

ATTAR

ENGINEERING, INC

CIVIL • STRUCTURAL • MARINE

Seth Creighton, AICP
Chief Planner
City of Rochester, N.H.
33 Wakefield Street
Rochester, NH 03867

April 8, 2020
Project No.: C164-20

**RE: Site Plan Application
Industrial Drive and Ten Rod Road ((Map 221, Lot 1)**

Dear Ms. Creighton:

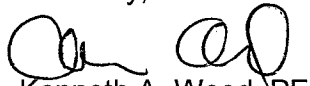
On behalf of Intec Automation, LLC, I have enclosed a Site Plan Application, plan set and supporting information for the above referenced project.

The applicant is proposing to develop the 6.1-acre parcel with a 30,000 SF office and manufacturing building. Other improvements include access and parking areas, stormwater treatment and landscaped areas. The site is served by municipal water and wastewater systems .

We look forward to discussing this project at the next available meeting. If any additional information is required, please contact me.

Thank you for your assistance.

Sincerely;



Kenneth A. Wood, PE
President

cc: Intec Automation, LLC (Peter Paul)

C164-20_App_Cover.doc



NONRESIDENTIAL SITE PLAN APPLICATION

City of Rochester, New Hampshire

Date: 4/8/2020 Is a conditional use needed? Yes: No: x Unclear:
(If so, we encourage you to submit an application as soon as possible.)

Property information

Tax map #: 221; Lot #'s: 1; Zoning district: General Industry

Property address/location: Ten Rod Road and Industrial Drive

Name of project (if applicable): Intec Automation

Size of site: 6.10 acres; overlay zoning district(s)? Conservation Overlay District

Property owner

Name (include name of individual): IRM PROPERTIES LLC

Mailing address: 181 Stagecoach Rd, Barrington NH 03825

Telephone #: 603-332-7733 Email: corey@intecautomation.com

Applicant/developer (if different from property owner)

Name (include name of individual): Intec Automation, Inc.

Mailing address: PO Box 1653, Rochester, NH 03867

Telephone #: 603-332-7733 Email: corey@intecautomation.com

Engineer/designer

Name (include name of individual): Attar Engineering Inc, Kenneth A. Wood, P.E.

Mailing address: 1284 State Road

Telephone #: 207-439-6023 Fax #:

Email address: ken@attarengineering.com Professional license #:

Proposed activity (check all that apply)

New building(s): x Site development (other structures, parking, utilities, etc.): x

Addition(s) onto existing building(s): Demolition: Change of use:

Describe proposed activity/use: Proposed 25,000 S.F. manufacturing building with an additional 5,000 S.F. for office use.

Describe existing conditions/use (vacant land?): Vacant Land

Utility information

City water? yes ☒ no ☐; How far is City water from the site? ~75

City sewer? yes ☒ no ☐; How far is City sewer from the site? ~50 ft

If City water, what are the estimated total daily needs? 300 gallons per day

If City water, is it proposed for anything other than domestic purposes? yes ☐ no ☒

If City sewer, do you plan to discharge anything other than domestic waste? yes ☐ no ☒

Where will stormwater be discharged? On site

Building information

Type of building(s): Manufacturing/ Office

Building height: 26' 3" Finished floor elevation: 268'

Other information

parking spaces: existing: 0 total proposed: 42; Are there pertinent covenants? Yes

Number of cubic yards of earth being removed from the site None

Number of existing employees: 15; number of proposed employees total: 25

Check any that are proposed: variance ☐; special exception ☐; conditional use ☐

Wetlands: Is any fill proposed? No; area to be filled: N/A; buffer impact? No

Proposed <i>post-development</i> disposition of site (should total 100%)		
	Square footage	% overall site
Building footprint(s) – give for each building	30,000	15
Parking and vehicle circulation	40,410	20
Planted/landscaped areas (excluding drainage)	18,937	9
Natural/undisturbed areas (excluding wetlands)	0	0
Wetlands	99,340	48
Other – drainage structures, outside storage, etc.	17,062	8


Comments

Please feel free to add any comments, additional information, or requests for waivers here:

Submission of application

This application must be signed by the property owner, applicant/developer (if different from property owner), and/or the agent.

I/we hereby submit this Site Plan application to the City of Rochester Planning Board pursuant to the City of Rochester Site Plan Regulations and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant/developer (if different from property owner)/as agent, I attest that I am duly authorized to act in this capacity.

Signature of property owner:  _____, Agent

Date: 4/8/2020

Signature of applicant/developer:  _____, Agent


Date: 4/8/2020

Signature of agent:  _____

Date: 4/8/2020

Authorization to enter subject property

I hereby authorize members of the Rochester Planning Board, Zoning Board of Adjustment, Conservation Commission, Planning Department, and other pertinent City departments, boards and agencies to enter my property for the purpose of evaluating this application including performing any appropriate inspections during the application phase, review phase, post-approval phase, construction phase, and occupancy phase. This authorization applies specifically to those particular individuals legitimately involved in evaluating, reviewing, or inspecting this specific application/project. It is understood that these individuals must use all reasonable care, courtesy, and diligence when entering the property.

Signature of property owner:  _____, Agent

Date: 4/8/2020


Site Plan Checklist (residential and nonresidential)

**To be filled out by applicant/agent (with notes to be inserted by staff)*

See regulations for other specific requirements

City of Rochester Planning & Development Department

Project Name: Intec Automation Map: 221 Lot: 1 Date: 4/8/2020

Applicant/agent: Intech Automation Inc. / Attar Engineering, Inc. Signature: 

(Staff review by: _____ Date: _____)

General items

	Yes	No	N/A	Waiver Requested	Comments
<u>4</u> sets completed application	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Total application fee	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>4</u> copies of narrative	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>3</u> sets of full-size plans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>2</u> sets of 11 X 17 reductions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Completed abutters list	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Copy of existing covenants, easements, deed restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Plan Information

Basic information including:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Title sheet					
• Name of Project					
• Date					
• North arrow					
• Scale					
• Legend					
• Revision block					
• Vicinity sketch -not less than 1" = 1,000'					
Name and address of developer/applicant	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Name, stamp, and NH license # of land survey, engineer, and/or architect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
City tax map & lot #'s	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Notation on plans: "For more information about this site plan contact...."	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

General items Continued

	Yes	No	N/A	Waiver Requested	Comments
Approval block (for signature by staff attesting to Planning Board approval)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
References to neighboring plans and subdivisions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Surveyed property lines including: <ul style="list-style-type: none">• existing and proposed bearings• existing and proposed distances• pins, stakes, bounds• monuments• benchmarks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Include error of closure statement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Information on abutting properties: <ul style="list-style-type: none">• owner name• owner address• tax map and lot #• square footage of lots• approximate building footprints• use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Zoning

Zoning designations of subject tract and in vicinity of tract	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Zoning requirements for district: <ul style="list-style-type: none">• frontage• lot dimensions/density• all setbacks• lot coverage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Zoning overlay districts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Existing Topographic Features:

Contour lines a (not to exceed two-foot Intervals, except on steep slopes) and spot elevations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Soil types and boundaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Soil test pit locations, profiles, and Depth to water table and ledge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Percolation test locations and results	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Existing Topographic Features Continued:

	Yes	No	N/A	Waiver Requested	Comments
Water features (ponds, streams)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Wetlands including name of certified Wetlands scientist who delineated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Statement whether located in flood area, And if so, 100 year flood elevation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Delineation of trees and open areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Overview of types of trees and vegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Stone walls and archaeological features	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Locations of trails and paths	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Other natural/cultural resources (productive farmland, habitats, scenic views, historic structures, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Building Information

Existing buildings/structures including square footage and use	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Proposed building/structures including <ul style="list-style-type: none">• square footage• first floor elevation• use• # bedrooms per unit if residential	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevation drawing of proposed buildings and structures as follows: <ul style="list-style-type: none">• Showing all four sides• Drawn to scale with dimensions• Showing exterior materials• Showing exterior colors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Circulation and Parking Plans

Existing and proposed driveways and access points including: <ul style="list-style-type: none">• Width of opening• Turning radii• Cross section of driveway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Curbing & edge treatment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Traffic control devices, if appropriate:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Circulation and Parking Plans Continued:

	Yes	No	N/A	Waiver Requested	Comments
Number of parking spaces	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
• required by ordinance					
• proposed					
Parking layout and dimensions of spaces	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Handicap spaces	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Loading area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pedestrian circulation plan (including existing sidewalks in vicinity, if any)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Bicycle rack, if appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Buffers, landscaping & screening	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Snow storage areas/plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Utilities

Show all pertinent existing and proposed profiles, elevations, materials, sizes, and details

Water lines/well (with protective radius)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sewer lines/septic and leaching areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pump stations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stormwater management system: pipes, culverts,, catch basins detention/ retention basins, swales, rip rap, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire hydrant location(s) and details	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Electric, telephone, cable TV (underground or overhead)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Gas lines	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Fire alarm connections	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Treatment of solid waste (dumpsters?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Handling of oil, grease, chemicals hazardous materials/waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Landscaping Plan

	Yes	No	N/A	Waiver Requested	Comments
Demarcation of limits of construction, clear delineation of vegetation to be saved, and strategy for protecting vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Proposed ground cover, shrubbery, and trees including: <ul style="list-style-type: none">• botanical and common names• locations and spacing• total number of each species• size at installation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Planting plan (size of holes, depth of planting, soil amendments, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Irrigation: system? soaker hose? Manual? underground, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Protection of landscaping from vehicles (Curb stops, berm, railroad ties, etc)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Specification all finished ground surfaces and edges (greenspace, mulch, asphalt, concrete, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fencing/screening	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Signage

Location and type of signs: <ul style="list-style-type: none">• Attached to building• Freestanding• Directional, if appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Dimensions of signs: <ul style="list-style-type: none">• Height• Area• Setback	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevation drawings with colors & materials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Type of Illumination, if proposed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Outdoor Lighting

	Yes	No	N/A	Waiver Requested	Comments
Locations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Height of fixtures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Wattage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Type of light (high pressure sodium, etc)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Design/cut sheets of fixtures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Illumination study, if appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Other Elements

Traffic study, if appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Drainage study with calculations, storm Water impact analysis, and mitigation plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Grading plan (including finish grades)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Earth being removed from site(in cubic yards)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Erosion and sedimentation plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Proposed covenants, easements, And deed restrictions, if any	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fiscal impact study, if requested	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Additional Comments:

**INTEC AUTOMATION, INC.
5 SAMPSON ROAD, P.O. BOX 1653
ROCHESTER, N.H. 03867
(603) 332-7733**

April 8, 2020

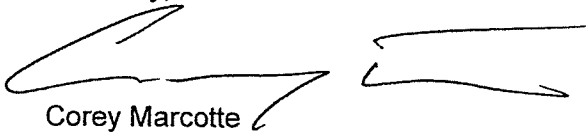
Seth Creighton, AICP
Chief Planner
City of Rochester Planning & Development
33 Wakefield Street
Rochester, N.H. 03867

Dear Mr. Creighton:

Please be informed that Kenneth A. Wood, P.E., Lewis Chamberlain, P.E. and Brian Nielsen, E.I.T. of Attar Engineering, Inc. will be acting as our agents for the applications for our new Intec Facility in the Rochester Industrial Park.

Please contact me if I can provide any additional information.

Sincerely;


Corey Marcotte

cc: Kenneth A. Wood, P.E. Attar Engineering, Inc.



100 foot Abutters List Report

Rochester, NH

April 08, 2020

Subject Property:

Parcel Number: 0221-0001-0000
CAMA Number: 0221-0001-0000
Property Address: 0 TEN ROD RD

Mailing Address: IRM PROPERTIES LLC
181 STAGECOACH RD
BARRINGTON, NH 03825-7440

Abutters:

Parcel Number: 0114-0001-0000
CAMA Number: 0114-0001-0000
Property Address: 306 NO MAIN ST

Mailing Address: R E L COMMONS LLC
1 CATE ST SUITE 520
PORTSMOUTH, NH 03801

Parcel Number: 0221-0002-0000
CAMA Number: 0221-0002-0000
Property Address: 0 INDUSTRIAL WAY

Mailing Address: CITY OF ROCHESTER
31 WAKEFIELD ST
ROCHESTER, NH 03867-1916

Parcel Number: 0221-0152-0000
CAMA Number: 0221-0152-0000
Property Address: 21 TEN ROD RD

Mailing Address: TRUE MEMORIAL BAPTIST CHURCH
P O BOX 1001
ROCHESTER, NH 03866-1001

Parcel Number: 0221-0153-0000
CAMA Number: 0221-0153-0000
Property Address: 23 TEN ROD RD

Mailing Address: MCPHERSON HOWARD R & KATHY R
23 TEN ROD ROAD
ROCHESTER, NH 03867-4243

Parcel Number: 0230-0016-0000
CAMA Number: 0230-0016-0000
Property Address: 0 TEN ROD RD

Mailing Address: CITY OF ROCHESTER
31 WAKEFIELD ST
ROCHESTER, NH 03867-1916

Parcel Number: 0230-0021-0000
CAMA Number: 0230-0021-0000
Property Address: 35 INDUSTRIAL WAY

Mailing Address: NASHUA VP LLC & SULLIVAN ARTHUR
W REV TRUST %
670 NORTH COMMERCIAL ST SUITE 303
MANCHESTER, NH 03101



www.cai-tech.com

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

4/8/2020

Page 1 of 1

WARRANTY DEED

THAT, George E. Stearns and Ann D. Stearns, of 78 Ten Rod Road, Rochester 03867, County of Strafford, State of New Hampshire, for consideration paid, grant to the State of New Hampshire, whose address is PO Box 483, 7 Hazen Drive, Concord, New Hampshire 03302-0483, with WARRANTY covenants

Three tracts of land, not homestead, situated on the Southwesterly side of Ten Rod Road, as now travelled, in the City of Rochester, County of Strafford, State of New Hampshire, and being near the Ten Rod Road Construction Base Line Station 1215+00, and also shown as Parcel 53 on a Plan of Rochester, 10620D (10620L construction phase), on file in the records of the New Hampshire Department of Transportation and to be recorded in the Strafford County Registry of Deeds; bounded and described as follows:

TRACT I

Beginning at a point in the Southwesterly side line of Ten Rod Road, as now travelled, said point being thirty-three (33.0) feet Southwesterly of and directly opposite the Ten Rod Road Construction Base Line Station 1214+50.00 thence, Northwesterly and parallel with said construction base line to a point directly opposite Station 1217+00.00 thence, Westerly to the division line between land of the Grantors and land now or formerly of The City of Rochester on a course that passes through the last named point and a point thirty (30.0) feet Easterly of and directly opposite the Industrial Drive Construction Base Line Station 921+18.00, thence Northeasterly with said division line to the Southwesterly side line of Ten Rod Road as now travelled, thence, Easterly with said side line to the point of beginning.

TRACT II

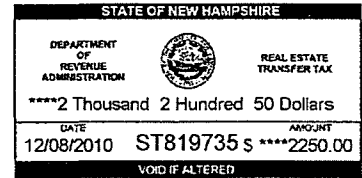
Beginning at a point in the Southwesterly side line of Ten Rod Road, as now travelled, said point being thirty-three (33.0) feet Southwesterly of and directly opposite the Ten Rod Road Construction Base Line Station 1214+50.00 thence, Southwesterly to a point sixty (60.0) feet Southwesterly of and directly opposite Station 1214+50.00 thence, Easterly and parallel with the Ten Rod Road construction base line to a point directly opposite Station 1212+50.00 thence, Southerly to the Westerly side line of Industrial Drive, as now travelled, on a course that passes through the last named point and a point one hundred thirty-eight (138.0) feet Westerly of and directly opposite the Ten Rod Road Construction Base Line Station 1211+50.00 thence, Northeasterly with the Westerly side line of Industrial Drive to the Southwesterly side line of Ten Rod Road, as now travelled, thence, Northwesterly, Northeasterly and Northwesterly again with said side line to the point of beginning.

TRACT III

Being all that land belonging to the Grantors that lies Westerly of a course measured thirty (30.0) feet Easterly of and parallel with the Industrial Drive construction base line; bounded on the Northwest and South by land now or formerly of the City of Rochester and bounded on the East by other land of the Grantors.

Containing in all one and seventy-six hundredths (1.76) acres, more or less, and being a portion of that real estate described in a deed recorded December 28, 1994, at the Strafford County Registry of Deeds in Book 1784, Page 629.

And also granting with the above described land all rights of access, light, air and view over, from and to the same from the remainder of abutting lands along the line of taking of the above described Tract II



(Recording information above this line)

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS, that GEORGE E. STEARNS and ANN D. STEARNS, husband and wife, with an address of 78 Ten Rod Road, Rochester, County of Strafford and State of New Hampshire 03867, for consideration paid, grant to ALVIN J. COLEMAN & SON, INC., a New Hampshire corporation, with an address of 9 NH Route 113, Conway New Hampshire 03818-9505, with WARRANTY COVENANTS:

The following described real estate, with the building thereon, situate in the City of Rochester, County of Strafford and State of New Hampshire:

TRACT 1 A certain tract or parcel of land situate in said Rochester on the westerly side of the Ten Rod Road, so called, bounded and described as follows:

Beginning at the northeasterly corner of land now or formerly of Lucella McDuffee at an iron post in the ground and on the line of said Road, thence running by said McDuffee's land in a westerly direction six hundred sixty (660) feet, more or less, to land now or formerly of John F. Twombly at an iron post set in the ground; thence running in a southerly direction by land of said John F. Twombly to an iron post inserted in the ground about six hundred sixty-seven (667) feet at land now or formerly of Edwin Pray; thence running in an easterly direction by said Pray's land about seven hundred eighty (780) feet to an iron post set in the ground at said street and thence running in a northerly direction by said road or street about two hundred sixty-five (265) feet to the point of beginning, said tract containing 5 acres, more or less.

TRACT 2 Another tract or parcel of land in said Rochester, bounded and described as follows:

Beginning at the southerly side of the Ten Rod Road, so called, at the stone wall or division line between land formerly of John F. Twombly and George T. McDuffee, thence westerly by said stone wall six hundred fifty-one and five tenths (651.5) feet to a fence between the tract herein conveyed and other land formerly of Twombly; thence southerly by said fence and a stone wall four hundred and three tenths (400.3) feet; thence turning and running S 54° 45' W a distance of six hundred forty-two (642) feet to said Ten Rod Road and thence by said Ten Rod Road N 35° 15' W to the point of beginning.

Excepting and reserving from the above tract the premises conveyed to Public Service Company of New Hampshire by Warranty Deed of Esther E. (Stearns) Gray and George E. Stearns dated March 23, 1968 and recorded in the Strafford County Registry of Deeds at Book 851, Page 19.

TRACT 3 Another Tract or parcel of land in said Rochester on the Ten Rod Road, so called, bounded and described as follows:

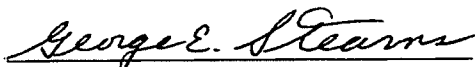
Beginning at an iron hub in the ground on the westerly side of said Ten Rod Road at the southeasterly corner of land formerly of Lucella McDuffee, thence running westerly by said Lucella McDuffee's land about six hundred forty-three (643) feet to a stone wall; thence southerly along said wall to a point one hundred thirty-four and two tenths (134.2) feet from the first described line measured at a right angle, thence running easterly on a line parallel to and one hundred thirty-four and two tenths (134.2) feet from the first described line about six hundred fifty-four (654) feet to the Ten Rod Road; thence northerly by said Road to the point of beginning, containing two (2) acres, more or less.

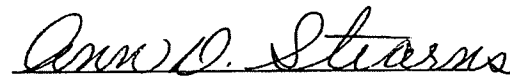
Meaning and intending to describe and convey a portion of tracts II, III and IV as found in deed from George E. Stearns to George E. Stearns and Ann D. Stearns by Warranty Deed dated December 23, 1994, recorded in the Strafford County Registry of Deeds at Book 1784, Page 0629.

EXCEPTING AND RESERVING from the parcels above described a certain parcel of land as described in Warranty Deed from George E. Stearns and Ann D. Stearns to the City of Rochester dated May 28, 1996, recorded in the Strafford County Registry of Deeds at Book 1866, Page 12, and also three certain parcels of land described in Warranty Deed from George E. Stearns and Ann D. Stearns to the State of New Hampshire dated January 23, 2009, recorded in the Strafford County Registry of Deeds at Book 3707, Page 837.

For informational purposes only the above referenced tracts are depicted as one lot of record being City of Rochester Tax Map 221, Lot 1.

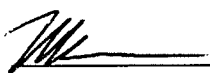
EXECUTED this 7 day of December 2010.


George E. Stearns


Ann D. Stearns

STATE OF NEW HAMPSHIRE
COUNTY OF CARROLL

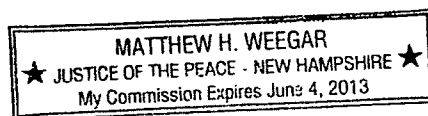
This instrument was acknowledged before me on the 7 day of December 2010 by George
E. Stearns and Ann D. Stearns.



Notary Public/Justice of the Peace

Print name:

My commission expires:



WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, That **GEORGE E. STEARNS** and **ANN D. STEARNS**, husband and wife, of 78 Ten Rod Road, Rochester, County of Strafford and State of New Hampshire 03867, for consideration paid, grant to the **CITY OF ROCHESTER, NEW HAMPSHIRE**, a municipal corporation with a place of business at 31 Wakefield Street, Rochester, County of Strafford and State of New Hampshire 03867, with WARRANTY COVENANTS, the following premises:

Rochester, New Hampshire:

A certain tract or parcel of land situate on the southwesterly side of Ten Rod Road, in the City of Rochester, County of Strafford and State of New Hampshire, the same being more particularly shown as "Area to be Conveyed to the City of Rochester: 9,805 sq. ft./0.23 acres" on a certain plan entitled "Land Acquisition Plan, Industrial Way & Ten Rod Road, Rochester, N.H., George E. & Ann D. Stearns to the City of Rochester" dated March, 1996, to be recorded in the Strafford County Registry of Deeds, more particularly bounded and described as follows:

Beginning at a point on the southwesterly side of Ten Rod Road, said point being the easterly corner of land now or formerly of the City of Rochester and the southwesterly corner of land now or formerly of George E. and Ann D. Stearns;

thence running along the existing northwesterly boundary of said land now or formerly of the City of Rochester S 36° 52' 56" W a distance of 741.56 feet, more or less, to a point;

thence turning and running along land now or formerly of said Stearns N 16° 33' 41" E a distance of 57.59 feet, more or less, to a point;

thence turning and continuing to run along said land now or formerly of Stearns N 36° 52' 56" E, a distance of 425.61 feet, more or less, to a point;

thence turning and continuing to run along said land now or formerly of Stearns N 18° 22' 29" E, a distance of 31.50 feet, more or less, to the southwesterly sideline of the Ten Rod Road, so-called;

thence turning and running along the southwesterly sideline of Ten Rod Road S 53° 51' 14" E, a distance of 30.00 feet, more or less, to the point of beginning.

The above-described tract contains 9,805 square feet or .23 acres, more or less.

Meaning and intending to describe and convey a portion of the premises acquired by the grantors by deed of George E. Stearns to George E. Stearns and Ann D. Stearns as joint tenants with rights of survivorship dated December 23, 1994 and recorded at Book 1784, Page 629 at the Strafford County Records.

By acceptance of this deed the Grantee agrees to allow the Grantors, their successors and assigns, one access point from the larger tract from which the above-described premises is derived to the road known as Industrial Way located on the Grantee's property, provided that such access point can be created consistently with all applicable City and State safety requirements applicable to the location and maintenance of such access points in effect at the time of the establishment of said access point.

The grantors hereby release all rights of homestead and other rights therein in the above-described premises.

Dated this 28th day of May, 1996.

George E. Stearns
George E. Stearns

Ann D. Stearns
Ann D. Stearns

STATE OF NEW HAMPSHIRE
COUNTY OF STRAFFORD

May 28th, 1996

Personally appeared George E. Stearns and Ann D. Stearns, known to me or satisfactorily proven to be the same persons whose names are subscribed to the foregoing instrument and acknowledged that they executed the same for the purposes therein contained.

Before me,

[Signature]
Justice of the Peace / Notary Public

BK 1866PG00013

Alpine Title Services
6 Pleasant Street
Conway, NH 03818

T/S \$3000

E-Doc # 190006053
Book 4655 Page 598

05/22/2019 09:02:13 AM
Page 1 of 3

Catherine A. Berube
Register of Deeds, Strafford County
TRANS TAX STA142717 3,000.00
LCHIP ST847547 25.00

The space above this line is reserved for recording information

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS that , **ALVIN J. COLEMAN & SON, INC.**, a New Hampshire Corporation, with a mailing address of 9 NH Route 113, Conway, New Hampshire, 03818, for consideration paid, grant to **IRM PROPERTIES, LLC**, a New Hampshire Limited Liability Company , with a mailing address of 181 Stagecoach Road, Barrington, New Hampshire, 03825, with **WARRANTY COVENANTS**, the following:

The following described real estate, with the building thereon, situate in the City of Rochester, County of Strafford, State of New Hampshire:

TRACT 1: A certain tract or parcel of land situate in said Rochester on the Westerly side of the Ten Rod Road, so called, bounded and described as follows:

Beginning at the Northeasterly corner of land now or formerly of Lucella McDuffee at an iron post in the ground and on the line of said Road, thence running by said McDuffee's land in a Westerly direction six hundred sixty (660) feet, more or less, to land now or formerly of John F. Twombly at an iron post set in the ground; thence running in a Southerly direction by land of said John F. Twombly to an iron post set in the ground about six hundred sixty-seven (667) feet at land now or formerly of Edwin Pray; thence running in an Easterly direction by said Pray's land about seven hundred eighty (780) feet to an iron post set in the ground at said street and then running in a Northerly direction by said road or street about two hundred sixty-five (265) feet to the point of beginning, said tract containing five (5) acres, more or less.

TRACT 2: Another tract or parcel of land in said Rochester bounded and described as follows:

Beginning at the Southerly side of the Ten Rod Road, so called, at the stone wall or division line between land formerly of John F. Twombly and George T. McDuffee, thence Westerly by said stone wall six hundred fifty-one and five tenths (651.5) feet to a fence between the tract herein conveyed and other land formerly of Twombly; thence Southerly by said fence and a stone wall four hundred and three tenths (400.3) feet; thence turning and running South 54 degrees 45' West six hundred forty-two (642) feet to said Ten Rod Road and thence by said Ten Rod Road North 35 degrees 15' West to the point of beginning

Excepting and reserving from the above tract the premises conveyed to Public Service Company of New Hampshire by Warranty Deed of Esther E. (Stearns) Gray and George E. Stearns dated March 23, 1968, and recorded in the Strafford County Registry of Deeds at Book 851, Page 19.

TRACT 3: Another tract or parcel of land in said Rochester on the Ten Rod Road, so called, bounded and described as follows:

Beginning at an iron hub in the ground on the Westerly side of said Ten Rod Road at the Southeasterly corner of land formerly of Lucella McDuffee, thence running Westerly by said Lucella McDuffee's land about six hundred forty-three (643) feet to a stone wall; thence Southerly along said wall to a point one hundred thirty-four and two tenths (134.2) feet from the first described line measured at a right angle, thence running Easterly on a line parallel to and one hundred thirty-four and two tenths (134.2) feet from the first described line about six hundred fifty-four (654) feet to the Ten Rod Road; thence Northerly by said Road to the point of beginning, containing two (2) acres, more or less.

EXCEPTING and RESERVING from the parcels above described a certain parcel of land as described in Warranty Deed from George E. Stearns and Ann D. Stearns to the City of Rochester dated May 28, 1996, recorded in the Strafford County Registry of Deeds in Book 1866, Page 12 and also three certain parcels of land described in Warranty Deed from George E. Stearns and Ann D. Stearns to the State of New Hampshire dated January 23, 2009, recorded in the Strafford County Registry of Deeds in Book 3707, Page 837

Meaning and intending to describe and convey those premises conveyed by Warranty Deed of George E. Stearns and Ann D. Stearns to the Grantor herein dated December 7, 2010 and recorded at Strafford County Registry of Deeds at Book 3887, Page 715.

The above described is not homestead property of the grantors.

EXECUTED, this 21 day of May, 2019.

ALVIN J. COLEMAN & SON, INC.

P. Noah Coleman

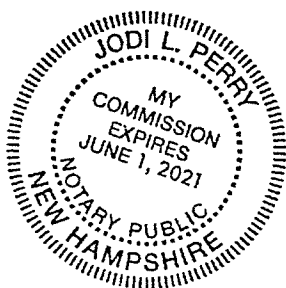
P. Noah Coleman, Vice President

Duly Authorized

STATE OF NH

COUNTY OF Carroll

The foregoing instrument was acknowledged before me this 21 day of May, 2019 by P. Noah Coleman, in his capacity as Vice President of Alvin J. Coleman & Son, Inc. known to me or satisfactorily proven by photo identification to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes therein contained.

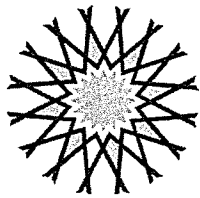


Jodi L. Perry

Notary Public/Justice of the Peace

Printed Name: Jodi L. Perry

My Commission Expires: 6-1-2021



INTEC AUTOMATION – OFFICE/MANUFACTURING INDUSTRIAL DRIVE AND TEN ROD ROAD, ROCHESTER, NH STORMWATER MANAGEMENT STUDY

Project No.: C164-20

April 6, 2020

◆ Scope

This stormwater management plan has been prepared for a warehouse and office space development located at Industrial Drive and Ten Rod Road in Rochester, NH. The entire parcel contains approximately 6.10 acres; the development will include a single building containing a warehouse area, and office space. The project requires a Site Plan Review and must meet the Stormwater Management requirements for the City of Rochester. The project will create approximately 2.9 acres of developed area and approximately 1.7 acres of impervious area.

◆ Site and Watershed Description

The project site is located in the Cocheco River subwatershed. A 7½ minute series U.S.G.S. map of the project area is attached.

The current lot contains disturbed areas, meadow areas, and wetlands. The mapped wetlands are on the eastern portion of the site. There is a buffer area that extends from the wetland boundary 25' westerly into the property. The existing vegetation shall remain in this area and no grading or other disturbance is proposed for this portion of the site.

The site is not located in a flood zone.

◆ Soils/Hydrologic Soil Groups

Soil types and their respective Hydrologic Soil Groups (HSG) were determined from the USDA NRCS Web Soil Survey. On site soil types consist of Hollis-Charlton fine sandy loams (Hc), Ridgebury fine sandy loam (Sf) and Sutton fine sandy loam (Sn). Hydrologic Soil Groups (HSG's) are from groups "B" and "C" for these soil types.

◆ Methodology

The stormwater quantity analysis will be conducted using the HydroCAD Stormwater Modeling System by Applied Microcomputer Systems. The analysis determines the "Existing Condition" and "Developed Condition" stormwater flows. Both cases are analyzed for the 2, 10, 25 and 50-year, 24-hour frequency storm events. The Existing Condition analyzes the site as it currently exists and the Developed Condition models the site with the proposed improvements described above.

◆ Water Quantity Analysis

Existing Condition

The site itself is one large subcatchment for analysis. Runoff flows from the west to the eastern side of the property. The analysis point is at the eastern property line in the wetlands where culvert inlet takes runoff from the site and transfers it to the other side of the road.

Developed Condition

The Developed Condition analysis consists of 6 subcatchments. Other features such as ponds (Bioretention cell) and catch basins were added to account for on-site routing and detention of stormwater. Two Bioretention cell is proposed to provide both stormwater detention and treatment. An infiltration basin is proposed to collect and dispose of roof runoff into the ground to meet the groundwater recharge volume requirements. Calculations are provided to show the required Volume control and treatment required by the City of Rochester and the NHDES. All Developed Condition flows were routed to the Analysis Points described above.

Changes in Stormwater Flows

Tables showing Existing Condition peak flows, Developed Condition peak flows and the change in peak flow from Existing Condition to Developed Condition are presented on a separate page.

The analysis indicates a match to current peak flow at the analysis points (AP 1) for all storm events (2, 10, 25 and 50-year).

With the exception of the downhill grading located in subcatchment 6, all of the developed area runoff is routed to either of the Bioretention cells (1P and 2P) or the infiltration basin (3P).

Runoff from the Bioretention cell shall be routed through outlet structures, pipes and level spreaders prior to discharge to undisturbed, on-site areas.

The full runoff volume of the 25 year storm does not cause the Bioretention cell to overtop.

◆ **Water Quality**

In accordance with the City of Rochester the pre and post development conditions were analyzed for water quality requirements using the "Simple Method" described in the NHDES Stormwater Manual Volume 1. The spreadsheet provided by NHDES was used and the results are provided as part of this report.

Runoff from developed areas on the site will receive treatment in the Bioretention cells prior to being discharged. Approximately 75.5 % of the Total Suspended Solids (TSS), 53.8 % of the Total Nitrogen (TN) and 53.4 % of the Total Phosphorus (TP) are treated. Treatment calculations and Bioretention cell sizing calculations in accordance with the NHDES Stormwater Manual Volumes 1 and 2 are included in this report.

◆ **Erosion and Sedimentation Control**

All of the proposed Erosion and Sedimentation Control Measures and details are noted on Sheet 6 of the plan set.

◆ **Summary**

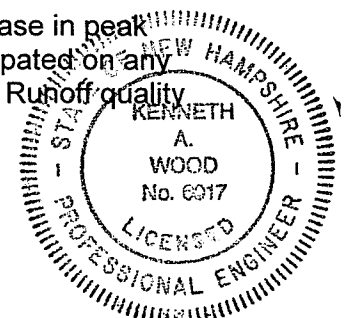
The use of the Bioretention cells to attenuate peak flows will result in no increase in peak runoff quantity from the proposed development. No adverse effects are anticipated on any downstream properties or drainage structures for the analyzed storm events. Runoff quality is also addressed by the use of the Bioretention cells.

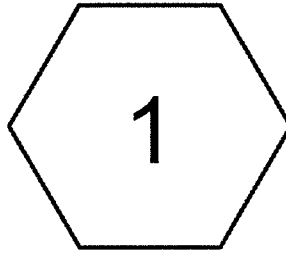
Sincerely;



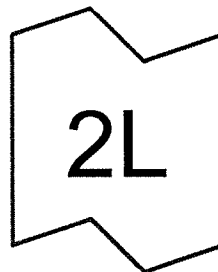
Kenneth A. Wood, P.E.
President

1284 State Road, Eliot, ME 03903 ♦ tel (207) 439-6023 ♦ fax (207) 439-2128

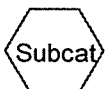




Subcat 1



POA #1



Routing Diagram for Marcotte_EXT

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Marcotte_EXT

Prepared by Hewlett-Packard Company

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.441	69	50-75% Grass cover, Fair, HSG B (1)
4.697	79	50-75% Grass cover, Fair, HSG C (1)
0.135	85	Gravel roads, HSG B (1)
0.148	89	Gravel roads, HSG C (1)
0.266	98	Paved roads w/curbs & sewers, HSG B (1)
0.312	98	Paved roads w/curbs & sewers, HSG C (1)
6.998	79	TOTAL AREA

Marcotte_EXT

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.841	HSG B	1
5.157	HSG C	1
0.000	HSG D	
0.000	Other	
6.998		TOTAL AREA

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.441	4.697	0.000	0.000	6.137	50-75% Grass cover, Fair	1
0.000	0.135	0.148	0.000	0.000	0.284	Gravel roads	1
0.000	0.266	0.312	0.000	0.000	0.577	Paved roads w/curbs & sewers	1
0.000	1.841	5.157	0.000	0.000	6.998	TOTAL AREA	

Marcotte_EXT

NRCC 24-hr D 2-Year Rainfall=3.14"

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Page 5

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1

Runoff Area=6.998 ac 8.25% Impervious Runoff Depth>1.14"

Flow Length=600' Tc=13.0 min CN=79 Runoff=7.60 cfs 0.662 af

Link 2L: POA #1

Inflow=7.60 cfs 0.662 af

Primary=7.60 cfs 0.662 af

Total Runoff Area = 6.998 ac Runoff Volume = 0.662 af Average Runoff Depth = 1.14"**91.75% Pervious = 6.421 ac 8.25% Impervious = 0.577 ac**

Marcotte_EXT

NRCC 24-hr D 10-Year Rainfall=4.74"

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Page 6

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1

Runoff Area=6.998 ac 8.25% Impervious Runoff Depth=2.31"

Flow Length=600' Tc=13.0 min CN=79 Runoff=15.37 cfs 1.346 af

Link 2L: POA #1

Inflow=15.37 cfs 1.346 af

Primary=15.37 cfs 1.346 af

Total Runoff Area = 6.998 ac Runoff Volume = 1.346 af Average Runoff Depth = 2.31"**91.75% Pervious = 6.421 ac 8.25% Impervious = 0.577 ac**

Marcotte_EXT*NRCC 24-hr D 25-Year Rainfall=5.99"*

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Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1

Runoff Area=6.998 ac 8.25% Impervious Runoff Depth>3.31"
Flow Length=600' Tc=13.0 min CN=79 Runoff=21.77 cfs 1.931 af

Link 2L: POA #1

Inflow=21.77 cfs 1.931 af
Primary=21.77 cfs 1.931 af

Marcotte_EXT

NRCC 24-hr D 25-Year Rainfall=5.99"

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Page 2

Summary for Subcatchment 1: Subcat 1

Runoff = 21.77 cfs @ 12.21 hrs, Volume= 1.931 af, Depth> 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=5.99"

Marcotte_EXT

NRCC 24-hr D 25-Year Rainfall=5.99"

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Page 3

Area (ac)	CN	Description
0.080	89	Gravel roads, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.089	98	Paved roads w/curbs & sewers, HSG C
0.135	98	Paved roads w/curbs & sewers, HSG C
0.000	98	Paved roads w/curbs & sewers, HSG C
0.000	98	Paved roads w/curbs & sewers, HSG C
0.000	98	Paved roads w/curbs & sewers, HSG C
0.084	98	Paved roads w/curbs & sewers, HSG C
0.008	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.105	79	50-75% Grass cover, Fair, HSG C
0.747	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.135	85	Gravel roads, HSG B
0.000	69	50-75% Grass cover, Fair, HSG B
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.004	69	50-75% Grass cover, Fair, HSG B
0.002	69	50-75% Grass cover, Fair, HSG B
0.001	69	50-75% Grass cover, Fair, HSG B
0.000	69	50-75% Grass cover, Fair, HSG B
0.000	69	50-75% Grass cover, Fair, HSG B
0.003	79	50-75% Grass cover, Fair, HSG C
1.433	69	50-75% Grass cover, Fair, HSG B
0.000	98	Paved roads w/curbs & sewers, HSG C
0.001	98	Paved roads w/curbs & sewers, HSG C
0.001	98	Paved roads w/curbs & sewers, HSG C
0.266	98	Paved roads w/curbs & sewers, HSG B
0.001	98	Paved roads w/curbs & sewers, HSG C
0.069	89	Gravel roads, HSG C
0.008	79	50-75% Grass cover, Fair, HSG C
3.822	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.001	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	89	Gravel roads, HSG C
6.998	79	Weighted Average
6.421		91.75% Pervious Area
0.577		8.25% Impervious Area

Marcotte_EXT

Prepared by Hewlett-Packard Company

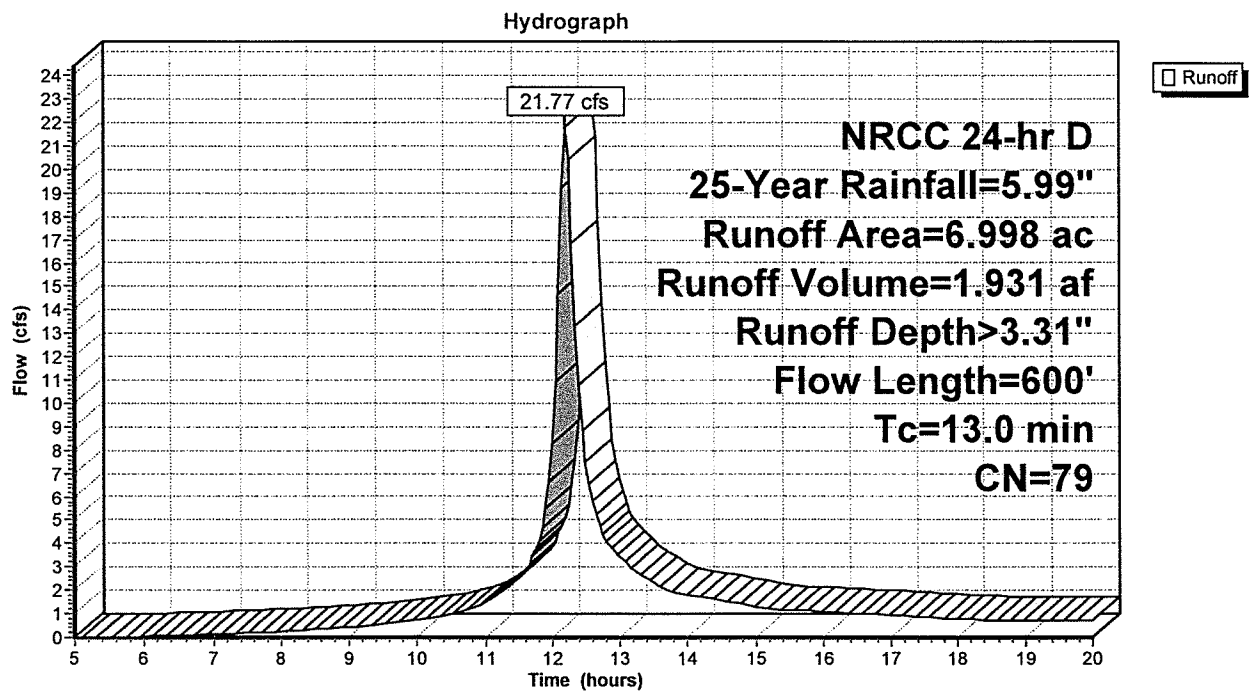
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NRCC 24-hr D 25-Year Rainfall=5.99"

Printed 4/6/2020

Page 4

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	50	0.1200	0.16		Sheet Flow, Grass: Dense n= 0.240 P2= 2.00"
7.9	550	0.0545	1.17		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.0	600	Total			

Subcatchment 1: Subcat 1

Marcotte_EXT

NRCC 24-hr D 25-Year Rainfall=5.99"

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Hydrograph for Subcatchment 1: Subcat 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.50	0.00	0.00	18.50	5.43	3.18	0.74
5.25	0.53	0.00	0.00	18.75	5.46	3.20	0.73
5.50	0.56	0.00	0.00	19.00	5.49	3.23	0.72
5.75	0.59	0.00	0.02	19.25	5.52	3.25	0.71
6.00	0.62	0.00	0.04	19.50	5.55	3.28	0.70
6.25	0.65	0.00	0.06	19.75	5.58	3.30	0.70
6.50	0.68	0.01	0.08	20.00	5.60	3.33	0.69
6.75	0.72	0.01	0.10				
7.00	0.75	0.02	0.13				
7.25	0.79	0.02	0.16				
7.50	0.83	0.03	0.19				
7.75	0.87	0.04	0.22				
8.00	0.91	0.05	0.26				
8.25	0.96	0.06	0.30				
8.50	1.00	0.07	0.33				
8.75	1.05	0.08	0.37				
9.00	1.10	0.10	0.42				
9.25	1.15	0.12	0.47				
9.50	1.21	0.14	0.56				
9.75	1.27	0.16	0.65				
10.00	1.34	0.19	0.75				
10.25	1.42	0.22	0.85				
10.50	1.50	0.26	0.97				
10.75	1.59	0.30	1.17				
11.00	1.70	0.36	1.48				
11.25	1.84	0.43	1.92				
11.50	2.01	0.53	2.50				
11.75	2.26	0.68	3.73				
12.00	2.87	1.09	8.30				
12.25	3.73	1.74	20.39				
12.50	3.98	1.95	7.47				
12.75	4.15	2.09	4.36				
13.00	4.29	2.20	3.42				
13.25	4.40	2.29	2.78				
13.50	4.49	2.37	2.34				
13.75	4.57	2.44	1.96				
14.00	4.65	2.50	1.80				
14.25	4.72	2.56	1.68				
14.50	4.78	2.61	1.56				
14.75	4.84	2.66	1.44				
15.00	4.89	2.71	1.32				
15.25	4.94	2.75	1.21				
15.50	4.99	2.79	1.16				
15.75	5.03	2.83	1.12				
16.00	5.08	2.87	1.09				
16.25	5.12	2.90	1.05				
16.50	5.16	2.94	1.01				
16.75	5.20	2.97	0.98				
17.00	5.24	3.01	0.94				
17.25	5.27	3.04	0.90				
17.50	5.31	3.07	0.86				
17.75	5.34	3.10	0.83				
18.00	5.37	3.13	0.79				
18.25	5.40	3.15	0.75				

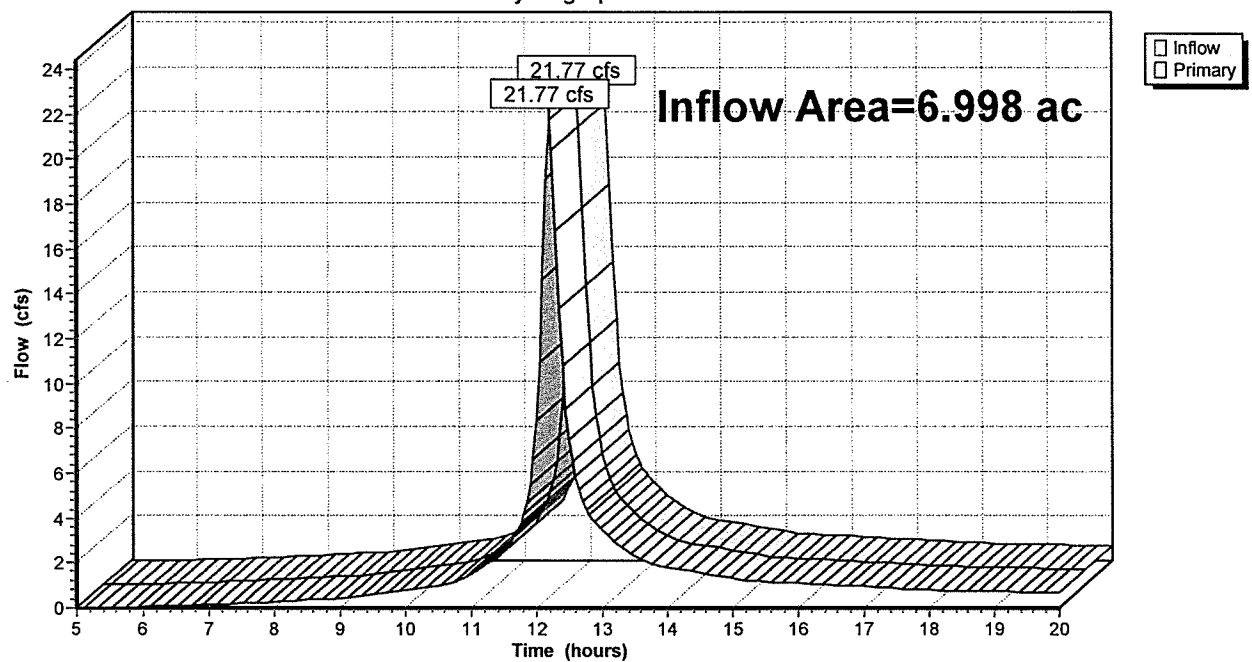
Summary for Link 2L: POA #1

Inflow Area = 6.998 ac, 8.25% Impervious, Inflow Depth > 3.31" for 25-Year event
 Inflow = 21.77 cfs @ 12.21 hrs, Volume= 1.931 af
 Primary = 21.77 cfs @ 12.21 hrs, Volume= 1.931 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 2L: POA #1

Hydrograph



Marcotte_EXT

NRCC 24-hr D 25-Year Rainfall=5.99"

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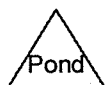
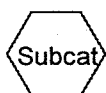
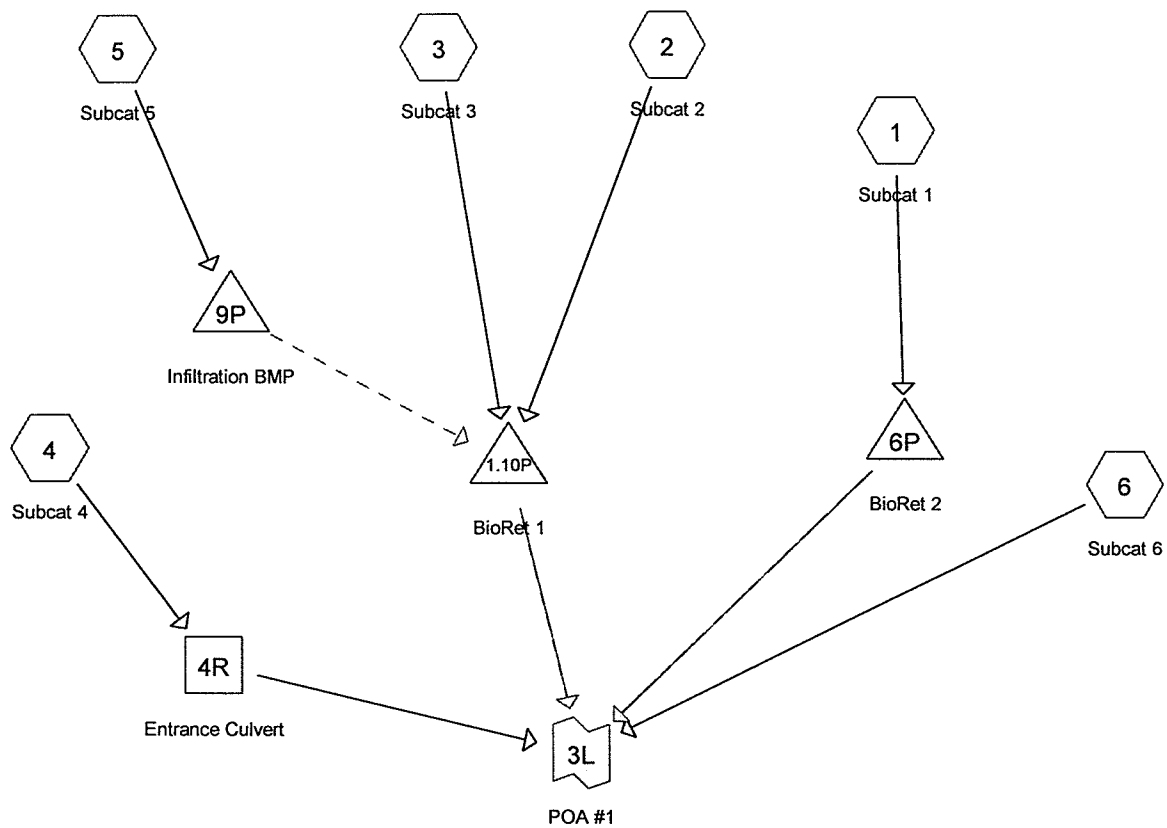
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Hydrograph for Link 2L: POA #1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
5.00	0.00	0.00	0.00	18.50	0.74	0.00	0.74
5.25	0.00	0.00	0.00	18.75	0.73	0.00	0.73
5.50	0.00	0.00	0.00	19.00	0.72	0.00	0.72
5.75	0.02	0.00	0.02	19.25	0.71	0.00	0.71
6.00	0.04	0.00	0.04	19.50	0.70	0.00	0.70
6.25	0.06	0.00	0.06	19.75	0.70	0.00	0.70
6.50	0.08	0.00	0.08	20.00	0.69	0.00	0.69
6.75	0.10	0.00	0.10				
7.00	0.13	0.00	0.13				
7.25	0.16	0.00	0.16				
7.50	0.19	0.00	0.19				
7.75	0.22	0.00	0.22				
8.00	0.26	0.00	0.26				
8.25	0.30	0.00	0.30				
8.50	0.33	0.00	0.33				
8.75	0.37	0.00	0.37				
9.00	0.42	0.00	0.42				
9.25	0.47	0.00	0.47				
9.50	0.56	0.00	0.56				
9.75	0.65	0.00	0.65				
10.00	0.75	0.00	0.75				
10.25	0.85	0.00	0.85				
10.50	0.97	0.00	0.97				
10.75	1.17	0.00	1.17				
11.00	1.48	0.00	1.48				
11.25	1.92	0.00	1.92				
11.50	2.50	0.00	2.50				
11.75	3.73	0.00	3.73				
12.00	8.30	0.00	8.30				
12.25	20.39	0.00	20.39				
12.50	7.47	0.00	7.47				
12.75	4.36	0.00	4.36				
13.00	3.42	0.00	3.42				
13.25	2.78	0.00	2.78				
13.50	2.34	0.00	2.34				
13.75	1.96	0.00	1.96				
14.00	1.80	0.00	1.80				
14.25	1.68	0.00	1.68				
14.50	1.56	0.00	1.56				
14.75	1.44	0.00	1.44				
15.00	1.32	0.00	1.32				
15.25	1.21	0.00	1.21				
15.50	1.16	0.00	1.16				
15.75	1.12	0.00	1.12				
16.00	1.09	0.00	1.09				
16.25	1.05	0.00	1.05				
16.50	1.01	0.00	1.01				
16.75	0.98	0.00	0.98				
17.00	0.94	0.00	0.94				
17.25	0.90	0.00	0.90				
17.50	0.86	0.00	0.86				
17.75	0.83	0.00	0.83				
18.00	0.79	0.00	0.79				
18.25	0.75	0.00	0.75				



Routing Diagram for Marcotte PRP
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.088	69	50-75% Grass cover, Fair, HSG B (1, 2, 4, 6)
3.948	79	50-75% Grass cover, Fair, HSG C (1, 2, 3, 4, 6)
0.208	98	Paved parking, HSG B (1, 6)
0.719	98	Paved parking, HSG C (1, 3, 4, 6)
0.165	98	Paved roads w/curbs & sewers, HSG B (1, 2, 4)
0.182	98	Paved roads w/curbs & sewers, HSG C (1, 2, 4, 6)
0.381	98	Unconnected roofs, HSG B (1, 5)
0.307	98	Unconnected roofs, HSG C (1, 3, 5)
6.998	83	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.841	HSG B	1, 2, 4, 5, 6
5.156	HSG C	1, 2, 3, 4, 5, 6
0.000	HSG D	
0.000	Other	
6.998		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.088	3.948	0.000	0.000	5.036	50-75% Grass cover, Fair	1, 2, 3, 4, 6
0.000	0.208	0.719	0.000	0.000	0.927	Paved parking	1, 3, 4, 6
0.000	0.165	0.182	0.000	0.000	0.347	Paved roads w/curbs & sewers	1, 2, 4, 6
0.000	0.381	0.307	0.000	0.000	0.688	Unconnected roofs	1, 3, 5
0.000	1.841	5.156	0.000	0.000	6.998	TOTAL AREA	

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1 Runoff Area=1.782 ac 40.46% Impervious Runoff Depth=1.49"
Flow Length=220' Tc=4.1 min CN=82 Runoff=3.07 cfs 0.221 af

Subcatchment 2: Subcat 2 Runoff Area=0.410 ac 19.94% Impervious Runoff Depth=1.23"
Flow Length=260' Tc=9.1 min CN=78 Runoff=0.48 cfs 0.042 af

Subcatchment 3: Subcat 3 Runoff Area=0.771 ac 78.56% Impervious Runoff Depth=2.49"
Flow Length=140' Tc=0.7 min CN=94 Runoff=2.22 cfs 0.160 af

Subcatchment 4: Subcat 4 Runoff Area=0.517 ac 38.05% Impervious Runoff Depth=1.78"
Flow Length=318' Slope=0.0380 '/' Tc=3.9 min CN=86 Runoff=1.07 cfs 0.077 af

Subcatchment 5: Subcat 5 Runoff Area=0.200 ac 100.00% Impervious Runoff Depth=2.91"
Flow Length=50' Slope=0.3300 '/' Tc=0.3 min CN=98 Runoff=0.62 cfs 0.049 af

Subcatchment 6: Subcat 6 Runoff Area=3.317 ac 4.71% Impervious Runoff Depth=1.36"
Flow Length=500' Slope=0.0500 '/' Tc=13.9 min CN=80 Runoff=3.68 cfs 0.375 af

Reach 4R: Entrance Culvert Avg. Flow Depth=0.31' Max Vel=5.09 fps Inflow=1.07 cfs 0.077 af
12.0" Round Pipe n=0.013 L=50.0' S=0.0200 '/' Capacity=5.04 cfs Outflow=1.05 cfs 0.077 af

Pond 1.10P: BioRet 1 Peak Elev=256.19' Storage=420 cf Inflow=2.49 cfs 0.202 af
Primary=2.13 cfs 0.202 af Secondary=0.00 cfs 0.000 af Outflow=2.13 cfs 0.202 af

Pond 6P: BioRet 2 Peak Elev=263.76' Storage=4,557 cf Inflow=3.07 cfs 0.221 af
Primary=0.24 cfs 0.221 af Secondary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.221 af

Pond 9P: Infiltration BMP Peak Elev=266.81' Storage=543 cf Inflow=0.62 cfs 0.049 af
Primary=0.09 cfs 0.048 af Secondary=0.01 cfs 0.000 af Outflow=0.10 cfs 0.049 af

Link 3L: POA #1 Inflow=5.81 cfs 0.875 af
Primary=5.81 cfs 0.875 af

Total Runoff Area = 6.998 ac Runoff Volume = 0.923 af Average Runoff Depth = 1.58"
71.97% Pervious = 5.036 ac 28.03% Impervious = 1.962 ac

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1 Runoff Area=1.782 ac 40.46% Impervious Runoff Depth=2.85"
 Flow Length=220' Tc=4.1 min CN=82 Runoff=5.83 cfs 0.423 af

Subcatchment 2: Subcat 2 Runoff Area=0.410 ac 19.94% Impervious Runoff Depth=2.49"
 Flow Length=260' Tc=9.1 min CN=78 Runoff=0.99 cfs 0.085 af

Subcatchment 3: Subcat 3 Runoff Area=0.771 ac 78.56% Impervious Runoff Depth=4.05"
 Flow Length=140' Tc=0.7 min CN=94 Runoff=3.51 cfs 0.260 af

Subcatchment 4: Subcat 4 Runoff Area=0.517 ac 38.05% Impervious Runoff Depth=3.23"
 Flow Length=318' Slope=0.0380 '/' Tc=3.9 min CN=86 Runoff=1.90 cfs 0.139 af

Subcatchment 5: Subcat 5 Runoff Area=0.200 ac 100.00% Impervious Runoff Depth=4.50"
 Flow Length=50' Slope=0.3300 '/' Tc=0.3 min CN=98 Runoff=0.95 cfs 0.075 af

Subcatchment 6: Subcat 6 Runoff Area=3.317 ac 4.71% Impervious Runoff Depth=2.67"
 Flow Length=500' Slope=0.0500 '/' Tc=13.9 min CN=80 Runoff=7.31 cfs 0.737 af

Reach 4R: Entrance Culvert Avg. Flow Depth=0.42' Max Vel=5.96 fps Inflow=1.90 cfs 0.139 af
 12.0" Round Pipe n=0.013 L=50.0' S=0.0200 '/' Capacity=5.04 cfs Outflow=1.87 cfs 0.139 af

Pond 1.10P: BioRet 1 Peak Elev=256.32' Storage=740 cf Inflow=4.89 cfs 0.356 af
 Primary=4.16 cfs 0.356 af Secondary=0.00 cfs 0.000 af Outflow=4.16 cfs 0.356 af

Pond 6P: BioRet 2 Peak Elev=264.15' Storage=5,851 cf Inflow=5.83 cfs 0.423 af
 Primary=4.98 cfs 0.423 af Secondary=0.00 cfs 0.000 af Outflow=4.98 cfs 0.423 af

Pond 9P: Infiltration BMP Peak Elev=267.83' Storage=672 cf Inflow=0.95 cfs 0.075 af
 Primary=0.10 cfs 0.065 af Secondary=1.12 cfs 0.010 af Outflow=1.22 cfs 0.075 af

Link 3L: POA #1 Inflow=16.24 cfs 1.655 af
 Primary=16.24 cfs 1.655 af

Total Runoff Area = 6.998 ac Runoff Volume = 1.720 af Average Runoff Depth = 2.95"
71.97% Pervious = 5.036 ac 28.03% Impervious = 1.962 ac

Marcotte_PRP

NRCC 24-hr D 25-Year Rainfall=5.99"

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Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1 Runoff Area=1.782 ac 40.46% Impervious Runoff Depth=3.98"
Flow Length=220' Tc=4.1 min CN=82 Runoff=8.04 cfs 0.591 af

Subcatchment 2: Subcat 2 Runoff Area=0.410 ac 19.94% Impervious Runoff Depth=3.57"
Flow Length=260' Tc=9.1 min CN=78 Runoff=1.41 cfs 0.122 af

Subcatchment 3: Subcat 3 Runoff Area=0.771 ac 78.56% Impervious Runoff Depth=5.29"
Flow Length=140' Tc=0.7 min CN=94 Runoff=4.50 cfs 0.340 af

Subcatchment 4: Subcat 4 Runoff Area=0.517 ac 38.05% Impervious Runoff Depth=4.40"
Flow Length=318' Slope=0.0380 '/' Tc=3.9 min CN=86 Runoff=2.55 cfs 0.190 af

Subcatchment 5: Subcat 5 Runoff Area=0.200 ac 100.00% Impervious Runoff Depth=5.75"
Flow Length=50' Slope=0.3300 '/' Tc=0.3 min CN=98 Runoff=1.20 cfs 0.096 af

Subcatchment 6: Subcat 6 Runoff Area=3.317 ac 4.71% Impervious Runoff Depth=3.77"
Flow Length=500' Slope=0.0500 '/' Tc=13.9 min CN=80 Runoff=10.27 cfs 1.043 af

Reach 4R: Entrance Culvert Avg. Flow Depth=0.50' Max Vel=6.43 fps Inflow=2.55 cfs 0.190 af
12.0" Round Pipe n=0.013 L=50.0' S=0.0200 '/' Capacity=5.04 cfs Outflow=2.52 cfs 0.190 af

Pond 1.10P: BioRet 1 Peak Elev=256.42' Storage=964 cf Inflow=6.57 cfs 0.481 af
Primary=5.72 cfs 0.481 af Secondary=0.00 cfs 0.000 af Outflow=5.72 cfs 0.481 af

Pond 6P: BioRet 2 Peak Elev=264.29' Storage=6,342 cf Inflow=8.04 cfs 0.591 af
Primary=6.40 cfs 0.591 af Secondary=0.00 cfs 0.000 af Outflow=6.40 cfs 0.591 af

Pond 9P: Infiltration BMP Peak Elev=267.98' Storage=672 cf Inflow=1.20 cfs 0.096 af
Primary=0.10 cfs 0.076 af Secondary=1.22 cfs 0.020 af Outflow=1.33 cfs 0.096 af

Link 3L: POA #1 Inflow=21.87 cfs 2.304 af
Primary=21.87 cfs 2.304 af

Total Runoff Area = 6.998 ac Runoff Volume = 2.381 af Average Runoff Depth = 4.08"
71.97% Pervious = 5.036 ac 28.03% Impervious = 1.962 ac

Summary for Subcatchment 1: Subcat 1[49] Hint: $T_c < 2dt$ may require smaller dt

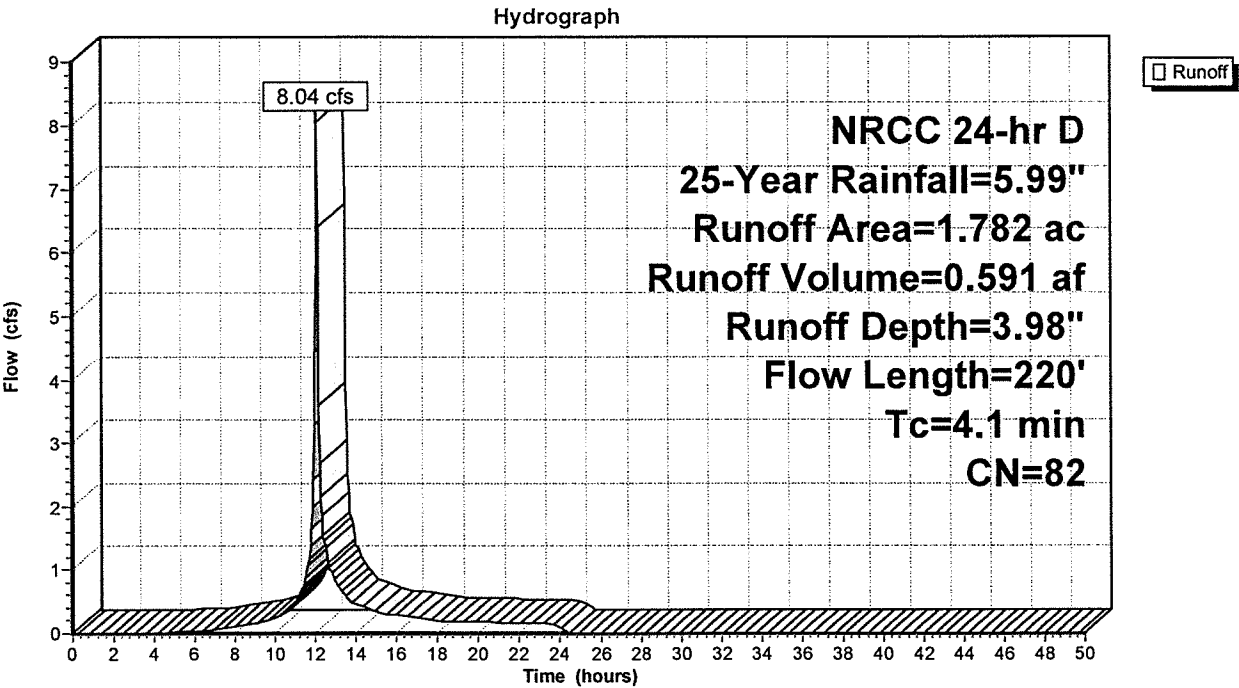
Runoff = 8.04 cfs @ 12.10 hrs, Volume= 0.591 af, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, $dt=0.05$ hrs
NRCC 24-hr D 25-Year Rainfall=5.99"

Area (ac)	CN	Description
0.796	69	50-75% Grass cover, Fair, HSG B
0.077	69	50-75% Grass cover, Fair, HSG B
0.024	69	50-75% Grass cover, Fair, HSG B
0.006	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.157	79	50-75% Grass cover, Fair, HSG C
0.001	79	50-75% Grass cover, Fair, HSG C
0.208	98	Paved parking, HSG B
0.060	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.001	98	Paved parking, HSG C
0.079	98	Paved roads w/curbs & sewers, HSG B
0.002	98	Paved roads w/curbs & sewers, HSG C
0.255	98	Unconnected roofs, HSG B
0.057	98	Unconnected roofs, HSG B
0.060	98	Unconnected roofs, HSG C
1.782	82	Weighted Average
1.061		59.54% Pervious Area
0.721		40.46% Impervious Area
0.372		51.62% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	45	0.0670	1.50		Sheet Flow, Smooth surfaces $n=0.011$ $P2=2.00"$
0.2	38	0.1320	2.54		Shallow Concentrated Flow, Short Grass Pasture $K_v=7.0$ fps
3.4	137	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture $K_v=7.0$ fps
4.1	220	Total			

Subcatchment 1: Subcat 1



Hydrograph for Subcatchment 1: Subcat 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	27.00	5.99	3.98	0.00
0.50	0.04	0.00	0.00	27.50	5.99	3.98	0.00
1.00	0.09	0.00	0.00	28.00	5.99	3.98	0.00
1.50	0.13	0.00	0.00	28.50	5.99	3.98	0.00
2.00	0.18	0.00	0.00	29.00	5.99	3.98	0.00
2.50	0.23	0.00	0.00	29.50	5.99	3.98	0.00
3.00	0.28	0.00	0.00	30.00	5.99	3.98	0.00
3.50	0.33	0.00	0.00	30.50	5.99	3.98	0.00
4.00	0.39	0.00	0.00	31.00	5.99	3.98	0.00
4.50	0.44	0.00	0.00	31.50	5.99	3.98	0.00
5.00	0.50	0.00	0.01	32.00	5.99	3.98	0.00
5.50	0.56	0.01	0.02	32.50	5.99	3.98	0.00
6.00	0.62	0.01	0.03	33.00	5.99	3.98	0.00
6.50	0.68	0.02	0.04	33.50	5.99	3.98	0.00
7.00	0.75	0.04	0.06	34.00	5.99	3.98	0.00
7.50	0.83	0.06	0.08	34.50	5.99	3.98	0.00
8.00	0.91	0.08	0.10	35.00	5.99	3.98	0.00
8.50	1.00	0.12	0.12	35.50	5.99	3.98	0.00
9.00	1.10	0.15	0.14	36.00	5.99	3.98	0.00
9.50	1.21	0.20	0.19	36.50	5.99	3.98	0.00
10.00	1.34	0.26	0.25	37.00	5.99	3.98	0.00
10.50	1.50	0.34	0.31	37.50	5.99	3.98	0.00
11.00	1.70	0.46	0.49	38.00	5.99	3.98	0.00
11.50	2.01	0.65	0.82	38.50	5.99	3.98	0.00
12.00	2.87	1.28	4.43	39.00	5.99	3.98	0.00
12.50	3.98	2.19	1.42	39.50	5.99	3.98	0.00
13.00	4.29	2.45	0.81	40.00	5.99	3.98	0.00
13.50	4.49	2.63	0.56	40.50	5.99	3.98	0.00
14.00	4.65	2.77	0.46	41.00	5.99	3.98	0.00
14.50	4.78	2.88	0.40	41.50	5.99	3.98	0.00
15.00	4.89	2.98	0.33	42.00	5.99	3.98	0.00
15.50	4.99	3.07	0.30	42.50	5.99	3.98	0.00
16.00	5.08	3.15	0.28	43.00	5.99	3.98	0.00
16.50	5.16	3.22	0.26	43.50	5.99	3.98	0.00
17.00	5.24	3.29	0.24	44.00	5.99	3.98	0.00
17.50	5.31	3.36	0.22	44.50	5.99	3.98	0.00
18.00	5.37	3.41	0.20	45.00	5.99	3.98	0.00
18.50	5.43	3.47	0.19	45.50	5.99	3.98	0.00
19.00	5.49	3.52	0.19	46.00	5.99	3.98	0.00
19.50	5.55	3.57	0.18	46.50	5.99	3.98	0.00
20.00	5.60	3.62	0.18	47.00	5.99	3.98	0.00
20.50	5.66	3.67	0.17	47.50	5.99	3.98	0.00
21.00	5.71	3.72	0.17	48.00	5.99	3.98	0.00
21.50	5.76	3.77	0.16	48.50	5.99	3.98	0.00
22.00	5.81	3.81	0.16	49.00	5.99	3.98	0.00
22.50	5.86	3.86	0.15	49.50	5.99	3.98	0.00
23.00	5.90	3.90	0.15	50.00	5.99	3.98	0.00
23.50	5.95	3.94	0.14				
24.00	5.99	3.98	0.14				
24.50	5.99	3.98	0.00				
25.00	5.99	3.98	0.00				
25.50	5.99	3.98	0.00				
26.00	5.99	3.98	0.00				
26.50	5.99	3.98	0.00				

Summary for Subcatchment 2: Subcat 2

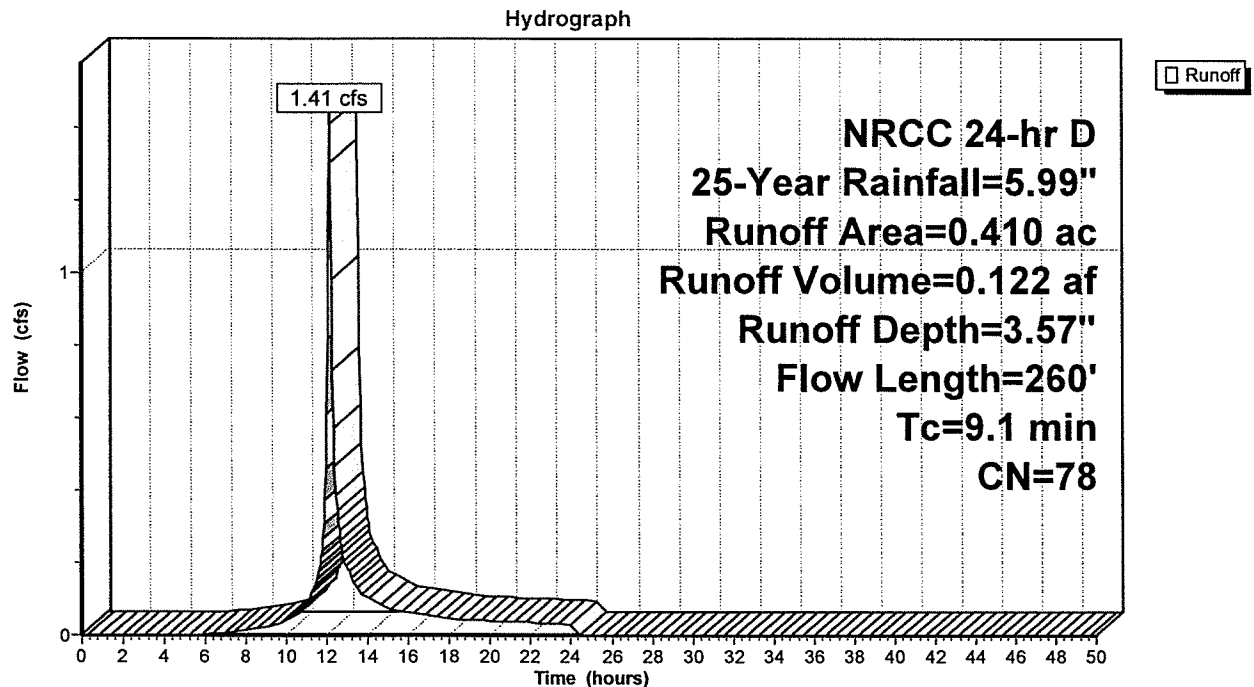
Runoff = 1.41 cfs @ 12.16 hrs, Volume= 0.122 af, Depth= 3.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=5.99"

Area (ac)	CN	Description
0.178	69	50-75% Grass cover, Fair, HSG B
0.151	79	50-75% Grass cover, Fair, HSG C
0.082	98	Paved roads w/curbs & sewers, HSG B
0.000	98	Paved roads w/curbs & sewers, HSG C
0.410	78	Weighted Average
0.328		80.06% Pervious Area
0.082		19.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	30	0.0400	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 2.00"
3.9	230	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.1	260	Total			

Subcatchment 2: Subcat 2



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NRCC 24-hr D 25-Year Rainfall=5.99"

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Hydrograph for Subcatchment 2: Subcat 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	27.00	5.99	3.57	0.00
0.50	0.04	0.00	0.00	27.50	5.99	3.57	0.00
1.00	0.09	0.00	0.00	28.00	5.99	3.57	0.00
1.50	0.13	0.00	0.00	28.50	5.99	3.57	0.00
2.00	0.18	0.00	0.00	29.00	5.99	3.57	0.00
2.50	0.23	0.00	0.00	29.50	5.99	3.57	0.00
3.00	0.28	0.00	0.00	30.00	5.99	3.57	0.00
3.50	0.33	0.00	0.00	30.50	5.99	3.57	0.00
4.00	0.39	0.00	0.00	31.00	5.99	3.57	0.00
4.50	0.44	0.00	0.00	31.50	5.99	3.57	0.00
5.00	0.50	0.00	0.00	32.00	5.99	3.57	0.00
5.50	0.56	0.00	0.00	32.50	5.99	3.57	0.00
6.00	0.62	0.00	0.00	33.00	5.99	3.57	0.00
6.50	0.68	0.00	0.00	33.50	5.99	3.57	0.00
7.00	0.75	0.01	0.01	34.00	5.99	3.57	0.00
7.50	0.83	0.02	0.01	34.50	5.99	3.57	0.00
8.00	0.91	0.04	0.01	35.00	5.99	3.57	0.00
8.50	1.00	0.06	0.02	35.50	5.99	3.57	0.00
9.00	1.10	0.09	0.02	36.00	5.99	3.57	0.00
9.50	1.21	0.12	0.03	36.50	5.99	3.57	0.00
10.00	1.34	0.17	0.04	37.00	5.99	3.57	0.00
10.50	1.50	0.23	0.06	37.50	5.99	3.57	0.00
11.00	1.70	0.33	0.09	38.00	5.99	3.57	0.00
11.50	2.01	0.49	0.15	38.50	5.99	3.57	0.00
12.00	2.87	1.04	0.61	39.00	5.99	3.57	0.00
12.50	3.98	1.87	0.34	39.50	5.99	3.57	0.00
13.00	4.29	2.12	0.19	40.00	5.99	3.57	0.00
13.50	4.49	2.29	0.13	40.50	5.99	3.57	0.00
14.00	4.65	2.41	0.10	41.00	5.99	3.57	0.00
14.50	4.78	2.53	0.09	41.50	5.99	3.57	0.00
15.00	4.89	2.62	0.07	42.00	5.99	3.57	0.00
15.50	4.99	2.70	0.07	42.50	5.99	3.57	0.00
16.00	5.08	2.78	0.06	43.00	5.99	3.57	0.00
16.50	5.16	2.85	0.06	43.50	5.99	3.57	0.00
17.00	5.24	2.91	0.05	44.00	5.99	3.57	0.00
17.50	5.31	2.98	0.05	44.50	5.99	3.57	0.00
18.00	5.37	3.03	0.05	45.00	5.99	3.57	0.00
18.50	5.43	3.08	0.04	45.50	5.99	3.57	0.00
19.00	5.49	3.13	0.04	46.00	5.99	3.57	0.00
19.50	5.55	3.18	0.04	46.50	5.99	3.57	0.00
20.00	5.60	3.23	0.04	47.00	5.99	3.57	0.00
20.50	5.66	3.28	0.04	47.50	5.99	3.57	0.00
21.00	5.71	3.32	0.04	48.00	5.99	3.57	0.00
21.50	5.76	3.37	0.04	48.50	5.99	3.57	0.00
22.00	5.81	3.41	0.04	49.00	5.99	3.57	0.00
22.50	5.86	3.45	0.03	49.50	5.99	3.57	0.00
23.00	5.90	3.49	0.03	50.00	5.99	3.57	0.00
23.50	5.95	3.53	0.03				
24.00	5.99	3.57	0.03				
24.50	5.99	3.57	0.00				
25.00	5.99	3.57	0.00				
25.50	5.99	3.57	0.00				
26.00	5.99	3.57	0.00				
26.50	5.99	3.57	0.00				

Summary for Subcatchment 3: Subcat 3

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.50 cfs @ 12.06 hrs, Volume= 0.340 af, Depth= 5.29"

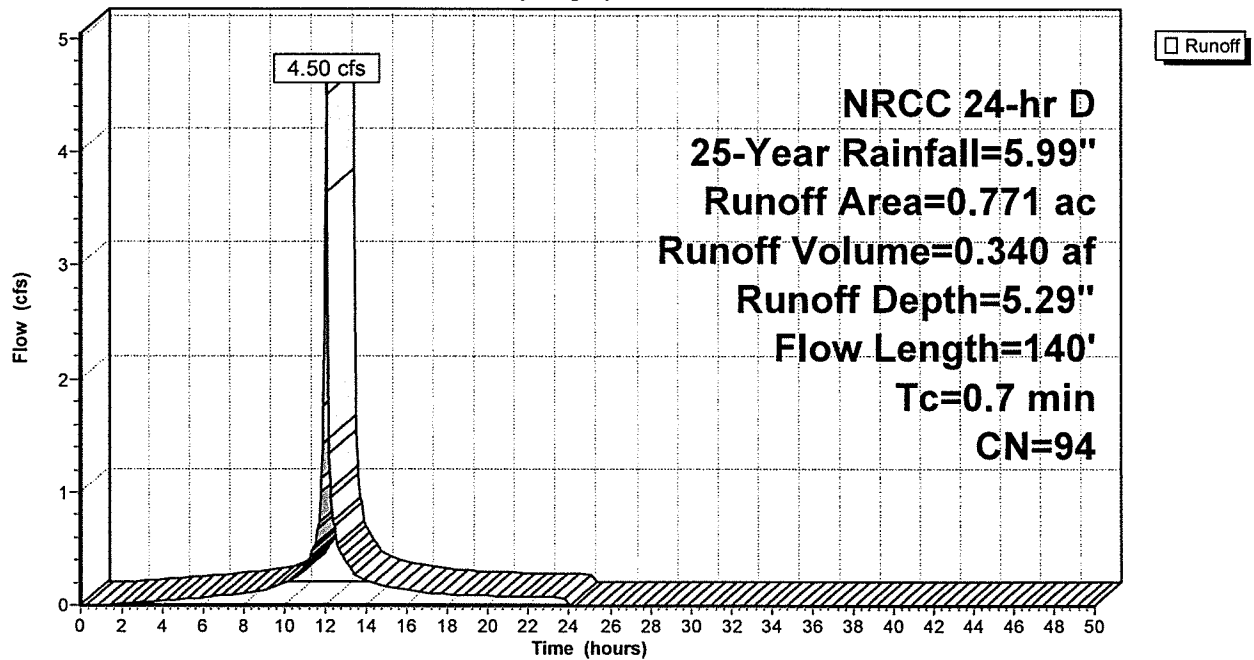
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=5.99"

Area (ac)	CN	Description
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.131	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.034	79	50-75% Grass cover, Fair, HSG C
0.000	98	Paved parking, HSG C
0.062	98	Paved parking, HSG C
0.218	98	Paved parking, HSG C
0.094	98	Paved parking, HSG C
0.116	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.115	98	Unconnected roofs, HSG C
0.771	94	Weighted Average
0.165		21.44% Pervious Area
0.606		78.56% Impervious Area
0.115		19.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	90	0.0300	3.52		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.3	50	0.3300	2.91		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 2.00"
0.7	140	Total			

Subcatchment 3: Subcat 3

Hydrograph



Hydrograph for Subcatchment 3: Subcat 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	27.00	5.99	5.29	0.00
0.50	0.04	0.00	0.00	27.50	5.99	5.29	0.00
1.00	0.09	0.00	0.00	28.00	5.99	5.29	0.00
1.50	0.13	0.00	0.00	28.50	5.99	5.29	0.00
2.00	0.18	0.00	0.01	29.00	5.99	5.29	0.00
2.50	0.23	0.01	0.02	29.50	5.99	5.29	0.00
3.00	0.28	0.03	0.03	30.00	5.99	5.29	0.00
3.50	0.33	0.05	0.03	30.50	5.99	5.29	0.00
4.00	0.39	0.07	0.04	31.00	5.99	5.29	0.00
4.50	0.44	0.10	0.05	31.50	5.99	5.29	0.00
5.00	0.50	0.14	0.05	32.00	5.99	5.29	0.00
5.50	0.56	0.17	0.06	32.50	5.99	5.29	0.00
6.00	0.62	0.21	0.06	33.00	5.99	5.29	0.00
6.50	0.68	0.26	0.07	33.50	5.99	5.29	0.00
7.00	0.75	0.31	0.09	34.00	5.99	5.29	0.00
7.50	0.83	0.37	0.10	34.50	5.99	5.29	0.00
8.00	0.91	0.43	0.11	35.00	5.99	5.29	0.00
8.50	1.00	0.51	0.12	35.50	5.99	5.29	0.00
9.00	1.10	0.59	0.13	36.00	5.99	5.29	0.00
9.50	1.21	0.68	0.16	36.50	5.99	5.29	0.00
10.00	1.34	0.80	0.19	37.00	5.99	5.29	0.00
10.50	1.50	0.93	0.23	37.50	5.99	5.29	0.00
11.00	1.70	1.12	0.34	38.00	5.99	5.29	0.00
11.50	2.01	1.40	0.56	38.50	5.99	5.29	0.00
12.00	2.87	2.22	3.12	39.00	5.99	5.29	0.00
12.50	3.98	3.31	0.65	39.50	5.99	5.29	0.00
13.00	4.29	3.61	0.38	40.00	5.99	5.29	0.00
13.50	4.49	3.81	0.26	40.50	5.99	5.29	0.00
14.00	4.65	3.96	0.22	41.00	5.99	5.29	0.00
14.50	4.78	4.09	0.19	41.50	5.99	5.29	0.00
15.00	4.89	4.20	0.16	42.00	5.99	5.29	0.00
15.50	4.99	4.30	0.14	42.50	5.99	5.29	0.00
16.00	5.08	4.38	0.13	43.00	5.99	5.29	0.00
16.50	5.16	4.47	0.12	43.50	5.99	5.29	0.00
17.00	5.24	4.54	0.11	44.00	5.99	5.29	0.00
17.50	5.31	4.61	0.10	44.50	5.99	5.29	0.00
18.00	5.37	4.68	0.09	45.00	5.99	5.29	0.00
18.50	5.43	4.74	0.09	45.50	5.99	5.29	0.00
19.00	5.49	4.79	0.09	46.00	5.99	5.29	0.00
19.50	5.55	4.85	0.09	46.50	5.99	5.29	0.00
20.00	5.60	4.90	0.08	47.00	5.99	5.29	0.00
20.50	5.66	4.96	0.08	47.50	5.99	5.29	0.00
21.00	5.71	5.01	0.08	48.00	5.99	5.29	0.00
21.50	5.76	5.06	0.08	48.50	5.99	5.29	0.00
22.00	5.81	5.11	0.07	49.00	5.99	5.29	0.00
22.50	5.86	5.15	0.07	49.50	5.99	5.29	0.00
23.00	5.90	5.20	0.07	50.00	5.99	5.29	0.00
23.50	5.95	5.24	0.07				
24.00	5.99	5.29	0.05				
24.50	5.99	5.29	0.00				
25.00	5.99	5.29	0.00				
25.50	5.99	5.29	0.00				
26.00	5.99	5.29	0.00				
26.50	5.99	5.29	0.00				

Summary for Subcatchment 4: Subcat 4

[49] Hint: $T_c < 2dt$ may require smaller dt

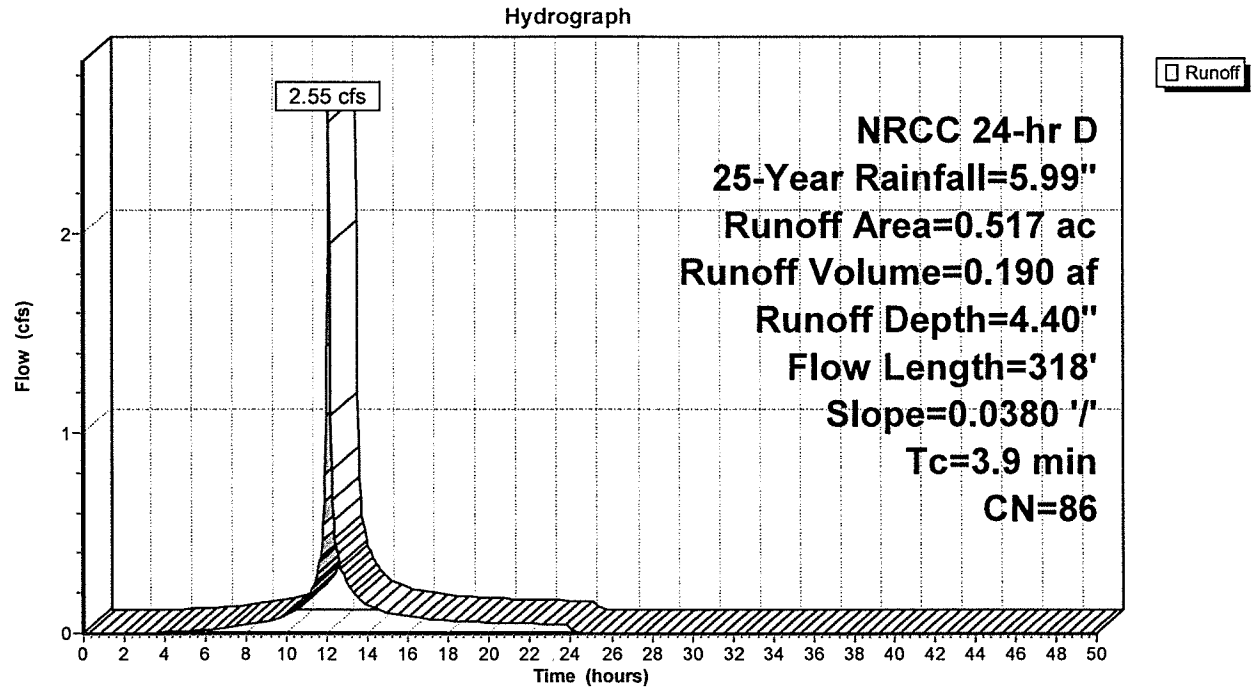
Runoff = 2.55 cfs @ 12.10 hrs, Volume= 0.190 af, Depth= 4.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, $dt= 0.05$ hrs
NRCC 24-hr D 25-Year Rainfall=5.99"

Area (ac)	CN	Description
0.008	69	50-75% Grass cover, Fair, HSG B
0.162	79	50-75% Grass cover, Fair, HSG C
0.151	79	50-75% Grass cover, Fair, HSG C
0.000	98	Paved parking, HSG C
0.028	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.005	98	Paved roads w/curbs & sewers, HSG B
0.001	98	Paved roads w/curbs & sewers, HSG C
0.076	98	Paved roads w/curbs & sewers, HSG C
0.001	98	Paved roads w/curbs & sewers, HSG C
0.000	98	Paved roads w/curbs & sewers, HSG C
0.085	98	Paved roads w/curbs & sewers, HSG C
0.000	98	Paved roads w/curbs & sewers, HSG C
0.000	98	Paved roads w/curbs & sewers, HSG C
0.001	98	Paved roads w/curbs & sewers, HSG C
0.517	86	Weighted Average
0.320		61.95% Pervious Area
0.197		38.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	318	0.0380	1.36		Shallow Concentrated Flow, Short Grass Pasture $K_v= 7.0$ fps

Subcatchment 4: Subcat 4



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NRCC 24-hr D 25-Year Rainfall=5.99"

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Hydrograph for Subcatchment 4: Subcat 4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	27.00	5.99	4.40	0.00
0.50	0.04	0.00	0.00	27.50	5.99	4.40	0.00
1.00	0.09	0.00	0.00	28.00	5.99	4.40	0.00
1.50	0.13	0.00	0.00	28.50	5.99	4.40	0.00
2.00	0.18	0.00	0.00	29.00	5.99	4.40	0.00
2.50	0.23	0.00	0.00	29.50	5.99	4.40	0.00
3.00	0.28	0.00	0.00	30.00	5.99	4.40	0.00
3.50	0.33	0.00	0.00	30.50	5.99	4.40	0.00
4.00	0.39	0.00	0.00	31.00	5.99	4.40	0.00
4.50	0.44	0.01	0.01	31.50	5.99	4.40	0.00
5.00	0.50	0.02	0.01	32.00	5.99	4.40	0.00
5.50	0.56	0.03	0.01	32.50	5.99	4.40	0.00
6.00	0.62	0.04	0.02	33.00	5.99	4.40	0.00
6.50	0.68	0.06	0.02	33.50	5.99	4.40	0.00
7.00	0.75	0.09	0.03	34.00	5.99	4.40	0.00
7.50	0.83	0.12	0.03	34.50	5.99	4.40	0.00
8.00	0.91	0.16	0.04	35.00	5.99	4.40	0.00
8.50	1.00	0.20	0.05	35.50	5.99	4.40	0.00
9.00	1.10	0.25	0.06	36.00	5.99	4.40	0.00
9.50	1.21	0.31	0.07	36.50	5.99	4.40	0.00
10.00	1.34	0.39	0.09	37.00	5.99	4.40	0.00
10.50	1.50	0.49	0.11	37.50	5.99	4.40	0.00
11.00	1.70	0.63	0.17	38.00	5.99	4.40	0.00
11.50	2.01	0.85	0.27	38.50	5.99	4.40	0.00
12.00	2.87	1.55	1.44	39.00	5.99	4.40	0.00
12.50	3.98	2.53	0.44	39.50	5.99	4.40	0.00
13.00	4.29	2.81	0.25	40.00	5.99	4.40	0.00
13.50	4.49	3.00	0.17	40.50	5.99	4.40	0.00
14.00	4.65	3.14	0.14	41.00	5.99	4.40	0.00
14.50	4.78	3.26	0.12	41.50	5.99	4.40	0.00
15.00	4.89	3.36	0.10	42.00	5.99	4.40	0.00
15.50	4.99	3.45	0.09	42.50	5.99	4.40	0.00
16.00	5.08	3.54	0.09	43.00	5.99	4.40	0.00
16.50	5.16	3.62	0.08	43.50	5.99	4.40	0.00
17.00	5.24	3.69	0.07	44.00	5.99	4.40	0.00
17.50	5.31	3.76	0.07	44.50	5.99	4.40	0.00
18.00	5.37	3.82	0.06	45.00	5.99	4.40	0.00
18.50	5.43	3.87	0.06	45.50	5.99	4.40	0.00
19.00	5.49	3.93	0.06	46.00	5.99	4.40	0.00
19.50	5.55	3.98	0.06	46.50	5.99	4.40	0.00
20.00	5.60	4.03	0.05	47.00	5.99	4.40	0.00
20.50	5.66	4.09	0.05	47.50	5.99	4.40	0.00
21.00	5.71	4.13	0.05	48.00	5.99	4.40	0.00
21.50	5.76	4.18	0.05	48.50	5.99	4.40	0.00
22.00	5.81	4.23	0.05	49.00	5.99	4.40	0.00
22.50	5.86	4.27	0.05	49.50	5.99	4.40	0.00
23.00	5.90	4.32	0.04	50.00	5.99	4.40	0.00
23.50	5.95	4.36	0.04				
24.00	5.99	4.40	0.04				
24.50	5.99	4.40	0.00				
25.00	5.99	4.40	0.00				
25.50	5.99	4.40	0.00				
26.00	5.99	4.40	0.00				
26.50	5.99	4.40	0.00				

Summary for Subcatchment 5: Subcat 5

[49] Hint: $T_c < 2dt$ may require smaller dt

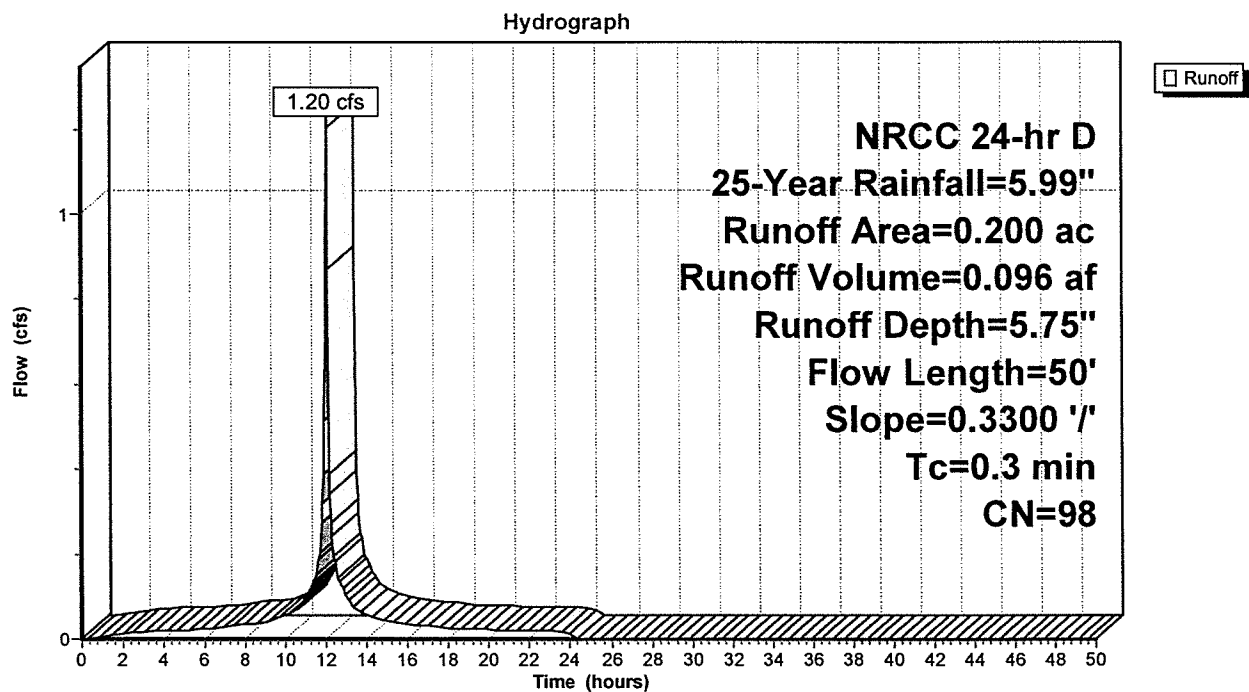
Runoff = 1.20 cfs @ 12.05 hrs, Volume= 0.096 af, Depth= 5.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, $dt=0.05$ hrs
NRCC 24-hr D 25-Year Rainfall=5.99"

Area (ac)	CN	Description
0.014	98	Unconnected roofs, HSG B
0.054	98	Unconnected roofs, HSG B
0.129	98	Unconnected roofs, HSG C
0.003	98	Unconnected roofs, HSG C
0.200	98	Weighted Average
0.200		100.00% Impervious Area
0.200		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.3300	2.91		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.00"

Subcatchment 5: Subcat 5



Marcotte_PRP

Prepared by Hewlett-Packard Company

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NRCC 24-hr D 25-Year Rainfall=5.99"

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Hydrograph for Subcatchment 5: Subcat 5

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	27.00	5.99	5.75	0.00
0.50	0.04	0.00	0.00	27.50	5.99	5.75	0.00
1.00	0.09	0.01	0.01	28.00	5.99	5.75	0.00
1.50	0.13	0.03	0.01	28.50	5.99	5.75	0.00
2.00	0.18	0.06	0.01	29.00	5.99	5.75	0.00
2.50	0.23	0.09	0.01	29.50	5.99	5.75	0.00
3.00	0.28	0.13	0.02	30.00	5.99	5.75	0.00
3.50	0.33	0.17	0.02	30.50	5.99	5.75	0.00
4.00	0.39	0.22	0.02	31.00	5.99	5.75	0.00
4.50	0.44	0.27	0.02	31.50	5.99	5.75	0.00
5.00	0.50	0.32	0.02	32.00	5.99	5.75	0.00
5.50	0.56	0.37	0.02	32.50	5.99	5.75	0.00
6.00	0.62	0.43	0.02	33.00	5.99	5.75	0.00
6.50	0.68	0.49	0.03	33.50	5.99	5.75	0.00
7.00	0.75	0.55	0.03	34.00	5.99	5.75	0.00
7.50	0.83	0.63	0.03	34.50	5.99	5.75	0.00
8.00	0.91	0.71	0.03	35.00	5.99	5.75	0.00
8.50	1.00	0.79	0.04	35.50	5.99	5.75	0.00
9.00	1.10	0.89	0.04	36.00	5.99	5.75	0.00
9.50	1.21	1.00	0.05	36.50	5.99	5.75	0.00
10.00	1.34	1.13	0.06	37.00	5.99	5.75	0.00
10.50	1.50	1.28	0.07	37.50	5.99	5.75	0.00
11.00	1.70	1.48	0.10	38.00	5.99	5.75	0.00
11.50	2.01	1.78	0.16	38.50	5.99	5.75	0.00
12.00	2.87	2.64	0.90	39.00	5.99	5.75	0.00
12.50	3.98	3.75	0.17	39.50	5.99	5.75	0.00
13.00	4.29	4.05	0.10	40.00	5.99	5.75	0.00
13.50	4.49	4.26	0.07	40.50	5.99	5.75	0.00
14.00	4.65	4.41	0.06	41.00	5.99	5.75	0.00
14.50	4.78	4.54	0.05	41.50	5.99	5.75	0.00
15.00	4.89	4.65	0.04	42.00	5.99	5.75	0.00
15.50	4.99	4.75	0.04	42.50	5.99	5.75	0.00
16.00	5.08	4.84	0.04	43.00	5.99	5.75	0.00
16.50	5.16	4.92	0.03	43.50	5.99	5.75	0.00
17.00	5.24	5.00	0.03	44.00	5.99	5.75	0.00
17.50	5.31	5.07	0.03	44.50	5.99	5.75	0.00
18.00	5.37	5.14	0.02	45.00	5.99	5.75	0.00
18.50	5.43	5.20	0.02	45.50	5.99	5.75	0.00
19.00	5.49	5.25	0.02	46.00	5.99	5.75	0.00
19.50	5.55	5.31	0.02	46.50	5.99	5.75	0.00
20.00	5.60	5.37	0.02	47.00	5.99	5.75	0.00
20.50	5.66	5.42	0.02	47.50	5.99	5.75	0.00
21.00	5.71	5.47	0.02	48.00	5.99	5.75	0.00
21.50	5.76	5.52	0.02	48.50	5.99	5.75	0.00
22.00	5.81	5.57	0.02	49.00	5.99	5.75	0.00
22.50	5.86	5.62	0.02	49.50	5.99	5.75	0.00
23.00	5.90	5.66	0.02	50.00	5.99	5.75	0.00
23.50	5.95	5.71	0.02				
24.00	5.99	5.75	0.01				
24.50	5.99	5.75	0.00				
25.00	5.99	5.75	0.00				
25.50	5.99	5.75	0.00				
26.00	5.99	5.75	0.00				
26.50	5.99	5.75	0.00				

Summary for Subcatchment 6: Subcat 6

Runoff = 10.27 cfs @ 12.22 hrs, Volume= 1.043 af, Depth= 3.77"

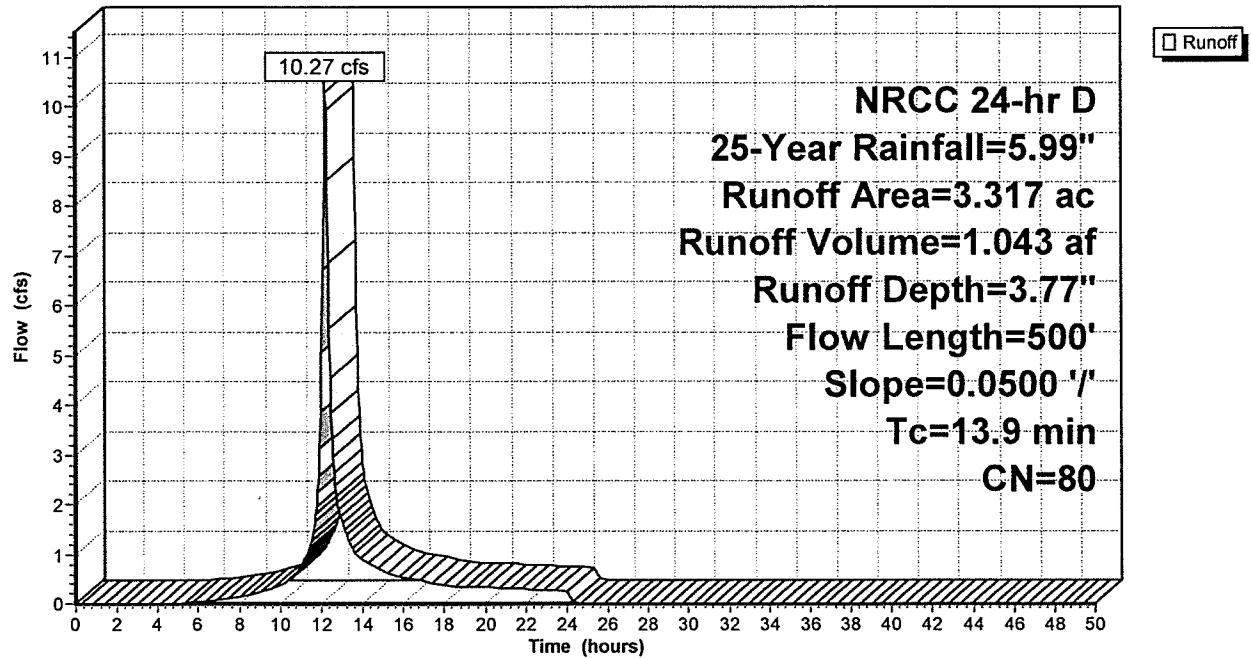
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=5.99"

Area (ac)	CN	Description
0.003	69	50-75% Grass cover, Fair, HSG B
0.000	69	50-75% Grass cover, Fair, HSG B
0.003	69	50-75% Grass cover, Fair, HSG B
0.001	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
3.144	79	50-75% Grass cover, Fair, HSG C
0.001	79	50-75% Grass cover, Fair, HSG C
0.008	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.002	79	50-75% Grass cover, Fair, HSG C
0.000	79	50-75% Grass cover, Fair, HSG C
0.000	98	Paved parking, HSG B
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.001	98	Paved parking, HSG C
0.137	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.000	98	Paved parking, HSG C
0.017	98	Paved roads w/curbs & sewers, HSG C
0.000	98	Paved roads w/curbs & sewers, HSG C
3.317	80	Weighted Average
3.161		95.29% Pervious Area
0.156		4.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0500	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 2.00"
6.7	450	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.9	500	Total			

Subcatchment 6: Subcat 6

Hydrograph



Hydrograph for Subcatchment 6: Subcat 6

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	27.00	5.99	3.77	0.00
0.50	0.04	0.00	0.00	27.50	5.99	3.77	0.00
1.00	0.09	0.00	0.00	28.00	5.99	3.77	0.00
1.50	0.13	0.00	0.00	28.50	5.99	3.77	0.00
2.00	0.18	0.00	0.00	29.00	5.99	3.77	0.00
2.50	0.23	0.00	0.00	29.50	5.99	3.77	0.00
3.00	0.28	0.00	0.00	30.00	5.99	3.77	0.00
3.50	0.33	0.00	0.00	30.50	5.99	3.77	0.00
4.00	0.39	0.00	0.00	31.00	5.99	3.77	0.00
4.50	0.44	0.00	0.00	31.50	5.99	3.77	0.00
5.00	0.50	0.00	0.00	32.00	5.99	3.77	0.00
5.50	0.56	0.00	0.01	32.50	5.99	3.77	0.00
6.00	0.62	0.01	0.03	33.00	5.99	3.77	0.00
6.50	0.68	0.01	0.05	33.50	5.99	3.77	0.00
7.00	0.75	0.02	0.07	34.00	5.99	3.77	0.00
7.50	0.83	0.04	0.10	34.50	5.99	3.77	0.00
8.00	0.91	0.06	0.14	35.00	5.99	3.77	0.00
8.50	1.00	0.08	0.17	35.50	5.99	3.77	0.00
9.00	1.10	0.12	0.21	36.00	5.99	3.77	0.00
9.50	1.21	0.16	0.28	36.50	5.99	3.77	0.00
10.00	1.34	0.21	0.38	37.00	5.99	3.77	0.00
10.50	1.50	0.28	0.48	37.50	5.99	3.77	0.00
11.00	1.70	0.39	0.73	38.00	5.99	3.77	0.00
11.50	2.01	0.57	1.22	38.50	5.99	3.77	0.00
12.00	2.87	1.15	3.88	39.00	5.99	3.77	0.00
12.50	3.98	2.03	3.82	39.50	5.99	3.77	0.00
13.00	4.29	2.28	1.67	40.00	5.99	3.77	0.00
13.50	4.49	2.46	1.14	40.50	5.99	3.77	0.00
14.00	4.65	2.59	0.87	41.00	5.99	3.77	0.00
14.50	4.78	2.70	0.75	41.50	5.99	3.77	0.00
15.00	4.89	2.80	0.64	42.00	5.99	3.77	0.00
15.50	4.99	2.88	0.56	42.50	5.99	3.77	0.00
16.00	5.08	2.96	0.52	43.00	5.99	3.77	0.00
16.50	5.16	3.03	0.49	43.50	5.99	3.77	0.00
17.00	5.24	3.10	0.45	44.00	5.99	3.77	0.00
17.50	5.31	3.16	0.42	44.50	5.99	3.77	0.00
18.00	5.37	3.22	0.38	45.00	5.99	3.77	0.00
18.50	5.43	3.27	0.36	45.50	5.99	3.77	0.00
19.00	5.49	3.33	0.35	46.00	5.99	3.77	0.00
19.50	5.55	3.38	0.34	46.50	5.99	3.77	0.00
20.00	5.60	3.43	0.33	47.00	5.99	3.77	0.00
20.50	5.66	3.47	0.32	47.50	5.99	3.77	0.00
21.00	5.71	3.52	0.31	48.00	5.99	3.77	0.00
21.50	5.76	3.57	0.30	48.50	5.99	3.77	0.00
22.00	5.81	3.61	0.29	49.00	5.99	3.77	0.00
22.50	5.86	3.65	0.28	49.50	5.99	3.77	0.00
23.00	5.90	3.69	0.28	50.00	5.99	3.77	0.00
23.50	5.95	3.73	0.27				
24.00	5.99	3.77	0.26				
24.50	5.99	3.77	0.01				
25.00	5.99	3.77	0.00				
25.50	5.99	3.77	0.00				
26.00	5.99	3.77	0.00				
26.50	5.99	3.77	0.00				

Summary for Reach 4R: Entrance Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.517 ac, 38.05% Impervious, Inflow Depth = 4.40" for 25-Year event
 Inflow = 2.55 cfs @ 12.10 hrs, Volume= 0.190 af
 Outflow = 2.52 cfs @ 12.10 hrs, Volume= 0.190 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

Max. Velocity= 6.43 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 2.26 fps, Avg. Travel Time= 0.4 min

Peak Storage= 20 cf @ 12.10 hrs

Average Depth at Peak Storage= 0.50'

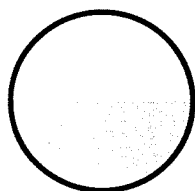
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.04 cfs

12.0" Round Pipe

n= 0.013 Corrugated PE, smooth interior

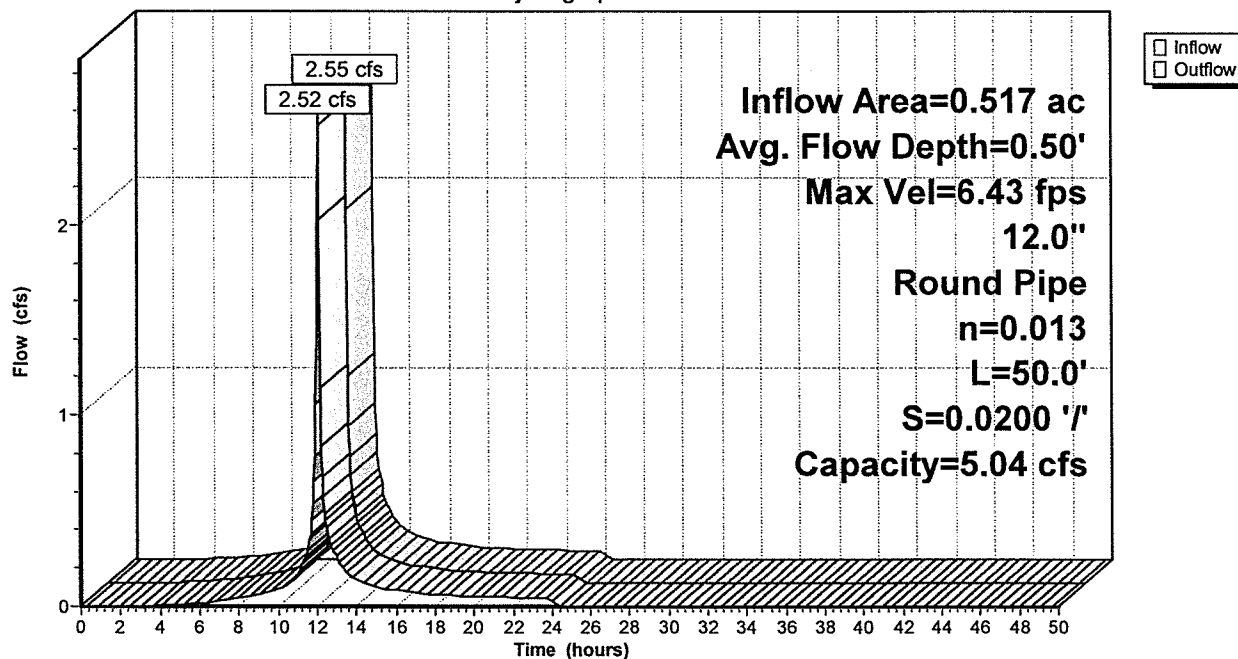
Length= 50.0' Slope= 0.0200 '/'

Inlet Invert= 253.00', Outlet Invert= 252.00'



Reach 4R: Entrance Culvert

Hydrograph



Hydrograph for Reach 4R: Entrance Culvert

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	253.00	0.00
1.00	0.00	0	253.00	0.00
2.00	0.00	0	253.00	0.00
3.00	0.00	0	253.00	0.00
4.00	0.00	0	253.02	0.00
5.00	0.01	0	253.03	0.01
6.00	0.02	1	253.04	0.02
7.00	0.03	1	253.05	0.03
8.00	0.04	1	253.06	0.04
9.00	0.06	1	253.07	0.06
10.00	0.09	2	253.09	0.09
11.00	0.17	3	253.13	0.17
12.00	1.44	13	253.36	1.41
13.00	0.25	4	253.15	0.25
14.00	0.14	2	253.11	0.14
15.00	0.10	2	253.10	0.10
16.00	0.09	2	253.09	0.09
17.00	0.07	2	253.08	0.07
18.00	0.06	1	253.08	0.06
19.00	0.06	1	253.07	0.06
20.00	0.05	1	253.07	0.05
21.00	0.05	1	253.07	0.05
22.00	0.05	1	253.07	0.05
23.00	0.04	1	253.07	0.04
24.00	0.04	1	253.07	0.04
25.00	0.00	0	253.00	0.00
26.00	0.00	0	253.00	0.00
27.00	0.00	0	253.00	0.00
28.00	0.00	0	253.00	0.00
29.00	0.00	0	253.00	0.00
30.00	0.00	0	253.00	0.00
31.00	0.00	0	253.00	0.00
32.00	0.00	0	253.00	0.00
33.00	0.00	0	253.00	0.00
34.00	0.00	0	253.00	0.00
35.00	0.00	0	253.00	0.00
36.00	0.00	0	253.00	0.00
37.00	0.00	0	253.00	0.00
38.00	0.00	0	253.00	0.00
39.00	0.00	0	253.00	0.00
40.00	0.00	0	253.00	0.00
41.00	0.00	0	253.00	0.00
42.00	0.00	0	253.00	0.00
43.00	0.00	0	253.00	0.00
44.00	0.00	0	253.00	0.00
45.00	0.00	0	253.00	0.00
46.00	0.00	0	253.00	0.00
47.00	0.00	0	253.00	0.00
48.00	0.00	0	253.00	0.00
49.00	0.00	0	253.00	0.00
50.00	0.00	0	253.00	0.00

Summary for Pond 1.10P: BioRet 1

[44] Hint: Outlet device #5 is below defined storage

Inflow Area = 1.181 ac, 58.20% Impervious, Inflow Depth = 4.89" for 25-Year event
 Inflow = 6.57 cfs @ 12.06 hrs, Volume= 0.481 af
 Outflow = 5.72 cfs @ 12.10 hrs, Volume= 0.481 af, Atten= 13%, Lag= 2.3 min
 Primary = 5.72 cfs @ 12.10 hrs, Volume= 0.481 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 256.42' @ 12.10 hrs Surf.Area= 2,400 sf Storage= 964 cf

Plug-Flow detention time= 2.1 min calculated for 0.481 af (100% of inflow)
Center-of-Mass det. time= 2.1 min (789.4 - 787.3)

Volume	Invert	Avail.Storage	Storage Description
#1	256.00'	5,289 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
256.00	2,227	0	0
257.50	2,851	3,809	3,809
258.00	3,071	1,481	5,289

Device	Routing	Invert	Outlet Devices
#1	Primary	251.13'	12.0" Round 12" Culvert L= 60.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 251.13' / 250.50' S= 0.0105 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	256.00'	0.2" Vert. 0.25" Orifice/Grate C= 0.600
#3	Device 2	251.35'	6.0" Round 6" Culvert L= 40.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 251.35' / 251.15' S= 0.0050 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	256.00'	2.400 in/hr Exfiltration over Surface area
#5	Device 1	255.50'	6.0" Vert. 6" Orifice/Grate C= 0.600
#6	Device 1	256.00'	2.2" W x 4.6" H Vert. Horizontal Orifice/Grate X 32.00 C= 0.600
#7	Secondary	257.00'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.66 cfs @ 12.10 hrs HW=256.41' (Free Discharge)

1=12" Culvert (Passes 5.66 cfs of 7.59 cfs potential flow)

2=0.25" Orifice/Grate (Orifice Controls 0.00 cfs @ 3.06 fps)

3=6" Culvert (Passes 0.00 cfs of 0.47 cfs potential flow)

4=Exfiltration (Passes 0.00 cfs of 0.13 cfs potential flow)

5=6" Orifice/Grate (Orifice Controls 0.77 cfs @ 3.92 fps)

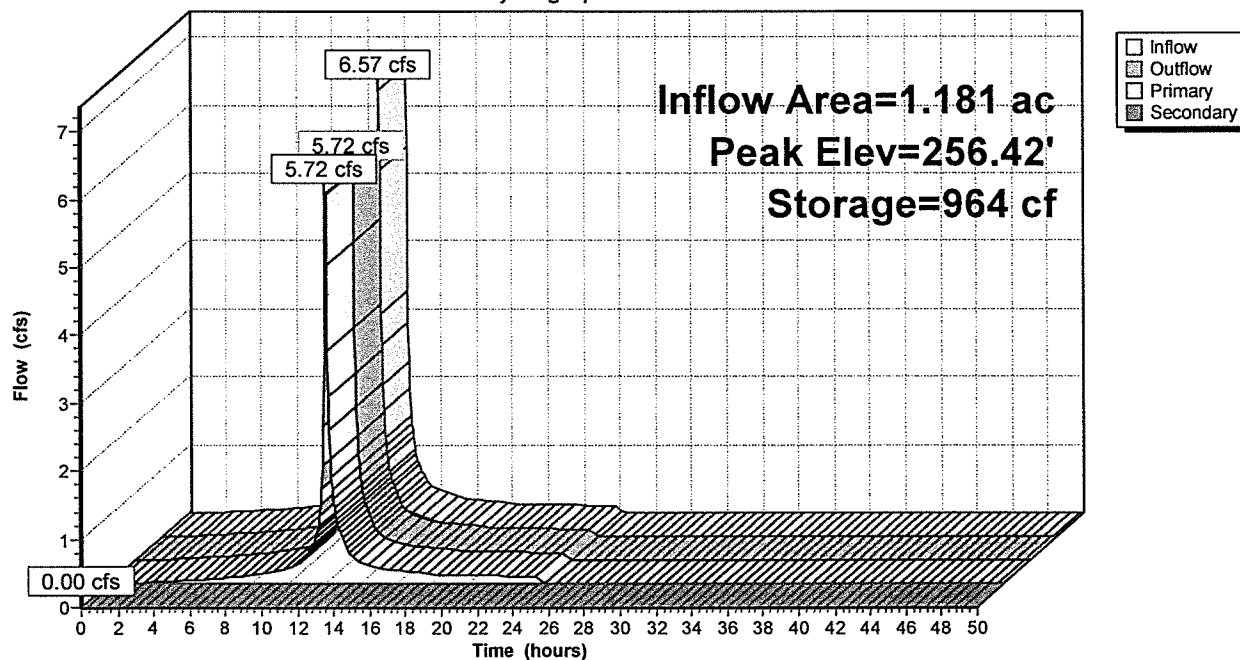
6=Horizontal Orifice/Grate (Orifice Controls 4.89 cfs @ 2.17 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=256.00' (Free Discharge)

7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1.10P: BioRet 1

Hydrograph



Hydrograph for Pond 1.10P: BioRet 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	256.00	0.00	0.00	0.00
1.00	0.00	0	256.00	0.00	0.00	0.00
2.00	0.01	1	256.00	0.01	0.01	0.00
3.00	0.03	2	256.00	0.03	0.03	0.00
4.00	0.04	3	256.00	0.04	0.04	0.00
5.00	0.05	4	256.00	0.05	0.05	0.00
6.00	0.07	5	256.00	0.07	0.07	0.00
7.00	0.09	7	256.00	0.09	0.09	0.00
8.00	0.12	10	256.00	0.12	0.12	0.00
9.00	0.15	13	256.01	0.15	0.15	0.00
10.00	0.24	19	256.01	0.24	0.24	0.00
11.00	0.43	35	256.02	0.42	0.42	0.00
12.00	4.40	619	256.27	3.34	3.34	0.00
13.00	0.60	87	256.04	0.65	0.65	0.00
14.00	0.32	26	256.01	0.32	0.32	0.00
15.00	0.23	19	256.01	0.23	0.23	0.00
16.00	0.20	16	256.01	0.20	0.20	0.00
17.00	0.17	14	256.01	0.17	0.17	0.00
18.00	0.14	11	256.01	0.14	0.14	0.00
19.00	0.13	11	256.00	0.13	0.13	0.00
20.00	0.12	10	256.00	0.12	0.12	0.00
21.00	0.12	10	256.00	0.12	0.12	0.00
22.00	0.11	9	256.00	0.11	0.11	0.00
23.00	0.10	8	256.00	0.10	0.10	0.00
24.00	0.08	7	256.00	0.09	0.09	0.00
25.00	0.00	0	256.00	0.00	0.00	0.00
26.00	0.00	0	256.00	0.00	0.00	0.00
27.00	0.00	0	256.00	0.00	0.00	0.00
28.00	0.00	0	256.00	0.00	0.00	0.00
29.00	0.00	0	256.00	0.00	0.00	0.00
30.00	0.00	0	256.00	0.00	0.00	0.00
31.00	0.00	0	256.00	0.00	0.00	0.00
32.00	0.00	0	256.00	0.00	0.00	0.00
33.00	0.00	0	256.00	0.00	0.00	0.00
34.00	0.00	0	256.00	0.00	0.00	0.00
35.00	0.00	0	256.00	0.00	0.00	0.00
36.00	0.00	0	256.00	0.00	0.00	0.00
37.00	0.00	0	256.00	0.00	0.00	0.00
38.00	0.00	0	256.00	0.00	0.00	0.00
39.00	0.00	0	256.00	0.00	0.00	0.00
40.00	0.00	0	256.00	0.00	0.00	0.00
41.00	0.00	0	256.00	0.00	0.00	0.00
42.00	0.00	0	256.00	0.00	0.00	0.00
43.00	0.00	0	256.00	0.00	0.00	0.00
44.00	0.00	0	256.00	0.00	0.00	0.00
45.00	0.00	0	256.00	0.00	0.00	0.00
46.00	0.00	0	256.00	0.00	0.00	0.00
47.00	0.00	0	256.00	0.00	0.00	0.00
48.00	0.00	0	256.00	0.00	0.00	0.00
49.00	0.00	0	256.00	0.00	0.00	0.00
50.00	0.00	0	256.00	0.00	0.00	0.00

Summary for Pond 6P: BioRet 2

Inflow Area = 1.782 ac, 40.46% Impervious, Inflow Depth = 3.98" for 25-Year event
 Inflow = 8.04 cfs @ 12.10 hrs, Volume= 0.591 af
 Outflow = 6.40 cfs @ 12.15 hrs, Volume= 0.591 af, Atten= 20%, Lag= 2.8 min
 Primary = 6.40 cfs @ 12.15 hrs, Volume= 0.591 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
 Peak Elev= 264.29' @ 12.15 hrs Surf.Area= 3,487 sf Storage= 6,342 cf

Plug-Flow detention time= 253.2 min calculated for 0.591 af (100% of inflow)
 Center-of-Mass det. time= 253.1 min (1,078.4 - 825.2)

Volume	Invert	Avail.Storage	Storage Description
#1	262.00'	12,747 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
262.00	1,976	0	0
263.50	3,015	3,743	3,743
264.00	3,400	1,604	5,347
266.00	4,000	7,400	12,747

Device	Routing	Invert	Outlet Devices
#1	Primary	259.13'	12.0" Round 12" Culvert L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 259.13' / 258.50' S= 0.0063 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	259.15'	1.0" Vert. 1" Orifice/Grate C= 0.600
#3	Device 2	259.35'	6.0" Round 6" Culvert L= 100.0' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 259.35' / 258.75' S= 0.0060 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	262.00'	2.500 in/hr Exfiltration over Surface area
#5	Device 1	263.50'	6.0" Vert. 6" Orifice/Grate C= 0.600
#6	Device 1	264.00'	2.2" x 4.6" Horiz. Horizontal Orifice/Grate X 32.00 C= 0.600 Limited to weir flow at low heads
#7	Secondary	265.00'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.67 2.65 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=6.40 cfs @ 12.15 hrs HW=264.29' (Free Discharge)

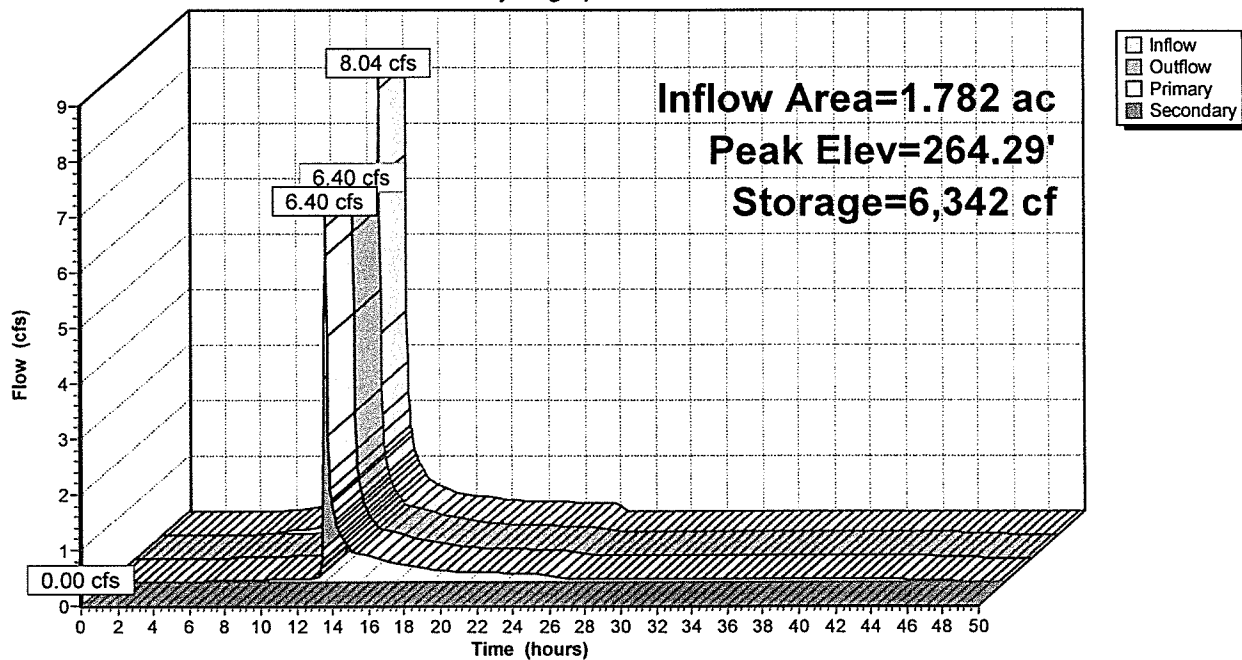
- 1=12" Culvert (Barrel Controls 6.40 cfs @ 8.15 fps)
- 2=1" Orifice/Grate (Passes < 0.06 cfs potential flow)
- 3=6" Culvert (Passes < 1.18 cfs potential flow)
- 4=Exfiltration (Passes < 0.20 cfs potential flow)
- 5=6" Orifice/Grate (Passes < 0.69 cfs potential flow)
- 6=Horizontal Orifice/Grate (Passes < 5.80 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=262.00' (Free Discharge)

- 7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 6P: BioRet 2

Hydrograph



Hydrograph for Pond 6P: BioRet 2

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	262.00	0.00	0.00	0.00
1.00	0.00	0	262.00	0.00	0.00	0.00
2.00	0.00	0	262.00	0.00	0.00	0.00
3.00	0.00	0	262.00	0.00	0.00	0.00
4.00	0.00	0	262.00	0.00	0.00	0.00
5.00	0.01	6	262.00	0.00	0.00	0.00
6.00	0.03	37	262.02	0.02	0.02	0.00
7.00	0.06	82	262.04	0.04	0.04	0.00
8.00	0.10	204	262.10	0.04	0.04	0.00
9.00	0.14	474	262.23	0.05	0.05	0.00
10.00	0.25	1,001	262.47	0.05	0.05	0.00
11.00	0.49	2,044	262.89	0.05	0.05	0.00
12.00	4.43	5,667	264.09	3.67	3.67	0.00
13.00	0.81	5,390	264.01	0.84	0.84	0.00
14.00	0.46	5,293	263.98	0.52	0.52	0.00
15.00	0.33	5,012	263.90	0.42	0.42	0.00
16.00	0.28	4,780	263.83	0.33	0.33	0.00
17.00	0.24	4,652	263.79	0.27	0.27	0.00
18.00	0.20	4,544	263.76	0.23	0.23	0.00
19.00	0.19	4,466	263.73	0.20	0.20	0.00
20.00	0.18	4,425	263.72	0.19	0.19	0.00
21.00	0.17	4,392	263.71	0.18	0.18	0.00
22.00	0.16	4,361	263.70	0.17	0.17	0.00
23.00	0.15	4,330	263.69	0.16	0.16	0.00
24.00	0.14	4,300	263.68	0.15	0.15	0.00
25.00	0.00	3,960	263.57	0.07	0.07	0.00
26.00	0.00	3,743	263.50	0.05	0.05	0.00
27.00	0.00	3,548	263.43	0.05	0.05	0.00
28.00	0.00	3,354	263.37	0.05	0.05	0.00
29.00	0.00	3,161	263.30	0.05	0.05	0.00
30.00	0.00	2,970	263.24	0.05	0.05	0.00
31.00	0.00	2,781	263.17	0.05	0.05	0.00
32.00	0.00	2,593	263.10	0.05	0.05	0.00
33.00	0.00	2,407	263.03	0.05	0.05	0.00
34.00	0.00	2,223	262.96	0.05	0.05	0.00
35.00	0.00	2,040	262.89	0.05	0.05	0.00
36.00	0.00	1,859	262.82	0.05	0.05	0.00
37.00	0.00	1,680	262.75	0.05	0.05	0.00
38.00	0.00	1,502	262.68	0.05	0.05	0.00
39.00	0.00	1,327	262.61	0.05	0.05	0.00
40.00	0.00	1,153	262.53	0.05	0.05	0.00
41.00	0.00	981	262.46	0.05	0.05	0.00
42.00	0.00	811	262.38	0.05	0.05	0.00
43.00	0.00	643	262.31	0.05	0.05	0.00
44.00	0.00	477	262.23	0.05	0.05	0.00
45.00	0.00	314	262.15	0.05	0.05	0.00
46.00	0.00	152	262.08	0.04	0.04	0.00
47.00	0.00	27	262.01	0.01	0.01	0.00
48.00	0.00	4	262.00	0.00	0.00	0.00
49.00	0.00	0	262.00	0.00	0.00	0.00
50.00	0.00	0	262.00	0.00	0.00	0.00

Summary for Pond 9P: Infiltration BMP

[93] Warning: Storage range exceeded by 0.98'

[88] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.200 ac, 100.00% Impervious, Inflow Depth = 5.75" for 25-Year event
 Inflow = 1.20 cfs @ 12.05 hrs, Volume= 0.096 af
 Outflow = 1.33 cfs @ 12.05 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.10 cfs @ 12.00 hrs, Volume= 0.076 af
 Secondary = 1.22 cfs @ 12.05 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
 Peak Elev= 267.98' @ 12.05 hrs Surf.Area= 672 sf Storage= 672 cf

Plug-Flow detention time= 39.9 min calculated for 0.096 af (100% of inflow)
 Center-of-Mass det. time= 39.9 min (781.8 - 741.9)

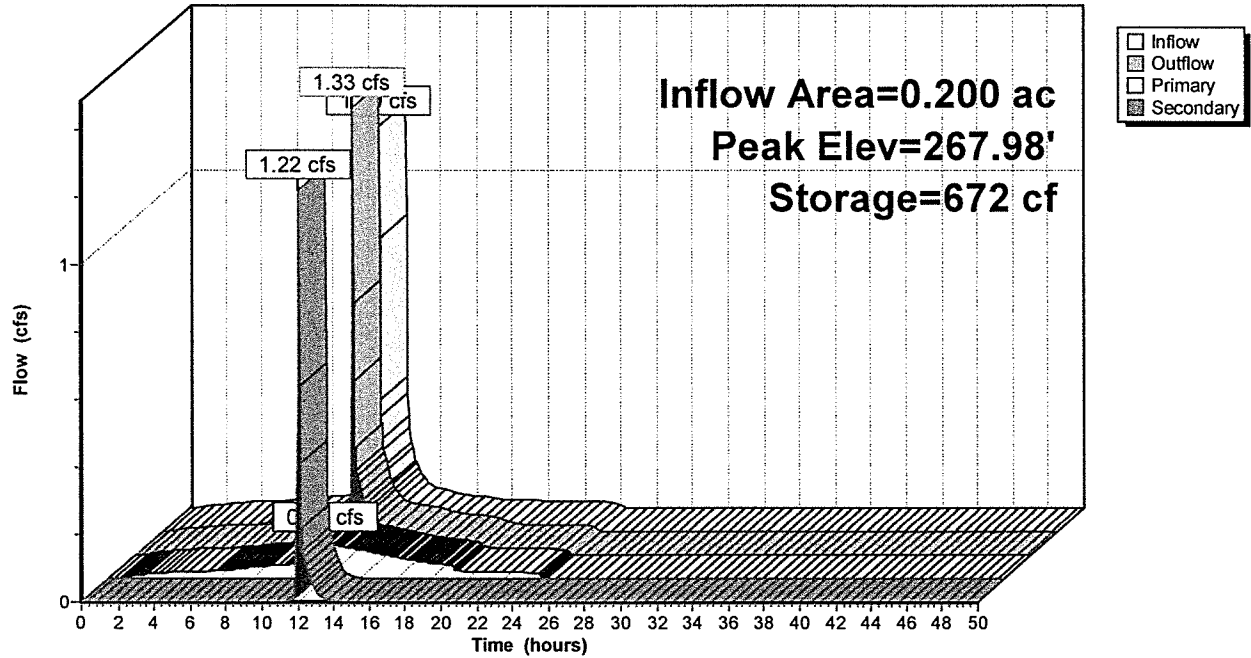
Volume	Invert	Avail.Storage	Storage Description
#1	266.00'	672 cf	1.57'W x 4.00'L x 1.00'H Prismatic x 107

Device	Routing	Invert	Outlet Devices
#1	Primary	266.00'	2.400 in/hr Exfiltration over Wetted area above 265.33' Excluded Wetted area = 0 sf
#2	Secondary	266.75'	8.0" Round 8" Culvert L= 50.0' Ke= 0.950 Inlet / Outlet Invert= 266.25' / 266.75' S= -0.0100 ' Cc= 0.900 n= 0.005, Flow Area= 0.35 sf

Primary OutFlow Max=0.10 cfs @ 12.00 hrs HW=267.35' (Free Discharge)↑ **1=Exfiltration** (Exfiltration Controls 0.10 cfs)**Secondary OutFlow** Max=1.22 cfs @ 12.05 hrs HW=267.97' (Free Discharge)↑ **2=8" Culvert** (Inlet Controls 1.22 cfs @ 3.49 fps)

Pond 9P: Infiltration BMP

Hydrograph



Hydrograph for Pond 9P: Infiltration BMP

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	266.00	0.00	0.00	0.00
1.00	0.01	1	266.00	0.01	0.01	0.00
2.00	0.01	3	266.00	0.01	0.01	0.00
3.00	0.02	4	266.01	0.02	0.02	0.00
4.00	0.02	5	266.01	0.02	0.02	0.00
5.00	0.02	5	266.01	0.02	0.02	0.00
6.00	0.02	6	266.01	0.02	0.02	0.00
7.00	0.03	7	266.01	0.03	0.03	0.00
8.00	0.03	8	266.01	0.03	0.03	0.00
9.00	0.04	10	266.01	0.04	0.04	0.00
10.00	0.06	41	266.06	0.04	0.04	0.00
11.00	0.10	135	266.20	0.05	0.05	0.00
12.00	0.90	672	267.35	0.77	0.10	0.67
13.00	0.10	578	266.86	0.13	0.09	0.03
14.00	0.06	484	266.72	0.09	0.09	0.00
15.00	0.04	374	266.56	0.07	0.07	0.00
16.00	0.04	263	266.39	0.06	0.06	0.00
17.00	0.03	169	266.25	0.05	0.05	0.00
18.00	0.02	88	266.13	0.05	0.05	0.00
19.00	0.02	21	266.03	0.04	0.04	0.00
20.00	0.02	5	266.01	0.02	0.02	0.00
21.00	0.02	5	266.01	0.02	0.02	0.00
22.00	0.02	5	266.01	0.02	0.02	0.00
23.00	0.02	5	266.01	0.02	0.02	0.00
24.00	0.01	4	266.01	0.02	0.02	0.00
25.00	0.00	0	266.00	0.00	0.00	0.00
26.00	0.00	0	266.00	0.00	0.00	0.00
27.00	0.00	0	266.00	0.00	0.00	0.00
28.00	0.00	0	266.00	0.00	0.00	0.00
29.00	0.00	0	266.00	0.00	0.00	0.00
30.00	0.00	0	266.00	0.00	0.00	0.00
31.00	0.00	0	266.00	0.00	0.00	0.00
32.00	0.00	0	266.00	0.00	0.00	0.00
33.00	0.00	0	266.00	0.00	0.00	0.00
34.00	0.00	0	266.00	0.00	0.00	0.00
35.00	0.00	0	266.00	0.00	0.00	0.00
36.00	0.00	0	266.00	0.00	0.00	0.00
37.00	0.00	0	266.00	0.00	0.00	0.00
38.00	0.00	0	266.00	0.00	0.00	0.00
39.00	0.00	0	266.00	0.00	0.00	0.00
40.00	0.00	0	266.00	0.00	0.00	0.00
41.00	0.00	0	266.00	0.00	0.00	0.00
42.00	0.00	0	266.00	0.00	0.00	0.00
43.00	0.00	0	266.00	0.00	0.00	0.00
44.00	0.00	0	266.00	0.00	0.00	0.00
45.00	0.00	0	266.00	0.00	0.00	0.00
46.00	0.00	0	266.00	0.00	0.00	0.00
47.00	0.00	0	266.00	0.00	0.00	0.00
48.00	0.00	0	266.00	0.00	0.00	0.00
49.00	0.00	0	266.00	0.00	0.00	0.00
50.00	0.00	0	266.00	0.00	0.00	0.00

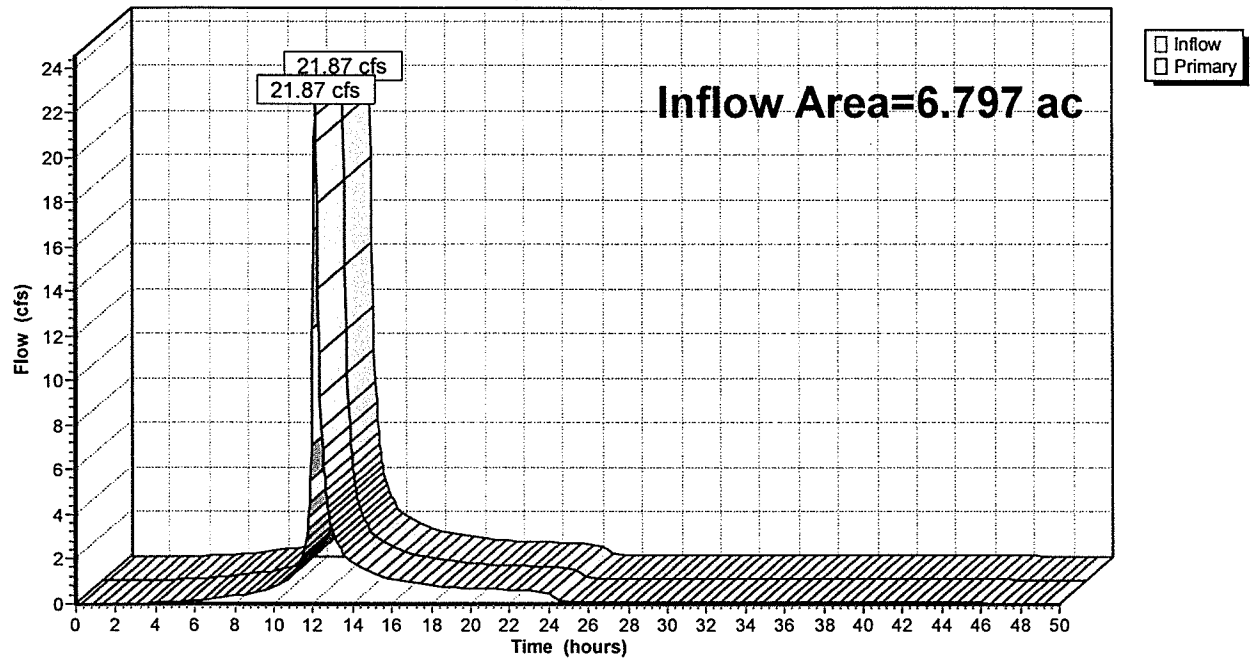
Summary for Link 3L: POA #1

Inflow Area = 6.797 ac, 25.91% Impervious, Inflow Depth = 4.07" for 25-Year event
 Inflow = 21.87 cfs @ 12.15 hrs, Volume= 2.304 af
 Primary = 21.87 cfs @ 12.15 hrs, Volume= 2.304 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

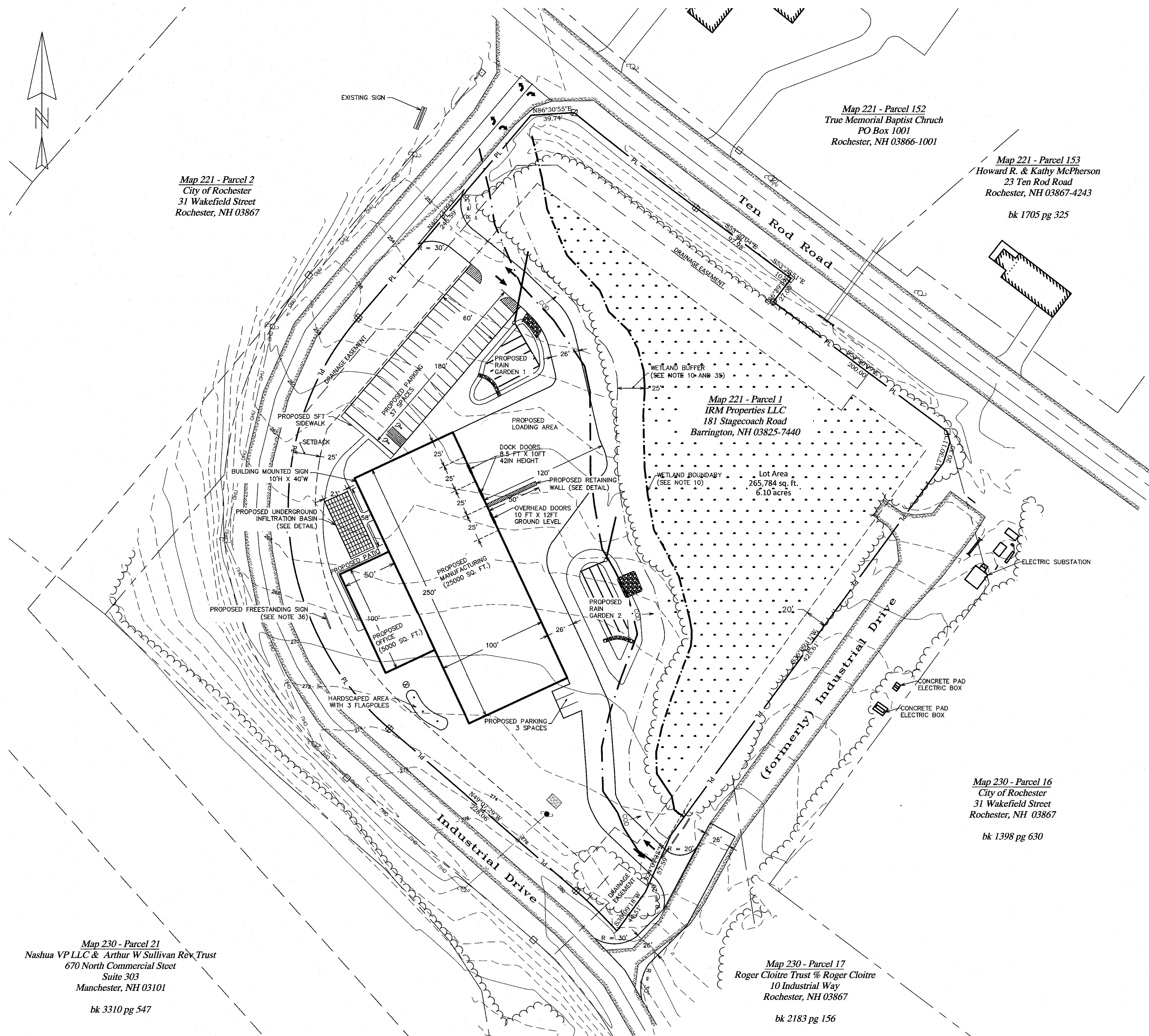
Link 3L: POA #1

Hydrograph

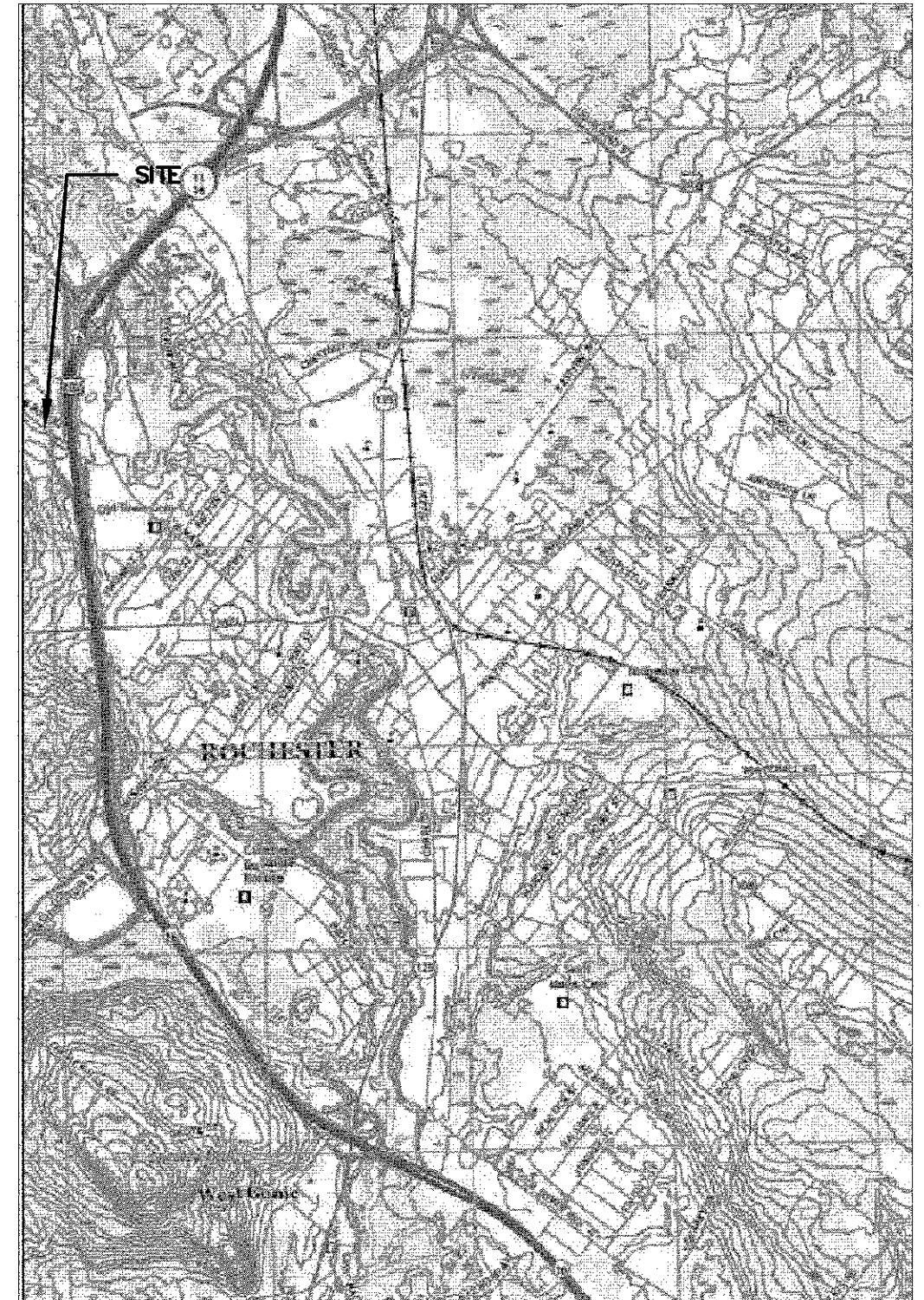


Hydrograph for Link 3L: POA #1

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	27.00	0.05	0.00	0.05
0.50	0.00	0.00	0.00	27.50	0.05	0.00	0.05
1.00	0.00	0.00	0.00	28.00	0.05	0.00	0.05
1.50	0.00	0.00	0.00	28.50	0.05	0.00	0.05
2.00	0.01	0.00	0.01	29.00	0.05	0.00	0.05
2.50	0.02	0.00	0.02	29.50	0.05	0.00	0.05
3.00	0.03	0.00	0.03	30.00	0.05	0.00	0.05
3.50	0.03	0.00	0.03	30.50	0.05	0.00	0.05
4.00	0.04	0.00	0.04	31.00	0.05	0.00	0.05
4.50	0.05	0.00	0.05	31.50	0.05	0.00	0.05
5.00	0.07	0.00	0.07	32.00	0.05	0.00	0.05
5.50	0.09	0.00	0.09	32.50	0.05	0.00	0.05
6.00	0.13	0.00	0.13	33.00	0.05	0.00	0.05
6.50	0.18	0.00	0.18	33.50	0.05	0.00	0.05
7.00	0.24	0.00	0.24	34.00	0.05	0.00	0.05
7.50	0.29	0.00	0.29	34.50	0.05	0.00	0.05
8.00	0.34	0.00	0.34	35.00	0.05	0.00	0.05
8.50	0.40	0.00	0.40	35.50	0.05	0.00	0.05
9.00	0.47	0.00	0.47	36.00	0.05	0.00	0.05
9.50	0.59	0.00	0.59	36.50	0.05	0.00	0.05
10.00	0.75	0.00	0.75	37.00	0.05	0.00	0.05
10.50	0.93	0.00	0.93	37.50	0.05	0.00	0.05
11.00	1.38	0.00	1.38	38.00	0.05	0.00	0.05
11.50	2.18	0.00	2.18	38.50	0.05	0.00	0.05
12.00	12.30	0.00	12.30	39.00	0.05	0.00	0.05
12.50	6.96	0.00	6.96	39.50	0.05	0.00	0.05
13.00	3.42	0.00	3.42	40.00	0.05	0.00	0.05
13.50	2.29	0.00	2.29	40.50	0.05	0.00	0.05
14.00	1.85	0.00	1.85	41.00	0.05	0.00	0.05
14.50	1.63	0.00	1.63	41.50	0.05	0.00	0.05
15.00	1.39	0.00	1.39	42.00	0.05	0.00	0.05
15.50	1.22	0.00	1.22	42.50	0.05	0.00	0.05
16.00	1.13	0.00	1.13	43.00	0.05	0.00	0.05
16.50	1.05	0.00	1.05	43.50	0.05	0.00	0.05
17.00	0.97	0.00	0.97	44.00	0.05	0.00	0.05
17.50	0.89	0.00	0.89	44.50	0.05	0.00	0.05
18.00	0.81	0.00	0.81	45.00	0.05	0.00	0.05
18.50	0.76	0.00	0.76	45.50	0.04	0.00	0.04
19.00	0.74	0.00	0.74	46.00	0.04	0.00	0.04
19.50	0.72	0.00	0.72	46.50	0.04	0.00	0.04
20.00	0.70	0.00	0.70	47.00	0.01	0.00	0.01
20.50	0.68	0.00	0.68	47.50	0.01	0.00	0.01
21.00	0.66	0.00	0.66	48.00	0.00	0.00	0.00
21.50	0.64	0.00	0.64	48.50	0.00	0.00	0.00
22.00	0.62	0.00	0.62	49.00	0.00	0.00	0.00
22.50	0.60	0.00	0.60	49.50	0.00	0.00	0.00
23.00	0.58	0.00	0.58	50.00	0.00	0.00	0.00
23.50	0.56	0.00	0.56				
24.00	0.54	0.00	0.54				
24.50	0.10	0.00	0.10				
25.00	0.07	0.00	0.07				
25.50	0.06	0.00	0.06				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				



12. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON A REPRODUCIBLE MYLAR MEDIUM AND IN A DIGITAL DXF FORMAT ON DISK TO THE CITY OF ROCHESTER ENGINEER'S OFFICE UPON COMPLETION OF THE PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
13. EXTERIOR LIGHTING SHALL BE FULL CUT-OFF, DARK SKY COMPLIANT TYPE FIXTURES AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
14. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH ROCHESTER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
15. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THE SERVICES.
16. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER. COORDINATION WITH ROCHESTER PUBLIC WORKS DEPARTMENT ON THE BACKFLOW PREVENTION FOR THE BUILDING WILL OCCUR PRIOR TO SEWER INSTALLATION.
17. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAD SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZERS, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.
18. THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.
19. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED, AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK.
20. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
21. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY.
22. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7AM-6PM SATURDAY AND SUNDAY 9AM-4PM. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.
23. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
24. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND THE CITY OF ROCHESTER PUBLIC WORKS REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
25. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATERLINES.
26. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CODE OF THE CITY OF ROCHESTER AND THE 2015 STATE BUILDING CODES.
27. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.
28. FIRE DEPARTMENT CONNECTS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
29. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
30. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY STANDARDS.
31. THE PROPOSED USE FOR THE SITE IS ONE BUILDING WITH SEPARATE OFFICES AND WAREHOUSE SPACES.
32. THE FOLLOWING FEDERAL AND STATE PERMITS WILL NEED TO BE ISSUED FOR THE SUBJECT PROPERTY:
A. ALTERATION OF TERRAIN PERMIT
33. NO VARIANCES OR SPECIAL EXCEPTIONS HAVE BEEN GRANTED AT THE TIME OF THIS PLAN SUBMISSION.
34. FOR MORE INFORMATION ABOUT THIS SITE PLAN CONTACT KENNETH WOOD, P.E. OF ATTAR ENGINEERING
35. NO SNOW REMOVAL SHALL OCCUR IN BUFFER ZONE.
36. FREESTANDING SIGN TO BE INSTALLED 10 FT FROM PROPERTY LINE. THE SIGN WILL HAVE AN OVERALL HEIGHT OF 20 FT FROM THE GROUND. THE SIGN DISPLAY WILL BE 5 FT HIGH BY 15 FT WIDE.
37. PROPOSED HOURS OF OPERATION ARE 8 A.M. - 5 P.M. MONDAY THRU FRIDAY. THE FACILITY CURRENTLY EMPLOYS 15 EMPLOYEES WITH A POTENTIAL OF UP TO 25 EMPLOYEES
38. DAILY TRAFFIC - PCE'S (PASSENGER CAR EQUIVALENTS) ARE ESTIMATED AT 60 TRIPS/DAY ACCOUNTING FOR EMPLOYEES, CLIENTS, AND SHIPPING AND RECEIVING. A MAJORITY OF RECEIVING TRIPS ARE SMALL (FED EX AND UPS) DELIVERIES CONSISTING OF 4 PCE/DAY. LARGER DELIVERIES (WB-50) ARE ANTICIPATED AT ONE TRIP/MONTH. THE MAXIMUM (A.M.) PEAK IS AT 25 TRIPS/HOUR.



LOCUS MAP

APPROXIMATE SCALE: 1" = 2,500 FT

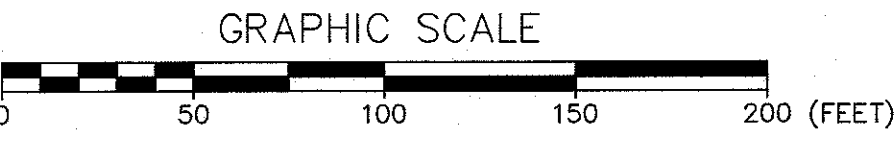
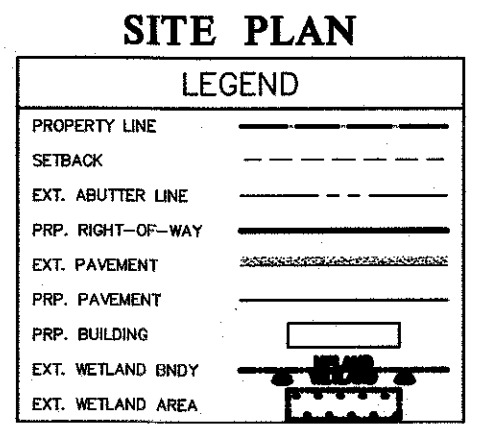
GENERAL NOTES

1. THE INTENT OF THIS SITE PLAN IS TO PROPOSE A NEW COMMERCIAL/INDUSTRIAL FACILITY LOCATED AT INDUSTRIAL DRIVE AND TEN ROD ROAD IN ROCHESTER, NH.
2. CURRENT OWNER: IRM PROPERTIES LLC, 181 STAGECOACH ROAD, BARRINGTON, NH 03825
3. THE PROJECT PARCEL IS SHOWN AS LOT NO. 1, MAP 221 OF THE CITY OF ROCHESTER TAX ASSESSOR'S MAPS AND IS LOCATED IN THE GENERAL INDUSTRY (GI) AND CONSERVATION OVERLAY DISTRICT (COD) ZONES.
4. THE PROJECT PARCEL CONTAINS 6.10 ACRES OR 265,784 SQUARE FEET AREA OF LAND.
5. TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 3887 PG 715.
6. PROJECT PLAN REFERENCES: (SEE REFERENCE 1 BELOW)
7. ZONING DIMENSIONAL AND DENSITY REQUIREMENTS ARE AS FOLLOWS:
A. ZONING DISTRICT: GENERAL INDUSTRY PROVIDED
B. MINIMUM LOT SIZE: 30,000 SQ. FT. 265,789 SQ. FT.
C. MINIMUM LOT FRONTAGE: 100 FT. 895 FT.
D. MINIMUM YARD SETBACKS
FRONT 25 FT. 25 FT.
SIDE 20 FT. 20 FT.
REAR 55 FT. 55 FT.
MAXIMUM LOT COVERAGE 75% (199,338 SQ. FT.) 52% (126,035 SQ. FT.)
MAXIMUM BUILDING HEIGHT 55 FT. 55 FT.
8. PROPERTY LINE INFORMATION AND TOPOGRAPHY TAKEN FROM REFERENCE (1)
9. SUBJECT PARCEL IS NOT LOCATED WITHIN FEDERALLY DESIGNATED FLOOD HAZARD AREA (COMMUNITY PANEL NUMBER 33017C0203D, EFFECTIVE DATE 5/16/2005).
10. WETLAND DELINEATED BY KENNETH A. WOOD, CERTIFIED WETLAND SCIENTIST. (CERTIFICATION NUMBER N.H. 00187) IN FALL OF 2019. BUFFER REDUCTION IN ACCORDANCE OF ROCHESTER CITY CODE SECTION 275 ARTICLE 12.9.
11. PARKING REQUIREMENTS ARE AS FOLLOWS
MINIMUM. 2 ADA FOR 26 TO 50 REGULAR SPACES
OFFICE 5000 SQ. FT. 3 SPACES PER 1000 SQ. FT. 15 SPACES
INDUSTRIAL 1 SPACE PER 1000 SQ. FT.
PLUS AN ADDITIONAL 3 SPACES PER 1000 SQ. FT. OF OFFICE SPACE 25 SPACES
TOTAL PROVIDED IS 40 REGULAR SPACES AND 2 ADA SPACES (5%)

REFERENCES

1. BOUNDARY AND TOPOGRAPHIC WORKSHEET PROVIDED BY THADDEUS THORNE SURVEY, INC

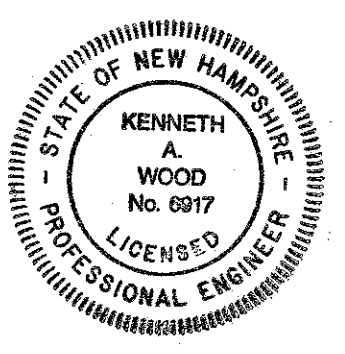
- INDEX OF SHEETS
1. OVERALL SITE PLAN
 2. GRADING & UTILITY PLAN
 3. BOUNDARY SURVEY & EXISTING CONDITIONS PLAN
 4. SOILS MAP
 5. LIGHTING PLAN
 6. LANDSCAPING
 7. SITE DETAILS
 8. SITE DETAILS
 9. SITE DETAILS
 10. SITE DETAILS
 11. SITE DETAILS
 12. SITE DETAILS



CITY DEPARTMENT REVIEWS	
SIGNATURE	DATE
ROCHESTER POLICE DEPARTMENT	
ROCHESTER FIRE DEPARTMENT	
ROCHESTER PUBLIC WORKS DEPARTMENT	
THIS APPLICATION HAS BEEN REVIEWED BY THESE DEPARTMENTS, WHICH HAVE OFFERED COMMENTS TO THE PLANNING BOARD.	

APPROVAL OF THE PLANNING BOARD OF ROCHESTER, NH	
SIGNATURE	DATE
CHAIR	
THE SIGNATURE OF 3 OR MORE PLANNING BOARD MEMBERS INDICATES APPROVAL OF THIS PLAN	

NO.	DESCRIPTION	DATE
	REVISIONS	



SITE PLAN- MANUFACTURING BUILDING
INTEC AUTOMATION
TEN ROD RD, ROCHESTER, NH

FOR: INTEC AUTOMATION INC.
PO BOX 1653
ROCHESTER NH, 03867

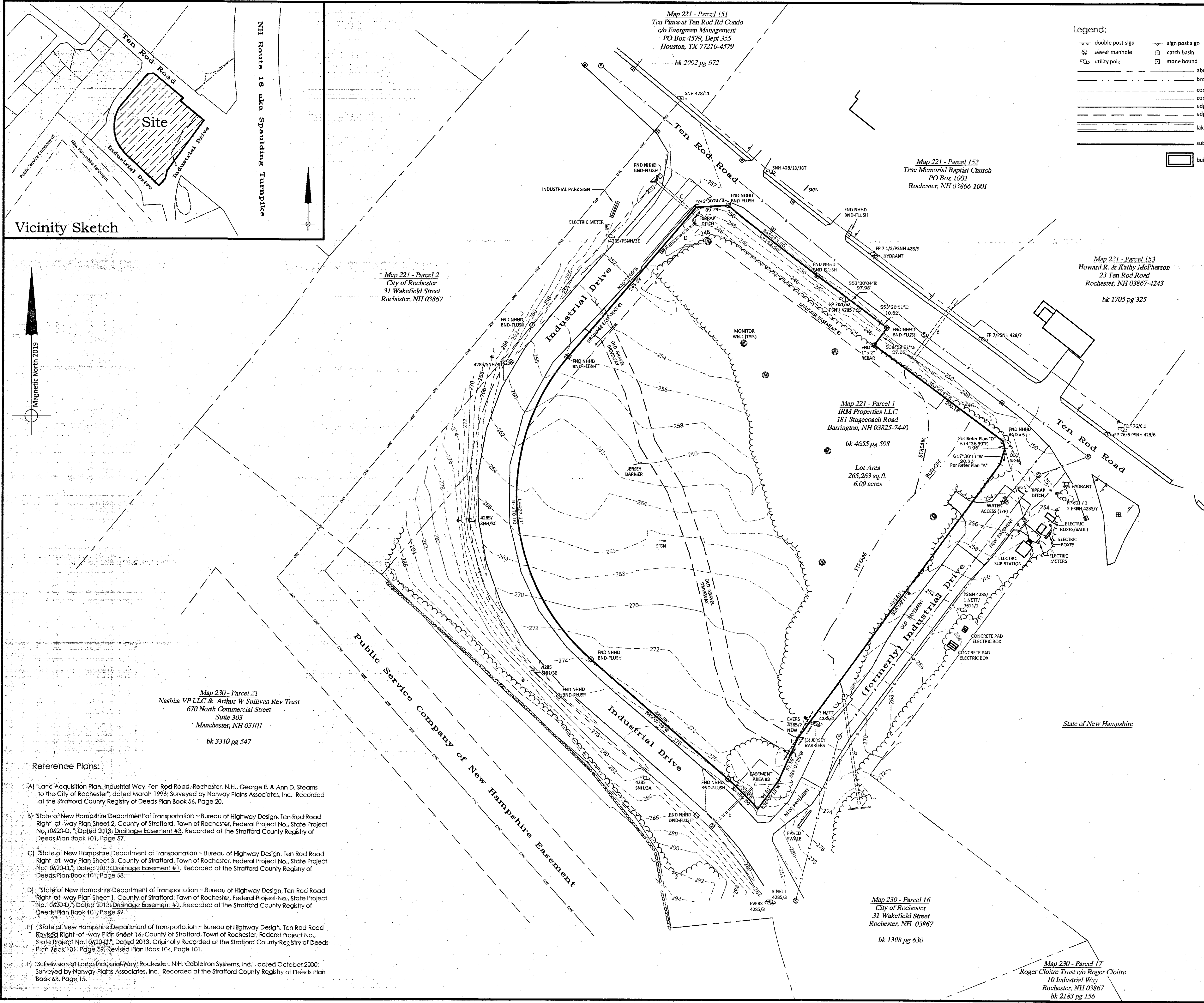
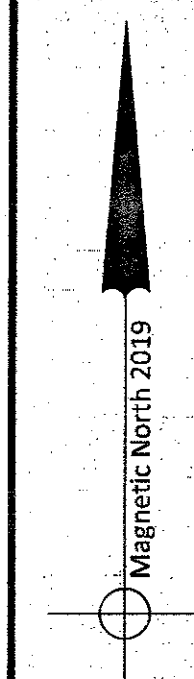
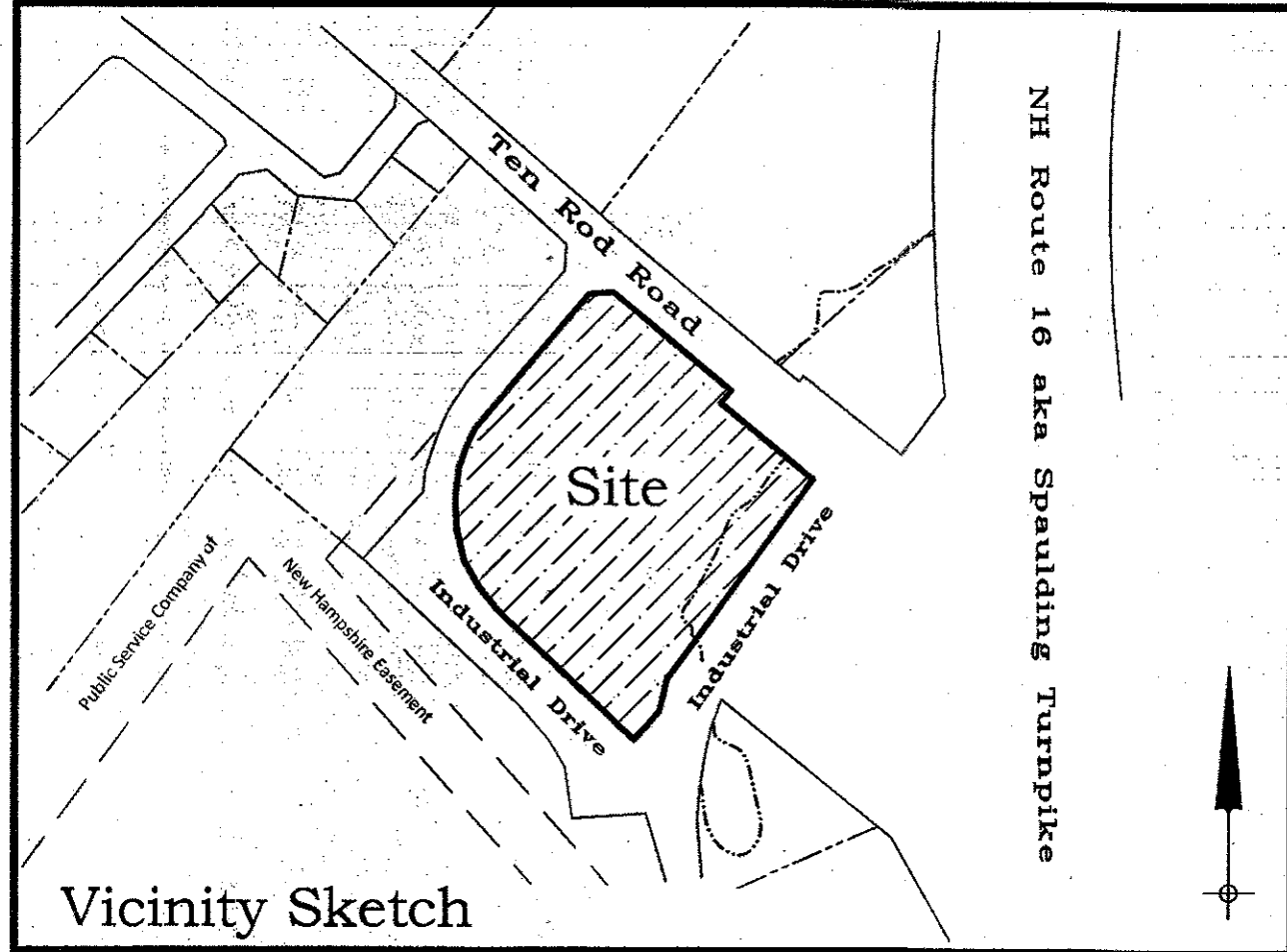
ATTAR ENGINEERING, INC.
CIVIL • STRUCTURAL • MARINE
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 50'
DATE: 4/6/2020
JOB NO: C164-20

APPROVED BY: [Signature]
DATE: 4/7/2020
FILE: IRM BASE_3-31-20.DWG

DRAWN BY: NB
REVISION DATE: - : -
SHEET: 1 OF 12

[illegible]



- Legend:
- double post sign
 - sewer manhole
 - utility pole
 - sign post sign
 - catch basin
 - stone bound
 - abutments line
 - brook
 - cont-mnr
 - cont-mjr
 - edge of paved road
 - edge of gravel road
 - lake, pond or river
 - subject property boundary
 - buildings

- Notes:
- 1) Traverses performed with EDM/Theodolite - 20 October 2019
Error of closure - 1/54860
 - 2) Owner of Record: Tax Map 221 Lot 1
IRM Properties, LLC
181 Stagecoach Street
Barrington, NH 03825-7440
Deed Reference - Strafford County Registry of Deeds Book 4655, Page 598
 - 3) Tax Map 221, Lot 1 is subject to three (3) drainage easements to benefit the State of New Hampshire as shown on this plan. For the description see Deed Book 3887, Page 715 for further description.
 - 4) The datum as shown on this plan is assumed. The contours are 2 foot interval.

CULVERT LETTER	CULVERT SIZE	INVERT IN	OUTVERT OUT	CULVERT TYPE
A	15"	254.12'	252.84'	UNKNOWN
B	48"	243.65'	243.13'	CONCRETE
C	36"	245.32'	244.80'	CONCRETE
D	24"	C.BASIN	245.36'	UNKNOWN
E	24"	C.BASIN	274.21'	CONCRETE
F	8"	UNKNOWN	268.56'	PLASTIC
G	36"	269.04'	265.08'	CONCRETE

- Reference Plans:
- "Land Acquisition Plan, Industrial Way, Ten Rod Road, Rochester, N.H., George E. & Ann D. Stearns to the City of Rochester", dated March 1996; Surveyed by Norway Plains Associates, Inc. Recorded at the Strafford County Registry of Deeds Plan Book 56, Page 20.
 - "State of New Hampshire Department of Transportation - Bureau of Highway Design, Ten Rod Road Right-of-way Plan Sheet 2, County of Strafford, Town of Rochester, Federal Project No., State Project No.10620-D," Dated 2013; Drainage Easement #3, Recorded at the Strafford County Registry of Deeds Plan Book 101, Page 57.
 - "State of New Hampshire Department of Transportation - Bureau of Highway Design, Ten Rod Road Right-of-way Plan Sheet 3, County of Strafford, Town of Rochester, Federal Project No., State Project No.10620-D," Dated 2013; Drainage Easement #1, Recorded at the Strafford County Registry of Deeds Plan Book 101, Page 58.
 - "State of New Hampshire Department of Transportation - Bureau of Highway Design, Ten Rod Road Right-of-way Plan Sheet 1, County of Strafford, Town of Rochester, Federal Project No., State Project No.10620-D," Dated 2013; Drainage Easement #2, Recorded at the Strafford County Registry of Deeds Plan Book 101, Page 59.
 - "State of New Hampshire Department of Transportation - Bureau of Highway Design, Ten Rod Road Revised Right-of-way Plan Sheet 16, County of Strafford, Town of Rochester, Federal Project No., State Project No.10620-D," Dated 2013; Originally Recorded at the Strafford County Registry of Deeds Plan Book 101, Page 59; Revised Plan Book 104, Page 101.
 - "Subdivision of Land, Industrial Way, Rochester, N.H. Cabletron Systems, Inc.", dated October 2000; Surveyed by Norway Plains Associates, Inc. Recorded at the Strafford County Registry of Deeds Plan Book 63, Page 15.

DATE

DESCRIPTION

BY

*** REVISIONS ***

CERTIFICATION

I CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR BY THOSE UNDER MY DIRECT AND IMMEDIATE SUPERVISION. I ALSO CERTIFY THAT THIS SURVEY CONFORMS TO THE NHLSA MINIMUM STANDARDS OF PRACTICE FOR THE SURVEY OF REAL PROPERTY.

01-30-2020
DATE

STATE OF NEW HAMPSHIRE
No. 883
LORALIE GERARD
SIGNATURE

Boundary Survey and Existing Conditions of Land of

IRM Properties, LLC

Tax Map 221 - Parcel 1

Industrial Way

Rochester, Strafford County

New Hampshire

Scale: 1" = 60'

60 30 0 60 120

SURVEYED BY: TH, MM, LLG

DATE: 10-29-19

DRAWN BY: WS LLG

DATE: 11-12-19

CHECKED BY: LLG

DATE: 01-27-20

Thorne Associates

1164 Brownfield Road

Center Conway, NH 03813

www.thornellc.com

(603) 447-3320 fax

(603) 447-2254 phone

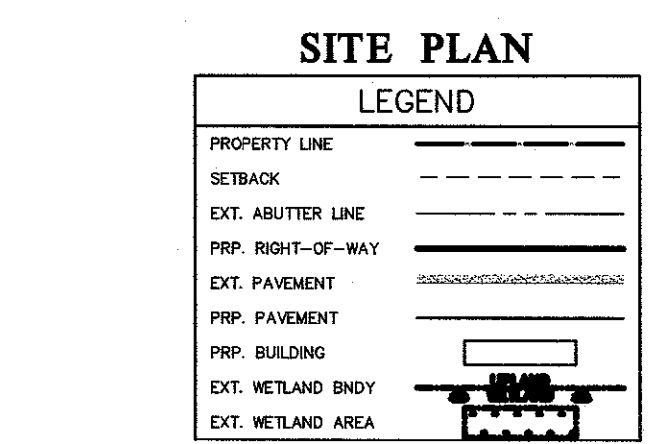
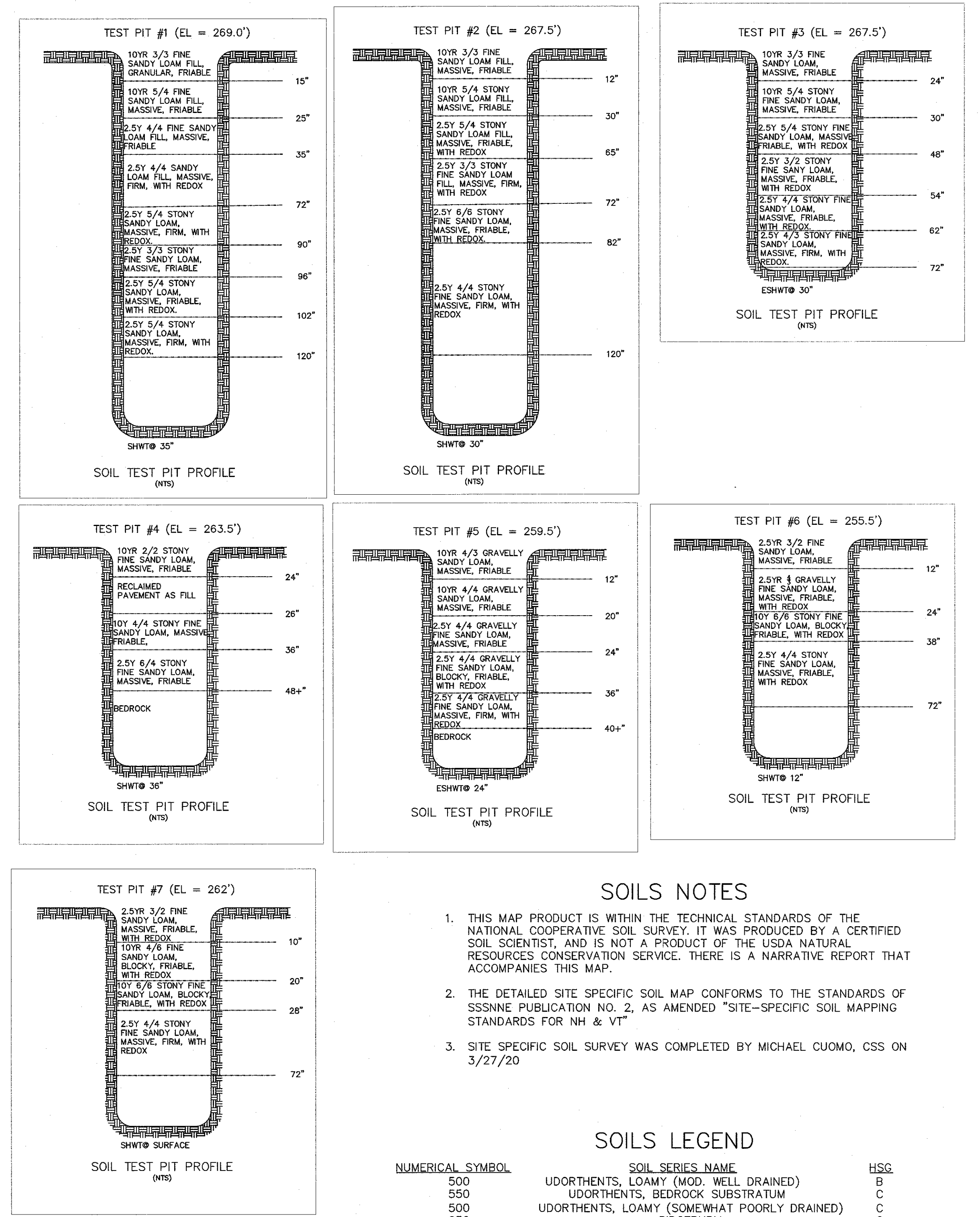
email: info@thornellc.com

DWG. NO.

20-05


THORNE ASSOCIATES

30F12



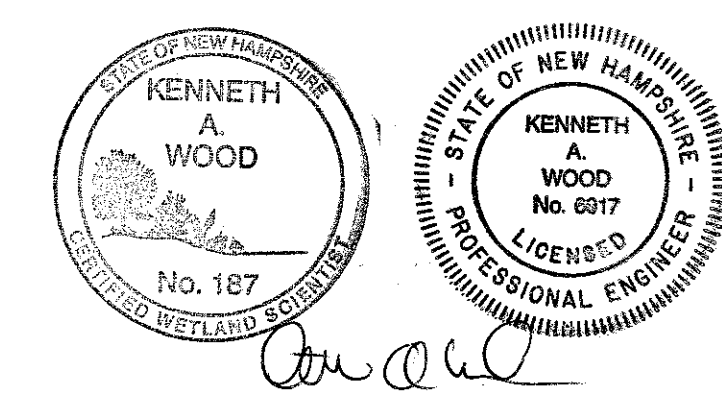
EXISTING CONDITIONS/SITE SPECIFIC SOIL SURVEY
INTEC AUTOMATION
TEN ROD RD, ROCHESTER, NH

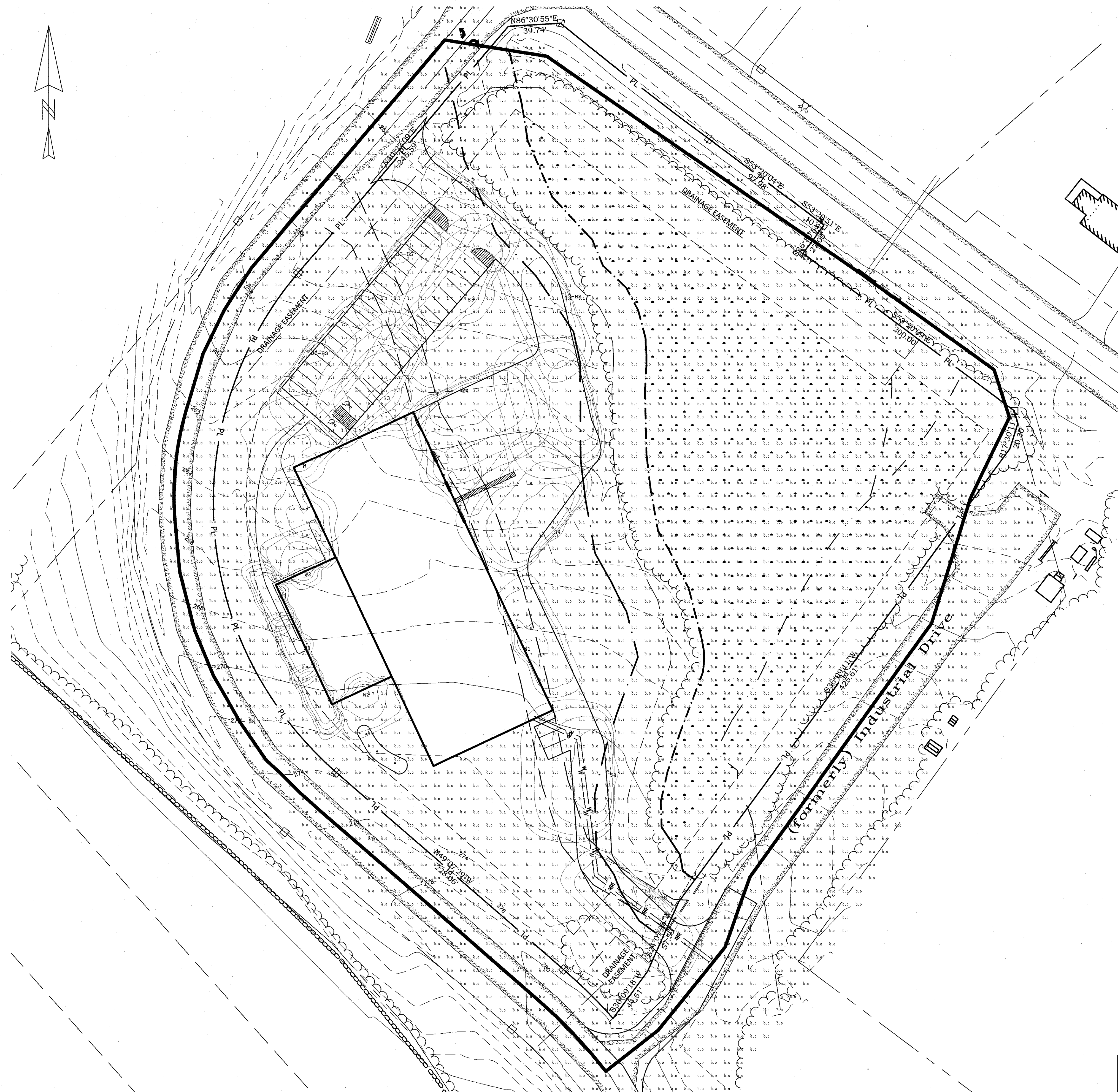
 ATTAR ENGINEERING, INC.

PHONE: (207) 439-6023 FAX: (207) 439-2128		
SCALE: 1" = 50'	APPROVED BY: 	DRAWN BY: NB








DATE: 4/6/2020	<i>[Signature]</i> 4/7/2020	REVISION DATE: - : -
JOB NO: C164-20	FILE: IRM BASE 3-31-20.DWG	SHEET: 4 OF 12

JOB NO: C164-20	FILE: IRM BASE_3-31-20.DWG	SHEET: 4 OF 12
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StatArea_2
DOCK AREA
Illuminance (Fc)
Average = 2.14
Maximum = 3.9
Minimum = 0.7
Avg/Min Ratio = 3.06
Max/Min Ratio = 5.57


Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	2	S3	SINGLE	GLON-AF-01-LED-E1-T3/ SS4A20SFN1 (20' AFG)
	4	S4	SINGLE	GLON-AF-02-LED-E1-SL4-HSS/ SS4A20SFN1 (20' AFG)
	5	S3-HS	SINGLE	GLON-AF-01-LED-E1-SL3-HSS/ SS4A20SFN1 (20' AFG)
	5	W	SINGLE	1ST-AF-450-LED-E1-T4/T7/ WALL MTD 18' AFG
	1	W1	SINGLE	1ST-AF-450-LED-E1-SL3/ WALL MTD 18' AFG
	2	W2	SINGLE	1ST-AF-350-LED-E1-T4/T7/ WALL MTD 9' AFG
	3	W3	SINGLE	1ST-AF-350-LED-E1-SL3/ WALL MTD 9' AFG

LEGEND



PROPERTY LINE	
SETBACK	
EXT. ABUTTER LINE	
PRP. RIGHT-OF-WAY	
EXT. PAVEMENT	
PRP. PAVEMENT	
PRP. BUILDING	
EXT. WETLAND BNDY	
EXT. WETLAND AREA	

A horizontal bar divided into segments of different lengths, representing a total of 160 feet. The segments are labeled with their lengths: 0, 40, 80, 120, and 160 (FEET).

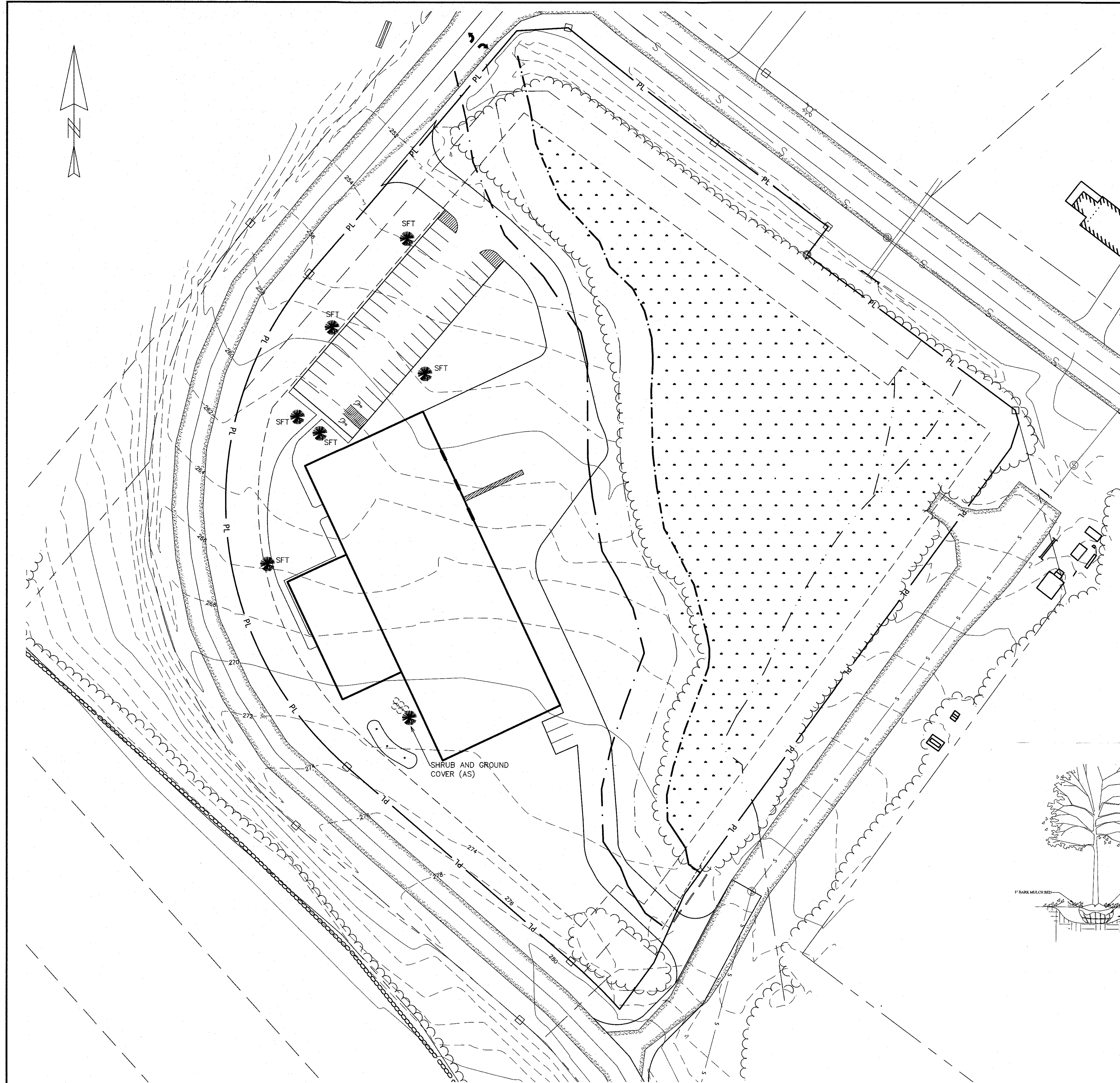
A circular professional engineer seal for the State of New Hampshire. The outer ring contains the text "STATE OF NEW HAMPSHIRE" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by small dashes. The inner circle contains the name "KENNETH A. WOOD", the license number "No. 6917", and the word "LICENSED" at the bottom.



ATTAR ENGINEERING, INC.
CIVIL ♦ STRUCTURAL ♦ MARINE
1284 STATE ROAD - ELIJOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 40'		APPROVED BY: 	DRAWN BY: NB
DATE: 4/6/2020			REVISION DATE: - - -
JOB NO: C164-20		FILE: IRM BASE_3-31-20.DWG	SHEET: 5 OF 12

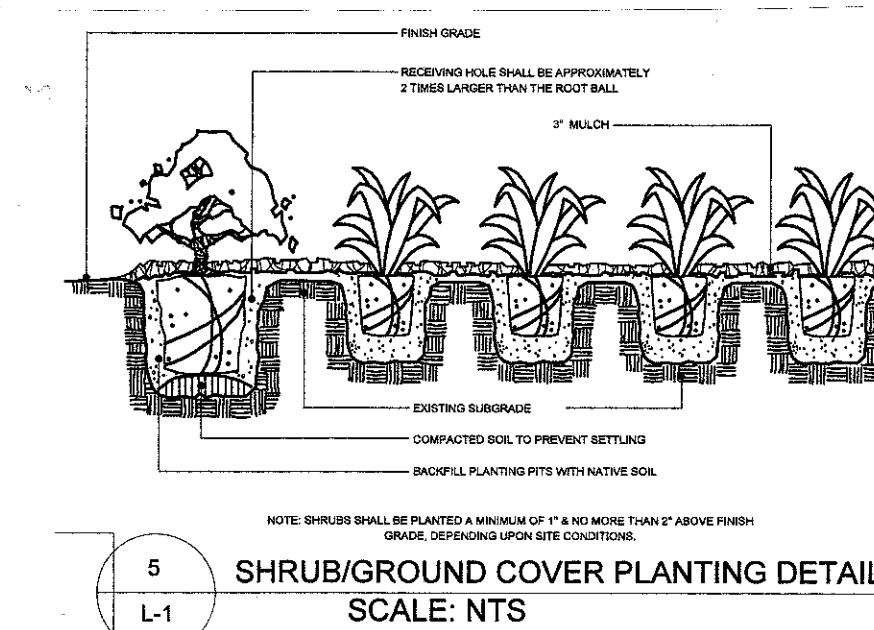
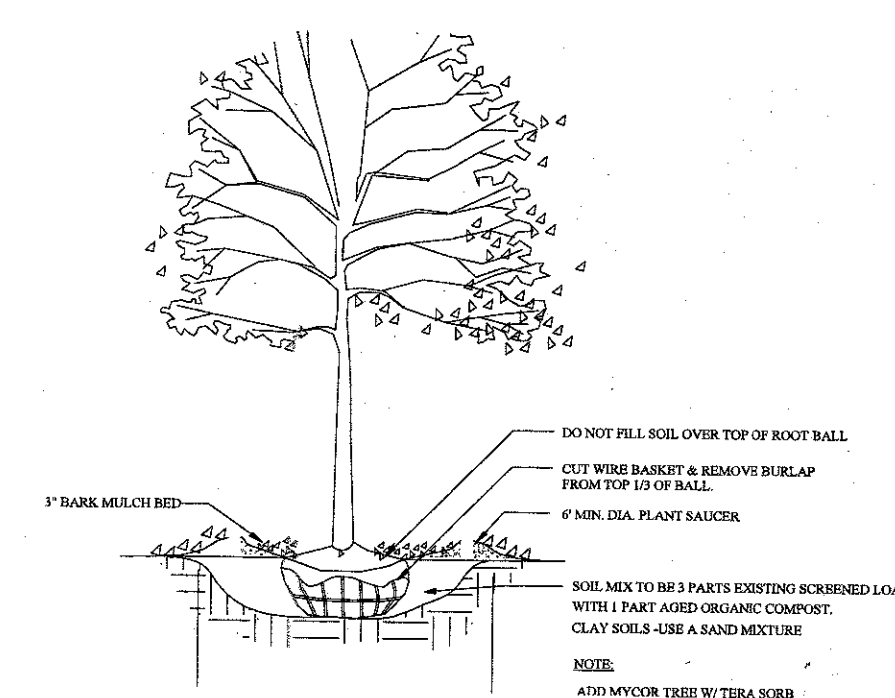
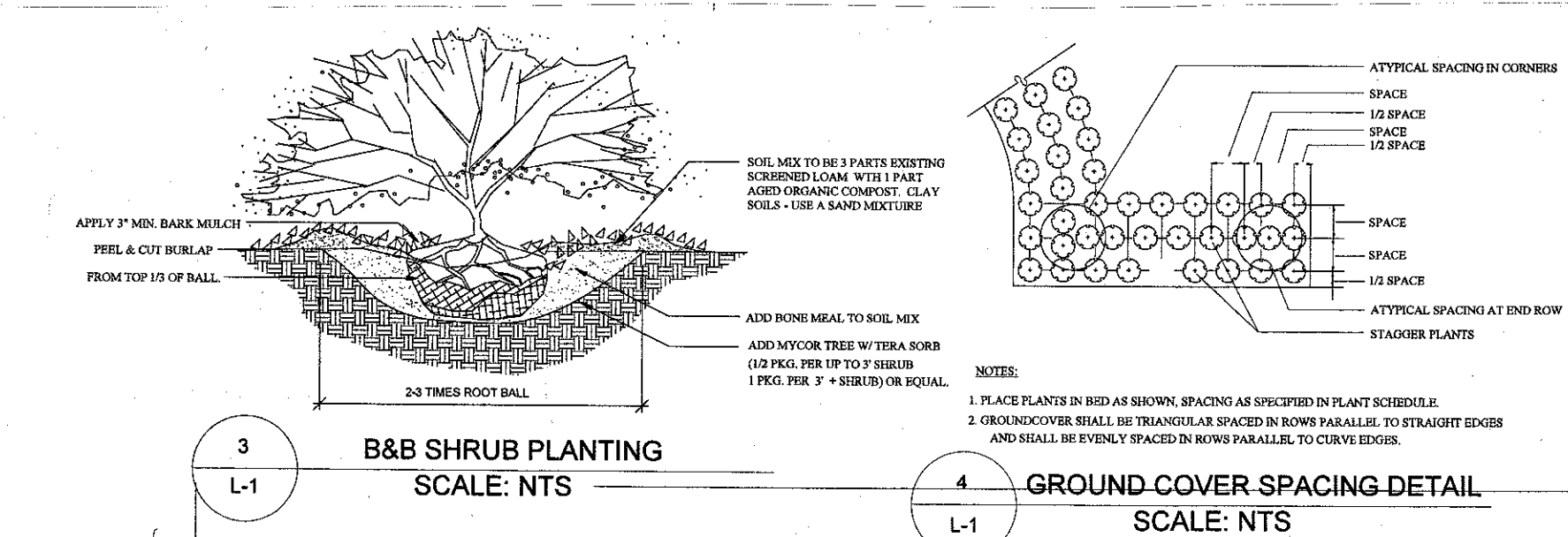
[illegible]




- 1) THE CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES DURING CONSTRUCTION AND SHALL TAKE ALL MEANS NECESSARY TO STABILIZE AND PROTECT THE SITE FROM EROSION.
- 2) EROSION CONTROL SHALL BE IN PLACE PRIOR TO CONSTRUCTION.
- 3) EROSION CONTROL TO CONSIST OF HAY BALES AND EROSION CONTROL FABRIC SHALL BE STAKED IN PLACE BETWEEN THE WORK AND WATER BODIES, WETLANDS AND/OR DRAINAGE WAYS PRIOR TO ANY CONSTRUCTION.
- 4) THE CONTRACTOR SHALL VERIFY LAYOUT AND GRADES AND INFORM THE LANDSCAPE ARCHITECT OR CLIENT'S REPRESENTATIVE OF ANY DISCREPANCIES OR CHANGES IN LAYOUT AND/OR GRADE RELATIONSHIPS PRIOR TO CONSTRUCTION.
- 5) THE CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF ALL UTILITIES WITH RESPECTIVE UTILITY OWNERS PRIOR TO CONSTRUCTION. CALL DIGSAFE AT 1-888-344-7233.
- 6) THE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR NOT LESS THAN TWO YEARS FROM THE TIME OF ACCEPTANCE.
- 7) ALL LANDSCAPING SHALL BE PROVIDED WITH EITHER OF THE FOLLOWING:
 - 7)1) AN UNDERGROUND SPRINKLER SYSTEM
 - 7)2) AN OUTSIDE HOSE ATTACHMENT WITHIN 150 FEET
- 8) TREES, GROUND COVER, AND SHRUB BEDS SHALL BE MULCHED TO A DEPTH OF 2" WITH ONE-YEAR-OLD, WELL-COMPOSTED, SHREDDED NATIVE BARK NOT LONGER THAN 4" IN LENGTH AND 1/2" IN WIDTH, FREE OF WOODCHIPS AND SAW DUST. MULCH FOR FERNS AND HERBACEOUS PERENNIALS SHALL BE NO LONGER THAN 1" IN LENGTH. TREES IN LAWN AREAS SHALL BE MULCHED IN A 5' DIAMETER MIN. SAUCER.
- 9) ALL DISTURBED AREAS WILL BE DRESSED WITH 4" OF TOPSOIL AND PLANTED AS NOTED ON THE PLANS OR SEEDED EXCEPT PLANT BEDS. PLANT BEDS SHALL BE PREPARED TO A DEPTH OF 12" WITH 75% LOAM AND 25% COMPOST.

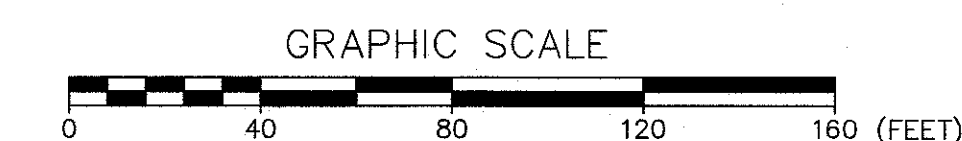
TREES

SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
AS	ACER SACCHARUM 'BONFIRE'	BONFIRE SUGAR MAPLE	39	2.5-3" CAL
SFT	SMALL FLOWERING TREE		61	2.5-3" CAL

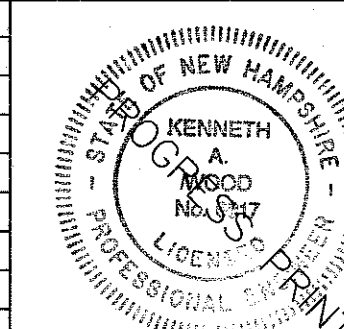


LEGEND

PROPERTY LINE	_____
SETBACK	_____
EXT. ABUTTER LINE	_____
PRP. RIGHT-OF-WAY	_____
EXT. PAVEMENT	<u>XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</u>
PRP. PAVEMENT	_____
PRP. BUILDING	<div style="border: 1px solid black; width: 150px; height: 30px; margin: 0 auto;"></div>
EXT. WETLAND BNDY	<div style="text-align: center;">  <p>WETLAND</p> </div>
EXT. WETLAND AREA	



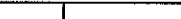
REVIEW PRINT-NOT FOR CONSTRUCTION
TAX MAP 221, LOT 1

[illegible]

LANDSCAPING PLAN
INTEC AUTOMATION
TEN ROD RD. ROCHESTER, NH

FOR:	INTEC AUTOMATION INC. PO BOX 1653 ROCHESTER NH, 03867
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ATTAR ENGINEERING, INC.
CIVIL ♦ STRUCTURAL ♦ MARINE
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

PHONE: (207)439-6025 FAX: (207)439-2128		
SCALE: 1" = 40' DATE: 4/6/2020	APPROVED BY:  4/7/2020	DRAWN BY: NB REVISION DATE: - : -
JOB NO: C164-20	FILE: IRM BASE 3-31-20.DWG	SHEET: 6 OF 12

EROSION & SEDIMENTATION CONTROL NOTES

- SILTATION FENCE OR HAY BALE BARRIERS WILL BE INSTALLED DOWNSLOPE OF ALL STRIPPING OR CONSTRUCTION OPERATIONS. A DOUBLE SILT FENCE BARRIER SHALL BE INSTALLED DOWNSLOPE OF ANY SOIL MATERIAL STOCKPILES. SILT FENCES SHALL BE INSPECTED AFTER EACH RAIN EVENT AND DAILY DURING PROLONGED RAIN. SILT AND SOIL PARTICLES ACCUMULATING BEHIND THE FENCE SHALL BE REMOVED AFTER EACH SIGNIFICANT RAIN EVENT AND IN NO INSTANCE SHOULD ACCUMULATION EXCEED 1/2 THE HEIGHT OF THE FENCE. TORN OR DAMAGED AREAS SHALL BE REPAIRED.
- TEMPORARY AND PERMANENT VEGETATION AND MULCHING IS AN INTEGRAL COMPONENT OF THE EROSION AND SEDIMENTATION CONTROL PLAN. ALL AREAS SHALL BE INSPECTED AND MAINTAINED UNTIL THE DESIRED VEGETATIVE COVER IS ESTABLISHED. THESE CONTROL MEASURES ARE ESSENTIAL TO EROSION PREVENTION AND ALSO REDUCE COSTLY REWORK OF GRADED AND SHAPED AREAS.
- SEEDING, FERTILIZER AND LIME RATES AND TIME OF APPLICATION WILL BE DEPENDENT ON SOIL REQUIREMENTS. TEMPORARY VEGETATION SHALL BE MAINTAINED IN THESE AREAS UNTIL PERMANENT SEEDING IS APPLIED. ADDITIONALLY, EROSION AND SEDIMENTATION MEASURES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- ALL LAWN AREA, OUTER POND SIDE SLOPES AND SWALES SHALL BE PERMANENTLY SEEDED WITH THE FOLLOWING MIXTURE: 20 LB/ACRE CREEPING RED FESCUE, 2 LB/ACRE REDTOP AND 20 LB/ACRE TALL FESCUE FOR A TOTAL OF 42 LB/ACRE. FERTILIZER AND LIME RATES SHALL BE DEPENDENT ON SOIL TESTING. IN THE ABSENCE OF SOIL TESTS, FERTILIZE WITH 10-20-20 (N-P205-K201) AT 800 LB/ACRE AND LIME AT 3 TONS/ACRE. MULCH WITH HAY AT 70-90 LB/1000 S.F. 4" OF LOAM SHALL BE APPLIED PRIOR TO SEEDING.
- POND BOTTOMS AND INNER POND SIDESLOPES SHALL BE PERMANENTLY SEEDED WITH THE FOLLOWING MIXTURE: 20 LB/ACRE CREEPING RED FESCUE, 8 LB/ACRE BIRDSFOOT TREFOL AND 20 LB/ACRE TALL FESCUE FOR A TOTAL OF 48 LB/ACRE. SEE THE ABOVE NOTE FOR FERTILIZER, LIME AND MULCHING RATES.
- TEMPORARY VEGETATION OF ALL DISTURBED AREAS, MATERIAL STOCKPILES AND OTHER SUCH AREAS SHALL BE ESTABLISHED BY SEEDING WITH EITHER WINTER RYE AT A RATE OF 112 LB/ACRE OR ANNUAL RYEGRASS AT A RATE OF 40 LB/ACRE. WINTER RYE SHALL BE USED FOR FALL SEEDING AND ANNUAL RYEGRASS FOR SHORT DURATION SEEDING. SEEDING SHALL BE ACCOMPLISHED BEFORE OCTOBER 1.
- TEMPORARY SEEDING OF DISTURBED AREAS SHALL BE ACCOMPLISHED BEFORE OCTOBER 1. PERMANENT SEEDING SHALL BE ACCOMPLISHED BEFORE SEPTEMBER 15.
- ALL SEEDED AREAS SHALL BE MULCHED WITH HAY AT A RATE OF 2 BALES (70-90 LB) PER 1000 S.F. OF SEEDED AREA.
- SLOPES 2:1 OR STEEPER SHALL BE TREATED WITH POLYJUTE OPEN WEAVE GEOTEXTILE (OR EQUIVALENT) AFTER SEEDING. JUTE MATS SHALL BE ANCHORED PER MANUFACTURER'S SPECIFICATIONS.
- EXCESSIVE DUST CAUSED BY CONSTRUCTION OPERATIONS SHALL BE CONTROLLED BY APPLICATION OF WATER OR CALCIUM CHLORIDE.
- THE CONTRACTOR MAY OPT TO USE EROSION CONTROL MIX BERM AS A SEDIMENT BARRIER IN LIEU OF SILTATION FENCE OR HAY BALE BARRIERS WITH APPROVAL FROM THE INSPECTING ENGINEER.
- MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE.

EROSION & SED. CONTROL NOTES (CONT.)

- WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.
- PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED FROM RUNNING ONTO THE STOCKPILE. MAINTAIN THE SEDIMENT BARRIERS BY REMOVING ACCUMULATED SEDIMENT, OR REMOVING AND REPLACING THE BARRIER, UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. WHERE A DISCHARGE TO A STORM DRAIN INLET OCCURS, IF THE STORM DRAIN CARRIES WATER DIRECTLY TO A SURFACE WATER AND YOU HAVE AUTHORITY TO ACCESS THE STORM DRAIN INLET, YOU MUST INSTALL AND MAINTAIN PROTECTION MEASURES THAT REMOVE SEDIMENT FROM THE DISCHARGE.
- PRIOR TO CONSTRUCTION, PROPERLY INSTALL A STABILIZED CONSTRUCTION ENTRANCE (SCE) AT ALL POINTS OF EGRESS FROM THE SITE. THE SCE IS A STABILIZED PAD OF AGGREGATE, UNDERLAIN BY A GEOTEXTILE FILTER FABRIC, USED TO PREVENT TRAFFIC FROM TRACKING MATERIAL AWAY FROM THE SITE ONTO PUBLIC ROW'S. MAINTAIN THE SCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
- WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS, STABILIZE ANY EXPOSED SOIL WITH MULCH, OR OTHER NON-ERODIBLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
- REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILTATION FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.
- IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.
- FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.
- FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.
- FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT. THESE STANDARDS CAN BE FOUND IN THE FOLLOWING DOCUMENT: MDEP CHAPTER 500 (STORMWATER MANAGEMENT), APPENDIX C. HOUSEKEEPING. HOUSEKEEPING PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, SPILL PREVENTION, GROUNDWATER PROTECTION, FUGITIVE SEDIMENT AND DUST, DEBRIS AND OTHER MATERIALS, EXCAVATION DEWATERING, AUTHORIZED NON-STORMWATER DISCHARGES AND UNAUTHORIZED NON-STORMWATER DISCHARGES.

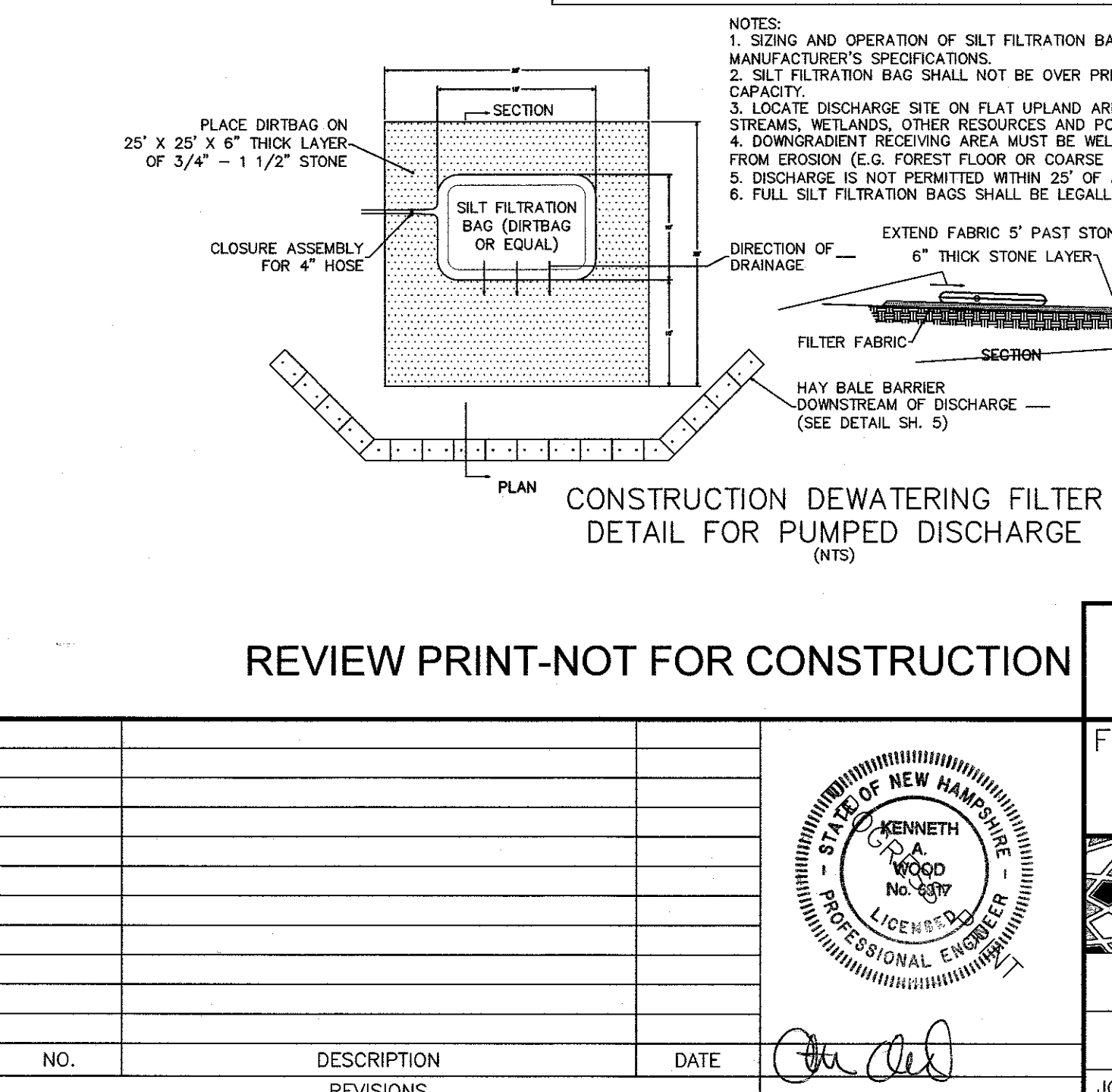
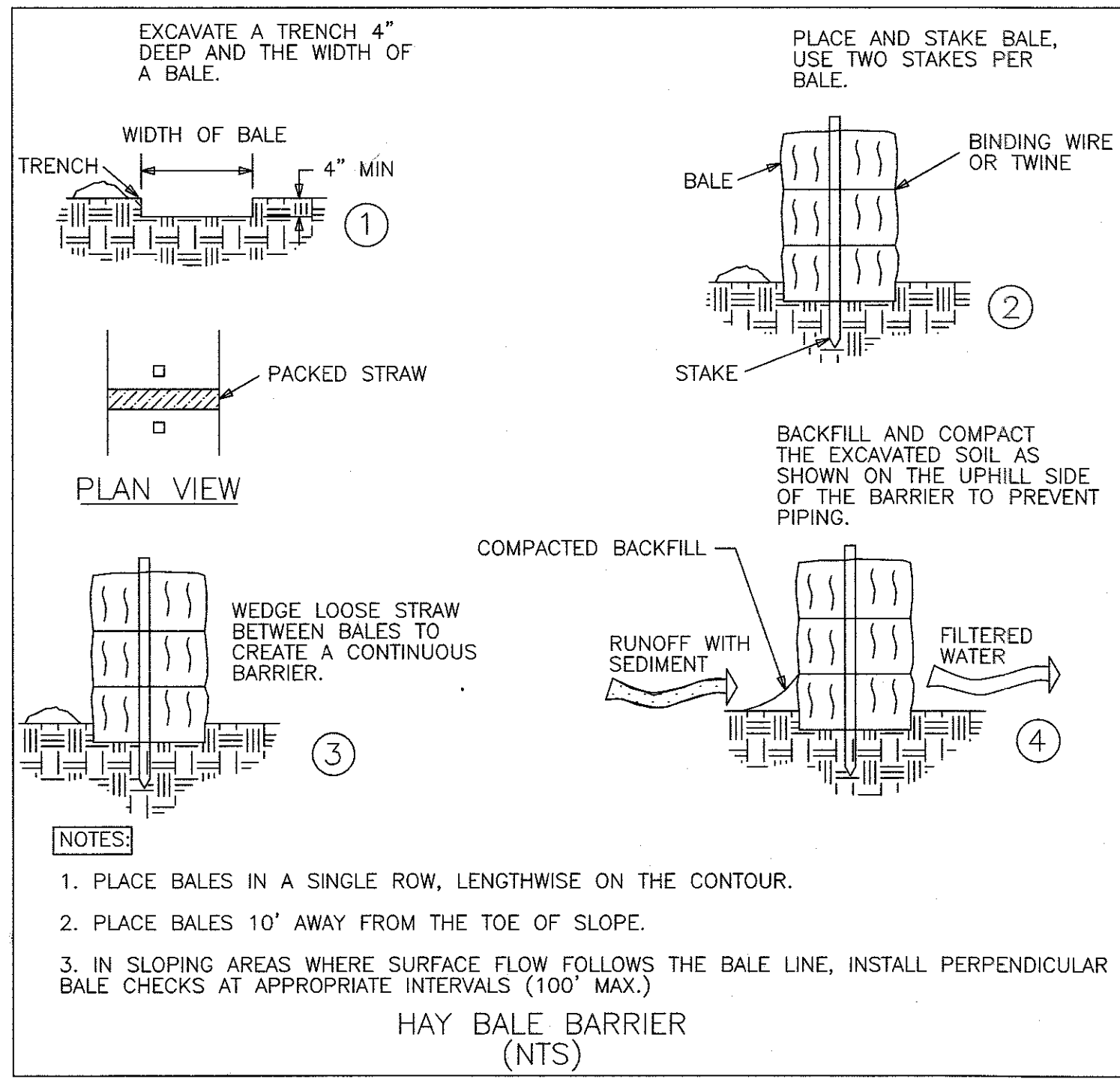
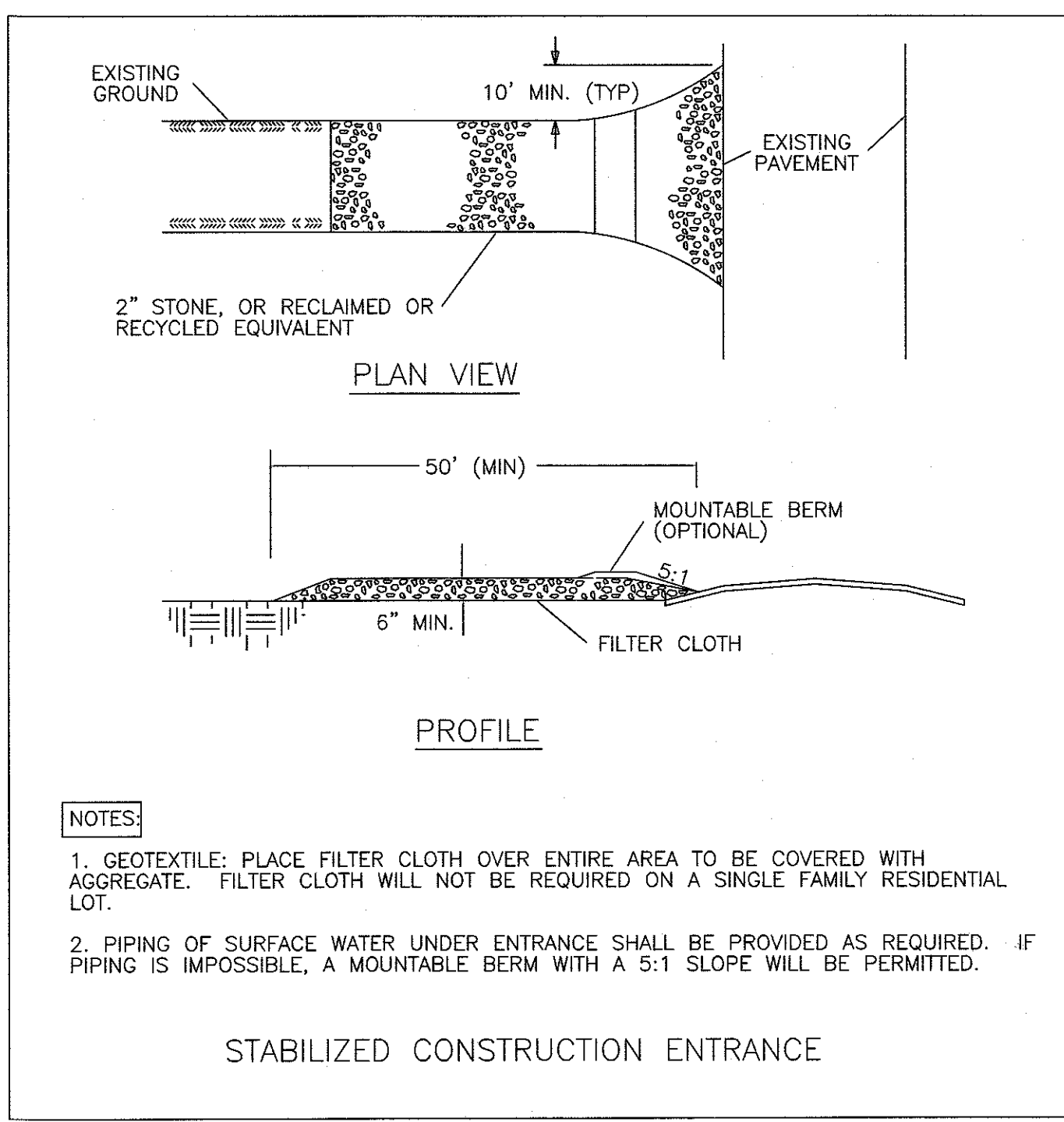
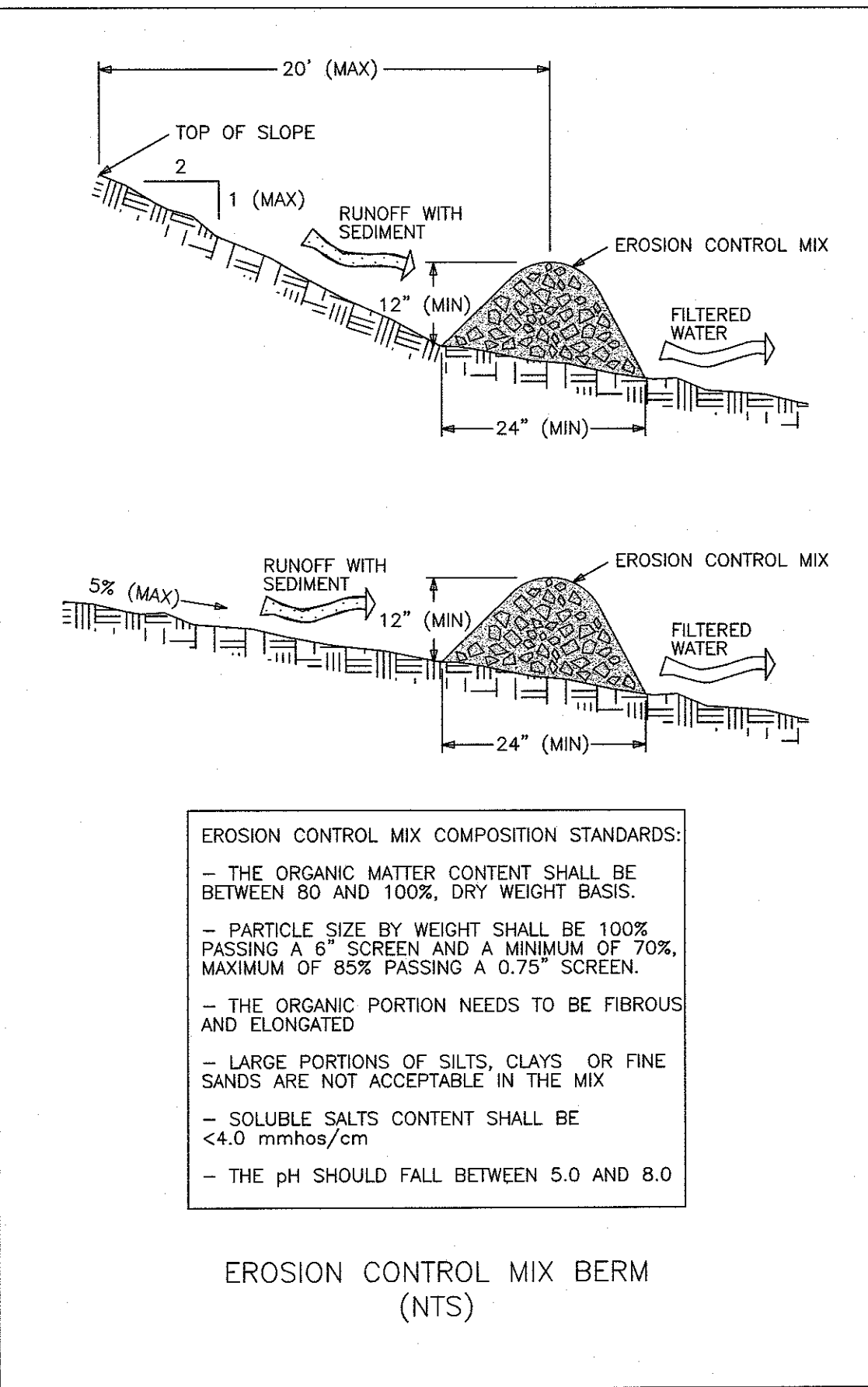
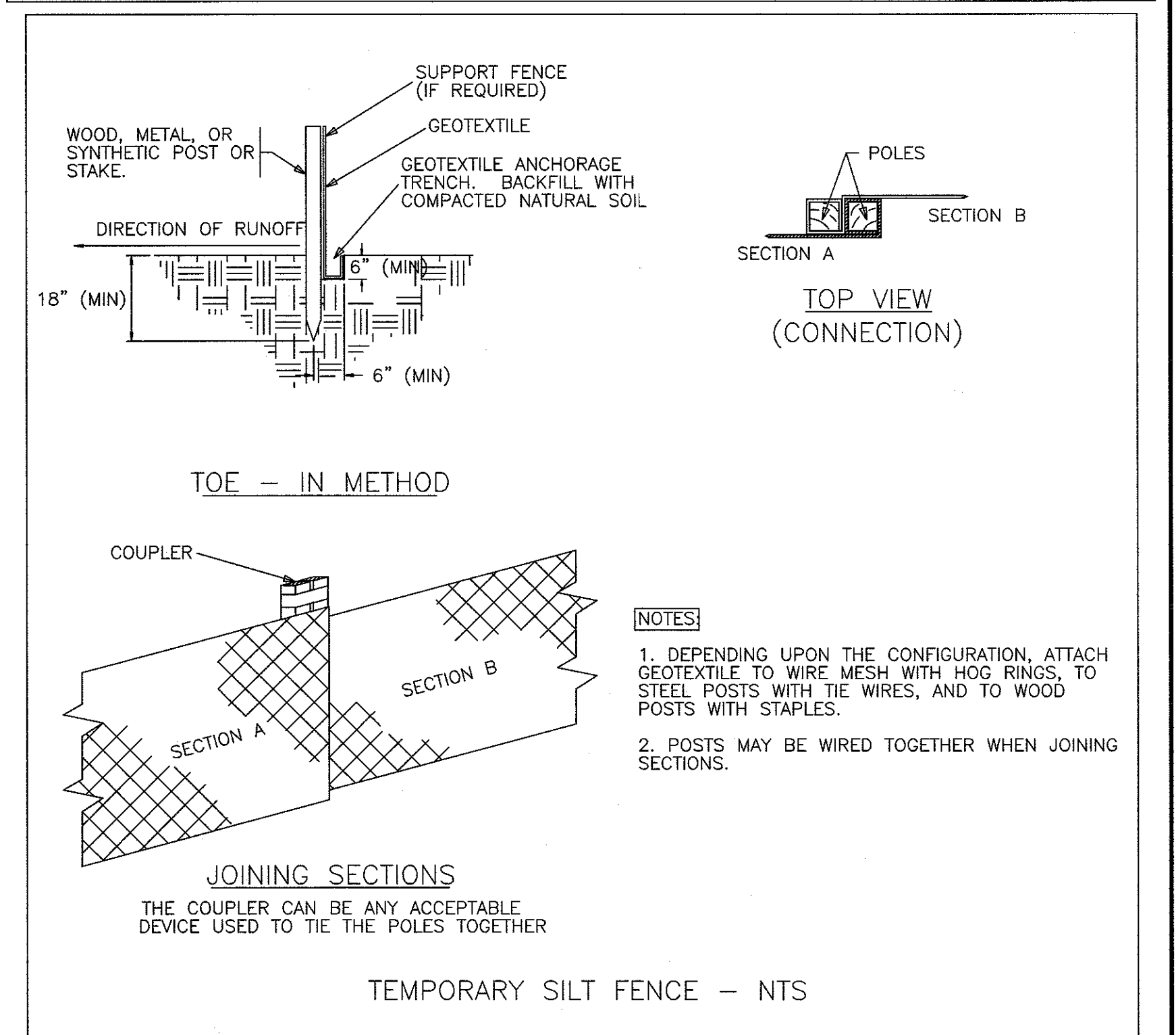
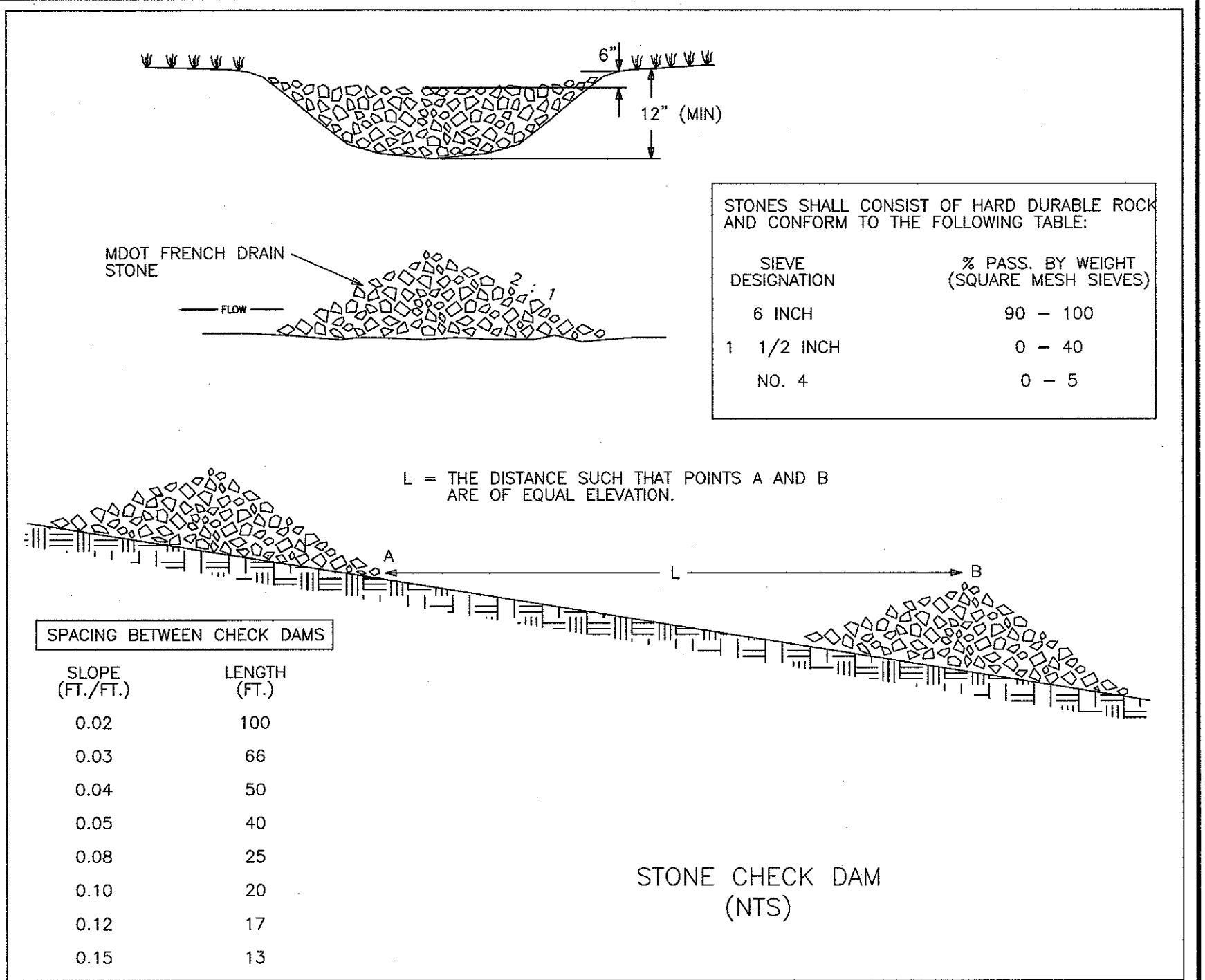
WINTER CONSTRUCTION NOTES

NOVEMBER 1 - APRIL 15

- AN AREA SHALL BE CONSIDERED STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH HAY AT A RATE OF 100 LB/1000 S.F. OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SO THAT THE SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.
- FROM OCTOBER 15 TO APRIL 1, LOAM AND SEED WILL NOT BE REQUIRED. DURING PERIODS OF TEMPERATURES ABOVE FREEZING, DISTURBED AREAS SHALL BE FINE GRADED AND PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL PERMANENT SEEDING CAN BE APPLIED. AFTER NOVEMBER 1, DISTURBED AREAS MAY BE LOAMED, FINE GRADED AND DORMANT SEEDED AT A RATE 200-300% HIGHER THAN THE SPECIFIED PERMANENT SEEDING RATE. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, DISTURBED AREAS SHALL BE GRADED BEFORE FREEZING AND TEMPORARILY STABILIZED WITH MULCH. DISTURBED AREAS SHALL NOT BE LEFT OVER THE WINTER OR FOR ANY OTHER EXTENDED PERIOD OF TIME UNLESS STABILIZED WITH MULCH.
- FROM NOVEMBER 1 TO APRIL 15 ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 3%, SLOPES EXPOSED TO DIRECT WINDS AND FOR SLOPES GREATER THAN 8%. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1, THE SAME APPLIES TO ALL SLOPES GREATER THAN 8%.
- SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
- FOR WINTER STABILIZATION, HAY MULCH SHALL BE APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE SHALL BE STABILIZED. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW.
- ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE SHALL BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.
- ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, SHALL BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE MDEP.
- MULCH NETTING SHALL BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON SUCH SLOPES.

E&S INSPECTION/MAINTENANCE DURING CONSTRUCTION

- INSPECTION AND CORRECTIVE ACTION. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A STORM EVENT (RAINFALL), AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.
- MAINTENANCE. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF ADDITIONAL BMPs OR SIGNIFICANT REPAIR OF BMPs ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
- DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPs THAT NEED MAINTENANCE, BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPs, NOTE IN THE LOG THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.



SITE DETAILS

INTEC AUTOMATION

TEN ROD RD, ROCHESTER, NH 03867

FOR: INTEC AUTOMATION

PO BOX 1653

ROCHESTER NH, 03867

ATTAR ENGINEERING, INC.

CIVIL ♦ STRUCTURAL ♦ MARINE

1284 STATE ROAD - ELIOT, MAINE 03903

PHONE: (207)439-6023 FAX: (207)439-2128

SCALE: 1" = 50'

DATE: 04/6/20

JOB NO: C164-20

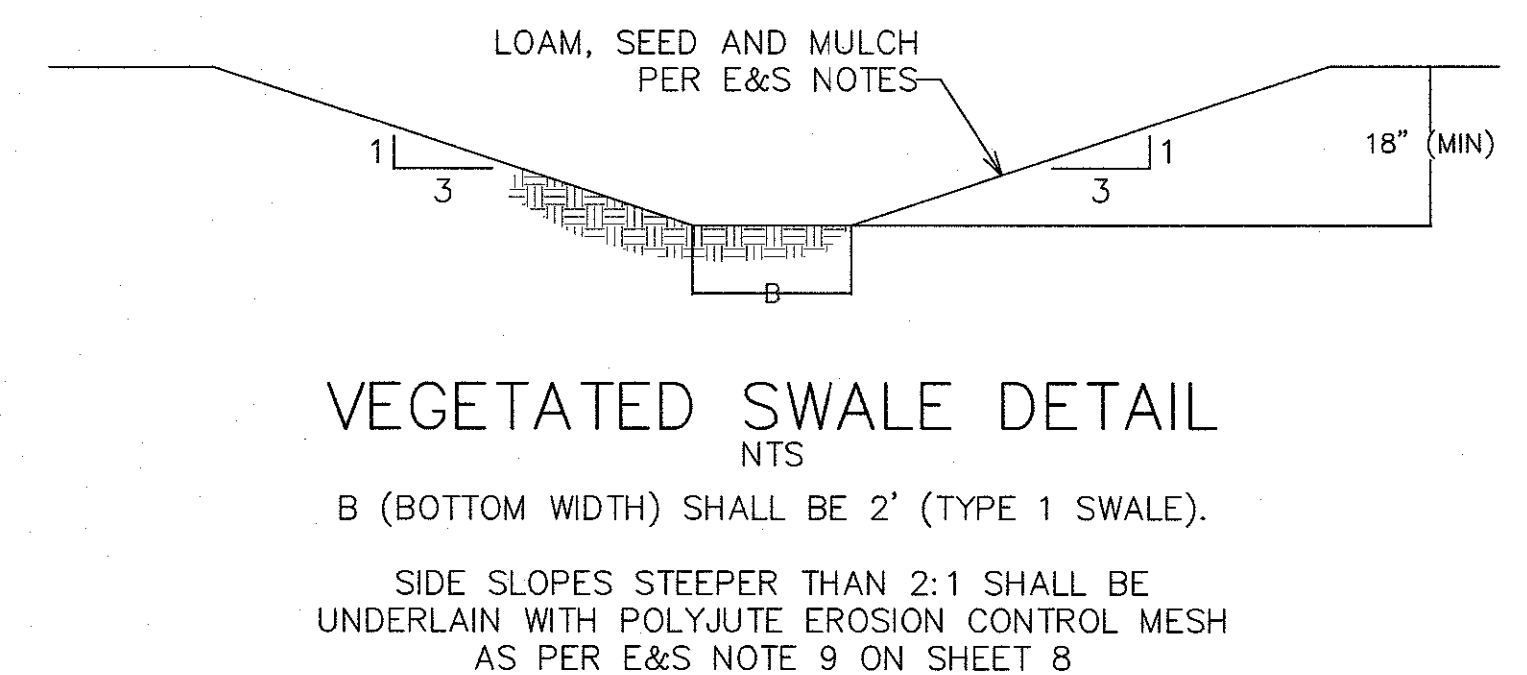
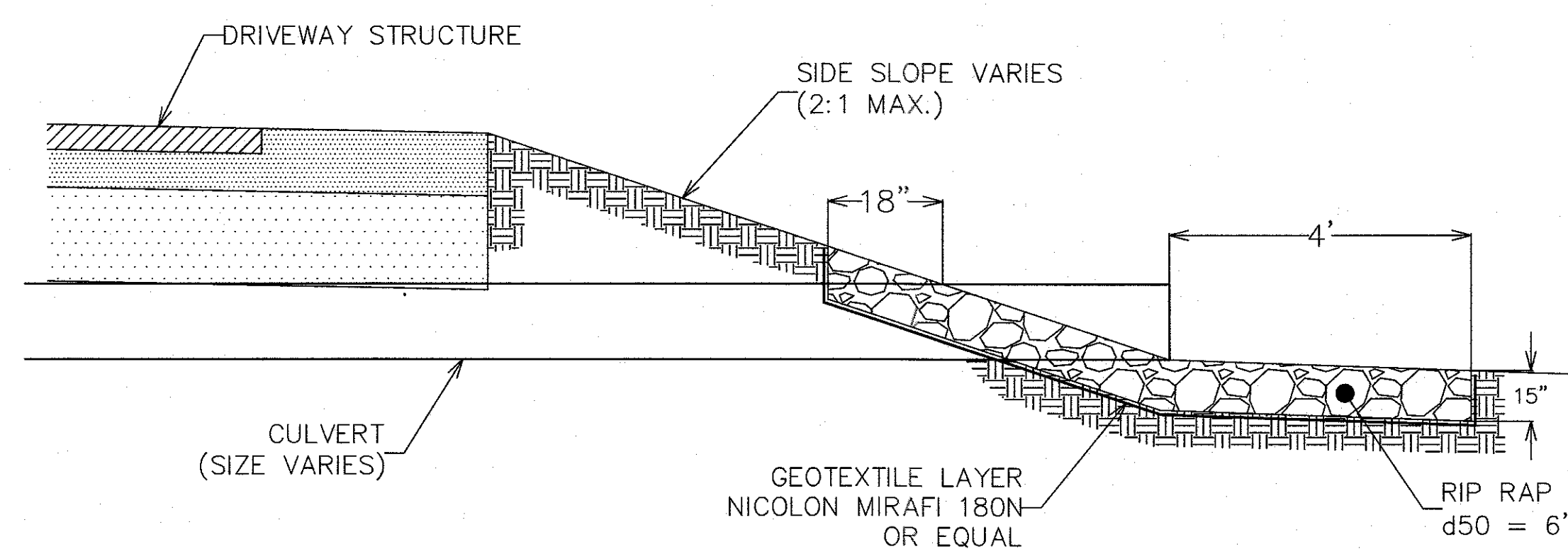
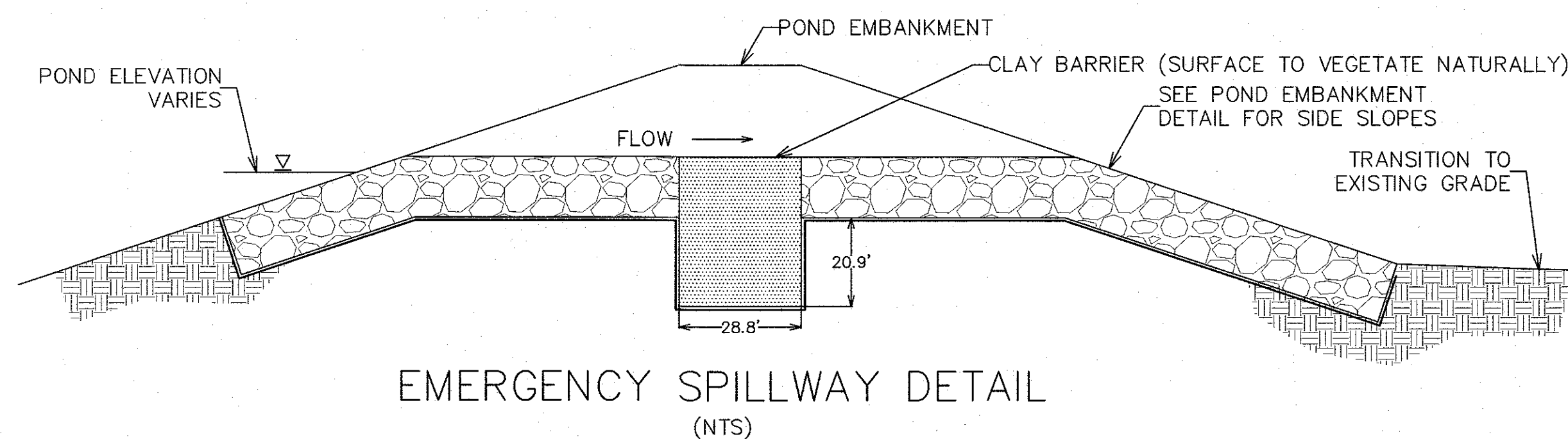
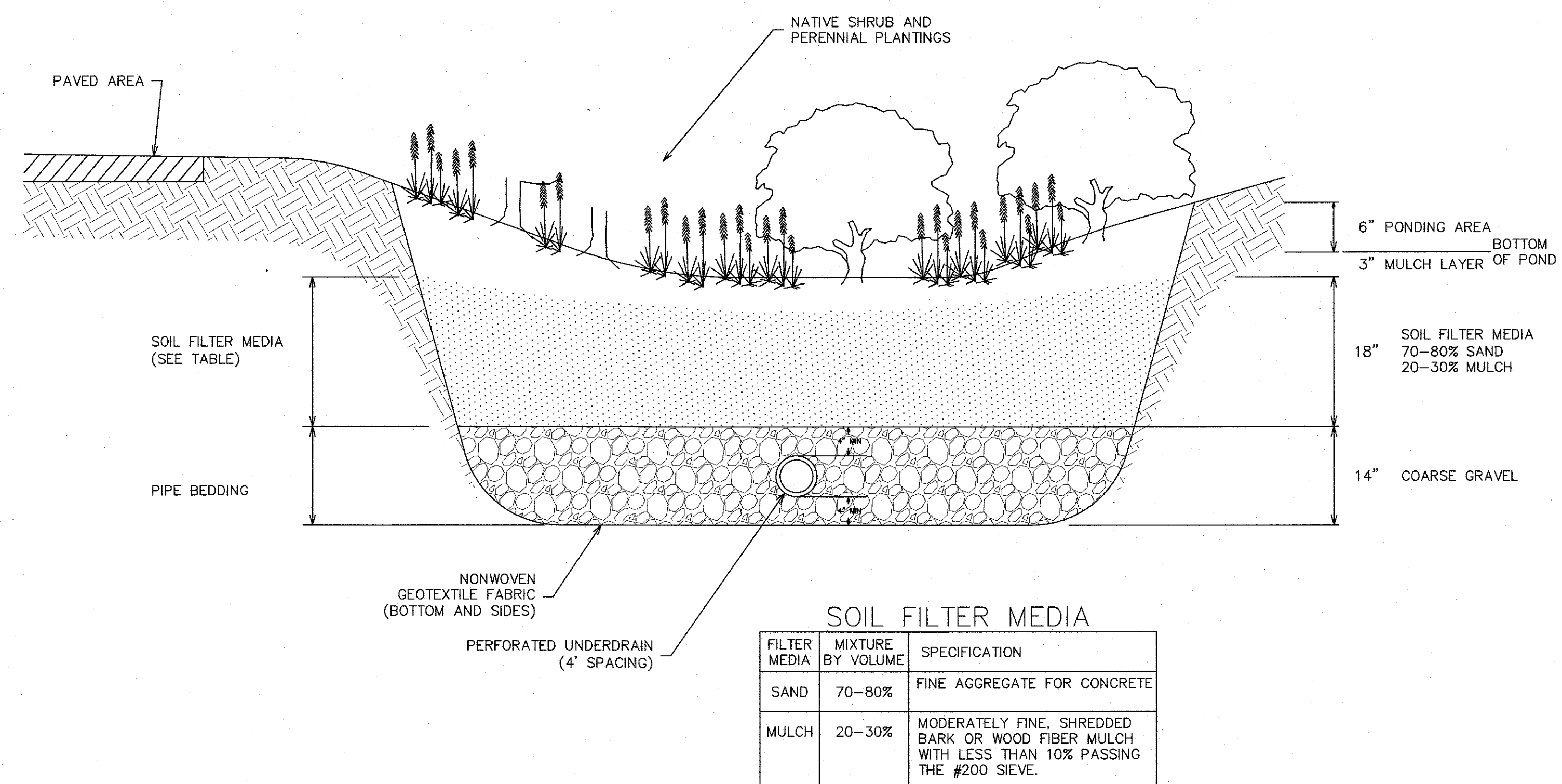
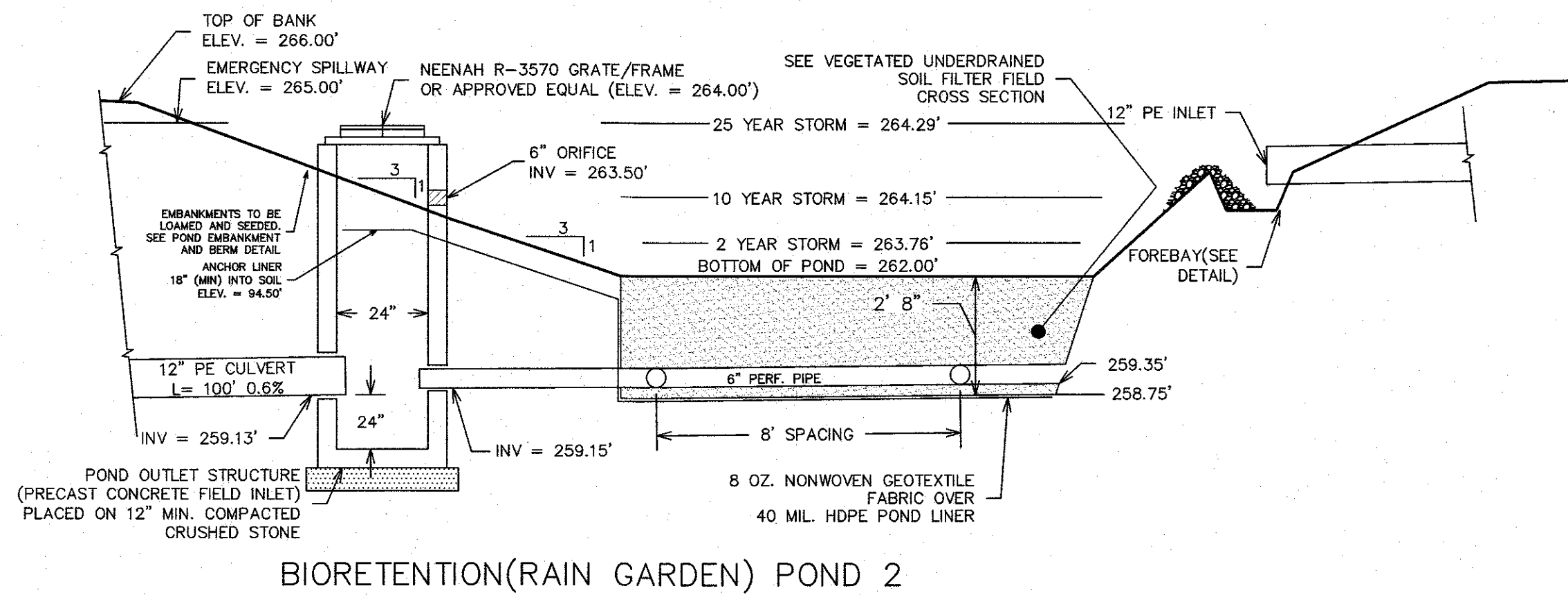
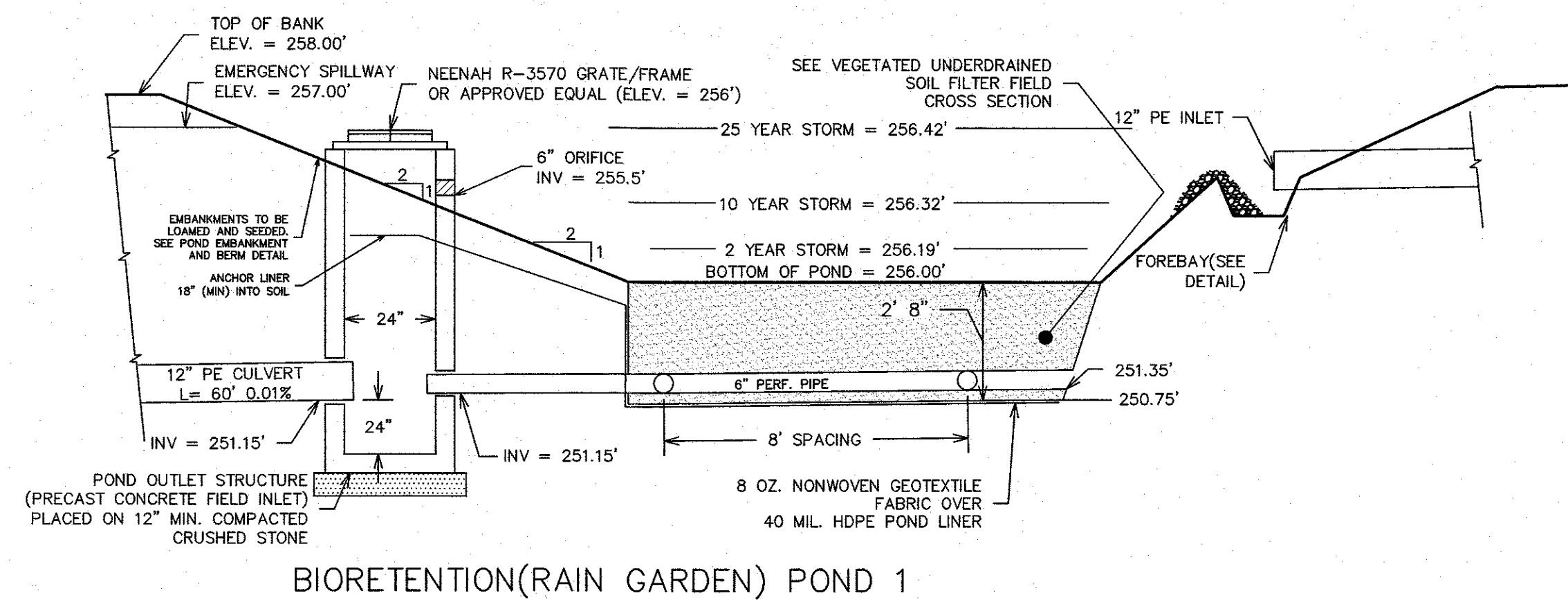
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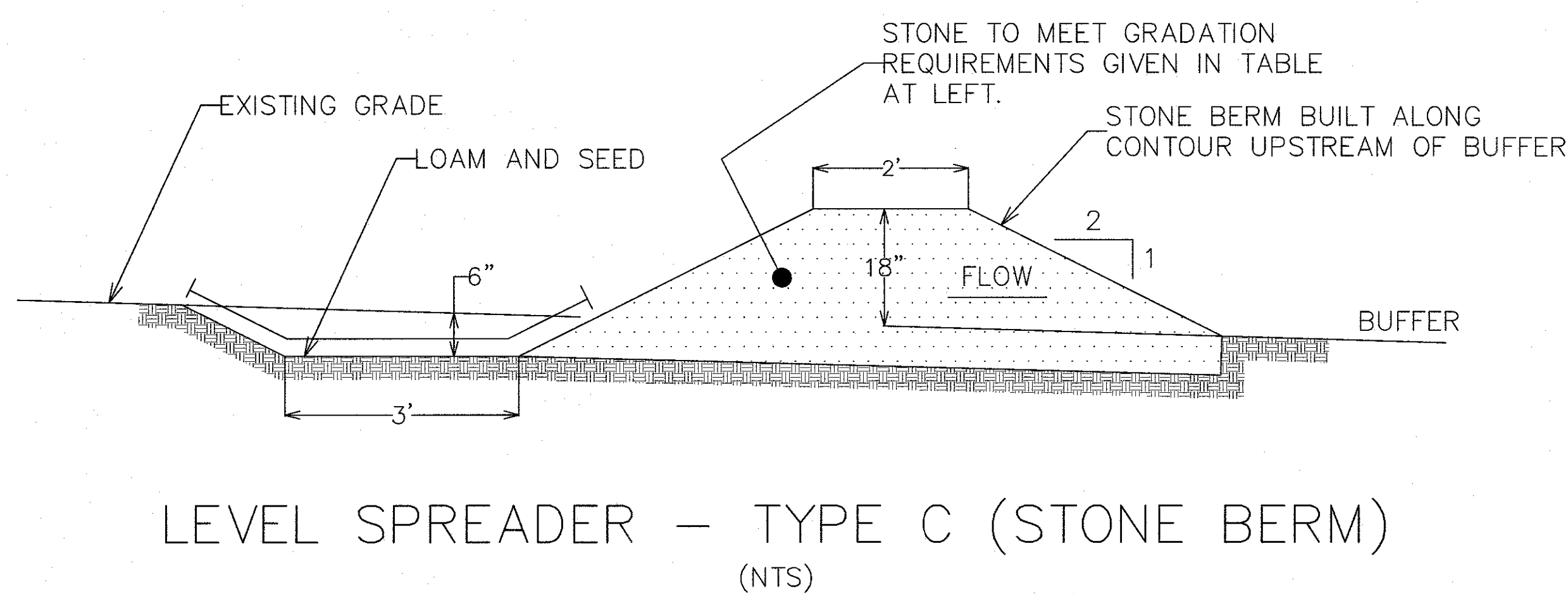
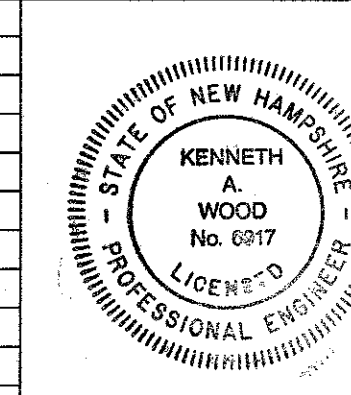
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SHEET: 7 OF 12



STONE GRADATION REQUIREMENTS		
SIEVE (METRIC)	SIEVE (US CUSTOMARY)	% PASSING (BY WEIGHT)
300 MM	12 IN	100
150 MM	6 IN	84-100
75 MM	3 IN	68-83
25.4 MM	1 IN	42-55
4.75 MM	No. 4	8-12

[illegible]

SITE DETAILS
INTEC AUTOMATION
TEN ROD RD, ROCHESTER, NH 03867

FOR:	INTEC AUTOMATION PO BOX 1653 ROCHESTER NH, 03867
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ATTAR ENGINEERING, INC.

CIVIL ♦ STRUCTURAL ♦ MARINE
1284 STATE ROAD — ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

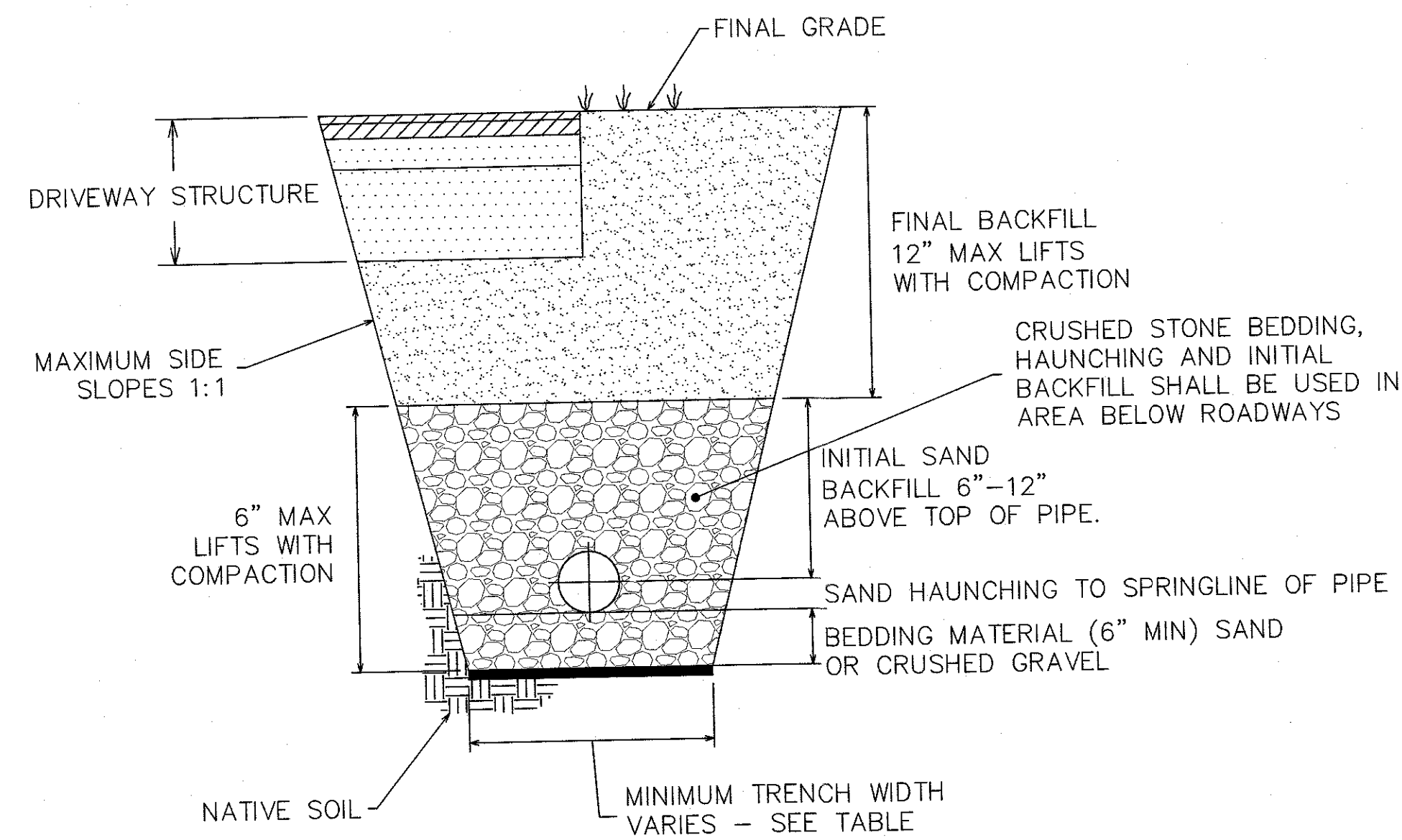
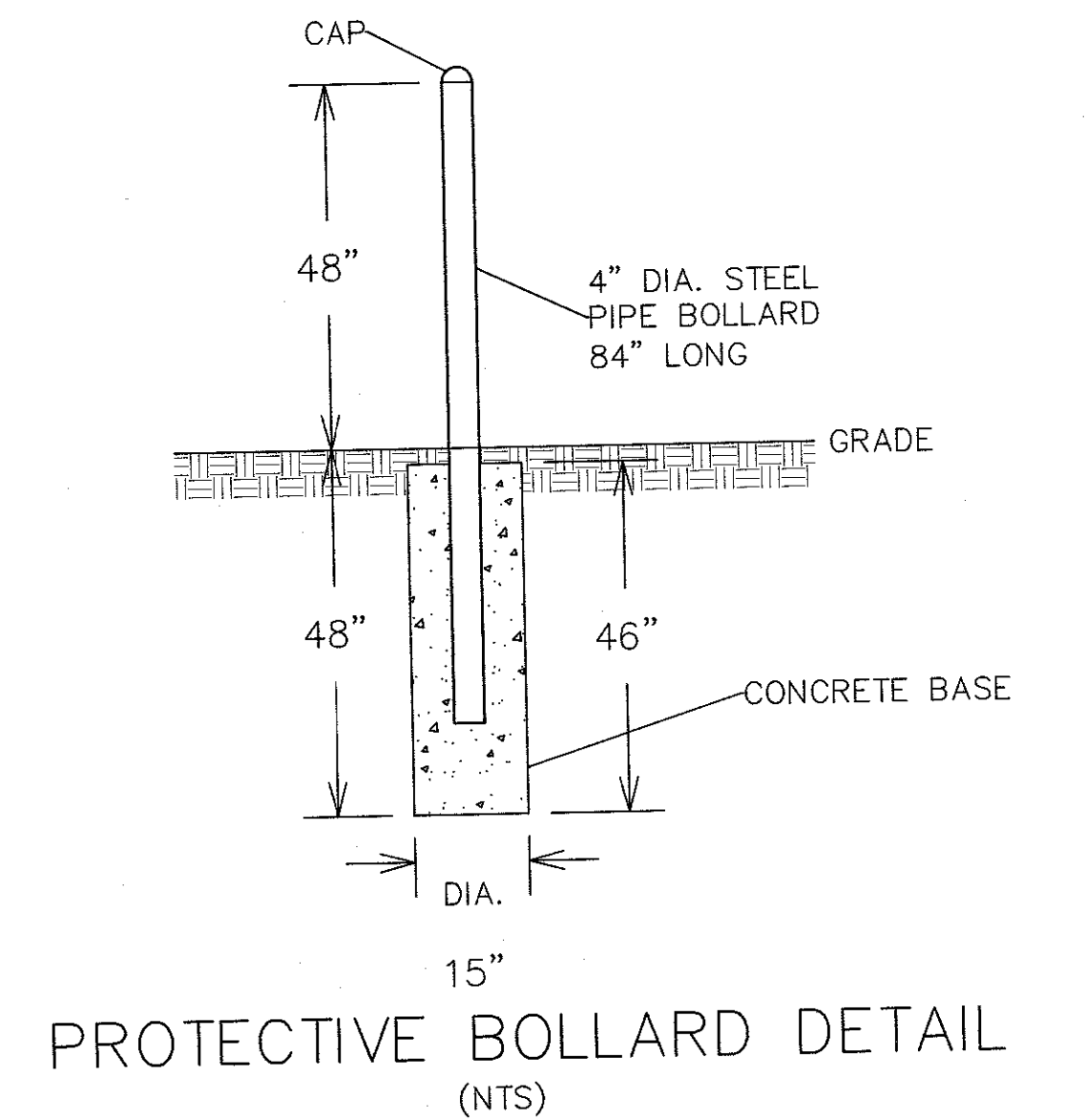
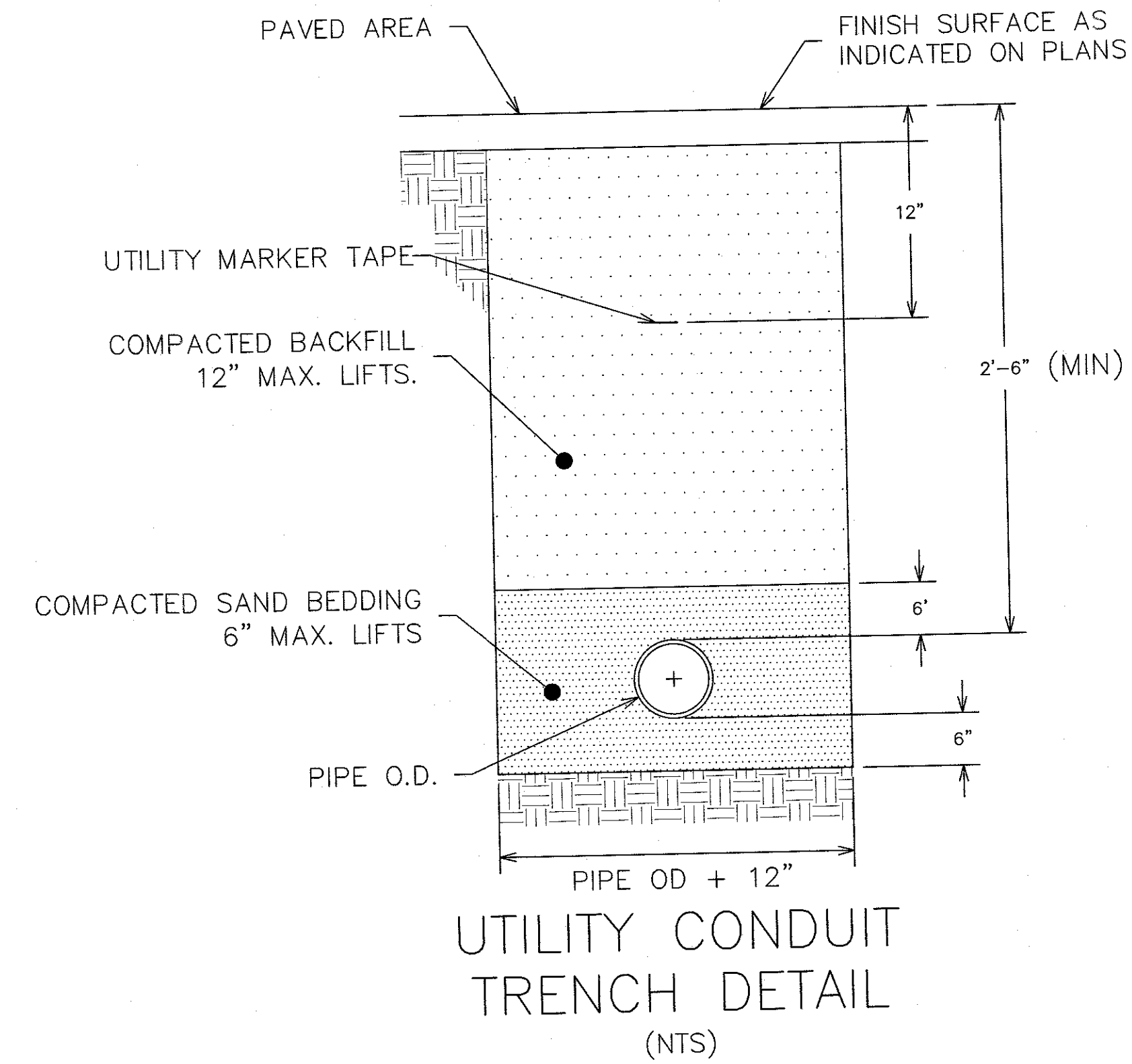
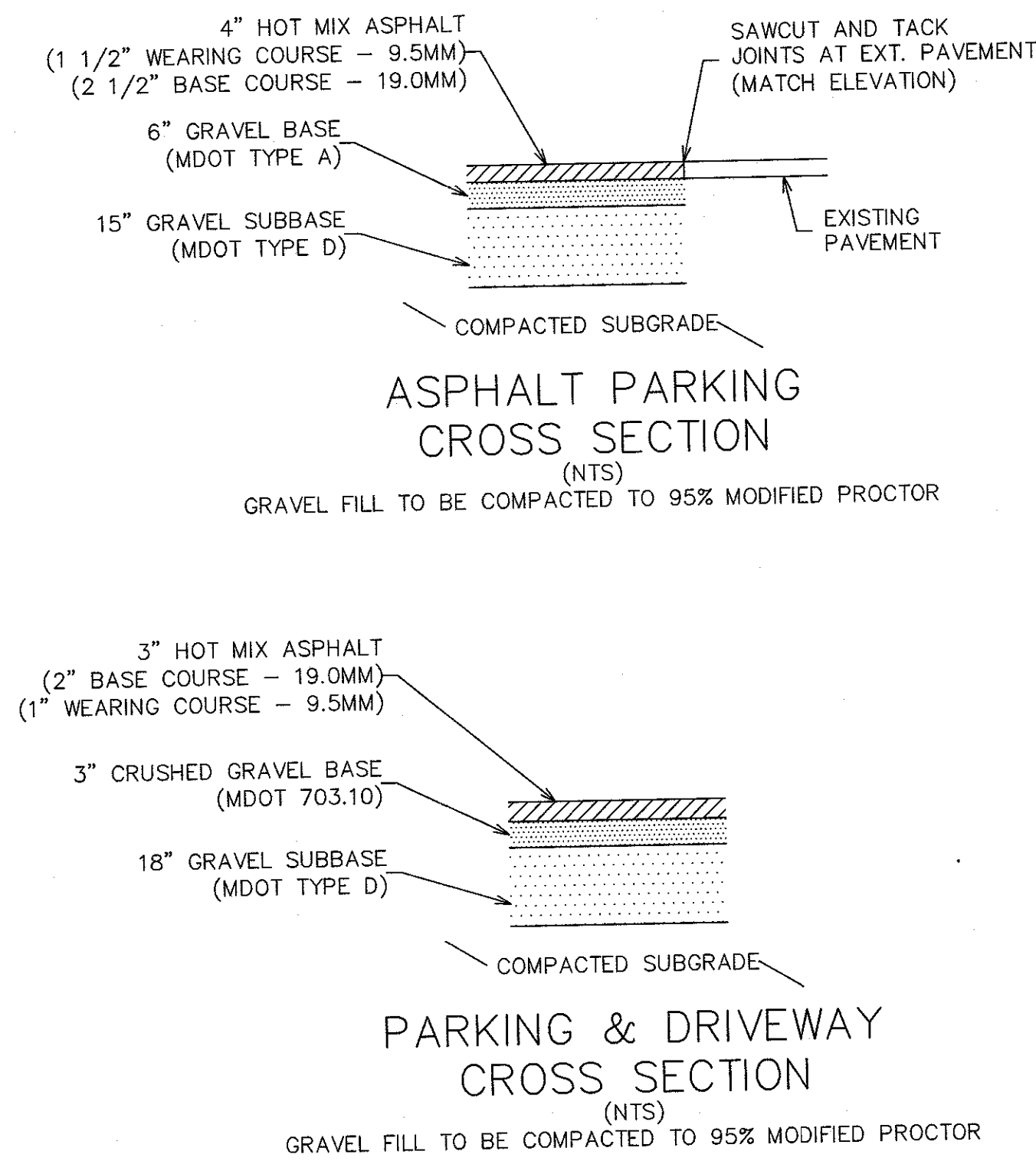
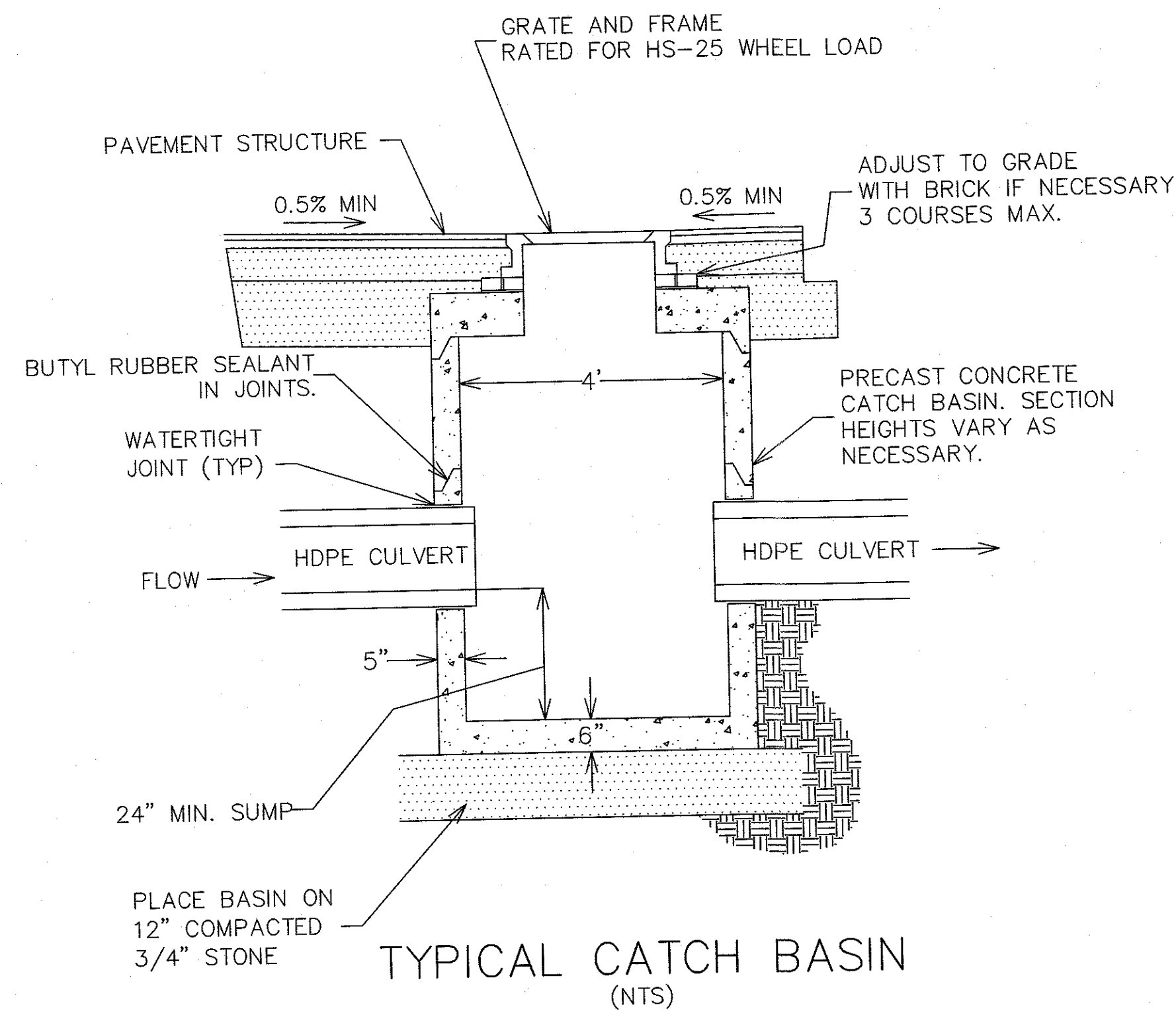
PHONE: (207) 439-8023 FAX: (207) 439-2128		
SCALE:	APPROVED BY:	DRAWN BY:

1" = 50' APPROVED BY:  DRAWN BY: NB

DATE: 1/6/2000	<i>[Signature]</i> 1/2/2003	REVISION D
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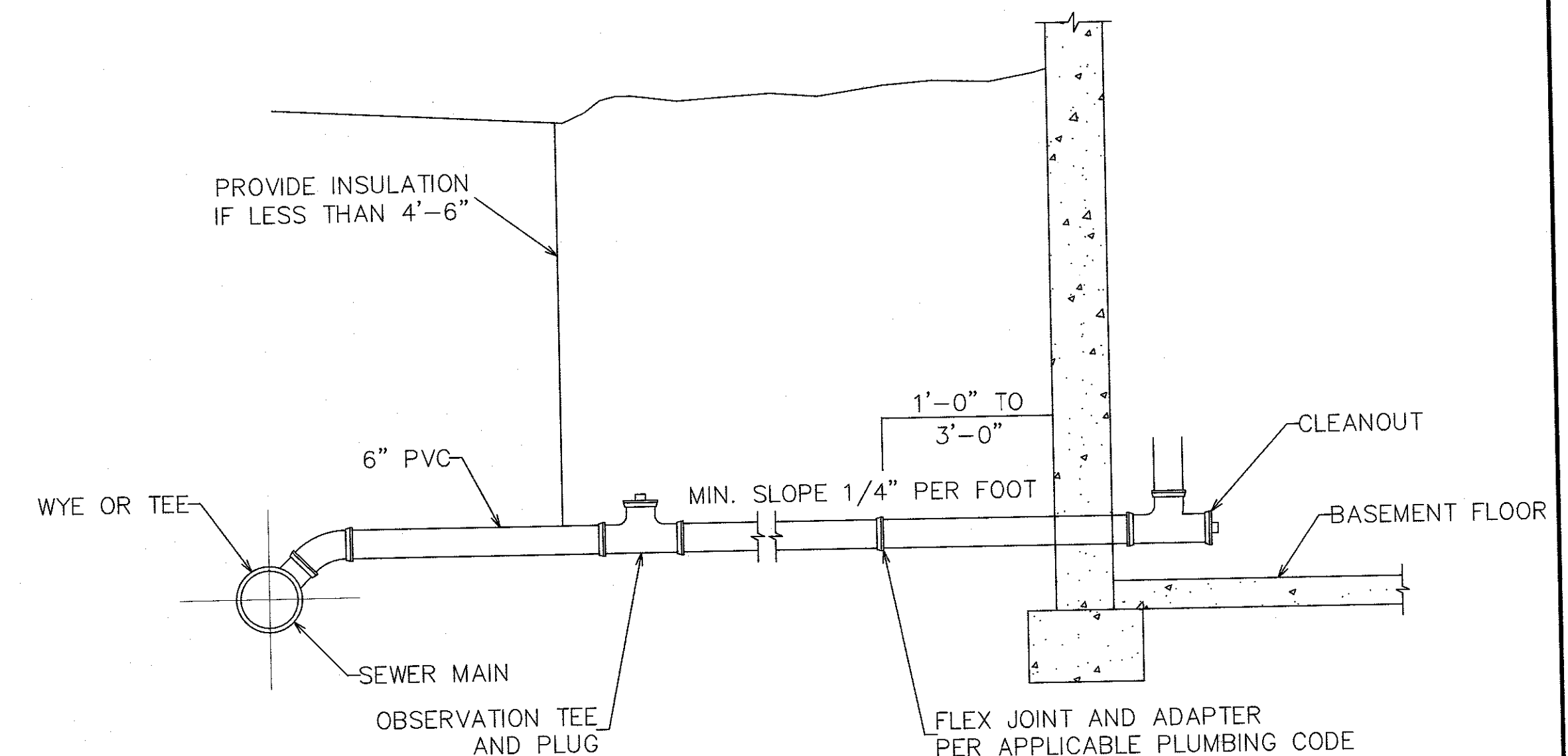
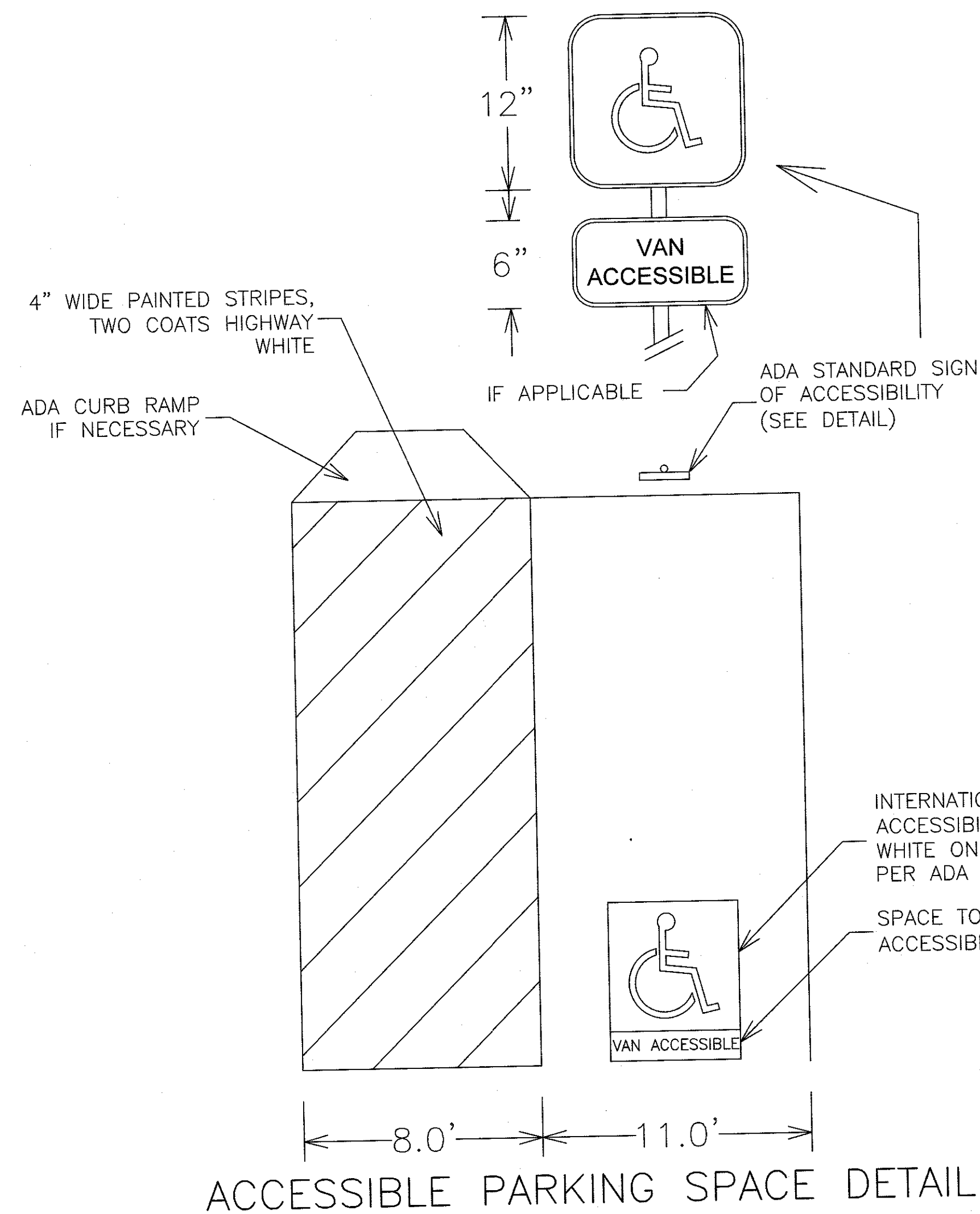
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HDPE CULVERT TRENCH DETAIL (NTS)

TRENCH TO BE SUPPORTED BY SLOPING BACK AT 2:1 OR OTHER ACCEPTABLE METHOD.

NOMINAL DIAMETER (IN)	MIN. TRENCH WIDTH (IN)
4	21
6	23
8	25
10	28
12	31
15	34
18	39
24	48
30	66
36	78
42	83
48	89
60	102

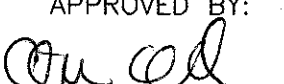


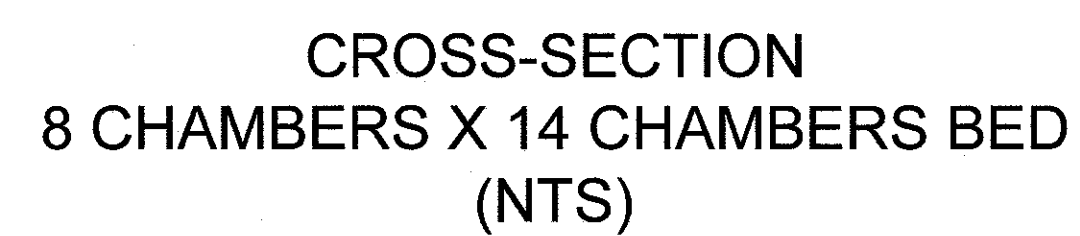
TYPICAL SERVICE CONNECTION AND BUILDING LATERAL DETAIL

SCALE: NTS
NOTE: HOUSE SEWER MAY BE LOCATED BENEATH BASEMENT FLOOR

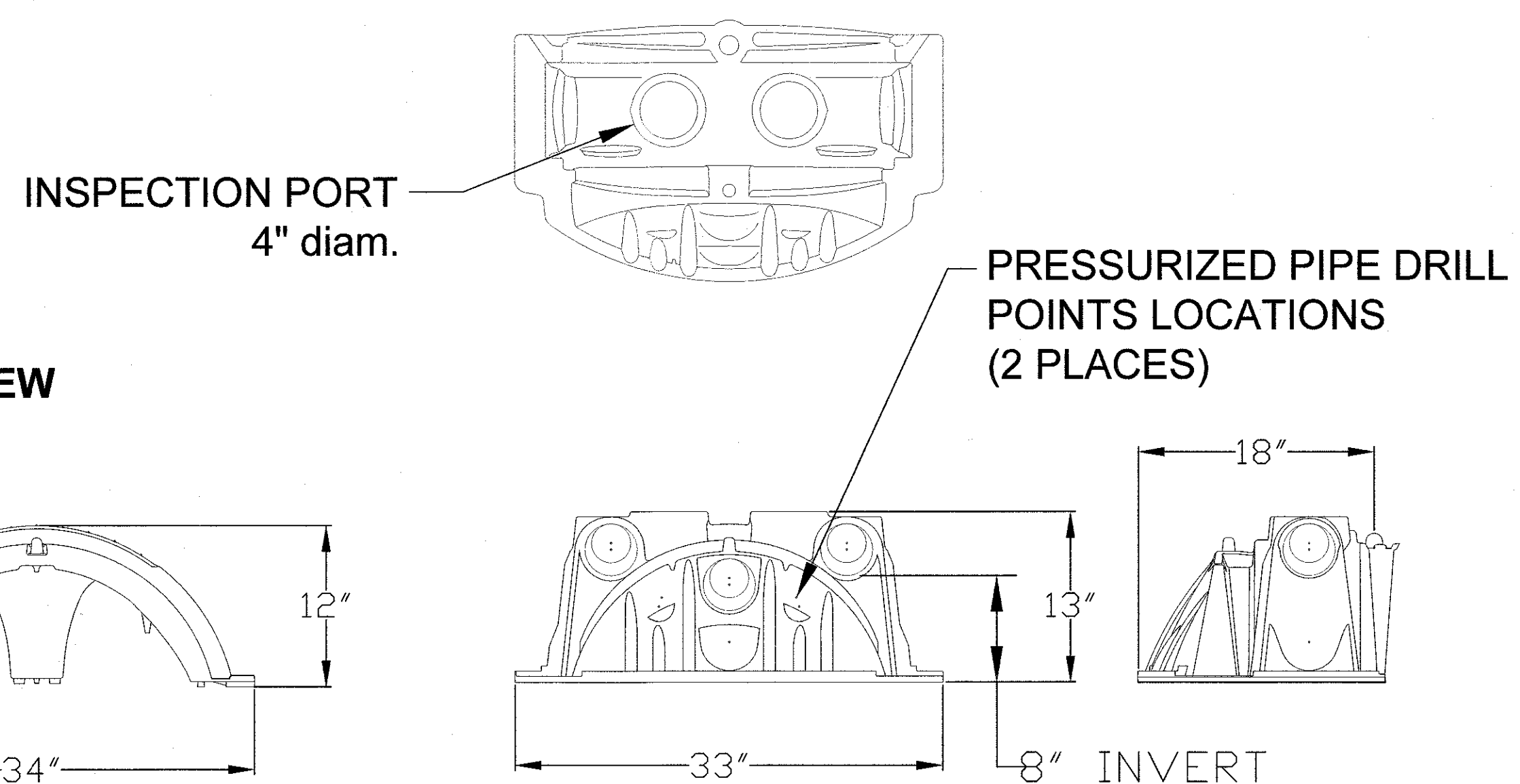
REVIEW PRINT-NOT FOR CONSTRUCTION

SITE DETAILS INTEC AUTOMATION TEN ROD RD, ROCHESTER, NH 03867 FOR: INTEC AUTOMATION PO BOX 1653 ROCHESTER NH, 03867 ATTAR ENGINEERING, INC. CIVIL • STRUCTURAL • MARINE 1284 STATE ROAD - ELIOT, MAINE 03905 PHONE: (207)439-6023 FAX: (207)439-2128		
SCALE: 1" = 50' DATE: 4/6/2020 JOB NO: C164-20	APPROVED BY: <i>[Signature]</i> REVISION DATE: - : - FILE: IRM_DET.DWG	DRAWN BY: NB SHEET: 9 OF 12

SITE DETAILS INTEC AUTOMATION TEN ROD RD, ROCHESTER, NH 03867		
FOR: INTEC AUTOMATION PO BOX 1653 ROCHESTER NH, 03867		
ATTAR ENGINEERING, INC. CIVIL ♦ STRUCTURAL ♦ MARINE 1284 STATE ROAD - ELIOT, MAINE 03903 PHONE: (207)439-6023 FAX: (207)439-2128		
SCALE: 1" = 50' DATE: 4/6/2020	APPROVED BY:  FILE: IRM_DET.DWG	DRAWN BY: NB REVISION DATE: - : - OF 17
JOB NO: C164-20	FILE: IRM_DET.DWG	SHEET: 10 OF 17



TOP VIEW



A cross-sectional diagram of a concrete curb and gutter assembly. The diagram shows a concrete curb on the left, a concrete gutter on the right, and a concrete slab in the center. The concrete slab is 6 inches thick and contains 6 x 6 welded wire with a minimum 2-inch cover. The concrete has a minimum strength of 4000 PSI. The gutter is 9 inches deep and is filled with gravel (MDOT Type A). The curb is 12 inches high and is also filled with gravel (MDOT Type D). The entire assembly is supported by a compacted subgrade.

Labels in the diagram include:

- 6 X 6 - W2.9 X W2.9 WELDED WIRE WITH 2" MINIMUM COVER
- 4000 PSI MINIMUM
- LOAM AND SEED
- 9" (MIN) GRAVEL BASE (MDOT TYPE A)
- 12" (MIN) GRAVEL SUBBASE (MDOT TYPE D)
- COMPACTED SUBGRADE

CONCRETE SIDEWALK DETAIL

Diagram illustrating the details of an ADA Curb Ramp (NTS) showing the transition from a sidewalk to a driveway.

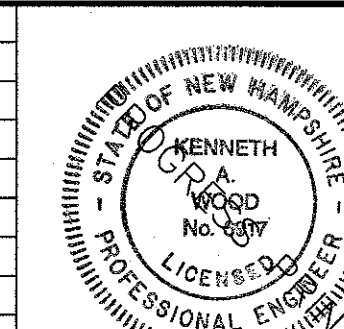
The diagram is divided into three main sections:

- Sidewalk:** The leftmost section, labeled "SIDEWALK". It has a maximum slope of 2.0% ("2.0% MAX SLOPE").
- Driveway:** The rightmost section, labeled "DRIVEWAY".
- ADA Curb Ramp (NTS):** The central section, labeled "ADA CURB RAMP (NTS)". It has a maximum slope of 8.3% ("8.3% MAX SLOPE").

Additional details include:

- A hatched pattern representing a detectable warning device, labeled "DETECTABLE WARNING DEVICE PER NHDOT SIDEWALK CURB RAMP DETAILS".
- A callout line pointing to the ramp area, labeled "8.3% MAX SLOPE".



REVIEW PRINT-NOT FOR CONSTRUCTION

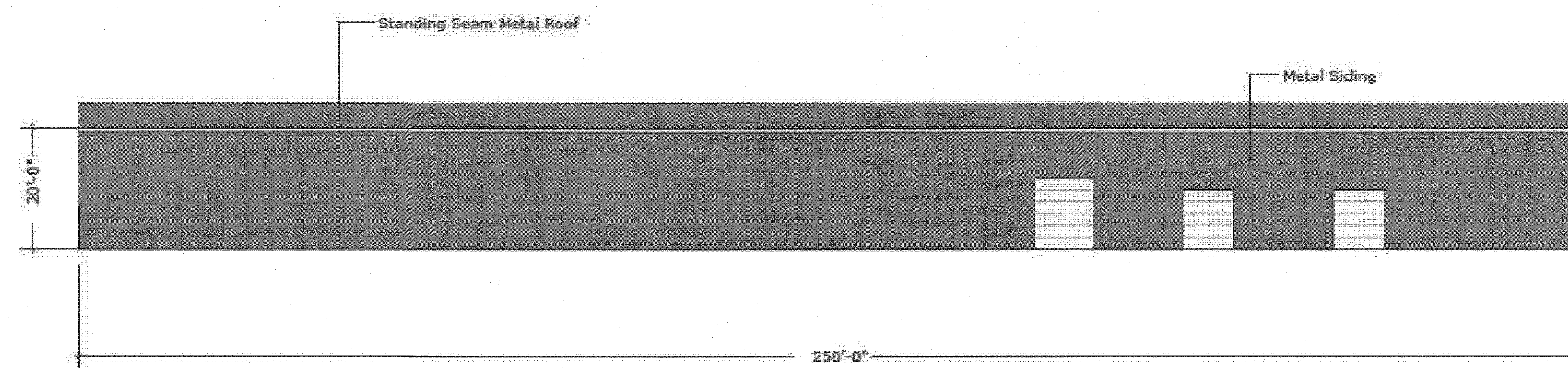
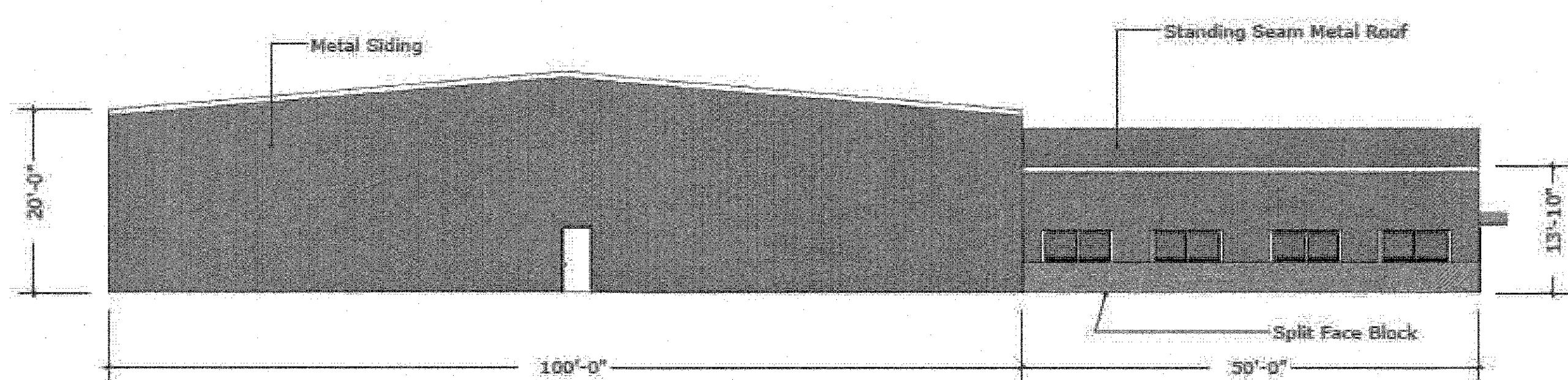
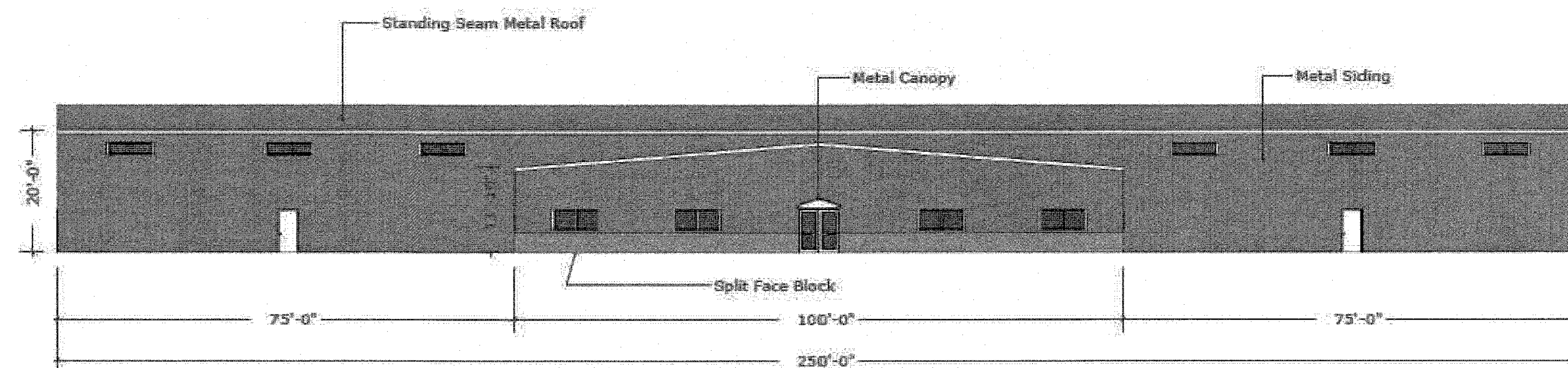
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SITE DETAILS
TEN ROD RD
ROCHESTER, NH 03867

FOR:	INTEC AUTOMATION PO BOX 1653 ROCHESTER NH, 03867
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ATTAR ENGINEERING, INC.
CIVIL ♦ STRUCTURAL ♦ MARINE
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

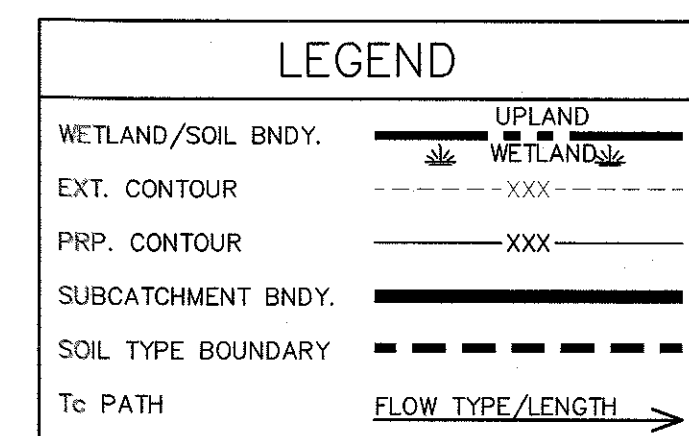
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DATE: 4/6/2020		REVISION DATE: - - -
JOB NO: C164-20	FILE: IRM_DET.DWG	SHEET: 11 OF 12



FREESTANDING SIGN
DISPLAY - DETAIL
(NTS)

TYPE OF CONSTRUCTION - TYPE V PROTECTED

[illegible]



SOILS LEGEND

Ch	-	HSG D
Cr	-	HSG B
Na	-	HSG D





FLOW TYPES

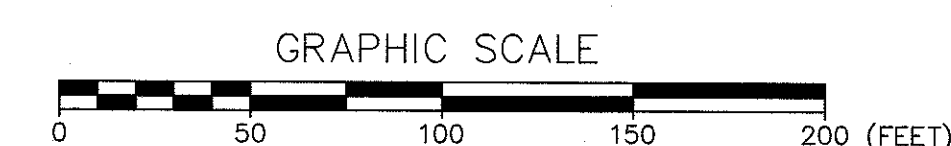
SF - SHEET FLOW

SCF - SHALLOW CONCENTRATED FLOW

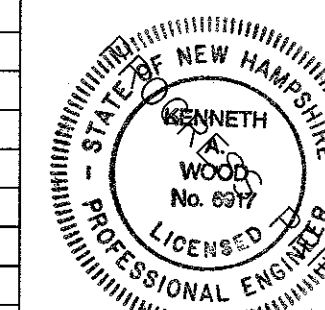
CF - CHANNEL FLOW

NOTE: ON-SITE SOILS INFORMATION IS TAKEN FROM THE YORK COUNTY SOIL SURVEY. ADDITIONAL SEE STORMWATER MANAGEMENT PLAN REPORT, ACCOMPANYING THIS PLAN, FOR MORE INFORMATION ON HYDROLOGIC SOIL GROUPS.

	SUBCATCHMENT
	REACH
	POND
	ANALYSIS POINT



REVIEW PRINT-NOT FOR CONSTRUCTION
TAX MAP 221, LOT 1

[illegible]

PROPOSED DRAINAGE AREAS & Tc's
INTEC AUTOMATION
TEN ROD RD, ROCHESTER, NH

FOR:	INTEC AUTOMATION INC. PO BOX 1653 ROCHESTER NH, 03867
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ATTAR ENGINEERING, INC

CIVIL ♦ STRUCTURAL ♦ MARINE
1284 STATE ROAD - ELIOT, MAINE 03903
PHONE: (207)439-6023 FAX: (207)439-2128

SCALE:
1" = 40'

DATE:
4/6/2020

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REVISION DATE:

JOB NO: C164-20

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SHEET: 2 OF 2