

Special Permit Application

For

SAMA Productions, LLC

A Marijuana Cultivation and Manufacturing Facility

For Property Located at

East Hubbard Road (aka Abby Road)
and Town Hill Road
Sandisfield, Massachusetts

Prepared by:



February 2021

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for
SAMA Productions LLC
Located At
Lot 8, Abby Road
Sandisfield, Massachusetts

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February 25, 2021

Brian O'Rourke, Chairman
Board of Selectmen
66 Sandisfield Road
P.O. Box 90
Sandisfield, MA 01255

RE: Special Permit Application
SAMA Productions, LLC
Lot 8-Abby Road
Sandisfield, Massachusetts

Dear Board Members;

Enclosed please find the required four (4) copies of a Special Permit prepared for SAMA Productions, LLC and property located at Lot 8 Abby Road. The property is a 46± acre parcel located along Abby Road with frontage on Town Hill Road. The property is adjacent to the Sandisfield State Forest which includes Abby Lake.

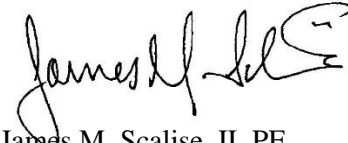
The application includes the construction of 100,000 square foot marijuana cultivation and a 5000 sf manufacturing building. A detailed project narrative along with supporting documents and project plans can be seen attached.

The Applicant requests a Special Permit from the Board of Selectman in Accordance with Section 3B #16 – Commercial Greenhouse per the Special Permit requirements under section 10 of the Zoning Bylaw.

We look forward to discussing the application with you. If you should have any questions or concerns, or require additional information, please do not hesitate to contact me.

Sincerely,

SK DESIGN GROUP, INC.



James M. Scalise, II, PE
President

Attachments

Cc: John Heck
Bill Heck
File

G:\SK DESIGN GROUP\2020\200181 Fulcrum-Town Hill Rd, Sandisfield-MJ Greenhouses\Documents\Word\SP\02 Cover Letter.docx

Special Permit Application/Form

TOWN OF SANDISFIELD

Commonwealth of Massachusetts

TO: Board of Selectman

CASE NO. _____
DATE: _____
(board use only)

I/We, the undersigned, hereby:

check one



Make application to the Board for a SPECIAL PERMIT under Section 3.16 of the Zoning Bylaws of the town of Sandisfield for the purpose(s) described below. (Attach a copy of all plans for any proposed construction involved.)



Petition the Board to vary the terms of Section _____ of the Zoning Bylaws of the town of Sandisfield so as to allow: (Describe in detail below the nature of the variance sought and attached plot plan and any construction plans involved.)



Appeal to the Board, under Section 7.21 of the Zoning Bylaws of the town of Sandisfield, for relief from the decision of _____, a copy of which is attached hereto.

PREMISES AFFECTED:

Address/Location Lot # 8 Abby Road.

Lot #8 Plan of Land surveyed for Franklin Woods Investments September 2020

Assessors's Map and Lot No: Portion of parcel 408-0-31

Record title stands in the name of: BOBRYK, PAUL ESTATE OF MIECZKOWSKI JAMES

Whose address is: 535 FISH ROCK RD SOUTHBURY, CT 06488-2131
Street City/Town Zip

by a deed duly registered in the Southern District, Berkshire County Registry of Deeds in Book 390 Page 398 or Registry of District Land Court, Cert. # _____ Book _____ Page _____.

Describe IN DETAIL below and on the reverse side hereof the nature of the Special Permit, ~~Variance~~, or ~~Relief~~ requested by this application.

The application is a special permit for a commercial greenhouses used to grow marijuana and the construction of 5,000 sf processing building for conversion of the raw plant material into retail products for wholesale distribution. The facility will not include any retail sales or interaction with the public of any kind.

The application is supported by the attached project narrative and documents. The application includes project plans meeting your special permit requirements

The proposed project includes the construction of a 100,000 square foot of cultivation in 23 greenhouses, and a 5,000 square foot manufacturing/conversion facility. The buildings are described as follows:

These greenhouses will be a semi-gable greenhouse structure. This is a steel column building that will be covered with an opaque material that will pass sunlight for natural light growth of plants while obscuring visibility. The proponent owns Hortitech Greenhouses. Hortitech has constructed or supplied thousands of similar facilities.

A new 50'x100' prefabricated steel building will be constructed along Abby Road. This building will contain offices, restrooms, a vault and drying space for product. Also, within this building will be a FlexLab C1D1 manufacturing extraction lab (by FlexMOD or similar manufacturer). This building will be connected to a private well. A private septic system will be designed and installed on-site. This building will be accessed by using Abby Road and the proposed site driveway. The driveway will lead to a proposed gravel parking containing (7) spaces. A dumpster enclosure will be located at the end of the parking area and will be emptied by a local rubbish hauling company. The material in the dumpster will not contain any marijuana or related marijuana products. Waste material from the cultivation facility. Further operational details are included and described in the supporting materials.

APPLICANT:

Signature: 

Name(Print):

John Heck

Address:

28 Priscilla Avenue

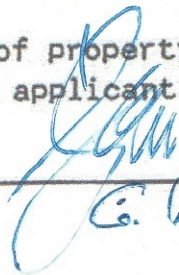
City/State/Zip:

Yonkers, N.Y. 10710

Telephone:

914-263-6627

Signature of property owner, if other than applicant:



C. William Heck

Do not write below this line.

Certification of Town Clerk:

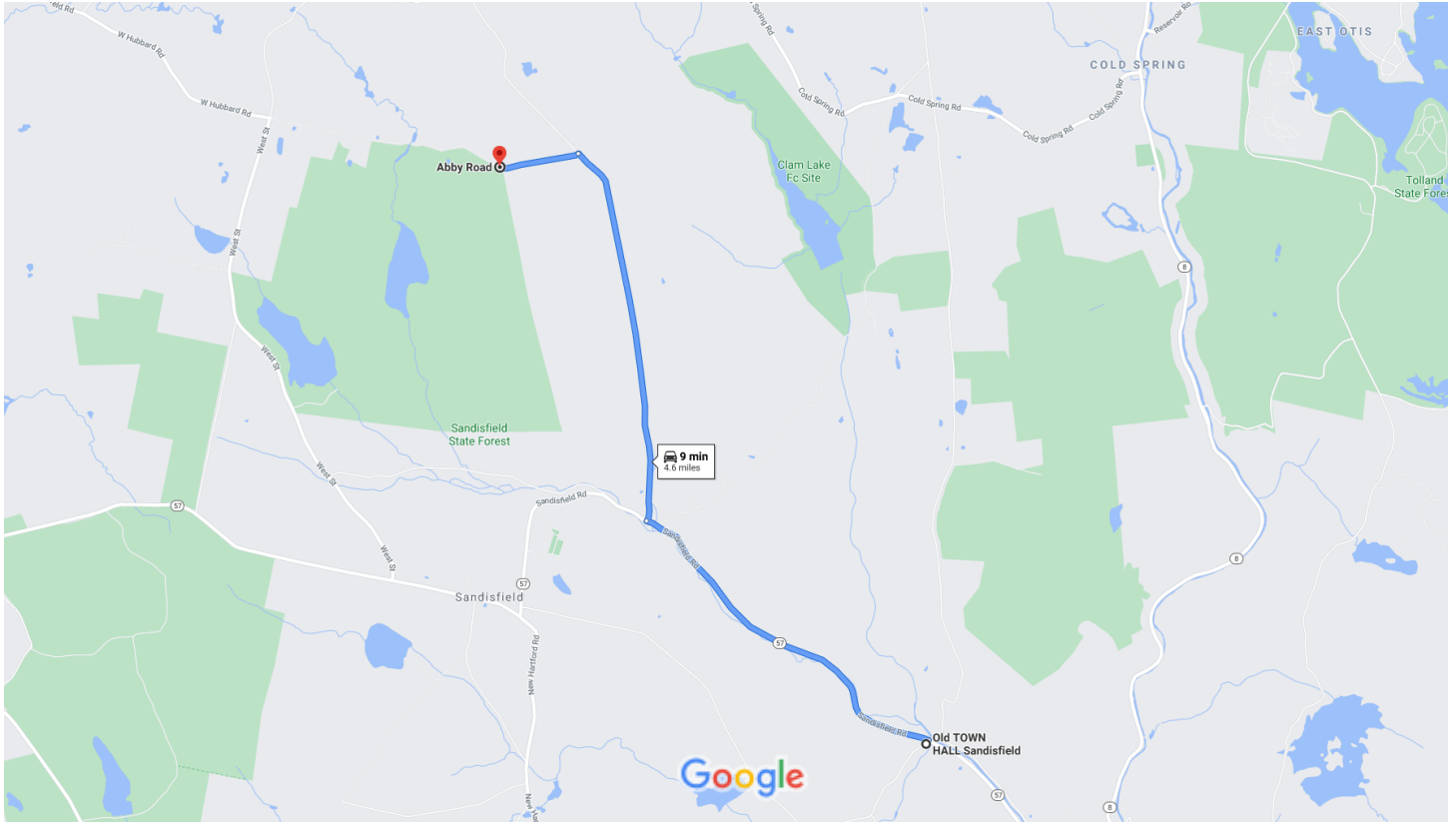
This is to certify that the foregoing application/petition/appeal was filed with office on _____ at _____
Date Time

SIGNATURE AND SEAL OF THE TOWN CLERK



Old TOWN HALL Sandisfield to Abby Rd, Sandisfield, MA 01255

Drive 4.6 miles, 9 min



Map data ©2021 2000 ft



via MA-57 W and Town Hill Rd
Fastest route

9 min
4.6 miles

Explore Abby Rd



Restaurants



Hotels



Gas stations



Parking Lots



More

IMPACT REPORT & PROJECT NARRATIVE
SPECIAL PERMIT APPLICATION AND SITE PLAN REVIEW

SAMA Productions, LLC
East Hubbard Road (Abby Road)
Sandisfield, MA

A. Project Overview

This Impact Report and Project Narrative has been prepared in support of a Special Permit Application for SAMA Productions, LLC and their development of a marijuana cultivation and manufacturing facility on property (Lot #8 on an attached survey) located at the intersection of East Hubbard Road (AKA Abby Road) and Town Hill Road in Sandisfield, Massachusetts. The application is submitted in accordance with the Town of Sandisfield Zoning By-laws for a commercial greenhouse use. No retail sales are proposed as a part of this application.

Site Description

The property contains 60 acres of land, Assessor's Lot #31, accessed by traveling west along Abby Road. The existing site is known as Town Hill and is a forested hillside. The entire development is located on lot #8 which includes 46 acres of land and is depicted on the attached survey found in attachment A.

The proposed project includes the construction of (23) green houses and a 5,000-sf pre-engineered processing building. The project also includes the construction of gravel driveways, with parking areas, grading, utilities, and stormwater infrastructure.

The site is accessed along Abby Road and unimproved town way. The application includes design for the improvement of Abby Road from Town Hill Road to the site driveway.

The site is undeveloped forest and identified as "Town Hill" on the Massachusetts GIS maps. The property is further defined as Lot-8 a plan of land surveyed for Franklin Woods Investments LLC in September 2020. The developed portion of the property is located 1100± feet, from the intersection of Town Hill Road and is abutted by land owned by the Commonwealth of Massachusetts to the west. The Applicant has purchased Lots 6 & 7 on the Survey Plan which abut the proposed development to the East. The limit of work is 500'± north of the southerly lot boundary.

The westerly portion of the Lot 8 includes a bordering vegetated wetland that has jurisdiction under the Wetland's Protection Act (310 CMR 10.00). An application is being prepared for review by the Sandisfield Conservation Commission in parallel to this application.

Zoning Districts

The whole area of the town is a single base zoning district. The following is a listing of the Dimensional Requirements per the Town of Sandisfield Zoning Regulations:

B. Table of Dimensional Requirements:

Dimensional Requirements	
Minimum Lot Size	1 acre
Frontage	200 feet
Minimum Lot Depth	150 feet
Front Setback	30 feet
Rear Setback	30 feet
Side Setback	30 feet

Notes:

- 1. Frontage shall be on a public road or right away*
- 2. The front setback shall be measured from the nearest point of the right-of-way line of the bounding street or road.*
- 3. The side and rear setbacks shall be measured from the property lines.*

The Table of Principal uses indicates “Commercial Greenhouses” are permitted by Special Permit. The town has an overlay district related to Floodplain, but the site is not located within a flood zone as illustrated on Figure #3.

Proposed Development

The proposed project includes the construction of a 100,000 square foot cultivation greenhouse and a 5,000 square foot manufacturing/conversion facility.

A new 50’x100’ prefabricated steel building will be constructed along Abby Road. This building will contain offices, restrooms, a vault and drying space for product. Also, within this building will be a FlexLab C1D1 manufacturing extraction lab (by FlexMOD or similar manufacturer). The preliminary building floor plan can be seen in Attachment B and information regarding the lab can be seen in Attachment C. This building will be connected to a private well. A private septic system will be designed and installed on-site. This building will be accessed by using Abby Road and the proposed site driveway. The driveway will lead to a proposed gravel parking containing (7) spaces. A dumpster enclosure will be located at the end of the parking area and will be emptied by a local rubbish hauling company. The material in the dumpster will not contain any marijuana or related marijuana products. Waste material from the cultivation facility will be as described later in this document.

The proposed cultivation fields will be constructed in several enclosed greenhouses, totaling approximately 100,000 square feet. These greenhouses will be a semi-gable greenhouse structure. This is a steel column building that will be covered with an opaque material that will pass sunlight for natural light growth of plants while obscuring visibility. The proponent owns Hortitech Greenhouses and has constructed or supplied thousands of similar facilities.

Inside each greenhouse will be a single layer of raised beds used for cultivation. The material used in the beds will be of a specialize formulated plant-based soil and compost imported to the site. The ground surface surrounding the bed will be gravel. Gravel access will be located around the perimeter of the project to allow for vehicle access to all greenhouses. These greenhouses will be self-sufficient and use “Dark Sky” lighting; therefore, the site will have little demand on lighting or other utilities. The greenhouses will be screened from Town Hill Road and the abutters by maintaining a generous forested buffer. The entire cultivation facility will be surrounded with a security fence, lighting and 24/7 video surveillance as required by the Massachusetts Cannabis Control Commission (CCC) and 935 CMR 500.

Irrigation for the plants will be done with drip line dispersal in conjunction with hand watering with hoses. This method is automated and uses the least amount of water necessary for the cultivation process.

Sama has engaged the services of Pyureco to neutralize any odors this is described in a detailed plan that can be seen in Attachment D.

Below is a timeline for operations for the facility. Since the plants will be grown with natural sunlight, the operation is dependent on the weather. The timeline may require adjustment due to weather fluctuations. A typical growing season is described as follows:

May-weather warms up for the season. A team of four people are on site doing prep work in and around the greenhouses. checking equipment, amending the soil beds with compost and other sources of fertilizer. Seeds are germinated in the smallest greenhouse, within 10 days they are about 6 inches tall and ready to transplant into two "medium" sized greenhouses.

June-plants are established in their 1-gallon pots in the medium sized greenhouses and are ready to be transplanted into the raised beds in the large greenhouses. This will require the help of ten people for a week to get everything planted in a timely manner. After planting, the full-time labor force drops back down to four people. Monthly delivery of one or two pallets of fertilizer/materials to be expected.

July-plants are well established in the raised beds. Daily plant maintenance such as pruning, scouting for bugs, topdressing fertilizer, plant support, etc. will happen with the four trained employees. Monthly delivery of one or two pallets of fertilizer/materials to be expected. In the small greenhouses, plants are strategically pollinated to produce a seed stock for the upcoming years.

August-plants are well established in the raised beds. Daily plant maintenance such as pruning, scouting for bugs, topdressing fertilizer, plant support, etc. will happen with the four trained employees. Monthly delivery of one or two pallets of fertilizer/materials to be expected. Towards the end of the month the plants will begin to go into their flowering stage.

September- Plants are all flowering, some varieties will be further along due to their quick flowering genetics- this helps us stagger the dates of our harvest, thus reliving pressure on the harvest crew, dry barn effectiveness, and also allows us to harvest at the exact time of maturity, not late or rushed. Monthly delivery of one or two pallets of fertilizer/materials to be expected.

October- Plants will omit their odor for their final few weeks of flowering. Harvesting will begin mid-month and run into the first week of November. A team of Ten people will come in to help harvest and will be staffed for about a month until all of the wet material is hung to dry and the dry material is stripped off the stem and transferred on site to the manufacturing license to be extracted into concentrate oils.

November- All plants are cut down and brought into the Steel building for drying. The team of ten people are still on site until mid-month. Extraction of concentrate oils has begun.

December/April-No plants are alive on site. All genetics are preserved through the seed stock created over the previous summer. Manufacturing of concentrate oils is being performed by the full-time team of four people. Wholesale shipments are going out as they are sold. At this point the product has been concentrated so far that the shipments going out would be a few gallon mason jars of oils. These shipments will be picked up by a third party, CCC authorized transport service in an unmarked "sprinter" van.

Waste from the facility will be managed as follows:

During the growing season (May-October), excess plant material will be removed from the greenhouses. Each day, fresh plant material will be deposited into the composting pits located within our secured growing area under video surveillance.

During the flowering period (Sept-Oct) the material will contain small buds with THC. At the end of each day the material deposited into the same composting pits and will be turned with the existing compost to render it unusable and undesirable to potential thieves.

Dry waste from the manufacturing process will be added to the compost pits as well. This material has been stripped of all usable THC through the extraction process.

Stormwater will be managed on-site. This application is supported by a separate stormwater design report that is attached here to for review. A stormwater analysis is included in Attachment E.

Security will be provided in accordance with state regulations in coordination with local officials. A security plan will be filed with the Sandisfield Chief of Police. Marijuana will be cultivated in greenhouses with opaque material, which obscures the visibility of the plants. However, they will not be a securable structure. A 6'-0" high privacy fence with privacy screen will be installed around the perimeter of the facility. Security will be reviewed at the meeting, however, due to safety concerns, will not be submitted since it is proprietary. The facility will be monitored by 24/7 video surveillance by (2) separate monitoring companies as required by 935 CMR 500.

Discontinuance

A Bond will be established to protect the town from a future abandonment of the facility. As per Cannabis Control Commission Regulations, SAMA will be posting a bond to cover the dismantling and destruction of any cannabis related materials.

B. Site Design/Zoning Compliance

The proposed marijuana cultivation and manufacturing facility is allowed by Special Permit from the Sandisfield Select Board in accordance with the Table of Permitted uses in the Zoning by-law. The proposed use is a “commercial greenhouse” use under the zoning By-law. The by-law does not specifically provide design criteria but does list required findings required by the SPGA.

- D. Prior to issuing a special permit, the SPGA shall determine that the proposed use:**
- 1. Is in compliance with all provisions and requirements of this Bylaw and in harmony with its general intent and purpose;**
 - 2. Is essential or desirable to the public convenience or welfare at the proposed location;**
 - 3. Will not be detrimental to adjacent uses or to the established or future character of the neighborhood;**
 - 4. Will not create undue traffic congestion or unduly impair pedestrian safety; and**
 - 5. Will not overload any public water, drainage or sewer system or any other municipal facility to such extent that the proposed use or any existing use in the immediate area of the Town will be unduly subjected to hazards affecting the public health, safety or general welfare.**

In support of the required findings the following narrative provides an outline description of the site plan and potential impacts and mitigation of impacts proposed at this location. The first step in the review process is typically the review of the site plan(s). A statewide criterion has been used to describe the attributes of a site plan review process.

The following aspects of the site plan are presented for review by the town. These features are depicted on the attached project engineering drawings as numbered below:

- * pedestrian and vehicular access to and egress from the site (1);
- * parking (2) and loading (3);
- * landscaping, screening, and buffers (4);
- * lighting (5);
- * signage (6);
- * stormwater management (7);
- * architectural style and scale (8);
- * water and wastewater systems (9);
- * refuse disposal (10).

Each Site Plan Review topic is supported by the written description and the project plans attached to this application and found in Attachemnt J.

Pedestrian and Vehicular Access To and Egress From the Site

Pedestrian access is not included or encouraged as the use does not include any participation by the public. Access to any part of the facility will be limited to licensed employees or registered guests ONLY. No other access from the public will be allowed. Further installation of pedestrian amenities including a sidewalk would increase the development footprint along Abby Road which is considered detrimental rather than an asset. Vehicular access is via Abby Road. Abby Road will be improved to a 16-18' travel width with a gravel subbase and crowned at 3'8"/foot.

Parking and Loading

The zoning by-law does not have specific parking requirements. The site design is based upon the Institute of Traffic Engineers (ITE) parking generation data. Parking Generation is a document prepared by the Institute of Transportation Engineers that summarizes a collection of parking demand data observations made all over the world by land use type. General Light industrial uses have parking generation based upon the number of employees. The average number of parking spaces required is 6.4 based upon ITE for 10 employees. The use has a maximum of 10 employees. The site plan has seven (7) parking spaces and room for additional parking spaces within the fenced work area. The project has adequate hard surface and thus parking at the conversion building is designed at the minimum. Typically, less parking is considered a positive design feature as the project will result in less runoff, heat island effect and have a reduced footprint overall.

Landscaping, Screening, and Buffers

The project site is surrounded by mature forest as the property is located adjacent to the state forest



and over 1000+ feet from Town Hill Road. The nearest abutter is across Abby Road (AKA East Hubbard Road). The property is undeveloped and has over 2,400 feet of frontage and may easily avoid proximity to the proposed development area. Further the project includes the planting of street trees along the frontage of Abby Road in front of the project development area. The applicant proposes trees at 30 feet on center to allow for future growth and a total of 10 street trees. The proposed tree species will be in keeping with native species observed in the nearby forest including Northern Red Oak, American Beech and Black Cherry. Fifteen-gallon container grown trees are the standard planting size used in parks, neighborhoods, and commercial areas. The diagram to the left illustrates the size of the proposed trees at planting. The survival rate is decreased when larger trees are planted. This size is recommended to have the best long-term result.

Lighting

The project includes a lighting design and a lighting plan. The proposed use is regulated by the state and thus includes required security lighting. The lighting is motion activated and, on a timer, to minimize impacts. The project will be dark unless an incident occurs which is expected to occur rarely if at all. The lighting design illustrates when fully lit the project will maintain the light within the confines of the development area and along the fence. A lighting plan is included herein and provides a foot-candle design for the proposed lighting fixture at this location. Specifications for the lights are also included. Refer to Attachment F.

Signage

A small sign is proposed for directional purposes only. The purpose is to direct deliveries and emergency vehicles to the site. The sign will have the facility name and the street number. The sign location will be placed along Town Hill Road frontage and will not be lit. The maximum area per sign face shall not exceed 15 square feet and will be placed perpendicular to the street on the proponent's property. The sign will meet the zoning by-law's requirements and will not require a special permit from the selectman. Further, Signage will be proposed in accordance with 935 CMR 500.00 and will include signs mounted to the privacy fence and building similar to "No Trespassing", "Restricted Access" "No Onsite Consumption of Marijuana". These signs will be no larger than 12"x18".

Stormwater Management

The project includes a detailed stormwater management study which will also be used to support an application to the Sandisfield Conservation Commission in addition to the Special Permit. The project meets the requirements of the Massachusetts Stormwater Management Policy. The report is included as Attachment E.

Architectural Style and Scale

The primary buildings are the greenhouses. The application includes 23 freestanding greenhouses. The greenhouses are metal frames and measure 30'150'± x 16 feet high. The sidewalls are 6 feet high. The second building is a pre-manufactured steel building. A Typical building is illustrated in the photograph below. The buildings will meet all requirements of the International Building Code (IBC) and the International Energy Code as amended by the Massachusetts Building Code.



Typical Greenhouse



*Typical pre-engineered building
(Final design will vary from photo)*

The pre-engineered building will be 50 x100 and will be less than 30 feet tall.

Water and wastewater systems

Water and wastewater are provided by private systems developed onsite. The facility will be served by an onsite septic system. This type of use is a low generator and will result in a system 18x50 on a mounded sand bed. The system will be constructed in accordance with 310 CMR 15.00 and be reviewed by the local Board of Health. The system will accept 300 gallons of water per day. The onsite domestic water system will be consistent with the sewer usage. The water usage is typically less than Title V design flows and thus an expected water use is expected at less than 200 gallons per day. Irrigation wells are not regulated by the Board of Health and may be required depending on upon the domestic supply well yields. Domestic use is less than 1 gallon per minute while irrigation flows will be higher. The water withdrawal is expected to be approximately one gallon per day to produce one pound of cured cannabis flower buds. This withdrawal rate is well below the need for a water management act permit which is the threshold

of high-water user. A description of the water management act permit, for reference, is provided below. The estimated water use at this facility per season is 1,250-2,000 gallons per day.

Since 1988, persons planning to withdraw water from ground or surface sources for purposes more than an annual average of 100,000 gallons per day or 9 million gallons in any three-month period must apply for a Water Management Act Permit. Withdrawers typically requiring a permit include public water suppliers, 18-hole golf courses, cranberry growers, ski areas, sand and gravel facilities, fish hatcheries, agricultural and industrial users. Withdrawers with a Water Management Registration do not need a permit if they do not increase withdrawals over their registered volumes or add any new withdrawal points to their system. A permit is not required for this project.

Refuse Disposal

All typical solid waste will be managed by a local waste hauler. This is trash generated in the office and considered typical trash or municipal solid waste. A dumpster for trash only will be in the parking area next to the metal building. Other wastes generated from the facility is composted onsite and reused for fertilizer. No waste from the marijuana plant will leave the facility without a chain of custody and proper tracking as mandated and regulated by the Massachusetts Cannabis Control Commission (MA CCC).

Special Permit Findings

The specific findings required by the Special Permti Granting Authority, as supported by the site plans and supporting documents, are outlined below:

- D. Prior to issuing a special permit, the SPGA shall determine that the proposed use:**
 - 1. Is in compliance with all provisions and requirements of this Bylaw and in harmony with its general intent and purpose;**

The purpose of the by-law is to protect the health, safety, and general welfare of the inhabitants of the Town of Sandisfield and provide the Town of Sandisfield all the protections authorized by the General laws of the Commonwealth of Massachusetts, Chapter 40A and any amendments thereunder. This is related to existing and proposed land uses. The initial statement of fact is the proposed use is listed as a permitted use. Commercial greenhouses inherently are not objectionable. While certain aspects may require study or review, the primary use is not objectionable which is established by its listing as a permitted use. Zoning By-laws are prohibitive by nature and thus simply omitting the proposed use from the by-law would have prohibited this application altogether. The remaining Special Permit findings provide further insight into the intent of the Town as it relates to the Special permit uses and the criteria by which they are judged.

2. Is essential or desirable to the public convenience or welfare at the proposed location;

The proposed parcel is remote and is surrounded by other properties owned by SAMA and the state forest. The property will not be visible from the public way and maintains a respectable distance from wetlands and Town Hill Road. The use is low intensity and provides benefits to the town.

The proponent will create job and career opportunities. SAMA will be hiring an initial full-time staff of approximately four employees and additional part-time staff, creating an estimated \$300,000 of new payroll and benefits per year.

The proponent has entered into a Host Community Agreement (“HCA”) with the Town which shall set forth the percentage the Town will earn from sales of products. In addition, SAMA will be contributing to the Town via property taxes. SAMA will create revenues to the Town in accordance with the HCA all while having little impact on Town resources.

3. Will not be detrimental to adjacent uses or to the established or future character of the neighborhood;

The proposed development has been placed on an undeveloped portion of a 46+ acre parcel adjacent to protected wetlands and a state protected forest. Further, the use is located along an unimproved town road (Abby Road) approximately 1000± feet from Town Hill Road. The nearest residence is located easterly over 800 feet while the setback from property lines throughout the town is 30 feet from property lines. The proposed use is not detrimental to the neighborhood as it is remote from the nearest occupancy of any kind and the nearest properties are owned by the applicant including Lots 6 & 7 as found on the survey plan.

4. Will not create undue traffic congestion or unduly impair pedestrian safety;

Currently the undeveloped property includes 46 acres of land along Abby Road. The baseline traffic assumption for this property is a single-family residential use of the land which is by-right under the zoning bylaw. The lot configuration, area and frontage would support five (5) building lots.

The Institute of Transportation Engineers (ITE) Trip Generation Manual includes data for the trip generation rates for single family houses.

USE	# of Units	A.M. Per Hour	P.M. Per Hour	Weekday Daily Trips	Weekend Peak Hour	Weekend Daily Trips
Single-Family House	5	15.62	7.7	66.7	13.2	62.6

Proposed Project

The proposed project is a 105,000 SF cannabis grow and processing facility. The ITE Manual does not include data for cannabis facilities. The number of employees is low due to automation of processes. Deliveries are expected to be 1 or 2 per day with deliveries not expected every day. Further, the onsite parking at the process building is 7 cars with a few additional cars within the facility for a total of 7-10 cars onsite during the busiest day.

Based upon the proposed project use at this location, the traffic generation is comparable to General Light Industrial uses. ITE has data and trip generation rates based upon the number of employees in this use category. ITE generation rates based upon the busiest day with 15 (only 10 expected) employees to be conservative, results in trip generations as follows:

USE	# of Employees	A.M. Per Hour	P.M. Per Hour	Weekday Daily Trips	Weekend Peak Hour	Weekend Daily Trips
General Light Industrial	15	7.2	6.3	7.7	0.75	7.2

A comparison of the by-right use to the proposed use reveals the proposed use generates weekday daily trips within the same estimate as one (1) single family house or less. I acknowledge there is some uncertainty in the trip generation since the use is not well studied and documented. The analysis shows the proposed use has negligible traffic impacts by a factor of 2X or more than a by-right use when compared to five (5) single-family houses.

Overall, the proposed use generates less traffic than a similarly sized development of single-family homes.

No pedestrian access is proposed from any public way. There are no sidewalks along Town Hill Road. Further, the proposed cultivation and manufacturing facility will remain private (not open to the public) and does not want to encourage the public or pedestrians to visit the site for security purposes.

C. MUNICIPAL IMPACTS

Sewer

The proposed building will contain offices and will require a septic system. Percolation tests and deep holes will be completed on the site in the spring of 2021 as soon as weather permits. It has been determined the soils are suitable for a subsurface system by test pits completed last fall. Within Title V Regulations there is no specific use/type of establishment for greenhouses or marijuana cultivation and manufacturing.

Uses similar include:

Factory, Industrial Plant, Warehouse or Dry Storage Space without Cafeteria = 15 gpd/person
Office building = 75 gpd/1,000 s.f. (200-gallon min)

There are expected to be a maximum of 10 employees during the busy season. Under the *Factory Use*, proposed flows from the development would be:

$$10 \text{ employees} * 15 \text{ gpd/employee} = 150 \text{ gallons per day}$$

The proposed building is 5,000 square feet, with a 200 square foot office space within. Under the *Office Building* use, proposed flows from the development would be:

$$5,000 \text{ s.f.} * 75 \text{ gpd per 1,000 s.f.} = 375 \text{ gallons per day}$$

Conservatively, the application will design the leach field for the higher value of 375 gpd.

Water

The proposed greenhouses will require watering as they will be under cover. A combination of drip irrigation and hand watering. A maximum seasonal water use is less than 500,000 gallons per year. Drip irrigation can reduce this as much as 40%. The season is approximately 240 days and thus the water use is expected to be 1250-2000 gallons per day

Fire Protection

The proposed building will not be required to have an automatic sprinkler system due to its small size. The use, agricultural/greenhouses, does not require sprinklers. The C1D1 extraction lab is a self-contained unit that will be constructed inside the proposed building with a dry chemical fire suppression unit. The lab meets Mass Building and Fire Code as seen in the information provided in Attachment C.

Stormwater

Refer to Attachment E-Stormwater Report

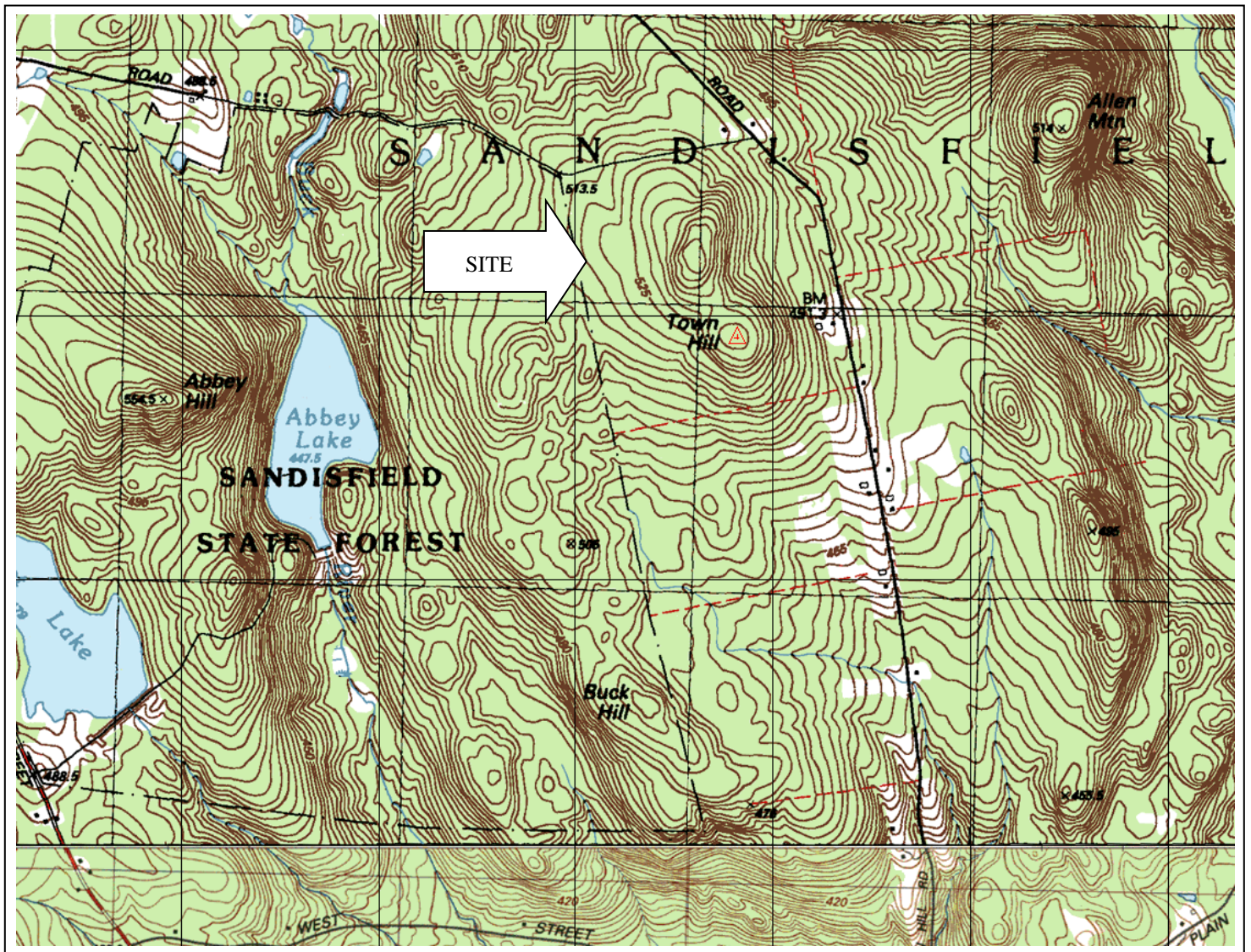
Erosion Control

An erosion control barrier will be installed on the downgradient limit of work to prevent erosion on abutting properties. The project plans include an erosion control plan depicting the erosion measures and methodologies proposed.

D. Conclusion

As outlined, the project, as proposed, meets the design goals of the petitioner and the intent of the Sandisfield Zoning By-Laws. The proposed 105,000± square foot marijuana cultivation and manufacturing facility is proposed in a safe, secure site, visually obscured from public ways and abutting properties. The project has adequate parking, utilities and provides plantings to screen the site along Abby Road. The design goals and findings for issuance of a Special Permit have been met.

We look forward to discussing the project with the Board.



Source: U.S.G.S. Map

FIGURE #1

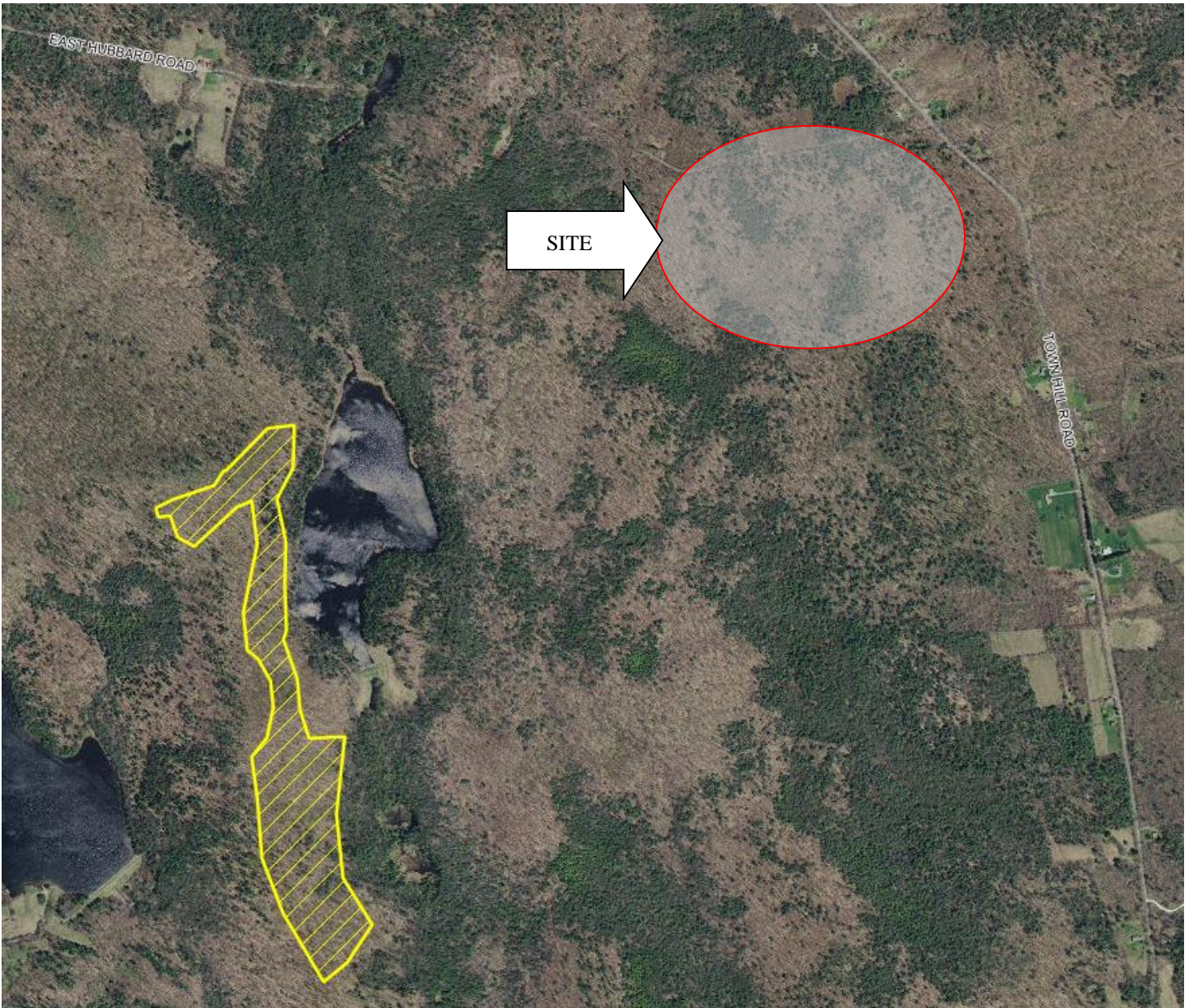
U.S.G.S. Map
 Lot8 Abby Road
 Sandisfield, MA



DESIGN GROUP, INC.

CIVIL ENGINEERS - SURVEYORS - CONSULTANTS

2 FEDERICO DR., PITTSFIELD, MA 01201 (413) 443-3537



PRIORITY & ESTIMATED HABITAT

FIGURE #2

N.H.E.S.P. MAP

Lot-8 Abby Road
Sandisfield, MA



DESIGN GROUP, INC.

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2 FEDERICO DR., PITTSFIELD, MA 01201 (413) 443-3537



Source: www.msc.fema.gov

FIGURE #3

FEMA Floodplain Map

Lot-8 Abby Road
Sandisfield, MA



DESIGN GROUP, INC.

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Source: Sandisfield GIS Map

FIGURE #4

Town of Sandisfield Town Map

Abby Road
Sandisfield, MA
Portion of Lot 31



DESIGN GROUP, INC.

CIVIL ENGINEERS - SURVEYORS - CONSULTANTS

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Attachment A
Survey Plan

THESE PARCELS ARE SUBJECT TO AND WITH THE BENEFIT OF ALL RIGHTS, RESTRICTIONS, CONDITIONS, EASEMENTS, LEASES, ENCUMBRANCES AND APPURTENANCES OF RECORD.

UNLESS OTHERWISE NOTED HEREON, THIS SURVEY PLAN SHALL NOT BE CONSTRUED AS DEPICTING THE PRESENCE, ABSENCE, OR LIMITS OF ANY OR ALL REGULATED WETLANDS OR FLOODPLAINS. ANY SURFACE WATER FEATURES SHOWN, SUCH AS STREAMS OR PONDS, ARE NOT REPRESENTED AS INDICATING LIMITS OF WETLAND RESOURCE AREAS.

RECORD OWNER: THE ESTATE OF PAUL P. BOBRYK

LOCUS DEED: BK - 390 PG - 398

ASSESSOR MAP 408 LOT 31

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ATTORNEY'S ABSTRACT OF TITLE AND/OR TITLE REPORT AND IS SUBJECT TO ANY STATEMENT OF FACTS SUCH AS ABSTRACT OR REPORT WOULD HAVE REVEALED. THIS PROPERTY WAS SURVEYED BY THE POSSESSION LINES FOUND AT THE TIME THE SURVEY WAS MADE.

PLANNING BOARD ENDORSEMENT DOES NOT IMPLY COMPLIANCE WITH THE MASS. WETLANDS PROTECTION ACT.

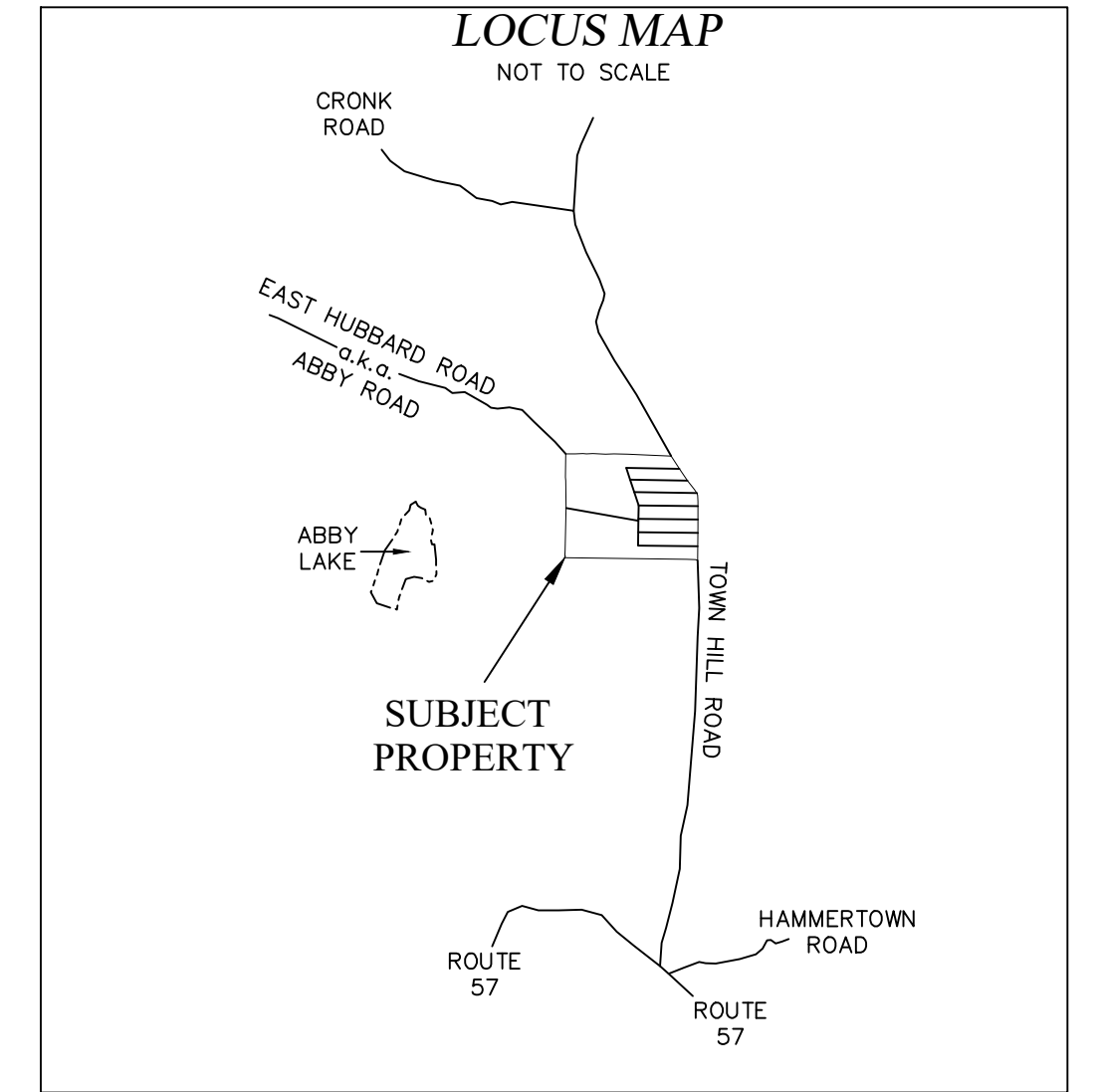
SANDSFIELD ZONING REGULATIONS	
MINIMUM LOT AREA	1 ACRE
MINIMUM LOT FRONTAGE	200 FT.
MINIMUM LOT DEPTH	150 FT.
MINIMUM SETBACKS:	
FRONT	30 FT.
SIDE AND REAR	30 FT.

N\F LAND OF REIDEMAN & FALK BK - 1446 PG - 20 (SEE PLAN IN MAP BK - 4 PG - 19)

N\F LAND OF TRUE BK - 2095 PG - 111 (SEE PLAN IN MAP BK - 7 PG - 199)

EAST HUBBARD ROAD a.k.a. ABBY ROAD (LEGAL STATUS NOT DETERMINED)

N\F LAND OF MACK BK - 2146 PG - 65 (PARCEL G ON PLAN IN MAP FILE #81)



N\F LAND OF HULL FORESTLANDS LP BK - 1217 PG - 1

N\F LAND OF COSTIGAN BK - 1279 PG - 193 (EXCEPTION FROM CURRENT LOCUS DEED SEE BK - 354 PG - 71)

N\F LAND OF HOLT BK - 1402 PG - 339 (EXCEPTION FROM CURRENT LOCUS DEED SEE BK - 354 PG - 71)

LEGEND

- △ POINT COMPUTED
- IRON PIPE FOUND
- IRON ROD TO BE SET
- CONCRETE BOUND FOUND
- ⊗ BLAZED TREE W/FENCE
- UTILITY POLE
- ⊞ STONE WALL

N\F LAND OF COMMONWEALTH OF MASSACHUSETTS BK - 347 PG - 535 (SEE PLAN IN MAP FILE #43 ENTITLED "WEST LAKE & ABBEY LAKE AREA COMMONWEALTH OF MASSACHUSETTS WATER RESOURCES COMMISSION PLAN OF LAND IN THE TOWN OF SANDSFIELD TAKEN UNDER THE AUTHORITY OF CHAPTER 565 ACTS OF 1963" (SHEET 5 OF 6))

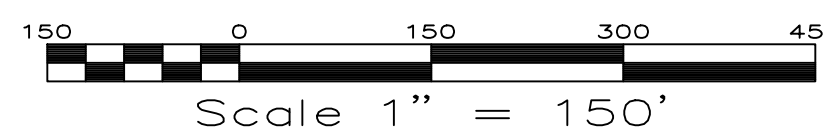
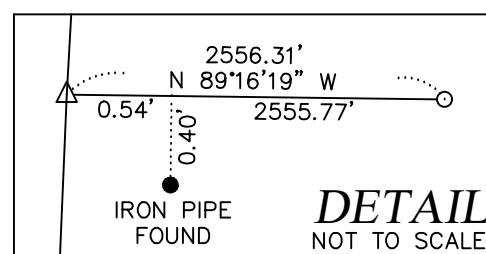
I HEREBY REPORT THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

SIGNED: _____ PROFESSIONAL LAND SURVEYOR

APPROVAL NOT REQUIRED UNDER THE SUBDIVISION CONTROL LAW

SANDSFIELD PLANNING BOARD _____ CHAIRMAN

_____ 2020



PLAN OF LAND SURVEYED FOR FRANKLIN WOODS INVESTMENTS LLC SANDSFIELD, MASSACHUSETTS SEPTEMBER - 2020 SCALE 1" = 150' KELLY, GRANGER, PARSONS & ASSOCIATES, INC. PROFESSIONAL LAND SURVEYORS

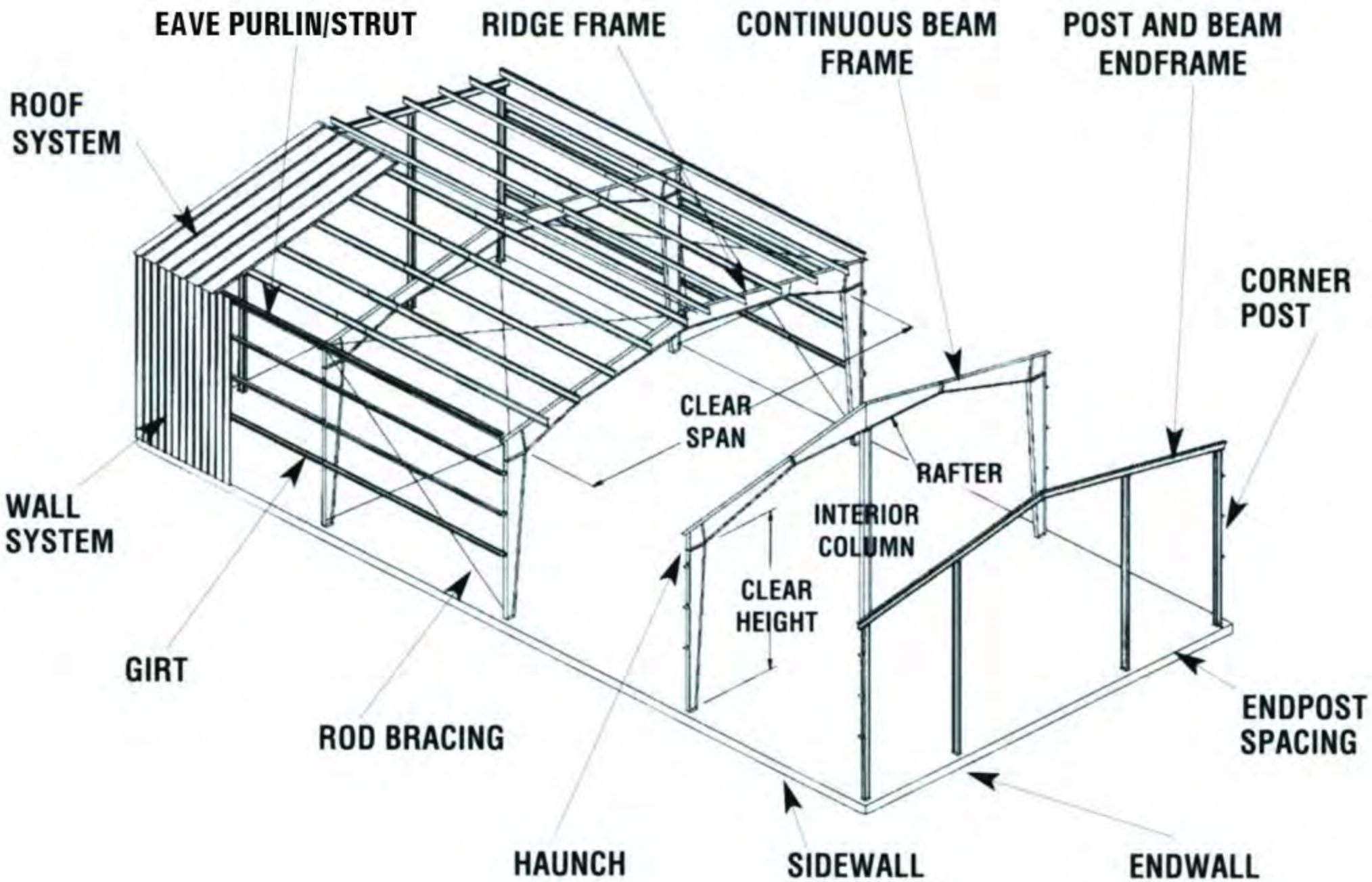
312 MAIN STREET P.O. BOX 88 GREAT BARRINGTON, MASSACHUSETTS 01230 FAX (413) 528-1912 PHONE (413) 528-3291 C:\Carlson Projects\SANDSFIELD\TOWN HILL ROAD\SANDERS\SANDERS920.dwg\JMM

Attachment B
Preliminary Building Plans



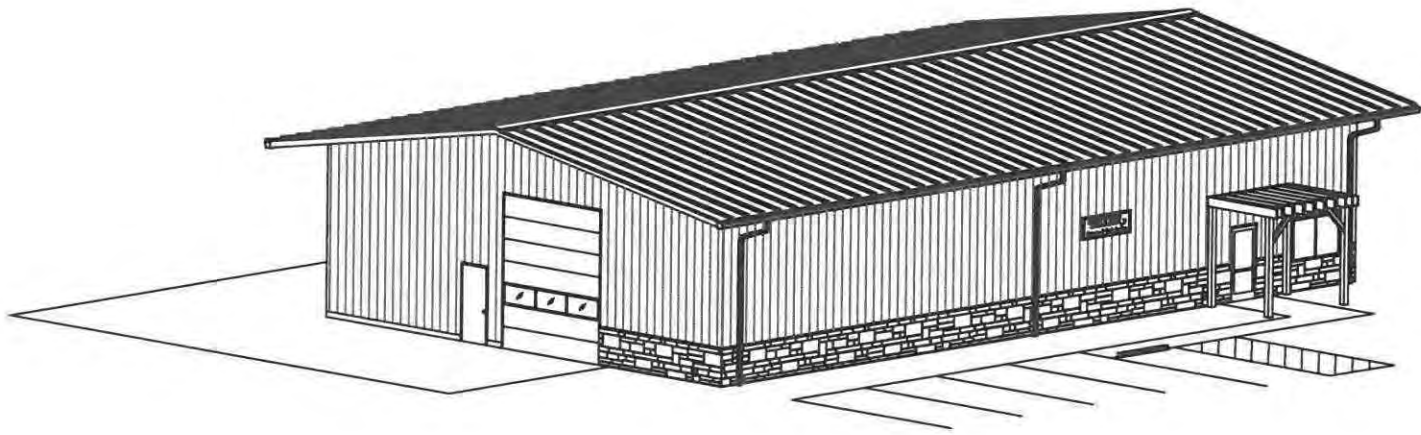
Typical Metal Building Photo

The final design is subject to change at the discretion of the SPGA
Door locations and windows will vary based upon site design and
security requirements



Preliminary

02/22/2021



<p><u>STEEL BUILDING MANUFACTURER</u> STAR BUILDINGS 8600 S. I-35 SERVICE ROAD OKLAHOMA CITY, OK 73149</p>	<p>USE GROUPS ARE S1 & B. THIS REQUIRES NO FIRE SEPARATION PER TABLE 508.4 CONSTRUCTION TYPE IS 5B OCCUPANT LOAD IS (45) PLUMBING, ELECTRICAL, AND HVAC BY LICENSED SUB-CONTRACTORS PER MGL 148 81R</p>			<p><u>VENTILATION CONTRACTOR</u></p>
<p><u>DESIGN</u></p>	<p><u>GENERAL CONTRACTOR</u></p>	<p><u>CONSTRUCTION CONTROL</u></p>	<p><u>ELECTRICAL CONTRACTOR</u></p>	<p><u>PLUMBING & GAS CONTRACTOR</u></p>

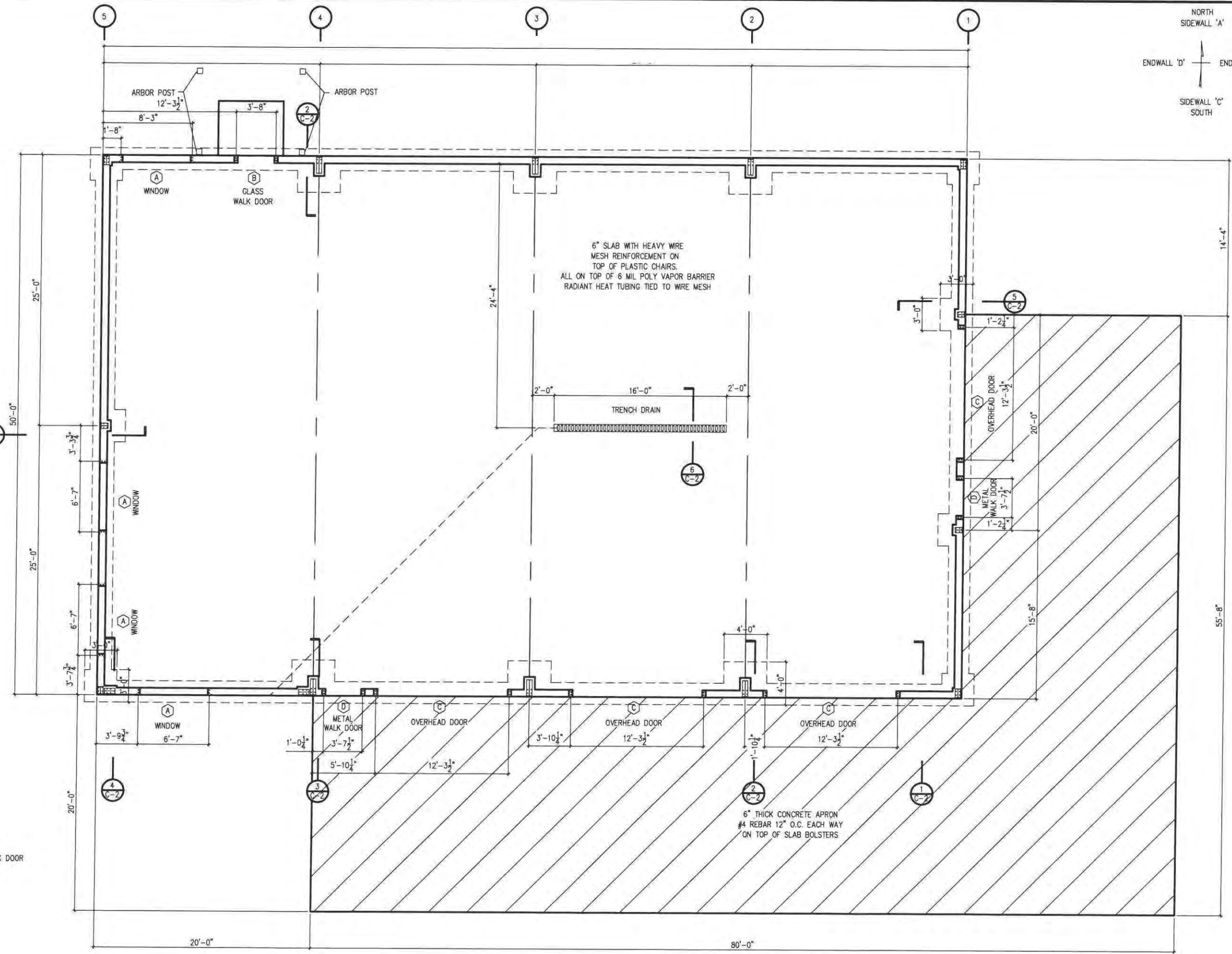
NORTH
SIDEWALL 'A'

ENDWALL 'D'


ENDWALL 'B'

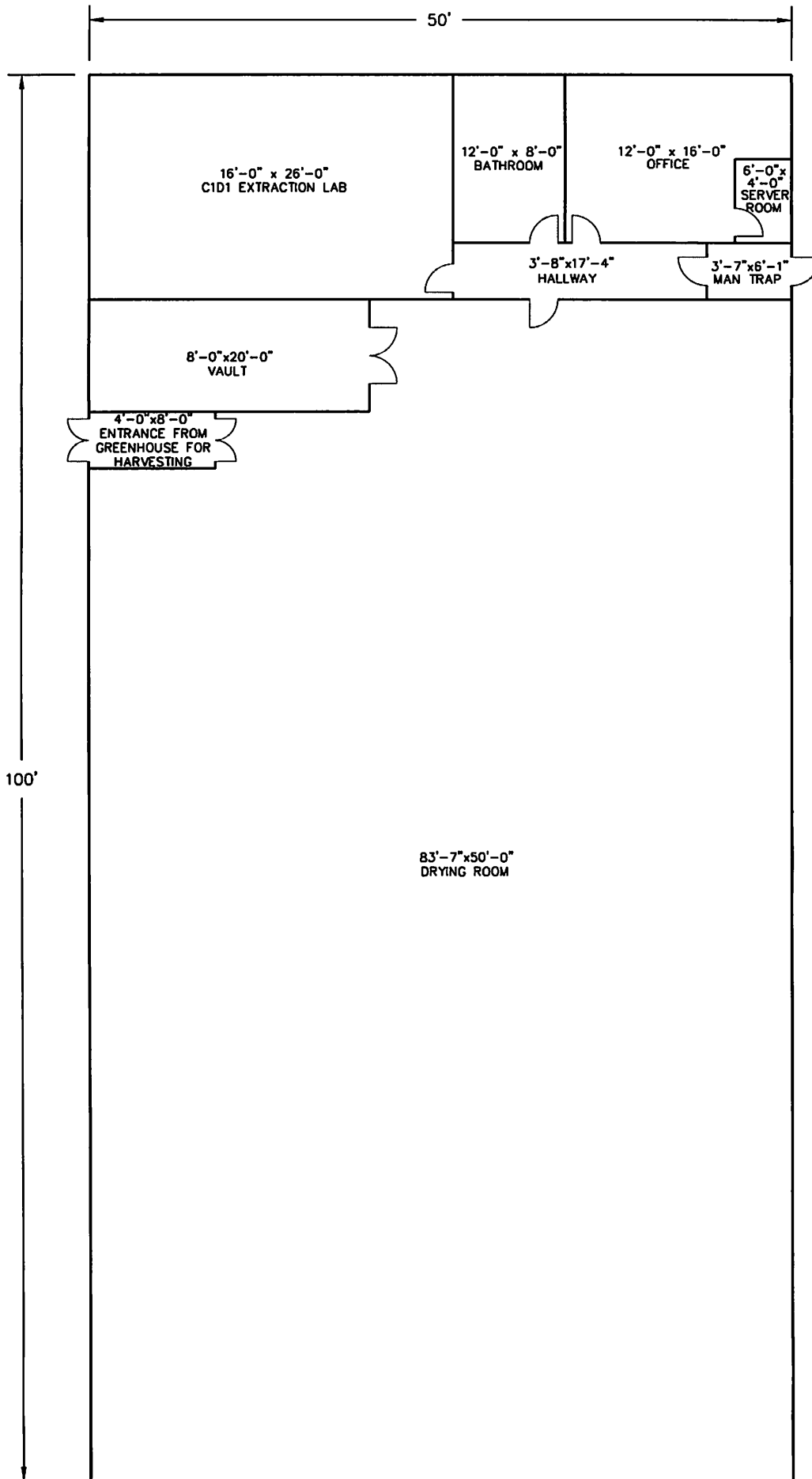
SIDEWALL 'C'

SOUTH

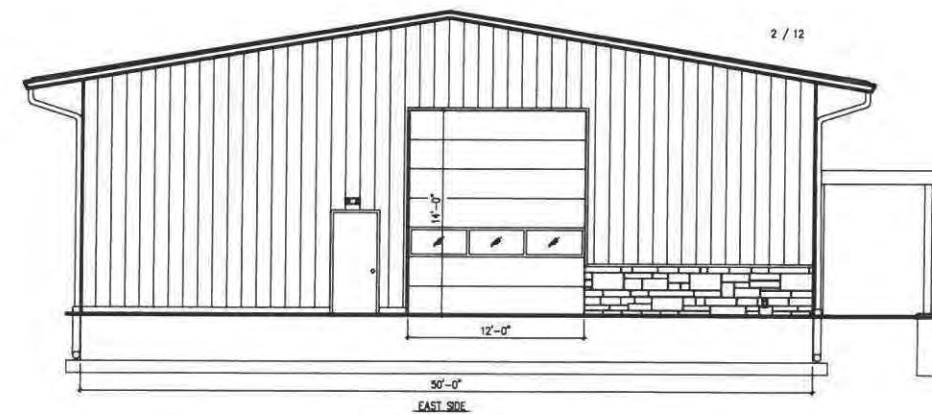
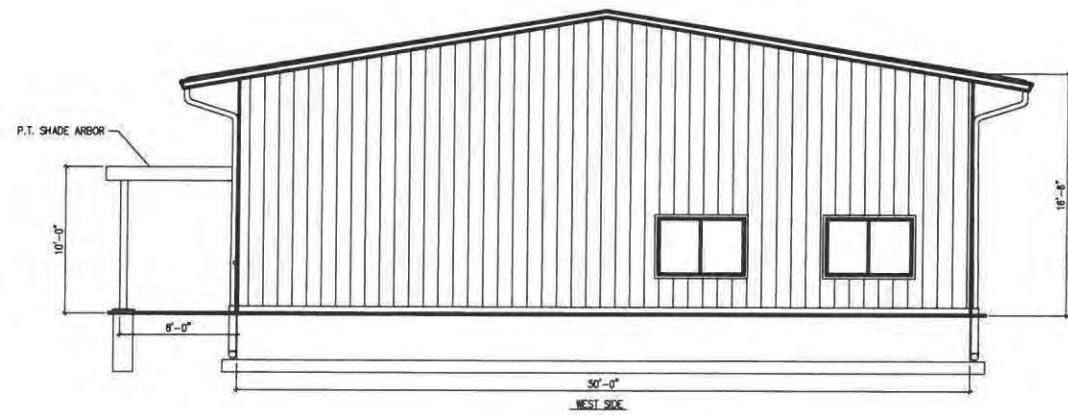
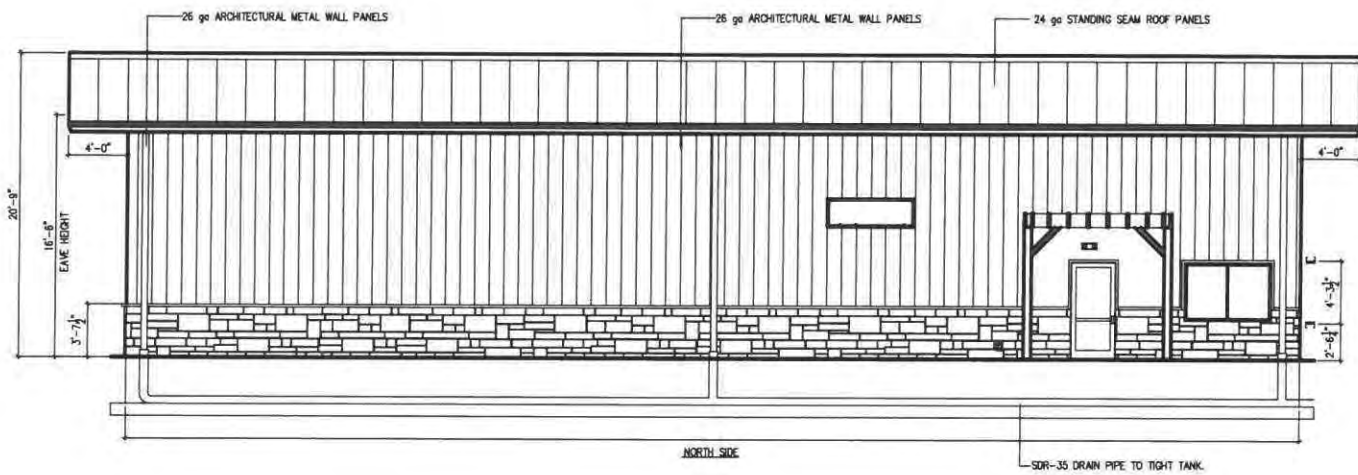


- (A) 6' X 4' SLIDER
- (B) 3' X 6'-8" WALK DOOR
- (C) 12' X 14' O.H.D.

REVISIONS:
REVISIONS:

TITLE: FOUNDATION PLAN
CLIENT:
DRAWN BY:
CHECKED BY:
SCALE: 1/4"=1'-0"
DATE:
DWG NO: C-1



PRELIMINARY FLOOR PLAN



REVISIONS:
REVISIONS:
CONSTRUCTION CONTROL & PROJECT ENGINEER: Design Group, Inc. Civil Engineers • Surveyors • Consultants 1 PIERCE DRIVE • PITTSFIELD, MASSACHUSETTS 01201-3302
Star Building Systems
BETNR Engineering & Construction Corp. 17 DOWNING THREE, PITTSFIELD, MA SUITE 2A PHONE: (413) 499-0095 FAX: (413) 499-4108
TITLE: ELEVATIONS
CLIENT: BETNR
DRAWN BY: ALLAN FERRY
CHECKED BY:
SCALE: N.T.S.
DATE: JULY 29, 2016
DWG NO.: A-3

Attachment C

Flex Mod Laboratory Information

July 25, 2019



Mr. John Heck,

This letter is to review the different ways we can approach C1D1 environments for extraction.

1. Containerized Labs:

We engineer C1D1 environments from intermodal shipping containers. Our container line comes in a multitude of footprints ranging from 8x20 (smallest) to 12x40 (largest). Our container labs also come in two different configurations; what we refer to as our Wind Tunnel (full C1D1 environment) as well as our Combination Lab (both non-classified/C1D1 in one module).

2. Build-In-Place:

In instances where our clients have equipment exceeding the envelope of our container labs and/or desire a container of a particular dimension, but have an entry door not large enough for pass-through, we facilitate what we refer to internally as *Build-In-Place* labs. Rather than a container (which is built to 1hr fire rating), we would simply erect our 1hr fire-rated modular wall/ceiling system as the envelope. The components that give our container labs their functionality would be the same or similar for Build-In-Place type projects as well. This option allows for a value-engineered approach whereby we can tailor the envelope dimension based on our client's equipment selection.

Thank you for the opportunity to be of service!

Jason Krautter
FlexMOD Solutions

Jason Krautter

FlexMod, LLC

100 Fillmore Street 5th Floor Denver, CO 80206 Ph: 800-869-9798 Fax: 866-205-2808

email: info@flexmod.com

www.flexmod.com



March 20, 2019

RE: Engineering Peer Review 201604027-02 Revision 3

Dear FlexMod Solutions Customer,

The design of FlexMod Solutions models **FlexLab CID1 Windtunnel; FL820WT; FL840WT; FL1220WT; FL1240WT; BIP-1010; BIP-1020; BIP-1030; & BIP-1040** have been evaluated by a Professional Engineer (AZ/CA/CO/FL/HI/ID/MA/MD/ME/MI/MN/ND/NV/NY/OH/OK/OR/PA/SC/TN/TX/WA) and found suitable for use, providing:

1. At installation, the equipment is successfully field verified by PSI to confirm the equipment is installed in accordance with Engineering Peer Review 201604027-02 Revision 3 (IFC 2018/NFPA1 2018)

The FlexLab CID1 Windtunnel; FL820WT; FL840WT; FL1220WT; FL1240WT; BIP-1010; BIP-1020; BIP-1030; & BIP-1040 have been reviewed using the following codes and standards:

- *Arizona Fire Code, 2016 Edition (Based upon IFC 2012)*
- *California Fire Code, 2016 Edition (Based upon IFC 2015)*
- *International Fire Code, 2018 Edition*
- *New York State Uniform Fire Prevention and Building Code 2017*
- *Oregon Fire Code 2014 (Based upon IFC 2012)*
- *Washington Fire Code, 2015 Edition (WAC 51-54A, Based upon IFC 2015)*
- *NFPA 1 Fire Code, 2018 Edition*
- *NFPA 58, Liquefied Petroleum Gas Code, 2017 Edition*
- *NFPA 70 National Electric Code, 2014 Edition*

Please direct all technical questions to FlexMod Solutions.

This is not a field verification letter and therefore **does not include a serial number or installation address** for the equipment.

Chris J. Witherell, PE AZ/CA/CO/FL/HI/MA/ME/MI/MN/NV/OH/OR/WA

Chris Witherell
Digitally signed by Chris Witherell
DN: cn=Chris Witherell, o=Pressure Safety Inspectors,
ou=CEO, email=chris@psinspectors.com, c=US
Date: 2019.03.20 12:32:52 -06'00'

John Andrzejczak, PE CA/CO/ID/MD/ND/NY/OK/PA/SC/TN/TX/WA

John Andrzejczak
Digitally signed by John Andrzejczak
DN: cn=John Andrzejczak, o=Pressure Safety Inspectors, LLC,
ou=Founding Partner, email=john@psinspectors.com, c=US
Date: 2019.03.20 09:50:14 -06'00'

THIS IS NOT A FIELD VERIFICATION LETTER



How Your C1D1 Lab Works to Protect Your Property and Employees

A **C1D1 (Class 1 Division 1) Extraction Lab** provides an environment designed for the constant presence of flammable gasses. All of the equipment you install inside the C1D1 room should also be rated for use in a C1D1 environment.

Structure

The enclosure consists of 1-hour rated walls and ceilings, per code requirements. One common misconception is that the unit be rated “explosion proof” or “blast rated”, but this is not necessary. The ventilation and electrical systems have been designed to eliminate the possibility of an explosion.

Ventilation

The ventilation system has been designed to create a linear flow of air through the room to quickly evacuate any flammable gasses that might accidentally be released in the room. Code requires the gas concentration remain below 25% of the LEL (Lower Explosive Limit). The LEL is the minimum gas concentration to allow conflagration, so 25% is only 1/4 of what is required for ignition. We’ve held ourselves to a higher standard and have our LEL set point at 10% for ventilation.

There are two stages to our ventilation system: primary and secondary. The primary system includes the HVAC unit and a primary fan. It will remain on any time the lights are turned on, as required to maintain the temperature setting on the thermostat, and when signaled by the gas detector. The secondary system includes a motorized damper and a secondary fan that will engage starting at 10% LEL. It’s designed to quickly evacuate and replace the air to ensure the gas levels remain below the code required amounts. All exhaust air evacuates directly outdoors and all intake air comes from an outdoor location.

Gas Detection

A gas detector has been installed that will control the ventilation and notify occupants of the room in the event of a gas release inside the room. Once gas levels reach 10% LEL the secondary ventilation system will engage and a visual indicator on the gas detector will be illuminated, so action can be taken to remedy the situation. If the gas levels continue to rise to 20% LEL an alarm will sound and the receptacles powering the extraction equipment will be powered down. Once the gas has been cleared the alarms will cease and the secondary ventilation will power down. If, for some reason, the gas detector stops functioning the receptacles and lights will be powered down and emergency lighting will engage to facilitate egress from the module, but ventilation will continue uninterrupted. After a fault condition the breaker controlling the receptacles must be manually flipped to restore power.

Electrical

All of the electrical equipment installed inside the C1D1 area will be rated for C1D1 use and UL listed; including, but not limited to: the lights, receptacles, switches, and gas detector. This means that they are sealed and/or intrinsically safe. Even in the event that the room atmosphere reaches 100% LEL or above, there is no chance of an ignition from the electrical components.

There is a single enclosure with a disconnect switch on the exterior of the module where the main power is connected, this will function as the main “kill switch”. All wiring inside the module will be completed up to this enclosure, but any remotely located devices will need to be wired separately.

Fire Suppression

If you’ve opted to have our fire suppression system supplied, one or more dry chemical suppressant units will need to be installed on the module ceiling. These units are individually heat initiated and come ready for use from the manufacturer. The pressurized bottles are considered a hazardous load and will be shipped directly to your site for field installation to the factory installed mounting hardware in the FlexLab. This is a very simple install, just screw the bottle onto the provided mounting base.

Additional Systems

The module’s PLC has the ability to signal other devices such as flow valves for your solvent system and alarm panels, but FlexMOD does not currently cover these items in our scope. If you will be connecting to any ancillary systems please let FlexMOD know, so we can help facilitate a seamless integration and provide you with the appropriate support.

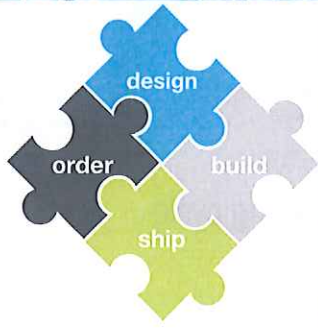
FIELD VERIFICATION OF EQUIPMENT AT INSTALL IS REQUIRED!

Field verifications of equipment installations are required as required by IFC 2018 and NFPA 1, 2018 for all instances that PSI's engineering peer review is used to gain approval from an Authority Having Jurisdiction (AHJ).

The design of this equipment has been found suitable for use provided that the equipment is fabricated and assembled using the components listed on the design documentation provided for the engineering peer review.

The engineering peer reviews offers conditional approval of the equipment design only.

At installation, the equipment must be successfully field verified by PSI to confirm the equipment was supplied and installed in accordance with this report in accordance with (IFC 3904.4) and (NFPA 1: 38.6.1.5.6.1).



Solutions Provider | Best in Class Systems
Transforming Cannabis Grow Facilities

Grow**MODS** | Extraction**LABS**

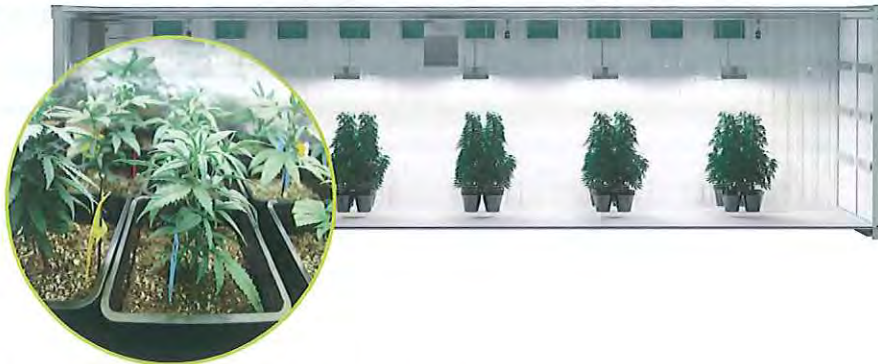


7-16-2019

GROW

See our GrowMod models & prices started at page 26

Built Off Site
Delivered to
Your Door



Designed by industry experts

FlexMOD CultivationMODs streamline the start-up process so you can generate revenue in as little time as possible. Begin with our starter package and customize your own GrowMOD. Call us today for more info!

Speed to Market

Prepackaged Models

Optimize your yield in every growing cycle

- BloomMOD
- VegMOD
- CloneMOD
- MotherMOD



Leasing Options

If it's financing you need, we have LEASING TERMS AVAILABLE TO INTERESTED PARTIES!! Leasing is a great way to go as it fits into almost any budget and gets your business on track sooner rather than later. Call us today to submit an easy application for leasing by calling **800-869-9798**.





EX-TRACT

See our ExtractionMod models & prices starting on **page 14**

Built Off Site
Delivered to
Your Door



Certifications

Designed by certified engineers and industry experts

FlexMOD is proud to work with the premier provider of third party independent design verification (otherwise referred to as an engineering peer review) of solvent based extraction equipment. Pressure Safety Inspectors, or PSI, has performed reviews for over dozens of original equipment manufacturers (OEMs). PSI has developed internal procedures that provide the most comprehensive engineering peer review available for solvent-based extraction equipment. Our reports are sealed by engineers licensed in almost all states with legalized medical and/or recreational cannabis.

Certifications
See **page 6-7**

Extraction Lab Design Services
See **page 9**

Equipment Options
See **page 24-25**



FlexLAB can be relocated, therefore, you get the tax advantage of 7 year depreciation as opposed to 39 years required with conventional construction. Check with your financial advisor.

EX-TRACT



FLEX MOD S O L U T I O N S



We build peace of mind into every Extraction Lab we manufacture.

Cleanroom Solutions

At FlexMOD all of our Labs are built Clean! Our interfacing walls, floors, ceilings and mechanical components will provide a contaminate free environment & effectively allow control of air flow, pressure, & temperature.



Ready for your equipment



Advantages to using FlexMOD Solutions



Extraction Labs by FlexMOD. FlexMOD has invested a significant amount of time and effort in securing the right equipment, at the right price with a greatly reduced time to build, putting your business on track significantly sooner than a conventional build model.

Our team has many years of experience in the cannabis industry. We can guide you through the process of setting up and outfitting a compliant extraction laboratory.

Class 1 Division 1 Extraction Labs meet all requirements of the NEC, OSHA, MED and NFPA . Our extraction labs are delivered fully assembled and ready to go, or can be assembled on-site inside a facility.

Best in Class Systems

At FlexMOD we are constantly on the lookout for the best components and equipment for our customers. Each piece of equipment is evaluated on quality, ease of use, dependability of the manufacturer and cost, to name a few. We do all the work so you are able to focus on running your business. Today's options in equipment for cannabis growing is fast paced and changing constantly, so we work hard to offer the best in class at any given time.



Built Off Site | Delivered To Your Door



🌿 Certifications

FlexMOD is proud to work with the premier provider of third party independent design verification (otherwise referred to as an engineering peer review) of solvent based extraction equipment. Pressure Safety Inspectors, or PSI, has performed reviews for dozens of original equipment manufacturers (OEMs). PSI has developed internal procedures that provide the most comprehensive engineering peer review available for solvent-based extraction equipment. Our reports are sealed by engineers licensed in almost all states with legalized medical and/or recreational cannabis.



Compliant | Turn-Key Extraction Labs

Designed by certified engineers and industry experts.



Pressure Safety Inspectors LLC

January 13, 2017

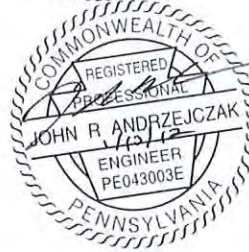
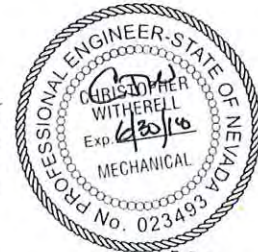
RE: Engineering Peer Review 201604027-02 Revision 1

Dear Flexmod Solutions Customer,

Flexmod Solutions model FlexLab CID1 Windtunnel has been evaluated by a Professional Engineer and has been found suitable for use. The FlexLab CID1 Windtunnel was reviewed using the following internationally recognized codes and standards:

- International Fire Code, 2015
- National Fire Protection Association (NFPA) 58, Liquefied Petroleum Gas Code, 2014
- NFPA 70 National Electric Code 2014

Please direct all technical questions to Flexmod Solutions.



THIS IS NOT A FIELD VERIFICATION LETTER

CA/CO/MD/NV/OR/PA/WA

5460 Montana Vista Way, Suite 101
Castle Rock, CO 80108
303-317-6877 • info@psinspectors.com •
www.psinspectors.com

Extraction Lab Models



C1D1 | Wind Tunnel

FlexLAB Wind Tunnel: (True Class 1 Division 1 extraction lab for high production) This lab will accommodate multiple working environments because the entire unit is a Class 1 Division 1 environment. Built like a wind tunnel, you can set up your workstations virtually anywhere in this lab. Designed for high production using multiple workstations. Compliant and versatile, it is perfect for a large-scale operation where a true Class 1 Division 1 working environment is needed. All components in this lab are built to be spark-proof and blast-proof.

See page 12-15 for more information and options.



C1D1 | Combination Unit

Designed for efficiency, this highly functional and versatile unit provides the best of both worlds -- a compliant Class 1 Division 1 environment with a separate non-classified work area in one modular unit. In the C1D1 area, all components are built to be spark-proof and blast-proof to meet hazardous area requirements, creating a safe and compliant environment for the operators. In the non-classified section of the lab, you can set up your workstations virtually anywhere. The barrier wall that separates these two compartments will allow you to operate roto vapes, ovens and other non-classified equipment without the presence of dangerous gases. *See page 16-19 for more information and options.*



C02 | Extraction Lab

In this non-combustible lab configuration, you have the benefit of a clean room environment combined with safety features to limit exposure to excessive CO2. Labs are outfitted with CO2 detection monitors to meet safety requirements while assuring optimal air circulation. The FlexLAB CO2 is the ideal solution for your CO2 extractions. *See page 20-23 for more information and options.*



Design Services

Custom Extraction Lab Configurations



Let FlexMOD design and build all of your laboratories and clean rooms.

Don't have an existing facility that will accommodate the mobile extraction lab? FlexMOD can build an extraction lab within your warehouse space that has all the same features, benefits and advantages of our stand-alone lab. With the same clean room environment and Class 1 Division 1 options available, you get the high quality, streamlined and compliant extraction lab that you need to successfully set up an efficient workflow for extractions. With three models available to choose from, whatever type of extraction lab you need, FlexMOD can provide it right inside your existing space.



Air Handling Packages Models



Standard Airflow Package

The Standard version of the lab is less expensive and its equipment occupies less space than the Precision unit.

This package utilizes a smaller HVAC unit that conditions incoming air to provide a working area that is more comfortable than the ambient temperature. The exhaust fans operate on a primary-auxiliary relationship. The primary fan will remain on at all times to provide a constant flow of air through the lab. When the gas detector senses heightened gas levels, the auxiliary fan will initiate and open a damper that will quickly flush the lab with unconditioned air. We have designed the lab to reduce the cost of conversion if you decide to upgrade to the Precision Airflow Package in the future.



- Most economical airflow package
- Hazardous location fixtures and hazardous gas detection ensure operator safety
- Can be converted to a Precision Airflow Package in the future





Precision Airflow Package

Class1 Division1

The Precision Airflow version of the lab utilizes the most advanced equipment which allows for more precise temperature control.

The HVAC unit and exhaust fans remain at full capacity at all times during use. This provides a constant high volume of conditioned air through the module regardless of gas detector readings. This version is the pinnacle of FlexLAB design and the consistent airflow provided is already a requirement for compliance in some jurisdictions.

- Required for compliance in certain jurisdictions
- Constant airflow over equipment



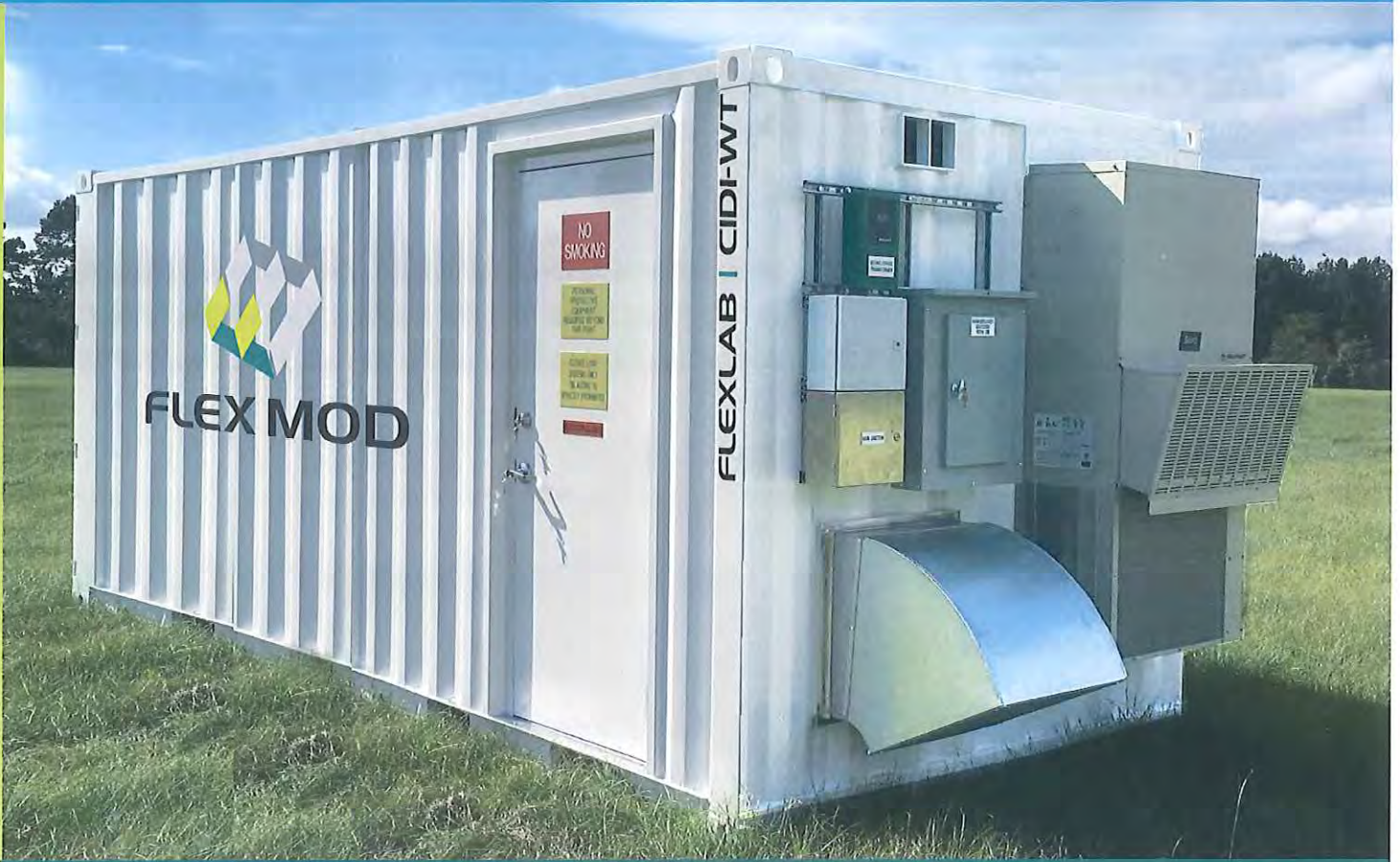
**Precision
Temperature
Control**



**LEL adjustable
from 1-99%**



C1D1 | FlexLAB Wind Tunnel



All Labs Available in 4 sizes: 8' x 20', 8' x 40' | 12' x 20', and 12' x 40'

FlexLAB Wind Tunnel: True Class 1 Division 1 extraction lab for high production. This lab will accommodate multiple working environments because the entire unit is a Class 1 Division 1 environment. Built like a wind tunnel, you can set up your workstations virtually anywhere in this lab. Designed for high production using multiple workstations. Compliant and versatile, this is perfect for a large-scale operation where a true Class 1 Division 1 working environment is needed. All components in this lab are built to be spark-proof and blast-proof.

Key Features:

- Class 1 division 1 area meets all MED, NEC, OSHA and NFPA
- International fire code 2015
- National Fire Protection Association (NFPA) 58, Liquefied Petroleum Gas Code 2014
- NFPA 70 National Electric Code 2014
- 100% ETL-Listed and PE certified equipment
- Hazardous location fixtures and hazardous location fixtures and hazardous gas detection ensures operator safety.
- Standard laboratories will fit multiple extraction units and technicians



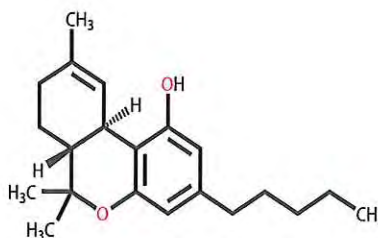
True Class 1 Division 1

Extraction Lab for High Production



Details:

- All interior light fixtures, electrical outlets, and switches are spark-proof and meet Class 1 Division 1 hazardous area requirements.
- The spark-proof exhaust fans, in conjunction with the temperature controlled makeup air unit, use 100% outside fresh air to provide the required air flow rate over your equipment. The system provides a slightly negative pressure within the lab to prevent hazardous gasses from leaking into surrounding areas. If there is no need for temperature control in your location, the makeup air unit can be replaced with a pleated filtration intake for a nice cost reduction.
- The module is equipped with a gas detection alarm system that will initiate an audible and visible alarm inside the module when hazardous gas begins to be detected. If the gas levels continue to rise, the system will activate an audible alarm and shut down power to the equipment inside the room well before dangerous levels are reached.
- The weatherproof main electrical distribution panel is located on the exterior of the module, outside of the hazardous area and out of the way. The entry door is of steel construction and equipped with an automatic closer, a panic exit device, a safety window, and weather seals. The optional sink is of quality stainless steel construction and equipped with a gooseneck faucet to accommodate large canisters or vessels.



Extraction Lab Models



C1D1 | Wind Tunnel

FlexLAB Wind Tunnel: (True Class 1 Division 1 extraction lab for high production) This lab will accommodate multiple working environments because the entire unit is a Class 1 Division 1 environment. You can set up your workstations virtually anywhere in this lab. Designed for high production using multiple workstations. Compliant and versatile, it is perfect for a large-scale operation where a true Class 1 Division 1 working environment is needed. All components in this lab are built to be spark-proof and blast-proof.

FlexLAB C1D1 WindTunnel LPG



FRP/Clean Room Walls
R-13 Insulation 1 hr Fire Rated

Standard Series	Lab Price
8' X 20'	\$104,900
8' X 40'	\$121,900
Wide Body Series	Lab Price
12' X 20'	\$119,500
12' X 40'	\$145,500

**Systems and pricing subject to change.*

Need to add the HVAC stacks for outdoor use:

C1D1 containers: \$3,500 | CO2 containers: \$1,750



C1D1 | FlexLAB Wind Tunnel

Main Systems

FlexLAB C1D1 WindTunnel Main Systems



	Standard	Standard	Wide Body	Wide Body
	20'X8'	40'X8'	20'X12'	40'X12'
HVAC - Bard Unit	1	1	1	1
CFM Spark- Proof Exhaust Fan	2	2	2	2
Indoor C1D1 combination visual & audible alarm	1	1	1	1
Intake Motorized Shutter	1	1	1	1
C1D1 48" 2-Bulb Fluorescent Light	2	3	2	3
Distribution Panel	1	1	1	1
C1D1 Single Pole Switch	1	1	1	1
Single CIDI 125V Receptacle (additional outlets available)	1	1	1	1
Eye Wash Station	1	1	1	1
Fire Extinguisher	2	2	2	2
C1D1 Gas Detection Unit	1	1	1	1
Phenolic Tags	1 set	1 set	1 set	1 set

Shown with Standard Airflow Package *Systems subject to change



**True Class 1 Division 1
Extraction Lab for High Production**

C1D1 | FlexLAB Combination Unit



C1D1 | Combination Unit

Designed for efficiency, this highly functional and versatile lab provides the best of both worlds -- a Compliant Class 1 Division 1 environment with a separate non-classified work area in one modular unit. In the C1D1 area, all components are built to be spark-proof and blast-proof to meet hazardous area requirements, creating a safe and compliant environment for the operators. In the non-classified section of the lab, you can set up your workstations virtually anywhere. The barrier wall that separates these two compartments will allow you to operate roto vapes, ovens and other non-classified equipment without the presence of dangerous gases.

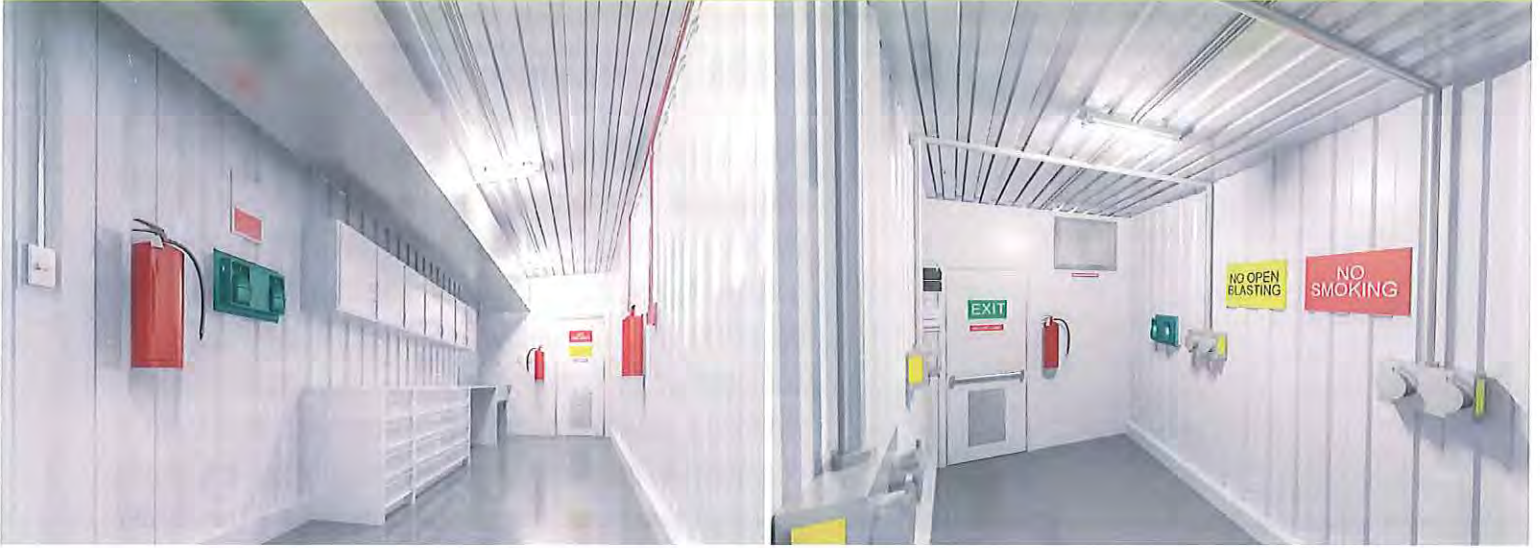


Key Features:

- Class 1 Division 1 area meets all MED, NEC, OSHA AND NFPA
- International fire code, 2015
- National Fire Protection Association (NFPA) 58, Liquefied Petroleum Gas Code, 2014
- NFPA 70 National Electric Code 2014
- 100% ETL-Listed and PE Certified Equipment
- Standard Laboratories Will Fit Multiple Extraction Units and Tech Technicians
- Two compartments will allow you to operate roto vapes, ovens and other non-classified equipment without the presence of dangerous gases.



True Class 1 Division 1 Extraction Lab and Non-Classified Area



C1D1 | Combination Unit

Details:

- All interior light fixtures, electrical outlets, and switches are spark-proof and meet Class 1 Division 1 hazardous area requirements.
- The spark-proof exhaust fans, in conjunction with the temperature controlled makeup air unit, use 100% outside fresh air to provide the required air flow rate over your equipment. The system provides a slightly negative pressure within the lab to prevent hazardous gasses from leaking into surrounding areas. If there is no need for temperature control in your location, the makeup air unit can be replaced with a pleated filtration intake for a nice cost reduction.
- The module is equipped with a gas detection alarm system that will initiate an audible and visible alarm inside the module when hazardous gas begins to be detected. If the gas levels continue to rise, the system will activate an audible alarm and shut down power to the equipment inside the

room well before dangerous levels are reached the weatherproof main electrical distribution panel is located on the exterior of the module, outside of the hazardous area and out of the way. The entry door is of steel construction and equipped with an automatic closer, a panic exit device, a safety window, and weather seals. The optional sink is of quality stainless steel construction and equipped with a gooseneck faucet to accommodate large canisters or vessels.



Extraction Lab Models



C1D1 | Combination Unit



Designed for efficiency, this highly functional and versatile unit provides the best of both worlds -- a Compliant Class 1 Division 1 environment with a separate non-classified work area in one modular unit. In the C1D1 area, all components are built to be spark-proof and blast-proof to meet hazardous area requirements, creating a safe and compliant environment for the operators. In the non-classified section of the lab, you can set up your workstations virtually anywhere. The barrier wall that separates these two compartments will allow you to operate roto vapes, ovens and other non-classified equipment without the presence of dangerous gases.

FlexLAB C1D1 Combination Unit

FRP/Clean Room Walls
R-13 Insulation 1 hr Fire Rated

Standard Series	Lab Price
8' X 20'	\$104,900
8' X 40'	\$121,900
Wide Body Series	Lab Price
12' X 20'	\$119,500
12' X 40'	\$145,500

**Systems and pricing subject to change.*

Need to add the HVAC stacks for outdoor use:

C1D1 containers: \$3,500 | CO2 containers: \$1,750



FlexLAB COMBINATION

FlexLAB C1D1 Combination Unit *Main Systems*

	Standard	Standard	Wide Body	Wide Body
	8'X20'	8'X40'	12'X20'	12'X40'
HVAC - Bard Unit	1	1	1	1
CFM Spark- Proof Exhaust Fan	2	2	2	2
Indoor C1D1 combination visual & audible alarm	1	1	1	1
Intake Motorized Shutter	1	1	1	1
C1D1 48" 2-Bulb Fluorescent Light	1	2	1	2
Non-rated 48" 2-Bulb Fluorescent Light	1	2	1	2
Distribution Panel / Junction Box	1	1	1	1
C1D1 Single Pole Switch	1	1	1	1
Single CIDI 125V Receptacle (additional outlets available)	1	1	1	1
Eye Wash Station	1	1	1	1
Fire Extinguisher	2	2	2	2
C1D1 Gas Detection Unit	1	1	1	1
Phenolic Tags	1 set	1 set	1 set	1 set

*Shown with Standard Airflow Package *Systems subject to change*



FlexLAB CO2 Extraction Lab



C02 | Extraction Lab

In this non-combustible lab configuration, you have the benefit of a clean room like environment combined with safety features to limit exposure to excessive CO2. Labs are outfitted with CO2 detection monitors to meet safety requirements while assuring optimal air circulation. The FlexLAB CO2 is the ideal solution for your CO2 extractions

Key Features:

- Area meets all MED, NEC, OSHA AND NFPA requirements
- 100% ETL-LISTED and PE Certified Equipment
- Packaged HVAC unit Provides a comfortable atmosphere in any climate
- Reconfigurable CO2 venting wall penetration
- Optional surveillance system
- Standard Laboratories will fit multiple extraction units and technicians

Available in 4 sizes: 8'x20', 8'x40' / 12'x20', and 12'x40'



Benefits of a Clean Room Environment Combined with Safety Features



Details:

- All interior light fixtures, electrical outlets, and switches are of heavy duty industrial grade construction.
- The packaged HVAC unit provides an agreeable working environment and provides a fresh air supply for ventilation. It can be custom ordered to match your climate conditions if necessary.
- The adjustable and reconfigurable CO₂ venting port accommodates a multitude of tube or pipe sizes and can be easily configured to accept your off-gassing method.
- The weatherproof main electrical distribution panel is located on the exterior of the module, outside of the hazardous area and out of the way.
- The entry door is of steel construction and equipped with an automatic closer, a panic exit device, a safety window, and weather seals.
- The optional three compartment sink is of quality stainless steel construction and equipped with a gooseneck faucet to accommodate large canisters or vessels.
- The module can be mounted on a wheeled chassis (for ease of relocation), directly on a shop floor or foundation (inside a building or as a stand-alone building).

CO₂

Extraction Lab Models



C02 | Extraction Lab

In this non-combustible lab configuration, you have the benefit of a clean room like environment combined with safety features to limit exposure to excessive CO2. Labs are outfitted with CO2 detection monitors to meet safety requirements while assuring optimal air circulation. The FlexLAB C02 is the ideal solution for your CO2 extractions.



**Standard Package
Gloss Enamel
Finish**

Standard Series	Lab Price
8' X 20'	\$99,900
8' X 20'	\$109,900
Widebody Series	Lab Price
12' X 20'	\$109,900
12' X 40'	\$139,900
<i>Unit Height</i>	<i>8'6" High OD</i>

**Systems and price subject to change.*

Need to add the HVAC stacks for outdoor use:

C1D1 containers: \$3,500 | CO2 containers: \$1,750



FlexLAB CO2

Benefits of a Clean Room Like Environment Combined with Safety Features



FlexLAB CO2 *Main Systems*

	Standard	Standard	Wide Body	Wide Body
	8'X20'	8'X40'	12'X20'	12'X40'
Bard Unit	1	1	1	1
Distribution Panel Junction Box	1	1	1	1
Indoor Alarm	1	1	1	1
Outlet-20 Amp Rated	6	10	6	10
Eye Wash Station	1	1	1	1
Fire Extinguisher	2	2	2	2
Sensor (CO2 gas detector)	1	1	1	1
Phenolic Tags	1 set	1 set	1 set	1 set

**Systems subject to change*



FlexLAB Optional Upgrades



Precision AirFlow Package Upgrade

Call for pricing

For more details, please contact your FlexMOD Representative

The Precision Air Flow version of the lab utilizes more advanced equipment and allows greater and more precise temperature control. The HVAC unit and exhaust fans remain at full capacity at all times during use. This provides a constant high volume of conditioned air through the module regardless of gas detector readings. This version is the pinnacle of FlexLAB design and the consistent airflow provided is already a requirement for compliance in some jurisdictions.



Additional Power Upgrades

Duplex 125V Receptacle	\$175
C1D1 Single 120V Receptacle	\$1,000
C1D1 Single 208V Receptacle	\$1,200
C1D1 Duplex 120V Receptacle	\$1,200
C1D1 Duplex 208V Receptacle	\$1,400
C1D1 48' 2-Bulb Fluorescent Light	\$1,245
Other Options	
Stainless Steel Sink (Plumbing Installation Package)	\$1,800

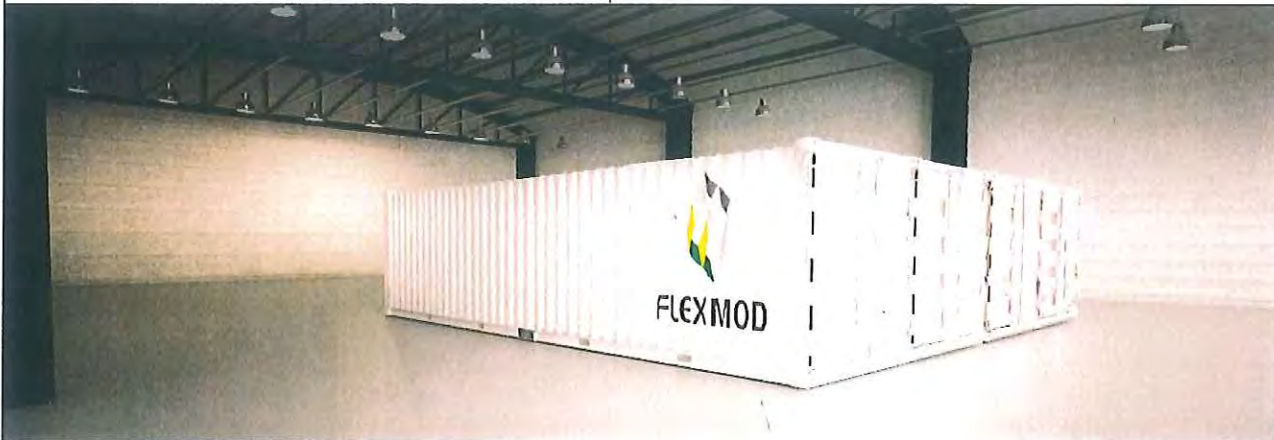


FlexLAB Optional Upgrades

Fire Suppression System	Standard	Wide Body
	8'x 20'	12'x20'
FIRE SUPPRESSION SYSTEM WITH ACTUATOR	\$3,500	\$3,500

Fire Suppression System	Standard	Wide Body
	8'x 40'	12'x40'
FIRE SUPPRESSION SYSTEM WITH ACTUATOR	\$6,500	\$6,500

FIRE SUPPRESSION SYSTEM FOR EXHAUST FAN DUCTS	
Dry Chemical Fire Suppression System Unit With Pressure Switch CFP80LP. Used for ducts, Two included: one per exhaust fan on an indoor placed lab only.	\$1,795





How Your C1D1 Lab Works to Protect Your Property and Employees

A **C1D1 (Class 1 Division 1) Extraction Lab** provides an environment designed for the constant presence of flammable gasses. All of the equipment you install inside the C1D1 room should also be rated for use in a C1D1 environment.

Structure

The enclosure consists of 1-hour rated walls and ceilings, per code requirements. One common misconception is that the unit be rated “explosion proof” or “blast rated”, but this is not necessary. The ventilation and electrical systems have been designed to eliminate the possibility of an explosion.

Ventilation

The ventilation system has been designed to create a linear flow of air through the room to quickly evacuate any flammable gasses that might accidentally be released in the room. Code requires the gas concentration remain below 25% of the LEL (Lower Explosive Limit). The LEL is the minimum gas concentration to allow conflagration, so 25% is only 1/4 of what is required for ignition. We’ve held ourselves to a higher standard and have our LEL set point at 10% for ventilation.

There are two stages to our ventilation system: primary and secondary. The primary system includes the HVAC unit and a primary fan. It will remain on any time the lights are turned on, as required to maintain the temperature setting on the thermostat, and when signaled by the gas detector. The secondary system includes a motorized damper and a secondary fan that will engage starting at 10% LEL. It’s designed to quickly evacuate and replace the air to ensure the gas levels remain below the code required amounts. All exhaust air evacuates directly outdoors and all intake air comes from an outdoor location.

Gas Detection

A gas detector has been installed that will control the ventilation and notify occupants of the room. In the event of a gas release inside the room. Once gas levels reach 10% LEL the secondary ventilation system will engage and a visual indicator on the gas detector will be illuminated, so action can be taken to remedy the situation. If the gas levels continue to rise to 20% LEL an alarm will sound and the receptacles powering the extraction equipment will be powered down. Once the gas has been cleared the alarms will cease and the secondary ventilation will power down. If, for some reason, the gas detector stops functioning the receptacles and lights will be powered down and emergency lighting will engage to facilitate egress from the module, but ventilation will continue uninterrupted. After a fault condition the breaker controlling the receptacles must be manually flipped to restore power.

Electrical

All of the electrical equipment installed inside the C1D1 area will be rated for C1D1 use and UL listed; including, but not limited to: the lights, receptacles, switches, and gas detector. This means that they are sealed and/or intrinsically safe. Even in the event that the room atmosphere reaches 100% LEL or above, there is no chance of an ignition from the electrical components.

There is a single enclosure with a disconnect switch on the exterior of the module where the main power is connected, this will function as the main “kill switch”. All wiring inside the module will be completed up to this enclosure, but any remotely located devices will need to be wired separately.

Fire Suppression

If you’ve opted to have our fire suppression system supplied, one or more dry chemical suppressant units will need to be installed on the module ceiling. These units are individually heat initiated and come ready for use from the manufacturer. The pressurized bottles are considered a hazardous load and will be shipped directly to your site for field installation to the factory installed mounting hardware in the FlexLab. This is a very simple install, just screw the bottle onto the provided mounting base.

Additional Systems

The module’s PLC has the ability to signal other devices such as flow valves for your solvent system and alarm panels, but FlexMOD does not currently cover these items in our scope. If you will be connecting to any ancillary systems please let FlexMOD know, so we can help facilitate a seamless integration and provide you with the appropriate support.

Key Features:

- Class 1 division 1 area meets all MED, NEC, OSHA and NFPA
- International fire code 2015
- National Fire Protection Association (NFPA) 58, Liquefied Petroleum Gas Code 2014
- NFPA 70 National Electric Code 2014
- 100% ETL-Listed and PE certified equipment
- Hazardous location fixtures and hazardous location fixtures and hazardous gas detection ensures operator safety.
- Standard laboratories will fit multiple extraction units and technicians

See available model sizes and air flow packages below.

This C1D1 explosion proof FlexLAB design includes a 3 phase safety process.

Phase 1: Fresh air flows into the Lab from the make-up air unit and is pulled out by the 800 CFM fan to maintain constant airflow to prevent gas build-up.

Phase 2: If a higher level of gas is detected, the gas detection system will initiate the opening of a vent and the 5000 CFM fan will forcefully flush out all contaminated air.

Phase 3: If gas levels continue to rise, the system will activate an audible alarm that also shuts down the electrical outlets inside, while allowing all fans to continue to operate.

Attachment D

Pyureco

SAMA PRODUCTIONS, LLC

ODOR PLAN

Sama will be engaging the services of www.pyureco.com to neutralize any odors that might be generated at their site on Abby Road in Sandisfield, MA. They are pioneers in the application of this patented technology, which is explained below.

Units will be placed in each greenhouse and the warehouse. Once the buildings are completed, Pyureco will assess existing conditions and determine the exact size and specific locations of each machine within each building. The expectation is that whatever air is coming out of the greenhouse or warehouse will have been treated by the Pyureco technology such that no odor will be detectable. Should there be any occurrences of odor detection at a neighbor/receptor, the placement and/or size of the machines will be revised, such that occurrences will be eliminated.

How it Works

What are Hydroxyls?

Hydroxyls (HO•) are safe, naturally occurring molecules. They are created in the outdoors when the ultraviolet rays of the sun react with oxygen and water vapor from the air. This is a natural process that constantly occurs in our atmosphere. Mother Nature's hydroxyls are the single most important agent that scrubs and cleanses our planet's atmosphere.

However, hydroxyls do not occur indoors, as natural hydroxyls are quickly dissipated without the action of the sun to sustain their formation. Therefore, a patented process was developed, through years of field-testing, to restore Nature's balance indoors. The Pyureco process mimics Mother Nature by safely generating hydroxyls and other molecules that naturally "seek and destroy" bacteria, viruses, mold, odor causing chemicals and VOCs. Hydroxyls actually neutralize odor molecules and gasses by breaking down their chemical bonds. This can be done with even some of the most difficult molecules, such as hydrogen sulfide (H₂S) and ammonia (NH₃).

Are Hydroxyls Safe?

Pyureco systems are designed to generate the same concentration of hydroxyls and natural by-products indoors as the sun does outdoors. Odors and microorganisms swept through the systems are killed in two ways: by exposure to UV and by attack by hydroxyls. Inside the device they are simultaneously exposed to high levels of powerful UV radiation that destroys cellular DNA and to hydroxyl attacks that decompose the organic chemicals that form their protective cell walls. The technology continues to sanitize when hydroxyls transform VOCs into a cascade of natural organic oxidants that are stable enough to circulate throughout the treatment space and kill microorganisms in air and on hard and porous surfaces. Odors disappear as the VOC that cause them are transformed to CO₂ and water vapor. As the treatment air continues to be recycled through the

powerful UV chamber, VOC and their by-products continue to be attacked, being transformed into CO₂ and water. The steady state amounts and types of VOC that remain are similar to what we find outdoors.

People, plants and animals have evolved to thrive in an atmosphere purified by the action of hydroxyls.

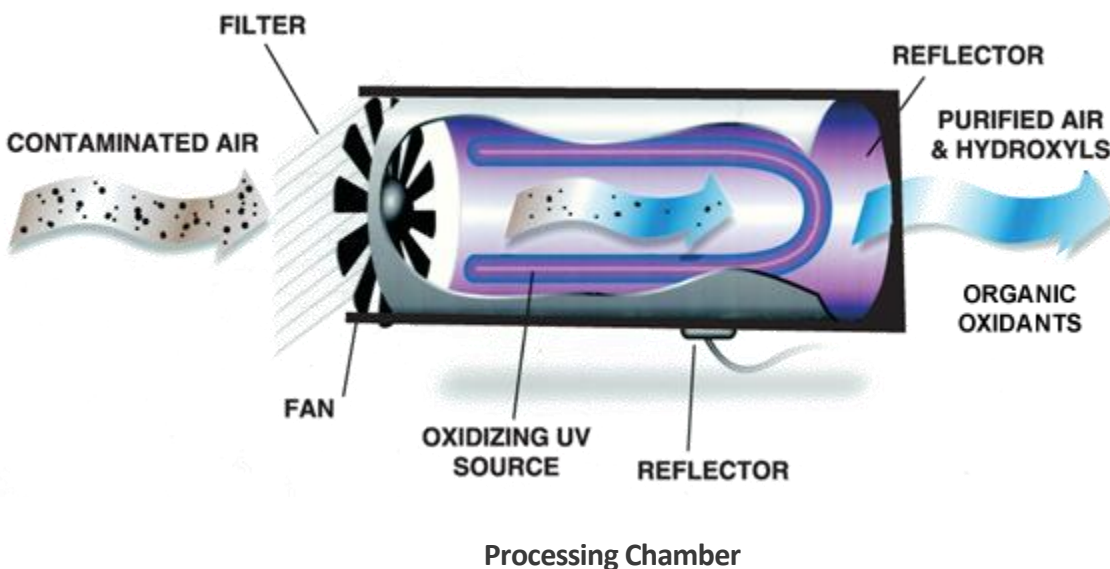
Hydroxyl Generators replicate this natural process:

Pyureco systems use UV so powerful it cleaves water molecules directly to create hydroxyls (HO•). Chemicals and microorganisms passing within the UV chamber are attacked immediately by the UV radiation and the oxidizing power of HO•.



Pyureco implements a dual process attack on contaminants.

1. The processing chamber sanitizes airflow and produces hydroxyls (HO•).
2. The hydroxyl (HO•) molecules exit the chamber to decontaminate surfaces and contents



The processing chamber integrates proprietary UV generating optics with a patented reflective chamber to optimize the production of high concentrations of HO that react within milliseconds to transform VOC into a cascade of natural organic oxidants that have a chemical feature similar to peroxide: the R-O-O group, where R is an organic molecule. These organic peroxides kill microorganisms in a manner similar to hydroxyls and hydrogen peroxide (H-O-O-H). These natural oxidants also permeate porous materials to sanitize and deodorize.

The Cascade Effect



These cascades of organic peroxide compounds formed from VOC are stable enough to circulate throughout the treatment space and sanitize air, and hard and porous materials. They never accumulate. As they are recirculated, they get smaller and smaller in size until they are transformed into CO₂ and water. When used as directed, the low concentrations that persist at any time are as safe indoors as they are outdoors since the Pyureco systems are carefully designed to produce the same concentrations indoors that exist outdoors on a sunny day.

The cascade effect ensures that air and remote surfaces are thoroughly sanitized and deodorized

Safe

All Pyureco Hydroxyl Generators are ETL certified for safety and quality assurance by the world's largest independent testing, inspection and certification partner, Intertek. ETL is a US independent safety agency that sets standards for product safety.

The hydroxyl generating technology does not use any chemicals but merely mimics the earth's atmospheric cleansing process and brings it indoors. The earth has used this same technique for millions of years proving it to be effective and safe for humans, plants and pets.

This is a big departure from the drawbacks of prevailing air purification methods, such as Ozone Generation, Ionizers and Plasma Generators.

Green

Many companies describe their products and services as “green” but what does that really mean? Pyureco products are truly Green since they harness nature’s powerful sanitizing and deodorizing process for safe use indoors.

Pyureco systems sanitize by the action of hydroxyls. Just as in nature, small amounts of ozone are also formed: you cannot generate one without the other. The technology does not use the ozone formed to sanitize... there is too little formed to be useful. Pyureco systems optimized their technology to minimize ozone formation and ensures safe use by directing users to install the right sized device or system for a given, normally ventilated space. All indoor spaces should be ventilated to remain safe...whether you are using a sanitizing system or not as occupied spaces normally build up unsafe levels of CO₂, VOC and microorganisms.

Pyureco simply uses UV light and humidity to create the hydroxyls to drive the cleaning process. It uses very little energy and cleans some of the toughest odor, bacterial and viral problems on the planet.

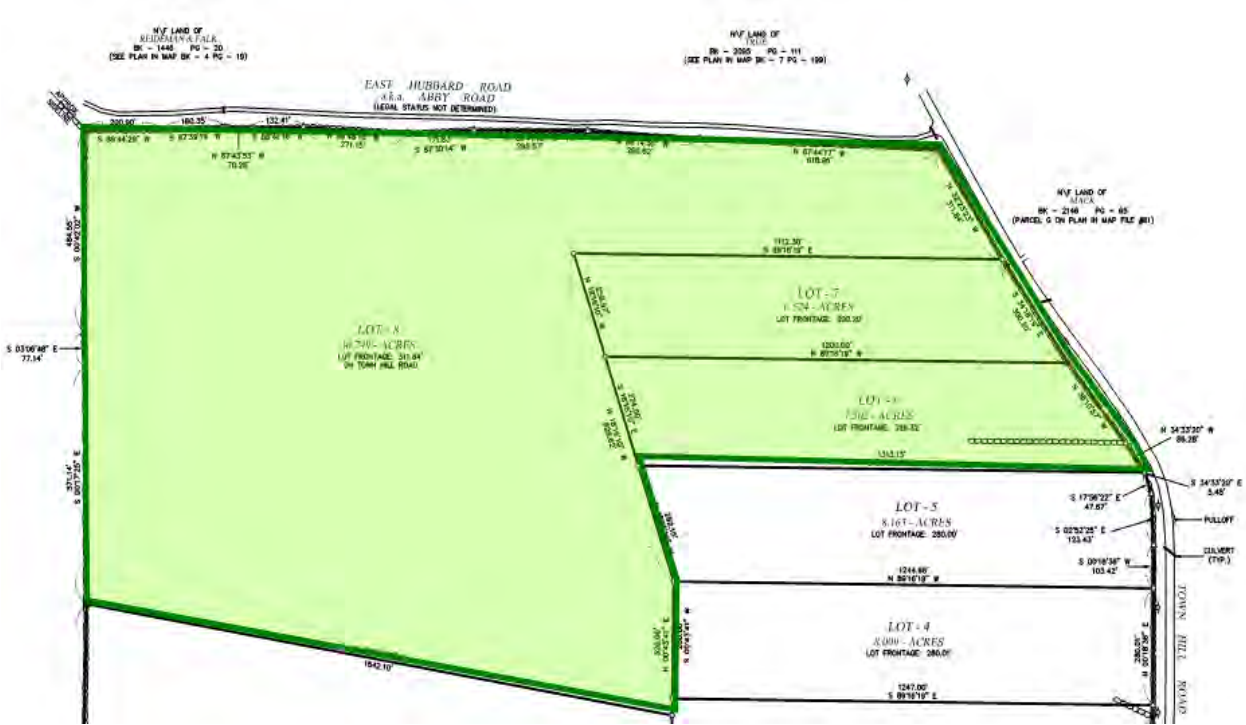
Attachment E
Stormwater Report

STORMWATER MANAGEMENT NARRATIVE

To Accompany Special Permit Application
SAMA Productions LLC
Abby Road
Sandisfield, MA

Introduction

The project site is located along Abby road near the intersection of Abby Road and Town Hill Road in Sandisfield, MA.



Portion of property survey (Prepared By Kelly Granger and Parsons Assoc.)

The property contains 60 acres of land, more or less, accessed Abby Road traveling west along Abby road. The existing site is known as Town Hill and is a forested hillside. The entire development is located on lot 8 which includes 46 acres of land.

The proposed project includes the construction of (23) green houses and a 5,000-sf pre-engineered processing building. The project also includes the construction of gravel driveways, with parking areas, grading, utilities, and stormwater infrastructure.

The method to be used to analyze both the existing and proposed drainage flow is outlined in the Soil Conservation Services Technical Release 20 (TR-20) and Soil Conservation Services Technical Release 55 (TR-55) “Urban Hydrology for Small Watersheds”, 2nd Edition, 1986. The SCS methods are utilized by HydroCAD stormwater modeling software, which provides methods to calculate stormwater runoff volumes, peak rates of runoff and hydrographs for small watersheds. The input data includes site use, published hydrologic soil type and statistical rainfall data. The analysis will show no increase in runoff for a 24- hour, type III storm during a 2-year, 10-year, and 100-year storm event.

The time of concentration calculations are based upon the travel time from the hydraulically most distant point within the watershed to the final design point. The times were calculated utilizing the *Soil Conservation Services Technical Note Hydrology No. N4* dated July 1986.

The proposed drain pipes will be high density polyethylene (HDPE), more specifically we have specified Advance Drainage System (ADS N-12). This type of pipe is light weight, durable, and provides the capacity of other types of pipe (i.e. metal, concrete, etc.)

The stormwater design mimics existing drainage patterns and is design following the Mass Department of Environmental Protection Stormwater Management Standards.

Standard #1-No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

The project as proposed includes the collection, treatment and mitigation of stormwater runoff from all developed areas and by-passes upgradient stormwater to insure hydrology is not interrupted to downgradient areas. The onsite drainage channel is designed at less than 5% slope. The conveyance is designed to have sufficient capacity to convey runoff safely during the 10-year storm. The maximum calculated velocity is 4.4 fps. The drainage channel will be planted with tall fescue grass mix and a grass legume mixture. This ground cover will prevent erosion. Should erosive conditions persist, check dams shall be installed. Check dams shall be installed at 50’ intervals 18 inches high and well graded 6-inch minus stone.

Standard #2-Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

Peak flows are managed according to the standards as outlined below:

	Westerly DP	Westerly DP
Event	Existing Outflow (cfs)	Proposed Outflow (cfs)
2 year	5.64	5.55
10 year	13.12	12.09
100 year	33.83	31.15
	Easterly DP	Easterly DP
Event	Existing Outflow (cfs)	Proposed Outflow (cfs)
2 year	4.94	4.87
10 year	11.48	11.44
100 year	29.58	28.72

Standard #3 Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures.

Infiltration volume is provided using the static method. All infiltration BMPs are proposed in fill areas onsite. Other infiltration measures are proposed to collect stormwater onsite but are not included in the calculations for compliance under this standard. Construction of the BMPs in fill insures the BMPS meet the separation to groundwater requirements under this section. The below summary indicates the standard is met.

Groundwater recharge

Target Depth Factor	0.25	inch
	0.021	feet
impervious area	1.45	acres (West)
sum	1.45	
Area	62,998	square feet
Recharge volume required	1,312	Cubic feet

Infiltration trenches proposed

Greenhouse group 1	0	Cubic feet
Greenhouse group 2	989	Cubic feet
Greenhouse group 3	897	Cubic feet
Volume Provided	1,886	Cubic feet

The infiltration trenches installed above groundwater by 2 feet minimum will include 1830 LF of trench. The design includes a trench 18 inches deep by 12 inches wide with a 4-inch perforated pipe. This provides 1,886 cubic feet of storage meeting the standard.

Onsite soils were investigated by advancing 12 test excavations. Onsite soils were characterized as fine sandy loam to depths of greater than 10 feet in all tested areas. Groundwater depth varied from 18"-24" below existing grade based upon >5% soil mottling. Soil permeability is 0.6 in/hr. for design purposes. Infiltration BMPs require a minimum of 0.17 in/hr. therefore this criteria is met.

Standard #4-Water Quality

Stormwater will be treated using best management practices. The project site has been separated into several sub-areas to manage stormwater. Upstream undeveloped forests are by-passed around the development to avoid mixing with developed area stormwater. Clean by-pass water will replenish the downgradient wetlands with hydrology. Further rooftop runoff is also captured, infiltrated, and discharged separately to avoid the treatment train and avoid mingling of "contaminated" and "uncontaminated" runoff. The remaining development area is reduced to 4± acres of impervious area including both the easterly and westerly subareas. The Westerly sub area includes about 2.9 acres of gravel drive and unaccounted for rooftop that is collected and treated. The treatment train for the westerly greenhouse group #1 and #3 is as follows:

Location:

	B BMP ¹	C TSS Removal Rate ¹	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
TSS Removal Calculation Worksheet	Bioretention Area	0.90	1.00	0.90	0.10
	Extended Dry Detention Basin	0.50	0.10	0.05	0.05
		0.00	0.05	0.00	0.05
		0.00	0.05	0.00	0.05
		0.00	0.05	0.00	0.05

Total TSS Removal =

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project:

Prepared By:

Date:

*Equals remaining load from previous BMP (E) which enters the BMP

The easterly area includes the metal building and a portion of greenhouse group #2. The treatment train is as follows:

Location:

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Bioretention Area	0.90	1.00	0.90	0.10
Extended Dry Detention Basin	0.50	0.10	0.05	0.05
	0.00	0.05	0.00	0.05
	0.00	0.05	0.00	0.05
	0.00	0.05	0.00	0.05

Total TSS Removal = Separate Form Needs to be Completed for Each Outlet or BMP Train

Location:

B	C	D	E	F
BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
Treebox Filter	0.80	1.00	0.80	0.20
Extended Dry Detention Basin	0.50	0.20	0.10	0.10
	0.00	0.10	0.00	0.10
	0.00	0.10	0.00	0.10
	0.00	0.10	0.00	0.10

Total TSS Removal = Separate Form Needs to be Completed for Each Outlet or BMP Train

WESTERLY:

Water quality treatment volume:

$$V_{WQ} = (D_{WQ}/12 \text{ inch/ft}) * (A_{imp} * 43560 \text{ Sf/Acre})$$

$$V_{WQ} = (1/2\text{-inch}/12 \text{ in/ft}) * (2.9 * 43560 \text{ sf/acre})$$

$$= 5264 \text{ cf}$$

$$\text{Volume of 5P (forebay)} = 13547 \text{ CF}$$

$$5264 < 13547 \text{ OK}$$

EASTERLY:

Water quality treatment volume:

$$\begin{aligned} V_{wQ} &= (1/2\text{-inch}/12 \text{ in/ft}) * (1.0 * 43560 \text{ sf/acre}) \\ &= 1815 \text{ CF} < (0.109 \text{ AF} * 43560) = 4748 \text{ OK} \end{aligned}$$

The parking area around the building is supplemented with tree box filters thus it has a similar treatment train to the above.

Standard #5-Land Uses with Higher Potential Pollutant Loads (LUPPL)

The proposed project is not considered a LUPPL therefore this does not apply.

Standard #6-Critical Areas

The proposed project is not located in, nor discharge to a Critical Area, therefore this does not apply.

Standard #7-Redevelopment

The proposed project is not considered a redevelopment project therefore this does not apply.

Standard #8-Construction Period Controls

The proposed site disturbance is greater than 1 acre, therefore a National Pollutant Discharge Elimination System (NPDES) Stormwater Pollution Prevention Plan (SWPPP) will be filed. This will be completed prior to land disturbance. In the interim, an Erosion Control plan with details is included herein. Silt fence with straw wattles are located along all downgradient limits of work, sediment traps are proposed in each catch basin and each building will be phased to minimize site disturbance.

Standard #9-Operation and Maintenance

Swales and ponds shall be inspected annually, and sediment should be removed when it has accumulated to 12" in depth.

ILLICIT DISCHARGE COMPLIANCE STATEMENT

SAMA Productions LLC

Abby Road Sandisfield, MA

This statement is provided in accordance with the provisions of the Massachusetts Stormwater Management Standard 10 and of the Massachusetts Stormwater Management Handbook.

Note the following:

All stormwater management systems contain no connection to the site's wastewater sewer system or to any other non-stormwater collection system.

Groundwater collection systems on the site are not connected to the site's wastewater sewer system or to any other non-stormwater collection system.

The facility's Operations & Maintenance Plan is designed to prevent any discharge of non-stormwater to the drainage system.

Any illicit discharges identified during or after construction will be immediately disconnected.

Date: February 2021

Operation and Maintenance Plan

of

The Stormwater System

For

SAMA Productions

Located at

Abby Road

Sandisfield, Massachusetts

February 2021

Background

Once rain reaches the ground, what happens next depends largely on land cover type. Rain falling in a forest is slowed, filtered, and absorbed as it makes its way into the ground or to the nearest stream, river, or reservoir. In contrast, hard, impervious surfaces such as roof tops and roads send stormwater rushing to the nearest ditch, culvert, storm drain, and stream. This stormwater picks up pollutants, such as heavy metals, gas, oil, nutrients, and sediment along the way. Uncontrolled stormwater erodes stream banks, causes flooding, and carries nutrients and sediment downstream. An excess of nutrients contributes to the expansion of oxygen-depleted “dead zones” in local waterways. The solution to improve the quality and reduce the quantity of stormwater runoff before it enters natural waterways are referred to as Best Management Practices, or BMPs. **BMPs** range from structural facilities, such as ponds, bio-retention areas, and underground vaults, to non-structural practices, such as street sweeping and educational efforts.

Routine maintenance will keep a **BMPs** functioning properly and will pay off in the long run by preventing unnecessary repairs. Also, preventing pollutants from reaching the **BMP** will result in lower maintenance costs and cleaner water.

Common Routine Maintenance Needs for Most BMPs

- Regular Inspections
- Vegetation Management
- Mowing
- Pest and Weed control
- Removing Sediment Build-Up
- Stabilize Eroded Areas or Bare Spots
- Unwanted Vegetation
- Embankment and Outlet Stabilization
- Debris and Litter Control
- Mechanical Components Maintenance
- Insect Control
- Access Maintenance
- Overall Pond Maintenance
- Regular Inspections

Each of the above is briefly described below:

Vegetation Management

Most **BMPs** rely on vegetation to filter sediment from stormwater. Vegetation also serves to prevent erosion of the banks and stabilize the bottom of the facility. While turf grass is the most common groundcover, many **BMPs** are designed with woody vegetation and wetland plants to increase pollutant removal.

Mowing.

Most grass is hardiest if it is maintained as an upland meadow. Therefore, grass within BMPs (drainage channels) should not be mowed shorter than six to eight inches. Grass should be cut at least twice during the growing seasons and once during the summer.

Pest and Weed Control

To reduce the amount of pollutants reaching the **BMP**, avoid using any fertilization and/or pesticides.

Removing Sediment Build-Up.

Since the vegetation surrounding the **BMP** is designed to trap sediment, it is likely to become laden with sediment. When this happens, the sediment should be removed prior to it rendering the **BMPs** ineffective.

Stabilize Eroded Areas or Bare Spots.

Bare spots should be vigorously raked, backfilled if needed, covered with top soil, and seeded. This is particularly important during the initial construction period.

Unwanted Vegetation.

Some vegetation is destructive to a **BMP**. Keeping dams and bottom areas free of deep-rooted vegetation is critical as roots may destabilize the structure. Consistent mowing and monitoring will control any unwanted vegetation.

Embankment and Outlet Stabilization

A stable embankment is important to ensure that erosion does not contribute to water quality problems and that embankments are not breached resulting in downstream flooding. Maintaining a healthy vegetative cover and preventing the growth of deep-rooted (woody) vegetation on embankment areas is an important component to stabilization. Animal burrows will also deteriorate the structural integrity of an embankment. Muskrats and groundhogs in particular will burrow tunnels up to six inches in diameter. Efforts should be made to control excessive animal burrowing and existing burrows should be filled as soon as possible. Outlet structures are particularly prone to undercutting and erosion. Unchecked, a small problem can easily result in the need to replace the entire structure. A professional engineer should be consulted if sink holes, cracking, wet areas around the outlet pipe, displacement, or rusting of the pipe is observed.

Debris and Litter Control

Regular removal of debris and litter can be expected to help in the following areas: reduce the chance of clogging outlet structures and trash racks; prevent damage to vegetated structures; reduce mosquito breeding habitats; maintain facility appearance; and, reduce conditions for excessive algae growth. Special attention should be given to the removal of floating debris which can clog inlets, outlets, and low-flow orifices.

Mechanical Components Maintenance

Some **BMPs** have mechanical components that need periodic attention - valves, sluice gates, pumps, **anti-vortex devices**, fence gates, locks, and access hatches should be functional at all times. This type of routine maintenance is best left to a professional.

Insect Control

A healthy ecosystem actually promotes biological controls of mosquitoes. However, mosquito and other insect breeding grounds can be created by standing water. Though perceived as a significant nuisance, mosquitoes are not as big a problem as is often thought, and there are ways to address the issue.

The best technique is to ensure that stagnant pools of water do not develop. For **BMPs** that have a permanent pool of water, this means the prompt removal of floatable debris.

The development of a mosquito problem, particularly in dry ponds, infiltration trenches, and rain gardens, is usually an early indication that there is a maintenance problem, such as clogging. In such cases, the infiltration capacity of the **BMP** needs to be increased or sediment needs to be removed.

Access Maintenance

Most **BMPs** are designed so that heavy equipment can safely and easily reach the facility for non-routine maintenance. Routine maintenance of access areas is particularly important since one never knows when emergency access will be needed. Maintenance includes removal of woody vegetation, upkeep of gravel areas, fences, and locks.

Overall Pond Maintenance

An often overlooked aspect of maintenance, especially for wet ponds, is the need to ensure a healthy aquatic ecosystem. A healthy ecosystem should require little maintenance. An indicator of an unhealthy system is excessive algal growth or the proliferation of a single species of plant in the permanent pool of a wet pond. This may be caused by excess nutrients from fertilization practices (of a landscape company or surrounding neighbors), or by excess sediment. Steps should be taken to reduce excess nutrients at their source and to encourage the growth of native aquatic and semi-aquatic vegetation in and around the permanent pool.

Goals of this document

- **Section 1: Identify Facility Characteristics and Maintenance Needs**
- **Section 2: Outline Routine Inspections**
- **Section 3 Define Maintenance Tasks, for each BMP**
- **Section 4 Establish a Record Keeping Procedure**

SECTION #1

Identify Facility Characteristics and Maintenance Needs

Understand how the facility works and its specific maintenance needs. The system owner and the Best Management Practices (BMPs) included in the system are outlined below:

Stormwater Management System Operator: SAMA Productions LLC

- The owner of the property will be responsible for the operation and maintenance of the system. The maintenance will be performed by a combination of hired staff and an appropriate contractor.
- Future property owners will be made aware of this Operation & Maintenance Plan by means of a condition in the Order of Conditions. The Condition attached to the deed will indicate that there is a long-term plan that must be followed in perpetuity.
- The following documentation describes the maintenance required for each stormwater best management practice (BMP). The BMPS are as follows:
 - Deep Sump Catch Basins
 - Rain Garden
 - Underground Infiltration Bed
- The project plans have been attached, which shows the locations of the BMPs that must be maintained.

Note that all waste should be disposed in accordance with applicable local, state, and federal guidelines and regulations.

SECTION #2

Perform Routine Inspections

The frequency of required inspections is dependant upon the **BMP** and is outlined below. Inspections and maintenance of the stormwater system is the responsibility of the property owner and/or operator. BMPs will be visually inspected in accordance with the following chart

BMPs	Inspection Frequency	What to Look For							Remarks
		Erosion	Tree growth	Vegetation	Slope integrity	Trash Debris	Sediment accumulatio	Outlet	
1. Bio Retention cells	Annually	✓	✓	✓	✓	✓	✓	✓	Inspect for debris, mulch annually.
	Monthly					✓			
2. Forebay	Quarterly	✓	✓	✓	✓	✓	✓	✓	Inspect for debris, and remove sediment as needed
	Monthly					✓			
3. Dry Detention Basin	Bi-Annually	✓	✓	✓	✓	✓	✓	✓	Inspect Inlet Manholes, Remove debris as needed. Use vacuum truck to clean isolator row as needed
	Every 5 years						✓		

SECTION #3

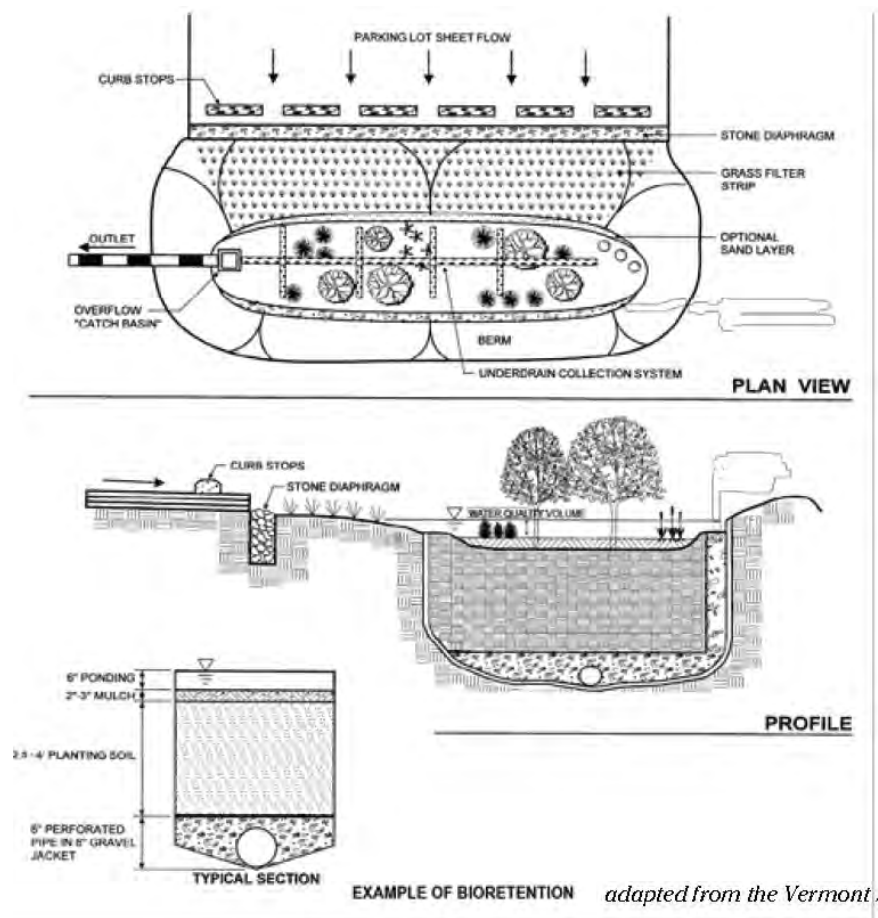
Define Maintenance Tasks, for each BMP

Defining maintenance tasks and who will undertake these tasks – along with establishing a regular inspection program - is the core of a successful stormwater management facility maintenance program. Each BMP is outlined as follows:

- Section 3.1 – Rain Garden
- Section 3.2 – Sediment Forebays
- Section 3.3 – Dry Detention Basin

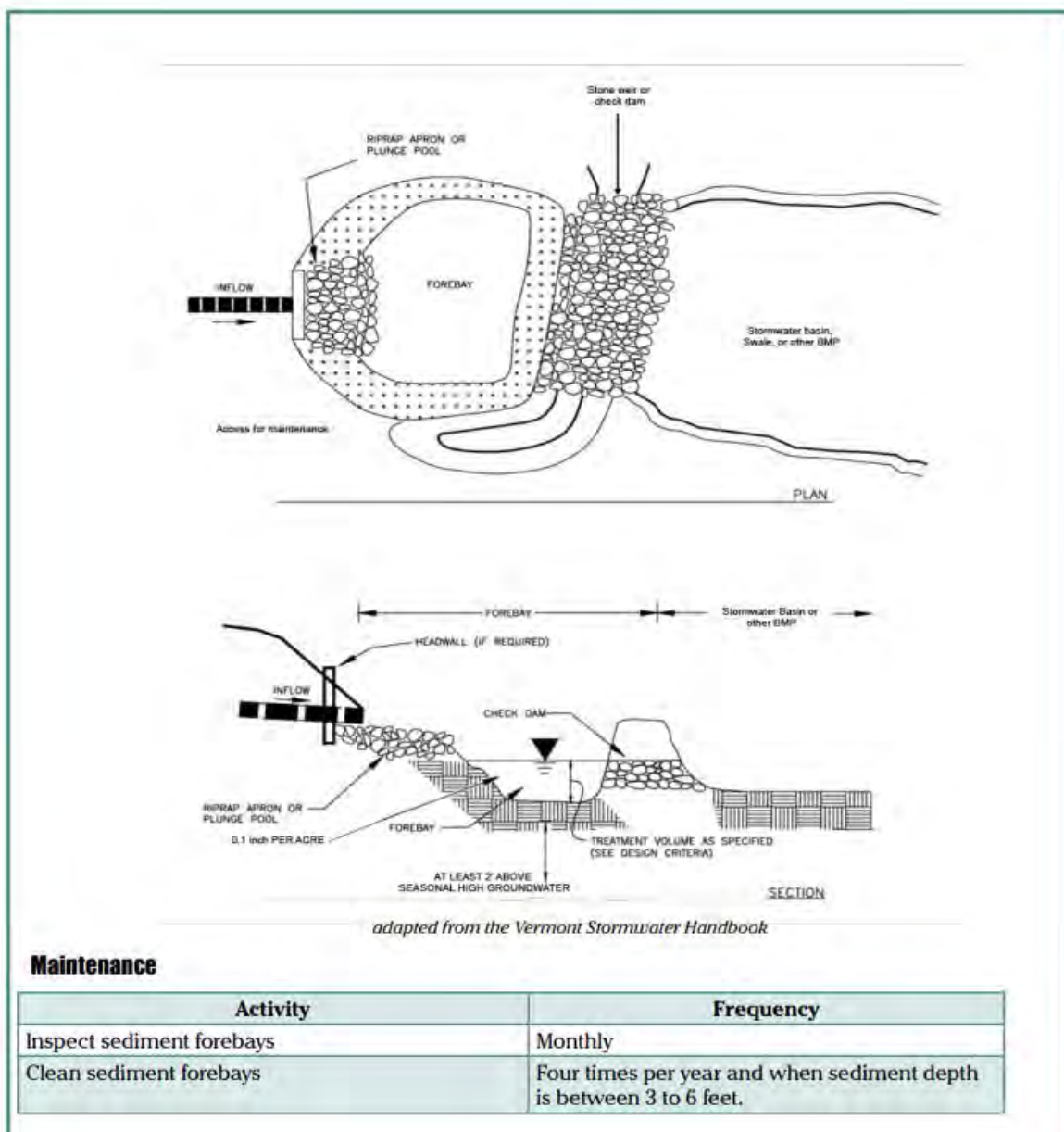
Section 3.1- Rain Garden

Rain gardens remove pollutant through filtration, microbe activity and uptake by plants. Therefore, careful maintenance is required to ensure proper vegetation and soil media.



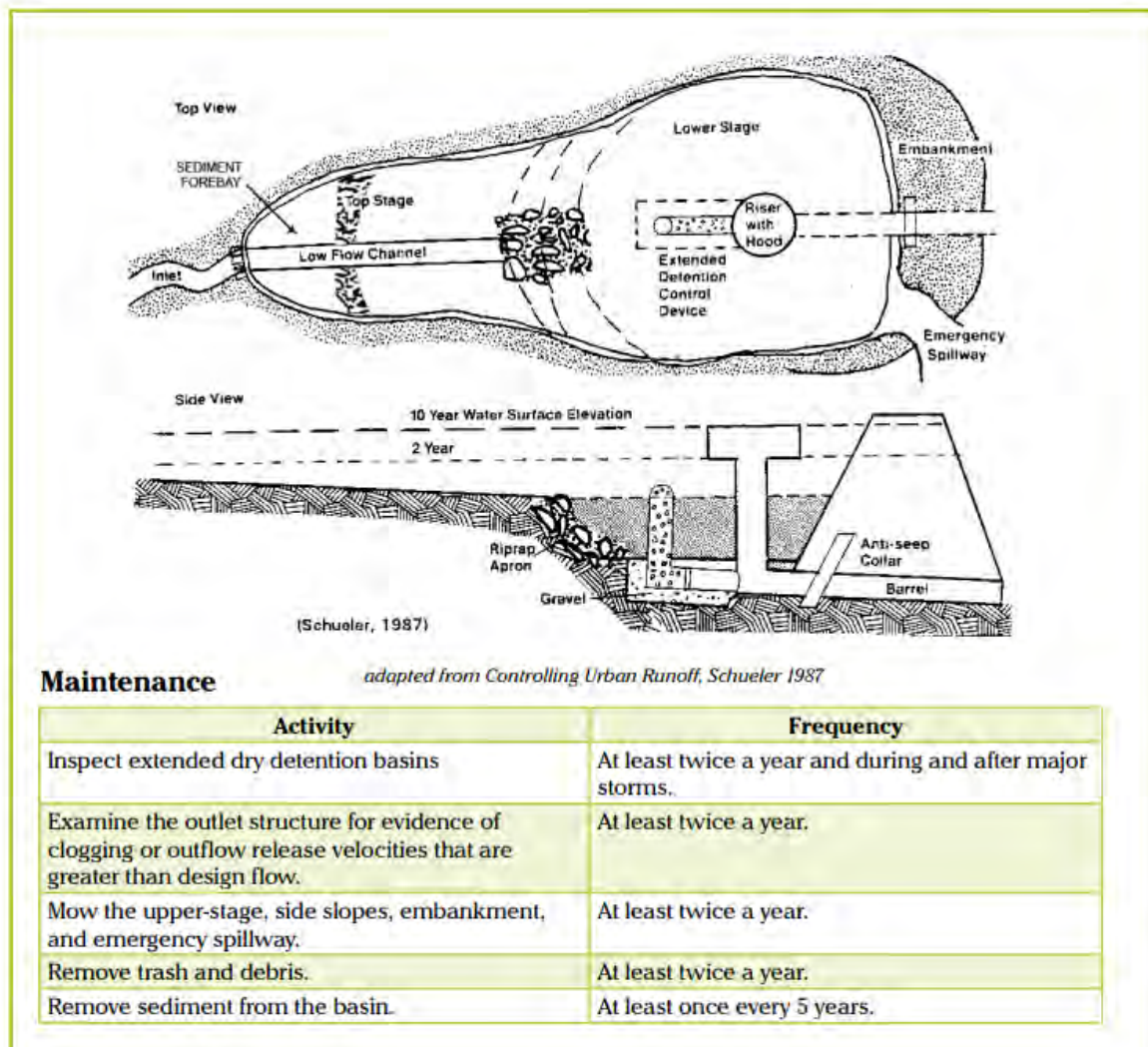
Bioretention Maintenance Schedule		
<i>Activity</i>	<i>Time of Year</i>	<i>Frequency</i>
Inspect & remove trash	Year round	Monthly
Mulch	Spring	Annually
Remove dead vegetation	Fall or Spring	Annually
Replace dead vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace entire media & all vegetation	Late Spring/early Summer	As needed*

Section 3.2 – Sediment Forebays



Sediments and associated pollutants are removed only when sediment forebays are actually cleaned out, so regular maintenance is essential. Frequently removing accumulated sediments will make it less likely that sediments will be resuspended. At a minimum, inspect sediment forebays monthly and clean them out at least four times per year. Stabilize the floor and sidewalls of the sediment forebay before making it operational, otherwise the practice will discharge excess amounts of suspended sediments. When mowing grasses, keep the grass height no greater than 6 inches. Set mower blades no lower than 3 to 4 inches. Check for signs of rilling and gulying and repair as needed. After removing the sediment, replace any vegetation damaged during the clean-out by either reseeding or resodding. When reseeding, incorporate practices such as hydroseeding with a tackifier, blanket, or similar practice to ensure that no scour occurs in the forebay, while the seeds germinate and develop roots.

Section 3.3 – Dry detention basin



Inspect extended dry detention basins at least once per year to ensure that the basins are operating as intended. Inspect extended dry detention basins during and after major storms to

determine if the basin is meeting the expected detention times. Examine the outlet structure for evidence of clogging or outflow release velocities that are greater than design flow. Potential problems that should be checked include subsidence, erosion, cracking or tree growth on the embankment; damage to the emergency spillway; sediment accumulation around the outlet; inadequacy of the inlet/outlet channel erosion control measures; changes in the condition of the pilot channel; and erosion within the basin and banks. Make any necessary repairs immediately. During inspections, note any changes to the extended dry detention basin or the contributing watershed, because these could affect basin performance. Mow the upper-stage, side slopes, embankment, and emergency spillway at least twice per year. Also remove trash and debris at least twice per year. Remove sediment from the extended dry detention basin as necessary, but at least once every 5 years. Providing an on-site sediment disposal area will reduce the overall sediment removal costs.

SECTION #4

Establish a Record Keeping Procedure

Establishing a record keeping procedure will help to define chronic maintenance problems and aid in future budget preparation. A periodic examination of maintenance practices will assist in identifying persistent problems early.

Attached is a sample Stormwater Inspection Form.

Stormwater Inspection Form

Project: _____

Inspector Name: _____ Weather: _____

Date: _____ Time: _____

1. Rain Garden:

Depth of sediment Yes No Depth: _____

Conditions of Mulch: Good Poor

Conditions of Vegetation: Good Poor

Action Required: _____

*Attach additional pages as necessary.

2. Forebay:

Inspect Inlet and outlets

Depth of sediment: _____ inches

Structural Integrity: Good Poor

Inspect Outlet

Depth of sediment: _____ inches

Structural Integrity: Good Poor

Action Required: _____

*Attach additional pages as necessary.

3. Dry detention Basin

Inspect Inlet and outlets

Depth of sediment: _____ inches

Structural Integrity: Good Poor

Inspect Outlet

Depth of sediment: _____ inches

Structural Integrity: Good Poor

Action Required: _____

*Attach additional pages as necessary.

Statement of Compliance

Based on the above observations, this report can serve as confirmation that the stormwater system **is** being maintained and operated in general conformance with the approved plans and the discharge permit referenced above, and that the stormwater system is in good operating condition.

Signature

Date

Print or Type Name

Record Keeping:

A copy of this Inspection Form and any supporting documents, including but not limited to, photographs, vendor receipts, notes or other records, must be kept on file at the premises for a minimum of three (3) years.



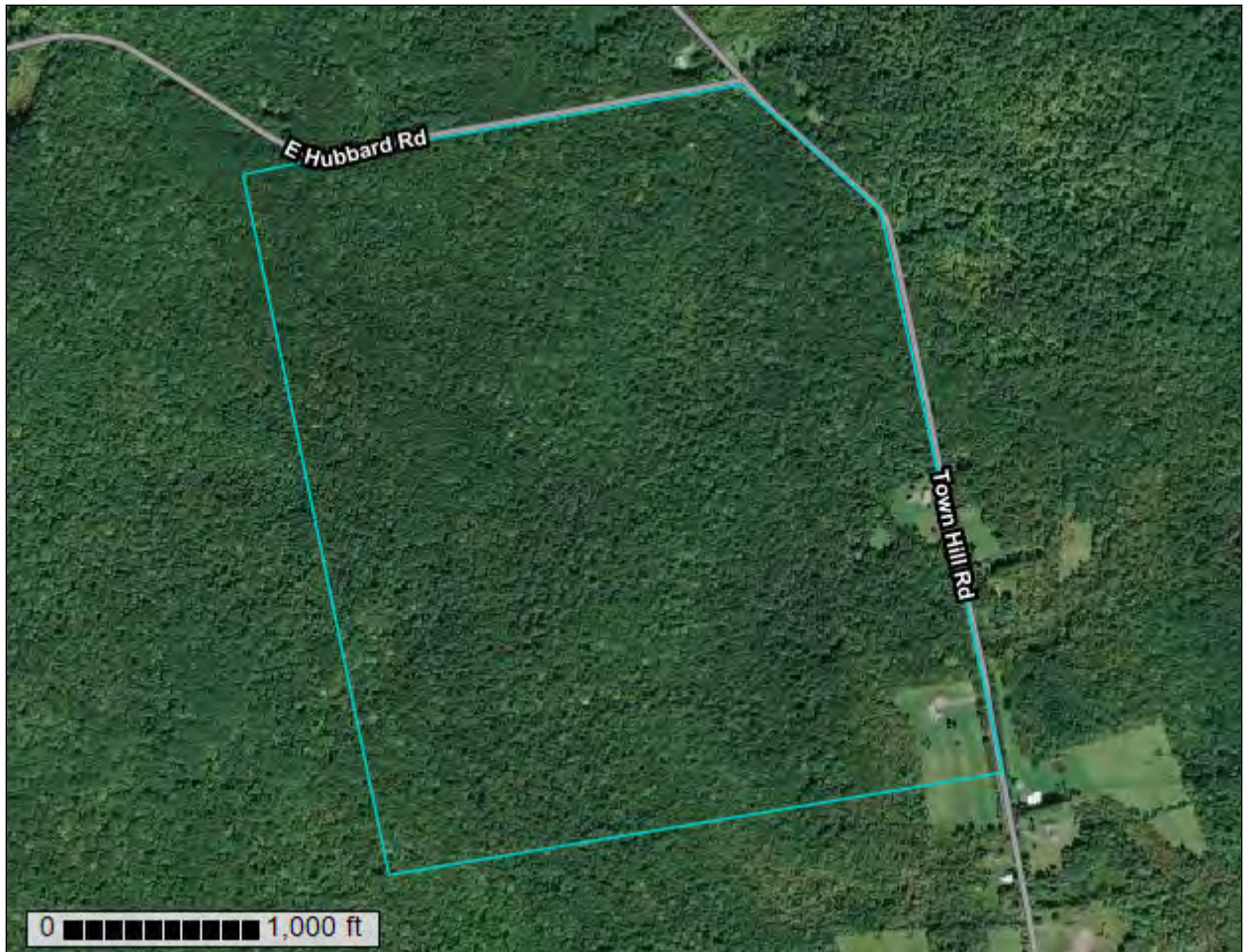
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Berkshire County, Massachusetts



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

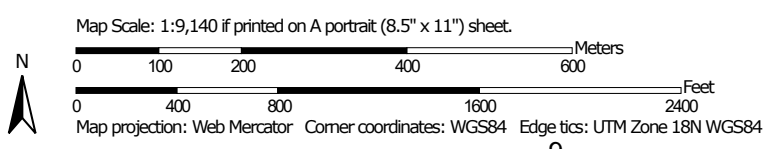
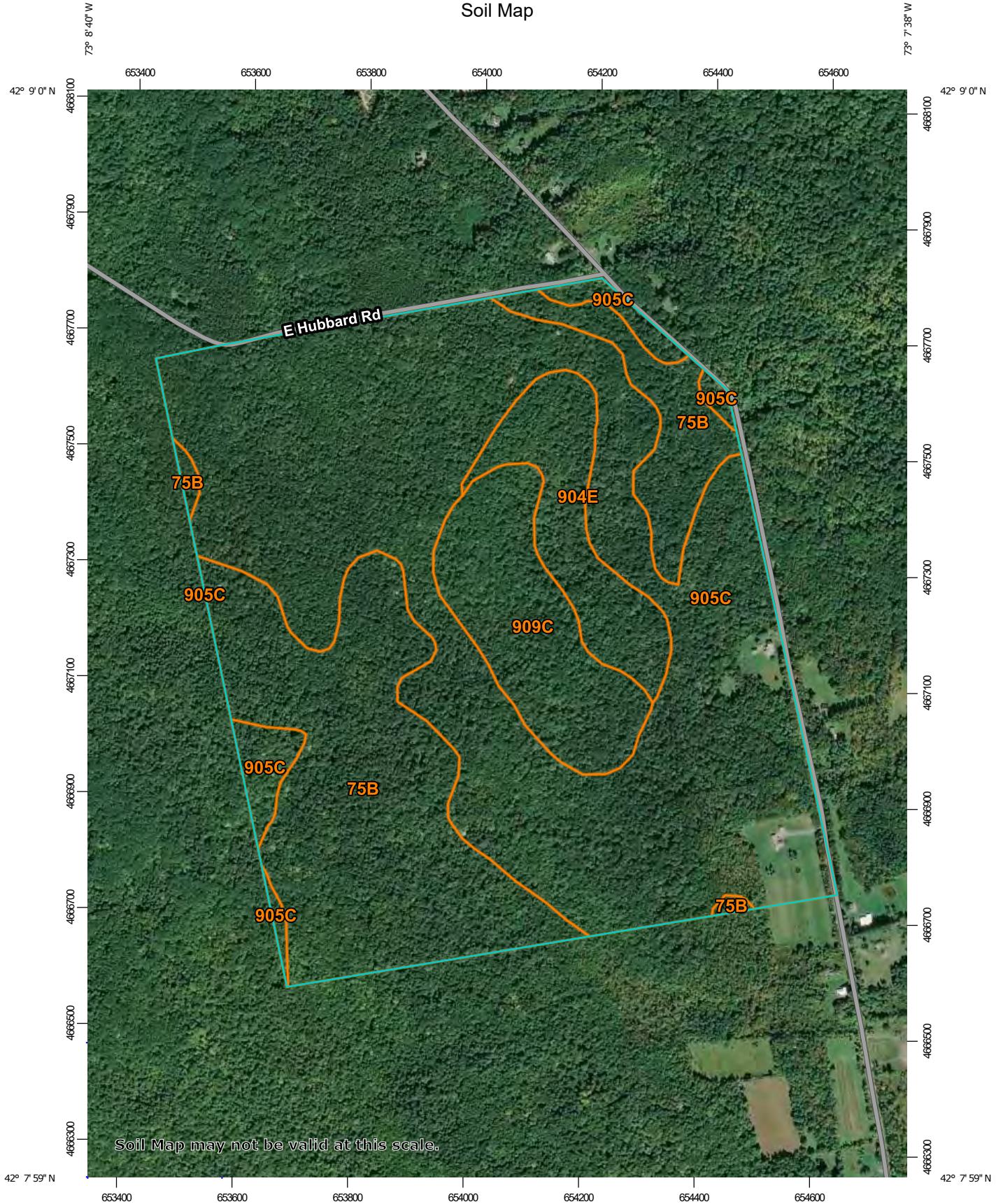
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map


The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Berkshire County, Massachusetts
 Survey Area Data: Version 15, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 8, 2019—Sep 17, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
75B	Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony	71.6	27.4%
904E	Lyman-Tunbridge association, 15 to 60 percent slopes, extremely stony	16.9	6.5%
905C	Peru-Marlow association, 3 to 15 percent slopes, extremely stony	148.4	56.9%
909C	Tunbridge-Lyman association, 3 to 15 percent slopes, extremely stony	23.9	9.2%
Totals for Area of Interest		260.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

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was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Berkshire County, Massachusetts

75B—Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2ty6x
Elevation: 360 to 2,070 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 52 degrees F
Frost-free period: 90 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Pillsbury, very stony, and similar soils: 79 percent
Minor components: 21 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pillsbury, Very Stony

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Mountainbase, interfluve, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy lodgment till derived from gneiss and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from granite

Typical profile

Oe - 0 to 1 inches: mucky peat
A - 1 to 6 inches: fine sandy loam
Bg1 - 6 to 13 inches: cobbly fine sandy loam
Bg2 - 13 to 23 inches: cobbly fine sandy loam
Cd - 23 to 65 inches: cobbly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.1 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Peru, very stony

Percent of map unit: 9 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Mountainbase, base slope, interfluve
Microfeatures of landform position: Rises, rises
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Peacham, very stony

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Mountainbase, interfluve, base slope
Microfeatures of landform position: Closed depressions, closed depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Wonsqueak

Percent of map unit: 4 percent
Landform: Mountains, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Mountainbase, interfluve, base slope
Microfeatures of landform position: Closed depressions, closed depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Lyman, very stony

Percent of map unit: 3 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Mountainbase, interfluve, base slope
Microfeatures of landform position: Rises, rises
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

904E—Lyman-Tunbridge association, 15 to 60 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2ty75
Elevation: 850 to 2,360 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 52 degrees F

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Frost-free period: 60 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman, extremely stony, and similar soils: 45 percent
Tunbridge, extremely stony, and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Extremely Stony

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Mountaintop, mountainflank, crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 15 to 60 percent
Surface area covered with cobbles, stones or boulders: 6.0 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Tunbridge, Extremely Stony

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Mountaintop, mountainflank, crest, side slope
Down-slope shape: Convex

Custom Soil Resource Report

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material

Oa - 3 to 5 inches: highly decomposed plant material

E - 5 to 8 inches: fine sandy loam

Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam

BC - 26 to 28 inches: fine sandy loam

R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 15 to 60 percent

Surface area covered with cobbles, stones or boulders: 6.0 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Berkshire, extremely stony

Percent of map unit: 9 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountaintop, mountainflank, crest, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Wonsqueak

Percent of map unit: 2 percent

Landform: Mountains, hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, mountaintop, crest, side slope

Microfeatures of landform position: Open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Peacham, extremely stony

Percent of map unit: 2 percent

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Landform: Mountains, hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountaintop, mountainflank, crest, side slope

Microfeatures of landform position: Open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Pillsbury, extremely stony

Percent of map unit: 2 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountaintop, mountainflank, crest, side slope

Microfeatures of landform position: Open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

905C—Peru-Marlow association, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2ty7p

Elevation: 790 to 2,100 feet

Mean annual precipitation: 31 to 95 inches

Mean annual air temperature: 27 to 52 degrees F

Frost-free period: 90 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Peru, extremely stony, and similar soils: 61 percent

Marlow, extremely stony, and similar soils: 20 percent

Minor components: 19 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peru, Extremely Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainflank, mountainbase, interfluve, nose slope, side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite

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Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 5 inches: fine sandy loam
E - 5 to 6 inches: fine sandy loam
Bs1 - 6 to 7 inches: fine sandy loam
Bs2 - 7 to 13 inches: fine sandy loam
Bs3 - 13 to 18 inches: fine sandy loam
BC - 18 to 21 inches: fine sandy loam
Cd1 - 21 to 37 inches: fine sandy loam
Cd2 - 37 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 6.0 percent
Depth to restrictive feature: 21 to 43 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: About 17 to 34 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C/D
Hydric soil rating: No

Description of Marlow, Extremely Stony

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountainbase, mountainflank, interfluve, nose slope, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
E - 5 to 8 inches: fine sandy loam
Bs1 - 8 to 15 inches: fine sandy loam
Bs2 - 15 to 19 inches: fine sandy loam
BC - 19 to 33 inches: gravelly fine sandy loam
Cd - 33 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 6.0 percent
Depth to restrictive feature: 20 to 41 inches to densic material
Drainage class: Well drained

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Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Lyman, extremely stony

Percent of map unit: 6 percent

Landform: Mountains, hills

Landform position (two-dimensional): Shoulder, summit, backslope

Landform position (three-dimensional): Mountainflank, mountainbase, side slope, interfluve, nose slope

Microfeatures of landform position: Rises, rises

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Pillsbury, extremely stony

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountainflank, mountainbase, nose slope, side slope, interfluve

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Berkshire, extremely stony

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountainflank, mountainbase, nose slope, side slope, interfluve

Microfeatures of landform position: Rises, rises

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Monadnock, extremely stony

Percent of map unit: 3 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountainbase, mountainflank, interfluve, nose slope, side slope

Microfeatures of landform position: Rises, rises

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

909C—Tunbridge-Lyman association, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2trrm
Elevation: 1,080 to 2,390 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 52 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Tunbridge, extremely stony, and similar soils: 50 percent
Lyman, extremely stony, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tunbridge, Extremely Stony

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountainbase, mountainflank, mountaintop, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 38 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 7.1 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained

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Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Lyman, Extremely Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountainbase, mountainflank, mountaintop, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent

Surface area covered with cobbles, stones or boulders: 6.0 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Berkshire, extremely stony

Percent of map unit: 8 percent

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Landform: Mountains, hills

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountainflank, mountainbase, side slope, interfluve, nose slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Peacham, extremely stony

Percent of map unit: 4 percent

Landform: Mountains, hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, base slope, interfluve

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Pillsbury, extremely stony

Percent of map unit: 3 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountainbase, mountainflank, side slope, nose slope, interfluve

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

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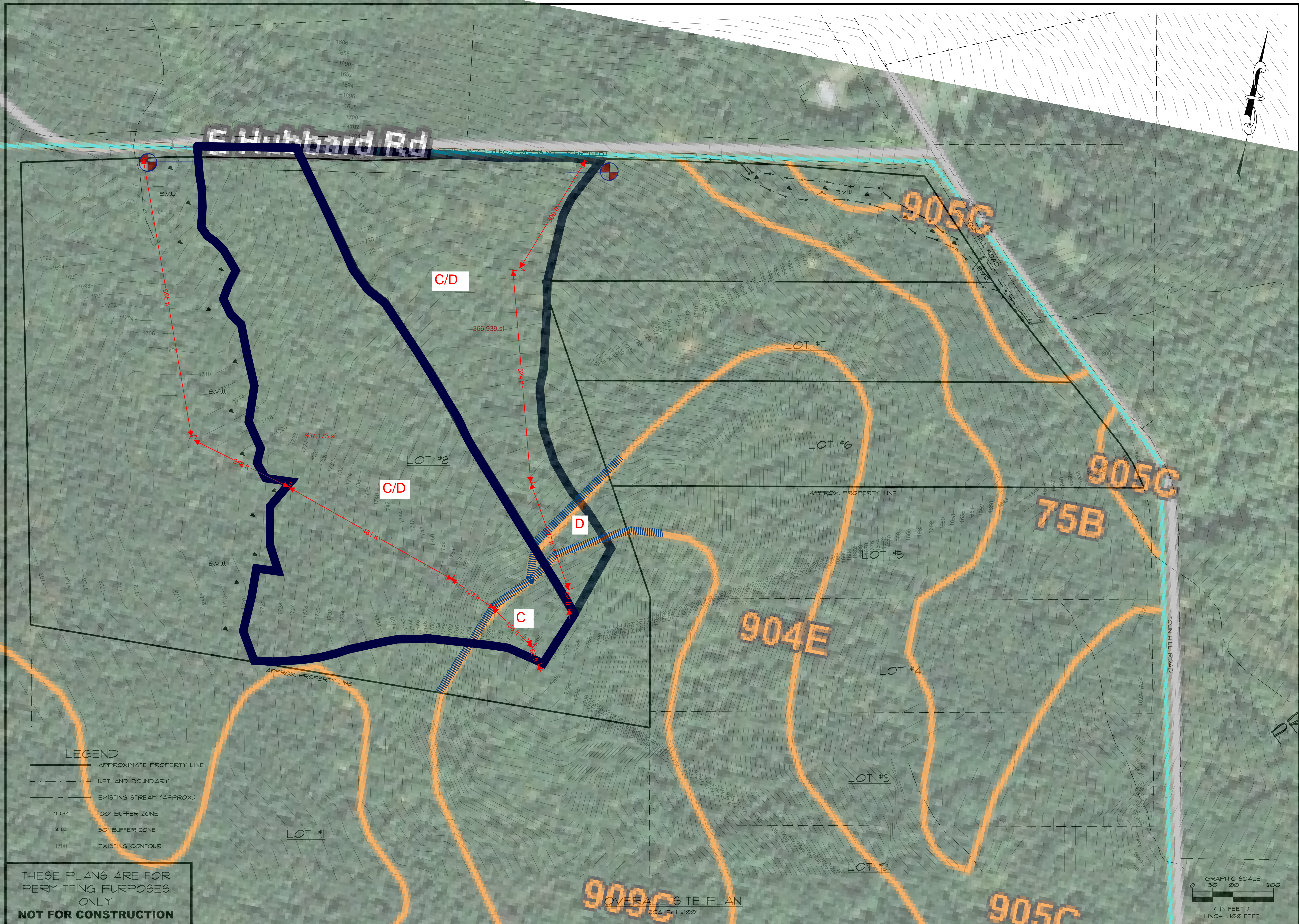
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C/D

C/D

D

C

- LEGEND**
- APPROXIMATE PROPERTY LINE
 - - - WETLAND BOUNDARY
 - - - EXISTING STREAM (APPROX.)
 - 100 FT — 100' BUFFER ZONE
 - 50 FT — 50' BUFFER ZONE
 - 1700 — EXISTING CONTOUR

THESE PLANS ARE FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

OVERALL SITE PLAN
 SCALE: 1" = 100'



PLANS TO ACCOMPANY PERMIT APPLICATIONS
 PREPARED FOR:
ABBY ROAD LAND LLC.
 LOCATED AT:
 TOWN HILL ROAD
 SANDSFIELD MA

Design Group, Inc.
 Civil Engineers * Surveyors * Consultants
 2 FEDERAL DRIVE * PITTSFIELD, MASSACHUSETTS 01201 * (413) 443-3377

PLAN DESCRIPTION:
EXISTING CONDITIONS PLAN

SK DESIGN GROUP PROJECT #:
200181

D R E L I M I N A R Y

JAMES M. SCAUSE II
 SK DESIGN GROUP PRESIDENT
 LICENSE #39885
 PROFESSIONAL CIVIL ENGINEER
 PHONE: 413-443-3377

REVISION	CHECKED BY	DATE

DRAWN BY: AMIS
 DATE: NOVEMBER 6, 2020
 SHEET NO. **2** OF **XX**
 ISSUED FOR: Permit
 SCALE: As Noted

G:\SK DESIGN GROUP\2020\200181 Fulcum-Town Hill Rd, SandSFeld-Ma Greenhouses\Drawings\Permit_Plan\200181_PERMIT.dwg
 User: James.Scause
 Date: January 23, 2021 9:17am

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	Massachusetts
Location	
Longitude	73.137 degrees West
Latitude	42.145 degrees North
Elevation	0 feet
Date/Time	Fri, 29 Jan 2021 11:18:19 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.31	0.47	0.59	0.77	0.96	1.20	1yr	0.83	1.10	1.37	1.70	2.09	2.58	2.85	1yr	2.28	2.74	3.25	3.89	4.45	1yr
2yr	0.36	0.56	0.69	0.91	1.15	1.44	2yr	0.99	1.31	1.65	2.04	2.50	3.07	3.47	2yr	2.72	3.34	3.85	4.57	5.24	2yr
5yr	0.43	0.67	0.84	1.13	1.45	1.82	5yr	1.25	1.63	2.10	2.59	3.17	3.86	4.39	5yr	3.41	4.22	4.90	5.70	6.54	5yr
10yr	0.49	0.77	0.98	1.33	1.72	2.19	10yr	1.49	1.93	2.52	3.11	3.79	4.59	5.26	10yr	4.06	5.05	5.87	6.74	7.74	10yr
25yr	0.58	0.92	1.18	1.63	2.17	2.78	25yr	1.87	2.40	3.22	3.97	4.82	5.78	6.67	25yr	5.11	6.41	7.47	8.42	9.68	25yr
50yr	0.67	1.07	1.38	1.93	2.59	3.34	50yr	2.24	2.83	3.87	4.76	5.76	6.88	7.99	50yr	6.09	7.68	8.97	9.97	11.47	50yr
100yr	0.77	1.24	1.60	2.27	3.10	4.02	100yr	2.68	3.35	4.66	5.72	6.89	8.19	9.57	100yr	7.25	9.20	10.77	11.81	13.59	100yr
200yr	0.88	1.44	1.87	2.69	3.71	4.83	200yr	3.20	3.96	5.61	6.88	8.26	9.77	11.47	200yr	8.64	11.03	12.95	13.99	16.13	200yr
500yr	1.08	1.78	2.32	3.37	4.71	6.16	500yr	4.07	4.95	7.16	8.76	10.48	12.32	14.60	500yr	10.91	14.04	16.52	17.53	20.23	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.61	0.74	0.97	1yr	0.64	0.95	1.06	1.40	1.71	2.25	2.41	1yr	1.99	2.31	2.67	3.38	3.74	1yr
2yr	0.35	0.54	0.66	0.90	1.10	1.31	2yr	0.95	1.28	1.48	1.90	2.44	2.98	3.35	2yr	2.64	3.23	3.71	4.42	5.08	2yr
5yr	0.40	0.62	0.76	1.05	1.33	1.53	5yr	1.15	1.50	1.74	2.24	2.83	3.54	4.01	5yr	3.13	3.86	4.45	5.21	5.95	5yr
10yr	0.44	0.68	0.84	1.18	1.52	1.73	10yr	1.31	1.69	1.98	2.52	3.15	4.02	4.56	10yr	3.56	4.38	5.10	5.82	6.55	10yr
25yr	0.51	0.78	0.97	1.39	1.83	2.05	25yr	1.58	2.00	2.32	2.92	3.62	4.76	5.41	25yr	4.21	5.20	6.09	6.77	7.96	25yr
50yr	0.57	0.87	1.08	1.56	2.10	2.31	50yr	1.81	2.26	2.64	3.25	4.02	5.39	6.17	50yr	4.77	5.93	6.97	7.56	9.06	50yr
100yr	0.64	0.97	1.21	1.75	2.40	2.61	100yr	2.08	2.55	3.00	3.62	4.47	6.10	7.02	100yr	5.40	6.75	7.97	8.40	8.73	100yr
200yr	0.72	1.08	1.37	1.99	2.77	2.95	200yr	2.39	2.88	3.41	4.06	4.98	6.88	8.01	200yr	6.09	7.70	9.12	9.33	9.42	200yr
500yr	0.85	1.26	1.62	2.36	3.36	3.47	500yr	2.90	3.40	4.06	4.73	5.72	8.05	9.54	500yr	7.13	9.18	10.88	10.66	10.31	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.35	0.53	0.65	0.88	1.08	1.27	1yr	0.93	1.24	1.44	1.79	2.34	2.80	3.10	1yr	2.47	2.98	3.49	4.17	4.83	1yr
2yr	0.38	0.59	0.72	0.98	1.21	1.40	2yr	1.04	1.37	1.59	2.08	2.62	3.19	3.63	2yr	2.82	3.49	4.02	4.77	5.54	2yr
5yr	0.47	0.72	0.90	1.23	1.57	1.82	5yr	1.36	1.78	2.04	2.65	3.35	4.20	4.78	5yr	3.72	4.60	5.39	6.24	7.09	5yr
10yr	0.56	0.86	1.07	1.50	1.93	2.21	10yr	1.67	2.16	2.49	3.22	4.04	5.20	5.91	10yr	4.60	5.68	6.75	7.69	8.67	10yr
25yr	0.72	1.09	1.36	1.94	2.55	2.89	25yr	2.20	2.82	3.22	4.19	5.21	6.90	7.84	25yr	6.11	7.54	9.10	10.17	11.47	25yr
50yr	0.86	1.31	1.63	2.34	3.15	3.53	50yr	2.72	3.45	3.93	5.10	6.31	8.55	9.72	50yr	7.57	9.35	11.40	12.56	14.03	50yr
100yr	1.04	1.57	1.97	2.84	3.89	4.32	100yr	3.36	4.22	4.79	6.23	7.64	10.61	12.05	100yr	9.39	11.58	14.30	15.57	17.02	100yr
200yr	1.25	1.88	2.38	3.45	4.81	5.30	200yr	4.15	5.18	5.83	7.60	9.26	13.17	14.94	200yr	11.66	14.36	17.96	19.31	20.93	200yr
500yr	1.61	2.40	3.08	4.48	6.37	6.94	500yr	5.50	6.78	7.59	9.89	12.01	17.59	19.87	500yr	15.56	19.11	24.32	25.69	27.63	500yr



Attachment F
Lighting Information



D-Series Size 0 LED Area Luminaire



Catalog Number
Notes
Type

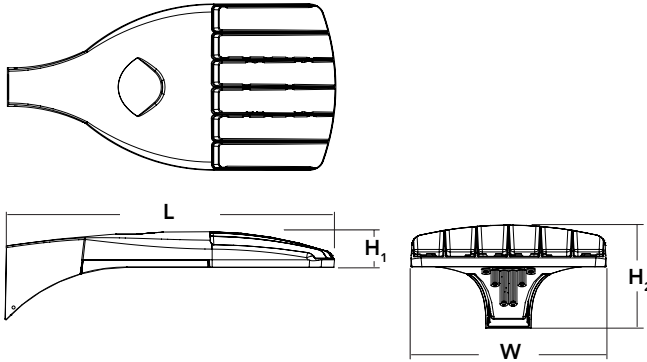
Hit the Tab key or mouse over the page to see all interactive elements.

Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

Specifications

EPA:	0.95 ft ² (.09 m ²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height ₁ :	3" (7.62 cm)
Height ₂ :	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED					
DSX0 LED	Forward optics P1 P4 P7 P2 P5 P3 P6 Rotated optics P10' P12' P11' P13'	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control ² LCCO Left corner cutoff ² RCCO Right corner cutoff ²	MVOLT ^{3,4} 120 ⁴ 208 ⁴ 240 ⁴ 277 ⁴ 347 ^{4,5} 480 ^{4,5}	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor ⁶ RPUMBA Round pole universal mounting adaptor ⁶ Shipped separately KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁷

Control options	Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled ^{8,9} PIRHN Network, high/low motion/ambient sensor ¹⁰ PER NEMA twist-lock receptacle only (control ordered separate) ¹¹ PER5 Five-pin receptacle only (control ordered separate) ^{11,12} PER7 Seven-pin receptacle only (leads exit fixture) (control ordered separate) ^{11,12} DMG 0-10V dimming extend out back of housing for external control (control ordered separate)	PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc ^{13,14} PIRH High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc ^{13,14} PIR1FC3V High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{13,14} PIRH1FC3V High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{13,14} FAO Field adjustable output ¹⁵	Shipped installed HS House-side shield ¹⁶ SF Single fuse (120, 277, 347V) ⁴ DF Double fuse (208, 240, 480V) ⁴ L90 Left rotated optics ¹ R90 Right rotated optics ¹ DDL Diffused drop lens ¹⁶ Shipped separately BS Bird spikes ¹⁷ EGS External glare shield ¹⁷
		DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white



Ordering Information

Accessories

Ordered and shipped separately.

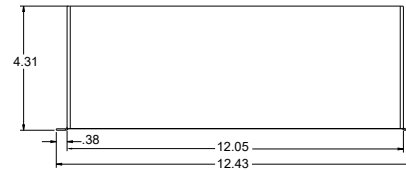
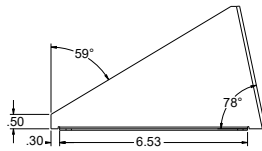
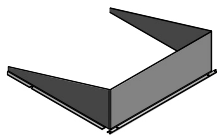
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ¹⁸
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ¹⁸
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ¹⁸
DSHORT SBK U	Shorting cap ¹⁸
DSX0HS 20C U	House-side shield for P1,P2,P3 and P4 ¹⁵
DSX0HS 30C U	House-side shield for P10,P11,P12 and P13 ¹⁶
DSX0HS 40C U	House-side shield for P5,P6 AND P7 ¹⁶
DSX0DDL U	Diffused drop lens (polycarbonate) ¹⁵
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) ¹⁹
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ¹⁹

For more control options, visit [DTL](#) and [ROAM](#) online. Link to [nLight Air 2](#)

NOTES

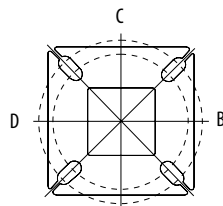
- 1 P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
- 2 Not available with HS or DDL.
- 3 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- 4 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- 5 Not available in P4, P7 or P13. Not available with BL30, BL50 or PNMT options.
- 6 Universal mounting brackets intended for retrofit on existing pre-drilled poles only. 1.5 G vibration load rating per ANCI C136.31.
- 7 Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- 8 Must be ordered with PIRHN.
- 9 Sensor cover available only in dark bronze, black, white and natural aluminum colors.
- 10 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit [this link](#).
- 11 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
- 12 If ROAM[®] node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
- 13 Reference Motion Sensor table on page 3.
- 14 Reference PER Table on page 3 to see functionality.
- 15 Not available with other dimming controls options.
- 16 Not available with BLC, LCCO and RCCO distribution.
- 17 Must be ordered with fixture for factory pre-drilling.
- 18 Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
- 19 For retrofit use only.

EGS – External Glare Shield

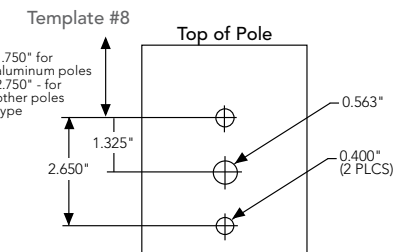


Drilling

HANDHOLE ORIENTATION (from top of pole)



A
Handhole



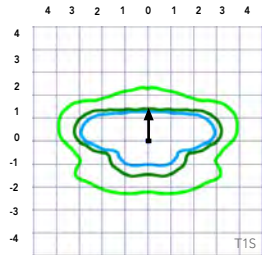
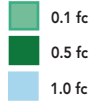
Tenon Mounting Slipfitter

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

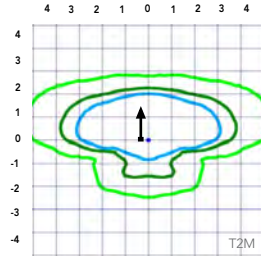
Mounting Option	Drilling Template	Single	2 @ 180	2 @ 90	3 @ 90	3 @ 120	4 @ 90
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS
Minimum Acceptable Outside Pole Dimension							
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"		3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"		4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').

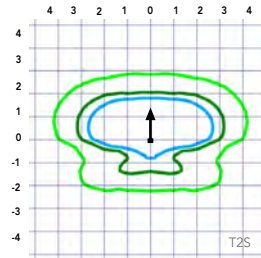
LEGEND



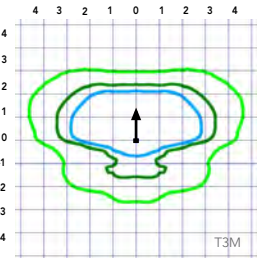
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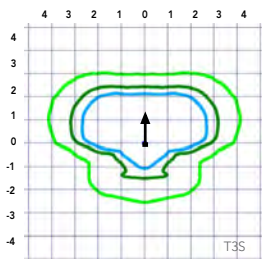
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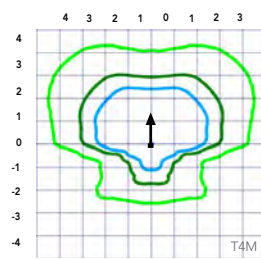
Test No. LTL23457P25 tested in accordance with IESNA LM-79-08.



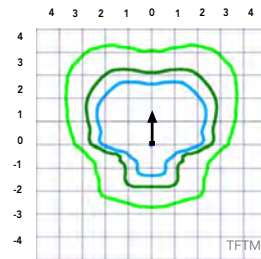
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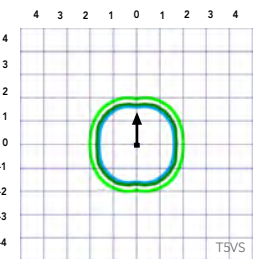
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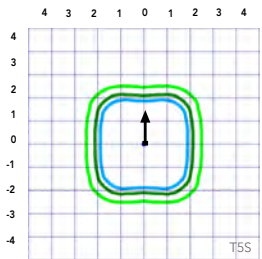
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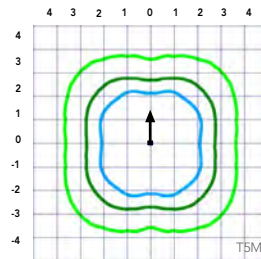
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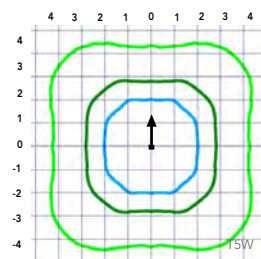
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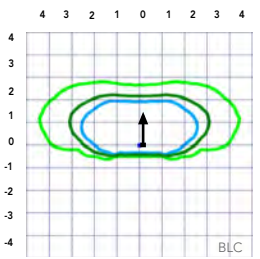
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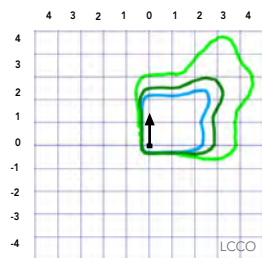
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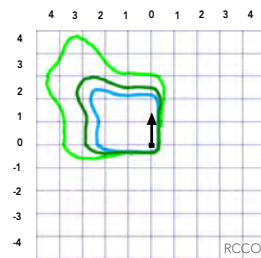
Test No. LTL23451P25 tested in accordance with IESNA LM-79-08.



Test No.



Test No.



Test No.

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°C	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
25,000	0.96
50,000	0.92
100,000	0.85

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with separate Dusk to Dawn or timer.

Controls Options

Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PERS or PER7	Twist-lock photocell receptacle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBOR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclipse.	nLight Air rSDGR	nLight AIR sensors can be programmed and commissioned from the ground using the CIAIRity Pro app.

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																							
Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)								
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW				
P1	20	530	38W	T1S	4,369	1	0	1	115	4,706	1	0	1	124	4,766	1	0	1	125				
				T2S	4,364	1	0	1	115	4,701	1	0	1	124	4,761	1	0	1	125				
				T2M	4,387	1	0	1	115	4,726	1	0	1	124	4,785	1	0	1	126				
				T3S	4,248	1	0	1	112	4,577	1	0	1	120	4,634	1	0	1	122				
				T3M	4,376	1	0	1	115	4,714	1	0	1	124	4,774	1	0	1	126				
				T4M	4,281	1	0	1	113	4,612	1	0	2	121	4,670	1	0	2	123				
				TFTM	4,373	1	0	1	115	4,711	1	0	2	124	4,771	1	0	2	126				
				TSVS	4,548	2	0	0	120	4,900	2	0	0	129	4,962	2	0	0	131				
				TSS	4,552	2	0	0	120	4,904	2	0	0	129	4,966	2	0	0	131				
				TSM	4,541	3	0	1	120	4,891	3	0	1	129	4,953	3	0	1	130				
				TSW	4,576	3	0	2	120	4,929	3	0	2	130	4,992	3	0	2	131				
				BLC	3,586	1	0	1	94	3,863	1	0	1	102	3,912	1	0	1	103				
				LCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77				
				RCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77				
				P2	20	700	49W	T1S	5,570	1	0	1	114	6,001	1	0	1	122	6,077	2	0	2	124
								T2S	5,564	1	0	2	114	5,994	1	0	2	122	6,070	2	0	2	124
T2M	5,593	1	0					1	114	6,025	1	0	1	123	6,102	1	0	1	125				
T3S	5,417	1	0					2	111	5,835	1	0	2	119	5,909	2	0	2	121				
T3M	5,580	1	0					2	114	6,011	1	0	2	123	6,087	1	0	2	124				
T4M	5,458	1	0					2	111	5,880	1	0	2	120	5,955	1	0	2	122				
TFTM	5,576	1	0					2	114	6,007	1	0	2	123	6,083	1	0	2	124				
TSVS	5,799	2	0					0	118	6,247	2	0	0	127	6,327	2	0	0	129				
TSS	5,804	2	0					0	118	6,252	2	0	0	128	6,332	2	0	1	129				
TSM	5,789	3	0					1	118	6,237	3	0	1	127	6,316	3	0	1	129				
TSW	5,834	3	0					2	119	6,285	3	0	2	128	6,364	3	0	2	130				
BLC	4,572	1	0					1	93	4,925	1	0	1	101	4,987	1	0	1	102				
LCCO	3,402	1	0					2	69	3,665	1	0	2	75	3,711	1	0	2	76				
RCCO	3,402	1	0					2	69	3,665	1	0	2	75	3,711	1	0	2	76				
P3	20	1050	71W					T1S	7,833	2	0	2	110	8,438	2	0	2	119	8,545	2	0	2	120
								T2S	7,825	2	0	2	110	8,429	2	0	2	119	8,536	2	0	2	120
				T2M	7,865	2	0	2	111	8,473	2	0	2	119	8,580	2	0	2	121				
				T3S	7,617	2	0	2	107	8,205	2	0	2	116	8,309	2	0	2	117				
				T3M	7,846	2	0	2	111	8,452	2	0	2	119	8,559	2	0	2	121				
				T4M	7,675	2	0	2	108	8,269	2	0	2	116	8,373	2	0	2	118				
				TFTM	7,841	2	0	2	110	8,447	2	0	2	119	8,554	2	0	2	120				
				TSVS	8,155	3	0	0	115	8,785	3	0	0	124	8,896	3	0	0	125				
				TSS	8,162	3	0	1	115	8,792	3	0	1	124	8,904	3	0	1	125				
				TSM	8,141	3	0	2	115	8,770	3	0	2	124	8,881	3	0	2	125				
				TSW	8,204	3	0	2	116	8,838	4	0	2	124	8,950	4	0	2	126				
				BLC	6,429	1	0	2	91	6,926	1	0	2	98	7,013	1	0	2	99				
				LCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73				
				RCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73				
				P4	20	1400	92W	T1S	9,791	2	0	2	106	10,547	2	0	2	115	10,681	2	0	2	116
								T2S	9,780	2	0	2	106	10,536	2	0	2	115	10,669	2	0	2	116
T2M	9,831	2	0					2	107	10,590	2	0	2	115	10,724	2	0	2	117				
T3S	9,521	2	0					2	103	10,256	2	0	2	111	10,386	2	0	2	113				
T3M	9,807	2	0					2	107	10,565	2	0	2	115	10,698	2	0	2	116				
T4M	9,594	2	0					2	104	10,335	2	0	3	112	10,466	2	0	3	114				
TFTM	9,801	2	0					2	107	10,558	2	0	2	115	10,692	2	0	2	116				
TSVS	10,193	3	0					1	111	10,981	3	0	1	119	11,120	3	0	1	121				
TSS	10,201	3	0					1	111	10,990	3	0	1	119	11,129	3	0	1	121				
TSM	10,176	4	0					2	111	10,962	4	0	2	119	11,101	4	0	2	121				
TSW	10,254	4	0					3	111	11,047	4	0	3	120	11,186	4	0	3	122				
BLC	8,036	1	0					2	87	8,656	1	0	2	94	8,766	1	0	2	95				
LCCO	5,979	1	0					2	65	6,441	1	0	2	70	6,523	1	0	3	71				
									5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics																			
Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P5	40	700	89W	T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133
				T4M	10,613	2	0	3	119	11,434	2	0	3	128	11,578	2	0	3	130
				TFTM	10,842	2	0	2	122	11,680	2	0	2	131	11,828	2	0	2	133
				TSVS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138
				T5S	11,286	3	0	1	127	12,158	3	0	1	137	12,312	3	0	1	138
				T5M	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138
				T5W	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109
				LCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81
				RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81
				P6	40	1050	134W	T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151
T2S	14,789	3	0					3	110	15,932	3	0	3	119	16,134	3	0	3	120
T2M	14,865	3	0					3	111	16,014	3	0	3	120	16,217	3	0	3	121
T3S	14,396	3	0					3	107	15,509	3	0	3	116	15,705	3	0	3	117
T3M	14,829	2	0					3	111	15,975	3	0	3	119	16,177	3	0	3	121
T4M	14,507	2	0					3	108	15,628	3	0	3	117	15,826	3	0	3	118
TFTM	14,820	2	0					3	111	15,965	3	0	3	119	16,167	3	0	3	121
TSVS	15,413	4	0					1	115	16,604	4	0	1	124	16,815	4	0	1	125
T5S	15,426	3	0					1	115	16,618	4	0	1	124	16,828	4	0	1	126
T5M	15,387	4	0					2	115	16,576	4	0	2	124	16,786	4	0	2	125
T5W	15,506	4	0					3	116	16,704	4	0	3	125	16,915	4	0	3	126
BLC	12,151	1	0					2	91	13,090	1	0	2	98	13,255	1	0	2	99
LCCO	9,041	1	0					3	67	9,740	1	0	3	73	9,863	1	0	3	74
RCCO	9,041	1	0					3	67	9,740	1	0	3	73	9,863	1	0	3	74
P7	40	1300	166W					T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110
				TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112
				TSVS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116
				T5S	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117
				T5M	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116
				T5W	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92
				LCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68
					10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics																							
Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)								
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW				
P10	30	530	53W	T1S	6,727	2	0	2	127	7,247	3	0	3	137	7,339	3	0	3	138				
				T2S	6,689	3	0	3	126	7,205	3	0	3	136	7,297	3	0	3	138				
				T2M	6,809	3	0	3	128	7,336	3	0	3	138	7,428	3	0	3	140				
				T3S	6,585	3	0	3	124	7,094	3	0	3	134	7,183	3	0	3	136				
				T3M	6,805	3	0	3	128	7,331	3	0	3	138	7,424	3	0	3	140				
				T4M	6,677	3	0	3	126	7,193	3	0	3	136	7,284	3	0	3	137				
				TFTM	6,850	3	0	3	129	7,379	3	0	3	139	7,472	3	0	3	141				
				TSVS	6,898	3	0	0	130	7,431	3	0	0	140	7,525	3	0	0	142				
				T5S	6,840	2	0	1	129	7,368	2	0	1	139	7,461	2	0	1	141				
				T5M	6,838	3	0	1	129	7,366	3	0	2	139	7,460	3	0	2	141				
				TSW	6,777	3	0	2	128	7,300	3	0	2	138	7,393	3	0	2	139				
				BLC	5,626	2	0	2	106	6,060	2	0	2	114	6,137	2	0	2	116				
				LCCO	4,018	1	0	2	76	4,328	1	0	2	82	4,383	1	0	2	83				
				RCCO	4,013	3	0	3	76	4,323	3	0	3	82	4,377	3	0	3	83				
				P11	30	700	72W	T1S	8,594	3	0	3	119	9,258	3	0	3	129	9,376	3	0	3	130
								T2S	8,545	3	0	3	119	9,205	3	0	3	128	9,322	3	0	3	129
T2M	8,699	3	0					3	121	9,371	3	0	3	130	9,490	3	0	3	132				
T3S	8,412	3	0					3	117	9,062	3	0	3	126	9,177	3	0	3	127				
T3M	8,694	3	0					3	121	9,366	3	0	3	130	9,484	3	0	3	132				
T4M	8,530	3	0					3	118	9,189	3	0	3	128	9,305	3	0	3	129				
TFTM	8,750	3	0					3	122	9,427	3	0	3	131	9,546	3	0	3	133				
TSVS	8,812	3	0					0	122	9,493	3	0	0	132	9,613	3	0	0	134				
T5S	8,738	3	0					1	121	9,413	3	0	1	131	9,532	3	0	1	132				
T5M	8,736	3	0					2	121	9,411	3	0	2	131	9,530	3	0	2	132				
TSW	8,657	4	0					2	120	9,326	4	0	2	130	9,444	4	0	2	131				
BLC	7,187	3	0					3	100	7,742	3	0	3	108	7,840	3	0	3	109				
LCCO	5,133	1	0					2	71	5,529	1	0	2	77	5,599	1	0	2	78				
RCCO	5,126	3	0					3	71	5,522	3	0	3	77	5,592	3	0	3	78				
P12	30	1050	104W					T1S	12,149	3	0	3	117	13,088	3	0	3	126	13,253	3	0	3	127
								T2S	12,079	4	0	4	116	13,012	4	0	4	125	13,177	4	0	4	127
				T2M	12,297	3	0	3	118	13,247	3	0	3	127	13,415	3	0	3	129				
				T3S	11,891	4	0	4	114	12,810	4	0	4	123	12,972	4	0	4	125				
				T3M	12,290	3	0	3	118	13,239	4	0	4	127	13,407	4	0	4	129				
				T4M	12,058	4	0	4	116	12,990	4	0	4	125	13,154	4	0	4	126				
				TFTM	12,369	4	0	4	119	13,325	4	0	4	128	13,494	4	0	4	130				
				TSVS	12,456	3	0	1	120	13,419	3	0	1	129	13,589	4	0	1	131				
				T5S	12,351	3	0	1	119	13,306	3	0	1	128	13,474	3	0	1	130				
				T5M	12,349	4	0	2	119	13,303	4	0	2	128	13,471	4	0	2	130				
				TSW	12,238	4	0	3	118	13,183	4	0	3	127	13,350	4	0	3	128				
				BLC	10,159	3	0	3	98	10,944	3	0	3	105	11,083	3	0	3	107				
				LCCO	7,256	1	0	3	70	7,816	1	0	3	75	7,915	1	0	3	76				
				RCCO	7,246	3	0	3	70	7,806	4	0	4	75	7,905	4	0	4	76				
				P13	30	1300	128W	T1S	14,438	3	0	3	113	15,554	3	0	3	122	15,751	3	0	3	123
								T2S	14,355	4	0	4	112	15,465	4	0	4	121	15,660	4	0	4	122
T2M	14,614	3	0					3	114	15,744	4	0	4	123	15,943	4	0	4	125				
T3S	14,132	4	0					4	110	15,224	4	0	4	119	15,417	4	0	4	120				
T3M	14,606	4	0					4	114	15,735	4	0	4	123	15,934	4	0	4	124				
T4M	14,330	4	0					4	112	15,438	4	0	4	121	15,633	4	0	4	122				
TFTM	14,701	4	0					4	115	15,836	4	0	4	124	16,037	4	0	4	125				
TSVS	14,804	4	0					1	116	15,948	4	0	1	125	16,150	4	0	1	126				
T5S	14,679	3	0					1	115	15,814	3	0	1	124	16,014	3	0	1	125				
T5M	14,676	4	0					2	115	15,810	4	0	2	124	16,010	4	0	2	125				
TSW	14,544	4	0					3	114	15,668	4	0	3	122	15,866	4	0	3	124				
BLC	7,919	3	0					3	62	8,531	3	0	3	67	8,639	3	0	3	67				
LCCO	5,145	1	0					2	40	5,543	1	0	2	43	5,613	1	0	2	44				
	5,139	3	0					3	40	5,536	3	0	3	43	5,606	3	0	3	44				

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background¹

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire.
Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS

The DSX0 LED area luminaire has a number of control options. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programming and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS

The DSX0 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaires can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclipse. Additional information about nLight Air can be found [here](#).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocell receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/resources/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.



Attachment G
Security

SAMA Productions, LLC

Sandisfield, MA

Security Measures in compliance with 935 CMR 500

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The SAMA Productions, LLC Security Plan details extensive security provisions in compliance with those published by the Cannabis Control Commission. Measures to deter and prevent unauthorized entrance into areas containing cannabis and theft of cannabis at any SAMA Productions, LLC facility are addressed throughout. Access to company facilities is limited to agents and those persons allowed access by the Cannabis Control Commission regulations. The policies established here will be strictly enforced, as SAMA Productions, LLC operates in a high-risk security environment.

The Chief Operating Officer, in coordination with the Chief Executive Officer, Security Officer and other security advisors, is responsible for developing, maintaining and assuring compliance with the security plan. SAMA Productions, LLC will have an adequate security system to prevent and detect diversion, theft or loss of cannabis or unauthorized intrusion. Each facility will prominently display security system and security notification signage. Commercial grade equipment will be utilized, including alarm systems in compliance with the Cannabis Control Commission regulations and an adequate failure notification system. Video cameras will be installed in all areas that may contain cannabis, at all points of entry and exit and any parking lot and will be angled to allow for the capture of clear and certain identification of any person entering or exiting the facility or area. Commercial high lumen fixtures sufficient to facilitate surveillance will be used to light the exterior of each facility and it is ensured that trees, bushes and other foliage outside of the facility will not allow for a person or persons to conceal themselves from sight.

Procedures contained here include measures to aid the development of strong partnerships with local law enforcement agencies, prevent unwanted individuals from remaining on premises and ensure compliance with the Cannabis Control Commission regulations for cannabis disposal. Information technology security measures are included with our confidentiality SOPs. An accurate security site plan will be maintained and plans for annual security system auditing are addressed. Limited access areas are accessible only to authorized agents and all finished cannabis will be stored in a secure, locked safe or vault and in such a manner as to prevent diversion, theft, and loss.

SECURITY FOCUSED OPERATIONS

SAMA Productions, LLC operates in a high-security risk environment. The safety and security of our agents and clients is our primary concern. Internal and external security threats to the company exist relating to physical, cyber and procedural security for all facilities and operations. It is the responsibility of every agent to aid in the security of the company through prevention, awareness, reporting and responsible incident management. When this plan references other sections or documents, it is important to review them in detail. The SAMA Productions, LLC culture of security incorporates security measures throughout all plans and procedures.

Communication with Law Enforcement

The Chief Operating Officer will maintain a list of non-emergency police department contacts for the facility. The Chief Operating Officer will also maintain regular communication with each contact advising of any changes in security procedures. SAMA Productions, LLC aims to develop strong partnerships with the local law enforcement agencies. The Chief Operating Officer, or his representative shall engage these agencies to support the company's security mission through collaborative training and exercises, observation patrols, rapid response to incidents and proactive meetings.

Alternative Security Measures

If SAMA Productions, LLC cannot meet one of the Cannabis Control Commission security regulations, the Chief Operating Officer will provide other adequate substitute safeguards. The Chief Operating Officer will ensure all security procedures are documented, and any alternative measures are noted and approved by the Cannabis Control Commission. The Chief Operating Officer or a designee will be responsible for Incident Reporting consistent with 935 CMR 500.110(7)(a).

OPERATIONAL REQUIREMENTS

The company will maintain all facility security system equipment and recordings in a secure location so as to prevent theft, loss, destruction or alteration. The company will keep all security equipment in full operating order and will test such equipment no less than monthly at each facility. Records of security tests will be maintained for five years and made available to the Cannabis Control Commission or law enforcement upon request.

The company limits access to any surveillance area solely to persons that are essential to surveillance operations, law enforcement agencies, security system service agents, the Cannabis Control Commission and others approved by executive management. Upon request, the company will make available to the Cannabis Control Commission or law enforcement a current list of authorized agents and service agents who have access to any surveillance room. The facility will keep all on-site surveillance rooms secured and will not use such rooms for any other function.

All cannabis that is not part of a finished product will be stored in a secure area, accessible only to the minimum number of agents essential for efficient operations. All cannabis, approved or ready for testing, will be stored in a secure quarantine area to prevent diversion, theft or loss. All approved safes, vaults or any other approved equipment or areas used for the storage of cannabis will be securely locked or protected from entry, except for the actual time required to remove or replace the cannabis.

Keys will not be left in locks and will be stored or placed in an electronic key cabinet, which will be accessible only individuals who are authorized access to the secure areas. All security measures, including combination numbers, passwords, card access or biometric security

systems, etc. will only be accessible to individuals that are specifically authorized by the Security Officer to access secure cannabis areas.

Before transporting any cannabis, the company will complete a shipping manifest. A copy of the shipping manifest will be transmitted to the facility or patient that will receive the products. The company will maintain all shipping manifests and make them available to the Cannabis Control Commission for inspection upon request for five years (or as otherwise required by regulations). A transport agent will possess a copy of the shipping manifest at all times when transporting or delivering cannabis and will produce it to law enforcement officials upon request.

Cannabis will be transported in a locked, safe and secure storage compartment that is part of the vehicle transporting the cannabis. This storage compartment will not be visible from the outside of the vehicle. When transporting cannabis, the transporting agents will travel directly from the originating facility to the destination and will not make any unnecessary stops in between. A vehicle tracking system will provide visibility of the movements, location, and timing, in real time, of all transportation vehicles.

All cannabis delivery times will be randomized, and all transport vehicles will be staffed with a minimum of two agents. At least one transport agent will remain with the vehicle at all times when the vehicle contains cannabis. At least one transport agent will have access to a secure form of communication with the company's security staff at all times.

Emergency Contacts

Emergency contacts will be posted at every facility. Phone numbers for the alarm company, surveillance company, fire department, police department, spill response team, poison control center, Cannabis Control Commission contact and 911 will be posted and updated as needed.

Changes to Security Plan

Any local law enforcement or Cannabis Control Commission representatives will be incorporated into the security plan. Any changes to security protocols will be reviewed, approved by the Chief Operating Officer and documented. Any changes will also be distributed to agents and re-training will be scheduled as soon as possible if required.

Security Training

All agents will receive adequate security training following the company's Staffing and Training protocols. Managers are responsible for the ongoing security training in daily operations. Agents are required to report any suspicious activity or security concerns to their Manager immediately as a condition of employment.

PROTECTED INFORMATION

Access to protected information will be restricted to essential agents only. Examples of protected information include security and cash management procedures, asset and inventory lists, network data, floor plans of critical areas, password and code records, customer records and agent records.

PRODUCT SECURITY

Any occurrence of diversion, theft or loss of cannabis will be handled following the appropriate security SOP. All agents will report any suspicion of theft or diversion to a Manager, the compliance manager or the Chief Executive Officer immediately as a condition of employment.

FACILITY SECURITY

The Security Officer will ensure all locks and security equipment remain in good working order. Facility agents are responsible for security and will secure keys, access control cards, and security codes at all times. Agents may not provide access through any means to any other agent. Only Managers may grant temporary access to any agent or visitor.

The Chief Operating Officer will ensure that the interior and exterior areas of all facilities remain sufficiently lit and clear of obstructions for surveillance purposes. Managers and agents will ensure that loitering around the facility is not allowed through real-time video surveillance or direct observation of critical areas including all parking lots.

Surveillance Areas (Security Rooms)

Access to surveillance areas will be limited to the Chief Operating Officer and persons that are essential to surveillance operations, law enforcement authorities acting within their lawful jurisdiction, security system service personnel and Cannabis Control Commission representatives and local law enforcement officials. On-site surveillance rooms will remain locked and secured.

A current list of authorized agents and service personnel that have access to the surveillance room will be maintained by the Chief Operating Officer and available to the Cannabis Control Commission upon request.

Reporting Required

Reports are made when an alarm activation or other event that requires response by public safety personnel, if there is a failure of any security alarm system due to a loss of electrical power or mechanical malfunction that is expected to last longer than eight hours or if there are discrepancies identified during inventory, diversion, theft, loss and any criminal action involving SAMA Productions, LLC or an agent. Reports are also made if there is any unauthorized destruction of cannabis, any loss or unauthorized alteration of records or if there is any other breach of security.

Security Advisors Required

SAMA Productions, LLC has retained a Security Consultant, Wynne & Associates, with over 30 years of experience in the security industry and 12 years of experience in the cannabis industry, and this consultant, along with The Chief Executive Officer shall approve security providers and additional advisors. The Chief Operating Officer shall utilize these security companies to ensure compliance with all Cannabis Control Commission regulations and to review protocols.

Equipment to be Maintained

The Chief Operating Officer, or designee, will schedule and oversee all required maintenance of security equipment following manufacturer recommendations. Any equipment failure identified will be corrected as soon as possible. All security equipment shall be in good working order and shall be inspected and tested at regular intervals, not to exceed 30 calendar days from the previous inspection and test.

Facility Access and Limited Access Areas

Agents will display identification at all times while working. Agents will report a lost agent occupational license or registration card to their Manager immediately.

Agents may not allow any unauthorized person on site. Any person refusing to leave the premises will constitute an incident and law enforcement will be contacted immediately. Visitors, including outside vendors and consultants, are managed following company SOPs. They will obtain a visitor identification badge before entering a limited access area and will be escorted at all times by an agent who is authorized to enter the limited access area. The visitor identification badge will be visibly displayed at all times in any limited access areas. All visitors will be logged in and out, and all visitor identification badges will be returned upon exit.

Only authorized agents may access limited access areas (areas where cannabis is grown, processed, stored, etc.). The Chief Operating Officer or Security Officer is responsible for assigning and recording access rights. Access shall be restricted to essential agents only and the access control system will record entries to these limited access areas.

All doors without electronic access control systems will be re-coded or re-keyed annually and following any involuntary termination.

Identification Badge and Visitor Plan

SAMA Productions, LLC Identification Badge and Visitor section includes security measures that will deter and prevent unauthorized entrance and access to all facilities. Persons with authorized access to facilities and designated limited access areas are clearly defined. The plan includes restrictive access policies in compliance with state law and Cannabis Control Commission regulations.

Security measures to protect the premises, customers, and agents include the identification badge policies and procedures, which will enhance the safety of the agents, customers and the physical and financial assets of SAMA Productions, LLC.

Badge issuance authority is assigned to management and it is established that each agent, contractor, and the visitor is responsible for the safekeeping of his or her badge. Types of badges are defined, along with provisions for lost or stolen badges, temporary badges, badge placement and display devices. Agents are issued occupational licenses or registration cards by the Cannabis Control Commission, which will serve as their identification badge.

The visitor policy outlines procedures for visitor approval and recordkeeping. All visitors will be logged in and out, and a visitor log will be available for inspection by the Cannabis Control Commission at all times. All outside vendors, contractors, and visitors will obtain an identification badge before entering a limited access area and will be continuously escorted by an agent authorized to enter the limited access area. Agents are required to immediately report security breaches and incidents of non-compliance. Unannounced visitors at any SAMA Productions, LLC facility are prohibited, except for those Cannabis Control Commission representatives and other designated officials acting following state law and Cannabis Control Commission regulations.

Identification Badge Required

Each agent, contractor and visitor will be in possession of an identification badge when on company property and is responsible for the safekeeping of their badge. The purpose of the identification badge policies and procedures is to enhance the security and safety of SAMA Productions, LLC agents, customers, physical and financial assets.

Types of Badges

Agents are issued license cards by the Cannabis Control Commission, which serve as their identification badge. Temporary identification badges which serve as a temporary replacement identification for an agent who has reported a lost or stolen badge. Contractors will be issued a contractor badge and visitors will be issued a visitor badge.

- Visitor Badge

All visitors to any SAMA Productions, LLC facility are required to sign in and receive a visitor's badge if they will be accessing limited access areas of these facilities. The agent providing access will ensure the Visitor Log is properly updated and the policies herein are followed. The Chief Operating Officer will ensure all agents are trained to issue visitor badges to visitors entering SAMA Productions, LLC facilities. Visitors should be instructed to wear their badge properly while in limited access areas. Visitors may not take their badge off-site.

- Agent Badge

All agents will wear their Cannabis Control Commission issued occupational license or registration card when in any SAMA Productions, LLC facility. Only SAMA Productions, LLC issued badge display devices (lapel/pocket clips, armbands, and lanyards) are allowed.

The badge will be worn above the waist and be visible at all times to others while in SAMA Productions, LLC facilities. While performing work in other areas, agents are required to have

their badges readily available. Display practices may be modified by the Chief Operating Officer for special work conditions.

- Temporary Badge

Any agent who forgets his or her license identification card should immediately notify the Manager to obtain a temporary badge.

- Contractor Badge

A contractor is a vendor, supplier, professional service representative or consultant (contractor) who has management approved business with the company. Contractors are required to sign in and receive an identification badge if they will be accessing limited access areas of any facility. Contractors who will be in the facilities for only one day or less will be provided a Visitor Badge. All agents will be trained to issue visitor badges to contractors entering SAMA Productions, LLC facilities. Contractors should be instructed to wear their badges properly while in limited access areas of the SAMA Productions, LLC. An agent will continuously escort all contractors while in limited access areas.

Badge Issuance Authority

Agent license cards are issued by the Cannabis Control Commission. No agent may work or volunteer in a facility unless they are registered with the Cannabis Control Commission. The Chief Operating Officer or a manager will issue a contractor badge. The Chief Operating Officer, a department manager (or their designee) will issue a visitor badge and record the issuance in the Visitor Log.

Visitor Restrictions

Only age-appropriate qualified patients and caregivers, customers, company agents, Cannabis Control Commission representatives, law enforcement and other officials acting in the course of their duties and outside vendors, contractors and visitors may access any SAMA Productions, LLC facility. Any unauthorized person will be denied access. An agent will contact law enforcement as necessary to remove unauthorized individuals from the premises.

- No Unannounced Visitors

It is SAMA Productions, LLC policy to prohibit any unannounced visitors at any company facility, other than patients and caregivers. The exception to this rule covers all Cannabis Control Commission representatives and other designated officials that may conduct both announced and unannounced visits to the facility following the company's compliance policies.

- Manager Approval Required

The Chief Operating Officer or department manager will approve all visitors, except as noted above.

- Visitor Will Be Accompanied

All visitors will be accompanied by a manager or their designated agent at all times in limited access areas.

- Restricted Access Areas

The Chief Operating Officer will oversee access to all secured areas including security equipment areas, cash holding areas and cannabis processing or storage areas, which will be restricted to designated agents and controlled by electronic locks which record all entry events. Contractors and visitors requiring access will be escorted by the Chief Operating Officer, manager or his or her designee.

- Cannabis Control Commission Authorized

Agents may allow Cannabis Control Commission representatives access to the facility at any time without prior authorization but will record any such visit on the Visitor Log and notify the Manager or Chief Operating Officer immediately upon their arrival.

Access Control Plan

Issuing Authority

Facility keys, alarm codes ("AC") and electronic access control cards (EACC) may only be issued by the Chief Operating Officer, Chief Security Officer or Human Resources Manager.

Emergency Access

Only in an emergency may a key, AC or EACC be issued by the Manager. When a key is issued under these circumstances, the Chief Operating Officer will notify the Chief Executive Officer as soon as possible.

Access Control Policies

Demonstration of need required. Access will be given only to areas where need can be demonstrated. Issuance will be recorded by the issuing individual in the Facility Key, Alarm Code ("AC") and Electronic Access Control Card ("EACC") Log.

Keys, AC and EACC, will be protected. Keys, AC and EACC, may not be loaned and should not be left unattended. All keys issued on a "permanent" basis should be retained in the possession of the authorized agent only. Keys, AC and EACCs, may not be transferred directly from one agent to another. Training will be provided to avoid the practice of leaving keys in locks, on desks, counter tops, etc. or loaning to others.

Any agent who has lost a key, AC or EACC will report the loss to his or her Manager immediately, who will then report the loss to the Chief Operating Officer. The Chief Operating Officer along with the Security Officer will make a determination as to whether the system has been compromised and re-keying, re-coring or re-coding. It is against company policy to duplicate keys.

Issuance Procedures

To maintain a secure facility, specific issuance procedures will be followed. It will be prohibited to leave keys in locks or stored in any place accessible to persons other than authorized personnel.

- Temporary Key, AC, and EACC Issuance

Temporary key, AC and EACC issuance will be for twenty-four hours or less. Any authorized individual will be permitted to check out a key on a temporary basis. The Manager shall grant authorization in writing. The individual receiving a temporary key shall provide photo identification at the time of issuance. Keys checked out on a temporary basis shall be returned within the twenty-four hour period. If the individual needs the key for a longer period, the key will be checked in and subsequently checked out again.

- Temporary Loan Keys

Cannabis Control Commission registered vendors and contractors may be authorized to have temporary-loan keys, AC and EACC. The Chief Operating Officer may authorize in writing the use of temporary loan keys in the Facility Key, Alarm Code, and Electronic Access Control Card Log.

- Vendors/Contractors Keys

Vendors/Contractors will acknowledge all keys received and report all lost or stolen keys immediately. Vendors/Contractors will return keys within five days of the termination of work. If keys are not returned and it is determined a re-core is necessary, it shall be at the vendor/contractor's expense.

- Permanent Issuance

Permanent keys, AC and EACCs, are issued to agents for the purpose of allowing the agent to access the areas they are regularly assigned duties. A record of all issuance will be kept in the Facility Key, Alarm Code and Electronic Access Control Card Log and maintained by Chief Operating Officer.

New agents will be issued keys for their work needs as indicated by the job description. Keys, AC and EACCs shall be issued to new agents by the Chief Operating Officer, Human Resource Manager or Security Manager.

Key Return Procedures

When employment with SAMA Productions, LLC has been terminated, all keys will be returned and noted in the Manager report. Responsibility for collecting the key(s) and EACC(s) and canceling the AC shall rest with the Human Resources Manager or department manager terminating the agent. Failure to collect key(s) and EACC(s) from terminating agents may require core change as determined by the Security Manager.

Administrative Procedures

The Chief Operating Officer will oversee the management of the keying and coding systems of SAMA Productions, LLC. The design of SAMA Productions, LLC keying and coding system recognizes multiple control areas, to which varying levels of access will be granted as necessary.

All keys, AC and EACCs, will be recorded and tracked in the Electronic Access Control Log by the Chief Operating Officer or Human Resources Manager with the agent name, agent number, identification, date issued, term of issuance, date to be returned and signature.

Video Surveillance Systems

The latest IP video surveillance technology will be implemented to provide the monitoring and control of security and protocols. This technology will ensure that operators are provided with the highest quality images, in real time, and the system will automatically display, store, switch and archive these images as necessary for the relevant agents.

An IP-based video surveillance system will be actively used as an operational tool to contribute to the overall security and safety of the company. The objective of the video systems is to present the best possible images to the operators positioned in the security control center as well as any remote client review stations located in ancillary sites or other remote areas with integration to ensure automatic switching of alarms and to minimize operator involvement and helping in an efficient monitoring solution. This system will utilize the converged security network infrastructure, providing adequate bandwidth and available for all the switching and routing of security video and data transmissions. The video system is designed to provide at least 30% minimum spare capacity. The IP-based video surveillance system will include Power over Ethernet (PoE) IP cameras.

External day/night functional cameras, fixed and functional internal IP cameras, network video recorders, GUI terminals/workstations, display walls, video database servers may be used and will have a high level of integration for interfacing to the entire security system. The solutions will be managed from the security command center for each site component and will operate entirely independently with the ability to "upscale" automatically in the event of an unforeseen event such as building evacuation. This would permit an automated takeover of all security systems from an alternate location ensuring building security during worst case scenarios.

Video cameras will be installed in all areas that may contain cannabis, at all points of entry and exit and covering any parking lot and will be appropriate for the normal and low lighting conditions of the area under surveillance. Video cameras will provide views of safes, vaults, sales areas, and areas where cannabis is cultivated, harvested, processed, prepared, stored, handled or dispensed.

Some of the key benefits of the video surveillance system are:

1. Enhancement of agent safety.
2. Increased deterrence reducing potential threat from criminal activity.
3. Promoting a safe and secure environment.
4. Records of persons and vehicles entering and exiting the facilities for pre- and post-incident investigations.
5. Monitoring unauthorized access to restricted or sensitive areas.
6. Identifying criminal activity.
7. Reducing public theft and loss of property.
8. Gathering evidence.
9. Dramatically reducing the number of hours spent on investigating incidents.
10. Promoting a good impression that incidents can be investigated, should it be necessary.
11. Alarms and recordings of low volume areas or during silent hours, reducing the need for constant supervision or patrolling.
12. Increasing awareness and speed of identifying safety hazards before they cause incidents involving public or property.
13. Improving the allocation and deployment of security, services, and public relations personnel; and
14. Supplement to manned guarding, making them more effective.

There will be date and time stamps embedded on all recordings. The date and time will be synchronized and set correctly and will not significantly obscure the picture. If the Chief Executive Officer is aware of any pending legal proceeding for which a recording may be relevant, the company will retain an unaltered copy of the recording for as long as required.

Video surveillance will be provided in all delivery vehicles (if applicable). The intent of this system is to monitor the loading, transit, and unloading of all cannabis from end-to-end. This will ensure that the entire process is controlled, monitored and documented to provide a seamless process with the highest level of accountability and security. The vehicle-based video surveillance will also provide real-time GPS that will monitor the location, speed, and actions of the vehicle. Alarm parameters will allow for notification if the delivery vehicles travel outside an authorized route or are stopped or opened outside allowed areas. The system will also provide remote shut-off of vehicles and live video viewing of the vehicle interiors at any given time.

All video recordings will allow for the exporting of still images in an industry standard image format (including .jpg, .bmp and .gif). All surveillance cameras can immediately produce a clear

color still photo that is a minimum of 9600 dpi from any camera image, whether live or recorded. Exported video is archived in a format that ensures authentication of the video. Exported video will be saved in an industry standard file format that can be played on a standard computer operating system. The company will erase all recordings before disposal or sale of the facility. The following camera matrix lists the general locations for cameras along with their suggested performance parameters. Note that all typical areas may not be relevant to the actual design.

Intrusion Detection System

Building perimeter openings and other restricted facility spaces will be equipped with an intrusion alarm system with security alarm sensors and monitored by a 24-hour operation. Security alarm monitoring is a computer-based system that electronically monitors a variety of security sensors. Security alarms will be protected by cellular back-up. Alarm points will include:

Door Position Switches

Monitors intrusion or unauthorized propping of a door. Locations include perimeter doors, critical utility areas, grow/production areas, electronic access control doors, stairwell doors and roof access.

Intrusion Sensors

Motion detectors, glass break and a variety of other security sensors that monitor intrusions. Locations throughout the facilities include volumetric coverage of all areas and first level windows and any other accessible perimeter windows, special storage areas, accessible window fronts, operable utility openings and product storage vaults.

Emergency Alarms

Devices that can be activated by an agent in need of immediate assistance. An activated alarm summons immediate help because of an adverse or life-threatening emergency. Locations include reception desks, distribution areas, product storage vaults and reception areas.

The intrusion system portion of the integrated security system includes duress alarm feature, a silent security alarm system signal generated by a designated code entry to signal that the alarm user is being forced to turn off the system. The system also includes panic alarms, which communicate a security alarm system signal from manual activation intended to signal a life-threatening or emergency situation requiring a law enforcement response. The integrated security system will also have a holdup alarm, which will send a silent alarm signal, generated by a manual activation intended to signal a robbery in progress, to law enforcement.

The integrated security system includes cellular communication to a minimum two (2) Central Monitoring Stations with immediate notification of law enforcement, public safety or an emergency services agency requesting dispatch. The system also features a failure notification system providing audible, text or visual notifications. The integrated security system and all its components will be on an Uninterruptable Power Supply (UPS), either local or building system

and will have the ability to remain operational for up to twenty-four hours during a power outage.

INFORMATION TECHNOLOGY SECURITY

The company will employ or contract an information technology ("IT") agent or IT security advisor. The Chief Operating Officer will ensure the security of the hardware, software, data and communications networks of SAMA Productions, LLC. The IT agent or designee is responsible for all information technology maintenance including:

1. Software license;
2. Security patches;
3. Malicious software prevention;
4. Account management;
5. Security status and network access monitoring;
6. Disposal and redeployment;
7. Agent IT security training; and
8. Vulnerability assessments.

Password Requirements

All agent passwords for software and network access will be changed every six months. The information technology consultant shall ensure system require password changes.

ROBBERY PREVENTION MEASURES

Each SAMA Productions, LLC facility and transportation vehicle are high-value targets for burglars and robbers. A robbery in progress is an incident and will be handled in accordance with the company's emergency and incident response protocols. The most effective way to ensure the safety and security of SAMA Productions, LLC agents and customers is an effective prevention program. All agents are required to have a good working knowledge of security protocols and to implement prevention measures into daily activities.

General Prevention Measures

Only main facility entrances may be used for access to the facility. Auxiliary doors may only be used in case of emergency. Storage rooms will be secured with a lock that can be opened from the inside so that agents are not locked inside during an incident.

Managers shall vary agent lunch and break schedules to ensure maximum coverage. Agents should be trained to greet every visitor to a facility immediately and look each visitor directly in the eyes noting any nervousness or strange behavior in the visitor.

Limited access areas will be cleaned regularly to remove old fingerprints. Oil or wax- based cleaners will not be used.

Opening and Closing

Two agents are required for opening, closing and the operation of all facilities. An agent will inspect the facility for forcible entry before entering and survey the premises before admitting others. Security equipment will be inspected after opening and before closing to ensure the necessary surveillance of all operating activities. At closing, agents will survey the premises for someone hiding near the building entrance or parking lot. At closing, one agent will enter the parking lot first while the other watches them enter their vehicle before leaving the facility to enter their vehicle.

Suspicious Activity

Every agent is responsible for reporting suspicious activities and persons to their Manager. Managers shall notify law enforcement when a potential risk is identified. Should the person leave before law enforcement arrives, note the time to retrieve surveillance records and record a description of the suspect and their vehicle for police. Examples of suspicious activity could involve company agents, customers, vendors or unknown persons. All agents should be aware of persons monitoring business operations; asking about closing times, volume of business, the amount of money on hand, etc.; loitering in the area examining layout and operations; and who may be waiting for a lull in business traffic.

Panic Alarm Systems

Each facility is equipped with a silent panic alarm system. Agents will be trained by the Manager on the panic alarm system including the location of fixed alarms, the appropriate use of personal alarms and accidental activation procedures. A minimum of two agents at each facility may carry a personal silent alarm with them while on-site.

Incident Reporting and Response

The Chief Operating Officer or designee is required to identify cyber security incidents. Incidents include natural disasters impacting technology infrastructure and unauthorized network access exposing protected information. Incidents shall be handled in accordance with the SAMA Productions, LLC Emergency and Incident Response section.

FACILITY DESIGN AND CONSTRUCTION

Access Doors

All doors will be 18-gauge hollow metal with commercial-grade I, non-residential locks. Additionally, exterior locks and limited access area entries will be equipped with electric strike and electronic access hardware and be automatically locking.

Access Points

From the exterior of the facility, it will be necessary to gain entry through multiple metal doors prior to reaching any room where cannabis is stored.

Visitor Entrance

All visitors will only be allowed entrance through the main facility entrance, with rear access being limited as a means of egress in the event of an emergency or planned and supervised deliveries.

Security Equipment Visible

Security equipment shall be prominently displayed on the interior and exterior of the premises. Signage highlighting the system in use will be prominently displayed in each facility by the Chief Operating Officer.

Panic Alarms

Fixed panic alarms will be located in areas where incidents are likely to take place including reception areas, sales areas, storage rooms and staging areas.

Interior Signage

All limited access areas within the facility will be clearly identified with a sign no smaller than 12" x 12" which states: "Do Not Enter – Limited Access Area – Access Limited to Authorized Personnel Only" in lettering no smaller than 1 inch in height. Each facility will prominently display security system and time-lock safe notification signage.

High-Risk Areas

Facilities will employ mechanisms that permit agents to have a secure view of their surroundings whenever possible including convex mirrors, elevated vantage points and strategic placement of product storage, staging and sales areas.

Lighting

Timed delay switches will be used to turn off interior, and exterior lights which cannot remain lit after SAMA Productions, LLC agents have left the facility. The exterior of each SAMA Productions, LLC facility is lit by commercial high lumen fixtures sufficient to facilitate surveillance.

Product Storage

All cannabis will be stored and secured in a vault, or a U.L. TL-30 rated safe equipped with a U.L. Group 1 type mechanical lock. A TL-30 rated safe will resist abuse for 30 minutes from items such as hand tools, picking tools, mechanical or electrical tools, grinding points, carbide drills, devices that apply pressure, cutting wheels and power saws. U.L. defines Group 1 combination locks as resistant to skilled manipulation attacks for up to twenty hours. The room where the safe is located will be a limited access area where only authorized agents will be allowed to enter.

Exterior Maintenance

In accordance with company policy, the exterior landscaping of the facility will be maintained so not to allow for any concealment near the facility. Trees will be maintained to have at least an eight-foot canopy. Ground plantings should be kept trimmed to a height no greater than two feet.

Security Equipment

The Chief Operating Officer will ensure an adequate security system at all facilities to prevent and detect diversion, theft or loss of cannabis or unauthorized intrusion, utilizing commercial grade equipment.

Security equipment to deter and prevent unauthorized entrance into limited access areas that includes, without limitation:

1. Devices or a series of devices to detect unauthorized intrusion, which may include a signal system interconnected with a radio frequency method, such as cellular or private radio signals or other mechanical or electronic device;
2. Exterior lighting to facilitate surveillance;
3. Electronic monitoring, including, without limitation:
4. At least one call-up monitor that is 20 inches;
5. A video printer capable of immediately producing a clear still photo from any video camera image;
6. Video cameras with a recording resolution of at least 704 x 480 or the equivalent which provide coverage of all entrances to and exits from limited access areas and all entrances to and exits from the building and which are capable of identifying any activity occurring in or adjacent to the building;

7. A video camera at each POS station allowing for the identification of any transaction;
8. Video cameras in each grow room which is capable of identifying any activity occurring within the grow room in low light conditions;
9. A method for storing video recordings as long as regulations require; 60 days.
10. A failure notification system with audible and visual notification of any failures;
11. Sufficient battery backup for video cameras and recording equipment to support at least eight (8) hours of recording in the event of a power outage; and
12. Notification systems to alert local law enforcement of an unauthorized breach of security.

All recordings shall be erased or destroyed before disposal. No recordings shall be destroyed if Cannabis Control Commission has notified the company of an ongoing investigation.

Equipment Maintenance

The Security Officer will schedule and oversee all maintenance of security equipment following manufacturer recommendations. Any equipment failure identified will be corrected as soon as possible. All security equipment will be in good working order and will be inspected and tested at regular intervals.

Back-up Alarm Required

The Chief Operating Officer is responsible for the maintenance of a back-up alarm monitoring system, with all capabilities of the primary system, provided by a company supplying commercial grade equipment, which shall not be the same company supplying the primary security system monitoring.

Equipment and Recordings Will Be Stored

The Chief Operating Officer shall ensure all security system equipment and recordings are maintained in a secure location so as to prevent theft, loss, destruction and alterations.

Attachment H
Energy Compliance Checklist

Checklists for Energy Compliance

I. Application

a. Basic Requirements for Applicants Other than Transporters & Delivery

1. Identification of potential energy-use reduction opportunities (such as natural lighting and energy efficiency measures), and a plan for implementation of such opportunities;
 - Description of how the ME/MTC will monitor energy consumption and make adjustments to operations based on energy usage data;
 - Procedures for identifying energy savings opportunities as part of any facility upgrades, renovations, or expansions; and
 - Procedures for identifying energy savings opportunities when equipment fails and needs to be replaced.
2. Consideration of opportunities for renewable energy generation, including, where applicable, submission of building plans showing where energy generators could be placed on the site, and an explanation of why the identified opportunities were not pursued, if applicable;
 - Description of how the ME/MTC will make energy supply decisions and regularly evaluate renewable options;
 - Procedures for identifying renewable or alternative energy opportunities as part of any facility upgrades, renovations, or expansions; and
 - Procedures for identifying renewable or alternative energy opportunities when equipment fails and needs to be replaced.
3. Strategies to reduce electric demand (such as lighting schedules, active load management, and energy storage); and
 - Description of how the ME/MTC will monitor energy demand and make adjustments to operations based on data; and
 - Procedures for participation in load curtailment, energy storage, or other active demand management programs (as applicable).



4. Engagement with energy efficiency programs offered pursuant to M.G.L. c. 25, § 21, or through municipal lighting plants.
 - Description of how the applicant will incorporate regular engagement with energy efficiency programs (account representative, vendors, etc.) to ensure awareness of new opportunities and incentives.
- b. Basic Requirements for Transporters & Delivery**
 - Applicant must describe how it will make fleet decisions and affirm that it will regularly evaluate alternative fuel vehicle options.
- c. Additional Requirements for Cultivation Facilities**
 - How the cultivator will ensure on a regular basis that equipment is maintained, calibrated, and operating properly, including maintaining operations manuals and operating procedures for all major energy-using equipment – including, but not limited to, horticultural lighting, HVAC systems, dehumidification systems.

II. Architectural Review

- a. Basic Requirements for Applicants Other than Transporter & Delivery**
 1. Identification of potential energy-use reduction opportunities (such as natural lighting and energy efficiency measures), and a plan for implementation of such opportunities;
 - Information demonstrating actual consideration of energy reduction opportunities, including a list of energy reduction opportunities that were considered.
 - Information about whether opportunities are being implemented, will be implemented at a later date, or are not planned to be implemented.
 - Summary of information that was considered to make the decision (i.e. costs, available incentives, and bill savings). NOTE: submission of a Mass Save® or MLP audit report or rebate applications is sufficient to demonstrate compliance.
 2. Consideration of opportunities for renewable energy generation, including, where applicable, submission of building plans showing where energy generators could be placed on the site, and an explanation of why the identified opportunities were not pursued, if applicable;
 - Information should be submitted to demonstrate actual consideration of renewable energy generation opportunities, including a list of renewable or alternative energy reduction opportunities that were considered.



- Information about whether opportunities are being implemented; will be implemented at a later date; or are not planned to be implemented.
 - A summary of information that was considered to make a decision (i.e. costs, available incentives, and bill savings).
3. Strategies to reduce electric demand (such as lighting schedules, active load management, and energy storage);
- Information should be submitted to demonstrate actual consideration of demand reduction opportunities.
 - Information about whether opportunities are being implemented, will be implemented at a later date, or not planning to be implemented.
 - A summary of information that was considered to make a decision (i.e. costs, available incentives, and bill savings). NOTE: submission of a Mass Save® or MLP audit report or rebate applications is sufficient to demonstrate compliance.
4. Engagement with energy efficiency programs offered pursuant to M.G.L. c. 25, § 21, or through municipal lighting plants.
- Information should be submitted to demonstrate actual engagement with energy efficiency (Mass Save® or MLP) programs and any financial incentives received. NOTE: submission of a Mass Save® or MLP audit report or rebate applications is sufficient to demonstrate compliance.

b. Basic Requirements for Transporter & Delivery

- Narrative describing the process the Transporter or Delivery operation used to select vehicles to be used in operations.
- If alternative fuel vehicles are not being used, detailed explanation of why other vehicle fuel sources were selected.
- A description of any other energy and water conservation strategies employed at the physical facility for the Transporter and Delivery operation (e.g. garage, dispatch) should also be included.

c. Additional Requirements for Cultivation Facilities: Energy Compliance & Energy Compliance Exemption Letters

1. Who needs to sign the letter?

For Indoor Marijuana Cultivators, Medical Marijuana Treatment Centers – the letter must be signed by a:

- Massachusetts Licensed Professional Engineer; or
- Massachusetts Licensed Registered Architect.



For Microbusinesses or Craft Marijuana Cooperatives with a cultivation location sized as Tier 1 or Tier 2, or such other Marijuana Cultivators meeting the requirements of 935 CMR 500.850 for a waiver:

The letter must be signed by a:

- Massachusetts Licensed Professional Engineer;
- Massachusetts Licensed Registered Architect;
- Certified Energy Auditor certified by the Association of Energy Engineers; or
- Certified Energy Manager certified by the Association of Energy Engineers.

Please note: The HVAC & dehumidification systems portion of the letter must be separately completed and signed by a:

- Massachusetts Licensed Mechanical Engineer; or
- Professional Engineer with license that covers mechanical engineering.

2. What needs to be in the letter?

Energy Compliance Letters or Energy Compliance Exemption Letters must include, at a minimum, the information required below.

- Letter Demonstrating HLPD Compliance

The letter must include the following information:

- *Building Envelope*

- ◆ Narrative confirming compliance with 935 CMR 500.120(11)(a) or 935 CMR 501.120(11)(a), as applicable; and
- ◆ The output from COMcheck™ software used to show building envelope compliance with State Building Code, 780 CMR.

- *HLPD Lighting (you should select either HLPD or HQPL, not both)*

- ◆ If the applicant chooses the HLPD compliance path, the letter must include the calculations that show compliance with the HLPD requirements;



- ◆ Narrative explanation of how the facility complies with 935 CMR 500.120(11)(b) or 501.120(12)(b), supported by copies of the facility lighting schedule, square footage of canopy, description of horticultural lighting equipment, number, type and wattage of all HLE;
- ◆ Cutsheets for all HLE to be submitted as part of the Architectural Review;
- ◆ Detailed identification of the stamped plans showing the layout of all HLE, which means any lighting equipment (e.g. fixtures, bulbs, ballasts, controls, etc.) that uses energy for the cultivation of plants, at any stage of growth (e.g. germination, cloning/mother plants, propagation, vegetation, flowering, and harvest), such plans must be available immediately upon inspection and two copies of the plans must be available for immediate surrender upon request;
- ◆ Detailed identification of the stamped plans showing the areas considered as HLSF, such plans must be available immediately upon inspection and two copies of the plans must be available for immediate surrender upon request;
- ◆ Description of eye safety plan that includes the following:
 - ◇ Safety protocols related to eye safety for those exposed to horticultural lighting;
 - ◇ Communication plan for how eye safety protocols will be communicated to employees;
 - ◇ Description of how protective eyewear will be provided for anyone coming in to contact with active horticultural lights;
 - ◇ Description of signage that will be used to remind workers of eye safety; and
 - ◇ Affirmation that the safety protocols will be reviewed and updated by the Marijuana Cultivator or MTC on an annual basis.



- *HQPL Lighting (you should select either HLPD or HQPL, not both)*
 - ◆ Narrative explanation of how the facility complies with 935 CMR 500.120(11)(b) or 501.120(12)(b), supported by copies of the facility lighting schedule, square footage of canopy, description of horticultural lighting equipment, number, type and wattage of all HLE;
 - ◆ Cutsheets for all HLE to be submitted as part of the Architectural Review;
 - ◆ Description of eye safety plan that includes the following:
 - ◇ Safety protocols related to eye safety for those exposed to horticultural lighting;
 - ◇ Communication plan for how eye safety protocols will be communicated to employees;
 - ◇ Description of how protective eyewear will be provided for anyone coming in to contact with active horticultural lights;
 - ◇ Description of signage that will be used to remind workers of eye safety; and
 - ◇ Affirmation that the safety protocols will be reviewed and updated by the Marijuana Cultivator or MTC on an annual basis.
- *HVAC & Dehumidification Systems*
 - ◆ Certification from a MA Licensed Mechanical Engineer that the HVAC and dehumidification systems meet Massachusetts building code, and that HVAC and dehumidification equipment have been evaluated and sized for the loads of the facility;
 - ◆ Total of TR, thousands of BTUs per hour (MBH), and a listing of all HVAC equipment to be installed, supported by equipment data sheets;
 - ◆ Total of TD, and a listing of all dehumidification equipment to be installed, supported by equipment data sheets;



- ◆ Details about energy recovery equipment installed as part of the ventilation system; and
 - ◆ A listing of all odor mitigation equipment to be installed, supported by equipment data sheets.
- Letter Demonstrating Compliance Exemption
 - *Eligible Technologies*
 - ◆ Renewable Generation Unit as defined by 225 CMR 14:
 - ◇ Solar photovoltaic or solar thermal electric energy;
 - ◇ Wind energy;
 - ◇ Ocean thermal, wave or tidal energy;
 - ◇ Fuel cells using eligible RPS Class I renewable fuel;
 - ◇ Landfill methane gas;
 - ◇ Hydroelectric;
 - ◇ Low-emission, Advanced Biomass Power Conversion Technologies using Eligible Biomass Fuel;
 - ◇ Marine or hydrokinetic energy; or
 - ◇ Geothermal energy.
 - ◆ Renewable Thermal Generation Unit as defined by 225 CMR 16:
 - ◇ Air-Source Heat Pump;
 - ◇ Ground Source Heat Pump;
 - ◇ Deep Geothermal Heat Exchange;
 - ◇ Solar Thermal;
 - ◇ Woody Biomass;
 - ◇ Biogas;
 - ◇ Liquid Biofuels; or
 - ◇ Compost Heat Exchange System.
 - *Narrative Contents of Letter*
 - ◆ Description of clean or renewable energy system, including an attestation that system meets eligibility requirements above. This requirement can be satisfied



by providing an RPS or APS Statement of Qualification approved by the Department of Energy Resources.

- ◆ Energy usage calculations for the facility, supported by building plans, energy models, and energy model outputs, including inputs and outputs by end use;
 - ◆ Clean or renewable energy generation calculations for the facility, supported by building plans and energy models, including inputs and outputs by end use; and
 - ◆ Written plan on how RECs or AECs will be generated and retired on at least an annual basis. Note that the option of retiring RECs and AECs is available only to demonstrate the portion of energy usage not generated for onsite use (maximum of 20% of total onsite energy usage).
 - ◆ Description of eye safety plan that includes the following:
 - ◇ Safety protocols related to eye safety for those exposed to horticultural lighting;
 - ◇ Communication plan for how eye safety protocols will be communicated to employees;
 - ◇ Description of how protective eyewear will be provided for anyone coming in to contact with active horticultural lights;
 - ◇ Description of signage that will be used to remind workers of eye safety; and
 - ◇ Affirmation that the safety protocols will be reviewed and updated by the Marijuana Cultivator or MTC on an annual basis.
- *HVAC & Dehumidification Systems*
- ◆ Certification from a MA Licensed Mechanical Engineer that the HVAC and dehumidification systems meet Massachusetts building code, and that HVAC and dehumidification equipment have been evaluated and sized for the loads of the facility;



- ◆ Total of TR, thousands of BTUs per hour (MBH), and a listing of all HVAC equipment to be installed, supported by equipment data sheets;
- ◆ Total of TD, and a listing of all dehumidification equipment to be installed, supported by equipment data sheets;
- ◆ Details about energy recovery equipment installed as part of the ventilation system; and
- ◆ A listing of all odor mitigation equipment to be installed, supported by equipment data sheets.

d. Additional Requirements for Cultivation Facilities: Third-Party Safety Certification

- Third-party safety certification for lighting products by an OSHA, NRTL, or SCC-recognized body, which shall certify that the products meet a set of safety requirements and standards deemed applicable to horticultural lighting products by that safety organization.

III. Renewal

- Cannabis PowerScore
- Update Energy Compliance Letter or Energy Compliance Exemption Letter



Attachment I
Fertilizer Description

SAMA PRODUCTIONS LLC

FERTILIZATION TECHNIQUES

Sama will use the method of spreading raw organic inputs over the top of raised beds in order to feed the plants. These natural inputs include worm castings, compost, blood meal, bone meal, kelp, dolomite lime, alfalfa meal, oyster shells, neem seed, rock dust, bio-char etc. Unlike chemical fertilizers which are man-made and instantly available, organic inputs are derived from plants or animals and need to be broken down by soil microbes in order to provide any plant nutrition. Sama embraces the motto of "feeding the soil, not the plants". Plants form symbiotic relationships with microbes to use the nutrients in harmony and break inputs down as needed. Once per week throughout the growing season, a special blend of ingredients will be spread across the top of the raised beds and worked into the soil. At the end of the season, the beds will be lightly tilled in order to break up the root balls, and then left dormant over the winter to let the soil recover. Each year the soil in the raised beds will become more rich and require less inputs.

The main difference between chemical and organic fertilizers is the solubility factor. Chemical fertilizers are very concentrated and therefore must be diluted in water before they can be fed to the plants. Due to their chemistry, these man-made nutrients leave behind salt residues in the soil and over time make the soil so unbalanced it must be discarded and not used for plant production. Sama will use best practices for low impact and regenerative farming and will not be using any highly concentrated chemicals as plant nutrients.

In regards to runoff, it is important to understand what is in the water that is "running off". In the event of feeding the plants with instantly available chemical fertilizers, any runoff will contain these chemicals in their hyper reactive state. The opposite is true when feeding with raw organic inputs. When feeding with raw organic inputs, the nutrients are not active or available until they are broken down by microbes. The rate at which the inputs are broken down is slow and steady so the plants can consume what's

available, as it's available. Any water that passes through the raised beds, onto the compacted gravel, will contain negligible amounts of available nutrients and will be beneficial to any native plants on the property.

South West Massachusetts farms have been growing corn for generations and have been using the same fertilizing techniques that will be embraced by Sama. Every season, cow manure is spread on top of the soil (topdressing raw organic inputs) then when the rain comes (Sama's drip watering system) it works the inputs into the soil. Then throughout the season, the microbes in the soil breakdown the organic inputs to provide a steady source of nutrients to the corn. Many of these corn farms are located on the rivers and flood almost every year.

Sama will adhere to the guidelines published by the CCC to stay compliant with any applications of pesticides or fungicides. The CCC puts products through rigorous safety tests before approving them.

Attachment I
Site Plans

TEST PITS INFORMATION

TEST PITS	GROUND TO LEDGE	LEDGE TO REFUSAL
#1	● 15' NO LEDGE	5' TO WATER
#2	● 15' NO LEDGE	3' TO WATER
#3	● 15' NO LEDGE	3' TO WATER
#4	● 15' NO LEDGE	4' TO WATER
#5	● 15' NO LEDGE	5' TO WATER
#6	● 15' NO LEDGE	3' TO WATER
#7	● 15' NO LEDGE	3' TO WATER
#8	● 15' NO LEDGE	3' TO WATER
#9	● 15' NO LEDGE	4' TO WATER
#10	● 15' NO LEDGE	3' TO WATER
#11	● 15' NO LEDGE	3' TO WATER
#12	● 15' NO LEDGE	5' TO WATER



PLANS TO ACCOMPANY PERMIT APPLICATIONS
 PREPARED FOR:
SAMA PRODUCTIONS, LLC.
 LOCATED AT:
 TOWN HILL ROAD
 SANDSFIELD MA

Design Group, Inc.
 Civil Engineers * Surveyors * Consultants
 2 FERBER DRIVE • PITTSFIELD, MASSACHUSETTS 01201 • (413) 443-3337

EXISTING CONDITIONS PLAN

SK DESIGN GROUP PROJECT #:
200181

Professional Engineer Seal:
 COMMONWEALTH OF MASSACHUSETTS
 JAMES M. SCALISE II
 CIVIL ENGINEER
 No. 39988
 LICENSE #39988
 PROFESSIONAL OF RECORD
 PHONE: 413-443-3337

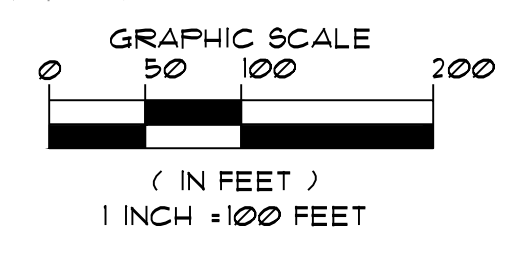
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ORIG. DATE: FEB. 23, 2021	SHEET NO. 2
ISSUED FOR: Permit	OF 9
SCALE: As Noted	

LEGEND

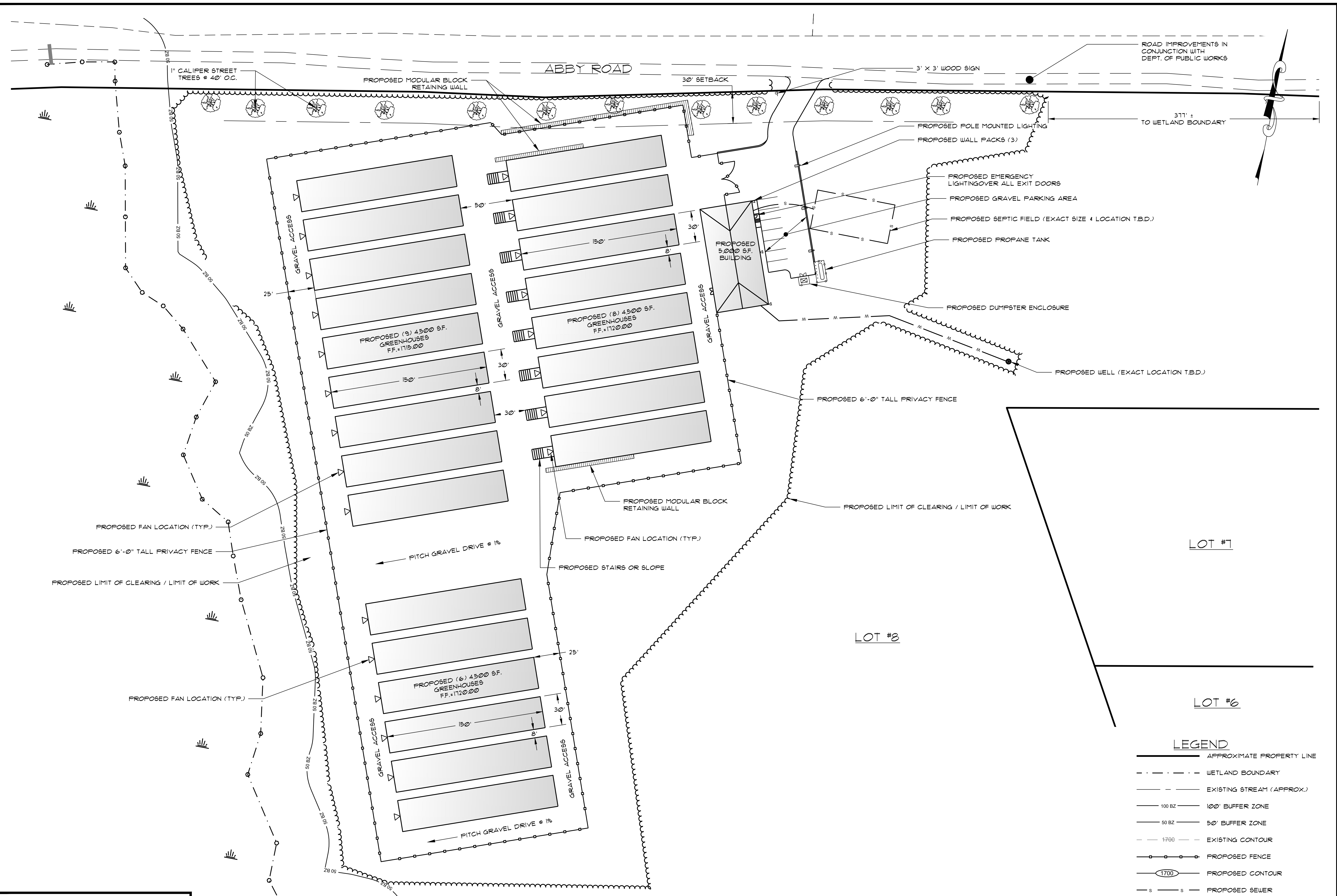
- APPROXIMATE PROPERTY LINE
- - - WETLAND BOUNDARY
- - - EXISTING STREAM (APPROX.)
- 100 BZ 100' BUFFER ZONE
- 50 BZ 50' BUFFER ZONE
- 1700 EXISTING CONTOUR

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OVERALL SITE PLAN
 SCALE: 1" = 100'

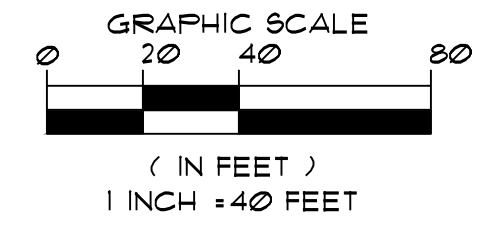


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ENLARGED SITE PLAN
 SCALE: 1" = 40'



LEGEND

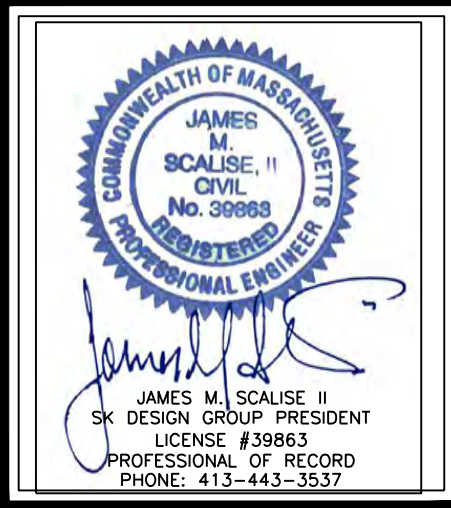
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---	EXISTING STREAM (APPROX.)
100 BZ	100' BUFFER ZONE
50 BZ	50' BUFFER ZONE
- - - - -	EXISTING CONTOUR
○ ○ ○ ○ ○	PROPOSED FENCE
○ 1700	PROPOSED CONTOUR
- s - s -	PROPOSED SEWER
- - - - -	PROPOSED DRAIN
~~~~~	PROPOSED CLEARING LIMITS
- EC -	PROPOSED EROSION CONTROL

PLANS TO ACCOMPANY PERMIT APPLICATIONS  
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**SAMA PRODUCTIONS, LLC.**  
 LOCATED AT:  
 TOWN HILL ROAD  
 SANDSFIELD MA

**Design Group, Inc.**  
 Civil Engineers * Surveyors * Consultants  
 2 FERBROOK DRIVE * PITTSFIELD, MASSACHUSETTS 01201 * (413) 443-3377

PLAN DESCRIPTION:  
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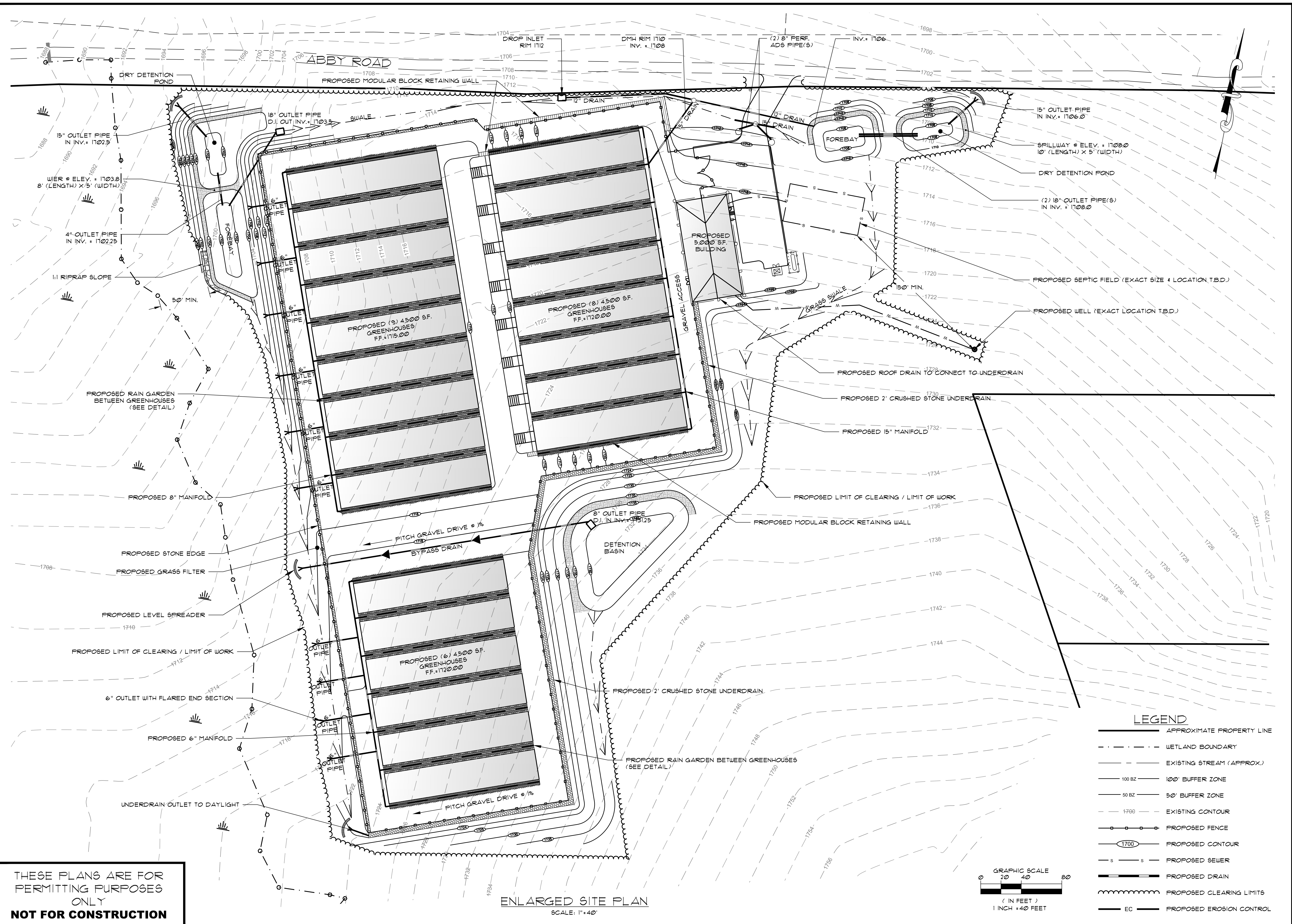
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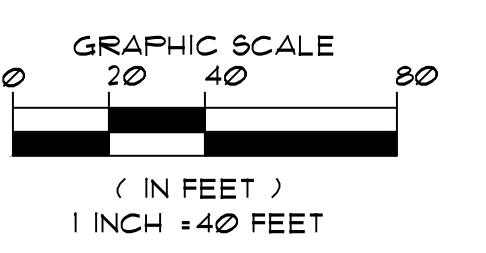
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ISSUED FOR: Permit	<b>4</b> OF <b>9</b>
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ENLARGED SITE PLAN  
SCALE: 1" = 40'



**LEGEND**

	APPROXIMATE PROPERTY LINE
	WETLAND BOUNDARY
	EXISTING STREAM (APPROX.)
	100' BUFFER ZONE
	50' BUFFER ZONE
	EXISTING CONTOUR
	PROPOSED FENCE
	PROPOSED CONTOUR
	PROPOSED SEWER
	PROPOSED DRAIN
	PROPOSED CLEARING LIMITS
	PROPOSED EROSION CONTROL

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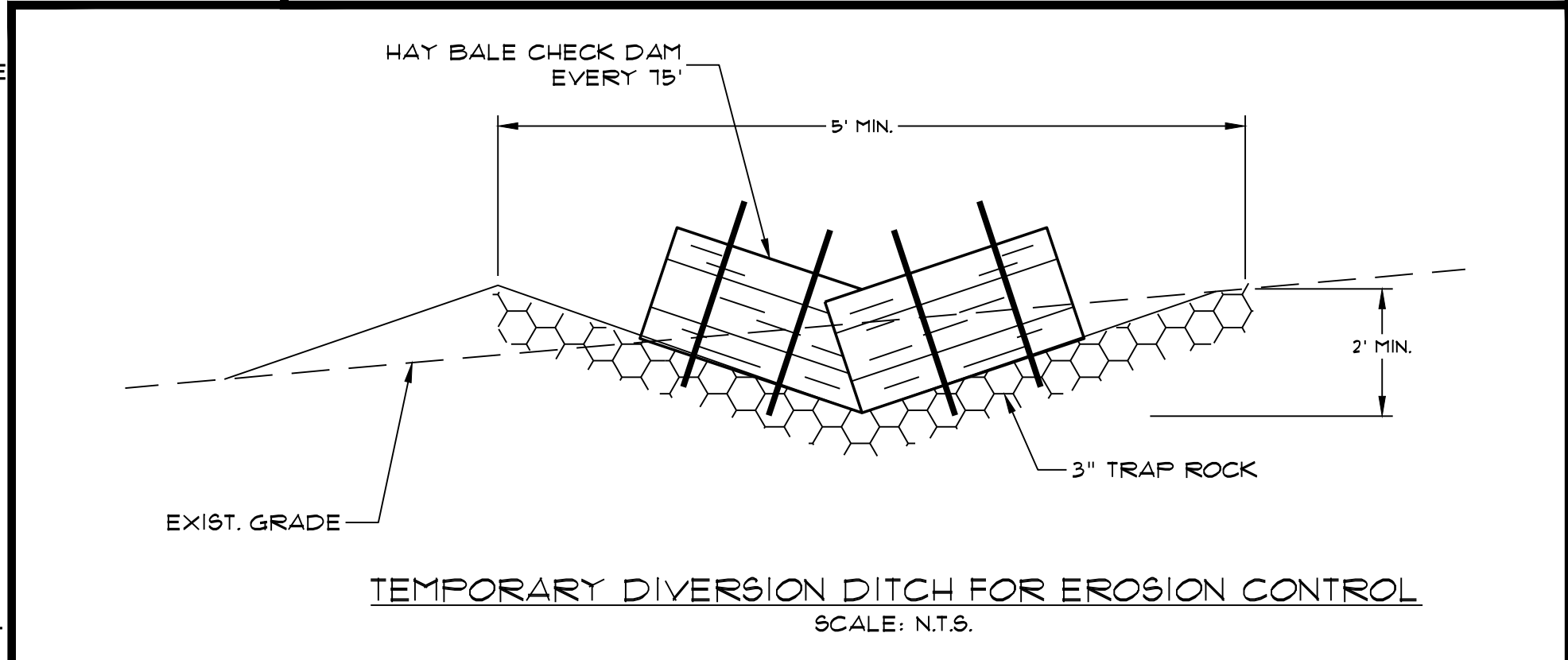
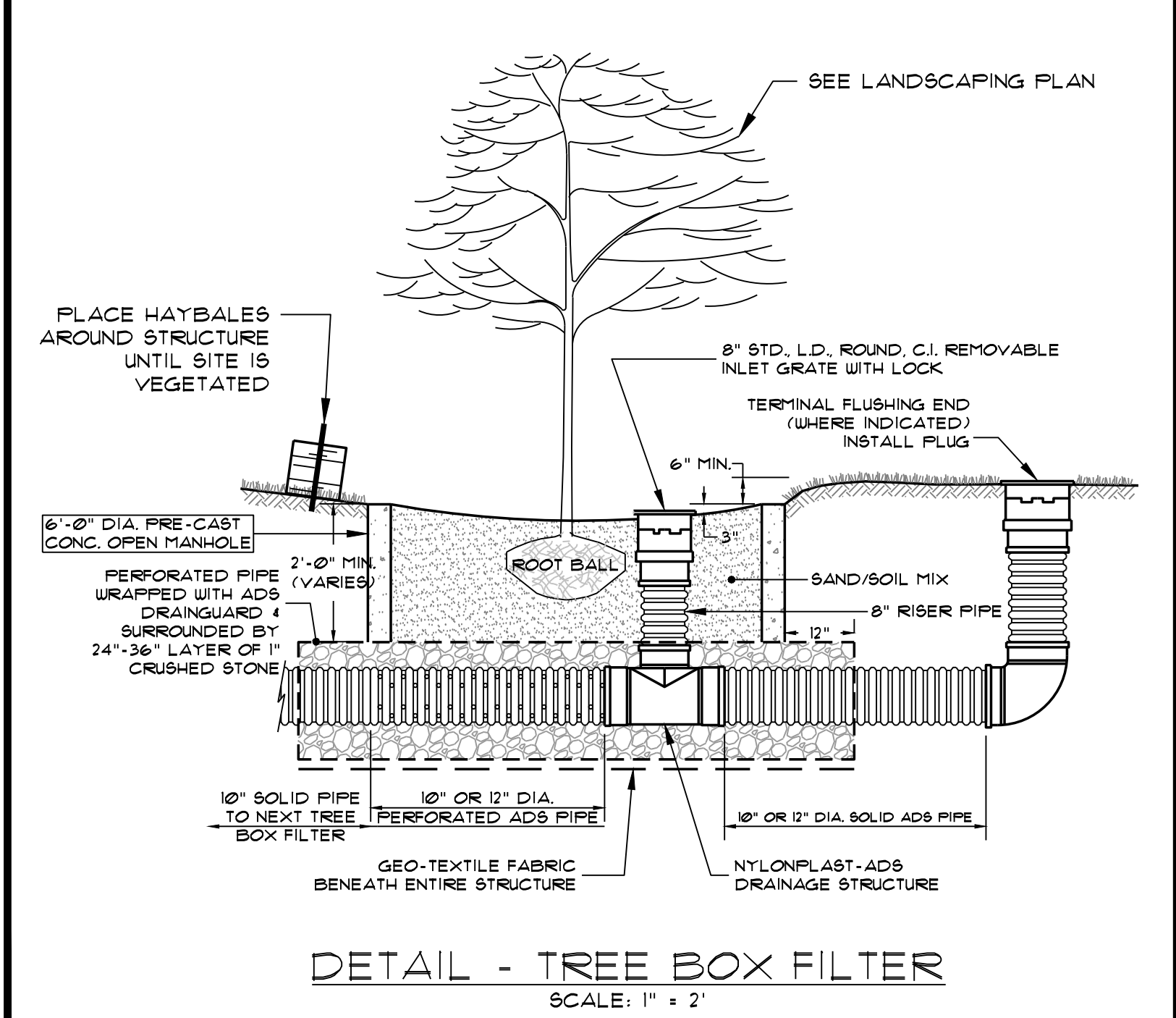
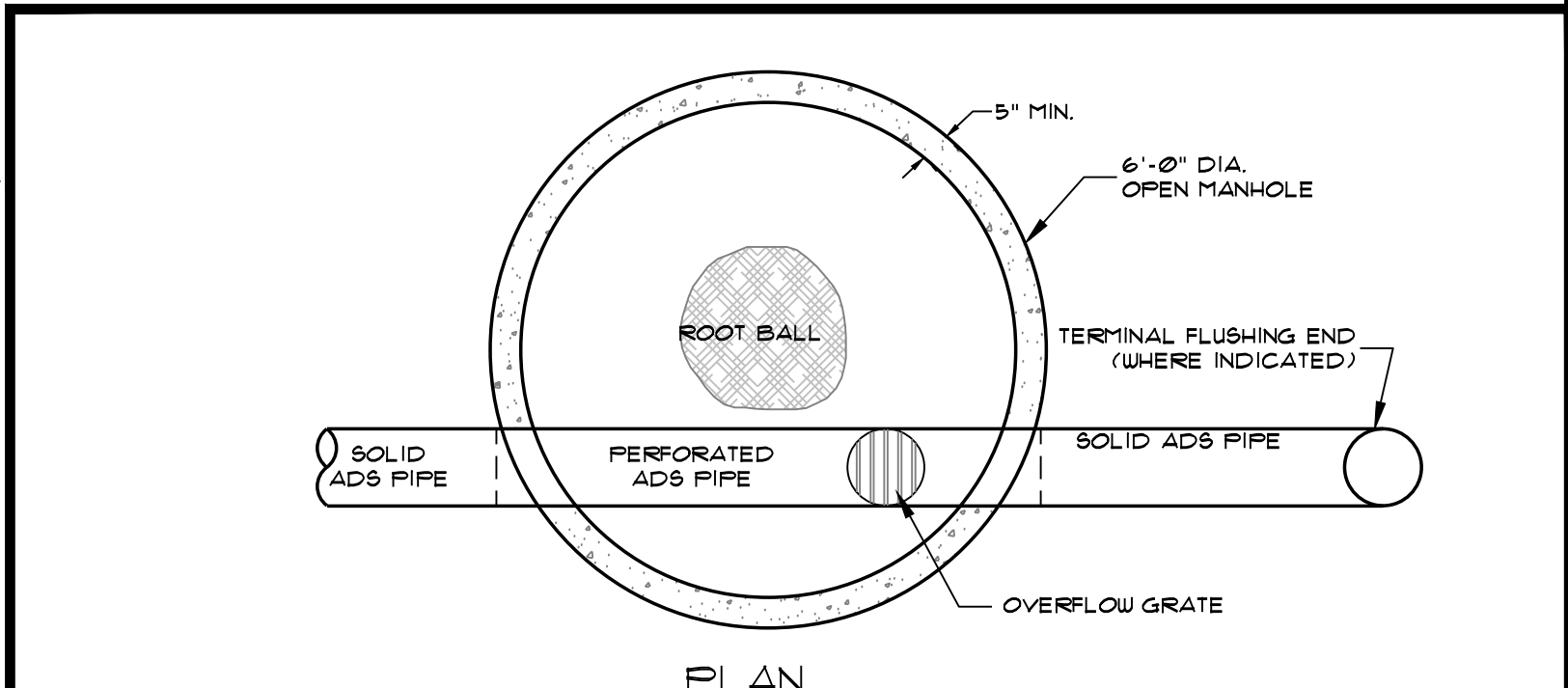
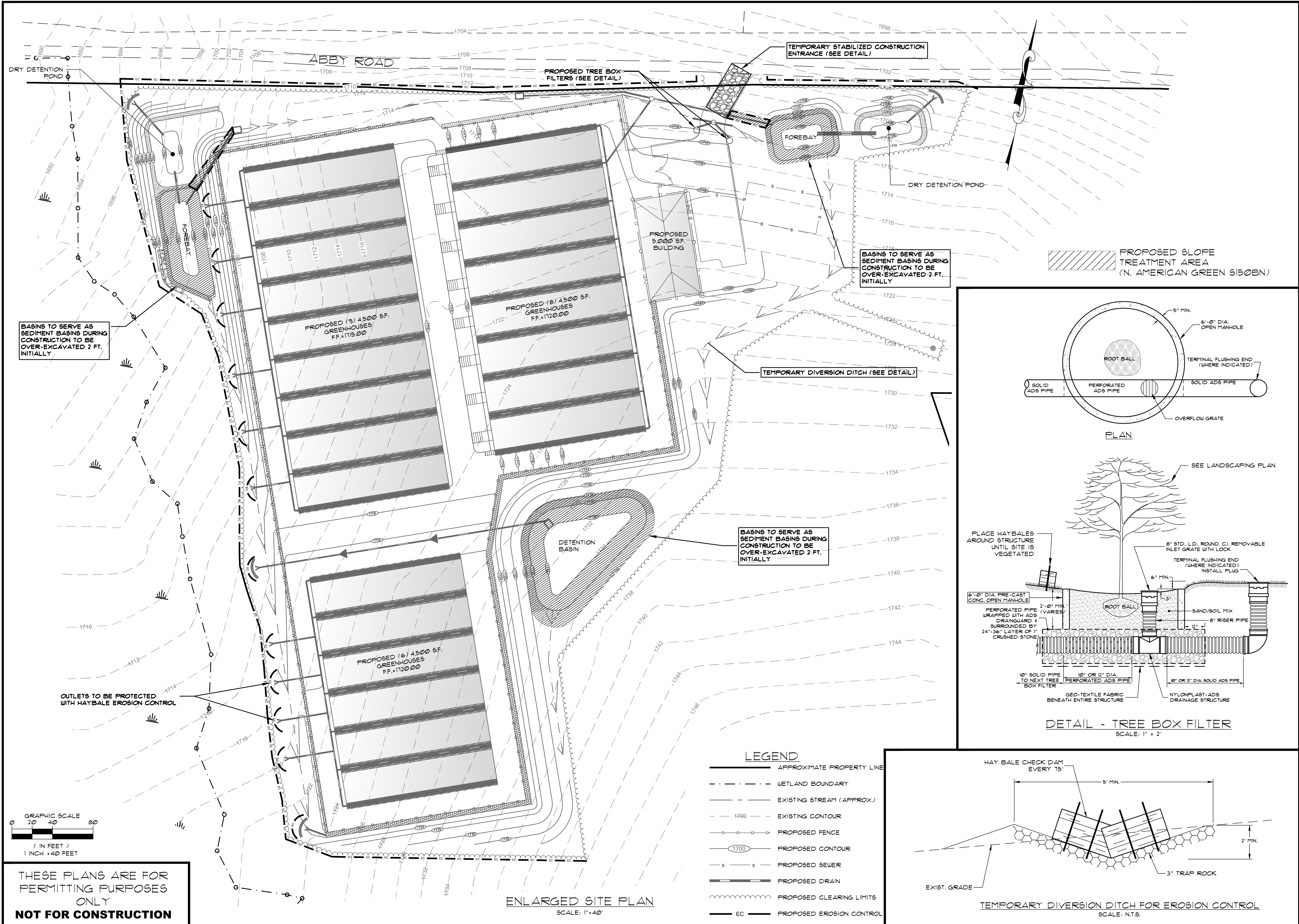
PLAN DESCRIPTION:  
**GRADING PLAN**

SK DESIGN GROUP PROJECT #:  
**200181**

Professional Engineer Seal for James M. Scalise II, License #39862, State of Massachusetts.

DRAWN BY: AMS	CHECKED BY: JMS II
ORIG. DATE: FEB. 23, 2021	SHEET NO. 5
ISSUED FOR: Permit	OF 9
SCALE: As Noted	

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PLANS TO ACCOMPANY PERMIT APPLICATIONS  
PREPARED FOR:  
**SAMA PRODUCTIONS, LLC.**  
LOCATED AT:  
TOWN HILL ROAD  
SANDSFIELD MA

**Design Group, Inc.**  
Civil Engineers * Surveyors * Consultants  
2 FERBROOK DRIVE * PITTSFIELD, MASSACHUSETTS 01201 * (413) 443-3337

**EROSION CONTROL PLAN**

PLAN DESCRIPTION

SK DESIGN GROUP PROJECT #:  
**200181**

COMMONWEALTH OF MASSACHUSETTS  
JAMES M. SCALISE II  
No. 39864  
PROFESSIONAL ENGINEER

JAMES M. SCALISE II  
SK DESIGN GROUP PRESIDENT  
LICENSE # 39864  
PROFESSIONAL OF RECORD  
PHONE: 413-443-3337

REVISION:	
DRAWN BY:	CHECKED BY:
DATE:	DATE:
ISSUED FOR:	SHEET NO.:
SCALE:	6 OF 9
As Noted	

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SCHEDULE

SYMBOL	LABEL	QUANTITY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMP	LIGHT LOSS FACTOR	WATTAGE
	SL1	41	LITHONIA LIGHTING	D5X0 LED FI 40K BLC MVOLT 9PA DDBXD 555 15 4C DM19A9 DDB	D5X0 LED FI 40K BLC MVOLT	LED	0.9	38
	SL2	3	LITHONIA LIGHTING	D5X0 LED FI 40K T4M MVOLT 9PA DDBXD 555 15 4C DM19A9 DDBXD	D5X0 LED FI 40K T4M MVOLT	LED	0.9	38

NOTES  
1. FIXTURE TYPES SL1 AND SL2 ARE SHOWN POLE MOUNTED AT 15' ABOVE FINISHED GRADE.

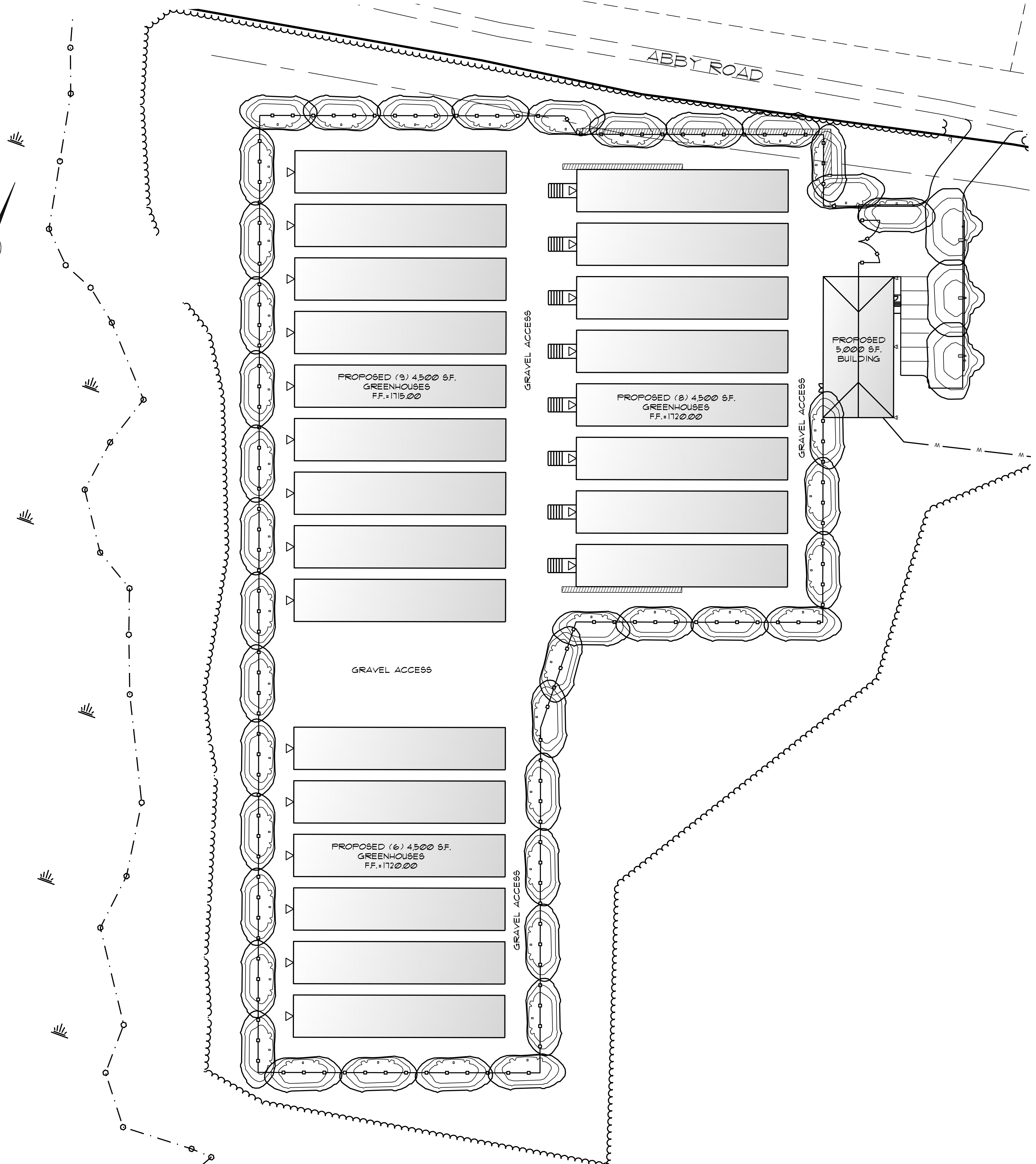


FIGURE 1: D-SERIES LIGHT DETAIL MANUFACTURED BY LITHONIA LIGHTING

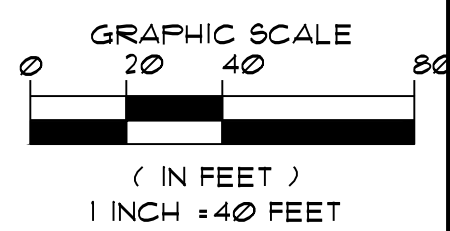


FIGURE 1: D-SERIES LIGHT EXAMPLE MANUFACTURED BY LITHONIA LIGHTING

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**NOT FOR CONSTRUCTION**



SITE PLAN  
SCALE: 1" = 40'



PLANS TO ACCOMPANY PERMIT APPLICATIONS  
PREPARED FOR:  
**SAMA PRODUCTIONS LLC.**  
LOCATED AT:  
TOWN HILL ROAD  
SANDSFIELD MA

**Design Group, Inc.**  
Civil Engineers * Surveyors * Consultants  
2 FERBER DRIVE • PITTSFIELD, MASSACHUSETTS 01201 • (413) 443-3337

PLAN DESCRIPTION:  
**SITE LIGHTING PLAN**

SK DESIGN GROUP PROJECT #:  
**2021**

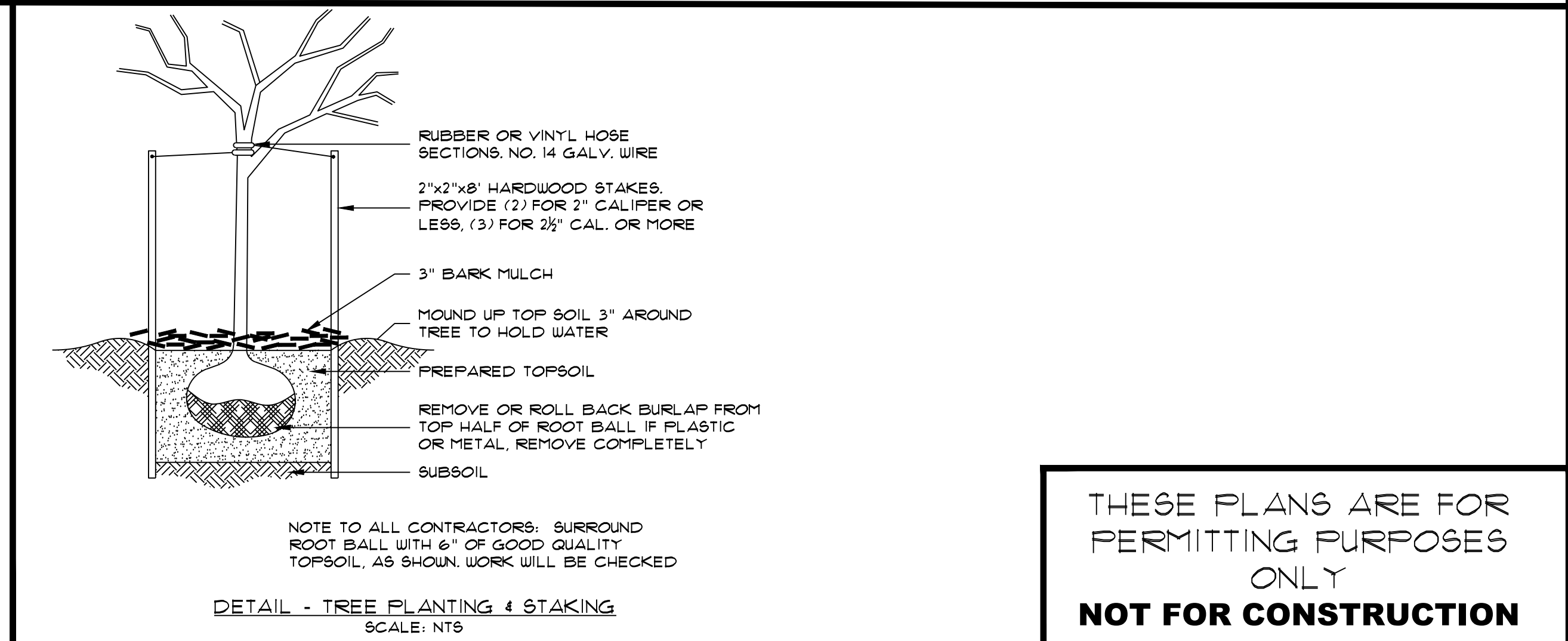
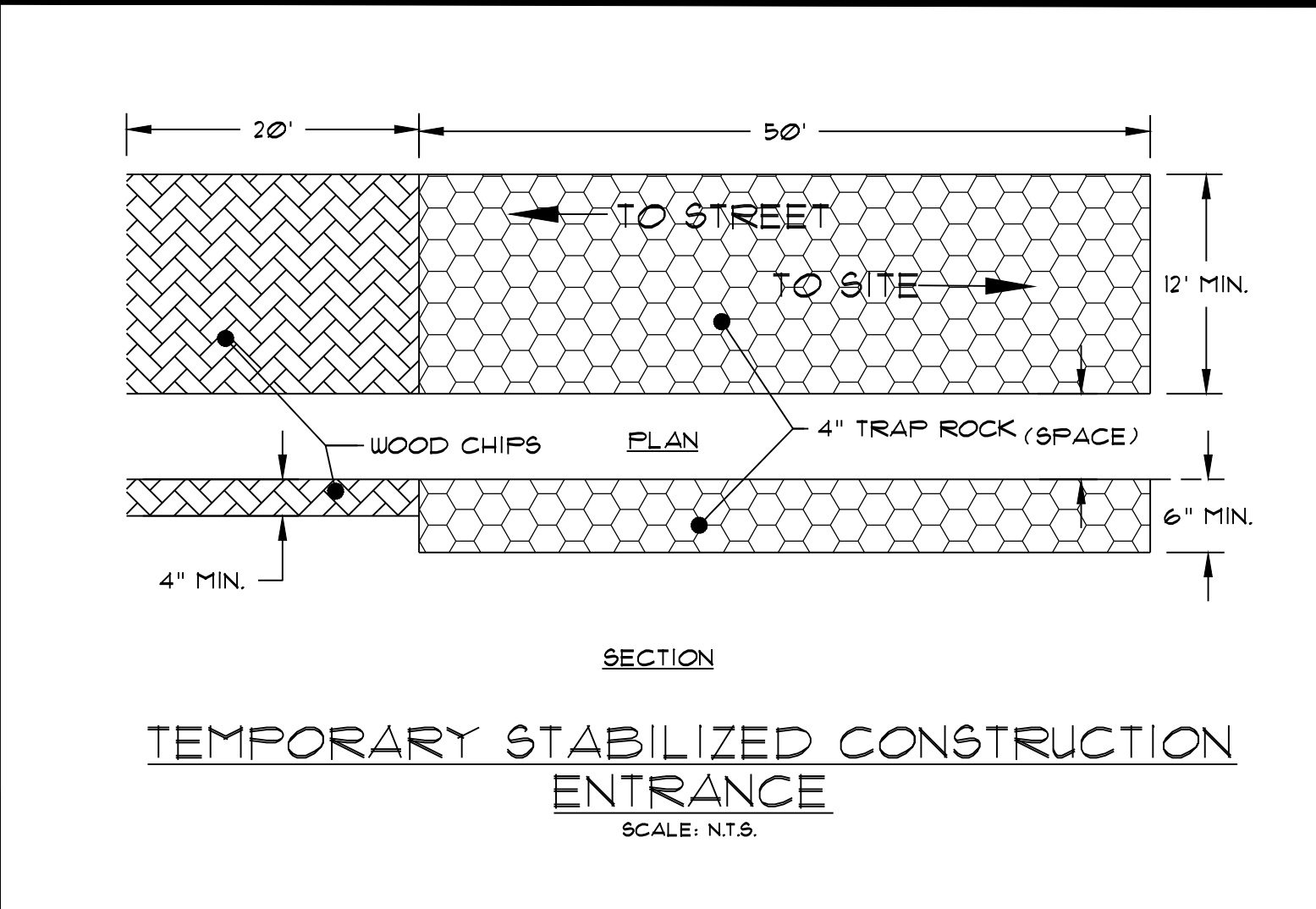
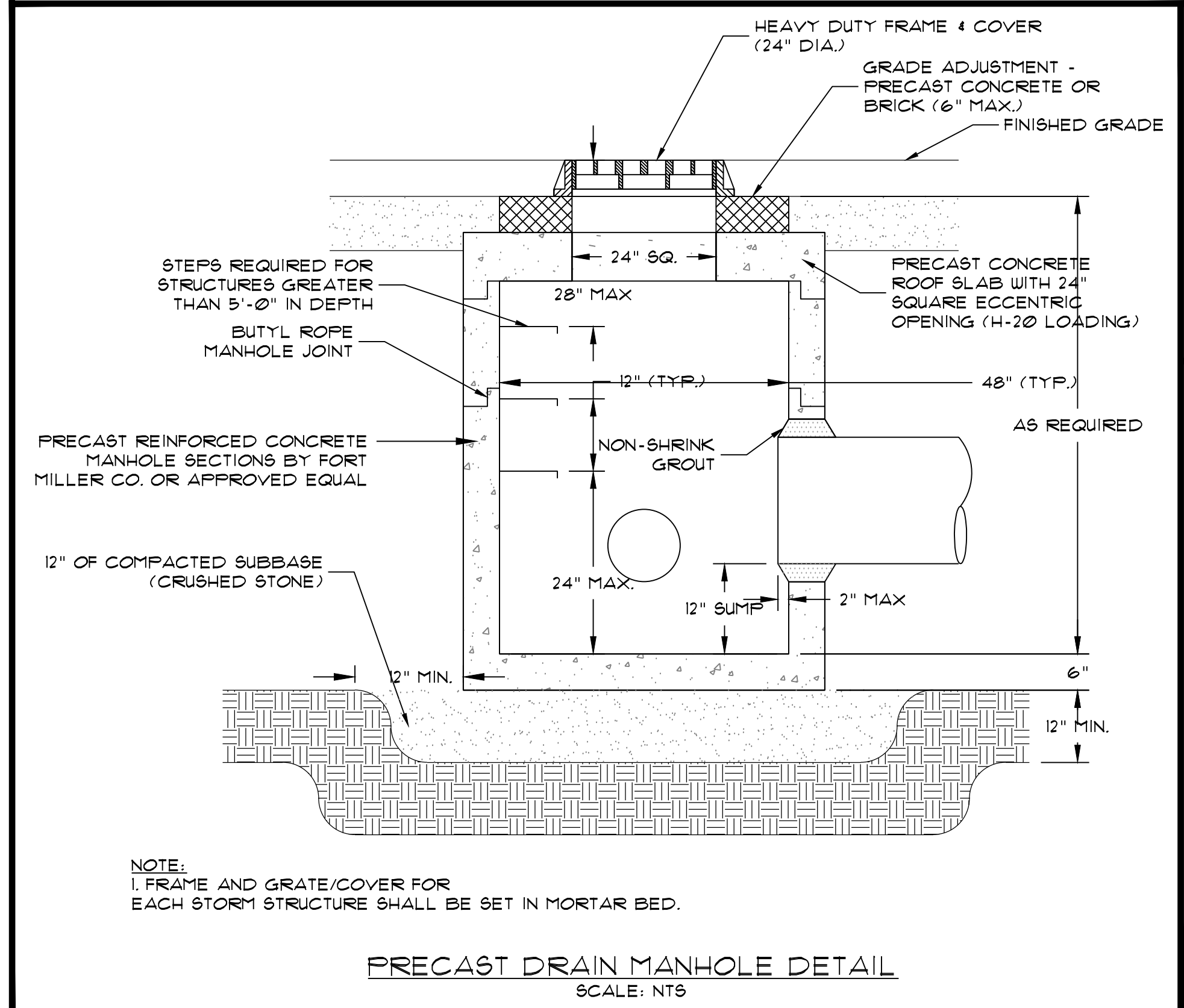
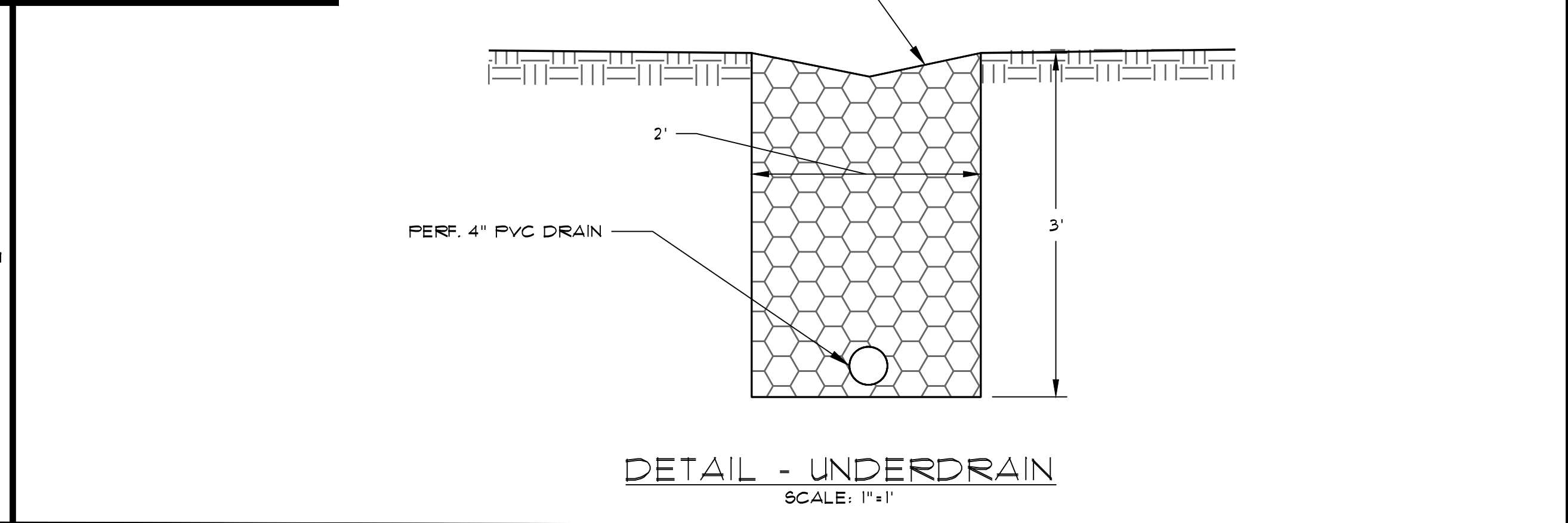
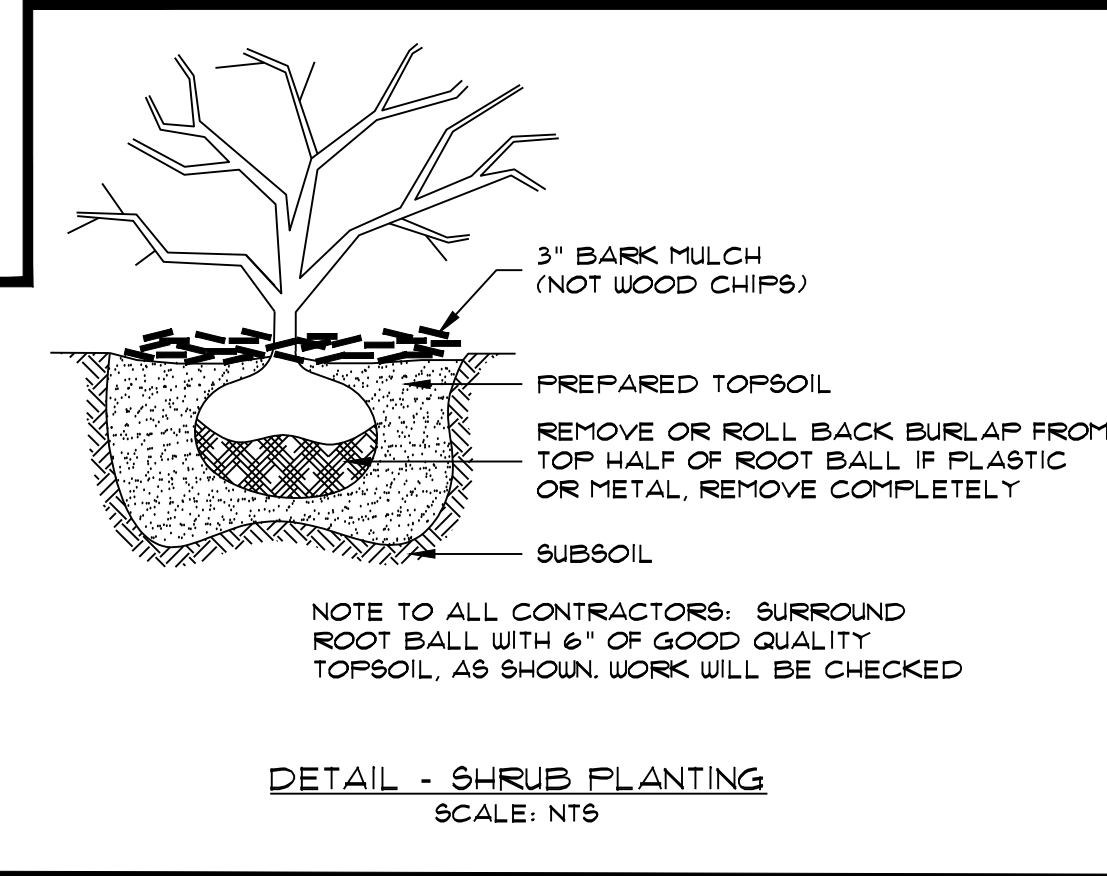
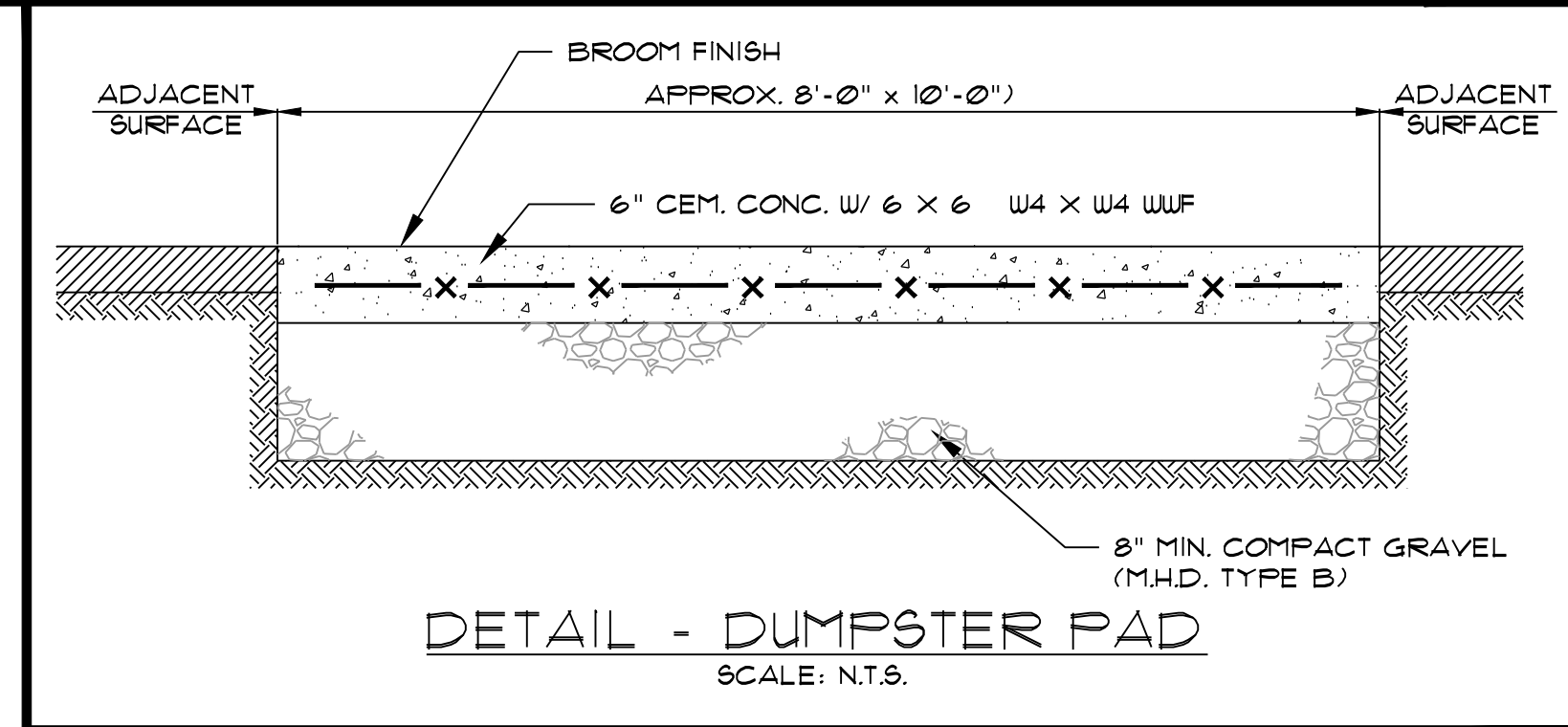
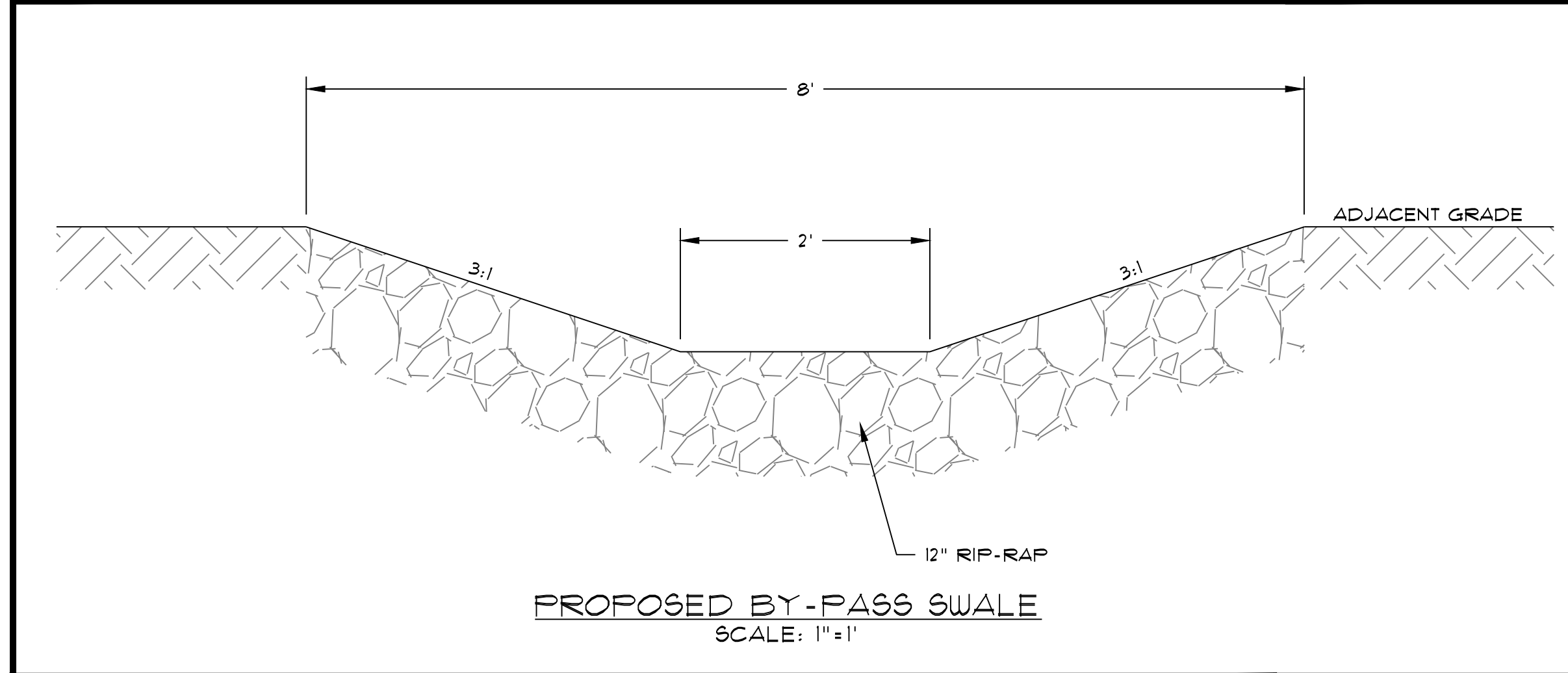
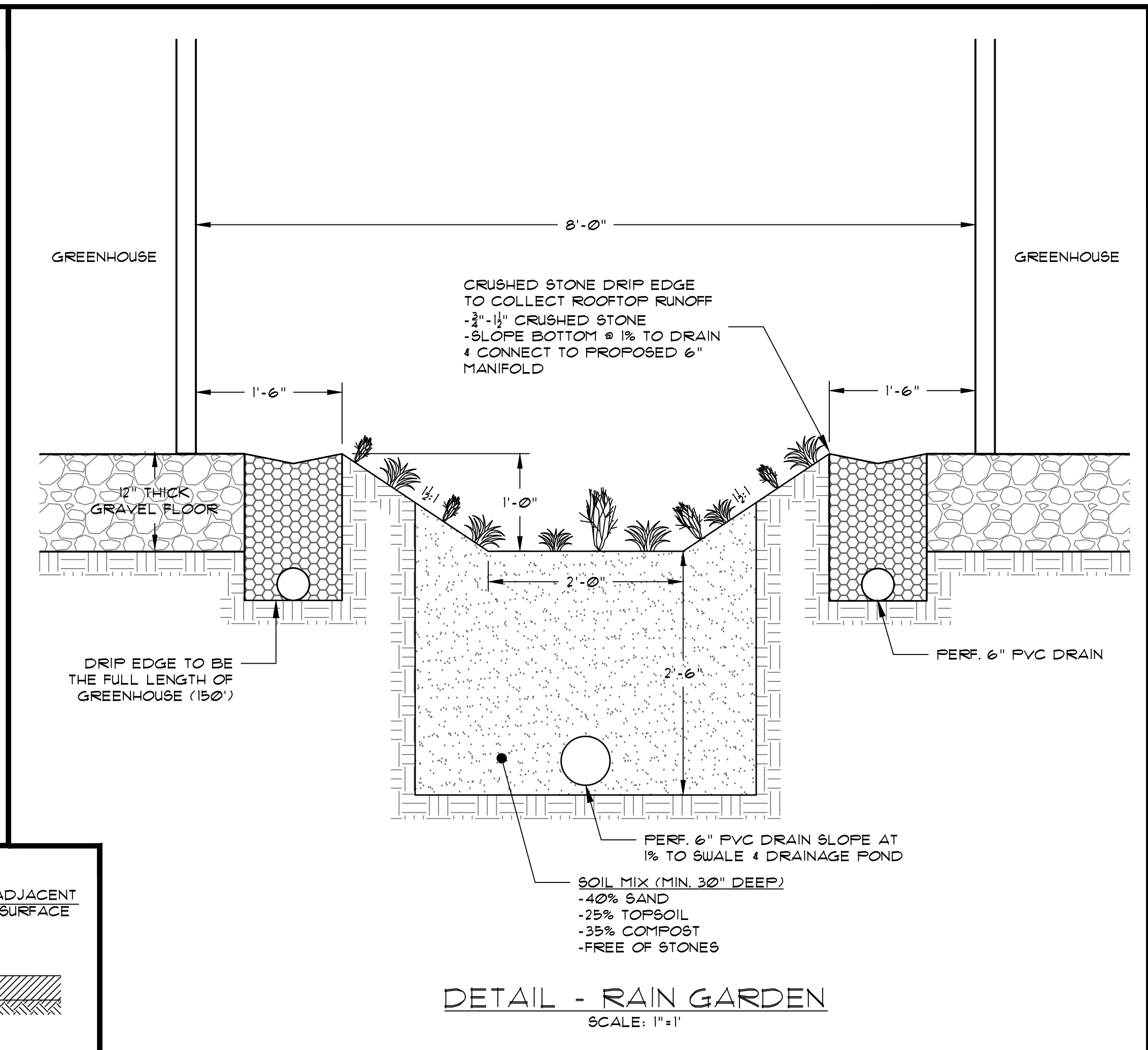
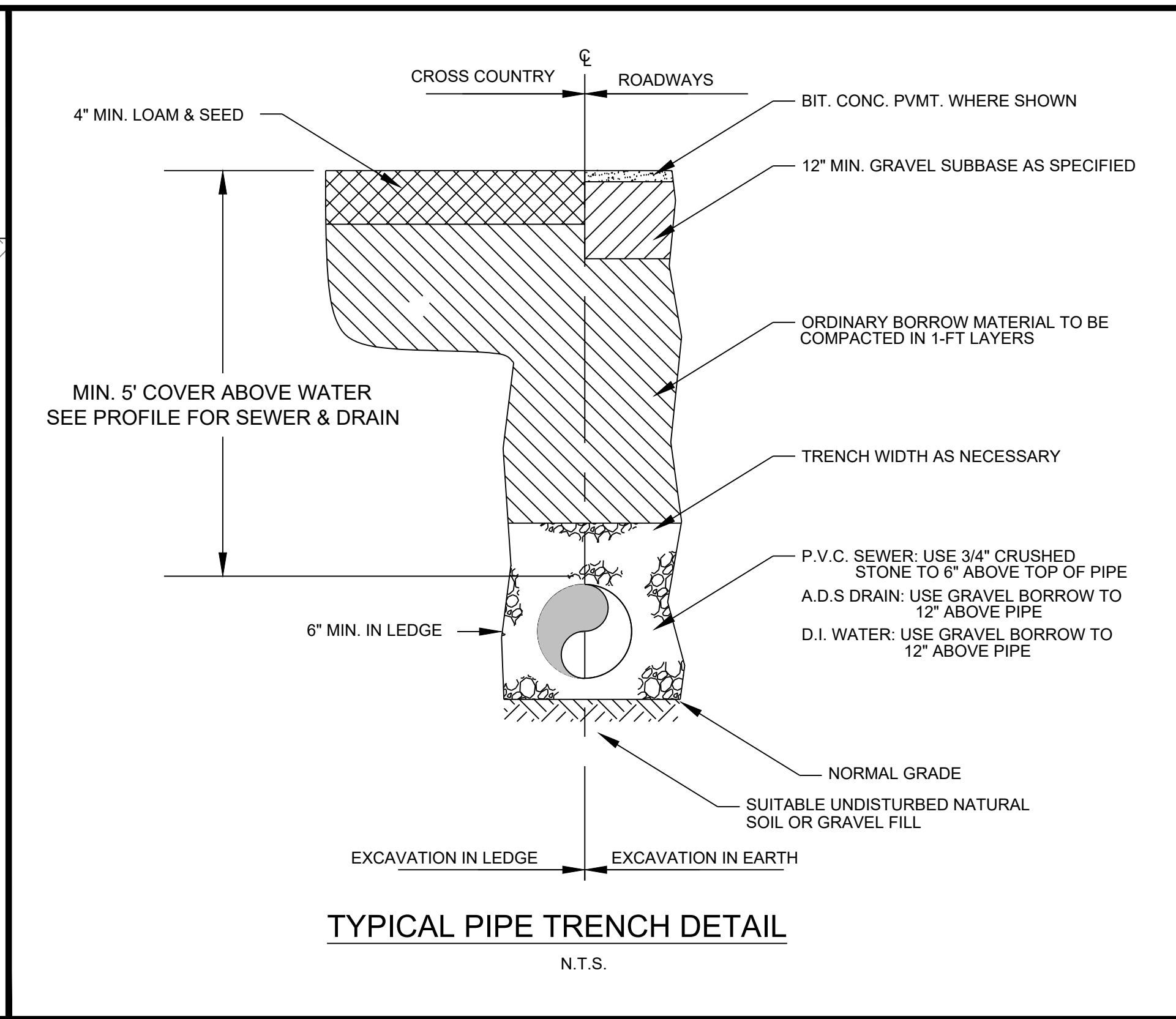
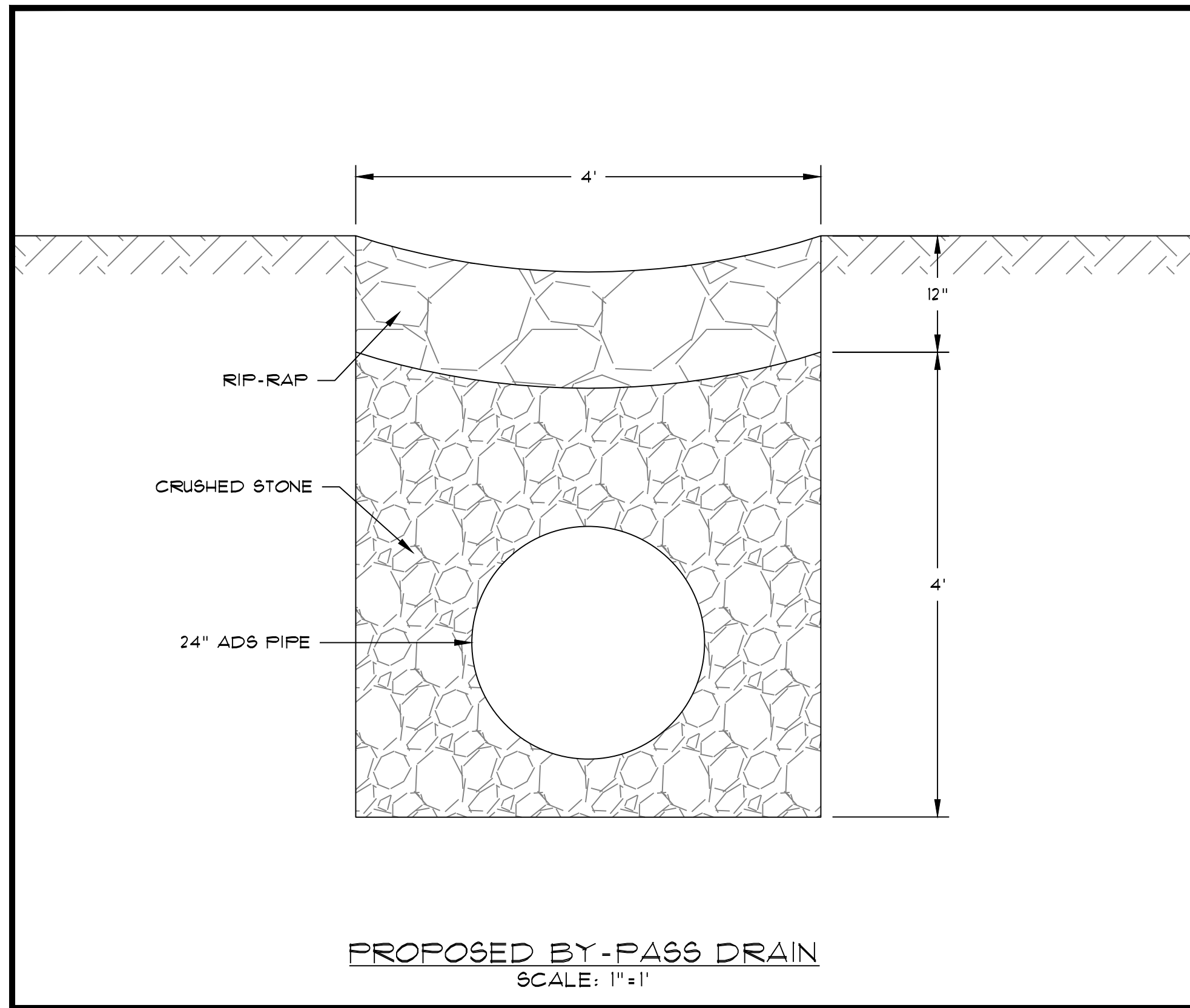
COMMONWEALTH OF MASSACHUSETTS  
JAMES M. ESCOFFER II  
LICENSE # 39888  
PROFESSIONAL ENGINEER

*James M. Escoffer II*  
JAMES M. ESCOFFER II  
SK DESIGN GROUP PRESIDENT  
LICENSE # 39888  
PROFESSIONAL OF RECORD  
PHONE: 413-443-3337

REVISION:


DRAWN BY: HLP	CHECKED BY: JMS II
ORIG. DATE: FEB. 23, 2021	SHEET NO. <b>7</b>
ISSUED FOR: Permit	OF <b>9</b>
SCALE: As Noted	

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PLANS TO ACCOMPANY PERMIT APPLICATIONS  
PREPARED FOR:  
**SAMA PRODUCTIONS, LLC.**  
LOCATED AT:  
TOWN HILL ROAD  
SANDSFIELD MA

**Design Group, Inc.**  
Civil Engineers & Surveyors & Consultants  
2 FERRIS DRIVE • PITTSFIELD, MASSACHUSETTS 01201 • (413) 445-3377

SK DESIGN GROUP PROJECT #:  
**200181**

PLAN DESCRIPTION:  
**DETAILS**

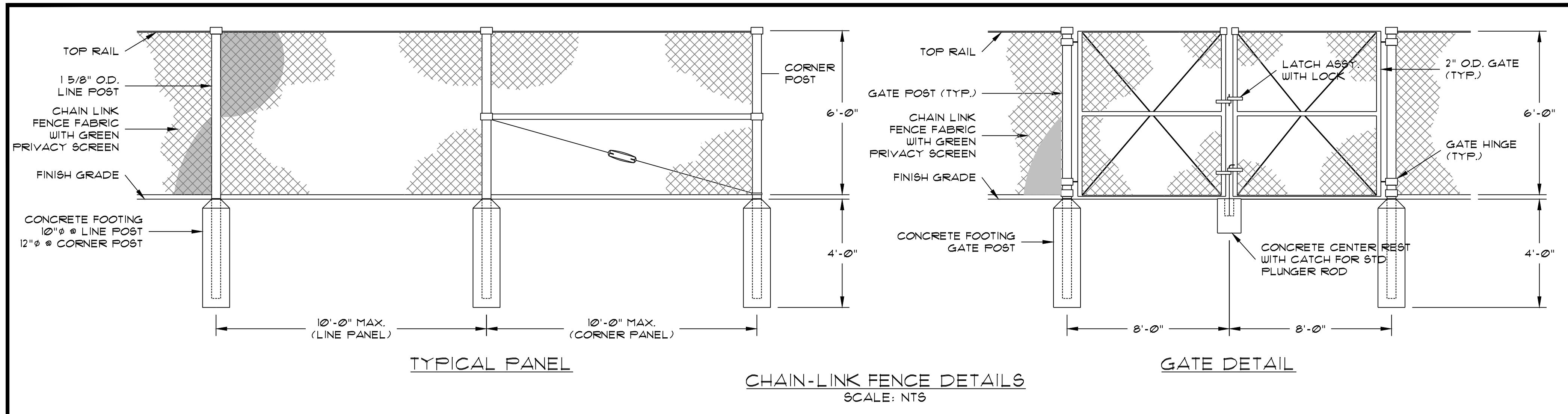
COMMONWEALTH OF MASSACHUSETTS  
JAMES M. SCAUSE II  
CIVIL ENGINEER  
LICENSE #39863  
PROFESSIONAL OF RECORD  
PHONE: 413-443-3337

REVISION:

DRAWN BY: AMIS  
CHECKED BY: JMS II  
ORIG. DATE: FEB. 23, 2021  
SHEET NO. **8** OF **9**  
ISSUED FOR: Permit  
SCALE: As Noted

**THESE PLANS ARE FOR PERMITTING PURPOSES ONLY**  
**NOT FOR CONSTRUCTION**

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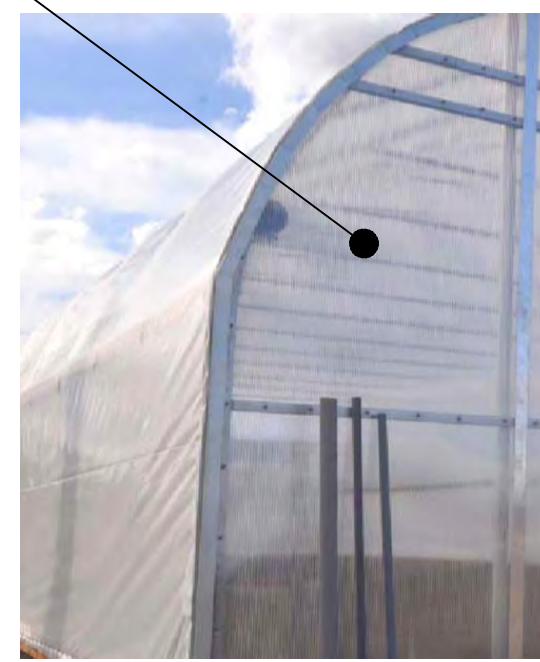
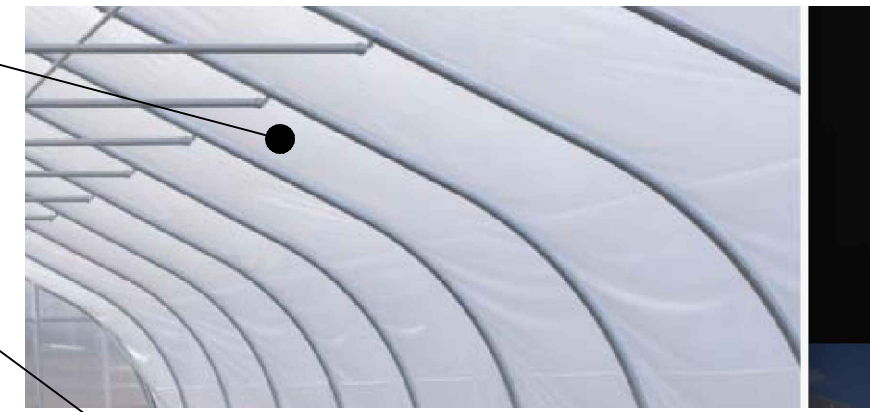
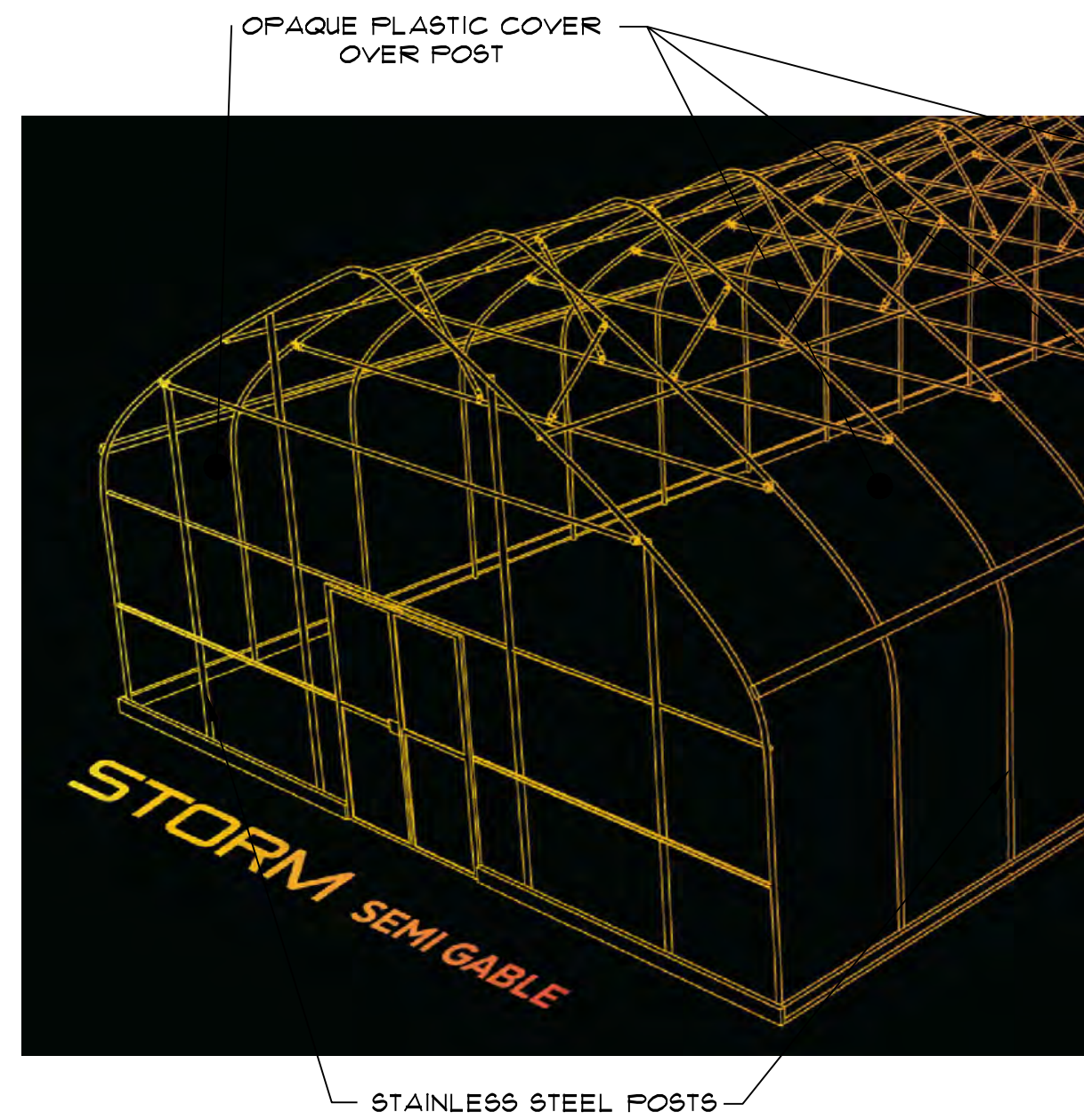


CHAIN-LINK FENCE DETAILS  
SCALE: NTS



SCHEMATIC SECURITY  
SCALE: NOT TO SCALE

NOTE: DUE TO SAFETY & SECURITY CONCERNS, NO FINAL DESIGN OR LAYOUT WILL BE PROVIDED FOR PUBLIC CONSUMPTION. ALL SECURITY WILL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.



STORM SEMI GABLE GREENHOUSE  
BY HORTITECH GREENHOUSE  
SCALE: NOT TO SCALE

GREENHOUSE HEIGHT = 16FT

OPERATION & MAINTENANCE PLAN (STORMWATER SYSTEM)

1. MAINTENANCE OF THE ON-SITE STORM WATER SYSTEM IS THE RESPONSIBILITY OF THE PROPERTY OWNER. THIS INCLUDES ALL CATCH BASINS, YARD DRAINS, TRENCH DRAIN, SYSTEM PIPING, MANHOLES, ROOF LEADERS, WATER QUALITY BASINS, OUTLETS AND ASSOCIATED PIPING.
2. IN GENERAL, GOOD HOUSEKEEPING PRACTICES SHALL BE INCORPORATED INTO THE ROUTINE SITE AND FACILITY MAINTENANCE PLAN TO MINIMIZE DEPOSITION OF SEDIMENT, LITTER, AND CONTAMINANTS INTO THE STORM DRAINAGE SYSTEM, PAVED PARKING AREAS AND DRIVES, TRUCK LOADING AREA, AND FACILITY GROUNDS.
3. MAINTENANCE RECORDS DOCUMENTING SYSTEM INSPECTION AND CLEANING OPERATIONS SHALL BE MAINTAINED BY THE PROPERTY OWNER AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE TOWN AS REQUESTED.

THE FOLLOWING SCHEDULE OF MAINTENANCE SHALL BE FOLLOWED:

- ANNUALLY: (IN LATE SPRING):**
- A. VISUALLY INSPECT ALL DRAINAGE STRUCTURES. STRUCTURES CONSIST OF CATCH BASINS, YARD DRAINS, MANHOLES, TRENCH DRAIN, AND ALL OTHER SITE DRAINAGE FACILITIES, INCLUDING THE WATER QUALITY BASINS, OUTLETS AND DISCHARGE PIPING AND RIP RAP EROSION CONTROLS AT THE OUTFALLS. NOTE ANY DEFICIENCIES AND MAKE REPAIRS.
  - B. CLEAN THE CATCH BASINS, YARD DRAINS, TRENCH DRAIN, AND ALL OTHER SITE DRAINAGE SITE FACILITIES OF ANY ACCUMULATION OF SEDIMENT AND/OR DEBRIS.
    - B.1. ALL CLEANING AND REMOVAL OF SEDIMENT AND DEBRIS TO BE PERFORMED BY A LICENSED CONTRACTOR.
    - B.2. CLEANING TO BE DONE WITH A VACUUM TRUCK SO THAT DIRECT ACCESS INTO THE DRAINAGE STRUCTURES IS NOT REQUIRED.
    - B.3. ALL MATERIAL REMOVED SHALL BE DISPOSED ACCORDING TO THE REQUIREMENTS OF THE STATE OF CONNECTICUT AND LOCAL REGULATIONS. IF ANY REPAIR WORK IS REQUIRED FOR THE STORMWATER MANAGEMENT SYSTEM, THE WORK INVOLVED SHALL BE CONDUCTED ACCORDING TO FEDERAL, STATE AND LOCAL REGULATIONS.

- SEMI-ANNUALLY: (LATE SPRING, AFTER WINTER SANDING OPERATIONS AND MID FALL, AFTER LEAF LITTER):**
- A. SWEEP OR VACUUM ALL PAVED DRIVES AND PARKING AREAS TO REMOVE ACCUMULATED SEDIMENT. DISPOSE OF MATERIALS AT LICENSED FACILITY.

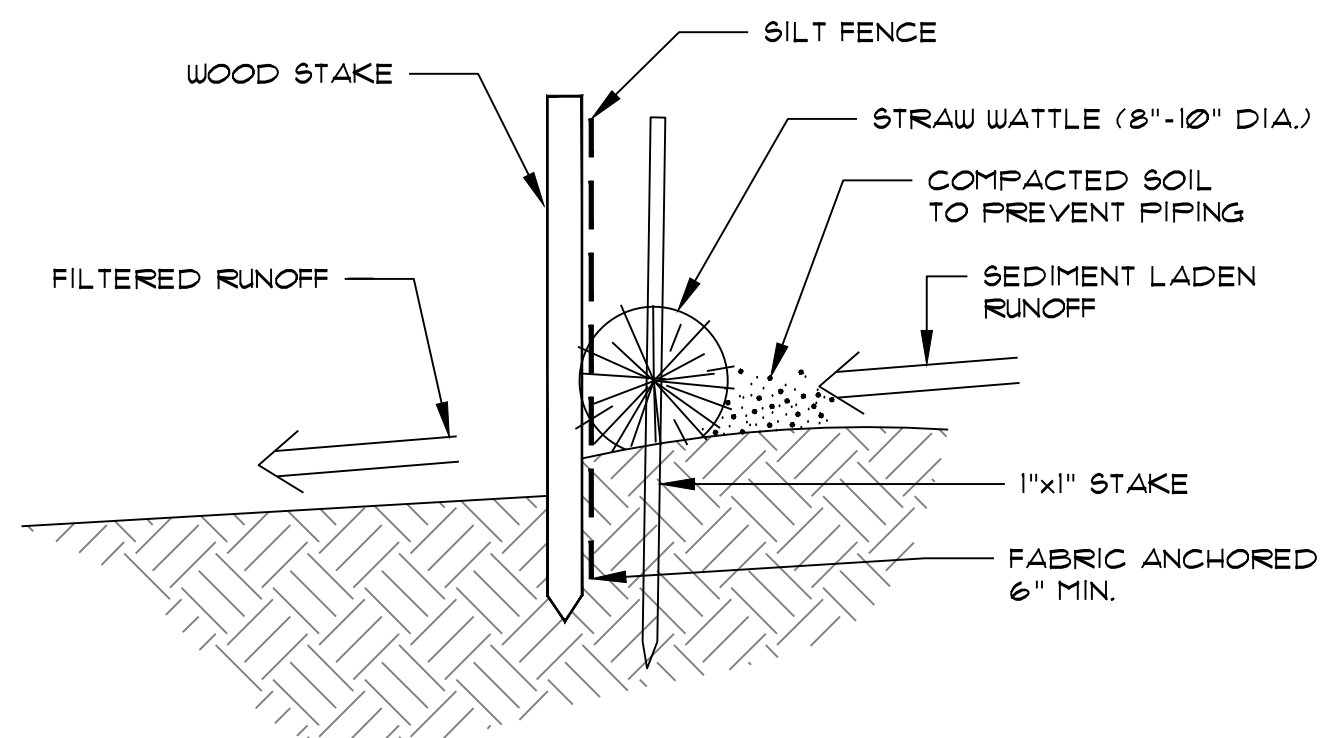
- MONTHLY:**
- A. REMOVE LITTER AND OTHER DEBRIS FROM THE SITE, INCLUDING TRUCK LOADING AREA.

- B. VERIFY THAT THE OUTLET STRUCTURES FOR THE WATER QUALITY BASINS ARE FREE OF DEBRIS AND LITTER. CLEAN, AS NECESSARY.
- ANNUALLY:**
- A. INSPECT WATER QUALITY BASINS.
    - A.1. CUT TRIM AND REMOVE WOODY VEGETATION GROWTH IN SIDESLOPES, BERMS AND BASIN BOTTOM.
    - A.2. INSPECT SEDIMENT FOREBAYS FOR ACCUMULATED SEDIMENT, REMOVE AS NECESSARY.
    - A.3. INSPECT STONE CHECK DAMS AND REPLACE/REPAIR AS NECESSARY.
    - A.4. VERIFY THAT BASINS DRAIN BELOW THE LEVEL OF THE OUTLET ORIFICES WITHIN 24 HOURS FOLLOWING A STORM EVENT. IF REQUIRED, REMOVE DEBRIS FROM OUTLET ORIFICES TO RESTORE FUNCTIONALITY.

- AS NEEDED:**
- A. MAINTAIN LAWN AREAS BY CUTTING WITH MULCHING BLADES OR COLLECTING TRIMMINGS AND DISPOSING OFF SITE.
  - B. DO NOT DISPOSE OF LAWN CUTTINGS OR LANDSCAPE TRIMMING ON SITE. DO NOT DEPOSIT OVER FILL SLOPES! DISPOSE OFF SITE.
  - C. STABILIZE OR REPAIR ANY LANDSCAPED AREAS ON THE SITE.
  - D. CLEAN UP ANY SPILLS OR MATERIAL DEPOSITS IMMEDIATELY AS REQUIRED ACCORDING TO THE REQUIREMENTS OF THE STATE OF CONNECTICUT AND LOCAL REGULATIONS.
  - E. PROHIBIT VEHICULAR REPAIR AND VEHICLE WASHING ON THE PREMISES.

THESE PLANS ARE FOR PERMITTING PURPOSES ONLY  
**NOT FOR CONSTRUCTION**

NOTE:  
1. STRAW WATTLE INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.



DETAIL - STANDARD EROSION BARRIER  
SCALE: N.T.S.

EROSION CONTROL NOTES

1. TEMPORARY SEDIMENT CONTROL FEATURES ARE TO BE CONSTRUCTED & FULLY OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION OR GRADING, AND ARE TO BE MAINTAINED THROUGHOUT CONSTRUCTION, UNTIL PERMANENT GROUND COVER IS ESTABLISHED & APPROVED.
2. ALL SLOPES SHALL BE SODDED, HYDRO-SEEDED OR APPLIED WITH GROUND COVER SPECIFIED AS SOON AS CONSTRUCTION PHASES PERMIT.
3. CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTIONS AND MAINTENANCE OF THE DETENTION FACILITIES THROUGH CONSTRUCTION AND UNTIL ESTABLISHMENT OF PERMANENT GROUND COVER. SEDIMENT SHALL BE REMOVED AS NECESSARY TO INSURE EFFICIENT OPERATION OF THE FACILITIES DURING AND AFTER CONSTRUCTION.
4. CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTEAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND CLEARING ANY DEBRIS AND SEDIMENT CAUSED BY THE CONSTRUCTION.
5. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER OR REGULATING AGENCIES.
6. THE SOIL EROSION SEDIMENT CONTROL PROCEDURES AND DETAILS AS SHOWN SHALL BE FOLLOWED AND INSTALLED IN A MANNER SO AS TO MINIMIZE EROSION OF THE DISTURBED AREAS AND PREVENT SEDIMENT FROM LEAVING THE SITE, OR ENTERING THE ADJACENT WETLANDS.
7. ANY DISTURBED EARTH AREAS THAT SHALL BE IDLE FOR 20 DAYS OR LONGER, SHALL HAVE TEMPORARY GRASSING APPLIED.
8. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE ENTRY TO THE SITE
9. AFTER CONSTRUCTION, THE DETENTION POND AND POND OUTLET STRUCTURES SHALL BE CLEANED OF ALL DEBRIS AND EXCESS SEDIMENT. BOTTOMS OF PONDS SHALL BE BROUGHT TO ELEVATION AND SHAPED AS SHOWN ON SITE GRADING PLAN AND DETAILS.
10. ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. IN NO CASE SHALL LESS EROSION CONTROLS THAN APPROVED BE PERMITTED.
11. ALL OPEN SWALES MUST BE STABILIZED W/ MULCH & SEED OR RIP-RAP IMMEDIATELY AFTER CONSTRUCTION.
12. CONDUIT OUTLET PROTECTION (RIP-RAP & EROSION CONTROLS) MUST BE INSTALLED AT ALL REQUIRED OUT FALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. AT THE TIME WHEN SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS TO BE ESTABLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER.
15. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, ANOTHER MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
16. HAY BALES AND/OR STRAW BALES SHALL BE REPLACED EVERY 3 MONTHS TO MAINTAIN THEIR EFFECTIVENESS.

PLANS TO ACCOMPANY PERMIT APPLICATIONS  
PREPARED FOR:

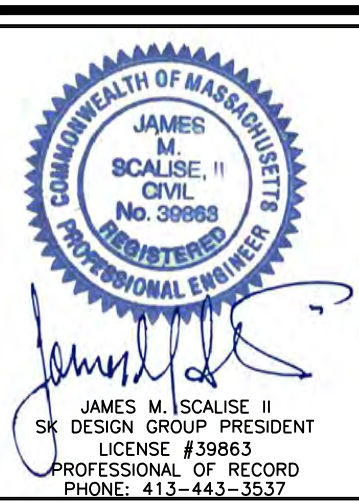
**SAMA PRODUCTIONS, LLC.**

LOCATED AT:  
TOWN HILL ROAD  
SANDSFIELD MA

Design Group, Inc.  
Civil Engineers & Surveyors & Consultants  
2 FEDERAL DRIVE • PITTSFIELD, MASSACHUSETTS 01201 • (413) 443-3337

DETAILS

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