CITY OF LEWISTON
PLANNING BOARD MEETING
Monday, September 24 2018 – 5:30 P.M.
City Council Chambers – First Floor
Lewiston City Building
27 Pine Street, Lewiston, ME

AGENDA

1. **ROLL CALL**

2. **ADJUSTMENTS TO THE AGENDA**

3. **CORRESPONDENCE**

4. **PUBLIC HEARINGS:**

   a. An application submitted by Walsh Engineering Associates, Inc. on behalf of Glen Dube for the re-approval of a 20-lot single-family subdivision, Deer Ridge Subdivision located at 40 Deer Road.

   b. An amendment to Article XII, Section 17, Off-Street Parking and Loading as initiated by Planning Board at their September 10, 2018 meeting.

5. **OTHER BUSINESS:**

   a. Dirigo Federal Credit Union- Request for De Minimis change to temporary bank location at 187 Oak St. and 149 Holland St.

   b. Brief presentation and discussion on possible multi-family project at 10 Avon Street.

   c. Continued discussion of text amendment to the NCA District.

   d. Planning Board Recommendation: Lewiston Capital Improvement Plan- LED Lighting

   e. Any other business Planning Board Members may have relating to the duties of the Lewiston Planning Board.

6. **READING OF THE MINUTES**: Motion to adopt the September 10, 2018 draft minutes

7. **ADJOURNMENT**

The City of Lewiston is an EOE. For more information please visit our website @ www.lewistonmaine.gov and click on the Non-Discrimination Policy.

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: September 24, 2018

RE: Re-approval Request for Deer Ridge Subdivision- Agenda Item 4 a

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An application submitted by Walsh Engineering on behalf of Glen Dube for the re-approval of a 27 lot subdivision, Deer Ridge Subdivision located at 40 Deer Road.

PROJECT DESCRIPTION- The project was originally approved by Planning Board on April 23, 2007 and then re-approved on September 27, 2010. In November 8, 2010, a de minimis change and extension of the approval was granted. Deer Ridge Subdivision is located in northern Lewiston on an 18.41 acre site that is zoned Neighborhood Conservation "A" (NCA). The project's road has been graded and major utilities have been installed; however, the road was never completed. Four lots with frontage of Deer Road have been sold and the developer now is requesting reapproval.

APPROVALS REQUIRED
The re-approval will require the Planning Board approval of Article XIII, Development Review and Standards, Section 4, (Approval Criteria) and Section 5 (Coordination with State Subdivision Law). The project will disturb less than one acre and create less than one acre of impervious surface and a Stormwater Permit by Rule will be required prior to construction activity.

DEVELOPMENT REVIEW COMMENTS
NOTE: The applicant has provided a response letter to Planning and Code Enforcement's comments to staff's satisfaction. This includes a condition that each lot in the development must have new wetland flagging placed prior to the development to assure that inadvertent wetland impact do not occur.
The Planning and Code Enforcement Department had the following comments and questions:

1. Given the time that has lapsed, please provide an update on the status the MDEP Stormwater Permit.
2. The wetland updated provided by SWI dated July 19, 2018 recommends that as part of each lot development new flagging be placed to assure that inadvertent wetland impact do not occur. A note to this effect should be added to the subdivision plan.
3. The HOA agreement references its establishment after lots are sold. Please provide an update on the status of the HOA.
4. A revised subdivision plan will be need to be recorded at the registry and signed by the Planning Board. A note should be added to the plan as to the purpose of the plan (i.e. re-approval of previous approved plan, etc.).

The Lewiston Fire Department had the following comments:

1. The driveway for lot 22 is approximately 180 feet in length, a "T" turnaround is required at the end of any driveway or access road over 150 feet in length.
2. The driveway for lot 22 is only 15 feet wide and should be 20 feet wide with 13'6" overhead clearance.
3. Not knowing how far away the structure will be built past the end of the driveway on lot 22, the edge of the structure shouldn't be more than 50 feet from the edge of the driveway.

All other review comments from city staff have been addressed to staff's satisfaction with revisions provided by the applicant.

City staff has no additional comments at this time. Staff recommends approval of the re-approval request utilizing the previous conditions from earlier approvals, along with the following conditions:

1. A revised subdivision plan will be need to be recorded at the registry and signed by the Planning Board. A note should be added to the plan as to the purpose of the plan (i.e. re-approval of previous approved plan, etc.)
2. Add all notes and conditions from previous subdivision plan.
3. Revise subdivision plan to reflect driveway width on lot 22 to 20 feet.
4. Revise driveway on lot 22 to include "T" turnaround as per LFD comments.
5. Add note stating the residence on lot 22 shall be no more than 50 feet from the end of driveway.
6. Addition of note stating that "A new Stormwater Permit by Rule will be filed with the Maine DEP for additional disturbance."
7. Each lot in the development must have new wetland flagging placed prior to the development to assure that inadvertent wetland impact do not occur.

ACTION NECESSARY

Make a motion that the application submitted by Walsh Engineering on behalf of Glen Dube to re-approve Deer Ridge Subdivision, a 27 lot subdivision located at 40 Deer Road as it meets all of the necessary criteria contained in the Zoning and Land Use Code, including, but not limited to Article XIII, Development Review and Standards, Section 4, (Approval Criteria) and Section 5 (Coordination with State Subdivision Law) and that approval be granted (including, if any, specific conditions raised by the Planning Board or staff).

WALSH
ENGINEERING ASSOCIATES, INC.

File: 493

September 19, 2018

Mr. Douglas Greene, AICP, RLA, City Planner
City of Lewiston
27 Pine St
Lewiston, ME 04240

RE: Re-approval of Deer Ridge Subdivision
40 Deer Road, Lewiston

Dear Doug,

We are pleased to submit this application for re-approval of the Deer Ridge subdivision at 40 Deer Road. This subdivision consists of 27 lots and was originally approved by the Lewiston Planning Board on April 23, 2007 and on September 27, 2010 and recorded in the Androscoggin County Registry of Deeds in Plan Book 46, Page 136. The parcels that comprise the entire subdivision are as follows:

1. Map 165, Lot 12 (Subdivision lot 1, owned by Glen Dube)
2. Map 165, Lot 11 (Subdivision lot 2, owned by Michelle Jones)
3. Map 165, Lot 10 (Subdivision lot 3, owned by Kira Levesque)
4. Map 165, Lot 9 (Subdivision lot 4, owned by Donald & Ginette Vaillancourt)
5. Map 165, Lot 8 (Subdivision lot 5, owned by Glen Dube)
6. Map 165, Lot 7 (Subdivision lot 6, owned by Glen Dube)
7. Map 166, Lot 119 (Subdivision lot 7, owned by Debra Morawski)
8. Map 166, Lot 20 (Subdivision lots 8 through 27, owned by Glen Dube)

The plan was reapproved by the Planning Board for a de minimis change and extension of approval on November 8, 2010 and recorded in Plan Book 48, Page 107. At that time the roads had been graded to subbase and the all the sewer lines installed and approved by the sewer department. The de minimis change allowed for the sale of lots along Deer Road as Phase 1 of the subdivision. The remaining lots in Phase 2 would require installation of the water and storm drainage infrastructure and completion of the roads. It is our understanding that Lots 2, 3, 4 and 7 have been sold and that no additional work on the subdivision has occurred since that time.

On July 9, 2018 the wetlands on the site were delineated and flagged by SurveyWorks and Joseph Noel and located by GPS. This delineation was compared to the delineation shown on the previously approved plans and it was found that the original delineation was still suitable for planning and development.

The Drainage Report dated February 6, 2007 and approved as part of the original subdivision application was discussed earlier this summer with Lewiston Planning and Engineering staff. It was determined that the stormwater management plan would still meet both State and City requirements and could be resubmitted as written

We are in receipt of David Hediger's September 14, 2018 memo and have the following responses:

1. The proposed road has been graded to subbase, but will require installation of subbase gravel, pavement and grading and stabilization of shoulders. The original DEP Stormwater Permit by Rule (PBR) for disturbance of over 1 acre and creation of less than 1 acre of impervious surface that covered the original construction has expired. A new Stormwater PBR will be filed with the DEP for the additional disturbance shortly. We are requesting that this be a condition of approval.
2. A Note 4 to "Conditions of Approval" will be added to the Subdivision Plan that will read: "Wetlands shall be flagged for each lot shown on this plan prior to issuance of a building permit by the City of Lewiston."
3. The Declaration of Covenants and Restrictions for Deer Ridge Subdivision have been recorded in Book 7998, Page 324 at the Androscoggin County Registry of Deeds, a copy of which is included with this submittal.
4. See the revised Subdivision Plan with the notes updated to reflect all the changes.

Please let me know if you have any questions.

Respectfully,

Norman G. Chamberlain II, PE
Walsh Engineering Associates, Inc.

cc: Robert Foss, File

Enc. Development Review Application
Agent Authorization
Development Review Checklist
Deed
Deer Ridge Covenants
Wetland Letter
February 2007 Drainage Report
Subdivision and Road Design Plans

Development Review Application

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

PROJECT NAME: Deer Ridge Subdivision

PROPOSED DEVELOPMENT ADDRESS: 40 Deer Road

PARCEL ID#: Tax Map 166, Lot 20

REVIEW TYPE:
Site Plan/Special Exception ☐ **Site Plan Amendment** ☐
Subdivision ☒ **Subdivision Amendment** ☐

PROJECT DESCRIPTION: Subdivide the lot into 27 lots. Reapproval of 27 lot Deer Ridge Subdivision approved by the Lewiston Planning Board in 2011.

CONTACT INFORMATION:

Applicant

Name:	Glen Dube
Address:	PO Box 819
Zip Code	Sabattus, ME 04280
Work #:	207-375-9588
Cell #:	207-576-9646
Fax #:	
Home #:	
Email:	

Property Owner

Name:	SAME AS APPLICANT
Address:	
Zip Code	
Work #:	
Cell #:	
Fax #:	
Home #:	
Email:	

Project Representative

Name:	Robert Foss
Address:	PO Box 3346
Zip Code	Auburn, ME 04212
Work #:	
Cell #:	207-576-6372
Fax #:	
Home #:	
Email:	bhsunsetfarm@aol.com

Engineer
Walsh Engineering Associates, Inc.

Name:	Norman G. Chamberlain II
Address:	One Karen Drive, Suite 2A
Zip Code	Westbrook, ME 04092
Work #:	207-553-9898
Cell #:	
Fax #:	207-692-2273
Home #:	
Email:	Norm@walsh-eng.com

Surveyor
Survey Works, Inc.
528 River Road
Greene, ME 04236

PROJECT DATA

The following information is required where applicable, in order to complete the application

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	0	sq. ft.
Proposed Total Paved Area	43,125	sq. ft.
Proposed Total Impervious Area	109,770	sq. ft.
Proposed Impervious Net Change	109,770	sq. ft.
Impervious surface ratio existing	0	% of lot area
Impervious surface ratio proposed	13.7	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint		sq. ft.
Proposed Building Footprint		sq. ft.
Proposed Building Footprint Net change		sq. ft.
Existing Total Building Floor Area		sq. ft.
Proposed Total Building Floor Area		sq. ft.
Proposed Building Floor Area Net Change		sq. ft
New Building		(yes or no)
Building Area/Lot coverage existing		% of lot area
Building Area/Lot coverage proposed		% of lot area

ZONING

Existing	NCA
Proposed, if applicable	

LAND USE

Existing	Woods
Proposed	Subdivision

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	
Proposed Number of Residential Units	
Subdivision, Proposed Number of Lots	27

PARKING SPACES

Existing Number of Parking Spaces	
Proposed Number of Parking Spaces	
Required Number of Parking Spaces	
Number of Handicapped Parking Spaces	

ESTIMATED COST OF PROJECT

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	0	sq. ft.
Proposed Disturbed Area		sq. ft.
Proposed Impervious Area	43,125	sq. ft. Road Only

1. ***If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with MDEP.***
2. ***If the proposed impervious area is greater than one acre including any impervious area crated since 11/16/05, then the applicant shall apply for a MDEP Stormwater Management Permit, Chapter 500, with the City.***
3. ***If total impervious area (including structures, pavement, etc) is greater than 3 acres since 1971 but less than 7 acres, then the applicant shall apply for a Site Location of Development Permit with the City. If more than 7 acres then the application shall be made to MDEP unless determined otherwise.***
4. ***If the development is a subdivision of more than 20 acres but less than 100 acres then the applicant shall apply for a Site Location of Development Permit with the City. If more than 100 acres then the application shall be made to MDEP unless determined otherwise.***

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) 30 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 30 passenger car equivalents (PCE)

If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

1. Property is located in the NCA zoning district.
2. Parcel Area: 18.42 acres / _____ square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	7,500 SF	14,866 SF
Street Frontage	75 FT	98.69 FT
Min Front Yard	20 FT	20 FT
Min Rear Yard	10 FT	10FT
Min Side Yard	10 FT	10 FT
Max. Building Height	35 FT	35 FT
Use Designation	Residential	Residential
Parking Requirement	1 space/ per _____ square feet of floor area	
Total Parking:		
Overlay zoning districts (if any):	n/a	
Urban impaired stream watershed?	YES/NO If yes, watershed name No	

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submission shall include payment of fee and fifteen (15) complete packets containing the following materials:

1. Full size plans containing the information found in the attached sample plan checklist.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All written submittals including evidence of right, title and interest.
5. Copy of the checklist completed for the proposal listing the material contained in the submitted application.

Refer to the application checklist for a detailed list of submittal requirements.

L/A's development review process and requirements have been made similar for convenience and to encourage development. Each Citys ordinances are available online at their prospective websites:
Auburn: www.auburnmaine.org under City Departments/ Planning and Permitting/Land Use Division/Zoning Ordinance
Lewiston: http://www.ci.lewiston.me.us/clerk/ordinances.htm Refer to Appendix A of the Code of Ordinances

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, I certify that the City's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for development review <u>only</u>; a Performance Guarantee, Inspection Fee, Building Permit Application and other associated fees and permits will be required prior to construction.

Signature of Applicant:	Date:
Robert E Foss	8-16-18

Glen Dube

94 Jordan Bridge Road
PO Box 819
Sabattus, Me. 04280
Telephone: 207-375-9588
Cellular: 207-576-9646

May 16, 2018

RE: Deer Ridge Subdivision, Lewiston, ME

To Whom It May Concern:

I, Glen Dube, appoint Robert Foss to act as my agent regarding restructuring of the Deer Ridge Subdivision located in Lewiston, Maine (recorded in Androscoggin Registry, Plan Book 46 Page 136).

I authorize Robert Foss to make decisions on my behalf with all entities requesting my approval; including the engineering firm hired to restructure and City of Lewiston.

Authorization is effective as of May 16, 2018

Glen Dube, Owner of Lots 8-27 Deer Ridge Subdivision

Development Review Checklist

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

THE FOLLOWING INFORMATION IS REQUIRED WHERE APPLICABLE TO BE SUBMITTED FOR AN APPLICATION TO BE COMPLETE

PROJECT NAME: Deer Ridge Subdivision

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 40 Deer Road, Map166, Lot 20

Required Information		Check Submitted		Applicable Ordinance	
Site Plan		**Applicant**	**Staff**	**Lewiston**	**Auburn**
	Owner's Names/Address	x			
	Names of Development	x			
	Professionally Prepared Plan	x			
	Tax Map or Street/Parcel Number	x			
	Zoning of Property	x			
	Distance to Property Lines	x			
	Boundaries of Abutting land	x			
	Show Setbacks, Yards and Buffers				
	Airport Area of Influence (Auburn only)				
	Parking Space Calcs				
	Drive Openings/Locations	x			
	Subdivision Restrictions				
	Proposed Use	x			
	PB/BOA/Other Restrictions				
	Fire Department Review	x			
	Open Space/Lot Coverage				
	Lot Layout (Lewiston only)				
	Existing Building (s)	x			
	Existing Streets, etc.	x			
	Existing Driveways, etc.	x			
	Proposed Building(s)	n/a			
	Proposed Driveways	n/a			
Landscape Plan					
	Greenspace Requirements				
	Setbacks to Parking				
	Buffer Requirements				
	Street Tree Requirements				
	Screened Dumpsters				

	Additional Design Guidelines				
	Planting Schedule				
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500				
	Show Existing Surface Drainage				
	Direction of Flow				
	Location of Catch Basins, etc.				
	Drainage Calculations				
	Erosion Control Measures	x			
	Maine Construction General Permit				
	Bonding and Inspection Fees				
	Post-Construction Stormwater Plan	x			
	Inspection/monitoring requirements				
	Third Party Inspections (Lewiston only)				
Lighting Plan					
	Full cut-off fixtures				
	Meets Parking Lot Requirements				
Traffic Information					
	Access Management				
	Signage				
	PCE - Trips in Peak Hour	x			
	Vehicular Movements				
	Safety Concerns				
	Pedestrian Circulation				
	Police Traffic				
	Engineering Traffic				
Utility Plan					
	Water				
	Adequacy of Water Supply				
	Water main extension agreement				
	Sewer				
	Available city capacity				
	Electric				
	Natural Gas				
	Cable/Phone				
Natural Resources					
	Shoreland Zone				
	Flood Plain				
	Wetlands or Streams	x			
	Urban Impaired Stream				
	Phosphorus Check				
	Aquifer/Groundwater Protection				
	Applicable State Permits				

	No Name Pond Watershed (Lewiston only)				
	Lake Auburn Watershed (Auburn only)				
	Taylor Pond Watershed (Auburn only)				
Right Title or Interest					
	Verify	x			
	Document Existing Easements, Covenants, etc.				
Technical & Financial Capacity					
	Cost Est./Financial Capacity				
	Performance Guarantee				
State Subdivision Law					
	Verify/Check	x			
	Covenants/Deed Restrictions	x			
	Offers of Conveyance to City				
	Association Documents	x			
	Location of Proposed Streets & Sidewalks				
	Proposed Lot Lines, etc.				
	Data to Determine Lots, etc.	x			
	Subdivision Lots/Blocks	x			
	Specified Dedication of Land	x			
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)				
	Multi-Unit Residential Development (Lewiston only)				
	Mobile Home Parks				
	Private Commercial or Industrial Subdivisions (Lewiston only)				
	PUD (Auburn only)				
A jpeg or pdf of the proposed site plan					
Final sets of the approved plans shall be submitted digitally to the City, on a CD or DVD, in AutoCAD format R 14 or greater, along with PDF images of the plans for archiving					

Bk 9060 Pg101 #22270
12-24-2014 @ 11:22a

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WARRANTY DEED

LAND TREE CORP., a Maine business corporation with a principal place of business in Auburn, County of Androscoggin, State of Maine, for consideration paid, grants to **GLEN E. DUBE** with an address of P.O. Box 819, Sabattus, ME 04280, with **Warranty Covenants**, real property situated in the City of Lewiston, County of Androscoggin, State of Maine, described as follows:

> **Lots 1, 5, 6,** and **Lots 8-27, inclusive of the Deer Ridge Subdivision**, shown on a subdivision plan entitled "Deer Ridge" recorded in the Androscoggin County Registry of Deeds on September 27, 2007, in Plan Book 46, Page 136, as revised by Plan Book 48, Page 107.
>
> **SEE** a "Declaration of Covenants and Restrictions," dated August 23, 2010, recorded in said Registry of Deeds at Book 7998, Page 324.
>
> **INCLUDING** all rights, title and interest, as well as obligations and restrictions, of Grantor as "Declarant" as described in said "Declaration" with reference to the creation of the Deer Ridge Homeowners' Association, common areas, and amendment of said Declaration.
>
> **FOR SOURCE OF TITLE** see a warranty deed from Francis W. Laase to Land Tree Corp., dated December 28, 1987, recorded in the Androscoggin County Registry of Deeds in Book 2196, Page 175.

MAINE REAL ESTATE TRANSFER TAX PAID

IN WITNESS WHEREOF, Land Tree Corp. has caused this instrument to be sealed with the corporate seal and signed in the corporate name by Robert E. Foss, its President, thereunto duly authorized, and **Glen E. Dube** has signed this instrument to accept his obligations and restrictions which run with the above-described premises, both as of this 23rd day of December, 2014.

LAND TREE CORP.

WITNESS

by: Robert E. Foss, its President

WITNESS

GLEN E. DUBE

STATE OF MAINE
ANDROSCOGGIN, SS.

The foregoing instrument was acknowledged before me this 23rd day of December, 2014, by **Robert E. Foss**, President of Land Tree Corp., on behalf of the corporation.

Richard L. Trafton, Attorney at Law

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

Bk 7998 Pg324 #15769
08-23-2010 @ 03:36p

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DECLARATION OF COVENANTS AND RESTRICTIONS
for
DEER RIDGE SUBDIVISION
Lewiston, Maine

THIS DECLARATION made on the 23 of August, 2010, by **LAND TREE CORP.**, a Maine corporation with a principal place of business in the Auburn, County of Androscoggin, State of Maine, hereinafter referred to as the "Declarant".

WITNESSETH:

WHEREAS, Declarant is the owner of certain real estate located on the southerly side of Deer Road, Lewiston, County of Androscoggin, State of Maine, and known as **"Deer Ridge Subdivision"** (sometimes hereinafter referred to as the "Property"), as shown on a subdivision plan entitled **"Deer Ridge Subdivision"** prepared by SurveyWorks, Inc., recorded in the Androscoggin County Registry of Deeds on September 27, 2007, in Plan Book 46, Page 136 (the "Plan"), which subdivision is referred to as the "Development"; and

WHEREAS, Declarant desires to subject the Lots 1 through 27 (the "Lots") as shown on the Plan to certain agreements, covenants, conditions, and restrictions as hereinafter set forth, all for the purposes of facilitating ownership and maintenance of open space within the Development;

NOW THEREFORE, in order to provide for the mutual protection and benefit of the Lots, the Declarant hereby subjects all of the Lots to the following agreements, covenants, conditions, and restrictions, as covenants running with the land, which shall be binding and enforceable by the Declarant, its successors and assigns, the Deer Ridge Homeowner's Association (the "Association"), its successors and assigns, or by the then owners of the Lots subject to this Declaration, to wit:

1. **Covenants and Use Restrictions**. The following activities shall be prohibited in the Areas designated as "Open Space" on the Plan, without Planning Board approval and approval by the owners of 14 or more Lots:

A. Further Division and Use. No area designated as Open Space shall be further divided or subdivided, and no area designated as Open Space shall be used except for conservation, wildlife habitat, and pedestrian access.

B. Cutting and Growth of Trees and Bushes. The cutting or clearing of trees on areas designated as Open Space is prohibited; however, restriction does not prevent the Association from cutting dead or dying trees which endanger a structure on a Lot.

C. Structures. No structures may be erected in an area designated as Open Space.

2. **Maintenance of Open Space**. The Association and its designees shall also

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have, and are hereby granted, the exclusive rights to plant, re-plant and remove vegetation in areas designated as Open Space. No Lot Owner shall do any of the foregoing without the prior permission of the Association. Expense of areas designated as Open Space shall be common expenses of the Association.

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3. **Homeowner's Association, Easements and Assessments**.

A. The Declarant shall perform the duties and responsibilities which are set forth in this Declaration until the formation of the Association, at which time the performance of the duties and responsibilities shall be the responsibility of the Association; provided however, that Declarant shall in no event be liable to any party for injury or damage to any person or property occasioned by any failure of enforcement thereof.

B. Declarant shall, not later than sixty (60) days next following the date of conveyance of the first Lot, cause the Association to be formed.

C. For the purposes set forth in Paragraph 2 above and for owning and maintaining areas designated Open Space on the Plan, each and every Lot Owner, by accepting a deed or contract for any Lot, agrees to and shall be a member of and be subject to the rules of the Association. The Association may require Lot Owners to pay an annual fee or assessment set by the Association decided by the Association through its officers, which assessment shall be used by the Association in carrying out its functions, duties, and responsibilities. Any assessment for a Lot Owner shall be determined by dividing the annual assessment for the Development by the number of Lots sold by the Declarant, and, except as hereinafter provided for, joined Lots, each Lot Owner shall pay an equal annual assessment. Lots owned by the Declarant shall be exempt from said assessment until the first conveyance from the Declarant to any other party. If an Owner elects by written notice duly recorded, two adjoining lots upon which a single residence has been constructed may be treated as a single Lot and the Owner shall pay a fee of one and one-half (1½) times that of a single Lot and shall have one and one-half (1½) votes in the Association's affairs. For purposes of this Declaration, the term "lot owner" shall mean the owner or owners, if more than one owners, of a single lot, and "lot owners" shall mean the owners of more than one lot.

D. The Association may increase or decrease the assessment and require it to be paid in installments. The Association shall notify the owners of the Lots at the addresses maintained by the Association within thirty (30) days after said assessment has been fixed and levied, notifying the Lot Owners of the amount of the fee or assessment for such year, when the same shall be due and payable, the amount due on each Lot owned by each such Owner, and the interest rate on past due assessments, provided that failure to send such notice shall not relieve the Lot Owner of the obligation hereunder. It shall be the duty of each Lot Owner to list the Owner's address with the Association, failing which the Association may send such notices to such address as reasonably appears to be a permanent address of such Lot

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Owner. Failure of the Association to levy the assessment or charge for any one year or send such notice shall not affect the right of the Association to do so for any subsequent year or for such prior year(s) in arrears. A written or printed notice thereof deposited in the United States mails, with postage prepaid, and addressed to the respective Lot Owner shall be deemed to be sufficient and proper notice for this purpose or for any other purpose of this Declaration, wherever notice may be required.

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E. The Association shall have all legally permissible powers of collection of assessments made on real estate including, without limitation, those powers et forth in Maine Revised Statutes Annotated, Title 13, Chapter 91 and shall generally have all powers established under Title 13-B M.R.S.A. A default by a Lot Owner in the payment of any installment of the assessment shall permit the Association to accelerate payment of the full annual assessment.

F. The fees or assessments shall be applied by the Association in its discretion toward payment of the following costs:

i) To enforce, either in its own name or in the name of the Lot Owners any or all covenants which may have been heretofore, or may hereinafter be, imposed upon any of the lots, either in the form as originally placed thereon or as subsequently modified; provided, however, that this right of enforcement shall not serve to prevent the right of any Lot Owners to enforce said restrictive covenants in the event they or any one of them elects to do so. The expenses and costs of any such proceedings instituted by the Association shall be a common expense of the Association; and

ii) To protect and to preserve the areas designated as "Open Space" on the Plan; and to do any and all other things necessary and desirable in the judgment of the Association to fufil its obligations under this Declaration;

4. **Association Membership and Administration**.

A. Each Lot Owner including the Declarant for Lots owned by it shall be deemed to be a full voting member of the Association and shall continue to be a voting member thereof so long as he or she is the Owner of any Lot, and, except for Lots owned by the Declarant, so long as all assessments on the Lot are current. Upon transfer, conveyance, or sale by an Owner of all of his or her interest in such Lot, said Owner's membership in the Association shall thereupon cease and terminate and the new owner shall become an Association member.

B. The Association shall notify by mail all Lot Owners at the addresses of such owners are listed with the Association, of the official address of the Association, and the time and place of regular or special meetings of the Association. Such notices

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shall be mailed at least ten (10) days to advance in advance of such meetings.

C. By written consent of the owners of four-fifths (4/5) of all the lots, the Association may be given additional powers and this Declaration as it pertains to the Association may otherwise be amended or modified.

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D. Each member of the Association shall have one (1) vote per lot owned, and co-owners of such a lot shall share the one vote.

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E. The Association shall, at all times, observe all the laws of the State of Maine and the United States of America, and if at any time any of the provisions of this Declaration shall be in conflict therewith, then such parts of this Declaration as are in conflict with such laws shall become null and void, but no other part of this Declaration shall be affected thereby.

F. The Association shall have the right to make reasonable rules and regulations and provide such means and employ such agents as will enable it adequately and properly to carry out the purposes and provisions of this Declaration, subject to any limitations contained herein.

5. **Amendment**. The Declarant shall have the right to amend the provisions set forth in this Declaration a) consistent with its rights reserved herein, or b) until such time as the Declarant no longer owns any of the Lots, for any particular Lot or group of Lots provided that any such amendment does not interfere with preserving the residential character of the Subdivision nor alter the intent of this Declaration or conflict with the City of Lewiston Planning Board Subdivision Approval. Thereafter, the provisions of this Declaration may from time to time be amended or revised (i) upon approval of four-fifths (4/5) of the lot owners evidenced by a certificate indicating the amendment signed by those approving and recorded in the Registry of Deeds. Each amendment to this Declaration shall become effective upon recording thereof in the Androscoggin Registry of Deeds. No amendment to this Declaration shall vary, interfere with or jeopardize the Subdivision's compliance with the provisions of the City of Lewiston Subdivision Ordinance, or any successor provision, or diminish the capacity of the Association to manage the common areas and facilities except as may be approved by the City of Lewiston Planning Board.

6. **Termination of Restrictions**. At a meeting duly held not earlier than January 1, 2027, the then current Lot owners of record may terminate the provisions set forth in this Declaration by a unanimous vote, provided that all applicable local and state ordinances and laws are complied with, which amendment or termination shall become effective upon the recording thereof. If no such amendment or termination is recorded by February 1, 2027, the Declaration shall automatically renew for another 20-year period, and in like manner, each 20-year period thereafter.

7. **Declaration is Binding** . This Declaration shall be for the benefit of and be binding upon all Owners, their respective heirs, devisees, personal representatives, and assigns.

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IN WITNESS WHEREOF, the Declarant, **Land Tree Corp.**, a Maine corporation, has caused this Declaration to be sealed with its corporate seal and signed in its corporate name by Robert E. Foss, its President, thereunto duly authorized, as of the day and year first above written.

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DECLARANT

LAND TREE CORP.

WITNESS

By: Robert E Foss
Robert E. Foss, its President

STATE OF MAINE
ANDROSCOGGIN, SS.

August 23, 2010

Then personally appeared before me the above-named **Robert E. Foss** and acknowledge the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said corporation.

Attorney-at-Law/~~Notary Public~~

Printed Name: Richard L. Trafton

SurveyWorks, Incorporated
Land Use Consultants
www.surveyworksinc.com

July 19, 2018

Norman G. Chamberlain II, P.E.
Walsh Engineering Associates, Inc.
One Karen Drive, Suite 2A
Westbrook, Maine 04092

RE: Deer Ridge Subdivision Plan, Lewiston, Maine, SWI #02-2004, JWN #18-73

Dear Mr. Chamberlain:

In the summer and fall of 2006 SurveyWorks, Inc. (SWI) delineated and located the wetland boundaries for the proposed 26 lot Deer Ridge Subdivision in Lewiston, Maine. This work was conducted for Land Tree Corporation of Auburn, Maine. Subsequently, the project was reviewed and approved by the City of Lewiston in 2011. Subdivision roads (Doe Run and Farm Lane) have been partially constructed along with underground utilities. In addition, Lots 2, 3, 4 and 7 along the frontage of Deer Road have been sold and developed.

A request was made by David Hediger of the City of Lewiston to review the original wetland delineation. On July 9, 2018, SWI and Joseph W. Noel, Maine Certified Soil Scientist, met at the site. The plan "Deer Ridge Revision 2" dated July 20, 2007 was used for the fieldwork. Representative areas were examined and in many of these areas pink and black striped flags were placed and then located using submeter GPS by SWI (~34 numbered flags). A comparison of these newly placed flags and the old wetland boundary was conducted by SWI. This review determined that the original delineation is still usable for planning and development of the remaining lots. Since many of the original wetland flags are missing, it is recommended that as part of each lot development new flagging be placed to assure that inadvertent wetland impacts do not occur.

In order to develop the lots, the subdivision proposed that a number of wetland areas be impacted (primarily for road and driveway access). A wetland impact table was depicted on the "Deer Ridge Revision 2" subdivision plan dated July 20, 2007. These impacts totaled 13,288 square feet. While the undersigned did not have permission and did not enter the developed property designated as Lot 7 on the subdivision plan, it appears there may have been wetland impacts here that were not included on the original subdivision plan. Since this should have been reviewed by the City of Lewiston when this lot was developed, this lot was not part of the wetland review services conducted on July 9, 2018. Lots 2 through 4 were not found to have any wetland areas.

A formalized wetland delineation of the property was not conducted by the undersigned. Services conducted to date included a review of the original boundary in representative areas.

Please feel free to call with any questions or concerns.

Sincerely,

George C. Courbron, Jr.
Licensed Site Evaluator
Professional Land Surveyor #1126
Wetland Scientist

Joseph W. Noel
Maine Certified Soil Scientist #209
Wetland Scientist

528 River Road, Greene, ME 04236-4103
Tel. (207) 946-4480 • Fax (207)946-4483 • email: contact@surveyworksinc.com

DRAINAGE REPORT
for
DEER RIDGE SUBDIVISION
in
LEWISTON, MAINE

February 6, 2007

Prepared by

Taylor Engineering Associates
Consulting Engineers
410 Summer Street
Auburn, Maine 04210
Phone: 207-784-5471 * FAX 207-777-5742
TEA@TaylorEng.com

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1

DRAINAGE STUDY February 6, 2007

For

Deer Ridge Subdivision, Lewiston, Maine

A. Narrative

1. Development Location. The Deer Ridge Subdivision is proposed to have 27 residential lots with two roads, Doe Run and Fawn Lane with hammerheads at the end. The site is 18.41 acres and is currently wooded, undeveloped land.

2. Surface Water on or Abutting the Site. Stormwater runoff from the site currently runs into two drainageways located on the north and south sides of the property. These two drainageways join near the southwestern corner of the property.

3. Downstream Ponds and Lakes. There are no downstream ponds or lakes from this project. Runoff enters a 36" RCP culvert that flows into a ravine above Switzerland Road and then into the Androscoggin River.

4. General Topography. The project site consists of woodland that slopes down toward the drainageway along the southwest side of the property

5. Flooding. According to the City of Lewiston's interactive GIS mapping system, development on the site is above the 100 year flood plain. Reference online: http://gis.ci.lewiston.me.us/

6. Alterations to Natural Drainage Ways. No streams or other watercourses will be impacted by this development. All existing and natural drainage ways crossing the proposed road will be directed into culverts and the road drainage system. Much of the stormwater will be collected in catch basins and then piped to outlet at a down hill location. Post-development runoff will be maintained very close to pre-development rates.

7. Alterations to Land Cover. The development will include two new access roads, Doe Run and Fawn Lane. Each of these roads will dead-end with a hammerhead turnaround. Proposed are 27 new residential lots. Each lot will be developed with a single family residential building. Areas that are disturbed or re-graded will be stabilized with loam and seed.

8. Modeling Assumptions. The site is not located within the watershed of a lake, pond, river, stream, brook or coastal wetland most at risk from development or a sensitive or threatened region. The project proposes 0.99 acres of additional impervious surface for the road. The developer is planning on selling residential lots and therefore is not required to submit a stormwater permit application to DEP. The impervious surface created due to lot development is an additional 1.53 acres from the proposed buildings and driveways. Due to the City's requirements, an overall pre-development and post-development peak rate of runoff must be analyzed.

The total watershed draining to southwest corner of the property is approximately 92 acres. The watershed area consists of mostly "A" and "B" soils, but "D" and soils are also present. The majority of subcatchment Off 1 is cemetery and is about 34 acres. Subcatchment Off 3 is approximately 40 acres and consists of some woods, roads and a residential area. The project site was modeled assuming that the existing onsite condition is good woods.

9. Water Quantity Control. This project does not fall under the requirements of the "*State of Maine, Department of Environmental Protection, Chapter 500, Stormwater Management*" as new impervious surface is less than 1 acre. We have used the guidelines in *Chapter 500* in the design of this project. The project has been designed to direct flow from the outer northwest side as well as the southwest side of site along the proposed roadside ditches into catch basins. Flow from the new catch basins as well as the remaining on-site areas then are piped directly into the pond located on the southeastern side of the site. The results of the calculations are as follows:

CHANGE IN PEAK RATE OF RUNOFF

Structure	Existing (cfs)	Proposed (cfs)	Increase (cfs)
2 Year Storm	7.74	8.21	0.47
10 Year Storm	31.44	31.75	0.31
25 Year Storm	47.59	47.59	0.0

The results show that after construction of the roads, driveways and buildings that the peak rate of runoff for the design storms would show less than a 1 cfs increase for the 2 and 10 year storm and remain the same for the 25 year storm. Down stream from this development is a 36" culvert that runs onto the cemetery, into a ravine at Switzerland Road and then into the Androscoggin River. A small increase resulting from the proposed development will have a very small impact on the downstream properties, and therefore we are requesting a waiver from this requirement.

We considered a number of scenarios in designing this project, including a detention basin. It became clear during that process that no matter what size the detention basin was or how small the outlet structure was, we would be unable to reduce the peak rate of runoff at the project limits. When the model was analyzed, we determined that the size and time of concentration for the offsite areas compared to the proposed project site were such that the descending limb of the project site hydrograph combined with the peak of the offsite areas to cause a small increase in the peak rate. If a detention basin is added to the model, the descending limb is delayed such that a higher rate of runoff coincides with the peak from the offsite areas increasing the overall peak. The table below shows that the peak flows that would occur if a detention pond were proposed for a portion of the proposed development are larger than without a detention pond:

CHANGE IN PEAK RATE OF RUNOFF W/DETENTION POND

Structure	Existing (cfs)	Proposed (cfs)	Increase (cfs)
2 Year Storm	7.74	9.64	1.90
10 Year Storm	31.44	37.20	5.76
25 Year Storm	47.59	56.95	9.36

10. Water Quality Treatment. This project is not required to provide treatment of stormwater runoff under *Chapter 500* rules. However, impacts to water quality are mitigated by using ditch and overland flow wherever possible, which will have a tendency to reduce TSS.

11. Development Impacts. As discussed earlier, the minimal increase in the peak rate of runoff with the added benefit of TSS reduction, this project should have little impact on the surrounding area.

B. Maps

1. Topographic Map. Refer to the location map for this area (Figure No. 1) and the Proposed Conditions plan.

2. Soils Map. Refer to the copy of the Androscoggin & Sagadahoc Counties Soils Map. (Figure No. 2)

C. Pre-development Drainage Plan. Refer to drawing number 1 of 1 Proposed Conditions, dated January, 2007.

D. Post-development Drainage Plan. Refer to drawing number 1 of 1 Proposed Conditions, dated January, 2007.

E. Runoff analysis. Refer to the HydroCAD computations for all drainage calculations for both the pre and post development conditions.

F. Stormwater Quantity Control Plan. Refer to the site development plans for location and description of all proposed water quantity control structures.

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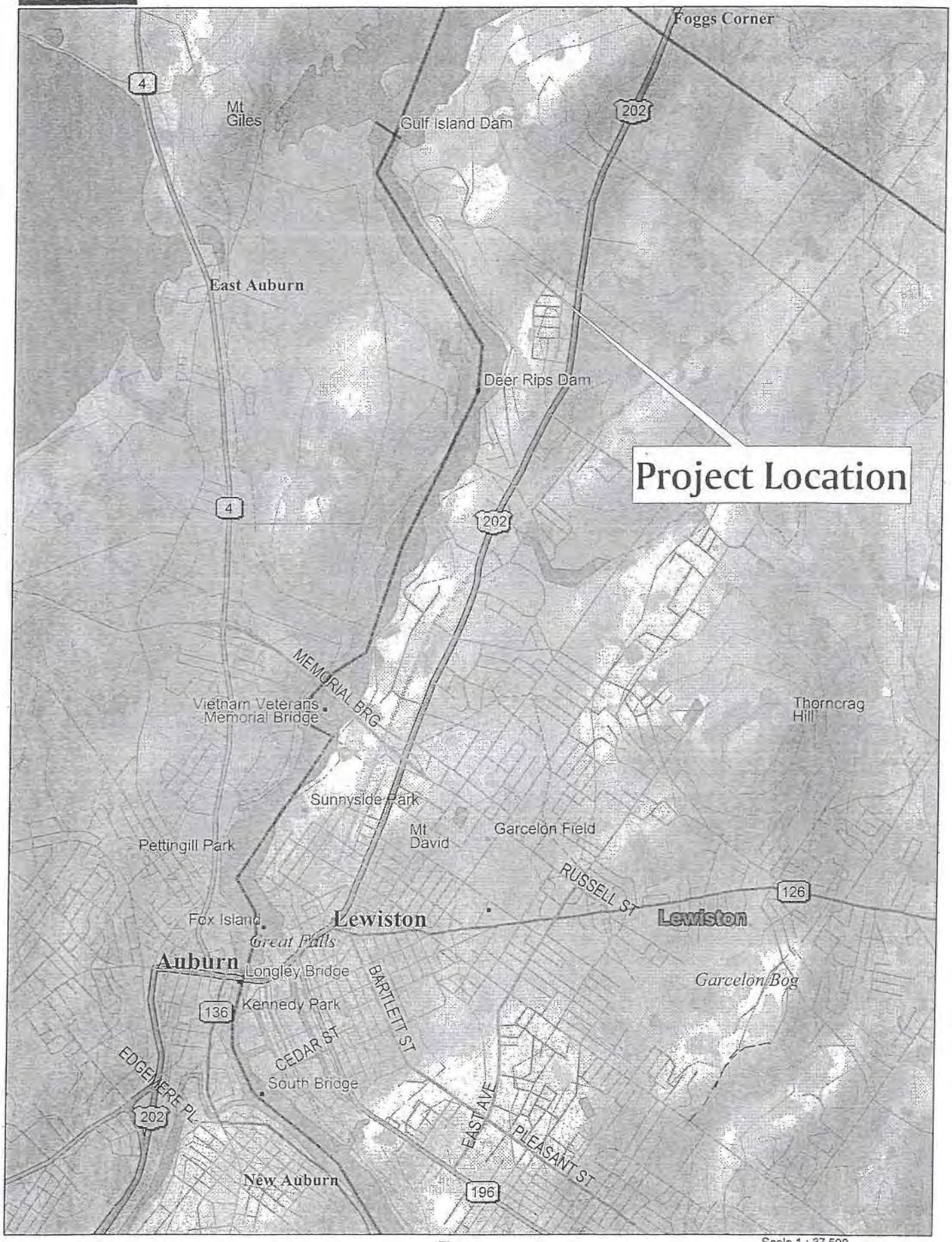

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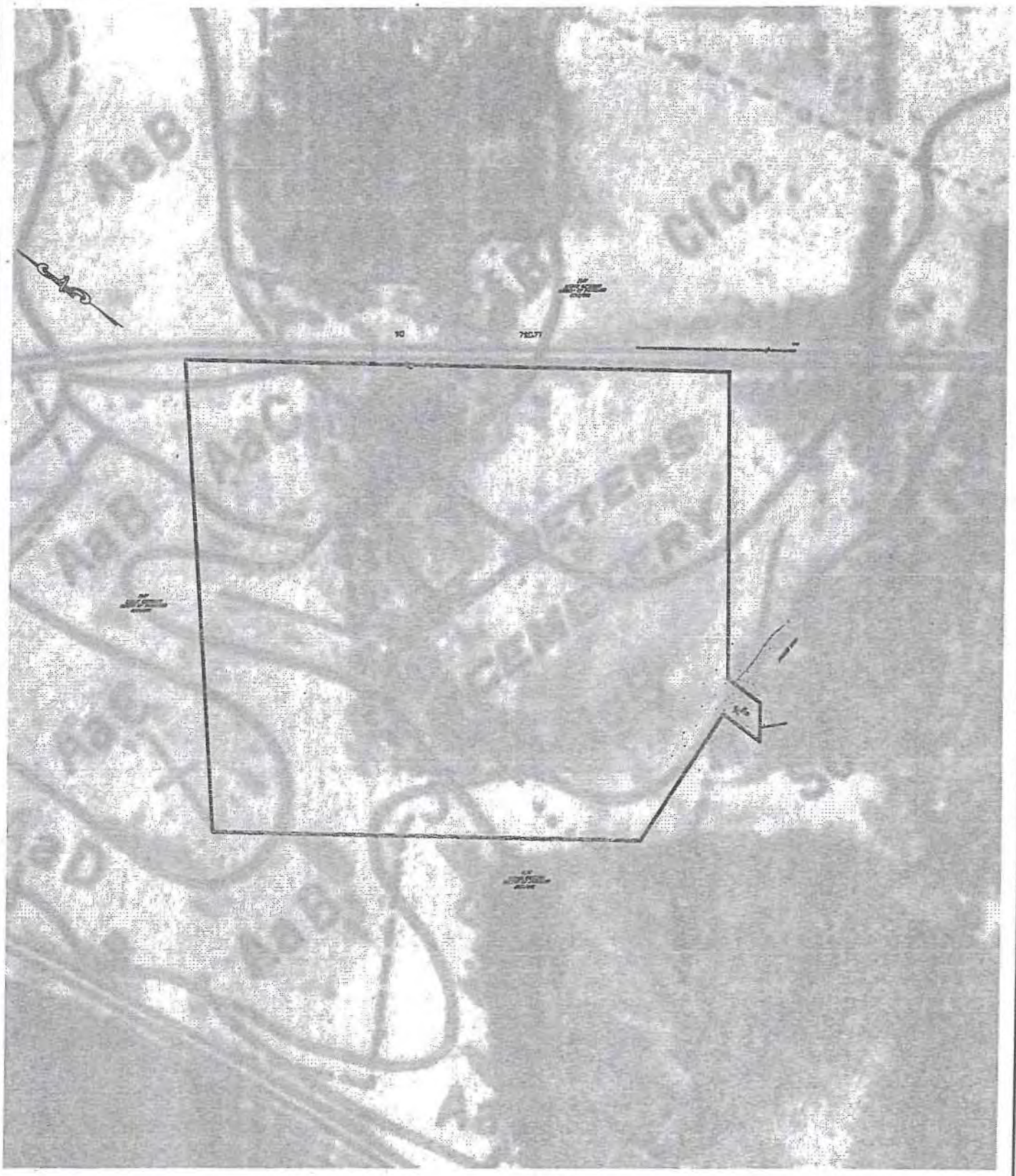
TN

MN (16.3°W)

Scale 1 : 37,500

1" = 3,125.0 ft

Data Zoom 11-7



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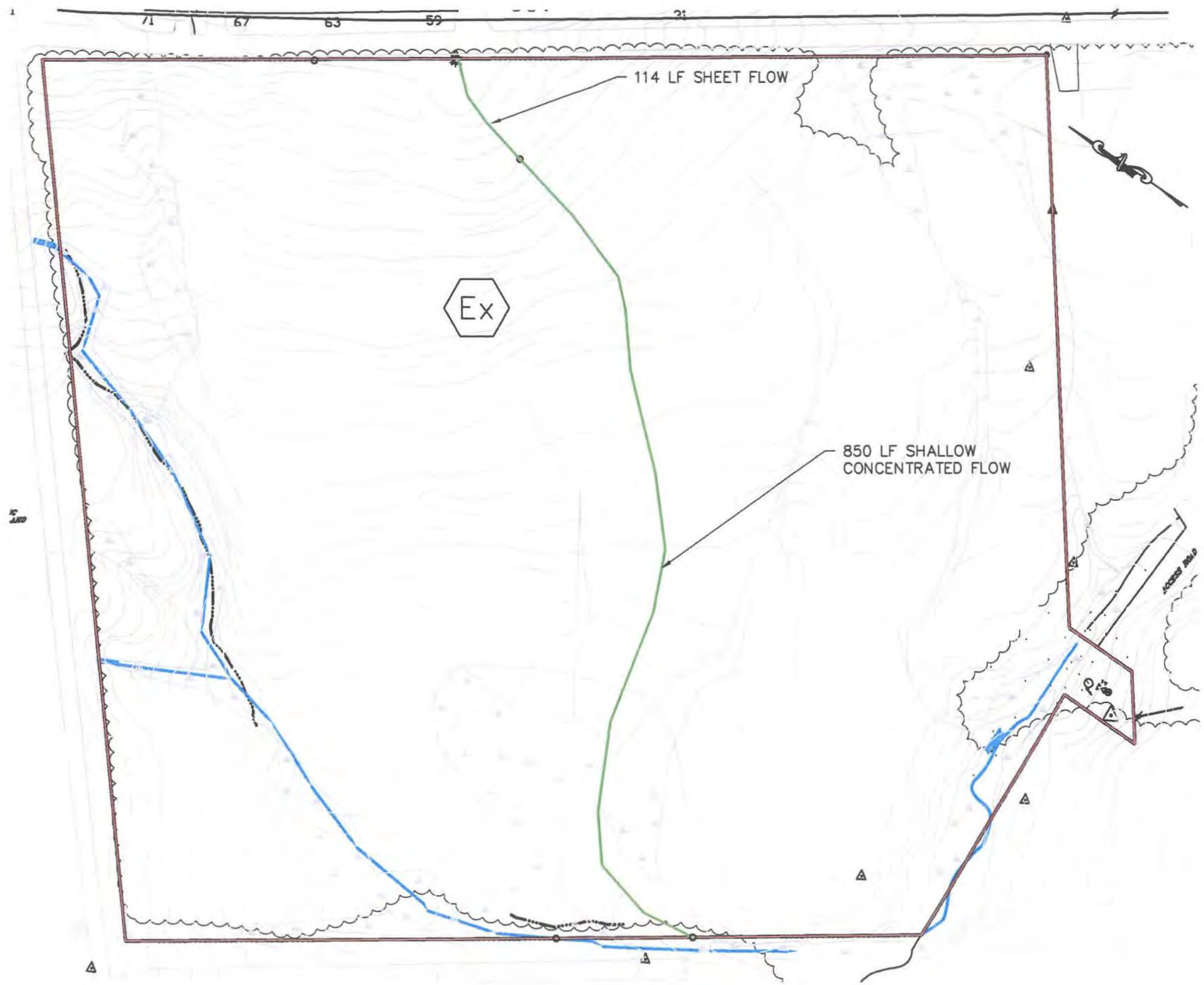
REVISIONS	SOILS MAP		
	DEER ROAD LEWISTON, MAINE		
	JOB NO.: 2006-004	DATE: JAN 23, 2007	SCALE: 1"=250'
	DRAWN BY: JHC	CHECKED BY:	
	SHEET NO. 1 OF 1		



SUBCATCHMENT Ex
Woods "A"=6.17 Ac
Woods "B"=11.35 Ac
Woods "D"=0.89 Ac
TOTAL AREA=18.41 Ac

Drawn By:	JHC
Chkd. By:	NGC
Job No.:	2006-004
Drawer:	
Scale:	1"=100'
Date:	JAN 23, 2007

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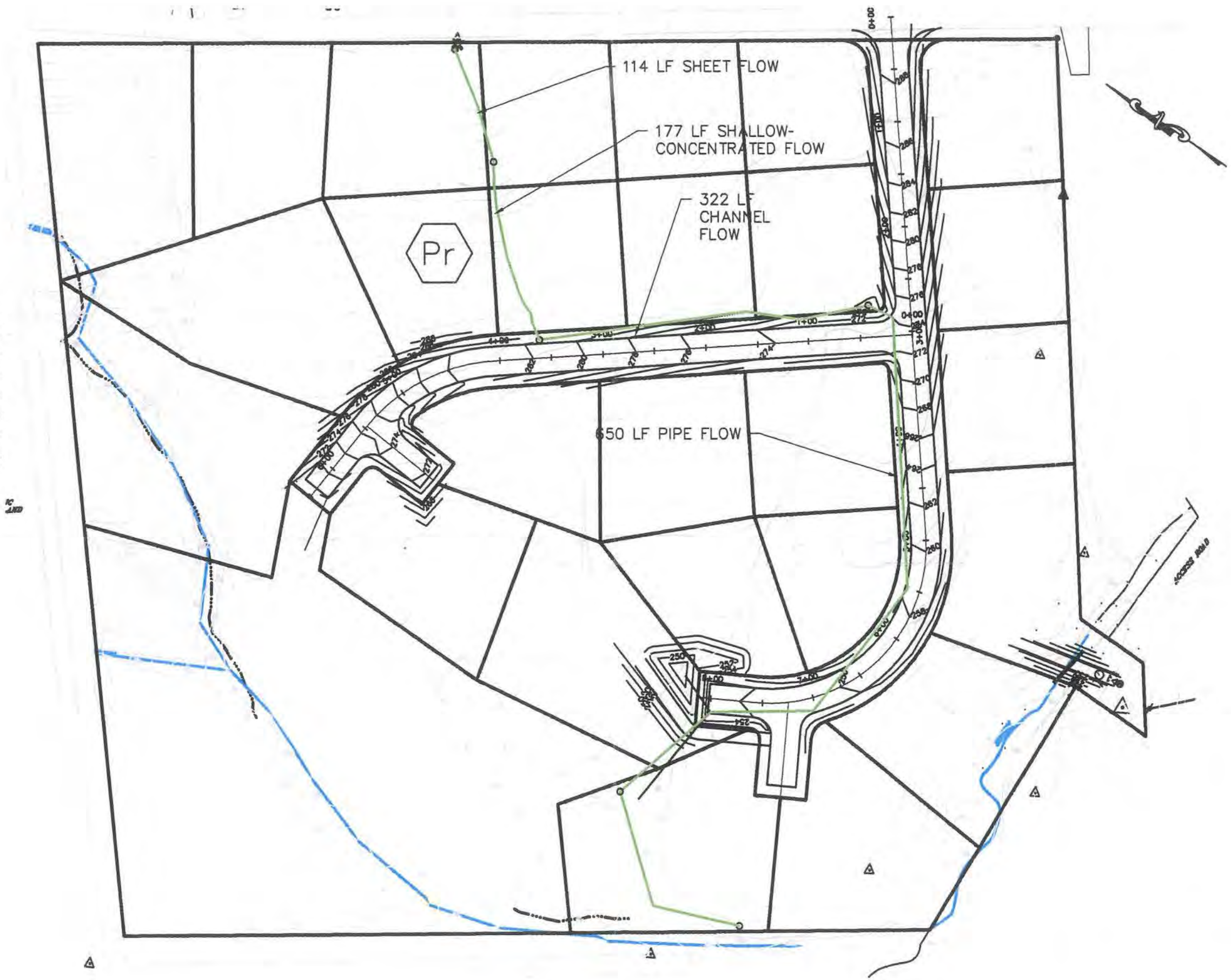
Phone: 207-784-5471 Fax: 207-777-5742 www.TaylorEng.com

Prepared for:
Survey Works, Inc.
528 River Road
Greene, Maine 04236

DEER RIDGE SUBDIVISION
DEER ROAD
LEWISTON, MAINE

EXISTING DRAINAGE



SUBCATCHMENT Pr
Woods "A"=3.37 Ac
Grass "A"=2.39 Ac
Woods "B"=1.16 Ac
Grass "B"=8.08 Ac
Woods "D"=0.54 Ac
Grass "D"=0.35 Ac
Impervious=2.52 Ac
TOTAL AREA=18.41 Ac

Drawn By: JHC
Chkd By: NGC
Job No.: 2006-004
Drawer:
Scale: 1"=100'
Date: JAN 23, 2007

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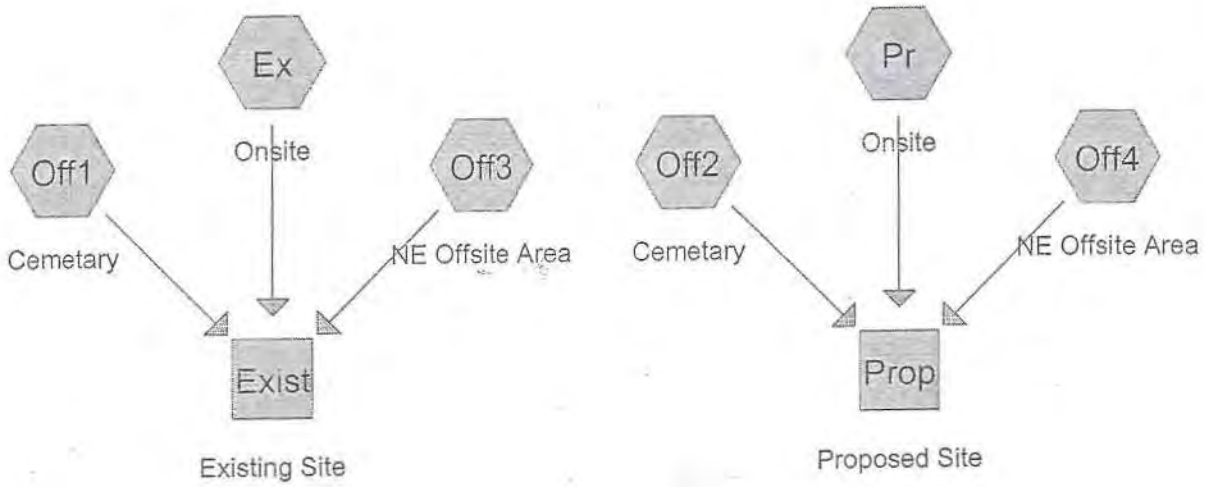
DEER RIDGE SUBDIVISION
DEER ROAD
LEWISTON, MAINE

PROPOSED DRAINAGE



Drainage Diagram for 2006-004 Runoff
Prepared by Taylor Engineering Associates 1/24/2007
HydroCAD® 7.00 s/n 000908 © 1986-2003 Applied Microcomputer Systems

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment Ex: Onsite Runoff Area=18.410 ac Runoff Depth=0.15"
Flow Length=966' Tc=24.4 min CN=53 Runoff=0.54 cfs 0.229 af

Subcatchment Off1: Cemetary Runoff Area=34.260 ac Runoff Depth=0.11"
Flow Length=2,065' Tc=59.3 min CN=51 Runoff=0.51 cfs 0.311 af

Subcatchment Off2: Cemetary Runoff Area=34.260 ac Runoff Depth=0.11"
Flow Length=2,065' Tc=59.3 min CN=51 Runoff=0.51 cfs 0.311 af

Subcatchment Off3: NE Offsite Area Runoff Area=39.640 ac Runoff Depth=0.54"
Flow Length=2,290' Tc=70.3 min CN=66 Runoff=7.01 cfs 1.800 af

Subcatchment Off4: NE Offsite Area Runoff Area=39.640 ac Runoff Depth=0.54"
Flow Length=2,290' Tc=70.3 min CN=66 Runoff=7.01 cfs 1.800 af

Subcatchment Pr: Onsite Runoff Area=18.410 ac Runoff Depth=0.30"
Flow Length=1,263' Tc=14.5 min CN=59 Runoff=2.52 cfs 0.465 af

Reach Exist: Existing Site Inflow=7.74 cfs 2.339 af
Outflow=7.74 cfs 2.339 af

Reach Prop: Proposed Site Inflow=8.21 cfs 2.575 af
Outflow=8.21 cfs 2.575 af

Total Runoff Area = 184.620 ac Runoff Volume = 4.914 af Average Runoff Depth = 0.32"

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment Ex: Onsite Runoff Area=18.410 ac Runoff Depth=0.68"
Flow Length=966' Tc=24.4 min CN=53 Runoff=6.38 cfs 1.048 af

Subcatchment Off1: Cemetary Runoff Area=34.260 ac Runoff Depth=0.58"
Flow Length=2,065' Tc=59.3 min CN=51 Runoff=6.06 cfs 1.667 af

Subcatchment Off2: Cemetary Runoff Area=34.260 ac Runoff Depth=0.58"
Flow Length=2,065' Tc=59.3 min CN=51 Runoff=6.06 cfs 1.667 af

Subcatchment Off3: NE Offsite Area Runoff Area=39.640 ac Runoff Depth=1.46"
Flow Length=2,290' Tc=70.3 min CN=66 Runoff=22.56 cfs 4.827 af

Subcatchment Off4: NE Offsite Area Runoff Area=39.640 ac Runoff Depth=1.46"
Flow Length=2,290' Tc=70.3 min CN=66 Runoff=22.56 cfs 4.827 af

Subcatchment Pr: Onsite Runoff Area=18.410 ac Runoff Depth=1.01"
Flow Length=1,263' Tc=14.5 min CN=59 Runoff=13.99 cfs 1.556 af

Reach Exist: Existing Site Inflow=31.44 cfs 7.542 af
Outflow=31.44 cfs 7.542 af

Reach Prop: Proposed Site Inflow=31.75 cfs 8.050 af
Outflow=31.75 cfs 8.050 af

Total Runoff Area = 184.620 ac Runoff Volume = 15.591 af Average Runoff Depth = 1.01"

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment Ex: Onsite Runoff Area=18.410 ac Runoff Depth=1.05"
Flow Length=966' Tc=24.4 min CN=53 Runoff=11.30 cfs 1.615 af

Subcatchment Off1: Cemetary Runoff Area=34.260 ac Runoff Depth=0.92"
Flow Length=2,065' Tc=59.3 min CN=51 Runoff=11.20 cfs 2.640 af

Subcatchment Off2: Cemetary Runoff Area=34.260 ac Runoff Depth=0.92"
Flow Length=2,065' Tc=59.3 min CN=51 Runoff=11.20 cfs 2.640 af

Subcatchment Off3: NE Offsite Area Runoff Area=39.640 ac Runoff Depth=2.01"
Flow Length=2,290' Tc=70.3 min CN=66 Runoff=31.83 cfs 6.625 af

Subcatchment Off4: NE Offsite Area Runoff Area=39.640 ac Runoff Depth=2.01"
Flow Length=2,290' Tc=70.3 min CN=66 Runoff=31.83 cfs 6.625 af

Subcatchment Pr: Onsite Runoff Area=18.410 ac Runoff Depth=1.47"
Flow Length=1,263' Tc=14.5 min CN=59 Runoff=21.79 cfs 2.251 af

Reach Exist: Existing Site Inflow=47.59 cfs 10.879 af
Outflow=47.59 cfs 10.879 af

Reach Prop: Proposed Site Inflow=47.59 cfs 11.516 af
Outflow=47.59 cfs 11.516 af

Total Runoff Area = 184.620 ac Runoff Volume = 22.395 af Average Runoff Depth = 1.46"

Subcatchment Ex: Onsite

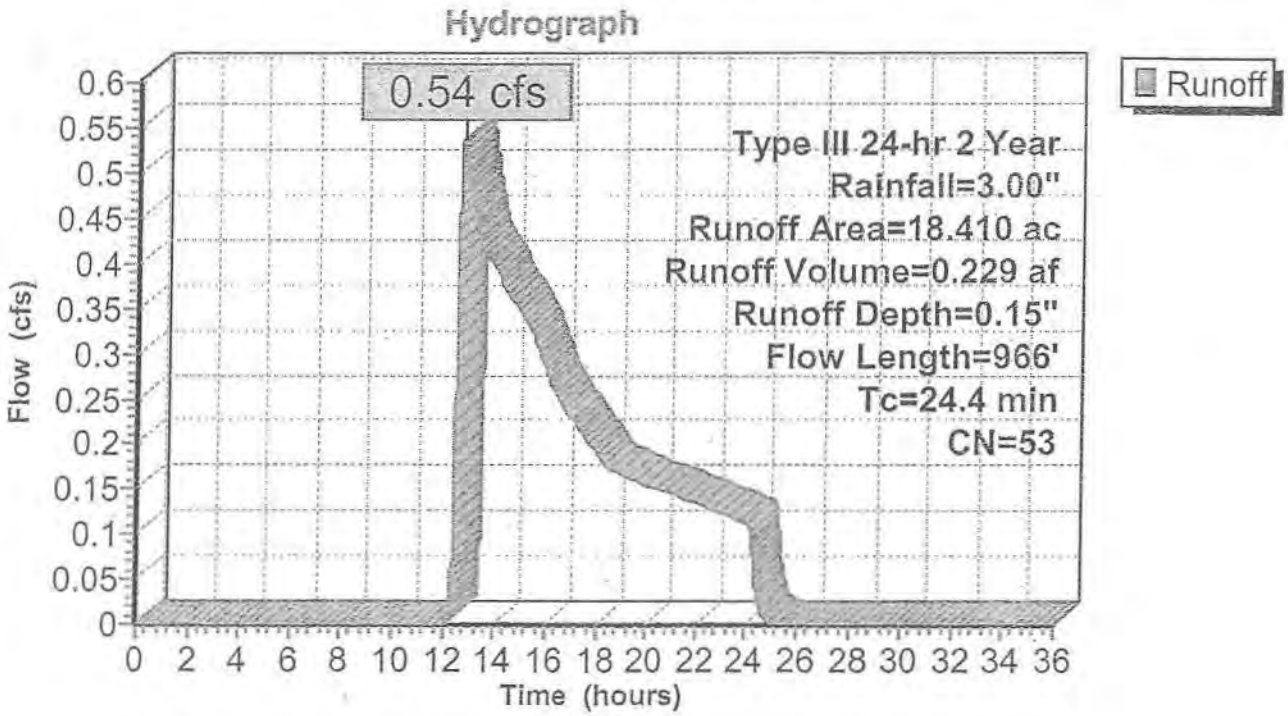
Runoff = 0.54 cfs @ 12.72 hrs, Volume= 0.229 af, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.00"

Area (ac)	CN	Description
6.170	36	Woods, Fair, HSG A
11.350	60	Woods, Fair, HSG B
0.890	79	Woods, Fair, HSG D
18.410	53	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	116	0.0780	0.1		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
9.9	850	0.0820	1.4		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.4	966	Total			

Subcatchment Ex: Onsite



Subcatchment Off1: Cemetary

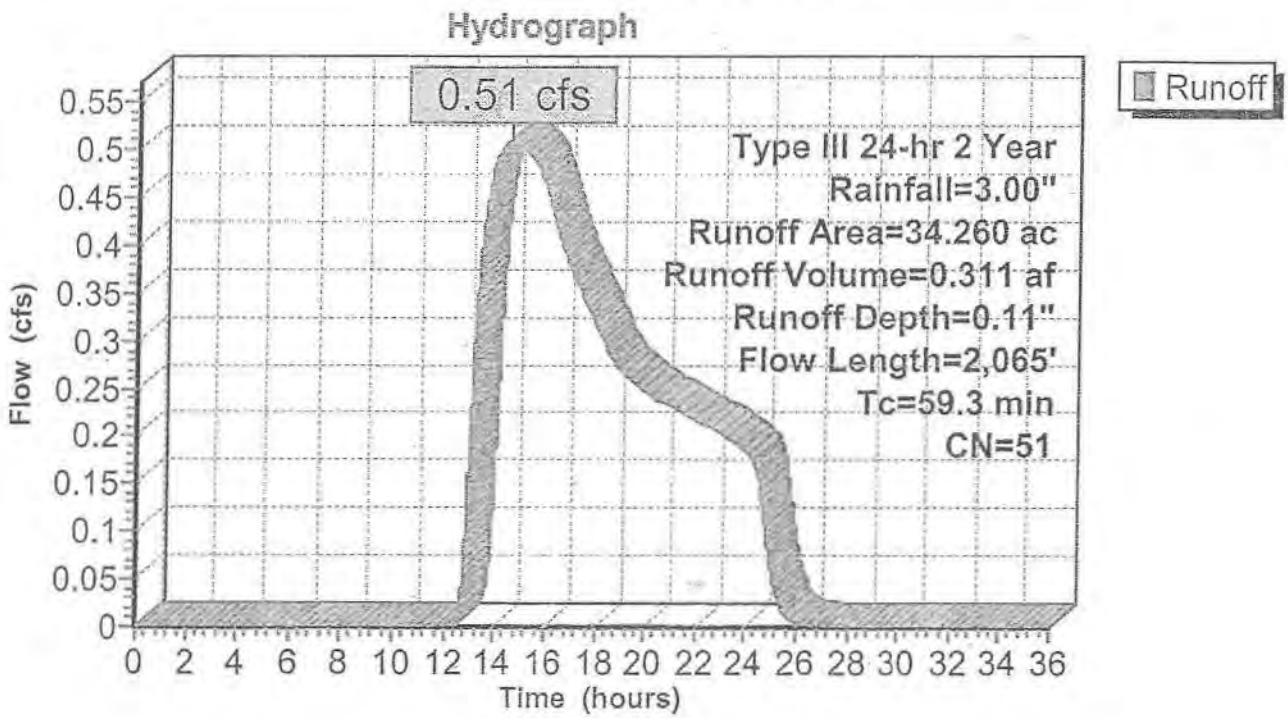
Runoff = 0.51 cfs @ 14.56 hrs, Volume= 0.311 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.00"

Area (ac)	CN	Description
7.020	55	Woods, Good, HSG B
2.300	58	Woods/grass comb., Good, HSG B
1.110	70	1/2 acre lots, 25% imp, HSG B
22.860	46	2 acre lots, 12% imp, HSG A
0.970	98	Paved parking & roofs
34.260	51	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.2	250	0.0480	0.1		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 3.00"
16.6	680	0.0290	0.7		**Shallow Concentrated Flow,** Kv= 4.0 fps
9.5	1,135		2.0		**Direct Entry,**
59.3	2,065	Total			

Subcatchment Off1: Cemetary



Subcatchment Off2: Cemetary

Runoff = 0.51 cfs @ 14.56 hrs, Volume= 0.311 af, Depth= 0.11"

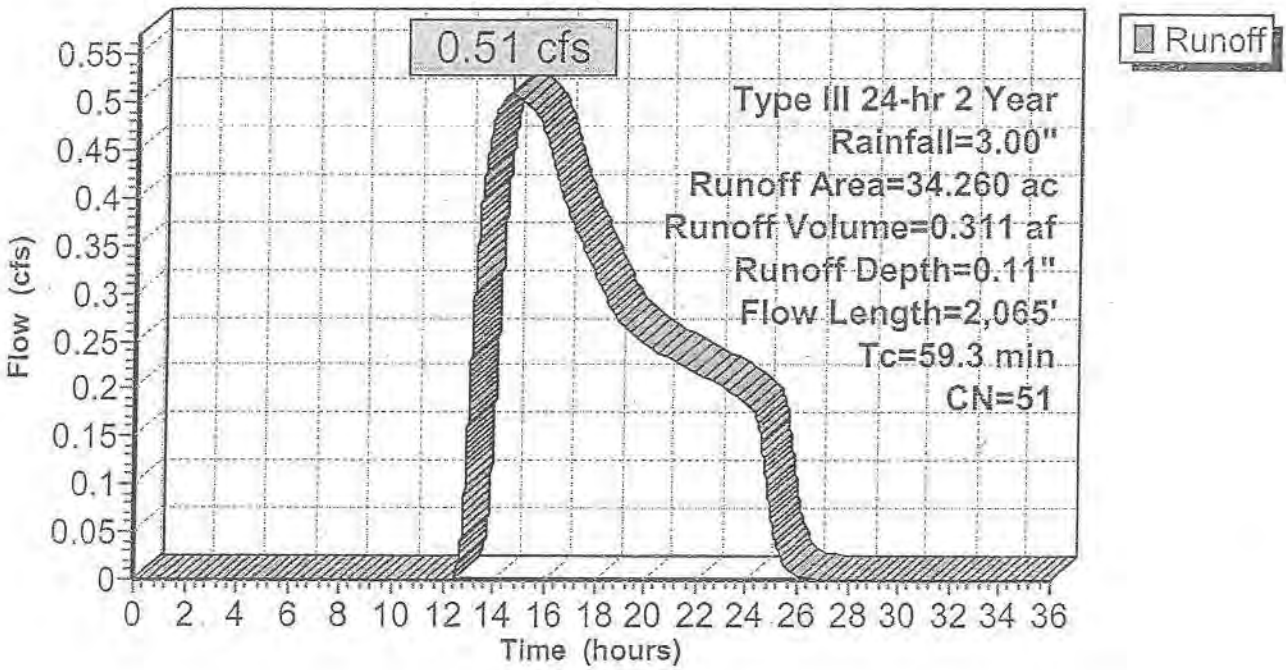
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.00"

Area (ac)	CN	Description
7.020	55	Woods, Good, HSG B
2.300	58	Woods/grass comb., Good, HSG B
1.110	70	1/2 acre lots, 25% imp, HSG B
22.860	46	2 acre lots, 12% imp, HSG A
0.970	98	Paved parking & roofs
34.260	51	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.2	250	0.0480	0.1		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 3.00"
16.6	680	0.0290	0.7		**Shallow Concentrated Flow,** Kv= 4.0 fps
9.5	1,135		2.0		**Direct Entry,**
59.3	2,065	Total			

Subcatchment Off2: Cemetary

Hydrograph



Subcatchment Off3: NE Offsite Area

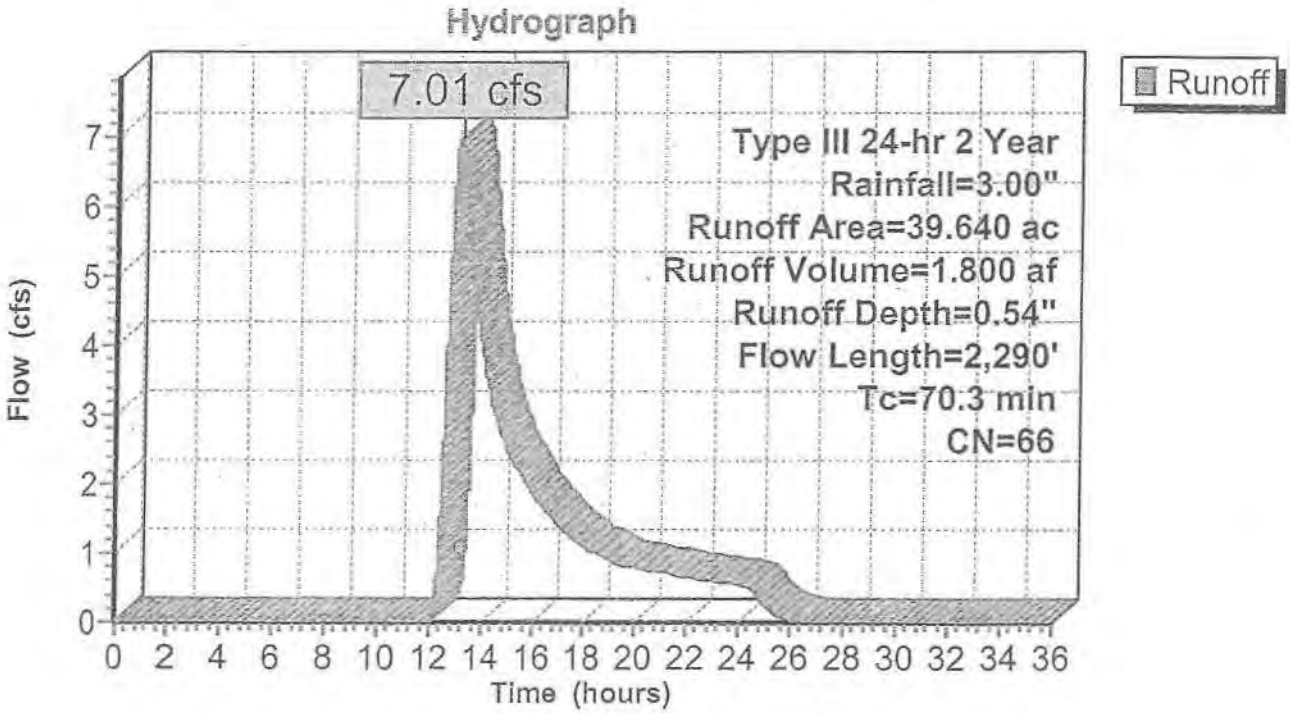
Runoff = 7.01 cfs @ 13.12 hrs, Volume= 1.800 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.00"

Area (ac)	CN	Description
2.000	98	Paved parking & roofs
7.200	70	1/2 acre lots, 25% imp, HSG B
13.520	55	Woods, Good, HSG B
9.780	58	Woods/grass comb., Good, HSG B
1.610	70	Woods, Good, HSG C
2.950	92	1/8 acre lots, 65% imp, HSG D
0.830	77	1/8 acre lots, 65% imp, HSG A
1.750	90	1/8 acre lots, 65% imp, HSG C
39.640	66	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
43.8	250	0.0240	0.1		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 3.00"
17.0	905	0.0490	0.9		**Shallow Concentrated Flow,** Kv= 4.0 fps
9.5	1,135		2.0		**Direct Entry,**
70.3	2,290	Total			

Subcatchment Off3: NE Offsite Area



Subcatchment Off4: NE Offsite Area

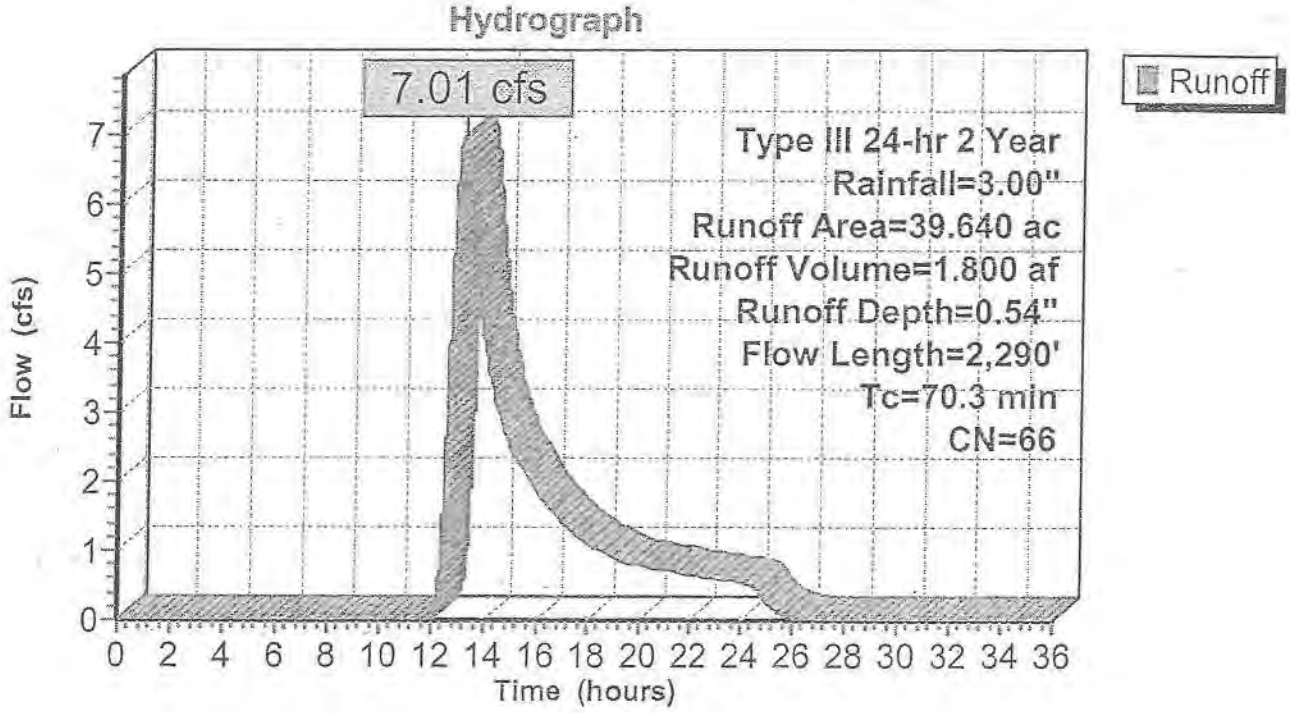
Runoff = 7.01 cfs @ 13.12 hrs, Volume= 1.800 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.00"

Area (ac)	CN	Description
2.000	98	Paved parking & roofs
7.200	70	1/2 acre lots, 25% imp, HSG B
13.520	55	Woods, Good, HSG B
9.780	58	Woods/grass comb., Good, HSG B
1.610	70	Woods, Good, HSG C
2.950	92	1/8 acre lots, 65% imp, HSG D
0.830	77	1/8 acre lots, 65% imp, HSG A
1.750	90	1/8 acre lots, 65% imp, HSG C
39.640	66	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
43.8	250	0.0240	0.1		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 3.00"
17.0	905	0.0490	0.9		**Shallow Concentrated Flow,** Kv= 4.0 fps
9.5	1,135		2.0		**Direct Entry,**
70.3	2,290	Total			

Subcatchment Off4: NE Offsite Area



Subcatchment Pr: Onsite

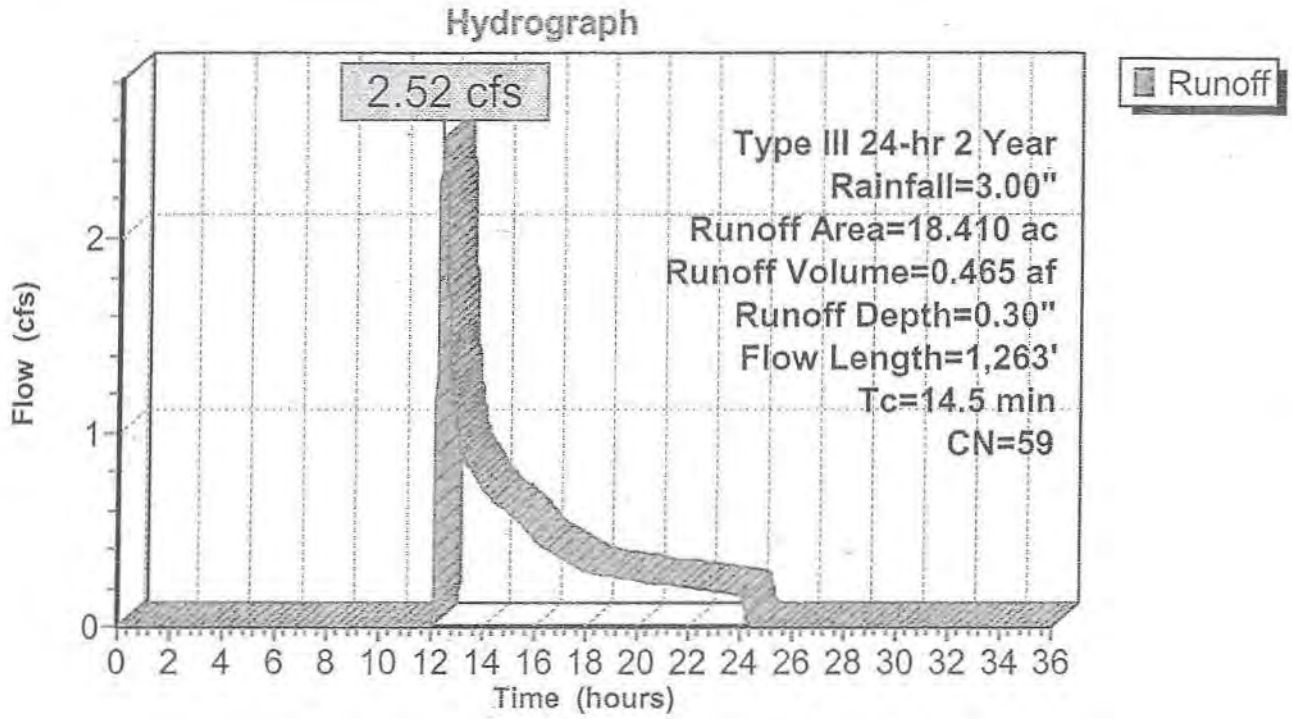
Runoff = 2.52 cfs @ 12.41 hrs, Volume= 0.465 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.00"

Area (ac)	CN	Description
3.370	36	Woods, Fair, HSG A
2.390	39	>75% Grass cover, Good, HSG A
1.160	60	Woods, Fair, HSG B
8.080	61	>75% Grass cover, Good, HSG B
0.540	77	Woods, Good, HSG D
0.350	80	>75% Grass cover, Good, HSG D
0.990	98	Roads
1.530	98	Houses & Drives
18.410	59	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	114	0.0790	0.3		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	177	0.1750	6.3		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.0	322	0.0400	0.8	3.45	**Trap/Vee/Rect Channel Flow,** Bot.W=0.00' D=1.00' Z= 6.0 & 3.0 '/' n= 0.240
0.5	650	0.0500	20.9	65.76	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
14.5	1,263	Total			

Subcatchment Pr: Onsite

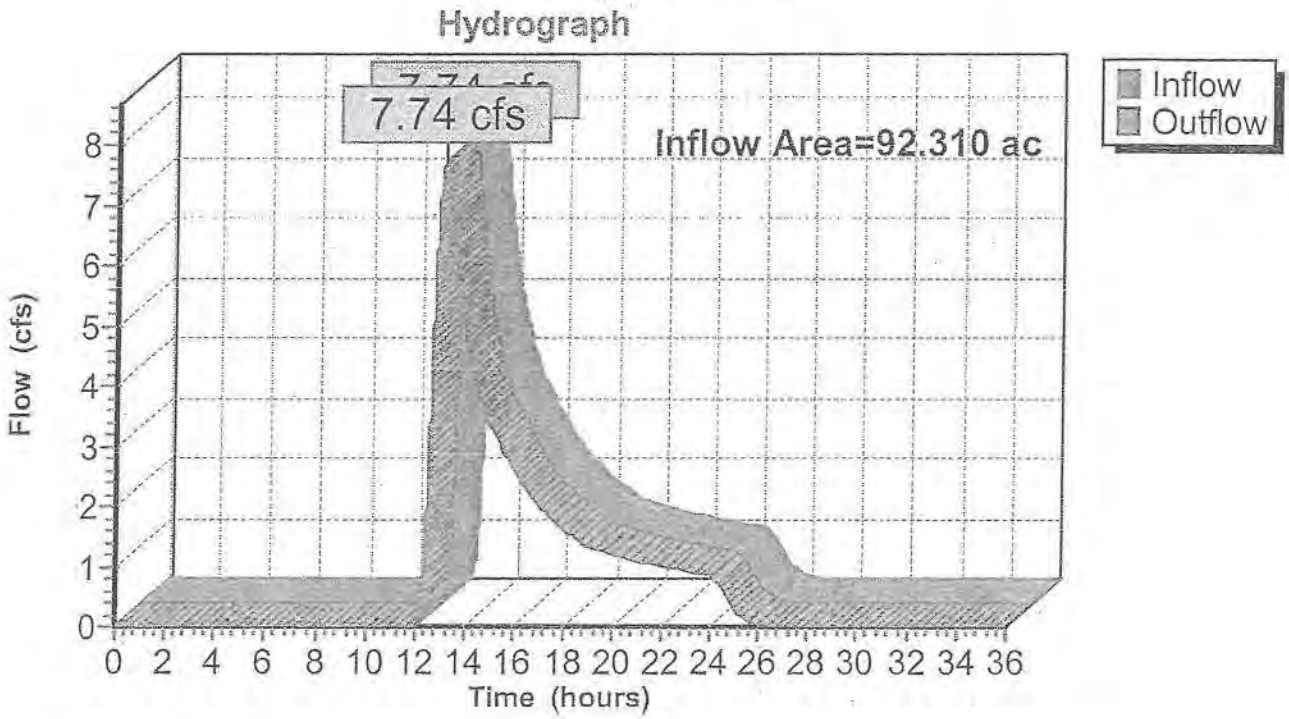


Reach Exist: Existing Site

Inflow Area =	92.310 ac,	Inflow Depth =	0.30"	for	2 Year event
Inflow =	7.74 cfs @	13.12 hrs,	Volume=	2.339 af	
Outflow =	7.74 cfs @	13.12 hrs,	Volume=	2.339 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Reach Exist: Existing Site

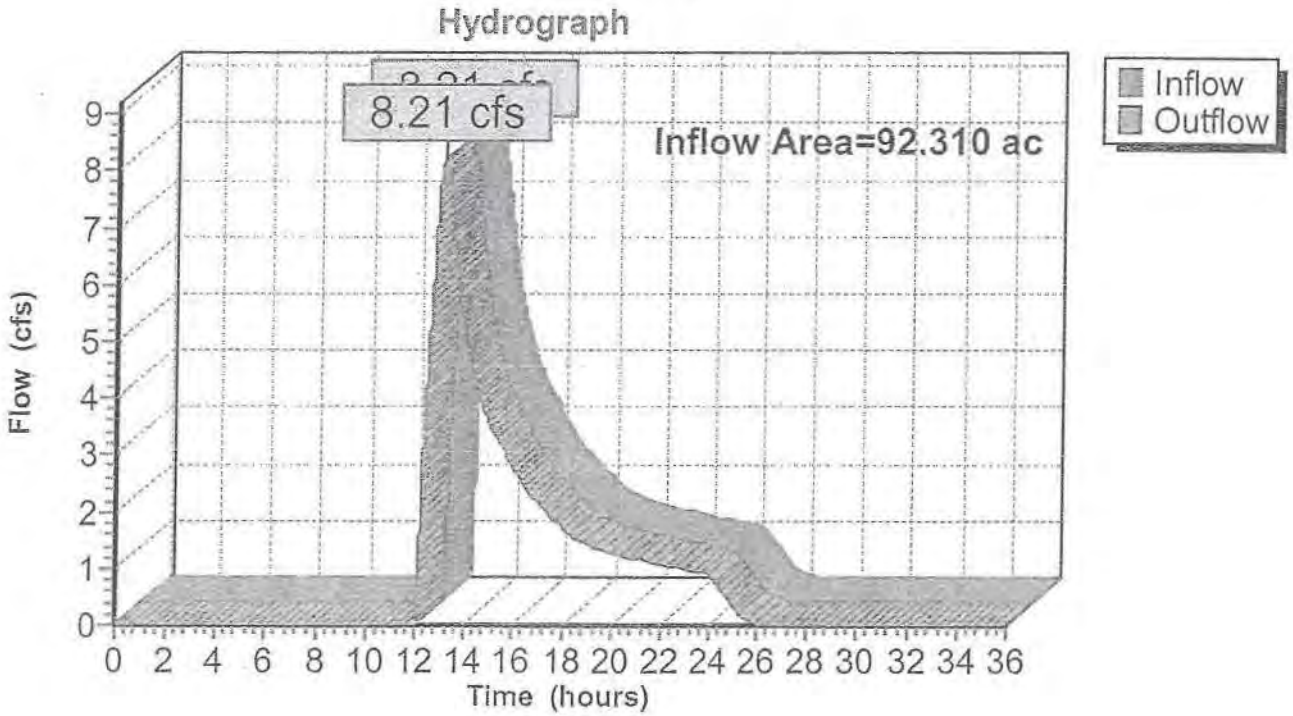


Reach Prop: Proposed Site

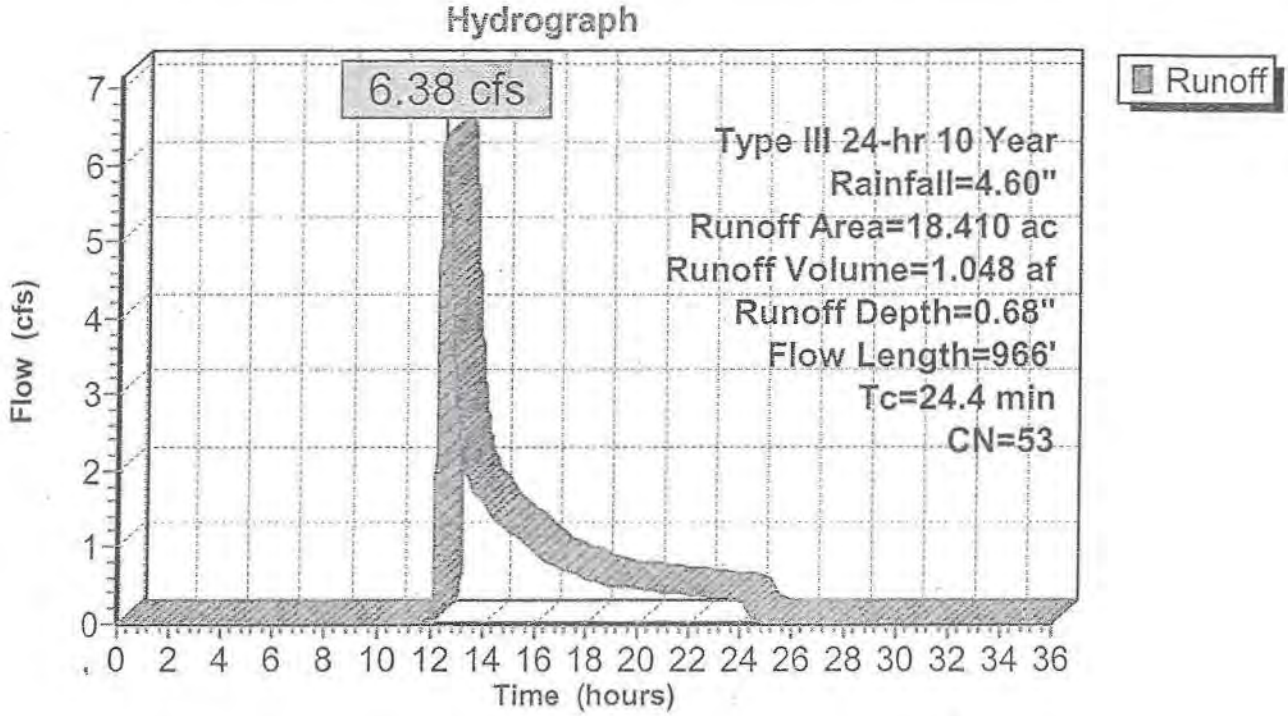
Inflow Area =	92.310 ac,	Inflow Depth =	0.33"	for	2 Year event
Inflow =	8.21 cfs @	13.12 hrs,	Volume=	2.575 af	
Outflow =	8.21 cfs @	13.12 hrs,	Volume=	2.575 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

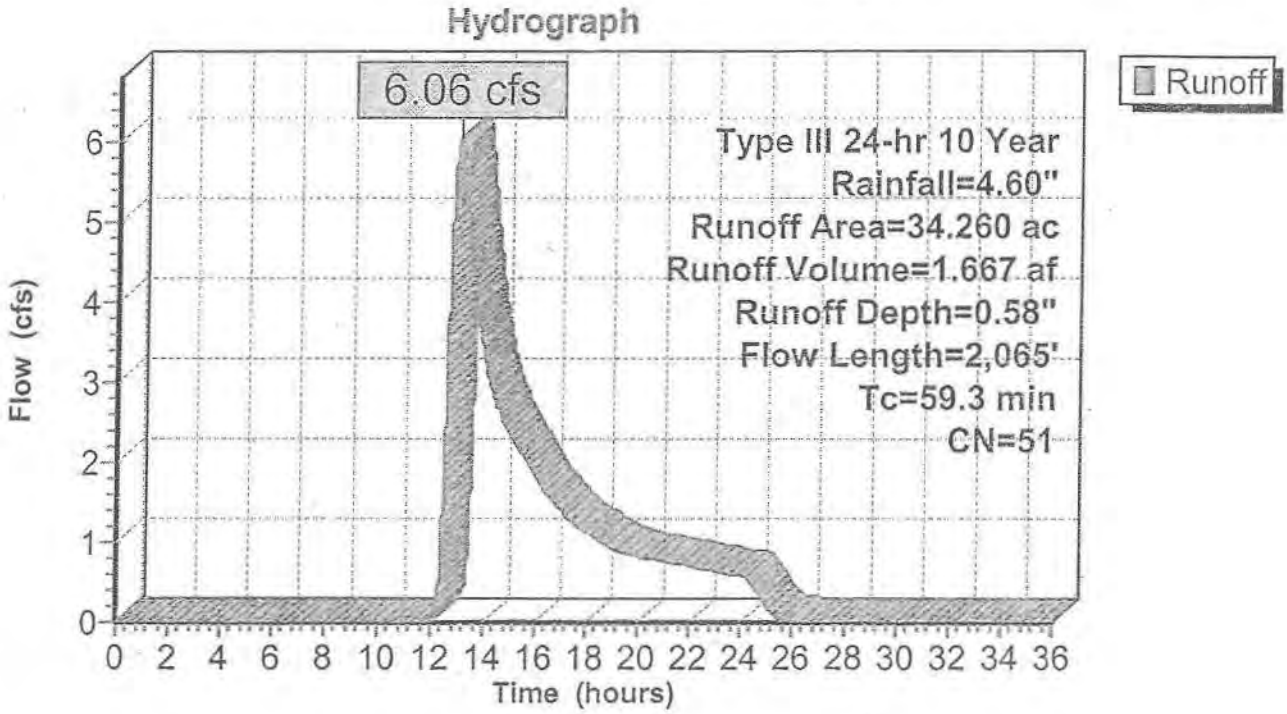
Reach Prop: Proposed Site



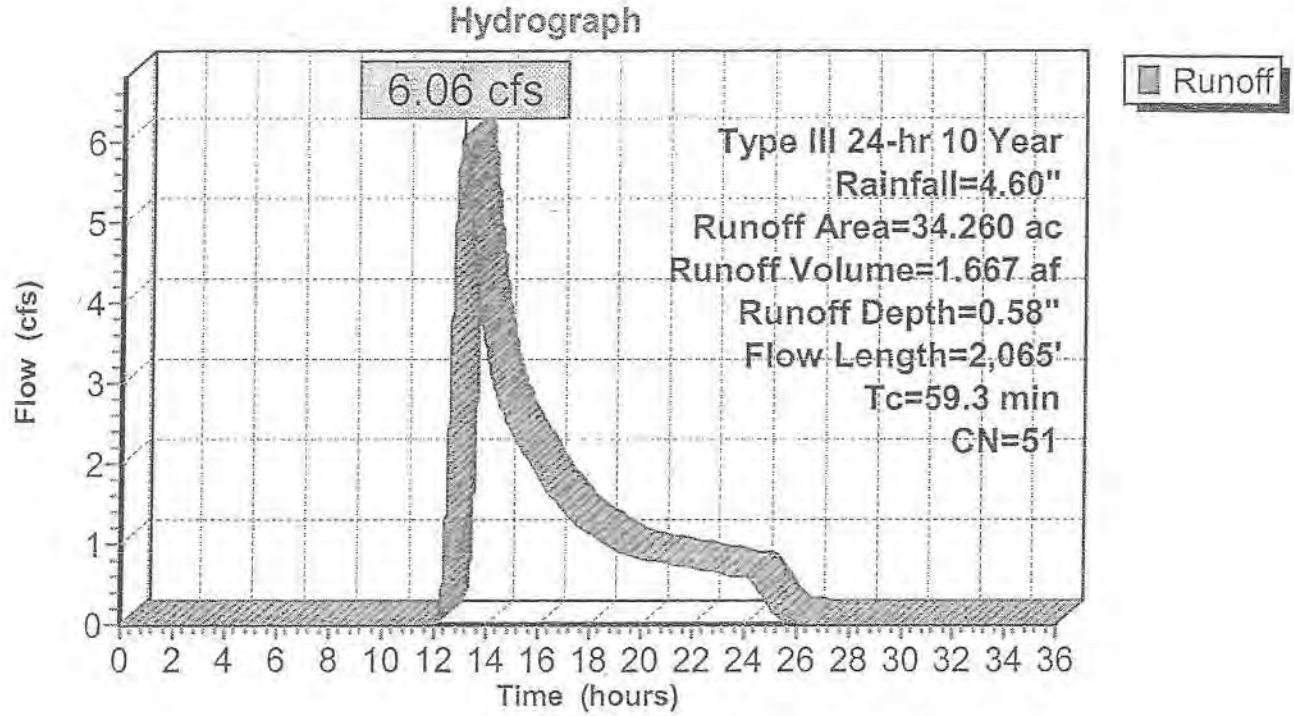
Subcatchment Ex: Onsite



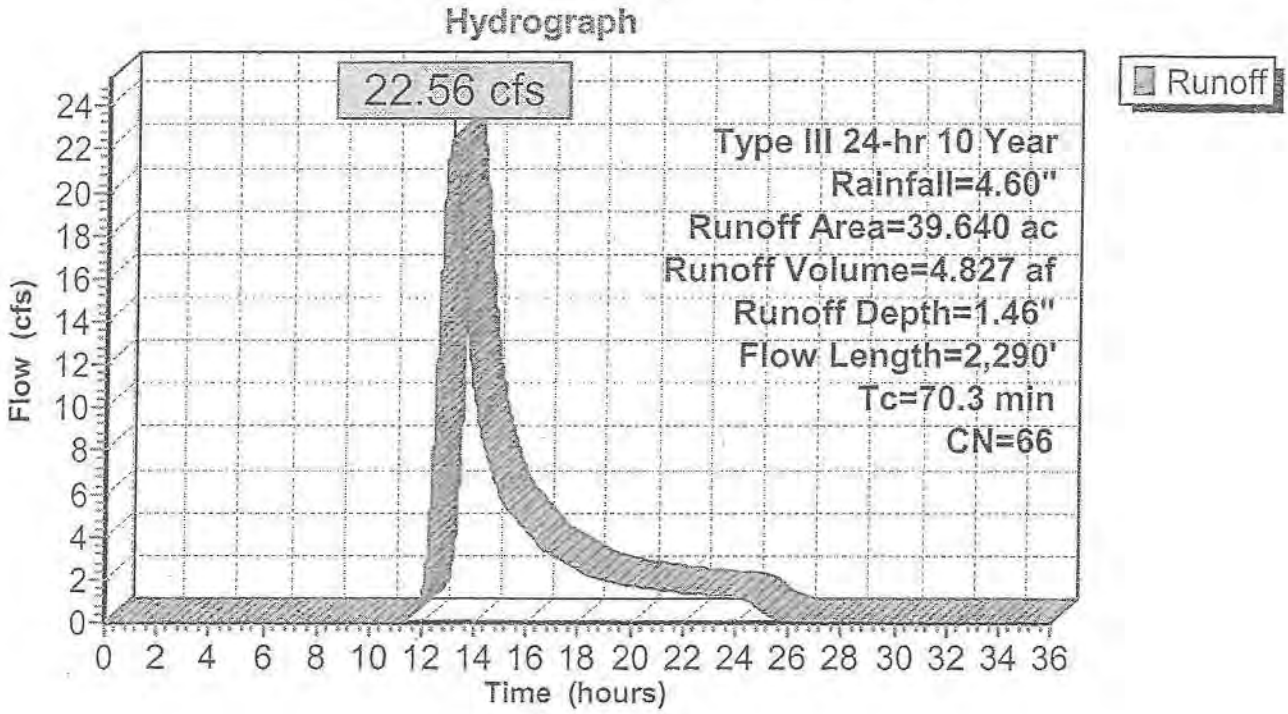
Subcatchment Off1: Cemetary



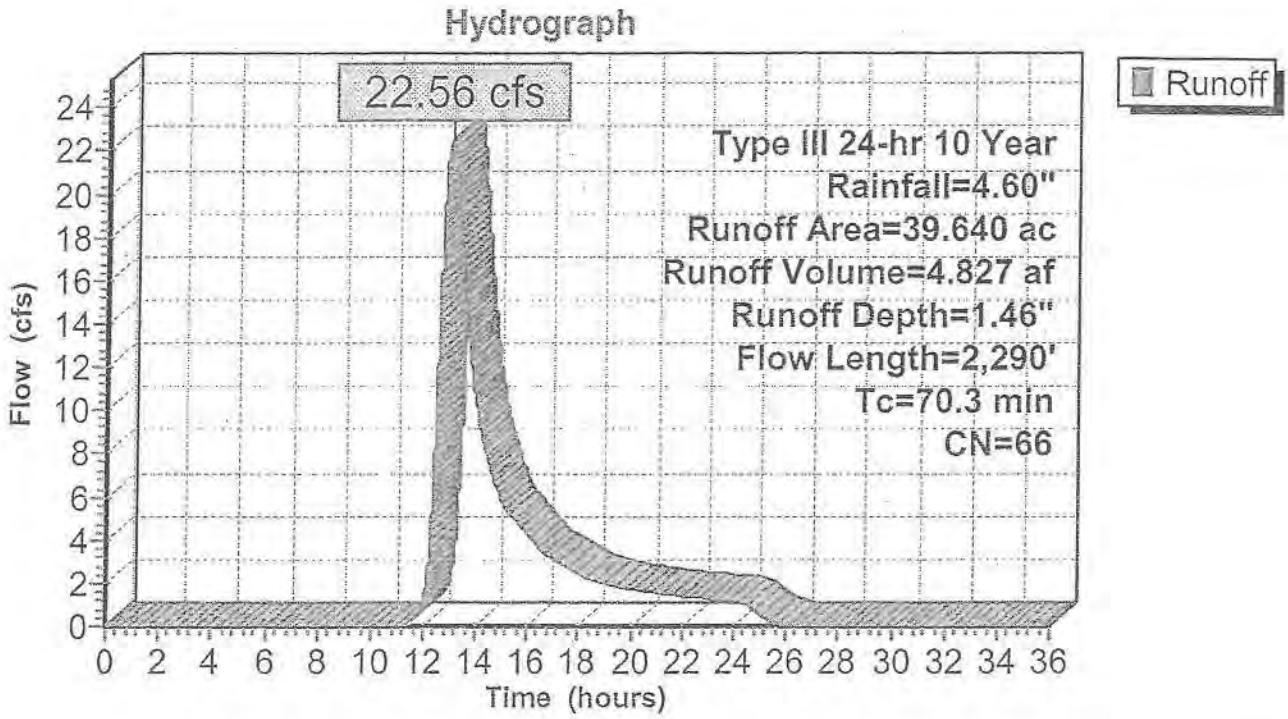
Subcatchment Off2: Cemetary



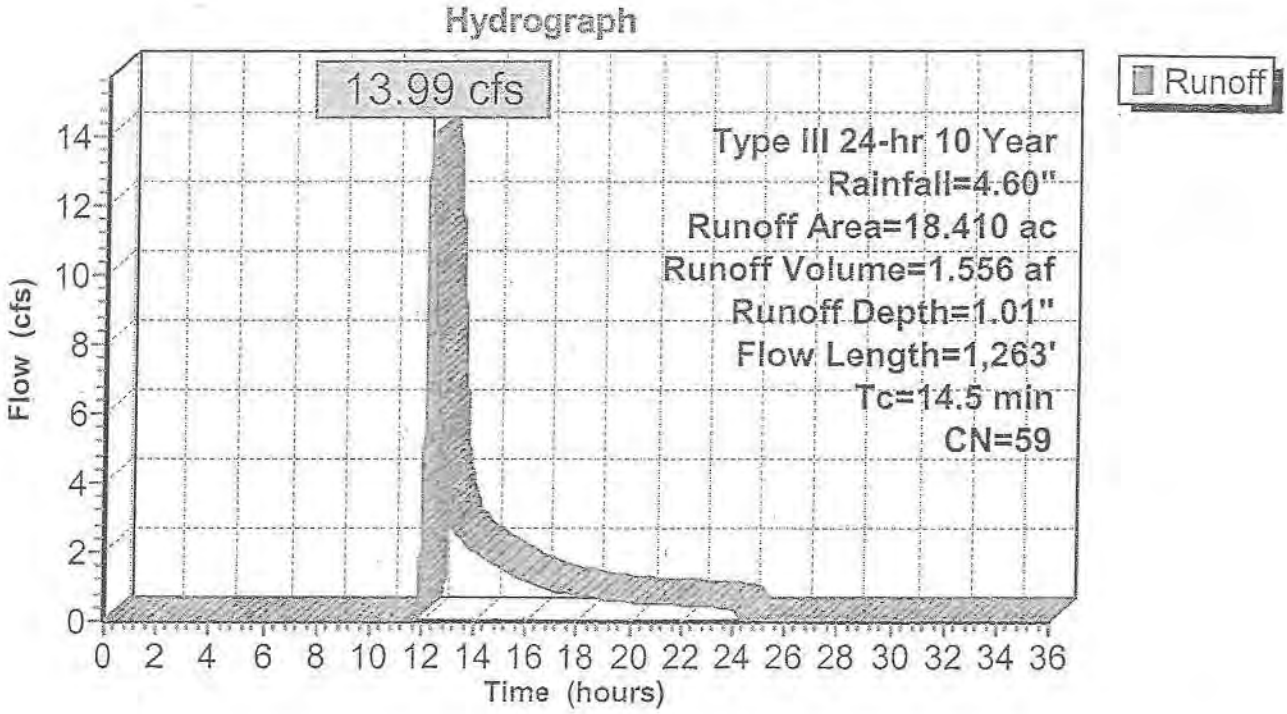
Subcatchment Off3: NE Offsite Area



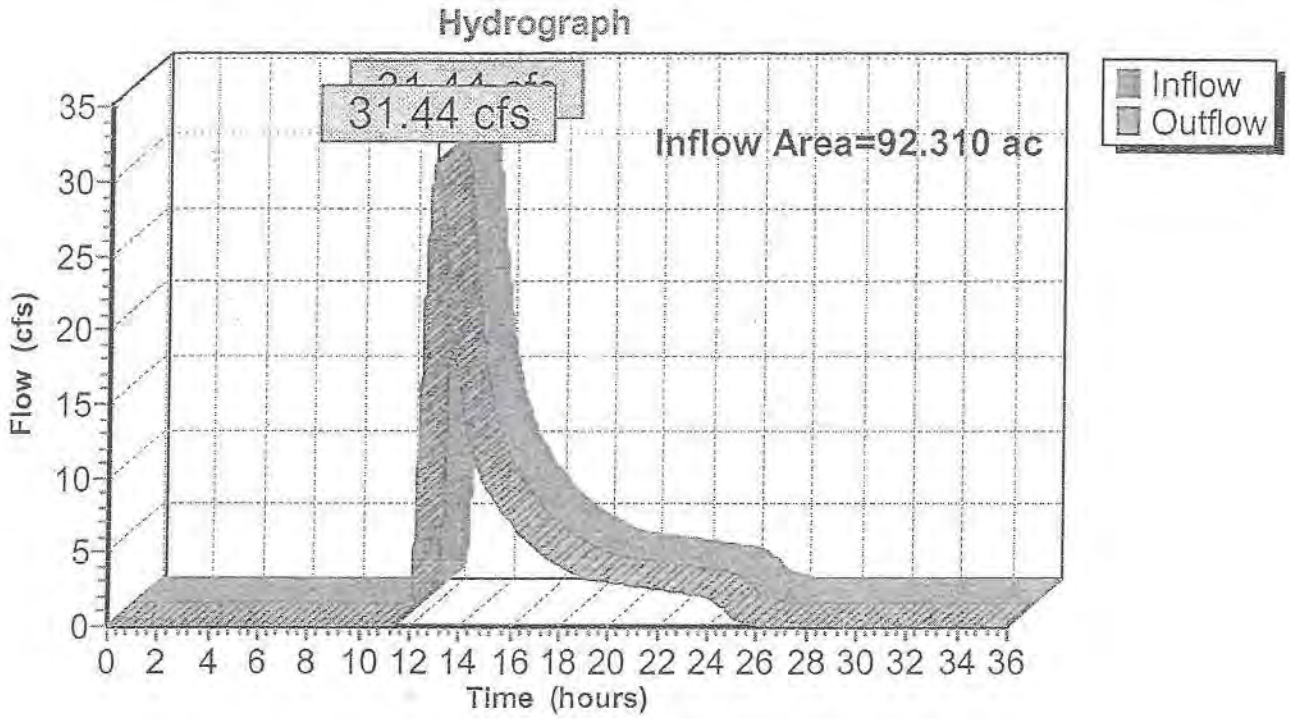
Subcatchment Off4: NE Offsite Area



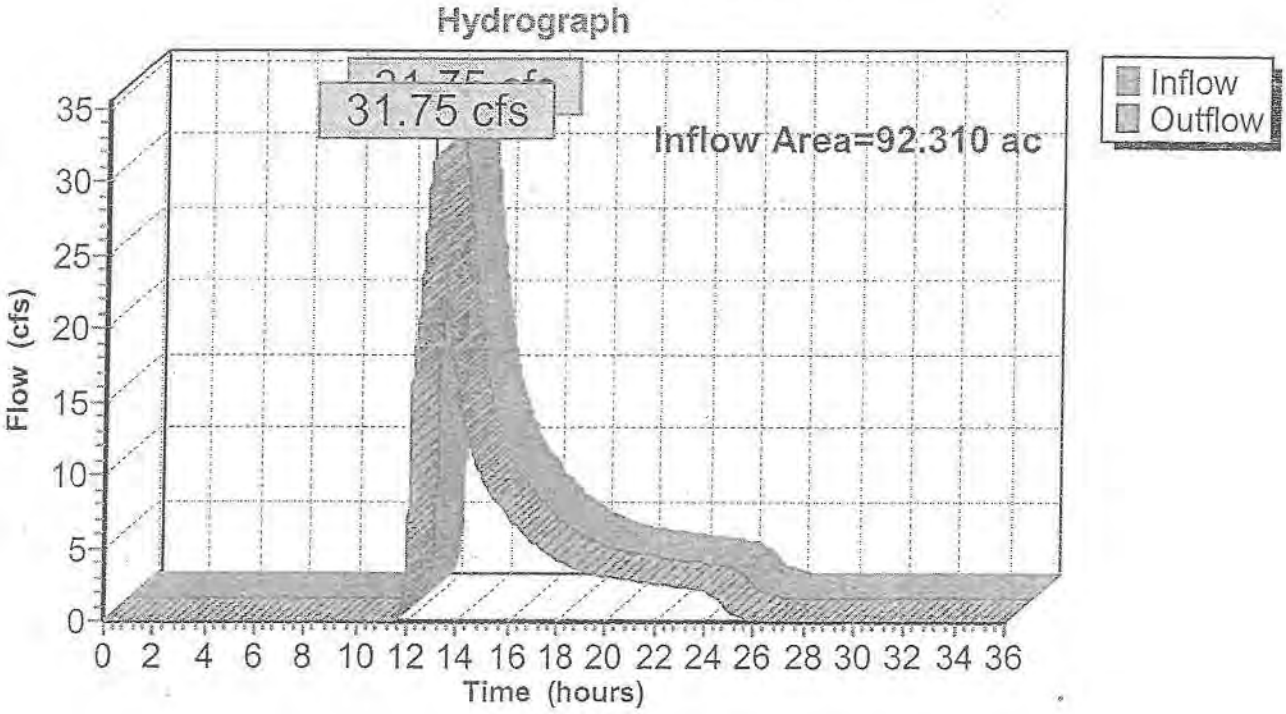
Subcatchment Pr: Onsite



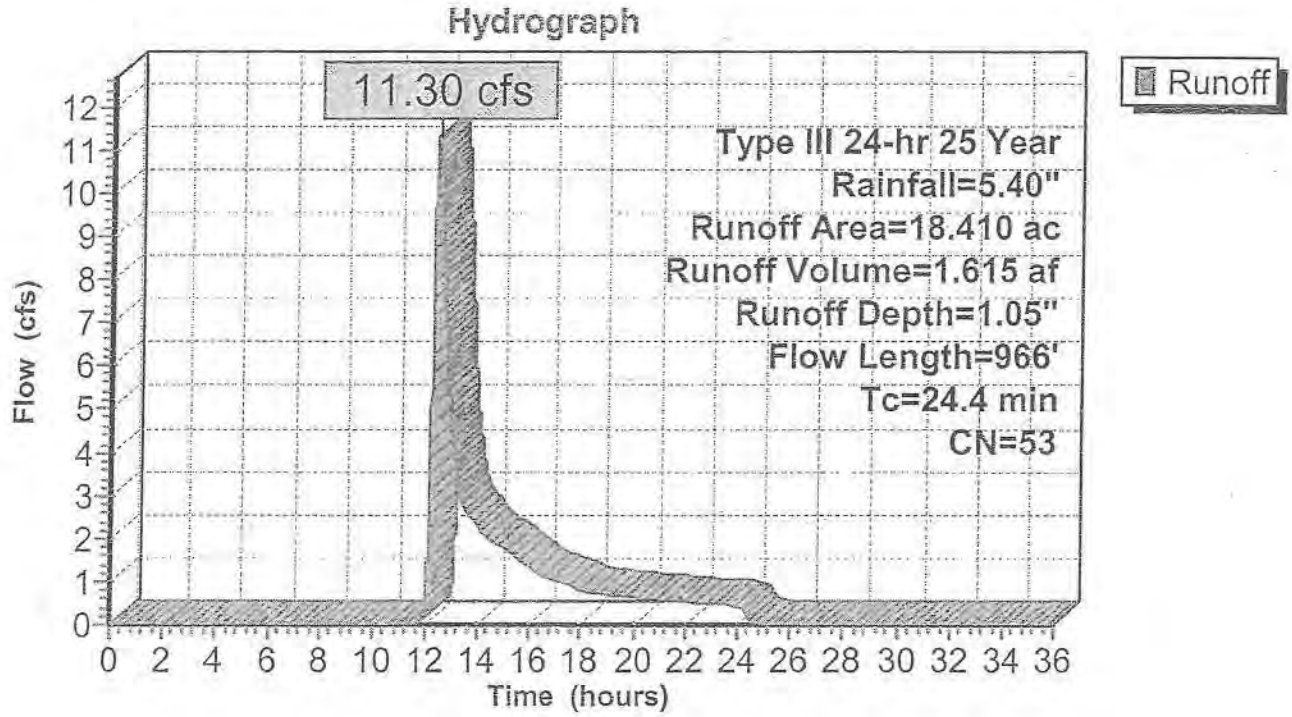
Reach Exist: Existing Site



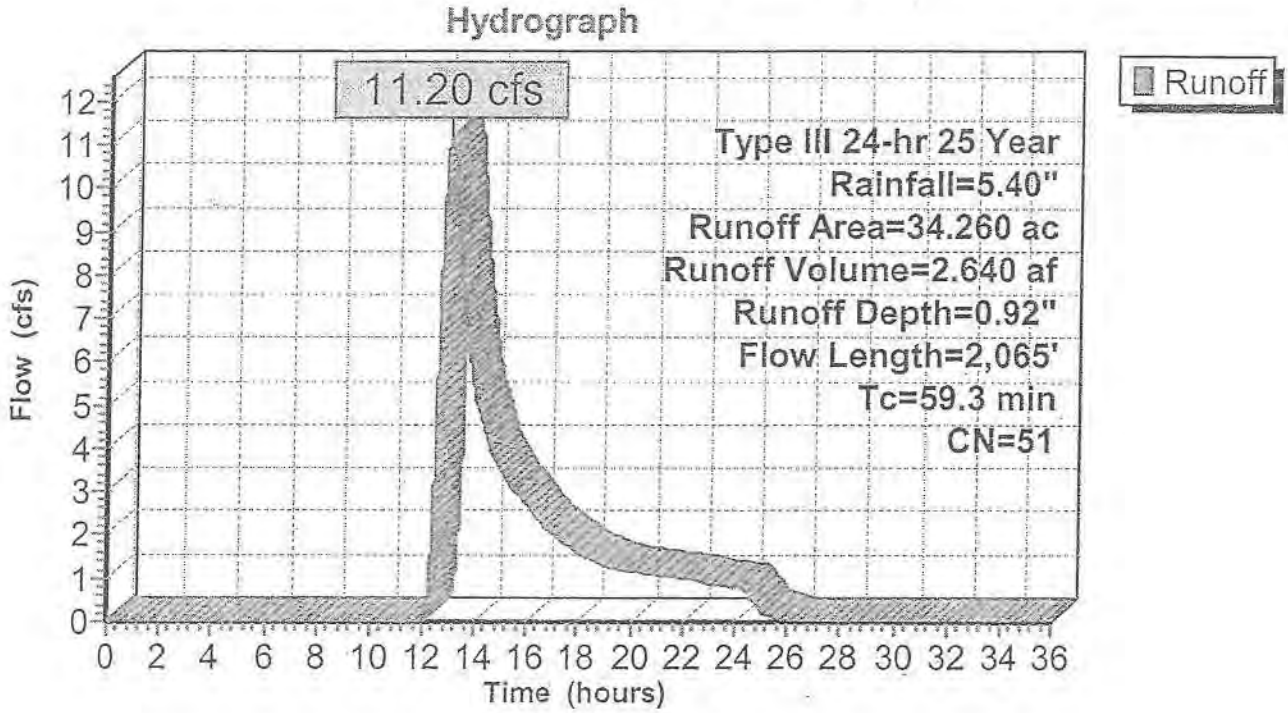
Reach Prop: Proposed Site



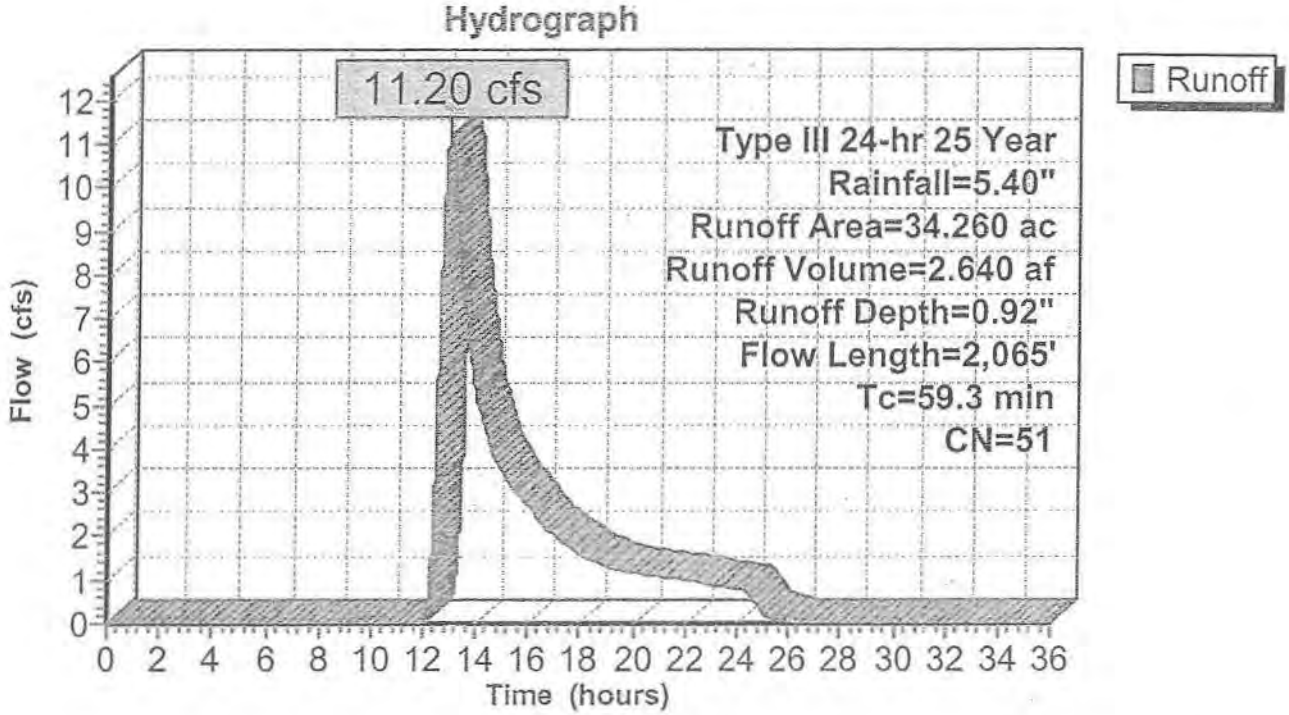
Subcatchment Ex: Onsite



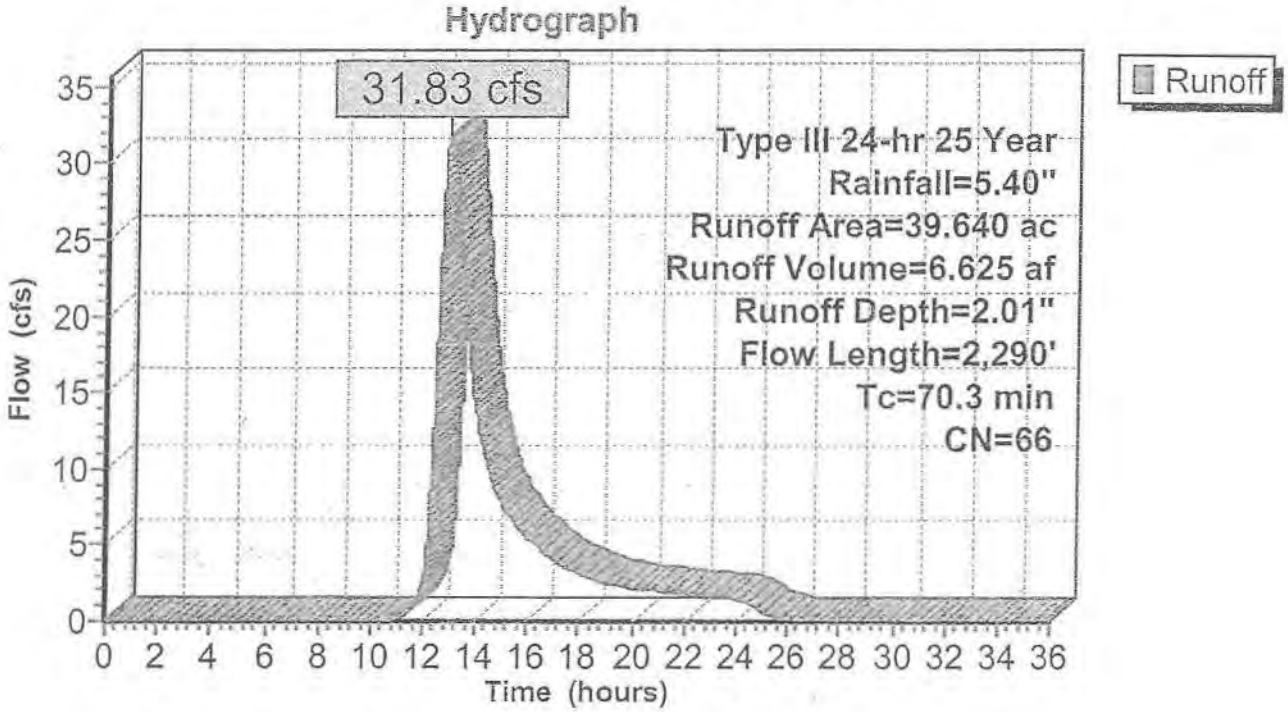
Subcatchment Off1: Cemetary



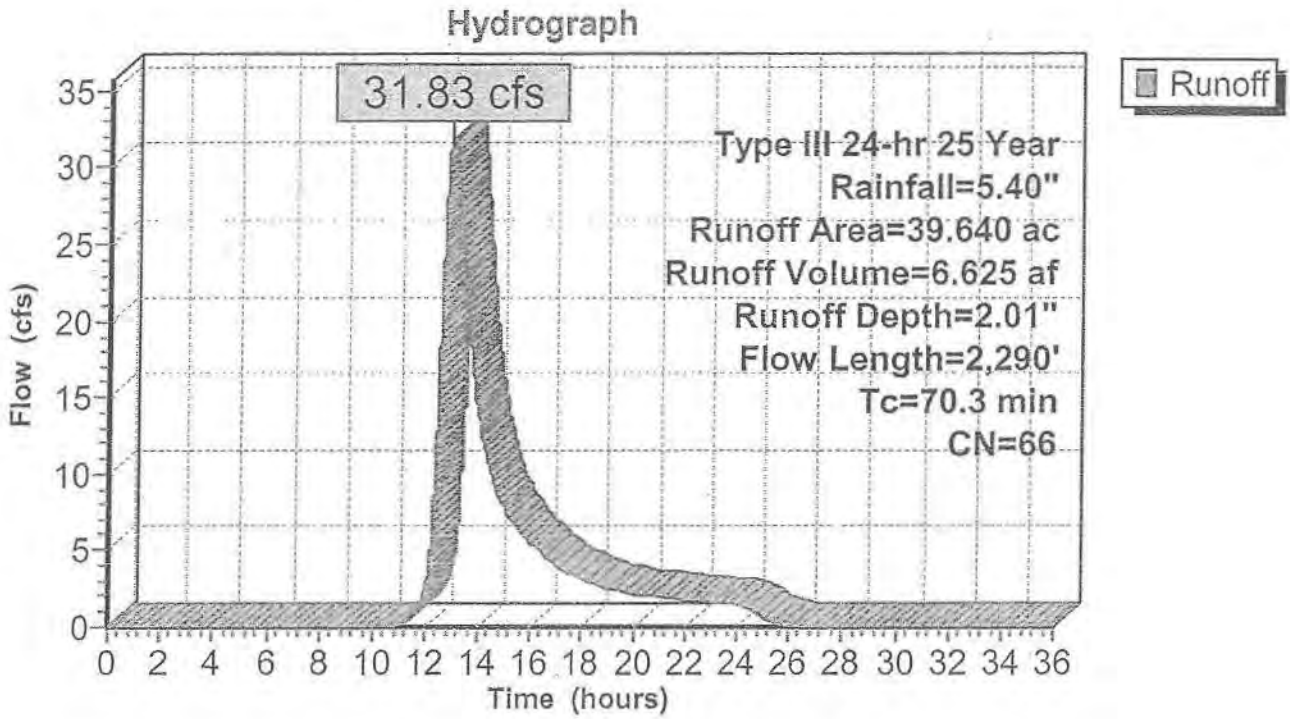
Subcatchment Off2: Cemetary



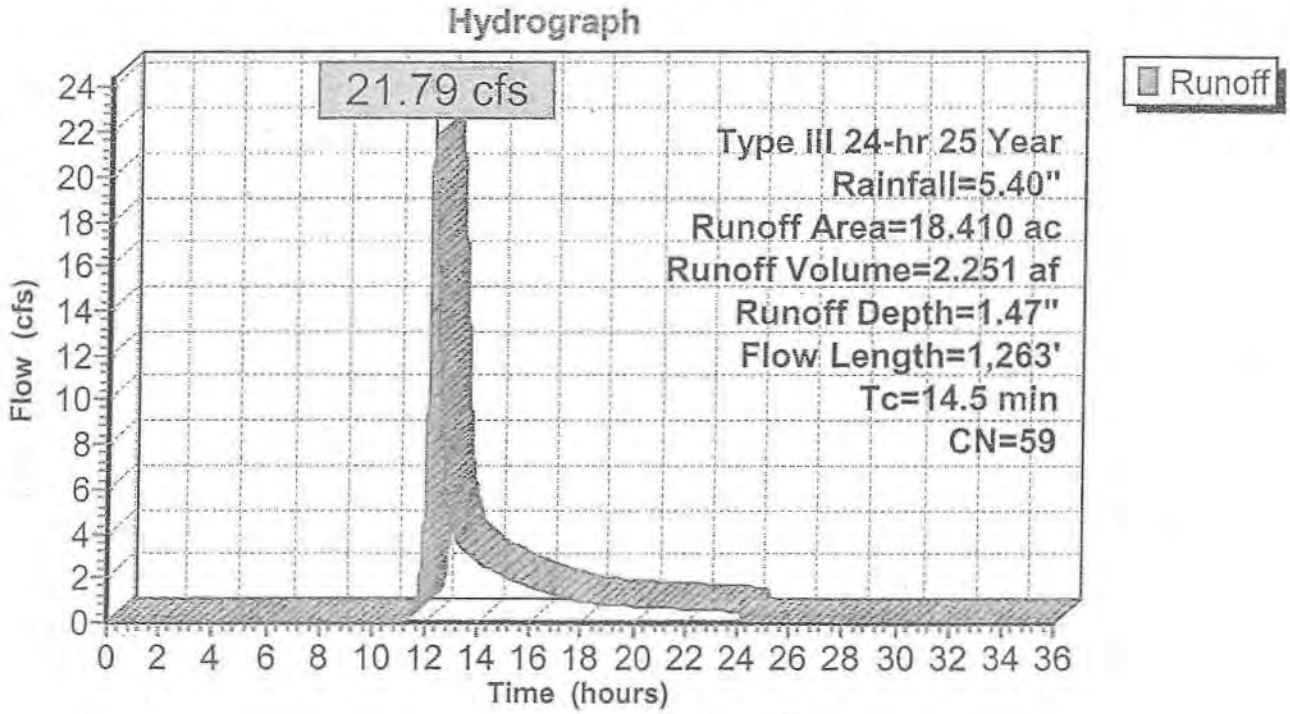
Subcatchment Off3: NE Offsite Area



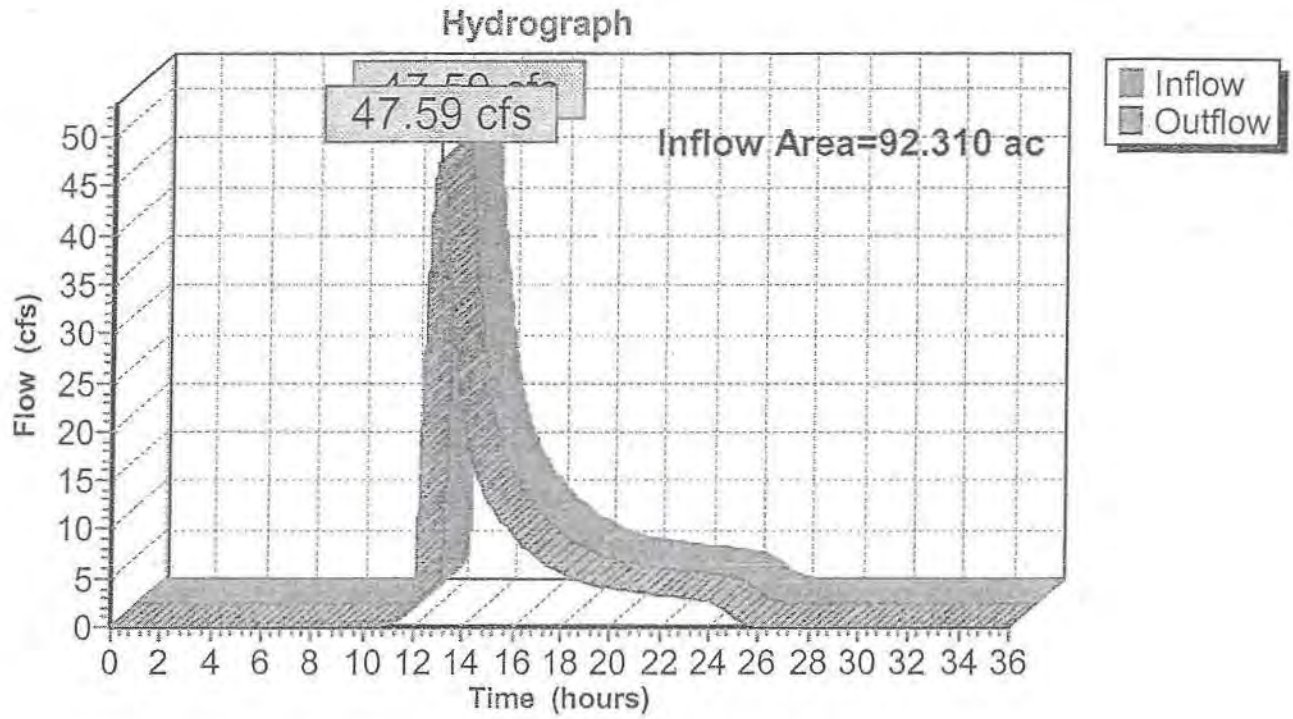
Subcatchment Off4: NE Offsite Area



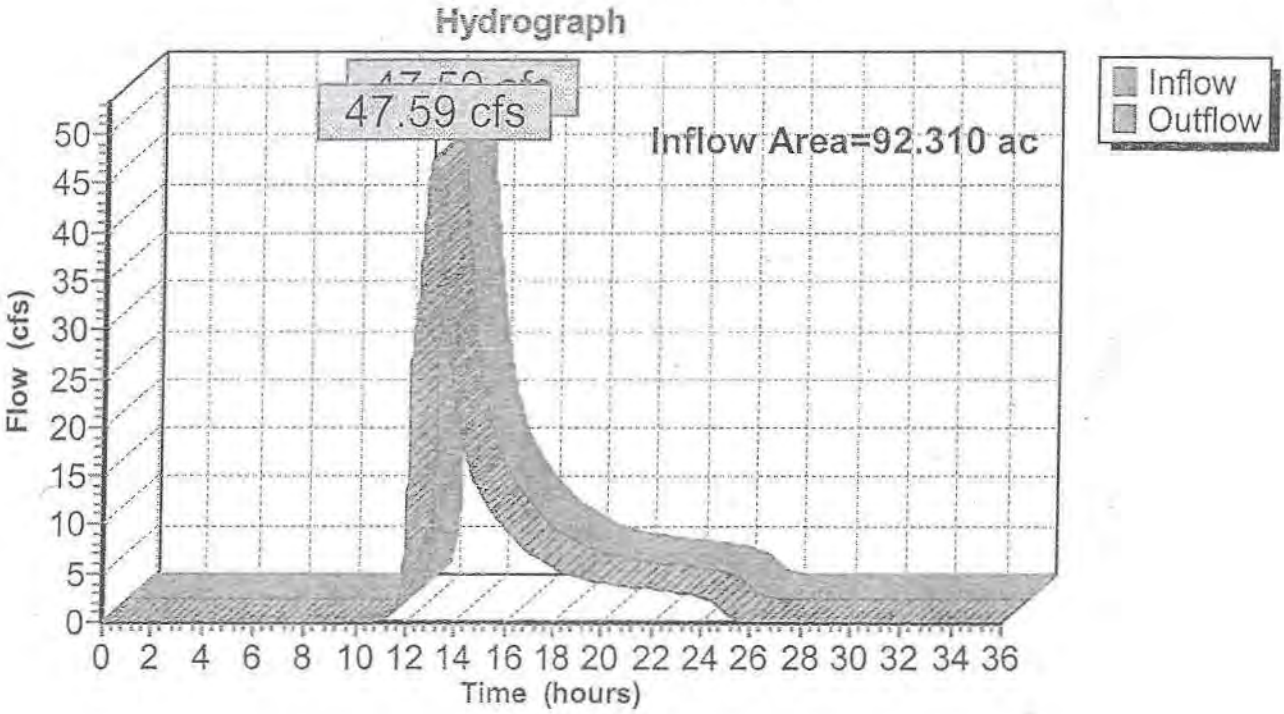
Subcatchment Pr: Onsite



Reach Exist: Existing Site



Reach Prop: Proposed Site



2

SEWER CULVERT DESIGN

January 23, 2007

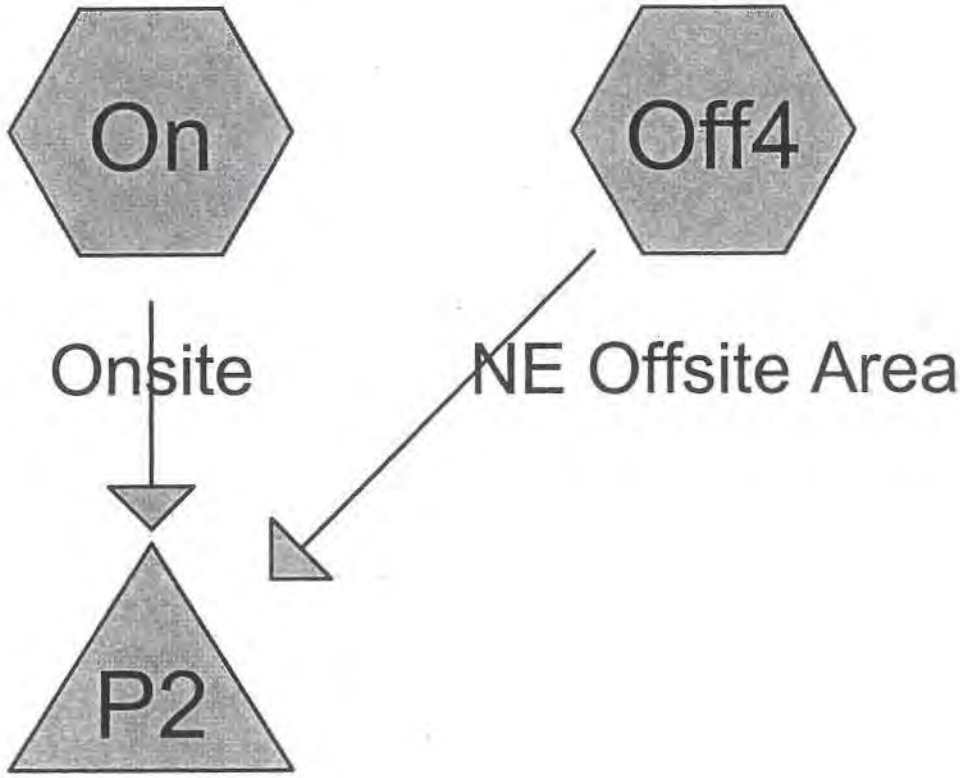
For

Deer Ridge Subdivision, Lewiston, Maine

A. Narrative

The subdivision is utilizing the pump station on the south side of the property to accommodate the house lots with public sanitary service. In order to pipe to the pump station and to provide access along the run, a culvert crossing was designed to accommodate for the stormwater flows seen at this location. Two drainage areas have been modeled, one onsite area and one offsite area. Using HydroCAD, a culvert system has been designed for this crossing.

The results of this study found that two 21" HDPE culverts would adequately handle the stormwater flows. The plan 1 of 1, Sewer Culvert Design, represents the drainage areas used for these calculations.



Culvert @ Sewer

Drainage Diagram for 2006-004 Sewer Culvert
Prepared by TAYLOR ENGINEERING ASSOCIATES 2/6/2007
HydroCAD® 7.00 s/n 000908 © 1986-2003 Applied Microcomputer Systems

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment Off4: NE Offsite Area Runoff Area=39.640 ac Runoff Depth=2.01"
Flow Length=2,290' Tc=70.3 min CN=66 Runoff=31.83 cfs 6.625 af

Subcatchment On: Onsite Runoff Area=2.000 ac Runoff Depth=2.09"
Flow Length=669' Tc=20.4 min CN=67 Runoff=3.17 cfs 0.348 af

Pond P2: Culvert @ Sewer Peak Elev=246.10' Storage=2,719 cf Inflow=32.61 cfs 6.972 af
21.0" x 54.0' Culvert Outflow=32.10 cfs 6.972 af

Total Runoff Area = 41.640 ac Runoff Volume = 6.972 af Average Runoff Depth = 2.01"

Subcatchment Off4: NE Offsite Area

Runoff = 31.83 cfs @ 12.97 hrs, Volume= 6.625 af, Depth= 2.01"

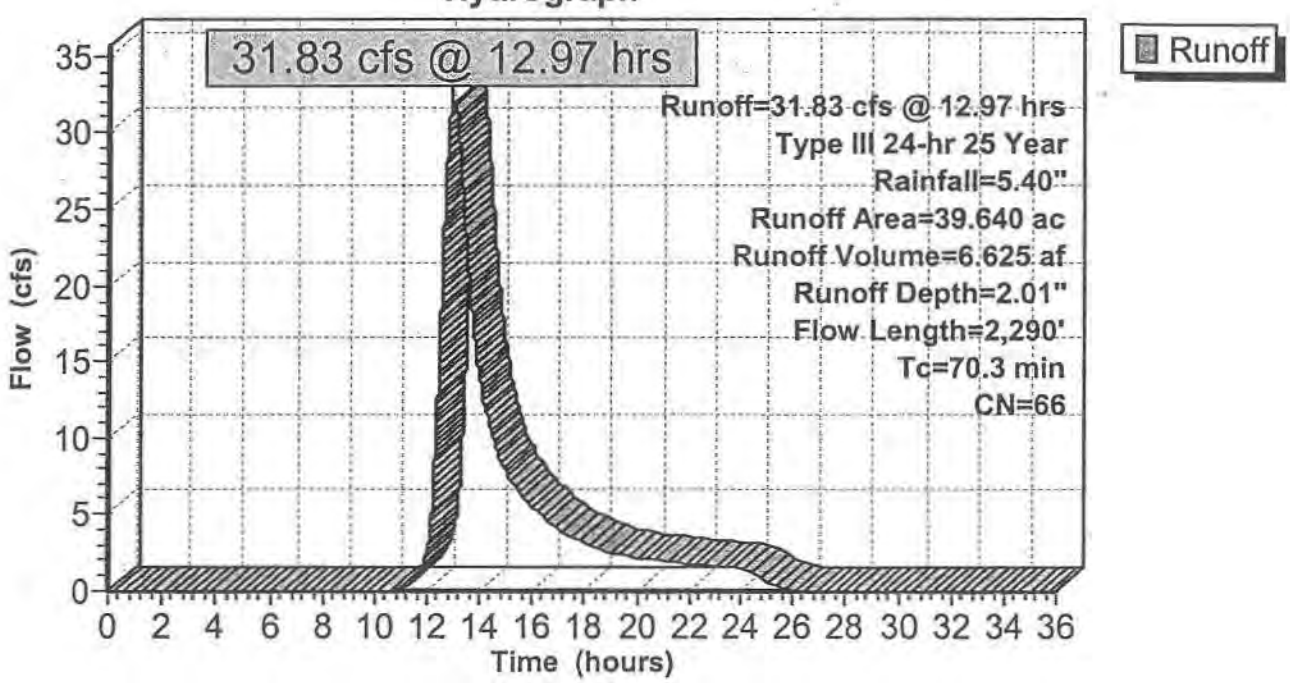
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
2.000	98	Paved parking & roofs
7.200	70	1/2 acre lots, 25% imp, HSG B
13.520	55	Woods, Good, HSG B
9.780	58	Woods/grass comb., Good, HSG B
1.610	70	Woods, Good, HSG C
2.950	92	1/8 acre lots, 65% imp, HSG D
0.830	77	1/8 acre lots, 65% imp, HSG A
1.750	90	1/8 acre lots, 65% imp, HSG C
39.640	66	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
43.8	250	0.0240	0.1		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 3.00"
17.0	905	0.0490	0.9		**Shallow Concentrated Flow,** Kv= 4.0 fps
9.5	1,135		2.0		**Direct Entry,**
70.3	2,290	Total			

Subcatchment Off4: NE Offsite Area

Hydrograph



Subcatchment On: Onsite

Runoff = 3.17 cfs @ 12.30 hrs, Volume= 0.348 af, Depth= 2.09"

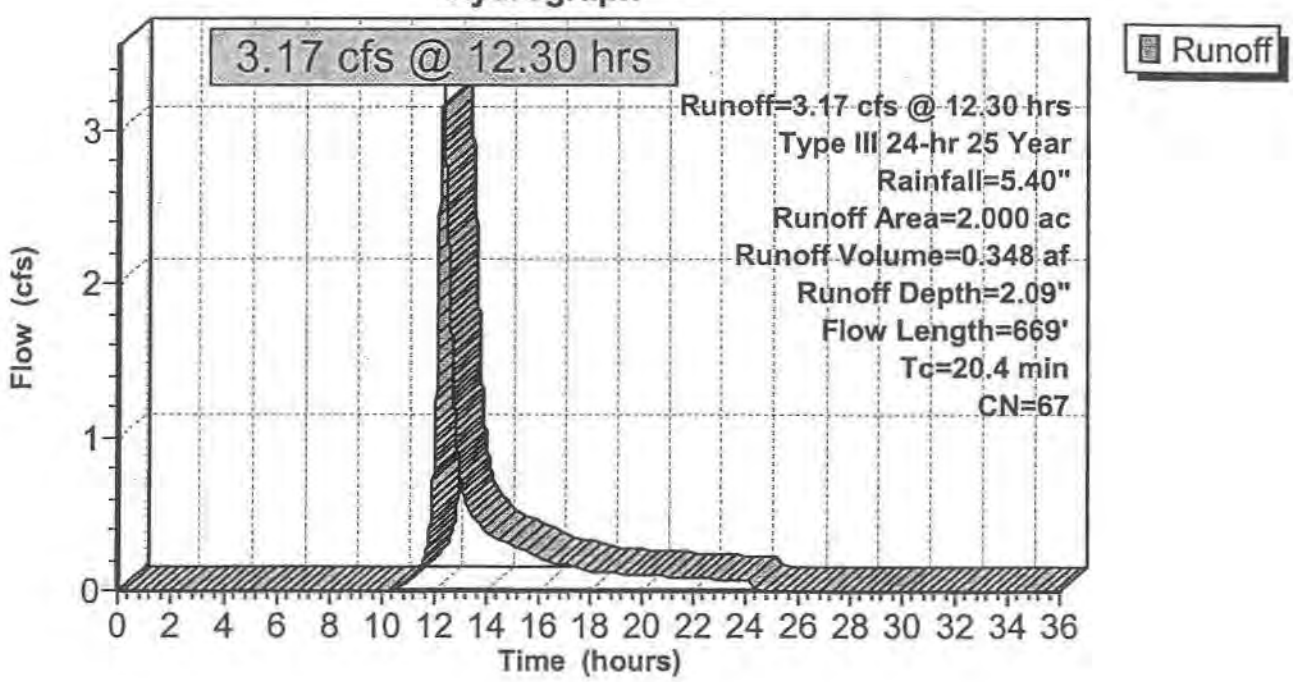
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.120	55	Woods, Good, HSG B
0.370	98	Paved parking & roofs
1.510	61	>75% Grass cover, Good, HSG B
2.000	67	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	104	0.0400	0.1		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	143	0.0500	1.1		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	422	0.0700	7.2	21.47	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 1.0 '/' n= 0.040
20.4	669	Total			

Subcatchment On: Onsite

Hydrograph



Pond P2: Culvert @ Sewer

Inflow Area =	41.640 ac,	Inflow Depth =	2.01"	for	25 Year event
Inflow =	32.61 cfs @	12.97 hrs,	Volume=	6.972 af	
Outflow =	32.10 cfs @	13.08 hrs,	Volume=	6.972 af,	Atten= 2%, Lag= 6.4 min
Primary =	32.10 cfs @	13.08 hrs,	Volume=	6.972 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 246.10' @ 13.08 hrs Surf.Area= 1,976 sf Storage= 2,719 cf
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Invert	Avail.Storage	Storage Description
1	244.00'	23,352 cf	**Custom Stage Data (Prismatic)** Listed below

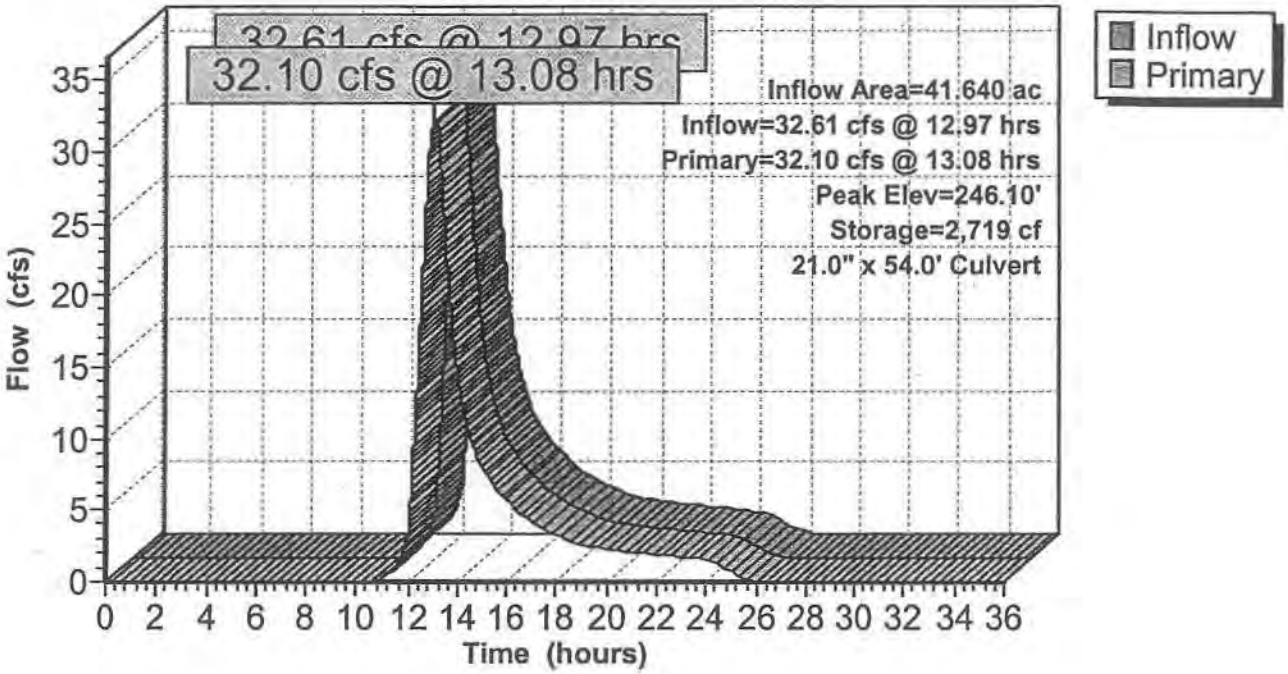
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
244.00	565	0	0
246.00	1,832	2,397	2,397
248.00	4,806	6,638	9,035
250.00	9,511	14,317	23,352

#	Routing	Invert	Outlet Devices
1	Primary	242.14'	**21.0" x 54.0' long Culvert X 2.00** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 240.71' S= 0.0265 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=32.10 cfs @ 13.08 hrs HW=246.10' (Free Discharge)
└**1=Culvert** (Inlet Controls 32.10 cfs @ 6.7 fps)

Pond P2: Culvert @ Sewer

Hydrograph



SUBCATCHMENT On
Woods "B"=0.13 Ac
Grass "B"=1.51 Ac
Impervious=0.37 Ac
TOTAL AREA=2.01 Ac

SUBCATCHMENT Off4
1/8 Ac Lots "A"=0.83 Ac
1/2 Ac. Lots "B"=7.20 Ac
Woods "B"=13.52 Ac
Woods/Grass "B"=9.78 Ac
Woods "C"=1.61 Ac
1/8 Ac Lots "C"=1.75 Ac
1/8 Ac Lots "D"=2.95 Ac
Impervious=2.00 Ac
TOTAL AREA=39.64 Ac

Drawn By: JHC
Chkd. By: NGC
Job No.: 2006-004
Drawer:
Scale: 1"=250'
Date: JAN 24, 2007

TAYLOR
410 Summer Street Auburn, Maine 04210
Phone: 207-784-5471 Fax: 207-777-5742 www.Taylorlsg.com

Prepared for:
Survey Works, Inc.
258 River Road
Greene, Maine 04236

DEER RIDGE SUBDIVISION
DEER ROAD
LEWISTON, MAINE

SEWER CULVERT DESIGN

3

DRAINAGE SYSTEM

January 24, 2007

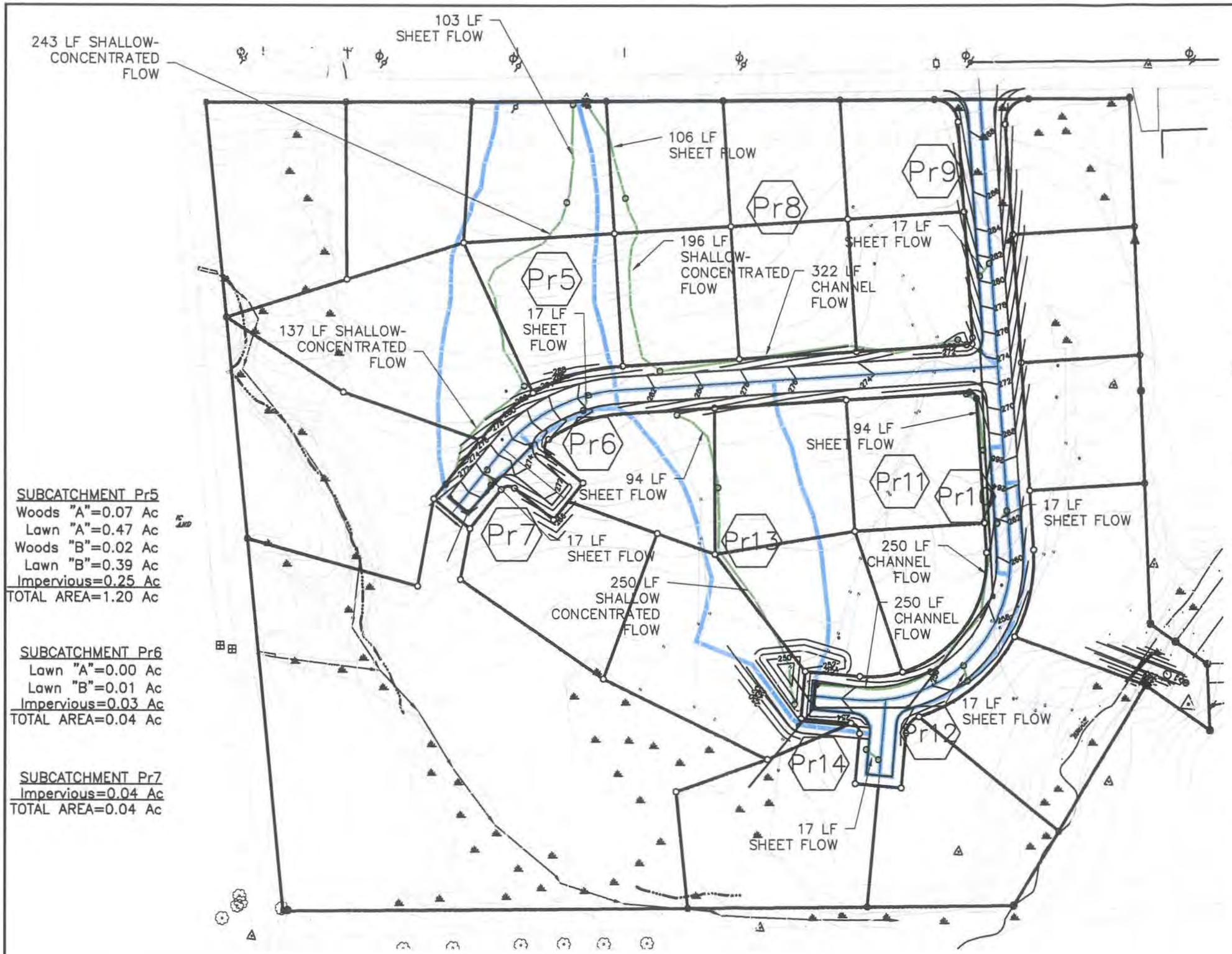
For

Deer Ridge Subdivision, Lewiston, Maine

A. Narrative

The Deer Ridge Subdivision was designed to collect stormwater runoff by using a combination of grading along the roads, as well as the incorporation of a catch basin system. The two roads, Doe Run and Fawn Lane, have independent drainage system that work independently from one another. Each system has a culvert that acts as an outlet that drains to the down hill side of the property. These systems are represented on the Drainage System plan 1 of 1.

The drainage system was designed using HydroCAD. Included are these calculations demonstrating the drainage system's ability to handle stormwater runoff flows.



SUBCATCHMENT Pr5
Woods "A"=0.07 Ac
Lawn "A"=0.47 Ac
Woods "B"=0.02 Ac
Lawn "B"=0.39 Ac
Impervious=0.25 Ac
TOTAL AREA=1.20 Ac

SUBCATCHMENT Pr6
Lawn "A"=0.00 Ac
Lawn "B"=0.01 Ac
Impervious=0.03 Ac
TOTAL AREA=0.04 Ac

SUBCATCHMENT Pr7
Impervious=0.04 Ac
TOTAL AREA=0.04 Ac

SUBCATCHMENT Pr9
Impervious=0.09 Ac
TOTAL AREA=0.09 Ac

SUBCATCHMENT Pr8
Woods "A"=0.06 Ac
Lawn "A"=0.16 Ac
Woods "B"=0.25 Ac
Lawn "B"=1.78 Ac
Impervious=0.49 Ac
TOTAL AREA=2.74 Ac

SUBCATCHMENT Pr11
Lawn "A"=0.02 Ac
Woods "B"=0.11 Ac
Lawn "B"=1.03 Ac
Impervious=0.36 Ac
TOTAL AREA=1.52 Ac

SUBCATCHMENT Pr10
Impervious=0.04 Ac
TOTAL AREA=0.04 Ac

SUBCATCHMENT Pr13
Woods "A"=0.02 Ac
Lawn "A"=0.21 Ac
Woods "B"=0.08 Ac
Lawn "B"=0.49 Ac
Impervious=0.20 Ac
TOTAL AREA=1.00 Ac

SUBCATCHMENT Pr12
Impervious=0.13 Ac
TOTAL AREA=0.13 Ac

SUBCATCHMENT Pr14
Impervious=0.05 Ac
TOTAL AREA=0.05 Ac

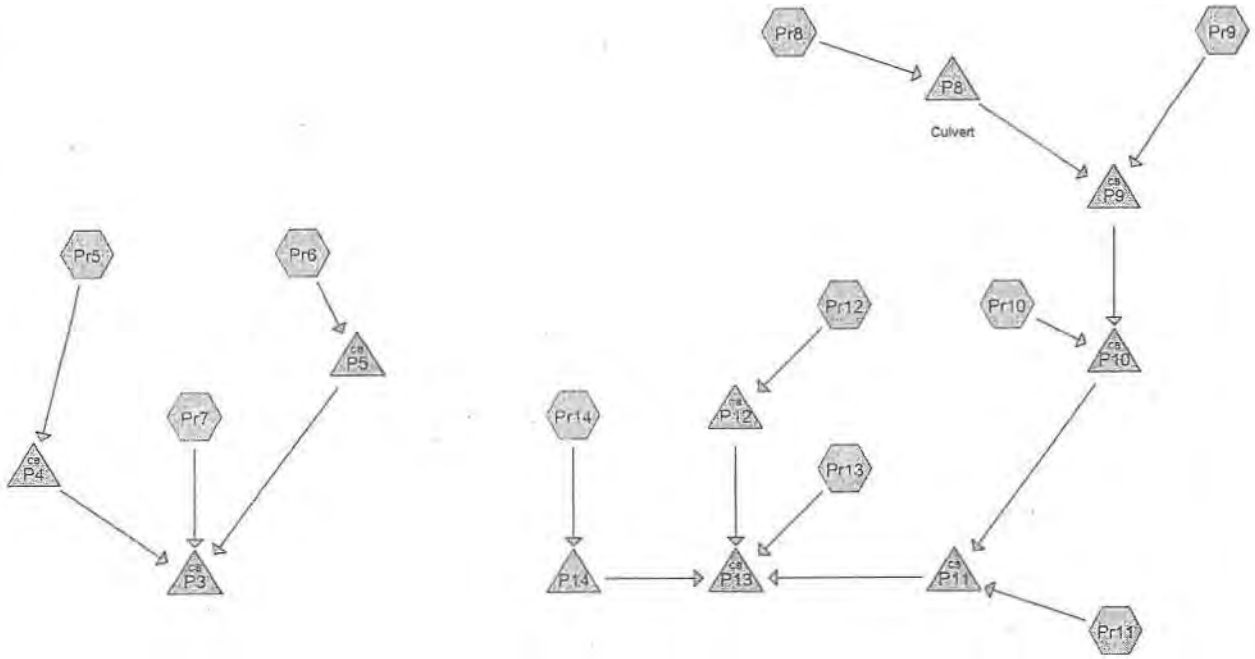
Drawn By:	JEC
Chkd By:	NGC
Job No.:	2006-004
Drawer:	
Scale:	1"=100'
Date:	JAN 24, 2007

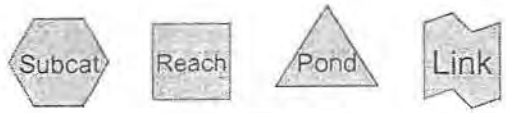
TAYLOR ENGINEERING
410 Summer Street Auburn, Maine 04210
Phone: 207-784-5471 Fax: 207-777-5742 www.TaylorEng.com

Prepared for:
Survey Works, Inc.
528 River Road
Greene, Maine 04236

DEER RIDGE SUBDIVISION
DEER ROAD
LEWISTON, MAINE

DRAINAGE SYSTEM





Drainage Diagram for 2006-004 Drainage System
Prepared by Taylor Engineering Associates 1/24/2007
HydroCAD® 7.00 s/n 000908 © 1986-2003 Applied Microcomputer Systems

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment Pr10: Runoff Area=0.040 ac Runoff Depth=5.16"
Flow Length=17' Tc=0.3 min CN=98 Runoff=0.26 cfs 0.017 af

Subcatchment Pr11: Runoff Area=1.520 ac Runoff Depth=2.25"
Flow Length=446' Tc=8.7 min CN=69 Runoff=3.60 cfs 0.285 af

Subcatchment Pr12: Runoff Area=0.130 ac Runoff Depth=5.16"
Flow Length=17' Tc=0.3 min CN=98 Runoff=0.83 cfs 0.056 af

Subcatchment Pr13: Runoff Area=1.000 ac Runoff Depth=1.77"
Flow Length=344' Tc=13.7 min CN=63 Runoff=1.53 cfs 0.147 af

Subcatchment Pr14: Runoff Area=0.050 ac Runoff Depth=5.16"
Flow Length=17' Tc=0.3 min CN=98 Runoff=0.32 cfs 0.022 af

Subcatchment Pr5: Runoff Area=1.200 ac Runoff Depth=1.40"
Flow Length=483' Tc=11.4 min CN=58 Runoff=1.45 cfs 0.140 af

Subcatchment Pr6: Runoff Area=0.043 ac Runoff Depth=3.74"
Flow Length=17' Tc=0.3 min CN=85 Runoff=0.23 cfs 0.013 af

Subcatchment Pr7: Runoff Area=0.040 ac Runoff Depth=5.16"
Flow Length=17' Tc=0.3 min CN=98 Runoff=0.26 cfs 0.017 af

Subcatchment Pr8: Runoff Area=2.740 ac Runoff Depth=1.93"
Flow Length=625' Tc=11.6 min CN=65 Runoff=4.93 cfs 0.440 af

Subcatchment Pr9: Runoff Area=0.090 ac Runoff Depth=5.16"
Flow Length=17' Tc=0.3 min CN=98 Runoff=0.58 cfs 0.039 af

Pond P10: Peak Elev=255.32' Inflow=4.13 cfs 0.496 af
15.0" x 116.0' Culvert Outflow=4.13 cfs 0.496 af

Pond P11: Peak Elev=252.33' Inflow=7.04 cfs 0.781 af
15.0" x 98.0' Culvert Outflow=7.04 cfs 0.781 af

Pond P12: Peak Elev=248.99' Inflow=0.83 cfs 0.056 af
12.0" x 24.0' Culvert Outflow=0.83 cfs 0.056 af

Pond P13: Peak Elev=248.98' Inflow=8.80 cfs 1.006 af
21.0" x 108.0' Culvert Outflow=8.80 cfs 1.006 af

Pond P14: Peak Elev=248.55' Storage=287 cf Inflow=0.32 cfs 0.022 af
12.0" x 42.0' Culvert Outflow=0.41 cfs 0.022 af

Pond P3: Peak Elev=263.84' Inflow=1.63 cfs 0.170 af
12.0" x 57.0' Culvert Outflow=1.63 cfs 0.170 af

Pond P4: Peak Elev=264.12' Inflow=1.45 cfs 0.140 af
12.0" x 25.0' Culvert Outflow=1.45 cfs 0.140 af

Pond P5: Peak Elev=270.66' Inflow=0.23 cfs 0.013 af
12.0" x 96.0' Culvert Outflow=0.23 cfs 0.013 af

Pond P8: Culvert Peak Elev=271.20' Storage=1,045 cf Inflow=4.93 cfs 0.440 af
12.0" x 25.0' Culvert Outflow=3.90 cfs 0.440 af

Pond P9: Peak Elev=269.03' Inflow=4.05 cfs 0.478 af
15.0" x 234.0' Culvert Outflow=4.05 cfs 0.478 af

Total Runoff Area = 6.853 ac Runoff Volume = 1.176 af Average Runoff Depth = 2.06"

Subcatchment Pr10:

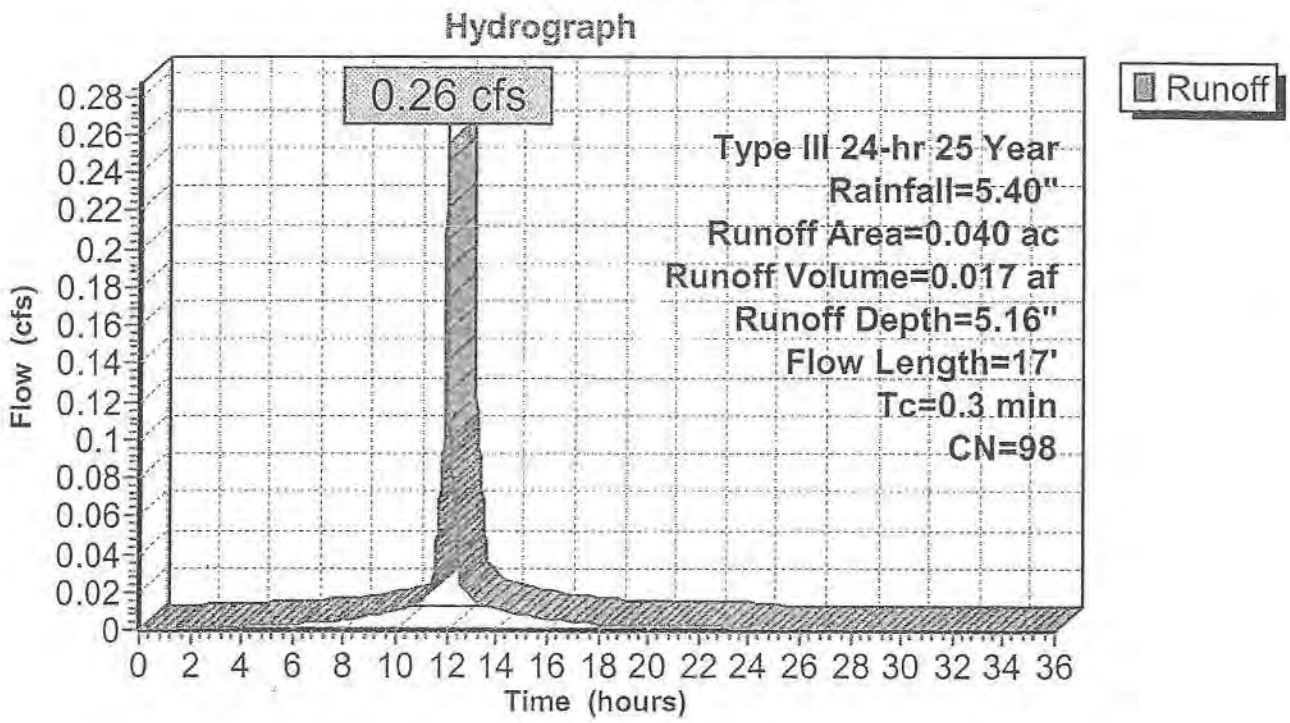
Runoff = 0.26 cfs @ 12.00 hrs, Volume= 0.017 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	17	0.0200	0.9		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment Pr10:



Subcatchment Pr11:

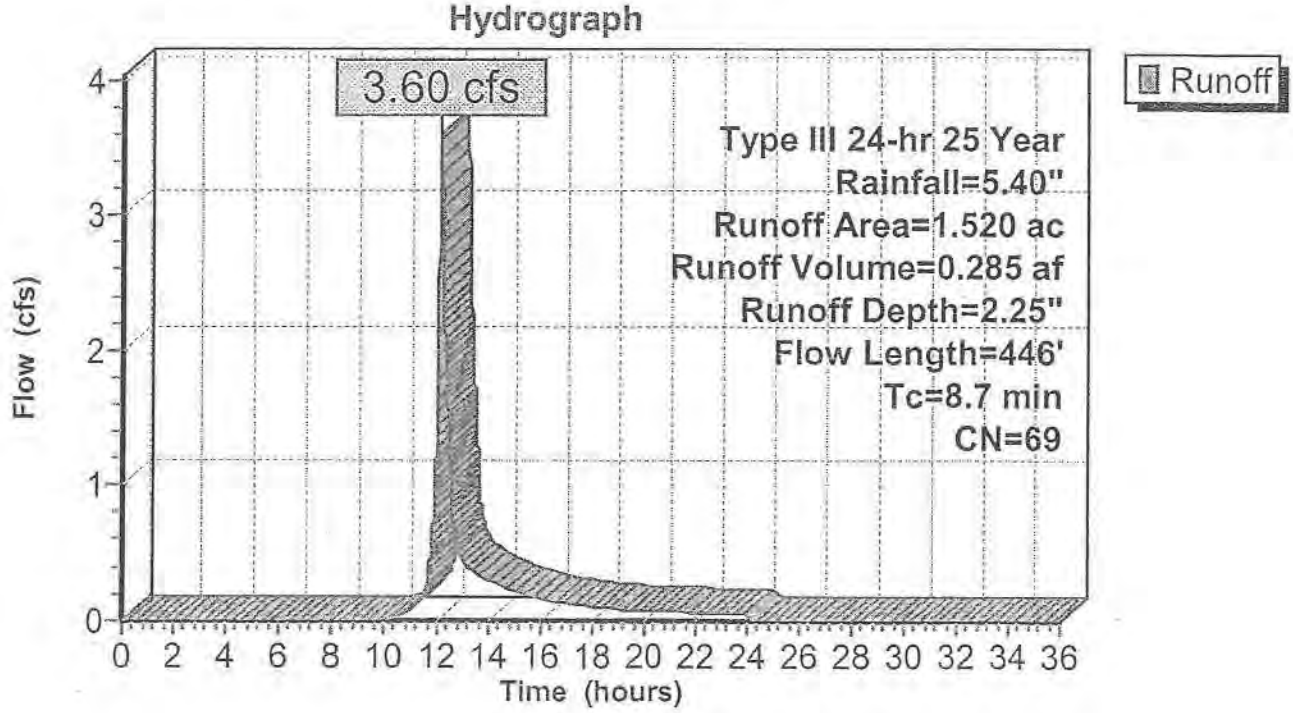
Runoff = 3.60 cfs @ 12.13 hrs, Volume= 0.285 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.020	39	>75% Grass cover, Good, HSG A
0.360	98	Paved parking & roofs
0.110	55	Woods, Good, HSG B
1.030	61	>75% Grass cover, Good, HSG B
1.520	69	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	65	0.0500	0.1		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.0	255	0.0400	4.3	4.83	**Trap/Vee/Rect Channel Flow,** Bot.W=0.00' D=0.50' Z= 3.0 & 6.0 '/' n= 0.027
0.5	126	0.0200	4.2	1.57	**Trap/Vee/Rect Channel Flow,** Bot.W=0.00' D=0.50' Z= 0.0 & 3.0 '/' n= 0.016
8.7	446	Total			

Subcatchment Pr11:



Subcatchment Pr12:

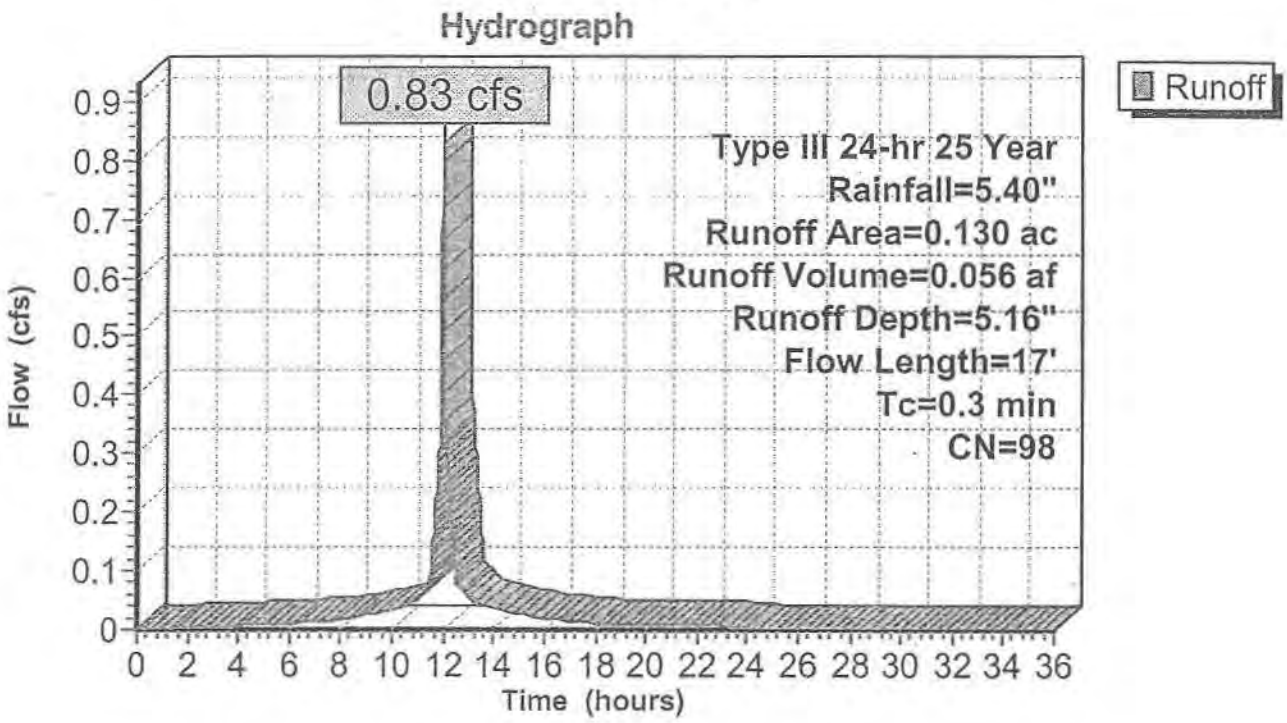
Runoff = 0.83 cfs @ 12.00 hrs, Volume= 0.056 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.130	98	Paved parking & roofs

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	17	0.0200	0.9		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment Pr12:



Subcatchment Pr13:

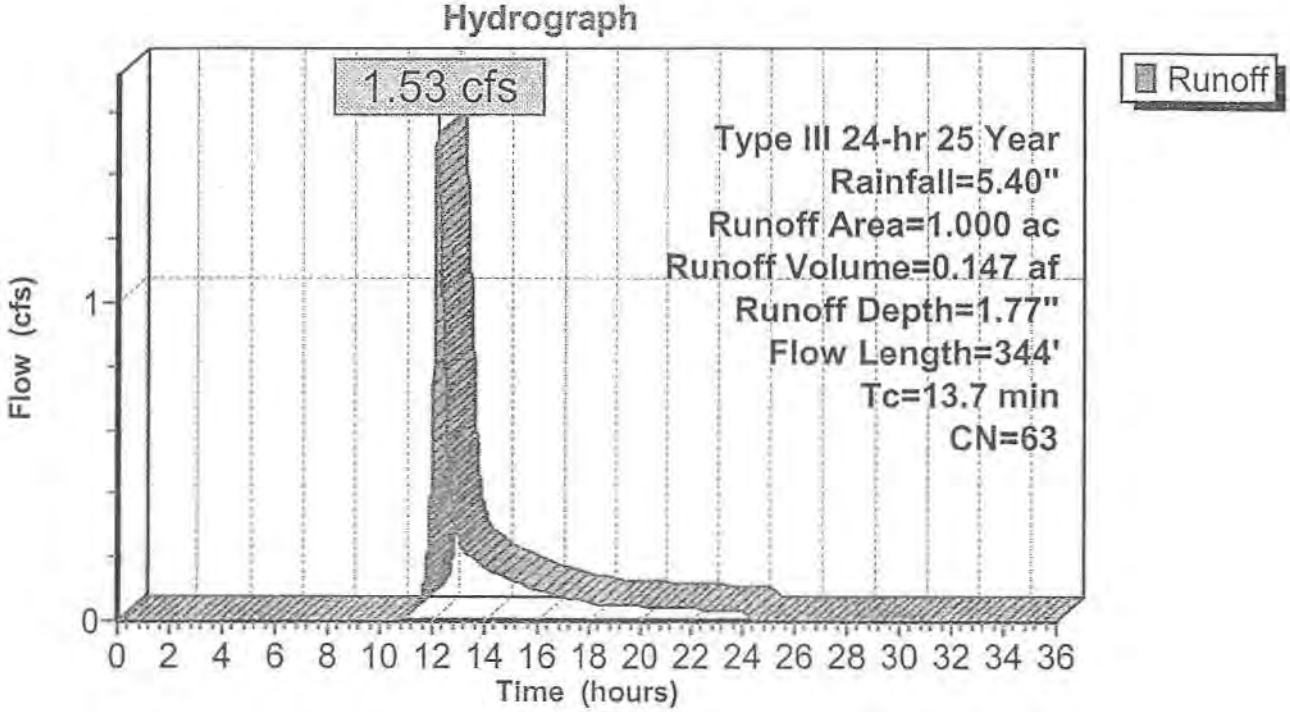
Runoff = 1.53 cfs @ 12.20 hrs, Volume= 0.147 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.020	30	Woods, Good, HSG A
0.210	39	>75% Grass cover, Good, HSG A
0.080	55	Woods, Good, HSG B
0.490	61	>75% Grass cover, Good, HSG B
0.110	98	Paved parking & roofs
1.000	63	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	94	0.1200	0.2		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.4	250	0.0600	1.2		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.7	344	Total			

Subcatchment Pr13:



Subcatchment Pr14:

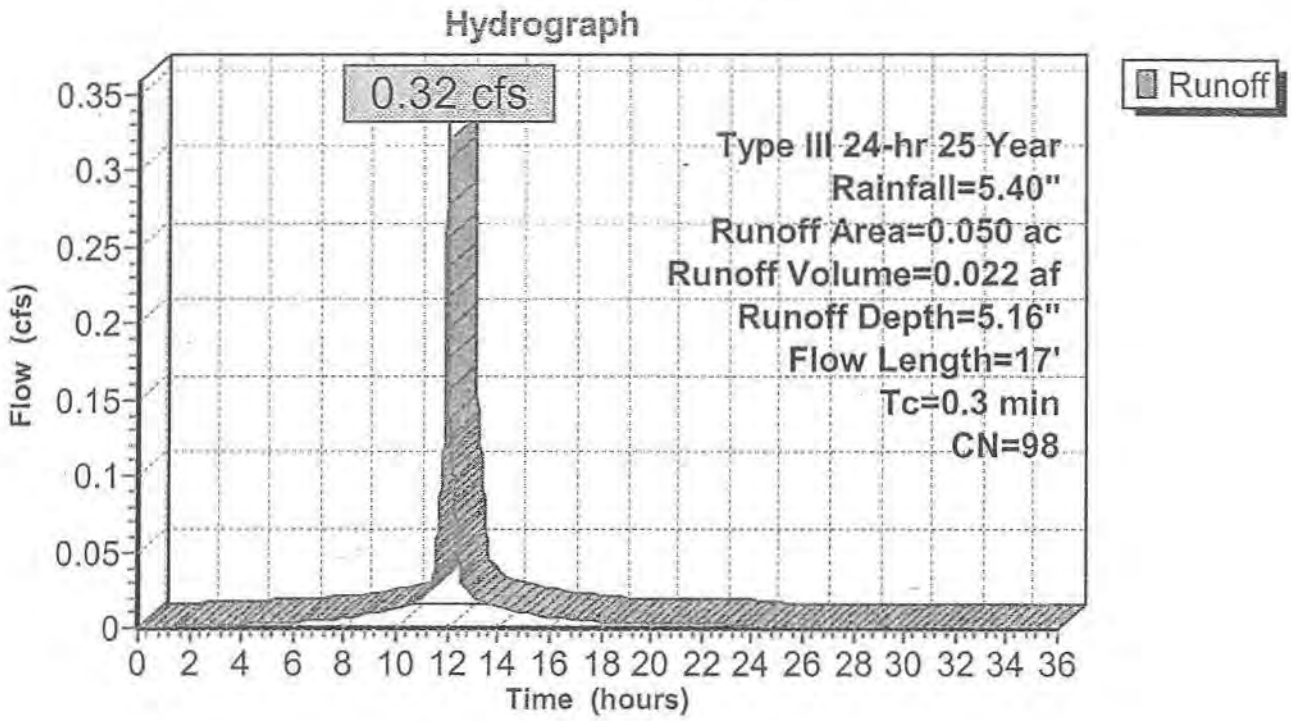
Runoff = 0.32 cfs @ 12.00 hrs, Volume= 0.022 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	17	0.0200	0.9		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment Pr14:



Subcatchment Pr5:

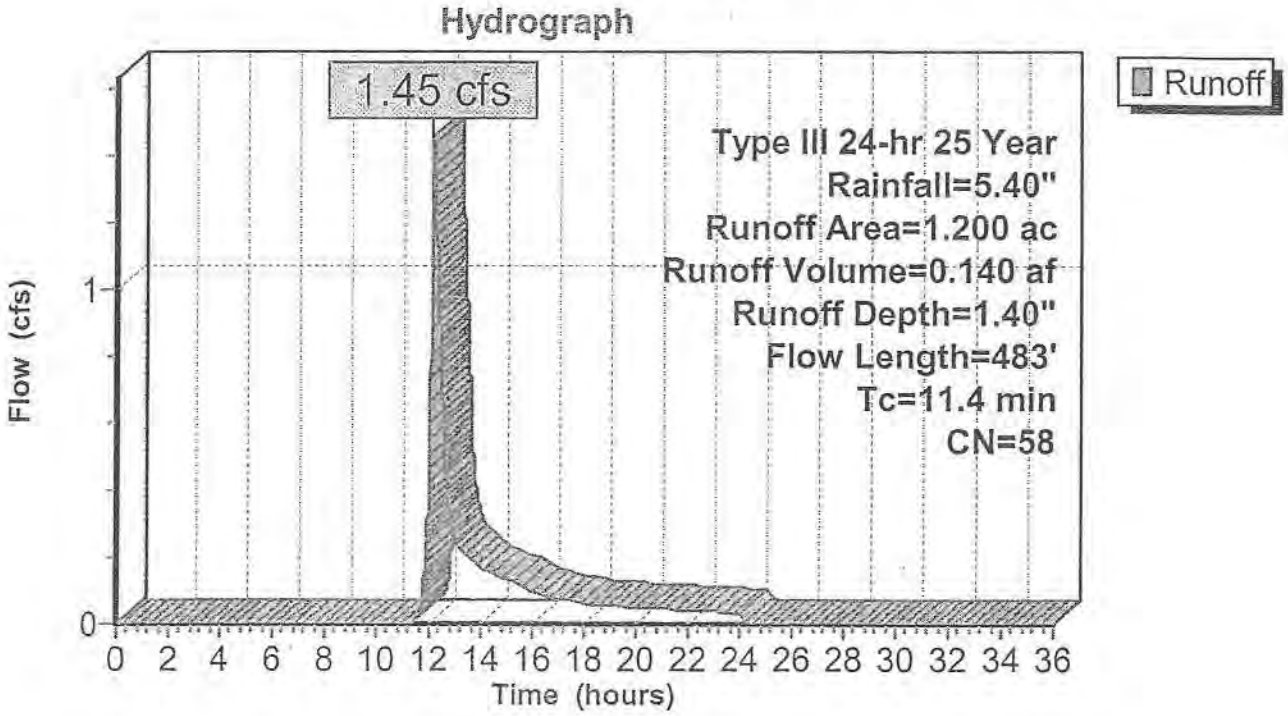
Runoff = 1.45 cfs @ 12.17 hrs, Volume= 0.140 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.120	98	Paved parking & roofs
0.020	55	Woods, Good, HSG B
0.390	61	>75% Grass cover, Good, HSG B
0.130	98	Paved parking & roofs
0.070	30	Woods, Good, HSG A
0.470	39	>75% Grass cover, Good, HSG A
1.200	58	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	103	0.0800	0.2		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
2.4	243	0.1100	1.7		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	137	0.1000	6.8	7.63	**Trap/Vee/Rect Channel Flow,** Bot.W=0.00' D=0.50' Z= 3.0 & 6.0 '/' n= 0.027
11.4	483	Total			

Subcatchment Pr5:



Subcatchment Pr6:

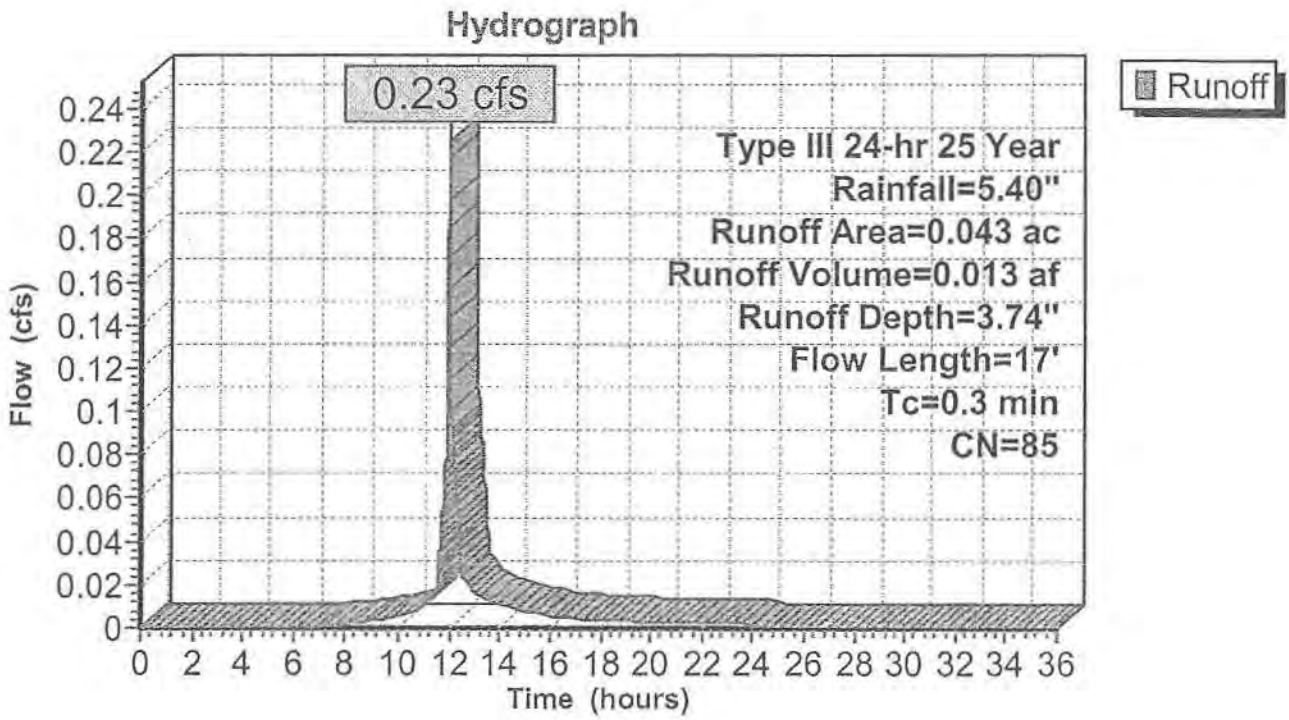
Runoff = 0.23 cfs @ 12.01 hrs, Volume= 0.013 af, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.010	61	>75% Grass cover, Good, HSG B
0.003	39	>75% Grass cover, Good, HSG A
0.043	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	17	0.0200	0.9		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment Pr6:



Subcatchment Pr7:

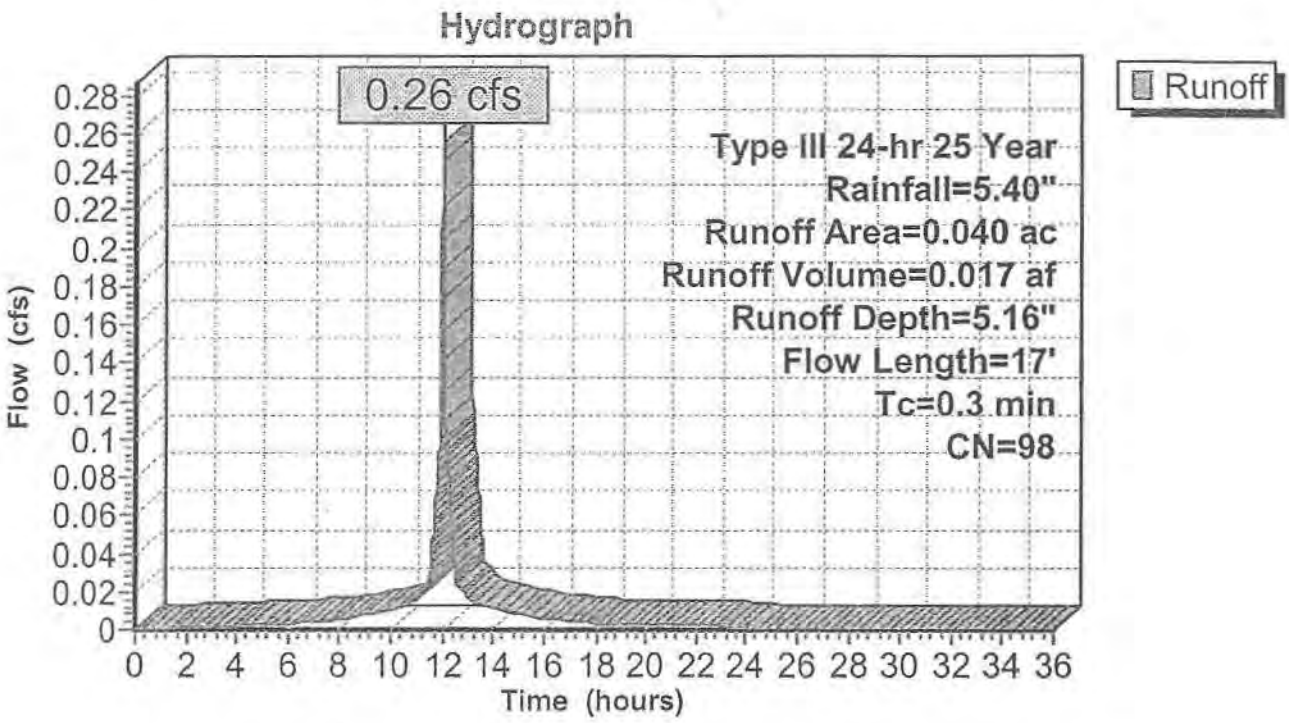
Runoff = 0.26 cfs @ 12.00 hrs, Volume= 0.017 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	17	0.0200	0.9		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment Pr7:



Subcatchment Pr8:

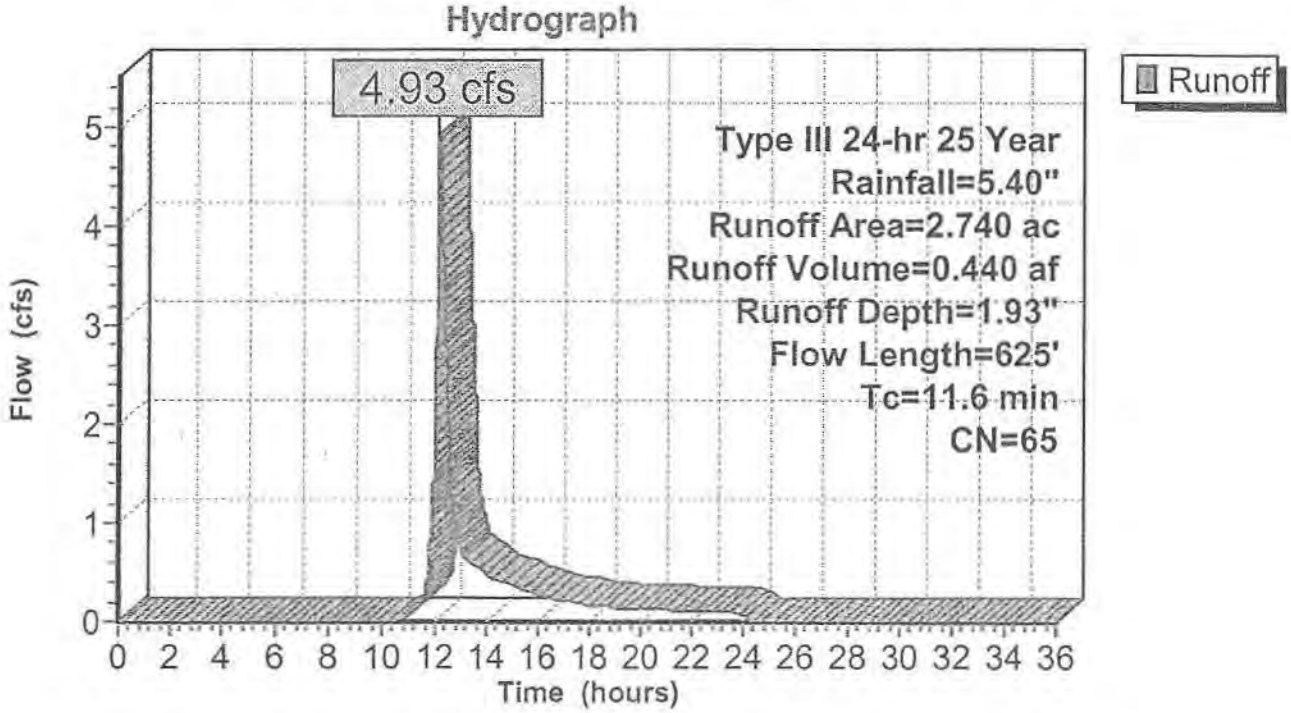
Runoff = 4.93 cfs @ 12.17 hrs, Volume= 0.440 af, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.060	30	Woods, Good, HSG A
0.060	98	Paved parking & roofs
0.430	98	Paved parking & roofs
0.250	55	Woods, Good, HSG B
1.780	61	>75% Grass cover, Good, HSG B
0.160	39	>75% Grass cover, Good, HSG A
2.740	65	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	107	0.0800	0.2		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.4	196	0.2200	2.3		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	322	0.0400	4.3	4.83	**Trap/Vee/Rect Channel Flow,** Bot.W=0.00' D=0.50' Z= 3.0 & 6.0 '/' n= 0.027
11.6	625	Total			

Subcatchment Pr8:



Subcatchment Pr9:

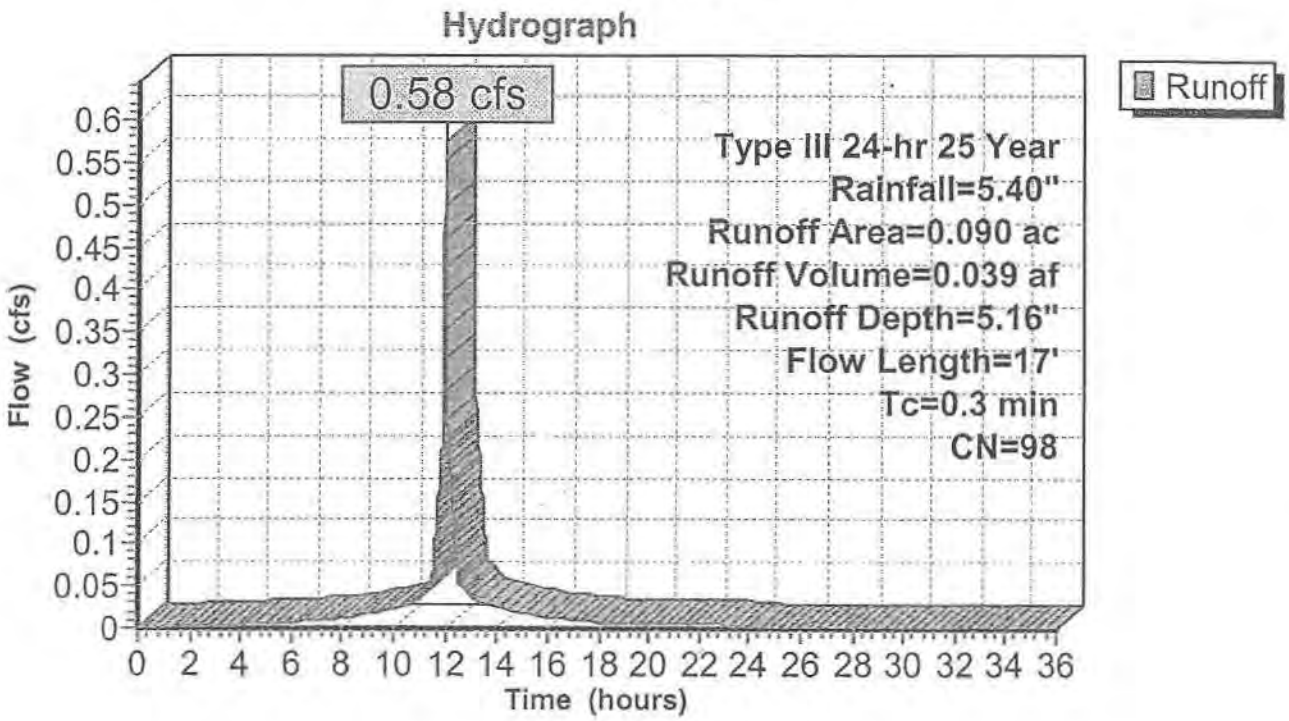
Runoff = 0.58 cfs @ 12.00 hrs, Volume= 0.039 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.40"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	17	0.0200	0.9		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment Pr9:



Pond P10:

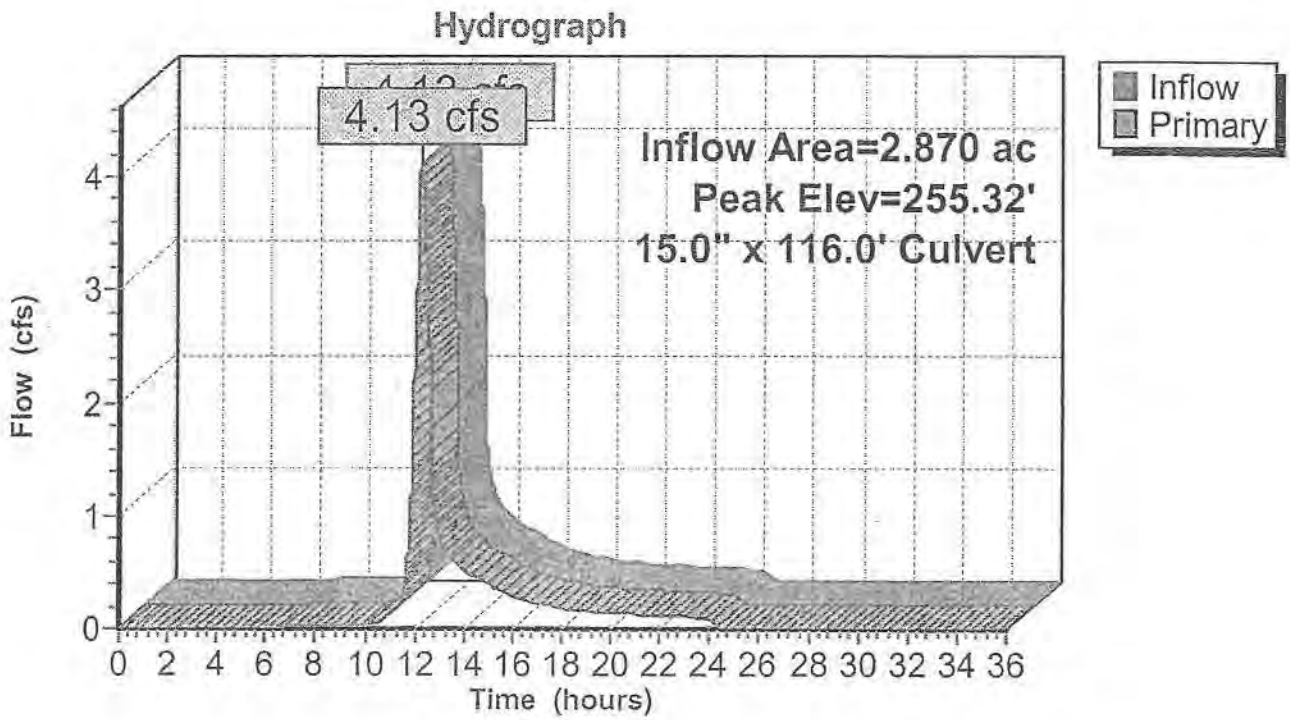
Inflow Area =	2.870 ac,	Inflow Depth =	2.07"	for	25 Year event
Inflow =	4.13 cfs @	12.27 hrs,	Volume=	0.496 af	
Outflow =	4.13 cfs @	12.27 hrs,	Volume=	0.496 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.13 cfs @	12.27 hrs,	Volume=	0.496 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 255.32' @ 12.27 hrs
Flood Elev= 259.26'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	253.91'	**15.0" x 116.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 249.53' S= 0.0378 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=4.13 cfs @ 12.27 hrs HW=255.32' TW=251.95' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.13 cfs @ 3.4 fps)

Pond P10:



Pond P11:

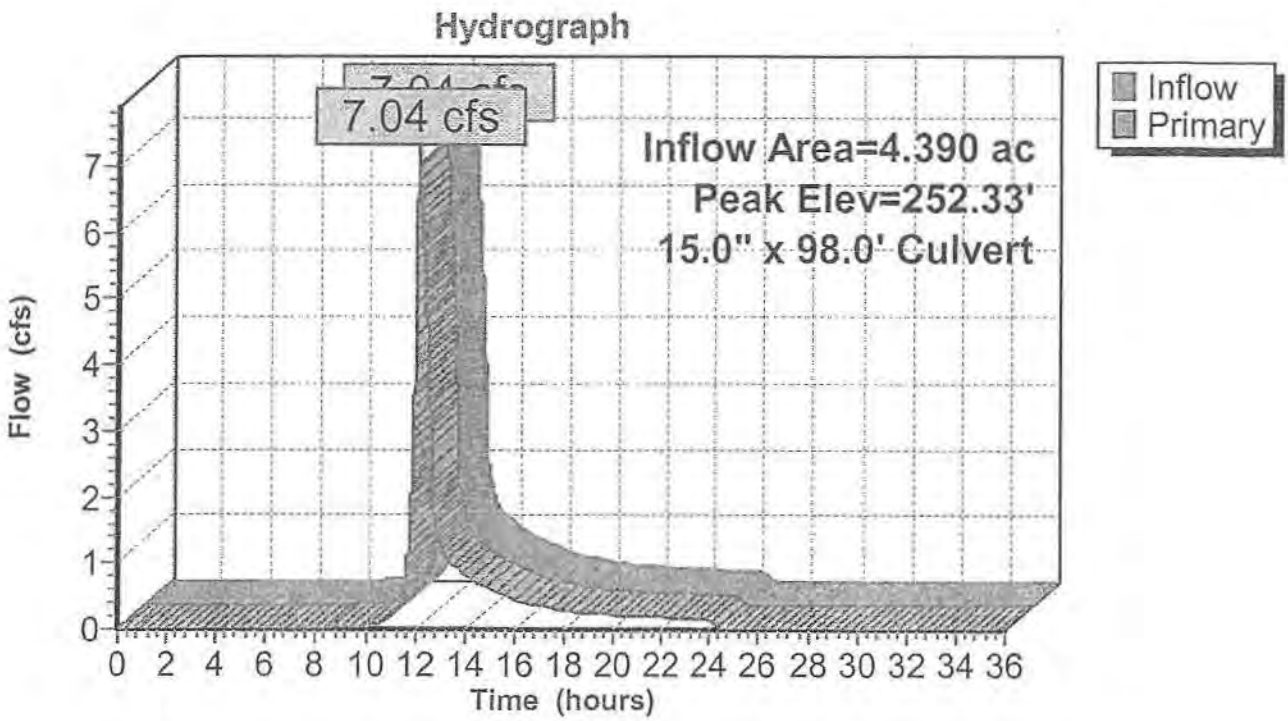
Inflow Area =	4.390 ac,	Inflow Depth =	2.13"	for	25 Year event
Inflow =	7.04 cfs @	12.16 hrs,	Volume=	0.781 af	
Outflow =	7.04 cfs @	12.16 hrs,	Volume=	0.781 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.04 cfs @	12.16 hrs,	Volume=	0.781 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 252.33' @ 12.16 hrs
Flood Elev= 254.78'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	249.43'	**15.0" x 98.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 247.28' S= 0.0219 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=7.04 cfs @ 12.16 hrs HW=252.33' TW=248.98' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 7.04 cfs @ 5.7 fps)

Pond P11:



Pond P12:

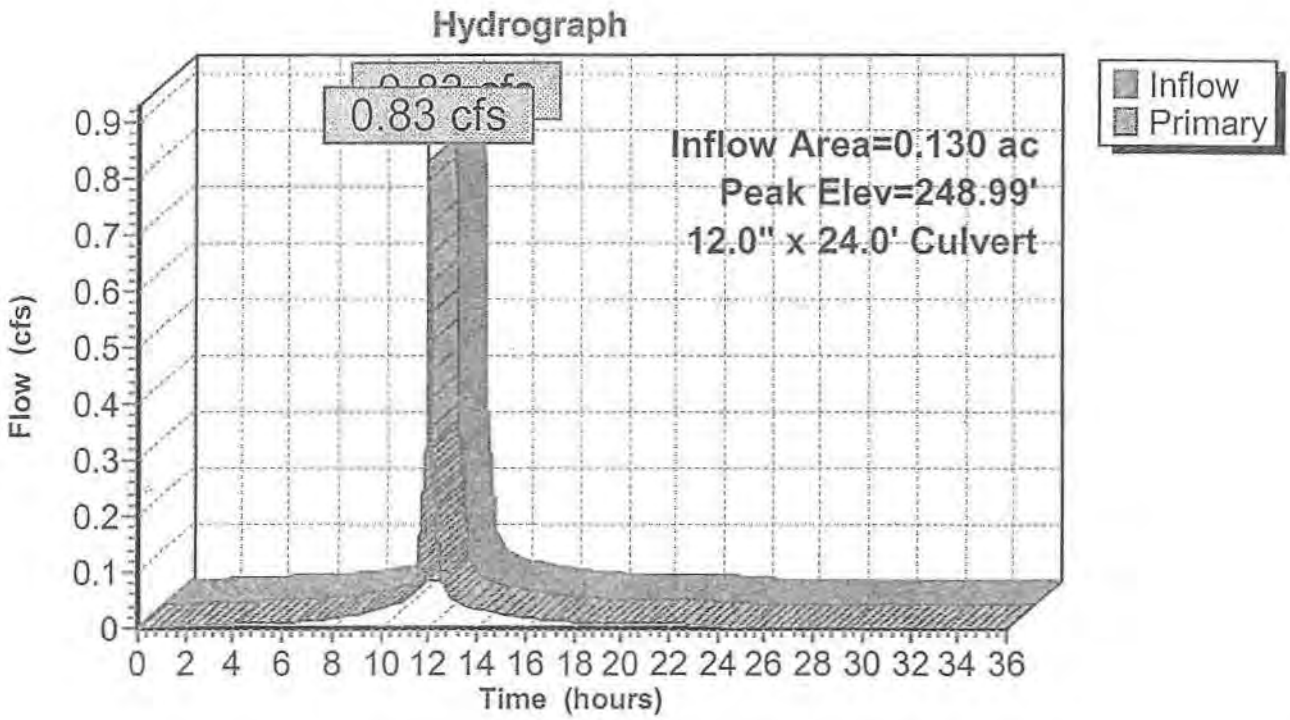
Inflow Area =	0.130 ac,	Inflow Depth =	5.16"	for	25 Year event
Inflow =	0.83 cfs @	12.00 hrs,	Volume=	0.056 af	
Outflow =	0.83 cfs @	12.00 hrs,	Volume=	0.056 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.83 cfs @	12.00 hrs,	Volume=	0.056 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 248.99' @ 12.18 hrs
Flood Elev= 252.90'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	247.65'	**12.0" x 24.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 247.53' S= 0.0050 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=0.60 cfs @ 12.00 hrs HW=248.50' TW=248.45' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.60 cfs @ 0.8 fps)

Pond P12:



Pond P13:

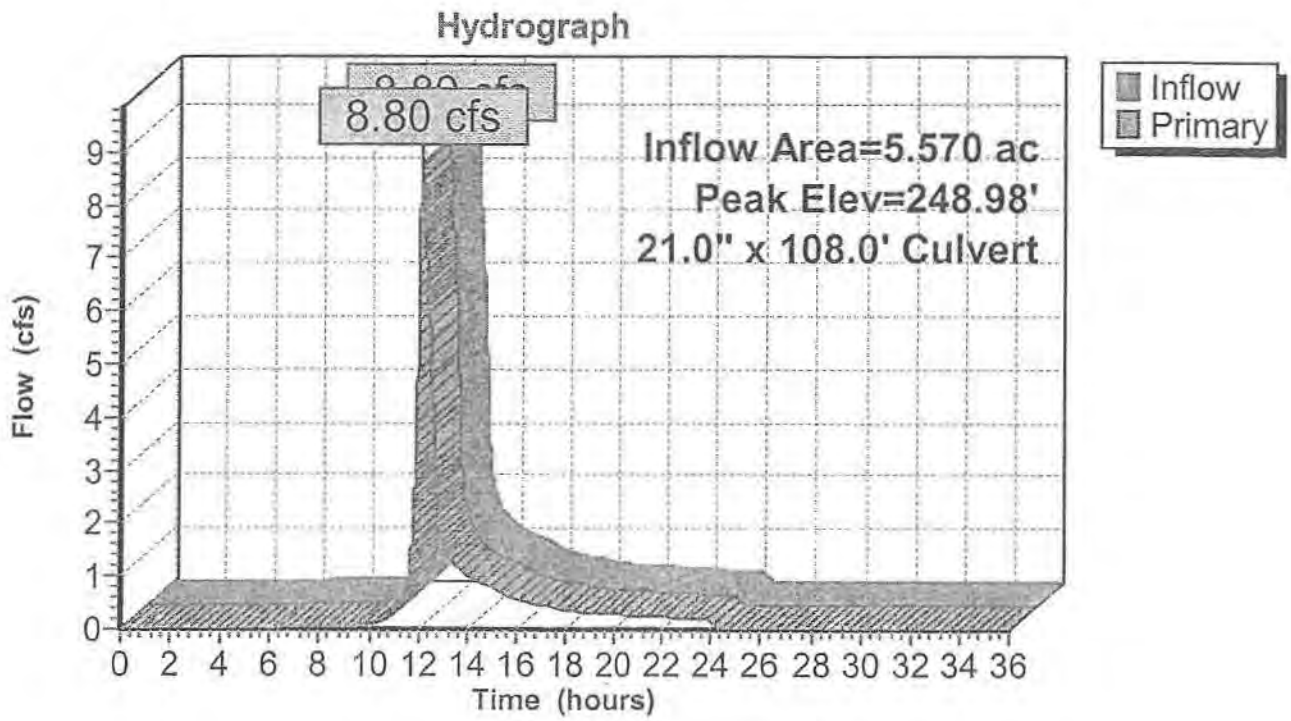
Inflow Area =	5.570 ac,	Inflow Depth =	2.17"	for	25 Year event
Inflow =	8.80 cfs @	12.17 hrs,	Volume=	1.006 af	
Outflow =	8.80 cfs @	12.17 hrs,	Volume=	1.006 af,	Atten= 0%, Lag= 0.0 min
Primary =	8.80 cfs @	12.17 hrs,	Volume=	1.006 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 248.98' @ 12.17 hrs
Flood Elev= 252.90'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	247.18'	**21.0" x 108.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 246.64' S= 0.0050 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=8.80 cfs @ 12.17 hrs HW=248.98' (Free Discharge)
└**1=Culvert** (Inlet Controls 8.80 cfs @ 3.7 fps)

Pond P13:



Pond P14:

Inflow Area =	0.050 ac,	Inflow Depth =	5.16"	for	25 Year event
Inflow =	0.32 cfs @	12.00 hrs,	Volume=	0.022 af	
Outflow =	0.41 cfs @	12.52 hrs,	Volume=	0.022 af,	Atten= 0%, Lag= 30.9 min
Primary =	0.41 cfs @	12.52 hrs,	Volume=	0.022 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 248.55' @ 12.43 hrs Surf.Area= 385 sf Storage= 287 cf
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

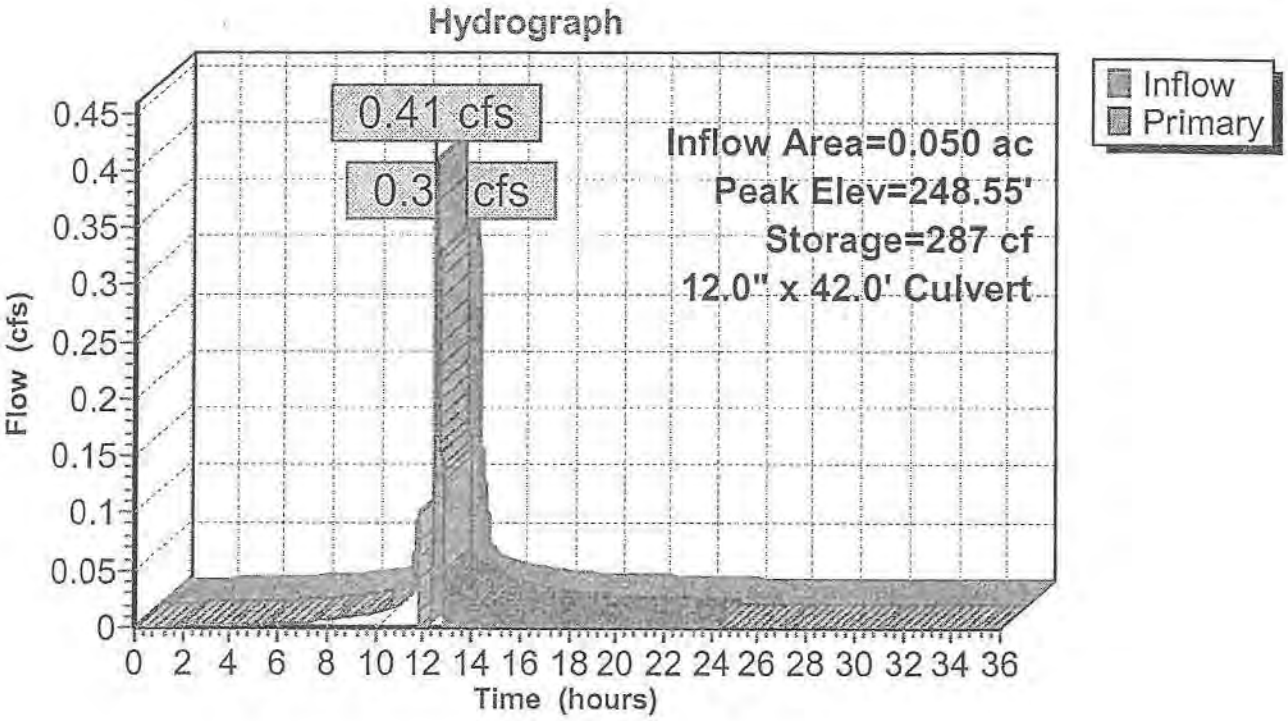
#	Invert	Avail.Storage	Storage Description
1	248.00'	4,089 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
248.00	215	0	0
250.00	838	1,053	1,053
252.00	2,198	3,036	4,089

#	Routing	Invert	Outlet Devices
1	Primary	247.75'	**12.0" x 42.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 247.54' S= 0.0050 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=0.29 cfs @ 12.52 hrs HW=248.44' TW=248.42' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.29 cfs @ 0.7 fps)

Pond P14:


Hydrograph
0.41 cfs
0.3 cfs
Inflow Area=0.050 ac
Peak Elev=248.55'
Storage=287 cf
12.0" x 42.0' Culvert
Inflow
Primary
Flow (cfs)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36
Time (hours)

Pond P3:

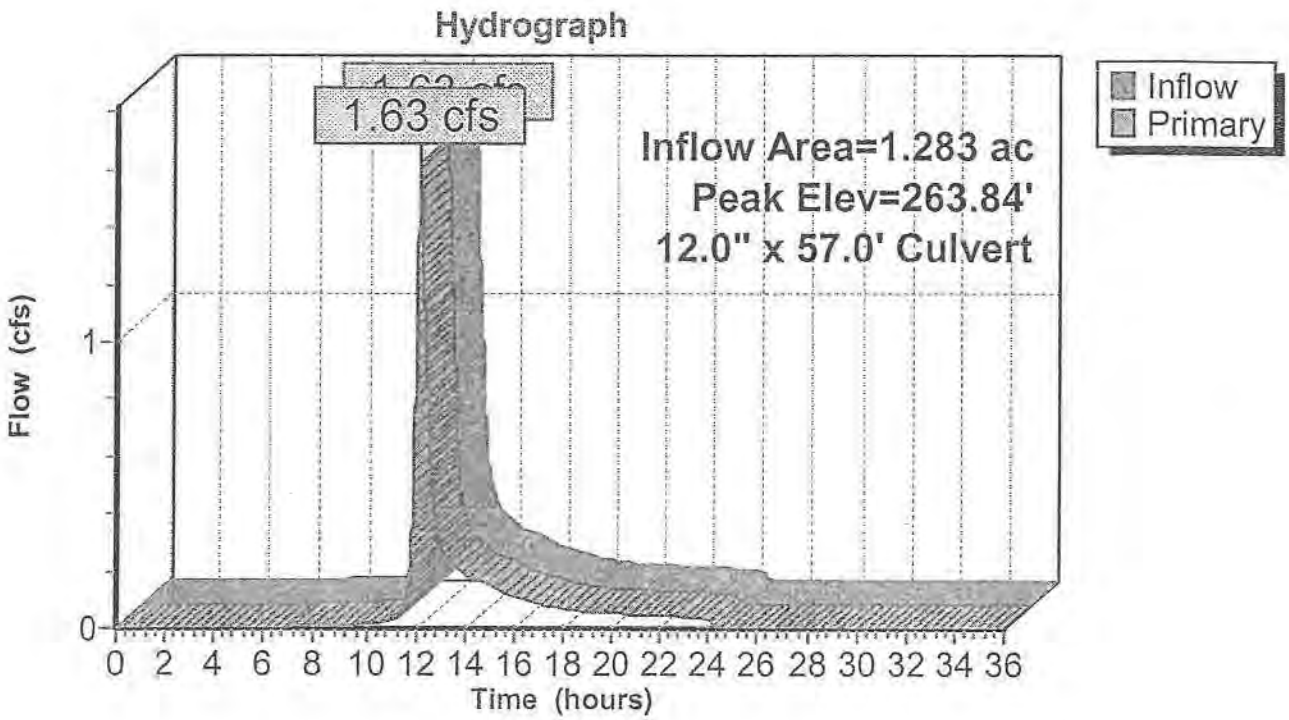
Inflow Area =	1.283 ac,	Inflow Depth =	1.59"	for	25 Year event
Inflow =	1.63 cfs @	12.17 hrs,	Volume=	0.170 af	
Outflow =	1.63 cfs @	12.17 hrs,	Volume=	0.170 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.63 cfs @	12.17 hrs,	Volume=	0.170 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 263.84' @ 12.17 hrs
Flood Elev= 268.26'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	263.04'	**12.0" x 57.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 262.75' S= 0.0051 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=1.62 cfs @ 12.17 hrs HW=263.84' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.62 cfs @ 2.4 fps)

Pond P3:



Pond P4:

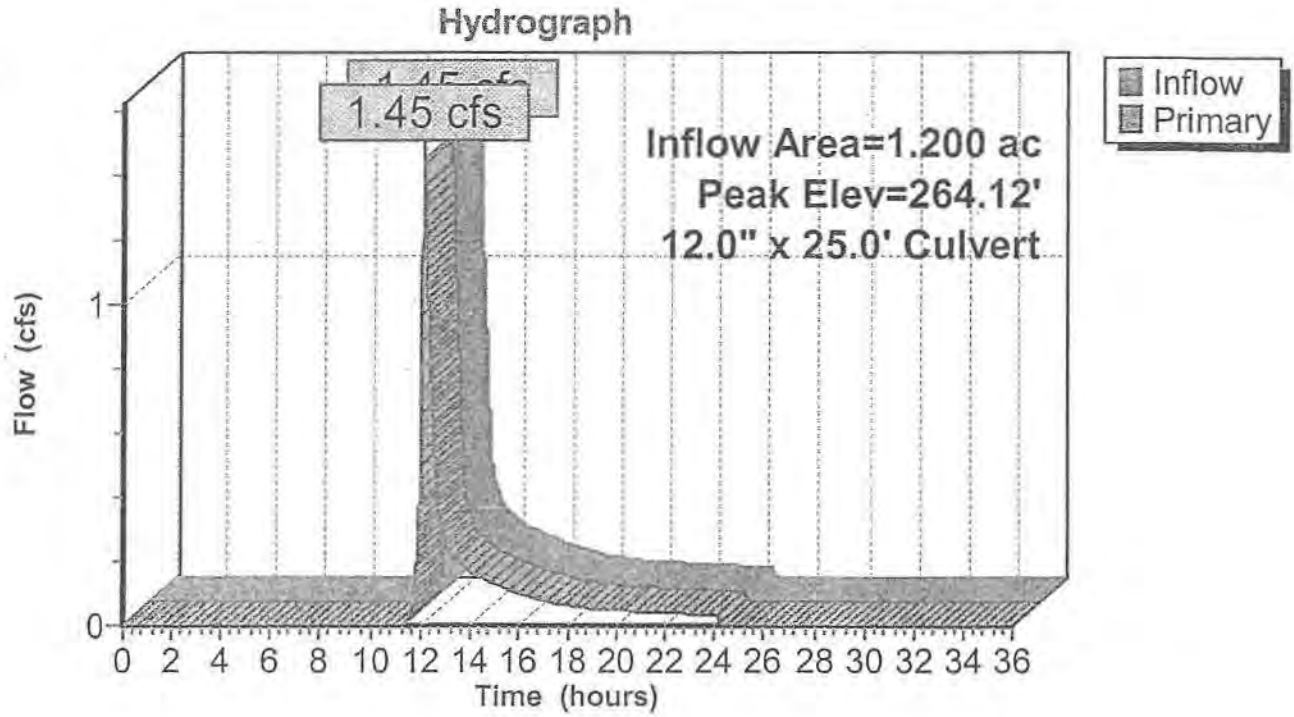
Inflow Area =	1.200 ac,	Inflow Depth =	1.40"	for	25 Year event
Inflow =	1.45 cfs @	12.17 hrs,	Volume=	0.140 af	
Outflow =	1.45 cfs @	12.17 hrs,	Volume=	0.140 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.45 cfs @	12.17 hrs,	Volume=	0.140 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 264.12' @ 12.18 hrs
Flood Elev= 268.26'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	263.26'	**12.0" x 25.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 263.14' S= 0.0048 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=1.45 cfs @ 12.17 hrs HW=264.12' TW=263.84' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.45 cfs @ 2.0 fps)

Pond P4:



Pond P5:

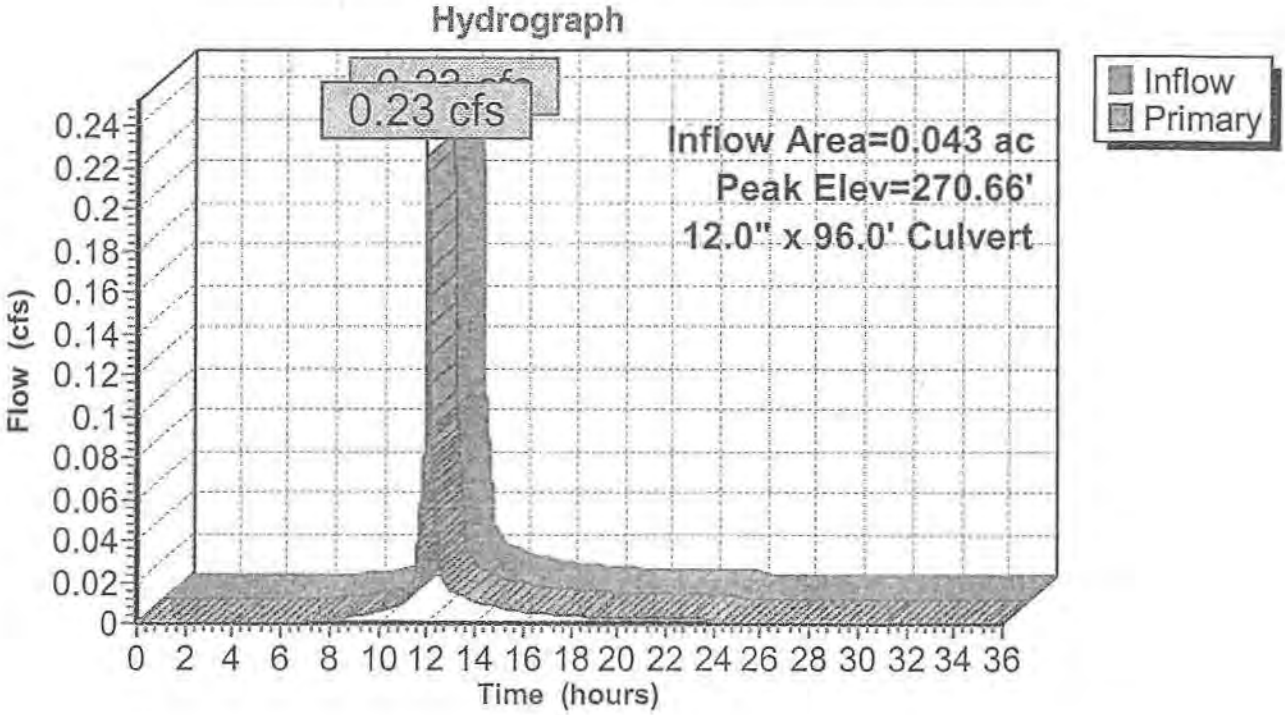
Inflow Area =	0.043 ac,	Inflow Depth =	3.74"	for	25 Year event
Inflow =	0.23 cfs @	12.01 hrs,	Volume=	0.013 af	
Outflow =	0.23 cfs @	12.01 hrs,	Volume=	0.013 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.23 cfs @	12.01 hrs,	Volume=	0.013 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 270.66' @ 12.01 hrs
Flood Elev= 275.40'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	270.40'	**12.0" x 96.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 263.14' S= 0.0756 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=0.22 cfs @ 12.01 hrs HW=270.66' TW=263.62' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.22 cfs @ 1.4 fps)

Pond P5:



Pond P8: Culvert

Inflow Area =	2.740 ac,	Inflow Depth =	1.93"	for	25 Year event
Inflow =	4.93 cfs @	12.17 hrs,	Volume=	0.440 af	
Outflow =	3.90 cfs @	12.28 hrs,	Volume=	0.440 af,	Atten= 21%, Lag= 6.4 min
Primary =	3.90 cfs @	12.28 hrs,	Volume=	0.440 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 271.20' @ 12.28 hrs Surf.Area= 850 sf Storage= 1,045 cf
Plug-Flow detention time= 3.0 min calculated for 0.440 af (100% of inflow)
Center-of-Mass det. time= 2.9 min (864.3 - 861.4)

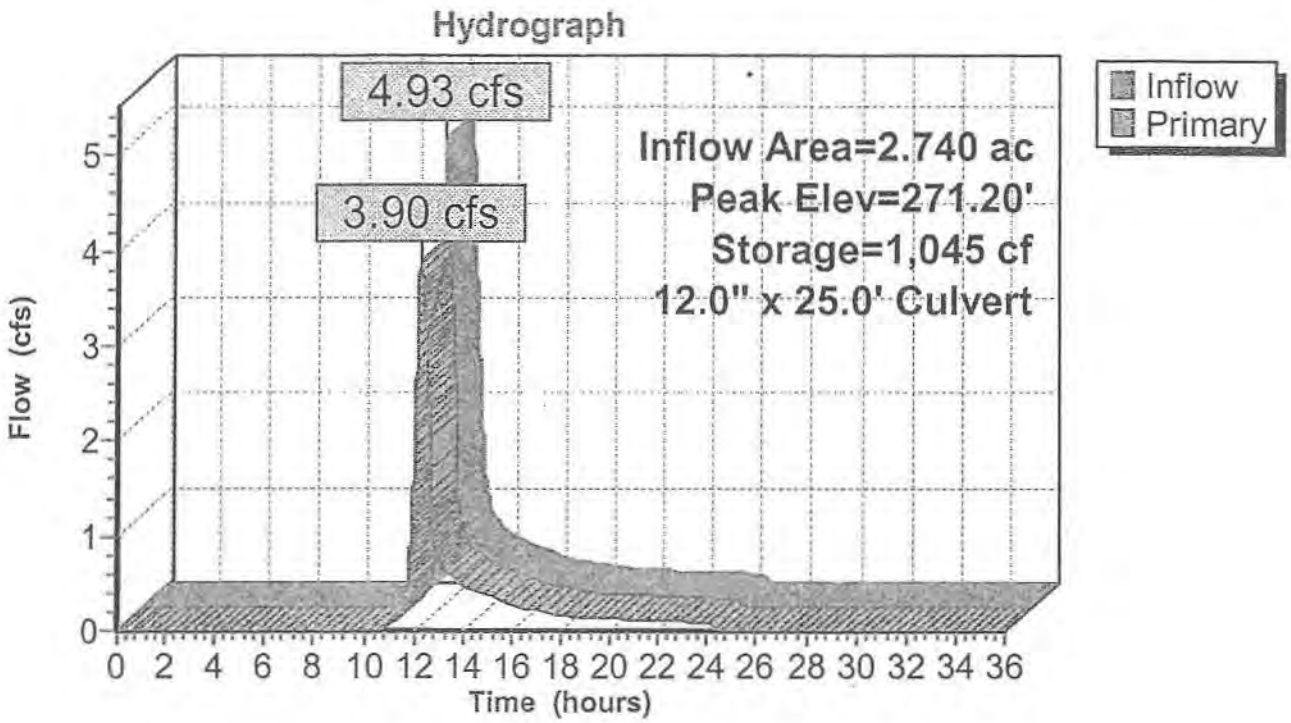
#	Invert	Avail.Storage	Storage Description
1	269.00'	1,635 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
269.00	100	0	0
270.00	205	153	153
272.00	1,277	1,482	1,635

#	Routing	Invert	Outlet Devices
1	Primary	269.00'	**12.0" x 25.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 267.75' S= 0.0500 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=3.90 cfs @ 12.28 hrs HW=271.20' TW=269.03' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 3.90 cfs @ 5.0 fps)

Pond P8: Culvert



Pond P9:

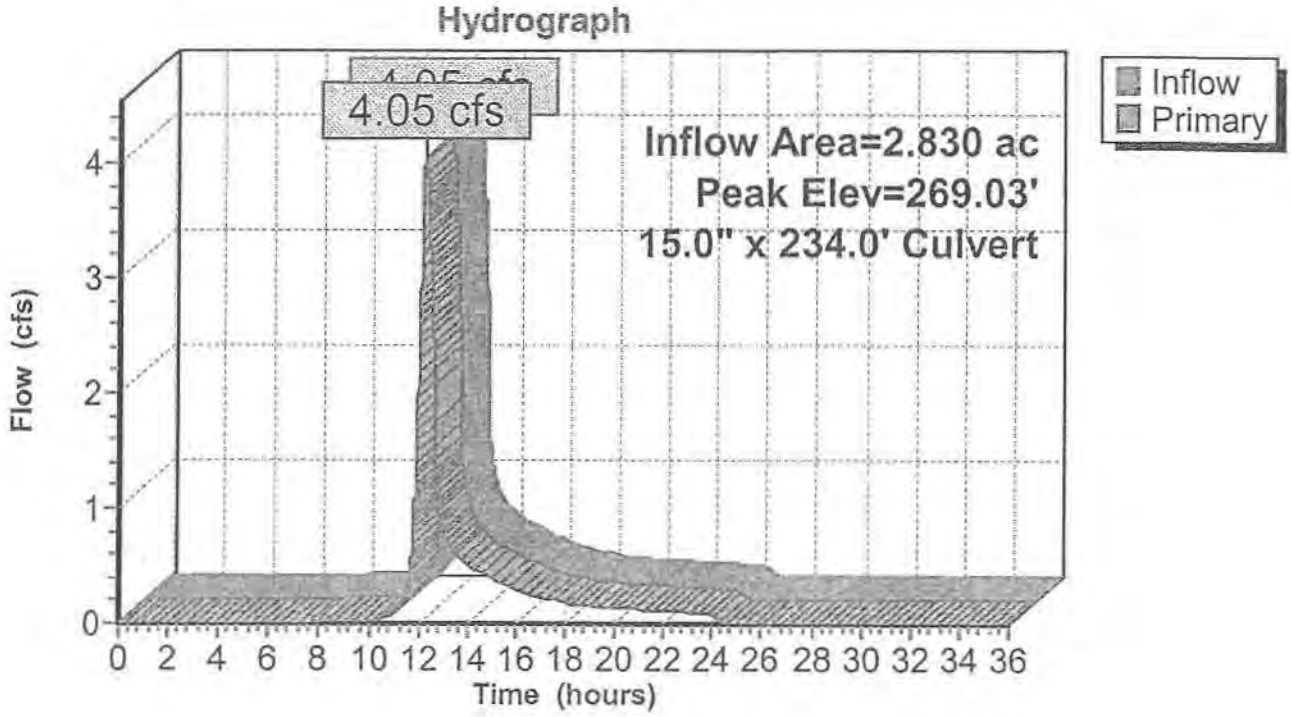
Inflow Area =	2.830 ac,	Inflow Depth =	2.03"	for	25 Year event
Inflow =	4.05 cfs @	12.27 hrs,	Volume=	0.478 af	
Outflow =	4.05 cfs @	12.27 hrs,	Volume=	0.478 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.05 cfs @	12.27 hrs,	Volume=	0.478 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 269.03' @ 12.27 hrs
Flood Elev= 273.90'
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	267.65'	**15.0" x 234.0' long Culvert** CPP, projecting, no headwall, Ke= 0.900 Outlet Invert= 254.01' S= 0.0583 '/' n= 0.010 Cc= 0.900

Primary OutFlow Max=4.05 cfs @ 12.27 hrs HW=269.03' TW=255.32' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.05 cfs @ 3.3 fps)

Pond P9:



DEER RIDGE SUBDIVISION
40 Deer Road
Lewiston, Maine

Prepared For:

Glen Dube
PO Box 819
Sabattus, Maine 04280

Submitted for Re-Approval September 19, 2018

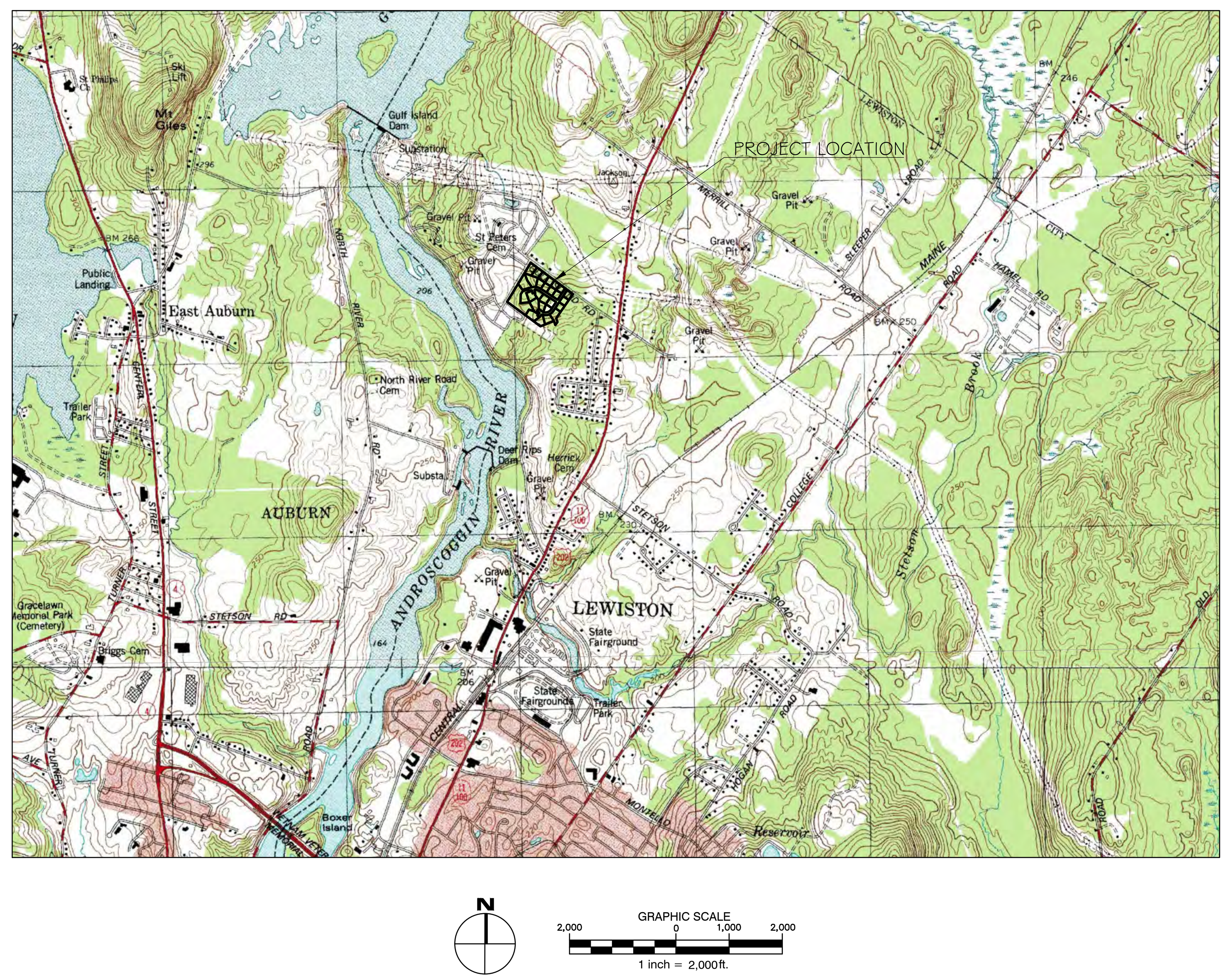
Design Consultants:

CIVIL ENGINEER/PROJECT MANAGEMENT
WALSH ENGINEERING ASSOCIATES, INC.
ONE KAREN DRIVE, SUITE 2A
WESTBROOK, MAINE 04092
207-553-9898

LAND SURVEYOR & WETLAND SCIENTIST
SURVEYWORKS, INC.
528 RIVER ROAD
GREENE, MAINE 04236
207-246-4480

WALSH
ENGINEERING ASSOCIATES, INC.

One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com



List of Drawings:

SHEET NO.	SHEET TITLE
1 OF 8	COVER SHEET
2 OF 8	RECORDED SUBDIVISION PLAN
3 OF 8	EXISTING CONDITIONS PLAN
4 OF 8	GRADING AND DRAINAGE PLAN
5 OF 8	UTILITY PLAN
6 OF 8	PROFILES AND SECTIONS
7 OF 8	PROFILES AND DETAILS
8 OF 8	DETAILS AND SOIL EROSION CONTROL PLAN

Lot No.:	Record Owner:	Parcel ID:
LOT 1	GLEN E. DUBE	MAP 165, LOT 12
LOT 2	MICHELL N. JONES	MAP 165, LOT 11
LOT 3	KIRA M. LEVESQUE	MAP 165, LOT 10
LOT 4	DONALD R. & GINETTE C. VAILLANCOURT	MAP 165, LOT 9
LOT 5	GLEN E. DUBE	MAP 165, LOT 8
LOT 6	GLEN E. DUBE	MAP 165, LOT 7
LOT 7	DEBRA S. MORAWSKI	MAP 166, LOT 119
LOTS 8 - 27	GLEN E. DUBE	MAP 166, LOT 20

SUBDIVISION PLAN (RE-APPROVAL)

"DEER RIDGE REVISION 3"

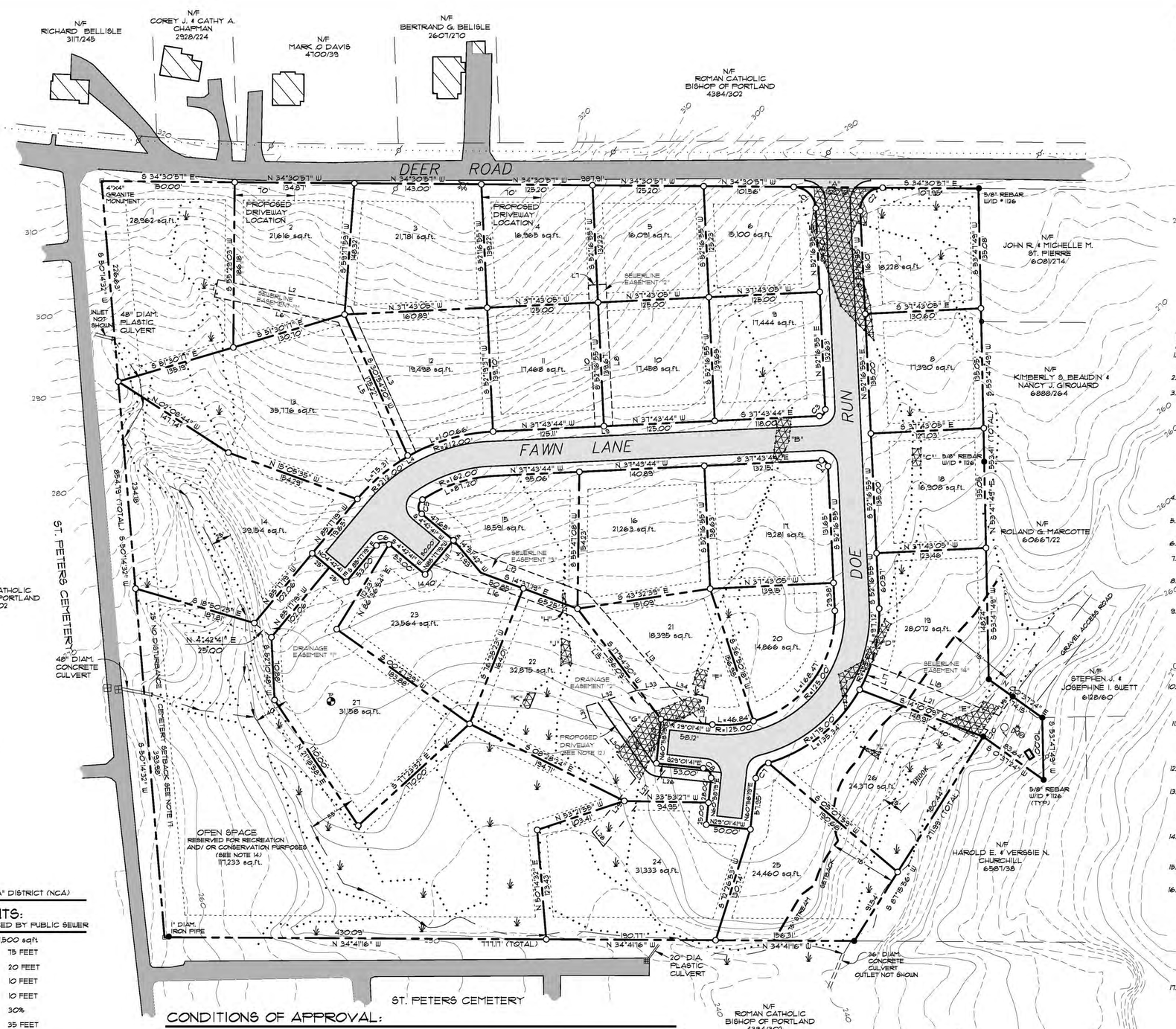
DEER ROAD - LEWISTON, MAINE

ANDROSCOGGIN COUNTY

PREPARED FOR

GLEN E. DUBE

P.O BOX 819 - SABATTUS, MAINE 04280



SEWERLINE EASEMENT #1

L1	N 66°31'20" E	20.00'	
L2	S 23°28'40" E	152.68'	
L3	S 30°54'20" W	179.59'	
L4	R= 212.00'		L= 20.11'
L5	N 30°54'20" E	171.39'	
L6	N 23°28'40" W	142.41'	

SEWERLINE EASEMENT #2

L7	S 37°43'05" E	20.00'
L8	S 52°16'55" W	159.67'
L9	N 37°43'44" W	20.00'
L10	N 52°16'55" E	159.68'

SEWERLINE EASEMENT #3

L11	N 85°17'19" W	31.28'
L12	S 14°37'19" E	164.12'
L13	S 19°37'29"W	199.09'
L14	N 29°01'41" W	50.00'
L15	N 14°07'23" E	153.49'
L16	N 14°37'19" W	167.10'

SEWERLINE EASEMENT #4

L17	R=170.00	L= 20.01'
L18	S 13°04'26" E	155.41'
L19	N 88°12'34" W	26.24'
L20	N 88°27'53" W	9.05'
L21	N 13°04'26" W	150.10'

DRAINAGE EASEMENT #2

L26	S 29°01'41" E	14.92'
L27	N 86°02'07" W	18.62'
L28	N 16°53'44" E	20.52'
L29	N 86°02'07" W	18.06'
L30	N 17°03'48" E	83.31'
L31	N 36°49'24" E	16.28'
L32	N 52°13'31" W	60.53'
L33	S 40°57'35" E	36.81'
L34	S 19°36'39" E	44.33'
L35	S 60°58'19"W	30.00'

CURVE TABLE:

CURVE	RADIUS	ARC LENGTH
C1	25.00	37.87'
C2	25.00	40.67'
C3	7.00	11.00'
C4	7.00	11.00'
C5	10.00	18.63'
C6	10.00	15.71'
C7	20.00	23.53'
C8	10.00	15.71'

WETLAND IMPACT TABLE:

"A"	6,636 sq.ft.
"B"	700 sq.ft.
"C"	190 sq.ft.
"D"	1,005 sq.ft.
"E"	1,060 sq.ft.
"F"	235 sq.ft.
"G"	2,843 sq.ft.
"H"	85 sq.ft.
"J"	293 sq.ft.
"K"	155 sq.ft.
"L"	86 sq.ft.
TOTAL	13,288 sq.ft.

ZONING: NEIGHBORHOOD CONSERVATION "A" DISTRICT (NCA)

DIMENSIONAL REQUIREMENTS:

FOR SINGLE FAMILY DETACHED DWELLINGS SERVICED BY PUBLIC SEWER

MINIMUM LOT AREA	7,500 sq.ft.
MINIMUM FRONTAGE	75 FEET
MINIMUM FRONT YARD	20 FEET
MINIMUM REAR YARD	10 FEET
MINIMUM SIDE YARD	10 FEET
MAXIMUM LOT COVERAGE RATIO	30%
MAXIMUM BUILDING HEIGHT	35 FEET

APPROVED: CITY OF LEWISTON PLANNING BOARD

CHAIRPERSON DATE

RECORDING DATA:

ANDROSCOGGIN COUNTY REGISTRY OF DEEDS

RECEIVED_____ AT__h__m__M

AND RECORDED IN PLAN BOOK_____ PAGE_____

ATTEST _____

REGISTRAR

LEGEND:

● OR ◻	SURVEY MONUMENT FOUND (AS NOTED)
O	CALCULATED LOT CORNER
	EDGE OF PAVEMENT
	EDGE OF GRAVEL
	UTILITY POLE WITH OVERHEAD WIRES
N/F	NOW OR FORMERLY
862/366	BOOK/PAGE NUMBERS
	PROPERTY LINES PER TAX MAP
TP	PRELIMINARY SOIL TEST PIT LOCATION
	WETLAND/UPLAND BOUNDARY
	WETLAND AREA
	EXISTING FIRE HYDRANT
	BUILDING WINDOW AND/ OR MUNICIPAL SETBACK LINES

NOTES:

1.) ALL BEARINGS REFER TO MAGNETIC NORTH AS OBSERVED AUGUST, 2005 AND CALCULATED FROM ANGLES OF TRAVERSE PERFORMED BY SURVEYWORKS INC.

2.) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS (ACRD).

3.) PLAN REFERENCES:
A.) "FOX RUN" STANDARD BOUNDARY SURVEY AND TOPOGRAPHICAL PLAN BY ALIBERTI, LAROCHELLE, & HODSON DATED AUGUST 02, 1988 (NOT RECORDED).
B.) "REVISION ONE MICHAUD HEIGHTS" BY ALIBERTI, LAROCHELLE & HODSON DATED NOVEMBER 04, 1988 RECORDED IN SAID REGISTRY IN PLAN BOOK 34 PAGE 122.
C.) "REVISION ONE 7 LOT COMPOSITE PLAN" FOR LAND TREE CORP. PROPERTY BY SURVEYWORKS INC. DATED MAY 28,2002, REVISED AUGUST 05, 2002, REVISED SEPTEMBER, 02 2003 (NOT RECORDED).
D.) DEER RIDGE" SUBDIVISION, PREPARED FOR LAND TREE CORP. PROPERTY BY SURVEYWORKS, INC. DATED JULY 20, 2001 AND RECORDED IN SAID REGISTRY IN PLAN BOOK 46 PAGE 136
E.) "DEER RIDGE REVISION 2" SUBDIVISION, PREPARED FOR LAND TREE CORP. PROPERTY BY SURVEYWORKS, INC. DATED JULY 20, 2001, REVISED NOVEMBER 8, 2010 AND RECORDED IN SAID REGISTRY IN PLAN BOOK 48 PAGE 101

4.) OWNER OF RECORD: GLEN E. DUBE. SEE DEED FROM LAND TREE CORP. DATED DECEMBER 23, 2014 RECORDED AT SAID REGISTRY IN BOOK 8060 PAGE 181.

5.) OWNERS PARCELS AS OF THE DATE OF PLAN REVISION 3ARE SHOWN ON THE CITY OF LEWISTON TAX MAP 166 LOT 20 AND TAX MAP 165 LOTS 7, 8, 12.

6.) TOTAL ACREAGE OF PARCEL TO BE SUBDIVIDED= 16.61 ACRES.

7.) PERIMETER BOUNDARY INFORMATION WAS TAKEN FROM THE PLAN REFERENCED IN NOTE 3A. NO INDEPENDENT VERIFICATION OF THESE LINES HAS BEEN DONE BY THIS SURVEYOR.

8.) THE DEPTH, SIZE, LOCATION, EXISTENCE OR NON- EXISTENCE OF UNDERGROUND UTILITIES AND/OR STRUCTURES WERE NOT VERIFIED BY THIS SURVEYOR. BEFORE EXCAVATIONS BEGIN DIG SAFE OR OTHER QUALIFIED AGENCIES SHOULD BE NOTIFIED.

9.) SOIL TEST PIT BORING AND WETLANDS BOUNDARY LOCATIONS WERE ESTABLISHED ON THE SITE BY SURVEYWORKS INC. OF GREENE, MAINE, AND ARE SHOWN APPROXIMATELY ONLY. ACTUAL LOCATIONS WERE FLAGGED AND MARKED ON SITE, AND SHALL BE DETERMINED AS NECESSARY BY THE CONTRACTOR OR LOT OWNER BEFORE BEGINNING CONSTRUCTION. ALL PERMITS REQUIRED, IF ANY, SHALL BE RETAINED BEFORE BEGINNING ANY SOIL ALTERATION OR CONSTRUCTION WITHIN MAPPED WETLAND AREAS. THE AREA OF ANY WETLANDS ALREADY ALTERED ON THIS PROJECT AT THE TIME OF CONSTRUCTION SHALL BE TOTALED, BEFORE ANY NEW WETLANDS ALTERATION IS BEGUN, TO DETERMINE IF PERMITTING WILL BE REQUIRED FOR SAID NEW ALTERATION, UNDER THE THEN EXISTING LAWS OF THE STATE OF MAINE.

10.) STREET TREES, AT LEAST 2 TREES 4" IN DIAMETER SHALL EITHER REMAIN WITHIN THE AREA BETWEEN THE FRONT SETBACK LINE AND THE RIGHT OF WAY OF THE STREET OR THAT 2 STREET TREES SHALL BE PLANTED PER LOT WITHIN THE SAME AREA PRIOR TO A CERTIFICATE OF OCCUPANCY BEING ISSUED FOR THAT SPECIFIC LOT OR STRUCTURE.

11.) IF SUBSTANTIAL DEVELOPMENT OF THE IMPROVEMENTS SHOWN ON THIS PLAN HAS NOT BEGUN WITHIN 24 MONTHS FROM THE DATE OF THE PLANNING BOARD'S FINAL APPROVAL, WHICH COMMENCES UPON FINAL APPROVAL BY ANY OTHER GOVERNMENTAL BODY (SUCH AS MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION) WHICH IS A CONDITION OF THE PLANNING BOARD'S APPROVAL, THAT APPROVAL SHALL EXPIRE AND NO FURTHER BUILDING PERMITS SHALL BE ISSUED FOR LOTS SHOWN ON THE PLAN.

12.) DRAINAGE EASEMENT SUBJECT TO THE RIGHT OF THE LOT OWNER TO CONSTRUCT AND MAINTAIN A DRIVE WAY AS SHOWN.

13.) NO LOTS MAY BE SOLD OR CONVEYED AND NO BUILDING PERMITS MAY BE ISSUED UNTIL THE ROAD IS ACCEPTED BY THE CITY OF LEWISTON UNLESS A PERFORMANCE GUARANTEE IS SUBMITTED TO THE SATISFACTION OF THE CITY FOR 125% OF THE COSTS OF COMPLETE ROAD CONSTRUCTION, AT WHICH TIME, BUILDING PERMITS MAY BE ISSUED, BUT NO CERTIFICATES FOR OCCUPANCY WILL BE ISSUED UNTIL ROAD IS ACCEPTED.

14.) FOR A COMPLETE UNDERSTANDING OF THE OWNERSHIP, USE AND MAINTENANCE OF THE OPEN SPACE SEE "DECLARATION OF COVENANTS AND RESTRICTIONS FOR "DEER RIDGE" ARE TO BE RECORDED AT THE ACRD AND REFERENCED TO THIS PLAN.

15.) LOTS 2 & 4 PROPOSED DRIVEWAY LOCATION RESTRICTIONS SHALL BE NOTED IN THEIR DEEDS AT TIME OF CONVEYANCE.

16.) SUGGESTED BUILDING ENVELOPES:
EACH LOT SHOWS A SUGGESTED BUILDING ENVELOPE FOR THE LOCATION OF BUILDINGS AND STRUCTURES IN ORDER TO MINIMIZE IMPACT TO WETLANDS, HOWEVER, EVERY LOT ON THE PLAN IS SPECIFICALLY FURTHER SUBJECT TO THE FOLLOWING PERFORMANCE STANDARDS:
A.) NO WETLANDS SHOWN ON THIS PLAN MAY BE ALTERED OR DISTURBED WITHOUT PRIOR WRITTEN APPROVAL OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION OR ITS SUCCESSOR.
B.) NO BUILDING FOUNDATION SHALL BE LOCATED CLOSER THAN 8 FEET FROM ANY WETLAND BOUNDARY SHOWN ON THIS PLAN.
C.) NO PERMANENT STRUCTURE SHALL BE LOCATED WITHIN SEVENTY-FIVE (75') FROM ANY STREAM SHOWN ON THE PLAN WITHOUT PRIOR WRITTEN APPROVAL OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION OR ITS SUCCESSOR.
D.) REFER TO CONDITIONS OF APPROVAL NOTE 4

17.) PER M.R.S. 13-1371-A "LIMITATIONS ON CONSTRUCTION AND EXCAVATION NEAR BURIAL SITES" IN THE ABSENCE OF LOCAL ORDINANCES, CONSTRUCTION OR EXCAVATION MAY NOT BE CONDUCTED WITHIN 25' OF THE BOUNDARIES OF AN ESTABLISHED GRAVEYARD.

CONDITIONS OF APPROVAL:

1.) PHASE 1) BUILDING PERMITS FOR ALL LOTS ON THIS PLAN FRONTING DEER ROAD CAN BE ISSUED UPON THE RECORDING OF THIS PLAN, HOWEVER, OCCUPANCY PERMITS MAY NOT BE ISSUED UNTIL ALL SEWER LINES HAVE BEEN INSTALLED PER APPROVED PLAN AND HAVE BEEN TESTED AND APPROVED BY THE CITY OF LEWISTON. ADDITIONALLY ALL LOTS THAT RECEIVE OCCUPANCY PERMITS SHALL BE CONNECTED TO THE EXISTING WATER LINES ALONG DEER ROAD.

2.) PHASE 2) PHASE 2 SHALL CONSIST OF THOSE LOTS ON THIS PLAN FRONTING DOE RUN AND FAWN LANE WITH THE EXCEPTION OF LOTS 6 & 7. IF SUBSTANTIAL DEVELOPMENT OF ALL OTHER IMPROVEMENTS, SUCH AS BUT NOT LIMITED TO, INTERIOR ROADS AND STORM WATER STRUCTURES SHOWN ON THIS AND ALL OTHER PREVIOUSLY APPROVED PLANS, HAVE NOT BEGUN WITHIN 24 MONTHS FROM THE DATE OF THE PLANNING BOARDS APPROVAL OF THIS PLAN, THAT APPROVAL SHALL EXPIRE AND NO FURTHER PERMITS SHALL BE ISSUED FOR ALL OTHER LOTS SHOWN ON THIS PLAN.

3.) THIS PLAN AMENDS AND SUPERSEDES THE PLAN ENTITLED SUBDIVISION PLAN "DEER RIDGE REVISION 2"(PHASING) DEER ROAD LEWISTON, ME, ANDROSCOGGIN COUNTY", PREPARED FOR LAND TREE CORP., P.O. BOX 3246, AUBURN, ME 04212, PREPARED BY SURVEYWORKS, INC., DATED JULY 20, 2001, REVISED: NOVEMBER 8, 2010, APPROVED BY THE CITY OF LEWISTON PLANNING BOARD ON NOVEMBER 8, 2011 AND RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN PLAN BOOK 48 PAGE 101. EXCEPT AS REVISED BY THIS APPROVED PLAN, ALL PREVIOUS NOTES AND CONDITIONS OF APPROVALS AND PLANS SHALL REMAIN IN FULL FORCE AND EFFECT.

4.) WETLANDS FOR EACH LOT SHOWN ON THIS PLAN SHALL BE FLAGGED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT BY THE CITY OF LEWISTON. ALSO, A TENTATIVE BUILDING LOCATION SKETCH SHOWING BUILDING LOCATION, WETLAND AREAS, AND FINISH GRADING SHALL BE MADE PART OF THE BUILDING PERMIT APPLICATION. REFER TO NOTE 16.

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

PREPARED BY

SurveyWorks, Inc.

Land Use Consultants

528 River Road
Greene, Maine 04236

REVISED: SEPTEMBER 24, 2018
JULY 20, 2007

DATE

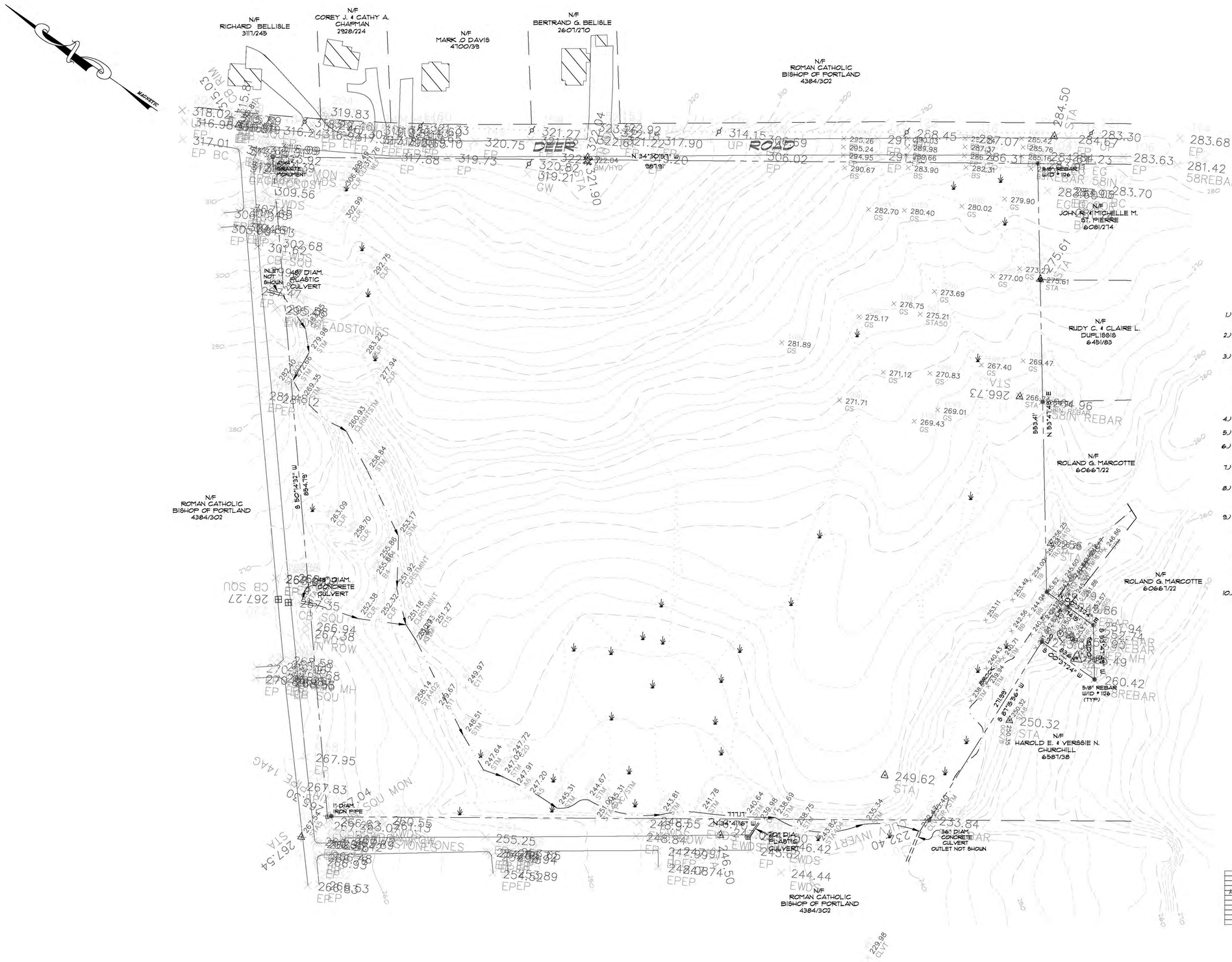
STATE OF MAINE
GEORGE A. COURBRON, JR.
#1126
PROFESSIONAL LAND SURVEYOR

PLAN SHALL BE CONSIDERED PRELIMINARY SUBJECT TO CHANGE UNLESS EMBOSSED HERE

GEORGE A. COURBRON JR PLS #1126

DVIEW 55*

SHEET 2 OF 8 FILE # 02-4004



EXISTING CONDITION PLAN

"DEER RIDGE"

DEER ROAD - LEWISTON, MAINE

ANDROSCOGGIN COUNTY

PREPARED FOR

LAND TREE CORP.

P.O BOX 33465 - AUBURN, MAINE 04212

⊕	SURVEY MONUMENT FOUND (AS NOTED)
EP	EDGE OF PAVEMENT
— — — —	EDGE OF GRAVEL
—o—	UTILITY POLE WITH OVERHEAD WIRES
N/F	NOW OR FORMERLY
862/366	BOOK/PAGE NUMBERS
——— ———	PROPERTY LINES PER TAX MAP
	WETLAND/ UPLAND BOUNDARY
	WETLAND AREA
	EXISTING FIRE HYDRANT

NOTES:

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2.) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS (ACRD).

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B.) "REVISION ONE MICHAUD HEIGHTS" BY ALIBERTI, LAROCHELLE & HODSON DATED NOVEMBER 04, 1988 RECORDED IN SAID REGISTRY IN PLAN BOOK 34 PAGE 122.
C.) "REVISION ONE 7 LOT COMPOSITE PLAN" FOR LAND TREE CORP. PROPERTY BY SURVEYWORKS INC. DATED MAY 28,2002, REVISED AUGUST 05, 2002, REVISED SEPTEMBER, 02 2003 (NOT RECORDED).

4.) PARCEL IS SHOWN ON CITY OF LEWISTON TAX MAP 166 LOT 20.

5.) TOTAL ACREAGE OF PARCEL TO BE SUBDIVIDED= 18.42 ACRES.

6.) OWNER OF RECORD: LAND TREE CORP. SEE DEED FROM FRANCIS W. LASSE DATED DECEMBER 28, 1981 RECORDED AT SAID REGISTRY IN BOOK 2196 PAGE 175

7.) PERIMETER BOUNDARY INFORMATION WAS TAKEN FROM THE PLAN REFERENCED IN NOTE 3A. NO INDEPENDENT VERIFICATION OF THESE LINES HAS BEEN DONE BY THIS SURVEYOR.

8.) THE DEPTH, SIZE, LOCATION, EXISTENCE OR NON- EXISTENCE OF UNDERGROUND UTILITIES AND/OR STRUCTURES WERE NOT VERIFIED BY THIS SURVEYOR. BEFORE EXCAVATIONS BEGIN DIG SAFE OR OTHER QUALIFIED AGENCIES SHOULD BE NOTIFIED.

9.) SOIL TEST PIT BORING AND WETLANDS BOUNDARY LOCATIONS WERE ESTABLISHED ON THE SITE BY SURVEYWORKS INC. OF GREENE, MAINE, AND ARE SHOWN APPROXIMATELY ONLY. ACTUAL LOCATIONS WERE FLAGGED AND MARKED ON SITE, AND SHALL BE DETERMINED AS NECESSARY BY THE CONTRACTOR OR LOT OWNER BEFORE BEGINNING CONSTRUCTION. ALL PERMITS REQUIRED, IF ANY, SHALL BE RETAINED BEFORE BEGINNING ANY SOIL ALTERATION OR CONSTRUCTION WITHIN MAPPED WETLAND AREAS. THE AREA OF ANY WETLANDS ALREADY ALTERED ON THIS PROJECT AT THE TIME OF CONSTRUCTION SHALL BE TOTALED, BEFORE ANY NEW WETLANDS ALTERATION IS BEGUN, TO DETERMINE IF PERMITTING WILL BE REQUIRED FOR SAID NEW ALTERATION, UNDER THE THEN EXISTING LAWS OF THE STATE OF MAINE.

10.) TOPOGRAPHIC INFORMATION IS BASED ON THE PLAN REFERENCED IN NOTE 3A.

ZONING: NEIGHBORHOOD CONSERVATION "A" DISTRICT (NCA)

DIMENSIONAL REQUIREMENTS:

SINGLE FAMILY DETACHED DWELLINGS
SERVICED BY PUBLIC SEWER

MINIMUM LOT AREA	7,500 sqft
MINIMUM FRONTAGE	75 FEET
MINIMUM FRONT YARD	20 FEET
MINIMUM REAR YARD	10 FEET
MINIMUM SIDE YARD	10 FEET
MAXIMUM LOT COVERAGE RATIO	30%
MAXIMUM BUILDING HEIGHT	35 FEET

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

PREPARED BY

SurveyWorks, Inc.

Land Use Consultants

528 River Road
Greene, Maine 04236

APRIL 06, 2007
DATE

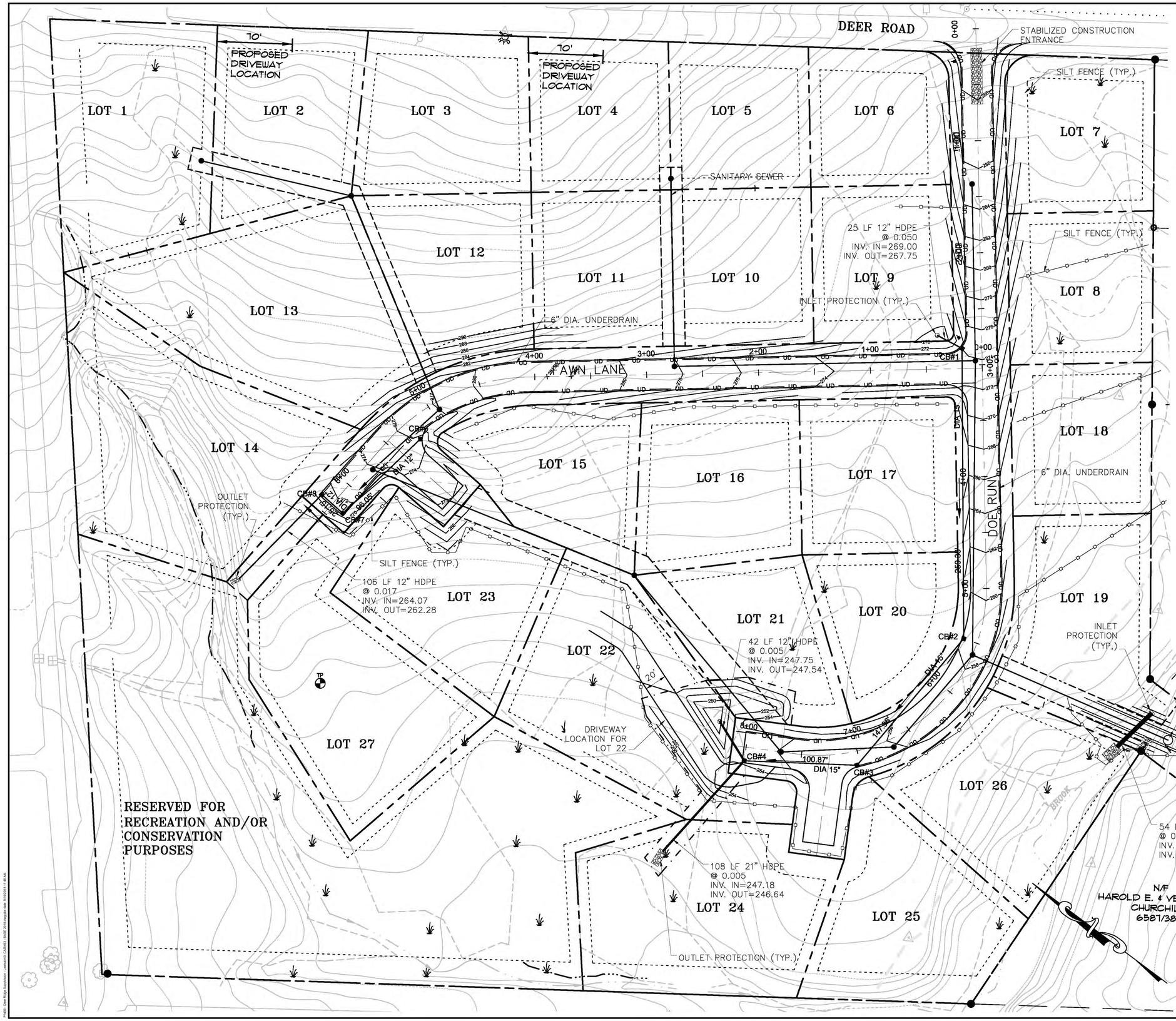
GEORGE A. COURBRON JR PLS #1126

STATE OF MAINE GEORGE A. COURBRON, JR. #1126 PROFESSIONAL LAND SURVEYOR

PLAN SHALL BE CONSIDERED PRELIMINARY SUBJECT TO CHANGE UNLESS EMBOSSED HERE

DVIEW 55*

SHEET 3 OF 8 FILE # 02-4004



NOTES:

1. ELECTRIC, CABLE AND PHONE UTILITIES TO BE UNDERGROUND AND TO BE DESIGNED, LOCATED AND INSTALLED BY THE RESPECTIVE UTILITY COMPANY.
2. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE CITY OF LEWISTON'S REQUIREMENTS.
3. FIRE HYDRANTS SHALL CONFORM TO THE CITY OF LEWISTON STANDARDS FOR FIRE HYDRANTS.
4. SEWER PIPING SHALL BE PVC SDR 35 PIPE WITH WATERTITE CONNECTIONS. MANHOLE SHALL BE PRECAST CONCRETE WITH BRICKED INVERTS AND BOOTED PIPE CONNECTIONS.
5. SERVICE CONNECTIONS TO MANHOLES SHALL BE BROUGHT IN AT TOP OF SHELF.
6. STREET LIGHTING TO BE PROVIDED AT ENTRANCE AND AT INTERSECTION OF DOE RUN AND FAWN LANE.
7. ALL CATCH BASINS TO BE CASCADE STYLE GRATES.
8. ANY ROAD SECTION TO BE BUILT IN A WETLAND AREA TO INCLUDE A STABILIZATION GEO-TEXTILE MESH ACROSS THE ENTIRE SECTION.

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NORMAN G. CHAMBERLAIN II
No. 7144
LICENSED
PROFESSIONAL ENGINEER

DEER RIDGE SUBDIVISION
34 DEER ROAD
LEWISTON, MAINE

GLEN DUBE
94 JORDAN BRIDGE ROAD
P.O. BOX 819
SABATTUS, MAINE

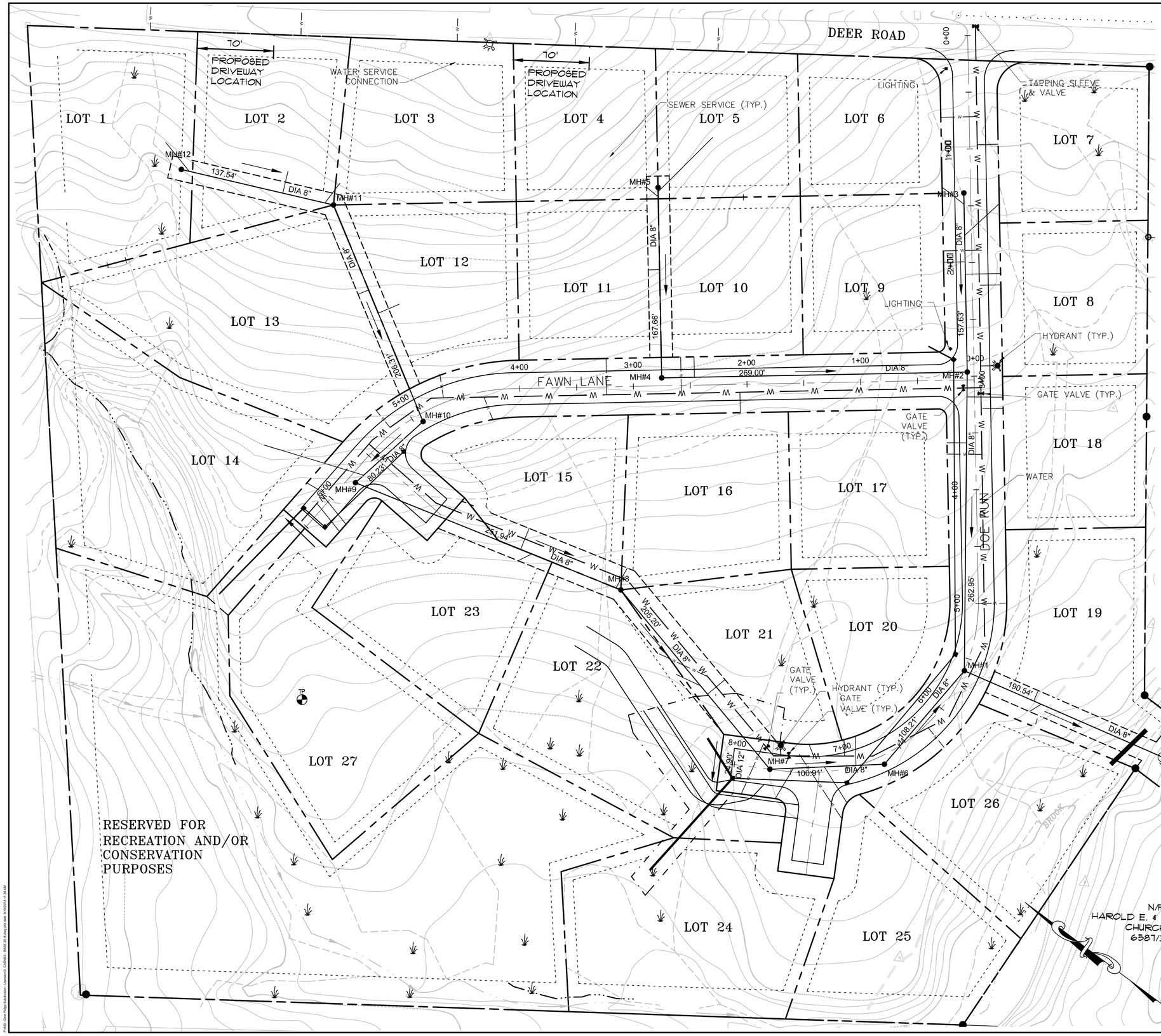
Rev.	Date	Description	Drawn	Check
FOR PREVIOUS VERSIONS OF THESE PLANS AND SUPPORTING DOCUMENTS SEE TAYLOR ENGINEERING PROJECT # 2006-004				
1	9/18/18	REVISIONS PER CITY OF LEWISTON COMMENTS	JDC	NGC

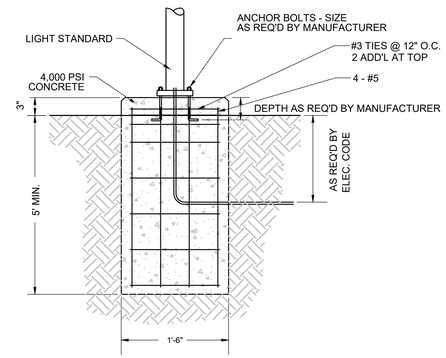
Sheet Title:

GRADING AND DRAINAGE PLAN

Job No.: 493	Sheet No.:
Date: Aug 17, 2018	4 of 8
Scale: AS SHOWN	
Drawn: JAH / NGC	
Checked: NGC	

P:\93-Deer Ridge Subdivision Lewiston\CADMAT\ 8/9/2018 Aug/ink date 9/18/2018 11:46 AM





LAMP POST FOUNDATION

NOT TO SCALE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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3	[illegible]	REVISIONS PER PLAN REVIEW COMMENTS	JDC	NGC

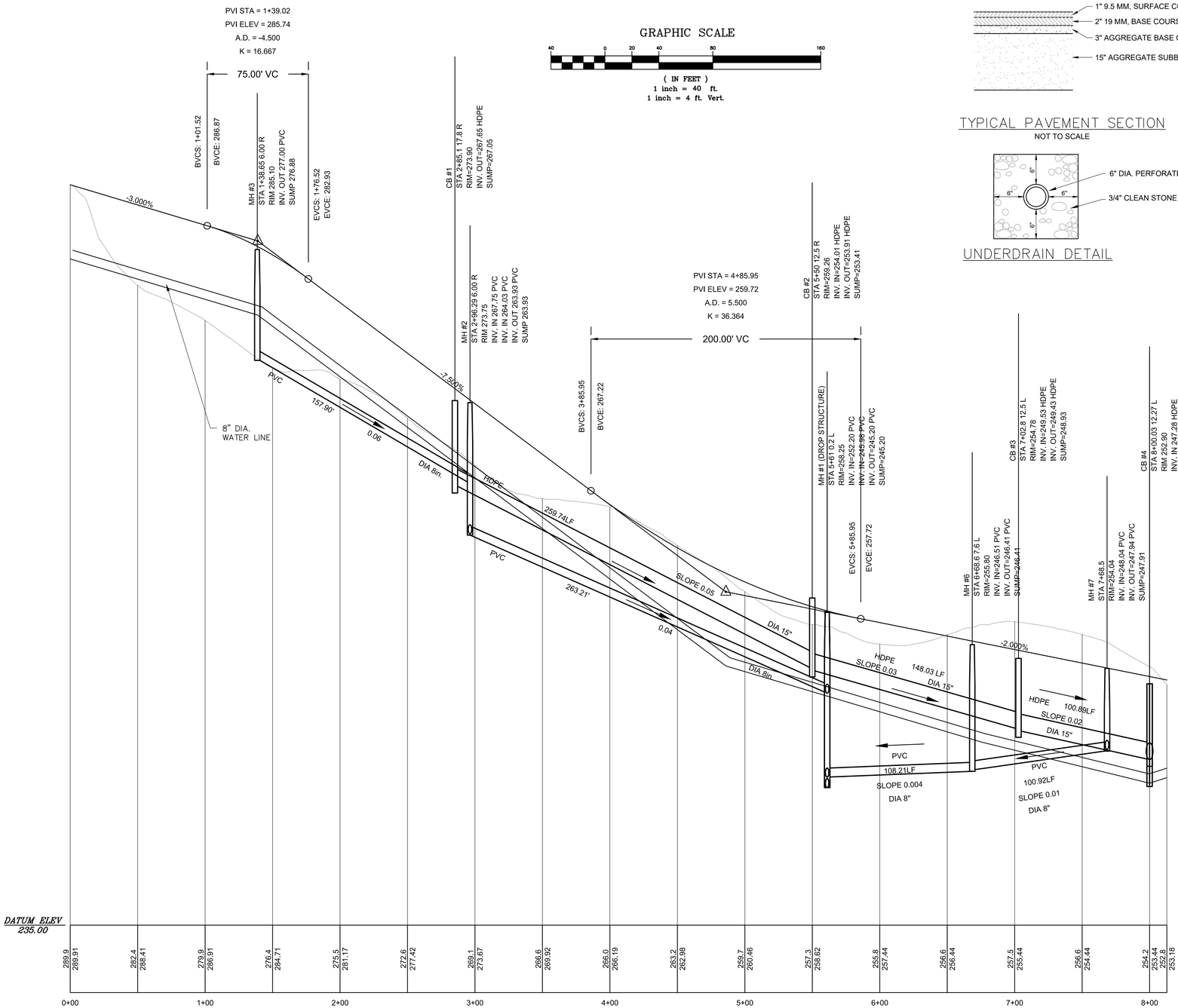
Sheet Title:

UTILITY PLAN

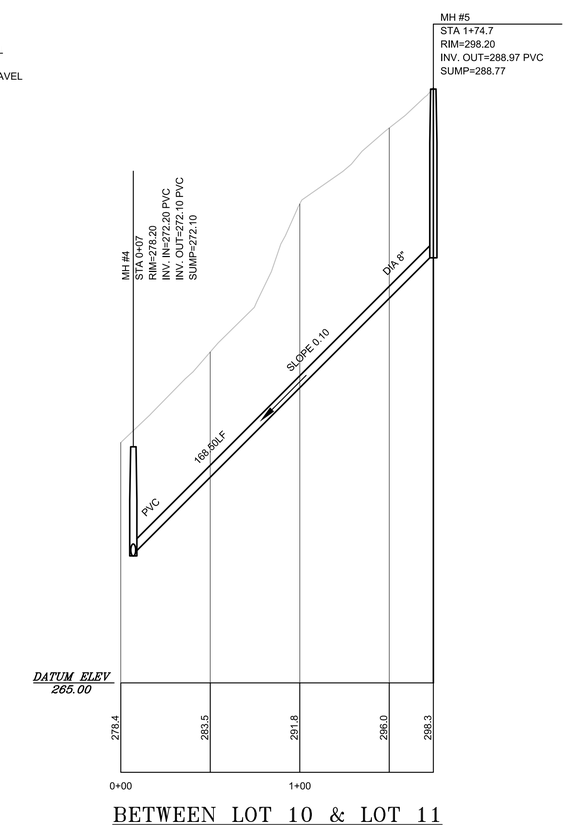
Job No.:	493
Date:	August 7, 2018
Scale:	AS SHOWN
Drawn:	JAH / NGC
Checked:	NGC

Sheet No.:

5 of 8



DOE RUN

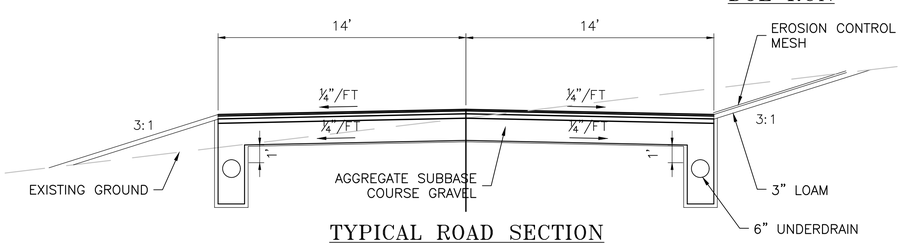


BETWEEN LOT 10 & LOT 11

TYPICAL PAVEMENT SECTION

NOT TO SCALE

UNDERDRAIN DETAIL



TYPICAL ROAD SECTION

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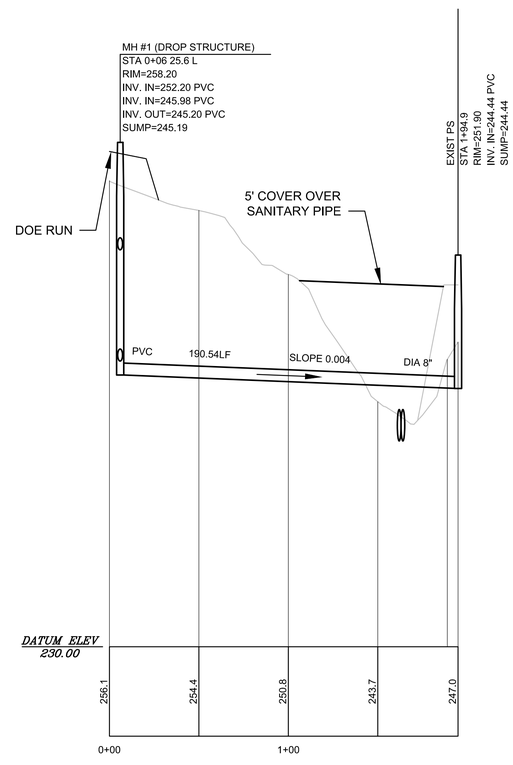

X-COUNTRY FROM P.S.

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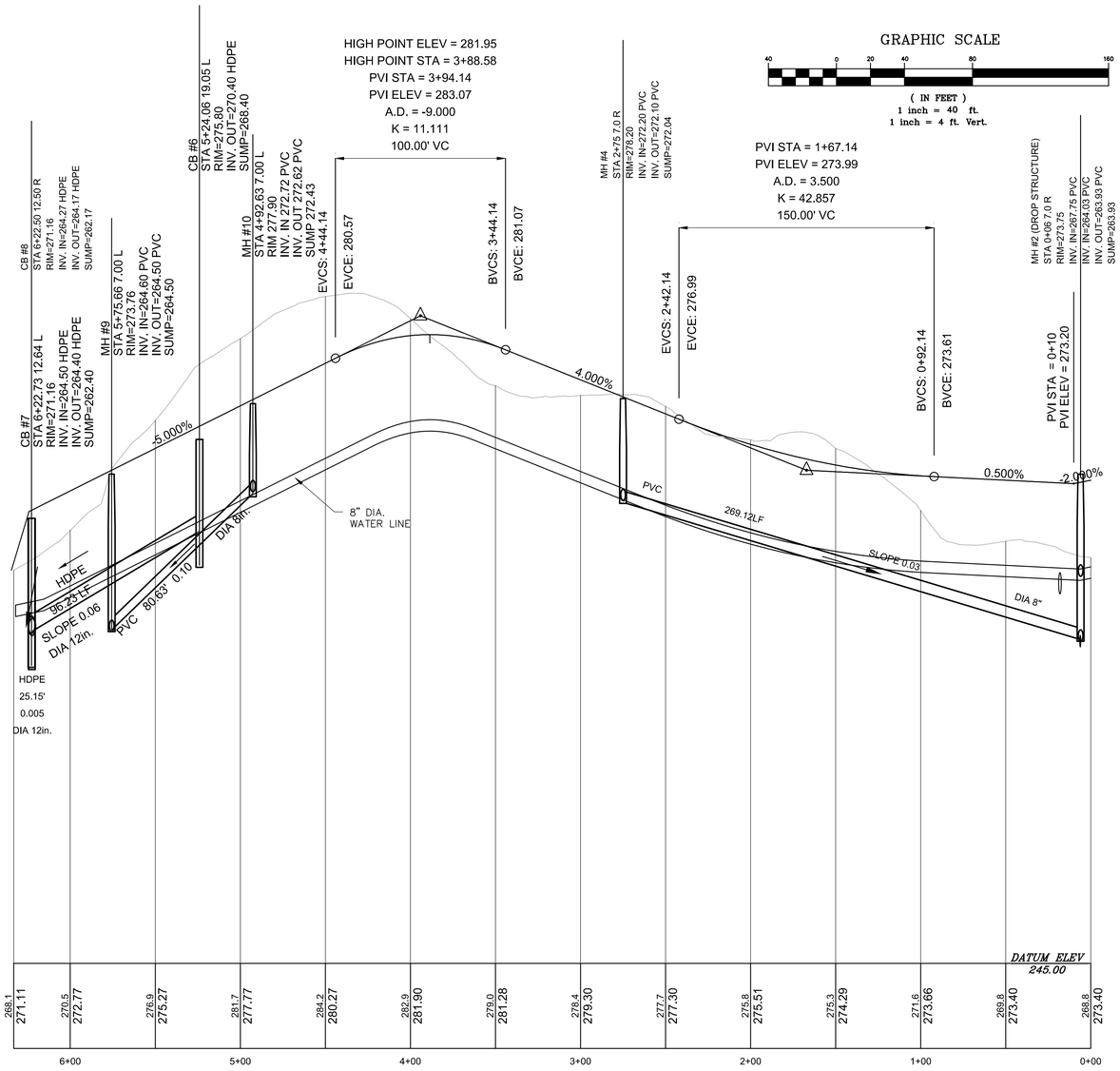
1	[illegible]	REVISED PER PLANNING BOARD REVIEW COMMENTS	JDC	NGC

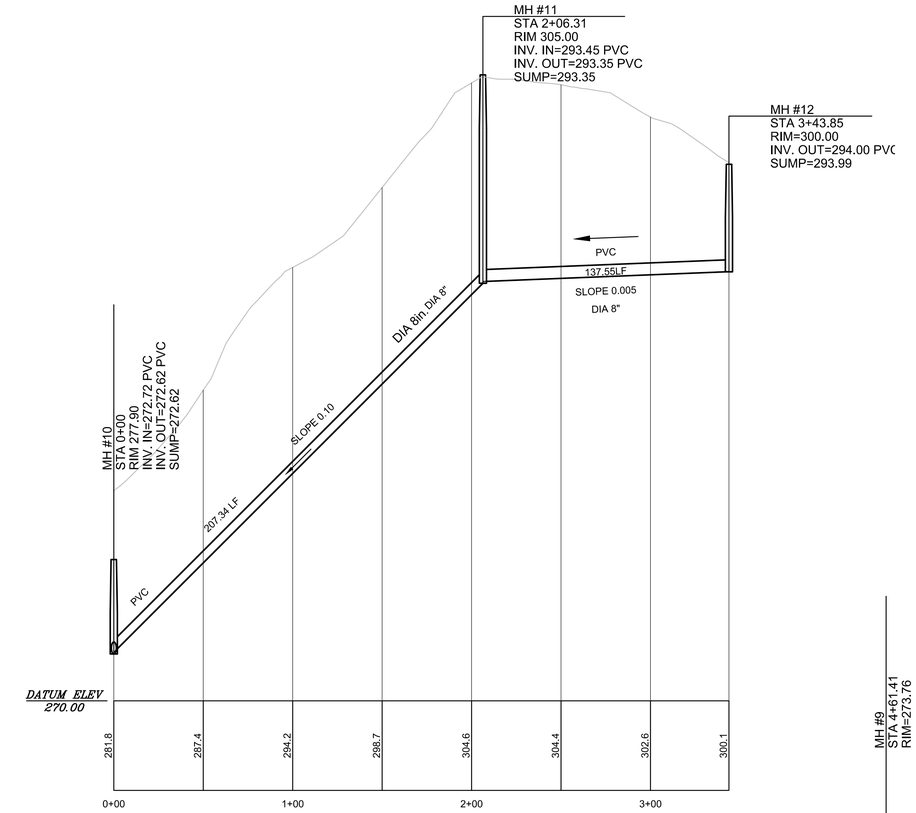
Sheet Title:

PROFILES & SECTIONS

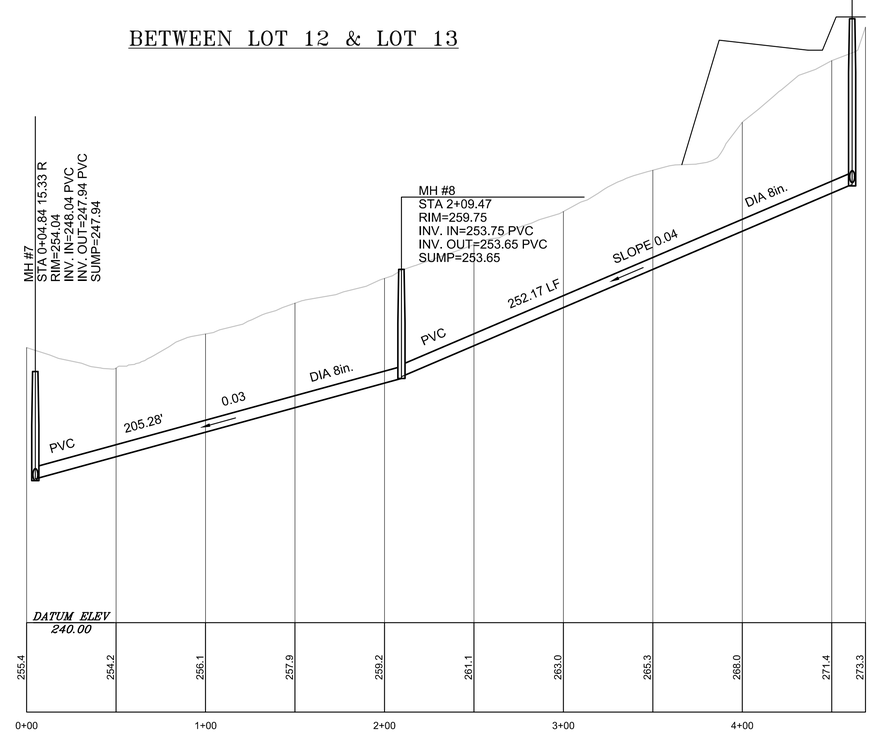
Job No.: 493	Sheet No.:
Date: August 7, 2018	6 of 8
Scale: AS SHOWN	
Drawn: JAH / NGC	
Checked: NGC	



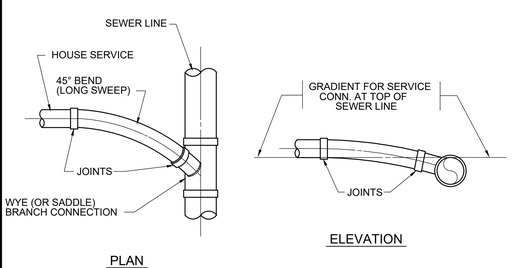
FAWN LANE



BETWEEN LOT 12 & LOT 13



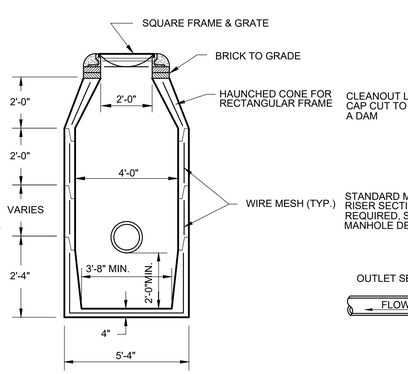
BETWEEN LOT 23 & LOT 24



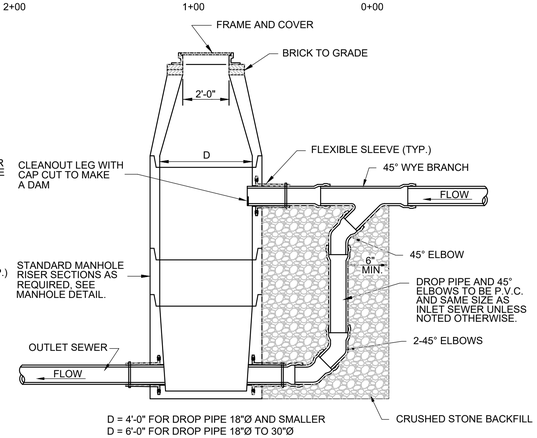
PLAN

ELEVATION

TYPICAL HOUSE SEWER CONNECTION



TYPICAL CATCH BASIN



MANHOLE DROP CONNECTION

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3	8/8/2018	REVISIONS PER DEVELOPER REVIEW.	JDC	NGC

Sheet Title:

PROFILES & DEETAILS

Job No.:	493
Date:	Aug 7, 2018
Scale:	AS SHOWN
Drawn:	JAH / NGC
Checked:	NGC

Sheet No.: 7 of 8

EROSION AND SEDIMENTATION CONTROL MEASURES

These proposed measures are based upon sound engineering and soil conservation practices and incorporate Best Management Practices for sedimentation and erosion control as presented in Maine Erosion and Sedimentation Control Handbook for Construction: Best Management Practices, March 2003, by the Cumberland County Soil and Water Conservation District and the State of Maine Department of Environmental Protection. The Developer and his General Contractor are directed to have a copy of these documents on hand during the construction of this project to supplement the following plan.

1. General Recommendations

In order to prevent erosion and sedimentation before, during and after construction of this project, the Owner and its General Contractor will make an effort at all times to:

1. Minimize disturbed areas.
2. Seed and mulch disturbed areas ready for revegetation immediately after final grading or use temporary mulch.
3. Correct any erosion problems immediately.
4. Monitor and maintain all of the proposed practices on a regular basis.

2. Construction Phase

Erosion and sedimentation will be controlled from this site by a series of recommended measures. They consist of a number of site specific nonstructural and structural measures as outlined below, as well as general nonstructural measures that apply throughout the construction period.

2. General Measures

(1) The contractor is required to inspect and maintain all soil erosion control measures required by these documents and by the BMP Manual. A log of the inspection and maintenance activities will be kept and made available on request. The log shall be retained for at least three years.
(2) Houskeeping as outlined in Appendix C of Chapter 500, the Stormwater Law, will be required on this project.
(3) Only those areas under active construction will be cleared and left in an unvegetated or untreated condition. Final grading, loaming and seeding will take place before August 15. Refer to Permanent Revegetation Measures section for details. If disturbed areas are to be left unvegetated for longer than 7 days, then temporary stabilization measures need to be taken. (See "Permanent Revegetation Measures" below.)
(4) For areas that cannot be stabilized before November 1, Overwinter Construction and Stabilization procedures outlined in BMP A-3 must be used.
(5) Before starting construction, mark limits of disturbance and install sediment barriers (See Temporary Measures below) at the toe of all fill slopes and in any other areas shown on the Site Plan for this project.
(6) Land Grading and Slope Protection shall follow the guidelines in section C-1 of the manual.
(7) Topsoil will be stockpiled during construction. Stockpiles will be:
(A. Surrounded by a sediment barrier.
(B. Placed in piles with side slopes not to exceed 2:1.
(C. Mulched immediately and anchored with plastic netting.
(8.) If any disturbed areas are expected to be left exposed for longer than 14 days, they will be either:
(A. Treated with mulch immediately, or
(B. Seeded with a standard conservation mix of annual rye grass at a rate of 0.9 lbs/1000 sf and mulched.
(C. All grading will be held to a maximum slope of 2H:1V or flatter.
(D. Mulching will follow procedures in BMP A-1, Temporary Mulching.

3. Temporary Measures

(6) The following, temporary nonstructural measures have been recommended by the Project Engineer for this project. Reference is also made to the relevant BMP in the aforementioned Manual. Installation details for the following measures are presented on this sheet.
(1) Sediment Barriers (BMP B-1) - Synthetic silt fencing shall be installed at the toe of all fill slopes shown on the plans.
(2) Stabilized Construction Entrance (BMP B-4) - Synthetic filter cloth overlain with stone aggregate shall be installed as shown on the plans.

4. Permanent Measures

(1) The following, permanent structural measures have been recommended by the Project Engineer for this project. Reference is also made to the relevant BMP in the aforementioned Manual. Installation details for the following measures are presented on this sheet.
(1) Pipe Inlet Protection (BMP E-2) - Construct riprap pipe inlet protection at driveway and cross culverts to minimize erosion at these locations.
(2) Pipe Outlet Protection (BMP E-3) - Construct riprap plunge pool pipe outlet protection as detailed where shown on the plans to minimize erosion at culvert outlets.

5. Permanent Revegetation Measures

(1) The following measures will be used to establish permanent grass and legume cover for all lawn areas as soon as final grading has occurred. Refer to BMP C-3 if a more detailed description is necessary.
(2) Topsoil will be placed and graded to a uniform minimum depth of 4 inches. If the subsoil is compacted, it should be properly scarified to create the requisite bonding between subsoil and topsoil. In areas where the subsoil is determined to provide an adequate growth medium, topsoil will not be necessary. Refer to BMP C-2 for additional information.
(3) Apply limestone and fertilizer according to soil test results. If testing is not feasible and timing is critical, apply fertilizer (10-20-20) at a rate of 18.4 lbs/ 1000 sq.ft., and ground limestone at a rate of 138 lbs/ 1000 sq.ft.. Work the fertilizer and limestone into the soil as nearly as practical to a depth of 4 inches with a disc, spring tooth harrow, or other suitable equipment, working along the contour.
(4) Permanent seeding shall be completed before August 15. Use seeding mixture recommended by the Maine DOT, USDA Soil Conservation Service or local Soil and Water Conservation District. A recommended broadcast seeding mixture is (in lbs/1000 sq ft): .46 lbs Creeping Red Fescue, .46 lbs Tall Fescue, and .05 lbs Red Top (Total of .97 lbs). For Hydroseeding increase these rates by 10%.
(5) After seeding, an area shall be mulched immediately. In general, all disturbed areas will be mulched using straw mulch, hydro-mulch or any suitable substitute as outlined in BMP A-1, and deemed acceptable by the Project Engineer. Straw mulch shall be applied at a rate of 2 bales/ 1000 sq.ft. Straw mulch shall be anchored on all slopes greater than 5% with degradable/biodegradable netting.
(6) If permanent seeding cannot take place before August 15, then all areas ready for permanent seeding shall be have a temporary seeding and/or mulch applied until a permanent seeding can be undertaken in the spring of the following year. The recommended temporary seeding is Annual Winter Rye broadcast seeded at a rate of 2.4 lbs/1000 sq.ft. If seeding cannot take place until late October or November, then the prepared soils shall be covered with staked, erosion control mats or a 6 inch layer of wood chips until seeding can take place the following spring.
(7) Following final seeding, the Owner and General Contractor shall insure that all seedings are checked after each storm event and every 30 days until there is a catch of at least 80% of the seeds. If any seed is lost to erosion or the catch is not adequate, then the Developer will reseed those areas.

6. Monitoring Schedule

The Owner and General Contractor will be responsible for installing, monitoring, maintaining, replacing and removing, where required, all of the erosion and sedimentation control measures recommended in this plan. A qualified subcontractor may be appointed for this element of the plan. The Codes Enforcement Officer should be kept notified of the implementation of this plan and requested to conduct follow-up inspections. Maintenance measures will be applied as needed during the construction cycle. After each rainfall event, a visual inspection will be made of all measures to insure that they are functioning as designed. Further detailed inspections must be made as follows:

1. The silt fencing and stone check dams will be inspected and repaired once a week or immediately after any significant rainfall. Sediment trapped behind these barriers will be removed when it reaches a depth of 6" and redistributed to areas undergoing final grading.
2. Erosion Control Blankets and Mats, if used, will be inspected and repaired once a week or immediately after any significant rainfall.
3. Removal of Temporary Erosion Control Measures

Silt fencing is a temporary measure that has to be removed once vegetation has become established and areas are stable. This occurs when there is an 80% growth of planted seeds and paving has occurred. Silt fencing will be disposed of legally and off-site. All sediment trapped behind the fencing will be either:

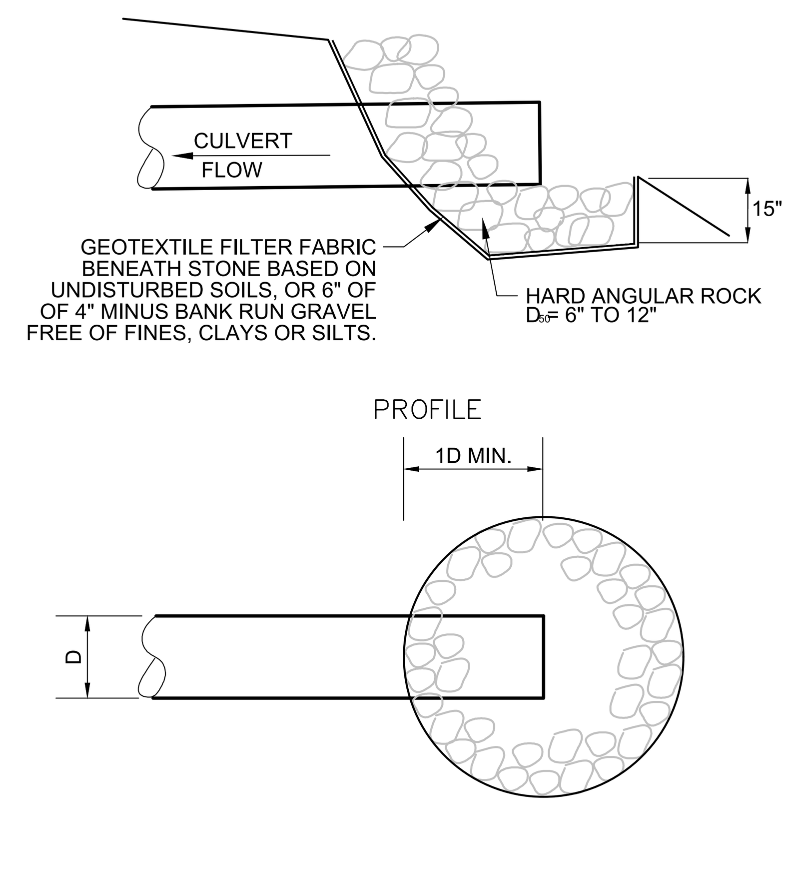
4. Distributed to an area undergoing final grading.
5. Graded in an aesthetic manner to conform to the topography, and fertilized, seeded and mulched in accordance with the Permanent Revegetation Measures section in this Plan.

7. Site Work Construction Schedule

It is proposed that construction will begin in the Springl of 2007. Building construction activities will be continued through the winter. The building should develop, implement and maintain an individual soil erosion control plan. The schedule shown below is a general outline of the construction sequence for the road.

Winter 2006/Spring 2007/Summer 2007

(1) Construct silt fencing and stabilized construction entrance as shown on plans.
(2) Grub the road location and stockpile and stabilize the topsoil.
(3) Rough grade road footprint.
(4) Begin construction of road foundations. Immediately repair any damage to soil erosion control measures.
(5) Inspect and maintain erosion control measures on a daily basis.
(6) Clean up site and fine grade disturbed areas as necessary. Remove any sediment from road ditches and swales.
(7) Spread loam on disturbed areas and fertilize, seed and mulch.
(8) Remove soil erosion control measures after site has been stabilized and there is good vegetative cover throughout the site and dispose of properly.
(9) Construct residential buildings.
(10) Finish sitework and install all landscaping features.



CULVERT INLET PROTECTION DETAIL

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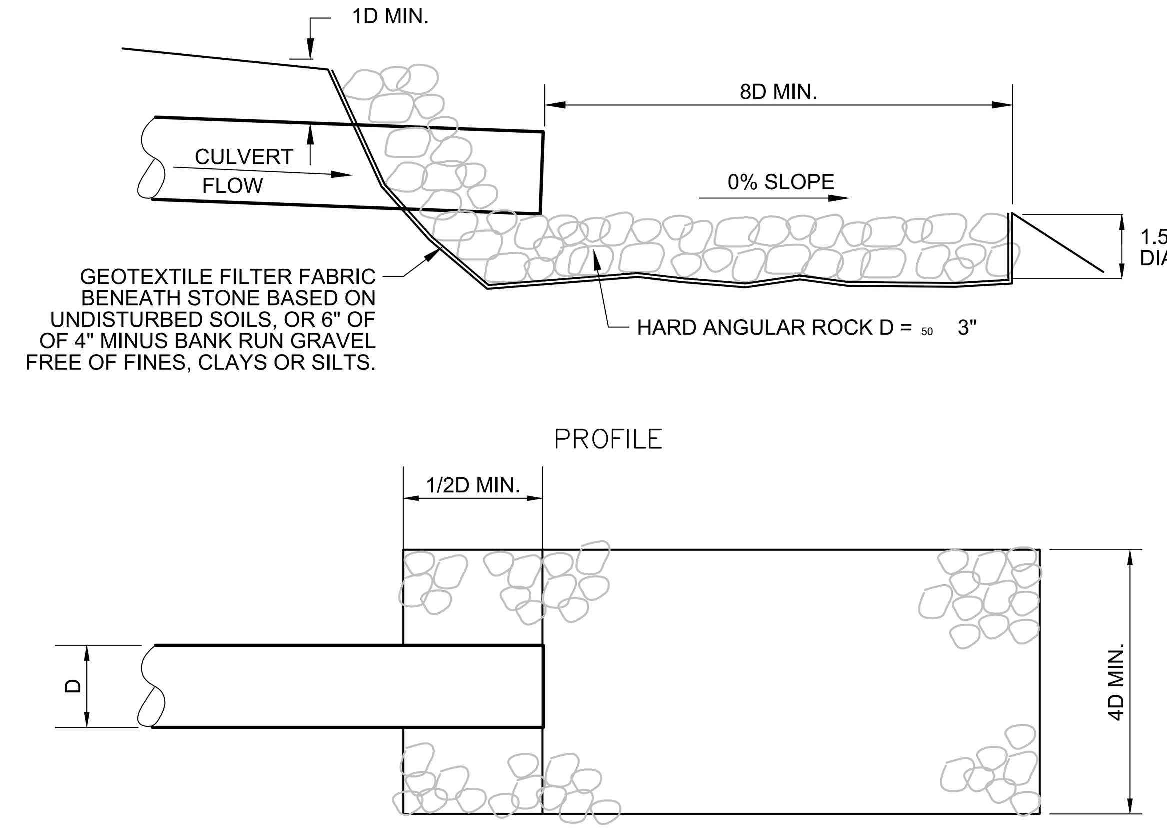

CULVERT OUTLET PROTECTION DETAIL

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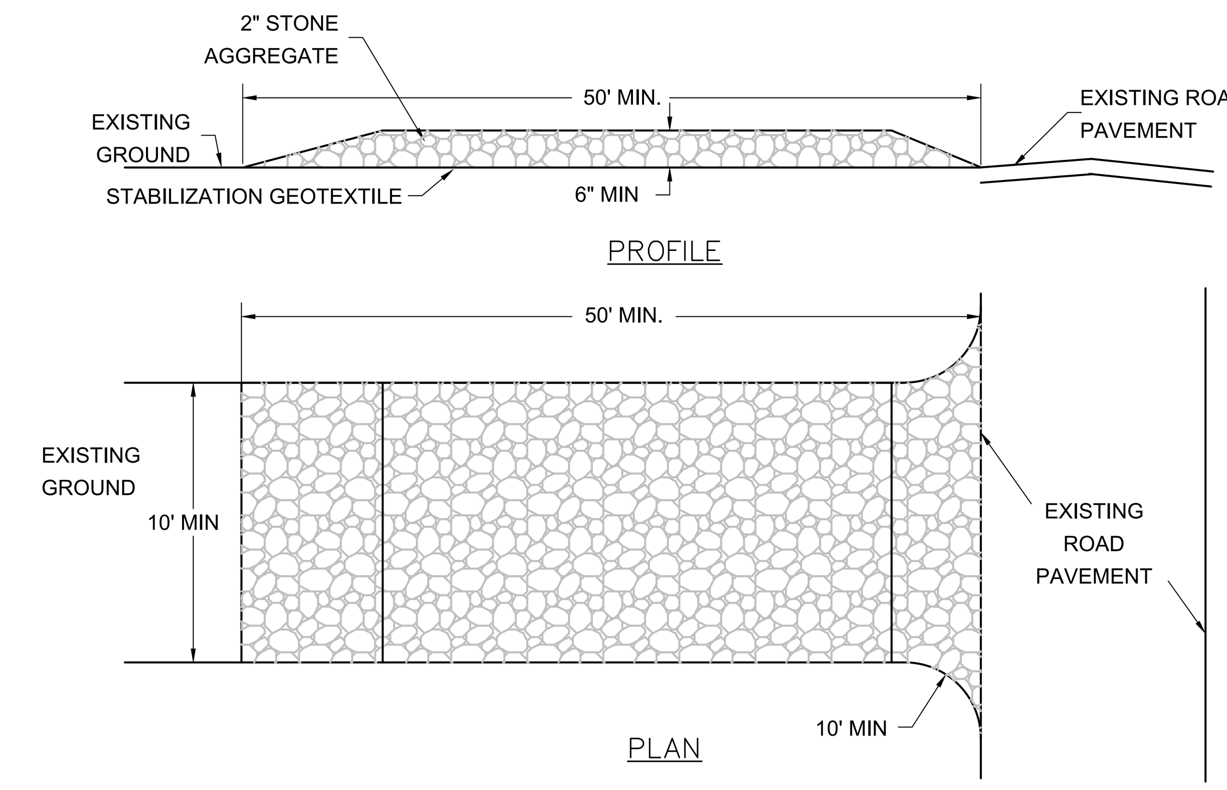

STABILIZED CONSTRUCTION ENTRANCE DETAILS

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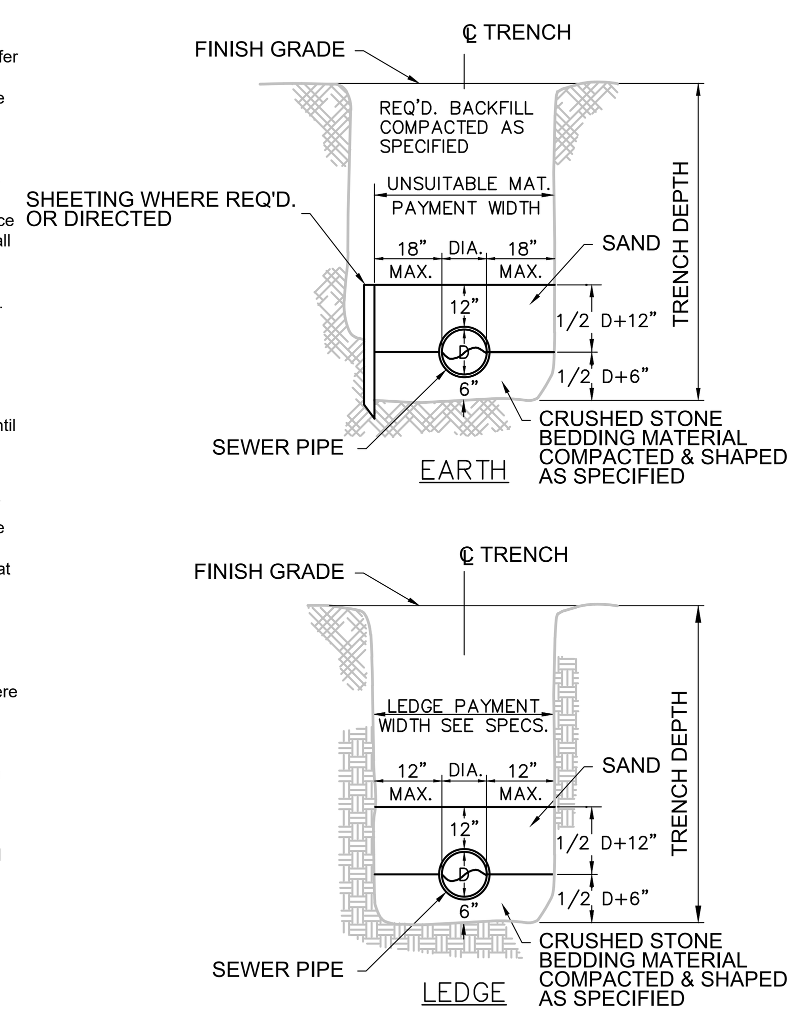
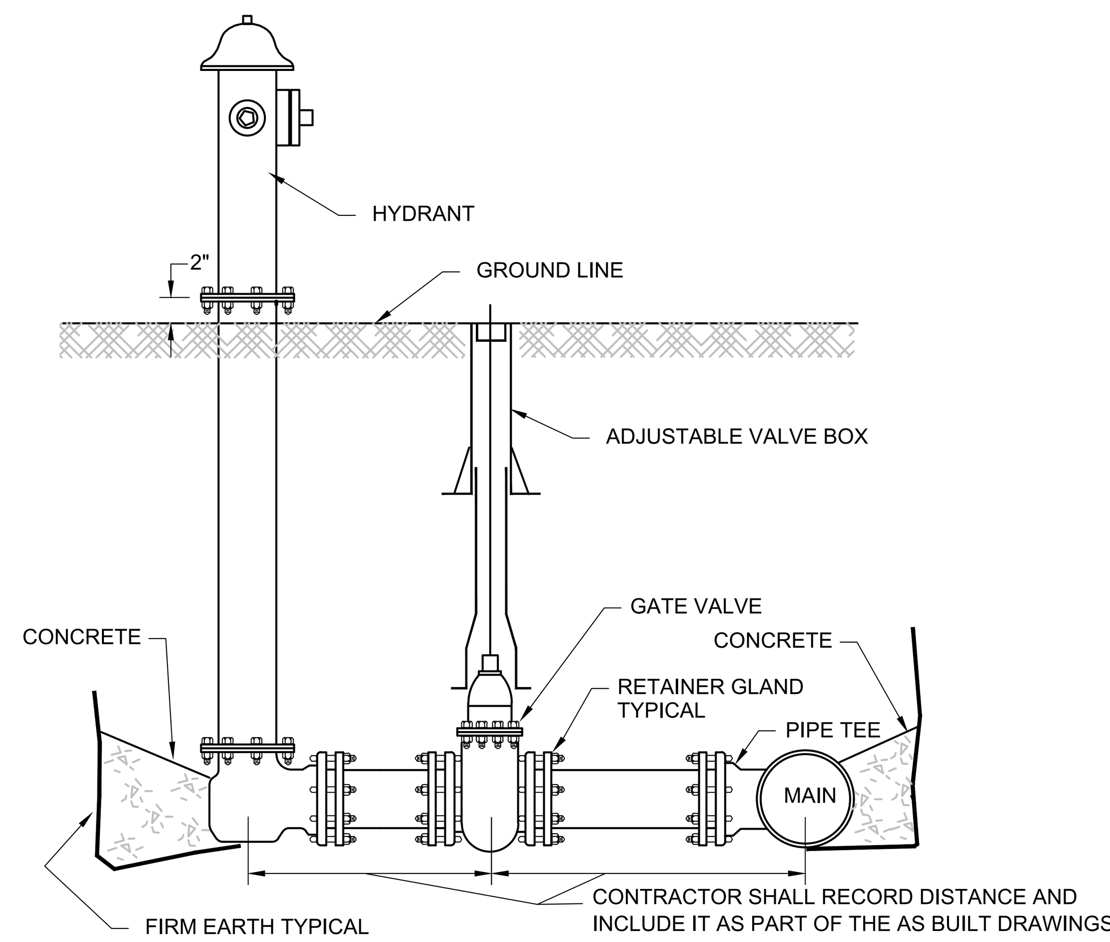
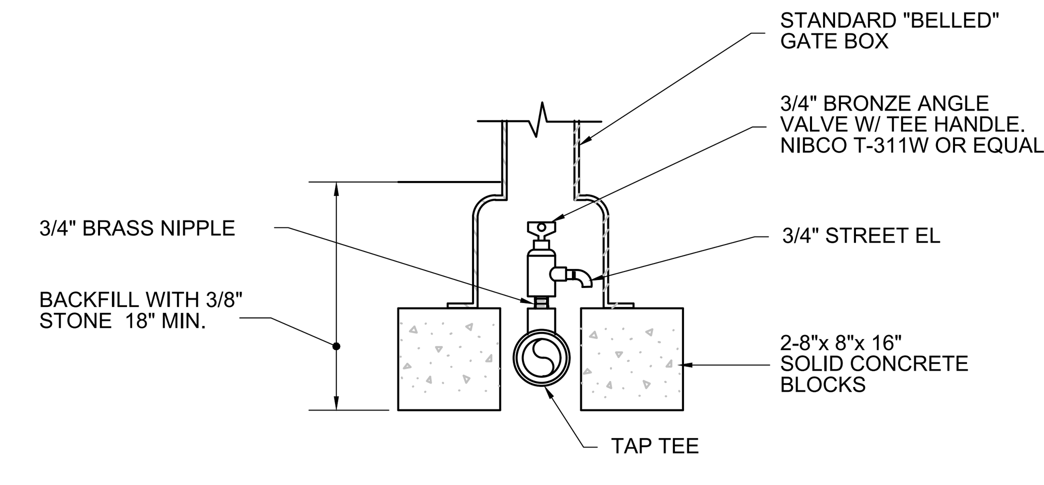


SEWER TRENCH EXCAVATION DETAILS

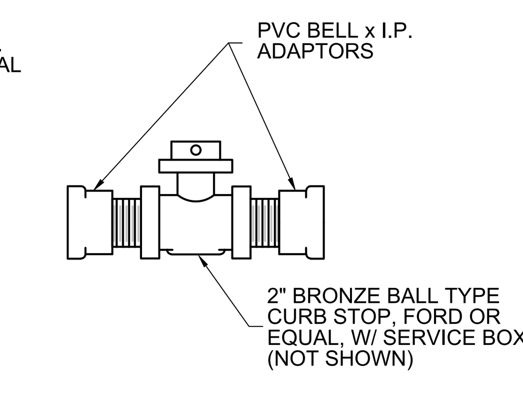


HYDRANT DETAIL



AIR RELEASE VALVE

N.T.S.



MAIN LINE VALVE

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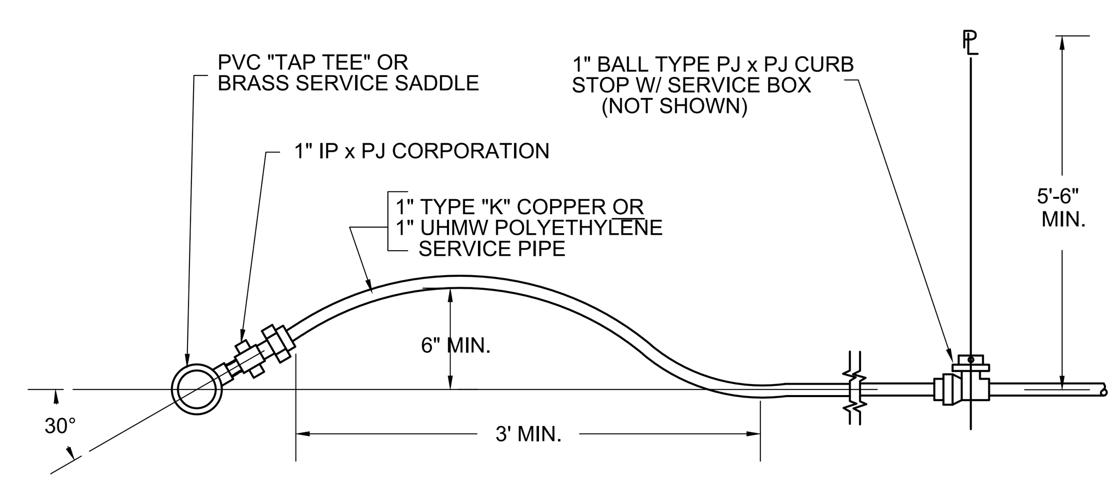
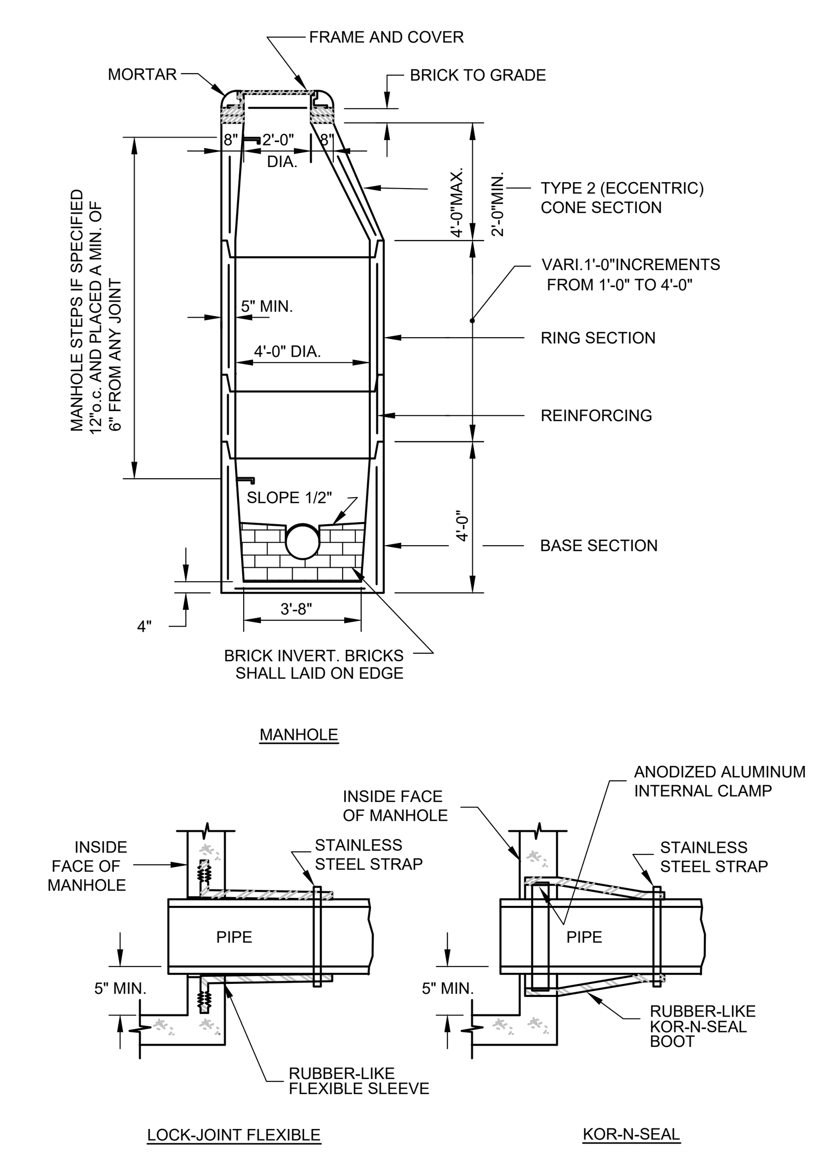
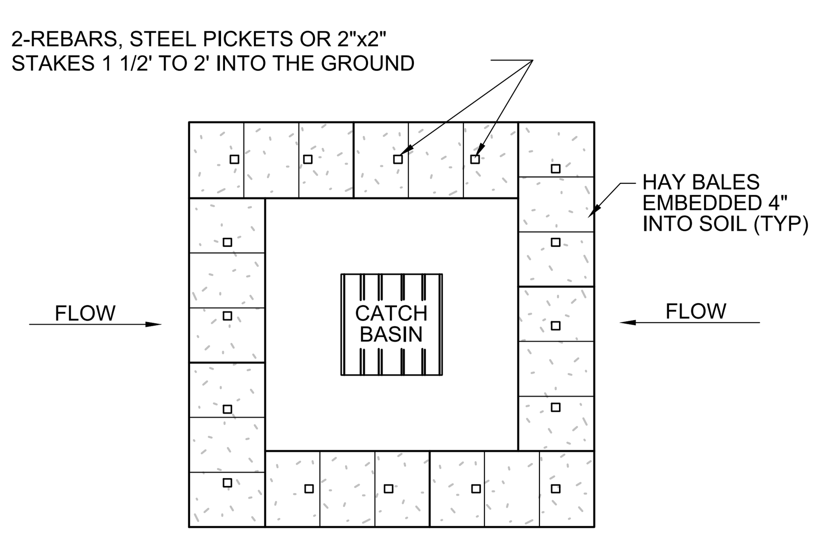


SERVICE CONNECTIONS

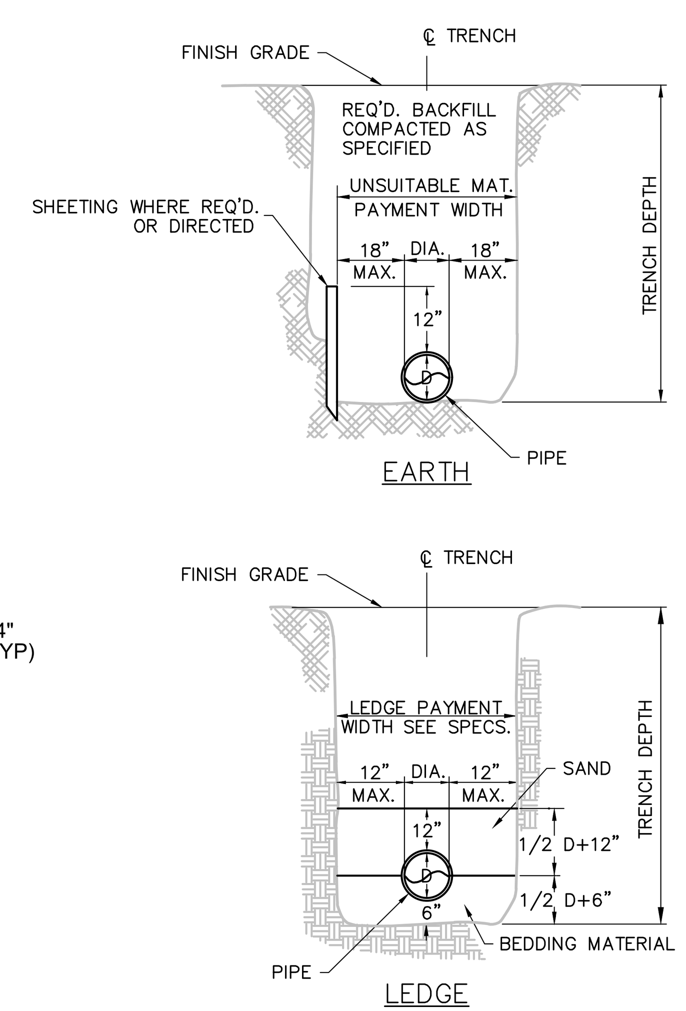
N.T.S.



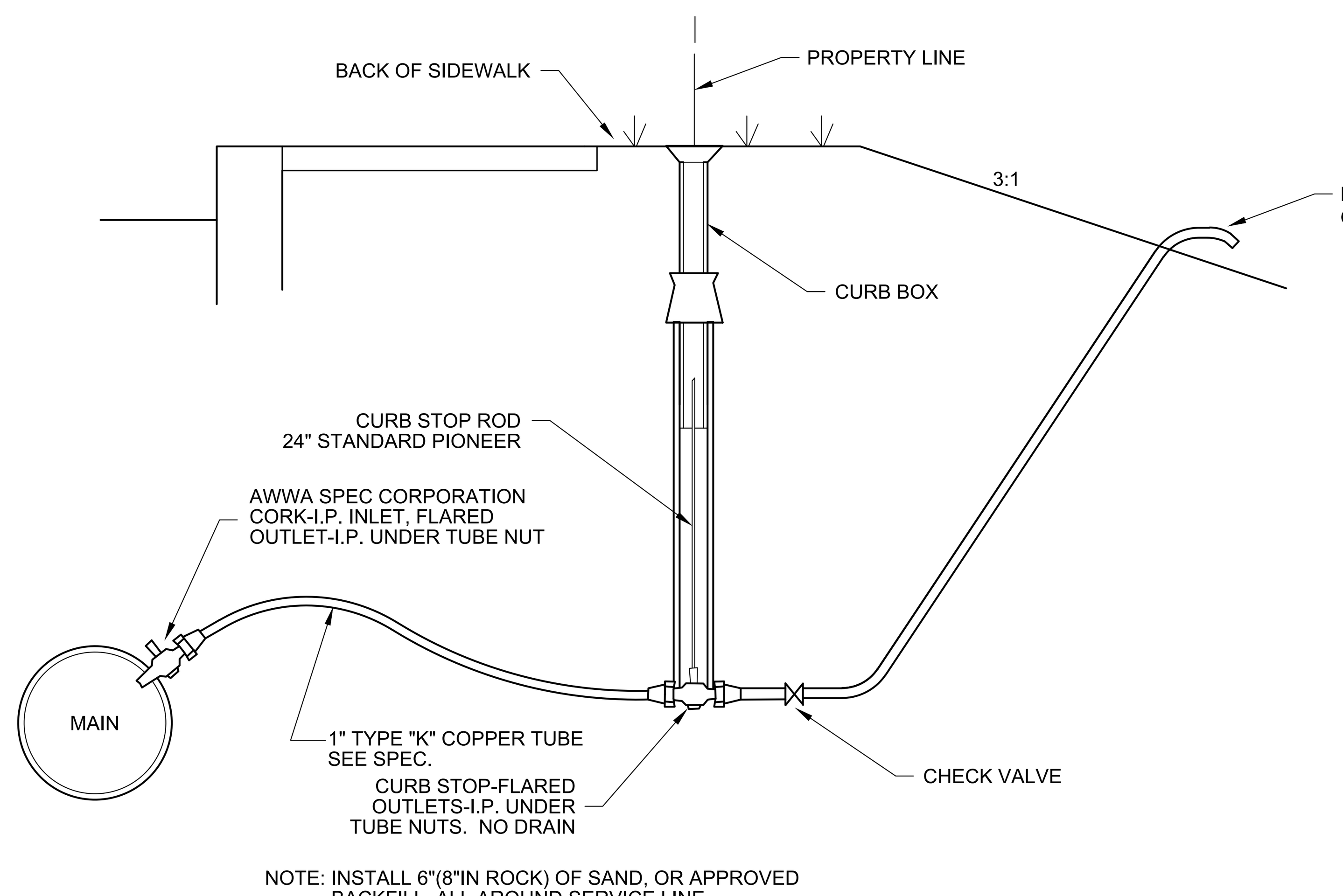
PRECAST CONCRETE MANHOLE



INLET PROTECTION DETAIL

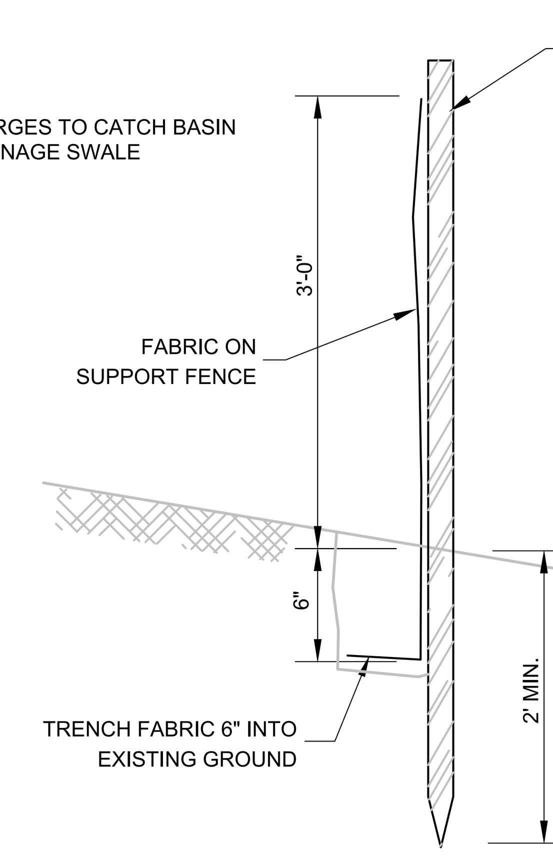


WATER TRENCH EXCAVATION DETAILS



NOTE: INSTALL 6"(8"IN ROCK) OF SAND, OR APPROVED BACKFILL, ALL AROUND SERVICE LINE.

BLEEDER DETAIL



SILT FENCE

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SABATTUS, MAINE

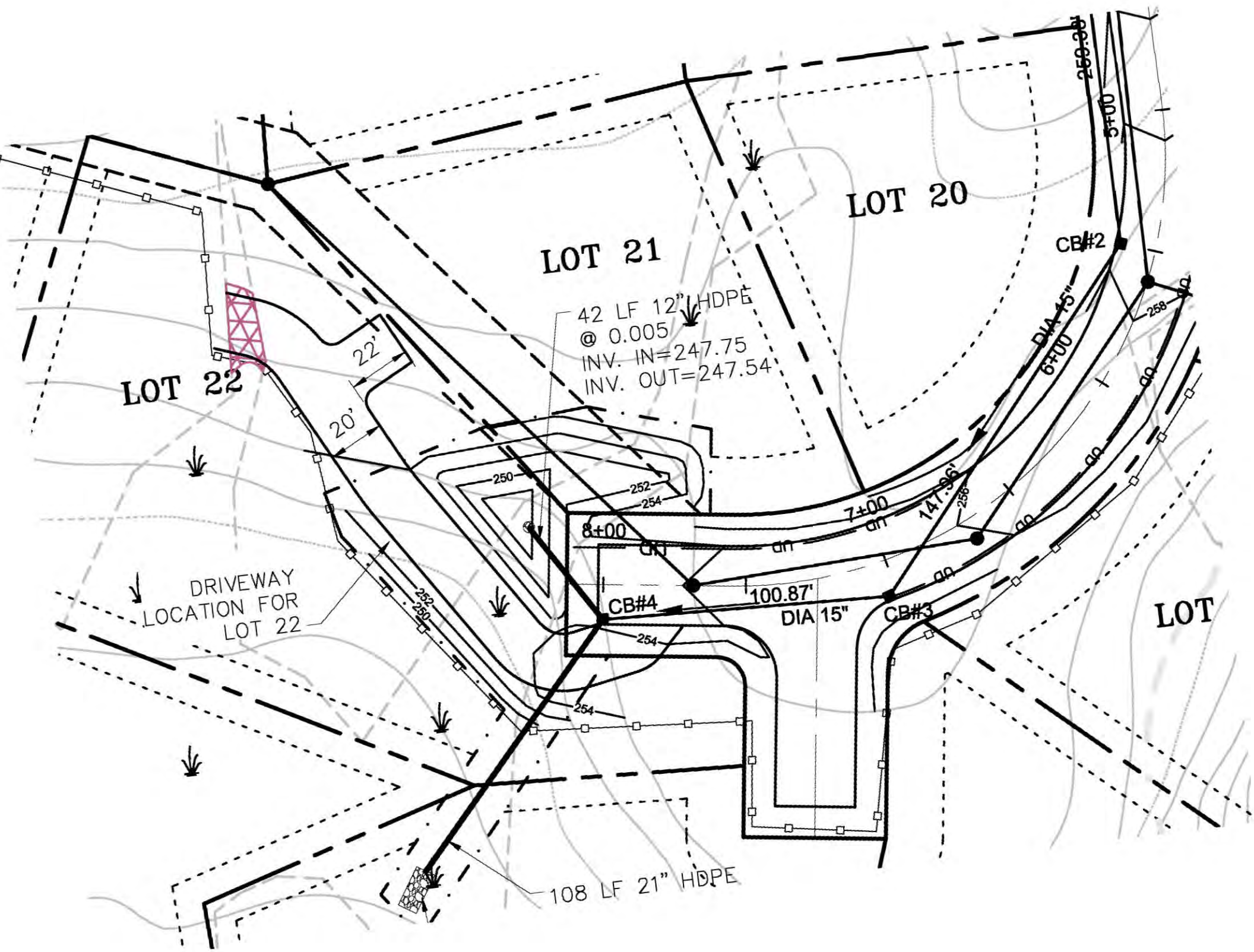
Rev.	Date	Description	Drawn	Check
FOR PREVIOUS VERSIONS OF THESE PLANS AND SUPPORTING DOCUMENTS SEE TAYLOR ENGINEERING PROJECT # 2006-004				
2	##/##/##	REAPPROVE PREVIOUSLY APPROVED SUBDIVISION	JDC	NGC

Sheet Title:

DETAILS & SEC PLAN

Job No.:	493
Date:	Aug 17, 2018
Scale:	AS SHOWN
Drawn:	JAH / NGC
Checked:	NGC

Sheet No.:


LOT 20
LOT 21
LOT 22
LOT
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@ 0.005
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INV. OUT=247.54
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20'
DRIVEWAY
LOCATION FOR
LOT 22
108 LF 21" HDPE
CB#2
CB#3
CB#4
DIA 15"
DIA 15"
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141.96'
3+00
6+00
7+00
8+00
250
252
254
256
258

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: September 24, 2018

RE: Parking Text Amendment, Agenda Item 4 b

A text amendment to Article XII, Performance Standards, Section 17, Parking, (d) Off-Street Parking Required and (e) Location of Off-Street Parking Facilities

DESCRIPTION AND PURPOSE OF TEXT AMENDMENT
Certain sections of Article XII, Section 17 have created problems in redevelopment of Lewiston's downtown. The text amendment proposes to:

- Reduce the parking requirement for multi-family and attached single-family dwellings.
- Increase the required distance to off-site parking facilities and simplify the development review and approval process for off-site parking.

The purpose of the proposed text amendment is to:

- Promote and facilitate residential infill and redevelopment projects especially in the downtown area, whether large or small, market rate or subsidized.
- Encourage new residential and mixed use developments into downtown.
- Increase the usage and revenues for our 5 downtown parking garages.
- Simplify the approval process of development.

At the August 27th Planning Board workshop, the Staff had discussed possibly removing another section of Section 17, namely provision (g) *Construction of off-site parking facilities.* After further evaluation, the Staff now recommends to keep this provision in place. This provision applies to all zones and removing it would deny other uses from utilizing it. The Staff is comfortable leaving it in place and evaluating any application to reduce parking requirement using this section on a case-by-case basis.

PLANNING BOARD ACTION
The Planning Board is asked to forward a recommendation to the City Council, pursuant to Article VII, Planning Board, Section 4, Powers and Duties and Article XVII, Amendment and Other Legal Provisions, Section 5, Amendments.

STAFF RECOMMENDATION
The Staff recommends the Planning forward a recommendation of **APPROVAL** to the City Council.

ACTION NECESSARY
Make a motion that the Planning Board forward a recommendation of **Approval** to the Lewiston City Council to amend Article XII, Performance Standards, Section 17, Parking, (d) Off-Street Parking Required and (e) Location of Off-Street Parking Facilities as presented in Attachment 1 of this report

09.24.2018

AN ORDINANCE PERTAINING TO PARKING REGULATIONS

THE CITY OF LEWISTON HEREBY ORDAINS:

Appendix A of the Code of Ordinances of the City of Lewiston, Maine, is hereby amended as follows:

APPENDIX A
ZONING AND LAND USE CODE
ARTICLE XII, PERFORMANCE STANDARDS, SECTION 17, PARKING

(d) *Off-street parking required.* The following minimum off-street parking shall be provided and maintained for each situation identified in subsection (a). In computing the number of spaces required, lots with two or more uses shall meet the combined requirement for all of the uses. In calculating the parking requirement, major fractional spaces (0.5 or greater) shall be rounded up to the next whole space. Employee parking is based on the largest shift.

Single-family detached dwellings…….	two spaces per dwelling unit
Two-family dwellings……...	two spaces per dwelling unit
Single-family attached or multifamily…….. dwellings	~~two~~ one space~~s~~ per dwelling unit ~~with three or more bedrooms, one and half spaces per dwelling unit with one or two bedrooms, one space per efficiency dwelling unit,~~ plus ~~0.2~~ 0.1 spaces per dwelling unit for visitor parking for all single-family attached or multi-family dwellings
Housing for the elderly……..	one-half space per dwelling unit
Types "A" and "B" group care facilities……	one space per three bedrooms, plus one space per employee
Tourist homes…….	two spaces plus one space per lodging unit
Motels, hotels and inns……..	three spaces plus one space per sleeping room (accessory eating and drinking establishments or other facilities shall provide additional parking as required).
Rooming houses, boarding houses, lodging…. houses	one space per three bedrooms
Bed and breakfast establishments…….	one space per guest sleeping room and two spaces per dwelling unit plus one

	space per every two employees on the largest shift.; establishments approved by development review pursuant to article XIII for meeting facilities for non-guests or for special outdoor functions shall provide one space per two seats in any meeting facilities and one space per two special outdoor function guests based on the approved capacity; if such additional off-street parking is provided off the site, it shall comply with the requirements of article XII section 17.e except that, notwithstanding the provisions of subsection e, the planning board shall have the authority to approve such off-site parking.
Hospitals…….	one space per patient bed plus one space per three employees
Medical clinics……	two spaces per treatment room or patient bed, whichever is greater
Nursing or convalescent homes……..	one parking space per five resident beds and one space per employee
Schools	
Elementary schools……	one and a half spaces per classroom
Secondary schools……	five spaces per classroom
Residential colleges, universities……. and institutions of higher education, including accessory facilities athletic and assembly facilities designed primarily for student use	one space per 7 seats in classroom facilities
Business colleges and schools……	one space per 4 seats in classroom facilities
Retail and personal service…… establishments	one space per two hundred fifty square feet of gross floor area. For retail stores which are part of a gasoline service station complex, one-half of the service spaces at the pump islands may be applied to meet not more than one-half of the required parking demand
Eating and drinking establishments.....	one space per three seats
Drive-in restaurants……..	ten spaces plus one additional space per one hundred feet of gross floor area
Professional and business offices……..	one space per 300 square feet of gross floor area
Construction contractors, tradesman,……	one space per 500 square feet of gross

offices, laboratories and similar uses	floor area
Adult business establishments, …… drinking place..	one space per 3 seats or 200 square feet of gross floor area, whichever is greater
New and used car dealers……..	five spaces plus one space per 3,000 square feet of display area (indoor and outdoor)
Auto repair garages and gasoline service…... stations	two spaces per service bay plus one space per employee
Light industrial uses, industrial uses,……. wholesale, storage and distribution facilities	one space per 500 square feet of gross floor area up to 3,000 sq. ft. plus one space for each 1,000 sq. ft. of gross floor area in excess of 3,000 square feet
Community centers, libraries, museums,…... civic clubs, theatres, places of indoor assembly, amusement or culture, religious facilities, and similar uses	one space per 4 seats where fixed seating is provided plus 1 space per 200 square feet of area otherwise available for assembly
Auditoriums, stadiums, sport arenas,…….. race tracks, skating rinks, gymnasiums, convention halls or similar uses	one space per each 4 seats; where individual seats are not provided, each 24 inches of bench or other similar seating, or eight sq. ft. of seating or standing space shall be considered as one seat for the purpose of determining requirements thereof
Self-storage facilities…….	five spaces
Uses not specifically listed or able to be …….. placed into one of the above categories, or listed uses which can be clearly shown to have a differing parking need (either fewer or greater) than otherwise required	Sufficient spaces to accommodate the norm parking demand of the use without requirin on-street parking. The number of required spaces shall be determined by the planning board for major project development review by the staff review committee for minor pro development review or by the planning dire if no review is required in accordance with accepted standards.

(e) *Location of off-street parking facilities.* Required or provided off-street parking in all districts shall be located on the same lot as the principal building or use, ~~except as may be allowed by the board of appeals on the basis of an appeal~~ as provided below:

(1) In residential districts, ~~the board of appeals may authorize~~ required or provided off-street parking, serving permitted or conditional uses, to be located off the site, provided it is located within ~~500~~ 1,320 feet measured along lines of public access of the principal building or use and cannot reasonably be provided on the same lot. Such off-street parking shall be held in fee simple by the owner of the principal use served, or in such other tenure as assures continued availability for parking as long as the particular land

will be needed for such use, provided that if tenure is other than ownership in fee simple, the form of tenure shall be approved by the planning director before the request is considered by the appropriate deciding body. ~~by the board of appeals.~~ Evidence of fee simple ownership or approved tenure shall be required.

(2) In all zones other than residential, required or provided off-street parking ~~shall be located on the same lot with the principal building or use,~~ may be located off the site, provided it is located ~~or~~ within ~~500~~ 1,320 feet measured along lines of public access, of the principle buildings or use and ~~except that where off-street parking~~ cannot be provided on the same lot. ~~within these limits, the board of appeals may permit s~~ Such off-street parking ~~to be located a reasonable distance from the principal buildings or use, measured along lines of access if such off-lot parking areas~~ shall be held in fee simple by the owner of the use served, or in such other tenure as assures continued availability for parking as long as the particular land will be needed for such use, provided that if tenure is other than ownership in fee simple, the form of tenure shall be approved by the planning director before the request is considered the appropriate deciding body. ~~by the board of appeals.~~ Evidence of fee simple ownership or approved tenure shall be required, and such lots shall be located within nonresidential districts.

(3) Required off-street parking in all districts ~~other than residential~~ may be substituted by parking facilities which, in the public's interest, may be provided by the municipality. Such substitution shall be shown to be representative of the off-street parking turnover or requirements of the particular use in question and shall take into consideration the needs of other uses with similar demands upon such public space. No such public off-street parking spaces shall be considered as a substitute unless located within ~~500~~ 1,320 feet of the principal building or use measured along lines of public access.

(4) No additional parking spaces shall be required for any structure that has been designated as significant for historic preservation under article XV, section 3 of this Code that is proposed for reuse. Any expansion to the building will need to provide the required additional parking. All modifications to the building must be done in accordance with the criteria established under article XV, section 5 of this Code.

(g) *Construction of off-site parking facilities*

(5) When it has been determined under article XII, section 17(d) that a specific use requires less parking spaces than otherwise required, the additional parking spaces based on the listed use may be just shown as reserved on the plans. In addition, a developer may-implement transportation demand management programs to reduce the need for off-street parking. The programs could involve strategies to involve more interurban transit use, car and van pooling, employee pick-up plans, flexible workhour schedules, subscription bus service and other similar incentives. These programs must be approved by the reviewing body prior to implementation and may not reduce the number of required spaces by more than 25 percent.

For projects classified as major under this Code utilizing the transportation demand

management program provisions, or projects classified as minor under this Code that are proposing expansion, the reduced number of spaces must also be shown as reserved on the plans. Reserved parking spaces for all projects shall not be used for any purpose other than open space, and the reserved area may not be used to meet the minimum open space ratio. If the use changes with respect to the need for the additional spaces, or if the transportation demand management program is not successfully implemented, the additional number of spaces shall be constructed in accordance with the applicable design standards within 60 days of the change of use or determination that the transportation demand management program has not been successfully implemented.
For projects classified as minor under this Code utilizing the transportation demand management program, but not proposing any expansion, the occupancy permit shall be contingent on the satisfactory implementation of program. The required additional spaces shall be provided within 60 days of a determination that the program has not been successfully implemented. Otherwise, the use must cease or be converted to one that meets the required parking standards.

REASONS FOR THE PROPOSED AMENDMENT
The current parking requirement for multi-family and attached single family dwellings is a barrier to redeveloping in-fill projects, especially in the downtown area. The proposed amendment will increase the usage and revenues for our 5 downtown parking garages, facilitate infill and redevelopment, especially in the downtown area, encourage new residential developments, large and small, market rate or subsidized, bring back functional, traditional mixed use to Lewiston's Downtown (1st Floor Commercial, upper floor residential) and help simplify the approval process of development.

CONFORMANCE WITH 2017 COMPREHENSIVE PLAN
Comprehensive Plan Recommendations- Changing the parking regulations is supported by Legacy Lewiston, which recommends numerous changes to our parking regulations.

1. "Strengthening Neighborhoods and Expand Housing Choice", Identity, page 179.
2. "Promote Transportation Choice and Mobility, Parking", pages 199-200.
3. "Implementation Matrix, Transformation: Strengthen Neighborhoods…, Address Parking & Open Space Standards for Downtown", page 238-239.
4. "Implementation Matrix, Promote Transportation Choice & Mobility, Infrastructure, Provide More Bike Parking & Storage", page 244-245.
5. "Implementation Matrix, Parking", page 244-45.
    - Relax Parking Requirements
    - Unbundle Parking
    - Facilitate and Simplify Shared Parking
    - Improve Parking Management and Pricing
    - Redevelop Existing Parking Lots with Infill Development

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Lewiston Planning Board**

FROM: **Douglas Greene, AICP, RLA; Deputy Director/City Planner**

DATE: **September 24, 2018**

RE: **Request for De Minimis change to Dirigo Federal Credit Union Temporary ` Site – Agenda Item 5 a**

Walsh Engineering, an agent for Dirigo Federal Credit Union has requested a De Minimis change pursuant to Article XIII, Section 3(k) of the Zoning and Land Use Code to the temporary bank site that was approved as a conditional use at the September 10, 2018 planning board meeting.

The applicant will present and explain the changes to the board at the September 24, 2018 meeting.

WALSH

ENGINEERING ASSOCIATES, INC.

File: 412

September 20, 2018

Mr. Doug Greene, AICP, RLA, City Planner
City of Lewiston
27 Pine St
Lewiston, ME 04240

RE: Dirigo Federal Credit Union, Temporary Bank

Dear Doug,

As you know the location of the temporary bank has been time consuming and on multiple sites. The Credit Union approved our current plan, approved by the Planning Board but after additional review with the staff, felt the exit ramp along the back may create a safety issue in the winter months. Based on this they would like to move it to the center of the lot where the exit ramp is more open.

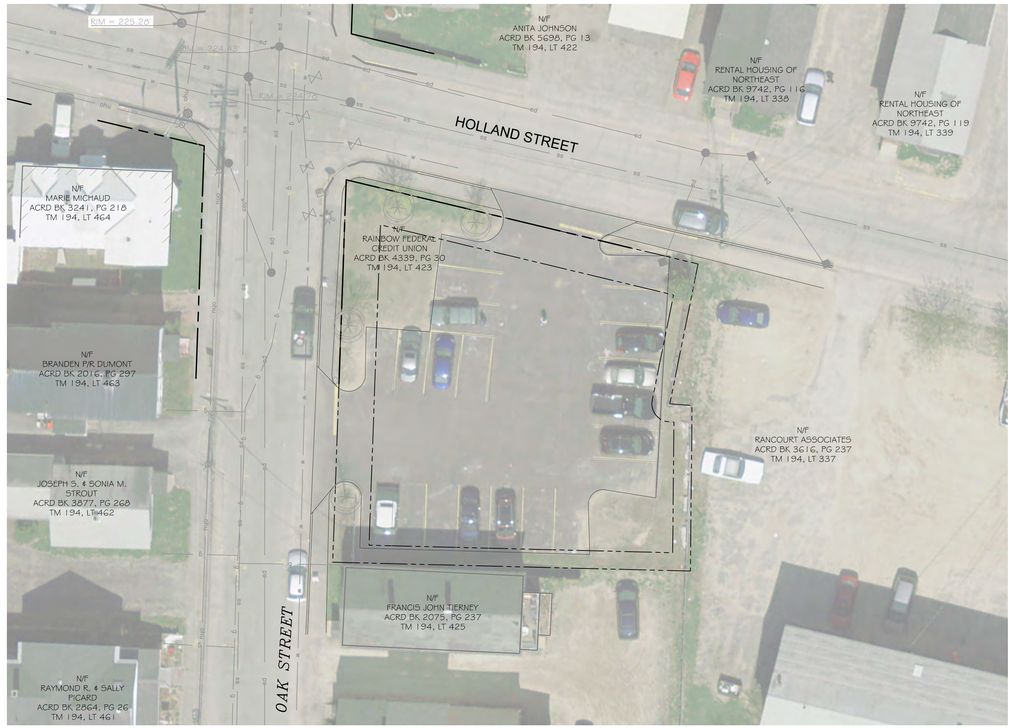
Attached is a revised location with access off Oak Street and exit onto Holland Street. This configuration will reduce the parking but will increase the drive thru stacking. It also requires a little more site work to prepare the site as well as the renovation back to the existing conditions.

We thank you for your consideration of our plan.

Respectfully,

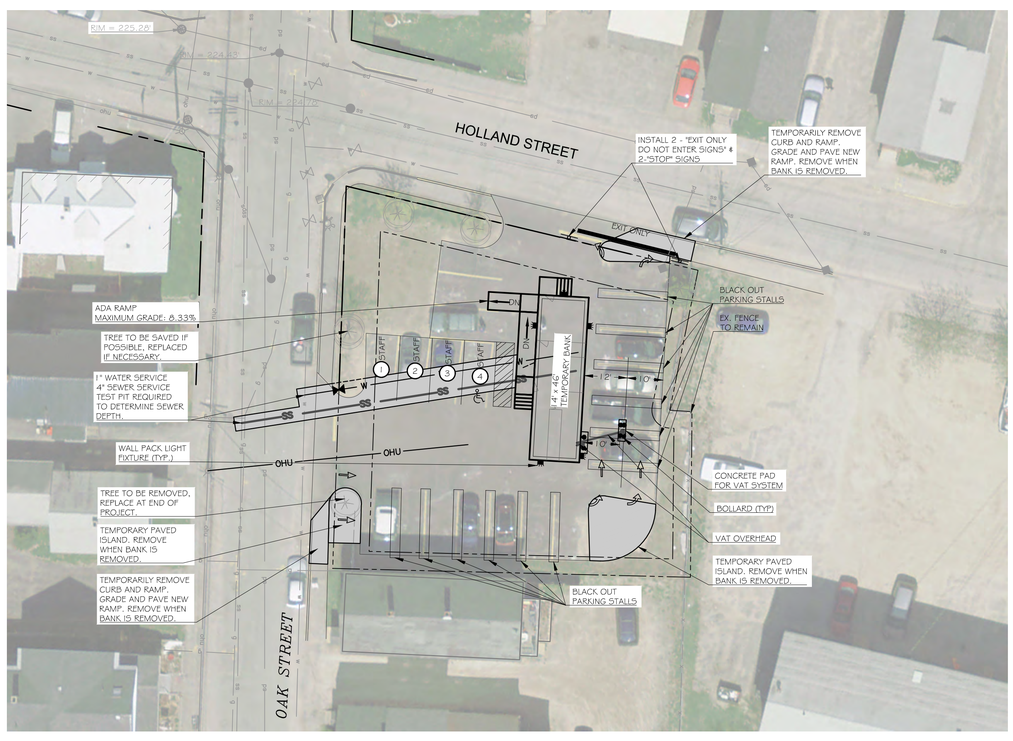
Thomas S. Greer, PE
Walsh Engineering Associates, Inc.

cc: Nathan Henry-via email, File
Enc.



EXISTING CONDITIONS PLAN

SCALE: 1" = 20'



DEVELOPED CONDITIONS PLAN

SCALE: 1" = 20'

LAYOUT, MATERIALS, AND UTILITY NOTES:

1. ALL DIMENSIONS, LOCATIONS AND CONTROLS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
2. DO NOT SCALE THE DRAWINGS FOR REQUIRED DIMENSIONS. ANY DISCREPANCIES IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
3. ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE SHOWN.
4. PROVIDE A SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING.
5. ALL DISTURBED AREAS NOT OTHERWISE TREATED SHALL BE LOAMED AND SEEDED.
6. TRAILER LOCATIONS, DRIVEWAY OPENINGS AND PROPOSED UTILITY LINES SHALL BE LOCATED AND LAID OUT BY PROFESSIONALLY LICENSED SURVEYOR.
7. ALL SITE IMPROVEMENTS INCLUDING UTILITIES MUST CONFORM TO THE CITY OF LEWISTON'S TECHNICAL GUIDELINES AND STANDARDS.
8. TEMPORARY BANK SITE TO BE RESTORED AS AGREED TO IN TERMS OF LEASE AT COMPLETION OF ADJACENT NEW BANK BUILDING CONSTRUCTION.

GRADING, DRAINAGE AND UTILITIES NOTES:

1. PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL VERIFY ALL UTILITY INVERTS. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
2. ALL AREAS NOT REQUIRING GRADING SHALL BE LEFT UNDISTURBED. CONTRACTOR SHALL NOT DISTURB THESE AREAS AND PRESERVE EXISTING VEGETATION AND PAVEMENT.
3. GRADE ALL NEW WORK FOR POSITIVE DRAINAGE AND NO PUDDLING. MATCH EXISTING GRADES SMOOTHLY AND CONTINUOUSLY.
4. ALL SITE IMPROVEMENTS INCLUDING UTILITIES MUST CONFORM TO THE TOWN OF LEWISTON'S TECHNICAL GUIDELINES AND STANDARDS.
5. ALL SEWER CONNECTIONS SHALL USE INSERTA TEES.

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO CONSTRUCTION. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL MANUAL, DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL COMPLY WITH THE MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS MANUAL AS PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BUREAU OF LAND AND WATER QUALITY, MARCH 2014 OR LATEST EDITION.
3. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. ALL DISTURBED AREAS ON SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED, OR BY OTHER METHODS AS REQUIRED BY THE WRITTEN EROSION CONTROL PLAN.
4. DISTURBED AREAS SHALL BE LIMITED TO ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION. FOR DISTURBED AREAS THAT ARE NOT UNDER ACTIVE CONSTRUCTION AND THAT CAN NOT YET UNDERGO FINAL GRADING, INSTALL TEMPORARY SEEDING AND MULCHING (REFER TO WRITTEN EROSION CONTROL PLAN).
5. TOPSOIL SHALL BE STOCKPILED IN AREAS AWAY FROM PROTECTED NATURAL RESOURCES AND IN AREAS WHICH HAVE A MINIMAL POTENTIAL FOR EROSION; REFER TO OWNER FOR LOCATION OF MATERIAL STOCKPILE.
6. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED AND REPAIRED IN ACCORDANCE WITH THE WRITTEN EROSION CONTROL PLAN FOR THE DURATION OF THE PROJECT UNTIL ALL AREAS ARE STABILIZED. REMOVE ACCUMULATED SILT AND SEDIMENT AS NEEDED AND MAINTAIN SILT FENCE IN GOOD, OPERABLE CONDITION.
7. CONTRACTOR SHALL USE SILT SACK INLET PROTECTION IN ALL STRUCTURES TO PROTECT STORMTANK UNDERGROUND DETENTION STRUCTURES UNTIL PROJECT SITE IS COMPLETELY STABILIZED. CONTRACTOR SHALL CLEAN OUT STORMTANK STRUCTURES AT END OF PROJECT AFTER SITE HAS BEEN COMPLETELY STABILIZED.

PARKING REQUIREMENTS

PARKING: 1 SPACE PER 300 SQUARE FEET OF FLOOR AREA

FLOOR AREA: 646 SQUARE FEET

REQUIRED: 646 / 300 = 3 PARKING SPACES

PROVIDED: 6 PARKING SPACES @ 9' x 18' INCLUDING 1 ADA SPACE

PARCEL INFORMATION:

1. OWNER OF RECORD: RAINBOW FEDERAL CREDIT UNION
   STREET ADDRESS: 181 OAK ST
2. PARCEL SHOWN HEREON IS CITY OF LEWISTON TAX MAP 194, LOT 423 AND 424.
3. TOTAL AREA OF PARCEL: 0.21 ACRES
4. CURRENT ZONE: NEIGHBORHOOD CONSERVATION "B"
5. SITE BENCHMARK: TOP HYDRANT FRONT FLANGE BOLT OVER MAIN OUTLET ELEV. = 242.70

PLAN REFERENCES:

1. TOPOGRAPHIC AND PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:
   - 1.1. PARTIAL BOUNDARY INFORMATION TAKEN FROM A PLAN TITLED "EXISTING CONDITIONS PLAN OF LAND", PREPARED BY MAINE SURVEY CONSULTANTS OF PO BOX 485 HARRISON, MAINE 04040, DATED DECEMBER 2017.
   - 1.3. REMAINING BOUNDARY LINE TAKEN FROM LEWISTON TAX MAP 194.
   - 1.4. TOPOGRAPHIC INFORMATION TAKEN FROM THE STATE OF MAINE GEOLIBRARY, ANDROSCOGGIN COUNTY LIDAR 2009, 940E460N.

ZONING INFORMATION*:

1.	CLASSIFICATION:	LOTS 423 & 424 NEIGHBORHOOD CONSERVATION "B"
2.	MINIMUM LOT AREA:	NONE
3.	MAX. LOT COVERAGE:	65%
4.	MAX. IMPERV. COVERAGE:	85%
5.	MAX. BUILDING HEIGHT:	65 FT
6.	MIN. FRONTAGE: PROVIDED:	10 FT 107 FT
7.	FRONT SETBACK: PROVIDED:	10 FT* 12.43 FT
8.	SIDE SETBACK: PROVIDED:	5 FT 7.67 FT
9.	REAR SETBACK: PROVIDED:	5 FT 36 FT

*ZONING STANDARDS FROM TOWN OF LEWISTON ZONING AND LAND USE CODE, ADOPTED OCTOBER 5, 2000.

GENERAL NOTES:

1. OWNER/DEVELOPER: RAINBOW FEDERAL CREDIT UNION, PO BOX 741, LEWISTON, ME 04243
2. ENGINEER: THOMAS S. GREER P.E., WALSH ENGINEERING ASSOCIATES, INC., ONE KAREN DRIVE, SUITE 2A, WESTBROOK, ME 04092.

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	ABUTTER LOT LINE	
	PROPERTY CORNER	
ss	SANITARY SEWER LINE	SS
	MANHOLE	
	CATCH BASIN	
sd	STORMDRAIN LINE	
w	WATERLINE W/ GATE VALVE	W
	WATER SHUTOFF	
g	GAS LINE	
ohu	OVERHEAD UTILITY LINE	OHU
ugu	UNDERGROUND UTILITY	
	UTILITY POLE	
	LIGHT POLE	
	BUILDING	
x x	METAL FENCE	
	EDGE OF PAVEMENT	
	EDGE OF CONCRETE	
	CURB	
	BOLLARD	

GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.

APPROVED BY
CITY OF LEWISTON PLANNING BOARD

DATE APPROVED: DATE SIGNED:

PLANNING BOARD CHAIR

EXPIRATION OF APPROVAL: IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE LEWISTON CODE OF ORDINANCES WITHIN TWO YEARS, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. NO CONSTRUCTION OR OPERATION OF THE DEVELOPMENT MAY OCCUR UNTIL A NEW APPROVAL IS GRANTED.

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
8/10/18
THOMAS S. GREER
No. 4206
LICENSED PROFESSIONAL ENGINEER

Dirigo Federal Credit Union Temporary Bank Offices
181 Oak Street
Lewiston, ME 04042

The Element Group
125 Brewery Ln
Portsmouth, NH 03801

Rev.	Date	Description	Drawn	Check
1	8/17/18	CITY COMMENTS REV	RJS	TSG
2	8/18/18	REVD PER OWNER	JWG	TSG

Sheet Title:
Site Plan

Job No.:	412
Date:	08/10/18
Scale:	1" = 20'
Drawn:	JWG
Checked:	TSG

Sheet No.: C1.0

P:\412 - Dirigo Federal Credit Union, Lewiston\CADD\412-Site Temporary Bank MODULE OF CDP.dwg plot date 8/18/2018 8:12:00 AM

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Lewiston Planning Board**

FROM: **Douglas Greene, AICP, RLA; Deputy Director/City Planner**

DATE: **September 24, 2018**

RE: **Discussion of a Proposed Project at 10 Avon Street, Agenda Item 5 b**

The Departments of Planning and Code Enforcement and Economic Development have been in discussion with Saxon Partners, who are interested in developing property located at 10 Avon Street. 10 Avon Street is approximately 6 acres in size and is the former location of Hammond Lumber (aka Pineland Lumber). The property is zoned Urban Enterprise (UE) and Resource Conservation (RC).

The developer is proposing a contract rezoning and is seeking to develop 240 single bedroom efficiency apartments that would be market rate. The developer is interested in getting preliminary feedback from the planning board. Staff has been in discussions with the developer on significant infrastructure and site plan details that are hoped to be included with the development proposal. A neighborhood meeting has been scheduled at City Hall for October 3, 2018 to get additional input. In addition, the Staff will discuss a possible timeline for a contract rezoning that may require a special meeting in early November.

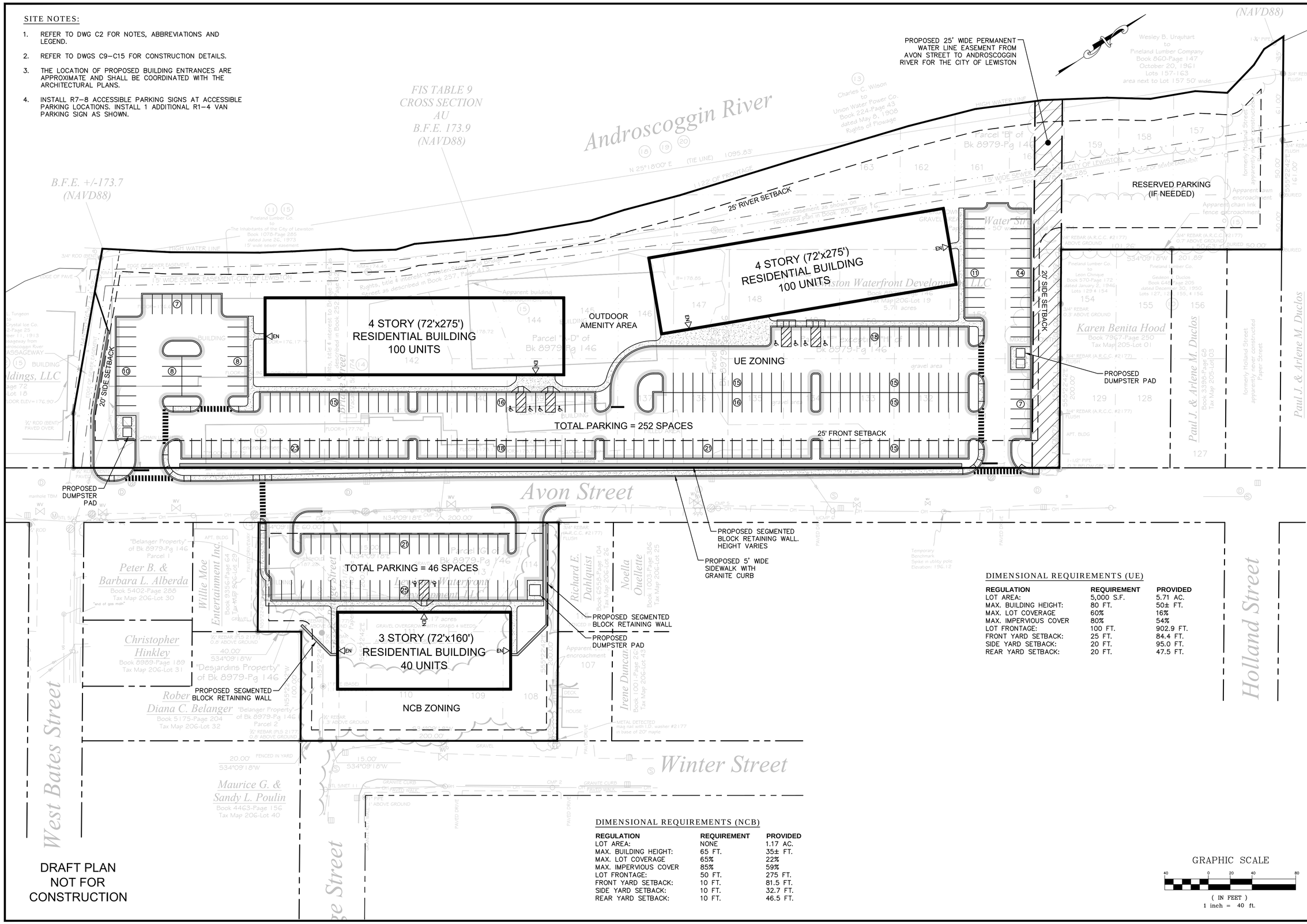
Your packet includes a preliminary site plan, vicinity and close up map, and information on Saxon Partners.

RIVERSIDE
WHITE PLAINS
HOLLAND
HIGH ST
ISLAND

HOLLAND ST
WINTER ST
SUMMER ST
AVON ST
BRIDGE ST

SITE NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO DWGS C9–C15 FOR CONSTRUCTION DETAILS.
3. THE LOCATION OF PROPOSED BUILDING ENTRANCES ARE APPROXIMATE AND SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
4. INSTALL R7–8 ACCESSIBLE PARKING SIGNS AT ACCESSIBLE PARKING LOCATIONS. INSTALL 1 ADDITIONAL R1–4 VAN PARKING SIGN AS SHOWN.



DIMENSIONAL REQUIREMENTS (UE)

REGULATION	REQUIREMENT	PROVIDED
LOT AREA:	5,000 S.F.	5.71 AC.
MAX. BUILDING HEIGHT:	80 FT.	50± FT.
MAX. LOT COVERAGE	60%	16%
MAX. IMPERVIOUS COVER	80%	54%
LOT FRONTAGE:	100 FT.	902.9 FT.
FRONT YARD SETBACK:	25 FT.	84.4 FT.
SIDE YARD SETBACK:	20 FT.	95.0 FT.
REAR YARD SETBACK:	20 FT.	47.5 FT.

DIMENSIONAL REQUIREMENTS (NCB)

REGULATION	REQUIREMENT	PROVIDED
LOT AREA:	NONE	1.17 AC.
MAX. BUILDING HEIGHT:	65 FT.	35± FT.
MAX. LOT COVERAGE	65%	22%
MAX. IMPERVIOUS COVER	85%	59%
LOT FRONTAGE:	50 FT.	275 FT.
FRONT YARD SETBACK:	10 FT.	81.5 FT.
SIDE YARD SETBACK:	10 FT.	32.7 FT.
REAR YARD SETBACK:	10 FT.	46.5 FT.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

DRAFT PLAN
NOT FOR
CONSTRUCTION

REV.	REVISION DESCRIPTION	DATE
4	REVISED BUILDING LAYOUT	08/23/18
3	REVISED PER ADDITIONAL INTERNAL REVIEW	08/20/18
2	REVISED PER INTERNAL REVIEW	08/16/18
1	ISSUED FOR CONCEPTUAL SITE COORDINATION	08/08/18

THIS DOCUMENT IS PREPARED AS AN INSTRUMENT OF SERVICE AND SHALL REMAIN THE PROPERTY OF HOYLE, TANNER. IT MAY NOT BE USED OR REPRODUCED, EXCEPT OR TRANSFERRED IN ANY MANNER, INCLUDING ELECTRONICALLY, FOR ANY OTHER PURPOSE OR ANY OTHER PROJECT, WITHOUT THE WRITTEN PERMISSION OF HOYLE, TANNER.

CHECKED BY: WRD
DRAWN BY: SMT
DESIGNED BY: SMT
ORIGINAL DATE: AUGUST 8, 2018

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SCALE: AS SHOWN

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
PROPOSED WATERFRONT DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

CONCEPTUAL SITE PLAN

C6

PROJECT NO. 569001

SHEET 6 OF XX

SAXON PARTNERS

A Residential Option Designed for Medical Staff

A number of factors influence employee productivity, but one of the most important factors is housing.

Housing options, and the lifestyle they facilitate, are critical to achieving personal wellness and satisfaction. And when those factors are high, job satisfaction and career development are both enhanced.

Combined, these benefits ultimately translate into greater workplace productivity and enhanced patient satisfaction.

Our Goal

At Saxon, our goal is to create a residential experience that is custom-tailored to the medical center employee with a particular focus on three key factors:

Proximity. Real estate is all about location – and the location that supports lifestyle and productivity for hospital employees is one that is close to their place of work. The ideal site is within walking or biking distance to the hospital to save time, money, and enhance the employee's daily living experience. Time saved in traveling to work is time available to enhance our lifestyle experience, making us more rested, more energetic, and better at what we do.

Design. Design inspires the way we feel and the way we interact. Our apartment designs are organized, simple, and aesthetically pleasing. Our team has specifically tailored the living experience to meet the needs of the medical professional, from the types of common areas and amenity spaces offered in the buildings to the layouts and finishes within each apartment.

Value. True value in apartment living is not just about a low price per square foot – it is about the whole living experience that is provided by the apartment community. From the front door of the building, through the common areas that host activities with neighbors, and into the quiet, private spaces that offer peace and comfort. The goal is not just to provide an attractive rent, but to provide an attractive value for an attractive residential experience.

Medical Center Benefits

Clinical outcomes and patient satisfaction are influencing hospital reimbursement rates and hospital financial performance more than ever before. More productive employees are critical in this equation – and convenient/attractive housing can assist the hospital's Human Resource program to attract and retain high-performing individuals.

By contributing to employee health and wellness at home, we deliver more caring, rested people to work, where they improve patient satisfaction and clinical outcomes. When the retention of quality employees increases, a valuable human resource is preserved, and the hospital's operation is enhanced.

Identifying Housing Opportunities

Our focus is on residential development opportunities in close proximity to significant medical employment areas. The ideal opportunity will also offer stable demographics and an unmet housing need within a growth-oriented region.

We seek the opportunity to work with hospitals for which housing can make a difference in attracting and retaining quality employees. Acquiring land within walking distance to the hospital is preferred, but long-term ground-leases may be considered in certain situations.

We are investing our own capital and these projects are being built for the long term.

About Saxon

Saxon was formed in 1998 by a group of real estate professionals with decades of experience in real estate investment, development and management. The team's experience spans a full range of property types but the company's primary focus in recent years has been on retail and residential properties.

Saxon's development experience includes one of the largest "active adult" communities in New England (over 1,000 homes on over 1,000 acres) and one of the largest master-planned open-air retail centers in the region (with over 1 million square feet of space on over 150 acres).

Over the past 20 years, Saxon has completed half a billion dollars of real estate transactions and its affiliates currently own or manage properties with a value in excess of $250 million.

In late 2017, Saxon's residential focus shifted to developing housing near hospitals in response to the chronic shortage of well-priced housing options near many medical centers. This program is being implemented along the east coast from Maine to Florida as well as selected markets in the Midwest. Each site is being designed to accommodate between 175 and 400 apartments and deliveries are scheduled to commence in 2019.

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CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Lewiston Planning Board**

FROM: **Douglas Greene, AICP, RLA; Deputy Director/City Planner**

DATE: **September 24, 2018**

RE: **Continued Discussion of NCA District – Agenda item 5 c**

The Staff presented a report on text amendment regarding the conversion of single-family dwellings into two-family dwellings in the Neighborhood Conservation "A" District (NCA) at a City Council workshop on September 18, 2018. The Staff presentation was based on a memo that provided an analysis, four options and a staff recommendation. (**Attachment 1**) The four options were:

1. Create an overlay in the NCA District where single-family dwellings could be converted into two-family dwellings using the current criteria. Areas outside of the Overlay would no longer allow two-family dwelling conversions or development. Staff prepared a draft map that creates overlay districts based on concentrations of two-family dwellings. This greatly reduces the area in the NCA District where conversions could take place. The overlay areas are generally groupings of parcels where close to 50% of the lots are two-family dwellings or multi-family structures.
2. Do nothing. There have been only 3 conversions of single-family dwellings into two-family dwellings in the NCA over the last 5 years.
3. Prohibit the conversion of single-family dwellings into a two-family dwellings or the development of vacant lots into two-family dwellings in the NCA District and continue to allow in-law apartments.
4. Prohibit the conversion of single-family dwellings into a two-family dwellings or the development of vacant lots into two-family dwellings in the NCA District and either transition away from or prohibit in-law apartments and instead allow accessory dwellings units.

In general, the first three options deal specifically with the conversion of single-family dwellings into two-family dwellings in the NCA District. Option 4 introduces a different proposal that deals with in-law apartments and accessory dwelling units on a broader community wide basis (including the NCA District). At the end of the discussion on this item, the City Council asked that the Planning Board re-evaluate options 1, 2 and 3 and send their recommendation back to the City Council. They were interested in discussing in-law apartments and accessory dwellings but as a separate topic at a future date.

The Staff looks forward to discussing options 1 through 3 with the Planning Board at their September 24, 2018 meeting.

Attachment 1

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Mayor Shane Bouchard and the Lewiston City Council**

FROM: **Douglas Greene, AICP, RLA; Deputy Director/City Planner**

DATE: **September 18, 2018**

RE: **Proposal to Minimize Conversions of Single-Family Dwellings into Two-family Dwellings in the Neighborhood Conservation "A" District**

Back in May at the direction of the City Council, Staff was asked to review a section of the Zoning Ordinance that allows the conversion of single-family homes into two-family dwellings or the development of two-family dwellings on vacant lots in the Neighborhood Conservation "A" District (NCA). Concern had been raised the NCA District was being negatively impacted by conversions of single-family dwellings into two-family dwellings.

The Staff made a presentation at a June 12th City Council workshop. The presentation included statistics on the number of single-family homes, two-family dwellings, multi-family structures and other land uses including vacant land within the NCA District. A proposed text amendment was also provided that would remove the ability to convert single-family dwellings into two-family dwellings or develop vacant lots into two-family dwellings in the NCA District. After some discussion, the City Council asked Staff to look at other options to reduce or prohibit the conversions.

In developing options and recommendations, the Staff questioned and analyzed the directive:

- What is the purpose of the NCA District, as described in the Zoning Ordinance?
  Sec. 6. Neighborhood conservation "A" district (NCA)
  (a) Statement of purpose. The purpose of the neighborhood conservation "A" district is to promote neighborhood stability by requiring the development of new buildings or the reuse or conversion of existing buildings to conform to the type and density of housing existing within the immediate neighborhood. The standards of the district restrict housing to single-family detached dwellings unless the existing pattern of use in the immediate neighborhood is two-family or predominantly multifamily dwellings.
- What does the Comprehensive Plan recommend for neighborhoods?
  2017 Comprehensive Plan- Strengthen Neighborhoods and Expand Housing Choices, Accessory Units
  "An accessory unit is a flexible space that shares ownership, site, and utility connections with the principal building on the lot, but has its own entrance. Usually situated over a garage toward the rear of the principal house, the outbuilding increases privacy and

enclosure in the backyard by screening the yard from the house next door. Accessory units are significantly different from the "bonus rooms" or in-law apartments that are found in conventional suburban subdivisions because they are not connected to the rest of the house. Instead it is much more private—making it well-suited for use as a home office, guest room, or rental property. If rented out, the additional "eyes on the street" help make the neighborhood a safer and livelier place. In addition to providing a potential source of income for the primary mortgage holder, accessory units provide additional low-cost housing options within the community. In Lewiston, permitting accessory units would be a sustainable and cost effective way for the City to encourage affordable housing that complements the character of the existing neighborhoods, by putting the control in the hands of the residents. A program like this compels the City to encourage home ownership in the downtown." (Legacy Lewiston-2017, pg. 177)

- Are two-family dwellings and multi-family dwelling units detrimental to neighborhoods in the NCA District? *In the Staff's opinion, absentee landlords / property owners are the biggest threat to neighborhoods in the NCA District.*
- How many conversions of single-family homes into two-family dwellings have occurred in recent years; is it a problem? *Planning and Code Enforcement records indicate 3 conversions of single-family dwellings into two-family dwellings in the last 5 years.*
- What types of residential uses are currently allowed in the NCA District? *Single-family dwellings, two-family dwellings and in-law apartments are permitted uses in the NCA District. Two-family dwellings and in-law apartments have to meet specific criteria. (**See Attachment 1 for two-family dwelling and in-law apartment criteria**)*
- What are the differences between two-family dwellings, in-law apartments and accessory dwelling units? *The Staff has prepared a chart that compares the attributes of these residential types. (**Attachment 2**)*
- How would accessory dwelling units differ from in-law apartments?
    - *The size of the accessory dwelling unit would be limited to 600 square feet or 25% of the total habitable space of the dwelling*
    - *Accessory dwelling units would not require the formal documentation of family members being occupants*
    - *Both accessory dwelling units and in-law apartments must have one owner occupied unit*

Based on that evaluation, the Staff now presents 4 options for the Council to consider:

1. Create an overlay in the NCA District where single-family dwellings could be converted into two-family dwellings using the current criteria. Areas outside of the Overlay would no longer allow two-family dwelling conversions or development. Staff prepared a draft map that creates overlay districts based on concentrations of two-family dwellings. This greatly reduces the area in the NCA District where conversions could take place. The overlay areas are generally groupings of parcels where close to 50% of the lots are two-family dwellings or multi-family structures. (**Attachment 3**)
2. Do nothing. There have been only 3 conversions of single-family dwellings into two-family dwellings in the NCA over the last 5 years.
3. Prohibit the conversion of single-family dwellings into a two-family dwellings or the development of vacant lots into two-family dwellings in the NCA District and continue to allow in-law apartments.

4. Prohibit the conversion of single-family dwellings into a two-family dwellings or the development of vacant lots into two-family dwellings in the NCA District and either transition away from or prohibit in-law apartments and instead allow accessory dwellings units.

STAFF RECOMMENDATION:
Staff recommends **Option 4**. While there are few conversions of single-family dwellings into two-family dwellings in the NCA District at this time, removing that provision would help stabilize and protect NCA neighborhoods. Transitioning away from or replacing in-law apartments with accessory dwelling units would provide multiple benefits to the NCA District and property owners:

- Having one of the units be owner-occupied will promote better maintenance of the property and protect and strengthen neighborhoods
- Accessory dwelling units would provide additional income
- Accessory dwelling units fit in well with the current demographic trends of smaller families and an aging population
- Accessory dwelling units would not change the character of the neighborhood, it that they would essentially be required to meet all of the existing in-law provisions
- Accessory dwelling units would be easier to administrate than in-law apartments

Additional information on accessory dwelling units is provided in **Attachment 4**.

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Planning Board**
FROM: **David Hediger, Director of Planning and Code Enforcement**
DATE: **September 20, 2018**
RE: **Planning Board recommendation for a capital expenditure to install LED street lights Agenda Item 5 d**

Pursuant to Article VII, Section 4(f) of the Zoning and Land Use Code, the board shall review and make a recommendation to the city council with regard to all capital expenditures costing $100,000.00 or more which are not included in the annual capital program.

The city is working toward replacing all street lights with LED lighting. Phase I of the project has already been funded to replace 1,445 lights. The City has the opportunity to complete Phase II consisting of an additional 1,175 lights for $442,395. Funding for this was not included in the FY2017 LCIP. However, FY16 and FY17 bonded projects generated a combined surplus of $79,000 and $346,000 respectively in net premium, investment earnings, and project surpluses. The City has an immediate need to spend these outstanding bond proceeds derived from closed or delayed projects. These are funds that were not specifically referenced in the FY2018 LCIP and therefore, require a recommendation from the Planning Board.

Reference should be made to City Administrator Ed Barrett's memo to the Board dated September 19, 2018.

ACTION NECESSARY
Make a motion pursuant to Article VII, Section 4(f) of the Zoning and Land Use Code to send a favorable recommendation for the City Council's consideration the designation of funding in excess of $100,000 to fund the replacement of 1,145 street lights with LED lighting.

EXECUTIVE DEPARTMENT

Edward A. Barrett, City Administrator
Denis D'Auteuil, Deputy City Administrator

September 19, 2018

Members of the Planning Board:

The City has been gradually working to replace its current street lights with LED installations in order to dramatically reduce both our electric costs and the time and expense currently involved in maintaining our street light system. Initial work replaced the lighting system in most of our downtown and in certain selected residential areas.

The Fiscal Year 16 budget included an appropriation of $156,505 toward this conversion process. In addition, the FY17 LCIP included $395,000 more, for a total of $551,505.

Bids to upgrade 711 street lights were opened in April, and the Finance Committee approved an award to TEN Connected Solutions in the amount of $267,000.34. This was substantially below both the project cost estimate and the amount of funding available. Since the bid award, City staff has been working closely with TEN Connect on planning the project and selecting the luminaires to be installed.

These favorable bids also lead staff to consider what more might be done given the remaining available funding.

First, we will be asking the Finance Committee to approve a project change order that will add an additional 734 lights, increasing the number to be replaced to 1,445. This will result in $103,400 in annual street light electrical costs savings with a project payback period of 5.3 years.

This would leave about 1,175 lights still to be replaced. The cost to do so under the prices offered by TEN Connect would be $442,395, with annual estimated electrical savings of $114,600. Working with Finance Director Heather Hunter, we have identified $456,500 in capital funds that could be designated for this project. These funds include premiums received at time of bond issuance, investment earnings, and project surpluses. Given this, we are also requesting that the Finance Committee approve a second change order to allow for full replacement of the City's LED street lights, subject to Council approval of the use of these funds. Since this will designate new funds in excess of $100,000 to this project, we are also requesting a recommendation from the Planning Board in support of this work.

In total and if all of this work is done, the City will replace 2,620 street lights at a cost of $993,002 producing $218,000 in annual electric savings and achieving a 4.6 year payback on investment.

Further, LED street lights are anticipated to last for 20 years, dramatically reducing the annual labor, equipment, and material costs associated with our current system. We spend about $6,000 a year to replace lamps, photo controls, and associated lighting items. We also schedule a two person crew to work on lamp replacements a minimum of 52 days a year with labor costs of $36,400 per year. LED conversion will also reduce the number of street lights that are not functioning, thereby improving the lighting throughout the City and contributing to pedestrian and vehicle safety.

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Finally, City wide LED lighting will allow for future improvements that could extend to such things as automated reporting of street light failures, remote water meter reading, traffic monitoring, and other potential benefits. While these will not be initially included, the system can be relatively easily upgraded to accomplish these and other tasks susceptible to automated management.

City of Lewiston Maine
City Council Order
October 2, 2018

RESOLVE, Authorizing Transfer of $456,500 from Various Capital Projects and Fund Balance Accounts to fund Completion of the City-wide LED Streetlight Retrofit Project.

WHEREAS, the City Council approved Phase I of the streetlight replacement project in the FY17 LCIP ($395,000) and with a FY16 fund balance authorization ($156,505);

WHEREAS, this funding is sufficient to replace 1,445 luminaires; and

WHEREAS, the contractor has evaluated the City's system and made appropriate recommendations including estimating the cost of completing Phase II of the project to address an additional 1,175 lights for $442,395; and

Whereas, the Phase I project was estimated to produce $103,400 in annual electric savings, resulting in a 5.3 year payback period, and completion of the city-wide replacement project will increase these savings to $218,000 per year for an overall payback period of 4.6 years; and

WHEREAS, the FY16 and FY17 bonded projects generated a combined surplus of $79,000 and $346,000 respectively in net premium, investment earnings, and project surpluses; and

WHEREAS, the City has an immediate need to spend outstanding bond proceeds derived from closed or delayed projects in order to avoid potential arbitrage rebates to the Internal Revenue Service; and

WHEREAS, the City has decided not to move forward with the document scanning application for General Assistance, Code, and Human Resources budgeted as part of the FY18 fund balance authorization in the amount of $68,040;

NOW, THEREFORE, BE IT RESOLVED by the CITY COUNCIL of the CITY of LEWISTON

That the amount of $456,500 is hereby transferred from the following surplus fund balances: 2016 capital projects - $79,000, 2017 capital projects - $346,000, and MIS office equipment (4161-450500) - $13,500 to the FY17 Street Light Replacement Project (7707-707710).