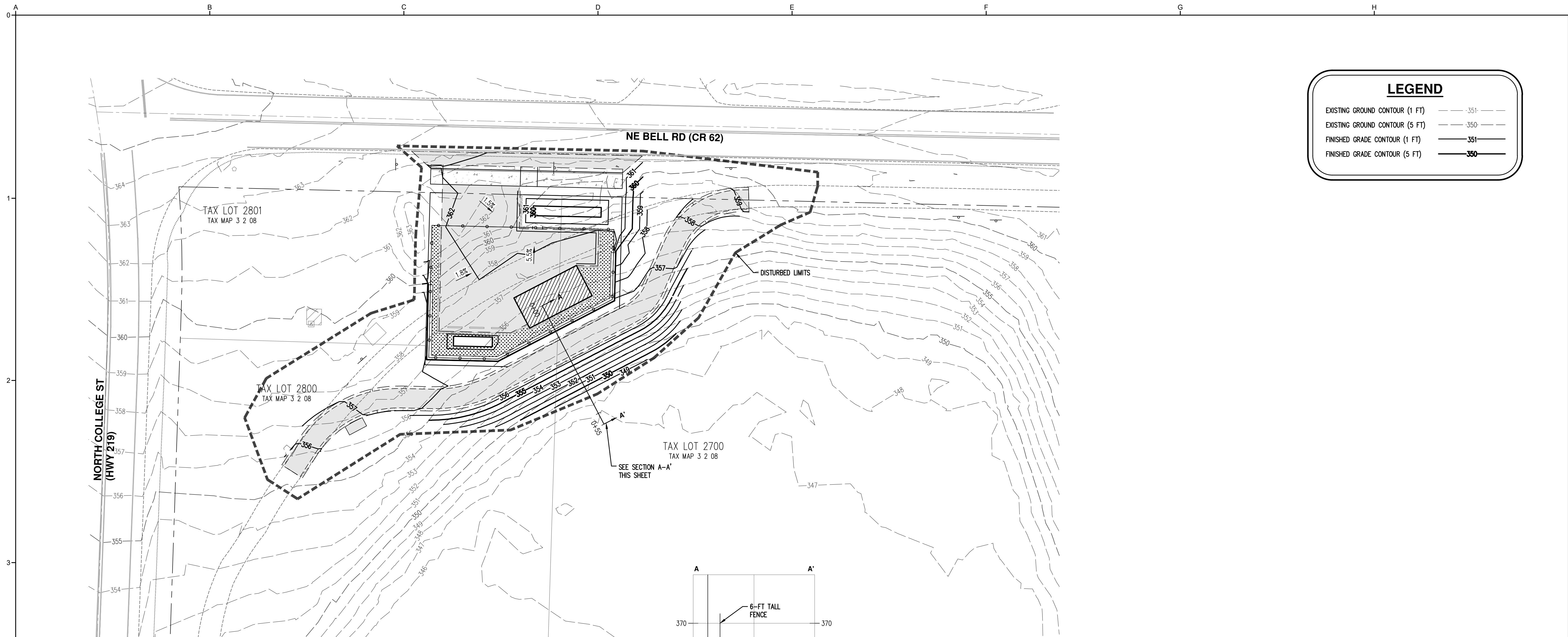
DESIGNED  
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 DRAWN  
**GMB/LAH**  
 CHECKED  
**JAW**

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 BELL WEST PUMP STATION  
 AND PIPELINE  
 Kennedy Jenks

# EROSION AND SEDIMENT CONTROL PLAN

SCALE  
1" = 20'  
 JOB NO  
2076014.00  
 DATE  
03/11/2022  
 SHEET OF  
**C050**

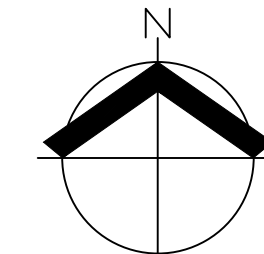




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NO	REVISION	DATE	BY	

SCALES  
0 = 1"  
0 = 25mm  
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



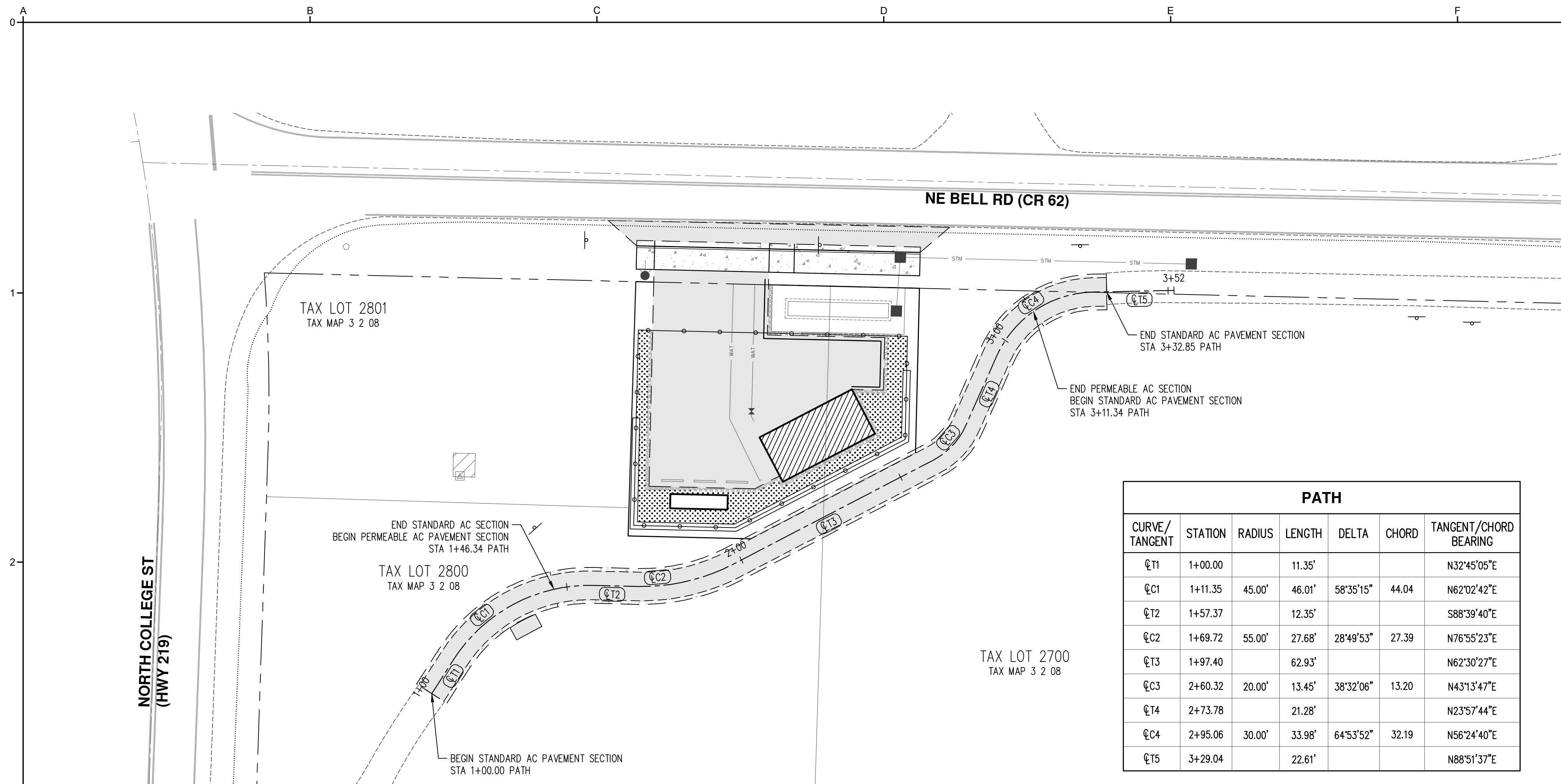
DESIGNED  
**JAW**  
DRAWN  
**GMB/LAH**  
CHECKED  
**JAW**

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NEWBERG, OREGON  
**BELL WEST PUMP STATION  
AND PIPELINE**  
 Kennedy Jenks

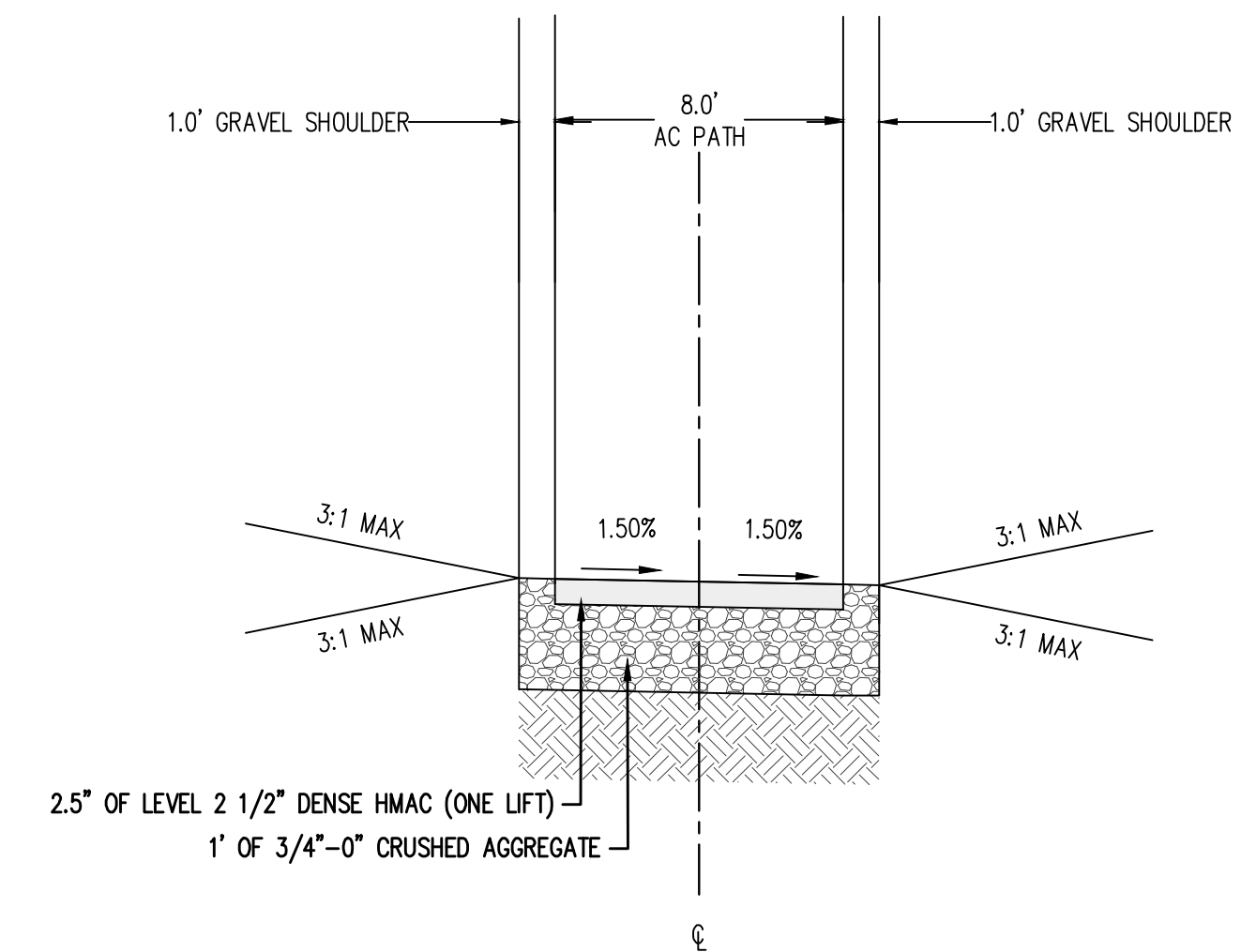
**GRADING PLAN**

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JOB NO 2076014.00  
DATE 03/11/2022  
SHEET OF  
**C070**

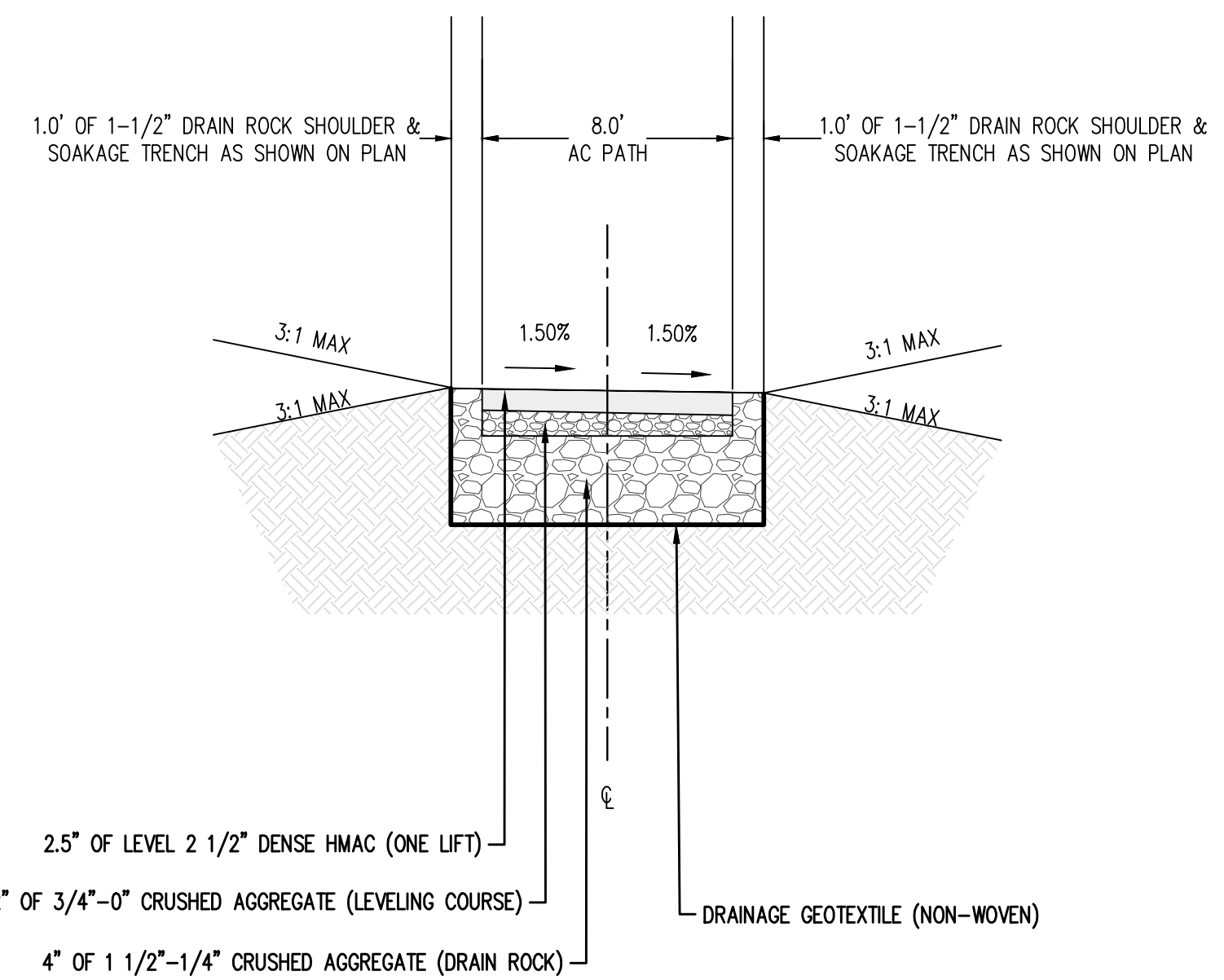
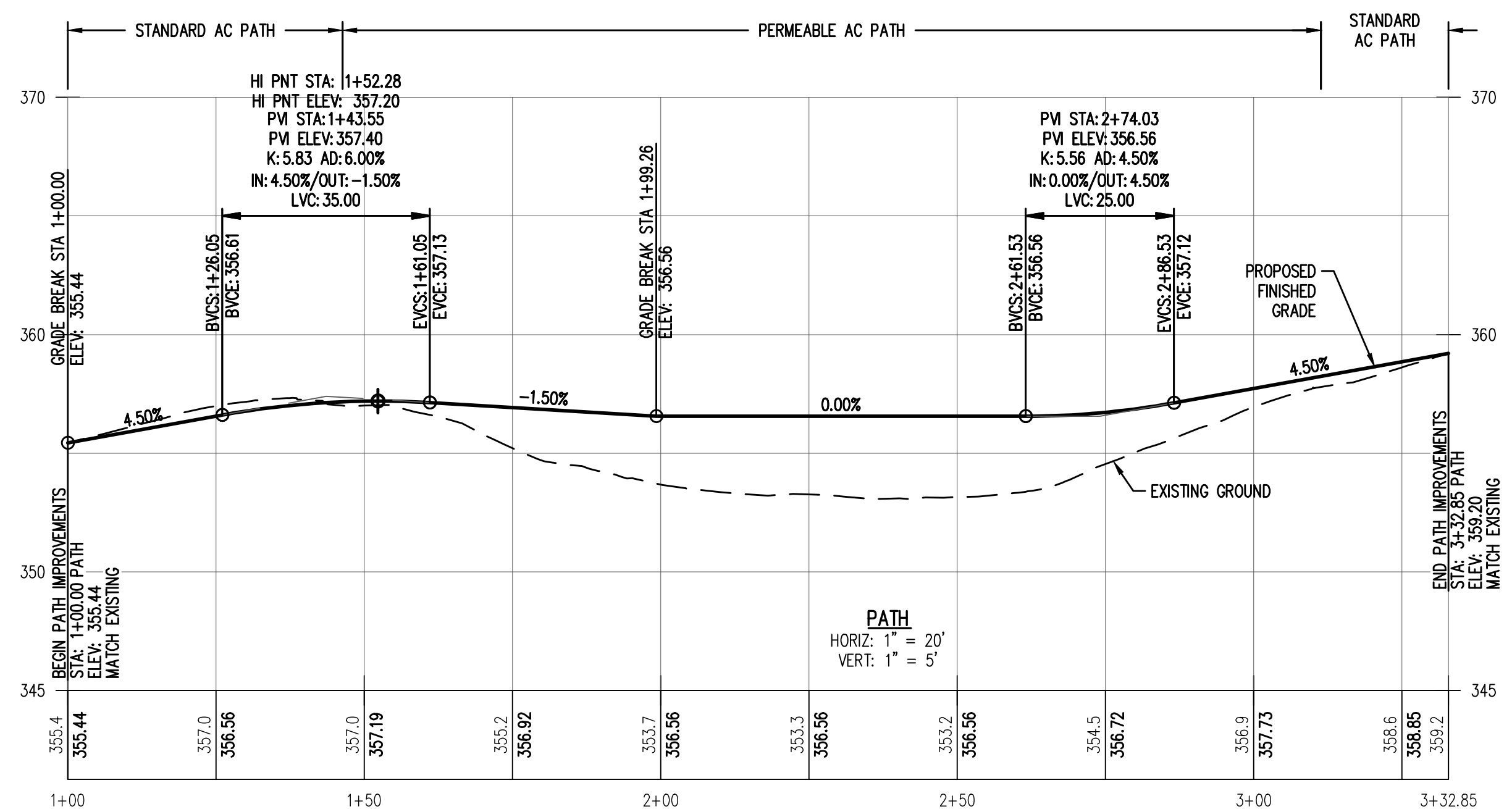




PATH						
CURVE/TANGENT	STATION	RADIUS	LENGTH	DELTA	CHORD	TANGENT/CHORD BEARING
Q11	1+00.00		11.35'			N32°45'05"E
Q12	1+11.35	45.00'	46.01'	58°35'15"	44.04	N62°02'42"E
Q13	1+57.37		12.35'			S88°39'40"E
Q14	1+69.72	55.00'	27.68'	28°49'53"	27.39	N76°55'23"E
Q15	1+97.40		62.93'			N62°30'27"E
Q16	2+60.32	20.00'	13.45'	38°32'06"	13.20	N43°13'47"E
Q17	2+73.78		21.28'			N23°57'44"E
Q18	2+95.06	30.00'	33.98'	64°53'52"	32.19	N56°24'40"E
Q19	3+29.04		22.61'			N88°51'37"E



**STANDARD AC PATH**  
TYPICAL SECTION  
STA 1+00.00 TO 1+46.34  
STA 3+11.34 TO 3+32.85  
NTS



**"PERMEABLE" AC PATH**  
TYPICAL SECTION  
STA 1+46.34 TO 3+11.34  
NTS

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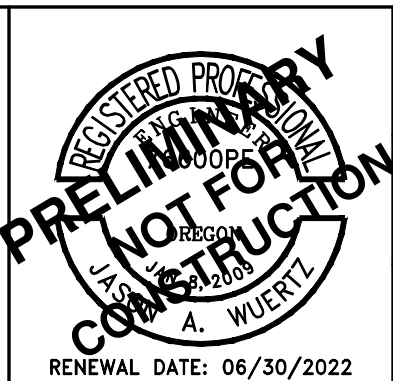
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NO	REVISION	DATE	BY

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0" = 1"  
0" = 25mm  
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DESIGNED  
**JAW**

DRAWN  
**GMB/LAH**

CHECKED  
**JAW**

CITY OF NEWBERG  
NEWBERG, OREGON

**BELL WEST PUMP STATION AND PIPELINE**

**KJ Kennedy Jenks**

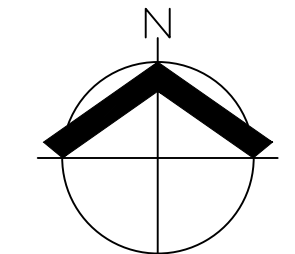
**PATH PLAN AND PROFILE**

SCALE  
1" = 20'

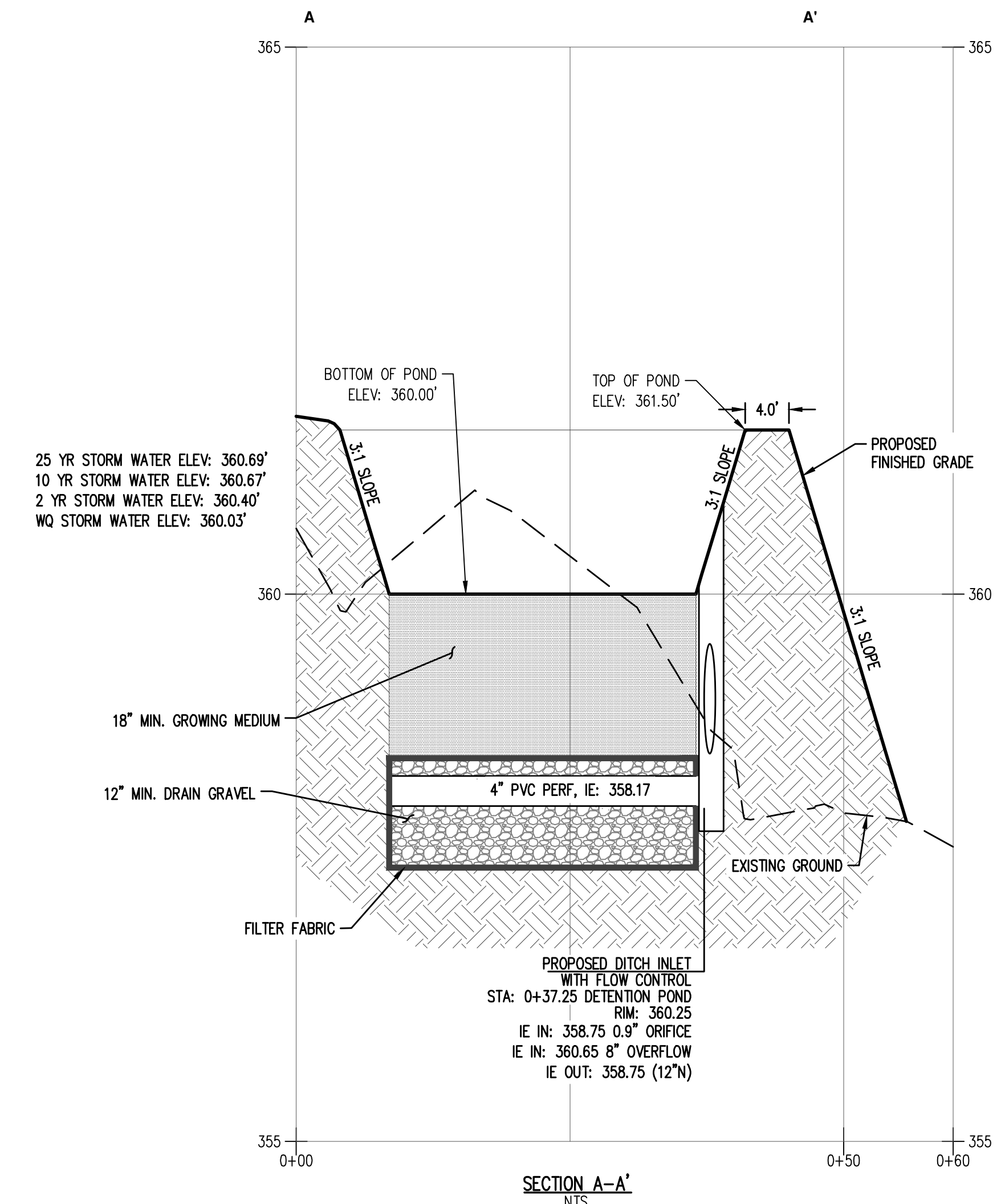
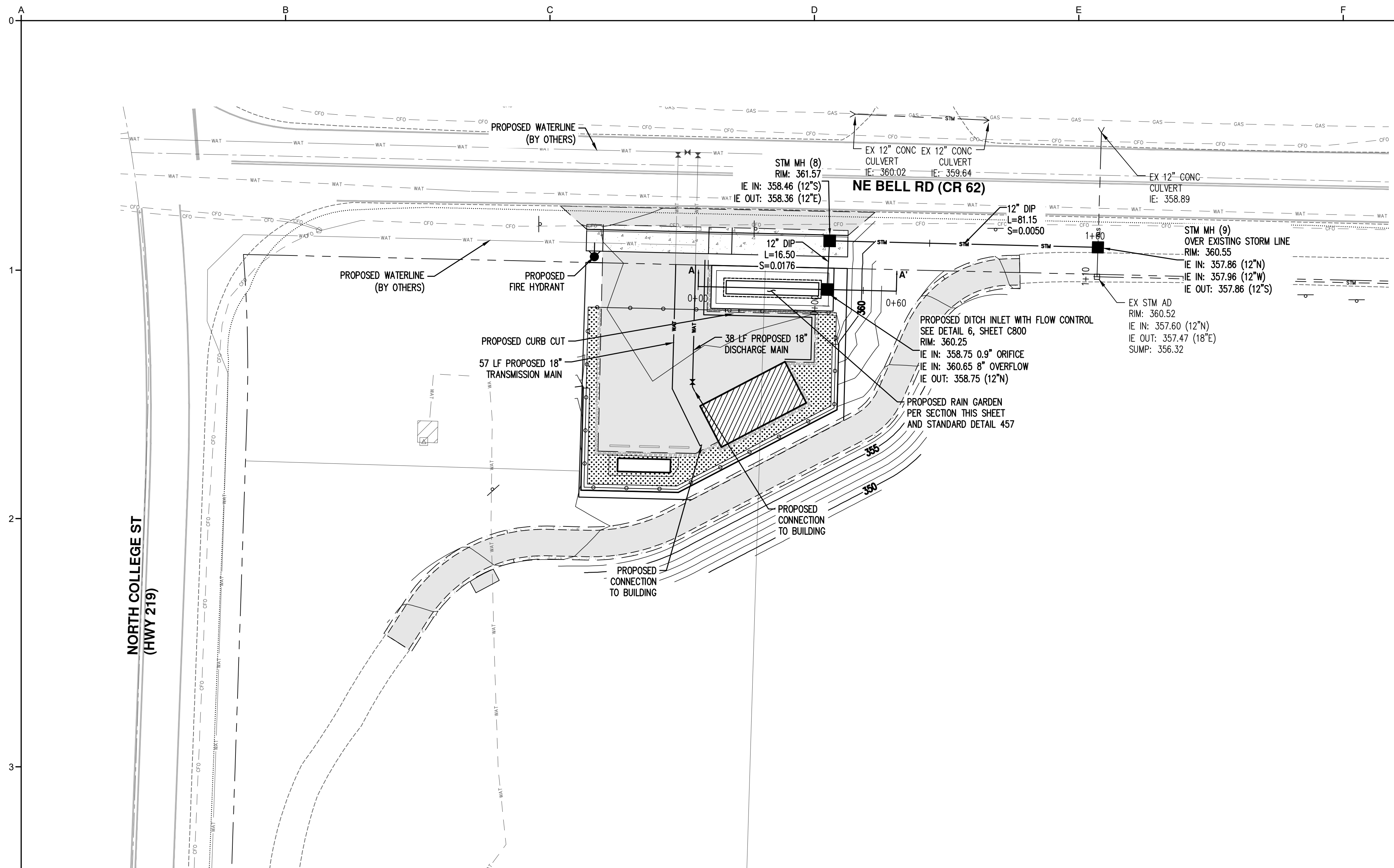
JOB NO  
2076014.00

DATE  
03/11/2022

SHEET OF  
**C100**





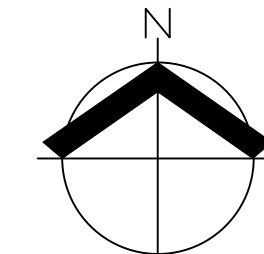


NOTE: SEE CITY OF NEWBERG STANDARD DETAIL 457 FOR ADDITIONAL INFORMATION

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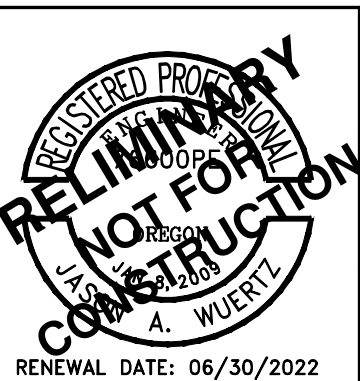
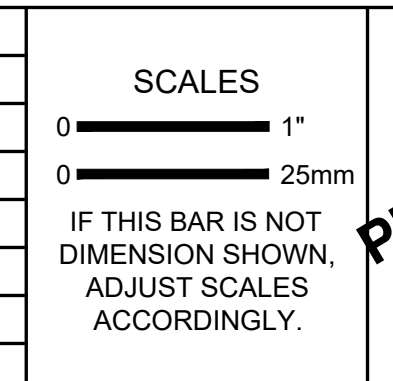


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CHECKED  
**JAW**

CITY OF NEWBERG  
 NEWBERG, OREGON

**BELL WEST PUMP STATION  
 AND PIPELINE**

**KJ Kennedy Jenks**

**COMPOSITE UTILITY PLAN**

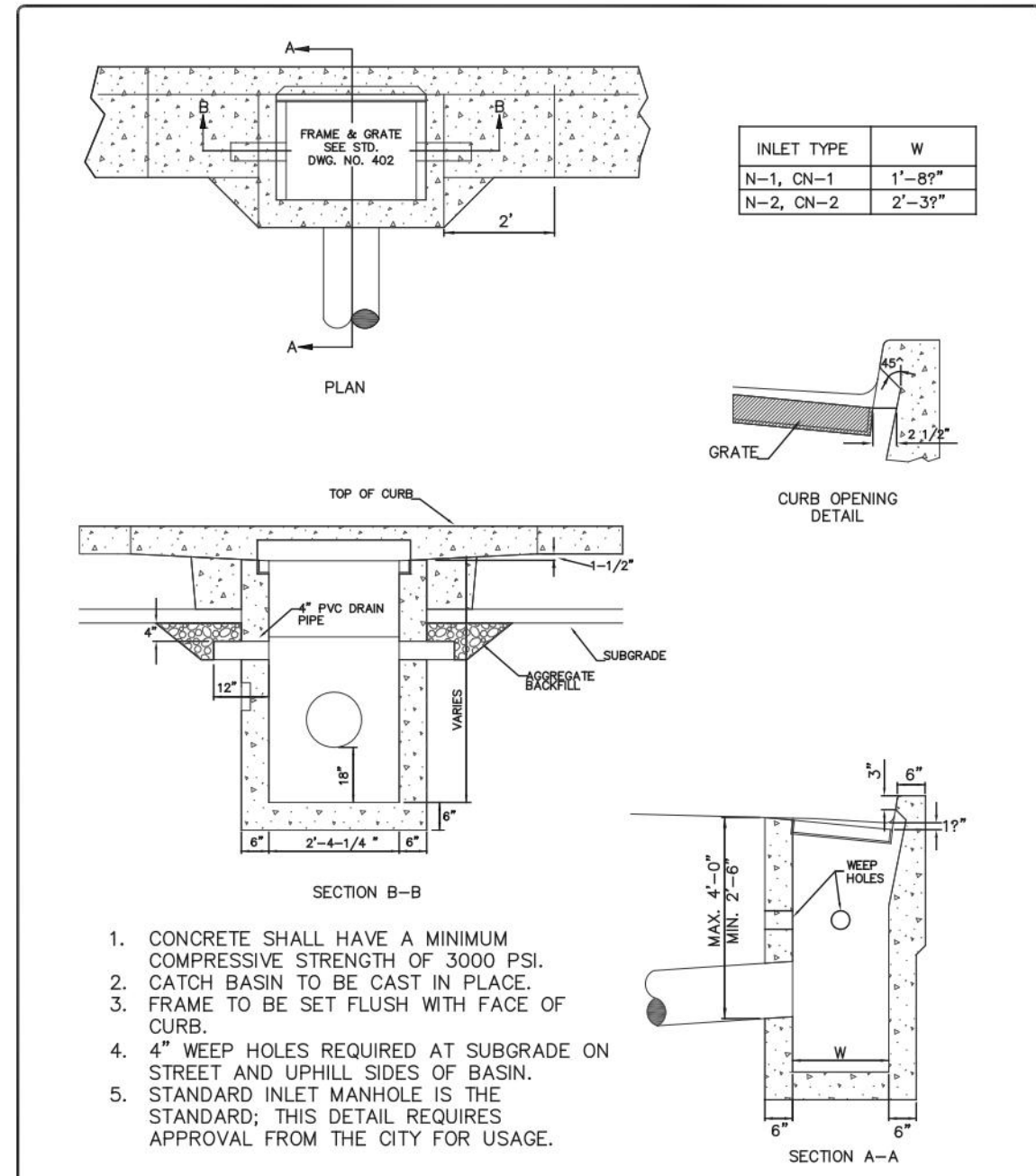
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JOB NO  
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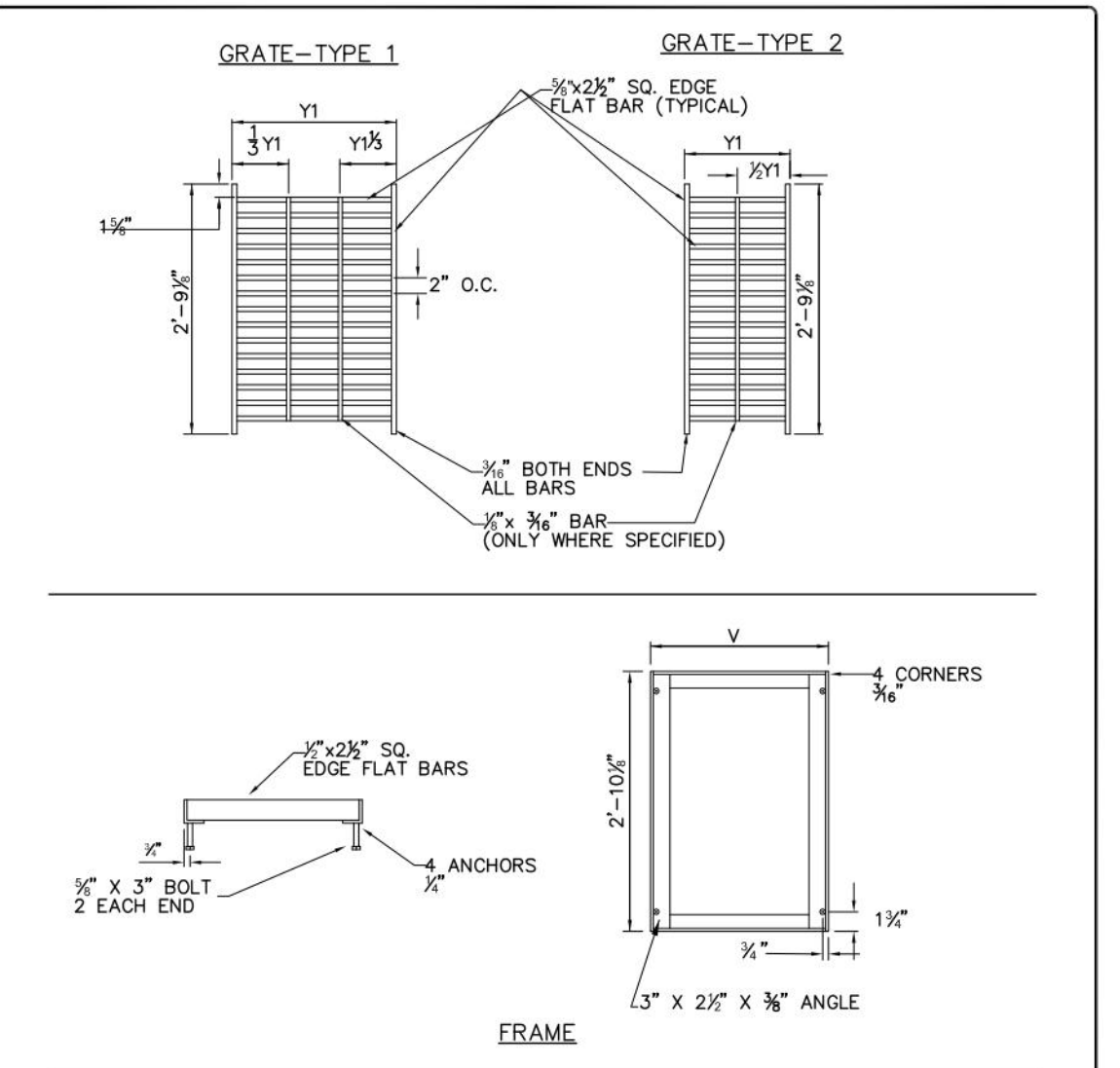
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03/11/2022

SHEET OF  
**C200**



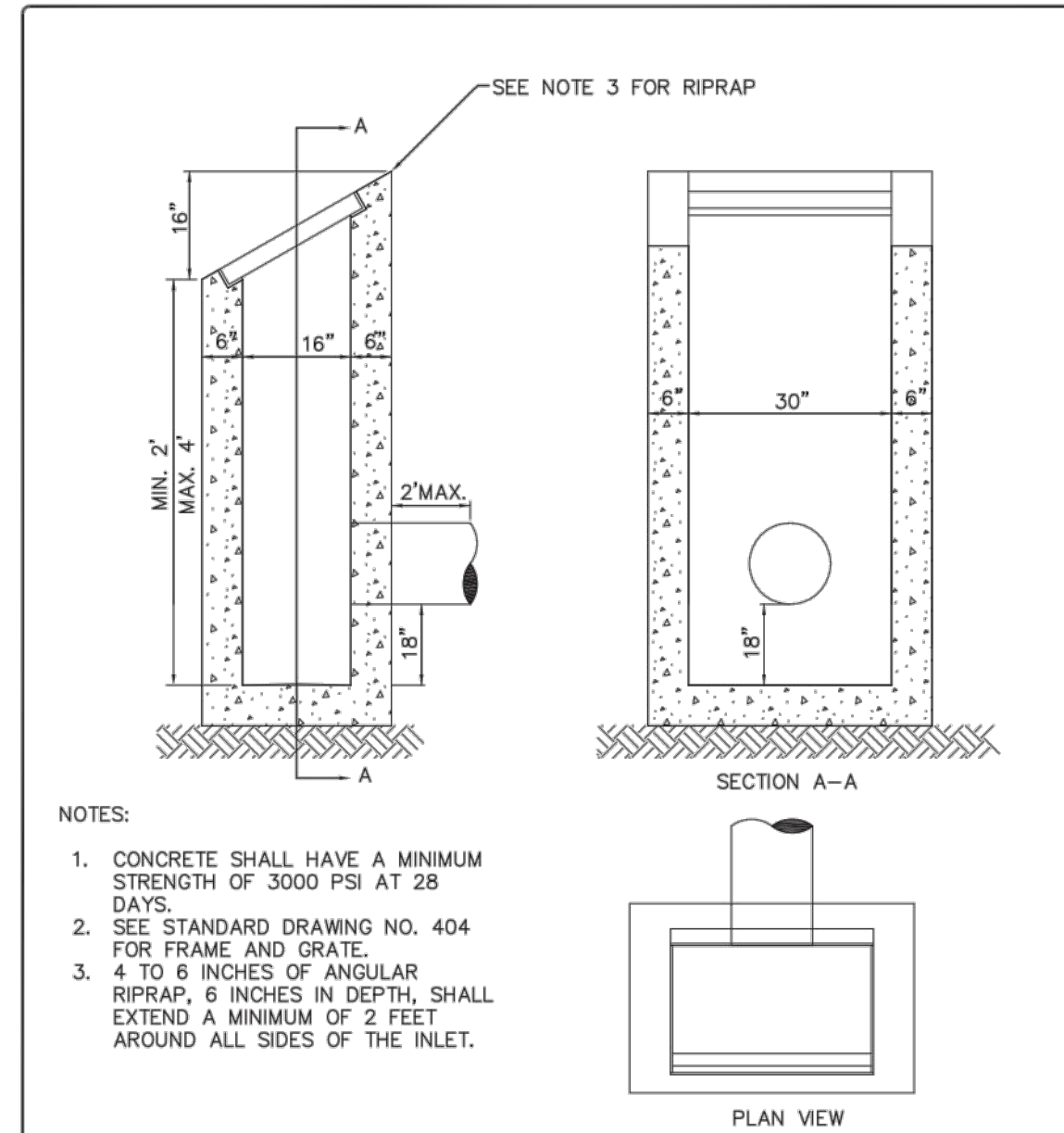


City of Newberg	REVISIONS:	SCALE: N.T.S.
PUBLIC WORKS ENGINEERING DIVISION 414 E. FIRST STREET NEWBERG, OR 97132 PHONE: 503-537-5248 FAX: 503-537-5277		DATE: MARCH 2014 APPROVED BY: J. HARRIS STANDARD DRAWING: 401

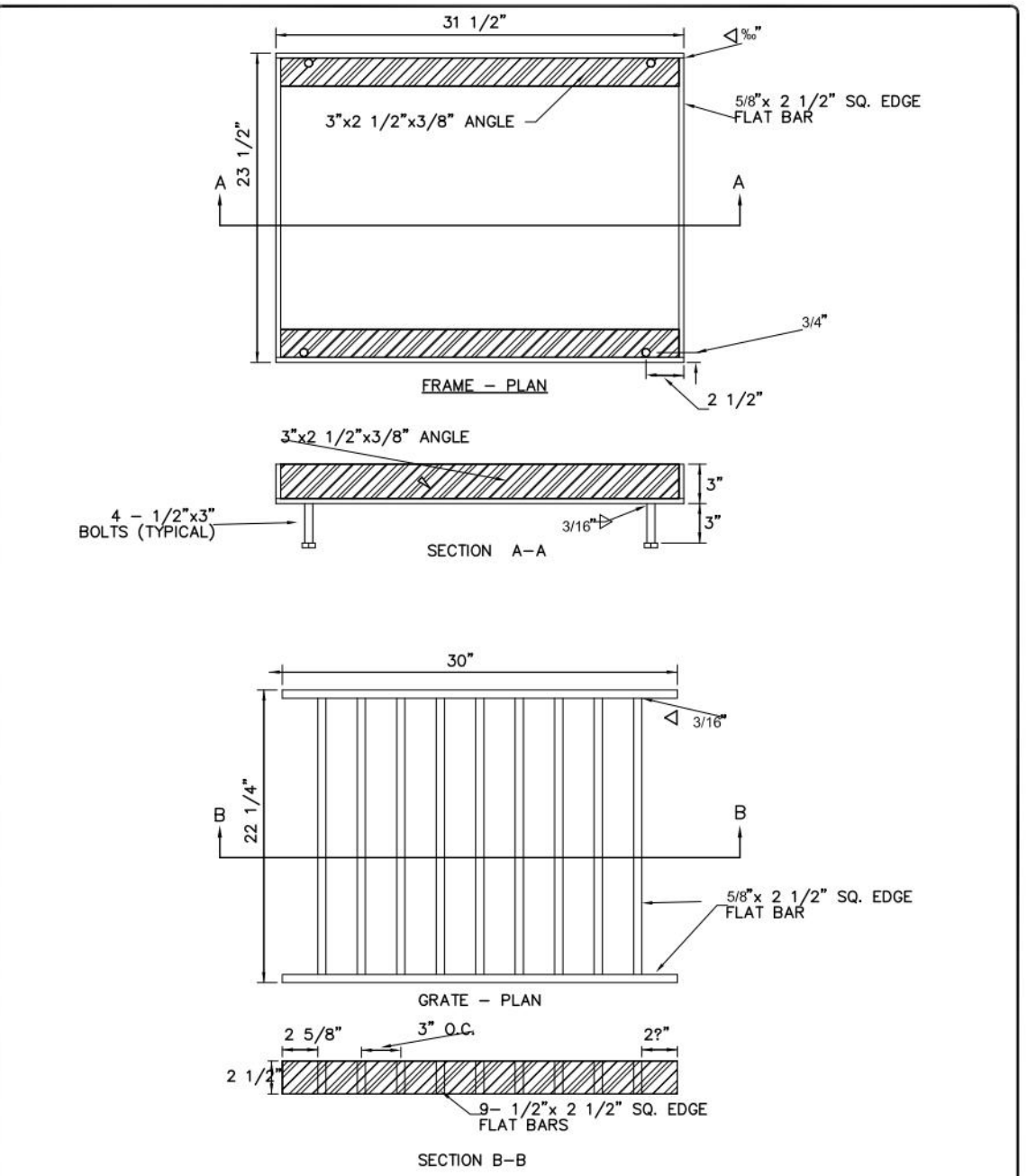


INLET TYPE	V	Y1	NO. OF BARS	TYPE	REMARKS
N-1, CN-1	2'-3 1/4"	2'-2 1/4"	17	1	
N-2, N-2	2'-9 1/4"	1'-4"	17	2	2 GRATES

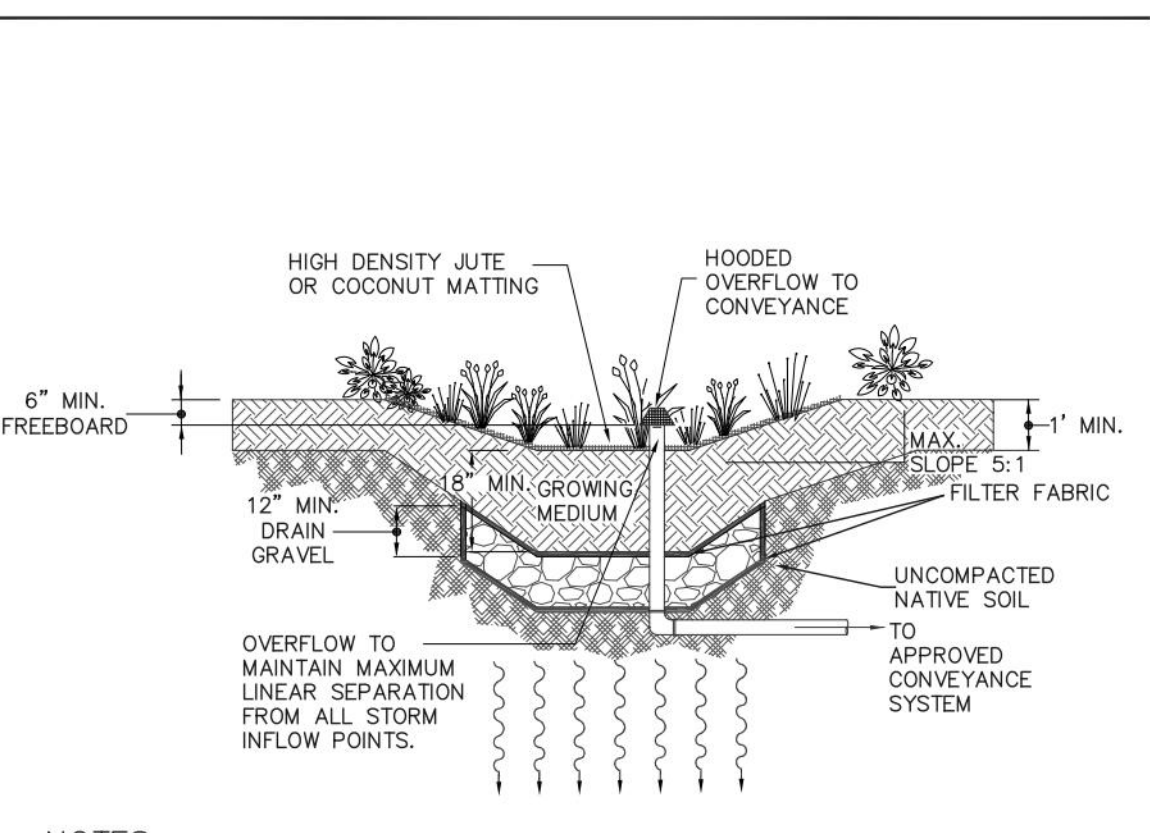
City of Newberg	REVISIONS:	SCALE: N.T.S.
PUBLIC WORKS ENGINEERING DIVISION 414 E. FIRST STREET NEWBERG, OR 97132 PHONE: 503-537-5248 FAX: 503-537-5277		DATE: MARCH 2014 APPROVED BY: J. HARRIS STANDARD DRAWING: 402



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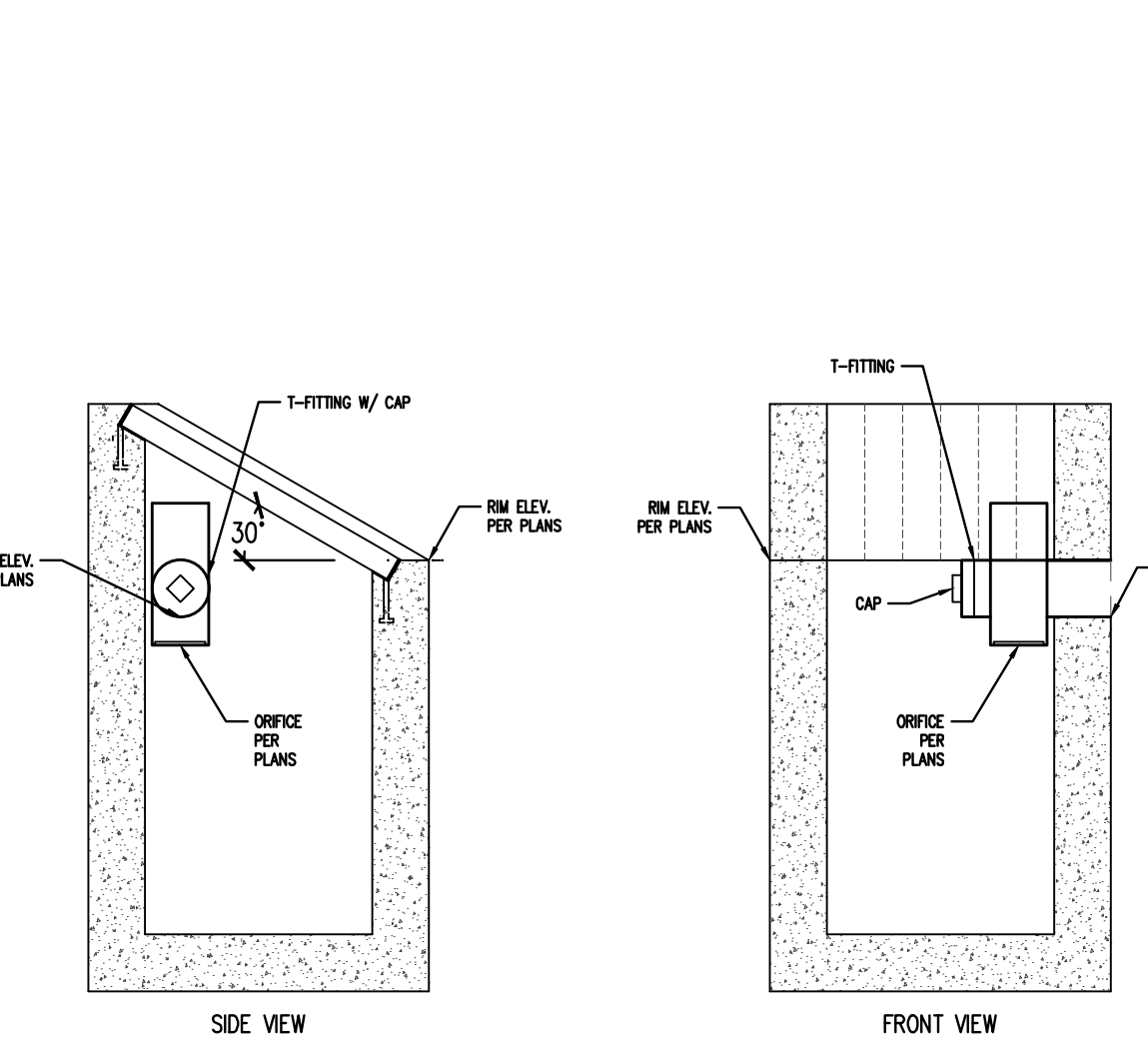


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- NOTES:
- PROVIDE OVERFLOW CONVEYANCE SYSTEM, OVERFLOW CONVEYANCE HEIGHT TO ALLOW 6" MAXIMUM PONDING, PIPING TO A MINIMUM OF THE PLUMBING CODE OR CONVEY THE 25 YEAR STORM.
  - FLOW DISSIPATORS SHOULD BE USED IF ENTRY SLOPE TO THE BASIN IS GREATER THAN 5:1.
  - SEPARATION BETWEEN DRAIN GRAVEL AND GROWING MEDIUM SHALL BE PERMEABLE FILTER FABRIC.
  - TREATMENT AREA SHALL HAVE HIGH DENSITY JUTE OR COCONUT MATTING OVER 18" MINIMUM OF GROWING MEDIUM OR BASE STABILIZATION METHOD AS APPROVED BY THE CITY.
  - REFER TO APPENDIX A OF THE STANDARDS DESIGN MANUAL FOR PLANTING REQUIREMENTS.
  - TOP OF BANK OF FACILITY MUST BE LOCATED 10' FROM ANY STRUCTURE AND 3' FROM ADJACENT PROPERTY LINES.

City of Newberg	REVISIONS:	SCALE: N.T.S.
PUBLIC WORKS ENGINEERING DIVISION 414 E. FIRST STREET NEWBERG, OR 97132 PHONE: 503-537-5248 FAX: 503-537-5277		DATE: MARCH 2014 APPROVED BY: JAY H. STANDARD DRAWING: 457



DITCH INLET WITH FLOW CONTROL ORIFICE

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0" = 25mm

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REGISTERED PROFESSIONAL ENGINEER  
JAY H. WUERTZ  
RENEWAL DATE: 06/30/2022

DESIGNED: JAW  
DRAWN: GMB/LAH  
CHECKED: JAW

CITY OF NEWBERG  
NEWBERG, OREGON

BELL WEST PUMP STATION  
AND PIPELINE

Kennedy Jenks

**DETAILS**

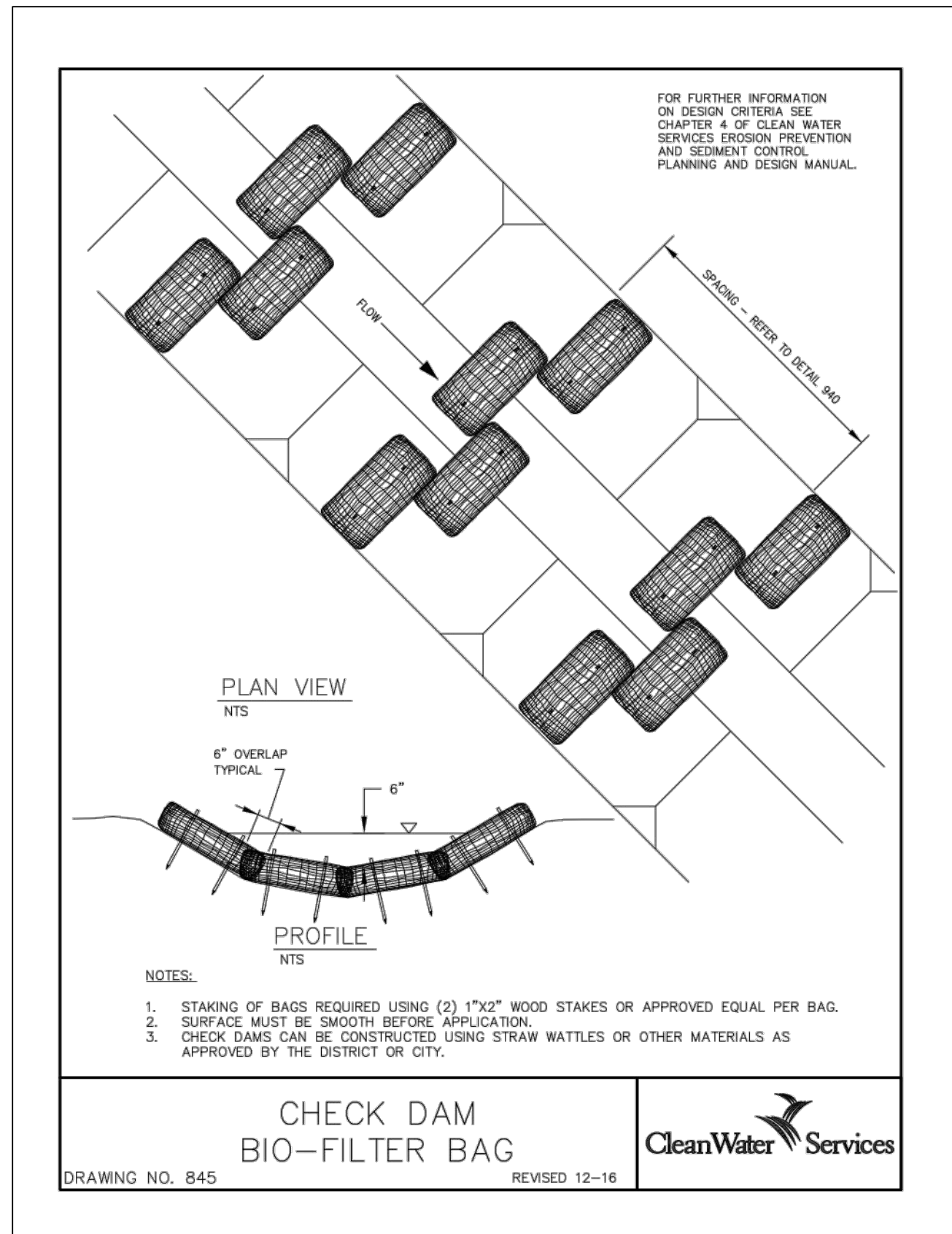
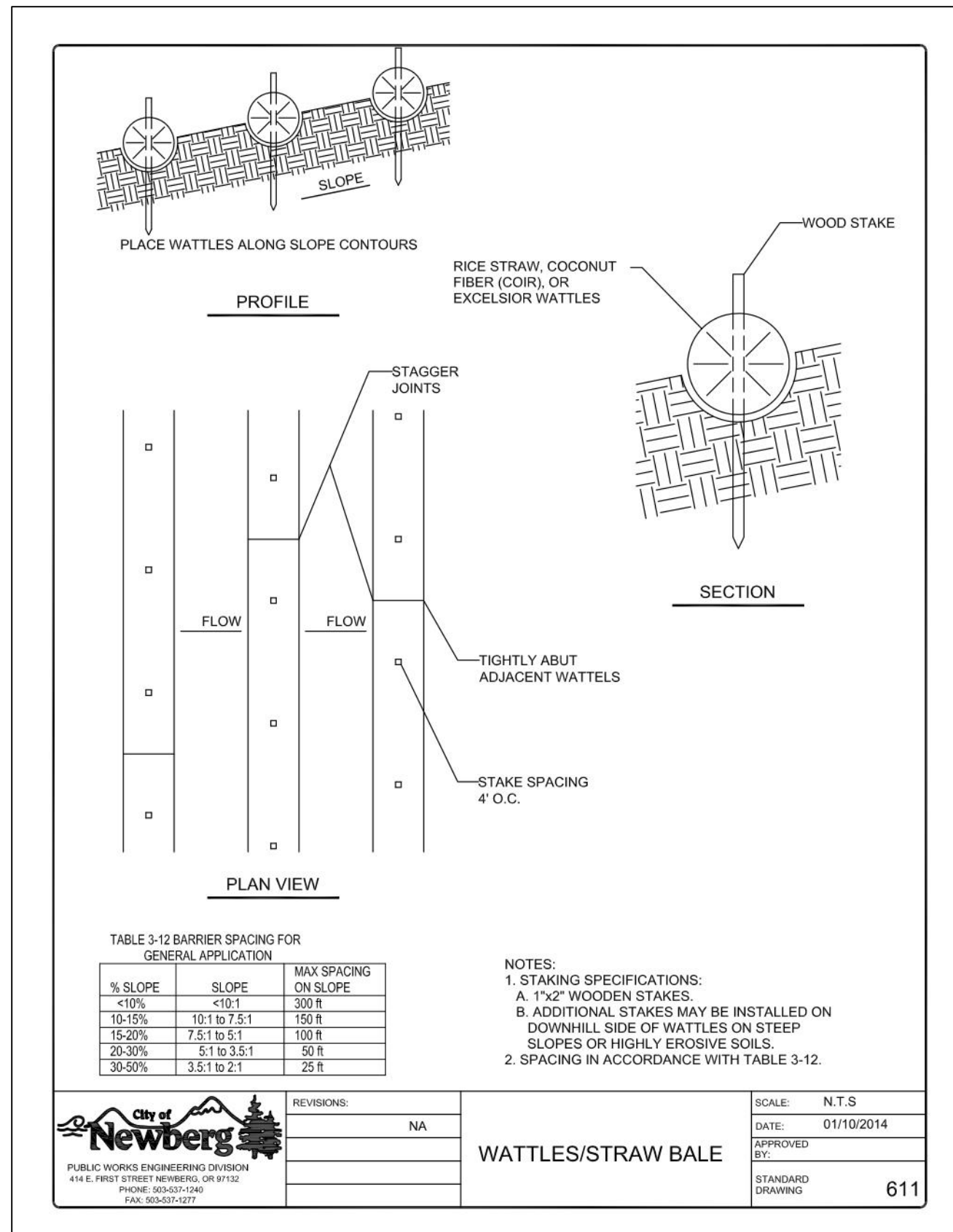
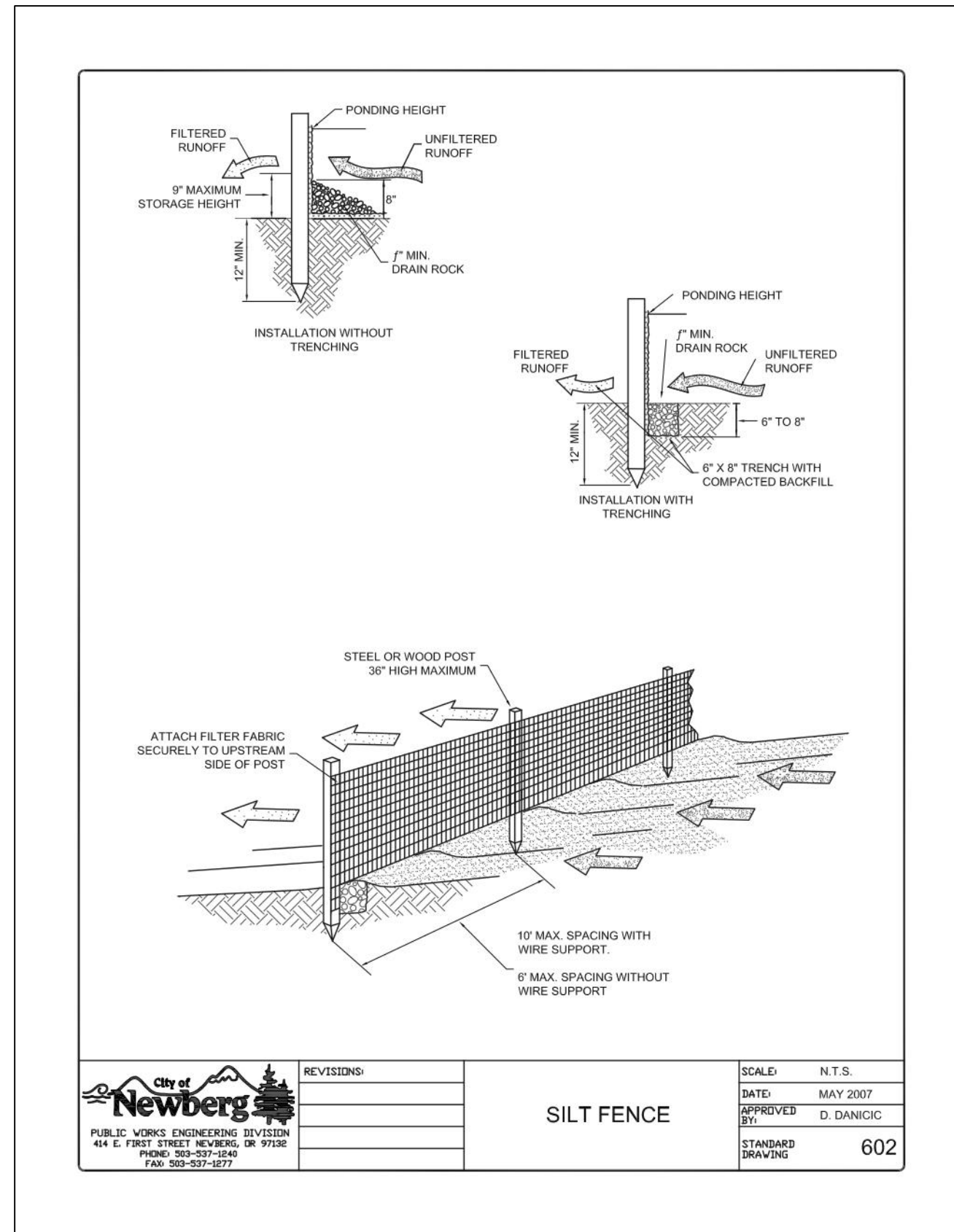
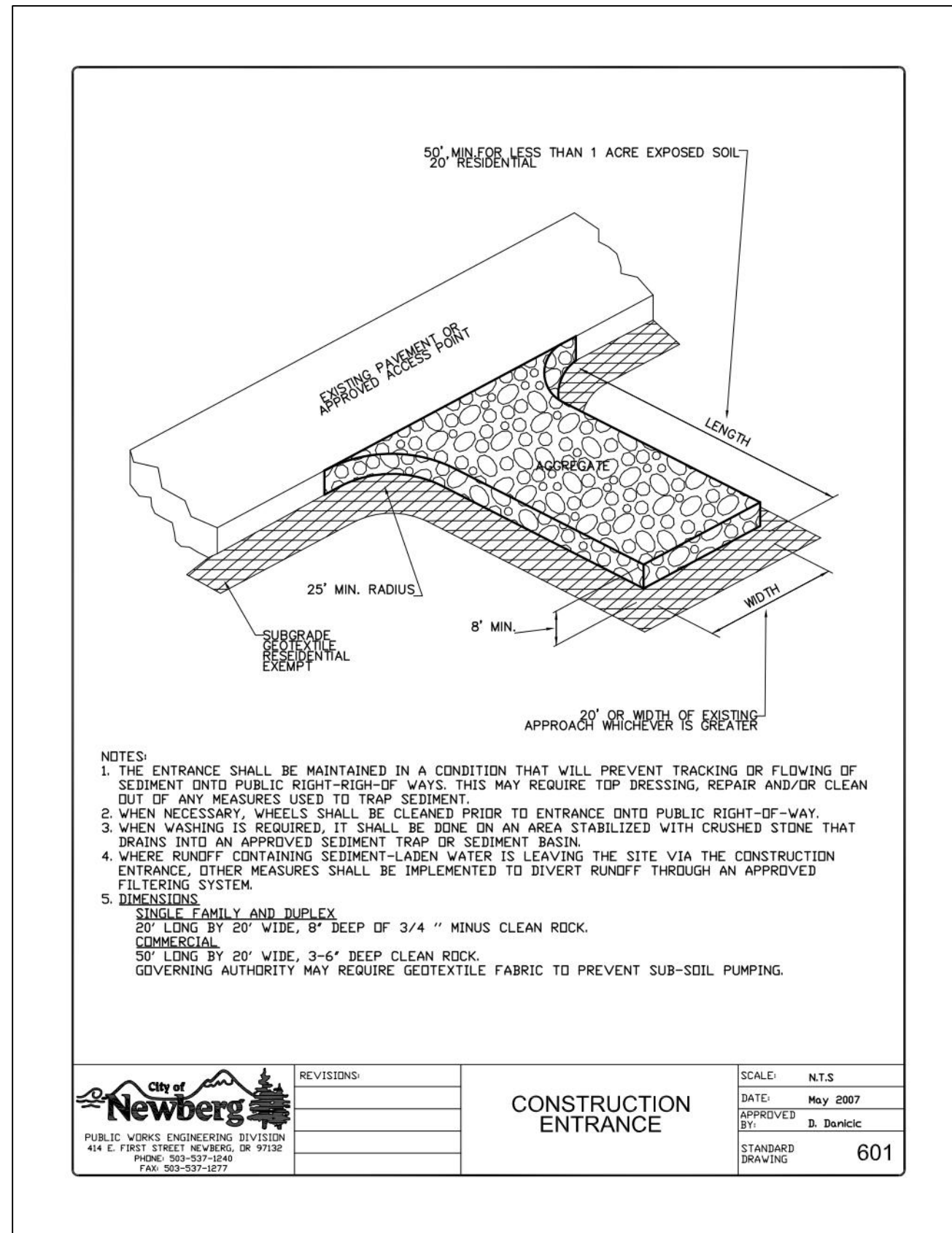
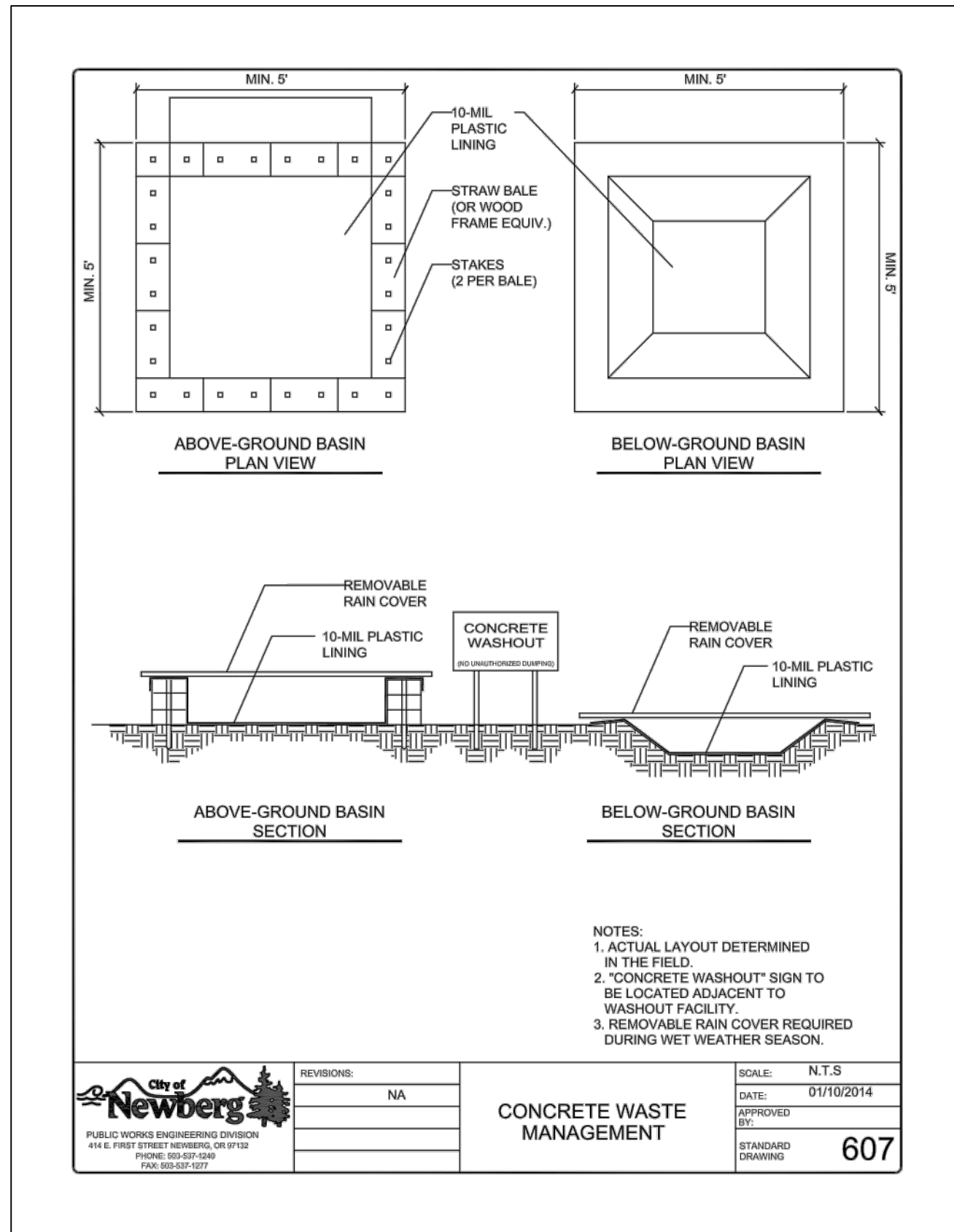
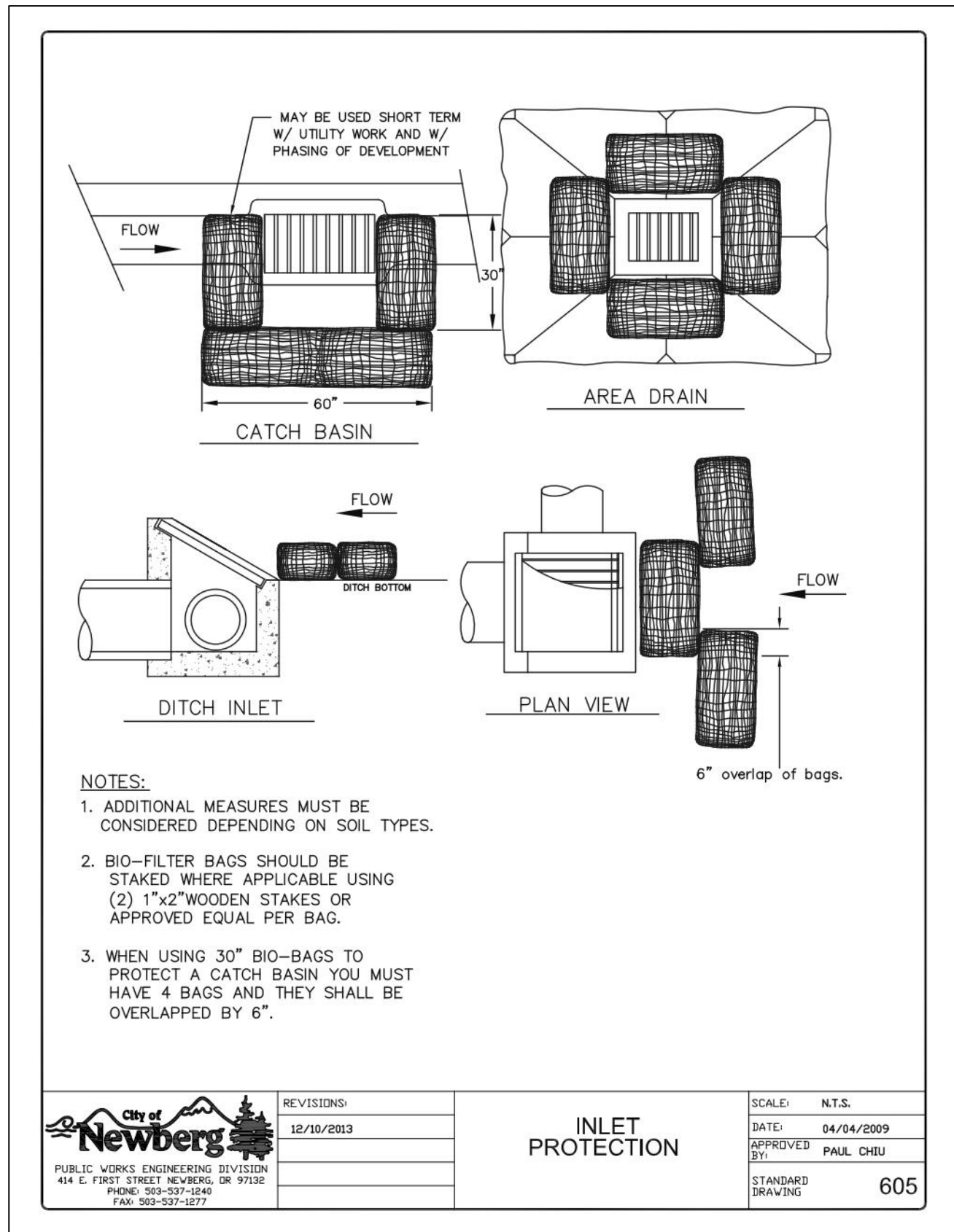
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JOB NO: 2076014.00

DATE: 03/11/2022

SHEET OF: C800





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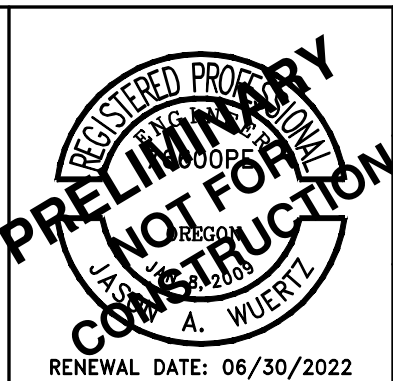
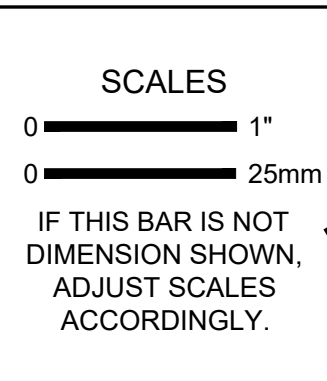
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 DRAWN: **GMB/LAH**  
 CHECKED: **JAW**

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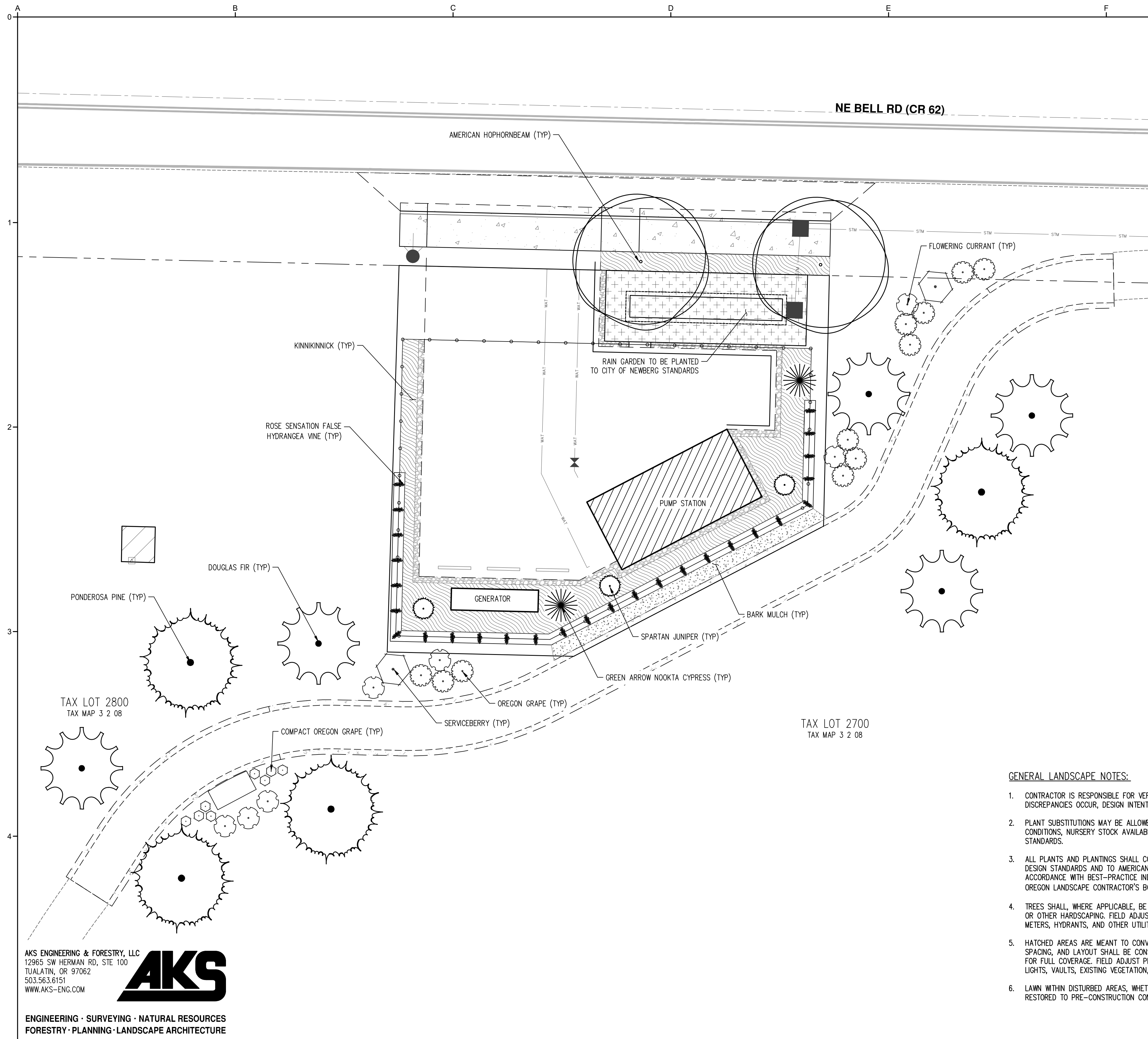
**BELL WEST PUMP STATION AND PIPELINE**

**Kennedy Jenks**

**DETAILS**

SCALE: NO SCALE  
 JOB NO: 2076014.00  
 DATE: 03/11/2022  
 SHEET OF: **C801**





**PLANT SCHEDULE**

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	2	CHAMAECYPARIS NOOTKATENSIS 'GREEN ARROW'	GREEN ARROW NOOKTA CYPRESS	4'-5' HT. B&B	AS SHOWN
	3	JUNIPERUS CHINENSIS 'SPARTAN'	SPARTAN JUNIPER	4'-5' HT. B&B	AS SHOWN
	2	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	2" CAL. B&B/MIN	AS SHOWN
	4	PINUS PONDEROSA	PONDEROSA PINE	5'-6' HT/B&B	AS SHOWN
	5	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	5'-6' HT. B&B	AS SHOWN
SHRUBS/VINES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	2	AMELANCHIER ALNIFOLIA	SERVICEBERRY	2 GAL CONT.	AS SHOWN
	11	MAHONIA AQUIFOLIUM	OREGON GRAPE	2 GAL CONT.	48" o.c.
	8	MAHONIA AQUIFOLIUM 'COMPACTA'	COMPACT OREGON GRAPE	1 GAL CONT.	24" o.c.
	7	RIBES SANGUINEUM	RED FLOWERING CURRANT	2 GAL CONT.	48" o.c.
	27	SCHIZOPHRAGMA HYDRANGEOIDES 'MINSSENS' TM	ROSE SENSATION FALSE HYDRANGEA VINE	1 GAL CONT.	60" o.c.
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	183	ARCTOSTAPHYLOS UVA-URSI	KINNIKINICK	1 GAL CONT.	24" o.c.
	±152 SF	BARK MULCH			

**GENERAL LANDSCAPE NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT AND MATERIAL QUANTITIES. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
- PLANT SUBSTITUTIONS MAY BE ALLOWED, WITH APPROVAL BASED ON UNFORESEEN SITE CONDITIONS, NURSERY STOCK AVAILABILITY, ETC. WHERE ALLOWED BY CITY OF NEWBERG DESIGN STANDARDS.
- ALL PLANTS AND PLANTINGS SHALL CONFORM TO APPLICABLE CITY OF NEWBERG LANDSCAPE DESIGN STANDARDS AND TO AMERICAN NURSERY STANDARDS ANSI Z60.1. PLANT IN ACCORDANCE WITH BEST-PRACTICE INDUSTRY STANDARDS, SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB).
- TREES SHALL, WHERE APPLICABLE, BE PLANTED A MINIMUM OF 3' O.C. FROM BACK OF SIDEWALK OR OTHER HARDSCAPING. FIELD ADJUST IF NECESSARY TO AVOID CONFLICTS WITH LIGHTS, WATER METERS, HYDRANTS, AND OTHER UTILITIES.
- HATCHED AREAS ARE MEANT TO CONVEY GENERAL PLANT LOCATION. PLANT COVERAGE, SPACING, AND LAYOUT SHALL BE CONSISTENT WITH THE SPACING LISTED IN THE PLANT LEGEND FOR FULL COVERAGE. FIELD ADJUST PLANTING AS REQUIRED TO AVOID CONFLICTS WITH UTILITIES, LIGHTS, VAULTS, EXISTING VEGETATION, ETC.
- LAWN WITHIN DISTURBED AREAS, WHETHER EXPLICITLY SHOWN ON THE PLANS OR NOT, SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
- IRRIGATION: LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING A PERMANENT, UNDERGROUND 'DESIGN-BUILD' AUTOMATIC IRRIGATION SYSTEM TO WATER ALL TREES AND PLANTING BEDS. COORDINATE POINT OF CONNECTION, DOUBLE CHECK VALVE ASSEMBLY OF A TYPE APPROVED BY LOCAL AND STATE JURISDICTIONS, AND SLEEVING LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF HARD SURFACING (SIDEWALKS, DRIVEWAYS, ETC.).
- SOIL PREPARATION: GROWING MEDIUM IN ALL NEW PLANTING BEDS SHALL BE SUFFICIENT DEPTH FOR HEALTHY PLANT ESTABLISHMENT AND GROWTH. EXISTING, NON-COMPACTED, NATIVE SOIL MAY COUNT TOWARDS THIS REQUIREMENT. REUSE SURFACE SOIL STOCKPILED ON THE SITE AND/OR IMPORT NEW TOPSOIL TO MAKE UP REQUIRED AMOUNTS FOR INSTALLATION.
- MULCH: APPLY 3" DEEP WELL-AGED MEDIUM GRIND OR SHREDDED DARK HEMLOCK BARK MULCH UNDER AND AROUND ALL TREES, SHRUBS, AND GROUNDCOVER NOT IN STORMWATER FACILITY. DO NOT COVER FOLIAGE OR ROOT CROWNS OF PLANTS WITH BARK MULCH. TREES AND OTHER PLANTS SHALL BE SET TO ACCOMMODATE MULCH APPLICATION WITHOUT BURYING ROOT CROWNS.
- MAINTENANCE: ALL LANDSCAPE AREAS SHALL BE MAINTAINED FOR THE DURATION OF THE PLANTING TO ENCOURAGE HEALTH OF PLANT MATERIAL AS WELL AS PUBLIC HEALTH AND SAFETY. ALL TREES AND SHRUBS SHALL BE PRUNED TO MAINTAIN HEALTH AND STRUCTURE OF THE PLANT MATERIAL FOR PUBLIC SAFETY PURPOSES.

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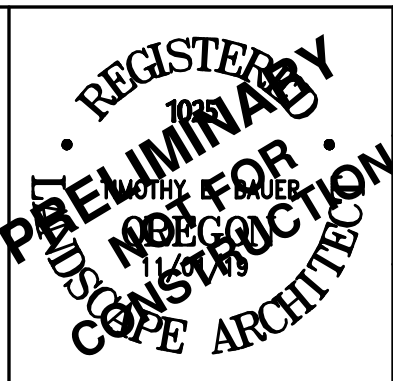
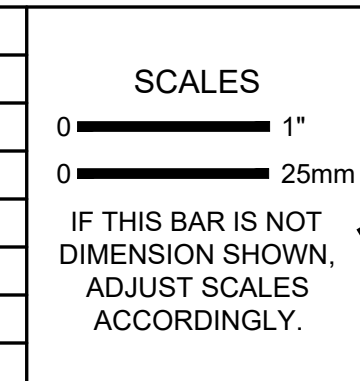
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CITY OF NEWBERG  
 NEWBERG, OREGON

**BELL WEST PUMP STATION AND PIPELINE**

**KJ Kennedy Jenks**

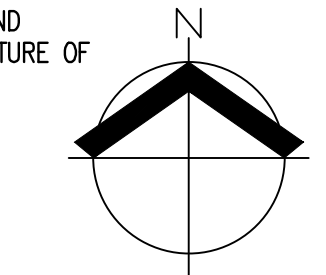
**LANDSCAPE PLAN**

SCALE 1" = 10'

JOB NO 2076014.00

DATE 03/11/2022

SHEET OF **L000**



## **Attachment 2: Agency Comments**



# COMMUNITY DEVELOPMENT LAND USE APPLICATION REFERRAL

The enclosed material has been referred to you for your information and comment. Any comments you wish to make should be returned to the Community Development Department prior to: April 25, 2022. Please refer questions and comments to Ashley Smith.

**NOTE: Full size plans are available at the Community Development Department Office.**

**APPLICANT:** City of Newberg Public Works Department  
**REQUEST:** Bell West Pump Station  
**SITE ADDRESS:** N/A  
**LOCATION:** South of NE Bell Rd, East of College  
**TAX LOT:** R3208 02700  
**FILE NO:** DR222-0004/ ADJP22-0003  
**ZONE:** I (Institutional)/ SC (Stream corridor)  
**HEARING DATE:** N/A



The Information is online at: <https://www.newbergoregon.gov/planning/page/dr222-0004-adjp22-0003-bell-west-pump-station>

Reviewed, no conflict.

Reviewed; recommend denial for the following reasons:

Require additional information to review. (Please list information required)

Meeting requested.

Comments. (Attach additional pages as needed)

Reviewed By:

Date:

Organization:

Zipty has 200 pair copper cable along south ROW of NE Bell Rd.  
Developer/Customer will need to provide path from Communication Room(MPOE) to ROW for service.

## Fe Bates

---

**From:** Albert, Scott <scott.albert@ziply.com>  
**Sent:** Tuesday, April 12, 2022 7:31 AM  
**To:** Fe Bates; Doug Rux  
**Cc:** PLANNING; Albert, Scott  
**Subject:** RE: City of Newberg Community Development Land Use Application Referral- Bell Pump Station  
**Attachments:** DR222-0004 NE Bell Rd E-O College(OR-219)(ZiPLY Comments).pdf

This email originated from outside the City of Newberg's organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Fe:

There is a 200 pair copper cable in the ROW on the south side of Bell Rd. that is a potential conflict.

**Thank you!**  
**Scott Albert**  
**Network Engineer**  
**ZiPLY Fiber**  
**4155 SW Cedar Hills Blvd.**  
**Beaverton, OR. 97005**  
**Cell: 503-207-8875**  
**Office: 503-526-3544**  
[scott.albert@ziply.com](mailto:scott.albert@ziply.com)  
[or.metro.engineering@ziply.com](mailto:or.metro.engineering@ziply.com)



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**From:** Fe Bates <Fe.Bates@newbergoregon.gov>  
**Sent:** Monday, April 11, 2022 5:23 PM  
**Cc:** Fe Bates <Fe.Bates@newbergoregon.gov>  
**Subject:** City of Newberg Community Development Land Use Application Referral- Bell Pump Station

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