NOTICE OF DECISION
Veritas School Modular Classroom Placement – 1230 NE Bell Road
Design Review – DR222-0008

August 29, 2022

Veritas School
Drew Ackerlund
1230 NE Bell Road
Newberg, OR 97132

Sent via email: drewackerlund@gmail.com; dackerlund@veritasschool.net

Re: DR222-0008 – Veritas School Modular Classroom Placement

Dear applicant,

The Newberg Community Development Director has approved the design review, DR222-0008, for the placement of a modular classroom located at Veritas School, 1230 NE Bell Rd, tax lot R3208 02702, subject to the conditions listed in the attached report. The decision will become effective on September 12, 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 $547 (plus 5% technology fee) to the Planning Division within 14 days of the date of this decision.

The deadline for filing an appeal is 4:30 pm on September 11, 2022.

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

The design review approvals are only valid for one year from the effective date above. If building or construction permits are not issued within this time period, then the design review approvals become 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 or 503-554-7768.

Sincerely,

Ashley Smith
Assistant Planner
City of Newberg

DECISION AND FINDINGS
Veritas School Modular Classroom Placement – 1230 NE Bell Road
Design Review –DR222-0008

FILE NO:	DR222-0008
REQUEST:	Placement of modular building for classroom use
LOCATION:	1230 NE Bell Road
TAX LOT:	R3208 02702
APPLICANT:	Veritas School / Drew Ackerlund
OWNER:	Veritas School
ZONE:	R-1 (Low Density Residential)
PLAN:	PQ (Public-Quasi Public)
OVERLAY:	Stream Corridor Overlay (SC) Subdistrict

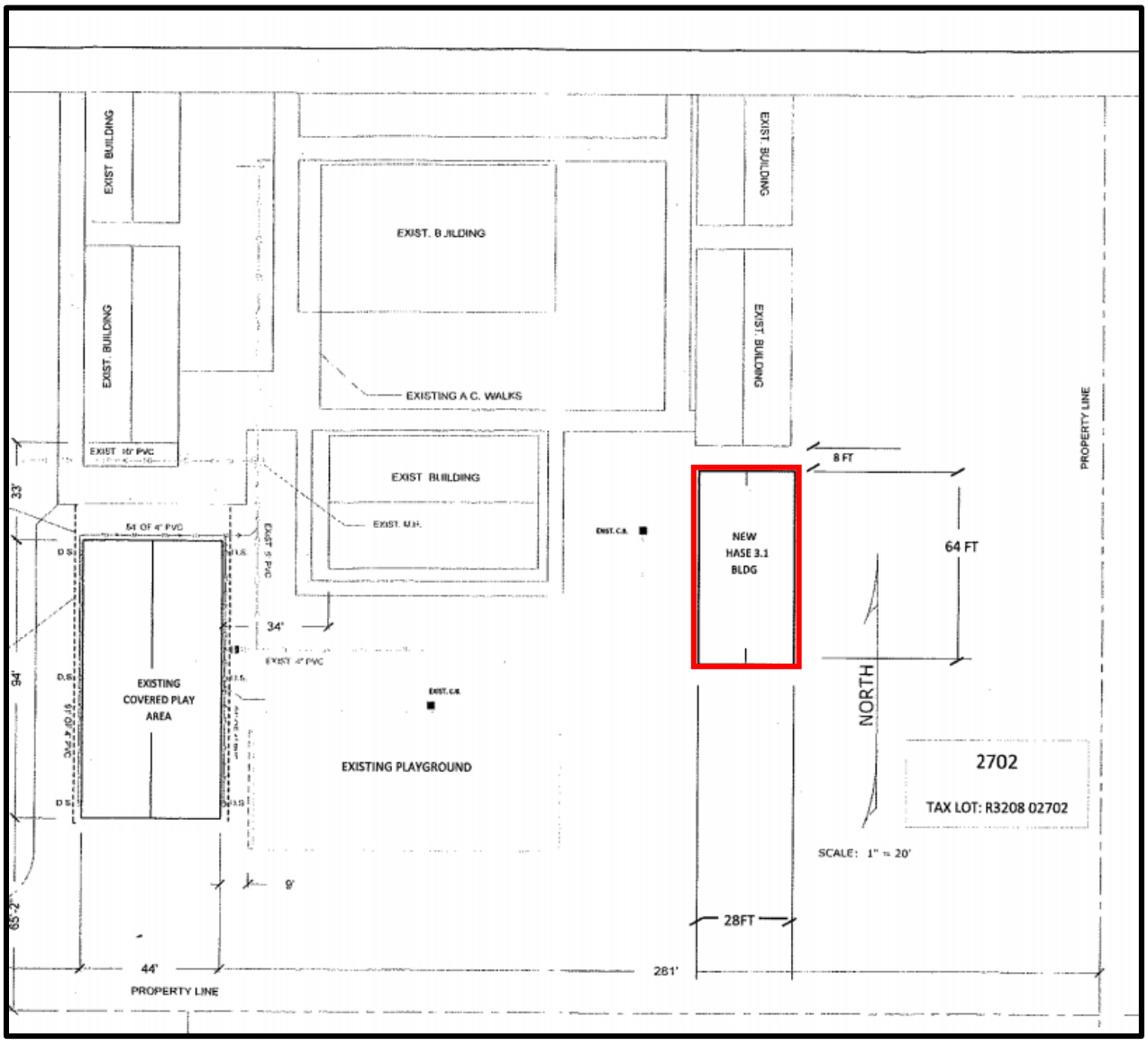
CONTENTS

Attachments:
1. Application Material and Supplemental Material
2. Agency Comments

Section I: Application Information

A. DESCRIPTION OF APPLICATION:

This is a proposal for a Type II Design Review for the placement of a 1,792 square foot prefabricated modular building on the existing Veritas School campus. The modular will be used as a classroom and will be similar in design to the six other modular classrooms currently located on the campus. No other site modifications are proposed at this time.



B. SITE INFORMATION:

1. Location: The project site is located south of NE Bell Road and west of N College Street / Hwy 219. Total size of the tax lot is 217,614 square feet. The 1,792 square

foot modular will be placed in the southeastern quadrant of the tax lot. The property is boarded by the Urban Growth Boundary (UGB) to the east, and by North Valley Friends Church property (within the city limits) on all remaining sides.

2. Size: Modular is 1,792 square feet, less than 50 cubic yards of grading for pad.

3. Current Land Uses: School

4. Natural Features: Stream corridor overlay located in northeast corner.

5. Adjacent Land Uses:

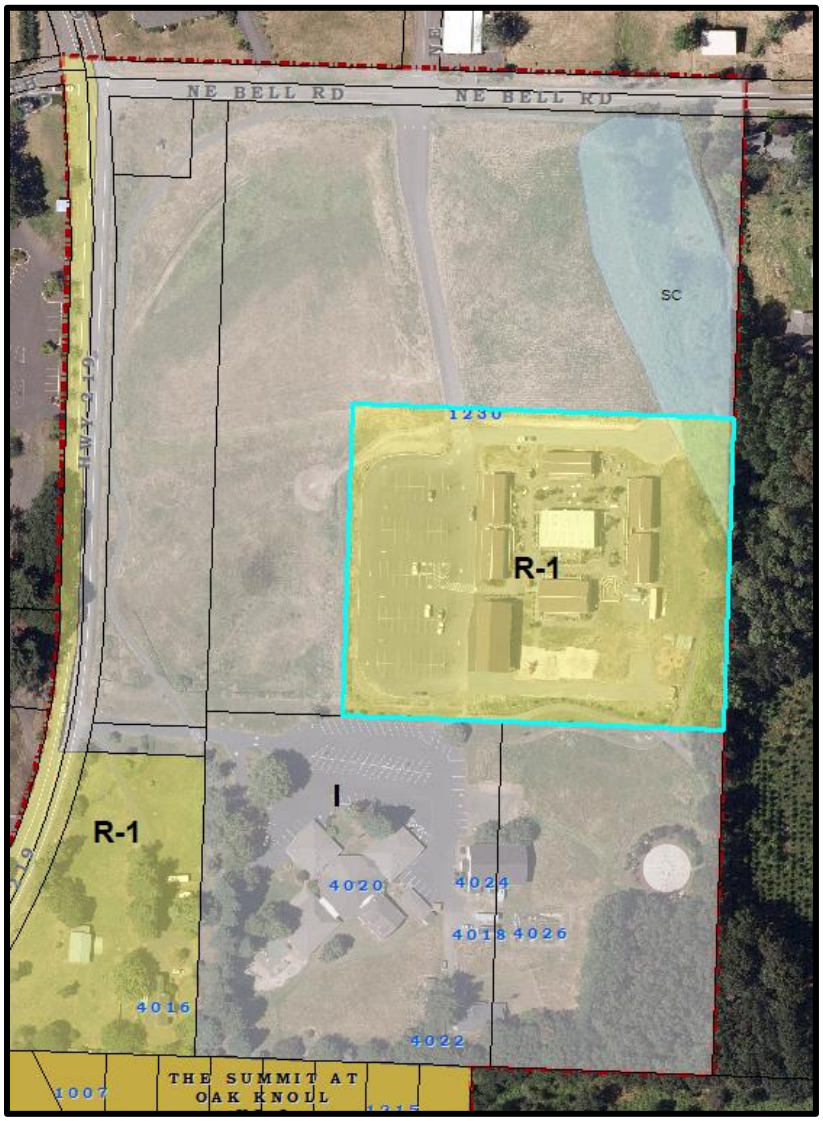
   a. North: North Valley Friends Church

b. South: North Valley Friends Church

c. East: Rural Residential (Outside UGB)

d. West: North Valley Friends Church

6. Zoning: The following zoning districts abut the subject property.



a. North: I / Institutional

b. East: AF-10 (Yamhill County jurisdiction)

c. South: I / Institutional

d. West: I / Institutional

7. Access and Transportation: Access to the proposed development is provided from NE Bell Road. It is classified as a major collector under the jurisdiction of Yamhill County.

8. Utilities:

   a. Water: There is an 8-inch water line located along the southern boundary of the property with a 3/4-inch service lateral serving the property. There is also a fire hydrant along the southern boundary of the property. The applicant is not proposing any new water service connections. Fire flow will need to be confirmed by a fire flow test.

   b. Wastewater: There is an 8-inch wastewater line located along the southern boundary of the property with a service lateral serving the property. The applicant is not proposing any new wastewater service connections.

   c. Stormwater: Stormwater runoff from impervious areas of the school campus is managed by an existing private onsite stormwater facility that outlets to an open drainage along Highway 219.

   d. Overhead Lines: Any new connection to 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.	08/05/2022:	The Community Development Director deemed the application complete.
2.	08/08/2022:	The applicant mailed notice to the property owners within 500 feet of the site.
3.	08/08/2022:	The applicant posted notice on the site.
4.	08/21/2022:	The 14-day public comment period ended.
5.	08/29/2022:	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. Police Department: Reviewed, no conflict.

6. Public Works Director: Reviewed, no conflict.

7. Public Works Maintenance Superintendent: Reviewed, comments received. Please see Attachment 2.

   Staff Response: As noted in the findings in Section 15.505.050, stormwater runoff from impervious areas of the school campus is managed by an existing onsite private stormwater facility. The area managed by the existing private facility includes the impervious area created by the proposed project. It was also noted in the findings that it is unclear if there is an approved and recorded private stormwater maintenance agreement for this facility. The conditions of approval include a requirement for the applicant to provide a recorded private stormwater maintenance agreement for this private facility.

8. Public Works Waste Water Superintendent: Reviewed, no conflict.

9. Public Works Maintenance Supervisor: Reviewed, no conflict.

10. Public Works Water Treatment: Reviewed, no conflict.

11. Public Works Water Superintendent: Reviewed, no conflict.

12. Newberg School District 29J Superintendent: Reviewed, no conflict.

13. Tualitin Valley Fire and Rescue, Deputy Fire Marshall: Reviewed, no conflict.

14. Ziply Fiber: Reviewed; no conflict with comment:
   "If the owner/developer would prefer a separate service the new building, owner/developer will need to provide path to a Ziply Pedestal or the Right-of-Way on N College St (OR-219). If assistance in location for path placement is

needed please contact Scott Albert 503-526-3544 or or.metro.engineering@ziply.com. I will be happy to meet and advise.”.

E. PUBLIC COMMENTS:

No public comments were received on the application.

Section II: Findings – File DR222-0008
Design Review – 1230 NE Bell Road
Veritas School – Modular Classroom Placement

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.

3. Exemptions to Type I and Type II Process. The following development activities are exempt from Type I or Type II standards:

a. Replacement of an existing item such as a roof, floor, door, window, or siding.
b. Plumbing and/or mechanical alterations which are completely internal to an existing structure.

Finding: A modular structure is not identified specifically in NMC 15.220.020(A)(1), nor qualifies as an institutional addition because it is an independent structure. Additionally, the proposal does not fit any of the process exemptions offered in this section. Therefore, this review will be processed as a Type II review per NMC 15.220.020(A)(2)(a).

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: The proposed modular is a 28-foot by 65-foot prefabricated structure for classroom use. As shown in the applicants site plan, currently the site has six modular buildings of similar architectural design. The proposed placement is complimentary to the overall layout of the campus. This criterion is 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.

Finding: The addition of the modular classroom is to accommodate the existing student population. Per conversation with the applicant, this will be a music classroom that is currently being held in a neighboring facility space. Therefore, since no additional students or teachers will be added to the existing population, an increase in parking spaces is not required. No modifications to the existing parking is being proposed by the applicant as the placement of the modular does not affect the existing traffic circulation. The existing parking lot design was initially approved through Yamhill County Docket No. C-15-01 in 2003. Furthermore, there is an overflow parking agreement between the neighboring North Valley Friends Church and Veritas (Joint Use Agreement for Construction, Operation and Maintenance of Athletic Facilities Section 10 Parking, signed November 23, 2004, Reference Order Number 829338) that will be in place for 15 years after Veritas' occupation of the school. This criterion is met.

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.

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

Finding: This is an existing facility, and the addition will be less than 4,000 square feet. No bicycle parking is required. Therefore, this criterion is not applicable.

15.440.140 Private walkway design.

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

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

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

Finding: It is unclear if the proposed modular has adequate private walkways. The applicant's narrative states that modular will connect to existing ADA accessible paths, however no details were shown on the site plan. A revised site plan showing accessible pathways to the modular meeting the standard of NMC 15.440.140(B) and (C) shall be submitted with building permit application plans to be reviewed and approved prior to issuance. If the aforementioned condition is adhered to this criterion will be met.

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

Finding: No crosswalk crossings are proposed. The criterion is not applicable.

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

Finding: The Veritas School is granted through the Reciprocal Easement and Maintenance Agreement (Instrument No. 20046601), perpetual non-exclusive easement for use of the North Valley Friends Church walking trail, which provides Veritas School pedestrian access to both NE Bell Road and N College Street / Hwy 219. This criterion is met.

F. The review body may require on-site walks to connect to development on adjoining sites.

G. The review body may modify these requirements where, in its opinion, the development provides adequate on-site pedestrian circulation, or where lot dimensions, existing building layout, or topography preclude compliance with these standards. [Ord. 2619, 5-16-05; Ord. 2513, 8-2-99. Code 2001 § 151.620.3.]

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.
A. Residential.
1. In the R-1 district, no main building shall exceed 30 feet in height, except that townhouse dwellings shall not exceed 35 feet in height.

Finding: The site is located within the R-1 zone, which has a maximum building height of 30 feet. Elevation details show the average roof height of the modular will be 12 feet and 10 inches. 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: This modular is being placed on an existing school campus that has public access from NE Bell Road per the Reciprocal Easement and Maintenance Agreement (Instrument No. 200425601) with North Valley Friends Church. This agreement grants Veritas School an easement across tax lot R3208 02700 to NE Bell Road. No private streets are being created with this project. This criterion is met.

15.405.040 Lot coverage and parking coverage requirements
B. Residential uses in residential zones shall meet the following maximum lot coverage and parking coverage standards; however, cottage cluster projects shall be exempt from the standards. See the definitions in NMC 15.05.030 and Appendix A, Figure 4.

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 in a residential zone, R-1, but is a school use which is a use not listed in subsection B. Therefore, per subsection C, lot coverage and parking coverage requirements are not applicable to this project.

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.

Finding: Per the applicant's site plan the modular building will be beyond the required 25-foot setbacks as noted in the following table:

Property Line	**Setback Distance (approximate)**
North	239 feet
East	105 feet
South	116 feet
West	380 feet

This criterion is met.

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. [Ord. 2451, 12-2-96. Code 2001 § 151.553.]

Finding: The applicant is not proposing any additional parking be created or requesting the placement of any play structures within the required yard spaces. This criterion is met.

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: The school tax lot, R3208 02702, is an interior tax lot that does not border any public streets. The access driveway for the school is located to the north, on tax lot R3208 02700, through the Reciprocal Easement and Maintenance Agreement (Instrument No. 200425601) allowing Veritas School access to NE Bell Road. This is approximately 400 feet north of the Veritas School tax lot and campus and therefore completely outside any vision clearance setbacks. Due to the location of the school campus, these criteria are not applicable.

15.410.070 Yard exceptions and permitted intrusions into required yard setbacks.

Finding: This application is for the placement of a modular structure only. The applicant is not proposing any depressed areas, placement of accessory buildings, allowed intrusions into setbacks, is not installing any fences or walls, will not be altering, or creating new parking or service drives, or installing public phone booths or transit shelters. Therefore, the criterion in this section 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: The applicant narrative states that 50,800 square feet of the 217,613 site is currently landscaped, for a total of approximately 23%. Additional landscaping will be added around the modular and will follow the Veritas School Campus Pruning Guide. 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:***
>
> ***b. A parking, loading area, or drive aisle which runs adjacent to a property line shall be separate from any lot line adjacent to a street by a landscaped strip at least 10 feet in interior width or the width of the required yard, whichever is greater, and any other lot line by a landscaped strip of at least five feet in interior width. See subsections (B)(3)(c) and (d) of this section for material to plant within landscape strips.***
>
> ***d. A landscaped strip separating a parking area, loading area, or drive aisle from an interior lot line shall contain any combination of trees, shrubs, ground cover or lawn. Plant material shall be selected from at least two different plant material groups (example: trees and shrubs, or lawn and shrubs, or lawn and trees and shrubs).***
>
> ***e. Landscaping in a parking or loading area shall be located in defined landscaped areas which are uniformly distributed throughout the parking or loading area.***
>
> ***f. Landscaping areas in a parking lot, service drive or loading area shall have an interior width of not less than five feet.***

Finding: There are no modifications being made to the parking lot and the overall landscaping percentage criteria has previously been met. This criterion is not applicable.

> ***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: The Veritas School Campus tax lot R3208 02702T is an interior tax lot and does not border any public streets. This criterion is not applicable.

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

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

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

Finding: Landscaping criteria has already been met. The applicants' narrative states that campus landscaping will continue around the new modular with similar design components and shrubs. The provided Veritas School Campus Pruning Guide did not provide details on planting schedule, however, since the 15% requirements is already being met, these criteria are not applicable.

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 landscaping criteria is already being met by existing landscaping. No further landscaping improvements are being required. The applicant's narrative states that a drip irrigation system will serve the landscaping around the modular. This criterion is met.

6. Required landscaping shall be continuously maintained.

Finding: The provided campus landscape plan shows that landscaping will be continuously maintained by Veritas School. This criterion is met.

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. No new trees are proposed. 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 does not have an approved site development master plan. The landscaping requirements of subsection (B)(3) of this section have been applied to this project. This criterion is met.

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 the R-1 / Low Density Residential zone, not in the M-4 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 landscaping criteria is already being met onsite. Therefore, this criterion is not applicable.

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.

Finding: No signs are being proposed with modular placement. This criterion is not applicable.

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 the R-1 / Low Density Residential zone and is an educational facility under ownership of the Veritas School. Per the zoning use table NMC 15.305.020, schools (#330) are a permitted use within the R-1 zone. 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: The northeast corner of the Veritas School tax lot R3208 02702 is located in the NMC 15.342 Stream Corridor Overlay (SC) Subdistrict. The proposed modular is located approximately 122 feet southwest of the stream corridor and will not encroach into it. Therefore, the criteria of NMC 15.342 do not apply.

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.

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.

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: The applicant's narrative states that the prefabricated modular building will come with factory exterior lighting that meets or exceeds NMC 15.425 lighting requirements. Due to the interior placement of the modular resulting in over 100-foot setbacks from all property lines, staff find that light trespass should not be an issue with the factory lights on the modular. Furthermore, due to the close placement of the modular to existing classrooms and campus infrastructure, staff finds adequate pathway lighting should already be in place. This criterion is met.

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's proposed plans do not show any new public improvements to be constructed and no new public improvements are required.

This criterion does not apply.

> ***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 estimated trips for the proposed project are less than the threshold of 40 peak pm trips required for a traffic study. A traffic study will not be required.

This criterion does not apply.

Chapter 15.430 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.***

Finding: The submitted narrative and plans describe all new utilities installed underground. Because final plans have not been submitted, final plans showing utilities installed underground will be required with the building permit application.

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

15.505 Public Improvements Standards

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 criterion 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 project site area boundary for the proposed modular classroom is interior of the school campus and are not directly adjacent to any public street frontage. Access to the project site is provided from NE Bell Road. No public street frontage improvements are required to serve the project site for the new modular classroom.

This criterion does not apply.

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: There is an 8-inch water line located along the southern boundary of the property with a 3/4-inch service lateral serving the property. There is also a fire hydrant along the southern boundary of the property. The applicant is not proposing any new water service connections. Fire flow will need to be confirmed by a fire flow test.

This criterion is met.

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: There is an 8-inch wastewater line located along the southern boundary of the property with a service lateral serving the property.

This criterion is met.

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.

Finding: Stormwater runoff from impervious areas of the school campus is managed by an existing private onsite stormwater facility that outlets to an open drainage along Highway 219.

This criterion is met.

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 title report submitted with the application identifies existing utility and access easements within the project site. No new easements are required for the project.

This criterion is met.

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 if the aforementioned condition of approval is adhered to.

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.

D. Construction of New Streets. Where new streets are necessary to serve a new development, subdivision, or partition, right-of-way dedication and full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed; in such cases, three-quarter street improvements may be allowed by the city only where all of the following criteria are met:

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

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

E. Improvements to Existing Streets.

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

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

Finding: The project site area boundary for the proposed modular classroom is interior of the school campus and not directly adjacent to any public street frontage. Access to the project site is provided from NE Bell Road. No public street frontage improvements are required to serve the project site.

These criteria 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.

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

4. Design, construction and material standards shall be as specified by the director for the construction of such public water facilities in the city. The judgment of the city, cannot be feasibly served otherwise.

Finding: There is an 8-inch water line located along the southern boundary of the property with a 3/4-inch service lateral serving the property. There is also a fire hydrant along the southern boundary of the property. The applicant is not proposing any new water service connections.

This criterion is 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.

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: There is an 8-inch wastewater line located along the southern boundary of the property with a service lateral serving the property. The applicant is not proposing any new wastewater service connections.

This criterion is met.

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.

Finding: The title report submitted with the application identifies existing utility and access easements within the project site. No new easements are required for the project.

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.

Finding: The proposed development will create a net increase of more than 500 square feet of onsite impervious area. Stormwater runoff from impervious areas of the school campus is managed by an existing private onsite stormwater facility that outlets to an open drainage along Highway 219.

This criterion is 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.

Finding: The proposed project will disturb less than 1 acre and 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.

Finding: The proposed development will create a net increase of more than 500 square feet of onsite impervious area. Stormwater runoff from impervious areas of the school campus is managed by an existing private onsite stormwater facility that outlets to an open drainage along Highway 219. It is not clear if there is an approved and recorded private maintenance agreement for the existing stormwater facility. Because it is unclear if there is a recorded a private maintenance agreement for the existing stormwater facility, the applicant is required to submit an approved and recorded private maintenance agreement for the existing onsite private stormwater facility.

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

Section III: Conditions – File DR222-0008
Design Review – 1230 NE Bell Road
Veritas School – Modular Classroom Placement

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. **Private Walkways:**
   a. A revised site plan showing accessible pathways to the modular meeting the standard of NMC 15.440.140(B) and (C) shall be submitted with building permit application plans to be reviewed and approved prior to issuance.

4. **Underground Utilities:**
   a. Final plans showing utilities installed underground will be required with the building permit application.

5. **Fire Flow:**
   a. Fire flow will need to be confirmed by a fire flow test.

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

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

8. **Stormwater**
   a. The applicant is required to submit a private maintenance agreement for the onsite stormwater facilities and have the approved agreement recorded.

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

TYPE II APPLICATION – LAND USE

File #: DR22-0008

TYPES – PLEASE CHECK ONE:

- ☑ **Design review**
- ☐ **Tentative Plan for Partition**
- ☐ **Tentative Plan for Subdivision**
- ☐ **Type II Major Modification**
- ☐ **Variance** _____
- ☐ **Other: (Explain)** _____

APPLICANT INFORMATION:

APPLICANT: Veritas School attn: Drew Ackerlund
ADDRESS: 26288 NE Bell Road Newberg OR 97132
EMAIL ADDRESS: drewackerlund@gmail.com or dackerlund@veritasschool.net
PHONE: 503-730-0930 MOBILE: 503-730-0930 FAX: _____
OWNER (if different from above): Veritas School PHONE: _____
ADDRESS: _____
ENGINEER/SURVEYOR: Blazer Industries PHONE: 503-749-19020
ADDRESS: 945 Olney St Aumsville OR 97325

GENERAL INFORMATION:

PROJECT NAME: Phase 3.1 Classroom PROJECT LOCATION: on existing campus
PROJECT DESCRIPTION/USE: Set a pre fabricated building on site PROJECT VALUATION: 175,000
MAP/TAX LOT NO. (i.e.3200AB-400): R3208-02702 ZONE: R1 SITE SIZE: 5acre SQ. FT. ☐ ACRE ☐
COMP PLAN DESIGNATION: _____ TOPOGRAPHY: Flat Building Site
CURRENT USE: School campus
SURROUNDING USES:
NORTH: Church SOUTH: Church
EAST: Residential WEST: Church / 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:

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.

Drew Ackerlund 7-22-22
Applicant Signature Date

Drew Ackerlund
Print Name

Veritas School 7-22-22
Owner Signature Date

Veritas School
Print Name

PERMIT APPLICATION

www.newbergoregon.gov trakit.newbergoregon.gov/etrakit

Site Information

Business | Project Name: Veritas School

Site Address: 26288 NE Bell Road Newberg OR 97132

House Sq. Ft. _____ x $150.87 = $ _____ Garage Sq. Ft. _____ x $60.43 = $ _____

Porch | Patio | Deck Sq. Ft. _____ x $30.22 = $ _____ Est. Valuation: $173,000

☑ New ☐ Alteration | ☐ Single Family (☐ Backflow Included) ☐ Multi-Family ☐ Commercial / Industrial

Project Description

Pre-fabricated Modular Classroom Building Grading Permit less than 50 cubic yards

Owner Information

Owner Name: Veritas School attn Drew Ackerlund

Mailing Address: 26288 NE Bell Road City/State/Zip: Newberg OR 97132

Cell: 503-730-0930 Phone: 503-730-0930 Email: drewackerlund@gmail.com

Architect | Engineer | Designer | Who Drew the Plans Information

Business Name: Blazer Industries Email: james@blazerind.com

Mailing Address: PO 489 City/State/Zip: Aumsville OR 97325

Cell / Phone: 503-749-1900 License: OR19300PE Expiration Date: 6/30/2023

Building | General Contractor Information

Business Name: Blazer Industries Email: james@blazerind.com

Mailing Address: PO 489 City/State/Zip: Aumsville OR 97325

Cell / Phone: 503-749-1900 CCB: 50106 Expiration Date: 3/4/23

Mechanical Contractor Information

Commercial Valuation: $ na

Business Name: Blazer Industries Email: james@blazerind.com

Mailing Address: PO 489 City/State/Zip: Aumsville OR 97325

Cell / Phone: 503-749-1900 CCB: 50106 Expiration Date: 3/4/23

Plumbing | Landscape Contractor Information

Business Name: No plumbing Email: _____

Mailing Address: _____ City/State/Zip: _____

Cell / Phone: _____ CCB | LCB: _____ Expiration Date: _____

Applicant Information

☐ Owner ☐ Architect ☐ Contractor ☐ Other - complete form below*

K:\WP\COMMON\Forms\CD\Bldg Div Forms\Permit Application April 1 2022.pub

Signature: Drew Ackerlund Print: Drew Ackerlund Date: 7/22/22

*Business Name: Veritas School *Email: drewackerlund@gmail.com dackerlund@veritasschool.net

*Mailing Address: 26288 NE Bell Rd Newberg OR 97132 *Cell / Phone: 503-730-0930

Office Use Only—Permit #:

Reference: Newberg City Planning Department 15.220.050 Type ll Design Review

Veritas School
26288 NE Bell Road, Newberg, OR 97132
Lot #R3208-02702

Subject: Applicant response to design review criteria required by Newberg Director of Community Development, Doug Rux to grant Veritas School, a private not-for-profit Christian school, a structural permit to move a State of Oregon approved pre-fabricated classroom building onto the existing Veritas School campus as part of the phased development of Veritas School despite having fulfilled this same process in 2019.

1. Design Compatibility.
    a. Pursuant to the 2003 County Use Permit for the school, 2003 Development Agreement between NVFC and the City, which is enforceable and runs with the land, the 2009 vested rights determination by Yamhill County, and ongoing development work to site the school on the property, Veritas has the right to place an additional modular building, as part of its ongoing phased development without the need to obtain land use approval from the City.
    b. This is a prefabricated building. It is manufactured by Blazer Industries and is an Oregon approved prefabricated design. It is 28' x 64', the same as 5 of the existing 7 buildings on the campus of Veritas. It is a classroom building used for classroom instruction. It will be installed over a gravel pad and, like the 7 other buildings on campus, it will not have a permanent foundation.
2. Parking and On-site Circulation.
    a. Parking and On-site Circulation will not change. The new classroom will not alter the existing use of the parking lot nor alter the school's current off street parking and on site circulation.
3. Setbacks and General Requirements.
    a. All setbacks for the new classroom are greater than 25 feet from every boundary line of any property bordering Veritas Lot R3208-02702.
4. Landscaping Requirements.
    a. This new classroom does not alter the existing landscape components on the Veritas School campus.
5. Signs.
    a. Not Applicable. Except for the typical classroom signage indicating the classroom number and teacher name, no signs are planned.
6. Manufactured Dwelling, Mobile Home and RV Parks.
    a. Not Applicable.
7. Zoning District Compliance.
    a. Veritas School lot R3208-02702 is zoned R1, permitted in the zoning use table 15.305.020. This new Classroom is a planned school structure and will not alter the current use of the property except to allow students to enjoy a larger choir practice room compared to the current choir room.
8. Sub district Compliance.
    a. Not Applicable .
9. Alternate Circulation, Roadway Frontage Improvements and Utility Improvments.
    a. Veritas School has previously accomplished required Alternative Circulation, Roadway Frontage Improvements and Utility Improvements.

10. Traffic Study Improvements.
    a. This new Classroom does not change the current use of the property and is not associated with additional traffic that would impact the public right of way.

Hello Ashley,
Thank you for your May 3, 2022 email outline of permitting history for Veritas School 26288 NE Bell Rd.
Sorry for the delayed response but your comments gave us pause to consider just what is the city's misunderstanding with our Land Use.

Pursuant to the 2003 County Use Permit for the school, 2003 Development Agreement between NVFC and the City, *which is enforceable and runs with the land*, the 2009 vested rights determination by Yamhill County, and the ongoing development work to site the school on the property, Veritas has the right to place an additional modular building, as part of its ongoing phased development without the need to obtain land use approval from the City.

When the entire campus was moved in 2017 *without obtaining a land use approval* because land use approval had already been granted for our property in 2003. It was also, in hindsight, fallacious of the city to require a Type ll Land Use Application from Veritas in 2019 when we applied for building permits to construct the covered play area that is one our property. Clearly we did not change our land use in 2019 by phasing development of a covered play area…this is a component of every modern school campus. We should have informed you that land use approval was not necessary as the covered play area was part of the 2003 CUP.

Neither the covered play area, the Phase 3.2 new classroom (planned) nor the final building projected as Phase 3.2 are designed to change the land use for Veritas School. This additional classroom will not cause enrollment to go beyond the 300-student approval Veritas received from the County in 2003.

Veritas School Phase 3.1 Site Development Plan

Response/Summary: Description of Site Development Required for Type ll Design Review of Phase 3.1: 28 ft x 64 ft Pre Fabricated Modular Classroom Building

1. Existing Site Features: Phase 3.1 will not disturb existing landscaping, grades, slopes, wetlands and structures on the site. Phase 3.1 is a standalone prefabricated modular building that is set upon a non-permanent foundation according to State code regulations for Modular Buildings. The location/footprint is currently a graveled area on the southeast portion of the school campus.

2. Drainage and Grading: All drainage aspects have been addressed and approved by the City of Newberg engineering department and were included in Design Review DR219-0002 and implemented in NSTR19-0165. All aspects of drainage, parking lot drainage, size and location of storm drain lines, retention or detention facilities, and the preliminary storm water report are attached to DR219-0002 and are fulfilled.

   The 28 ft x 64 ft Pre Fabricated Modular Classroom Building grading is minimal. Less than 50 cu yards estimated for the gravel pad.

3. Utilities: There are no changes in the location of private or public utilities on site for this additional classroom. The classroom has no water or sewage hookup. There are no overhead utilities planned. Electrical service is permitted by Yamhill County.

4. Public Improvements: All public improvements have been designed, approved and previously developed. The Phase 3.1 Pre Fabricated Modular Classroom Building does not require any additional public improvements.

5. Access, Parking and Circulation: All access, parking and circulation improvements have been designed, approved and previously developed. The Phase 3.1 Pre Fabricated Modular Classroom Building does not require any changes in access, parking or circulation. Overflow parking, should it be required, is accomplished by agreement with NVFC (Joint Use Agreement, Section 10, dated November 23, 2004)

6. Site Features: See Site Plan. Phase 3.1 Pre Fabricated Modular Classroom Building does not impact or change existing site features.

7. Exterior Lighting Plan: The Phase 3.1 Pre Fabricated Modular Classroom Building comes from the factory with all exterior lighting installed on the building per code meeting or exceeding NMC Chapter 15.425.

8. Landscaping Plan: Approximately 50,800 sf of the site is currently landscaped. This square footage amount is considerably greater than required by NMC 15.420.010(B)(1). The pad site

for Phase 3.1 Pre Fabricated Modular Classroom Building is currently not landscaped. The Phase 3.1 Pre Fabricated Modular Classroom Building exterior front area is planned to continue same or similar shrub and landscaping design components (see Veritas School plant & pruning guide). A drip irrigation system serves the landscaped areas.

9. ADA Plan Compliance: Veritas School has a prescribed accessible parking area, accessible routes campus wide and ramp access to all buildings. The Phase 3.1 Pre Fabricated Modular Classroom Building will be connected to an existing path and ramp system. See Ramp Schedule.

10. Architectural Drawings: Presented previously. With regard to installation: the installation of the Phase 3.1 Pre Fabricated Modular Classroom Building will follow manufactured dwelling installations, support, and tie-down requirements adopted under ORS 446.230 by Pacific Mobile Structures CCB 50832.

11. Signs and Graphics: Not Applicable

12. Other: Not Applicable

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: Larry Ball
(503)376-7363
lball@firstam.com

LOT BOOK SERVICE

Veritas School
26288 NE Bell Road
Newberg, OR 97132

Order No.: 1039-3955830
July 19, 2022

Attn: Drew Ackerlund
Phone No.: 503-390-0930 - Fax No.:
Email:

Re: 1230 NE Bell Road aka 26288 NE Bell Road

Fee: N/C

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 07/15/2022 at 8:00 a.m.

We find that the last deed of record runs to

Veritas School, an Oregon non-profit corporation

We find the following apparent encumbrances within ten (10) years prior to the effective date hereof:

1. Taxes for the fiscal year 2022-2023 a lien due, but not yet payable.

2. Subject property is under public ownership and is tax exempt. Any change in ownership before delivery of assessment roll may result in tax liability. Account No. 529351.

3. 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

4. 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

5. 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

6. 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:	A public sanitary sewer line and/or a public water line

7. Deed of Trust and the terms and conditions thereof.

Grantor/Trustor:	Veritas School, an Oregon non-profit corporation
Grantee/Beneficiary:	First Federal Savings & Loan Association of McMinnville
Trustee:	David C Haugeberg
Amount:	$750,000.00
Recorded:	May 18, 2017
Recording Information:	Instrument No. 201708124, Deed and Mortgage Records

Note: This Deed of Trust contains Line of Credit privileges. If the current balance owing on said obligation is to be paid in full in the forthcoming transaction, confirmation should be made that the beneficiary will issue a proper request for full reconveyance.

Modification and/or amendment by instrument:

Recording Information:	April 30, 2018 as Instrument No. 201806111, Deed and Mortgage Records

8. Assignment of leases and/or rents and the terms and conditions thereof:

Assignor:	Veritas School, an Oregon non-profit corporation
Assignee:	First Federal Savings & Loan Association of McMinnville
Recorded:	May 18, 2017
Recording Information:	Instrument No. 201708125, Deed and Mortgage Records

9. Financing Statement, indicating a Security Agreement

Debtor:	Veritas School
Secured Party:	First Federal Savings & Loan Association
Recorded:	May 18, 2017
Recording Information:	Instrument No. 201708126, Deed and Mortgage Records

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: NONE

NOTE: Taxes for the year 2021-2022 PAID IN FULL

Tax Amount:	EXEMPT
Map No.:	R3208 02702
Property ID:	529351
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:

A TRACT OF LAND IN SECTION 8, TOWNSHIP 3 SOUTH, RANGE 2 WEST OF THE WILLAMETTE MERIDIAN IN YAMHILL COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT THAT IS SOUTH 80 RODS (1320.00 FEET) AND EAST 116 RODS (1914.00 FEET) FROM THE NORTHWEST CORNER OF THE WILLIAM T. WALLACE DONATION LAND CLAIM NO. 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 TRUE POINT OF BEGINNING.

TOGETHER WITH A RECIPROCAL EASEMENT AND MAINTENANCE AGREEMENT RECORDED DECEMBER 17, 2004 AS INSTRUMENT NO. 200425601, DEED AND MORTGAGE RECORDS, YAMHILL COUNTY, OREGON.

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.

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

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

A property owner in your neighborhood submitted an application to the City of Newberg to place a 28'x 64' prefabricated classroom building on the Veritas School campus. You are invited to take part in the City's review of this project by sending in your written comments. For more details about giving comments, please see the back of this sheet.

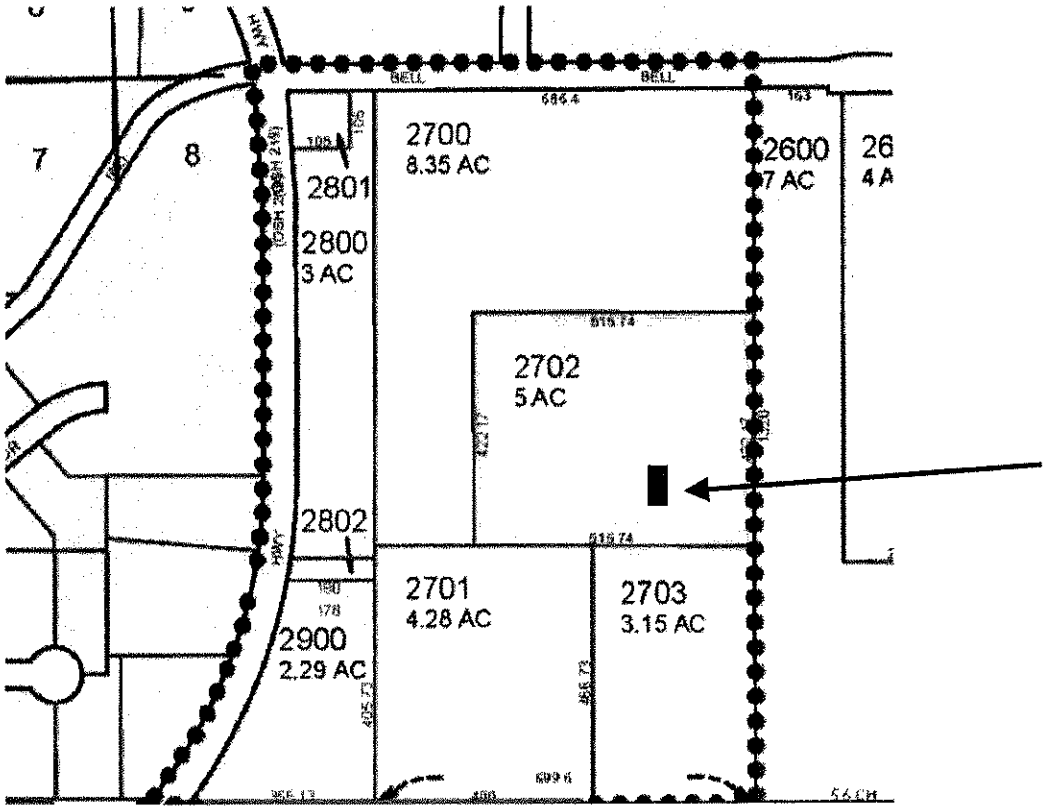
The project would put a new two-classroom building on the Veritas School campus. The building is a prefabricated modular structure similar to the existing campus buildings. The project involves some additional landscaping,

APPLICANT: ***Veritas School***
TELEPHONE: ***503-538-1962***

PROPERTY OWNER: ***Veritas School***

LOCATION: ***26288 NE Bell Road, Newberg OR 97132***

TAX LOT NUMBER: ***Yamhill County Tax Map R3208-02702***



Working Together For A Better Community-Serious About Service"

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

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

Written Comments: File No. **NSTR22-0076**
City of Newberg
Community Development Department
PO Box 970
Newberg, OR 97132

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

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

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

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

CITY OF NEWBERG

Land Use Notice

FILE # tbd

PROPOSAL: To set a new Modular Classroom on existing school property.

FOR FURTHER INFORMATION, CONTACT:

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

R3208 02601
John & Troy Rutten
26530 NE Bell Rd
Newberg, OR 97132

R3208 02703
North Valley Friends Church
4020 N College St
Newberg, OR 97132

R3208 02500
Mark Wanker
21373 SW Johnson Rd
West Linn, OR 97068

R3208 02801
North Valley Friends Church
4020 N College St
Newberg, OR 97132

R3208BC 00207
Eric & Colleen Hemmer
1115 E Madison Dr
Newberg, OR 97132

R3208BC 00209
Jones Jeffery D Trustee & Jones Heidi L
17305 NE Leander Dr
Sherwood, OR 97140

R3207AA 00200
Debralyn Evans
4009 N College St
Newberg, OR 97132

R3208BC 00211
Gregory & Elizabeth Woolsey
1225 E Madison Dr
Newberg, OR 97132

R3208 02900
Rourke Development Llc
1201 E Fulton St UNIT 13
Mcminnville, OR 97128

R3208 02400
Somerset Ventures Iii Llc
Po Box 1060
Newberg, OR 97132

R3208 02702
Veritas School
26288 NE Bell Rd
Newberg, OR 97132

R3205 02301
Chehalem Valley Baptist Church
26155 NE Bell Rd
Newberg, OR 97132

R3207AA 00100
Newberg Gospel Chapel Inc
4301 N College St
Newberg, OR 97132

R3208 03200
Somerset Ventures Iv Llc
Po Box 1060
Newberg, OR 97132

R3208 02701
North Valley Friends Church
4020 N College St
Newberg, OR 97132

R3207AA 00300
Lawrence Joholske & Sandra Stone
3993 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

R3208 02490
Rain Dance Ranch Llamas Llc
Po Box 1060
Newberg, OR 97132

R3208 02600
Curt Wilson
26450 NE Bell Rd
Newberg, OR 97132

R3208 02700
North Valley Friends Church
4020 N College St
Newberg, OR 97132

R3205 02401
Rain Dance Ranch Llamas Llc
Po Box 1060
Newberg, OR 97132

R3208 02802
North Valley Friends Church
4020 N College St
Newberg, OR 97132

R3208BC 00208
James & Melinda Allison
1125 E Madison Dr
Newberg, OR 97132

R3208BC 00210
Jeremy & Rosann Johnson
1215 E Madison Dr
Newberg, OR 97132

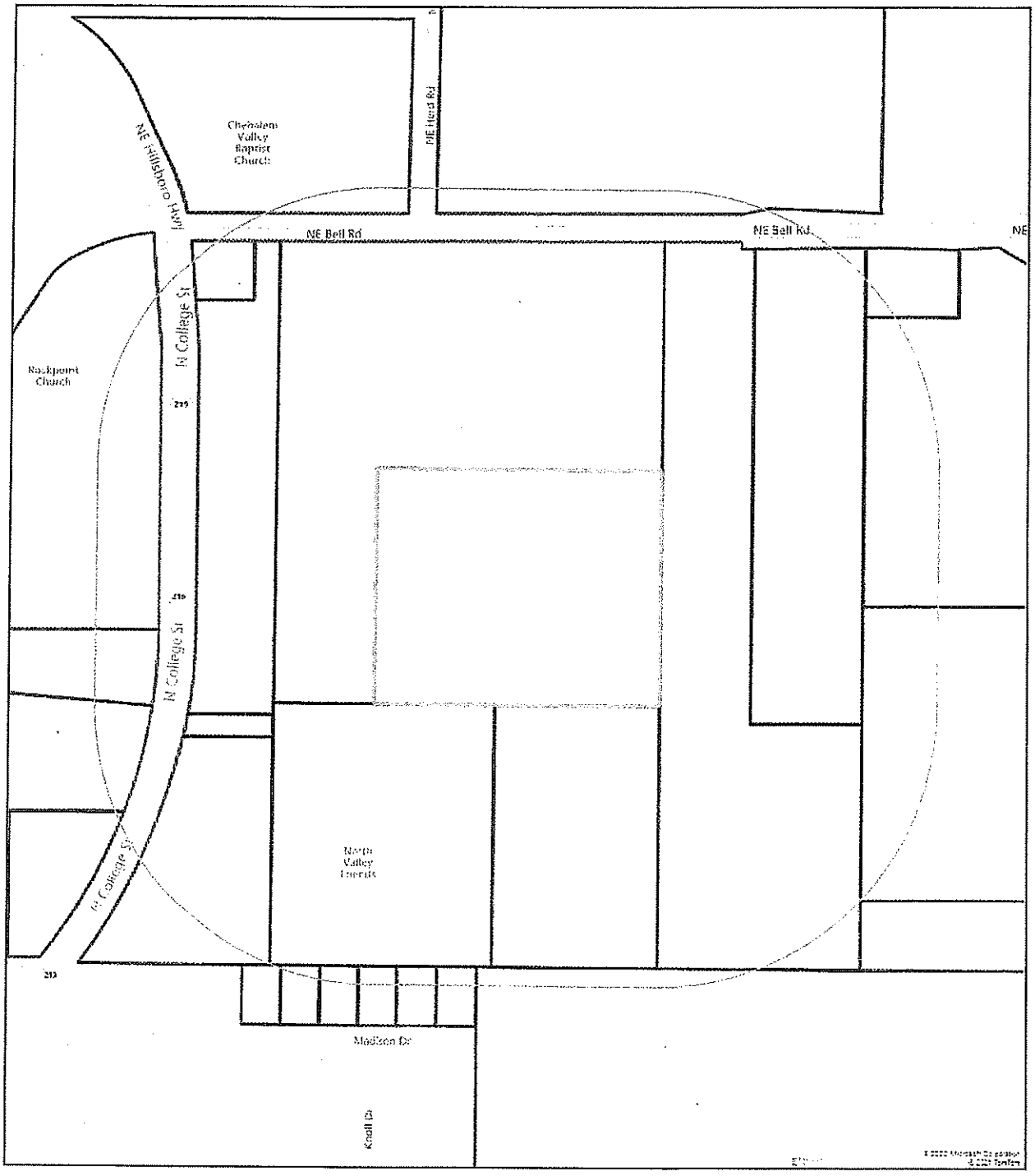
R3208BC 00206
Nancy & Edward Macy
1101 E Madison Dr
Newberg, OR 97132

First American Title™

500 ft Buffer

1230 NE Bell Rd, Newberg, OR 97132

Report Generated: 7/20/2022



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Customer Service Department
Phone: 503.219.8746(TRIO)
Email: cs.oregon@firstam.com
Report Generated: 7/20/2022

First American Title™

Ownership

Legal Owner(s): Veritas School
Site Address: 1230 NE Bell Rd Newberg, OR 97132
Mailing Address: 26288 NE Bell Rd Newberg, OR 97132

Parcel #: R3208 02702
APN:
County: Yamhill

Property Characteristics

Bedrooms: 0	**Year Built:** 0	**Lot SqFt:** 217800
Total Bathrooms: 0	**Building SqFt:** 0	**Lot Acres:** 5.00
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: EXEMPT
Improvement Type: Public School
Legal Description: SEE METES & BOUNDS

Zoning: AF-10
School District: Newberg School
Neighborhood:
Subdivision:

Assessor & Tax

Market Land: $403,321
Market Total: $3,228,094
Market Structure: $2,824,773
Assessed Total: $383,481

Taxes: $0.00
% Improved: 88
Levy Code:
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: 7/20/2022

NE Bell Rd

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:
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 Iii 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:
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

NE Aspen Way

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: 1,873 **Lot Acres:** 4.05
Year Built: 1978
School District: Newberg School District 29J
Neighborhood:
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 TAXLOT 02490

APN:
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

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:
Ref Parcel #: R3208 02703
Taxes: $0.00
Market Value: $78,245
Assessed Value: $78,245
Sales Price: $0
Transfer Date:

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Customer Service Department
Phone: 503.219.8746(TRIO)
Email: cs.oregon@firstam.com
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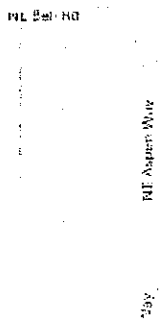
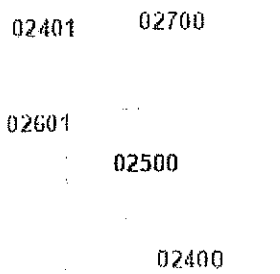
Legal Owner: Veritas School
Site Address: 1230 NE Bell Rd Newberg, OR 97132
Mailing Address: 26288 NE Bell Rd Newberg, OR 97132
Bedrooms: 0
Bathrooms: 0
Building SqFt: 0 **Lot Acres:** 5.00
Year Built: 0
School District: Newberg School District 29J
Neighborhood:
Legal: SEE METES & BOUNDS

APN:
Ref Parcel #: R3208 02702
Taxes: $0.00
Market Value: $3,228,094
Assessed Value: $383,481
Sales Price: $0
Transfer Date:



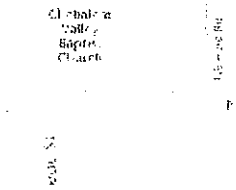
Legal Owner: Curt Wilson
Site Address: 26450 NE Bell Rd Newberg, OR 97132
Mailing Address: 26450 NE Bell Rd Newberg, OR 97132
Bedrooms: 4
Bathrooms: 0
Building SqFt: 2,064 **Lot Acres:** 7.00
Year Built: 2014
School District: Newberg School District 29J
Neighborhood:
Legal: SEE METES & BOUNDS

APN:
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: 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: 1,616 **Lot Acres:** 0.47
Year Built: 1966
School District: Newberg School District 29J
Neighborhood:
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 TAXLOT 02500

APN:
Ref Parcel #: R3208 02500
Taxes: $3,015.43
Market Value: $398,407
Assessed Value: $227,765
Sales Price: $0
Transfer Date:



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:
Ref Parcel #: R3205 02301
Taxes: $0.00
Market Value: $1,515,793
Assessed Value: $1,226,814
Sales Price: $0
Transfer Date:

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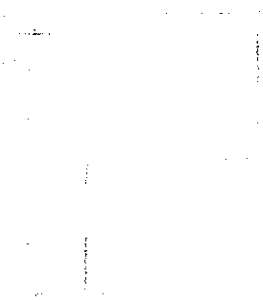
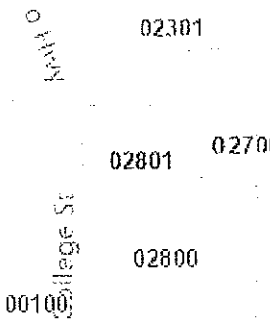
Customer Service Department
Phone: 503.219.8746(TRIO)
Email: cs.oregon@firstam.com
Report Generated: 7/20/2022



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: 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:
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

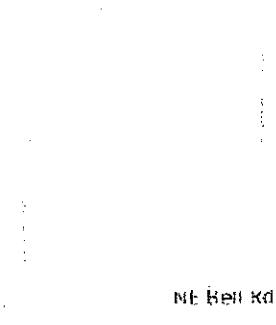


Legal Owner: North Valley Friends Church
Site Address: No Site Address , OR
Mailing Address: 4020 N College St Newberg, OR 97132
Bedrooms: 0
Bathrooms: 0
Building SqFt: 0 **Lot Acres:** 0.26
Year Built: 0
School District: Newberg School District 29J
Neighborhood:
Legal: SEE METES & BOUNDS

APN:
Ref Parcel #: R3208 02801
Taxes: $0.00
Market Value: $6,458
Assessed Value: $6,458
Sales Price: $0
Transfer Date:

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:
Ref Parcel #: R3207AA 00100
Taxes: $948.83
Market Value: $1,170,966
Assessed Value: $796,312
Sales Price: $0
Transfer Date:

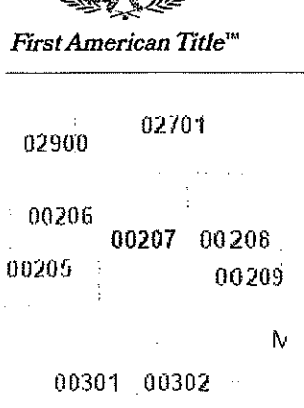


Legal Owner: Rain Dance Ranch Llamas Llc
Site Address: 26355 NE Bell Rd Newberg, OR 97132
Mailing Address: Po Box 1060 Newberg, OR 97132
Bedrooms: 3
Bathrooms: 0
Building SqFt: 1,714 **Lot Acres:** 15.00
Year Built: 1890
School District: Newberg School District 29J
Neighborhood:
Legal: TOWNSHIP 3S RANGE 2W SECTION 05 TAXLOT 02401

APN:
Ref Parcel #: R3205 02401
Taxes: $962.56
Market Value: $554,301
Assessed Value: $72,705
Sales Price: $0
Transfer Date:

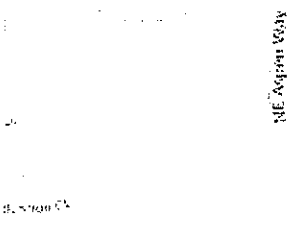
First American Title™

Customer Service Department
Phone: 503.219.8746(TRIO)
Email: cs.oregon@firstam.com
Report Generated: 7/20/2022



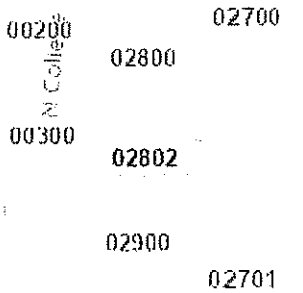
Legal Owner: Eric & Colleen Hemmer
Site Address: 1115 E Madison Dr Newberg, OR 97132
Mailing Address: 1115 E Madison Dr Newberg, OR 97132
Bedrooms: 5
Bathrooms: 2.5
Building SqFt: 3,611 **Lot Acres:** 0.17
Year Built: 2002
School District: Newberg School District 29J
Neighborhood:
Legal: LOT 16 IN THE SUMMIT AT OAK KNOLL NO.3

APN:
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



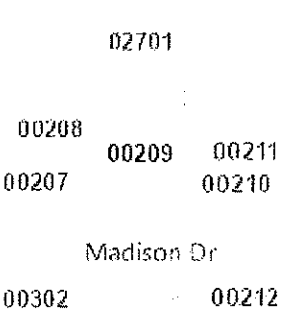
Legal Owner: Somerset Ventures Iv Llc
Site Address: 3705 NE Aspen Way Newberg, OR 97132
Mailing Address: Po Box 1060 Newberg, OR 97132
Bedrooms: 4
Bathrooms: 2.5
Building SqFt: 3,504 **Lot Acres:** 15.69
Year Built: 1992
School District: Newberg School District 29J
Neighborhood:
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 TAXLOT 03200

APN:
Ref Parcel #: R3208 03200
Taxes: $8,617.21
Market Value: $1,022,564
Assessed Value: $650,886
Sales Price: $2,750,000
Transfer Date: 5/22/2006



Legal Owner: North Valley Friends Church
Site Address: No Site Address , OR
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:
Ref Parcel #: R3208 02802
Taxes: $0.00
Market Value: $3,478
Assessed Value: $3,478
Sales Price: $0
Transfer Date:



Legal Owner: Jones Jeffery D Trustee & Jones Heidi L Trustee
Site Address: 1201 E Madison Dr Newberg, OR 97132
Mailing Address: 17305 NE Leander Dr Sherwood, OR 97140
Bedrooms: 3
Bathrooms: 2
Building SqFt: 2,319 **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

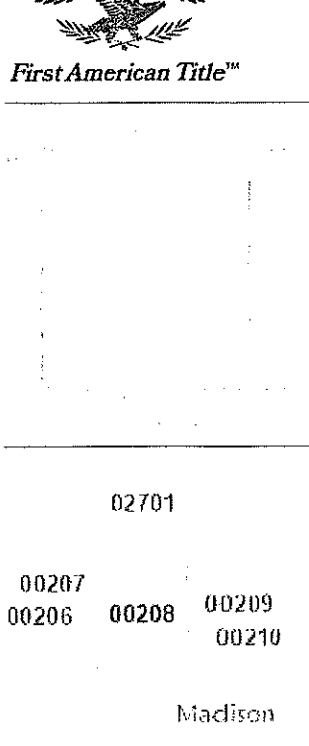
APN:
Ref Parcel #: R3208BC 00209
Taxes: $4,155.49
Market Value: $434,907
Assessed Value: $260,188
Sales Price: $212,500
Transfer Date: 11/15/2011

First American Title™

Customer Service Department
Phone: 503.219.8746(TRIO)
Email: cs.oregon@firstam.com
Report Generated: 7/20/2022

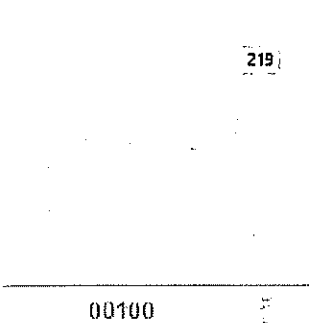
Legal Owner: North Valley Friends Church
Site Address: 4020 N College St Newberg, OR 97132
Mailing Address: 4020 N College St Newberg, OR 97132
Bedrooms: 3
Bathrooms: 2
Building SqFt: 1,922 **Lot Acres:** 4.28
Year Built: 2009
School District: Newberg School District 29J
Neighborhood:
Legal: SEE METES & BOUNDS

APN:
Ref Parcel #: R3208 02701
Taxes: $1,989.58
Market Value: $1,976,504
Assessed Value: $1,597,100
Sales Price: $0
Transfer Date:



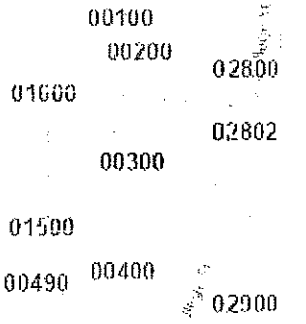
Legal Owner: James & Melinda Allison
Site Address: 1125 E Madison Dr Newberg, OR 97132
Mailing Address: 1125 E Madison Dr Newberg, OR 97132
Bedrooms: 3
Bathrooms: 0
Building SqFt: 2,783 **Lot Acres:** 0.17
Year Built: 2002
School District: Newberg School District 29J
Neighborhood:
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00208 LOT 17

APN:
Ref Parcel #: R3208BC 00208
Taxes: $5,391.72
Market Value: $532,789
Assessed Value: $337,592
Sales Price: $0
Transfer Date:



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: 2,899 **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:
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

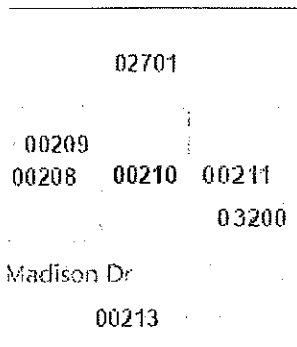


Legal Owner: Lawrence Joholske & Sandra Stone
Site Address: 3993 N College St Newberg, OR 97132
Mailing Address: 3993 N College St Newberg, OR 97132
Bedrooms: 4
Bathrooms: 4.5
Building SqFt: 3,320 **Lot Acres:** 1.20
Year Built: 2016
School District: Newberg School District 29J
Neighborhood:
Legal: SEE METES & BOUNDS

APN:
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

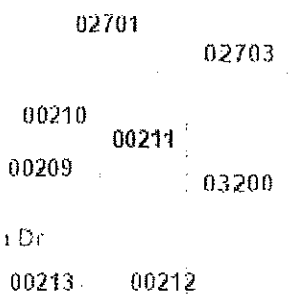
First American Title™

Customer Service Department
Phone: 503.219.8746(TRIO)
Email: cs.oregon@firstam.com
Report Generated: 7/20/2022



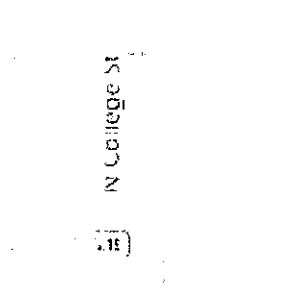
Legal Owner: Jeremy & Rosann Johnson
Site Address: 1215 E Madison Dr Newberg, OR 97132
Mailing Address: 1215 E Madison Dr Newberg, OR 97132
Bedrooms: 3
Bathrooms: 0
Building SqFt: 3,047 **Lot Acres:** 0.17
Year Built: 2001
School District: Newberg School District 29J
Neighborhood:
Legal: LOT 19 IN THE SUMMIT AT OAK KNOLL NO.3

APN:
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



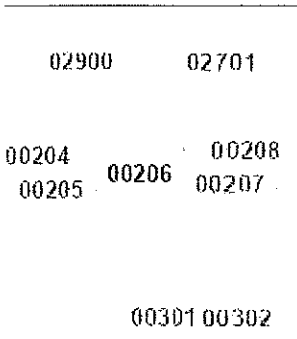
Legal Owner: Gregory & Elizabeth Woolsey
Site Address: 1225 E Madison Dr Newberg, OR 97132
Mailing Address: 1225 E Madison Dr Newberg, OR 97132
Bedrooms: 4
Bathrooms: 0
Building SqFt: 2,992 **Lot Acres:** 0.17
Year Built: 2001
School District: Newberg School District 29J
Neighborhood:
Legal: TOWNSHIP 3S RANGE 2W SECTION 08 QTR B QQTR C TAXLOT 00211 LOT 20

APN:
Ref Parcel #: R3208BC 00211
Taxes: $5,391.36
Market Value: $532,009
Assessed Value: $337,570
Sales Price: $0
Transfer Date:



Legal Owner: North Valley Friends Church
Site Address: No Site Address , OR
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:
Ref Parcel #: R3208 02800
Taxes: $1,172.19
Market Value: $74,519
Assessed Value: $74,519
Sales Price: $0
Transfer Date:



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: 0
Building SqFt: 3,431 **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

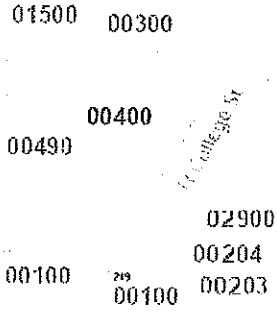
APN:
Ref Parcel #: R3208BC 00206
Taxes: $6,119.58
Market Value: $583,911
Assessed Value: $383,166
Sales Price: $285,000
Transfer Date: 1/6/2012

First American Title™

Customer Service Department
Phone: 503.219.8746(TRIO)
Email: cs.oregon@firstam.com
Report Generated: 7/20/2022

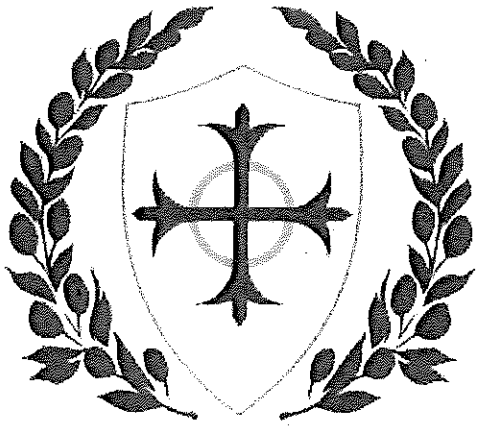
Legal Owner: Rourke Development Llc
Site Address: 1201 E Fulton St APT 13 Newberg, OR 97132
Mailing Address: 1201 E Fulton St UNIT 13 Mcminnville, OR
Bedrooms: 3
Bathrooms: 2
Building SqFt: 2,664 **Lot Acres:** 2.29
Year Built: 1973
School District: Newberg School District 29J
Neighborhood:
Legal: SEE METES & BOUNDS

APN:
Ref Parcel #: R3208 02900
Taxes: $5,124.26
Market Value: $693,913
Assessed Value: $387,052
Sales Price: $91,000
Transfer Date: 4/26/2022



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: 1,072 **Lot Acres:** 0.80
Year Built: 1950
School District: Newberg School District 29J
Neighborhood:
Legal: SEE METES & BOUNDS

APN:
Ref Parcel #: R3207AA 00400
Taxes: $1,942.55
Market Value: $388,337
Assessed Value: $146,727
Sales Price: $0
Transfer Date:



Veritas School

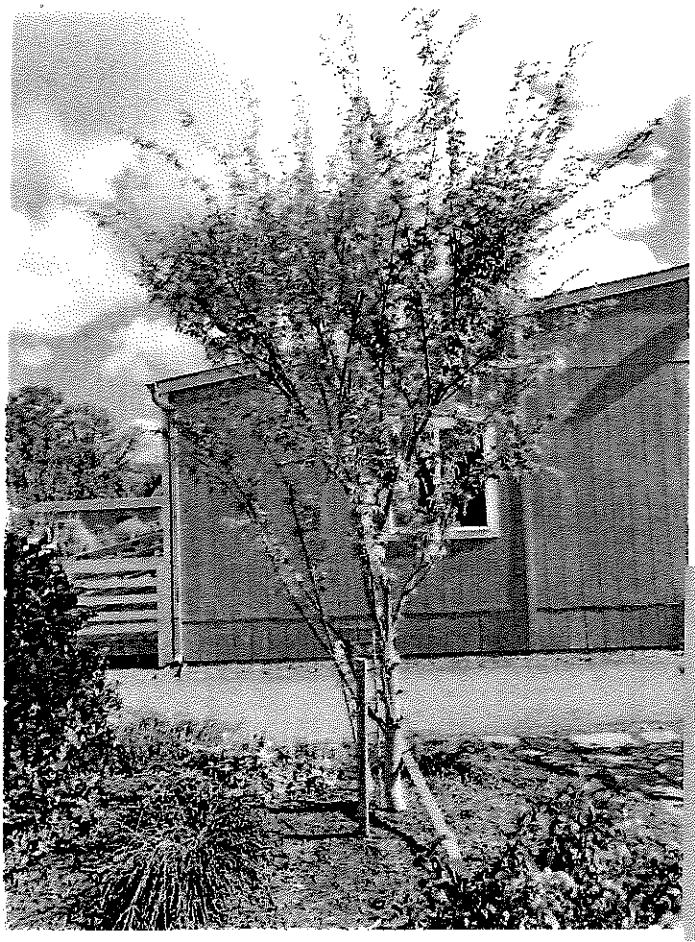
SOLI DEO GLORIA

Campus Pruning Guide

Table of Contents

Trees

(non-fruit bearing)



Coral Bark Maple

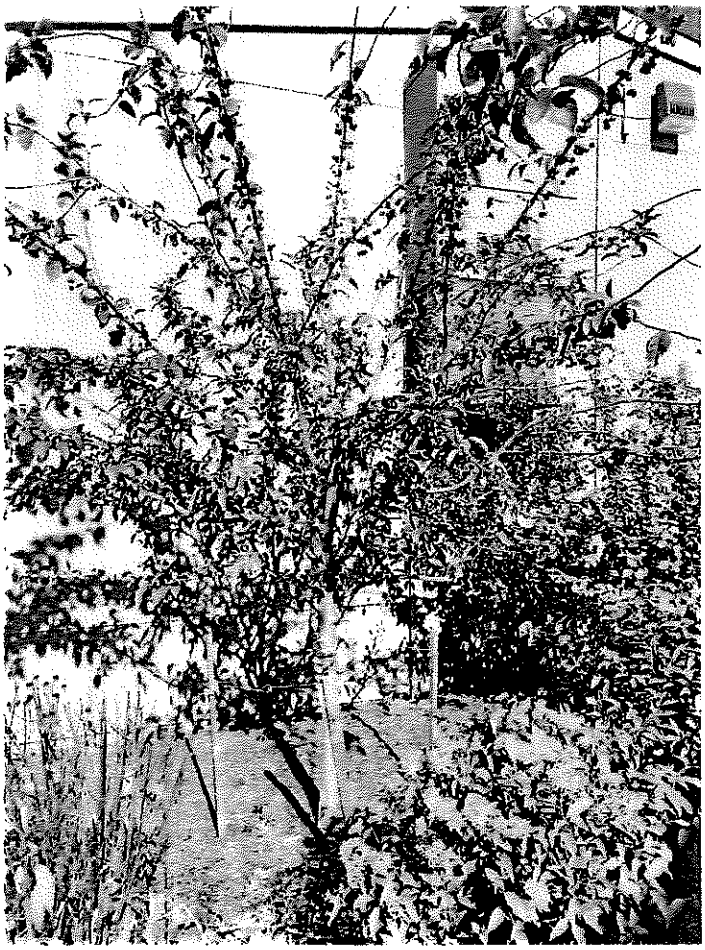
Type of plant: Medium tree located in entryway to campus with beautiful red bark

Pruning: Shape in Fall after first frost

Bloom: purple

Seed/fruit: samara

Coral Bark maple (Acer palmatum "Sangu-kaku")
- 7-lobed simple palmate leaves
- 20ft. tall at maturity
- 15-20ft. spread.
- Deciduous



Crab Apple

Type of plant: Medium/Large tree, red berries on branches

Pruning: Shape branches in Fall after first frost

- Japanese Flowering Crabapple (Malus floribunda)
- height 15-20ft.
- width 18-30ft
- Leaves: ~~Elliptic~~ serrate to Ovate, green, golden, yellow, orange
- Deciduous

- Bloom - midspring red buds to pale pink flowers that turn white
- Seed/fruit small red fruit surrounding seeds.

Japanese Maple

Type of plant: Small tree with deep red/purple leaves

Pruning: Shape in Fall after first frost when leaves are off/defoliated

'Crimson Queen' Japanese Maple
Sapindaceae Acer palmatum var. dissectum

- height 8-10ft
- spread 10-12ft
- palmate leaves w/ deeply incised lobes, red

- Bloom: April
  Red-purple in umbels
- samaras - winged in pairs - ripen sept/oct.
- deciduous

Maple Trees

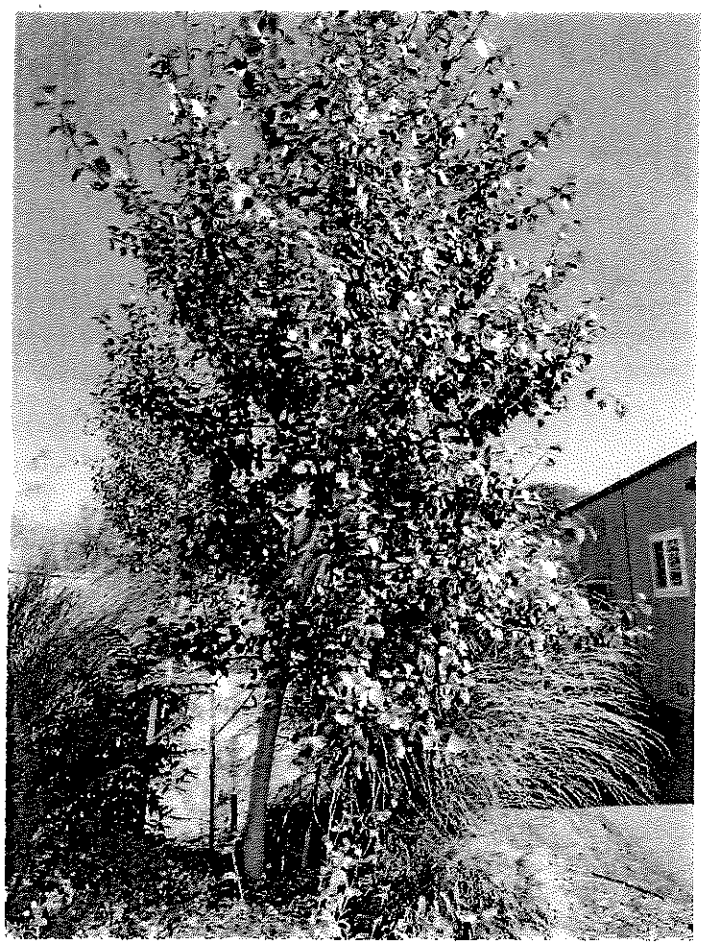
Type of plant: Medium to large trees

Pruning: Shape in Fall after first frost

Red Maple ?
Acer rubrum

- mature; 35-40ft tall
- flowers bloom in late winter

Celebration maple?



Quaking Aspen

Type of plant: Large trees located between Assembly Hall and building 3

Pruning: Shape as needed in Fall after first frost

Quaking Aspen
(Populus tremuloides)
- height 65-80ft.
- leaves nearly round with small rounded teeth.
- deciduous
- flowers – catkins
- seed/fruit – 12cm long pendulous string of 6mm capsules

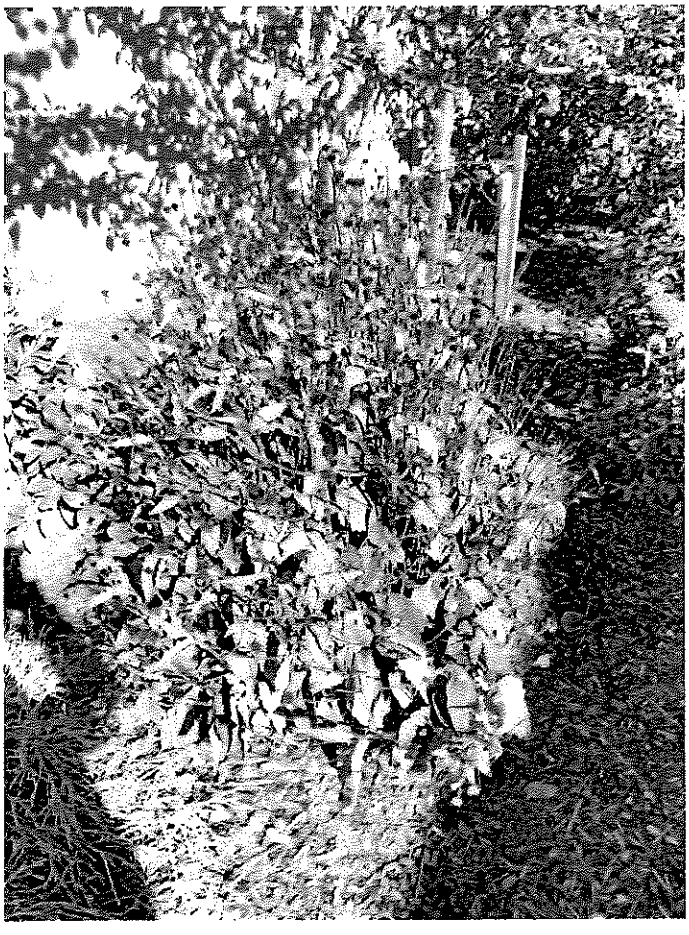
Plants

(Flowering)

Azalea

Type of plant: Medium green bush with yellow flowers

Pruning: Shape after bloom and prior to July 4th



Black-Eyed Susan

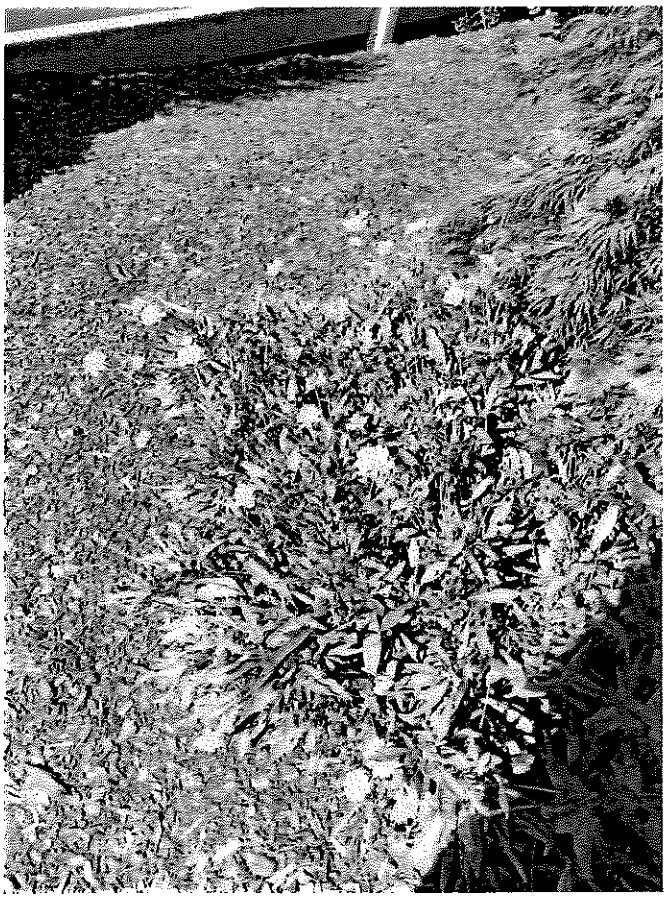
Type of plant: medium perennial, yellow and black flowers

Pruning: Cut to ground in Fall once flowers have died

Coral Bells

Type of plant: Small plant with delicate flowers

Pruning: Cut flowering branches off top in Fall once flowers have died; leave the leaves on



Coreopsis

Type of plant: Small, low growing plant with yellow/orange flowers

Pruning: cut to ground after it dies back in the winter

Crepe Myrtle

Type of plant: Large bush with pink flowers

Pruning: Cut to 2 feet in Fall after first frost (will grow up to 6 feet per year)

Hosta

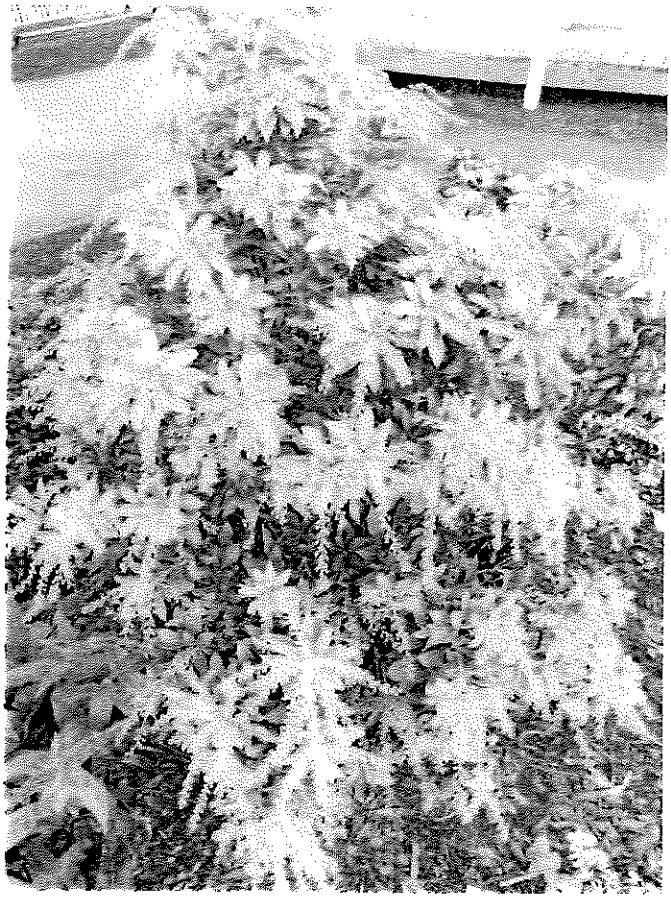
Type of plant: Small light green plant with flowers

Pruning: Plant dies off in Fall/Winter and emerges in Spring

Hydrangea

Type of plant: Medium bush with flowers

Pruning: Cut back 1 foot of plant in Fall after first frost



Pieris

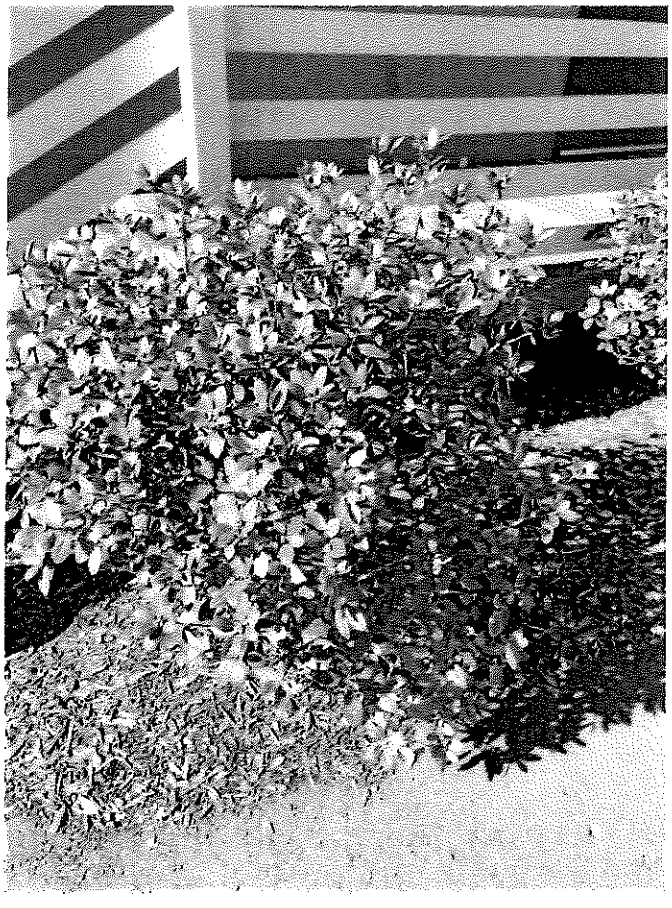
Type of plant: Medium bush with pink stringy flowers when in bloom

Pruning: Shape after done flowering in early April

Pink Carnation

Type of plant: Small light green plant with pink flowers

Pruning: Deadhead after bloom to keep blooming



Rhododendron PJM

Type of plant: medium bush with Spring bloom, leaves turn red in the Fall. Has pink/purple flowers when in bloom.

Pruning: Shape after bloom and prior to July 4th

Rhododendron

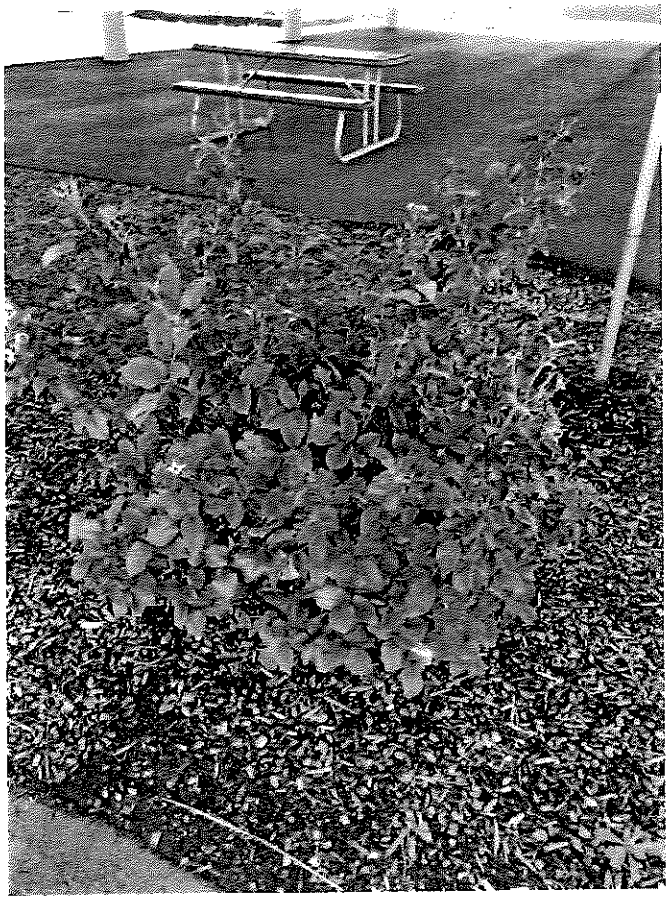
Type of plant: Medium green plant with flowers (located along buildings 4 & 5)

Pruning: Shape after bloom in May

Rhododendron

Type of plant: Medium green plant with flowers (located by entrance to campus)

Pruning: Shape in after bloom and prior to July 4th



Roses: Top Gun

Type of plant: Medium to large rose bushes with pink flowers (located near Pavilion)

Pruning: Shape in February (don't prune very hard)

Roses: Knockout

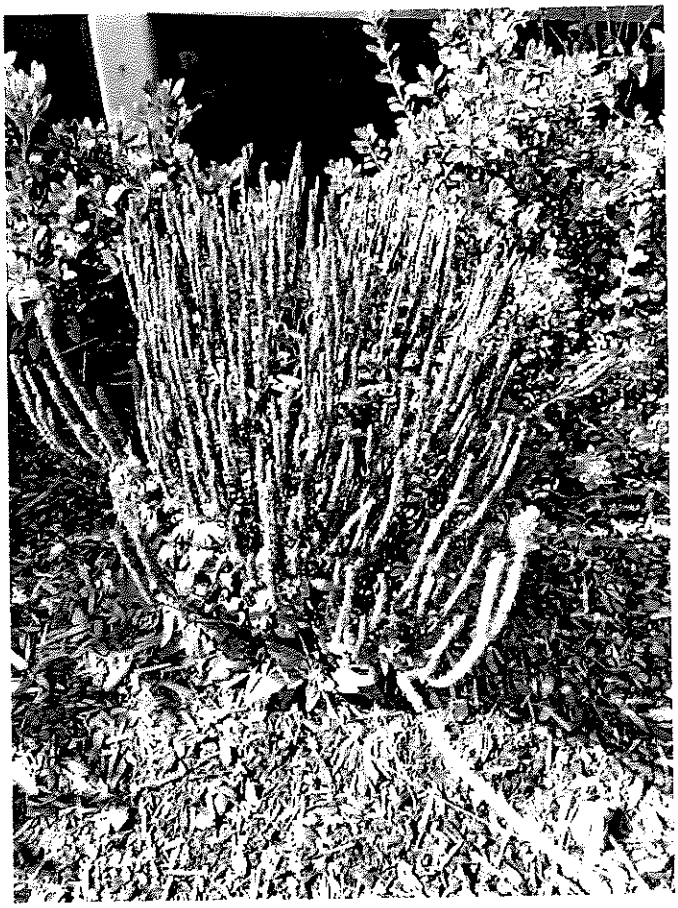
Type of plant: Medium to large rose bushes with pink flowers (located around campus– E of buildings 1 & 2, Assembly Hall, S of building 6.

Pruning: Prune moderately in February, they will grow back aggressively

Russian Sage

Type of plant: Small green plant/"leggy" bush

Pruning: Trim down to 12 inches in Fall after first frost



Salvia

Type of plant: Small green plant with purple flowers

Pruning: Cut to ground in Fall once flowers have died

Shasta Daisy

Type of plant: Perennial with white flowers

Pruning: Cut to 6 inches in Fall once flowers have died

Spiraea

Type of plant: Large bush with pink flowers

Pruning: Shape past blooms in Fall after first frost. Cut again in June to have blooms in September.

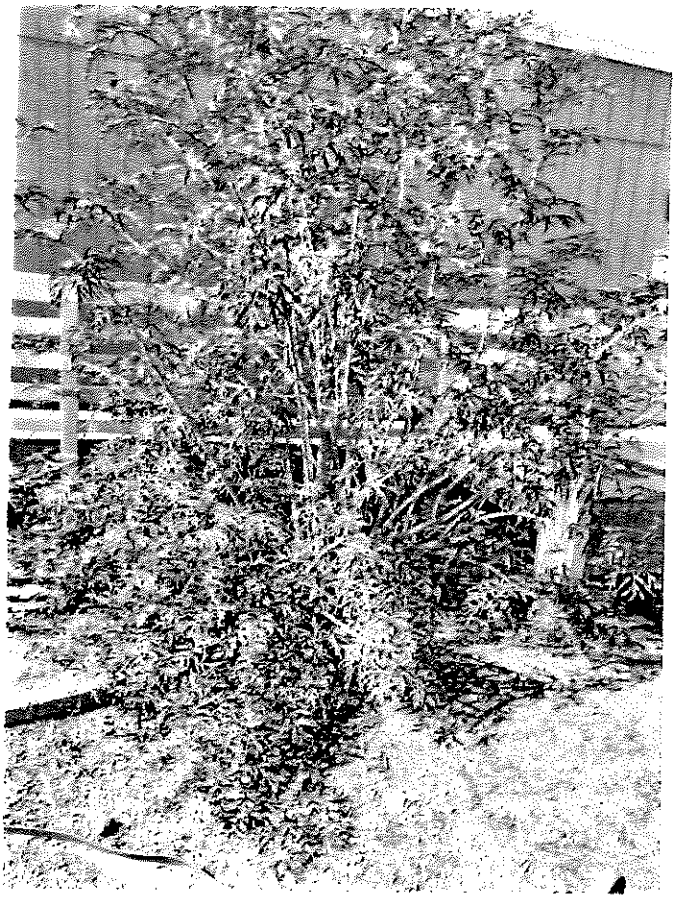
Yucca

Type of plant: Medium to large green plant with tall white flowering stalk in center

Pruning: cut flowering stalk after bloom

Plants

(non-flowering)

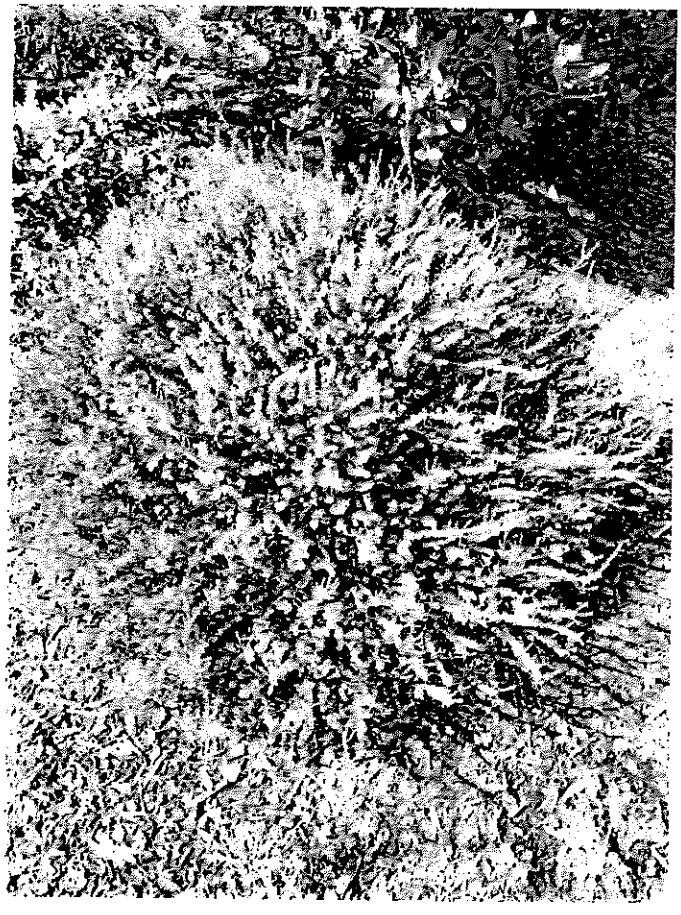


Elderberry

Type of plant: Large tree-like plant with dark red/purple branches and leaves and light pink flowers

Pruning: Cut back to 3 feet or just above prior year pruning shape and cut low branches off bottom in Fall after first frost

Blacklace Elderberry
(Sambucus nigra)
height: 6-8ft
Bloom: creamy pink - spring
berry: black & edible - fall
leaves:



Heather

Type of plant: Small green plant

Pruning: Light prune after bloom in April

Heather
(Calluna vulgaris)
Evergreen shrub.
Height: 20 ~ 50 cm (7.9-19.7 in)
leaves: small scale-leaves
decussate pairs
bloom: mauve

Juniper Plants

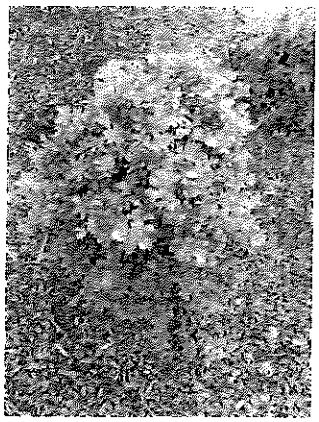
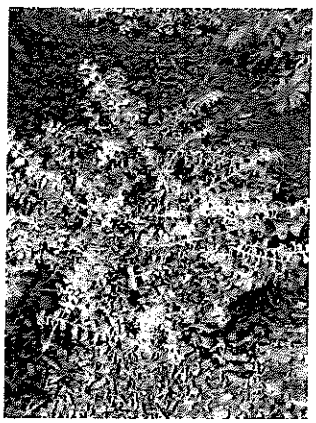
Type of plant: Tall green or blue-green bushes

Pruning: Shape in Fall after first frost

Vicary

Type of plant: Medium yellow bush with green accents

Pruning: Cut back hard in the Fall after the first frost

Green shrubs– various

Type of plant: Small green plants

Pruning: Shape in Fall after first frost



Tall Grass

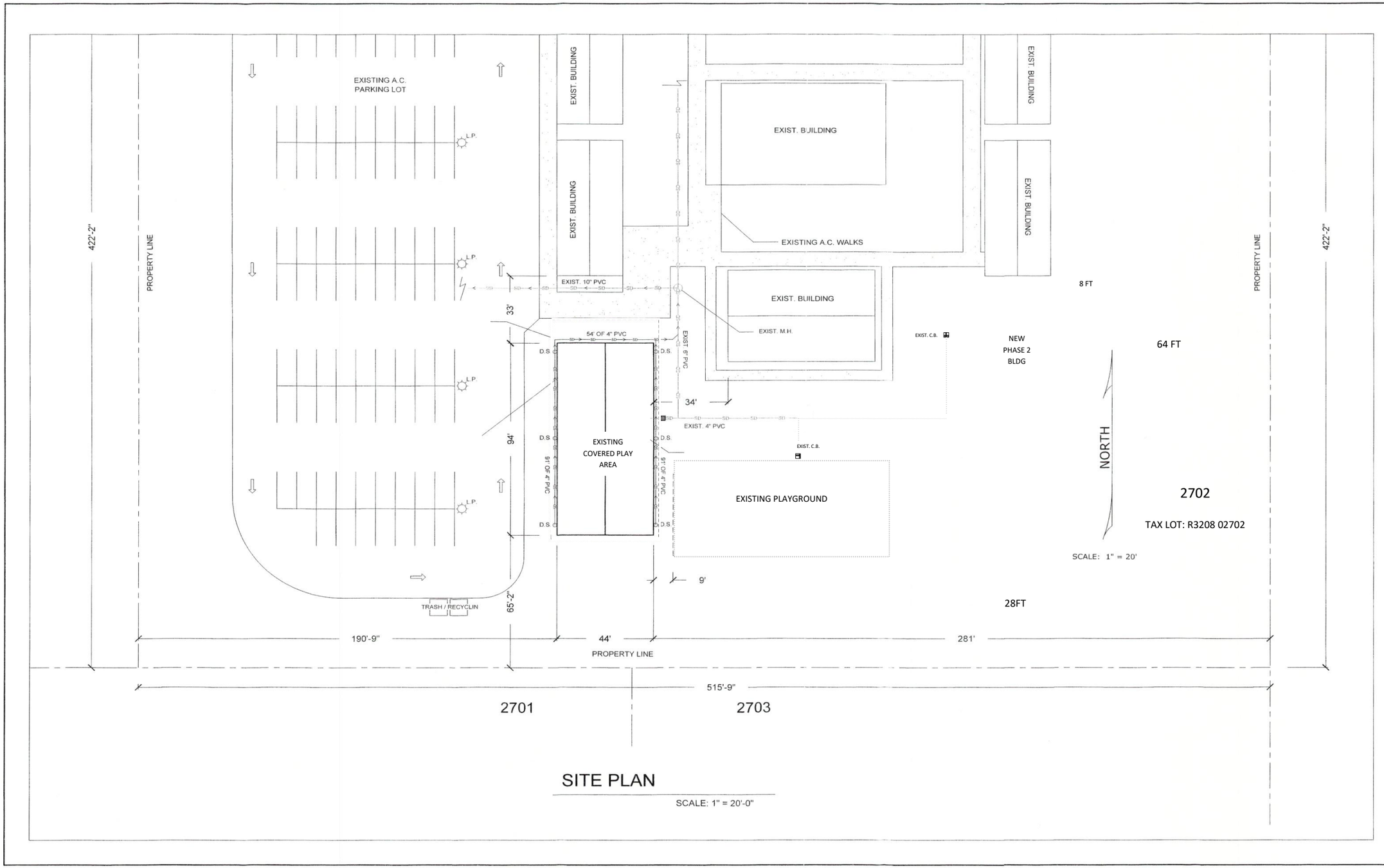
Type of plant: Tall grass-like plant

Pruning: Cut back to 6 inches in Fall after first frost

Variegated Red Twig Dogwood

Type of plant: Large bush with red branches and variegated leaves

Pruning: Cut back hard in Fall after first frost



SITE PLAN

SCALE: 1" = 20'-0"

HAWORTH INC.
COMMERCIAL & RESIDENTIAL
DESIGN, DRAFTING & CONST.
13500 SW HWY 99W
McMINNVILLE OREGON 97128
1-(503)-472-2452

Veritas School
COVERED PLAY AREA
PHASE 2 CLASSROOM BLDG

26288 NE Bell RD.
NEWBERG OREGON 97132

CLIENT:
JOB DESCRIPTION:
LOCATION:

No.	Revision / Issue	Date

Project: PHASE TWO

Date: 3/ 23/ 2022
6-27-19

Plan: SITE PLAN

Sheet: S-P

Scale: 1" = 30'

CULVERT,
SPEED BUMP
REF C3

DITCH
REF C3

DITCH
REF C3

STORM POND
REF C2

TL 2800

TL 2700

TL 2701

TL 2702

TL 2703

(P) 7' UTILITY
EASEMENT

NEW COVERED
PLAY AREA

CONSTRUCTION ACCESS AND
MAINTENANCE EASEMENT

1 C1 SITE GRADING PLAN
1:30

scale 1: 30
30 0 30 60
feet

PLOT DATE: Nov 12, 2019 - 8:31am

Nov 12, 2019 - 8:31am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN - raised pond 2 - 11 Nov 2019.dwg

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

GRADING PLAN

VERITAS SCHOOL

26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE BY	ISSUED FOR

SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C1

DETENTION POND 11,558 SF
BOTTOM ELEV - 323.50'
4:1 SIDE SLOPES
POND CUT VOLUME = 484 CY
POND FILL VOLUME = 16 CY
BERM FILL VOLUME = 256 CY

DETENTION POND BERM
5' WIDE
TOP ELEV - 326.0'
4:1 SIDE SLOPES

EXISTING SWALE

EXISTING
STORM PIPE

18" THICK ODOT CLASS 50 RIPRAP
EXTEND 10' BEYOND OUTFALL
10' WIDE, REF 3/C4
PROVIDE SCOUR HOLE PER CWS 815

EXISTING 10" PVC STORM OUTFALL
IE = 324.36'

CWS DITCH INLET WITH 18" TRAP PER CLEAN WATER SERVICES (CWS) STANDARD DRAWING NO. 390
SLOPE TOP AT 4:1 TO MATCH BERM
OUTFLOW CONTROL STRUCTURE PER CWS DRAWING NO. 720
REF. 1/C4 FOR RIM ELEVATIONS

12" SCH 40 PVC PIPE, 23.1 LF
IE IN = 322.53'
IE OUT = 321.85'

12" THICK ODOT CLASS 50 RIPRAP
REF 1/C4, 4/C4

REGRADE APPROX 31' FROM PIPE OUTFALL AT 0.5% GRADE TO MATCH TO EXISTING SWALE

1 C2 STORM POND GRADING PLAN
1:10

10 0 10 20
scale 1: 10 feet

PLOT DATE: Nov 12, 2019 – 8:33am

Nov 12, 2019 – 8:33am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

Thomas W. Wiser, P.E.
22750 SW Miami Drive
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WISER RAIL ENGINEERING

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15,442
OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

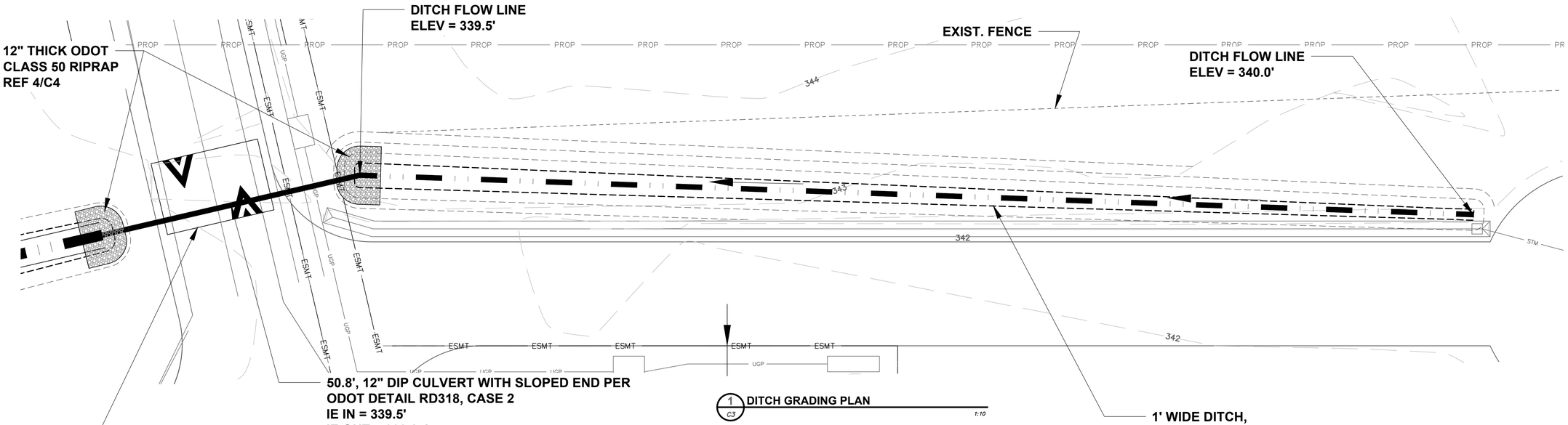
VERITAS STORM WATER IMPROVEMENTS

DETENTION POND GRADING PLAN

VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

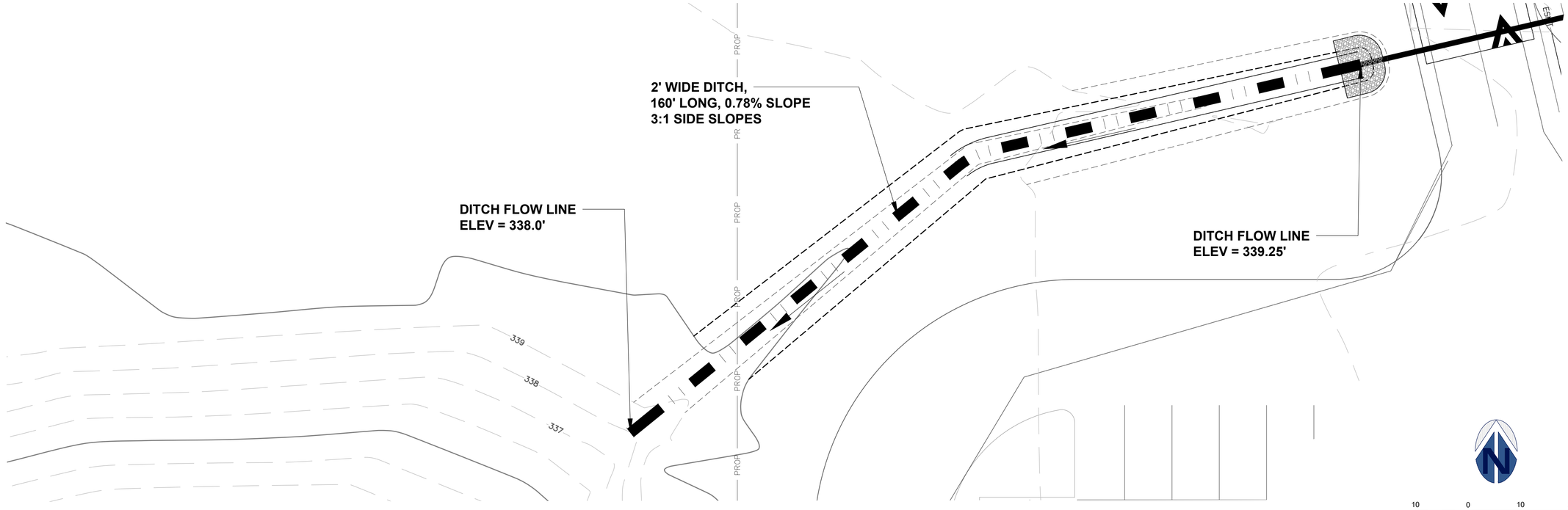
NO.	REVISION	DATE BY	ISSUED FOR

SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C2



1 C3 DITCH GRADING PLAN

1:10



2 C3 DITCH GRADING PLAN

1:10

PLOT DATE: Nov 12, 2019 – 8:33am

Nov 12, 2019 – 8:33am 1om D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER

EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

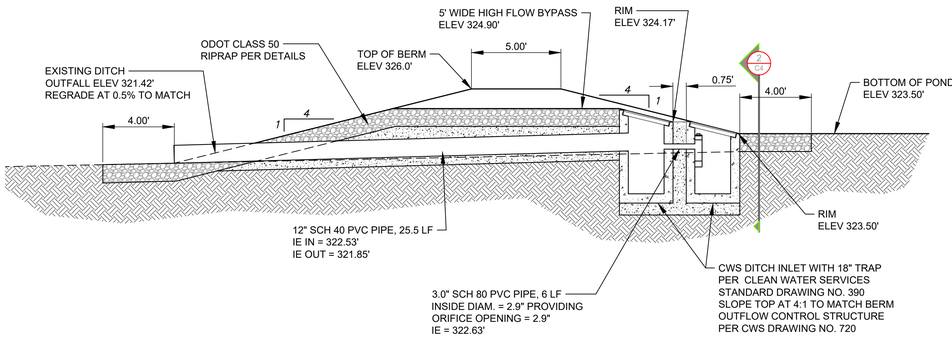
GRADING PLAN

VERITAS SCHOOL

26288 NE BELL ROAD
NEWBERG, OR 97132

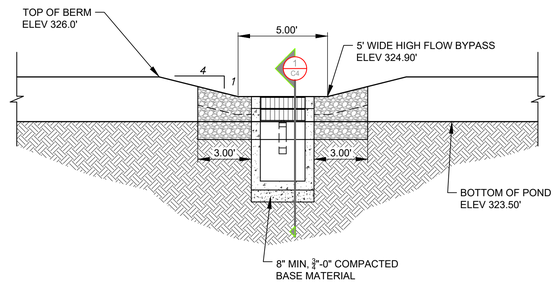
NO.	REVISION	DATE	BY	ISSUED FOR

SCALE:
DESIGNED BY:
DATE
JOB No:
DWG. NO.
C3



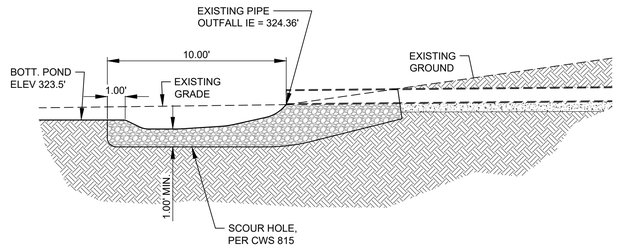
1 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



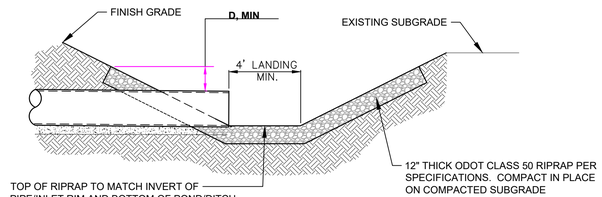
2 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



3 C4 **EXIST. CULVERT OUTFALL RIPRAP**

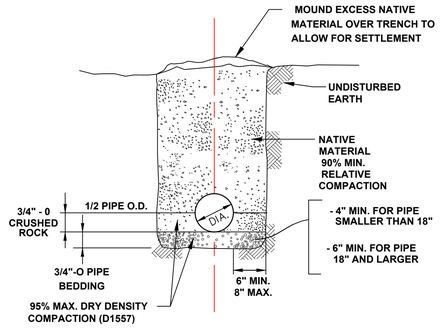
NTS



NOTE: EXTEND RIPRAP 2D (3' MIN) TO EITHER SIDE OF PIPE. AT DITCH END, WRAP ALONG SIDES OF DITCH TO END OF 4'-0" LANDING

4 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



5 C4 **PIPE BEDDING DETAIL**

NTS

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REGISTERED PROFESSIONAL ENGINEER
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OREGON
MAY 30, 1991
THOMAS W. WISER

EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

GRADING DETAILS

VERITAS SCHOOL

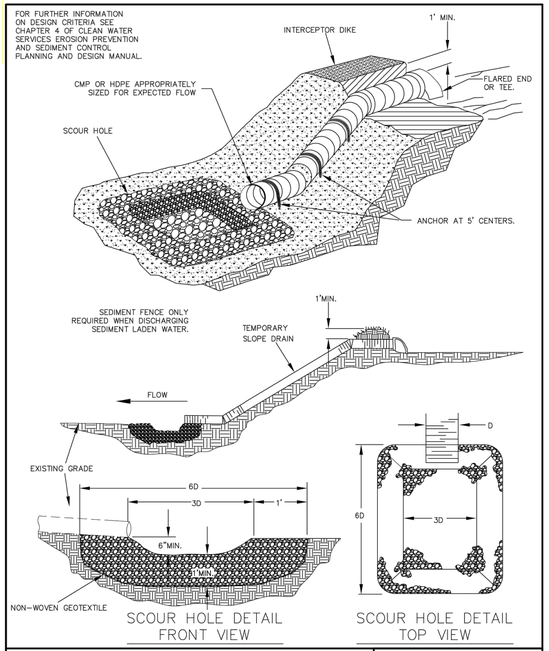
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE:
DESIGNED BY:
DATE
JOB No:
DWG. NO.
C4

PLOT DATE: Nov 12, 2019 – 8:34am

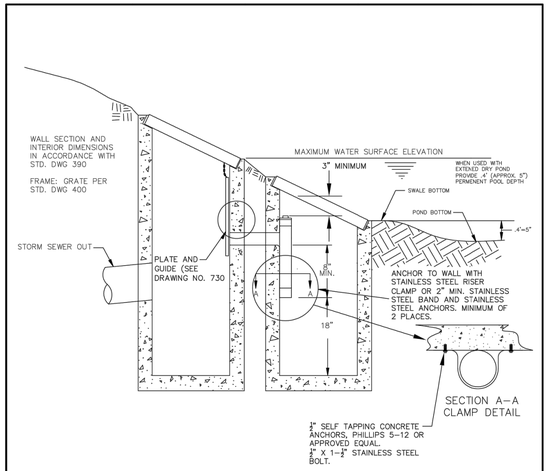
Nov 12, 2019 – 8:34am 1om D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg



PIPE SLOPE DRAIN

DRAWING NO. 815 REVISED 12-16

CleanWater Services

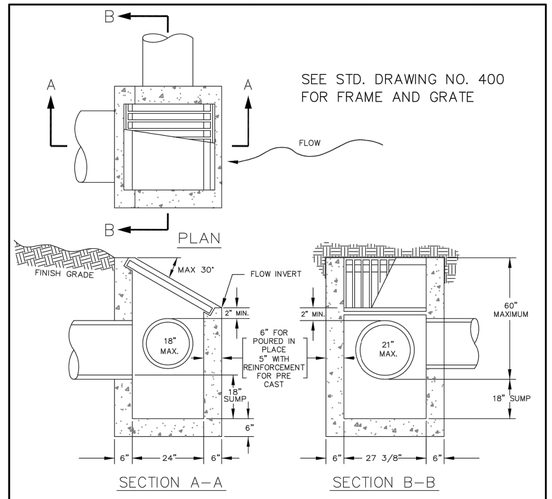


NOTES:
1. CONNECTING PIPE AND TEE SHALL BE 4", 6", OR 8" AWWA C-900 OR ASTM 3034 PVC,AND ONE SIZE LARGER THAN THE ORIFICE OPENING.
2. MAXIMUM ORIFICE OPENING SHALL BE 6" DIAMETER.
3. STRUCTURES SHALL CONFORM TO STANDARD DRAWING NO. 390 DITCH INLET.
4. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWING NO. 400, DITCH INLET FRAME AND GRATE.
5. PLATE AND GUIDE SHALL BE SECURED FLUSH AGAINST WALL OF STRUCTURE AS APPROVED.
6. MAINTAINANCE ACCESS REQUIRED TO WITHIN 10' OF CENTER OF BOTH STRUCTURES.
7. FOR APPROVAL OF ALTERNATE STRUCTURES SEE SECTION 1.17.

OUTFLOW CONTROL STRUCTURE

DRAWING NO. 720 REVISED 11-06

CleanWater Services



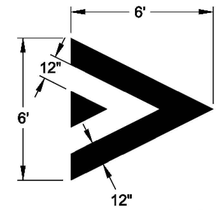
NOTES:
1. ALL PRE CAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. INSTALL STRUCTURE ON MINIMUM OF 8" OF 3/4" - 0" COMPACTED BASE MATERIAL.
3. PRE CAST REINFORCEMENT SHALL BE REBAR MEETING ASTM A615 GRADE 60 OR WELDED WIRE MEETING ASTM A497
4. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND SLUMP OF 2" TO 4".
5. PRE-CAST STRUCTURE'S CONFORMING TO O.D.O.T. TYPE G-2 CATCH BASIN DESIGN/WITH DITCH INLET TOP ARE AN ACCEPTABLE ALTERNATE. ALL GRATE MATERIALS SHALL MEET C.W.S. STANDARDS AS SHOWN ON DETAIL #400

DITCH INLET

DRAWING NO. 390 REVISED 05-07

CleanWater Services

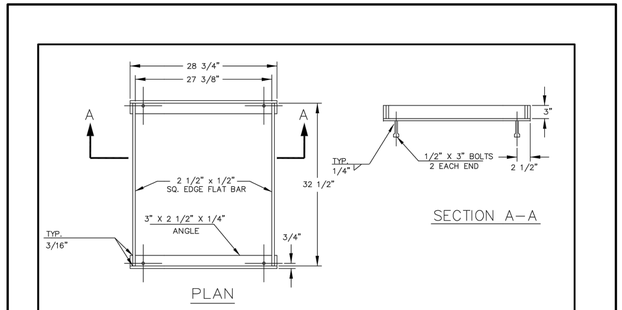
SB



SPEED BUMP MARKING (WHITE)

3 C5 **PBOT P-435**

NTS



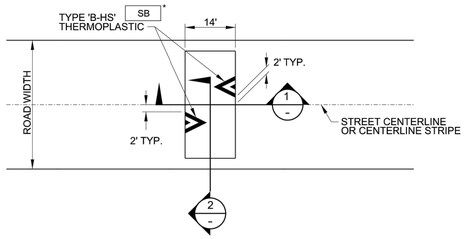
NOTES:

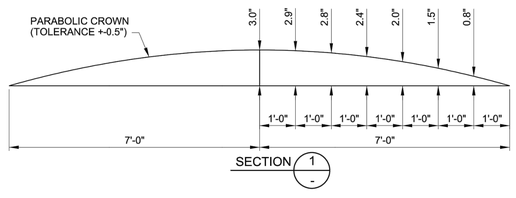
FRAME AND GRATE SHALL BE NEW STRUCTURAL ASTM A-36 FLAT BAR STEEL OR APPROVED EQUAL.

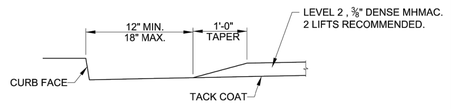
DITCH INLET FRAME AND GRATE

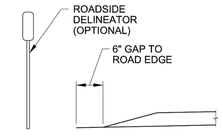
DRAWING NO. 400 REVISED 12-06

CleanWater Services









NOTES:
1. PAVEMENT MARKINGS ON SPEED BUMP SHALL BE INSTALLED CONCURRENTLY WITH THE ASPHALT STRUCTURES. FOLLOW MANUFACTURER'S INLAY PROCEDURES FOR PAVEMENT MARKINGS ON SPEED BUMPS.
2. PAVEMENT MARKINGS AND SIGNS SHALL BE INSTALLED BEFORE OPENING ANY LANE TO TRAFFIC THAT IS OCCUPIED BY A NEW SPEED BUMP.
3. PAVEMENT MARKING LAYOUT ASSUMES A TWO-LANE, TWO-WAY STREET WITH PARKING ON BOTH SIDES. FOR ALL OTHER CONFIGURATIONS SUBMIT REVISED LAYOUT TO ENGINEER FOR APPROVAL.

* SEE PBOT STANDARD DETAIL P-435

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.

PBOT PORTLAND BUREAU OF TRANSPORTATION

Steve Townsend
City Engineer

Standard Drawing Title

14' ASPHALT LOCAL SPEED BUMP

Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.

Effective Date:	03-15-2018
Calc. Book No.:	440
Std. Drg. Report Date:	03-15-2018

Standard Drawing No. P-440

PLOT DATE: Nov 12, 2019 - 8:34am

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER 15,442 OREGON MAY 30, 1991 THOMAS W. WISER

EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

STANDARD DETAILS

VERITAS SCHOOL

26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C5

CONTRACTOR/APPLICANT
HAWORTH INCORPORATED
CONTACT: TROY HAWORTH
13500 SW HWY 99W
MCMINNVILLE, OR 97128
PHONE: 503.472.2452

PROJECT OWNERS
VERITAS SCHOOL
CONTACT: BRYAN LYNCH
26288 NE BELL ROAD
NEWBERG, OR 97132
PHONE: 503.538.1962

PLANNING/ENGINEERING/SURVEYING
WISER RAIL ENGINEERING
CONTACT: TOM WISER
22750 SW MIAMI DRIVE, TUALATIN, OR 97062
PHONE: (503) 691-6095

RECEIVING WATER BODIES:
CHEHALEM CREEK

PERMITTEE'S SITE 24-HR CONTACT: TROY HAWORTH
COMPANY/AGENCY: HAWORTH INCORPORATED
PHONE: 593.550.3272
E-MAIL: TROY@HAWORTHINC.NET
DESCRIPTION OF EXPERIENCE:
10+ YEARS AS CONSTRUCTION SUPERINTENDENT & QA MANAGER

PROJECT INFORMATION

LOCATION
INTERSECTION OF NE COLLEGE ROAD AND NE BELL ROAD, NEWBERG, OREGON
26288 NE BELL RD. NEWBERG, OR 97132
LATITUDE: 45.33 LONGITUDE: -122.77
MAP NUMBER: 3S 2W 08, TAXLOT: 2700, 2702

PROPERTY DESCRIPTION
THE PROJECT SITE IS A 13.35 ACRE PARCEL. THE PROJECT WILL DEVELOP STORMWATER PONDING FOR THE EXISTING SCHOOL. CONSTRUCTION ACTIVITIES INCLUDE CLEARING AND GRADING. CONSTRUCTION WILL BEGIN IN DECEMBER AND BE COMPLETED IN SPRING OF 2020.

AREA OF DISTURBANCE
ONSITE – 0.57 ACRE

SOIL CLASSIFICATION
2211B COVE SILTY CLAY LOAM, HYDROLOGIC SOIL GROUP D
2304C CARLTON SILT LOAM, HYDROLOGIC SOIL GROUP C/D
2706C HAZELAIR SILTY CLAY LOAM, HYDROLOGIC SOIL GROUP D
2775F SAUM-RITNER COMPLEX, HYDROLOGIC SOIL GROUP C
2776D PANTHER-WITHAM COMPLEX, HYDROLOGIC SOIL GROUP D
EROSIVE POTENTIAL: MODERATE

EROSION CONTROL NOTES

GENERAL
1. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
2. THE IMPLEMENTATION OF THESE EPSC PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE EPSC MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE LOCAL JURISDICTION, AND VEGETATION/LANDSCAPING IS ESTABLISHED. THE DEVELOPER SHALL BE RESPONSIBLE FOR MAINTENANCE AFTER THE PROJECT IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE MARKINGS SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE EPSC MEASURES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE EPSC MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS.DURING THE CONSTRUCTION PERIOD, THESE EPSC MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DOES NO LEAVE THE SITE.
6. THE EPSC MEASURES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
7. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE MORE THEN 1/3 THE BARRIER HEIGHT. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
8. STABILIZED ROCK ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
9. STORM DRAIN INLETS, BASINS, AND AREA DRAINS SHALL BE PROTECTED UNTIL PAVEMENT SURFACES ARE COMPLETED AND/OR VEGETATION IS RE-ESTABLISHED.
10. PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.
11. SEEDING SHALL BE PERFORMED NO LATER THAN SEPTEMBER 1 FOR EACH PHASE OF CONSTRUCTION.
12. IF THERE ARE EXPOSED SOILS OR SOILS NOT FULLY ESTABLISHED FROM OCTOBER 1 THROUGH APRIL 30, THE WET WEATHER EROSION PREVENTION MEASURES WILL BE IN EFFECT.
13. THE DEVELOPER SHALL REMOVE EPSC MEASURES ONLY AFTER VEGETATION IS FULLY ESTABLISHED.

WASTE MANAGEMENT
1. CONTRACTOR TO DESIGNATE WASTE COLLECTION AREAS ON SITE.
2. WASTE CONTAINTERS TO BE IN A COVERED AND/OR IN A SECONDARY CONTAINMENT.
3. CONTRACTOR TO COLLECT SITE TRASH DAILY.
4. CONTRACTOR TO MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES FREE FROM ANY WASTE/LITTER.
5. TOXIC LIQUID WASTES TO BE DISPOSED OF PROPERLY AND NOT ON SITE IN DUMPSTERS DESIGNATED FOR CONSTRUCTION DEBRIS.
6. CONTRACTOR TO PROVIDE AND MAINTAIN A SPILL KIT ON SITE.

DUST CONTROL
1. DUST CONTROL TO BE MANAGED WITH SEEDING, MULCHING, MATTING, OR WATERING AS NEEDED.

SLOPE STABILIZATION
1. PROVIDE SLOPE STABILIZATION AS NEEDED PER DTL SHEET ESC4.

Site Condition	Minimum Frequency
1. Active period	Daily when stormwater runoff, including runoff from snow melt, is occurring. At least once every 14 days, regardless of whether stormwater runoff is occurring.
2. Prior to the site becoming inactive or in anticipation of site inaccessibility	Once to ensure that erosion and sediment control measure are in working order. Any necessary maintenance and repair must be made prior to leaving the site.
3. Inactive periods greater than fourteen (14) consecutive calendar days	Once every month.
4. Periods during which the site is inaccessible due to inclement weather	If practical, inspections must occur daily at a relevant and accessible discharge point or downstream location.
5. Periods during which discharge is unlikely due to frozen conditions.	Monthly. Resume monitoring immediately upon melt, or when weather conditions make discharges likely.

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OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER
IMPROVEMENTS
EROSION CONTROL NOTES

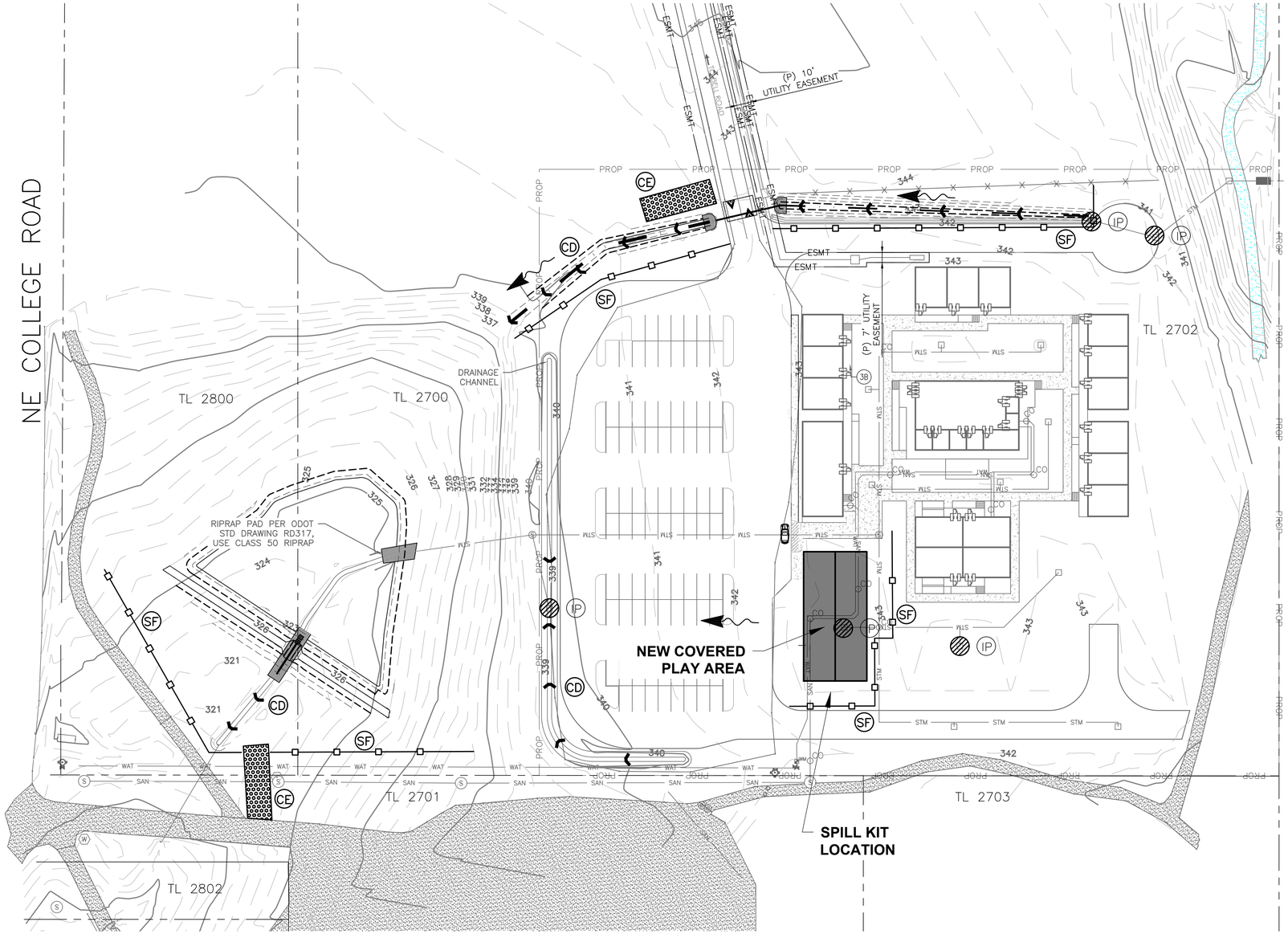
VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE BY	ISSUED FOR

SCALE:
DATE
DESIGNED BY:
JOB No:
DWG. NO.
ESC 1

PLOT DATE: Nov 12, 2019 - 8:35am

Nov 12, 2019 - 8:35am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN - raised pond 2 - 11 Nov 2019.dwg



FINAL

EROSION & SEDIMENT CONTROL LEGEND:

- 45 — EXISTING MAJOR CONTOUR
- 44 — EXISTING MINOR CONTOUR
- (IP) INLET PROTECTION PER DTLS SHT ESC3
- (CE) CONSTRUCTION ENTRANCE PER DTL SHT ESC3
- (SF) SEDIMENT FENCE PER DTL SHT ESC3
- FLOW DIRECTION INDICATOR
- (CD) BIO BAG CHECK DAMS PER DTL SHT ESC4
- (SW) STRAW WATTLES PER SHT ESC4

ESTABLISHING TEMPORARY GRASSES AND PERMANENT VEGETATIVE COVER

CONDITIONS WHERE PRACTICE APPLIES

- ALL GROUND SURFACES EXPOSED DURING THE WET SEASON
- AREAS WHICH WILL NOT BE SUBJECT TO HEAVY WEAR BY ON-GOING CONSTRUCTION TRAFFIC
- EXPOSED GROUND SURFACES AT END OF CONSTRUCTION PERIOD (PERMANENT COVER MUST BE ESTABLISHED PRIOR TO REMOVAL OF ANY EROSION CONTROL MEASURES).
- TEMPORARY OR PERMANENT STABILIZATION OF NEW OR DISTURBED DITCHES

DESIGN CRITERIA/SPECIFICATIONS: TEMPORARY EROSION CONTROL GRASSES AND PERMANENT VEGETATIVE COVER

- TEMPORARY GRASS COVER MEASURES MUST BE FULLY ESTABLISHED BY NOVEMBER 1 OR OTHER COVER MEASURES WILL HAVE TO BE IMPLEMENTED UNTIL ADEQUATE GRASS COVERAGE IS ACHIEVED. TO ESTABLISH AN ADEQUATE GRASS STAND FOR CONTROLLING EROSION BY NOVEMBER 1, IT IS RECOMMENDED THAT SEEDING AND MULCHING OCCUR BY OCTOBER 1.
- SOIL PREPARATION – TOP SOIL SHOULD BE PREPARED ACCORDING TO LANDSCAPE PLANS, IF AVAILABLE, OR RECOMMENDATION OF GRASS SEED SUPPLIER.
- SEEDING – RECOMMENDED EROSION CONTROL GRASS SEED MIX FOR TEMPORARY AND PERMANENT SEEDING:

	PLS
AGROSTISN EXARATA (SPIKE BENTGRASS)	0.25 (LB/ACRE)
FESTUCA RUBRA (RED FESCUE)	1.75 (LB/ACRE)
ELYMUS GLAUCUS (BLUE WILDRYE)	8.0 (LB/ACRE)
DESCHAMPSIA CAESPITOSA (TUFTED HAIRGRASS)	1.0 (LB/ACRE)
GLYCERIA OCCIDENTALIS (WESTERN MANNAGRASS)	4.25 (LB/ACRE)
BROMUS CARINATUS (CALIFORNIA BROME)	11 (LB/ACRE)
HORDEUM VULGARIS 'POCO' (POCO BARLEY)	40 (LB/ACRE)

- APPLY PERMANENT SEEDING IN STAGES UPON COMPLETION OF FINISH GRADING.
- FERTILIZATION FOR GRASS SEED – AS PER SUPPLIER'S RECOMMENDATIONS. DEVELOPMENT AREAS WITHIN 50 FEET OF WATER BODIES AND WETLANDS MUST USE A NON-PHOSPHORUS FERTILIZER.
- WATERING – SEEDING SHALL BE SUPPLIED WITH ADEQUATE MOISTURE TO ESTABLISH GRASS. SUPPLY WATER AS NEEDED, ESPECIALLY IN ABNORMALLY HOT OR DRY WEATHER OR ON ADVERSE SITES. WATER APPLICATION RATES SHOULD BE CONTROLLED TO PROVIDE ADEQUATE MOISTURE WITHOUT CAUSING RUNOFF.
- RE-SEEDING – AREAS WHICH FAIL TO ESTABLISH GRASS COVER ADEQUATE TO PREVENT EROSION SHALL BE RE-SEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED AND ALL APPROPRIATE MEASURES TAKEN TO ESTABLISH ADEQUATE GRASS COVER.

PLOT DATE: Nov 12, 2019 – 8:36am

Nov 12, 2019 – 8:36am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

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VERITAS STORM WATER IMPROVEMENTS

EROSION CONTROL

VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE BY	ISSUED FOR

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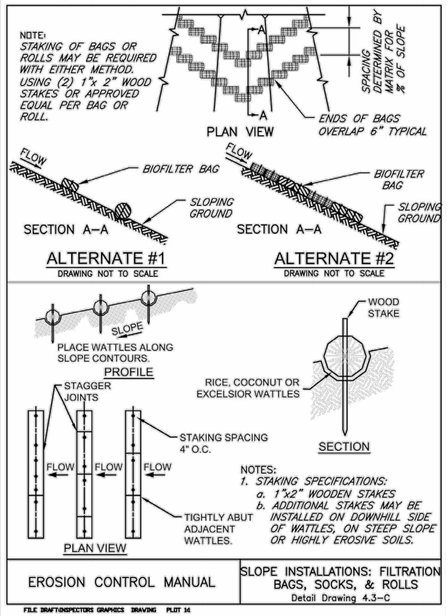
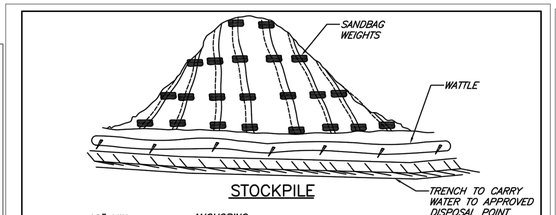
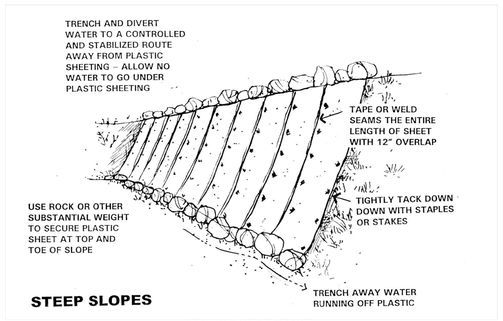
ESC 2

Figure 4.3-C Slope Installations: Filtration Bags, Socks, and Rolls

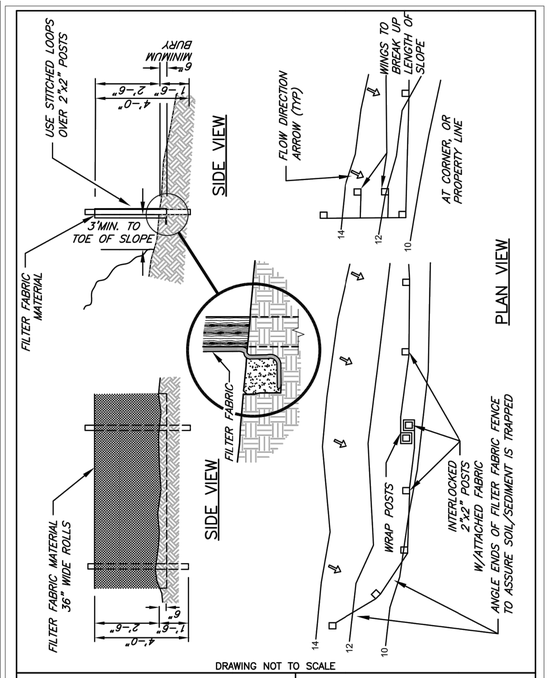






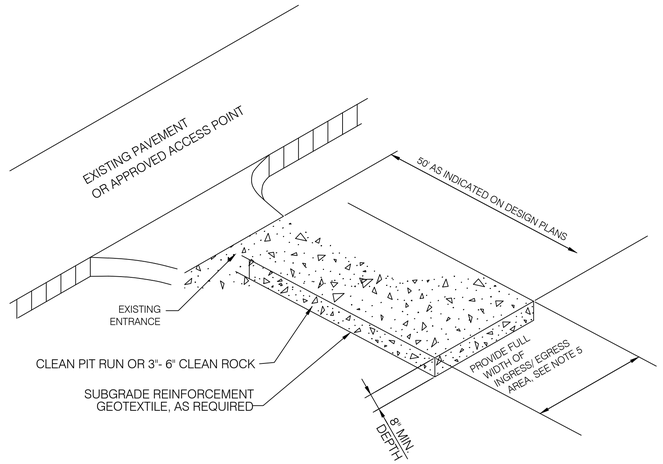
EROSION CONTROL MANUAL | PLASTIC SHEETING Detail Drawing 4.5–E

FILE DRAFT:INSPECTORS GRAPHICS DRAWING PLOT 1:1



EROSION CONTROL MANUAL | TEMPORARY SEDIMENT FENCE Detail Drawing 4.3–A

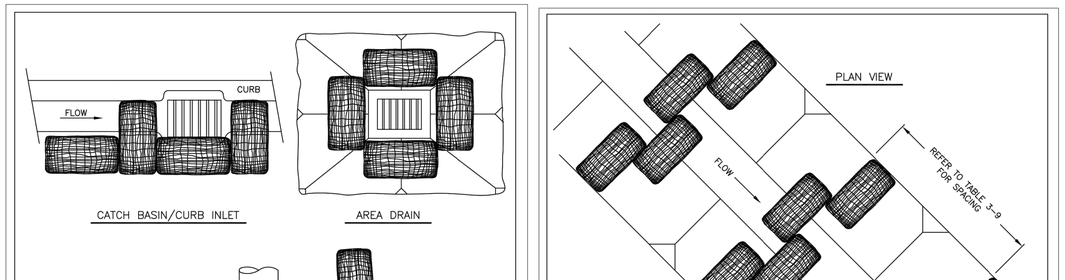
FILE DRAFT:INSPECTORS GRAPHICS DRAWING PLOT 1:1



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS
50' LONG BY 20' WIDE 3-6" CLEAN ROCK X 8" MIN. DEPTH.

CONSTRUCTION ENTRANCE
(nts)



NOTES:
1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIOFILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.

INLET PROTECTION TYPE 4 – BIOFILTER BAGS | Detail Drawing 3.3.7d

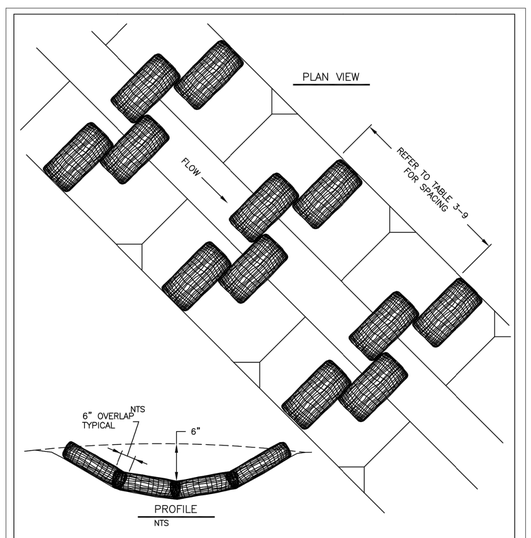


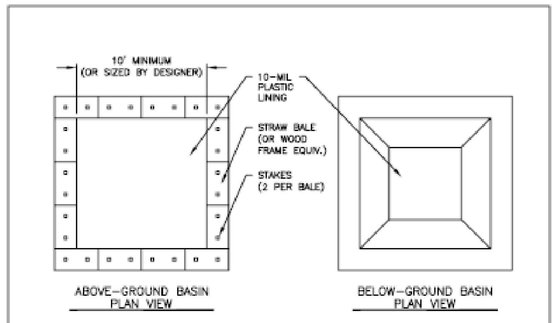
TABLE 3–9 SPACING FOR CHECK DAMS

DITCH GRADE	MINIMUM WEIR DEPTH		
	6 INCH	12 INCH	18 INCH
6%	**	16 FT O.C.	26 FT O.C.
5%	**	20 FT	30 FT
4%	**	26 FT	40 FT
3%	15 FT	33 FT	50 FT
2%	25 FT	50 FT	80 FT

** NOT ALLOWED

NOTES:
1. STAKING OF BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.
2. SURFACE MUST BE SMOOTH BEFORE APPLICATION.

CHECK DAM BIOFILTER BAG | Detail Drawing 3.2.6b



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. "CONCRETE WASHOUT" SIGN TO BE LOCATED ADJACENT TO WASHOUT FACILITY.
3. REMOVABLE RAIN COVER REQUIRED DURING WET WEATHER SEASON.

CONCRETE WASHOUT | Detail Drawing 4.2.10

PLOT DATE: Nov 12, 2019 – 8:36am

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

EROSION CONTROL DETAILS

VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE:
DATE
DESIGNED BY:
JOB No:
DWG. NO.
ESC 3

Nov 12, 2019 – 8:36am tom D:\VIRE Files\Project\Veritas\dwg\VIRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

New Modular Classroom for
Veritas School
Newberg, Oregon

Code Compliance

Applicable Codes: OREGON:
2019 Oregon Structural Specialty Code (Based on 2018 IBC)
2019 Oregon Mechanical Specialty Code (Based on 2018 IMC & IFGC)
2021 Oregon Plumbing Specialty Code (Based on 2021 UPC by IAPMO)
2021 Oregon Electrical Specialty Code (Based 2020 NEC)
2021 Oregon Energy Efficiency Specialty Code (Based on ASHRAE 90.1 - 2019)
2009 ICC A117.1 Accessibility Standard

Type of Construction: VB

Description: Classroom

Occupancy: E

Floor Area: 1673 square feet

Gross Wall Area: 1538 square feet

Occupant Load: 83 (Education 1660 Net SF/20 SF/P)

Job Number: 20143

Oregon

Climate Zone: 4c

General Notes

- The Structural Design Details Herein are Specific to the Building Size and Module Configuration Shown on the Floor Plan of These Drawings.
- No Authorization is Given or Implied for use of the Modules in the Initial or Subsequent Installation Which Results in a Building Size or Installed Module Configuration Different Than Shown on These Drawings.
- This Building will be sited a minimum of 10 feet from all Property Lines and 10 feet from any assumed Property Lines between existing structures on this site.
- Site contractor bears responsibility for providing an accessible route to this structure in conformance with applicable building code and accessibility standards.
- Project close out documentation including, but not limited to, applicable calculations, energy compliance reports, fenestration NFRC rating certificates and O & M manuals is required to be delivered to the building owner within 90 days of their receipt of the certificate of occupancy.

Project Information

Site Address: Veritas School
26288 NE Bell Rd.
Newberg, OR 97132

Dealer: Pacific Mobile
13806 45th Ave. NE
Marysville, WA 98271

Builder: Blazer Industries, Inc.
PO Box 489
Aumsville, OR 97325
Contact: Jamie Holmes
Phone: (503) 749-1900
Fax: (503) 749-3969
E-mail: james@blazerind.com

Design Loads

Roof ..... 25 psf (Snow)

Wind ..... 120 mph Exposure "B" (V)

Floor ..... 40 psf or 1000 lb

Seismic ..... Site Class D, S_{DS}=1.200, S_{D1}=0.680

Risk Category II

N.L.E.A.'s

1. On site electrical service grounding, electrode system and bonding.
2. Required arc flash labeling per NEC 110.16.
3. Available fault current field markings per NEC 110.24.
4. Fire alarm plans, hydraulic and seismic calculations and manufacturer's specifications shall be reviewed for code compliance by State BCD. Section 2020 OAR 918-674-0000, 918-674-0015, 918-674-0015(5) and 918-674-0065.
5. Site installed gutters & downspouts or roof drains as applicable.
6. The installation of any interior equipment and/or appliances in this modular unit shall be completed under permit and inspection through the local AHJ.

Index to Drawing

04/12/2022
REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15,1997
ROCK M. SHETLER
EXPIRES: 6/30/2022

DATE	REVISION	BY
3-28-2022	ENGINEERING - RMS	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

Blazer INDUSTRIES, INC.
P.O. BOX 489 945 Olney St. Aumsville, OR 97325-0489
www.blazerind.com

MODULAR
28 x 64
OR GOLD

CLASSROOM for:
VERITAS SCHOOL
Pacific Mobile
Newberg, Oregon

Approved for Const:
File Copy:
Drawn By: TAS
Issue Date: 3-31-2022

Job No: 20143

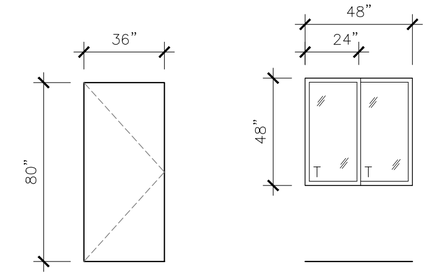
T-1

	STYLE	QTY.	SIZE	DESCRIPTION	LOCK	REMARKS
DOORS (1)	A	2	3^0 6^8	INSULATED GALV. STEEL w/ WELDED STEEL JAMB AND WEATHERSTRIPPING DEFAULT .37 U-FACTOR	PANIC	SS BBR'G NRP HINGES TEXTURED PAINT FINISH CLOSER
(2)	A	1	3^0 6^8	INSULATED GALV. STEEL w/ WELDED STEEL JAMB AND WEATHERSTRIPPING DEFAULT .37 U-FACTOR	KEYED LEVER	SS BBR'G NRP HINGES TEXTURED PAINT FINISH CLOSER

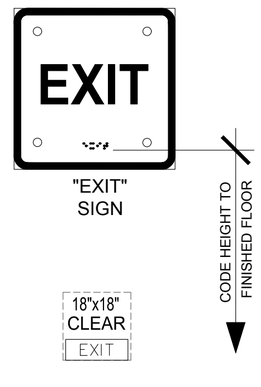
NOTES:
- DOOR HARDWARE: HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FLOOR. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES. [ICC A117.1-2009 SECTION 404.2.6]
- THE VERTICAL FENESTRATION AREA, NOT INCLUDING OPAQUE DOORS, SHALL NOT EXCEED 40% OF THE GROSS ABOVE GRADE WALL AREA. [2021 OEESC SECTION 5.5.4.2.1 AND TABLES 5.5-4 AND 5.5-5]
- FENESTRATION AND DOORS SHALL HAVE AN AIR LEAKAGE RATE COMPLYING WITH OEESC TABLE 5.8.3.2.
- DOOR HARDWARE TO HAVE SATIN CHROME/ALUMINUM TYPE FINISH

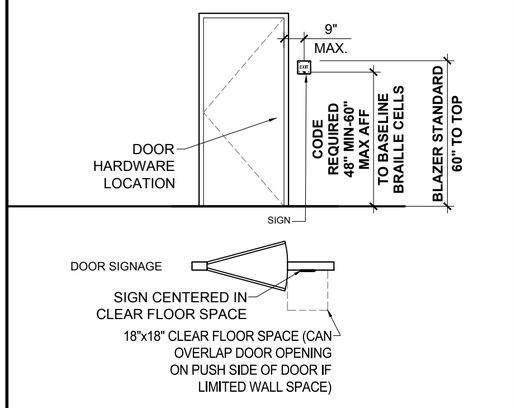
WINDOWS (1)		6	48 x 48	MILGARD- HORIZONTAL SLIDER - DUAL GLAZE - LOW "E" WHITE VINYL FINISH-ARGON-TEMPERED NFRC 0.25 U-FACTOR, SHGC = 0.30, VT=0.56

NOTES:
- GALVANIZED FLASHING INSTALLED UNDER EXTERIOR TRIM ABOVE WINDOWS



NOTE: DOOR SWINGS MAY BE MIRRORED. REFER TO FLOOR PLAN





SIGNS AT DOORS: ICC / ANSI A117.1 - 2009 703

TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1219 mm) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60 INCHES (1524 mm) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS.

DATE	REVISION	BY
3-8-2022	PRELIMINARY REVIEW - BM	TAS

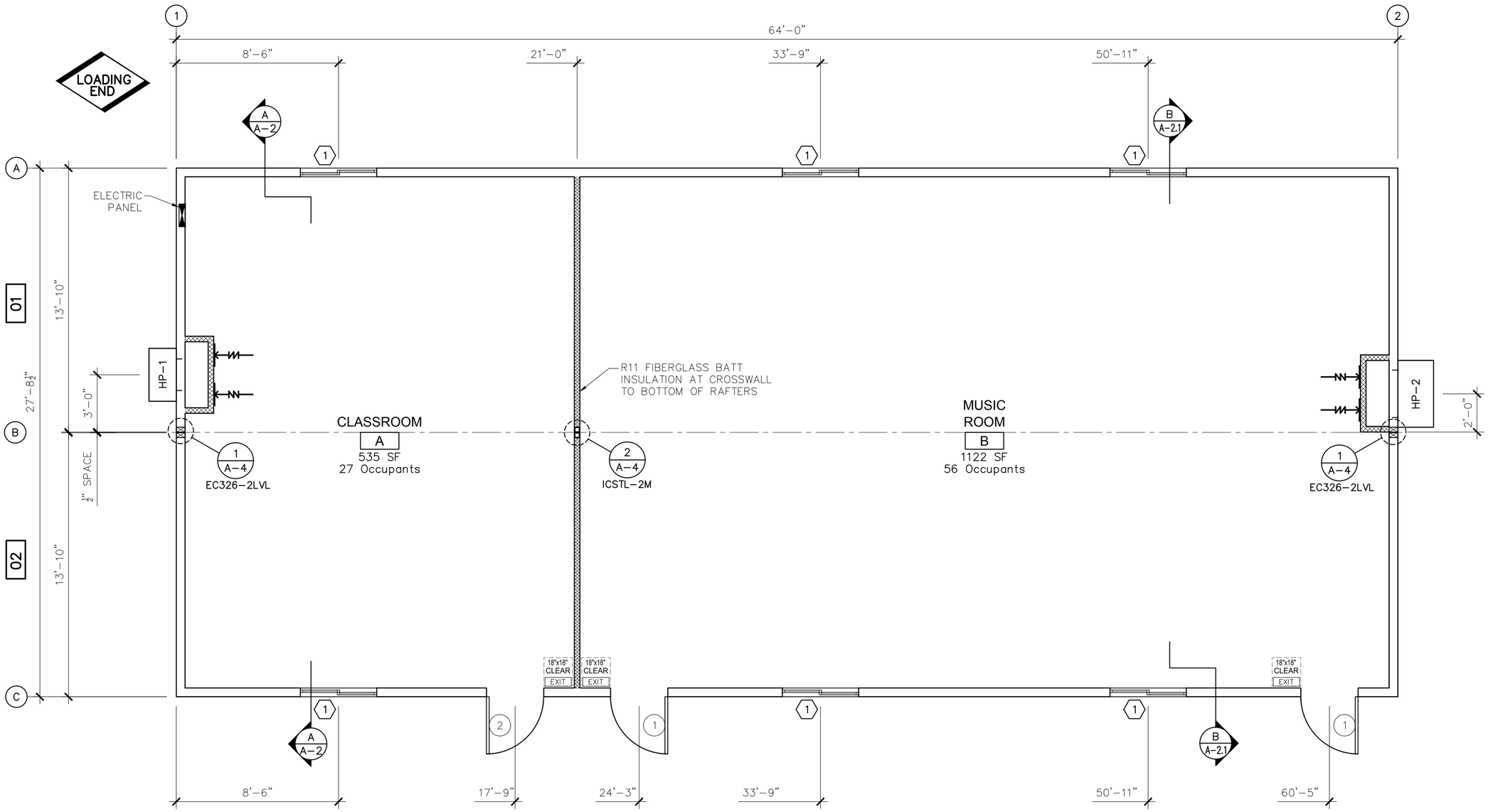
Blazer INDUSTRIES, INC.
P.O. BOX 489 ■ Aumsville, OR 97325-0489
945 Olney St. www.blazerind.com

MODULAR
28 x 64
OR GOLD

CLASSROOM for:
VERITAS SCHOOL
Pacific Mobile
Newberg, Oregon

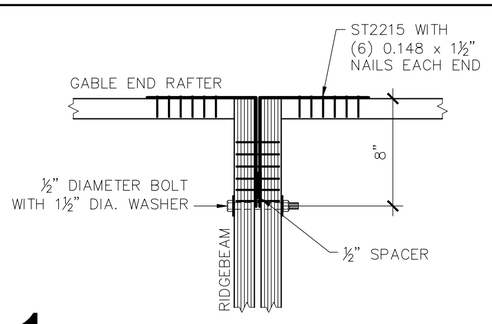
Approved for Const:	
File Copy:	
Drawn By:	TAS
Issue Date:	3-8-2022
Job No:	20143

A-0.1



FLOOR PLAN

SCALE: 1/4" = 1'-0"



1 CHORD SPLICE DETAIL

1½" = 1'-0"

NOTES:
- THE TOP PLATES OF THE INTERIOR WALLS CAN SPAN A MAXIMUM OF 10'-0" BEFORE REQUIRING BRACING TO THE ROOF STRUCTURE OR AN INTERSECTING WALL.

04/12/2022

REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15, 1997
ROCK M. SHETLER

EXPIRES: 6/30/2022

DATE	REVISION	BY
3-7-2022	PRELIMINARY REVIEW - BM	TAS
3-28-2022	ENGINEERING - RMS	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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Issue Date: 3-29-2022

Job No: 20143

A-1

FASTENING SCHEDULE

WALLS:

PLATE–TO–STUD	0.131 x 3" NAILS (3 PER 2x6, 2 PER 2x4)
SHEETROCK–TO–STUD @ INTERIOR	0.091 x 2¼" SHEETROCK NAILS @ 16"oc EDGE AND CONSTRUCTION ADHESIVE IN FIELD
BOTTOM PLATE–TO–FLOOR	0.131 x 3" NAILS @ 8"oc (SENCO KC27 OR EQUAL)
PANEL SIDING–TO–STUD AT SIDEWALL	0.113x2⅜" NAILS @ 6" EDGE, 12" IN FIELD (EXCEPT USE 4"oc @ TOP & BOTTOM). ALL EDGES SUPPORTED BY FRAMING OR BLOCKING.
PANEL SIDING–TO–STUD AT ENDWALL	SEE ENDWALL FASTENING NOTES ON ELEVATIONS
THREE STUD CORNER CONNECTION	0.131 x 3" NAILS @ 12" (SENCO KC27 OR EQUAL)

AIR BARRIER NOTES:

THESE KEY AREAS SHALL BE SEALED BY CAULKING, GASKETS, TAPE OR WEATHER–STRIPPING:
- –JOINTS AROUND FENESTRATION (WINDOWS AND DOOR FRAMES): USE APPROPRIATELY SIZED BACKER ROD WITH MINIMUM 2" LAP AT ENDS.
- –JUNCTIONS BETWEEN WALLS AT:
  - –BUILDING CORNERS: USE CAULKING
  - –STRUCTURAL FLOORS: USE SILL SEAL OR CAULKING
  - –ROOFS (AT RIM): USE SILL SEAL OR CAULKING
- –PENETRATIONS OF UTILITY SERVICES THRU THE AIR BARRIER @ ROOFS, WALLS, AND FLOORS: USE CAULKING, SPRAY FOAM, OR AIR BARRIER TAPE.
- –BUILDING ASSEMBLIES USED AS DUCTS OR PLENUMS: USE BACKER ROD, CAULK, SPRAY FOAM OR AIR BARRIER TAPE.
- –JOINTS, SEAMS, AND PENETRATIONS OF VAPOR RETARDANTS: USE CAULK OR APPROVED TAPE.
- –RECESSED LIGHTING FIXTURES: USE CAULK OR SPRAY FOAM

FLOOR:

2x8 FLOOR JOIST–TO–RIM	MIN. OF (4) 0.131 x 3" NAILS (SENCO KC27 OR EQUAL)
CLASS "A" BOTTOM BOARD–TO–JOIST	16ga. x ⅜" WIDE CROWN @ 12" MAX. EDGES ONLY
FLOOR DECKING–TO–2x JOIST	0.113" x 2⅜" RING SHANK @ 6" EDGE, 12" IN FIELD (SENCO GE–24). USE CONSTRUCTION ADHESIVE (AFG01) ON JOISTS

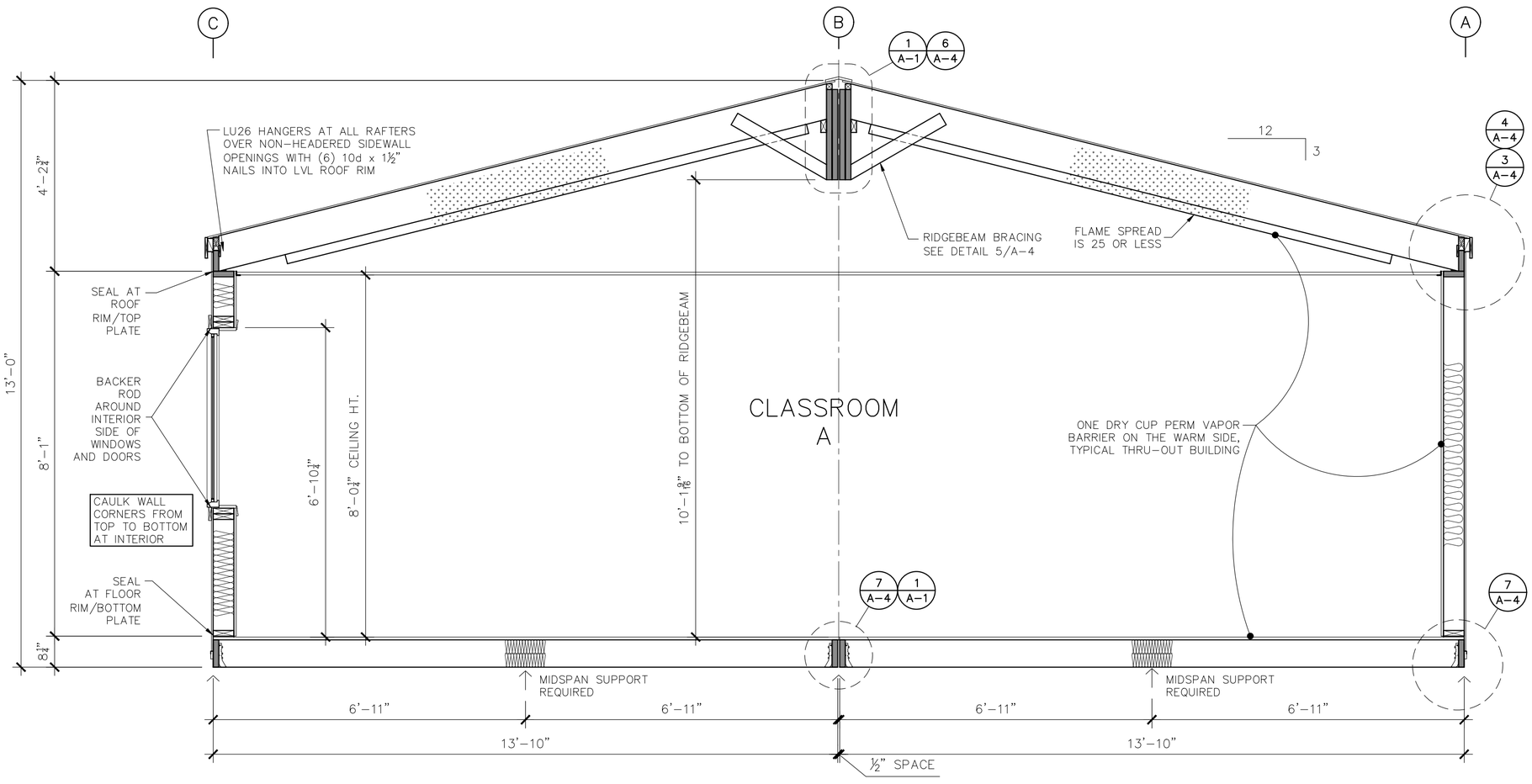
ROOF:

RIM–TO–RAFTERS	MIN. OF (4) 0.131 x 3" NAILS (SENCO KC27 OR EQUAL)
FURRING–TO–RAFTERS	MIN. (4) M20 2 x 3 (MIN.) PLATES EACH SIDE
ROOF RIM–TO–TOP PLATE	0.131 x 3" NAILS @ 8" oc. (SENCO KC27 OR EQUAL)
LEDGER–TO–RIDGEBEAM	0.131 x 3" NAILS @ 3" oc & 3 @ BUTT JOINTS (SENCO KC27 OR EQUAL)
RAFTER–TO–RIDGEBEAM	(4) 0.131 x 3" NAILS (SENCO KC27 OR EQUAL)
SHEATHING–TO–ROOF MEMBERS	16ga. x 1¾" STAPLES @ 6" EDGE, 12" IN FIELD (SENCO N–19) NOTE: SHEATHING TO BE INSTALLED PERPENDICULAR TO RAFTERS. OFFSET SHEATHING 4 ft. BLOCK EDGES OF ANY PIECES LESS THAN 24".

MARRIAGE LINE CONNECTION:

NOTE: ALL MARRIAGE LINES (DEFINED AS THE SPACE BETWEEN ADJOINING MODULES) MUST BE INSULATED AT THE ROOF, FLOOR AND WALLS ON SITE.

RIDGEBEAMS	½" BOLTS w/ 1½" DIA. WASHERS @ 6'– 0" oc AND 8" FROM EACH END (MINIMUM 2" EDGE DISTANCE)
RIM JOISTS	½" BOLTS w/ 1½" DIA. WASHERS @ 4'–0" oc AND 8" FROM EACH END (MINIMUM 2" EDGE DISTANCE)



SECTION - A A

SCALE: 1/2" = 1'-0"

MATERIAL LIST

ROOF:

- ROOFING: ARCHITECTURAL SHINGLES OVER 2 LAYERS NON–PERF. 15# FELT APPLIED SHINGLE STYLE –HIGH WIND APPLICATION–
  - NOTE: "HIGH TEMP" SELF–ADHERED ROOFING UNDERLAYMENT UNDER SHINGLES FOR 2'–0" FROM EACH EAVE TOWARD RIDGE, TYPICAL @ BOTH EAVES
  - –DRIP EDGE SHALL BE PROVIDED AT EAVES AND RAKE EDGES OF SHINGLE ROOFS (IBC 1507.2.9.3).
- SHEATHING: 7/16" APA RATED (24/16)
- FRAMING: 2x10 DF #2 RAFTERS @ 24"oc WITH 2x INSULATION FURRING BELOW
- RIDGEBEAM: DOUBLE 1½" x 24" LVL 2.0E (CONTINUOUS)
- LEDGERS: 2x4 TAPER CUT
- RIMS: 2x6 CONTINUOUS LVL 2.0E w/ 2x4 VENT BLOCKING ABOVE
- INSULATION: R38 CELLULOSE BLOW–IN OVER CLASS 'A' MATERIAL (AIR BARRIER COMPONENT)
  - NOTE: MIN. 1" AIR SPACE REQUIRED AT ROOF SHEATHING. USE BAFFLES IF REQUIRED FOR VENT CLEARANCE.
- CEILING: HARD–LID AND SUSPENDED T–BAR (PER IBC 808.1) SEE PLAN
- VENTING: EAVE AND RIDGE
- DRAINAGE: GUTTERS & DOWNSPOUTS PROVIDED & INSTALLED ONSITE BY OTHERS

WALLS:

- SIDING: 76 SERIES LP SMARTSIDE PANEL WITH GROOVES @ 8"oc, USE 4'x9' SHEETS
  - NOTE: NO HORIZONTAL BREAKS IN SIDING EXCEPT AT ENDWALLS
- MOISTURE PROTECTION: WRAP LOWER 12" OF BUILDING WITH MOISTSTOP – WRAP BUILDING w/BUILDING WRAP
- FASCIA: 1x6
- TRIM: 1x4 AT CORNERS, WINDOWS, DOORS AND MODLINE
  - NOTE: 2"x2" GALV. FLASHING INSTALLED OVER SIDING AND UNDER CORNER TRIM
- FRAMING: EXT: 2x6 DF#3 or BETTER @ 16"oc; INT: 2x4 DF @ 16"oc
- TOP PLATE: 2x CONTINUOUS (DF#2 OR LVL 2.0E)
- BOTTOM PLATE: 2x DF
- INSULATION: EXT: R–21 UNFACED FIBERGLASS BATTS; INT: R–11 INSULATION BATTS @ CROSSWALL
- INTERIOR FINISH: 5/8" VINYLWRAP SHEETROCK
  - NOTE: INSTALL GYPSUM ON GABLE ENDS ABOVE WALL COVER
- SKIRTING: PREP ONLY – SKIRTING PROVIDED AND INSTALLED ONSITE BY OTHERS

FLOOR:

- COVERING: VCT – MUSIC ROOM ONLY; CLASSROOM – ON SITE BY OTHERS
- DECKING: 1st: 23/32" A.P.A. RATED STURD–I–FLOOR (AIR BARRIER COMPONENT); 2nd: ¼" U–PLY X – MUSIC ROOM ONLY
- FRAMING: 2x8 DF#2 JOISTS @ 16"oc
- RIMS: 2x8 LVL 2.0E (CONTINUOUS)
- JOIST HANGERS: ON ALL RIMS
- INSULATION: R–30 (USE TWO LAYERS R15 FIBERGLASS)
- BOTTOM COVER: CLASS "A"

04/12/2022

REGISTERED PROFESSIONAL ENGINEER 19300PE OREGON JULY 15,1997 ROCK M. SHETLER

EXPIRES: 6/30/2022

DATE	REVISION	BY
3-8-2022	PRELIMINARY REVIEW - BM	TAS
3-28-2022	ENGINEERING - RMS	TAS

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28 x 64
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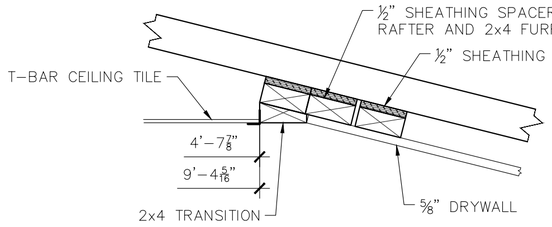
CLASSROOM for:
VERITAS SCHOOL
Pacific Mobile
Newberg, Oregon

Approved for Const:	
File Copy:	
Drawn By:	TAS
Issue Date:	3-28-2022

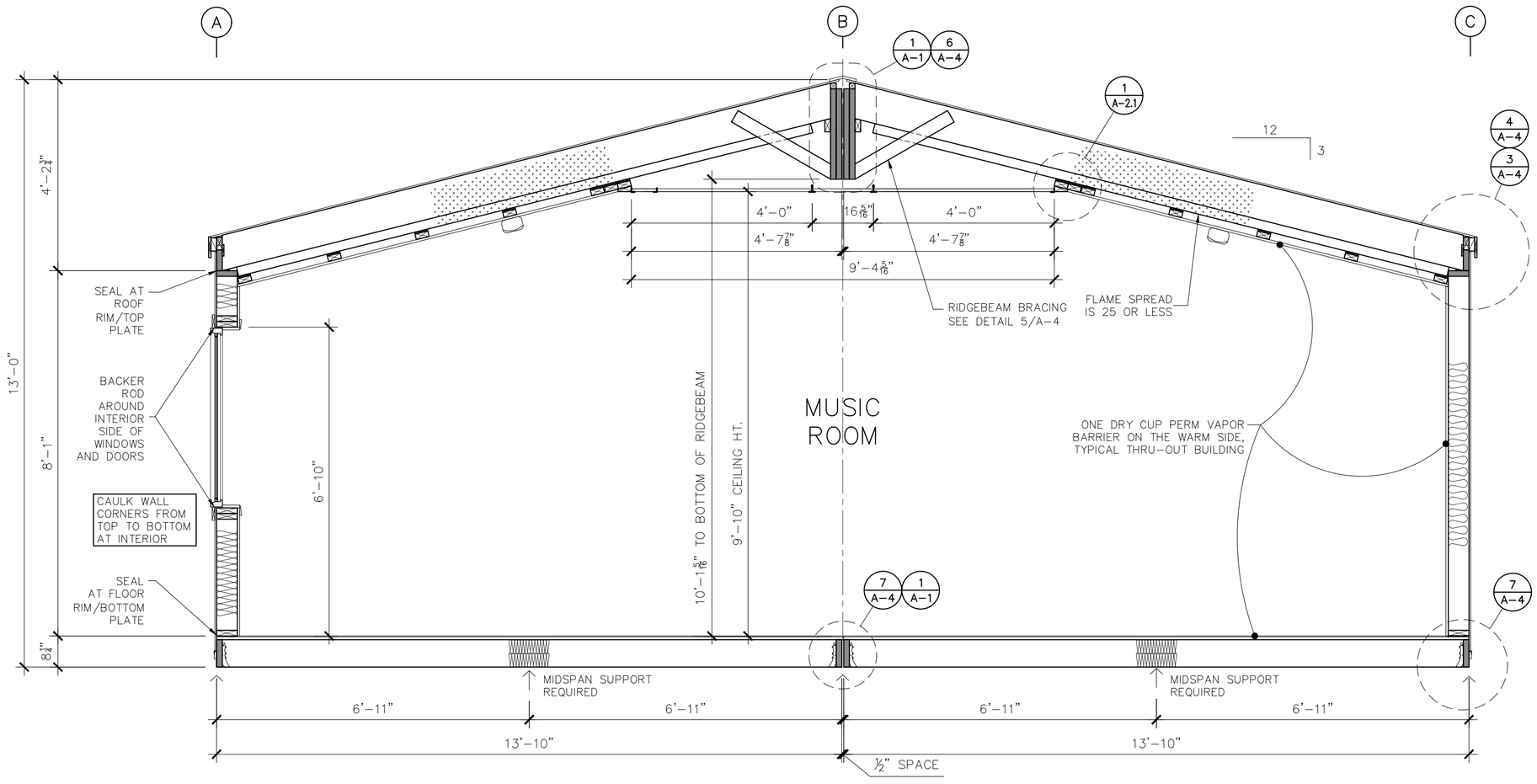
Job No: 20143

A-2



1 CEILING TRANSITION

1½" = 1'-0"



SECTION - B B

SCALE: 1/2" = 1'-0"

04/12/2022

REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15, 1997
ROCK M. SHETLER

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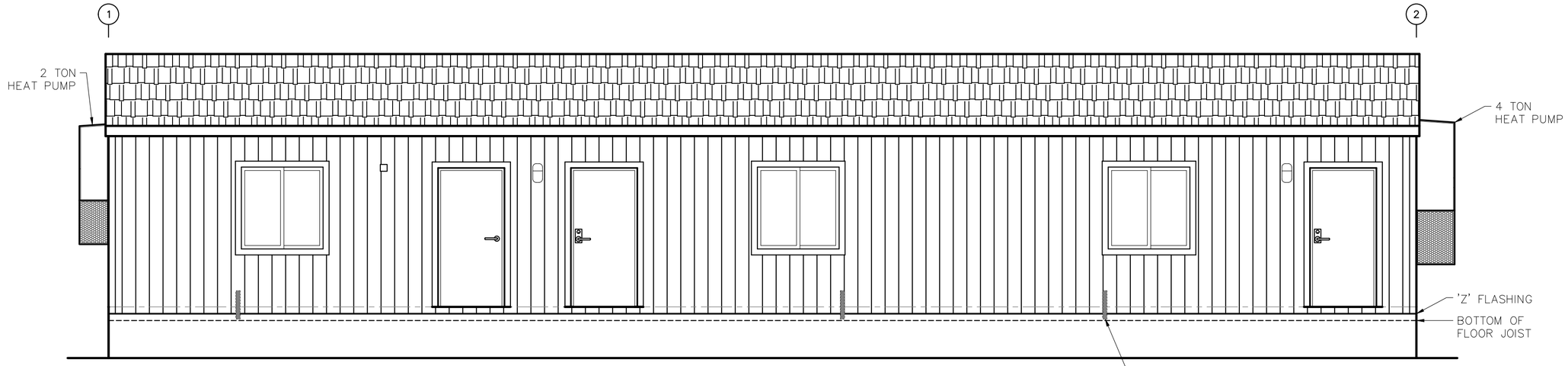
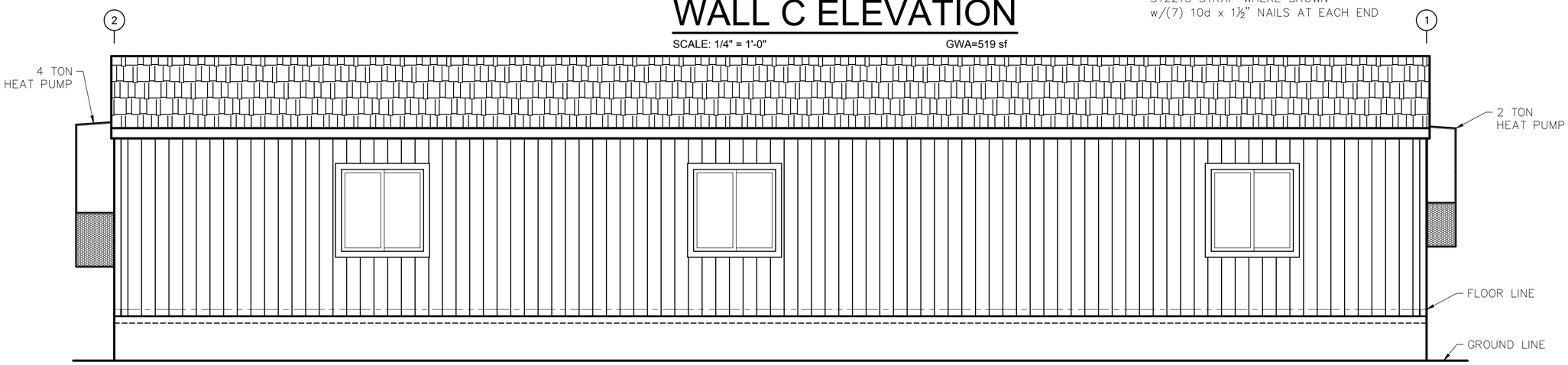
A-2.1



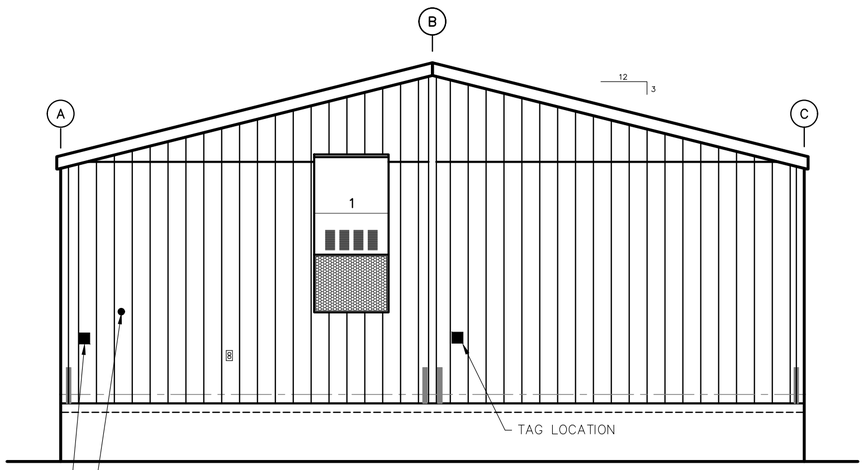
WALL C ELEVATION

SCALE: 1/4" = 1'-0" GWA=519 sf



WALL A ELEVATION

SCALE: 1/4" = 1'-0" GWA=519 sf



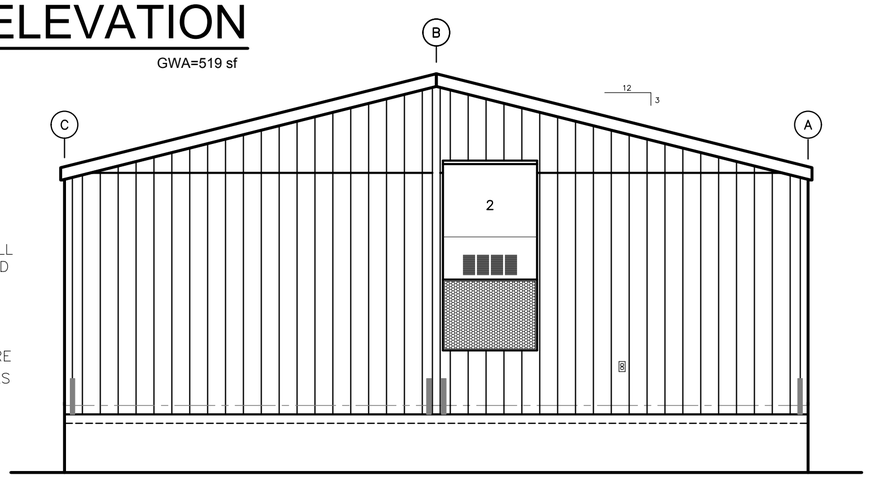
WALL 1 ELEVATION

SCALE: 1/4" = 1'-0" GWA=250 sf

ENDWALL FASTENING:

1. INSTALL PANEL SIDING WITH ALL EDGES SUPPORTED AND FASTENED WITH 0.113 x 2⅜" NAILS @ 6"oc EDGE, 12"oc FIELD, 4"oc TOP & BOTTOM

2. INSTALL ST2215 STRAPS WHERE SHOWN WITH (8) 10d x 1½" NAILS EACH END OF EACH STRAP



WALL 2 ELEVATION

SCALE: 1/4" = 1'-0" GWA=250 sf

04/12/2022

REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15,1997
ROCK M. SHETLER

EXPIRES: 6/30/2022

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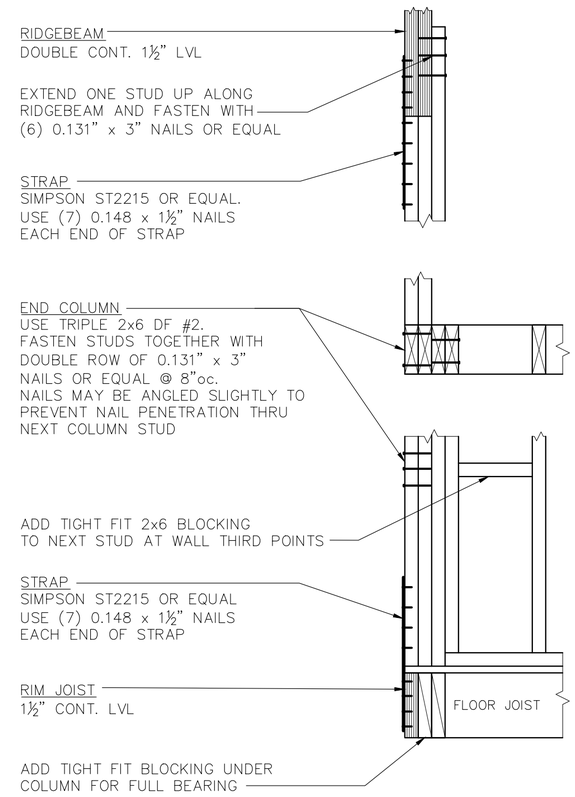
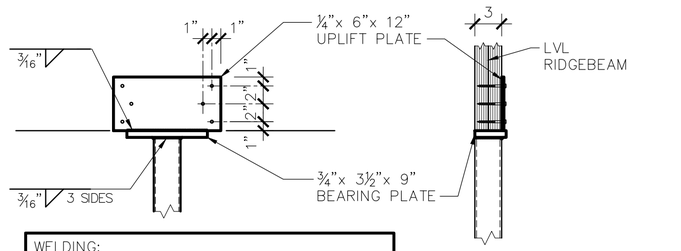
A-3



1 EC326-2LVL - END COLUMN DETAIL - DBL LVL

1" = 1'-0"



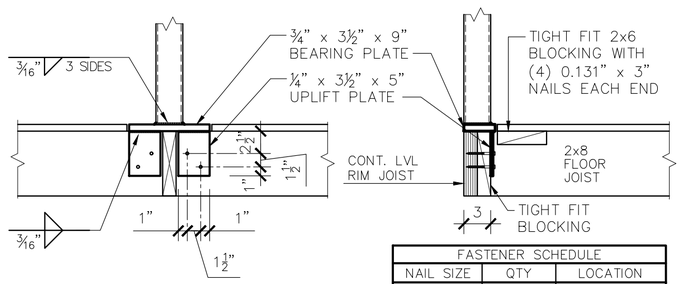
WELDING:
G.M.A.W. – AWS A5.18
F.C.A.W. – AWS A5.20

ALL WELDS TO BE SINGLE PASS FILLET BY CERTIFIED WELDER TO A.W.S. D1.1 CODE.

ASTM A500 GRADE C STEEL TUBE
ASTM A36 STEEL PLATE

(6) SIMPSON SDS1/4x3" SCREWS (TOP)
(4) SIMPSON SDS1/4x2½" SCREWS (BOTTOM)
(DRILL 5/16" HOLES)

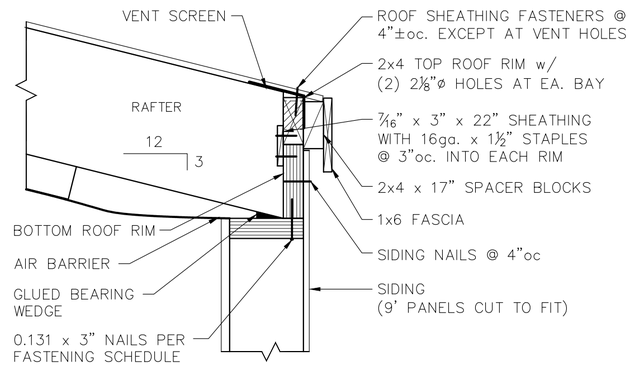
HSS3x3x3/16 COLUMN



FASTENER SCHEDULE		
NAIL SIZE	QTY	LOCATION
0.131" x 3"	5	EACH END
0.131" x 3"	2 ROWS AT 4"oc.	TO RIM

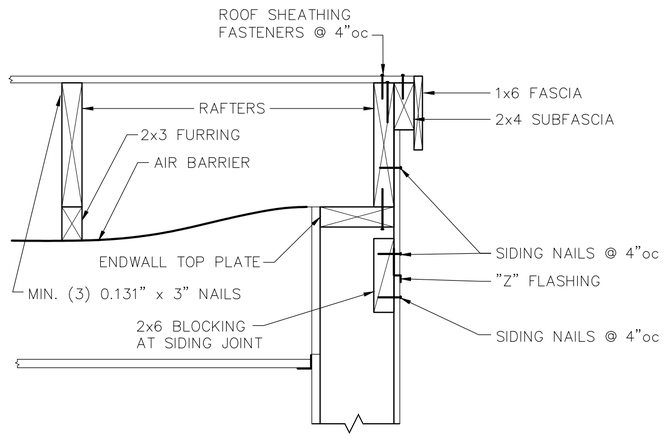
2 ICSTL-2M: INTERIOR COLUMN DETAIL- STEEL

1" = 1'-0"



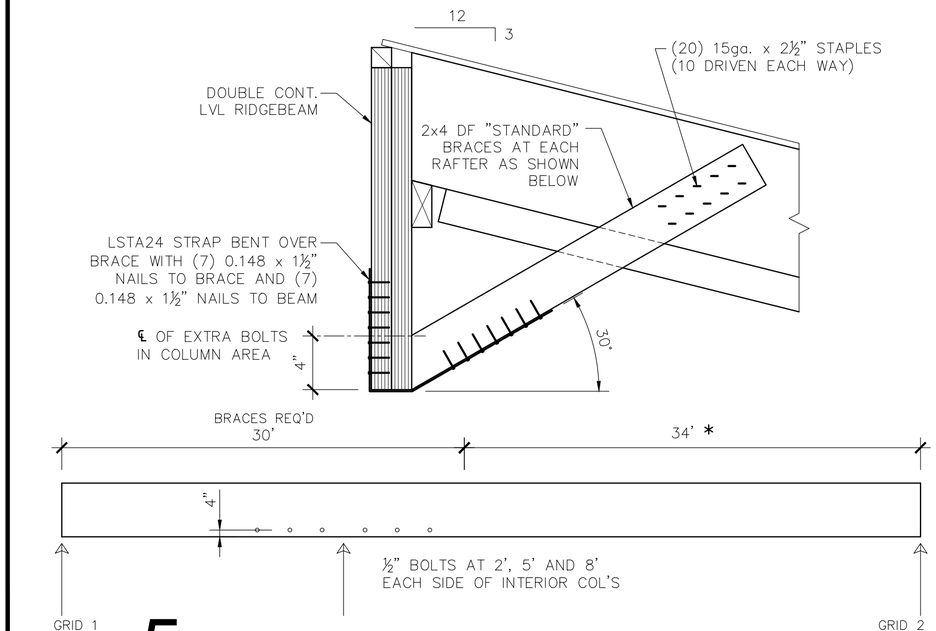
3 EAVE DETAIL

1½" = 1'-0"



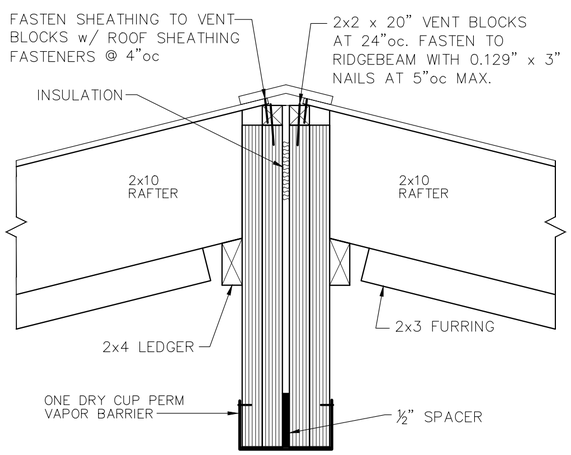
4 ENDWALL ROOF DETAIL

1½" = 1'-0"



5 RIDGEBEAM BRACING DETAIL- 24"

1½" = 1'-0"

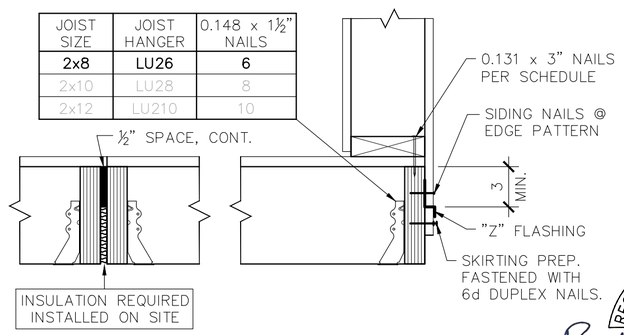


SITE WORK:
1. INSTALL RIDGEVENT WITH 1" GALV. SCREWS AT 12"oc. EACH SIDE.
2. INSTALL INSULATION AT MARRIAGE LINE.
3. INSTALL VAPOR BARRIER ACROSS MARRIAGE LINE, 2 MIL. MIN. (CLOSE-UP PLASTIC SUPPLIED WITH BUILDING MAY BE USED).

6 RIDGE DETAIL

1½" = 1'-0"

JOIST SIZE	JOIST HANGER	0.148 x 1½" NAILS
2x8	LU26	6
2x10	LU28	8
2x12	LU210	10



7 FLOOR DETAIL

1½" = 1'-0"

04/12/2022
REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15, 1997
ROCK M. SHETLER
EXPIRES: 6/30/2022

DATE	REVISION	BY
3-29-2022	ENGINEERING - RMS	TAS

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VERITAS SCHOOL
Pacific Mobile
Newberg, Oregon

Approved for Const:
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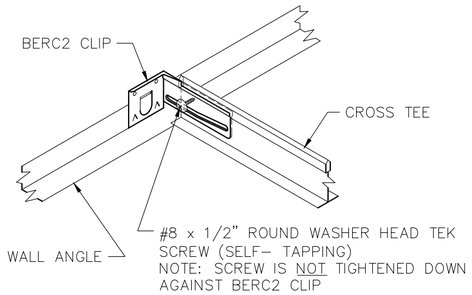
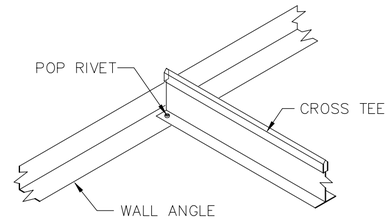
Drawn By: TAS
Issue Date: 3-29-2022

Job No: 20143

A-4



UNATTACHED WALL
(TWO ADJACENT WALLS)



ATTACHED WALL
(TWO ADJACENT WALLS)

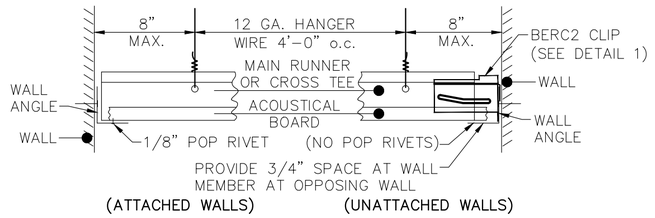
SEISMIC BERC2 CLIP

–FACTORY INSTALLED AT TWO ADJACENT WALLS.
–SCREW TIGHTENED FOR SHIPPING IN ROOMS WHERE CEILING CROSSES MOD LINE, LOOSEN SCREW ON SITE BY SET UP CREW
–NOT REQUIRED FOR CEILINGS LESS THAN OR EQUAL TO 144 SF AND SURROUNDED BY WALLS CONNECTED TO THE STRUCTURE ABOVE.
–SOURCES: ASCE 7–16 SECTION 13.5.6 EXCEPTION 1, ASTM E580 SECTION 1.4

1 SEISMIC ATTACHMENT AT WALLS

N.T.S.

[ARMSTRONG SEISMIC 'Rx' SUSPENSION SYSTEM (ESR 1308)]



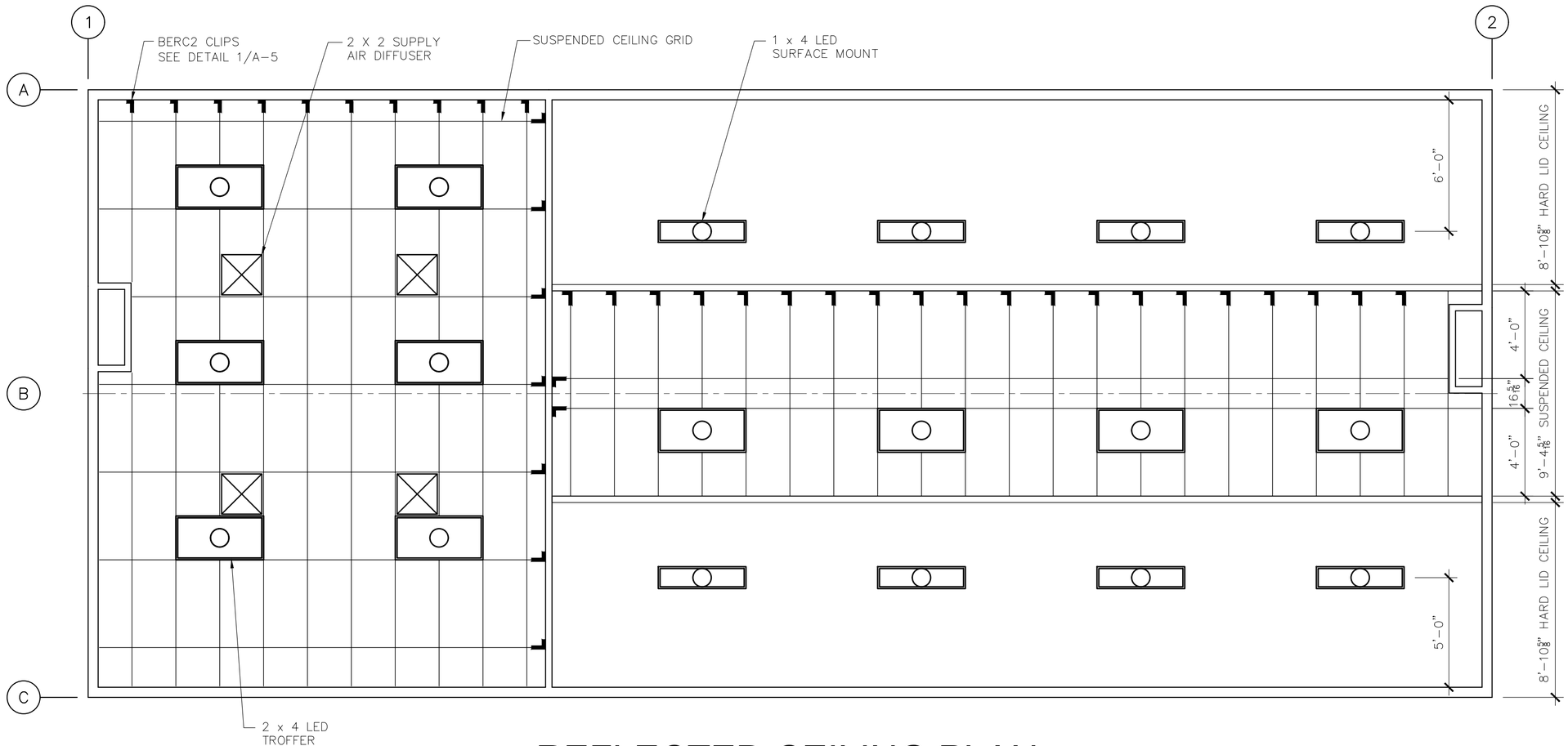
NOTE:
HANGER AND PERIMETER WIRES MUST BE PLUMB WITHIN 1:6 UNLESS COUNTER SLOPING WIRES ARE PROVIDED

LATERAL–FORCE BRACING:
- IS THE USE OF VERTICAL STRUTS AND SPLAY WIRES.
- CEILING AREAS OF 1000 SQ.FT. OR LESS SHALL BE EXEMPT FROM LATERAL–FORCE BRACING REQUIREMENTS.
- CEILINGS WITH INTERSTITIAL SPACE LESS THAN 12" TO FRAMING ARE NOT REQUIRED TO HAVE LATERAL–FORCE BRACING.

SEISMIC SEPARATION JOINTS:
- ALL CONTINUOUS CEILING AREAS EXCEEDING 2500 SQ.FT. SHALL HAVE A SEISMIC SEPARATION JOINT.

2 STANDARD T-BAR DETAIL

N.T.S.



REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"

DATE	REVISION	BY
3-29-2022	PRELIMINARY REVIEW - BM	TAS

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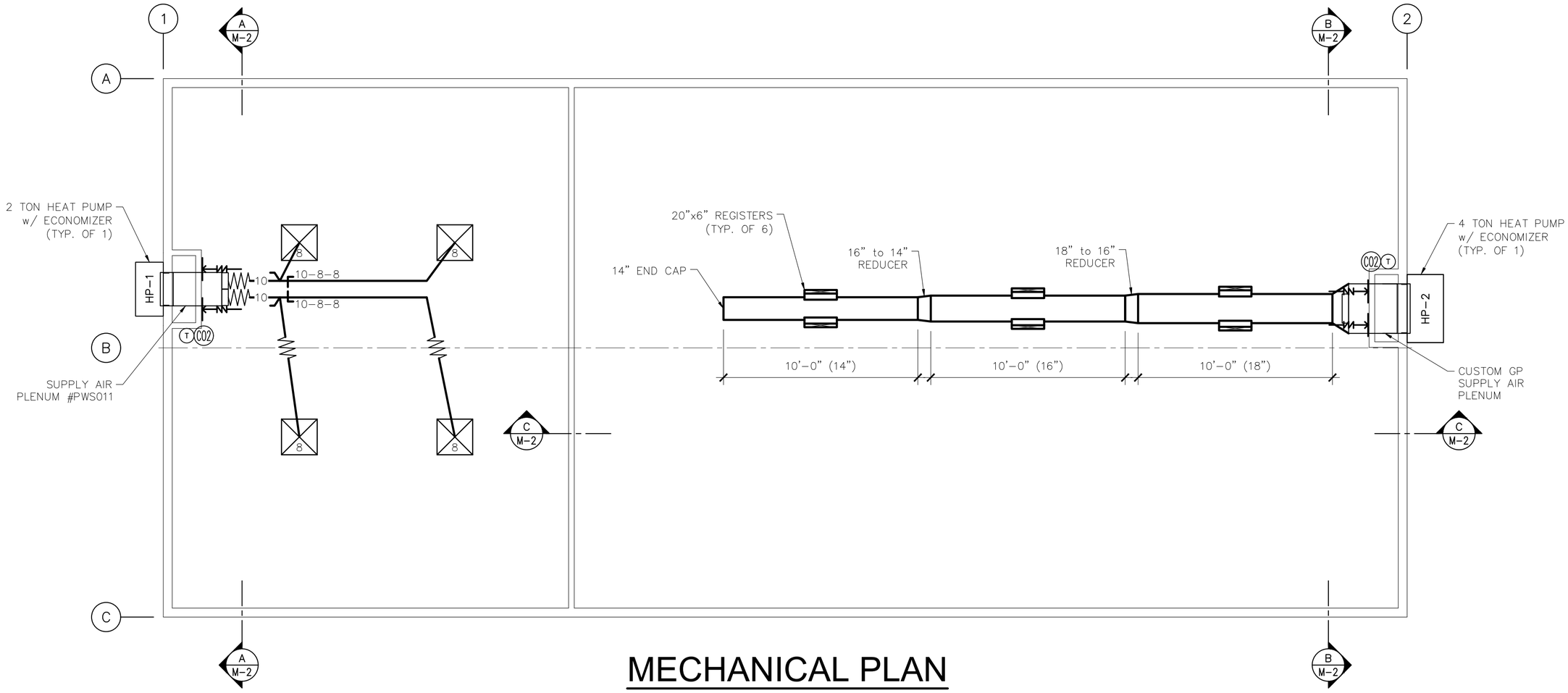
A-5



MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

MECHANICAL NOTES:

1. MECHANICAL EQUIPMENT INSTALLATION IN OR ON THIS BUILDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF OMSC CHAPTER 6.
2. DUCT MATERIAL IS 26 GA. GALV. AND FLEX DUCT. DUCTWORK SHALL BE SUPPORTED PER OMSC SECTION 603.
3. MATERIAL IN DUCTS SHALL HAVE A FLAME SPREAD INDEX OF LESS THAN 25, SMOKE DEVELOPMENT OF 50. [OMSC SECTION 602]
4. ROUND FLEX DUCT SHALL BE U.L. LISTED CLASS 1, STANDARD 181 – FACTORY MADE AIR DUCTS AND AIR CONNECTORS. MEASURED IN ACCORDANCE TO ASTM C 518 OR ASTM C 177 AT 75DEG F MEAN TEMPERATURE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
5. LOW PRESSURE DUCT SYSTEMS SHALL HAVE LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS OF SUPPLY AND RETURN DUCTS AND PLENUMS SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC–PLUS EMBEDDED–FABRIC SYSTEMS OR APPROVED TAPES INSTALLED IN ACCORDANCE WITH OMSC SECTION 603.9.
6. WHEN ISOLATION SLEEVES ARE USED AT LINE CONNECTIONS TO PLENUMS, THEN THEY SHALL COMPLY WITH OMSC CHAPTER 6.
7. IF DIFFUSERS HAVE NO MANUAL DAMPERS, USE FLOW CONTROLS AT WYES. TYPICAL AS NOTED ON PLAN.
8. MINIMUM OUTSIDE AIR VENTILATION PER OMSC TABLE 403.3.1.1.
9. OUTSIDE AIR DAMPERS SHALL COMPLY WITH OEESC SECTION 6.4.3.4.
10. ALL NEW SYSTEMS WITH A COOLING CAPACITY EQUAL TO OR GREATER THAN 54,000 BTU/H, REQUIRE ECONOMIZERS IN ACCORDANCE WITH 2021 OEESC SECTION 6.5.1.
11. MECHANICAL DRAWINGS SHOW DUCTWORK SIZES TO BE CLEAR INSIDE DIMENSION.
12. DUCT INSULATION SHALL COMPLY WITH OMSC SECTION 604.
13. ELECTRICIAN MUST VERIFY ALL ELECTRICAL REQUIREMENTS AND LOCATIONS.
14. THERMOSTAT SCHEDULING TO BE PERFORMED ON SITE BY OTHERS.
15. ALL HVAC EQUIPMENT LEAVES FACTORY WIRED FOR 240 VOLT OPERATION. THE ACCEPTABLE OPERATING RANGE FOR THE 240V & 208V TAPS ARE:

TAP	RANGE
240	253 –216
208	220–187

16. SITE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THE RIGHT TAP IS CONNECTED FOR THE APPLIED SITE VOLTAGE.
17. AIR FILTERS IN HVAC UNITS OR SYSTEMS ARE TO BE CHANGED EVERY 30 DAYS BY OTHERS ON SITE.
18. REGISTER AIR FLOW TEST AND SYSTEM BALANCING OF HVAC SYSTEM, WHEN REQUIRED, WILL BE PROVIDED AND PERFORMED BY OTHERS ON SITE. [OMSC SECTION 403.3.1.5] [SYSTEM BALANCING OEESC 6.7.3.3]

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
⊠	2'x2' SUPPLY AIR DIFFUSER
≋	FLEX DUCT
—X—	SUPPLY DUCT WITH DIAMETER INDICATOR
—┬—	DAMPER IN SUPPLY DUCT AT WYE
X–X–X	SUPPLY WYE w/DUCT CONNECTION SIZES INDICATED
(T)	THERMOSTAT
(CO2)	CO2 SENSOR

DATE	REVISION	BY
3-15-2022	PRELIMINARY REVIEW - BM	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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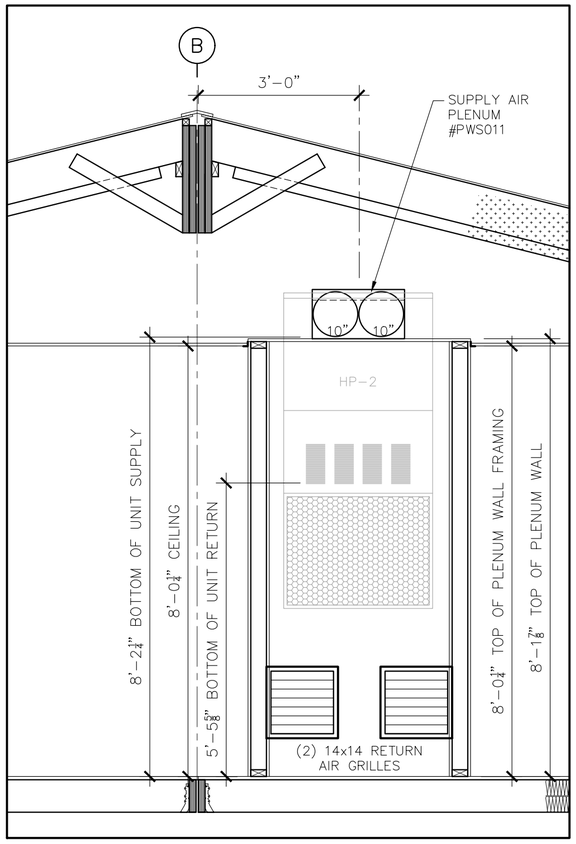
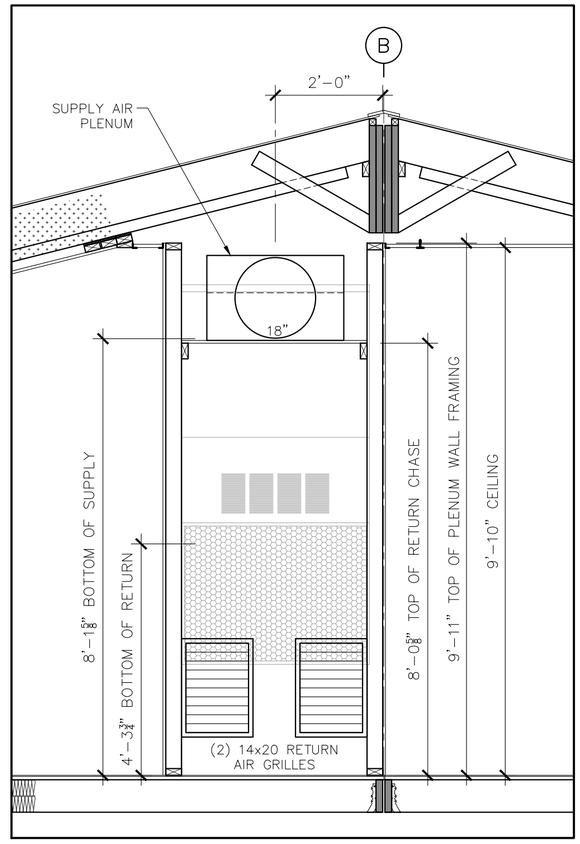
Job No: 20143

M-1



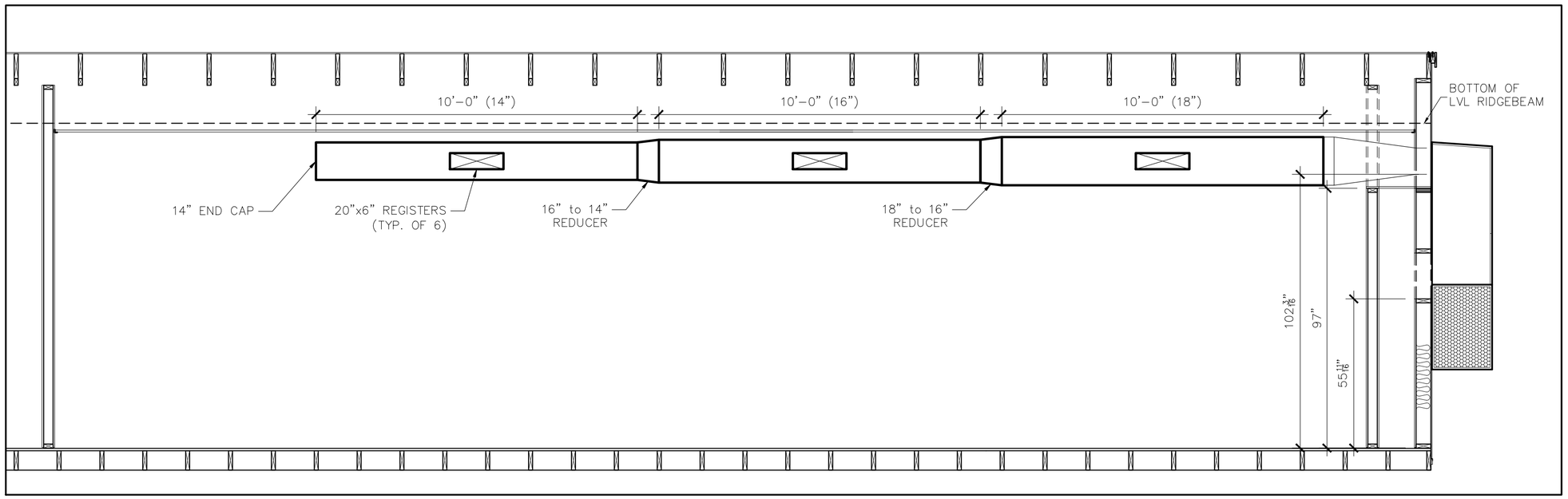
SECTION A-A AT PLENUM

SCALE: ½" = 1'-0"



SECTION B-B AT PLENUM

SCALE: ½" = 1'-0"



SECTION C-C AT PLENUM

SCALE: ½" = 1'-0"

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M-2

PACKAGE *SPVU* HIGH EFFICIENCY WALL MOUNT HEAT PUMP – SCHEDULE

UNIT TAG	BARD UNIT MODEL NUMBER	UNIT SIZE	UNIT QTY	BLOWER MOTOR TYPE	AIRFLOW CFM	DD BLOWER SPEED SETTING	BLOWER HP	FAN EFFICIENCY GRADE (FEG)	VENTIL. DEVICE	VENTIL. (FA) CFM	FILTER TYPE	EER	OUTDOOR (DB) TEMP	ENTERING (DB) TEMP	ENTERING (WB) TEMP	COOLING CAPACITY BTUH	SENSIBLE COOLING CAPACITY BTUH	HEATING CAPACITY 47degs BTUH	HEATING COP 47degs	HERTZ	UNIT VOLTS	UNIT PHASE	HEAT STRIPS KW	HEAT STRIPS OUTPUT BTUH	SINGLE POINT CONNECTION		UNIT WGT	ADDITIONAL NOTES
																									MCA AMPS	MOCP AMPS		
HP–1	W24HB–A08ZP4XXR	2.0	1	ECM	800	LOW	1/3	----	ECON	----	MERV–8	11.30	95	80	67	23,500	17,900	22,400	3.3	60	240	1	08	27,304	62	70	335	1,2,3,4,5,6,7,8,9,10,
HP–2	W48HC–A15ZP4XXR	4.0	1	ECM	1686	MED	3/4	----	ECON	----	MERV–8	11	95	80	67	48,330	37,679	41,378	3.3	60	240	1	15	51,195	87	90	505	1,2,3,4,5,6,7,8,9,10,

ADDITIONAL NOTES:

1 – CAPACITY LISTED ABOVE ARE IN ACCORDANCE WITH ANS/ARI STANDARD 390–2003 FOR SPVU (SINGLE PACKAGE VERTICAL UNITS)
2 – COMPLIES WITH EFFICIENCY REQUIREMENTS OF ANSI/ASHRAE/IESNA 90.1–2016
3 – BARD THERMOSTAT (8403–060), 7–DAY PROGRAMMABLE
4 – BARD INDOOR REMOTE SENSOR. (8403–062)
5 – BARD CO2 SENSOR, (S8403–069)
6 – HEAT STRIPS KIT WITH CIRCUIT BREAKER
7 – ECONOMIZER, FULL FLOW, WITH JADE CONTROLLER, ENTHALPY/TEMP SENSOR
8 – 2" PLEATED FILTER, MERV–8
9 – UNIT COLOR IS *BUCKEYE GRAY*
10 – OUTDOOR THERMOSTAT SET AT 40DEG'S OR LOWER & LAC CONTROL (R) OPT.
11 – SMOKE DETECTOR, SM501N (SUPPLY) DUCT MOUNTED
12 – (BSDTIMER) KIT – PROVIDES A MEANS ON SHUTTING DOWN OF THE MECHANICAL COOLING AND HEATING SYSTEM, VENTILATION CONTINUES TO OPERATE, VIA EXTERIOR DOOR SWITCH (OPTIONAL)

** M.C. TO REFER TO INSTALLATION INSTRUCTIONS FOR START UP AND EQUIPMENT SET
** M.C. TO CHECK SITE VOLTAGE AND SET CORRECT TAP ON TRANSFORMER
** M.C. TO SET AND PROGRAM THERMOSTAT PER CUSTOMERS REQUIREMENTS
** M.C. TO SET AND CHECK ECONOMIZER AND VENTILATION PRE PROJECT REQUIREMENTS

Sequence of operation:

1– Upon a Cooling call from the room thermostat the unit will be in economizer or mechanical cooling mode or both depending on the economizer jade controller setpoints.
2– Upon a heating call from the room thermostat the unit will be in mechanical heating and the economizer will be disable, 2nd stage heat strips will come on if the room temperature drops below its setpoint and during defrost.
3– CO2 Sensor to control the ventilation mode through the Occupy connection as required by its set points
4– These modes with keep repeating and required by the thermostat.
5– If this unit is equipped with a exterior door shut down kit the unit mechanical system will be shut down after the exterior has been open for 5+ minutes. The ventilation portion will keep operating. Once the door closes the unit will restart if there is still a call from the thermostat.

MINIMUM VENTILATION RATES PER WA-2018 IMC WAC & OR-2019 OMSC TABLE 403.3.1.1

room #	name	Az (sf)	sf/1000	Occ. Dens	Pz (calc)	Pz (used)	Rp (cfm/person)	Ra (cfm/sf)	Vbz (cfm)	Ez (effect)	Voz (cfm)
	Music Room	1122	1.122	35	40	40	10	0.12	535	1.0	535
	Classroom A	535	0.535	35	19	19	10	0.12	254	1.0	254
					0	0			0	1.0	0
											789 cfm

Az = room area (sf)
Occ. Dens = occupant density (from Table 403.3)
Pz (calc) = zone population or occupant quantity (calculated)
Pz (used) = zone population or occupant quantity (user can override the calculation-increase only)
Rp = people outdoor airflow rate in breathing zone (cfm/person)
Ra = area outdoor airflow rate in breathing zone (cfm/sf)
Vbz = Breathing zone outdoor air flow rate per eq. 4-1 (Rp*Pz+Ra*Az)
Ez = zone air distribution effectiveness (from Table 403.3.1.1.1.2)
Voz = zone outdoor airflow per equation 4-2 (Vbz/Ez)

DATE	REVISION	BY
3-8-2022	PRELIMINARY REVIEW - BM	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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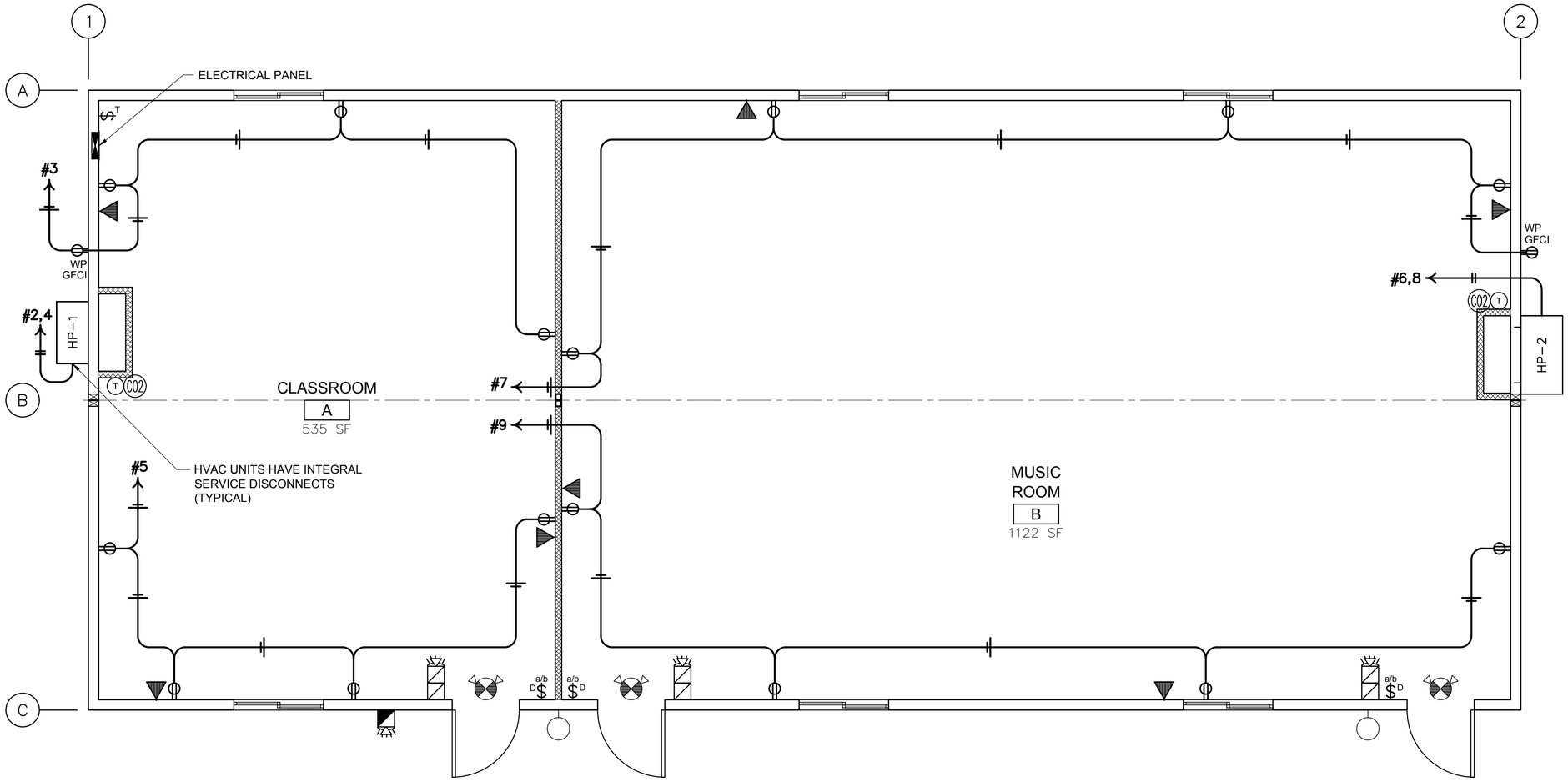
Issue Date: 3-29-2022

Job No: 20143
M-3



ELECTRICAL POWER PLAN

ars 3/18/2022

0 2' 4' 8'

12" SCALE: 1/4" = 1'-0"

	QTY.	SIZE	DESCRIPTION
ELECTRICAL PANEL	1	200 AMP	SINGLE PHASE – STUB THRU – 120/240 VOLT
RACEWAY MATERIAL			METALLIC RACEWAY SYSTEM – EMT, MC CABLE AND/OR FLEX CONDUIT
HVAC	1	2 TON	BARD 8 kW WALL HUNG HEAT PUMP w/ECONOMIZER – 11 EER
	1	4 TON	BARD 15 kW WALL HUNG HEAT PUMP w/ECONOMIZER – 11 EER
HVAC CONTROLS	2		THERMOSTAT – BARD #8403-060
LIGHTING	10	2 x 4	LED VOLUMETRIC TROFFER–nLIGHT AIR ENABLED–6000 LUMEN–48 WATTS–4000K –LITHONIA–2BLT4 60L ADPT EZ1 LP840 NLTAIR2 RES7 PWS1836
	8	1 x 4	BLWP SURFACE MOUNTED LED–nLIGHT AIR ENABLED–6000 LUMEN–49 WATTS –4000K LITHONIA–BLWP4 60L ADPT EZ1 LP840 NLTAIR2 RES7
	2		14 WATT VANDAL RESISTANT LED PORCH LIGHT w/PHOTOCELL LITHONIA OVWPLED40K120PEDDBHP17M4

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	AFF TO TOP	REMARKS	SYMBOL	DESCRIPTION	AFF TO TOP	REMARKS
	ELECTRICAL PANEL	72"		CO2	CO2 SENSOR	48"	4" SQUARE BOX w/ SINGLE GANG MR 18AWG STAT WIRE
	DUPLEX RECEPTACLE	20"	180 VA EACH		nLIGHT ENABLED LED TROFFER w/ INTEGRAL SENSORS	T-BAR CEILING	48 VA EACH 6000 LUMEN EACH
WP GFCI	WEATHER RESISTANT GFCI RECEPTACLE	20"	180 VA EACH		BLWP nLIGHT ENABLED 1x4 LED SURFACE MOUNTED w/INTEGRAL SENSOR	HARD-LID CEILING	49 VA EACH 6000 LUMEN EACH
D XX	nLIGHT DIMMING CONTROL	48"	2 ZONE DIMMING CONTROL. LOWER CASE LETTERS DESIGNATE ZONING		LED WALL PACK	84"	14 VA EACH
	PHONE/DATA ROUGH IN 4" SQ BOX w/ SINGLE GANG MR	20"	3/4" FLEX STUBBED UP AND DOWN		EXIT / EMERGENCY COMBO RED LETTERS	ABOVE DOOR	90 MINUTE BATTERY BACK UP
HP-1	WALL HUNG HVAC UNIT 1	AS REQUIRED	SEE MECH SCHEDULE AND CALCS		PULL STATION	48"	¾" RACEWAY ONLY STUB UP AND DOWN. PAINT RACEWAY AND BACK BOX SUBSTANTIALLY RED IN COLOR
HP-2	WALL HUNG HVAC UNIT 2	AS REQUIRED	SEE MECH SCHEDULE AND CALCS		FIRE ALARM HORN/STROBE	84"	
T	HVAC THERMOSTAT	48"	4" SQUARE BOX w/ SINGLE GANG MR 18AWG STAT WIRE		EXT FIRE ALARM HORN/STROBE	84"	

OREGON STATE
GENERAL SUPERVISING ELECTRICIAN

SMITH, AARON R

LICENSE NO: 5726S
ISSUE DATE: 09/10/2019
EXPIRE DATE: 10/01/2022

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OREGON CCB #0050106
ELECTRICAL LICENSE #24-197C

SIGNATURE.

DATE	REVISION	BY
3-15-2022	PRELIMINARY REVIEW - BM	TAS
3-18-22	ELECTRICAL ENGINEERING	ARS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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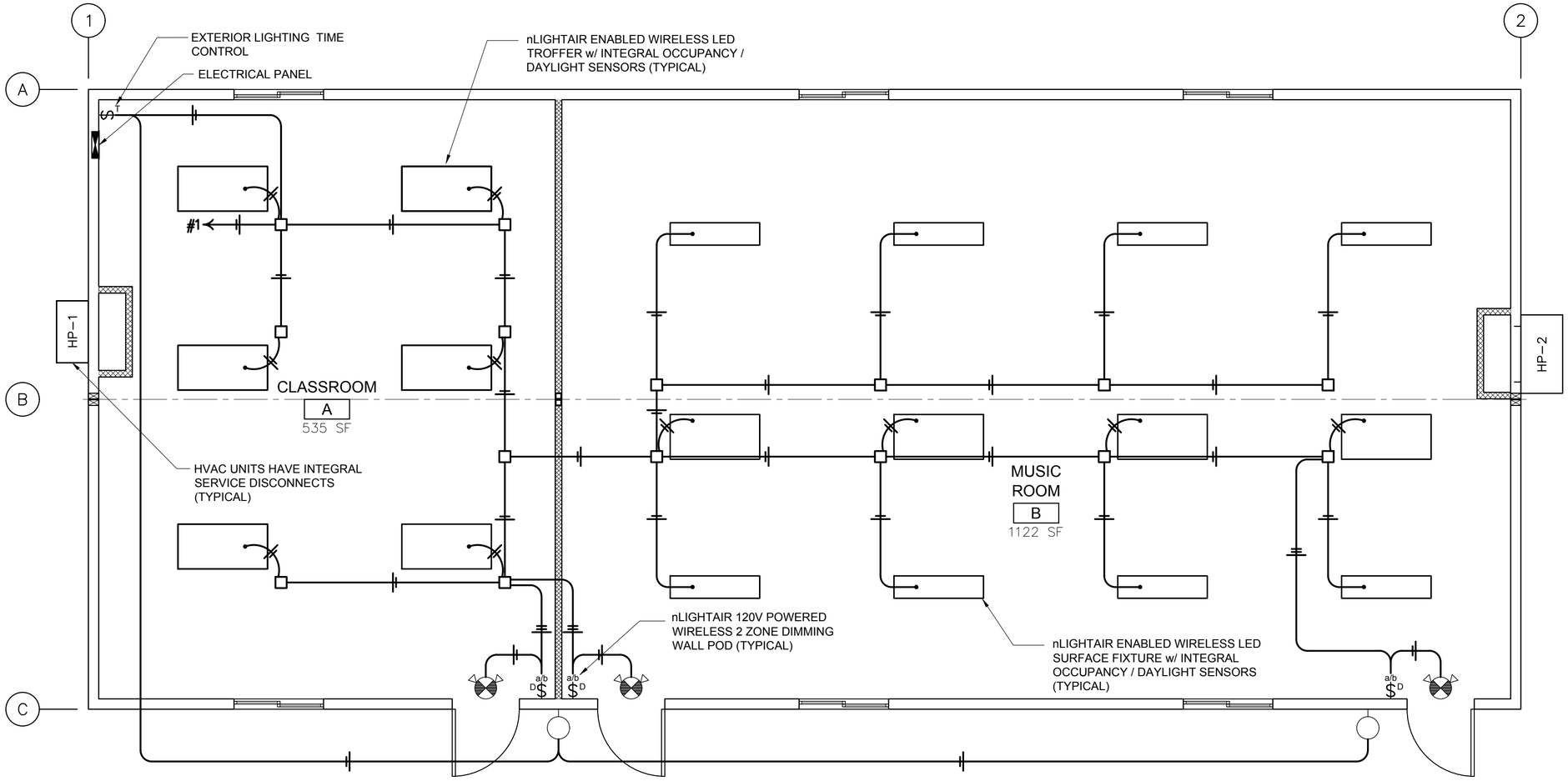
E-1



ELECTRICAL LIGHTING PLAN

ars 3/18/2022

0 2' 4' 8'

12" SCALE: 1/4" = 1'-0"

OREGON STATE
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SMITH, AARON R

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SIGNATURE.

	QTY.	SIZE	DESCRIPTION
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RACEWAY MATERIAL			METALLIC RACEWAY SYSTEM – EMT, MC CABLE AND/OR FLEX CONDUIT
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	1	4 TON	BARD 15 kW WALL HUNG HEAT PUMP w/ECONOMIZER – 11 EER
HVAC CONTROLS	2		THERMOSTAT – BARD #8403-060
LIGHTING	10	2 x 4	LED VOLUMETRIC TROFFER–nLIGHT AIR ENABLED–6000 LUMEN–48 WATTS–4000K –LITHONIA–2BLT4 60L ADPT EZ1 LP840 NLTAIR2 RES7 PWS1836
	8	1 x 4	BLWP SURFACE MOUNTED LED–nLIGHT AIR ENABLED–6000 LUMEN–49 WATTS –4000K LITHONIA–BLWP4 60L ADPT EZ1 LP840 NLTAIR2 RES7
	2		14 WATT VANDAL RESISTANT LED PORCH LIGHT w/PHOTOCELL LITHONIA OVWPLED40K120PEDDBHP17M4

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	AFF TO TOP	REMARKS	SYMBOL	DESCRIPTION	AFF TO TOP	REMARKS
	ELECTRICAL PANEL	72"		CO2	CO2 SENSOR	48"	4" SQUARE BOX w/ SINGLE GANG MR 18AWG STAT WIRE
	DUPLEX RECEPTACLE	20"	180 VA EACH		nLIGHT ENABLED LED TROFFER w/ INTEGRAL SENSORS	T-BAR CEILING	48 VA EACH 6000 LUMEN EACH
WP GFCI	WEATHER RESISTANT GFCI RECEPTACLE	20"	180 VA EACH		BLWP nLIGHT ENABLED 1x4 LED SURFACE MOUNTED w/INTEGRAL SENSOR	HARD-LID CEILING	49 VA EACH 6000 LUMEN EACH
D XX	nLIGHT DIMMING CONTROL	48"	2 ZONE DIMMING CONTROL. LOWER CASE LETTERS DESIGNATE ZONING		LED WALL PACK	84"	14 VA EACH
	PHONE/DATA ROUGH IN 4" SQ BOX w/ SINGLE GANG MR	20"	3/4" FLEX STUBBED UP AND DOWN		EXIT / EMERGENCY COMBO RED LETTERS	ABOVE DOOR	90 MINUTE BATTERY BACK UP
HP-1	WALL HUNG HVAC UNIT 1	AS REQUIRED	SEE MECH SCHEDULE AND CALCS		PULL STATION	48"	¾" RACEWAY ONLY STUB UP AND DOWN. PAINT RACEWAY AND BACK BOX SUBSTANTIALLY RED IN COLOR
HP-2	WALL HUNG HVAC UNIT 2	AS REQUIRED	SEE MECH SCHEDULE AND CALCS		FIRE ALARM HORN/STROBE	84"	
T	HVAC THERMOSTAT	48"	4" SQUARE BOX w/ SINGLE GANG MR 18AWG STAT WIRE		EXT FIRE ALARM HORN/STROBE	84"	

DATE	REVISION	BY
3-15-2022	PRELIMINARY REVIEW - BM	TAS
3-18-22	ELECTRICAL ENGINEERING	ARS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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CLASSROOM for:
VERITAS SCHOOL
Pacific Mobile
Newberg, Oregon

Approved for Const:
File Copy:
Drawn By: TAS
Issue Date: 3-29-2022

Job No: 20143

E-2

PANEL SCHEDULE

PANEL DESIGNATION	PANEL A	VOLTS 120/240	AIC RATING: 22,000
MOUNTING	FLUSH	PHASE 1	BUSS RATING: 200 AMP
ENCLOSURE TYPE	NEMA 1		MCB RATING: 200 AMP

CKT	CIRCUIT DESCRIPTION	TRIP	WIRE SIZE	CONNECTED LOAD (VA) A		CONNECTED LOAD (VA) B		WIRE SIZE	TRIP	DESCRIPTION	CKT
1	***LIGHTING***	**20**	**12**	**900**	**5212**			**4**	**70**	***HVAC #1***	2
3	***RECEPTACLES***	**20**	**12**			**720**	**5212**	**/**	**/**	**/**	4
5	***RECEPTACLES***	**20**	**12**	**720**	**7872**			**3**	**90**	***HVAC #2***	6
7	***RECEPTACLES***	**20**	**12**			**900**	**7872**	**/**	**/**	**/**	8
9	***RECEPTACLES***	**20**	**12**	**720**						*SPACE*	10
11	*SPACE*									*SPACE*	12
13	*SPACE*									*SPACE*	14
15	*SPACE*									*SPACE*	16
17	*SPACE*									*SPACE*	18
19	*SPACE*									*SPACE*	20
CONNECTED LOAD		**TOTAL LOAD:**		**15424.0**		**14704.0**					
		TOTAL AMPS:		**128.5**		**122.5**					

ELECTRICAL PLAN REVIEW LOAD CALCULATION — CALC BY: AARON SMITH

PROJECT INFO: 20143 VERITAS SCHOOL — DATE: 3/18/2022

PANEL: PANEL A — VOLTAGE: **120/240** — PHASE: **1** — AMPACITY: **200**

FED FROM: EXISTING SERVICE — AIC RATING: **22,000**

DESCRIPTION	VA LOAD	DEMAND FACTOR	PHASE A	PHASE B		NEUTRAL A	NEUTRAL B		NOTES
LIGHTING									
EXTERIOR LIGHTING	28	1.25	**35**			***35***			
INTERIOR LIGHTING	872	1.25	**1090**			***1090***			
RECEPTACLES									
TOTAL	3060	1.00	**1440**	**1620**		***1440***	***1620***		
HVAC (MOTORS)									
TOTAL	3168	1.00	**1584**	**1584**					**1**
LARGEST	3840	0.25	**480**	**480**					**3**
HEATING	23000	1.00	**11500**	**11500**					**2**
TOTALS			PHASE A	PHASE B		NEUTRAL A	NEUTRAL B		
		VA	**16129.0**	**15184.0**		***2565.0***	***1620.0***		
		AMPS	**134.4**	**126.5**		***21.4***	***13.5***		

LARGEST POWER PHASE **16129.0 VA** **134.4 AMPS** — **LARGEST NEUTRAL PHASE** ***2565.0*** **VA** ***21.4*** **AMPS**

NOTES:

1. HVAC #2 THE MAX THAT CAN OPERATE WITH THE HEAT PUMP IS 10KW. 15 KW CAN OPERATE IN EMERGENCY HEAT CALC INCLUDES HVAC #1 COMP, OUTDOOR FAN, BLOWER / HVAC #2 BLOWER.

2. CALC INLCLUDES HVAC #1 HEAT STRIPS 8KW / HVAC #2 HEAT STRIPS 15KW

3. HVAC #2 COMPRESSOR IS USED AS THE LARGEST MOTOR FOR CALCULATION

OREGON - SPACE BY SPACE LIGHTING POWER DENSITY PER 2021 OEESC

SPACE DESIGNATION	SQ. FT.	SPACE TYPE	WATTS SQ. FT. ALLOWANCE	TOTAL ALLOWED
CLASSROOM A	535	CLASSROOM	0.71	379.85
MUSIC ROOM	1122	CLASSROOM	0.71	796.62
TOTAL SQ. FT.	1657		TOTAL ALLOWED	1176.5
			TOTAL INSTALLED	872.0
			PASS OR FAIL	PASS

TOTAL ALLOWED = SQ. FT. x ALLOWED WATTS PER SQ. FT. - TABLE 9.6.1

BASED ON 2019 ASHRAE 90.1

BARD 2 TON - 8KW - 11EER WH UNIT

HVAC (MOTOR, COMPRESSOR, HEATER SIZES)		
OPERATION VOLTAGE	197 MIN.	253 MAX.
COMPRESSOR	8.3 RLA	58 LRA
OUTDOOR FAN	1.1 FLA	1/6 HP
INDOOR BLOWER FAN	.7 FLA	1/3 HP
HEAT STRIP	8 KVA	240 VOLT
MINIMUM CIRCUIT AMPS		**62 AMPS**
MAXIMUM OVERCURRENT PROTECTION		**70 AMPS**

OVERCURRENT PROTECTION SHALL BE DUAL ELEMENT TIME DELAY FUSE OR HACR CIRCUIT BREAKER

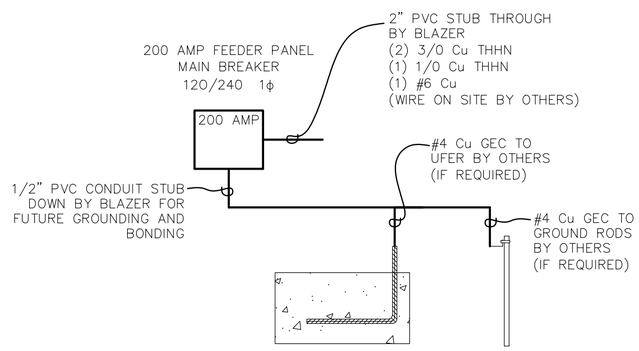
INTERNAL SERVICE DISCONNECTS PROVIDED.

BARD 4 TON - 15KW - 11EER WH UNIT

HVAC (MOTOR, COMPRESSOR, HEATER SIZES)		
OPERATION VOLTAGE	197 MIN.	253 MAX.
COMPRESSOR	16 RLA	117 LRA
OUTDOOR FAN	1.6 FLA	1/3 HP
INDOOR BLOWER FAN	3.1 FLA	3/4 HP
HEAT STRIP	15 KVA	240 VOLT
MINIMUM CIRCUIT AMPS		**87 AMPS**
MAXIMUM OVERCURRENT PROTECTION		**90 AMPS**

OVERCURRENT PROTECTION SHALL BE DUAL ELEMENT TIME DELAY FUSE OR HACR CIRCUIT BREAKER

INTERNAL SERVICE DISCONNECTS PROVIDED.



FORM A COMPLETE GROUNDING ELECTRODE SYSTEM PER 2020 NEC 250.53. PROVIDED AND INSTALLED ON SITE BY OTHERS

GENERAL NOTES:

1. WHEN STRANDED WIRE IS USED, ALL TERMINATIONS ARE MADE BY A PRESSURE TERMINAL, BY TAILING OFF WITH SOLID CONDUCTORS OR OTHER APPROVED MEANS OF TERMINATION.
2. ALL CONDUCTORS ARE COPPER; TYPE THHN / THWN
3. RATING OF STANDARD PANEL IS 22,000 A.I.C.
4. WIRING METHOD IN METALLIC CONDUIT OR M.C. CABLE.
5. HVAC DISCONNECTS SHALL BE LABELED WITH AN IDENTIFICATION PLATE SHOWING CIRCUIT SOURCE PANEL BOARDS, CIRCUIT NUMBER AND EQUIPMENT SERVED.
6. EXTERIOR WEATHER PROOF GFCI SHALL HAVE A "HEAVY DUTY" WEATHER PROOF "IN USE" COVER. 2020 NEC 406.9(B)(1)
7. THIS PLAN IS NOT AN "AS-BUILT" CIRCUITS MAY BE RUN DIFFERENT THAN SHOWN BASED ON OBSTACLES ENCOUNTERED.

2021 OEESC / 2018 IECC / 51-11C WAC 2018 WSEC:

1. A MINIMUM OF 90% OF LIGHTING FIXTURES HAVE EMBEDDED OCCUPANCY AND DAYLIGHT SENSORS FOR INCREASED ENERGY SAVINGS, AND ARE INDIVIDUALLY ADDRESSABLE.
2. A MINIMUM OF 90% OF LIGHTING IS SET FOR CONTINUOUS DIMMING AND IS ADJUSTABLE BY OCCUPANTS, FOR OCCUPANT COMFORT, VIA WALL PODS.
3. 50% OF RECEPTACLES IN CLASSROOMS, PRIVATE OFFICES, OPEN OFFICES, CONFERENCE ROOMS, COPY ROOMS, AND INDIVIDUAL WORKSTATIONS, ARE CONTROLLED BY LOCAL OCCUPANCY SENSORS
4. FUNCTIONAL PERFORMANCE TESTING SHALL BE PERFORMED
5. THE MAXIMUM VOLTAGE DROP ACROSS FEEDERS AND BRANCH CIRCUITS TO BE DETERMINED ON SITE AND SHALL NOT EXCEED 3%

OREGON STATE
GENERAL SUPERVISING ELECTRICIAN

SMITH, AARON R

LICENSE NO: 5726S
ISSUE DATE: 09/10/2019
EXPIRE DATE: 10/01/2022

BLAZER INDUSTRIES, INC.
OREGON CCB #0050106
ELECTRICAL LICENSE #24-197C

SIGNATURE.

DATE	REVISION	BY
3-18-22	ELECTRICAL ENGINEERING	ARS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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CLASSROOM for:
VERITAS SCHOOL
Pacific Mobile — Newberg, Oregon

Approved for Const:
File Copy:
Drawn By: TAS
Issue Date: 3-31-2022

Job No: 20143

E-3

New Modular Classroom for
Veritas School
Newberg, Oregon

Code Compliance

Applicable Codes: OREGON:
2019 Oregon Structural Specialty Code (Based on 2018 IBC)
2019 Oregon Mechanical Specialty Code (Based on 2018 IMC & IFGC)
2021 Oregon Plumbing Specialty Code (Based on 2021 UPC by IAPMO)
2021 Oregon Electrical Specialty Code (Based 2020 NEC)
2021 Oregon Energy Efficiency Specialty Code (Based on ASHRAE 90.1 - 2019)
2009 ICC A117.1 Accessibility Standard

Type of Construction: VB

Description: Classroom

Occupancy: E

Floor Area: 1673 square feet

Gross Wall Area: 1538 square feet

Occupant Load: 83 (Education 1660 Net SF/20 SF/P)

Job Number: 20143

Oregon

Climate Zone: 4c

General Notes

- The Structural Design Details Herein are Specific to the Building Size and Module Configuration Shown on the Floor Plan of These Drawings.
- No Authorization is Given or Implied for use of the Modules in the Initial or Subsequent Installation Which Results in a Building Size or Installed Module Configuration Different Than Shown on These Drawings.
- This Building will be sited a minimum of 10 feet from all Property Lines and 10 feet from any assumed Property Lines between existing structures on this site.
- Site contractor bears responsibility for providing an accessible route to this structure in conformance with applicable building code and accessibility standards.
- Project close out documentation including, but not limited to, applicable calculations, energy compliance reports, fenestration NFRC rating certificates and O & M manuals is required to be delivered to the building owner within 90 days of their receipt of the certificate of occupancy.

Project Information

Site Address: Veritas School
26288 NE Bell Rd.
Newberg, OR 97132

Dealer: Pacific Mobile
13806 45th Ave. NE
Marysville, WA 98271

Builder: Blazer Industries, Inc.
PO Box 489
Aumsville, OR 97325
Contact: Jamie Holmes
Phone: (503) 749-1900
Fax: (503) 749-3969
E-mail: james@blazerind.com

Design Loads

Roof ..... 25 psf (Snow)

Wind ..... 120 mph Exposure "B" (V)

Floor ..... 40 psf or 1000 lb

Seismic ..... Site Class D, S_{DS}=1.200, S_{D1}=0.680

Risk Category II

N.L.E.A.'s

1. On site electrical service grounding, electrode system and bonding.
2. Required arc flash labeling per NEC 110.16.
3. Available fault current field markings per NEC 110.24.
4. Fire alarm plans, hydraulic and seismic calculations and manufacturer's specifications shall be reviewed for code compliance by State BCD. Section 2020 OAR 918-674-0000, 918-674-0015, 918-674-0015(5) and 918-674-0065.
5. Site installed gutters & downspouts or roof drains as applicable.
6. The installation of any interior equipment and/or appliances in this modular unit shall be completed under permit and inspection through the local AHJ.

Index to Drawing

04/12/2022
REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15,1997
ROCK M. SHETLER
EXPIRES: 6/30/2022

DATE	REVISION	BY
3-28-2022	ENGINEERING - RMS	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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Approved for Const:
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Drawn By: TAS
Issue Date: 3-31-2022

Job No: 20143

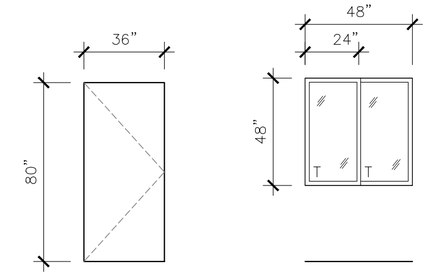
T-1

	STYLE	QTY.	SIZE	DESCRIPTION	LOCK	REMARKS
DOORS (1)	A	2	3^0 6^8	INSULATED GALV. STEEL w/ WELDED STEEL JAMB AND WEATHERSTRIPPING DEFAULT .37 U-FACTOR	PANIC	SS BBR'G NRP HINGES TEXTURED PAINT FINISH CLOSER
(2)	A	1	3^0 6^8	INSULATED GALV. STEEL w/ WELDED STEEL JAMB AND WEATHERSTRIPPING DEFAULT .37 U-FACTOR	KEYED LEVER	SS BBR'G NRP HINGES TEXTURED PAINT FINISH CLOSER

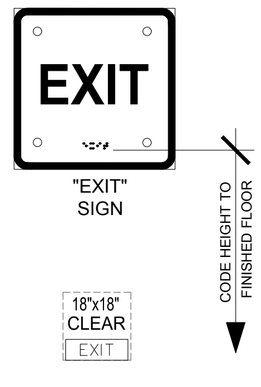
NOTES:
- DOOR HARDWARE: HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FLOOR. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES. [ICC A117.1-2009 SECTION 404.2.6]
- THE VERTICAL FENESTRATION AREA, NOT INCLUDING OPAQUE DOORS, SHALL NOT EXCEED 40% OF THE GROSS ABOVE GRADE WALL AREA. [2021 OEESC SECTION 5.5.4.2.1 AND TABLES 5.5-4 AND 5.5-5]
- FENESTRATION AND DOORS SHALL HAVE AN AIR LEAKAGE RATE COMPLYING WITH OEESC TABLE 5.8.3.2.
- DOOR HARDWARE TO HAVE SATIN CHROME/ALUMINUM TYPE FINISH

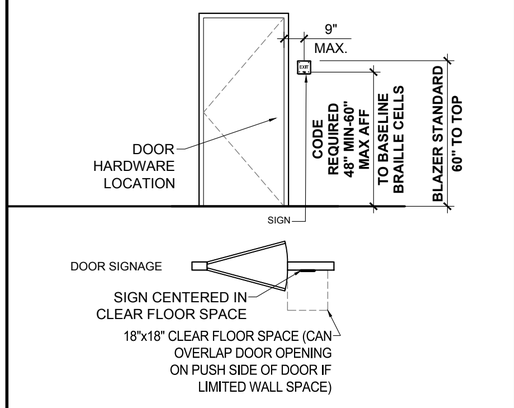
WINDOWS (1)		6	48 x 48	MILGARD- HORIZONTAL SLIDER - DUAL GLAZE - LOW "E" WHITE VINYL FINISH-ARGON-TEMPERED NFRC 0.25 U-FACTOR, SHGC = 0.30, VT=0.56

NOTES:
- GALVANIZED FLASHING INSTALLED UNDER EXTERIOR TRIM ABOVE WINDOWS



NOTE: DOOR SWINGS MAY BE MIRRORED. REFER TO FLOOR PLAN





SIGNS AT DOORS: ICC / ANSI A117.1 - 2009 703

TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1219 mm) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60 INCHES (1524 mm) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS.

DATE	REVISION	BY
3-8-2022	PRELIMINARY REVIEW - BM	TAS

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945 Olney St. www.blazerind.com

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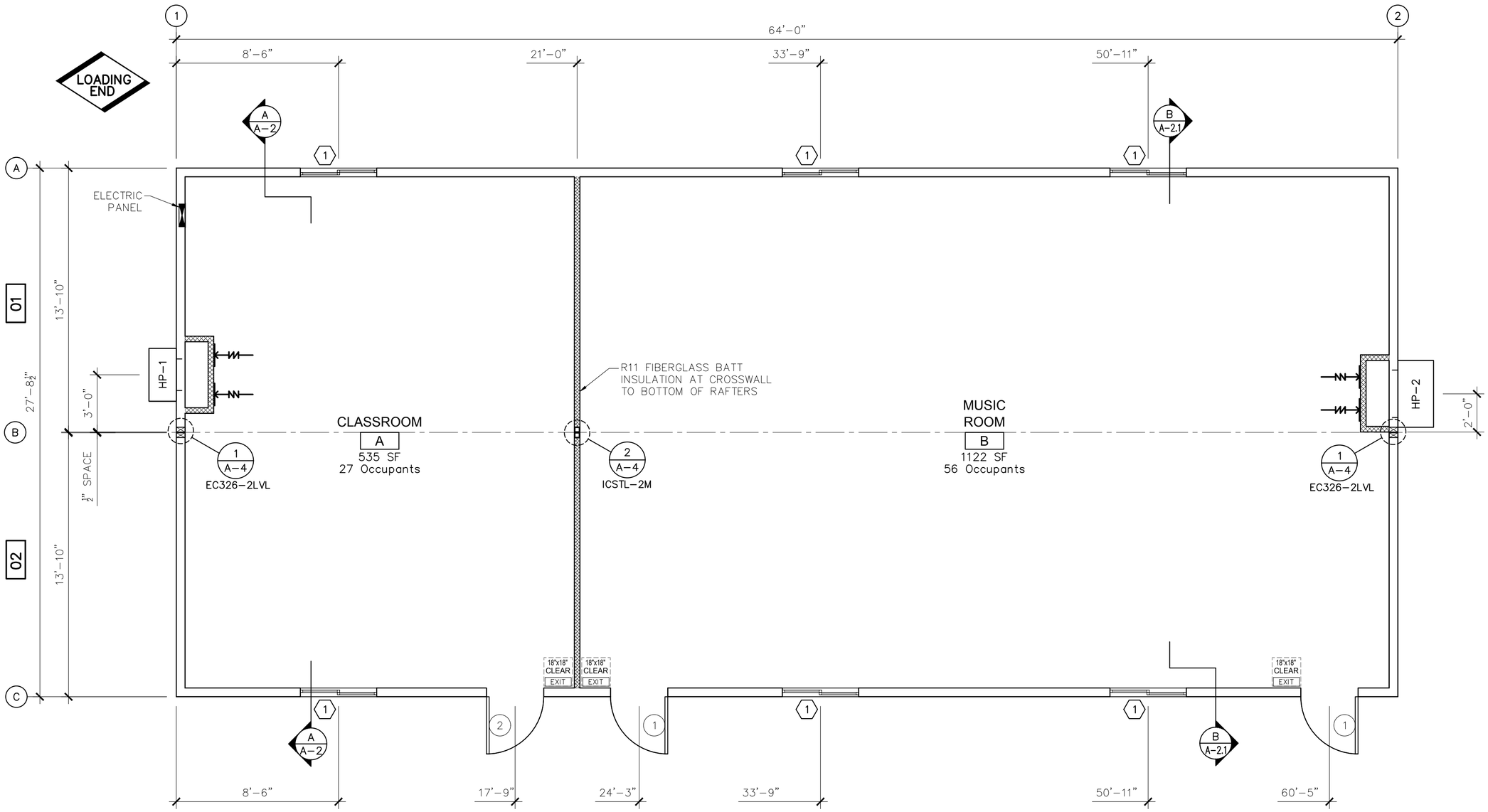
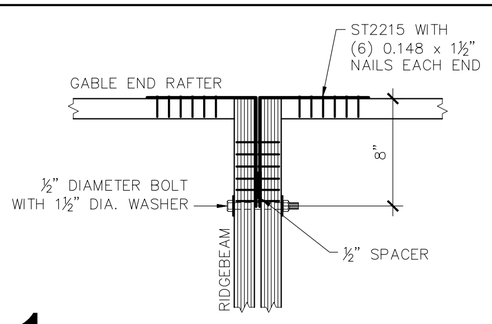
Drawn By:	TAS
Issue Date:	3-8-2022
Job No:	20143

A-0.1



FLOOR PLAN

SCALE: 1/4" = 1'-0"



1 CHORD SPLICE DETAIL

1½" = 1'-0"

NOTES:
- THE TOP PLATES OF THE INTERIOR WALLS CAN SPAN A MAXIMUM OF 10'-0" BEFORE REQUIRING BRACING TO THE ROOF STRUCTURE OR AN INTERSECTING WALL.

04/12/2022

REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15, 1997
ROCK M. SHETLER

EXPIRES: 6/30/2022

DATE	REVISION	BY
3-7-2022	PRELIMINARY REVIEW - BM	TAS
3-28-2022	ENGINEERING - RMS	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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A-1

FASTENING SCHEDULE

WALLS:

PLATE–TO–STUD	0.131 x 3" NAILS (3 PER 2x6, 2 PER 2x4)
SHEETROCK–TO–STUD @ INTERIOR	0.091 x 2¼" SHEETROCK NAILS @ 16"oc EDGE AND CONSTRUCTION ADHESIVE IN FIELD
BOTTOM PLATE–TO–FLOOR	0.131 x 3" NAILS @ 8"oc (SENCO KC27 OR EQUAL)
PANEL SIDING–TO–STUD AT SIDEWALL	0.113x2⅜" NAILS @ 6" EDGE, 12" IN FIELD (EXCEPT USE 4"oc @ TOP & BOTTOM). ALL EDGES SUPPORTED BY FRAMING OR BLOCKING.
PANEL SIDING–TO–STUD AT ENDWALL	SEE ENDWALL FASTENING NOTES ON ELEVATIONS
THREE STUD CORNER CONNECTION	0.131 x 3" NAILS @ 12" (SENCO KC27 OR EQUAL)

AIR BARRIER NOTES:

THESE KEY AREAS SHALL BE SEALED BY CAULKING, GASKETS, TAPE OR WEATHER–STRIPPING:
- –JOINTS AROUND FENESTRATION (WINDOWS AND DOOR FRAMES): USE APPROPRIATELY SIZED BACKER ROD WITH MINIMUM 2" LAP AT ENDS.
- –JUNCTIONS BETWEEN WALLS AT:
  - –BUILDING CORNERS: USE CAULKING
  - –STRUCTURAL FLOORS: USE SILL SEAL OR CAULKING
  - –ROOFS (AT RIM): USE SILL SEAL OR CAULKING
- –PENETRATIONS OF UTILITY SERVICES THRU THE AIR BARRIER @ ROOFS, WALLS, AND FLOORS: USE CAULKING, SPRAY FOAM, OR AIR BARRIER TAPE.
- –BUILDING ASSEMBLIES USED AS DUCTS OR PLENUMS: USE BACKER ROD, CAULK, SPRAY FOAM OR AIR BARRIER TAPE.
- –JOINTS, SEAMS, AND PENETRATIONS OF VAPOR RETARDANTS: USE CAULK OR APPROVED TAPE.
- –RECESSED LIGHTING FIXTURES: USE CAULK OR SPRAY FOAM

FLOOR:

2x8 FLOOR JOIST–TO–RIM	MIN. OF (4) 0.131 x 3" NAILS (SENCO KC27 OR EQUAL)
CLASS "A" BOTTOM BOARD–TO–JOIST	16ga. x ⅜" WIDE CROWN @ 12" MAX. EDGES ONLY
FLOOR DECKING–TO–2x JOIST	0.113" x 2⅜" RING SHANK @ 6" EDGE, 12" IN FIELD (SENCO GE–24). USE CONSTRUCTION ADHESIVE (AFG01) ON JOISTS

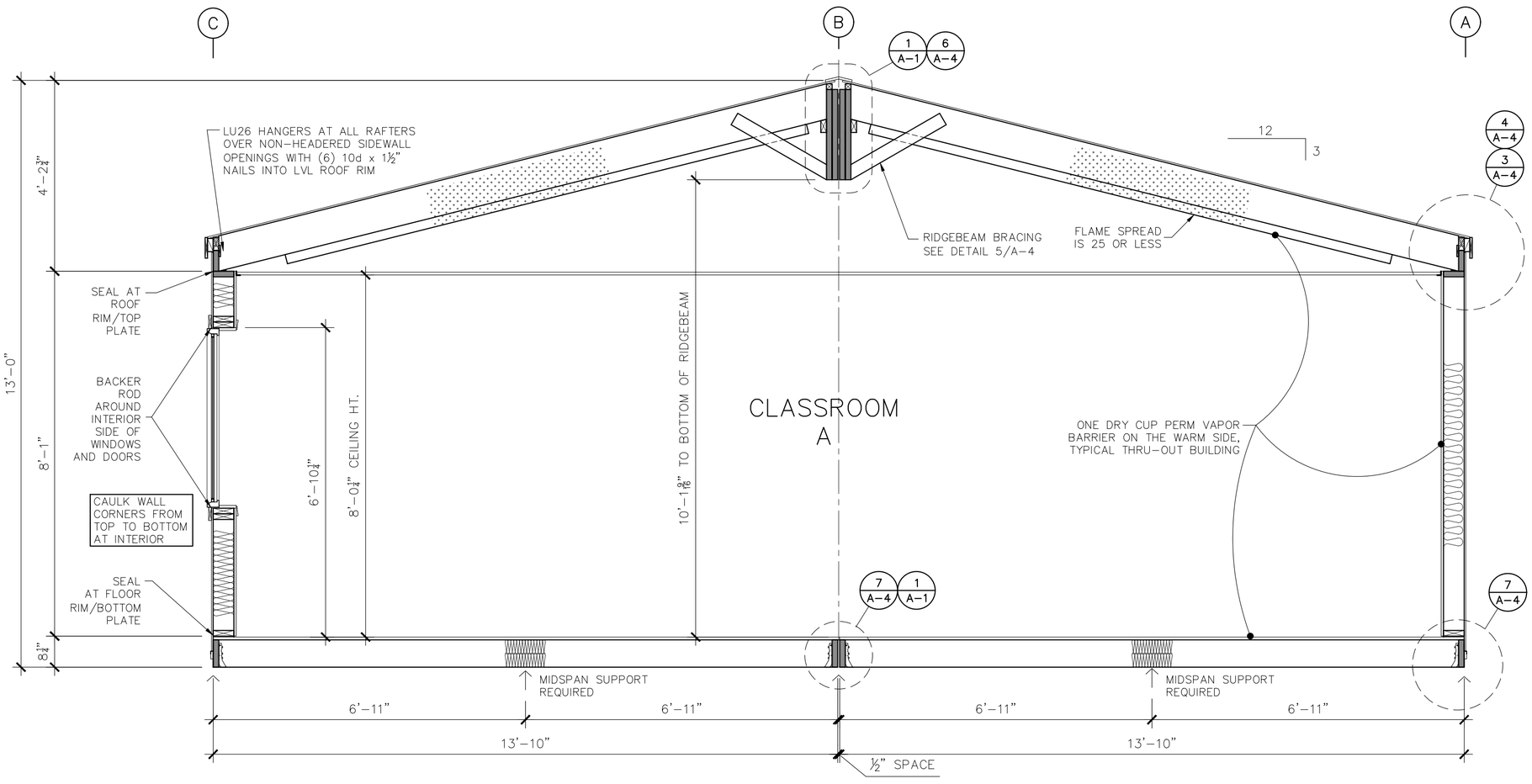
ROOF:

RIM–TO–RAFTERS	MIN. OF (4) 0.131 x 3" NAILS (SENCO KC27 OR EQUAL)
FURRING–TO–RAFTERS	MIN. (4) M20 2 x 3 (MIN.) PLATES EACH SIDE
ROOF RIM–TO–TOP PLATE	0.131 x 3" NAILS @ 8" oc. (SENCO KC27 OR EQUAL)
LEDGER–TO–RIDGEBEAM	0.131 x 3" NAILS @ 3" oc & 3 @ BUTT JOINTS (SENCO KC27 OR EQUAL)
RAFTER–TO–RIDGEBEAM	(4) 0.131 x 3" NAILS (SENCO KC27 OR EQUAL)
SHEATHING–TO–ROOF MEMBERS	16ga. x 1¾" STAPLES @ 6" EDGE, 12" IN FIELD (SENCO N–19) NOTE: SHEATHING TO BE INSTALLED PERPENDICULAR TO RAFTERS. OFFSET SHEATHING 4 ft. BLOCK EDGES OF ANY PIECES LESS THAN 24".

MARRIAGE LINE CONNECTION:

NOTE: ALL MARRIAGE LINES (DEFINED AS THE SPACE BETWEEN ADJOINING MODULES) MUST BE INSULATED AT THE ROOF, FLOOR AND WALLS ON SITE.

RIDGEBEAMS	½" BOLTS w/ 1½" DIA. WASHERS @ 6'– 0" oc AND 8" FROM EACH END (MINIMUM 2" EDGE DISTANCE)
RIM JOISTS	½" BOLTS w/ 1½" DIA. WASHERS @ 4'–0" oc AND 8" FROM EACH END (MINIMUM 2" EDGE DISTANCE)



SECTION - A A

SCALE: 1/2" = 1'-0"

MATERIAL LIST

ROOF:

- ROOFING: ARCHITECTURAL SHINGLES OVER 2 LAYERS NON–PERF. 15# FELT APPLIED SHINGLE STYLE –HIGH WIND APPLICATION–
  - NOTE: "HIGH TEMP" SELF–ADHERED ROOFING UNDERLAYMENT UNDER SHINGLES FOR 2'–0" FROM EACH EAVE TOWARD RIDGE, TYPICAL @ BOTH EAVES
  - –DRIP EDGE SHALL BE PROVIDED AT EAVES AND RAKE EDGES OF SHINGLE ROOFS (IBC 1507.2.9.3).
- SHEATHING: 7/16" APA RATED (24/16)
- FRAMING: 2x10 DF #2 RAFTERS @ 24"oc WITH 2x INSULATION FURRING BELOW
- RIDGEBEAM: DOUBLE 1½" x 24" LVL 2.0E (CONTINUOUS)
- LEDGERS: 2x4 TAPER CUT
- RIMS: 2x6 CONTINUOUS LVL 2.0E w/ 2x4 VENT BLOCKING ABOVE
- INSULATION: R38 CELLULOSE BLOW–IN OVER CLASS 'A' MATERIAL (AIR BARRIER COMPONENT)
  - NOTE: MIN. 1" AIR SPACE REQUIRED AT ROOF SHEATHING. USE BAFFLES IF REQUIRED FOR VENT CLEARANCE.
- CEILING: HARD–LID AND SUSPENDED T–BAR (PER IBC 808.1) SEE PLAN
- VENTING: EAVE AND RIDGE
- DRAINAGE: GUTTERS & DOWNSPOUTS PROVIDED & INSTALLED ONSITE BY OTHERS

WALLS:

- SIDING: 76 SERIES LP SMARTSIDE PANEL WITH GROOVES @ 8"oc, USE 4'x9' SHEETS
  - NOTE: NO HORIZONTAL BREAKS IN SIDING EXCEPT AT ENDWALLS
- MOISTURE PROTECTION: WRAP LOWER 12" OF BUILDING WITH MOISTSTOP – WRAP BUILDING w/BUILDING WRAP
- FASCIA: 1x6
- TRIM: 1x4 AT CORNERS, WINDOWS, DOORS AND MODLINE
  - NOTE: 2"x2" GALV. FLASHING INSTALLED OVER SIDING AND UNDER CORNER TRIM
- FRAMING: EXT: 2x6 DF#3 or BETTER @ 16"oc; INT: 2x4 DF @ 16"oc
- TOP PLATE: 2x CONTINUOUS (DF#2 OR LVL 2.0E)
- BOTTOM PLATE: 2x DF
- INSULATION: EXT: R–21 UNFACED FIBERGLASS BATTS; INT: R–11 INSULATION BATTS @ CROSSWALL
- INTERIOR FINISH: 5/8" VINYLWRAP SHEETROCK
  - NOTE: INSTALL GYPSUM ON GABLE ENDS ABOVE WALL COVER
- SKIRTING: PREP ONLY – SKIRTING PROVIDED AND INSTALLED ONSITE BY OTHERS

FLOOR:

- COVERING: VCT – MUSIC ROOM ONLY; CLASSROOM – ON SITE BY OTHERS
- DECKING: 1st: 23/32" A.P.A. RATED STURD–I–FLOOR (AIR BARRIER COMPONENT); 2nd: ¼" U–PLY X – MUSIC ROOM ONLY
- FRAMING: 2x8 DF#2 JOISTS @ 16"oc
- RIMS: 2x8 LVL 2.0E (CONTINUOUS)
- JOIST HANGERS: ON ALL RIMS
- INSULATION: R–30 (USE TWO LAYERS R15 FIBERGLASS)
- BOTTOM COVER: CLASS "A"

04/12/2022

REGISTERED PROFESSIONAL ENGINEER 19300PE OREGON JULY 15,1997 ROCK M. SHETLER

EXPIRES: 6/30/2022

DATE	REVISION	BY
3-8-2022	PRELIMINARY REVIEW - BM	TAS
3-28-2022	ENGINEERING - RMS	TAS

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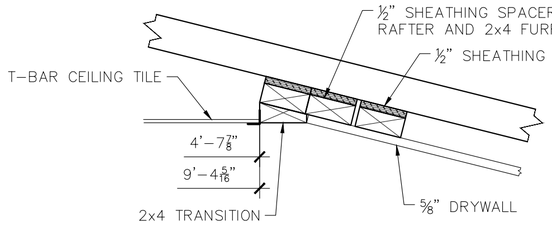
MODULAR
28 x 64
OR GOLD

CLASSROOM for:
VERITAS SCHOOL
Pacific Mobile
Newberg, Oregon

Approved for Const:	
File Copy:	
Drawn By:	TAS
Issue Date:	3-28-2022

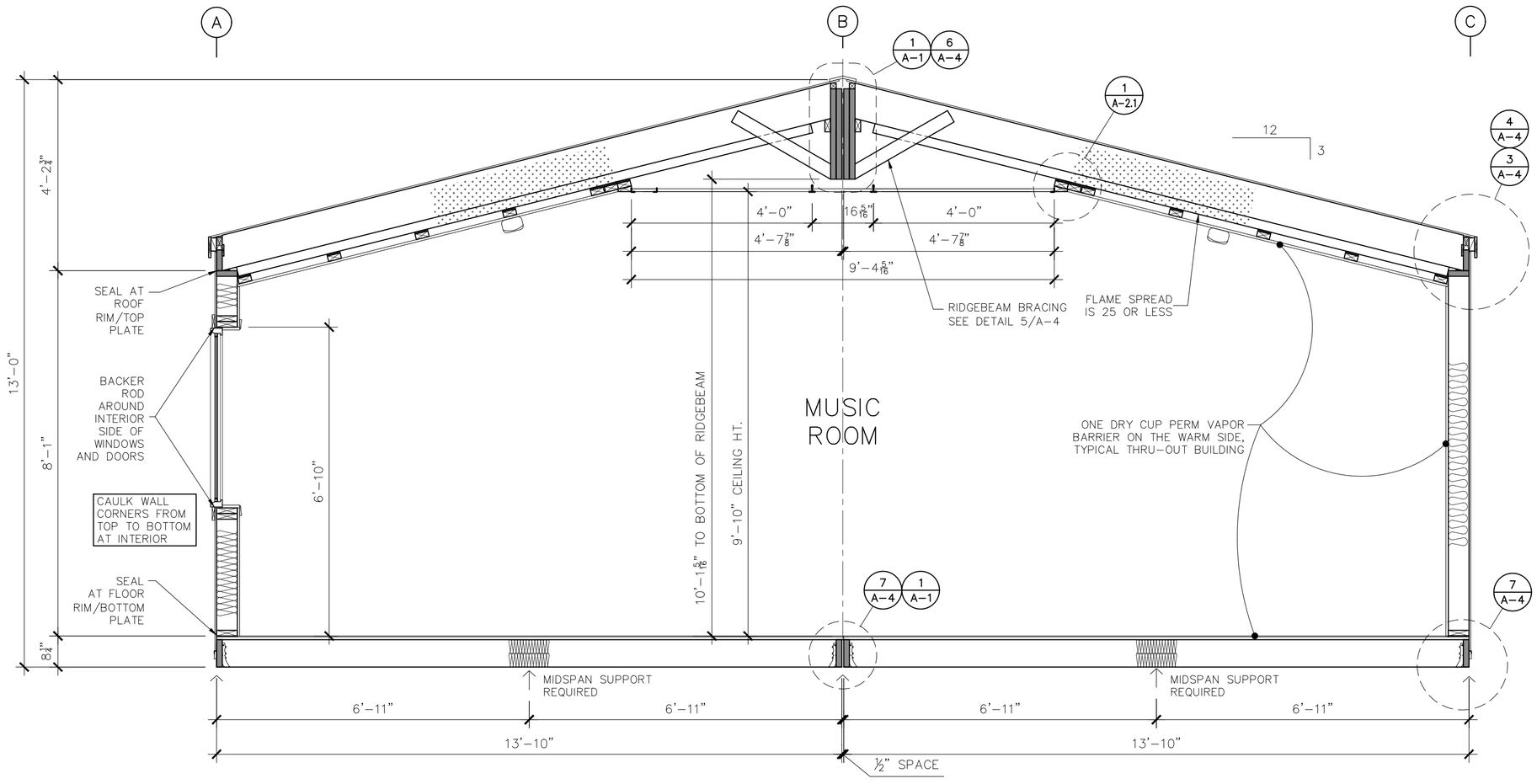
Job No: 20143

A-2



1 CEILING TRANSITION

1½" = 1'-0"



SECTION - B B

SCALE: 1/2" = 1'-0"

04/12/2022

REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15, 1997
ROCK M. SHETLER

EXPIRES: 6/30/2022

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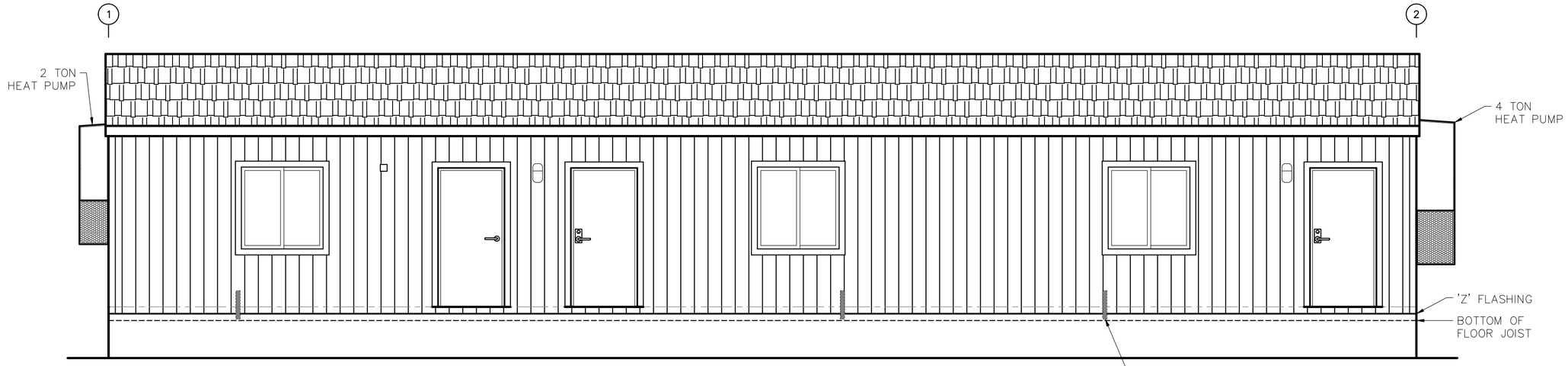
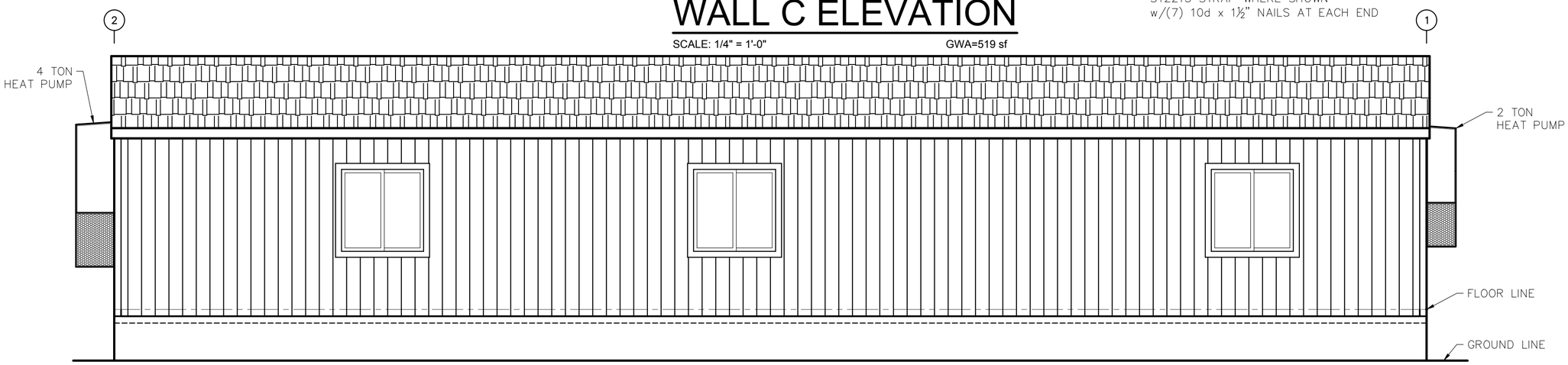
A-2.1



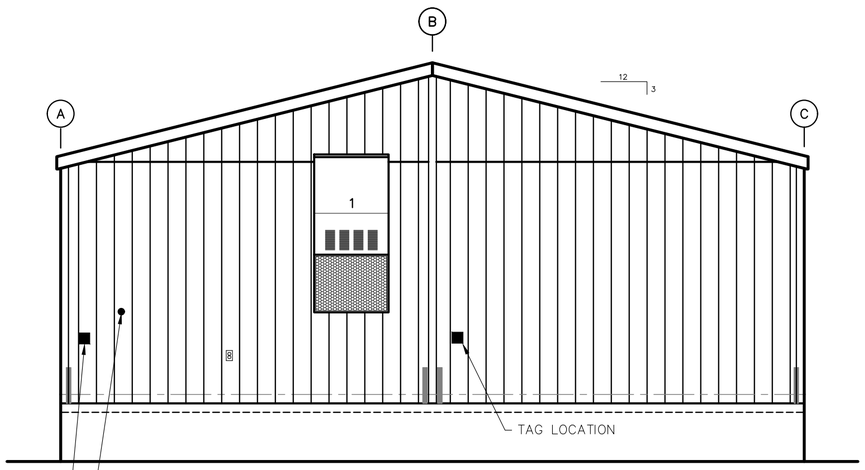
WALL C ELEVATION

SCALE: 1/4" = 1'-0" GWA=519 sf



WALL A ELEVATION

SCALE: 1/4" = 1'-0" GWA=519 sf



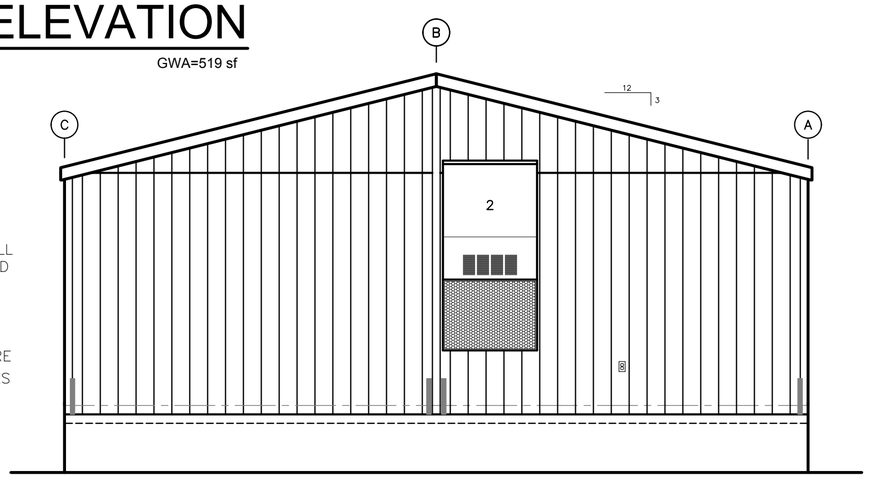
WALL 1 ELEVATION

SCALE: 1/4" = 1'-0" GWA=250 sf

ENDWALL FASTENING:

1. INSTALL PANEL SIDING WITH ALL EDGES SUPPORTED AND FASTENED WITH 0.113 x 2⅜" NAILS @ 6"oc EDGE, 12"oc FIELD, 4"oc TOP & BOTTOM

2. INSTALL ST2215 STRAPS WHERE SHOWN WITH (8) 10d x 1½" NAILS EACH END OF EACH STRAP



WALL 2 ELEVATION

SCALE: 1/4" = 1'-0" GWA=250 sf

04/12/2022

REGISTERED PROFESSIONAL ENGINEER
19300PE
OREGON
JULY 15,1997
ROCK M. SHETLER

EXPIRES: 6/30/2022

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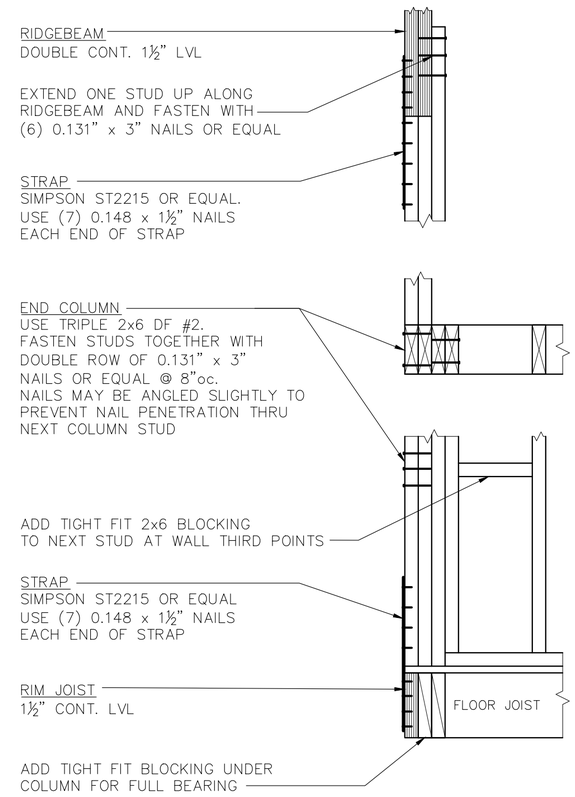
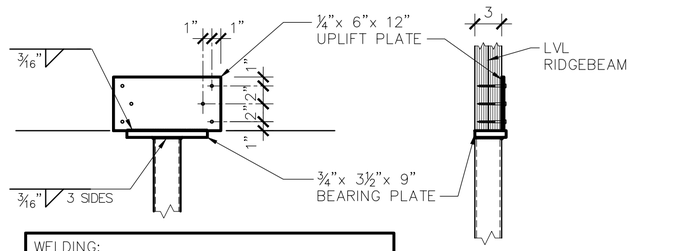
Job No: 20143

A-3



1 EC326-2LVL - END COLUMN DETAIL - DBL LVL

1" = 1'-0"



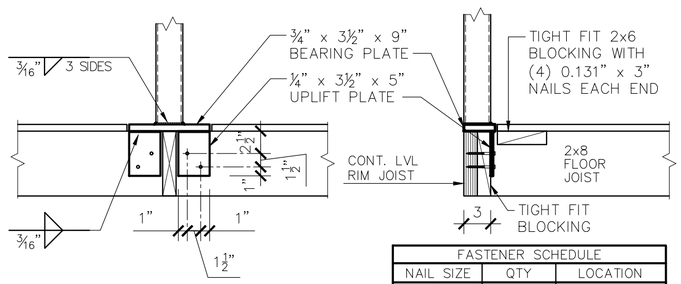
WELDING:
G.M.A.W. – AWS A5.18
F.C.A.W. – AWS A5.20

ALL WELDS TO BE SINGLE PASS FILLET BY CERTIFIED WELDER TO A.W.S. D1.1 CODE.

ASTM A500 GRADE C STEEL TUBE
ASTM A36 STEEL PLATE

(6) SIMPSON SDS1/4x3" SCREWS (TOP)
(4) SIMPSON SDS1/4x2½" SCREWS (BOTTOM)
(DRILL 5/16" HOLES)

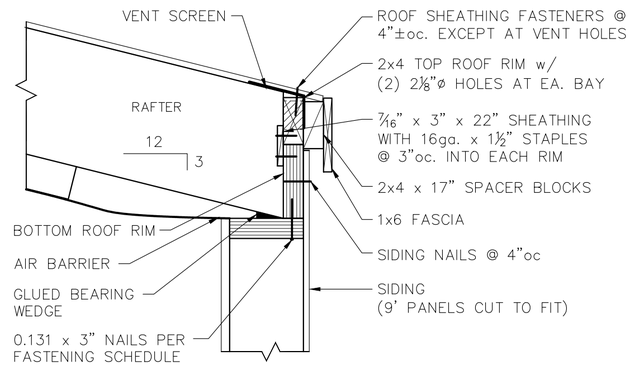
HSS3x3x3/16 COLUMN



FASTENER SCHEDULE		
NAIL SIZE	QTY	LOCATION
0.131" x 3"	5	EACH END
0.131" x 3"	2 ROWS AT 4"oc.	TO RIM

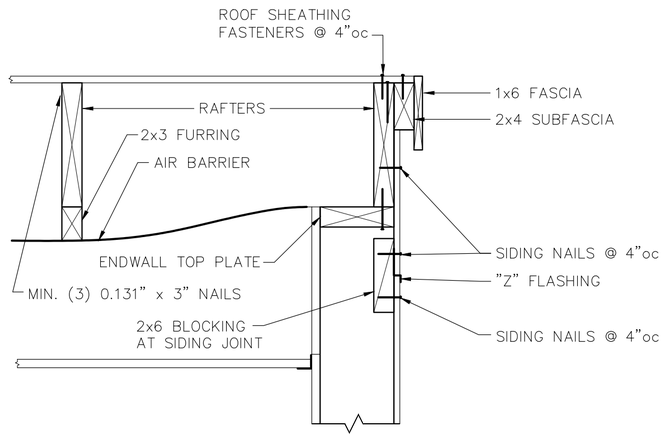
2 ICSTL-2M: INTERIOR COLUMN DETAIL- STEEL

1" = 1'-0"



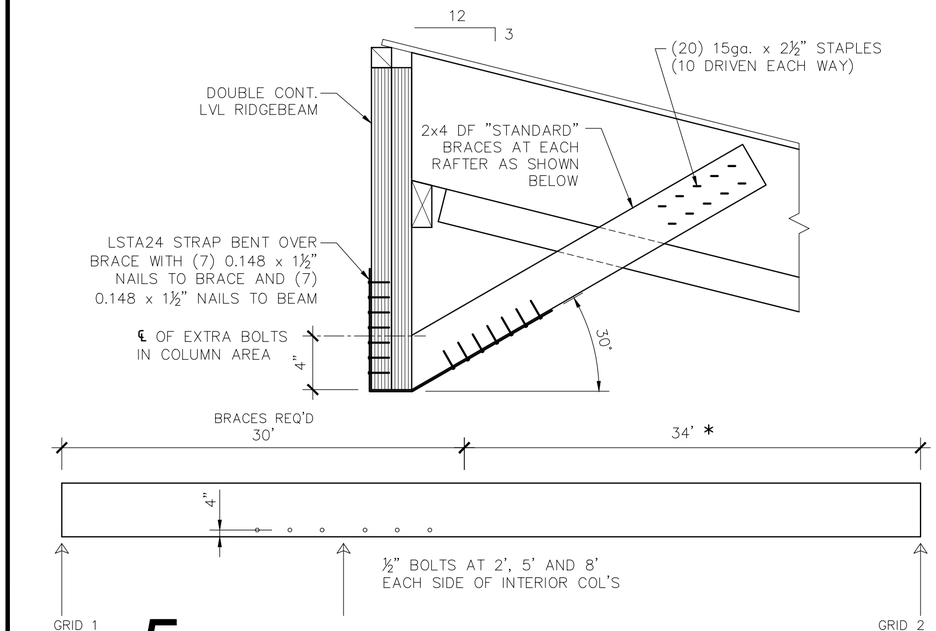
3 EAVE DETAIL

1½" = 1'-0"



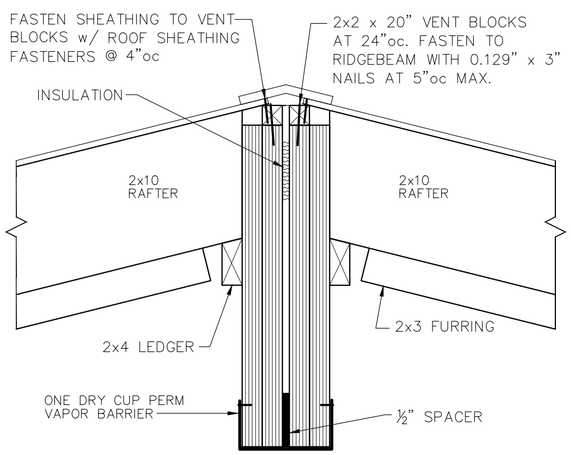
4 ENDWALL ROOF DETAIL

1½" = 1'-0"



5 RIDGEBEAM BRACING DETAIL- 24"

1½" = 1'-0"

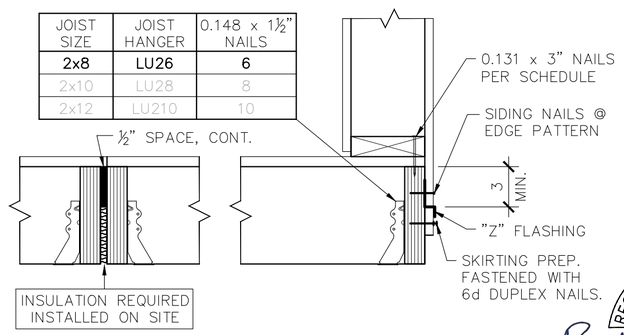


SITE WORK:
1. INSTALL RIDGEVENT WITH 1" GALV. SCREWS AT 12"oc. EACH SIDE.
2. INSTALL INSULATION AT MARRIAGE LINE.
3. INSTALL VAPOR BARRIER ACROSS MARRIAGE LINE, 2 MIL. MIN. (CLOSE-UP PLASTIC SUPPLIED WITH BUILDING MAY BE USED).

6 RIDGE DETAIL

1½" = 1'-0"

JOIST SIZE	JOIST HANGER	0.148 x 1½" NAILS
2x8	LU26	6
2x10	LU28	8
2x12	LU210	10



7 FLOOR DETAIL

1½" = 1'-0"

04/12/2022
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19300PE
OREGON
JULY 15, 1997
ROCK M. SHETLER
EXPIRES: 6/30/2022

DATE	REVISION	BY
3-29-2022	ENGINEERING - RMS	TAS

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Newberg, Oregon

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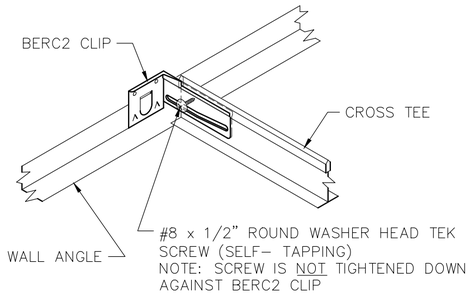
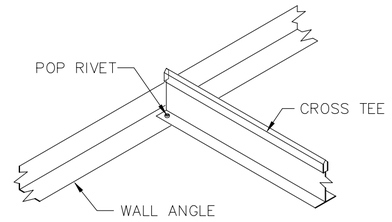
Job No: 20143

A-4



UNATTACHED WALL
(TWO ADJACENT WALLS)



ATTACHED WALL
(TWO ADJACENT WALLS)

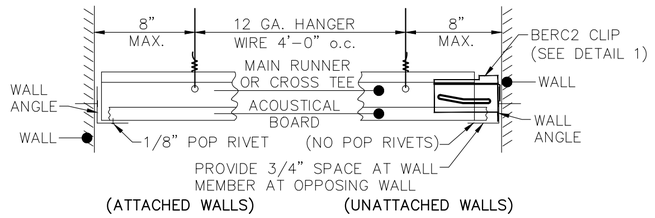
SEISMIC BERC2 CLIP

–FACTORY INSTALLED AT TWO ADJACENT WALLS.
–SCREW TIGHTENED FOR SHIPPING IN ROOMS WHERE CEILING CROSSES MOD LINE, LOOSEN SCREW ON SITE BY SET UP CREW
–NOT REQUIRED FOR CEILINGS LESS THAN OR EQUAL TO 144 SF AND SURROUNDED BY WALLS CONNECTED TO THE STRUCTURE ABOVE.
–SOURCES: ASCE 7–16 SECTION 13.5.6 EXCEPTION 1, ASTM E580 SECTION 1.4

1 SEISMIC ATTACHMENT AT WALLS

N.T.S.

[ARMSTRONG SEISMIC 'Rx' SUSPENSION SYSTEM (ESR 1308)]



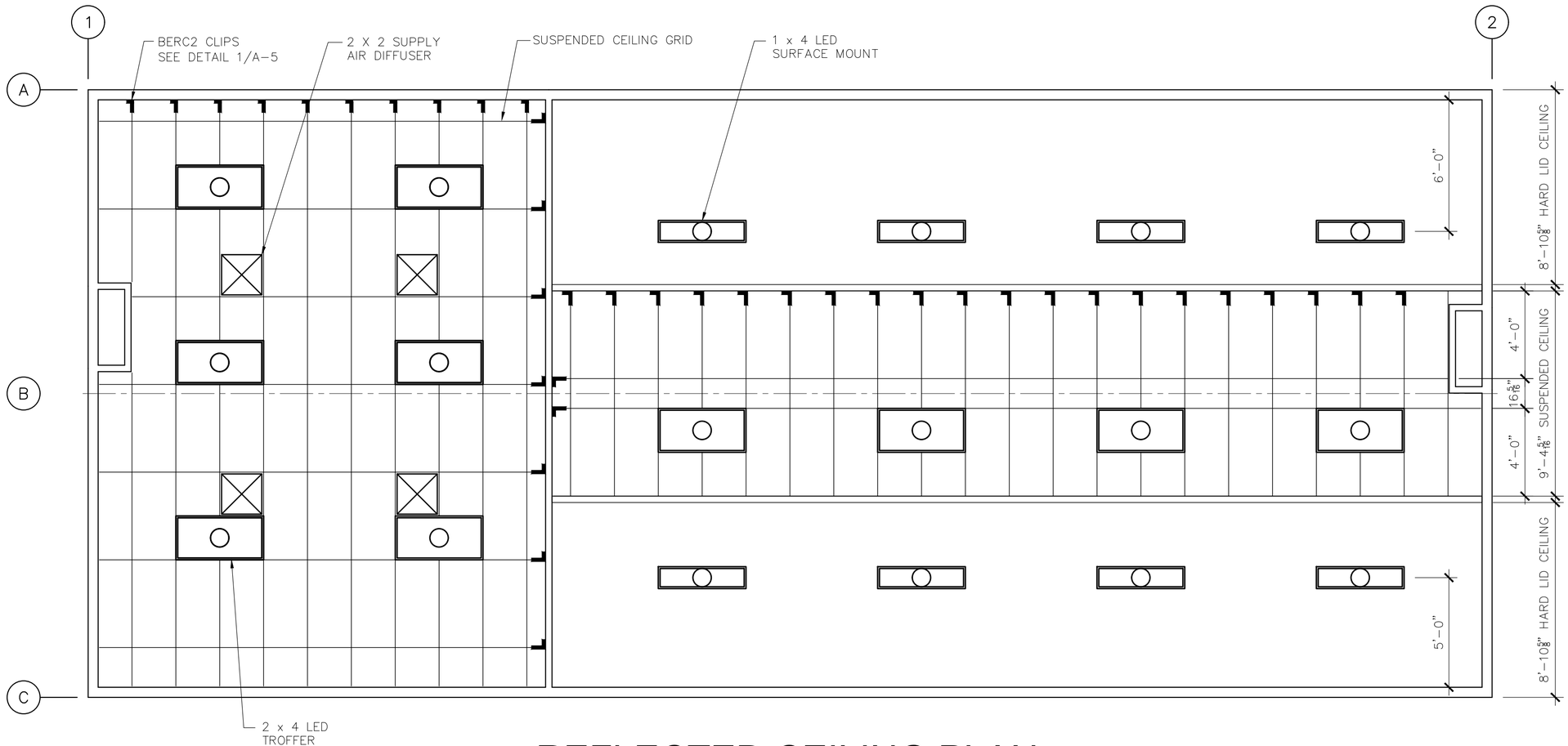
NOTE:
HANGER AND PERIMETER WIRES MUST BE PLUMB WITHIN 1:6 UNLESS COUNTER SLOPING WIRES ARE PROVIDED

LATERAL–FORCE BRACING:
- IS THE USE OF VERTICAL STRUTS AND SPLAY WIRES.
- CEILING AREAS OF 1000 SQ.FT. OR LESS SHALL BE EXEMPT FROM LATERAL–FORCE BRACING REQUIREMENTS.
- CEILINGS WITH INTERSTITIAL SPACE LESS THAN 12" TO FRAMING ARE NOT REQUIRED TO HAVE LATERAL–FORCE BRACING.

SEISMIC SEPARATION JOINTS:
- ALL CONTINUOUS CEILING AREAS EXCEEDING 2500 SQ.FT. SHALL HAVE A SEISMIC SEPARATION JOINT.

2 STANDARD T-BAR DETAIL

N.T.S.



REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"

DATE	REVISION	BY
3-29-2022	PRELIMINARY REVIEW - BM	TAS

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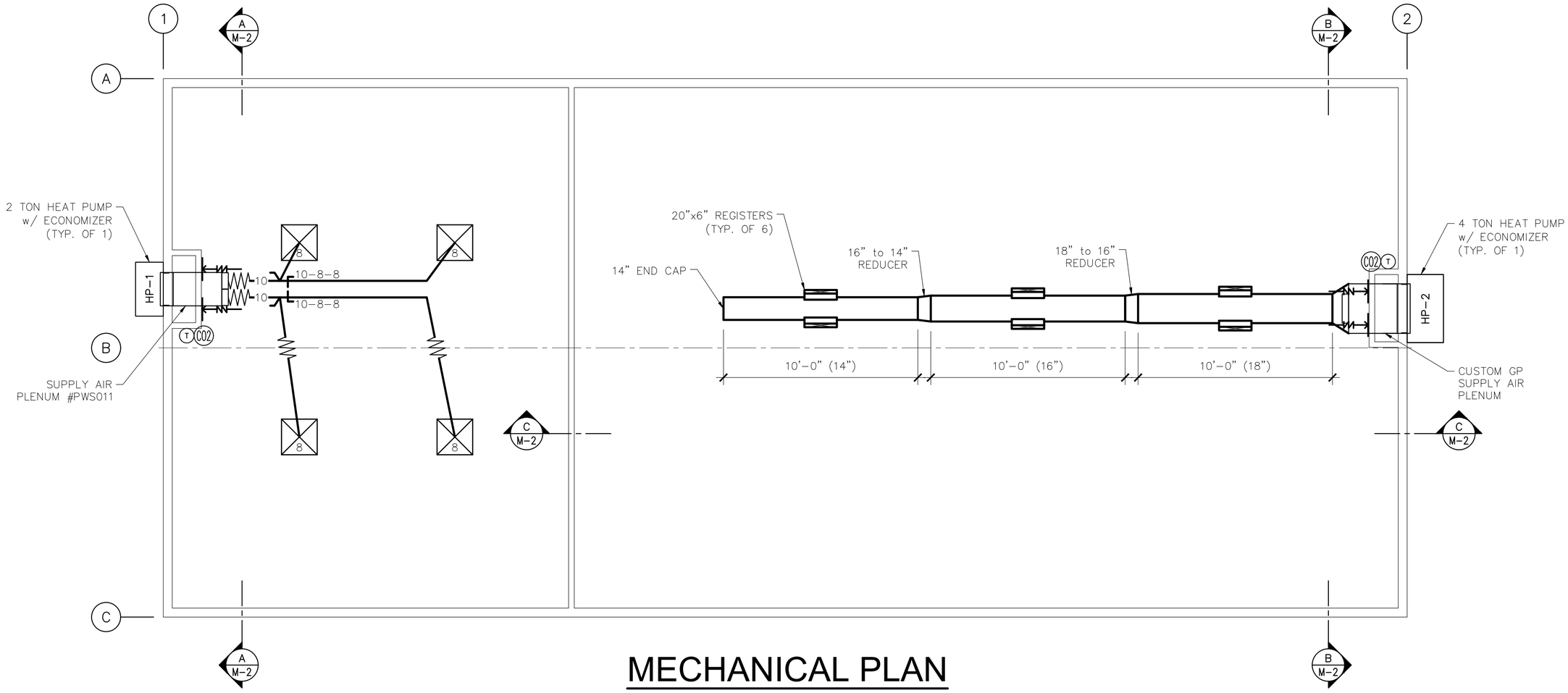
A-5



MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

MECHANICAL NOTES:

1. MECHANICAL EQUIPMENT INSTALLATION IN OR ON THIS BUILDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF OMSC CHAPTER 6.
2. DUCT MATERIAL IS 26 GA. GALV. AND FLEX DUCT. DUCTWORK SHALL BE SUPPORTED PER OMSC SECTION 603.
3. MATERIAL IN DUCTS SHALL HAVE A FLAME SPREAD INDEX OF LESS THAN 25, SMOKE DEVELOPMENT OF 50. [OMSC SECTION 602]
4. ROUND FLEX DUCT SHALL BE U.L. LISTED CLASS 1, STANDARD 181 – FACTORY MADE AIR DUCTS AND AIR CONNECTORS. MEASURED IN ACCORDANCE TO ASTM C 518 OR ASTM C 177 AT 75DEG F MEAN TEMPERATURE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
5. LOW PRESSURE DUCT SYSTEMS SHALL HAVE LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS OF SUPPLY AND RETURN DUCTS AND PLENUMS SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC–PLUS EMBEDDED–FABRIC SYSTEMS OR APPROVED TAPES INSTALLED IN ACCORDANCE WITH OMSC SECTION 603.9.
6. WHEN ISOLATION SLEEVES ARE USED AT LINE CONNECTIONS TO PLENUMS, THEN THEY SHALL COMPLY WITH OMSC CHAPTER 6.
7. IF DIFFUSERS HAVE NO MANUAL DAMPERS, USE FLOW CONTROLS AT WYES. TYPICAL AS NOTED ON PLAN.
8. MINIMUM OUTSIDE AIR VENTILATION PER OMSC TABLE 403.3.1.1.
9. OUTSIDE AIR DAMPERS SHALL COMPLY WITH OEESC SECTION 6.4.3.4.
10. ALL NEW SYSTEMS WITH A COOLING CAPACITY EQUAL TO OR GREATER THAN 54,000 BTU/H, REQUIRE ECONOMIZERS IN ACCORDANCE WITH 2021 OEESC SECTION 6.5.1.
11. MECHANICAL DRAWINGS SHOW DUCTWORK SIZES TO BE CLEAR INSIDE DIMENSION.
12. DUCT INSULATION SHALL COMPLY WITH OMSC SECTION 604.
13. ELECTRICIAN MUST VERIFY ALL ELECTRICAL REQUIREMENTS AND LOCATIONS.
14. THERMOSTAT SCHEDULING TO BE PERFORMED ON SITE BY OTHERS.
15. ALL HVAC EQUIPMENT LEAVES FACTORY WIRED FOR 240 VOLT OPERATION. THE ACCEPTABLE OPERATING RANGE FOR THE 240V & 208V TAPS ARE:

TAP	RANGE
240	253 –216
208	220–187

16. SITE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THE RIGHT TAP IS CONNECTED FOR THE APPLIED SITE VOLTAGE.
17. AIR FILTERS IN HVAC UNITS OR SYSTEMS ARE TO BE CHANGED EVERY 30 DAYS BY OTHERS ON SITE.
18. REGISTER AIR FLOW TEST AND SYSTEM BALANCING OF HVAC SYSTEM, WHEN REQUIRED, WILL BE PROVIDED AND PERFORMED BY OTHERS ON SITE. [OMSC SECTION 403.3.1.5] [SYSTEM BALANCING OEESC 6.7.3.3]

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
⊠	2'x2' SUPPLY AIR DIFFUSER
≋	FLEX DUCT
—X—	SUPPLY DUCT WITH DIAMETER INDICATOR
—┬—	DAMPER IN SUPPLY DUCT AT WYE
X–X–X	SUPPLY WYE w/DUCT CONNECTION SIZES INDICATED
(T)	THERMOSTAT
(CO2)	CO2 SENSOR

DATE	REVISION	BY
3-15-2022	PRELIMINARY REVIEW - BM	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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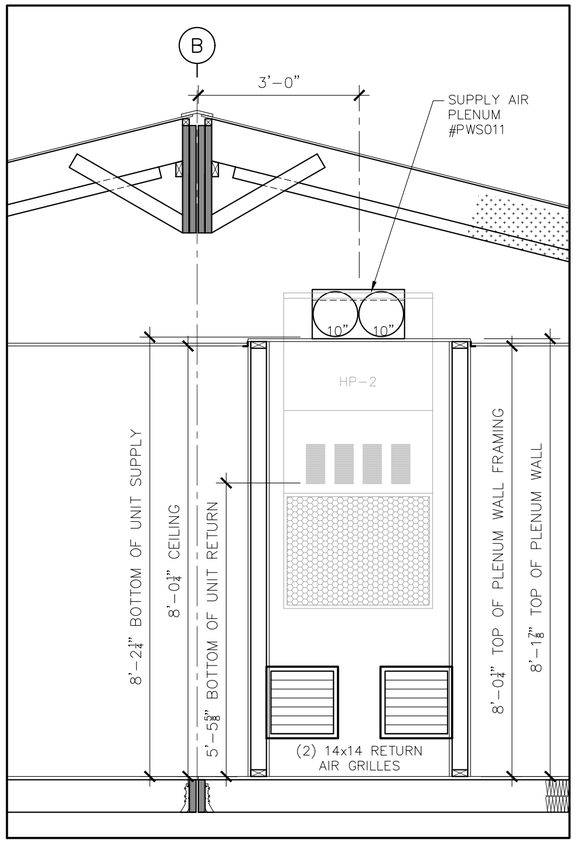
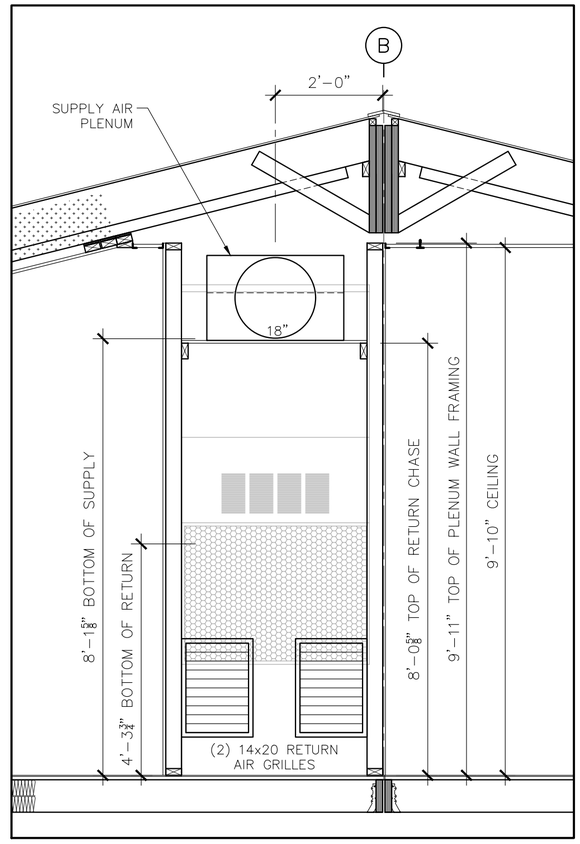
M-1



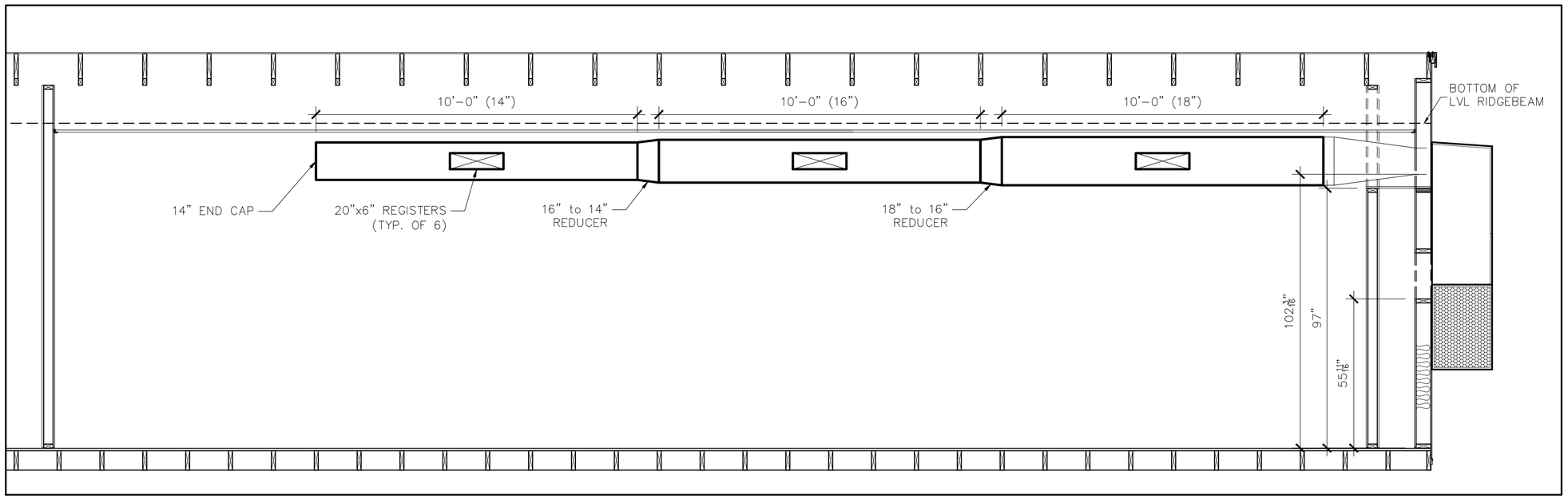
SECTION A-A AT PLENUM

SCALE: ½" = 1'-0"



SECTION B-B AT PLENUM

SCALE: ½" = 1'-0"



SECTION C-C AT PLENUM

SCALE: ½" = 1'-0"

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M-2

PACKAGE *SPVU* HIGH EFFICIENCY WALL MOUNT HEAT PUMP – SCHEDULE

UNIT TAG	BARD UNIT MODEL NUMBER	UNIT SIZE	UNIT QTY	BLOWER MOTOR TYPE	AIRFLOW CFM	DD BLOWER SPEED SETTING	BLOWER HP	FAN EFFICIENCY GRADE (FEG)	VENTIL. DEVICE	VENTIL. (FA) CFM	FILTER TYPE	EER	OUTDOOR (DB) TEMP	ENTERING (DB) TEMP	ENTERING (WB) TEMP	COOLING CAPACITY BTUH	SENSIBLE COOLING CAPACITY BTUH	HEATING CAPACITY 47degs BTUH	HEATING COP 47degs	HERTZ	UNIT VOLTS	UNIT PHASE	HEAT STRIPS KW	HEAT STRIPS OUTPUT BTUH	SINGLE POINT CONNECTION		UNIT WGT	ADDITIONAL NOTES
																									MCA AMPS	MOCP AMPS		
HP–1	W24HB–A08ZP4XXR	2.0	1	ECM	800	LOW	1/3	----	ECON	----	MERV–8	11.30	95	80	67	23,500	17,900	22,400	3.3	60	240	1	08	27,304	62	70	335	1,2,3,4,5,6,7,8,9,10,
HP–2	W48HC–A15ZP4XXR	4.0	1	ECM	1686	MED	3/4	----	ECON	----	MERV–8	11	95	80	67	48,330	37,679	41,378	3.3	60	240	1	15	51,195	87	90	505	1,2,3,4,5,6,7,8,9,10,

ADDITIONAL NOTES:

1 – CAPACITY LISTED ABOVE ARE IN ACCORDANCE WITH ANS/ARI STANDARD 390–2003 FOR SPVU (SINGLE PACKAGE VERTICAL UNITS)
2 – COMPLIES WITH EFFICIENCY REQUIREMENTS OF ANSI/ASHRAE/IESNA 90.1–2016
3 – BARD THERMOSTAT (8403–060), 7–DAY PROGRAMMABLE
4 – BARD INDOOR REMOTE SENSOR. (8403–062)
5 – BARD CO2 SENSOR, (S8403–069)
6 – HEAT STRIPS KIT WITH CIRCUIT BREAKER
7 – ECONOMIZER, FULL FLOW, WITH JADE CONTROLLER, ENTHALPY/TEMP SENSOR
8 – 2" PLEATED FILTER, MERV–8
9 – UNIT COLOR IS *BUCKEYE GRAY*
10 – OUTDOOR THERMOSTAT SET AT 40DEG'S OR LOWER & LAC CONTROL (R) OPT.
11 – SMOKE DETECTOR, SM501N (SUPPLY) DUCT MOUNTED
12 – (BSDTIMER) KIT – PROVIDES A MEANS ON SHUTTING DOWN OF THE MECHANICAL COOLING AND HEATING SYSTEM, VENTILATION CONTINUES TO OPERATE, VIA EXTERIOR DOOR SWITCH (OPTIONAL)

** M.C. TO REFER TO INSTALLATION INSTRUCTIONS FOR START UP AND EQUIPMENT SET
** M.C. TO CHECK SITE VOLTAGE AND SET CORRECT TAP ON TRANSFORMER
** M.C. TO SET AND PROGRAM THERMOSTAT PER CUSTOMERS REQUIREMENTS
** M.C. TO SET AND CHECK ECONOMIZER AND VENTILATION PRE PROJECT REQUIREMENTS

Sequence of operation:

1– Upon a Cooling call from the room thermostat the unit will be in economizer or mechanical cooling mode or both depending on the economizer jade controller setpoints.
2– Upon a heating call from the room thermostat the unit will be in mechanical heating and the economizer will be disable, 2nd stage heat strips will come on if the room temperature drops below its setpoint and during defrost.
3– CO2 Sensor to control the ventilation mode through the Occupy connection as required by its set points
4– These modes with keep repeating and required by the thermostat.
5– If this unit is equipped with a exterior door shut down kit the unit mechanical system will be shut down after the exterior has been open for 5+ minutes. The ventilation portion will keep operating. Once the door closes the unit will restart if there is still a call from the thermostat.

MINIMUM VENTILATION RATES PER WA-2018 IMC WAC & OR-2019 OMSC TABLE 403.3.1.1

room #	name	Az (sf)	sf/1000	Occ. Dens	Pz (calc)	Pz (used)	Rp (cfm/person)	Ra (cfm/sf)	Vbz (cfm)	Ez (effect)	Voz (cfm)
	Music Room	1122	1.122	35	40	40	10	0.12	535	1.0	535
	Classroom A	535	0.535	35	19	19	10	0.12	254	1.0	254
					0	0			0	1.0	0
											789 cfm

Az = room area (sf)
Occ. Dens = occupant density (from Table 403.3)
Pz (calc) = zone population or occupant quantity (calculated)
Pz (used) = zone population or occupant quantity (user can override the calculation-increase only)
Rp = people outdoor airflow rate in breathing zone (cfm/person)
Ra = area outdoor airflow rate in breathing zone (cfm/sf)
Vbz = Breathing zone outdoor air flow rate per eq. 4-1 (Rp*Pz+Ra*Az)
Ez = zone air distribution effectiveness (from Table 403.3.1.1.1.2)
Voz = zone outdoor airflow per equation 4-2 (Vbz/Ez)

DATE	REVISION	BY
3-8-2022	PRELIMINARY REVIEW - BM	TAS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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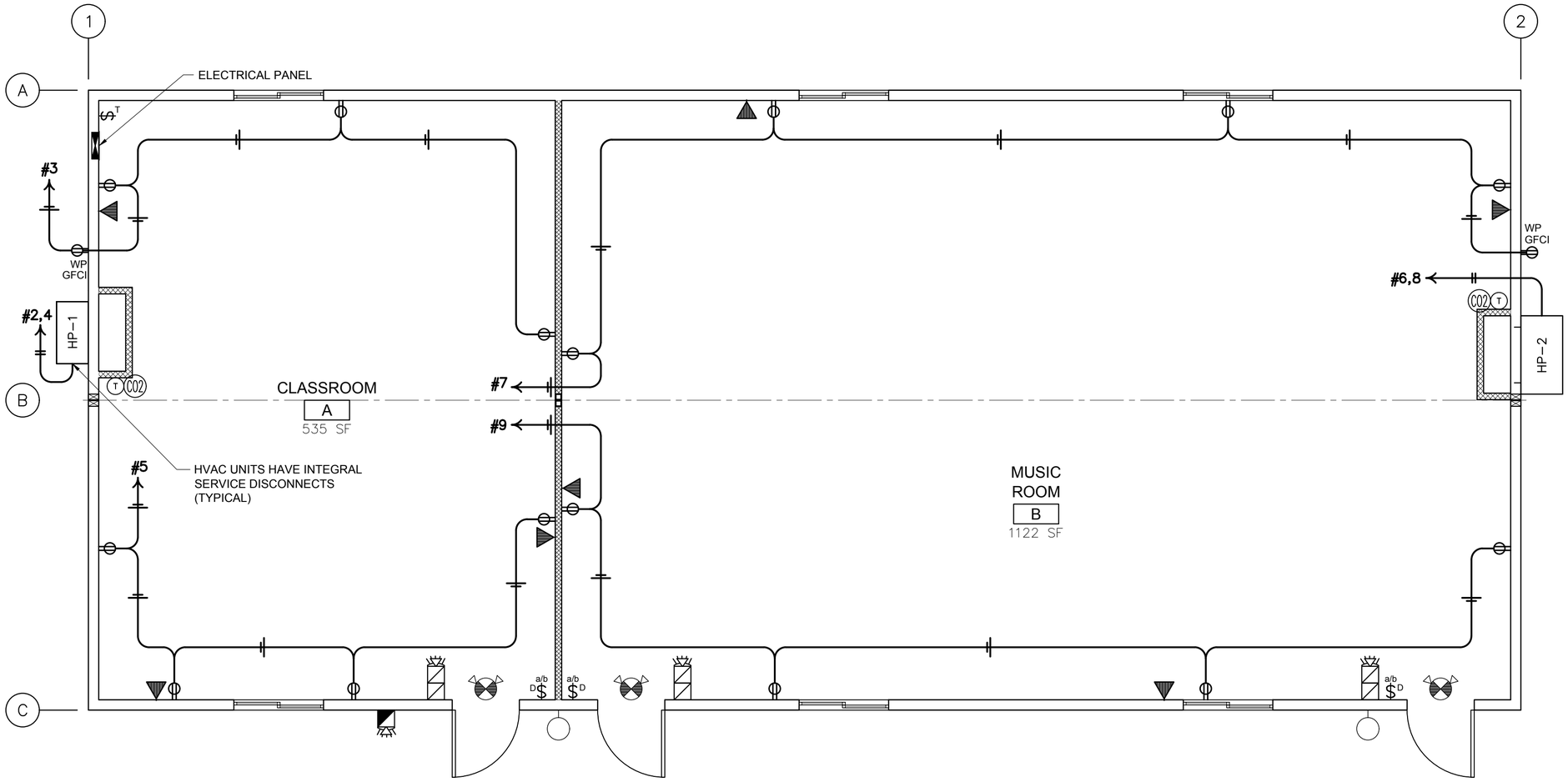
CLASSROOM for:
VERITAS SCHOOL
Pacific Mobile
Newberg, Oregon

Approved for Const:
File Copy:
Drawn By: TAS
Issue Date: 3-29-2022

Job No: 20143
M-3



ELECTRICAL POWER PLAN

ars 3/18/2022

0 2' 4' 8'

12" SCALE: 1/4" = 1'-0"

	QTY.	SIZE	DESCRIPTION
ELECTRICAL PANEL	1	200 AMP	SINGLE PHASE – STUB THRU – 120/240 VOLT
RACEWAY MATERIAL			METALLIC RACEWAY SYSTEM – EMT, MC CABLE AND/OR FLEX CONDUIT
HVAC	1	2 TON	BARD 8 kW WALL HUNG HEAT PUMP w/ECONOMIZER – 11 EER
	1	4 TON	BARD 15 kW WALL HUNG HEAT PUMP w/ECONOMIZER – 11 EER
HVAC CONTROLS	2		THERMOSTAT – BARD #8403-060
LIGHTING	10	2 x 4	LED VOLUMETRIC TROFFER–nLIGHT AIR ENABLED–6000 LUMEN–48 WATTS–4000K –LITHONIA–2BLT4 60L ADPT EZ1 LP840 NLTAIR2 RES7 PWS1836
	8	1 x 4	BLWP SURFACE MOUNTED LED–nLIGHT AIR ENABLED–6000 LUMEN–49 WATTS –4000K LITHONIA–BLWP4 60L ADPT EZ1 LP840 NLTAIR2 RES7
	2		14 WATT VANDAL RESISTANT LED PORCH LIGHT w/PHOTOCELL LITHONIA OVWPLED40K120PEDDBHP17M4

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	AFF TO TOP	REMARKS	SYMBOL	DESCRIPTION	AFF TO TOP	REMARKS
	ELECTRICAL PANEL	72"		CO2	CO2 SENSOR	48"	4" SQUARE BOX w/ SINGLE GANG MR 18AWG STAT WIRE
	DUPLEX RECEPTACLE	20"	180 VA EACH		nLIGHT ENABLED LED TROFFER w/ INTEGRAL SENSORS	T-BAR CEILING	48 VA EACH 6000 LUMEN EACH
WP GFCI	WEATHER RESISTANT GFCI RECEPTACLE	20"	180 VA EACH		BLWP nLIGHT ENABLED 1x4 LED SURFACE MOUNTED w/INTEGRAL SENSOR	HARD-LID CEILING	49 VA EACH 6000 LUMEN EACH
D XX	nLIGHT DIMMING CONTROL	48"	2 ZONE DIMMING CONTROL. LOWER CASE LETTERS DESIGNATE ZONING		LED WALL PACK	84"	14 VA EACH
	PHONE/DATA ROUGH IN 4" SQ BOX w/ SINGLE GANG MR	20"	3/4" FLEX STUBBED UP AND DOWN		EXIT / EMERGENCY COMBO RED LETTERS	ABOVE DOOR	90 MINUTE BATTERY BACK UP
HP-1	WALL HUNG HVAC UNIT 1	AS REQUIRED	SEE MECH SCHEDULE AND CALCS		PULL STATION	48"	¾" RACEWAY ONLY STUB UP AND DOWN. PAINT RACEWAY AND BACK BOX SUBSTANTIALLY RED IN COLOR
HP-2	WALL HUNG HVAC UNIT 2	AS REQUIRED	SEE MECH SCHEDULE AND CALCS		FIRE ALARM HORN/STROBE	84"	
T	HVAC THERMOSTAT	48"	4" SQUARE BOX w/ SINGLE GANG MR 18AWG STAT WIRE		EXT FIRE ALARM HORN/STROBE	84"	

OREGON STATE
GENERAL SUPERVISING ELECTRICIAN

SMITH, AARON R

LICENSE NO: 5726S
ISSUE DATE: 09/10/2019
EXPIRE DATE: 10/01/2022

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ELECTRICAL LICENSE #24-197C

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3-15-2022	PRELIMINARY REVIEW - BM	TAS
3-18-22	ELECTRICAL ENGINEERING	ARS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS

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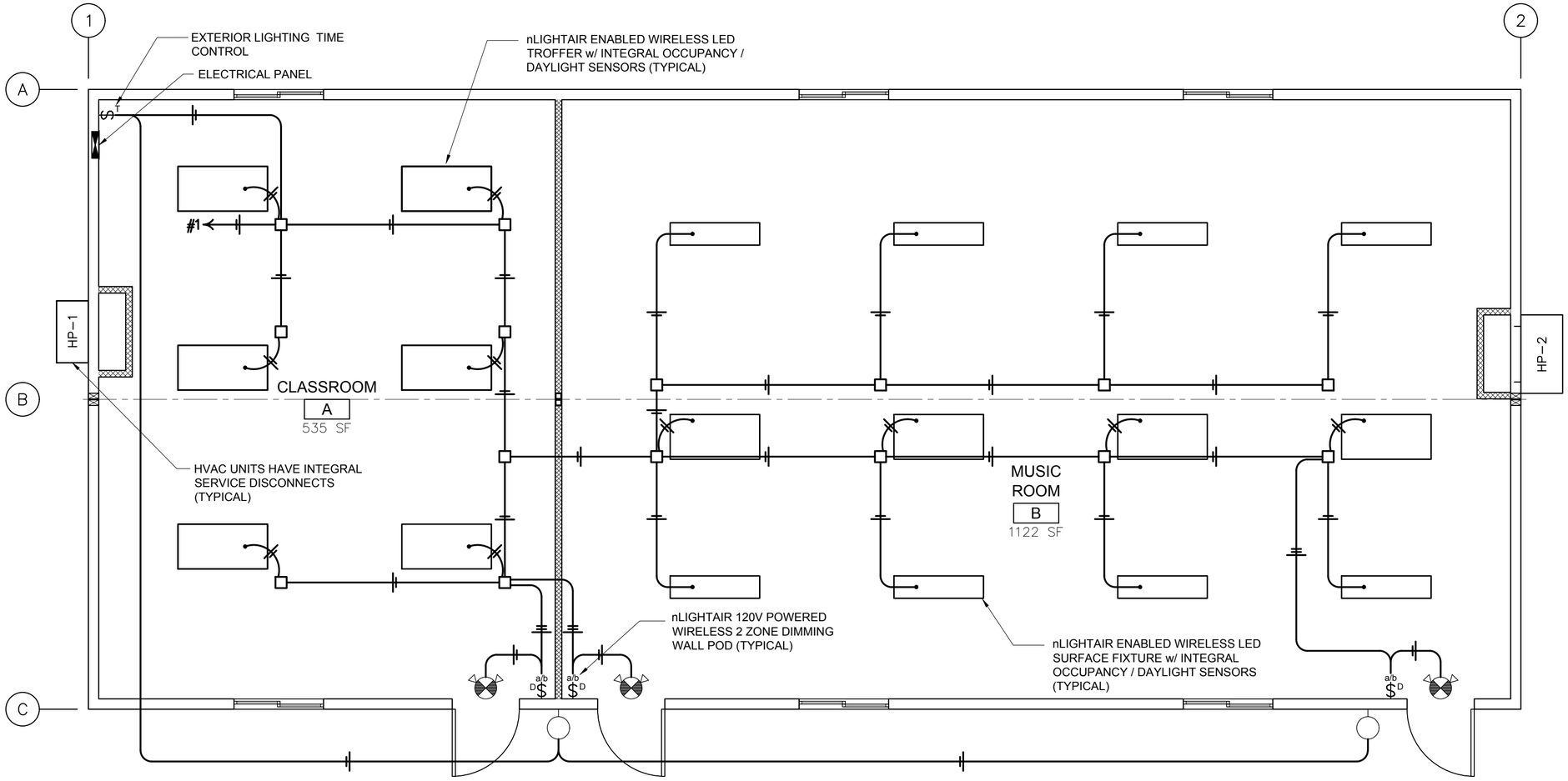
Job No: 20143

E-1



ELECTRICAL LIGHTING PLAN

ars 3/18/2022

0 2' 4' 8'

12" SCALE: 1/4" = 1'-0"

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	QTY.	SIZE	DESCRIPTION
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RACEWAY MATERIAL			METALLIC RACEWAY SYSTEM – EMT, MC CABLE AND/OR FLEX CONDUIT
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	1	4 TON	BARD 15 kW WALL HUNG HEAT PUMP w/ECONOMIZER – 11 EER
HVAC CONTROLS	2		THERMOSTAT – BARD #8403-060
LIGHTING	10	2 x 4	LED VOLUMETRIC TROFFER–nLIGHT AIR ENABLED–6000 LUMEN–48 WATTS–4000K –LITHONIA–2BLT4 60L ADPT EZ1 LP840 NLTAIR2 RES7 PWS1836
	8	1 x 4	BLWP SURFACE MOUNTED LED–nLIGHT AIR ENABLED–6000 LUMEN–49 WATTS –4000K LITHONIA–BLWP4 60L ADPT EZ1 LP840 NLTAIR2 RES7
	2		14 WATT VANDAL RESISTANT LED PORCH LIGHT w/PHOTOCELL LITHONIA OVWPLED40K120PEDDBHP17M4

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D XX	nLIGHT DIMMING CONTROL	48"	2 ZONE DIMMING CONTROL. LOWER CASE LETTERS DESIGNATE ZONING		LED WALL PACK	84"	14 VA EACH
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HP-2	WALL HUNG HVAC UNIT 2	AS REQUIRED	SEE MECH SCHEDULE AND CALCS		FIRE ALARM HORN/STROBE	84"	
T	HVAC THERMOSTAT	48"	4" SQUARE BOX w/ SINGLE GANG MR 18AWG STAT WIRE		EXT FIRE ALARM HORN/STROBE	84"	

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3-15-2022	PRELIMINARY REVIEW - BM	TAS
3-18-22	ELECTRICAL ENGINEERING	ARS
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Job No: 20143

E-2

PANEL SCHEDULE

PANEL DESIGNATION	PANEL A	VOLTS 120/240	AIC RATING: 22,000
MOUNTING	FLUSH	PHASE 1	BUSS RATING: 200 AMP
ENCLOSURE TYPE	NEMA 1		MCB RATING: 200 AMP

CKT	CIRCUIT DESCRIPTION	TRIP	WIRE SIZE	CONNECTED LOAD (VA) A		CONNECTED LOAD (VA) B		WIRE SIZE	TRIP	DESCRIPTION	CKT
1	***LIGHTING***	**20**	**12**	**900**	**5212**			**4**	**70**	***HVAC #1***	2
3	***RECEPTACLES***	**20**	**12**			**720**	**5212**	**/**	**/**	**/**	4
5	***RECEPTACLES***	**20**	**12**	**720**	**7872**			**3**	**90**	***HVAC #2***	6
7	***RECEPTACLES***	**20**	**12**			**900**	**7872**	**/**	**/**	**/**	8
9	***RECEPTACLES***	**20**	**12**	**720**						*SPACE*	10
11	*SPACE*									*SPACE*	12
13	*SPACE*									*SPACE*	14
15	*SPACE*									*SPACE*	16
17	*SPACE*									*SPACE*	18
19	*SPACE*									*SPACE*	20
CONNECTED LOAD		**TOTAL LOAD:**		**15424.0**		**14704.0**					
		TOTAL AMPS:		**128.5**		**122.5**					

ELECTRICAL PLAN REVIEW LOAD CALCULATION — CALC BY: AARON SMITH

PROJECT INFO: 20143 VERITAS SCHOOL — DATE: 3/18/2022

PANEL: PANEL A — VOLTAGE: **120/240** — PHASE: **1** — AMPACITY: **200**

FED FROM: EXISTING SERVICE — AIC RATING: **22,000**

DESCRIPTION	VA LOAD	DEMAND FACTOR	PHASE A	PHASE B		NEUTRAL A	NEUTRAL B		NOTES
LIGHTING									
EXTERIOR LIGHTING	28	1.25	**35**			***35***			
INTERIOR LIGHTING	872	1.25	**1090**			***1090***			
RECEPTACLES									
TOTAL	3060	1.00	**1440**	**1620**		***1440***	***1620***		
HVAC (MOTORS)									
TOTAL	3168	1.00	**1584**	**1584**					**1**
LARGEST	3840	0.25	**480**	**480**					**3**
HEATING	23000	1.00	**11500**	**11500**					**2**
TOTALS			PHASE A	PHASE B		NEUTRAL A	NEUTRAL B		
		VA	**16129.0**	**15184.0**		***2565.0***	***1620.0***		
		AMPS	**134.4**	**126.5**		***21.4***	***13.5***		

LARGEST POWER PHASE **16129.0 VA** **134.4 AMPS** — **LARGEST NEUTRAL PHASE** ***2565.0*** **VA** ***21.4*** **AMPS**

NOTES:

1. HVAC #2 THE MAX THAT CAN OPERATE WITH THE HEAT PUMP IS 10KW. 15 KW CAN OPERATE IN EMERGENCY HEAT CALC INCLUDES HVAC #1 COMP, OUTDOOR FAN, BLOWER / HVAC #2 BLOWER.

2. CALC INLCLUDES HVAC #1 HEAT STRIPS 8KW / HVAC #2 HEAT STRIPS 15KW

3. HVAC #2 COMPRESSOR IS USED AS THE LARGEST MOTOR FOR CALCULATION

OREGON - SPACE BY SPACE LIGHTING POWER DENSITY PER 2021 OEESC

SPACE DESIGNATION	SQ. FT.	SPACE TYPE	WATTS SQ. FT. ALLOWANCE	TOTAL ALLOWED
CLASSROOM A	535	CLASSROOM	0.71	379.85
MUSIC ROOM	1122	CLASSROOM	0.71	796.62
TOTAL SQ. FT.	1657		TOTAL ALLOWED	1176.5
			TOTAL INSTALLED	872.0
			PASS OR FAIL	PASS

TOTAL ALLOWED = SQ. FT. x ALLOWED WATTS PER SQ. FT. - TABLE 9.6.1

BASED ON 2019 ASHRAE 90.1

BARD 2 TON - 8KW - 11EER WH UNIT

HVAC (MOTOR, COMPRESSOR, HEATER SIZES)		
OPERATION VOLTAGE	197 MIN.	253 MAX.
COMPRESSOR	8.3 RLA	58 LRA
OUTDOOR FAN	1.1 FLA	1/6 HP
INDOOR BLOWER FAN	.7 FLA	1/3 HP
HEAT STRIP	8 KVA	240 VOLT
MINIMUM CIRCUIT AMPS		**62 AMPS**
MAXIMUM OVERCURRENT PROTECTION		**70 AMPS**

OVERCURRENT PROTECTION SHALL BE DUAL ELEMENT TIME DELAY FUSE OR HACR CIRCUIT BREAKER

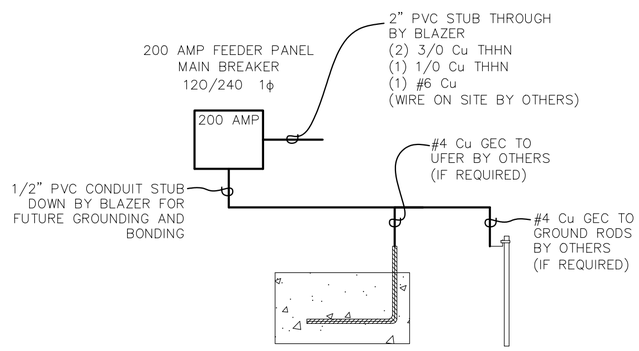
INTERNAL SERVICE DISCONNECTS PROVIDED.

BARD 4 TON - 15KW - 11EER WH UNIT

HVAC (MOTOR, COMPRESSOR, HEATER SIZES)		
OPERATION VOLTAGE	197 MIN.	253 MAX.
COMPRESSOR	16 RLA	117 LRA
OUTDOOR FAN	1.6 FLA	1/3 HP
INDOOR BLOWER FAN	3.1 FLA	3/4 HP
HEAT STRIP	15 KVA	240 VOLT
MINIMUM CIRCUIT AMPS		**87 AMPS**
MAXIMUM OVERCURRENT PROTECTION		**90 AMPS**

OVERCURRENT PROTECTION SHALL BE DUAL ELEMENT TIME DELAY FUSE OR HACR CIRCUIT BREAKER

INTERNAL SERVICE DISCONNECTS PROVIDED.



FORM A COMPLETE GROUNDING ELECTRODE SYSTEM PER 2020 NEC 250.53. PROVIDED AND INSTALLED ON SITE BY OTHERS

GENERAL NOTES:

1. WHEN STRANDED WIRE IS USED, ALL TERMINATIONS ARE MADE BY A PRESSURE TERMINAL, BY TAILING OFF WITH SOLID CONDUCTORS OR OTHER APPROVED MEANS OF TERMINATION.
2. ALL CONDUCTORS ARE COPPER; TYPE THHN / THWN
3. RATING OF STANDARD PANEL IS 22,000 A.I.C.
4. WIRING METHOD IN METALLIC CONDUIT OR M.C. CABLE.
5. HVAC DISCONNECTS SHALL BE LABELED WITH AN IDENTIFICATION PLATE SHOWING CIRCUIT SOURCE PANEL BOARDS, CIRCUIT NUMBER AND EQUIPMENT SERVED.
6. EXTERIOR WEATHER PROOF GFCI SHALL HAVE A "HEAVY DUTY" WEATHER PROOF "IN USE" COVER. 2020 NEC 406.9(B)(1)
7. THIS PLAN IS NOT AN "AS-BUILT" CIRCUITS MAY BE RUN DIFFERENT THAN SHOWN BASED ON OBSTACLES ENCOUNTERED.

2021 OEESC / 2018 IECC / 51-11C WAC 2018 WSEC:

1. A MINIMUM OF 90% OF LIGHTING FIXTURES HAVE EMBEDDED OCCUPANCY AND DAYLIGHT SENSORS FOR INCREASED ENERGY SAVINGS, AND ARE INDIVIDUALLY ADDRESSABLE.
2. A MINIMUM OF 90% OF LIGHTING IS SET FOR CONTINUOUS DIMMING AND IS ADJUSTABLE BY OCCUPANTS, FOR OCCUPANT COMFORT, VIA WALL PODS.
3. 50% OF RECEPTACLES IN CLASSROOMS, PRIVATE OFFICES, OPEN OFFICES, CONFERENCE ROOMS, COPY ROOMS, AND INDIVIDUAL WORKSTATIONS, ARE CONTROLLED BY LOCAL OCCUPANCY SENSORS
4. FUNCTIONAL PERFORMANCE TESTING SHALL BE PERFORMED
5. THE MAXIMUM VOLTAGE DROP ACROSS FEEDERS AND BRANCH CIRCUITS TO BE DETERMINED ON SITE AND SHALL NOT EXCEED 3%

OREGON STATE
GENERAL SUPERVISING ELECTRICIAN

SMITH, AARON R

LICENSE NO: 5726S
ISSUE DATE: 09/10/2019
EXPIRE DATE: 10/01/2022

BLAZER INDUSTRIES, INC.
OREGON CCB #0050106
ELECTRICAL LICENSE #24-197C

SIGNATURE.

DATE	REVISION	BY
3-18-22	ELECTRICAL ENGINEERING	ARS
3-29-2022	PRE-SUBMITTAL REVIEW - JH	TAS
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Approved for Const:
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Drawn By: TAS
Issue Date: 3-31-2022

Job No: 20143

E-3

Stormwater Management Plan
Veritas School Site Development
26500 NE Bell Road, Newberg, Oregon 97132

Date:	September 21, 2019
City of Newberg Case File #:	DR219-0002
Project Type:	Site Development
Project Location:	Yamhill County
Latitude/Longitude:	45° 19' 49.08" N (45.3303), 122° 58' 00.56" W (-122.9668)
Prepared By:	Nicholas J McMurtrey, P.E.
Design Manual:	City of Newberg Public Works Design and Construction Standards (2015)

PROJECT INTRODUCTION

Construction of Phase 1 of the Veritas School development has already occurred and consists of six modular buildings with a total of 14 classrooms, a science/art lab, a music room, a library and an office. These buildings are accesses via NE Bell Road (see Figure 1) by an asphalt driveway and served by a parking lot with approximately 90 stalls. The current student body includes approximately 220, with over 40 staff, both full- and part-time.

Site development activity prior to Phase 1 includes grading and gravel placement in 2010 (see Appendix A – C000 Cover Sheet), with all Phase 1 building construction completed between 2017 and 2018.

Phase 2 development includes a covered play area planned for construction in 2019. Phase 3 development includes a modular classroom and storage buildings in the southeast corner of the site, with an undefined construction schedule.

This Stormwater Management Plan considers prior site development during Phase 1 as 'new development', so that pre-development land conditions are documented circa 2006. Stormwater management facilities described herein reflect the City of Newberg Public Works Design and Construction Standards (2015) for all three phases of development summarized above. Future amendments to the City's design standards may require updates to these findings if future development phases remain in the planning stage.

A summary of findings is provided in the Conclusion subsection below, including remedial action necessary for the site's prior development to achieve compliance with City standards.

Figure 1: Vicinity Map

Climate:
Oregon Climate Zone 2 (Valley): Cool, wet winters, warm dry summers and mild temperatures throughout the year. Annual average total precipitation: 35 – 40 inches (Oregon DEQ – Erosion and Sediment Control Manual, 2005).

Soil Permeability:
Project soils along the project alignment consist of silty clay loams, which have relatively low potential for infiltration of stormwater runoff. Soils generally consist of the following NRCS soil types from north to south, as mapped in Appendix B:

- No. 2211B, Cove silty clay loam, hydrologic soil group D
- No. 2706C, Hazelair silty clay loam, hydrologic soil group D

Best Management Practices (BMPs):
Water quality treatment will occur via an existing vegetated swale constructed during Phase 1 development.

Water quantity considerations were excluded from prior development. As a result, additional site improvements are necessary to realize compliance with Section 4.7 of the City of Newberg (the City) Public Works Design and Construction Standards (D&CS).

POLLUTANTS OF CONCERN:

During and after construction, the types of pollutants associated with the project that pose a potential risk for release into the surrounding environment are: metals (zinc, copper, lead, etc.); oil, grease and other petroleum products; sediment; temperature; and polycyclic Aromatic Hydrocarbons (PAHs). For the purposes of this report, post-construction drainage contaminated by dissolved metals is due mainly to the operation of automobiles over the roadways. The main contributors of metal pollution are car brake pads and oil deposits leaking from vehicles.

Oil and grease are common contaminants resulting from the use of construction equipment and automobiles. The oil used to lubricate these machines leaks from moving parts over time. Petroleum spills are also a potential hazard during construction from the refueling of equipment on the construction site.

Sediments are a common source of contamination within runoff leaving a project site. Once native soils are exposed during grading activities, storm runoff can suspend loose soil particles and carry them downstream.

Temperature impacts to the surrounding environment occur mainly from impervious pavement areas, which contribute to the "heat island effect". These surfaces collect and retain the sun's energy more readily than natural vegetation and soil, so that during rainfall, heat is transferred into the resulting runoff. If the runoff is not infiltrated into the ground, or passed through vegetation, it retains a larger portion of this heat which is passed down the conveyance system into larger streams and rivers. In Oregon, temperature of drainage is primarily a function of shading (or lack thereof) over impervious surfaces, because of the hot, dry summer months.

Polycyclic aromatic hydrocarbons (PAHs) are generated from vehicular traffic as by-products of the fuel combustion process. These pollutants may remain airborne, or settle and adhere to sediments on the roadway where drainage can transport them into local receiving waters.

STATUS OF RECEIVING WATERS:

Rivers, Streams and Lakes:
The project is divided into two watersheds with separate receiving waters, as shown in **Table 1** below and illustrated on maps in Appendix B.

Table 1: Project Waterway Information

Waterway	Site Description	Location
Hess Creek	East Basin (E1)	±3,000 feet southeast
Chehalem Creek	West Basin (E2)	±5,000 feet southwest

Approximately 20% of the site's northeastern corner drains easterly to an unnamed tributary of Hess Creek, while the larger remainder drains westerly to an unnamed tributary of Chehalem Creek.

Wetlands

While the site is omitted from publicly available State and local wetland inventories, the State's 2018 GIS mapping tool shows USDA NRCS soil mapping on-site for predominately hydric soils. Further analysis of wetland potential is outside the scope of this report, and future development activity is shown to remain within the bounds of prior ground disturbance activity.

TMDLs and 303(d) listings:

Hess Creek is not listed under any water quality categories according to Oregon's 2012 Integrated Report developed by Oregon DEQ; however, Chehalem Creek is listed as shown in **Table 2** below.

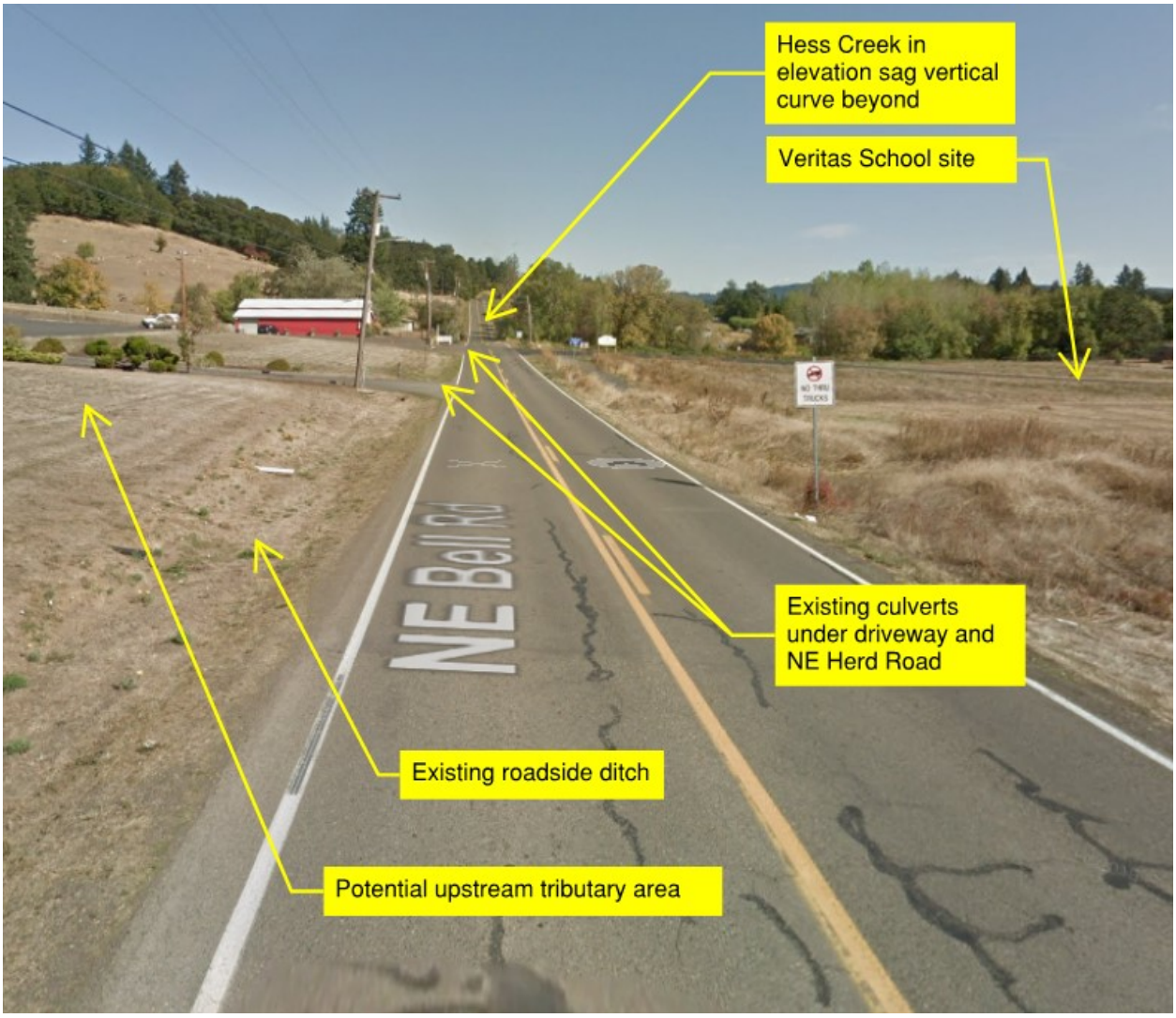
Table 2: Project Site 303(d) Listing Status of Receiving Water and 2-year Peak Flow

Project Site	Receiving Water	TMDL Pollutant
East Basin (E1)	Hess Creek	n/a
West Basin (E2)	Chehalem Creek	Dissolved oxygen; Temperature

UPSTREAM TRIBUTARY AREA:

Potential for upstream tributary area to discharge overland flow into the project area was assessed using visual observation and the USGS maps shown in Appendix B. An elevated hillside to the north of Bell Road has the potential to contribute overland flow into the school property, however a series of roadside ditches and culverts on the north side of Bell Road intercepts this flow and conveys it east towards Hess Creek (see Figure 2). These conveyances are assumed to intercept upstream flow before contributing to the Veritas site, and are therefore excluded from further analysis.

Figure 2: Upstream Tributary Area



CONTRIBUTING IMPERVIOUS AREA:

The project's contributing impervious area (CIA) are summarized in **Table 3** below. The CIA is limited to asphalt, concrete and roof areas within the site area shown in Appendix C.

Table 3: Contributing Impervious Area and Stormwater Treatment BMP by Sub-basin

Sub-basin[1]	Stormwater Quality BMP	Stormwater Quantity BMP	Pre-Project Impervious Area (acres)	Post-Project Impervious Area (acres)	Additional Impervious Area (acres)	Receiving Water
E1/P1	n/a	n/a	0.00	0.00	0.00	Hess Creek
E2/P2	Existing vegetated swale	Detention basin	0.00	1.67	1.67	Chehalem Creek
E2/P3	Existing vegetated swale	n/a	0.00	1.53[2]	1.53[2]	Chehalem Creek
E2/P4	n/a	n/a	0.00	0.00	0.00	Chehalem Creek
		Totals =	**0.00**	**3.20**	**3.20**	

STORMWATER MANAGEMENT PLAN NARRATIVE:

Treatment of stormwater from the CIA will be accomplished using Low Impact Development (LID) techniques including above ground detention and an existing vegetated swale.

The northeast corner of the site (Sub-basin E1/P1) remains undeveloped and is therefore excluded from stormwater management and further analysis. Future development plans for this basin include replacing the existing agricultural grasses with a soccer field, with similar stormwater runoff characteristics and no new impervious surfaces.

The primary development area consists of the following sub-basins:

- Sub-basin E2/P2 includes Phase 1 driveway and parking lot areas that will drain to a new detention basin. This detention area will function as an above ground stilling basin, providing qualitative opportunity for infiltration and evapotranspiration. Discharges from the new detention basin are directed to an existing vegetated swale for water quality treatment.

[1] Subbasin naming convention 'E' indicates a pre-development (or 'existing') project basin, while 'P' indicates a post-development (or 'proposed') project basin.
[2] Impervious area tabulations include future Phase 2 and Phase 3 improvements.

- Sub-basin E2/P3 includes Phase 1, Phase 2 and Phase 3 building roofs and walkways draining to lynch style catch basins. These inlets are conveyed to a below grade pipe system that outfalls to a new detention basin. Discharges from the new detention basin are directed to an existing vegetated swale for water quality treatment.

- Sub-basin E2/P4 includes the western half of the site that remains undeveloped. Future development plans for this basin include replacing the existing agricultural grasses with a baseball field and/or amphitheater, with similar stormwater runoff characteristics and no new impervious surfaces.

WATER QUALITY AND FLOW-CONTROL DESIGN STORMS:

The City's D&CS Sections 4.5.1 and 4.8.5 flow determination requirements, including storm recurrence intervals and 24-hour rainfall depths. **Table 4** shows the design storm rainfall amounts, with supporting calculations contained in Appendix D. **Tables 5 and 6** summarizes the runoff results for the sub-basins and overall CIA.

Table 4: Design Storm Rainfall Data

Recurrence Interval	Precipitation (inches/24-hours)[3]
Water Quality (WQ)	1.00
50% of 2-year (50%)	1.25
2-year	2.50
5-year	3.00
10-year	3.50
25-year	4.00

Table 5: Pre-Developed Basin Peak Flow Summary (cfs)

Design Storm Event	Pervious Land Use	Sub-basin E2	Chehalem Creek Outfall
50%	Agricultural CN=80	0.15	0.15
2-Year		2.03	2.03
5-Year		3.16	3.16
10-Year		4.39	4.39
25-Year		5.70	5.70

[3] Rainfall depths reported from City D&CS, Table 4.2.

Table 6: Post-Developed Basin Peak Flow Summary (cfs)

Design Storm Event	Pervious Land Use	Sub-basin P2	Sub-basin P3	Sub-basin P4	Chehalem Creek Outfall[4]
50%	Play Field CN=80	0.29	0.38	0.08	0.15
2-Year		1.38	0.93	1.10	1.28
5-Year		1.90	1.15	1.69	2.28
10-Year		2.44	1.36	2.34	3.51
25-Year		2.99	1.58	3.01	5.33

Table 7 summarizes the physical properties of the new detention basin necessary to provide the flow control performances summarized in Table 6.

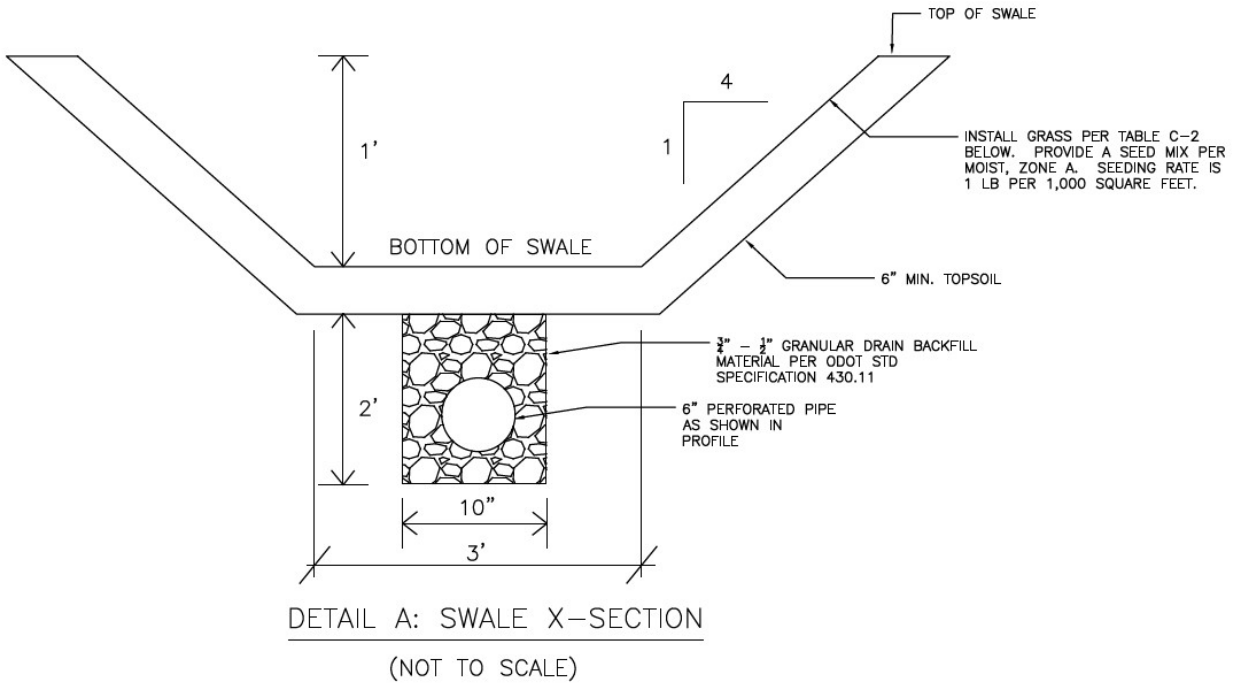
Detention Basin Property	Detention Basin Value
Base elevation	322.50 feet
Base area	11,460 sq.ft.
Basin side slopes	4 horizontal:1 vertical
Ditch inlet orifice diameter	2.9 inches
Ditch inlet orifice invert elevation	322.50 feet
Ditch inlet outlet diameter	12 inches
Ditch inlet rim elevation	323.17 feet
High flow bypass elevation	323.90 feet
High flow bypass width	5 feet
25-Year storm ponded water depth	17.4 inches
Top of embankment elevation	325.00 feet

TREATMENT CAPACITY, DIMENSIONS & DETAILS:

The water quality vegetated swale used to treat the CIA for this project is shown from prior construction drawings in **Figure 2** below.

[4] Outfall includes detention effects of a new detention basin.

Figure 2: Vegetated Swale



A summary of the vegetated swales performance is provided in **Table 8** below.

Table 8: BMP Water Quality Flow Rates and Volumes

Drainage Segment	WQDS peak (cfs)	Runoff Velocity (ft/s)		Slope	Length (ft)	Width (ft)	WQDS Residence Time (min)
		WQDS	25-Year				
Vegetated Swale	0.11	0.10	1.02	2.0%	100	3	16.7

WQDS – water quality design storm
cfs – cubic feet per second
cf – cubic feet
min – minutes
ft – feet
s – seconds

BMP EFFECTIVENESS:

Table 3 of the Stormwater Treatment Program – ODOT BMP Selection Tool indicates the key treatment mechanisms for a water quality vegetated swale are sorption and filtration. Associated treatment mechanisms for a water quality vegetated swale are hydraulic attenuation, density separation, uptake/storage, and microbial transformation. The water quality vegetated swale will have a high capability to remove suspended solids and particulate metals; and a moderate capability to remove nutrients, oil and grease, polycyclic aromatic hydrocarbons, and dissolved metals.

Prior construction drawings indicate the vegetated swale omits the 12-inches of topsoil and concrete level spreaders as specified by City Standard Drawing No. 460, however the facility does exceed the minimum residence time of 9 minutes by nearly 185%. As a result, these omissions are not anticipated to compromise the swales overall water quality performance.

OPERATION SUMMARY:

Basin Flow Routing:
Flow routes for each project improvement are summarized below. Since the increase in runoff from each improvement reported at the property outfall in **Table 6** comprises a negligible impact to the existing discharge flows presented in **Table 5**, the downstream conveyance capability of each receiving water is unaffected by the proposed project.

- Sub-basin P2 – This basin consists of pavement runoff from the access driveway and parking lot serving the project area. A ditch collects runoff along the east side of the driveway and drains south towards the parking lot where a new culvert is required to transfer drainage to a new detention basin (see Appendix C). This runoff will be managed to mimic pre-development conditions by a new detention basin before eventually reaches Chehalem Creek.
- Sub-basin P3 – This basin contains the building area and courtyard of the school site, which drains to existing catch basins serving a centralized underground piped conveyance system. This runoff will be managed to mimic pre-development conditions by a new detention basin before eventually reaches Chehalem Creek.
- Sub-basin P4 – This basin consists of vegetated landscaped areas, and is anticipated to remain landscaped into the future, potentially serving as a baseball field or amphitheater. Drainage bypasses the new detention basin and vegetated swale serving sub-basins P2 and P3, and eventually reaches Chehalem Creek.

High Flow Operation:
During high flow events, the vegetated swale will function like conventional open channel drainage conveyances and transport runoff downstream as noted in the flow routes section above. There is ample adjacent open area to convey flows should the swales' capacity become limited by debris.

A high flow bypass channel is required in the detention basin embankment (see **Table 7**) to facilitate controlled overtopping. Since the velocity through the opening in the embankment as relatively low (around 0.5 feet per second) during the 25-year storm, establish grass vegetation is anticipated as sufficient to control erosion through the bypass. Erosion control measures are likely necessary prior to plant establishment to provide slope stability following construction.

Downstream Analysis:

The downstream system was assessed for approximately 1/4 mile south of the property. Once drainage leaves the vegetated swale, it flows southwesterly via an 18-inch diameter pipe where it continues via open channel conveyance towards Highway 219 (see **Figure 4**).

Figure 4: Swale Discharge Channel

From there, drainage follows a roadside ditch paralleling Highway 219 (see Figure 5), before turning southbound the traversing an open area (see Figure 6). Due to dense brush, the nature of the flow path leaving the Highway 219 should is unknown, however assumed to retain an open channel configuration in route to Chehalem Creek.

Figure 5: Highway 219 Open Channel Conveyance

Figure 6: Conveyance Route to Chehalem Creek

MAINTENANCE PLAN:

Responsible Party:
School staff are responsible to provide oversight during project construction and ensure that the water quality and stormwater management elements of the project are properly constructed in accordance with City requirements. After construction, School maintenance staff are responsible to review the stormwater facilities at intervals that facilitate continued functionality.

Routine Maintenance Actions and Schedule:
Specific maintenance recommendations are as follows:

- General maintenance of vegetated areas, including the new detention basin, see Table 1 in Appendix E.
- Maintenance of vegetated swales, see Table 1 and Table 3 in Appendix E.

- Complete annual inspection and maintenance of each facility as defined in the Operations, Maintenance, Contingency & Repair Plan in Appendix E.

Contingency and repair plan:
In the event of hazardous material spills, crashes, or uprooted or fallen trees, inspect stormwater facilities for contamination or damage. Repair or reconstruct these facilities to conform to original design intent. Handle and dispose of contaminated materials using only approved methods, equipment, and sites.

CONCLUSION:

Stormwater treatment on this project will achieve pollutant removal to the maximum extent practicable by treating runoff from 100% of the CIA with vegetated swales. Flow control is realized through a new detention basin, so that pre-development runoff characteristics are mimicked in the post-development condition.

Remedial activity is necessary to bring Phase 1 development into compliance with City drainage standards. Those remedial improvements are anticipated to accompany Phase 2 development and are described in Appendix C – Retrofit Strategy.

APPENDIX LIST

APPENDIX A: DEVELOPMENT PLANS

- C000 Cover Sheet
- C401 Power Plan
- C420 Storm Plan
- C421 Storm Profiles

APPENDIX B: MAPS

- NRCS Soil Survey
- USGS Receiving Waters

APPENDIX C: BASINS AND RETROFIT STRATEGY

- Pre-Development Basin Map
- Post-Development Basin Map
- Retrofit Strategy

APPENDIX D: STORMWATER CALCULATIONS

APPENDIX E: OPERATIONS, MAINTENANCE, CONTINGENCY & REPAIR PLAN

APPENDIX A

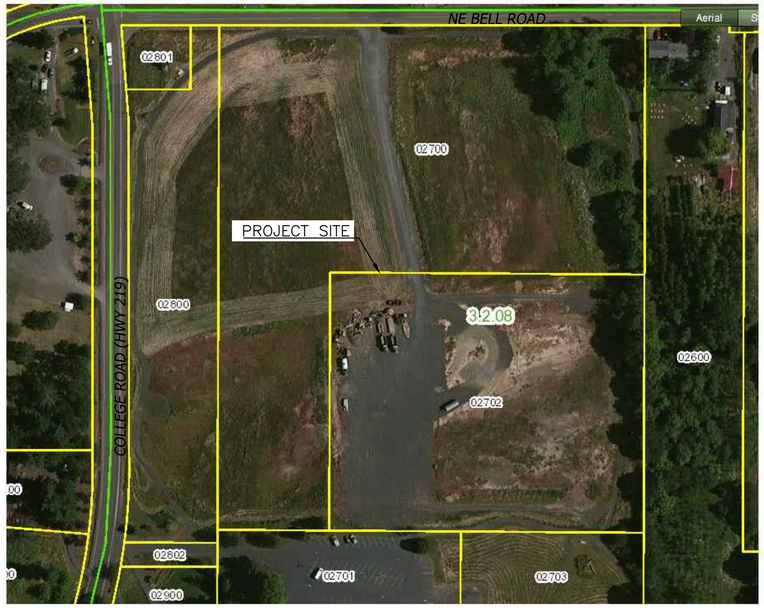
DEVELOPMENT PLANS

VERITAS SCHOOL SITE DEVELOPMENT

26500 NE BELL ROAD

NEWBERG, OREGON 97132

VICINITY MAP
NOT TO SCALE



SITE MAP
LATITUDE: 45.33 LONGITUDE: -122.97

SHEET INDEX	
Sheet Number	Sheet Title
C000	COVER SHEET
C001	CONSTRUCTION NOTES
C200	SITE PLAN
C300	GRADING & PAVING PLAN
C400	COMPOSITE UTILITY PLAN
C401	POWER PLAN
C420	STORM PLAN
C421	STORM PROFILES
C720	DETAILS
C721	DETAILS
C722	DETAILS

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is (503) 232-1987).

CLAIR COMPANY
525 NW 2ND ST. #3
CORVALLIS, OR 97330
541-758-1302

REVISIONS	DATE	BY

VERITAS SCHOOL SITE DEVELOPMENT
NEWBERG, OREGON
COVER SHEET
26500 NE BELL ROAD NEWBERG, OR 97132

REGISTERED PROFESSIONAL ENGINEER
60183PE
OREGON
JULY 13, 2006
PETER J. SEADERS
RENEWAL: 6/30/2018

MSS INC
ENGINEERING CONSULTANTS AND PLANNERS
215 NW 4th STREET
CORVALLIS, OR 97330
(541) 753-1320 FAX:(541) 753-5956

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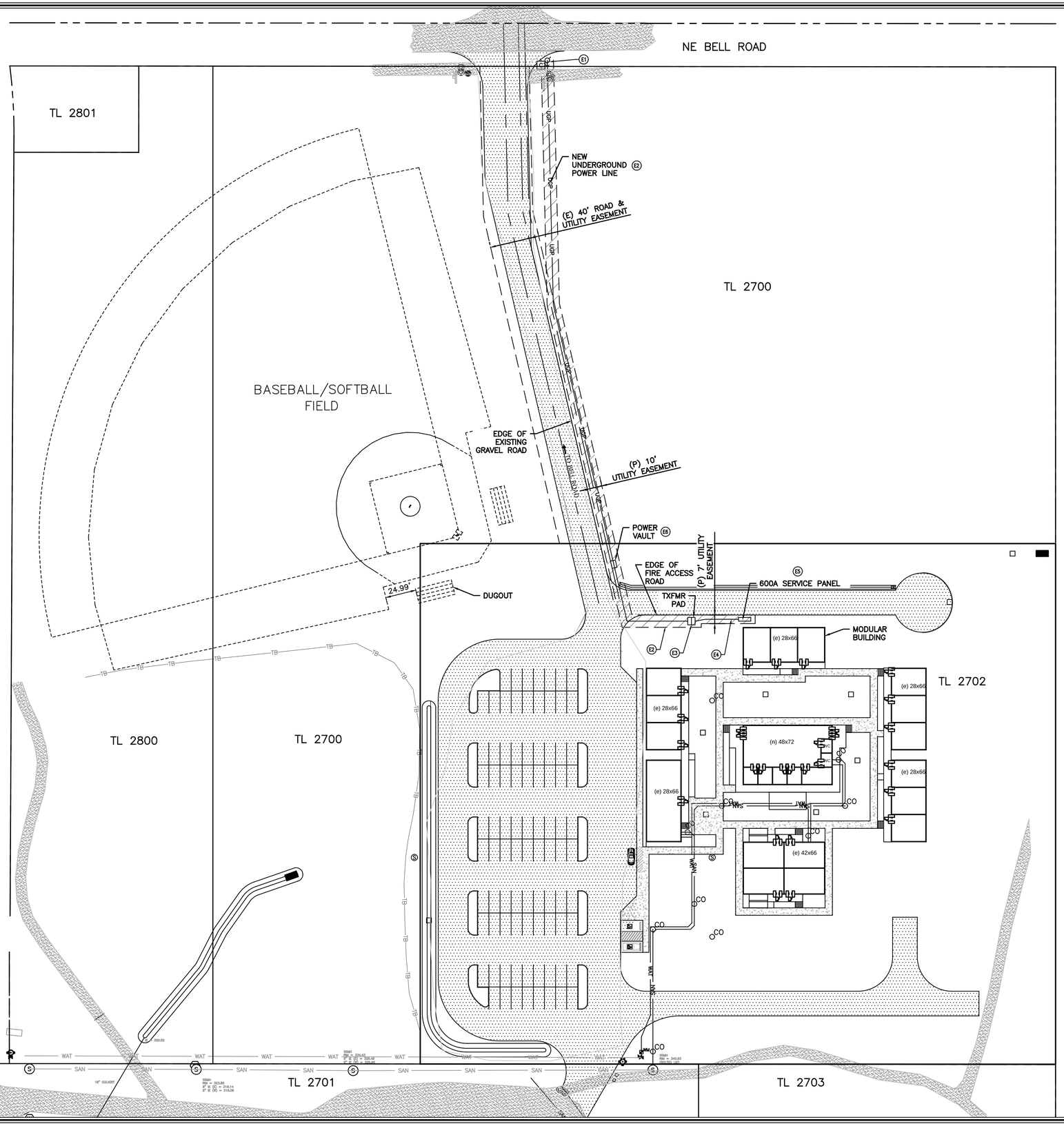
C000
1 OF 11 SHEETS

BUILDING PERMIT SET



ELECTRICAL NOTES

- ALL ELECTRICAL NOTES AND CONDUIT LOCATIONS ARE FOR COORDINATION PURPOSES ONLY. VERIFY ALL WIRING CONNECTIONS, SIZES AND REQUIREMENTS WITH THE ELECTRICAL PLANS PRIOR TO CONSTRUCTION. IN THE EVENT OF ANY CONFLICT THE REQUIREMENTS NOTED ON THE ELECTRICAL PLANS SHALL APPLY.
- ADHERE TO PGE DTL 6/C721 FOR BACKFILL, MATERIAL AND CLEARANCES.

E1 NEW DROP ON EXISTING POWER POLE ALONG BELL ROAD. CONTRACTOR TO COORDINATE. SEE SHEET C401.

E2 PROVIDE TRENCHING, BACKFILL & CONDUIT FOR PRIMARY UNDERGROUND FEED PER UTILITY'S REQUIREMENTS. PROVIDE PULL STRING.

E3 PROVIDE & INSTALL TRANSFORMER VAULT PER UTILITY REQUIREMENTS. INSTALL BOLLARDS PER DTL 1/C721 AS SHOWN. PROVIDE ADEQUATE CLEARANCES FOR TRANSFORMER PER PGE DTL 7/C721. TRANSFORMER SHALL BE 5' (MIN) FROM DRIVING SURFACES OR HAVE FIXED & REMOVABLE BOLLARDS INSTALLED PER PGE REQ'S.

E4 PROVIDE & INSTALL TRENCHING, BACKFILL & CONDUIT FOR SECONDARY UNDERGROUND FEED PER UTILITY'S REQUIREMENTS. PROVIDE PULL STRING.

E5 600A SERVICE PANEL PER ELECTRICAL PLANS

E6 PROVIDE & INSTALL SECTIONALIZING POWER VAULT PER UTILITY REQUIREMENTS.

CLAIR COMPANY
525 NW 2ND ST. #3
CORVALLIS, OR 97330
541-758-1302

REVISIONS	DATE	BY

VERITAS SCHOOL SITE DEVELOPMENT
NEWBERG, OREGON

POWER PLAN

26500 NE BELL ROAD NEWBERG, OR 97132

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 13, 2004
PETER J. SEADERS
RENEWAL: 6/30/2018

MSS INC
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215 NW 4th STREET
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C401
6 OF 11 SHEETS

BUILDING PERMIT SET

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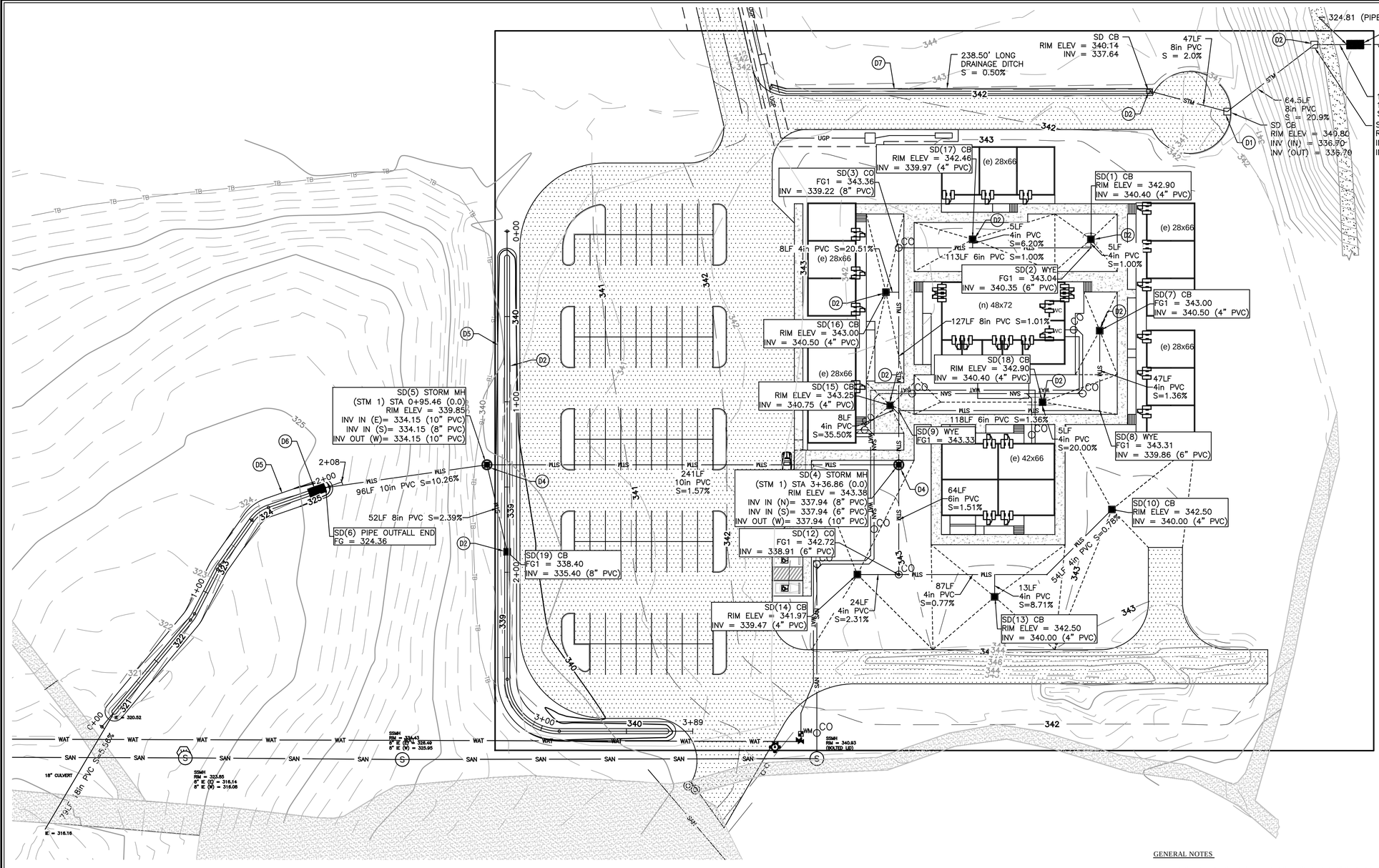


LEGEND

- PROPERTY BOUNDARY
- ADJACENT PROPERTY LINES
- CENTERLINE
- EASEMENT LINES
- BUILDING
- CURB
- SIDWALK
- FENCE
- WATERLINE
- SANITARY SEWER
- STORM DRAIN LINE
- OVERHEAD POWER
- UNDERGROUND POWER
- RETAINING WALL
- PROPOSED PAVING
- PROPERTY CORNER
- CONTROL POINT
- STORM MANHOLE
- STORM CATCHBASIN
- STORM/SEWER CLEANOUT
- FLOW DIRECTION ARROW
- STORM CULVERT END
- SEWER MANHOLE
- WATER METER
- CONCRETE PAVING
- ASPHALT PAVING
- GRAVEL SURFACE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- MAJOR CONTOURS
- MINOR CONTOURS
- WATER VALVE
- WATER METER
- POWER/UTILITY POLE
- STREET LIGHT
- STREET SIGN
- GAS VALVE
- GAS METER
- TEL/COMM PED/RISER

GENERAL NOTES

- PROVIDE TRENCH BACKFILL PER CITY OF NEWBERG STD. DRAWING 201A.
- PROVIDE PIPE BEDDING PER CIT OF NEWBERG STD. DRAWING 201B.
- ALL PLUMBING SHALL BE INSTALLED IN ACCORDANCE WITH IPC REQUIREMENTS. PROVIDE ADDITIONAL CLEANOUTS (NOT SHOWN) ON SEWER & STORM LINES AT 100' MAX SPACING OR FOR EVERY 135° OF PIPE BENDS.
- CONNECT BUILDING RAIN DRAINS TO COLLECTOR LINES AS REQUIRED. NOT SHOWN.

STORM NOTES

D1 CONSTRUCT TRAPPED LYNCH STYLE BASIN WITH CONCRETE COLLAR PER DETAIL ON C720.

D2 CONSTRUCT TRAPPED LYNCH STYLE BASIN WITHOUT CONCRETE COLLAR PER DETAIL ON C720.

D3 CONSTRUCT CLEANOUTS PER CITY OF NEWBERG STD. DRAWING 210

D4 CONSTRUCT STANDARD STORMWATER MANHOLE PER CITY OF NEWBERG STD. DRAWING 204.

D5 CONSTRUCT DRAINAGE SWALE. SEE DETAIL "A" SHEET C421 FOR PROFILE AND X-SECTION DETAIL. INSTALL MINIMUM 6 INCH TOPSOIL BEDDING. SEED SWALE PER TABLE C-2.

D6 CONSTRUCT 10' LONG x 5' WIDE x 2.3' DEEP RIPRAP PAD PER CITY OF NEWBERG STD DRAWING 422. USE CLASS 50 RIPRAP.

D7 CONSTRUCT DRAINAGE DITCH. SEE DETAIL "B" SHEET C421 FOR X-SECTION DETAIL. LINE DRAINAGE DITCH WITH 6 INCHES OF 3 INCH CRUSHED AGGREGATE

SCALE IN FEET
1 inch = 30 ft.

CLAIR COMPANY
525 NW 2ND ST. #3
CORVALLIS, OR 97330
541-758-1302

REVISIONS

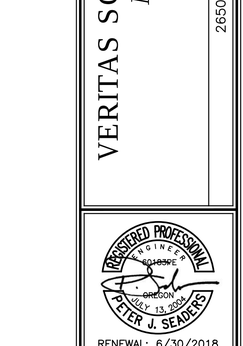
DATE	BY

VERITAS SCHOOL SITE DEVELOPMENT

NEWBERG, OREGON

STORM PLAN

26500 NE BELL ROAD NEWBERG, OR 97132



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C420
7 OF 11 SHEETS

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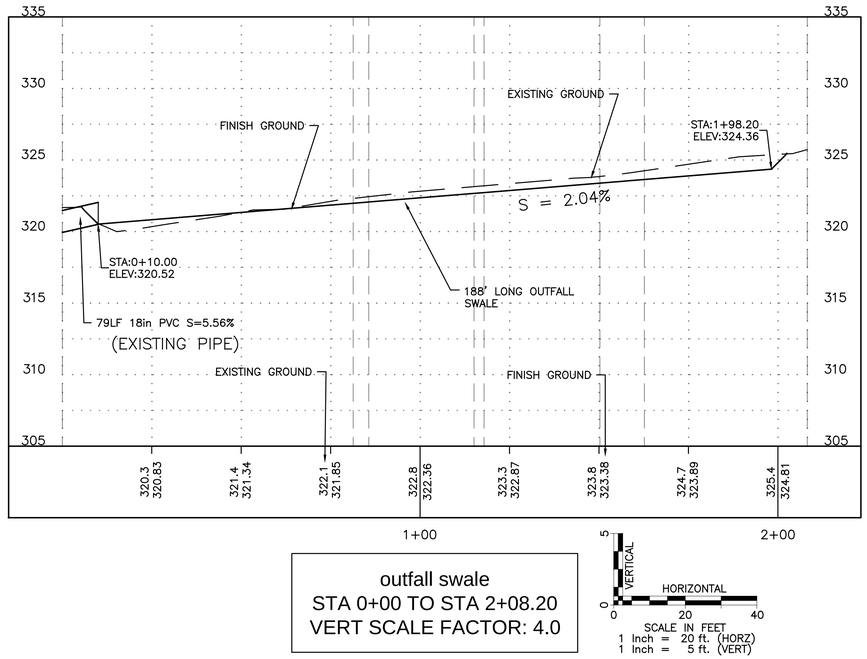
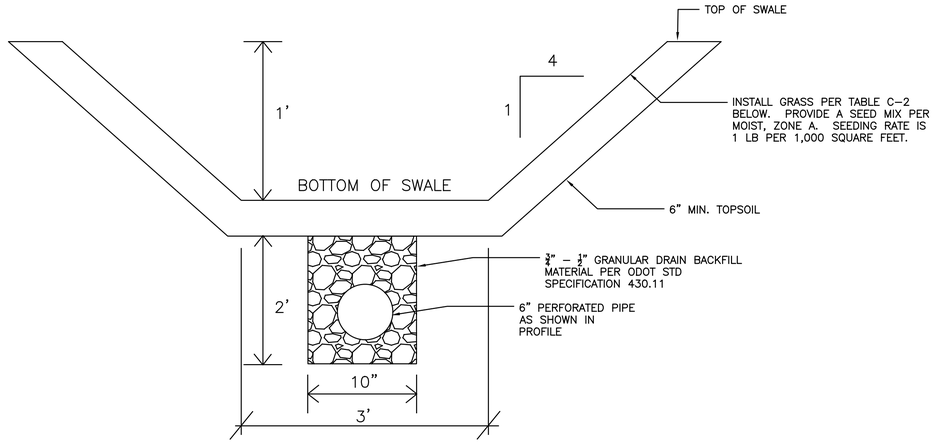
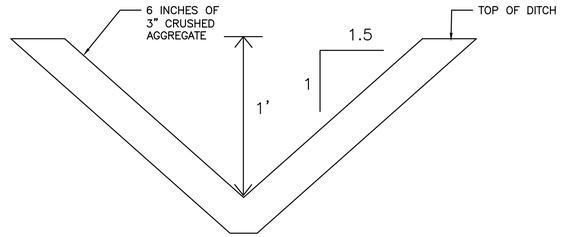


outfall swale
STA 0+00 TO STA 2+08.20
VERT SCALE FACTOR: 4.0



DETAIL A: SWALE X-SECTION

(NOT TO SCALE)



DETAIL B: DRAINAGE DITCH X-SECTION

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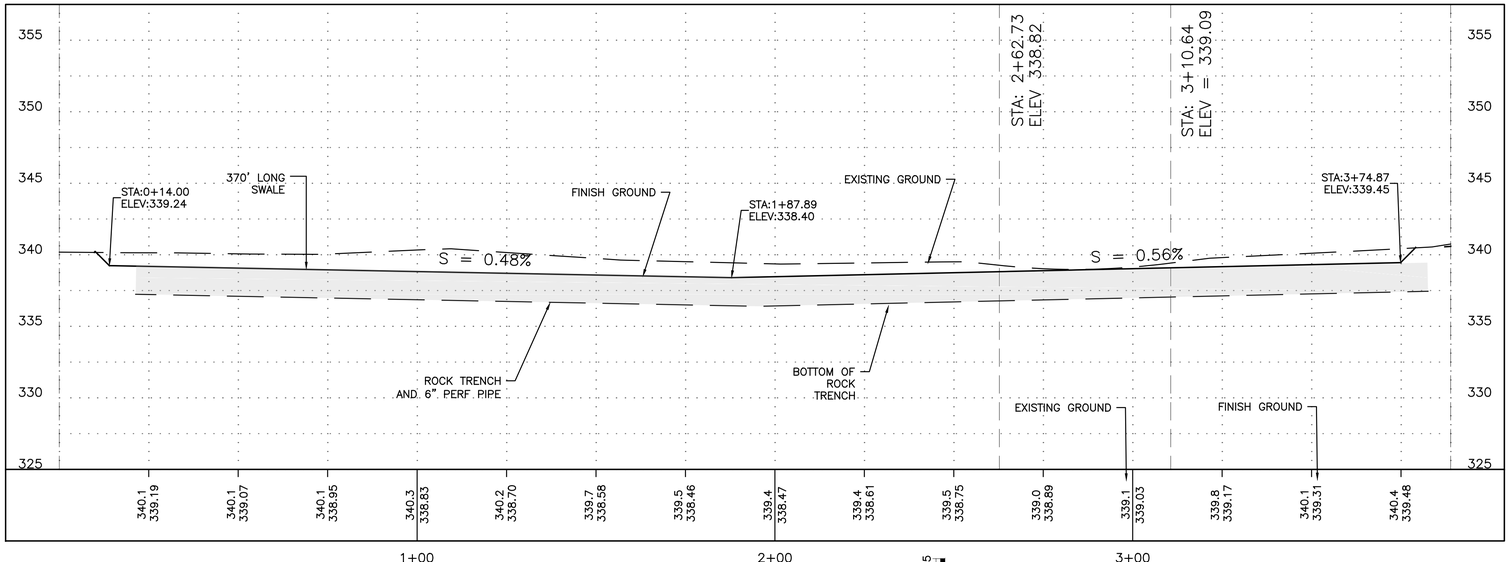

parking lot swale_longitudinal
STA 0+00 TO STA 3+88.87
VERT SCALE FACTOR: 4.0

TABLE C-2: Seed Mixture Specifications

Saturated, Zone S			
Saturated Zone: Mix 1	**Botanical Name**	**Common Name**	**% by Weight**
	Carex obnupta	Slough Sedge	27.00%
	Carex microptera	Smallwing Sedge	25.00%
	Carex stipata	Awlfruit Sedge	29.50%
	Eleocharis palustris	Common Spikerush	15.00%
	Scirpus microcarpus	Panicled Bulrush	3.00%
	Juncus tenuis	Poverty Rush	0.50%
Moist, Zone A			
Moist Zone: Mix 1	**Botanical Name**	**Common Name**	**% by Weight**
	Elymus glaucus	Blue Wildrye	46.00%
	Festuca rubra rubra	Native Red Fescue	38.00%
	Deschampsia cespitosa	Tufted Hairgrass	12.00%
	Glyceria occidentallis	Western Mannagrass	2.00%
	Beckmania syzigachne	American Sloughgrass	2.00%
Moist Zone: Mix 2	**Botanical Name**	**Common Name**	**% by Weight**
	Elymus glaucus	Blue Wildrye	50.00%
	Festuca rubra rubra	Native Red Fescue	15.00%
	Hordeum brachyantherum	Meadow Barley	10.00%
	Glyceria occidentallis	Western Mannagrass	10.00%
	Beckmania syzigachne	American Sloughgrass	10.00%
	Deschampsia cespitosa	Tufted Hairgrass	5.00%
Moist Zone: Mix 3	**Botanical Name**	**Common Name**	**% by Weight**
	Hordeum brachyantherum	Meadow Barley	35.00%
	Glyceria occidentallis	Western Mannagrass	20.00%
	Festuca rubra rubra	Native Red Fescue	20.00%
	Alopecurus genicaultius	Water Foxtail	13.00%
	Eleocharis palustris	Common Spikerush	5.00%
	Beckmania syzigachne	American Sloughgrass	4.00%
	Deschampsia cespitosa	Tufted Hairgrass	2.50%
	Agrostis exerata	Spike Bentgrass	0.50%
Dry, Zone B and Upland Landscaping Areas			
Dry Zone: Mix 1	**Botanical Name**	**Common Name**	**% by Weight**
	Hordeum brachyantherum	Meadow Barley	40.00%
	Bromus carinatus	California Brome	35.00%
	Festuca rubra rubra	Native Red Fescue	20.00%
	Deschampsia cespitosa	Tufted Hairgrass	3.00%
	Agrostis exerata	Spike Bentgrass	2.00%

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541-758-1302

REVISIONS	DATE	BY

VERITAS SCHOOL SITE DEVELOPMENT
NEWBERG, OREGON
STORM PROFILES
26500 NE BELL ROAD NEWBERG, OR 97132

REGISTERED PROFESSIONAL ENGINEER
60183PE
OREGON
JULY 13, 2006
PETER J. SEADERS
RENEWAL: 6/30/2018

MSS INC
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C421
8 OF 11 SHEETS

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APPENDIX B

MAPS

Hydrologic Soil Group—Yamhill County, Oregon
(Veritas School)

Map Scale: 1:2,320 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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 6, Sep 18, 2018

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—Sep 13, 2016

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2211B	Cove silty clay loam, 3 to 8 percent slopes	D	8.1	43.2%
2304C	Carlton silt loam, 2 to 12 percent slopes	C/D	1.2	6.7%
2304D	Carlton silt loam, 12 to 20 percent slopes	C/D	0.1	0.3%
2706C	Hazelair silty clay loam, 2 to 12 percent slopes	D	6.2	32.9%
2775F	Saum-Ritner complex, 30 to 75 percent slopes	C	0.9	4.9%
2776D	Panther-Witham complex, hummocky, 2 to 25 percent slopes	D	1.7	9.3%
2798D	Witham silty clay loam, hummocky, 2 to 25 percent slopes	D	0.5	2.6%
Totals for Area of Interest			**18.8**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

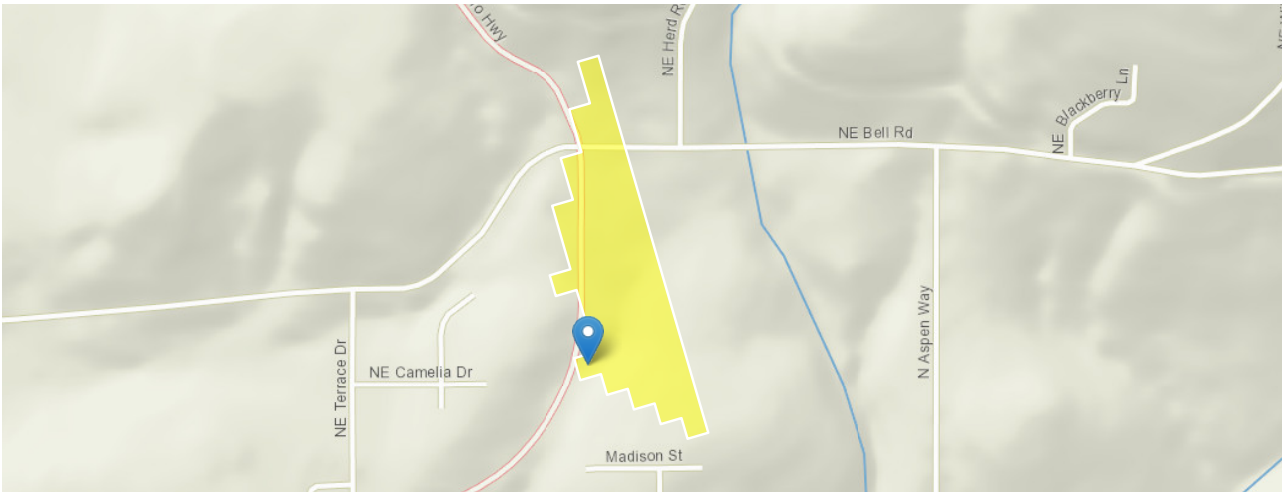
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Chehalem Creek: StreamStats Report

Region ID:	OR
Workspace ID:	OR20190908123723925000
Clicked Point (Latitude, Longitude):	45.32934, -122.96914
Time:	2019-09-08 05:37:39 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0195	square miles
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precipitation intensity index	1.99	inches
SOILPERM	Average Soil Permeability	0.53	inches per hour
JANMAXT2K	Mean Maximum January Temperature from 2K resolution PRISM 1961-1990 data	45.1	degrees F
WATCAPORC	Available water capacity from STATSGO data using methods from SIR 2005-5116	0.15	inches
ORREG2	Oregon Region Number	10001	dimensionless
BSLOPD	Mean basin slope measured in degrees	3.16	degrees
JANMINT2K	Mean Minimum January Temperature from 2K resolution PRISM PRISM 1961-1990 data	32.7	degrees F
ELEV	Mean Basin Elevation	341	feet

Peak-Flow Statistics Parameters[Reg 2B Western Interior LT 3000 ft Cooper]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0195	square miles	0.37	7270
BSLOPD	Mean Basin Slope degrees	3.16	degrees	5.62	28.3
I24H2Y	24 Hour 2 Year Precipitation	1.99	inches	1.53	4.48
ELEV	Mean Basin Elevation	341	feet		
ORREG2	Oregon Region Number	10001	dimensionless		

Peak-Flow Statistics Disclaimers[Reg 2B Western Interior LT 3000 ft Cooper]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Peak-Flow Statistics Flow Report[Reg 2B Western Interior LT 3000 ft Cooper]

Statistic	Value	Unit
2 Year Peak Flood	0.811	ft^3/s
5 Year Peak Flood	1.18	ft^3/s
10 Year Peak Flood	1.44	ft^3/s
25 Year Peak Flood	1.77	ft^3/s
50 Year Peak Flood	2.02	ft^3/s
100 Year Peak Flood	2.27	ft^3/s
500 Year Peak Flood	2.86	ft^3/s

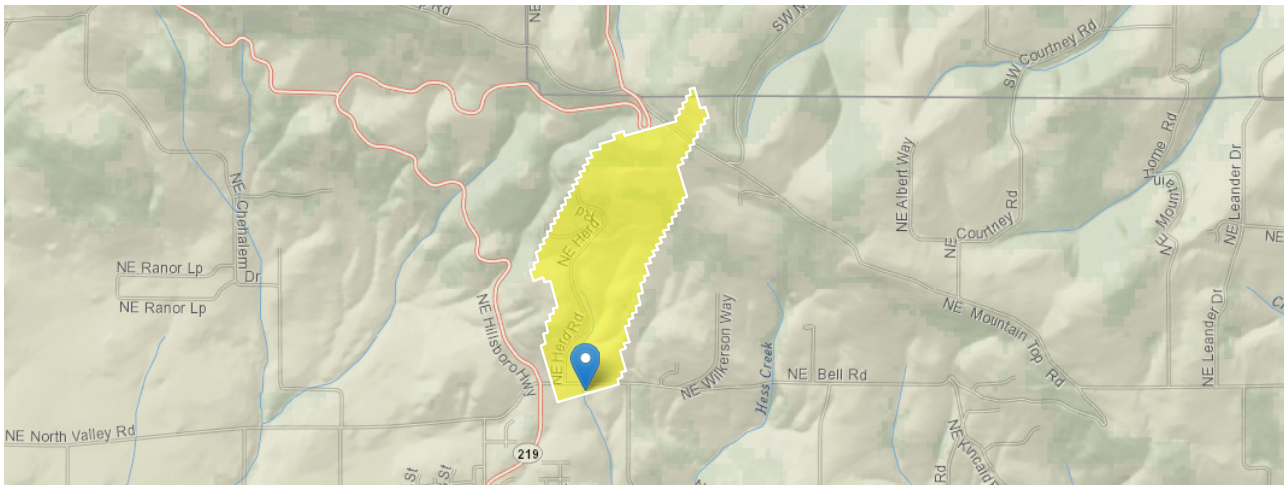
Peak-Flow Statistics Citations

Cooper, R.M.,2005, Estimation of Peak Discharges for Rural, Unregulated Streams in Western Oregon: U.S. Geological Survey Scientific Investigations Report 2005-5116, 76 p. (http://pubs.usgs.gov/sir/2005/5116/pdf/sir2005-5116.pdf)

Application Version: 4.3.8

Hess Creek Tributary: StreamStats Report

Region ID: OR
Workspace ID: OR20190908123357715000
Clicked Point (Latitude, Longitude): 45.33149, -122.96663
Time: 2019-09-08 05:34:13 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.31	square miles
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precipitation intensity index	2.09	inches
SOILPERM	Average Soil Permeability	0.86	inches per hour
JANMAXT2K	Mean Maximum January Temperature from 2K resolution PRISM 1961-1990 data	45	degrees F
WATCAPORC	Available water capacity from STATSGO data using methods from SIR 2005-5116	0.18	inches
ORREG2	Oregon Region Number	10001	dimensionless
BSLOPD	Mean basin slope measured in degrees	9.54	degrees
JANMINT2K	Mean Minimum January Temperature from 2K resolution PRISM PRISM 1961-1990 data	32.6	degrees F
ELEV	Mean Basin Elevation	719	feet

Peak-Flow Statistics Parameters[Reg 2B Western Interior LT 3000 ft Cooper]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.31	square miles	0.37	7270
BSLOPD	Mean Basin Slope degrees	9.54	degrees	5.62	28.3
I24H2Y	24 Hour 2 Year Precipitation	2.09	inches	1.53	4.48
ELEV	Mean Basin Elevation	719	feet		
ORREG2	Oregon Region Number	10001	dimensionless		

Peak-Flow Statistics Disclaimers[Reg 2B Western Interior LT 3000 ft Cooper]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Peak-Flow Statistics Flow Report[Reg 2B Western Interior LT 3000 ft Cooper]

Statistic	Value	Unit

Statistic	Value	Unit
2 Year Peak Flood	17.1	ft^3/s
5 Year Peak Flood	25.2	ft^3/s
10 Year Peak Flood	30.7	ft^3/s
25 Year Peak Flood	37.6	ft^3/s
50 Year Peak Flood	42.8	ft^3/s
100 Year Peak Flood	47.9	ft^3/s
500 Year Peak Flood	59.8	ft^3/s

Peak-Flow Statistics Citations

Cooper, R.M.,2005, Estimation of Peak Discharges for Rural, Unregulated Streams in Western Oregon: U.S. Geological Survey Scientific Investigations Report 2005-5116, 76 p. (http://pubs.usgs.gov/sir/2005/5116/pdf/sir2005-5116.pdf)

Application Version: 4.3.8

APPENDIX C

BASINS AND RETROFIT STRATEGY

NE BELL ROAD

TL 2801

TL 2700

TO HESS CREEK

BASEBALL/SOFTBALL FIELD

NEW UNDERGROUND POWER LINE (E2)

(E) 40' ROAD & UTILITY EASEMENT

EDGE OF EXISTING GRAVEL ROAD

(P) 10' UTILITY EASEMENT

POWER VAULT (E6)

EDGE OF FIRE ACCESS ROAD

(P) 7' UTILITY EASEMENT

600A SERVICE PANEL (E5)

TXFMR PAD

MODULAR BUILDING

24.99'

DUGOUT

TL 2702

TL 2800

TL 2701

TL 2703

TO CHEHALEM CREEK

EAST BASIN (OR E1)

WEST BASIN (OR E2)

0 40 60 80

SCALE IN FEET
1 Inch = 40 ft.

REVISIONS | DATE | BY

VERITAS SCHOOL SITE DEVELOPMENT
NEWBERG, OREGON
26500 NE BELL ROAD NEWBERG, OR 97132

PRE-DEVELOPMENT BASIN MAP

NE BELL ROAD

TL 2801

BASEBALL/SOFTBALL FIELD

EDGE OF EXISTING GRAVEL ROAD

24.99'

DUGOUT

NEW UNDERGROUND POWER LINE (E2)

(E) 40' ROAD & UTILITY EASEMENT

TL 2700

(P) 10' UTILITY EASEMENT

POWER VAULT (E6)

EDGE OF FIRE ACCESS ROAD

(P) 7' UTILITY EASEMENT

600A SERVICE PANEL (E5)

MODULAR BUILDING

TL 2702

(e) 28x66

(n) 48x72

(e) 42x66

TL 2800

TL 2700

TL 2701

TL 2703

TO HESS CREEK

TO CHEHALEM CREEK

FUTURE PHASE 2 AND 3 BUILDINGS

EAST BASIN (OR P1)

SUB-BASIN P2

SUB-BASIN P3

SUB-BASIN P4

0 40 60 80

SCALE IN FEET
1 Inch = 40 ft.

REVISIONS | DATE | BY

VERITAS SCHOOL SITE DEVELOPMENT
NEWBERG, OREGON
26500 NE BELL ROAD NEWBERG, OR 97132

POST-DEVELOPMENT BASIN MAP

INSTALL NEW 12" CULVERT TO DRAIN WEST

REGRADE DITCH TO DRAIN INTO NEW CULVERT

EXCAVATE NEW DETENTION BASIN WITH FLAT BOTTOM AREA OF 11,460 SF AND ELEVATION OF 322.50. IMPOUND DRAINAGE WITH EMBANKMENT AT TOP ELEVATION OF 325.00, AND HIGH FLOW BYPASS OF 5' WIDTH AT ELEVATION 323.90 FEET.

REGRADE DITCH TO DRAIN WEST

CONNECT NEW CULVERT TO EXISTING SWALE VIA NEW DITCH, OR ALLOW NEW CULVERT DISCHARGE TO FLOW OVERLAND INTO NEW DETENTION BASIN

PROVIDE EXCAVATION AND EMBANKMENT AROUND FLAT BOTTOM DETENTION AREA USING 4H:1V SIDE SLOPES.

INSTALL NEW DITCH INLET ON UPSTREAM SIDE OF EMBANKMENT. PROVIDE 2.9" ORIFICE AT ELEVATION 322.50, 12" OUTLET PIPE, AND SET RIM ELEVATION AT 323.17.

- PROPERTY BOUNDARY
- ADJACENT PROPERTY LINES
- CENTERLINE
- EASEMENT LINES
- BUILDING
- CURB
- SIDWALK
- FENCE
- WATERLINE
- SANITARY SEWER
- STORM DRAIN LINE
- OVERHEAD POWER
- UNDERGROUND POWER
- RETAINING WALL
- PROPOSED PAVING
- PROPERTY CORNER
- CONTROL POINT
- STORM MANHOLE
- STORM CATCHBASIN
- STORM/SEWER CLEANOUT
- FLOW DIRECTION ARROW
- STORM CULVERT END
- SEWER MANHOLE
- WATER METER
- CONCRETE PAVING
- ASPHALT PAVING
- GRAVEL SURFACE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- MAJOR CONTOURS
- MINOR CONTOURS
- WATER VALVE
- WATER METER
- POWER/UTILITY POLE
- STREET LIGHT
- STREET SIGN
- GAS VALVE
- GAS METER
- TEL/COMM PED/RISER

0 30 45 60
SCALE IN FEET
1 Inch = 30 ft.

REVISIONS | BY | DATE

VERITAS SCHOOL SITE DEVELOPMENT
NEWBERG, OREGON
26500 NE BELL ROAD NEWBERG, OR 97132

RETROFIT STRATEGY

APPENDIX D

STORMWATER CALCULATIONS

Project Description

File Name 20190920-Model.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 21, 2019	00:00:00
End Analysis On	Sep 23, 2019	00:00:00
Start Reporting On	Sep 21, 2019	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	1	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	8
Junctions	4
Outfalls	3
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	7
Channels	3
Pipes	4
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-50%	Intensity	inches	Oregon	Yamhill	1	1.25	SCS Type IA 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	E1/P1	2.97	0.17	0.51	0.04
2	E2_E3_E4	12.74	0.17	2.20	0.15
3	P2	4.46	0.36	1.61	0.29
4	P3	1.72	0.86	1.48	0.38
5	P4	6.56	0.17	1.13	0.08

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	REV-Swale-End	Junction	320.52	330.00	320.52	330.00	12.00	0.15	321.09	0.00	8.91	0 00:00	0.00	0.00
2	REV-Swale-Start	Junction	322.50	330.00	322.50	330.00	12.00	0.15	322.59	0.00	7.41	0 00:00	0.00	0.00
3	SD(5)	Junction	334.15	339.85	334.15	340.00	12.00	0.38	334.31	0.00	5.54	0 00:00	0.00	0.00
4	SD(6)	Junction	324.36	330.00	324.36	330.00	12.00	0.66	324.40	0.00	5.60	0 00:00	0.00	0.00
5	Out-PRE-East	Outfall	325.00					0.04	325.00					
6	Out-PRE-West	Outfall	316.16					0.15	316.16					
7	Out-REV-POST-West	Outfall	316.16					0.15	316.25					
8	Det-Basin	Storage Node	322.50	326.00	322.50		12.00	0.66	323.17				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	Ditch-Inlet	Pipe	Det-Basin	REV-Swale-Start	5.00	323.17	322.50	13.4000	12.000	0.0150	0.00	11.30	0.00	0.01	0.05	0.05	0.00	Calculated
2	Orifice	Pipe	Det-Basin	REV-Swale-Start	5.00	322.50	322.50	0.0000	2.900	0.0130	0.15	0.01	13.43	4.54	0.17	0.69	0.00	> CAPACITY
3	REV-Swale-Discharge	Pipe	REV-Swale-End	Out-REV-POST-West	68.56	321.00	316.16	7.0600	18.000	0.0150	0.15	24.19	0.01	3.78	0.09	0.06	0.00	Calculated
4	SD5_SD6	Pipe	SD(5)	SD(6)	96.00	334.15	324.36	10.2000	10.000	0.0130	0.38	7.00	0.05	10.06	0.10	0.12	0.00	Calculated
5	HF_Bypass	Channel	Det-Basin	REV-Swale-Start	5.00	323.90	322.50	28.0000	24.000	0.0320	0.00	263.60	0.00	0.00	0.05	0.02	0.00	
6	Link-22	Channel	SD(6)	Det-Basin	5.00	324.36	322.50	37.2000	60.000	0.0320	0.66	995.36	0.00	1.63	0.34	0.07	0.00	
7	REV-Swale	Channel	REV-Swale-Start	REV-Swale-End	100.00	322.50	320.52	1.9800	18.000	0.2400	0.15	31.07	0.00	0.11	0.33	0.22	0.00	

Subbasin Hydrology

Subbasin : E1/P1

Input Data

Area (ac) 2.97
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	2.97	D	80.00
Composite Area & Weighted CN	2.97		80.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	16.14	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	200	0.00	0.00
Slope (%) :	2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.28	0.00	0.00
Computed Flow Time (min) :	1.46	0.00	0.00

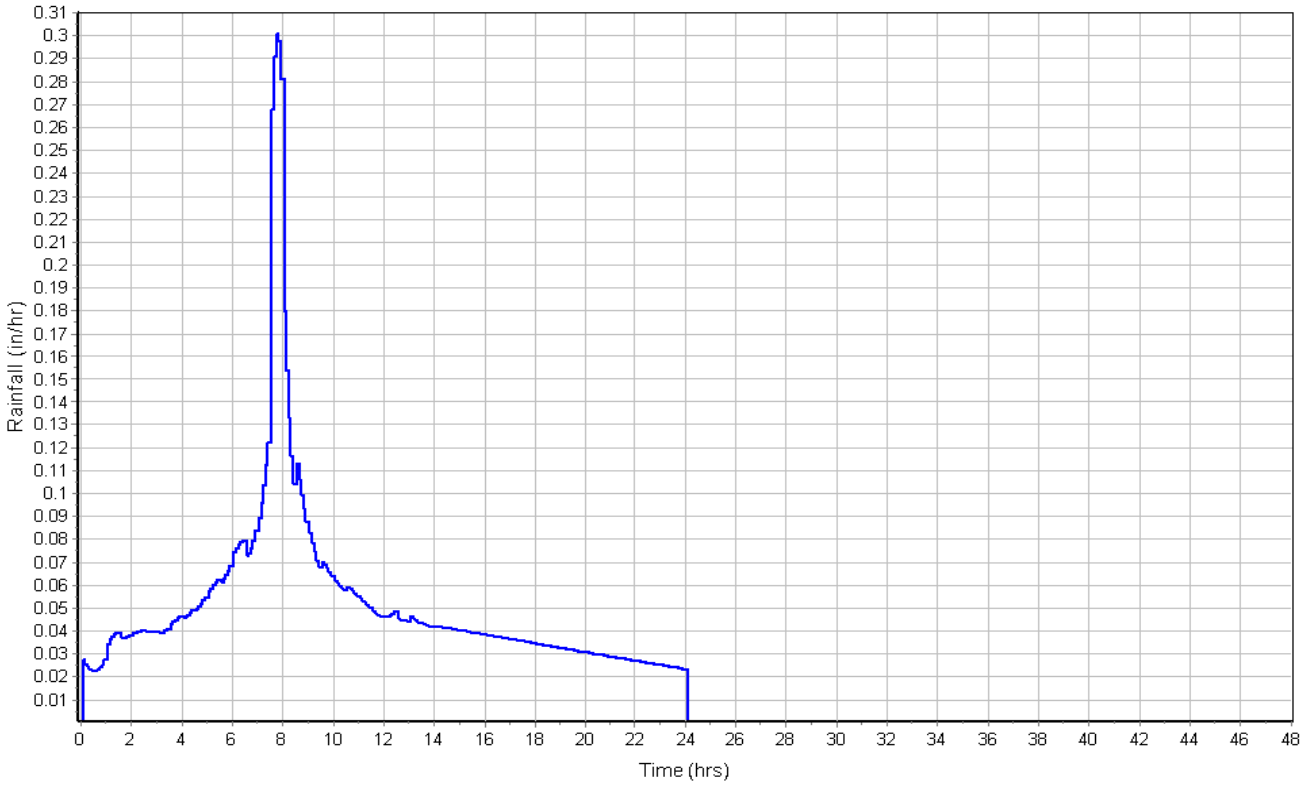
Total TOC (min) 17.61

Subbasin Runoff Results

Total Rainfall (in)	1.25
Total Runoff (in)	0.17
Peak Runoff (cfs)	0.04
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:17:37

Subbasin : E1/P1

Rainfall Intensity Graph



Runoff Hydrograph

Subbasin : E2_E3_E4

Input Data

Area (ac) 12.74
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	12.74	D	80.00
Composite Area & Weighted CN	12.74		80.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	3	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	13.73	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	500	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	2.99	0.00	0.00

Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Channel Slope (%) :	3	0.00	0.00
Cross Section Area (ft^2) :	12	0.00	0.00
Wetted Perimeter (ft) :	12	0.00	0.00
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	4.65	0.00	0.00

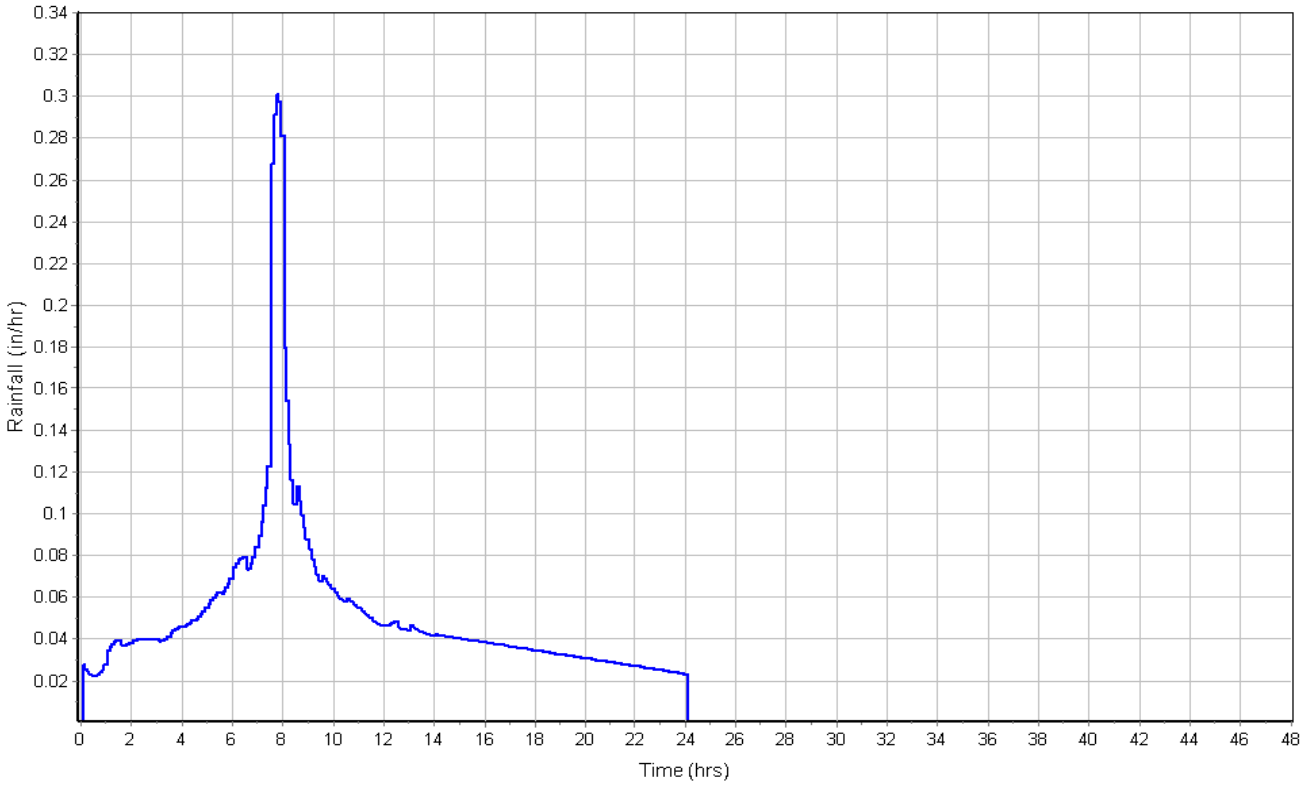
Total TOC (min) 21.36

Subbasin Runoff Results

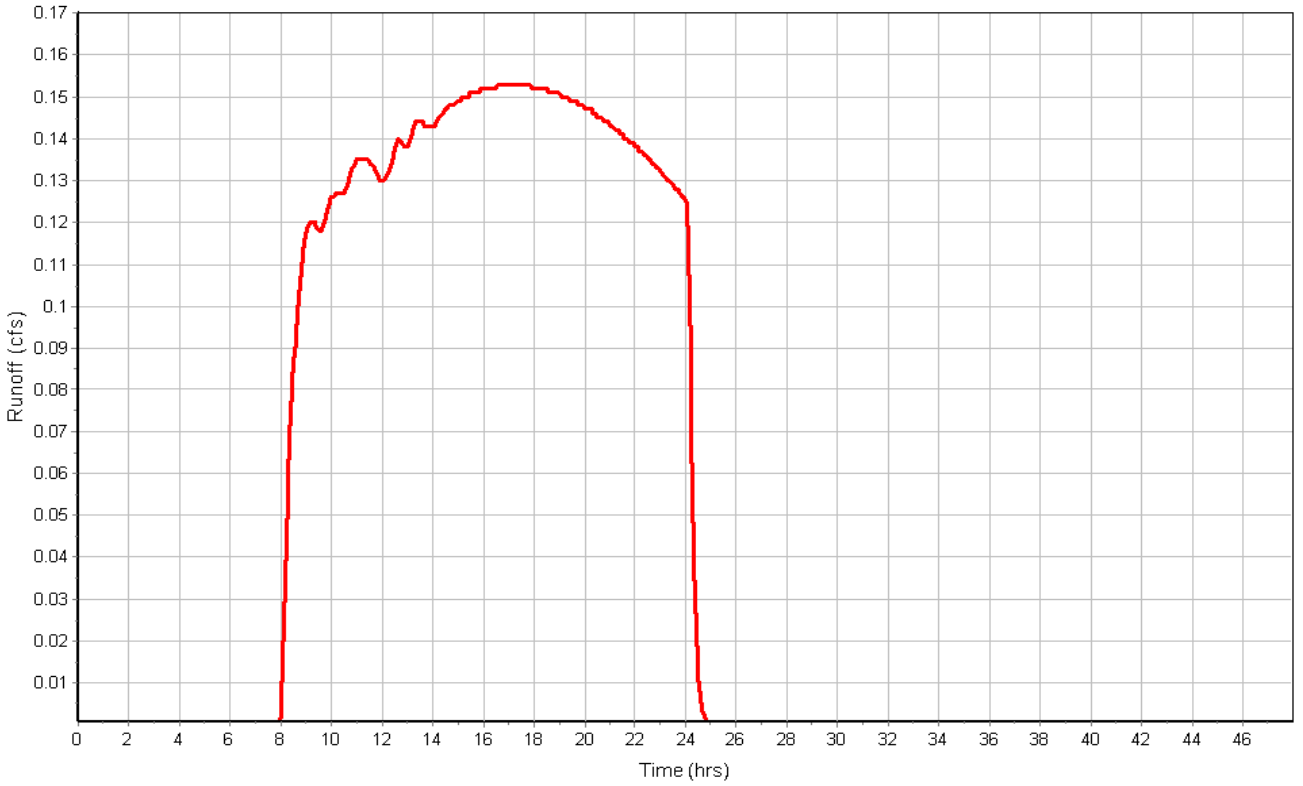
Total Rainfall (in) 1.25
Total Runoff (in) 0.17
Peak Runoff (cfs) 0.15
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:21:22

Subbasin : E2_E3_E4

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P2

Input Data

Area (ac) 4.46
Weighted Curve Number 86.74
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.67	-	98.00
-	2.79	-	80.00
Composite Area & Weighted CN	4.46		86.74

Time of Concentration

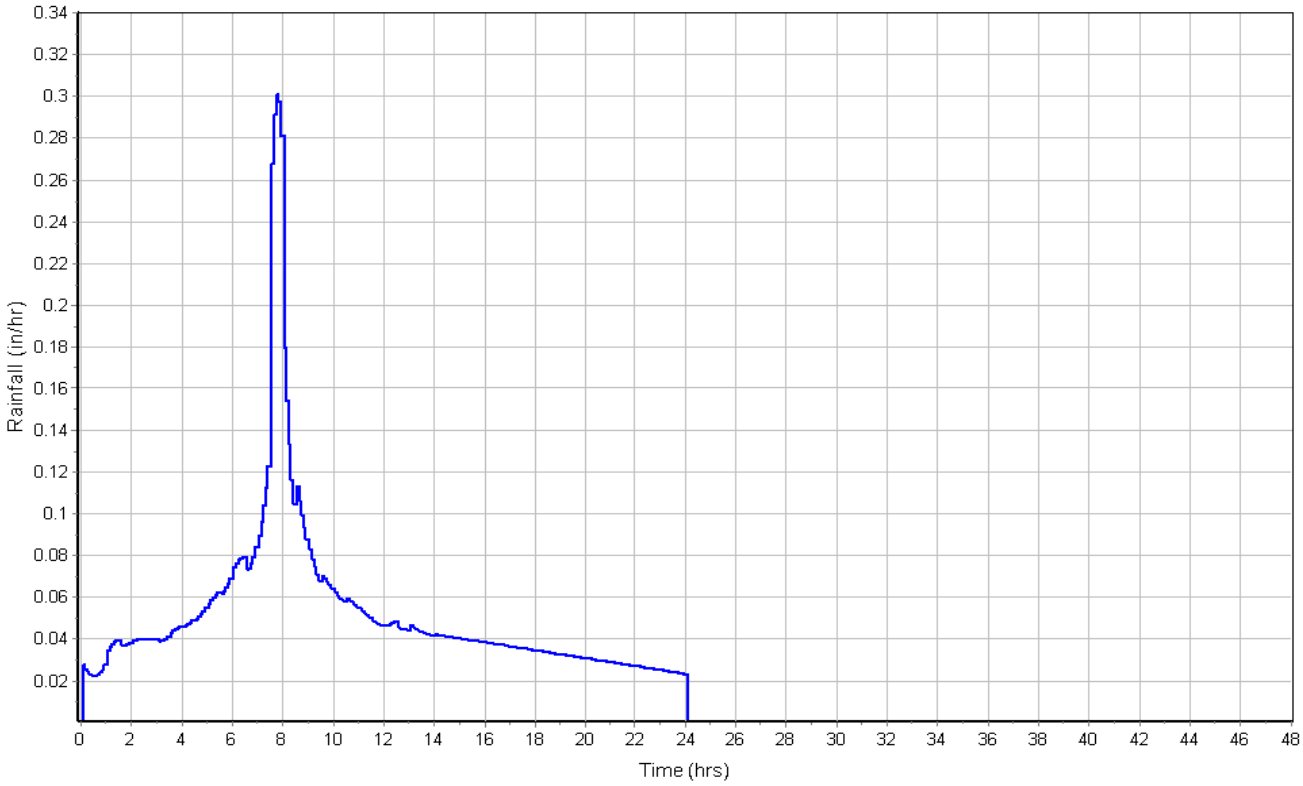
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

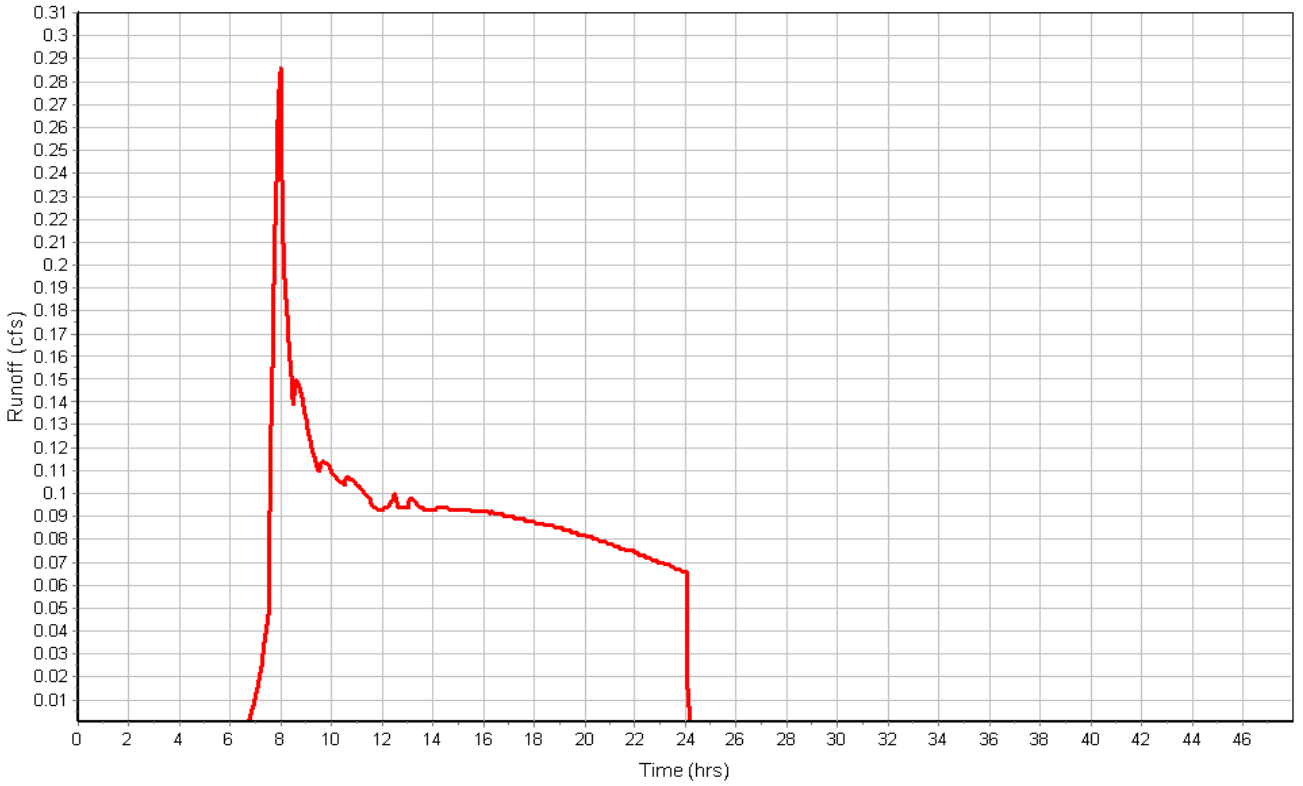
Total Rainfall (in) 1.25
Total Runoff (in) 0.36
Peak Runoff (cfs) 0.29
Weighted Curve Number 86.74
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P2

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P3

Input Data

Area (ac) 1.72
Weighted Curve Number 96.01
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.53	-	98.00
-	0.19	-	80.00
Composite Area & Weighted CN	1.72		96.01

Time of Concentration

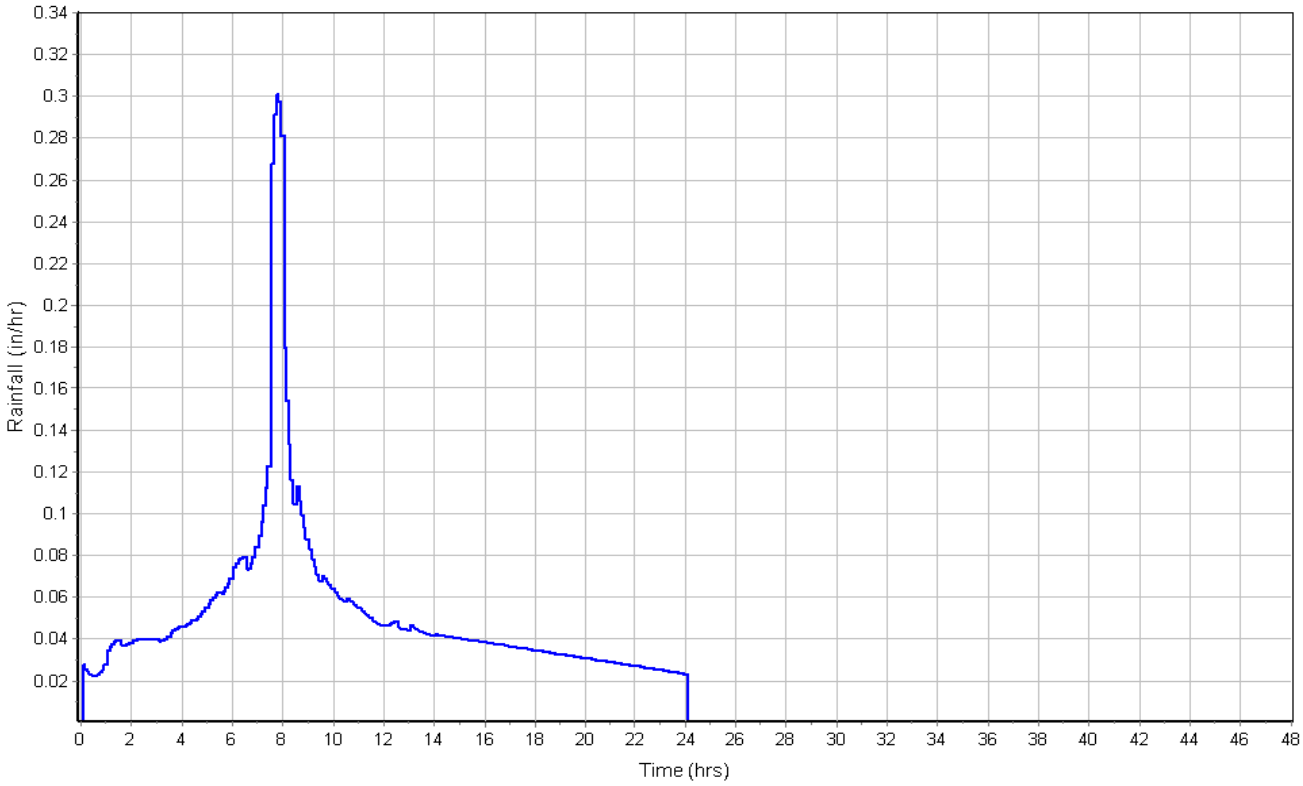
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

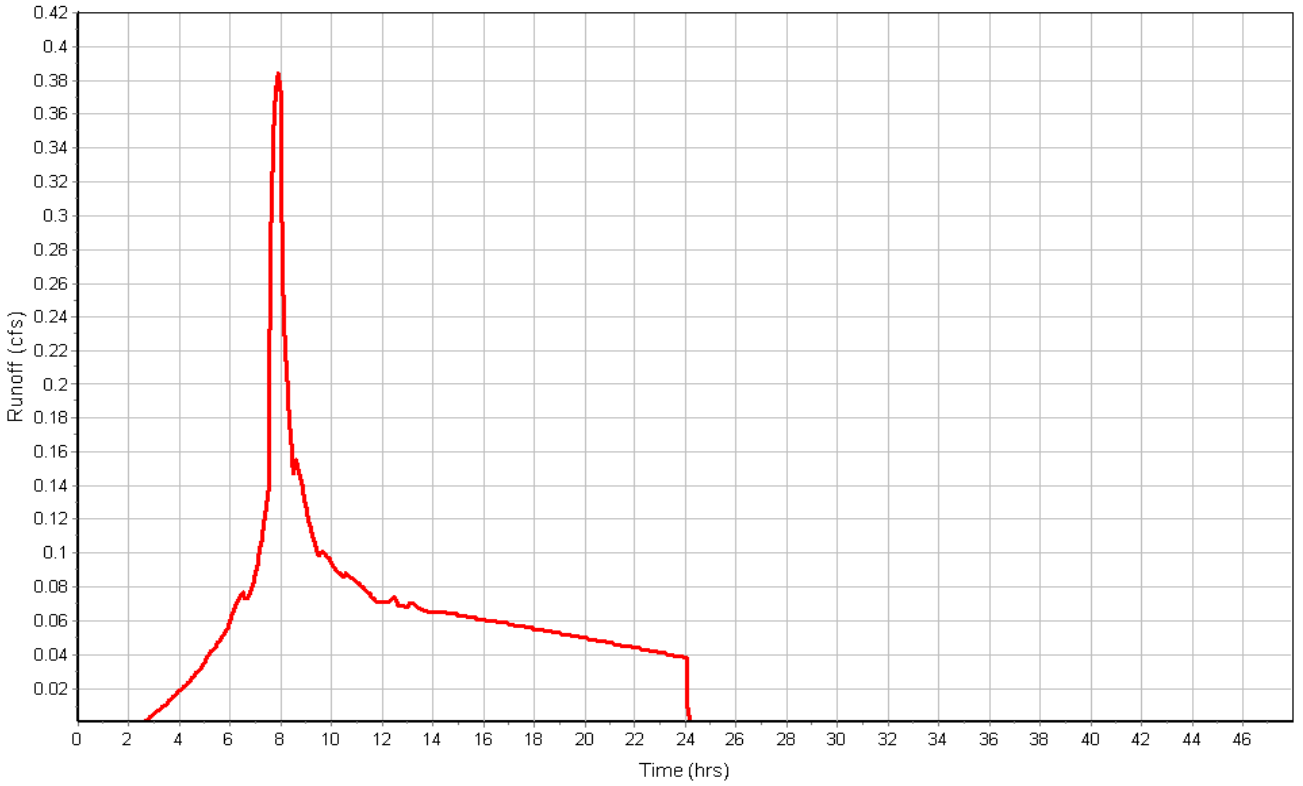
Total Rainfall (in) 1.25
Total Runoff (in) 0.86
Peak Runoff (cfs) 0.38
Weighted Curve Number 96.01
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P3

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P4

Input Data

Area (ac) 6.56
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	9.91	D	80.00
Composite Area & Weighted CN	9.91		80.00

Time of Concentration

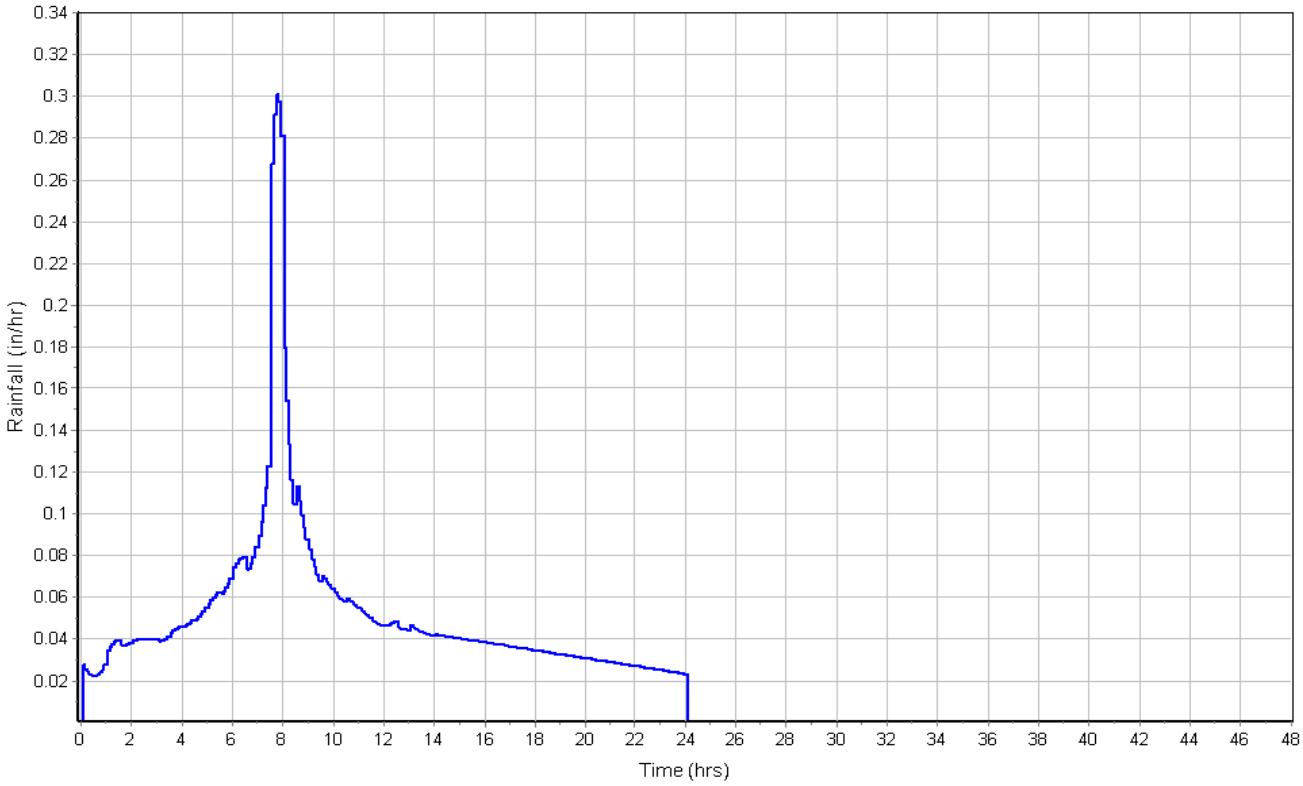
User-Defined TOC override (minutes): 16.71

Subbasin Runoff Results

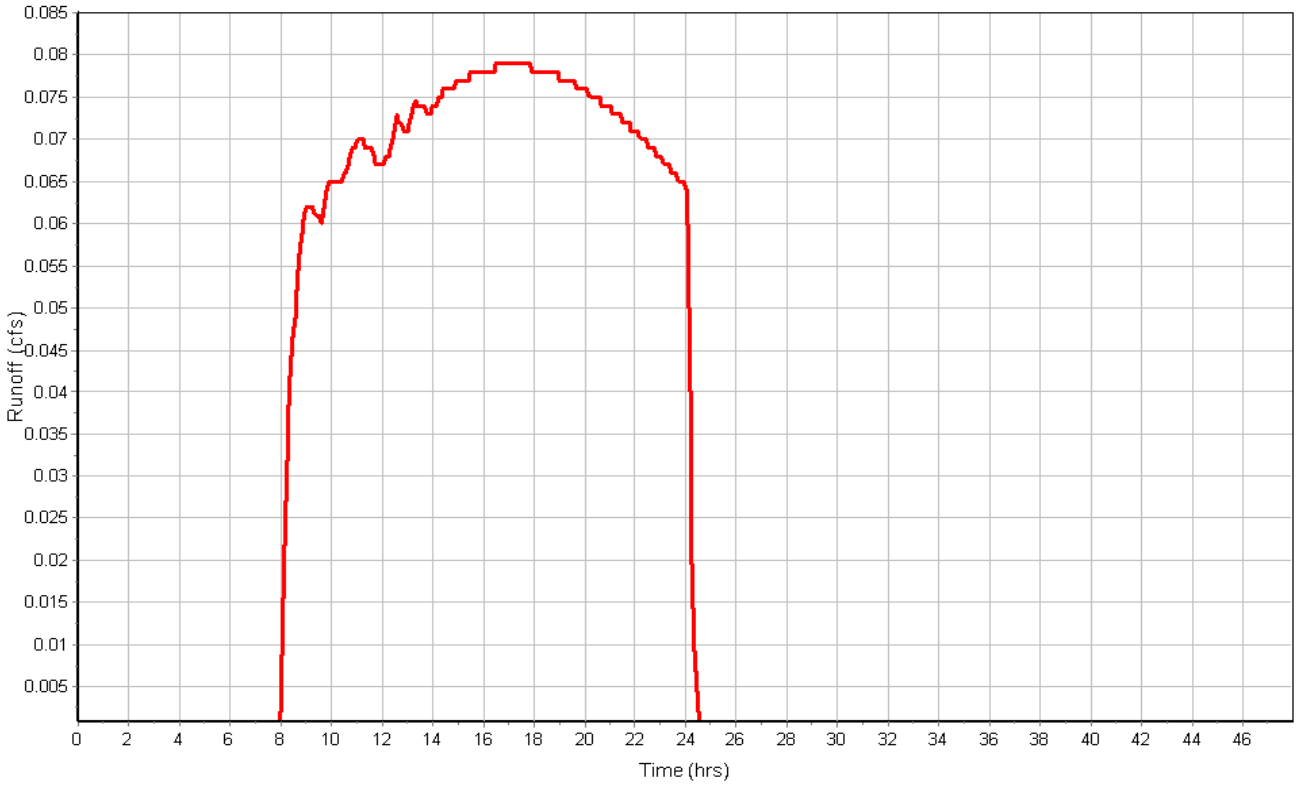
Total Rainfall (in) 1.25
Total Runoff (in) 0.17
Peak Runoff (cfs) 0.08
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:16:43

Subbasin : P4

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : Det-Basin

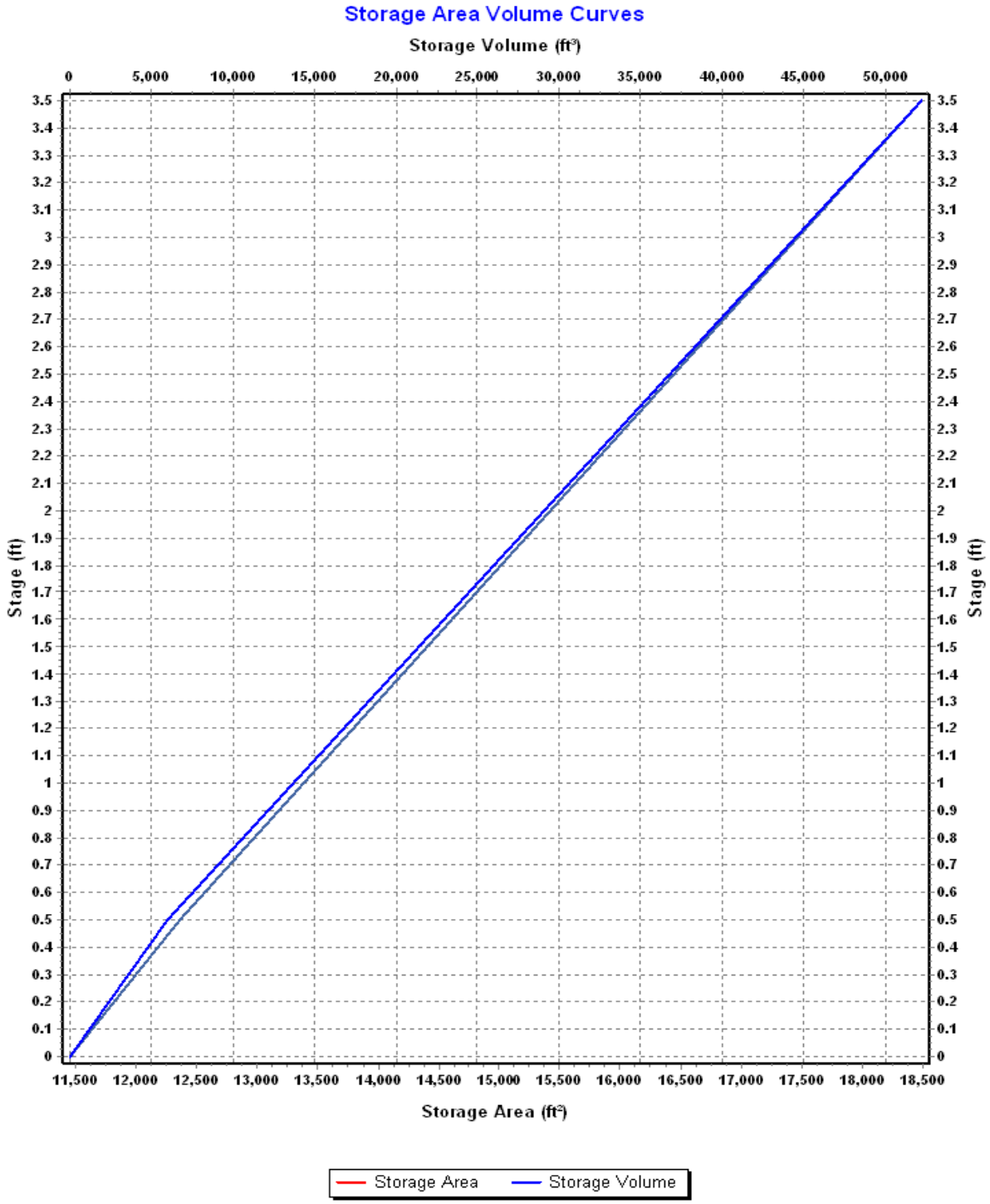
Input Data

Invert Elevation (ft)	322.50
Max (Rim) Elevation (ft)	326.00
Max (Rim) Offset (ft)	3.50
Initial Water Elevation (ft)	322.50
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	12.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Detention_Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	11460	0.000
0.5	12362	5955.50
3.5	18484	52224.50


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3
3.1
3.2
3.3
3.4
3.5
11,500
12,000
12,500
13,000
13,500
14,000
14,500
15,000
15,500
16,000
16,500
17,000
17,500
18,000
18,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Det-Basin (continued)

Output Summary Results

Peak Inflow (cfs)	0.66
Peak Lateral Inflow (cfs)	0.08
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	323.17
Max HGL Depth Attained (ft)	0.67
Average HGL Elevation Attained (ft)	322.88
Average HGL Depth Attained (ft)	0.38
Time of Max HGL Occurrence (days hh:mm)	1 00:06
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name 20190920-Model.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 21, 2019	00:00:00
End Analysis On	Sep 23, 2019	00:00:00
Start Reporting On	Sep 21, 2019	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	1	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	8
Junctions	4
Outfalls	3
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	7
Channels	3
Pipes	4
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-002	Intensity	inches	Oregon	Yamhill	2	2.50	SCS Type IA 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	E1/P1	2.97	0.89	2.64	0.49
2	E2_E3_E4	12.74	0.89	11.33	2.05
3	P2	4.46	1.29	5.77	1.38
4	P3	1.72	2.06	3.55	0.93
5	P4	6.56	0.89	5.83	1.10

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	REV-Swale-End	Junction	320.52	330.00	320.52	330.00	12.00	1.28	321.25	0.00	8.75	0 00:00	0.00	0.00
2	REV-Swale-Start	Junction	322.50	330.00	322.50	330.00	12.00	1.28	322.81	0.00	7.19	0 00:00	0.00	0.00
3	SD(5)	Junction	334.15	339.85	334.15	340.00	12.00	0.93	334.40	0.00	5.45	0 00:00	0.00	0.00
4	SD(6)	Junction	324.36	330.00	324.36	330.00	12.00	2.31	324.45	0.00	5.55	0 00:00	0.00	0.00
5	Out-PRE-East	Outfall	325.00					0.49	325.00					
6	Out-PRE-West	Outfall	316.16					2.03	316.16					
7	Out-REV-POST-West	Outfall	316.16					1.28	316.39					
8	Det-Basin	Storage Node	322.50	326.00	322.50		12.00	3.32	323.46				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Ditch-Inlet	Pipe	Det-Basin	REV-Swale-Start	5.00	323.17	322.50	13.4000	12.000	0.0150	1.07	11.30	0.09	5.46	0.30	0.30	0.00
2	Orifice	Pipe	Det-Basin	REV-Swale-Start	5.00	322.50	322.50	0.0000	2.900	0.0130	0.21	0.01	18.26	4.72	0.24	1.00	259.00
3	REV-Swale-Discharge	Pipe	REV-Swale-End	Out-REV-POST-West	68.56	321.00	316.16	7.0600	18.000	0.0150	1.28	24.19	0.05	7.01	0.24	0.16	0.00
4	SD5_SD6	Pipe	SD(5)	SD(6)	96.00	334.15	324.36	10.2000	10.000	0.0130	0.93	7.00	0.13	11.89	0.17	0.20	0.00
5	HF_Bypass	Channel	Det-Basin	REV-Swale-Start	5.00	323.90	322.50	28.0000	24.000	0.0320	0.00	263.60	0.00	0.00	0.15	0.08	0.00
6	Link-22	Channel	SD(6)	Det-Basin	5.00	324.36	322.50	37.2000	60.000	0.0320	2.31	995.36	0.00	1.50	0.50	0.10	0.00
7	REV-Swale	Channel	REV-Swale-Start	REV-Swale-End	100.00	322.50	320.52	1.9800	18.000	0.2400	1.28	31.07	0.04	0.49	0.52	0.34	0.00

Reported Condition
Calculated
SURCHARGED
Calculated
Calculated

Subbasin Hydrology

Subbasin : E1/P1

Input Data

Area (ac) 2.97
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	2.97	D	80.00
Composite Area & Weighted CN	2.97		80.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	16.14	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	200	0.00	0.00
Slope (%) :	2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.28	0.00	0.00
Computed Flow Time (min) :	1.46	0.00	0.00

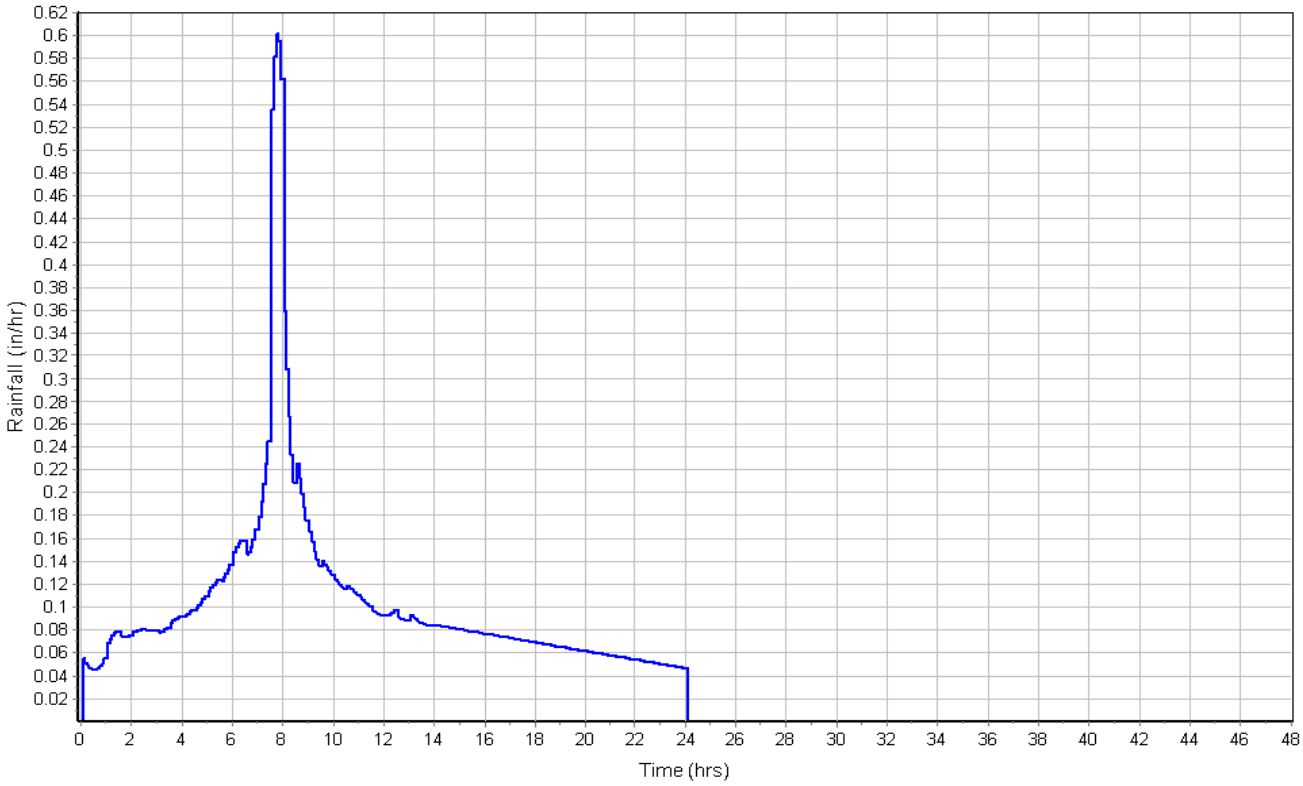
Total TOC (min) 17.61

Subbasin Runoff Results

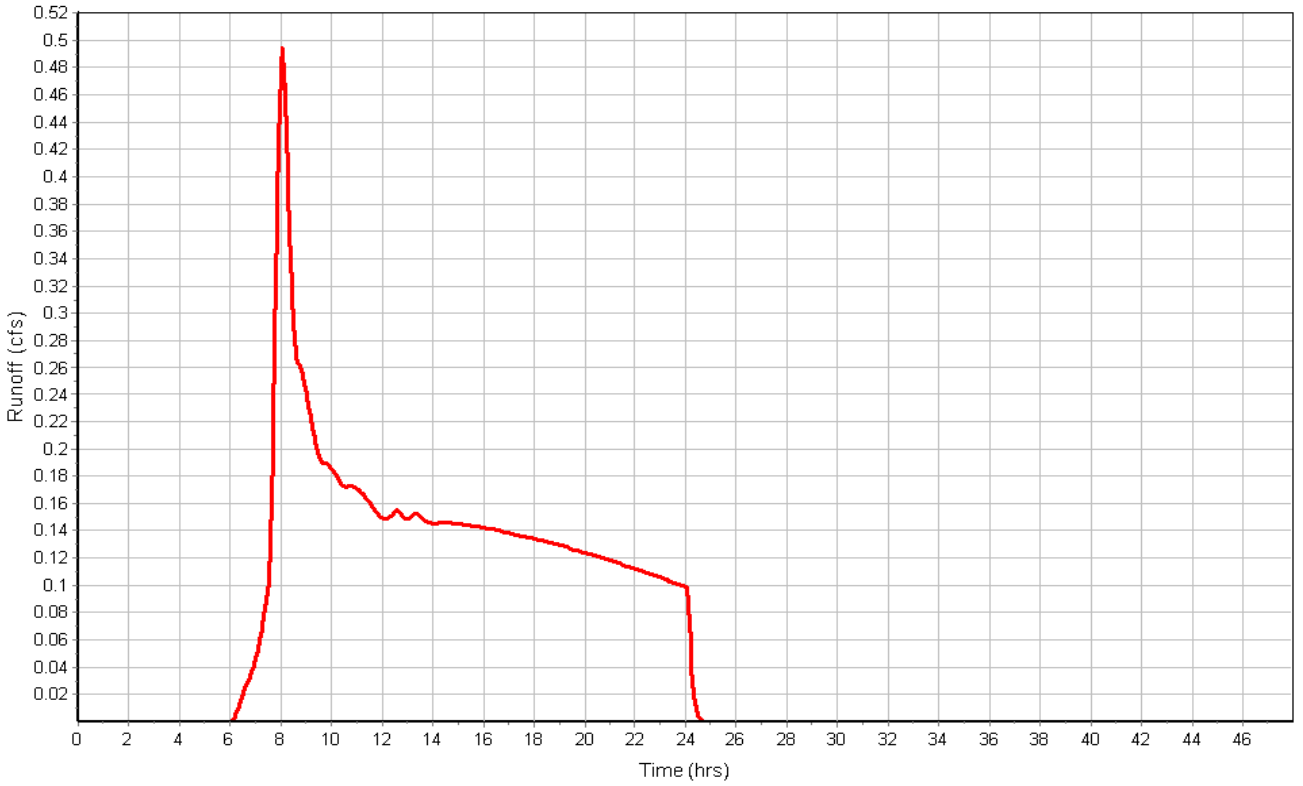
Total Rainfall (in)	2.50
Total Runoff (in)	0.89
Peak Runoff (cfs)	0.49
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:17:37

Subbasin : E1/P1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E2_E3_E4

Input Data

Area (ac) 12.74
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	12.74	D	80.00
Composite Area & Weighted CN	12.74		80.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	3	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	13.73	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	500	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	2.99	0.00	0.00

Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Channel Slope (%) :	3	0.00	0.00
Cross Section Area (ft^2) :	12	0.00	0.00
Wetted Perimeter (ft) :	12	0.00	0.00
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	4.65	0.00	0.00

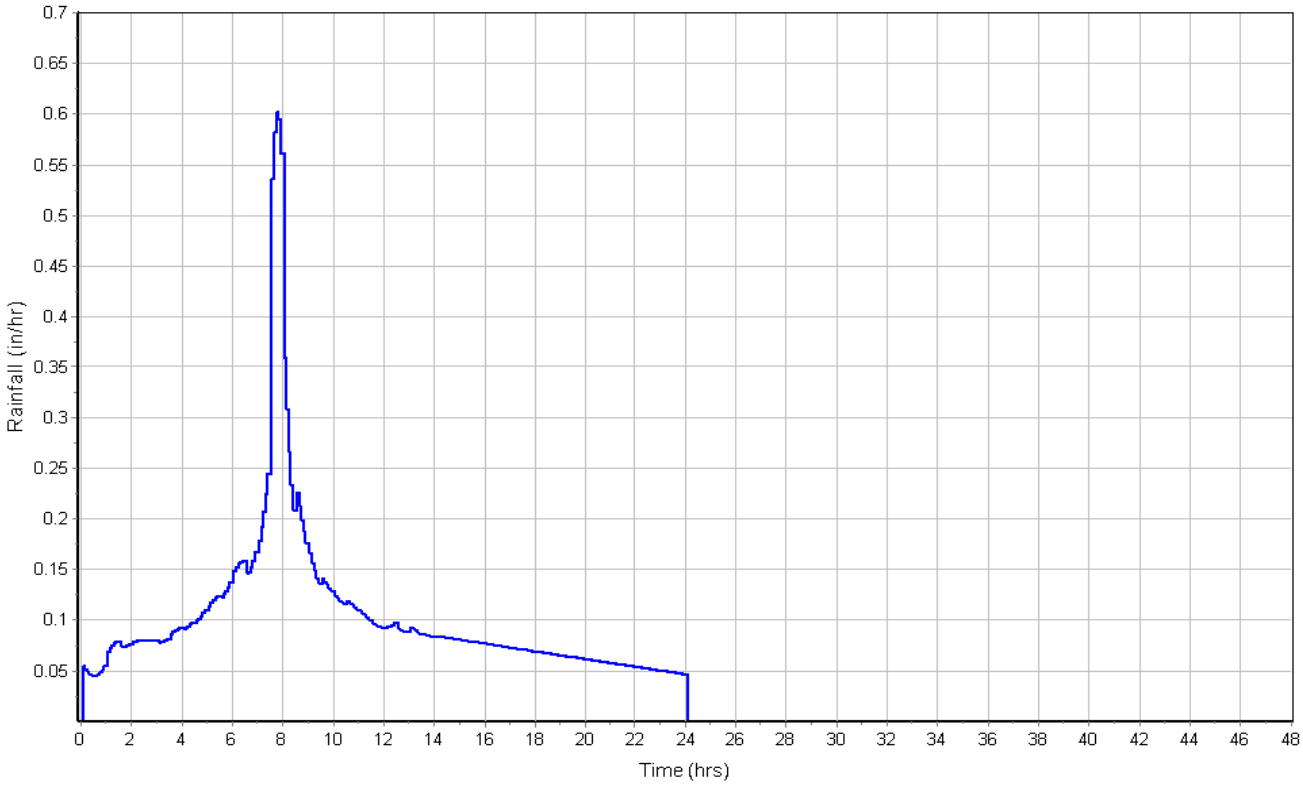
Total TOC (min) 21.36

Subbasin Runoff Results

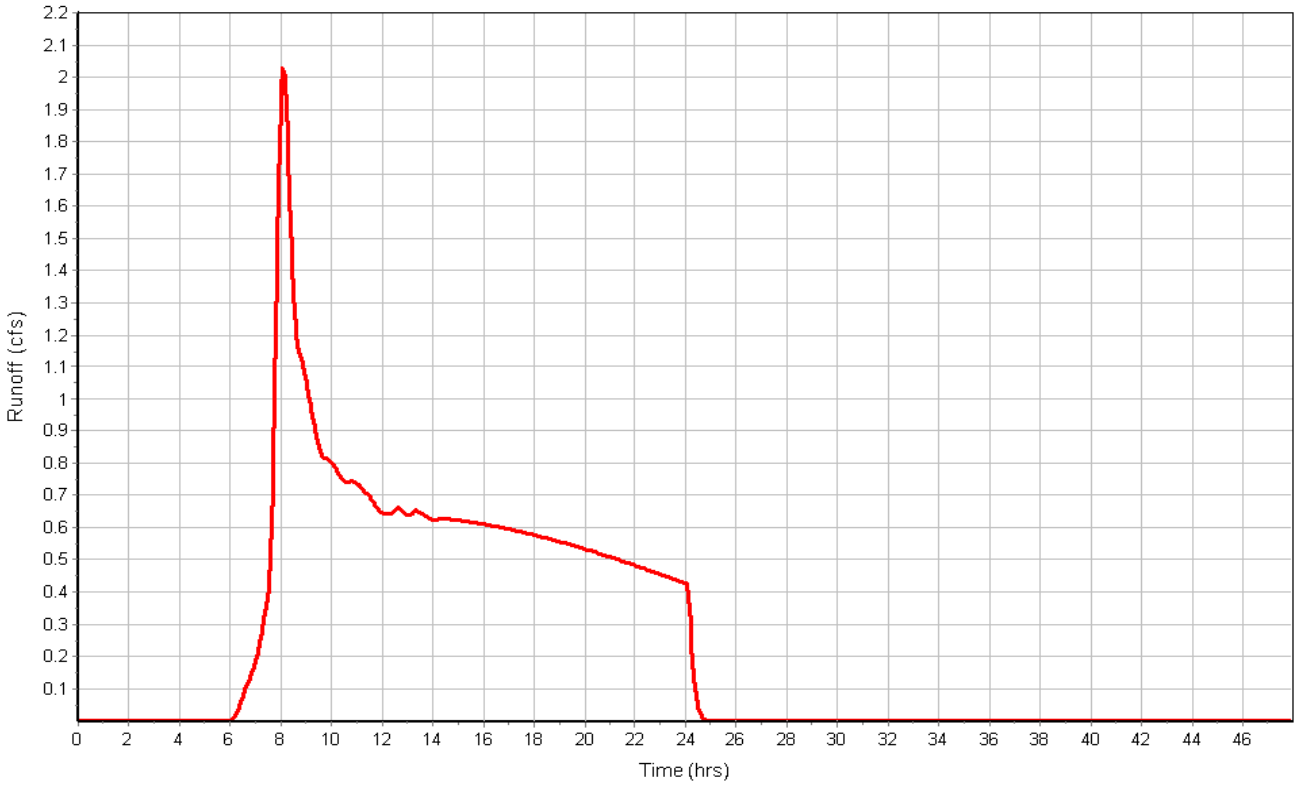
Total Rainfall (in) 2.50
Total Runoff (in) 0.89
Peak Runoff (cfs) 2.05
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:21:22

Subbasin : E2_E3_E4

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P2

Input Data

Area (ac) 4.46
Weighted Curve Number 86.74
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.67	-	98.00
-	2.79	-	80.00
Composite Area & Weighted CN	4.46		86.74

Time of Concentration

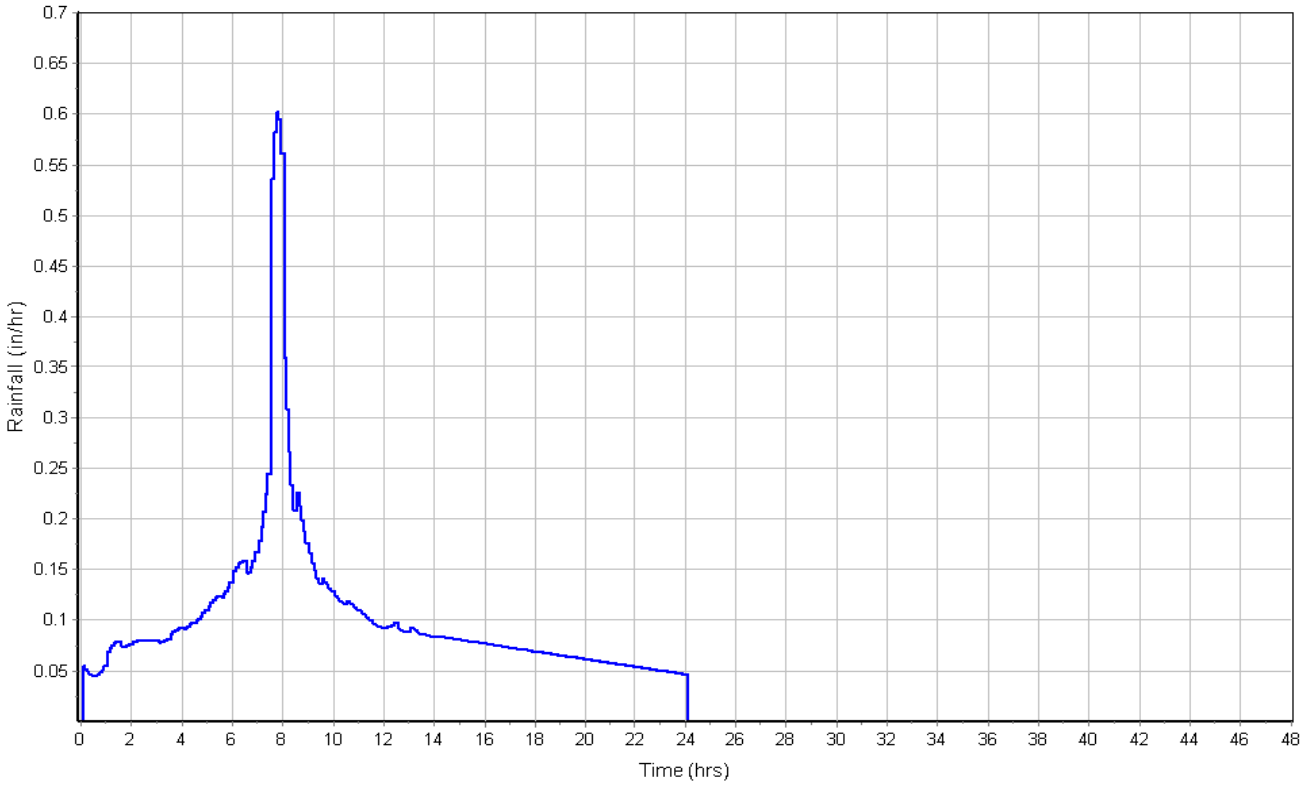
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

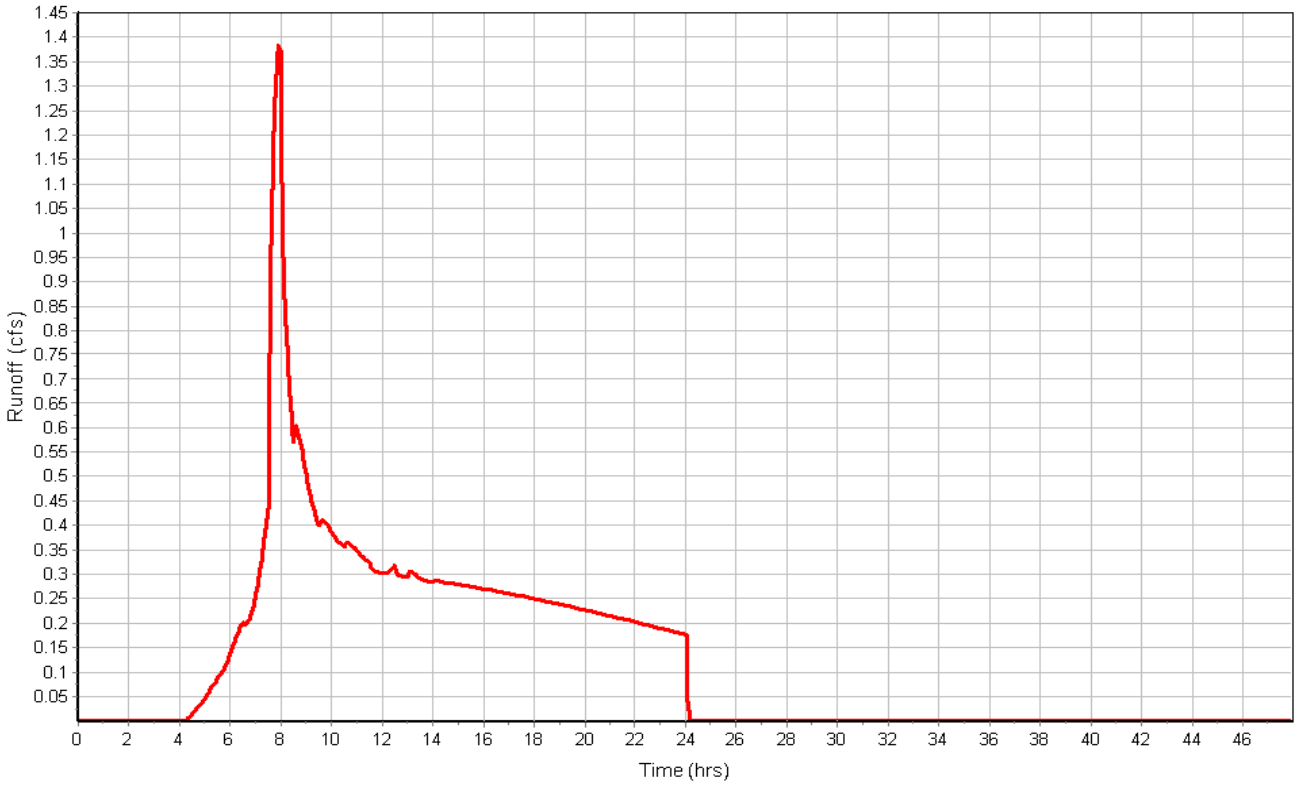
Total Rainfall (in) 2.50
Total Runoff (in) 1.29
Peak Runoff (cfs) 1.38
Weighted Curve Number 86.74
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P2

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P3

Input Data

Area (ac) 1.72
Weighted Curve Number 96.01
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.53	-	98.00
-	0.19	-	80.00
Composite Area & Weighted CN	1.72		96.01

Time of Concentration

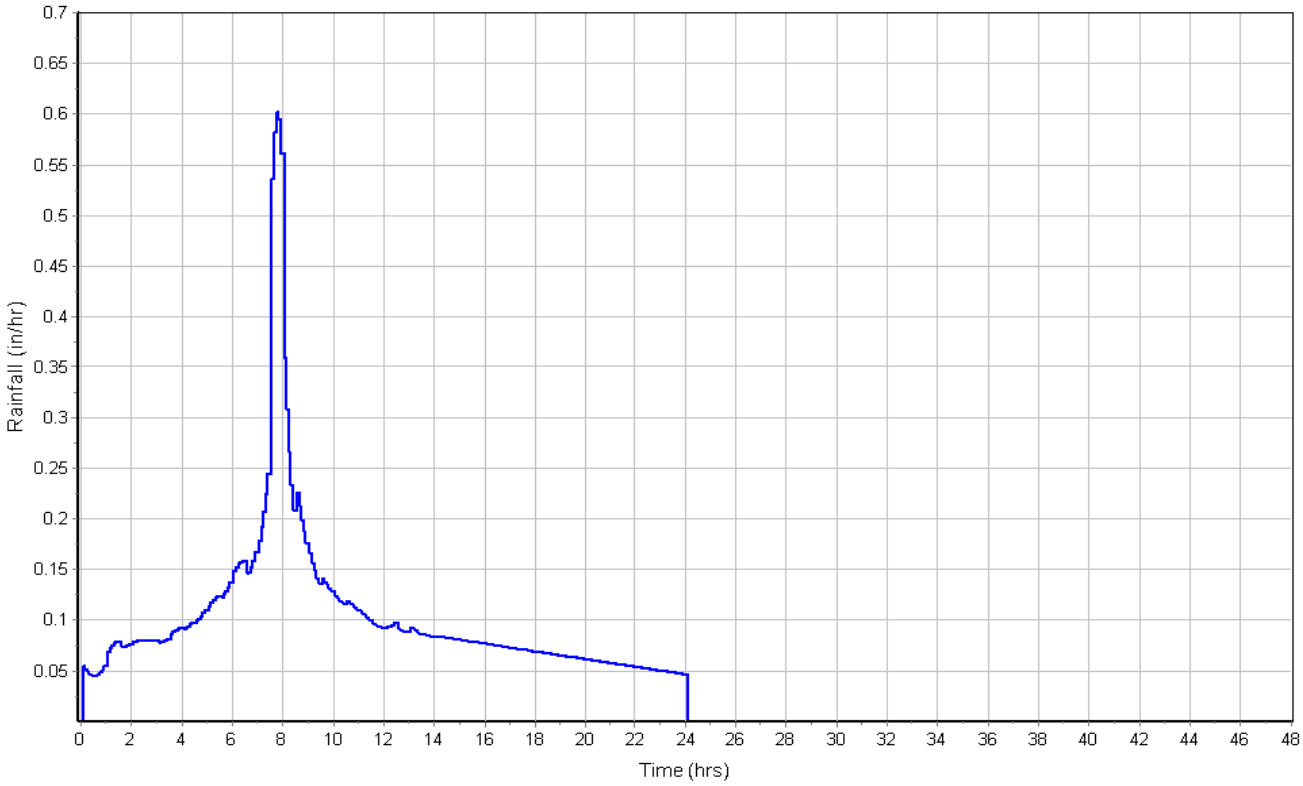
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

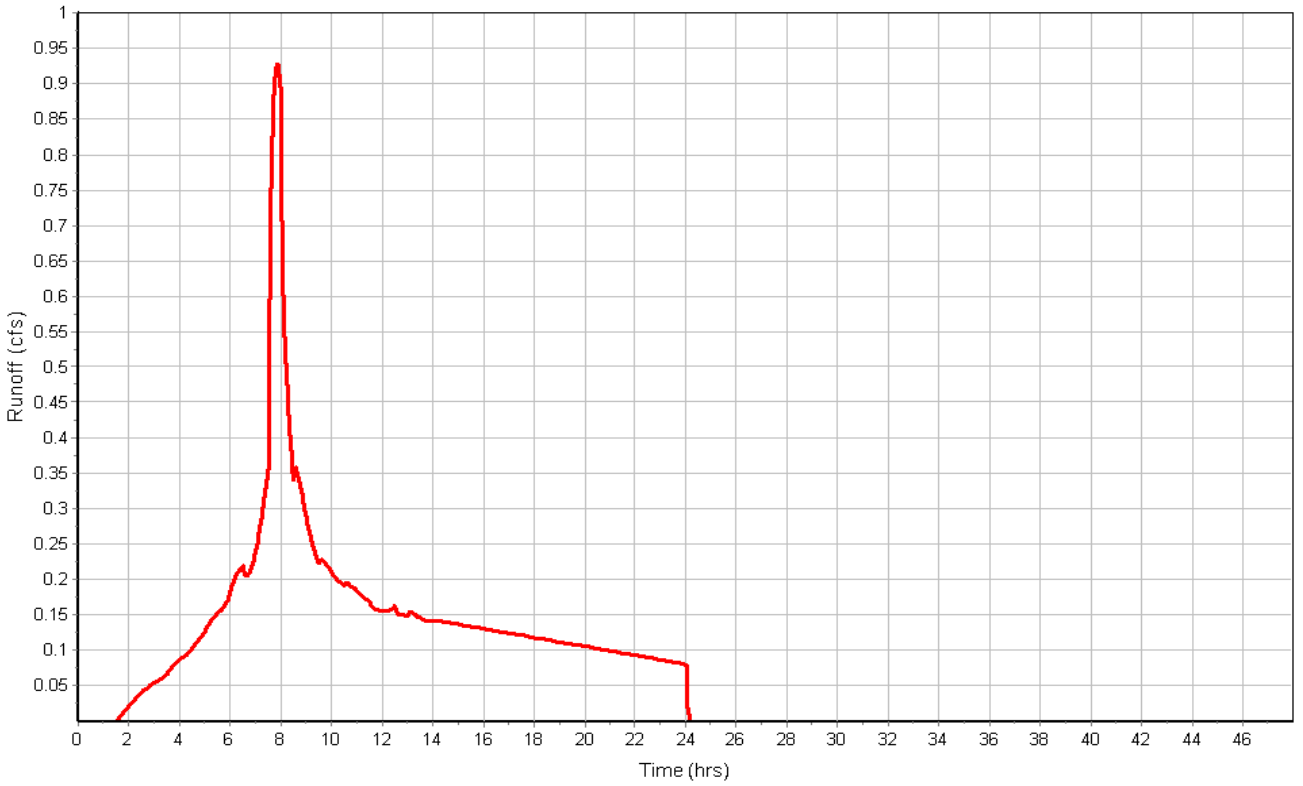
Total Rainfall (in) 2.50
Total Runoff (in) 2.06
Peak Runoff (cfs) 0.93
Weighted Curve Number 96.01
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P3

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P4

Input Data

Area (ac) 6.56
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	9.91	D	80.00
Composite Area & Weighted CN	9.91		80.00

Time of Concentration

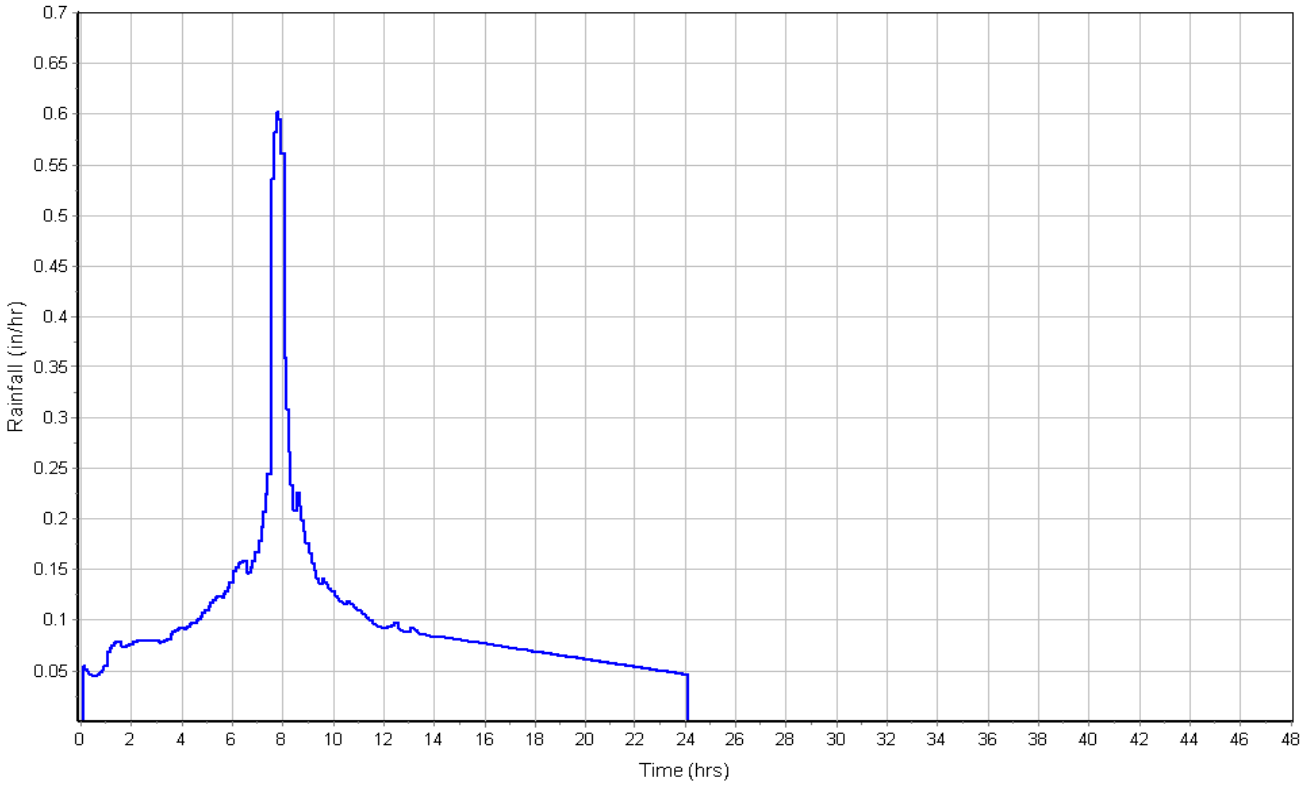
User-Defined TOC override (minutes): 16.71

Subbasin Runoff Results

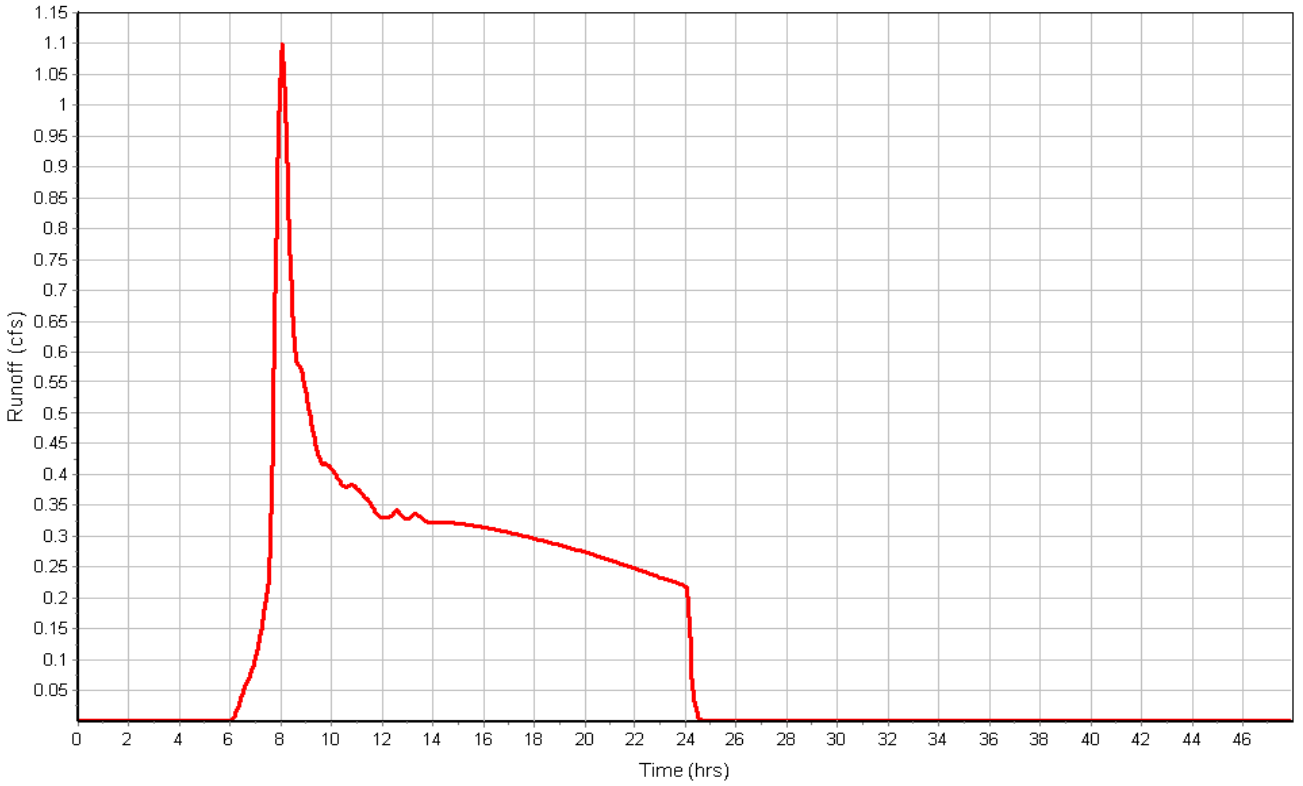
Total Rainfall (in) 2.50
Total Runoff (in) 0.89
Peak Runoff (cfs) 1.10
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:16:43

Subbasin : P4

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : Det-Basin

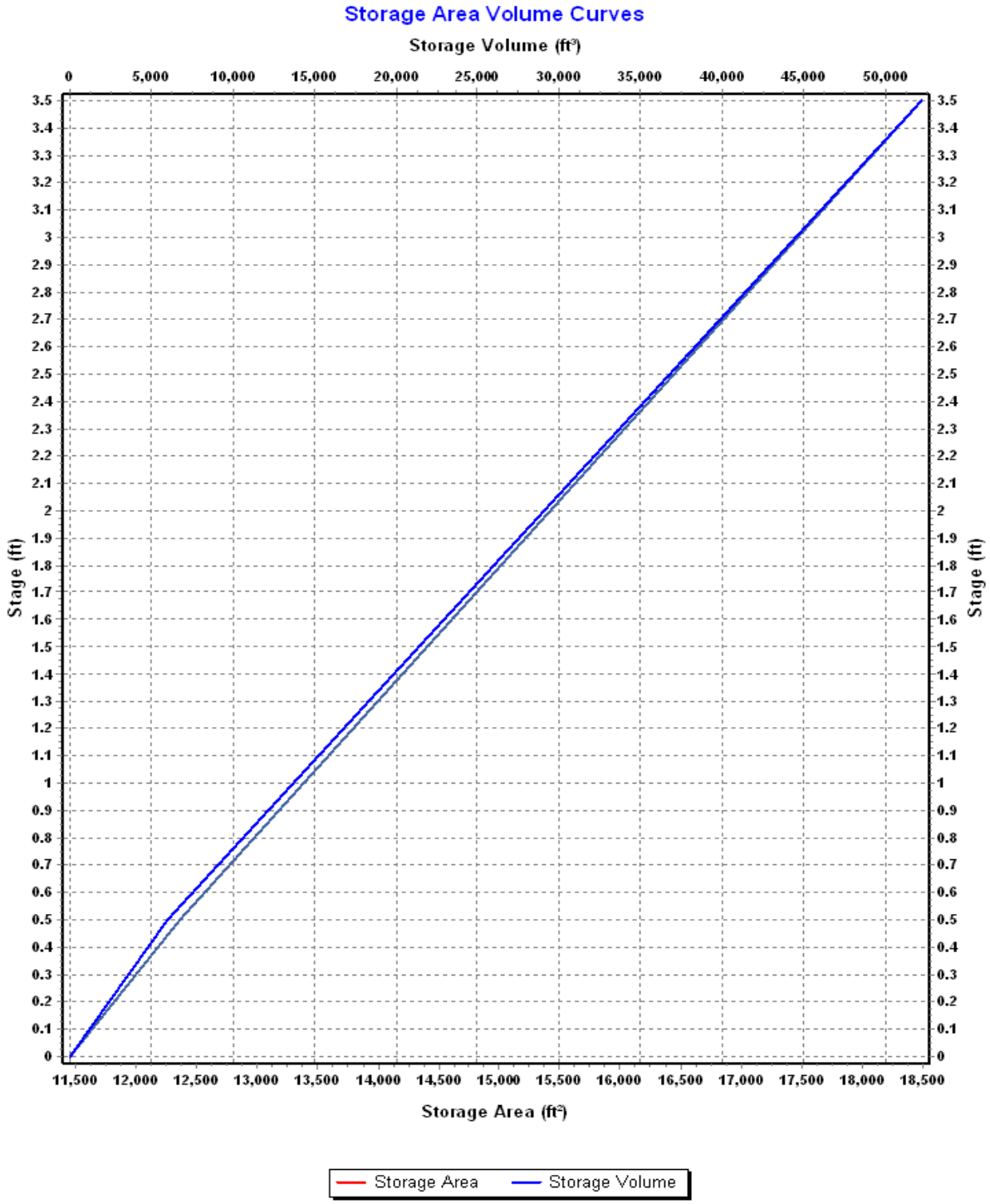
Input Data

Invert Elevation (ft) 322.50
Max (Rim) Elevation (ft) 326.00
Max (Rim) Offset (ft) 3.50
Initial Water Elevation (ft) 322.50
Initial Water Depth (ft) 0.00
Ponded Area (ft²) 12.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Detention_Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	11460	0.000
0.5	12362	5955.50
3.5	18484	52224.50


Storage Area Volume Curves
Storage Volume (ft³)
0 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000 50,000
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5
11,500 12,000 12,500 13,000 13,500 14,000 14,500 15,000 15,500 16,000 16,500 17,000 17,500 18,000 18,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Det-Basin (continued)

Output Summary Results

Peak Inflow (cfs)	3.32
Peak Lateral Inflow (cfs)	1.10
Peak Outflow (cfs)	1.28
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	323.46
Max HGL Depth Attained (ft)	0.96
Average HGL Elevation Attained (ft)	323.06
Average HGL Depth Attained (ft)	0.56
Time of Max HGL Occurrence (days hh:mm)	0 09:08
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name 20190920-Model.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 21, 2019	00:00:00
End Analysis On	Sep 23, 2019	00:00:00
Start Reporting On	Sep 21, 2019	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	1	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	8
Junctions	4
Outfalls	3
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	7
Channels	3
Pipes	4
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-005	Intensity	inches	Oregon	Yamhill	5	3.00	SCS Type IA 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	E1/P1	2.97	1.25	3.71	0.76
2	E2_E3_E4	12.74	1.25	15.93	3.17
3	P2	4.46	1.72	7.67	1.90
4	P3	1.72	2.55	4.39	1.15
5	P4	6.56	1.25	8.20	1.70

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	REV-Swale-End	Junction	320.52	330.00	320.52	330.00	12.00	2.29	321.33	0.00	8.67	0 00:00	0.00	0.00
2	REV-Swale-Start	Junction	322.50	330.00	322.50	330.00	12.00	2.29	322.92	0.00	7.08	0 00:00	0.00	0.00
3	SD(5)	Junction	334.15	339.85	334.15	340.00	12.00	1.15	334.43	0.00	5.42	0 00:00	0.00	0.00
4	SD(6)	Junction	324.36	330.00	324.36	330.00	12.00	3.05	324.46	0.00	5.54	0 00:00	0.00	0.00
5	Out-PRE-East	Outfall	325.00					0.76	325.00					
6	Out-PRE-West	Outfall	316.16					3.16	316.16					
7	Out-REV-POST-West	Outfall	316.16					2.29	316.47					
8	Det-Basin	Storage Node	322.50	326.00	322.50		12.00	4.62	323.63				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Ditch-Inlet	Pipe	Det-Basin	REV-Swale-Start	5.00	323.17	322.50	13.4000	12.000	0.0150	2.07	11.30	0.18	6.28	0.44	0.44	0.00
2	Orifice	Pipe	Det-Basin	REV-Swale-Start	5.00	322.50	322.50	0.0000	2.900	0.0130	0.22	0.01	19.02	4.73	0.24	1.00	684.00
3	REV-Swale-Discharge	Pipe	REV-Swale-End	Out-REV-POST-West	68.56	321.00	316.16	7.0600	18.000	0.0150	2.29	24.19	0.09	8.20	0.32	0.21	0.00
4	SD5_SD6	Pipe	SD(5)	SD(6)	96.00	334.15	324.36	10.2000	10.000	0.0130	1.15	7.00	0.16	12.33	0.19	0.23	0.00
5	HF_Bypass	Channel	Det-Basin	REV-Swale-Start	5.00	323.90	322.50	28.0000	24.000	0.0320	0.00	263.60	0.00	0.00	0.21	0.10	0.00
6	Link-22	Channel	SD(6)	Det-Basin	5.00	324.36	322.50	37.2000	60.000	0.0320	3.05	995.36	0.00	1.38	0.59	0.12	0.00
7	REV-Swale	Channel	REV-Swale-Start	REV-Swale-End	100.00	322.50	320.52	1.9800	18.000	0.2400	2.29	31.07	0.07	0.68	0.62	0.41	0.00

Reported
Condition

Calculated
SURCHARGED
Calculated
Calculated

Subbasin Hydrology

Subbasin : E1/P1

Input Data

Area (ac) 2.97
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	2.97	D	80.00
Composite Area & Weighted CN	2.97		80.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	16.14	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	200	0.00	0.00
Slope (%) :	2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.28	0.00	0.00
Computed Flow Time (min) :	1.46	0.00	0.00

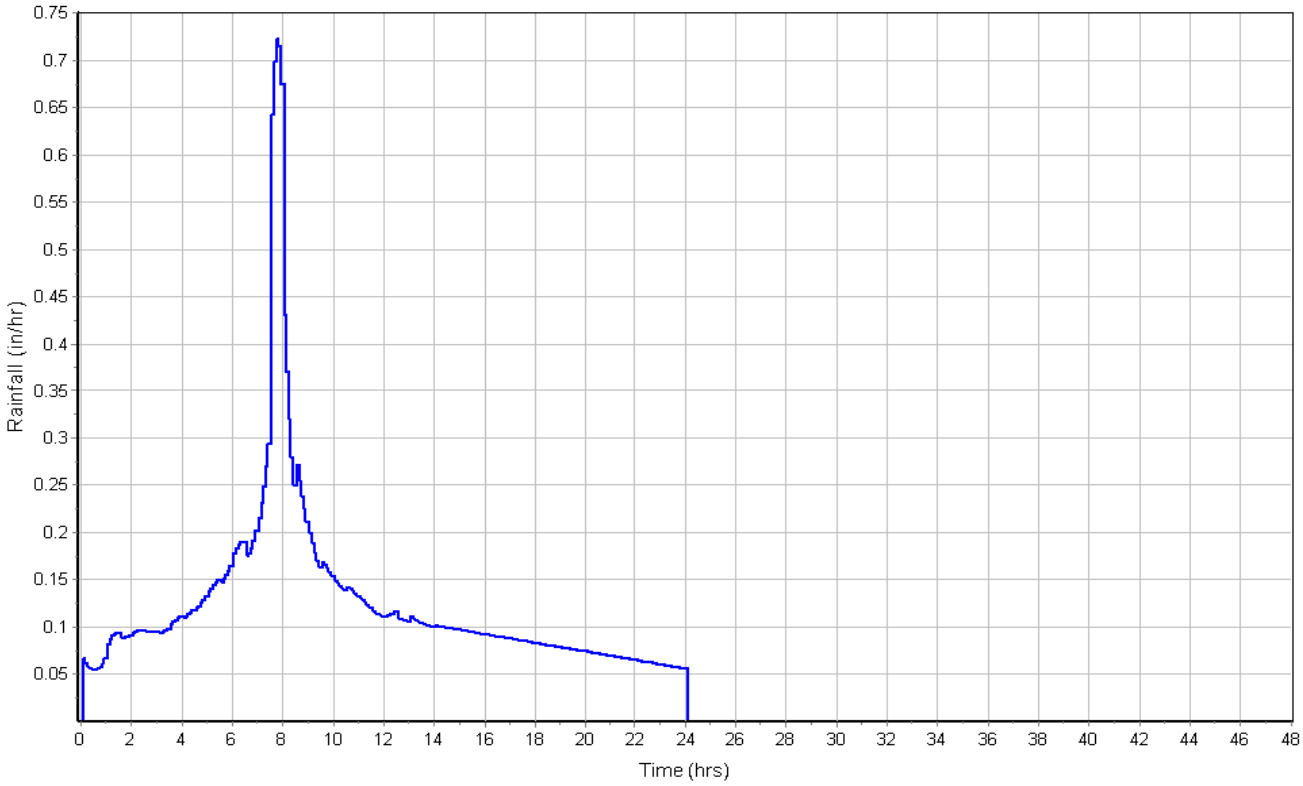
Total TOC (min) 17.61

Subbasin Runoff Results

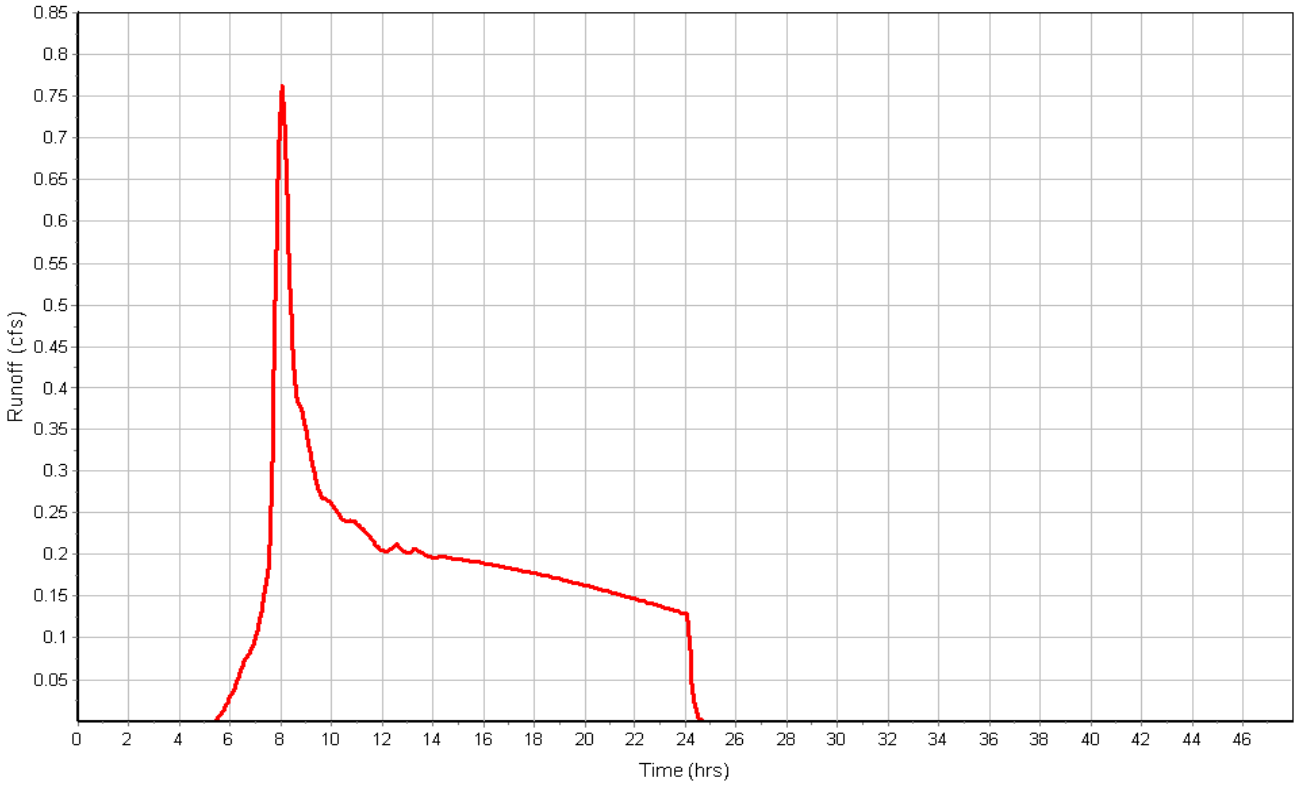
Total Rainfall (in)	3.00
Total Runoff (in)	1.25
Peak Runoff (cfs)	0.76
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:17:37

Subbasin : E1/P1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E2_E3_E4

Input Data

Area (ac) 12.74
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	12.74	D	80.00
Composite Area & Weighted CN	12.74		80.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	3	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	13.73	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	500	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	2.99	0.00	0.00

Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Channel Slope (%) :	3	0.00	0.00
Cross Section Area (ft^2) :	12	0.00	0.00
Wetted Perimeter (ft) :	12	0.00	0.00
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	4.65	0.00	0.00

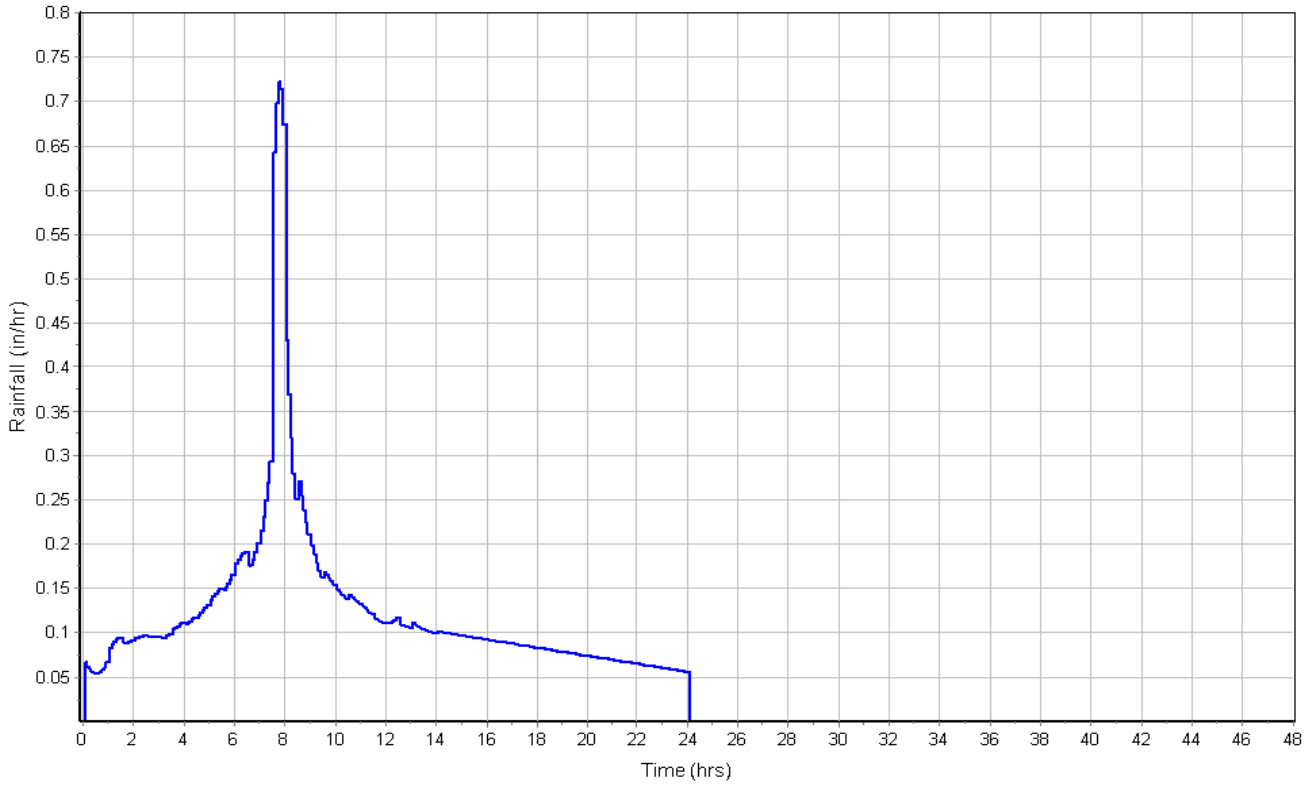
Total TOC (min) 21.36

Subbasin Runoff Results

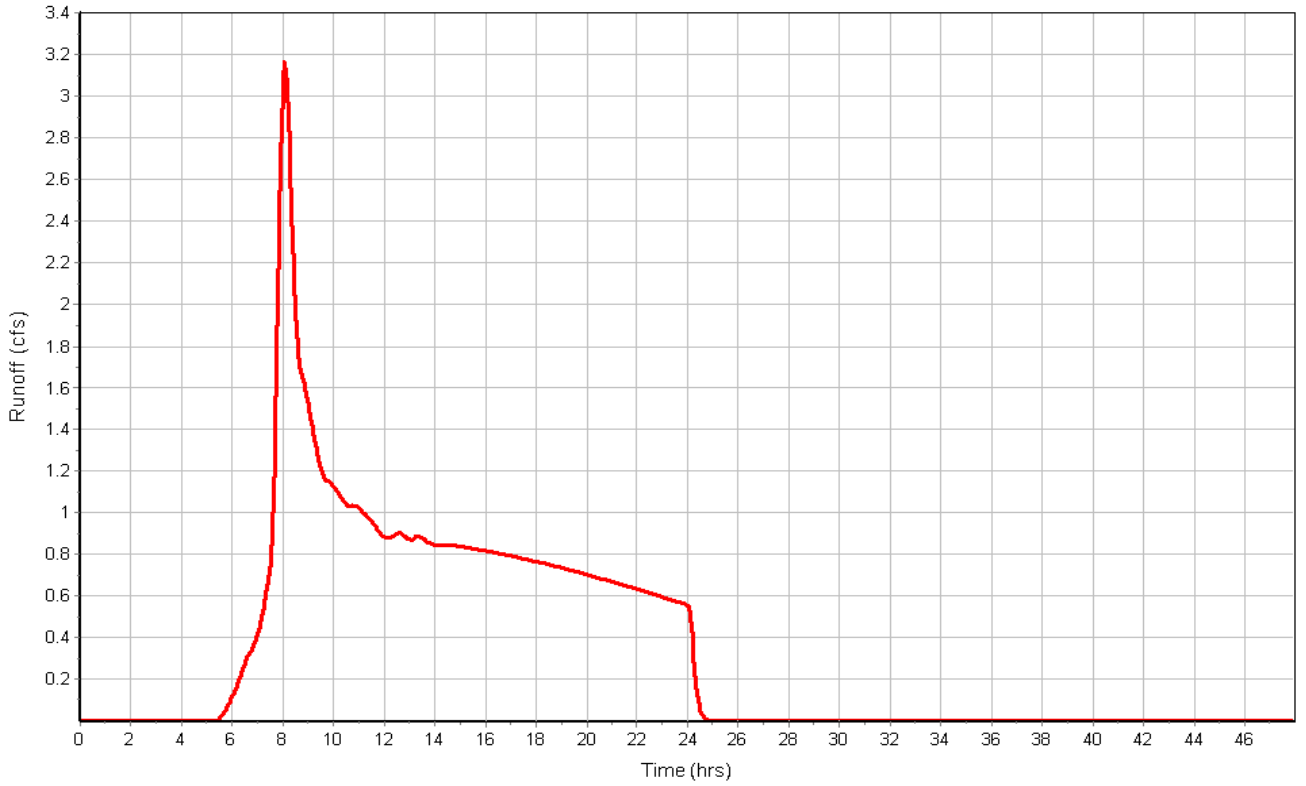
Total Rainfall (in) 3.00
Total Runoff (in) 1.25
Peak Runoff (cfs) 3.17
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:21:22

Subbasin : E2_E3_E4

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P2

Input Data

Area (ac) 4.46
Weighted Curve Number 86.74
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.67	-	98.00
-	2.79	-	80.00
Composite Area & Weighted CN	4.46		86.74

Time of Concentration

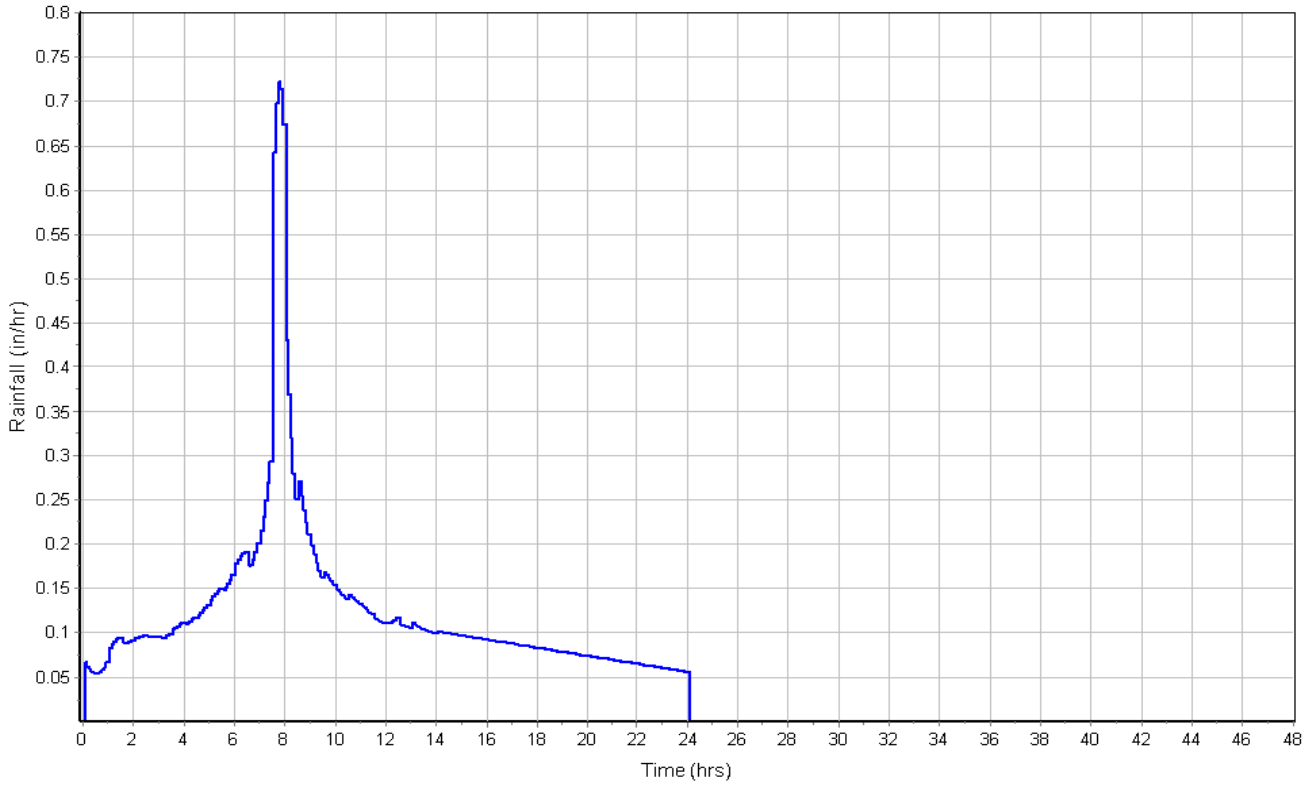
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

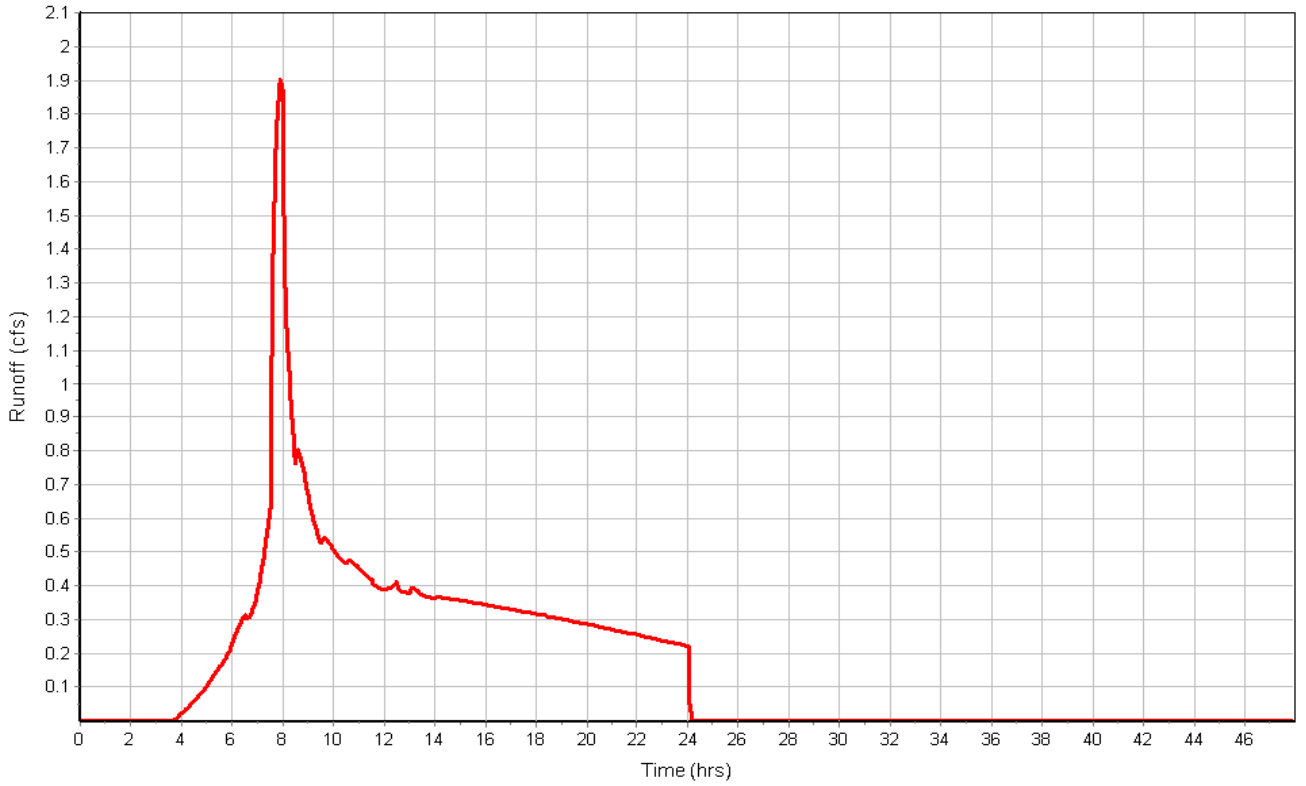
Total Rainfall (in) 3.00
Total Runoff (in) 1.72
Peak Runoff (cfs) 1.90
Weighted Curve Number 86.74
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P2

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P3

Input Data

Area (ac) 1.72
Weighted Curve Number 96.01
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.53	-	98.00
-	0.19	-	80.00
Composite Area & Weighted CN	1.72		96.01

Time of Concentration

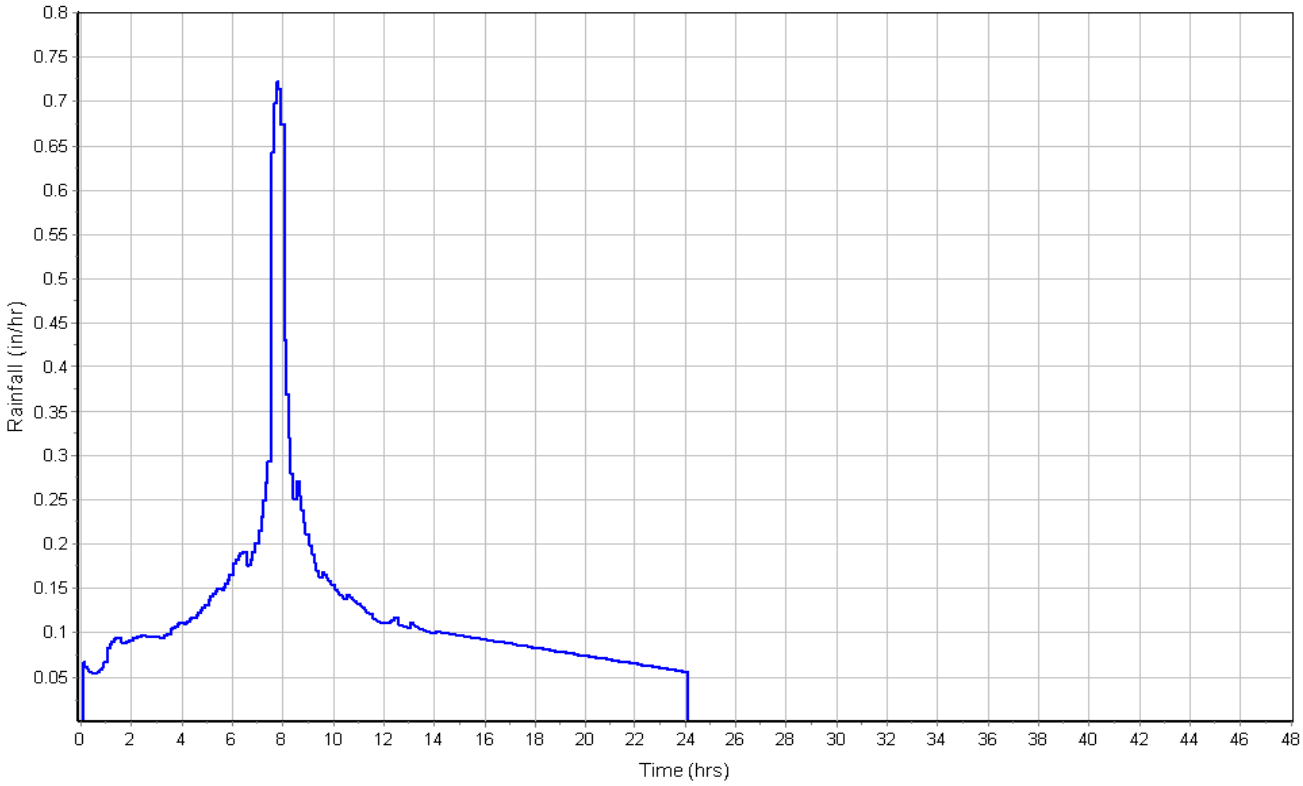
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

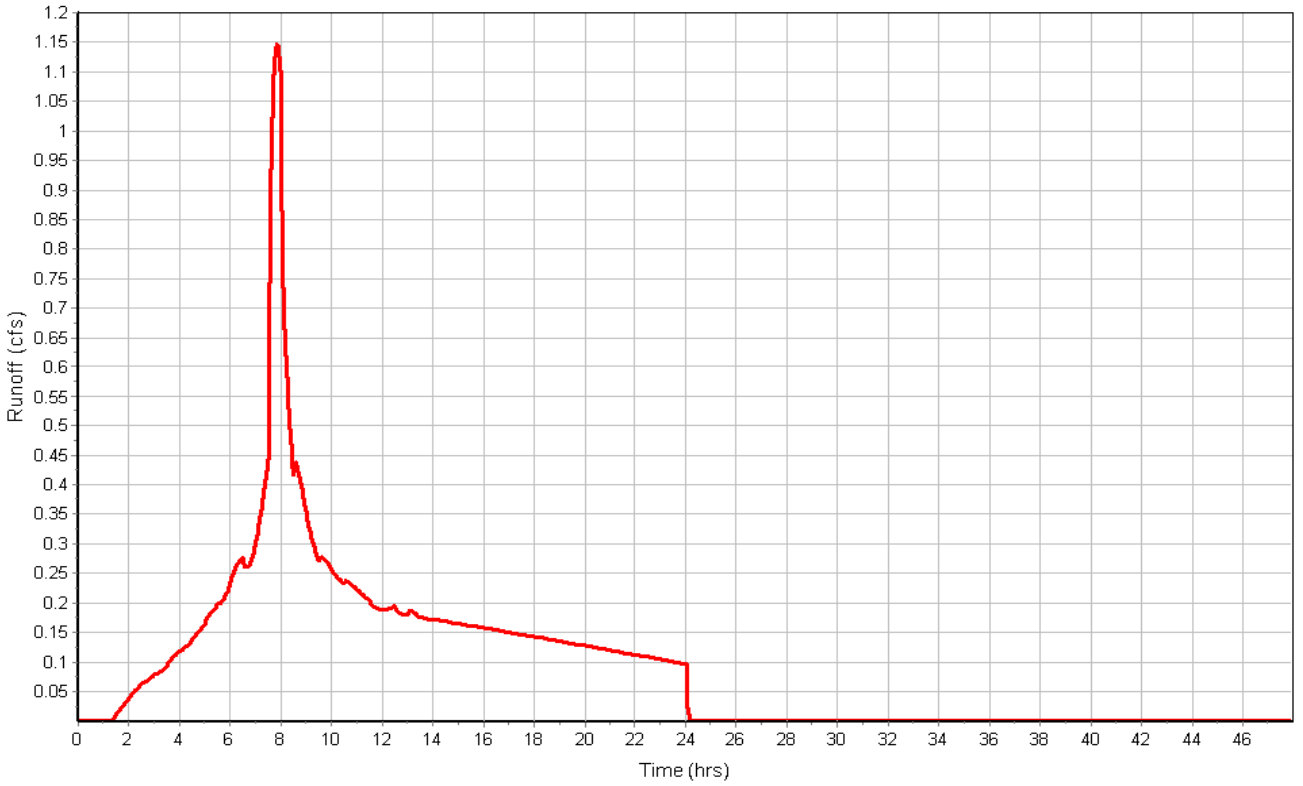
Total Rainfall (in) 3.00
Total Runoff (in) 2.55
Peak Runoff (cfs) 1.15
Weighted Curve Number 96.01
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P3

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P4

Input Data

Area (ac) 6.56
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	9.91	D	80.00
Composite Area & Weighted CN	9.91		80.00

Time of Concentration

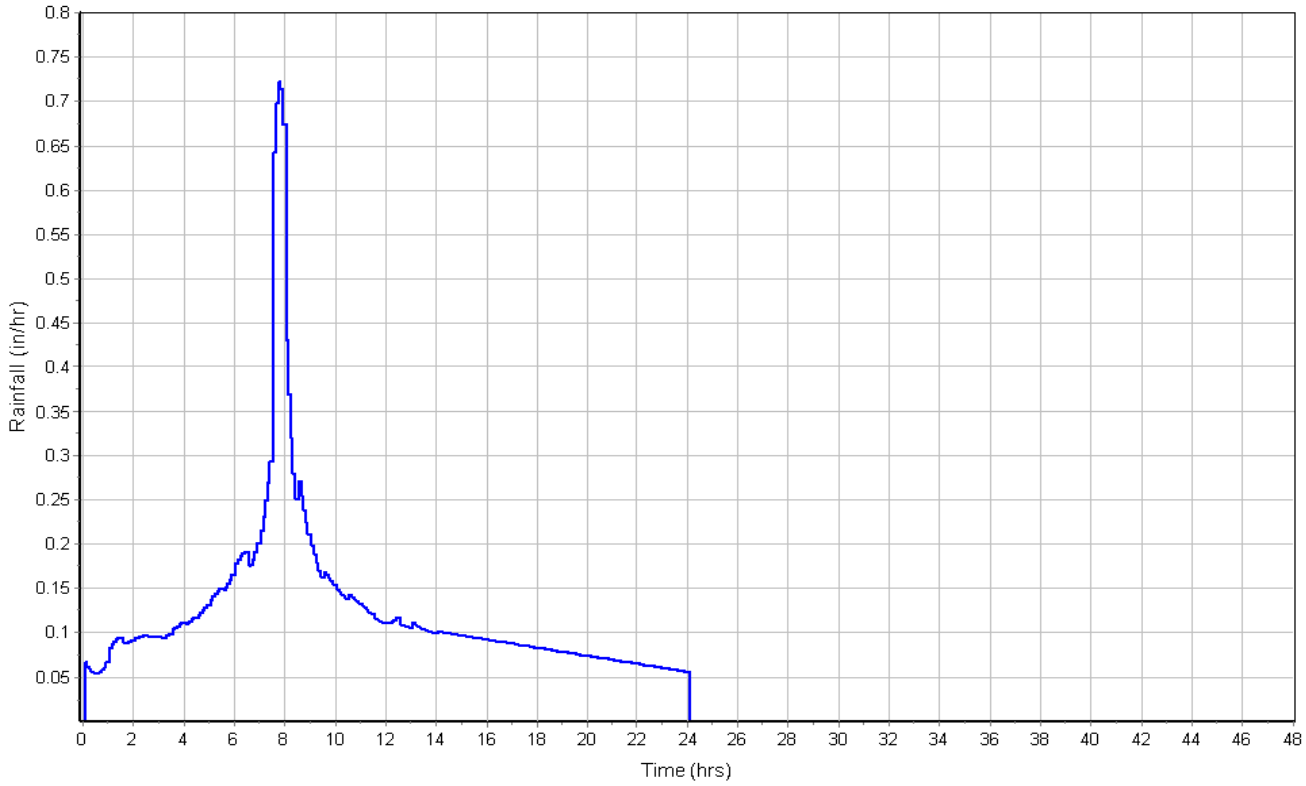
User-Defined TOC override (minutes): 16.71

Subbasin Runoff Results

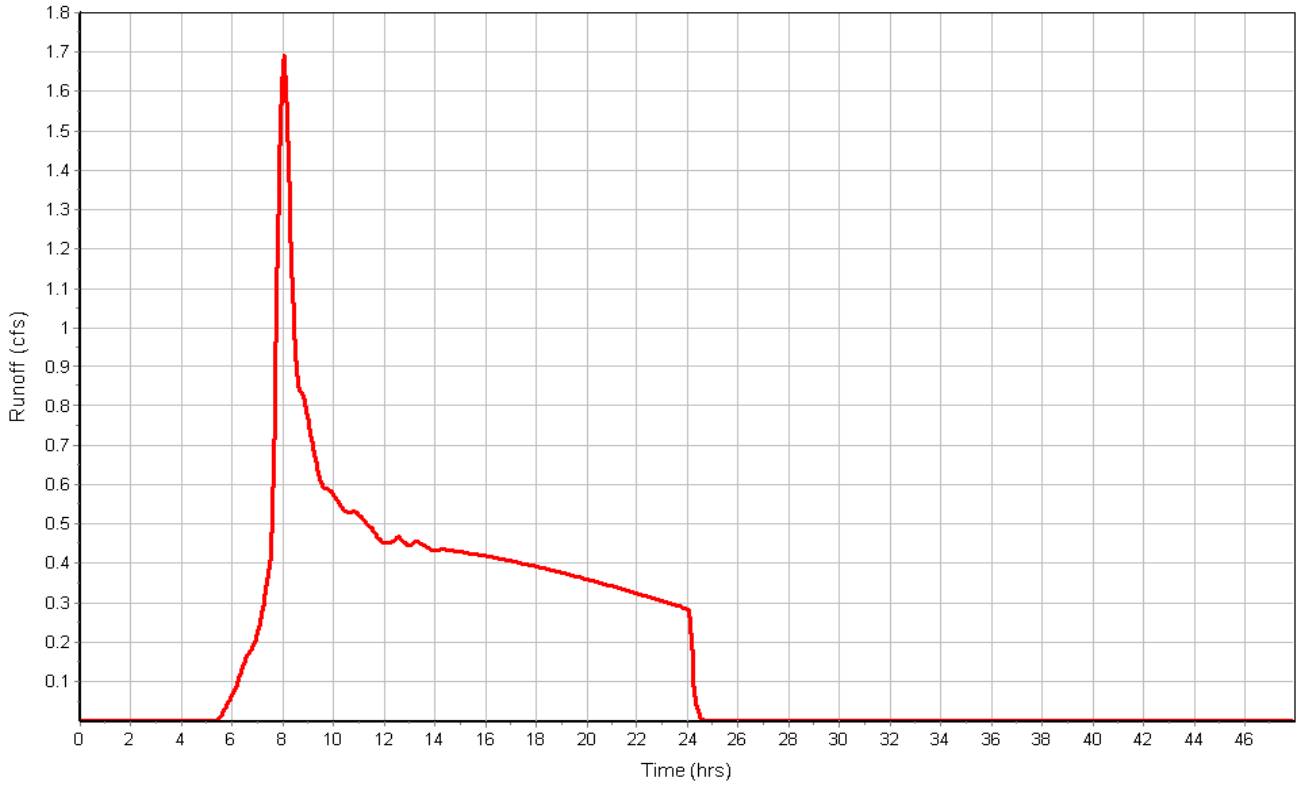
Total Rainfall (in) 3.00
Total Runoff (in) 1.25
Peak Runoff (cfs) 1.70
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:16:43

Subbasin : P4

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : Det-Basin

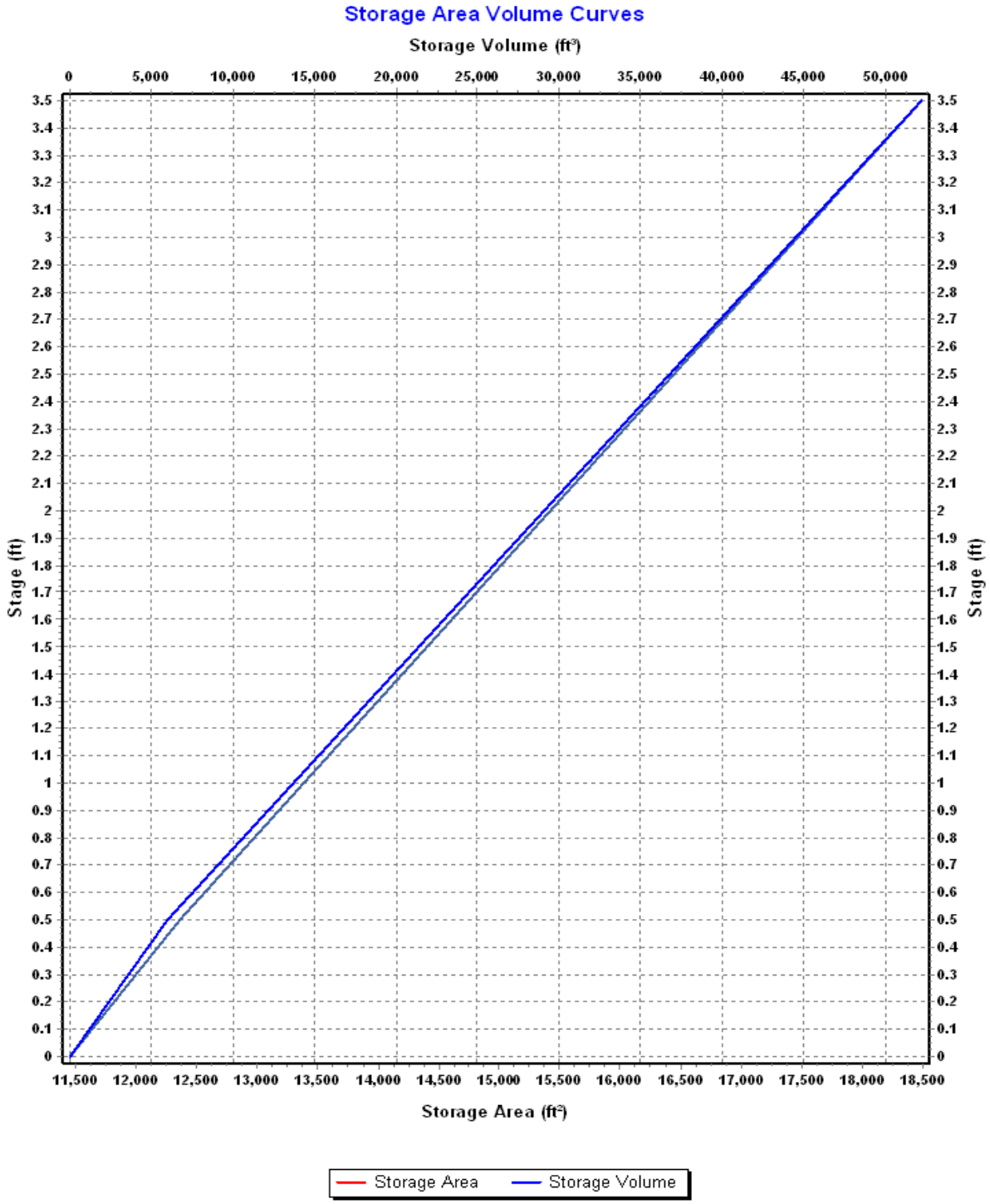
Input Data

Invert Elevation (ft) 322.50
Max (Rim) Elevation (ft) 326.00
Max (Rim) Offset (ft) 3.50
Initial Water Elevation (ft) 322.50
Initial Water Depth (ft) 0.00
Ponded Area (ft²) 12.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Detention_Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	11460	0.000
0.5	12362	5955.50
3.5	18484	52224.50


Storage Area Volume Curves
Storage Volume (ft³)
0 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000 50,000
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5
11,500 12,000 12,500 13,000 13,500 14,000 14,500 15,000 15,500 16,000 16,500 17,000 17,500 18,000 18,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Det-Basin (continued)

Output Summary Results

Peak Inflow (cfs)	4.62
Peak Lateral Inflow (cfs)	1.69
Peak Outflow (cfs)	2.29
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	323.63
Max HGL Depth Attained (ft)	1.13
Average HGL Elevation Attained (ft)	323.10
Average HGL Depth Attained (ft)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 08:31
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name 20190920-Model.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 21, 2019	00:00:00
End Analysis On	Sep 23, 2019	00:00:00
Start Reporting On	Sep 21, 2019	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	1	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	8
Junctions	4
Outfalls	3
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	7
Channels	3
Pipes	4
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-010	Intensity	inches	Oregon	Yamhill	10	3.50	SCS Type IA 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	E1/P1	2.97	1.64	4.86	1.06
2	E2_E3_E4	12.74	1.64	20.84	4.40
3	P2	4.46	2.16	9.63	2.44
4	P3	1.72	3.05	5.24	1.36
5	P4	6.56	1.64	10.73	2.35

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	REV-Swale-End	Junction	320.52	330.00	320.52	330.00	12.00	3.51	321.42	0.00	8.58	0 00:00	0.00	0.00
2	REV-Swale-Start	Junction	322.50	330.00	322.50	330.00	12.00	3.52	323.02	0.00	6.98	0 00:00	0.00	0.00
3	SD(5)	Junction	334.15	339.85	334.15	340.00	12.00	1.36	334.45	0.00	5.40	0 00:00	0.00	0.00
4	SD(6)	Junction	324.36	330.00	324.36	330.00	12.00	3.80	324.48	0.00	5.52	0 00:00	0.00	0.00
5	Out-PRE-East	Outfall	325.00					1.05	325.00					
6	Out-PRE-West	Outfall	316.16					4.39	316.16					
7	Out-REV-POST-West	Outfall	316.16					3.51	316.55					
8	Det-Basin	Storage Node	322.50	326.00	322.50		12.00	5.99	323.81				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Ditch-Inlet	Pipe	Det-Basin	REV-Swale-Start	5.00	323.17	322.50	13.4000	12.000	0.0150	3.29	11.30	0.29	6.94	0.58	0.58	0.00
2	Orifice	Pipe	Det-Basin	REV-Swale-Start	5.00	322.50	322.50	0.0000	2.900	0.0130	0.23	0.01	20.08	5.00	0.24	1.00	914.00
3	REV-Swale-Discharge	Pipe	REV-Swale-End	Out-REV-POST-West	68.56	321.00	316.16	7.0600	18.000	0.0150	3.51	24.19	0.15	9.16	0.40	0.27	0.00
4	SD5_SD6	Pipe	SD(5)	SD(6)	96.00	334.15	324.36	10.2000	10.000	0.0130	1.36	7.00	0.19	12.70	0.21	0.25	0.00
5	HF_Bypass	Channel	Det-Basin	REV-Swale-Start	5.00	323.90	322.50	28.0000	24.000	0.0320	0.00	263.60	0.00	0.00	0.26	0.13	0.00
6	Link-22	Channel	SD(6)	Det-Basin	5.00	324.36	322.50	37.2000	60.000	0.0320	3.80	995.36	0.00	1.33	0.69	0.14	0.00
7	REV-Swale	Channel	REV-Swale-Start	REV-Swale-End	100.00	322.50	320.52	1.9800	18.000	0.2400	3.51	31.07	0.11	0.85	0.71	0.47	0.00

Reported
Condition

Calculated
SURCHARGED
Calculated
Calculated

Subbasin Hydrology

Subbasin : E1/P1

Input Data

Area (ac) 2.97
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	2.97	D	80.00
Composite Area & Weighted CN	2.97		80.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	16.14	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	200	0.00	0.00
Slope (%) :	2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.28	0.00	0.00
Computed Flow Time (min) :	1.46	0.00	0.00

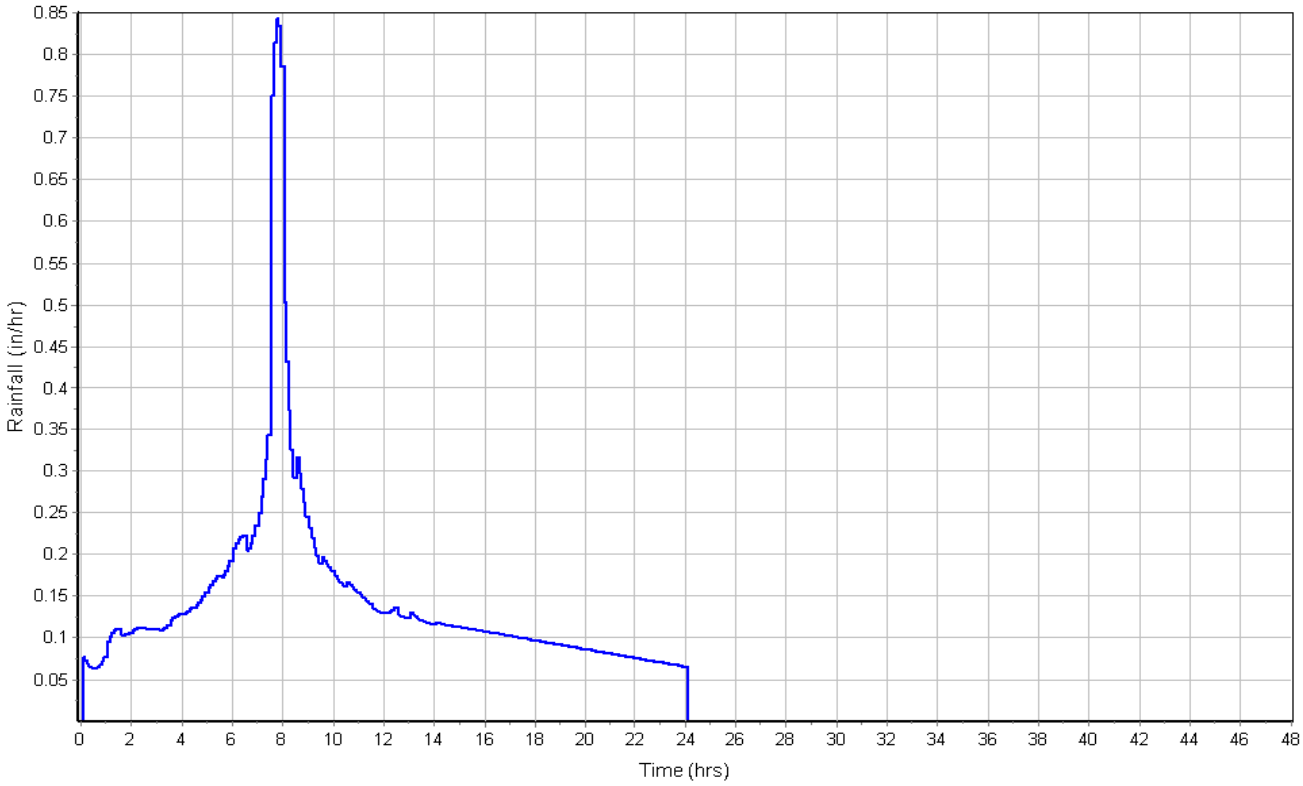
Total TOC (min) 17.61

Subbasin Runoff Results

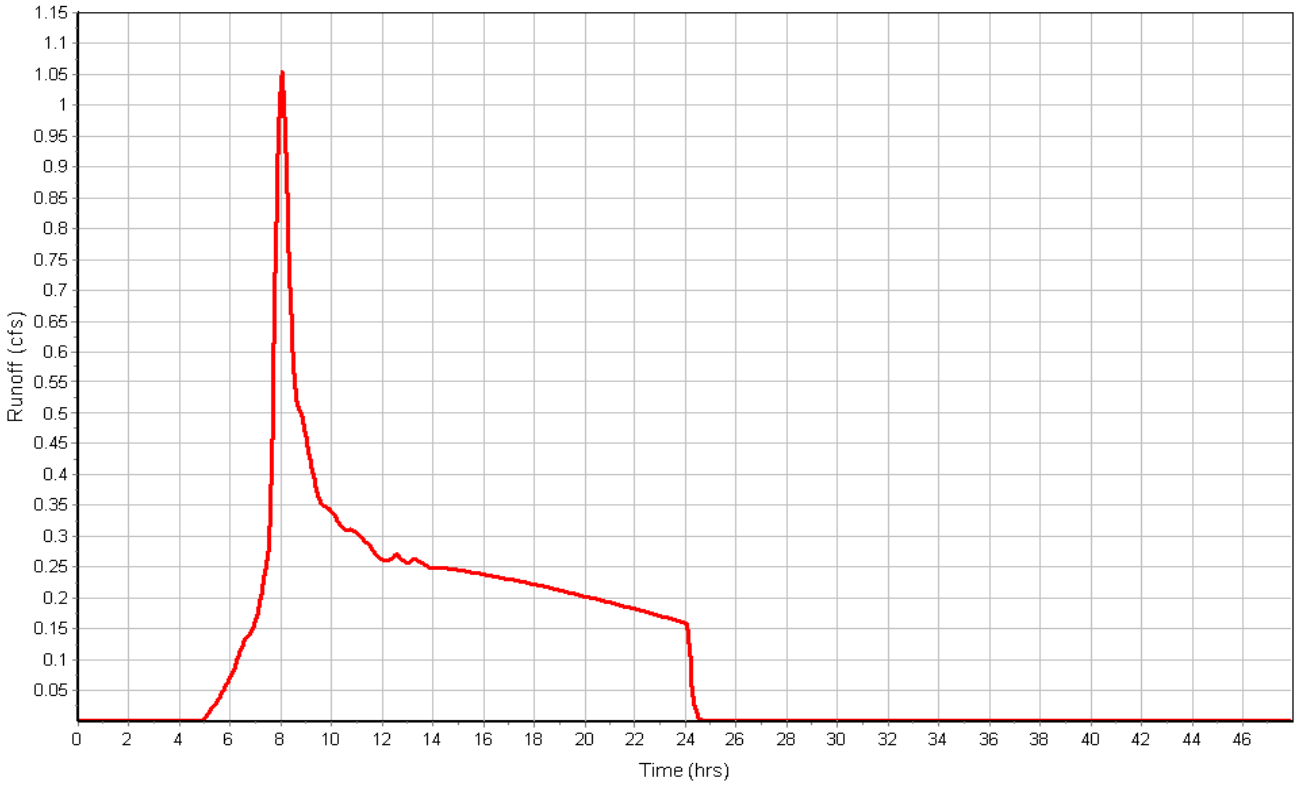
Total Rainfall (in)	3.50
Total Runoff (in)	1.64
Peak Runoff (cfs)	1.06
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:17:37

Subbasin : E1/P1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E2_E3_E4

Input Data

Area (ac) 12.74
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	12.74	D	80.00
Composite Area & Weighted CN	12.74		80.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	3	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	13.73	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	500	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	2.99	0.00	0.00

Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Channel Slope (%) :	3	0.00	0.00
Cross Section Area (ft^2) :	12	0.00	0.00
Wetted Perimeter (ft) :	12	0.00	0.00
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	4.65	0.00	0.00

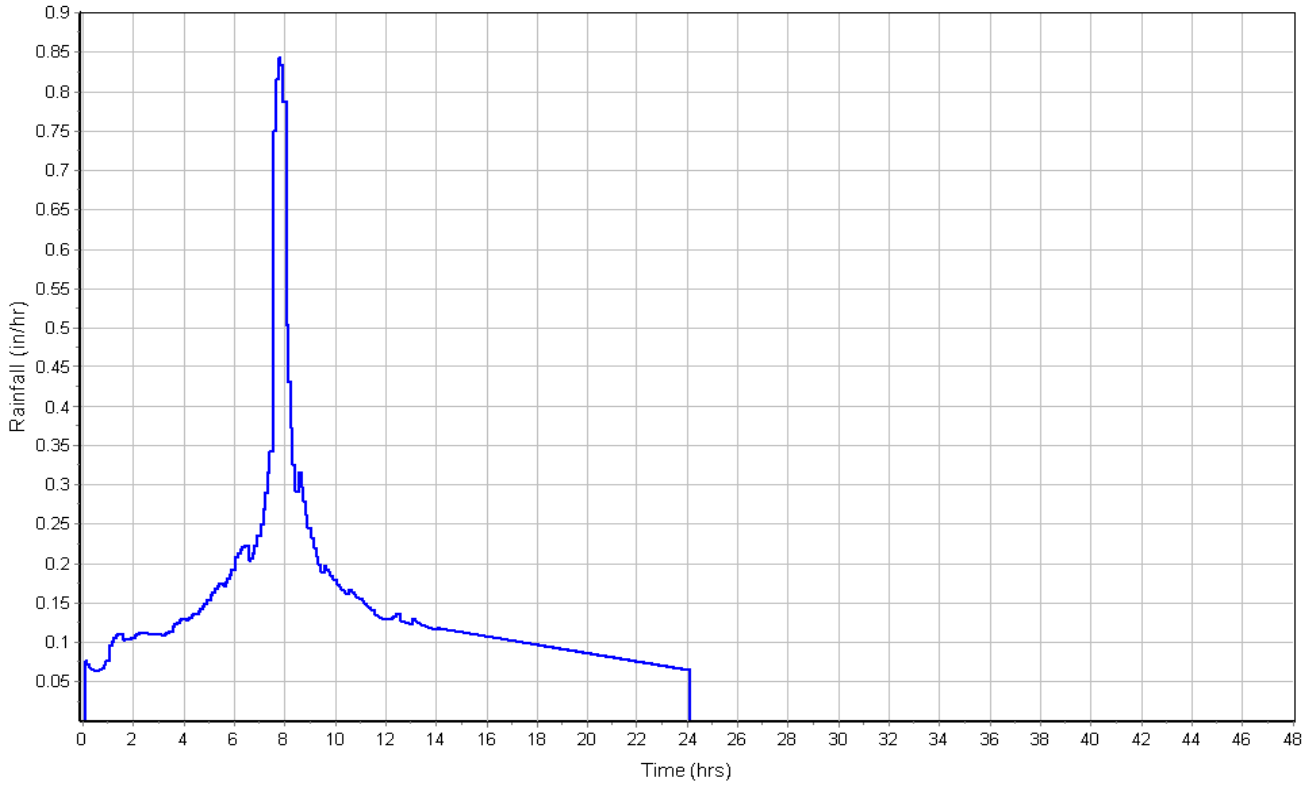
Total TOC (min) 21.36

Subbasin Runoff Results

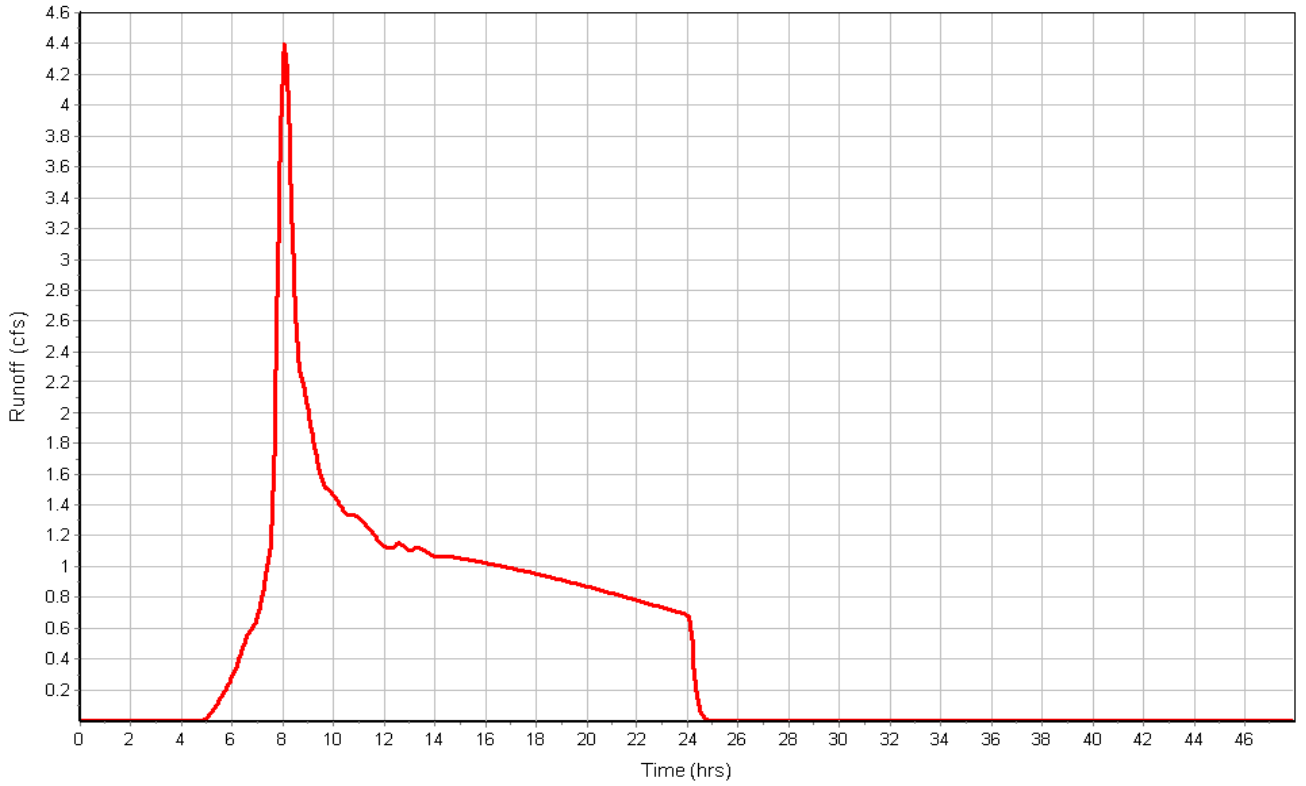
Total Rainfall (in) 3.50
Total Runoff (in) 1.64
Peak Runoff (cfs) 4.40
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:21:22

Subbasin : E2_E3_E4

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P2

Input Data

Area (ac) 4.46
Weighted Curve Number 86.74
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.67	-	98.00
-	2.79	-	80.00
Composite Area & Weighted CN	4.46		86.74

Time of Concentration

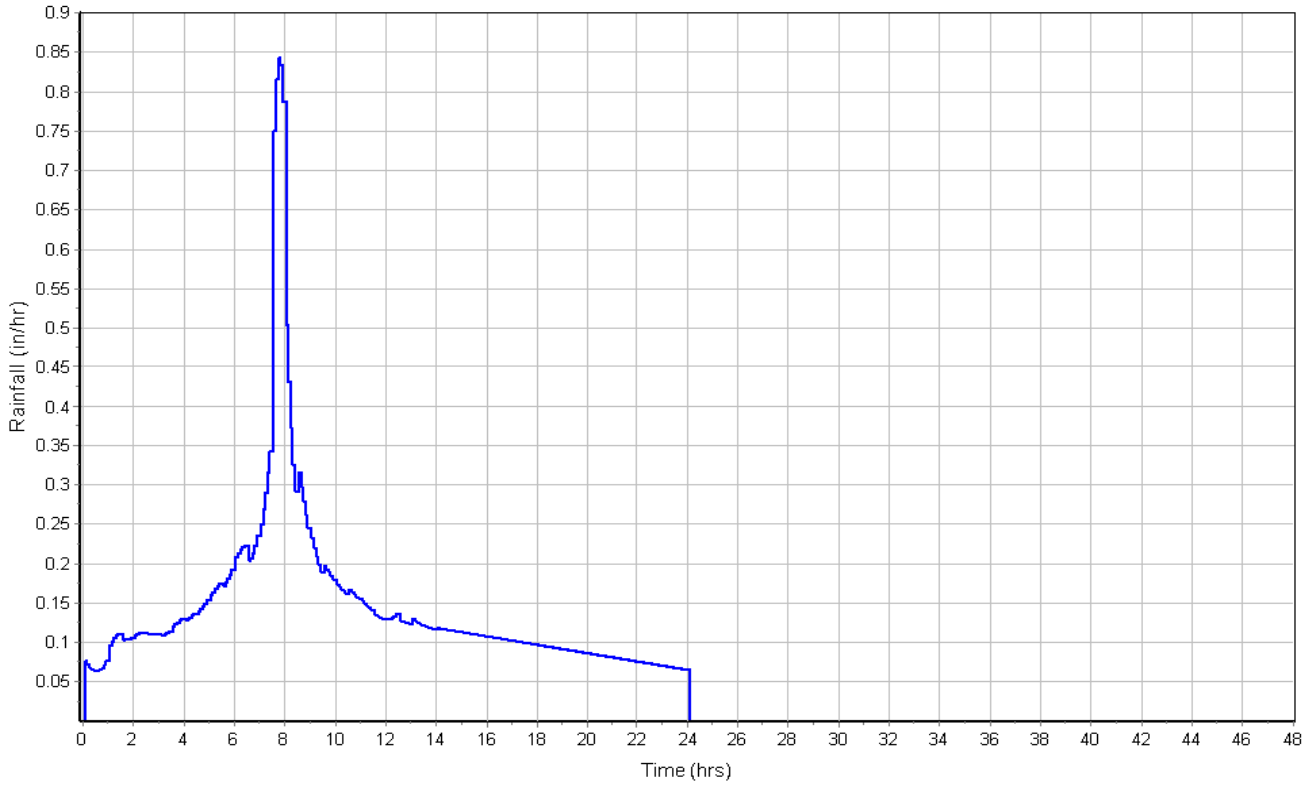
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

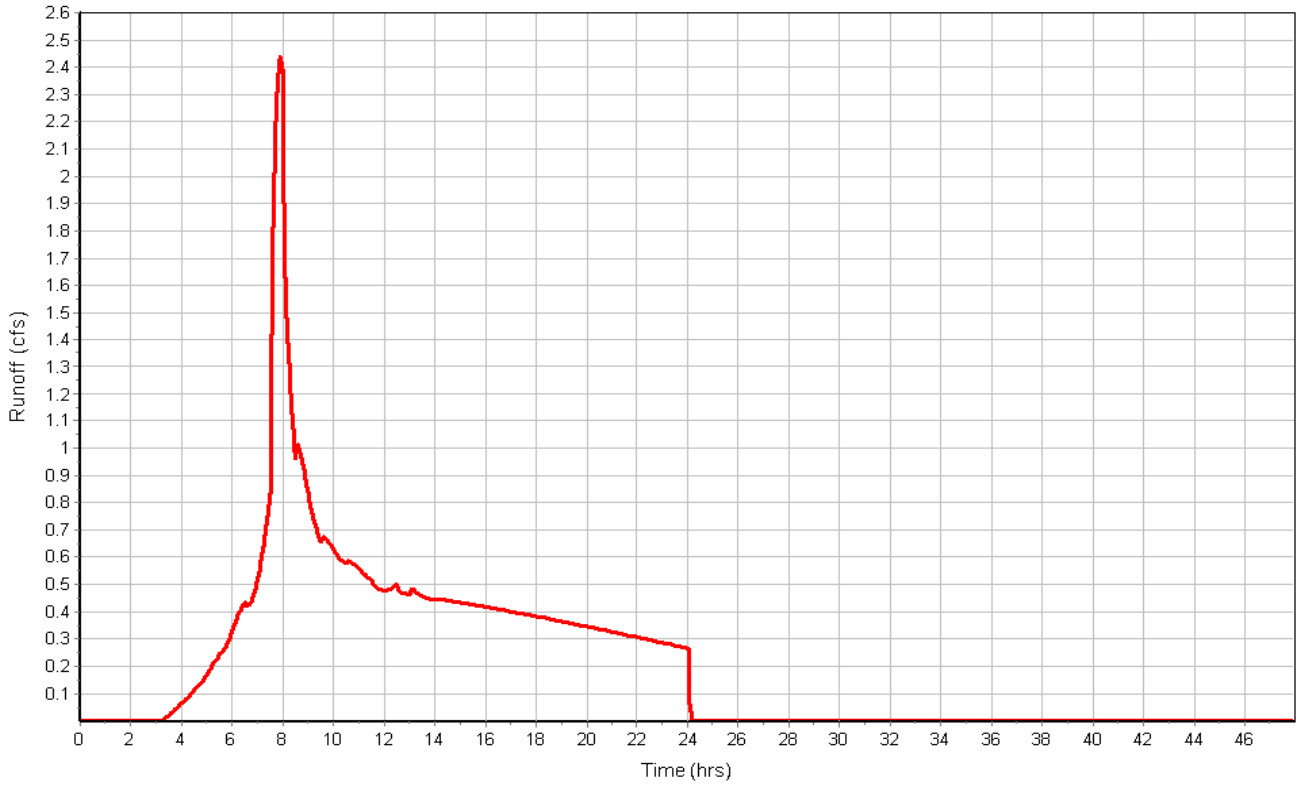
Total Rainfall (in) 3.50
Total Runoff (in) 2.16
Peak Runoff (cfs) 2.44
Weighted Curve Number 86.74
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P2

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P3

Input Data

Area (ac) 1.72
Weighted Curve Number 96.01
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.53	-	98.00
-	0.19	-	80.00
Composite Area & Weighted CN	1.72		96.01

Time of Concentration

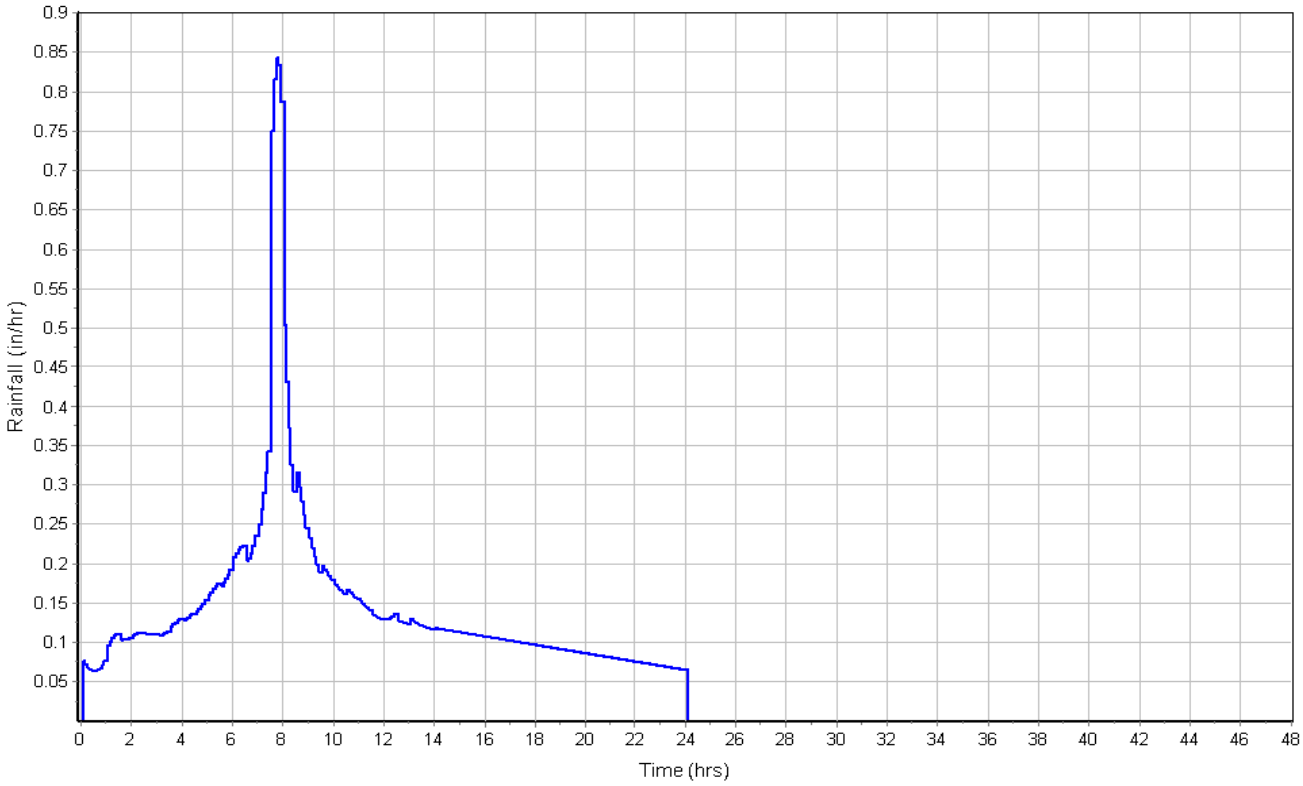
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

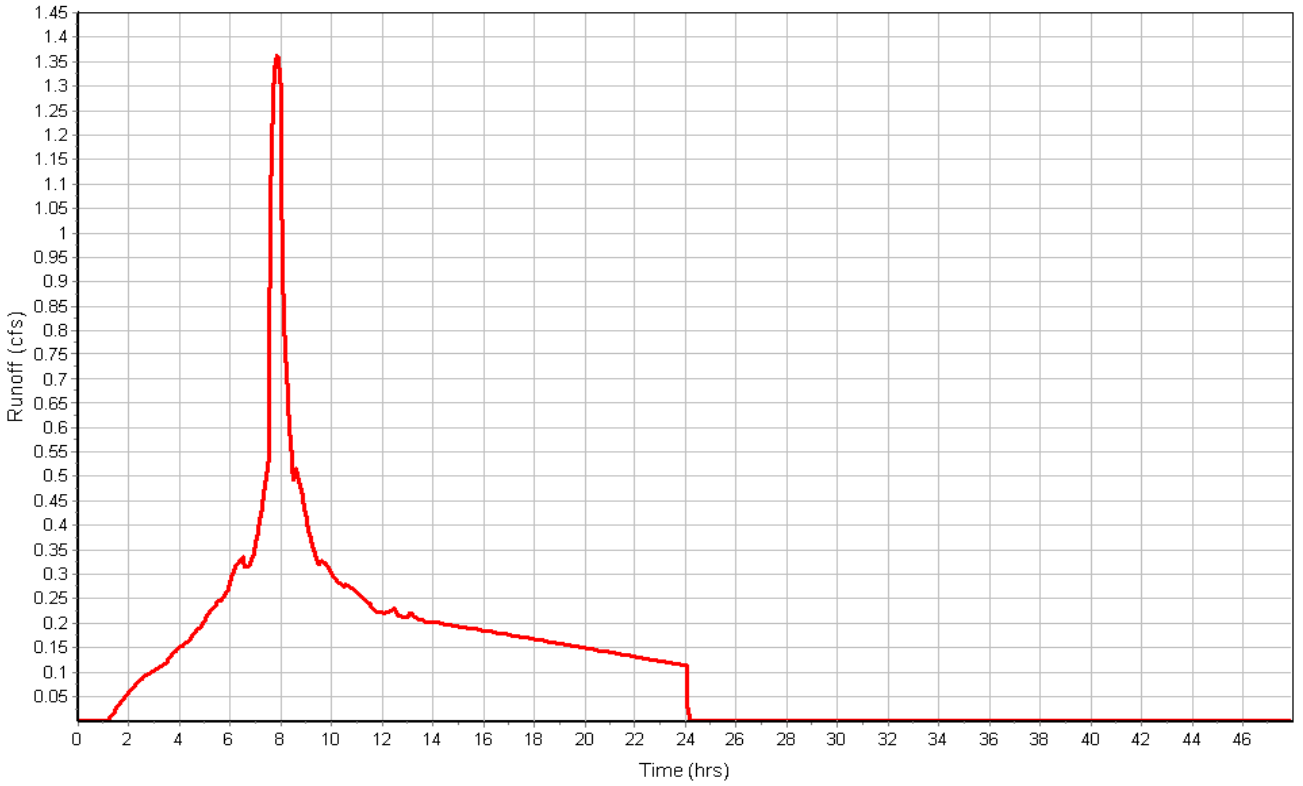
Total Rainfall (in) 3.50
Total Runoff (in) 3.05
Peak Runoff (cfs) 1.36
Weighted Curve Number 96.01
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P3

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P4

Input Data

Area (ac) 6.56
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	9.91	D	80.00
Composite Area & Weighted CN	9.91		80.00

Time of Concentration

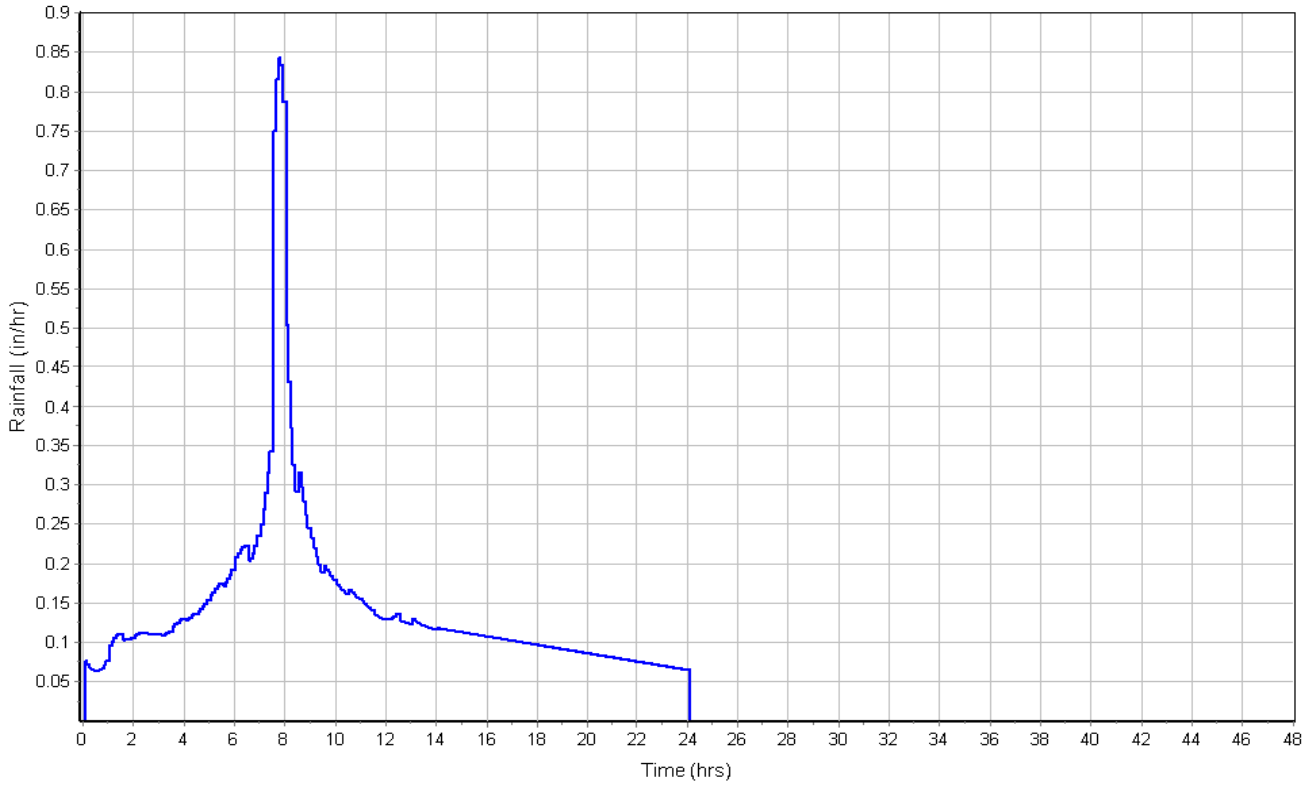
User-Defined TOC override (minutes): 16.71

Subbasin Runoff Results

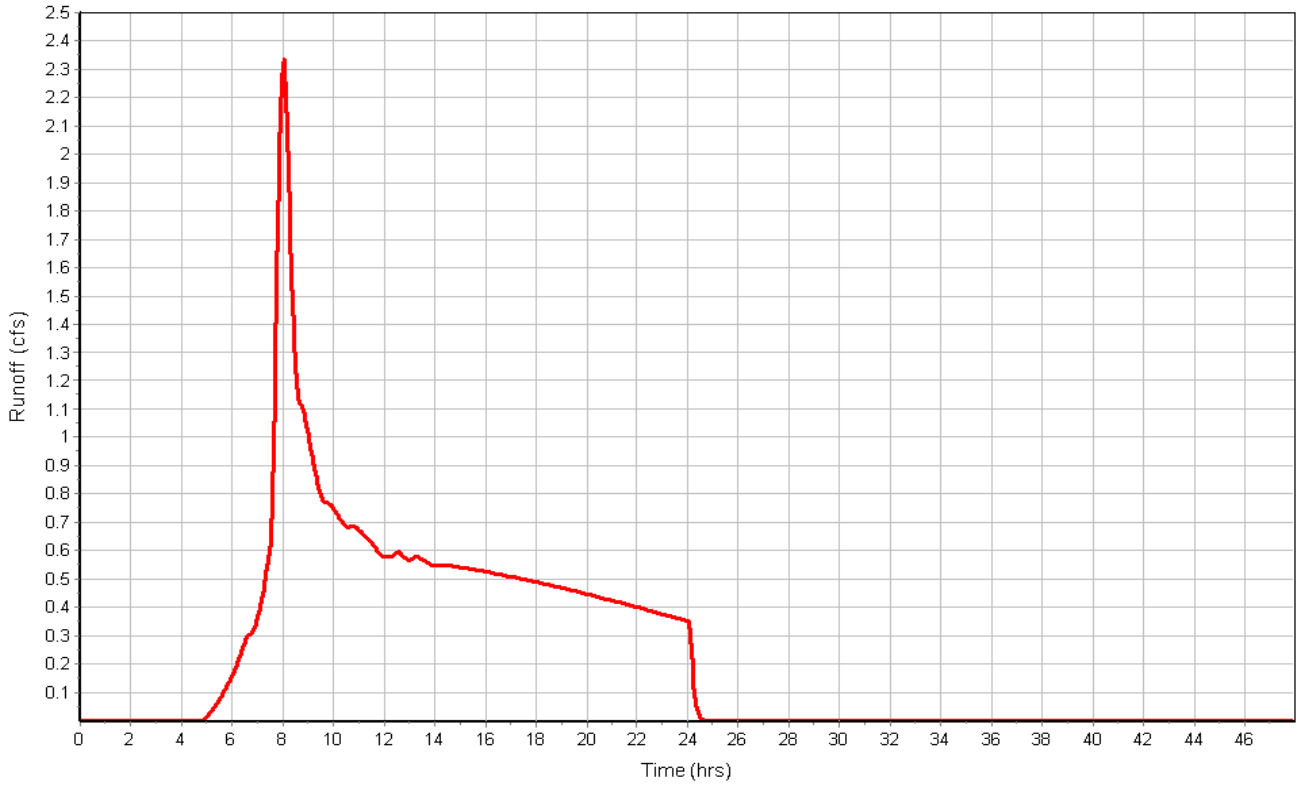
Total Rainfall (in) 3.50
Total Runoff (in) 1.64
Peak Runoff (cfs) 2.35
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:16:43

Subbasin : P4

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : Det-Basin

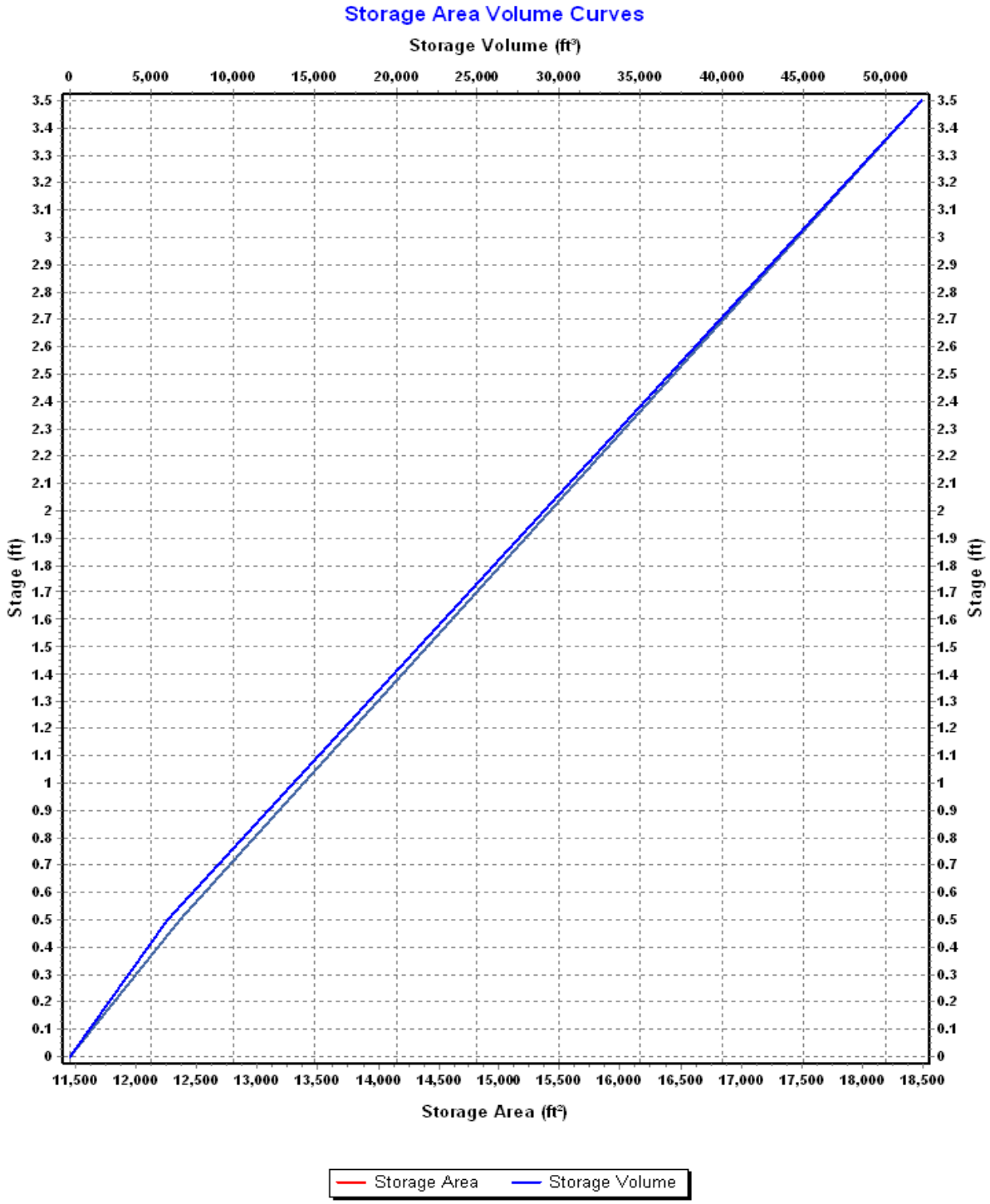
Input Data

Invert Elevation (ft) 322.50
Max (Rim) Elevation (ft) 326.00
Max (Rim) Offset (ft) 3.50
Initial Water Elevation (ft) 322.50
Initial Water Depth (ft) 0.00
Ponded Area (ft²) 12.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Detention_Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	11460	0.000
0.5	12362	5955.50
3.5	18484	52224.50


Storage Area Volume Curves
Storage Volume (ft³)
0 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000 50,000
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5
11,500 12,000 12,500 13,000 13,500 14,000 14,500 15,000 15,500 16,000 16,500 17,000 17,500 18,000 18,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Det-Basin (continued)

Output Summary Results

Peak Inflow (cfs)	5.99
Peak Lateral Inflow (cfs)	2.34
Peak Outflow (cfs)	3.52
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	323.81
Max HGL Depth Attained (ft)	1.31
Average HGL Elevation Attained (ft)	323.13
Average HGL Depth Attained (ft)	0.63
Time of Max HGL Occurrence (days hh:mm)	0 08:23
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name 20190920-Model.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 21, 2019	00:00:00
End Analysis On	Sep 23, 2019	00:00:00
Start Reporting On	Sep 21, 2019	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	1	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	8
Junctions	4
Outfalls	3
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	7
Channels	3
Pipes	4
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-025	Intensity	inches	Oregon	Yamhill	25	4.00	SCS Type IA 24-hr

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	E1/P1	2.97	2.04	6.06	1.37
2	E2_E3_E4	12.74	2.04	26.02	5.70
3	P2	4.46	2.61	11.65	2.99
4	P3	1.72	3.54	6.09	1.58
5	P4	6.56	2.04	13.40	3.04

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	REV-Swale-End	Junction	320.52	330.00	320.52	330.00	12.00	5.35	321.54	0.00	8.46	0 00:00	0.00	0.00
2	REV-Swale-Start	Junction	322.50	330.00	322.50	330.00	12.00	5.35	323.14	0.00	6.86	0 00:00	0.00	0.00
3	SD(5)	Junction	334.15	339.85	334.15	340.00	12.00	1.58	334.48	0.00	5.37	0 00:00	0.00	0.00
4	SD(6)	Junction	324.36	330.00	324.36	330.00	12.00	4.56	324.49	0.00	5.51	0 00:00	0.00	0.00
5	Out-PRE-East	Outfall	325.00					1.36	325.00					
6	Out-PRE-West	Outfall	316.16					5.70	316.16					
7	Out-REV-POST-West	Outfall	316.16					5.35	316.64					
8	Det-Basin	Storage Node	322.50	326.00	322.50		12.00	7.41	323.95				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)
1	Ditch-Inlet	Pipe	Det-Basin	REV-Swale-Start	5.00	323.17	322.50	13.4000	12.000	0.0150	4.19	11.30	0.37	7.23	0.71	0.71	0.00
2	Orifice	Pipe	Det-Basin	REV-Swale-Start	5.00	322.50	322.50	0.0000	2.900	0.0130	0.24	0.01	20.74	5.16	0.24	1.00	1010.00
3	REV-Swale-Discharge	Pipe	REV-Swale-End	Out-REV-POST-West	68.56	321.00	316.16	7.0600	18.000	0.0150	5.35	24.19	0.22	10.15	0.51	0.34	0.00
4	SD5_SD6	Pipe	SD(5)	SD(6)	96.00	334.15	324.36	10.2000	10.000	0.0130	1.58	7.00	0.23	13.02	0.23	0.27	0.00
5	HF_Bypass	Channel	Det-Basin	REV-Swale-Start	5.00	323.90	322.50	28.0000	24.000	0.0320	0.93	263.60	0.00	0.53	0.35	0.17	0.00
6	Link-22	Channel	SD(6)	Det-Basin	5.00	324.36	322.50	37.2000	60.000	0.0320	4.56	995.36	0.00	1.40	0.77	0.16	0.00
7	REV-Swale	Channel	REV-Swale-Start	REV-Swale-End	100.00	322.50	320.52	1.9800	18.000	0.2400	5.35	31.07	0.17	1.02	0.83	0.55	0.00

Reported Condition
Calculated
SURCHARGED
Calculated
Calculated

Subbasin Hydrology

Subbasin : E1/P1

Input Data

Area (ac) 2.97
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	2.97	D	80.00
Composite Area & Weighted CN	2.97		80.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	16.14	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	200	0.00	0.00
Slope (%) :	2	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.28	0.00	0.00
Computed Flow Time (min) :	1.46	0.00	0.00

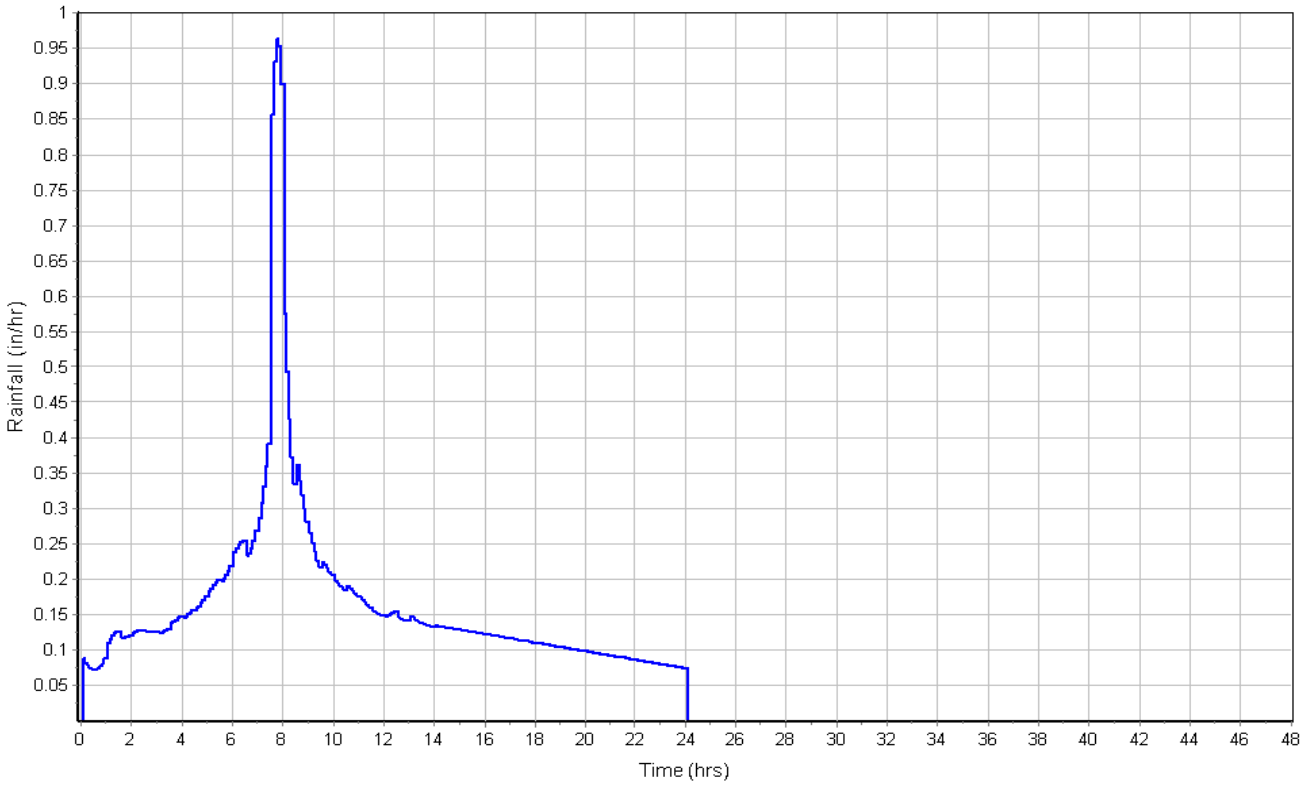
Total TOC (min) 17.61

Subbasin Runoff Results

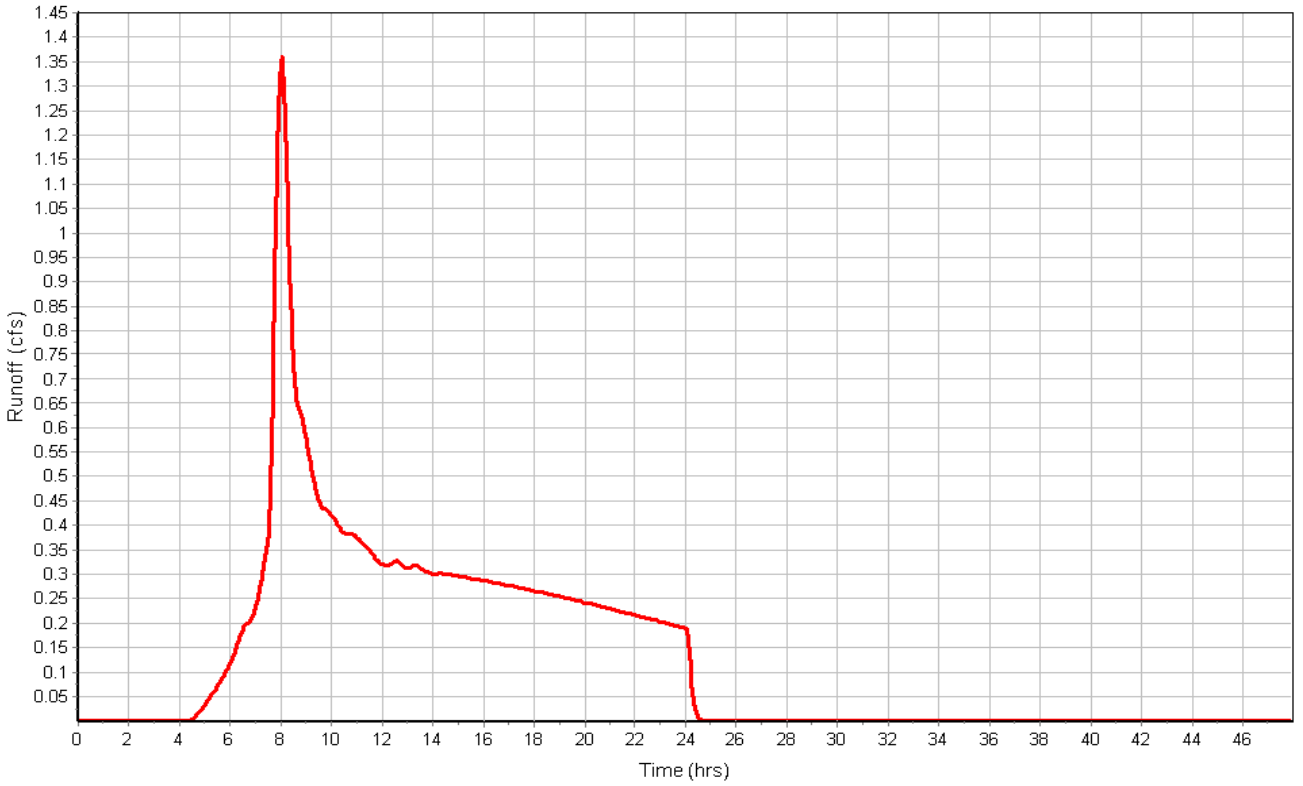
Total Rainfall (in)	4.00
Total Runoff (in)	2.04
Peak Runoff (cfs)	1.37
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:17:37

Subbasin : E1/P1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : E2_E3_E4

Input Data

Area (ac) 12.74
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Pasture, grassland, or range, Good	12.74	D	80.00
Composite Area & Weighted CN	12.74		80.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	3	0.00	0.00
2 yr, 24 hr Rainfall (in) :	2.5	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	13.73	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	500	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	2.79	0.00	0.00
Computed Flow Time (min) :	2.99	0.00	0.00

Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.24	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Channel Slope (%) :	3	0.00	0.00
Cross Section Area (ft^2) :	12	0.00	0.00
Wetted Perimeter (ft) :	12	0.00	0.00
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	4.65	0.00	0.00

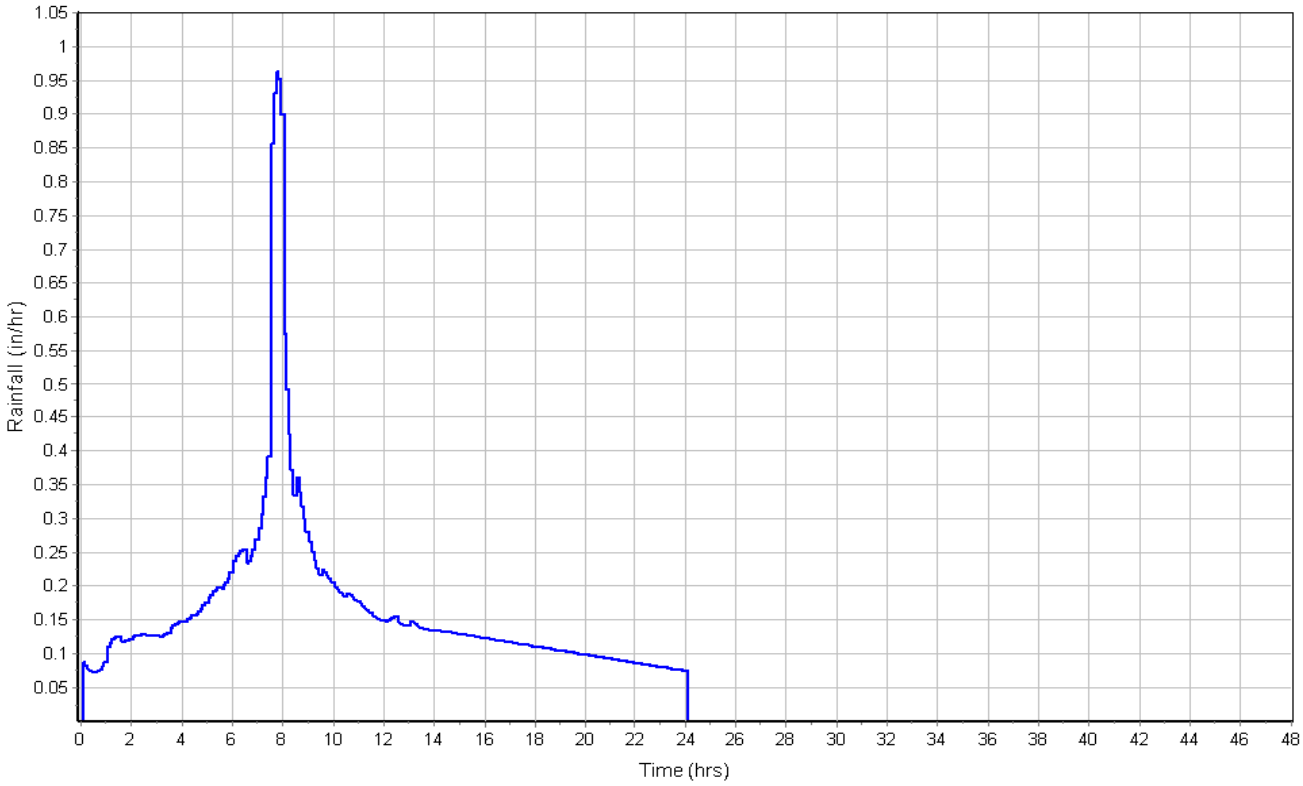
Total TOC (min) 21.36

Subbasin Runoff Results

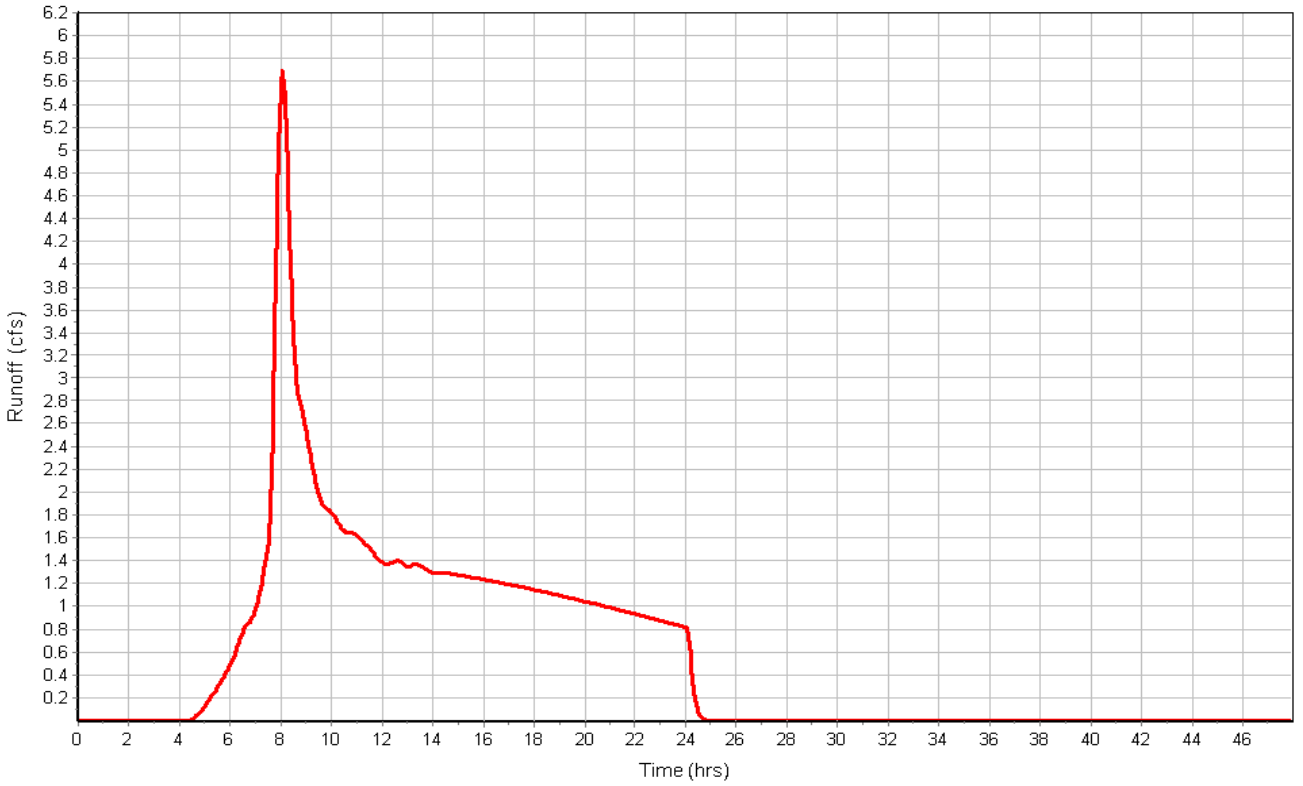
Total Rainfall (in) 4.00
Total Runoff (in) 2.04
Peak Runoff (cfs) 5.70
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:21:22

Subbasin : E2_E3_E4

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P2

Input Data

Area (ac) 4.46
Weighted Curve Number 86.74
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.67	-	98.00
-	2.79	-	80.00
Composite Area & Weighted CN	4.46		86.74

Time of Concentration

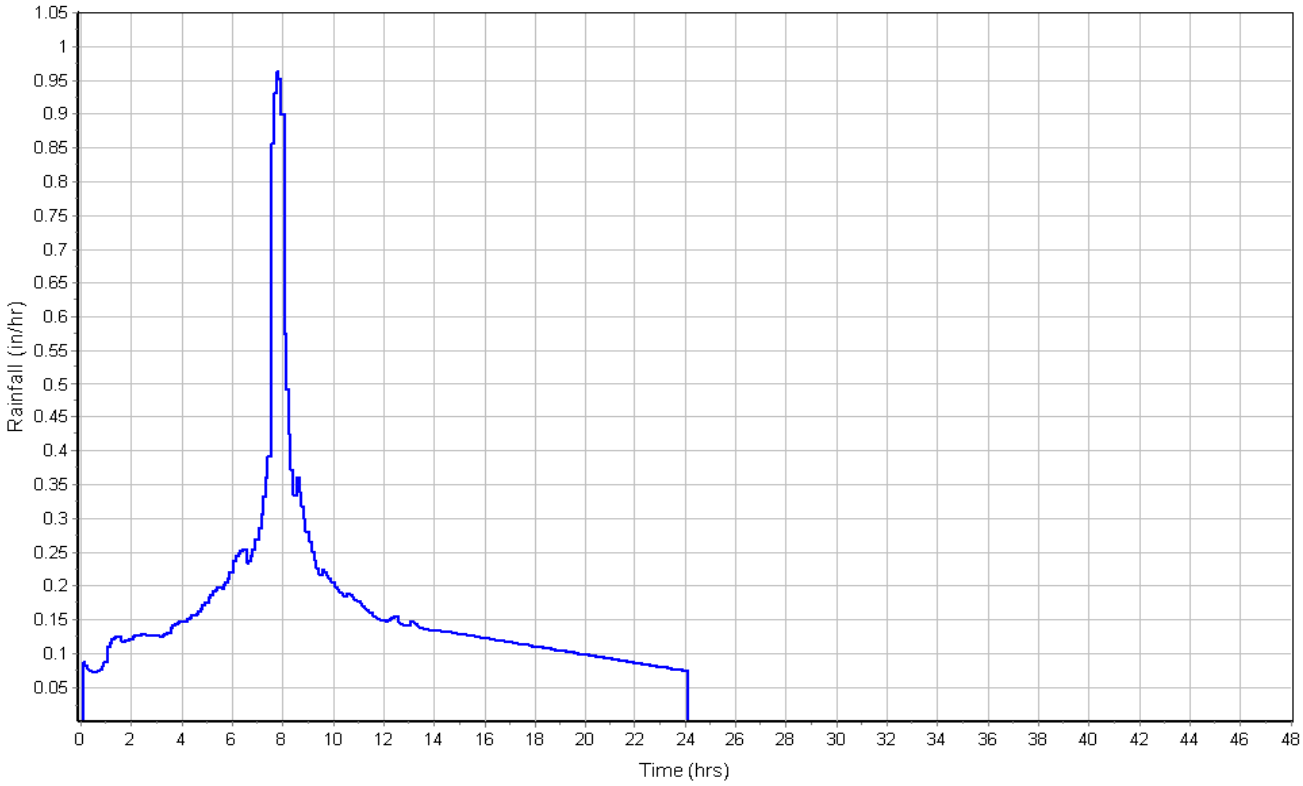
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

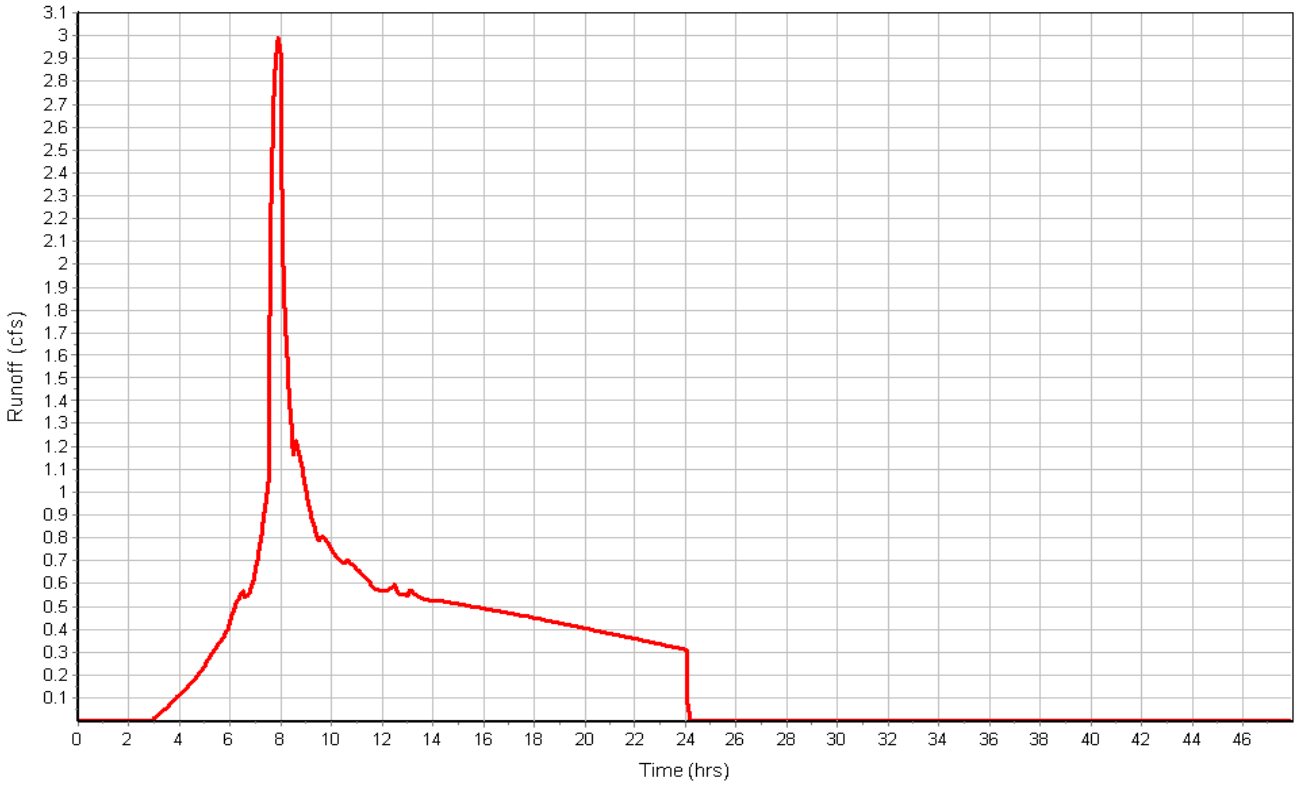
Total Rainfall (in) 4.00
Total Runoff (in) 2.61
Peak Runoff (cfs) 2.99
Weighted Curve Number 86.74
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P2

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P3

Input Data

Area (ac) 1.72
Weighted Curve Number 96.01
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	1.53	-	98.00
-	0.19	-	80.00
Composite Area & Weighted CN	1.72		96.01

Time of Concentration

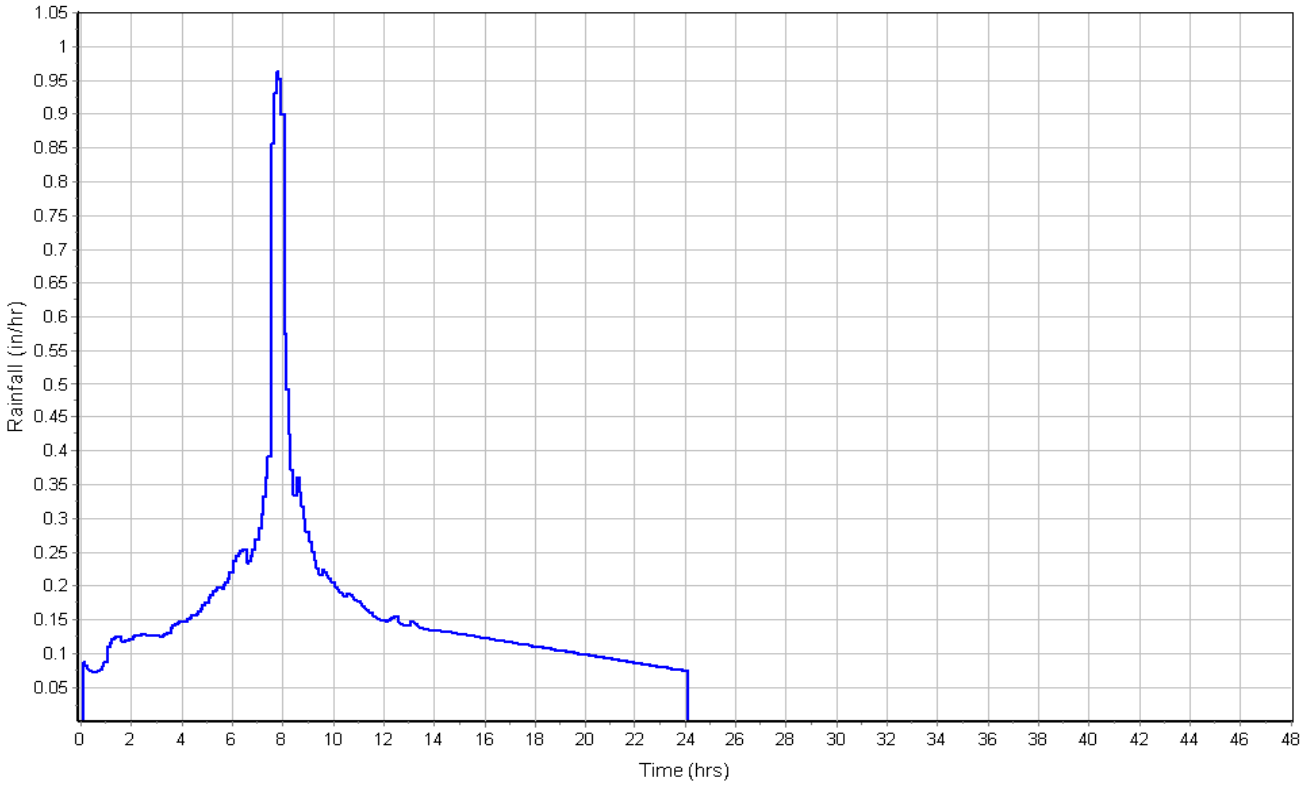
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

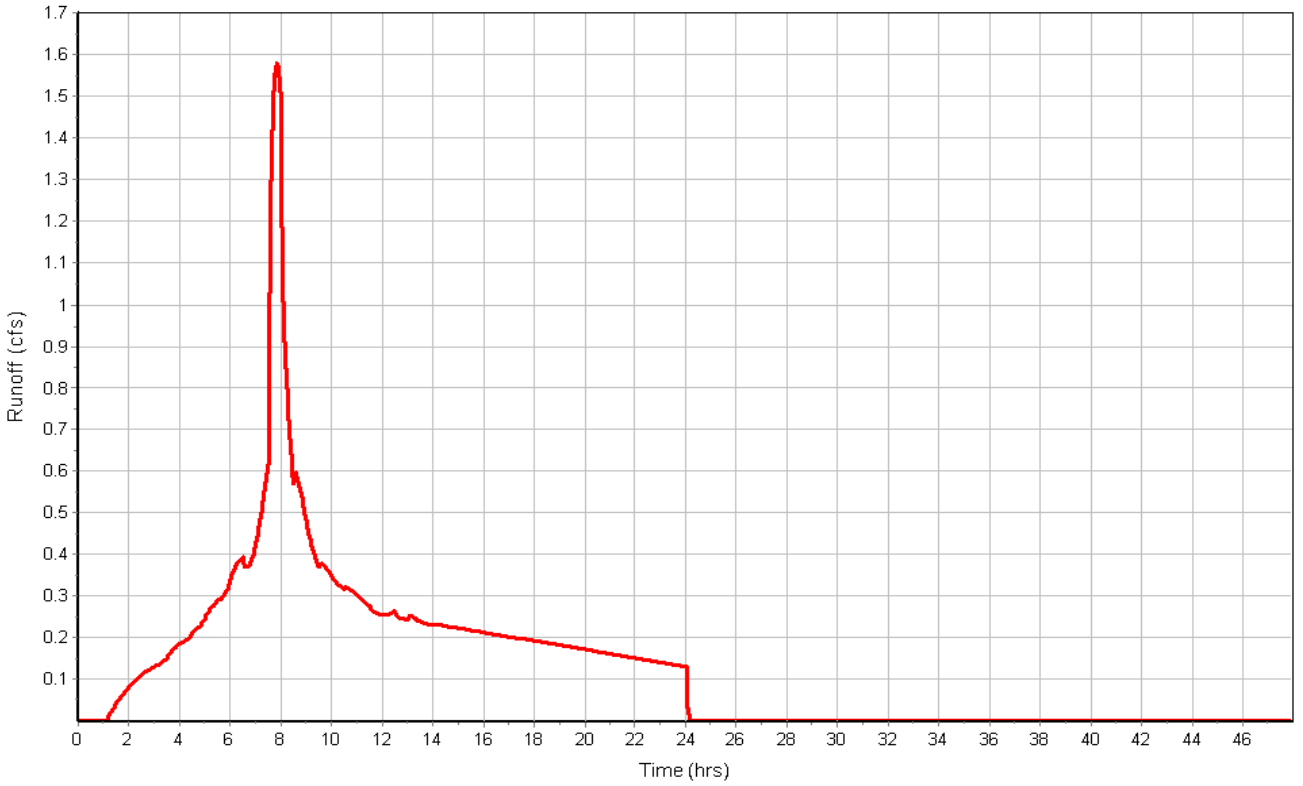
Total Rainfall (in) 4.00
Total Runoff (in) 3.54
Peak Runoff (cfs) 1.58
Weighted Curve Number 96.01
Time of Concentration (days hh:mm:ss) 0 00:05:00

Subbasin : P3

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P4

Input Data

Area (ac) 6.56
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
-	9.91	D	80.00
Composite Area & Weighted CN	9.91		80.00

Time of Concentration

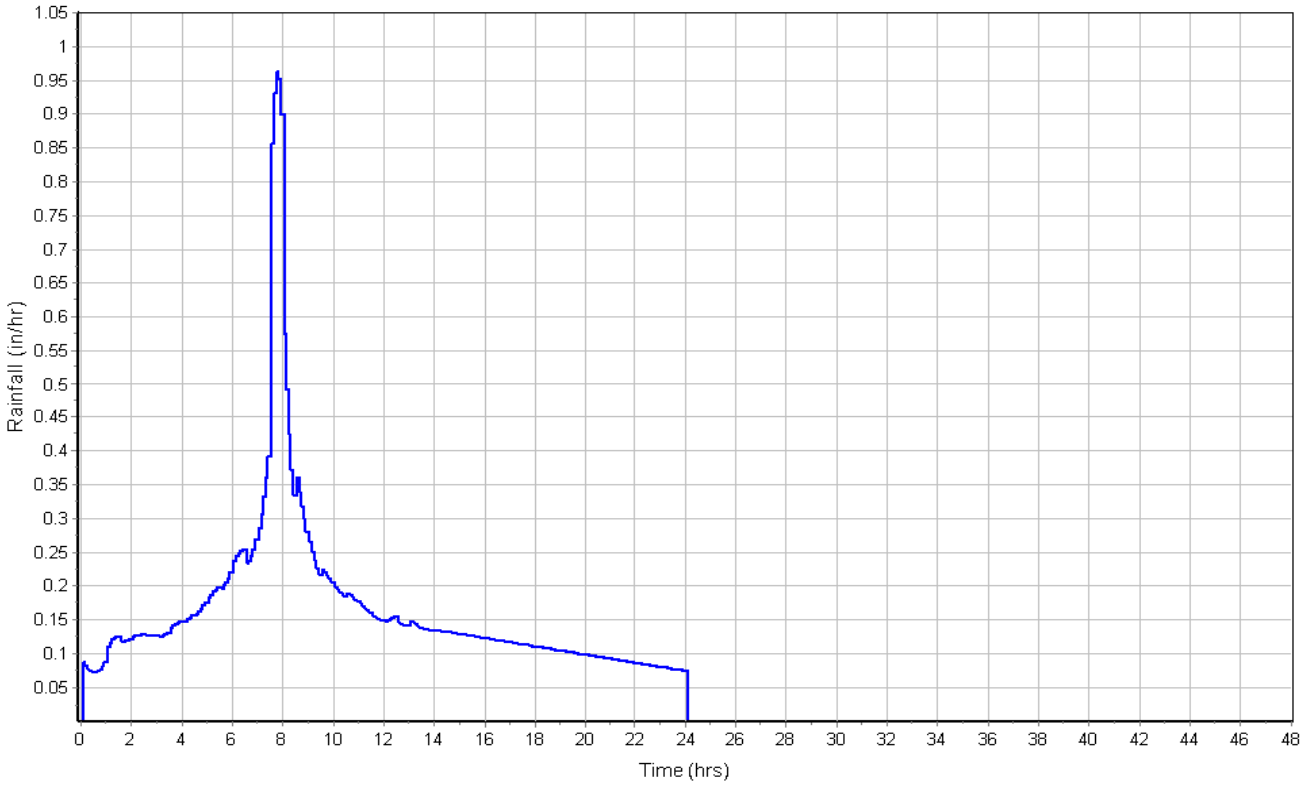
User-Defined TOC override (minutes): 16.71

Subbasin Runoff Results

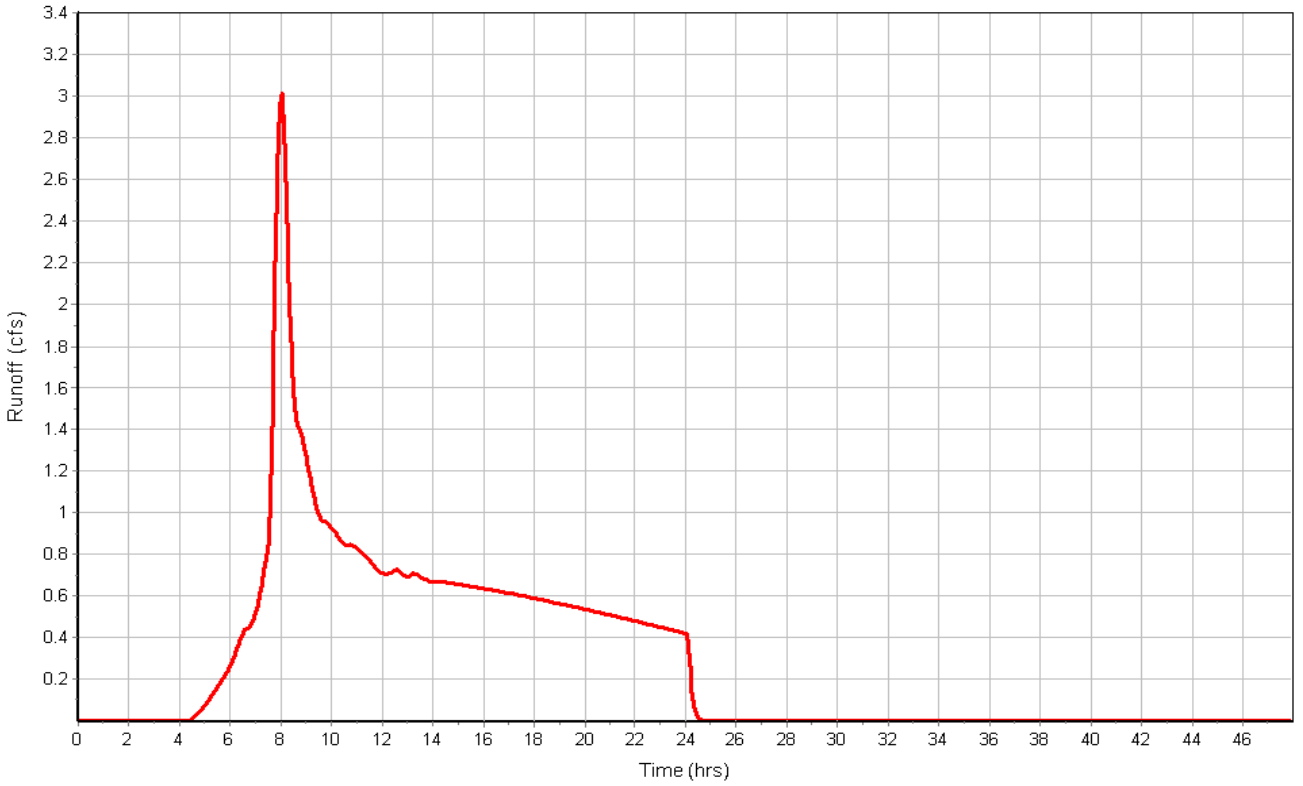
Total Rainfall (in) 4.00
Total Runoff (in) 2.04
Peak Runoff (cfs) 3.04
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:16:43

Subbasin : P4

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : Det-Basin

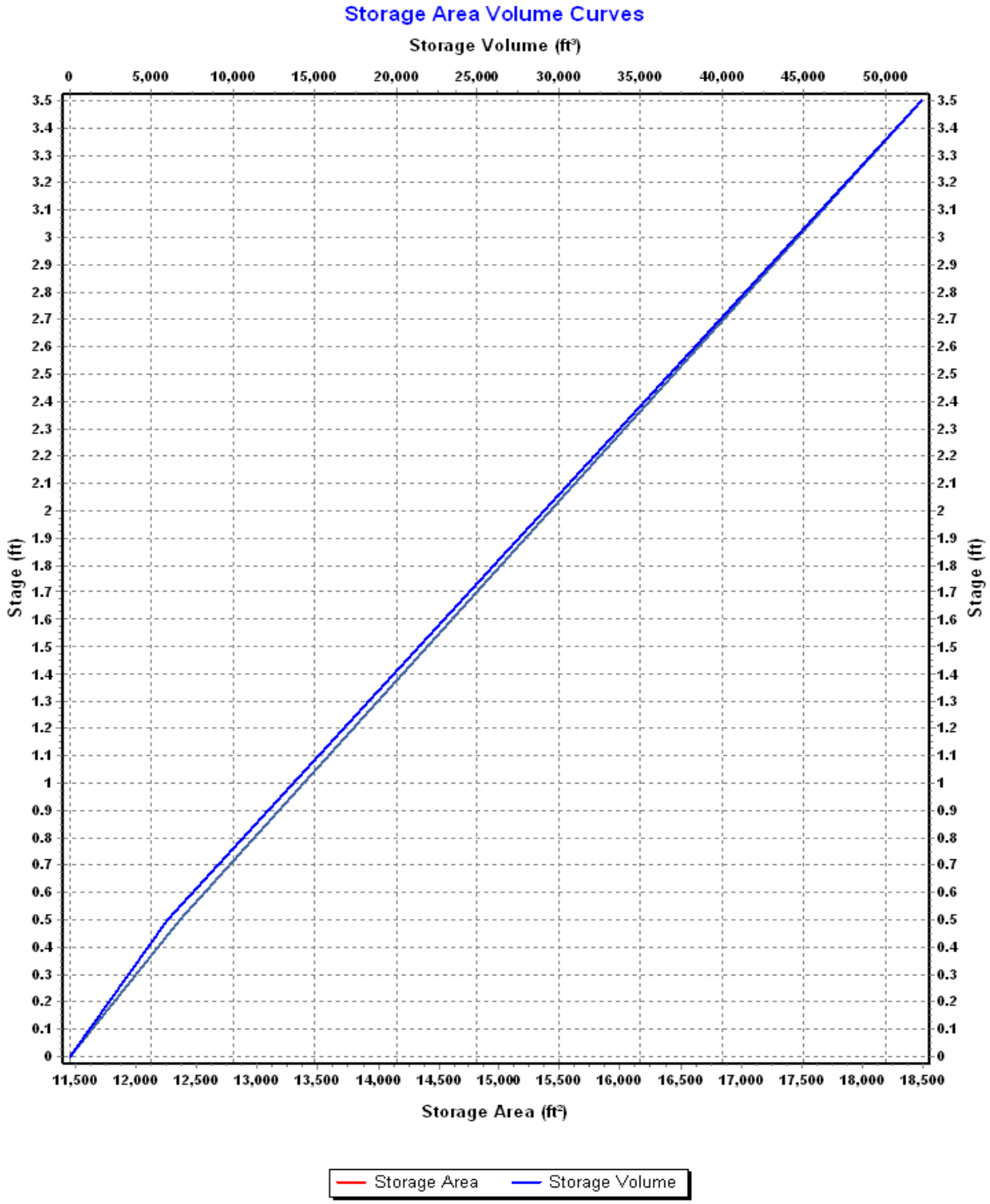
Input Data

Invert Elevation (ft) 322.50
Max (Rim) Elevation (ft) 326.00
Max (Rim) Offset (ft) 3.50
Initial Water Elevation (ft) 322.50
Initial Water Depth (ft) 0.00
Ponded Area (ft²) 12.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Detention_Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	11460	0.000
0.5	12362	5955.50
3.5	18484	52224.50


Storage Area Volume Curves
Storage Volume (ft³)
0 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000 50,000
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5
11,500 12,000 12,500 13,000 13,500 14,000 14,500 15,000 15,500 16,000 16,500 17,000 17,500 18,000 18,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Det-Basin (continued)

Output Summary Results

Peak Inflow (cfs)	7.41
Peak Lateral Inflow (cfs)	3.01
Peak Outflow (cfs)	5.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	323.95
Max HGL Depth Attained (ft)	1.45
Average HGL Elevation Attained (ft)	323.16
Average HGL Depth Attained (ft)	0.66
Time of Max HGL Occurrence (days hh:mm)	0 08:15
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

APPENDIX E

OPERATIONS, MAINTENANCE, CONTINGENCY & REPAIR PLAN

OPERATIONS, MAINTENANCE, CONTINGENCY & REPAIR PLAN

FOR THE

Veritas School Site Development

City of Newberg, Yamhill County, Oregon
Case File # DR219-0002

In order for the storm water treatment facilities to continue operating at acceptable levels, regular maintenance and inspection are required. This plan provides instructions for how to do this.

Prepared by: Nicholas McMurtrey, P.E.

September 2019

O& M TABLE OF CONTENTS

A. RESPONSIBILITY

The stormwater management facilities are to be maintained by School staff. The preparer has worked with the owner's designated personnel to design a system that can be easily maintained by maintenance staff. A copy of this plan shall be provided to all applicable maintenance personnel.

B. DESCRIPTION

The stormwater system collects and conveys all runoff within the site and treats drainage from both landscaping and impervious surfaces. All runoff is will either infiltrate into the ground, or be collected by **catch basins, ditches and culverts** before discharging into stormwater quality and/or quantity facilities. Stormwater quantity, or **detention basins**, will eventually overflow towards the piped conveyance system via a catch basin.

These conveyance systems discharge to a **riprap outfall** upstream of **vegetated swale**. Stormwater in the vegetated swale either (1) infiltrates through the plants and soil for treatment, (2) flows through the swale for treatment in route to an outfall or downstream conveyance channel. Drainage originating from impervious surfaces throughout the project area will be treated by the vegetated swale. Any facility unable to absorb drainage during high flow events will discharge towards the historic discharge location for the project, and ultimately Chehalem Creek.

Definitions

- **Riprap outfalls** are rock lined depressions installed where pipes daylight to reduce scour at the discharge location.
- **Vegetated swales** are depressed landscaped channels used to collect, filter, infiltrate, and convey storm water runoff. Their primary purpose is to treat storm water runoff as it passes through the vegetation, and underlying topsoil. These facilities also provide detention for stormwater runoff and slowly release it over extended periods of time.
- **Catch basins** are inlet structures with a sump for sediment and debris storage and a turned downed elbow on the outlet pipe. They collect surface storm water and convey it to the storm system.
- **Detention basins** are depressed landscaped areas used to collect, filter, infiltrate, and convey storm water runoff. Their primary purpose is to slow down and detain stormwater runoff as the basin fills. These facilities slowly release runoff over extended periods of time.

Table B1
Stormwater Facility Summary

Facility Type	Size (sf)	Contributing Source	Impervious Area Managed (ac)	Discharge Point
Vegetated Swale	570 (base area)	Building roofs and central courtyard walkways	1.16	Flows discharge to SW corner of property, and eventually Chehalem Creek.
Detention Basin	7,100 (base area)	Parking lot; asphalt pavement and concrete sidewalk	1.67	Flows discharge to vegetated swale

C. SCHEDULE

The whole system shall be inspected and maintained quarterly and within 24 hours after each major storm event. For this O&M plan, a major storm event is defined as 1.0 inches of rain in 24 hours or more. All components of the storm system as described below must be inspected and maintained frequently or they will cease to function effectively. The facility owner must keep a log recording all inspection dates, observations, and maintenance activities. Receipts shall be saved when maintenance is performed and there is record of expense.

D. PROCEDURE

The following items shall be inspected and maintained as stated:

Riprap Outfalls

- Facilities shall be inspected for debris and sediment buildup, which shall be removed upon discovery. If necessary, sources of potential sediment and debris, such as discarded landscape clippings, shall be identified and prevented.
- Inspect outfalls and adjacent landscaping areas for areas of erosion, scouring, undercutting, and slumping. Fill eroded area with compacted soil and cover with mulch, riprap, seed, sod, or other erosion prevention materials.

Vegetated Swale and Detention Basin

- Fallen leaves and debris from deciduous plant foliage shall be raked and removed biannually.
- Nuisance and prohibited vegetation of all species shall be removed biannually. Invasive vegetation shall be removed and replaced.
- Dead vegetation shall be removed to maintain less than 10% of area coverage or when planter function is impaired. Vegetation shall be replaced to maintain cover density and control erosion where soils are exposed.
- The facilities shall fully drain within 24 hours after a storm event. If water continues to pond after that time, sources of possible clogging shall be identified and corrected. If necessary,

the topsoil layers shall be tilled and amended with compost; if this is not sufficient, they shall be removed and replaced with new freely draining growing medium.
- Inlets and outlets shall be inspected quarterly and after any large rain event.
- Any trash or debris that collects in the planters may inhibit function and shall be removed quarterly.
- Use of pesticides and/or herbicides is not recommended.

Catch Basins and Piped Storm System
- Quarterly inspection for clogging shall be performed.
- Shall be inspected for cracks or leaks during each inspection. Area drains, overflow structures and manholes shall be cleaned out at a minimum of once per year or more frequently if inspections deem it necessary. Cleanout shall be done in a manner to minimize the amount of sediment and trapped oil entering the outlet pipe. Any valves on outlet pipes shall be closed or plugged prior to cleanout.
- Water, oil, and sediment in sumps shall be removed, tested, and disposed of in accordance with federal and state regulations. Grit and sediment that has settled to the bottom of drainage structures shall be removed during each cleaning.
- Cleaning shall be done without use of detergents or surfactants. A pressure washer may be used if necessary.

Source Control measures prevent pollutants from mixing with storm water. Typical non-structural control measures include raking and removing leaves, street sweeping, vacuum sweeping, controlled application of pesticides and fertilizers, and other good house keeping practices.
- Source control measures shall be inspected and maintained (where applicable).

Spill Prevention measures shall be exercised when handling substances that can contaminate storm water. It is important to exercise caution when handling substances that can contaminate storm water. Activities that pose the chance of hazardous material spills shall not take place near collection facilities.
- Contact facility owner immediately if spill is observed.
- Releases of pollutants shall be corrected as soon as identified.

Insects & Rodents shall not be harbored in the any part of the storm system.
- Pest control measures shall be taken when insects/rodents are found to be present.
- If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied only if absolutely necessary and shall not be used where it will enter groundwater or come in contact with any standing water. Sprays shall be applied only by a licensed individual or contractor.
- Holes in the ground located in and around the storm system shall be filled.
- Outfalls draining into storm water planters shall be inspected and cleaned regularly to insure no rodent activity which would clog or decrease the efficiency of the storm system.

Access to the storm system is required for efficient maintenance.

- Egress and ingress routes adjacent to stormwater facilities shall be opened for maintenance. Traffic control may be necessary to safety perform maintenance activities.

E. INSPECTION AND MAINTENANCE LOGS

Maintenance staff shall complete inspection and maintenance logs. The logs shall be produced for:

Proper Conveyance – All facilities shall drain within 24 hours. Date, time, weather, and site conditions when ponding occurs shall be recorded.

Pollution Prevention – All sites shall implement best management practices to prevent hazardous wastes, litter, or excessive oil and sediment from contaminating storm water. Contact Spill Prevention & Citizen Response at (503) 823-7180 for immediate assistance with responding to spills. Record date, time, weather, and site conditions if activities are found to contaminate storm water.

Vectors (mosquitoes and rodents) – Storm water facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/ burrows in and around facilities. Call Washington County Vector Control at (503) 846-8722 for recommendations and guidance with eradicating vectors. Record date, time, weather, and site conditions when vector activity is observed.

Maintenance – Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities.

F. SAMPLE O&M LOG SHEET

SAMPLE

Date: 9/10/2019 Time: 13:30 Initials: NJM
Weather and site conditions: Overcast
Work performed by: Veritas School maintenance personnel
Work performed: Replanted Vegetated Swale with sedges and rushes
Details: *Work order on file and available by request

G. O&M LOG SHEET

Date: _____ Time: _____ Initials: _____
Weather and site conditions: _____
Work performed by: _____
Work performed: _____
Details: _____

Date: _____ Time: _____ Initials: _____
Weather and site conditions: _____
Work performed by: _____
Work performed: _____
Details: _____

Storm Water System
Operations, Maintenance, Contingency & Repair Plan

Date: _____ Time: _____ Initials: _____
Weather and site conditions: _____
Work performed by: _____
Work performed: _____
_____
Details: _____
_____

Date: _____ Time: _____ Initials: _____
Weather and site conditions: _____
Work performed by: _____
Work performed: _____
_____
Details: _____
_____

H. Appendix: Exhibits

MAINTAIN DITCH

MAINTAIN CULVERT

MAINTAIN ON-SITE INLETS

MAINTAIN SWALE

MAINTAIN DETENTION BASIN AND EMBANKMENTS

238.50' LONG DRAINAGE DITCH S = 0.50%

SD CB RIM ELEV = 340.14 INV = 337.64

47LF 8in PVC S = 2.0%

324.81 (PIPE OUTFALL END)

GRADE DITCH TO DAYLIGHT

64.5LF 8in PVC S = 20.9%

19LF 12in PVC S = 1.0%

SD CB RIM ELEV = 327.5 INV (IN) = 323.25 INV (OUT) = 325.00

SD CB RIM ELEV = 349.80 INV (IN) = 336.70 INV (OUT) = 336.70

SD(17) CB RIM ELEV = 342.46 INV = 339.97 (4" PVC)

SD(3) CO FG1 = 343.36 INV = 339.22 (8" PVC)

SD(1) CB RIM ELEV = 342.90 INV = 340.40 (4" PVC)

8LF 4in PVC S=20.51%

5LF 4in PVC S=6.20%

113LF 6in PVC S=1.00%

5LF 4in PVC S=1.00%

SD(2) WYE FG1 = 343.04 INV = 340.35 (6" PVC)

SD(16) CB RIM ELEV = 343.00 INV = 340.50 (4" PVC)

SD(7) CB FG1 = 343.00 INV = 340.50 (4" PVC)

127LF 8in PVC S=1.01%

SD(18) CB RIM ELEV = 342.90 INV = 340.40 (4" PVC)

47LF 4in PVC S=1.36%

SD(15) CB RIM ELEV = 343.25 INV = 340.75 (4" PVC)

8LF 4in PVC S=35.50%

118LF 6in PVC S=1.36%

SD(9) WYE FG1 = 343.33

5LF 4in PVC S=20.00%

SD(8) WYE FG1 = 343.31 INV = 339.86 (6" PVC)

SD(5) STORM MH (STM 1) STA 0+95.46 (0.0) RIM ELEV = 339.85 INV IN (E)= 334.15 (10" PVC) INV IN (S)= 334.15 (8" PVC) INV OUT (W)= 334.15 (10" PVC)

96LF 10in PVC S=10.26%

52LF 8in PVC S=2.39%

SD(6) PIPE OUTFALL END FG = 324.36

241LF 10in PVC S=1.57%

SD(4) STORM MH (STM 1) STA 3+36.86 (0.0) RIM ELEV = 343.38 INV IN (N)= 337.94 (8" PVC) INV IN (S)= 337.94 (6" PVC) INV OUT (W)= 337.94 (10" PVC)

64LF 6in PVC S=1.51%

SD(10) CB RIM ELEV = 342.50 INV = 340.00 (4" PVC)

SD(12) CO FG1 = 342.72 INV = 338.91 (6" PVC)

SD(19) CB FG1 = 338.40 INV = 335.40 (8" PVC)

87LF 4in PVC S=0.77%

13LF 4in PVC S=8.71%

54LF 4in PVC S=0.78%

SD(14) CB RIM ELEV = 341.97 INV = 339.47 (4" PVC)

24LF 4in PVC S=2.31%

SD(13) CB RIM ELEV = 342.50 INV = 340.00 (4" PVC)

SSMH RIM = 340.83 (BOLTED LID)

SSMH RIM = 335.95 6" IE (S) = 328.49 6" IE (W) = 325.95

SSMH RIM = 335.95 8" IE (E) = 316.14 8" IE (W) = 316.08

18" CULVERT

73LF 18in PVC S=5.06%

IE = 320.52

IE = 316.16

LEGEND

PROPERTY BOUNDARY	PROPERTY CORNER
ADJACENT PROPERTY LINES	CONTROL POINT
CENTERLINE	STORM MANHOLE
EASEMENT LINES	STORM CATCHBASIN
BUILDING	STORM/SEWER CLEANOUT
CURB	FLOW DIRECTION ARROW
SIDWALK	STORM CULVERT END
FENCE	SEWER MANHOLE
WATERLINE	WATER METER
SANITARY SEWER	CONCRETE PAVING
STORM DRAIN LINE	ASPHALT PAVING
OVERHEAD POWER	GRAVEL SURFACE
UNDERGROUND POWER	EXISTING MAJOR CONTOURS
RETAINING WALL	EXISTING MINOR CONTOURS
PROPOSED PAVING	MAJOR CONTOURS
	MINOR CONTOURS
	WATER VALVE
	WATER METER
	POWER/UTILITY POLE
	STREET LIGHT
	STREET SIGN
	GAS VALVE
	GAS METER
	TEL/COMM PED/RISER

0 30 45 60

SCALE IN FEET
1 Inch = 30 ft.

REVISIONS | DATE | BY

VERITAS SCHOOL SITE DEVELOPMENT

NEWBERG, OREGON

26500 NE BELL ROAD NEWBERG, OR 97132

MAINTENANCE EXHIBIT

CULVERT,
SPEED BUMP
REF C3

DITCH
REF C3

DITCH
REF C3

STORM POND
REF C2

TL 2800

TL 2700

TL 2701

TL 2702

TL 2703

(P) 7' UTILITY
EASEMENT

NEW COVERED
PLAY AREA

CONSTRUCTION ACCESS AND
MAINTENANCE EASEMENT

1 C1 SITE GRADING PLAN
1:30

scale 1: 30
30 0 30 60
feet

PLOT DATE: Nov 12, 2019 - 8:31am

Nov 12, 2019 - 8:31am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN - raised pond 2 - 11 Nov 2019.dwg

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

GRADING PLAN

VERITAS SCHOOL

26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE BY	ISSUED FOR

SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C1

DETENTION POND 11,558 SF
BOTTOM ELEV - 323.50'
4:1 SIDE SLOPES
POND CUT VOLUME = 484 CY
POND FILL VOLUME = 16 CY
BERM FILL VOLUME = 256 CY

DETENTION POND BERM
5' WIDE
TOP ELEV - 326.0'
4:1 SIDE SLOPES

EXISTING SWALE

EXISTING
STORM PIPE

18" THICK ODOT CLASS 50 RIPRAP
EXTEND 10' BEYOND OUTFALL
10' WIDE, REF 3/C4
PROVIDE SCOUR HOLE PER CWS 815

EXISTING 10" PVC STORM OUTFALL
IE = 324.36'

CWS DITCH INLET WITH 18" TRAP PER CLEAN WATER SERVICES (CWS) STANDARD DRAWING NO. 390
SLOPE TOP AT 4:1 TO MATCH BERM
OUTFLOW CONTROL STRUCTURE PER CWS DRAWING NO. 720
REF. 1/C4 FOR RIM ELEVATIONS

12" SCH 40 PVC PIPE, 23.1 LF
IE IN = 322.53'
IE OUT = 321.85'

12" THICK ODOT CLASS 50 RIPRAP
REF 1/C4, 4/C4

REGRADE APPROX 31' FROM PIPE OUTFALL AT 0.5% GRADE TO MATCH TO EXISTING SWALE

1 C2 STORM POND GRADING PLAN
1:10

10 0 10 20
scale 1: 10 feet

PLOT DATE: Nov 12, 2019 – 8:33am

Nov 12, 2019 – 8:33am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

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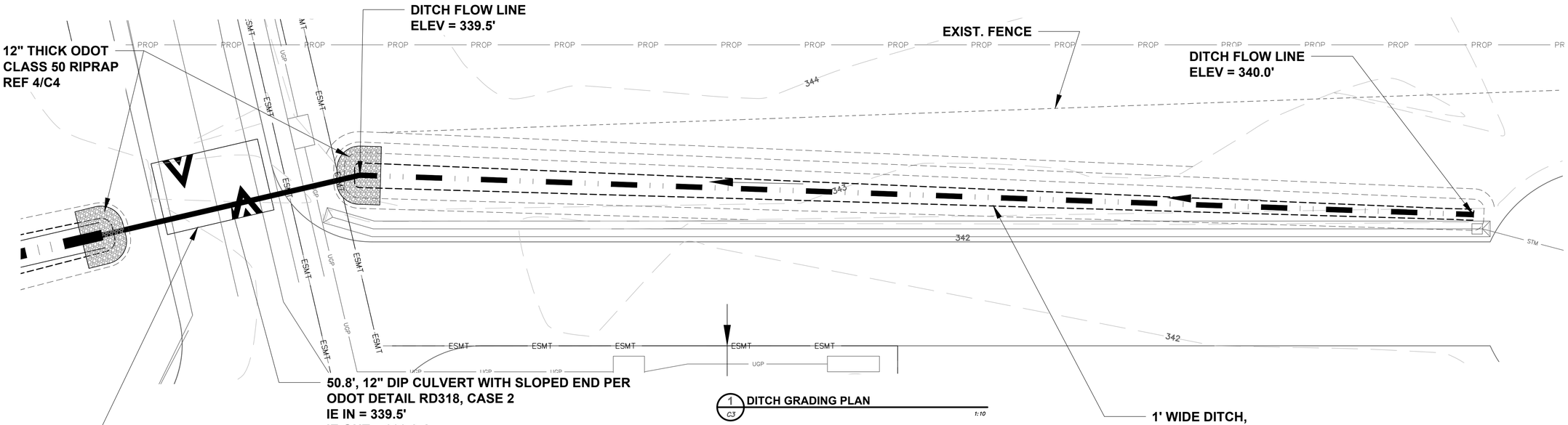
VERITAS STORM WATER IMPROVEMENTS

DETENTION POND GRADING PLAN

VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

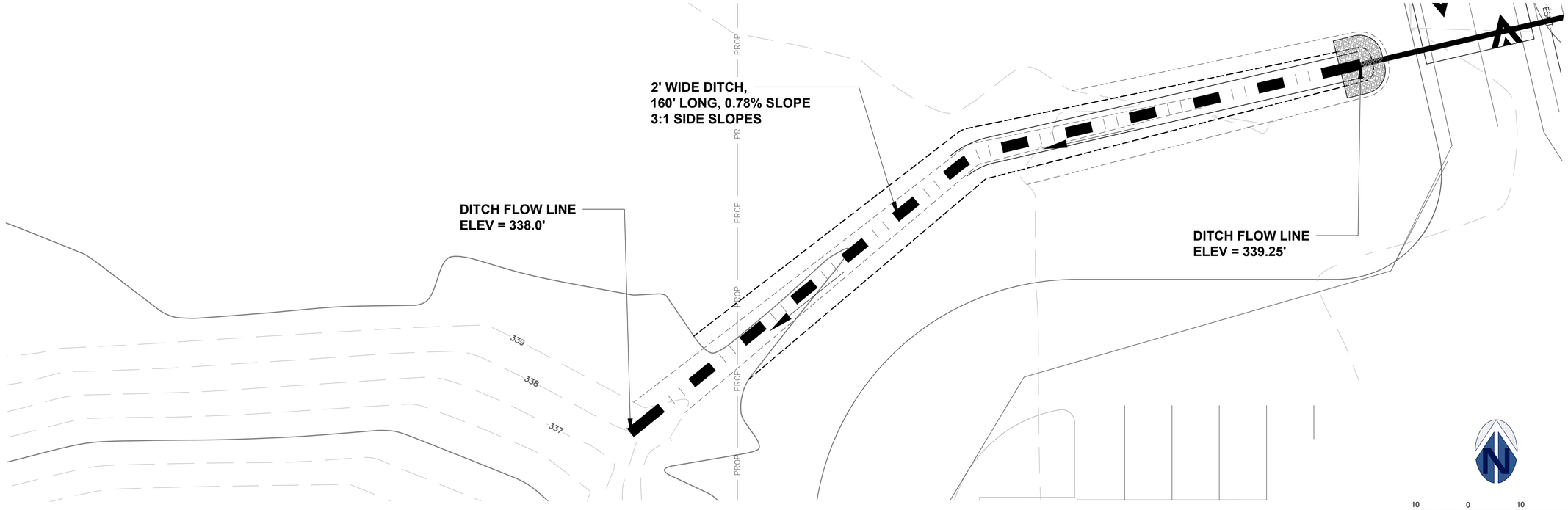
NO.	REVISION	DATE BY	ISSUED FOR

SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C2



1 C3 DITCH GRADING PLAN

1:10



2 C3 DITCH GRADING PLAN

1:10

PLOT DATE: Nov 12, 2019 – 8:33am

Nov 12, 2019 – 8:33am 1om D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

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VERITAS STORM WATER IMPROVEMENTS

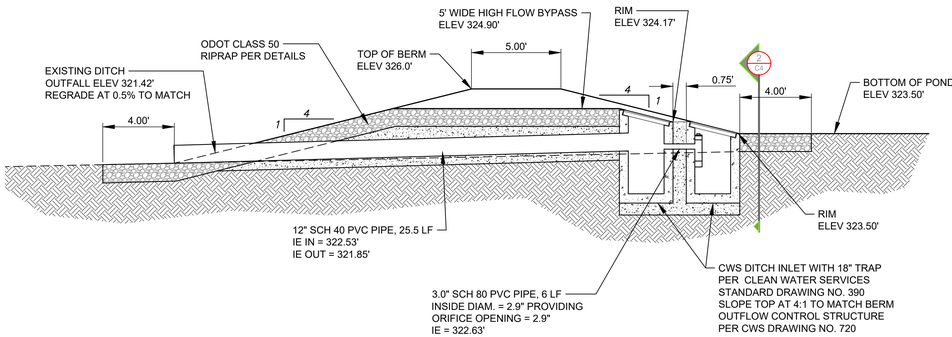
GRADING PLAN

VERITAS SCHOOL

26288 NE BELL ROAD
NEWBERG, OR 97132

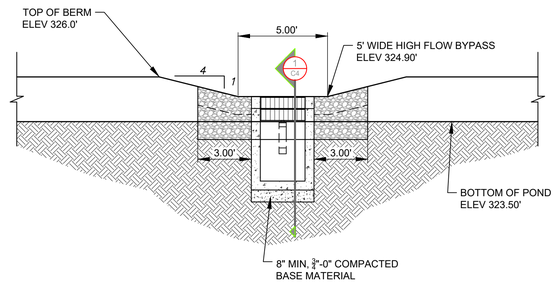
NO.	REVISION	DATE	BY	ISSUED FOR

SCALE:
DESIGNED BY:
DATE
JOB No:
DWG. NO.
C3



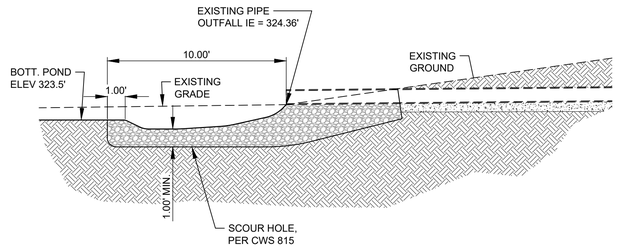
1 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



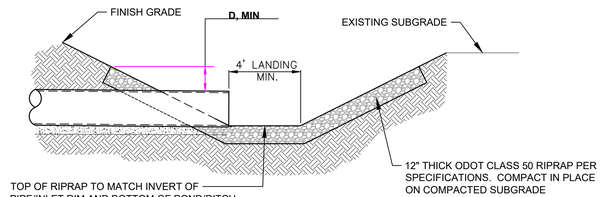
2 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



3 C4 **EXIST. CULVERT OUTFALL RIPRAP**

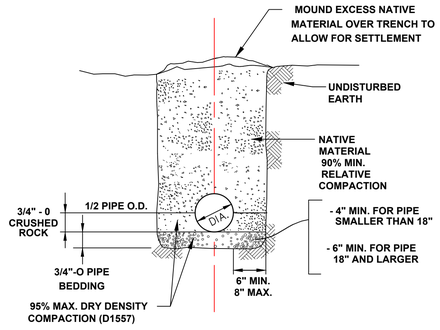
NTS



NOTE: EXTEND RIPRAP 2D (3' MIN) TO EITHER SIDE OF PIPE. AT DITCH END, WRAP ALONG SIDES OF DITCH TO END OF 4'-0" LANDING

4 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



5 C4 **PIPE BEDDING DETAIL**

NTS

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REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER

EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

GRADING DETAILS

VERITAS SCHOOL

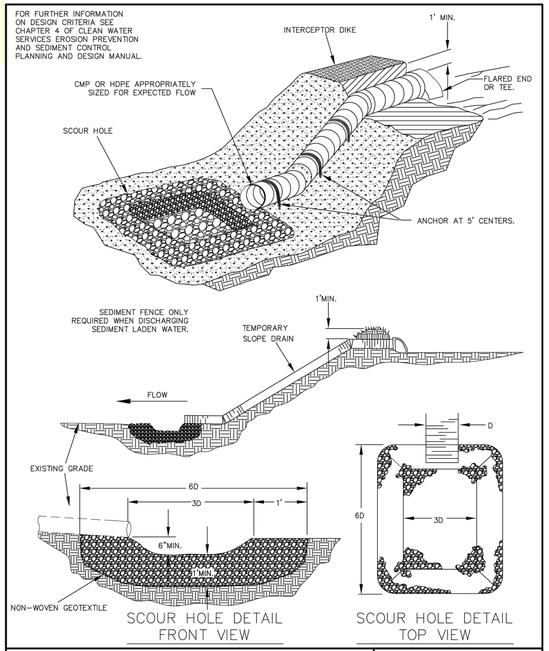
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE:
DESIGNED BY:
DATE
JOB No:
DWG. NO.
C4

PLOT DATE: Nov 12, 2019 – 8:34am

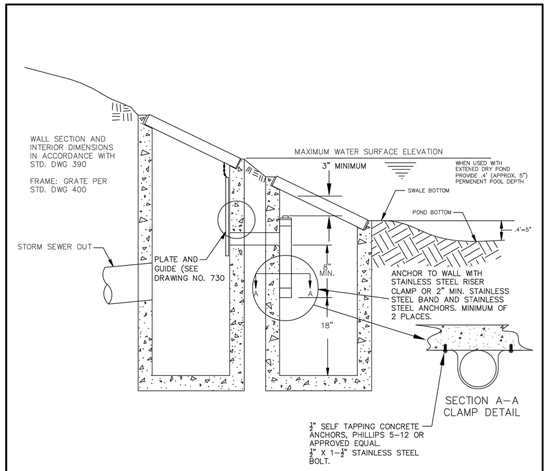
Nov 12, 2019 – 8:34am 1om D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg



PIPE SLOPE DRAIN

DRAWING NO. 815 REVISED 12-16

CleanWater Services

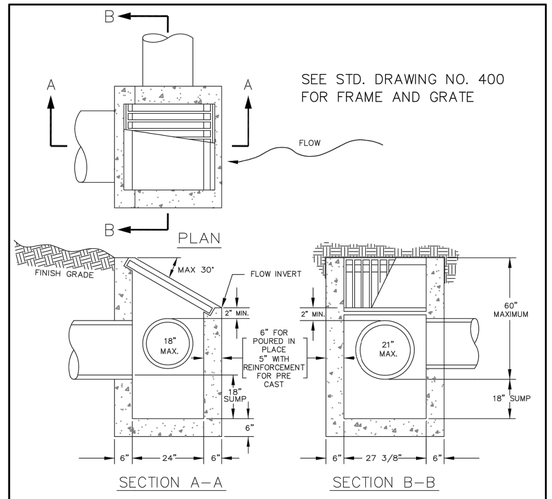


NOTES:
1. CONNECTING PIPE AND TEE SHALL BE 4", 6", OR 8" AWWA C-900 OR ASTM 3034 PVC,AND ONE SIZE LARGER THAN THE ORIFICE OPENING.
2. MAXIMUM ORIFICE OPENING SHALL BE 6" DIAMETER.
3. STRUCTURES SHALL CONFORM TO STANDARD DRAWING NO. 390 DITCH INLET.
4. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWING NO. 400, DITCH INLET FRAME AND GRATE.
5. PLATE AND GUIDE SHALL BE SECURED FLUSH AGAINST WALL OF STRUCTURE AS APPROVED.
6. MAINTAINANCE ACCESS REQUIRED TO WITHIN 10' OF CENTER OF BOTH STRUCTURES.
7. FOR APPROVAL OF ALTERNATE STRUCTURES SEE SECTION 1.17.

OUTFLOW CONTROL STRUCTURE

DRAWING NO. 720 REVISED 11-06

CleanWater Services



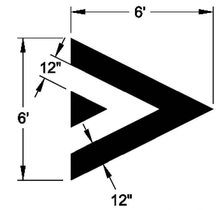
NOTES:
1. ALL PRE CAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. INSTALL STRUCTURE ON MINIMUM OF 8" OF 3/4" - 0" COMPACTED BASE MATERIAL.
3. PRE CAST REINFORCEMENT SHALL BE REBAR MEETING ASTM A615 GRADE 60 OR WELDED WIRE MEETING ASTM A497
4. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND SLUMP OF 2" TO 4".
5. PRE-CAST STRUCTURE'S CONFORMING TO O.D.O.T. TYPE G-2 CATCH BASIN DESIGN/WITH DITCH INLET TOP ARE AN ACCEPTABLE ALTERNATE. ALL GRATE MATERIALS SHALL MEET C.W.S. STANDARDS AS SHOWN ON DETAIL #400

DITCH INLET

DRAWING NO. 390 REVISED 05-07

CleanWater Services

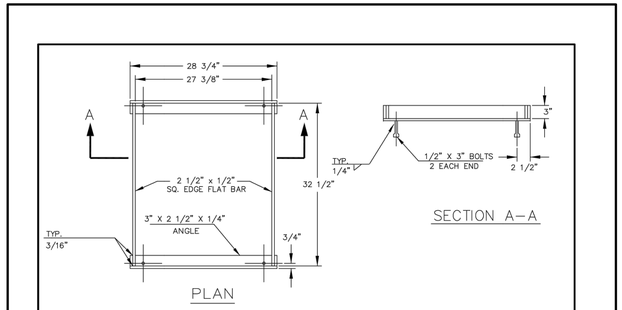
SB



SPEED BUMP MARKING (WHITE)

3 C5 **PBOT P-435**

NTS



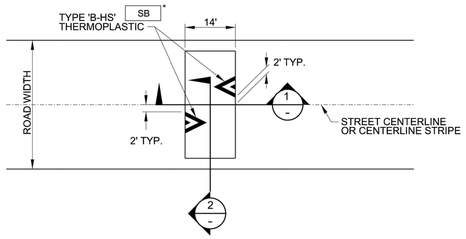
NOTES:

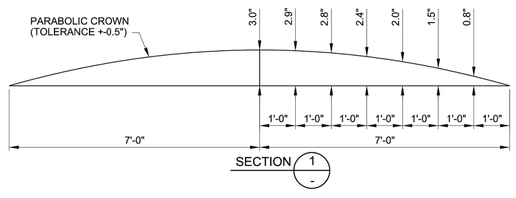
FRAME AND GRATE SHALL BE NEW STRUCTURAL ASTM A-36 FLAT BAR STEEL OR APPROVED EQUAL.

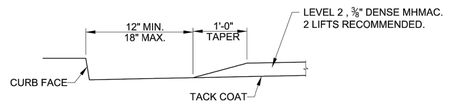
DITCH INLET FRAME AND GRATE

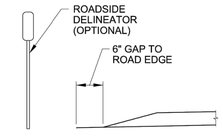
DRAWING NO. 400 REVISED 12-06

CleanWater Services









NOTES:
1. PAVEMENT MARKINGS ON SPEED BUMP SHALL BE INSTALLED CONCURRENTLY WITH THE ASPHALT STRUCTURES. FOLLOW MANUFACTURER'S INLAY PROCEDURES FOR PAVEMENT MARKINGS ON SPEED BUMPS.
2. PAVEMENT MARKINGS AND SIGNS SHALL BE INSTALLED BEFORE OPENING ANY LANE TO TRAFFIC THAT IS OCCUPIED BY A NEW SPEED BUMP.
3. PAVEMENT MARKING LAYOUT ASSUMES A TWO-LANE, TWO-WAY STREET WITH PARKING ON BOTH SIDES. FOR ALL OTHER CONFIGURATIONS SUBMIT REVISED LAYOUT TO ENGINEER FOR APPROVAL.

* SEE PBOT STANDARD DETAIL P-435

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.

PBOT PORTLAND BUREAU OF TRANSPORTATION

Steve Townsend
City Engineer

Standard Drawing Title

14' ASPHALT LOCAL SPEED BUMP

Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.

Effective Date:	03-15-2018
Calc. Book No.:	440
Std. Drg. Report Date:	03-15-2018

Standard Drawing No. P-440

PLOT DATE: Nov 12, 2019 - 8:34am

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER 15,442 OREGON MAY 30, 1991 THOMAS W. WISER

EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

STANDARD DETAILS

VERITAS SCHOOL

26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C5

CONTRACTOR/APPLICANT
HAWORTH INCORPORATED
CONTACT: TROY HAWORTH
13500 SW HWY 99W
MCMINNVILLE, OR 97128
PHONE: 503.472.2452

PROJECT OWNERS
VERITAS SCHOOL
CONTACT: BRYAN LYNCH
26288 NE BELL ROAD
NEWBERG, OR 97132
PHONE: 503.538.1962

PLANNING/ENGINEERING/SURVEYING
WISER RAIL ENGINEERING
CONTACT: TOM WISER
22750 SW MIAMI DRIVE, TUALATIN, OR 97062
PHONE: (503) 691-6095

RECEIVING WATER BODIES:
CHEHALEM CREEK

PERMITTEE'S SITE 24-HR CONTACT: TROY HAWORTH
COMPANY/AGENCY: HAWORTH INCORPORATED
PHONE: 593.550.3272
E-MAIL: TROY@HAWORTHINC.NET
DESCRIPTION OF EXPERIENCE:
10+ YEARS AS CONSTRUCTION SUPERINTENDENT & QA MANAGER

PROJECT INFORMATION

LOCATION
INTERSECTION OF NE COLLEGE ROAD AND NE BELL ROAD, NEWBERG, OREGON
26288 NE BELL RD. NEWBERG, OR 97132
LATITUDE: 45.33 LONGITUDE: -122.77
MAP NUMBER: 3S 2W 08, TAXLOT: 2700, 2702

PROPERTY DESCRIPTION
THE PROJECT SITE IS A 13.35 ACRE PARCEL. THE PROJECT WILL DEVELOP STORMWATER PONDING FOR THE EXISTING SCHOOL. CONSTRUCTION ACTIVITIES INCLUDE CLEARING AND GRADING. CONSTRUCTION WILL BEGIN IN DECEMBER AND BE COMPLETED IN SPRING OF 2020.

AREA OF DISTURBANCE
ONSITE – 0.57 ACRE

SOIL CLASSIFICATION
2211B COVE SILTY CLAY LOAM, HYDROLOGIC SOIL GROUP D
2304C CARLTON SILT LOAM, HYDROLOGIC SOIL GROUP C/D
2706C HAZELAIR SILTY CLAY LOAM, HYDROLOGIC SOIL GROUP D
2775F SAUM-RITNER COMPLEX, HYDROLOGIC SOIL GROUP C
2776D PANTHER-WITHAM COMPLEX, HYDROLOGIC SOIL GROUP D
EROSIVE POTENTIAL: MODERATE

EROSION CONTROL NOTES

GENERAL
1. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
2. THE IMPLEMENTATION OF THESE EPSC PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE EPSC MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE LOCAL JURISDICTION, AND VEGETATION/LANDSCAPING IS ESTABLISHED. THE DEVELOPER SHALL BE RESPONSIBLE FOR MAINTENANCE AFTER THE PROJECT IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE MARKINGS SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE EPSC MEASURES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE EPSC MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS.DURING THE CONSTRUCTION PERIOD, THESE EPSC MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DOES NO LEAVE THE SITE.
6. THE EPSC MEASURES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
7. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE MORE THEN 1/3 THE BARRIER HEIGHT. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
8. STABILIZED ROCK ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
9. STORM DRAIN INLETS, BASINS, AND AREA DRAINS SHALL BE PROTECTED UNTIL PAVEMENT SURFACES ARE COMPLETED AND/OR VEGETATION IS RE-ESTABLISHED.
10. PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.
11. SEEDING SHALL BE PERFORMED NO LATER THAN SEPTEMBER 1 FOR EACH PHASE OF CONSTRUCTION.
12. IF THERE ARE EXPOSED SOILS OR SOILS NOT FULLY ESTABLISHED FROM OCTOBER 1 THROUGH APRIL 30, THE WET WEATHER EROSION PREVENTION MEASURES WILL BE IN EFFECT.
13. THE DEVELOPER SHALL REMOVE EPSC MEASURES ONLY AFTER VEGETATION IS FULLY ESTABLISHED.

WASTE MANAGEMENT
1. CONTRACTOR TO DESIGNATE WASTE COLLECTION AREAS ON SITE.
2. WASTE CONTAINTERS TO BE IN A COVERED AND/OR IN A SECONDARY CONTAINMENT.
3. CONTRACTOR TO COLLECT SITE TRASH DAILY.
4. CONTRACTOR TO MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES FREE FROM ANY WASTE/LITTER.
5. TOXIC LIQUID WASTES TO BE DISPOSED OF PROPERLY AND NOT ON SITE IN DUMPSTERS DESIGNATED FOR CONSTRUCTION DEBRIS.
6. CONTRACTOR TO PROVIDE AND MAINTAIN A SPILL KIT ON SITE.

DUST CONTROL
1. DUST CONTROL TO BE MANAGED WITH SEEDING, MULCHING, MATTING, OR WATERING AS NEEDED.

SLOPE STABILIZATION
1. PROVIDE SLOPE STABILIZATION AS NEEDED PER DTL SHEET ESC4.

Site Condition	Minimum Frequency
1. Active period	Daily when stormwater runoff, including runoff from snow melt, is occurring. At least once every 14 days, regardless of whether stormwater runoff is occurring.
2. Prior to the site becoming inactive or in anticipation of site inaccessibility	Once to ensure that erosion and sediment control measure are in working order. Any necessary maintenance and repair must be made prior to leaving the site.
3. Inactive periods greater than fourteen (14) consecutive calendar days	Once every month.
4. Periods during which the site is inaccessible due to inclement weather	If practical, inspections must occur daily at a relevant and accessible discharge point or downstream location.
5. Periods during which discharge is unlikely due to frozen conditions.	Monthly. Resume monitoring immediately upon melt, or when weather conditions make discharges likely.

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OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER
IMPROVEMENTS
EROSION CONTROL NOTES

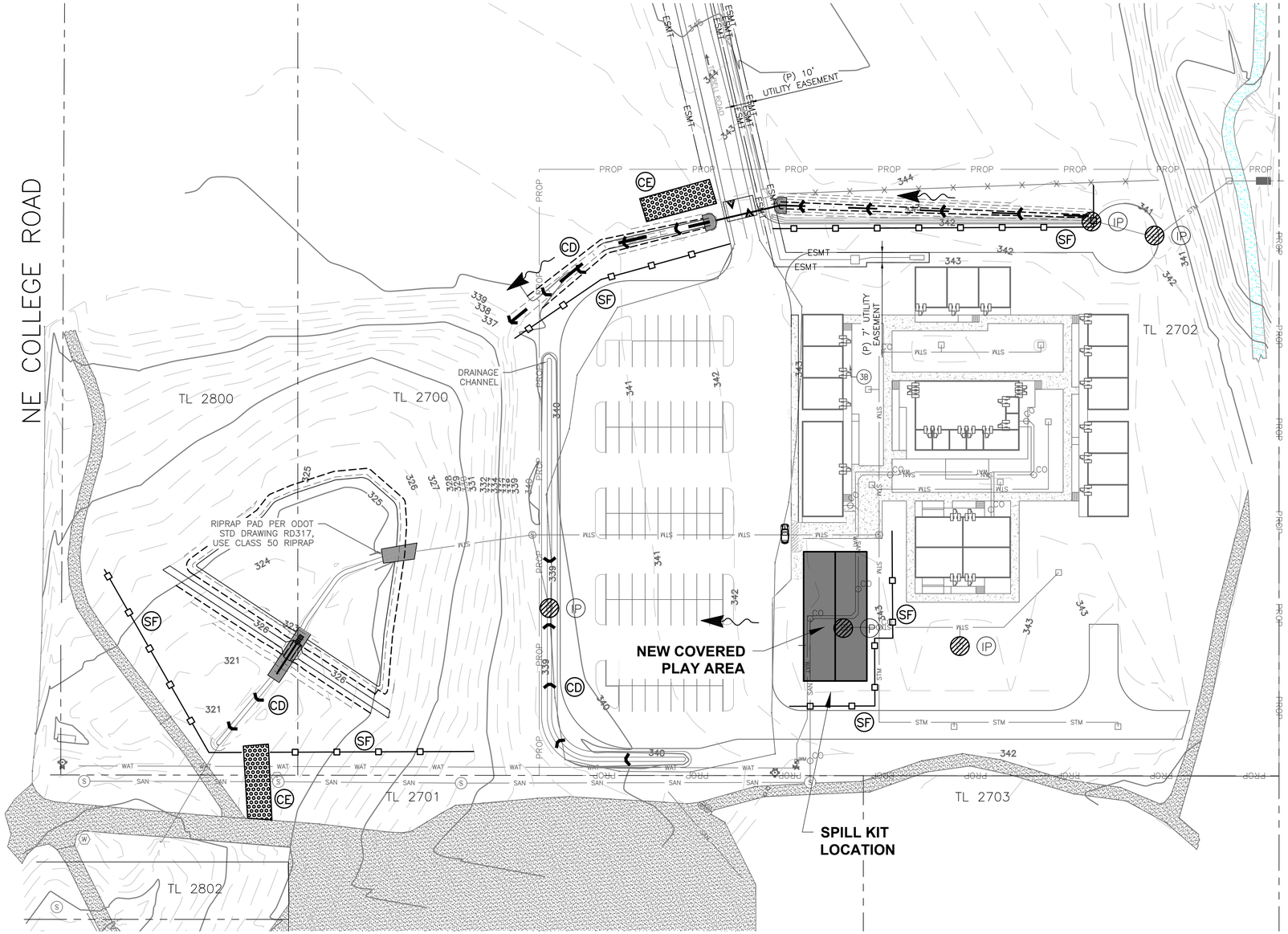
VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE BY	ISSUED FOR

SCALE:
DATE
DESIGNED BY:
JOB No:
DWG. NO.
ESC 1

PLOT DATE: Nov 12, 2019 - 8:35am

Nov 12, 2019 - 8:35am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN - raised pond 2 - 11 Nov 2019.dwg



FINAL

EROSION & SEDIMENT CONTROL LEGEND:

- 45 — EXISTING MAJOR CONTOUR
- 44 — EXISTING MINOR CONTOUR
- (IP) INLET PROTECTION PER DTLS SHT ESC3
- (CE) CONSTRUCTION ENTRANCE PER DTL SHT ESC3
- (SF) SEDIMENT FENCE PER DTL SHT ESC3
- FLOW DIRECTION INDICATOR
- (CD) BIO BAG CHECK DAMS PER DTL SHT ESC4
- (SW) STRAW WATTLES PER SHT ESC4

ESTABLISHING TEMPORARY GRASSES AND PERMANENT VEGETATIVE COVER

CONDITIONS WHERE PRACTICE APPLIES

- ALL GROUND SURFACES EXPOSED DURING THE WET SEASON
- AREAS WHICH WILL NOT BE SUBJECT TO HEAVY WEAR BY ON-GOING CONSTRUCTION TRAFFIC
- EXPOSED GROUND SURFACES AT END OF CONSTRUCTION PERIOD (PERMANENT COVER MUST BE ESTABLISHED PRIOR TO REMOVAL OF ANY EROSION CONTROL MEASURES).
- TEMPORARY OR PERMANENT STABILIZATION OF NEW OR DISTURBED DITCHES

DESIGN CRITERIA/SPECIFICATIONS: TEMPORARY EROSION CONTROL GRASSES AND PERMANENT VEGETATIVE COVER

- TEMPORARY GRASS COVER MEASURES MUST BE FULLY ESTABLISHED BY NOVEMBER 1 OR OTHER COVER MEASURES WILL HAVE TO BE IMPLEMENTED UNTIL ADEQUATE GRASS COVERAGE IS ACHIEVED. TO ESTABLISH AN ADEQUATE GRASS STAND FOR CONTROLLING EROSION BY NOVEMBER 1, IT IS RECOMMENDED THAT SEEDING AND MULCHING OCCUR BY OCTOBER 1.
- SOIL PREPARATION – TOP SOIL SHOULD BE PREPARED ACCORDING TO LANDSCAPE PLANS, IF AVAILABLE, OR RECOMMENDATION OF GRASS SEED SUPPLIER.
- SEEDING – RECOMMENDED EROSION CONTROL GRASS SEED MIX FOR TEMPORARY AND PERMANENT SEEDING:

	PLS
AGROSTISN EXARATA (SPIKE BENTGRASS)	0.25 (LB/ACRE)
FESTUCA RUBRA (RED FESCUE)	1.75 (LB/ACRE)
ELYMUS GLAUCUS (BLUE WILDRYE)	8.0 (LB/ACRE)
DESCHAMPSIA CAESPITOSA (TUFTED HAIRGRASS)	1.0 (LB/ACRE)
GLYCERIA OCCIDENTALIS (WESTERN MANNAGRASS)	4.25 (LB/ACRE)
BROMUS CARINATUS (CALIFORNIA BROME)	11 (LB/ACRE)
HORDEUM VULGARIS 'POCO' (POCO BARLEY)	40 (LB/ACRE)

- APPLY PERMANENT SEEDING IN STAGES UPON COMPLETION OF FINISH GRADING.
- FERTILIZATION FOR GRASS SEED – AS PER SUPPLIER'S RECOMMENDATIONS. DEVELOPMENT AREAS WITHIN 50 FEET OF WATER BODIES AND WETLANDS MUST USE A NON-PHOSPHORUS FERTILIZER.
- WATERING – SEEDING SHALL BE SUPPLIED WITH ADEQUATE MOISTURE TO ESTABLISH GRASS. SUPPLY WATER AS NEEDED, ESPECIALLY IN ABNORMALLY HOT OR DRY WEATHER OR ON ADVERSE SITES. WATER APPLICATION RATES SHOULD BE CONTROLLED TO PROVIDE ADEQUATE MOISTURE WITHOUT CAUSING RUNOFF.
- RE-SEEDING – AREAS WHICH FAIL TO ESTABLISH GRASS COVER ADEQUATE TO PREVENT EROSION SHALL BE RE-SEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED AND ALL APPROPRIATE MEASURES TAKEN TO ESTABLISH ADEQUATE GRASS COVER.

PLOT DATE: Nov 12, 2019 – 8:36am

Nov 12, 2019 – 8:36am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

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VERITAS STORM WATER IMPROVEMENTS

EROSION CONTROL

VERITAS SCHOOL
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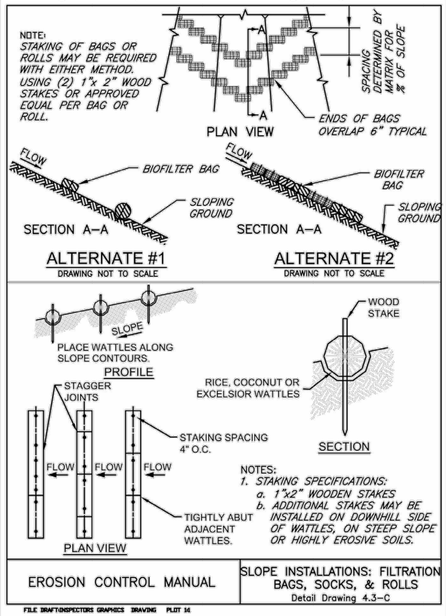
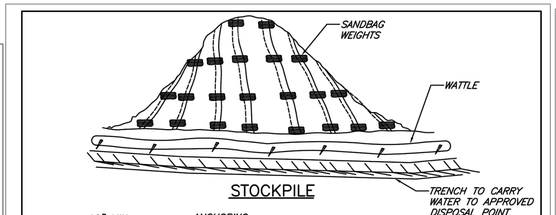
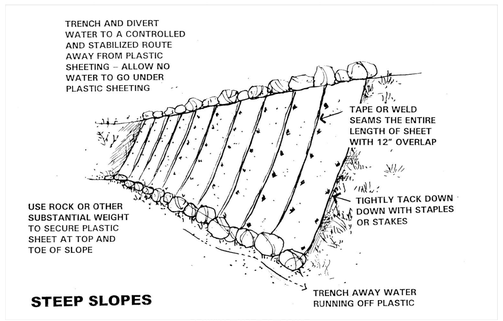
ESC 2

Figure 4.3-C Slope Installations: Filtration Bags, Socks, and Rolls

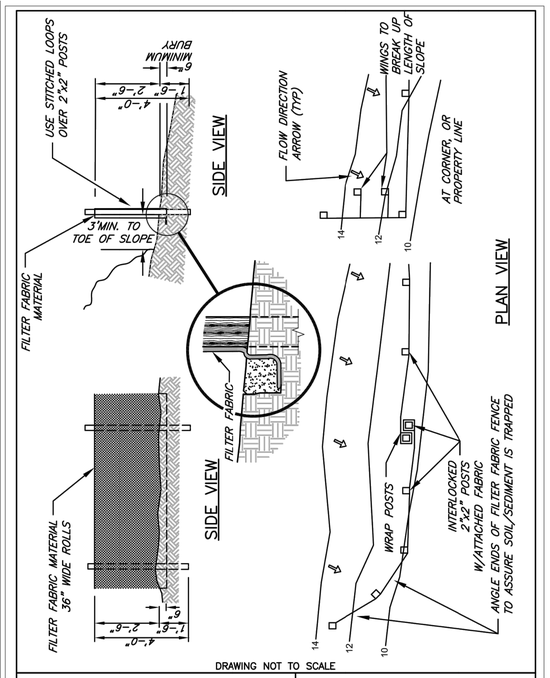






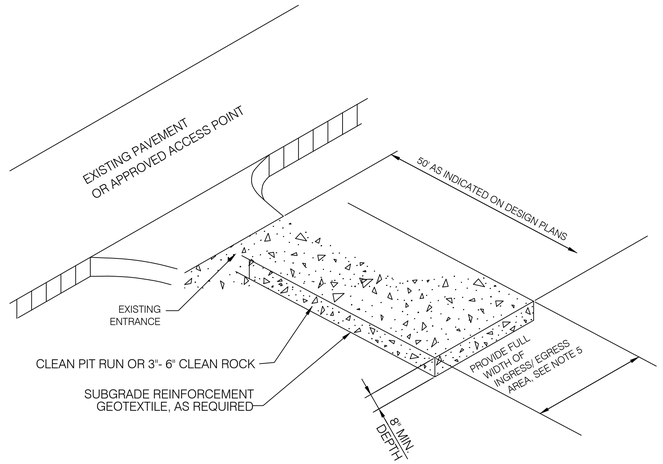
EROSION CONTROL MANUAL | PLASTIC SHEETING Detail Drawing 4.5–E

FILE DRAFT:INSPECTORS GRAPHICS DRAWING PLOT 1:1



EROSION CONTROL MANUAL | TEMPORARY SEDIMENT FENCE Detail Drawing 4.3–A

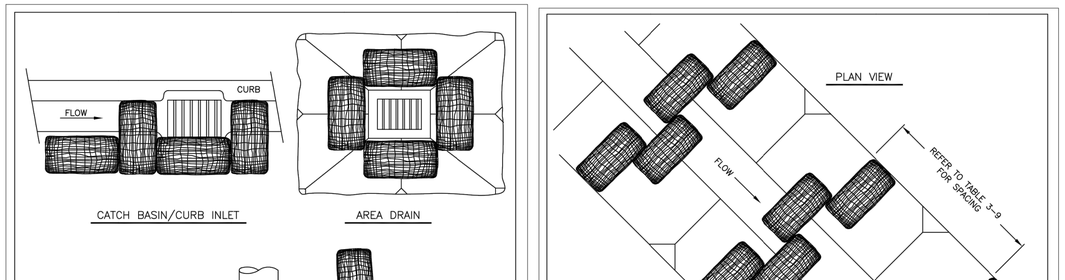
FILE DRAFT:INSPECTORS GRAPHICS DRAWING PLOT 1:1



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS
50' LONG BY 20' WIDE 3-6" CLEAN ROCK X 8" MIN. DEPTH.

CONSTRUCTION ENTRANCE
(nts)



NOTES:
1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIOFILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.

INLET PROTECTION TYPE 4 – BIOFILTER BAGS | Detail Drawing 3.3.7d

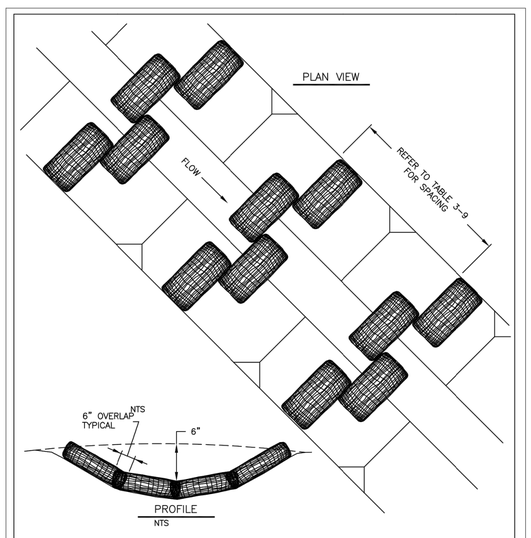


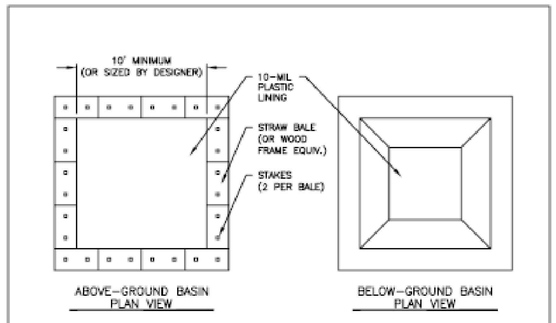
TABLE 3–9 SPACING FOR CHECK DAMS

DITCH GRADE	MINIMUM WEIR DEPTH		
	6 INCH	12 INCH	18 INCH
6%	**	16 FT O.C.	26 FT O.C.
5%	**	20 FT	30 FT
4%	**	26 FT	40 FT
3%	15 FT	33 FT	50 FT
2%	25 FT	50 FT	80 FT

** NOT ALLOWED

NOTES:
1. STAKING OF BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.
2. SURFACE MUST BE SMOOTH BEFORE APPLICATION.

CHECK DAM BIOFILTER BAG | Detail Drawing 3.2.6b



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. "CONCRETE WASHOUT" SIGN TO BE LOCATED ADJACENT TO WASHOUT FACILITY.
3. REMOVABLE RAIN COVER REQUIRED DURING WET WEATHER SEASON.

CONCRETE WASHOUT | Detail Drawing 4.2.10

PLOT DATE: Nov 12, 2019 – 8:36am

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

EROSION CONTROL DETAILS

VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE:
DATE
DESIGNED BY:
JOB No:
DWG. NO.
ESC 3

Nov 12, 2019 – 8:36am tom D:\VIRE Files\Project\Veritas\dwg\VIRE GRADING PLAN – raised pond 2 – 11 Nov 2019.dwg

EXISTING A.C. PARKING LOT

EXIST. BUILDING

EXIST. BUILDING

EXIST. BUILDING

EXIST. BUILDING

EXIST. BUILDING

EXISTING A.C. WALKS

EXIST. BUILDING

EXIST. M.H.

EXIST. 10" PVC

54 OF 4" PVC

EXIST. 6" PVC

EXIST. 4" PVC

EXIST. C.B.

EXIST. C.B.

EXISTING COVERED PLAY AREA

EXISTING PLAYGROUND

NEW HASE 3.1 BLDG

8 FT

64 FT

NORTH

2702

TAX LOT: R3208 02702

SCALE: 1" = 20'

422'-2"

PROPERTY LINE

PROPERTY LINE

422'-2"

33'

34'

94'

9'

65'-2"

28FT

TRASH / RECYCLIN

190'-9"

44'

281'

PROPERTY LINE

515'-9"

2701

2703

SITE PLAN

SCALE: 1" = 20'-0"

Veritas School

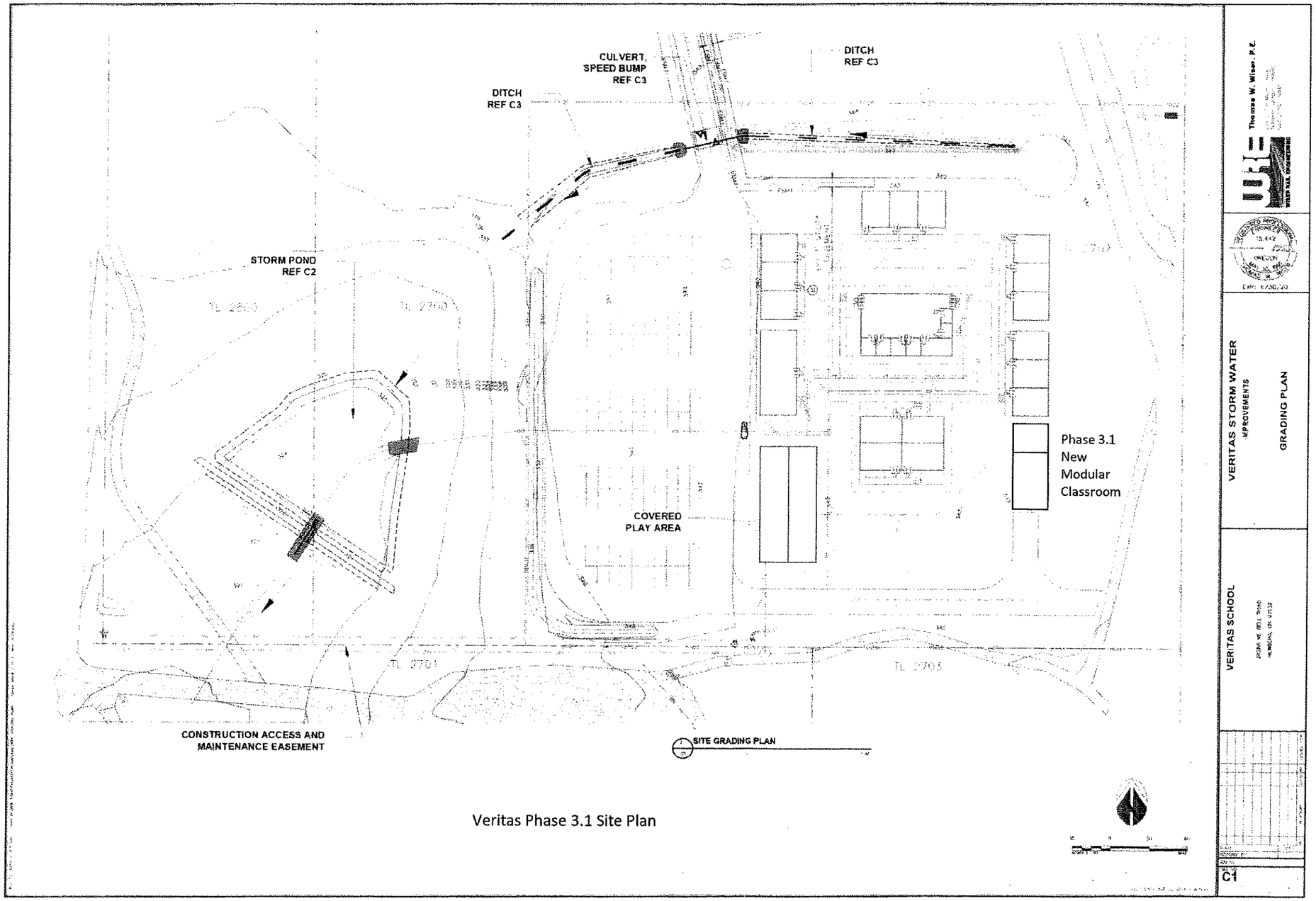
29290 NE Hall RD.
NEWBERG OREGON 97132

PH
ASE
2
CLA
SSR
OO
M
BLD

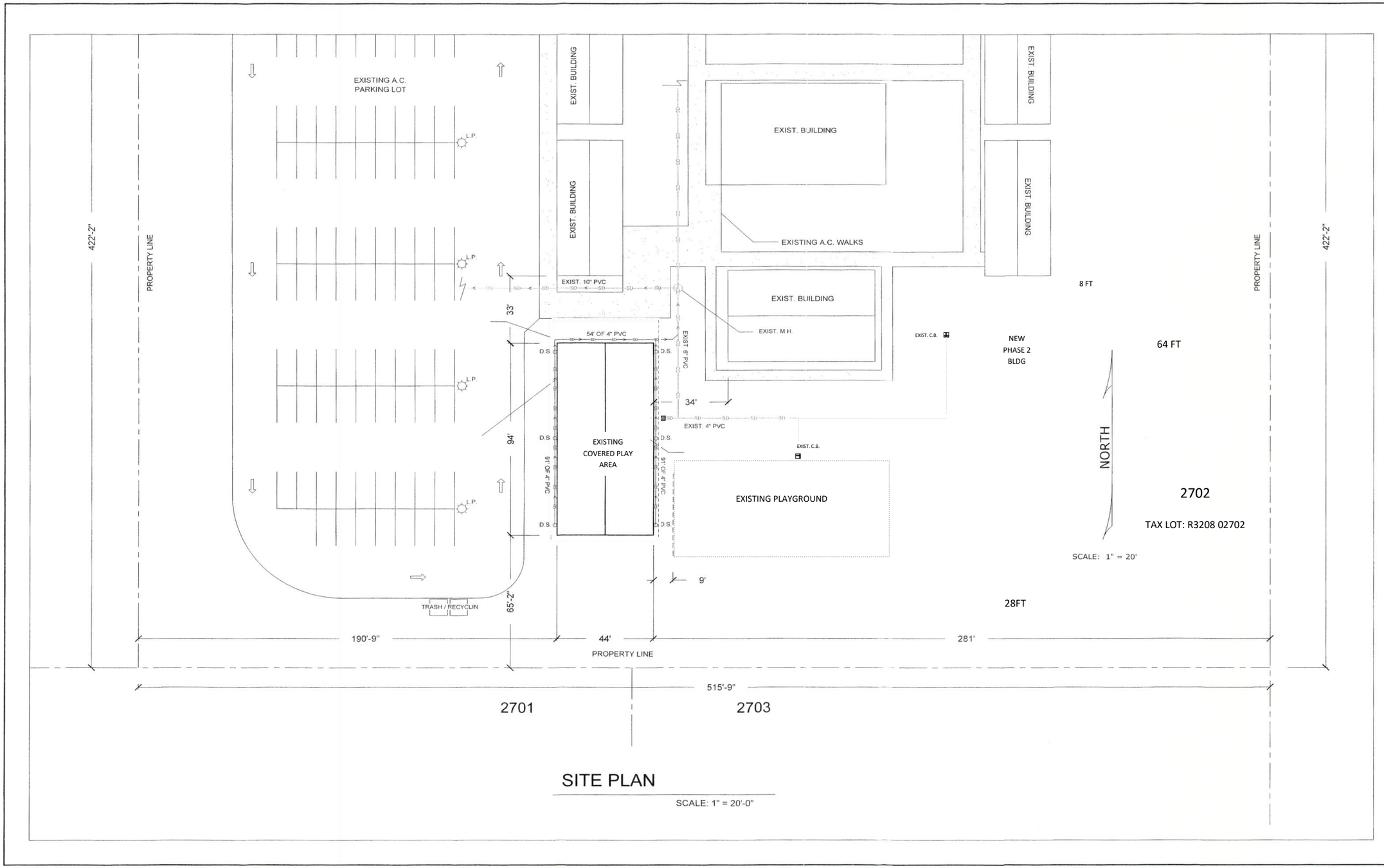
CLIENT:
JOB DESCRIPTION:
LOCATION:

No. | Revision / Issue | Date

Project: ASE TWO
Date: 23/ 2022
Plan: SITE PLAN
Sheet:
Scale: 1" = 30'



Veritas Phase 3.1 Site Plan



SITE PLAN

SCALE: 1" = 20'-0"

HAWORTH INC.
COMMERCIAL & RESIDENTIAL
DESIGN, DRAFTING & CONST.
13500 SW HWY 99W
McMINNVILLE OREGON 97128
1-(503)-472-2452

Veritas School
COVERED PLAY AREA
PHASE 2 CLASSROOM BLDG

26288 NE Bell RD.
NEWBERG OREGON 97132

CLIENT:
JOB DESCRIPTION:
LOCATION:

No.	Revision / Issue	Date

Project: PHASE TWO

Date: 3/ 23/ 2022
6-27-19

Plan: SITE PLAN

Sheet: S-P

Scale: 1" = 30'

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: Aug 24,2022
Please refer questions and comments to: Ashley Smith.

NOTE: Full size plans are available at the Community Development Department Office.

APPLICANT:	Veritas School
REQUEST:	Place New Modular Classroom on School Campus
SITE ADDRESS:	1230 NE Bell Rd
LOCATION:	N/A
TAX LOT:	R3208 02702
FILE NO:	DR222-0008
ZONE:	R-1 (Low Density Residential)
HEARING DATE:	N/A

RECEIVED
8/9/2022
batesf

Project Information is Attached and can be found at the link Below:
https://www.newbergoregon.gov/planning/page/dr222-0008-veritas-school-modular-classroom-placement

- [x] 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)

Digitally signed by Will
DN: C=US, OU=Worthey, O=City of Newberg, CN=Will, E=will.worthey@newbergoregon.gov
Reason: I am the author of this document
Location: your signing location here
Date: 2022.08.09 16:08:39-07'00'
Foxit PhantomPDF Version: 10.1.7

Reviewed By: Will Worthey CM

8/9/22
Date:

Organization:

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

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HEARING DATE:	N/A

RECEIVED
8/15/2022

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- [ ] Meeting requested.
- [x] Comments. (Attach additional pages as needed)

Reviewed By: 8/15/22 Date:

Ziply Fiber - OSP Engineering Scott Albert
Organization:

ZIPLY FIBER COMMENT:
If the owner/developer would prefer a separate service to the new building, owner/developer will need to provide path to a Ziply Pedestal or the Right-of-Way on N College St(OR-219).
If assistance in location for path placement is needed please contact Scott Albert 503-526-3544 or or.metro.engineering@ziply.com . I will be happy to meet and advise.

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

REFERRAL TO: Building Official: Brooks Bateman

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FILE NO:	DR222-0008
ZONE:	R-1 (Low Density Residential))
HEARING DATE:	N/A

RECEIVED
AUG 10 REC'D
By

The Information is attached:

1

X 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: 8.10.22

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

REFERRAL TO: Community Development Director: Doug Rux

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FILE NO:	DR222-0008
ZONE:	R-1 (Low Density Residential))
HEARING DATE:	N/A

RECEIVED
AUG 17 REC'D
By

The Information is attached:

✓ 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)

D Rux
Reviewed By:

8/17/22
Date:

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

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HEARING DATE:	N/A

RECEIVED
AUG 12 REC'D
By

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- [ ] Meeting requested.
- [ ] Comments. (Attach additional pages as needed)

B Davis — Reviewed By:

8/10/22 — Date:

Finance — Organization:

COMMUNITY DEVELOPMENT
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8/10/2022

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- [ ] Meeting requested.
- [ ] Comments. (Attach additional pages as needed)

Jeff Kosmicki
Digitally signed by Jeff Kosmicki
DN: O=Chief of Police, CN=Jeff Kosmicki, E=jeff.kosmicki@newbergoregon.gov
Reason: I am the author of this document
Location: your signing location here
Date: 2022.08.10 17:08:41-07'00'
Foxit PhantomPDF Version: 10.1.7

Reviewed By:

8/10/22
Date:

Newberg-Dundee Police Department
Organization:

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

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HEARING DATE:	N/A

RECEIVED
8/9/2022
batesf

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- [ ] Meeting requested.
- [ ] Comments. (Attach additional pages as needed)

Russ Thomas
Digitally signed by Russ Thomas
DN: C=US, OU=Public Works Director, O=City of Newberg, CN=Russ Thomas, E=russ.thomas@newbergoregon.gov
Reason: I am approving this document
Location: your signing location here
Date: 2022.08.09 16:19:07'00'
Foxit PhantomPDF Version: 10.1.7

Reviewed By:

8/9/22
Date:

Public Works Director- City of Newberg
Organization:

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

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HEARING DATE:	N/A

RECEIVED
8/19/2022
batesf

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- [ ] Meeting requested.
- [ ] Comments. (Attach additional pages as needed)

Carl Ramseyer
Reviewed By:

8/19/22
Date:

Organization:

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

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8/15/2022

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☐ Reviewed, no conflict.

☐ Reviewed; recommend denial for the following reasons:

☐ Require additional information to review. (Please list information required)

☐ Meeting requested.

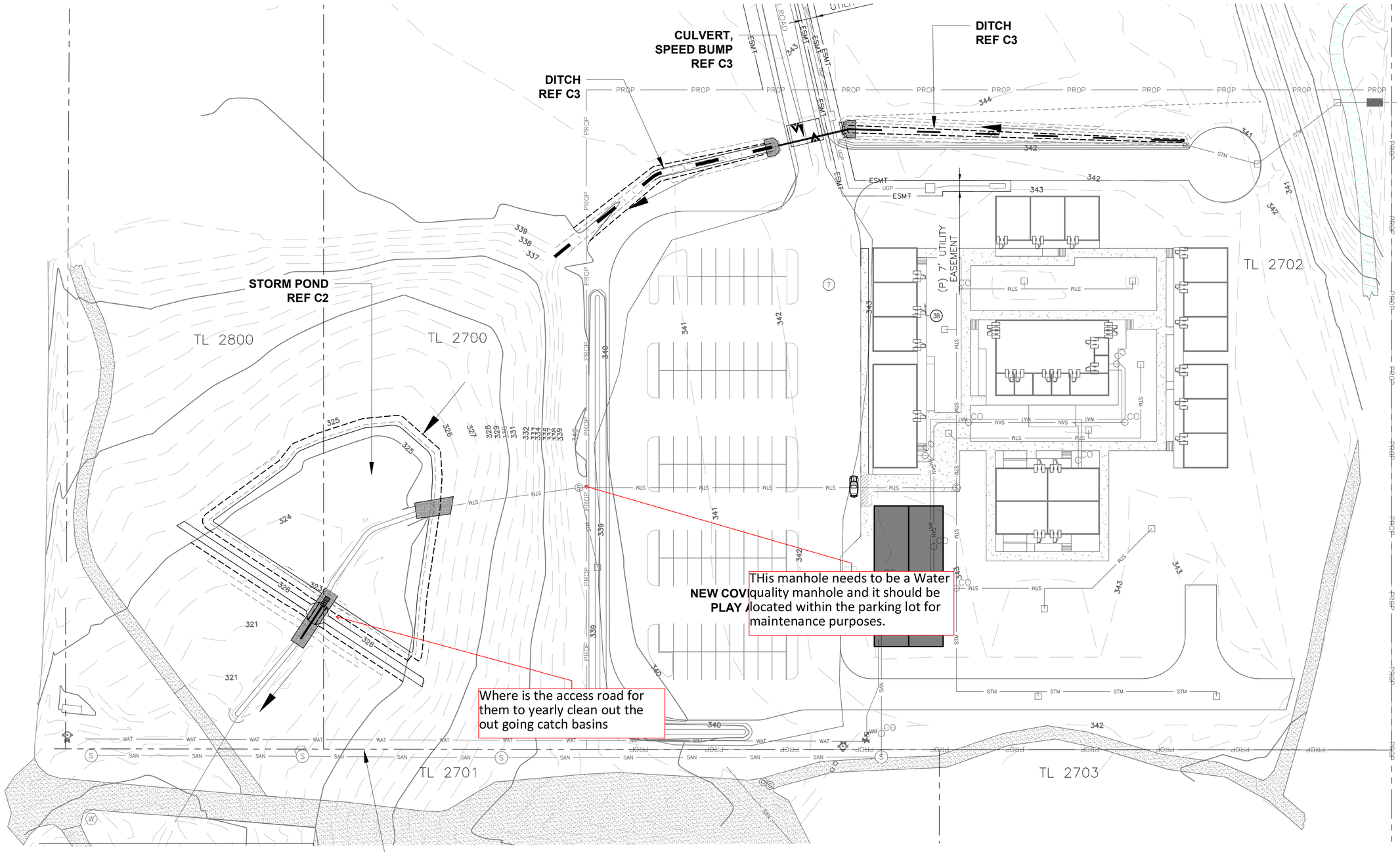
☑ Comments. (Attach additional pages as needed)

Comments on plan sheets

Reviewed By:

8/15/22
Date:

Maintenance Superintendent
Organization:



1 SITE GRADING PLAN
C1 1:30

If any food prep is planned for this site an oil grit separator will have to be installed and they will be required to perform routine pump outs.

30 0 30 60
scale 1: 30 feet

PLOT DATE: Nov 12, 2019 – 8:31am

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

GRADING PLAN

VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE BY	ISSUED FOR

SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C1

DETENTION POND 11,558 SF
BOTTOM ELEV - 323.50'
4:1 SIDE SLOPES
POND CUT VOLUME = 484 CY
POND FILL VOLUME = 16 CY
BERM FILL VOLUME = 256 CY

DETENTION POND BERM
5' WIDE
TOP ELEV - 326.0'
4:1 SIDE SLOPES

EXISTING SWALE

EXISTING
STORM PIPE

18" THICK ODOT CLASS 50 RIPRAP
EXTEND 10' BEYOND OUTFALL
10' WIDE, REF 3/C4
PROVIDE SCOUR HOLE PER CWS 815

EXISTING 10" PVC STORM OUTFALL
IE = 324.36'

CWS DITCH INLET WITH 18" TRAP PER CLEAN WATER SERVICES (CWS) STANDARD DRAWING NO. 390
SLOPE TOP AT 4:1 TO MATCH BERM
OUTFLOW CONTROL STRUCTURE PER CWS DRAWING NO. 720
REF. 1/C4 FOR RIM ELEVATIONS

12" SCH 40 PVC PIPE, 23.1 LF
IE IN = 322.53'
IE OUT = 321.85'

12" THICK ODOT CLASS 50 RIPRAP
REF 1/C4, 4/C4

REGRADE APPROX 31' FROM PIPE OUTFALL AT 0.5% GRADE TO MATCH TO EXISTING SWALE

1 C2 STORM POND GRADING PLAN
1:10

scale 1: 10
10 0 10 20 feet

PLOT DATE: Nov 12, 2019 – 8:33am

Nov 12, 2019 – 8:33am tom D:\WRE Files\Project\Veritas\dwg\WRE GRADING PLAN - revised pond 2 – 11 Nov 2019.dwg

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Tualatin, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
15,442
OREGON
MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

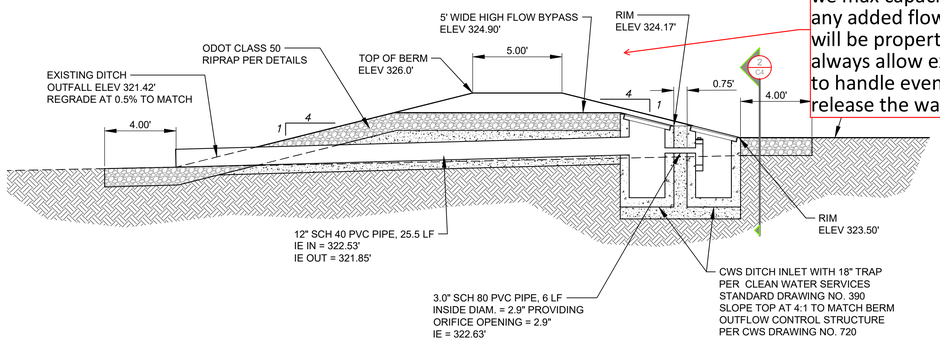
DETENTION POND GRADING PLAN

VERITAS SCHOOL
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE BY	ISSUED FOR

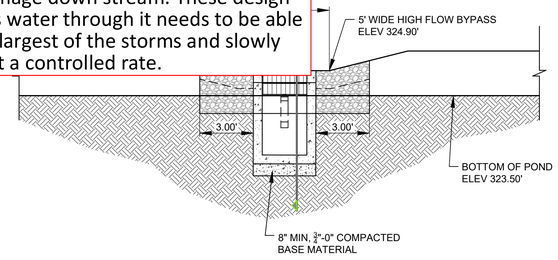
SCALE: DATE
DESIGNED BY:
JOB No:
DWG. NO.
C2

I would rather see a third overflow with another pipe installed to help control even the highest of flows as we max capacity down stream as is. We can't have any added flow even on large events. other wise there will be property damage down stream. These design always allow excess water through it needs to be able to handle even the largest of the storms and slowly release the water at a controlled rate.



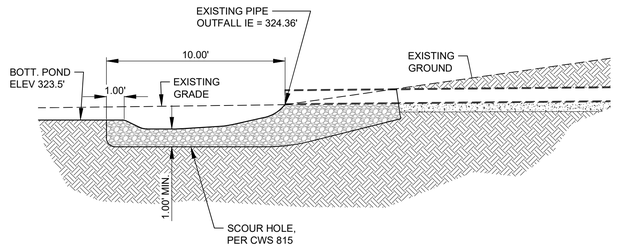
1 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



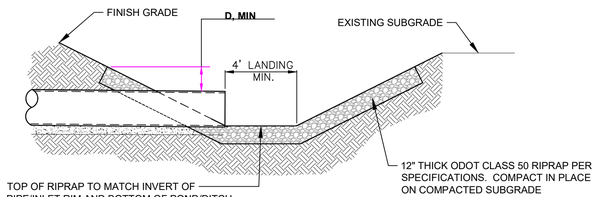
2 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



3 C4 **EXIST. CULVERT OUTFALL RIPRAP**

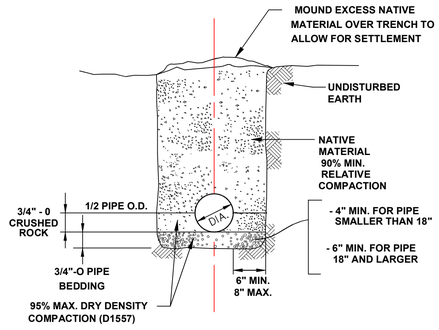
NTS



NOTE: EXTEND RIPRAP 2D (3' MIN) TO EITHER SIDE OF PIPE. AT DITCH END, WRAP ALONG SIDES OF DITCH TO END OF 4'-0" LANDING

4 C4 **CULVERT OUTFALL RIPRAP PAD DETAIL**

NTS



5 C4 **PIPE BEDDING DETAIL**

NTS

Thomas W. Wiser, P.E.
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Tualatin, Oregon 97062
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WISER RAIL ENGINEERING

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MAY 30, 1991
THOMAS W. WISER
EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

GRADING DETAILS

VERITAS SCHOOL

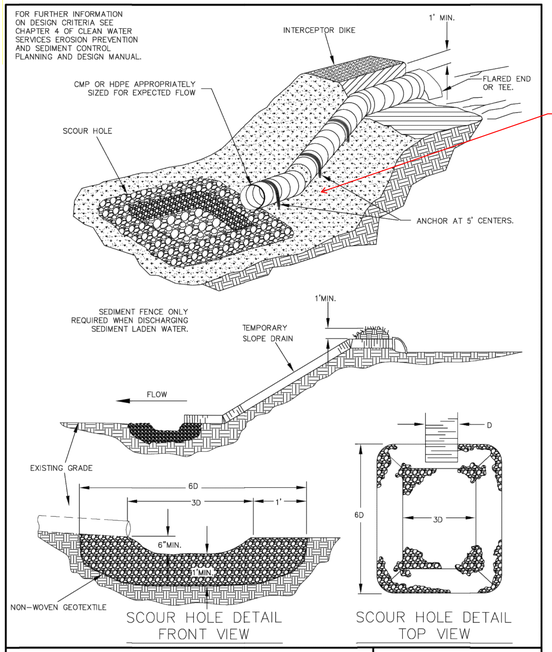
26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE:
DATE
DESIGNED BY:
JOB No:
DWG. NO.
C4

PLOT DATE: Nov 12, 2019 - 8:34am

Nov 12, 2019 - 8:34am from D:\WRE Files\Projects\Veritas\dwg\WRE GRADING PLAN - raised pond 2 - 11 Nov 2019.dwg

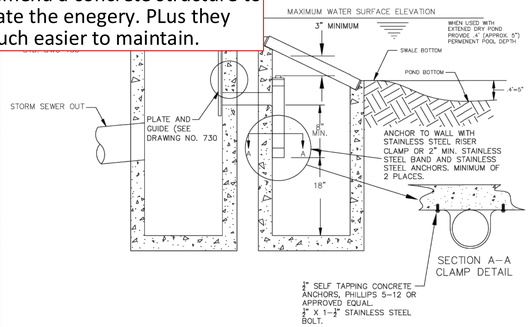


PIPE SLOPE DRAIN

DRAWING NO. 815 REVISED 12-16

CleanWater Services

In my experience these don't work except for small pipe or flows. The amount of water that could be coming down this I would recommend a concrete structure to dissipate the enegery. PLus they are much easier to maintain.

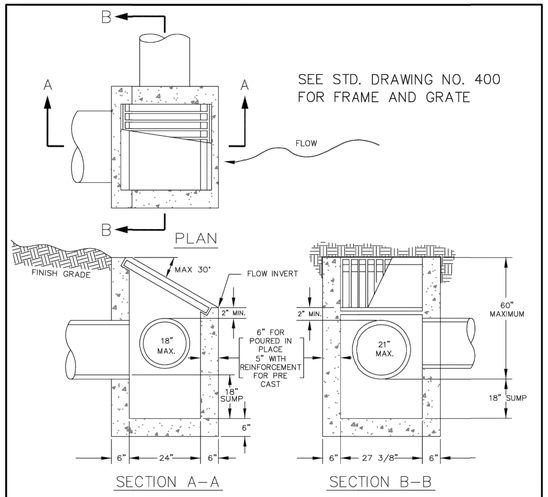


NOTES:
1. CONNECTING PIPE AND TEE SHALL BE 4", 6", OR 8" AWWA C-900 OR ASTM 3034 PVC,AND ONE SIZE LARGER THAN THE ORIFICE OPENING.
2. MAXIMUM ORIFICE OPENING SHALL BE 6" DIAMETER.
3. STRUCTURES SHALL CONFORM TO STANDARD DRAWING NO. 390 DITCH INLET.
4. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWING NO. 400, DITCH INLET FRAME AND GRATE.
5. PLATE AND GUIDE SHALL BE SECURED FLUSH AGAINST WALL OF STRUCTURE AS APPROVED.
6. MAINTAINANCE ACCESS REQUIRED TO WITHIN 10' OF CENTER OF BOTH STRUCTURES.
7. FOR APPROVAL OF ALTERNATE STRUCTURES SEE SECTION 1.17.

OUTFLOW CONTROL STRUCTURE

DRAWING NO. 720 REVISED 11-06

CleanWater Services



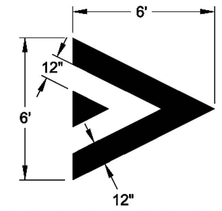
NOTES:
1. ALL PRE CAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
2. INSTALL STRUCTURE ON MINIMUM OF 8" OF 3/4" - 0" COMPACTED BASE MATERIAL.
3. PRE CAST REINFORCEMENT SHALL BE REBAR MEETING ASTM A615 GRADE 60 OR WELDED WIRE MEETING ASTM A497
4. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND SLUMP OF 2" TO 4".
5. PRE-CAST STRUCTURE'S CONFORMING TO O.D.O.T. TYPE G-2 CATCH BASIN DESIGN/WITH DITCH INLET TOP ARE AN ACCEPTABLE ALTERNATE. ALL GRATE MATERIALS SHALL MEET C.W.S. STANDARDS AS SHOWN ON DETAIL #400

DITCH INLET

DRAWING NO. 390 REVISED 05-07

CleanWater Services

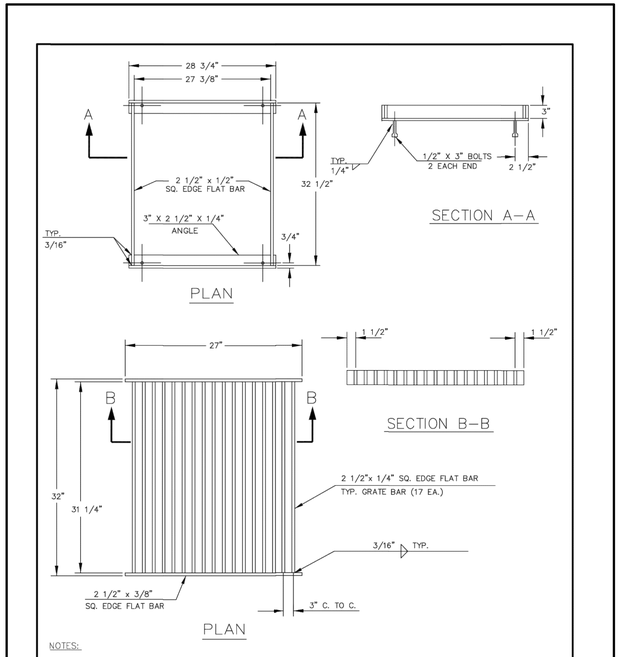
SB



SPEED BUMP MARKING (WHITE)

3 C5 **PBOT P-435**

NTS



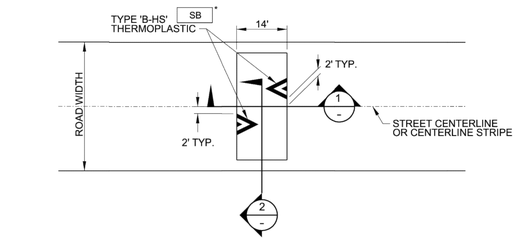
NOTES:

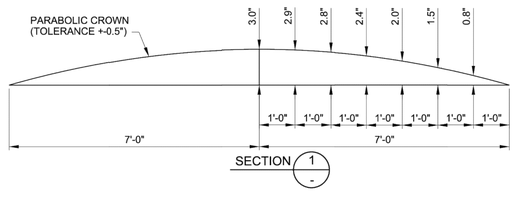
FRAME AND GRATE SHALL BE NEW STRUCTURAL ASTM A-36 FLAT BAR STEEL OR APPROVED EQUAL.

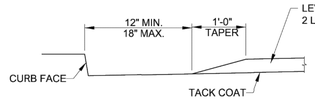
DITCH INLET FRAME AND GRATE

DRAWING NO. 400 REVISED 12-06

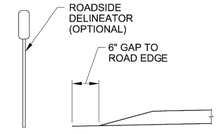
CleanWater Services







CURB DETAIL



SHOULDER DETAIL FOR STREETS WITHOUT CURBS

SECTION 2

NOTES:

1. PAVEMENT MARKINGS ON SPEED BUMP SHALL BE INSTALLED CONCURRENTLY WITH THE ASPHALT STRUCTURES. FOLLOW MANUFACTURER'S INLAY PROCEDURES FOR PAVEMENT MARKINGS ON SPEED BUMPS.
2. PAVEMENT MARKINGS AND SIGNS SHALL BE INSTALLED BEFORE OPENING ANY LANE TO TRAFFIC THAT IS OCCUPIED BY A NEW SPEED BUMP.
3. PAVEMENT MARKING LAYOUT ASSUMES A TWO-LANE, TWO-WAY STREET WITH PARKING ON BOTH SIDES. FOR ALL OTHER CONFIGURATIONS SUBMIT REVISED LAYOUT TO ENGINEER FOR APPROVAL.

* SEE PBOT STANDARD DETAIL P-435

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.

Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.

PBOT PORTLAND BUREAU OF TRANSPORTATION

Steve Townsend
City Engineer

Standard Drawing Title

14' ASPHALT LOCAL SPEED BUMP

Effective Date:	03-15-2018
Calc. Book No.:	440
Std. Drg. Report Date:	03-15-2018

Standard Drawing No. **P-440**

PLOT DATE: Nov 12, 2019 - 8:34am

Nov 12, 2019 - 8:34am tom D:\WRE Files\Projects\Veritas\plwg\WRE GRADING PLAN - raised pond 2 - 11 Nov 2019.dwg

Plot Date: 4/2/2008 8:40:0 AM

Thomas W. Wiser, P.E.
22750 SW Miami Drive
Sherwood, Oregon 97062
503 / 691-6095
WISER RAIL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER 15,442 OREGON MAY 30, 1991 THOMAS W. WISER

EXP: 6/30/20

VERITAS STORM WATER IMPROVEMENTS

STANDARD DETAILS

VERITAS SCHOOL

26288 NE BELL ROAD
NEWBERG, OR 97132

NO.	REVISION	DATE	BY	ISSUED FOR

SCALE: DATE

DESIGNED BY:

JOB No:

DWG. NO.

C5

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: Aug 24,2022
Please refer questions and comments to: Ashley Smith.

NOTE: Full size plans are available at the Community Development Department Office.

APPLICANT:	Veritas School
REQUEST:	Place New Modular Classroom on School Campus
SITE ADDRESS:	1230 NE Bell Rd
LOCATION:	N/A
TAX LOT:	R3208 02702
FILE NO:	DR222-0008
ZONE:	R-1 (Low Density Residential)
HEARING DATE:	N/A

RECEIVED
8/10/2022
batesf

Project Information is Attached and can be found at the link Below:
https://www.newbergoregon.gov/planning/page/dr222-0008-veritas-school-modular-classroom-placement

- [✔] 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: 8/10/22

City of Newberg
Organization:

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Reviewed By: _____ Date: 8/10/22

City of Newberg - Operations
Organization:

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Reviewed By: _____ Date: 8/15/20

Newberg School District 29J
Organization:

COMMUNITY DEVELOPMENT
LAND USE APPLICATION REFERRAL

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Ty Darby — Digitally signed by Ty Darby Date: 2022.08.10 09:05:32 -07'00'

Reviewed By:

8/10/22

Date:

TVF&R

Organization: