



City of Fitchburg
 Planning/Zoning Department
 5520 Lacy Road
 Fitchburg, WI 53711
 (608-270-4200)

ARCHITECTURAL & DESIGN REVIEW APPLICATION

Applicant/Contact Person: _____

Address: _____ **Phone Number of Contact Person:** _____

City, State, Zip Code: _____ **Email of Contact Person:** _____

Project Address: _____ **Lot:** _____ **Subdivision:** _____

Project Type: _____ **Multi-Family** _____ **Commercial** _____ **Industrial** _____ **Other**
 _____ **New** _____ **Addition**

Impervious Surface Ratio (ISR): _____ (City Standard: maximum 65% ISR)

All items listed below must be included with the application to be considered complete. If an item is not included with the application, the applicant must provide in writing the basis for not including it. Building and site plans submitted to the Fitchburg Plan Commission for architectural and design review shall contain the following information:

Site Data:

- 1. Lot or property dimensions.
- 2. Orientation (to north).
- 3. Adjacent highways, roads, drive, etc.
- 4. Existing natural features (rivers, ponds, wetlands).
- 5. Existing buildings and/or improvements.
- 6. Existing and proposed site drainage.
- 7. Utility plans, including main/lateral sizes and existing fire hydrants on site or within 300 feet of the site
- 8. ISR shall be indicated on all plans.
- 9. Stormwater management plans and details, including grading plan.
- 10. Lighting plan in footcandles and light fixture cut sheets.

Building:

- 1. Building size, configuration and orientation.
- 2. Distance from lot lines.
- 3. Distance from other buildings, improvements and natural features.
- 4. Location of well, septic tank, drainfield, etc. (if applicable)
- 5. Additional proposed additions or new structures, including trash/recycling enclosure(s).
- 6. Construction type (wood frame, structural steel, etc.).
- 7. Foundation type (full basement, slab on grade, etc.).
- 8. Number of levels.
- 9. Siding/exterior covering type, color, texture, etc.
- 10. Roof type (gable, hip, shed, flat, etc.) and pitch.
- 11. Roofing material type, color, texture, etc.
- 12. Exterior door and window location, size, type, etc.
- 13. Fire protection sprinklers or fire alarm systems.

Ingress, Egress, Parking:

- 1. Location of highway and road access points.
- 2. Location, size, configuration of drivers and walks.
- 3. Number, size, location of parking spaces.
- 4. Location of handicapped parking and accessible building entrances.
- 5. Bicycle rack(s).

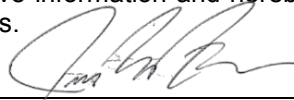
Landscaping:

- 1. Location, species, size of existing trees, shrubs, and plantings.
- 2. Location, species, size of proposed plantings.
- 3. Location and size of all paved, seeded/sodded and gravelled areas.
- 4. Location of all retaining walls, fences, berms and other landscape features.

***It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an ADR application to identify any concerns or issues of surrounding residents.**

The preceding information is considered to be the minimum information for submission, and the City may require additional information for its review. Any interpretations provided by city officials as the result of submitting the attached information are based on the submitted plans, and any plan changes, may affect the interpretations.

It is the responsibility of the owner/applicant to insure compliance with all local and state requirements. The below signed applicant acknowledges the above information and hereby submits the attached information for the City's Architectural and Design Review Process.

Signed: _____ Date: _____

Applicant or Authorized Agent

***** Application shall be accompanied by one (1) sets of full-size plans, two (2) sets no larger than 11"x17", and one (1) pdf document of the complete submittal to planning@fitchburgwi.gov. Applications are due at least 4 weeks prior to the desired Plan Commission Meeting. The time frame assumes a complete set of plans is provided, and if it is not provided the Plan Commission date will be adjusted.**

FOR CITY USE ONLY

Date Received: _____ Plan Commission Date: _____

Comments:



View from South East
German Auto House
3000 Rimrock Road, Fitchburg, WI
October 18, 2024



Project Information:

Construct a new five bay service garage for the used vehicle dealership, German Auto House. The project will be located on the previously undeveloped 12,448 SF northeast portion of the property. The existing building and the remainder of the site will remain largely as is.

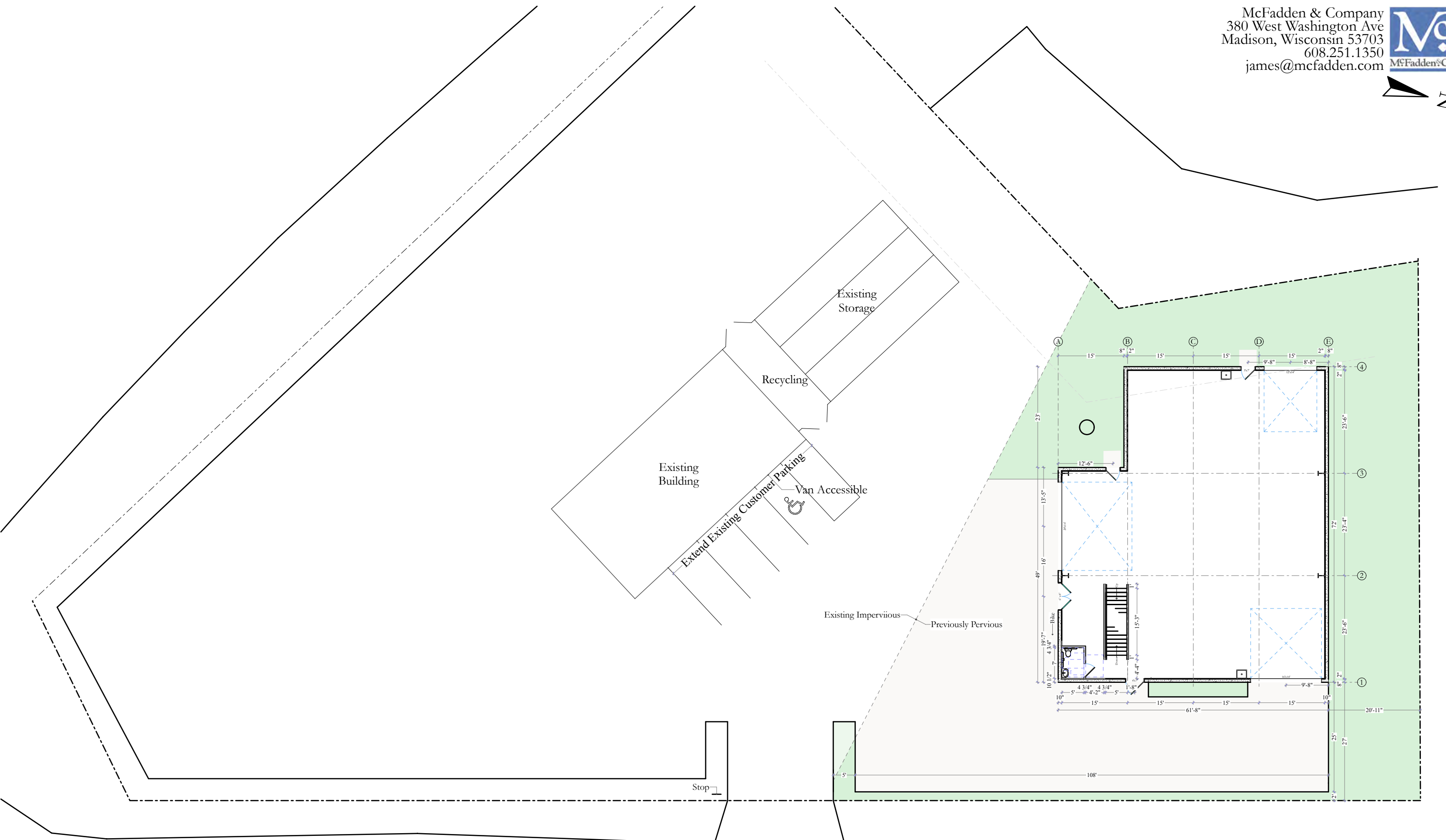
Site:

Previously Impervious	12,448 SF
Building	4,096 SF - 32.9%
Pavement	3,912 SF - 31.4%
Proposed Pervious	4,440 SF - 35.7%
Proposed Impervious	7,763 SF - 64.3%

Building:

Foot Print	4,096 SF
Floor Area:	
Basement	900 SF
Ground	4,096 SF
Mezzanine	280 SF
Second	1,726 SF
Total	7,002 SF
Occupancy:	S-1 Repair Garage
Construction:	II-B Metal Frame



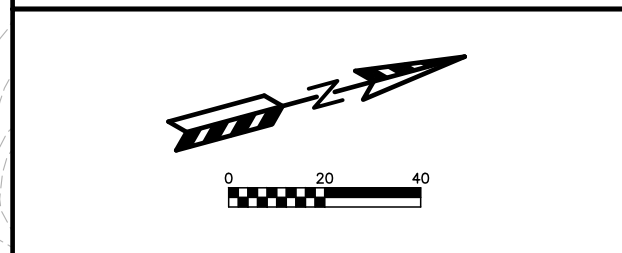
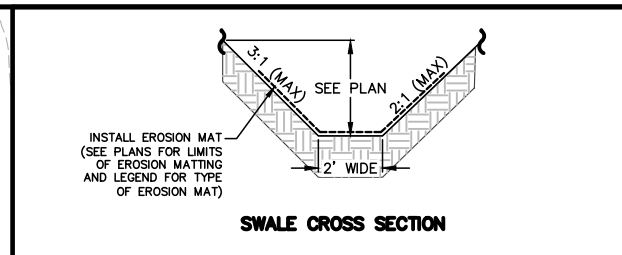
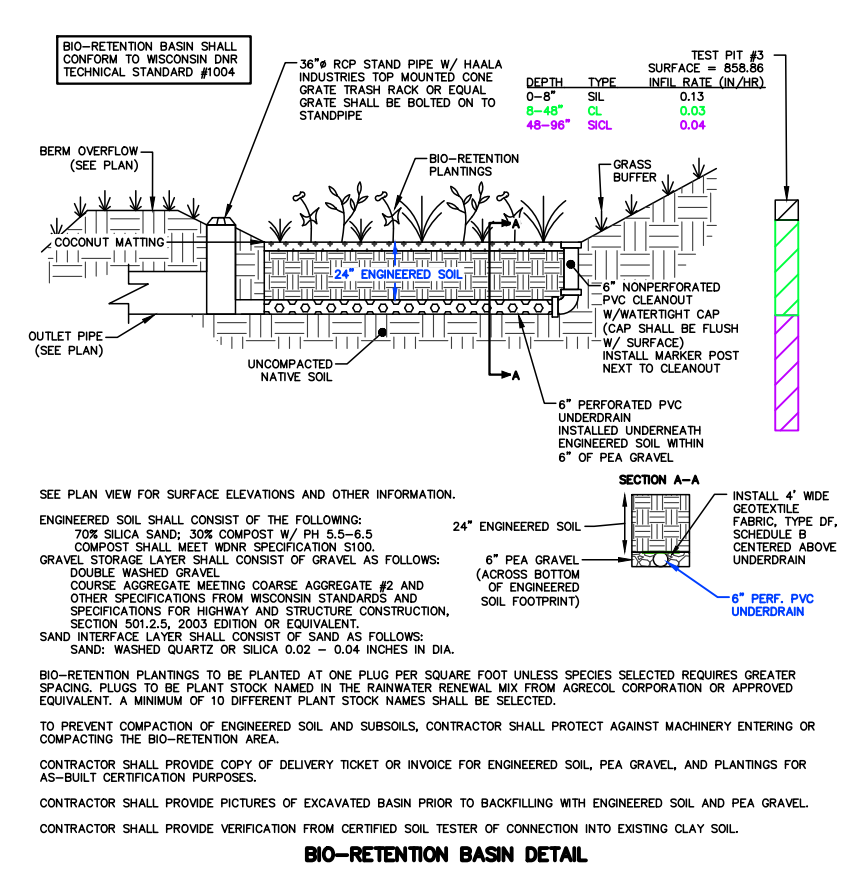
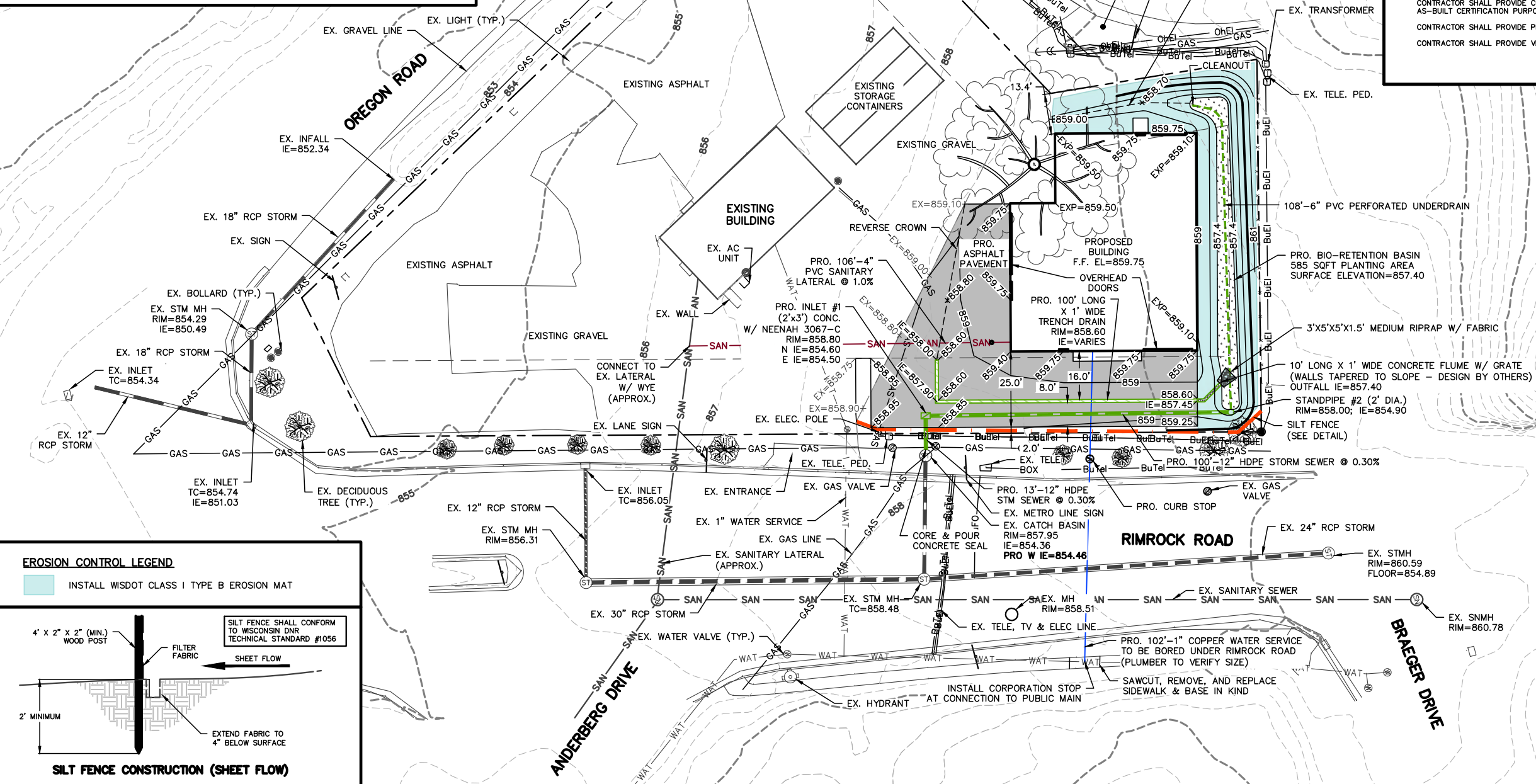


Previously Impervious	12,448 SF
Building	4,096 SF - 32.9%
Pavement	3,912 SF - 31.4%
Proposed Pervious	4,440 SF - 35.7%
Proposed Impervious	7,763 SF - 64.3%

EROSION NOTES:
 THE EXISTING DRIVEWAY SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION, WHICH WILL PREVENT THE TRACKING OF MUD OR DRY SEDIMENT ONTO THE PUBLIC STREET. SEDIMENT REACHING PUBLIC STREET SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORKDAY.
 EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS ESTABLISHED. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF A 0.5 INCH RAIN EVENT. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
 CUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1.
 ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED WITHIN 14 DAYS OF LAST ACTIVITY. ALL DISTURBED AREAS SHOULD BE STABILIZED WITHIN 7 DAYS OF FINAL GRADING.
 PERIMETER CONTROL SHALL BE INSTALLED AROUND STOCKPILES, AND STOCKPILES SHALL BE STABILIZED THAT WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
 EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING ALL EROSION CONTROL PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.

TIME SCHEDULE:
 x - y INSTALL INITIAL EROSION CONTROL DEVICES AND ROUGH GRADE SITE.
 y - z CONSTRUCT PROPOSED BUILDING AND ASPHALT AREAS.
 d APPLY/MAINTAIN EROSION MAT, TARP, WOODCHIPS, OR OTHER COVER TO PERVIOUS, DISTURBED AREAS THAT HAVE NOT BEEN RESTORED. (PER DNR TECH STANDARD 1058)
 z RESTORE ALL PERVIOUS DISTURBED AREAS, AND CONSTRUCT THE BIO-BASIN PER DETAILS.

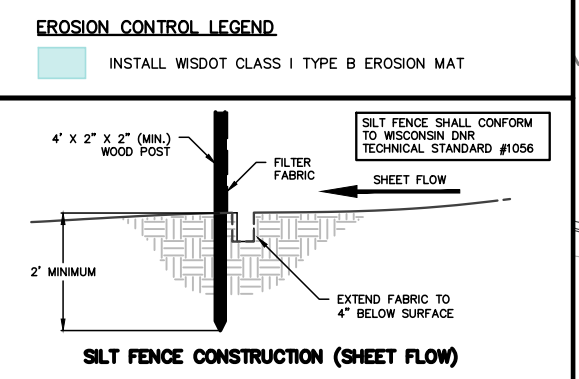
RESTORATION NOTES:
 RESTORATION SHALL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL.
 ALL PERVIOUS DISTURBED AREAS SHALL RECEIVE A MINIMUM OF FOUR (4) INCHES OF TOPSOIL, SEED, AND MULCH. RESTORATION WILL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL. THE BIO-RETENTION BASIN SHALL BE RESTORED PER THE BIO-RETENTION BASIN DETAIL. SEED MIXTURE 40 SHALL BE USED ON ALL OTHER DISTURBED AREAS. ALL SEED MIXTURES SHALL BE IN ACCORDANCE WITH SECTION 630 OF D.O.T. SPECIFICATIONS. AN EQUAL AMOUNT OF ANNUAL RYEGRASS SHALL BE ADDED TO THE MIX.
 ALL PERVIOUS DISTURBED AREAS SHALL RECEIVE FERTILIZER EXCEPT NATIVE PLANTING AREAS. FERTILIZER SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: NITROGEN, NOT LESS THAN 16%, PHOSPHORIC ACID, NOT LESS THAN 8%, POTASH, NOT LESS THAN 8%. FERTILIZER SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. SEED MIXTURE 40 SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. MULCH SHALL CONSIST OF HAY OR STRAW APPLIED AT THE RATE OF TWO (2) TONS PER ACRE.
 SEEDING FROM SEPTEMBER 16 THROUGH NOVEMBER 15 IS TO BE AVOIDED TO PREVENT FREEZING OF NEW GROWTH. DORMANT SEEDING, IF NECESSARY, SHALL BE COMPLETED AFTER NOVEMBER 15. DORMANT SEEDING SHALL NOT BE APPLIED ON TOP OF SNOW. DISTURBED AREAS SHALL HAVE EROSION MAT APPLIED OVER DORMANT SEEDING. IF DORMANT SEEDING DOES NOT RESULT IN AT LEAST 70% COVER BY MAY 15, ADDITIONAL SEEDING SHALL BE REQUIRED.



TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE
 TDD(FOR THE HEARING IMPAIRED)(800)542-2289
 WIS. STATUTE 182.0175 (1974)
 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

GERMAN AUTO HOUSE II - CITY OF FITCHBURG
 PRELIMINARY GRADING AND EROSION CONTROL PLAN
 SHEET: C-2
 DATED: OCTOBER 21, 2024

QUAM ENGINEERING, LLC
 Residential and Commercial Site Design Consultants
 www.quamengineering.com
 4604 Sigelkow Road, Suite A - McFarland, Wisconsin 53558
 Phone (608) 838-7750; Fax (608) 838-7752

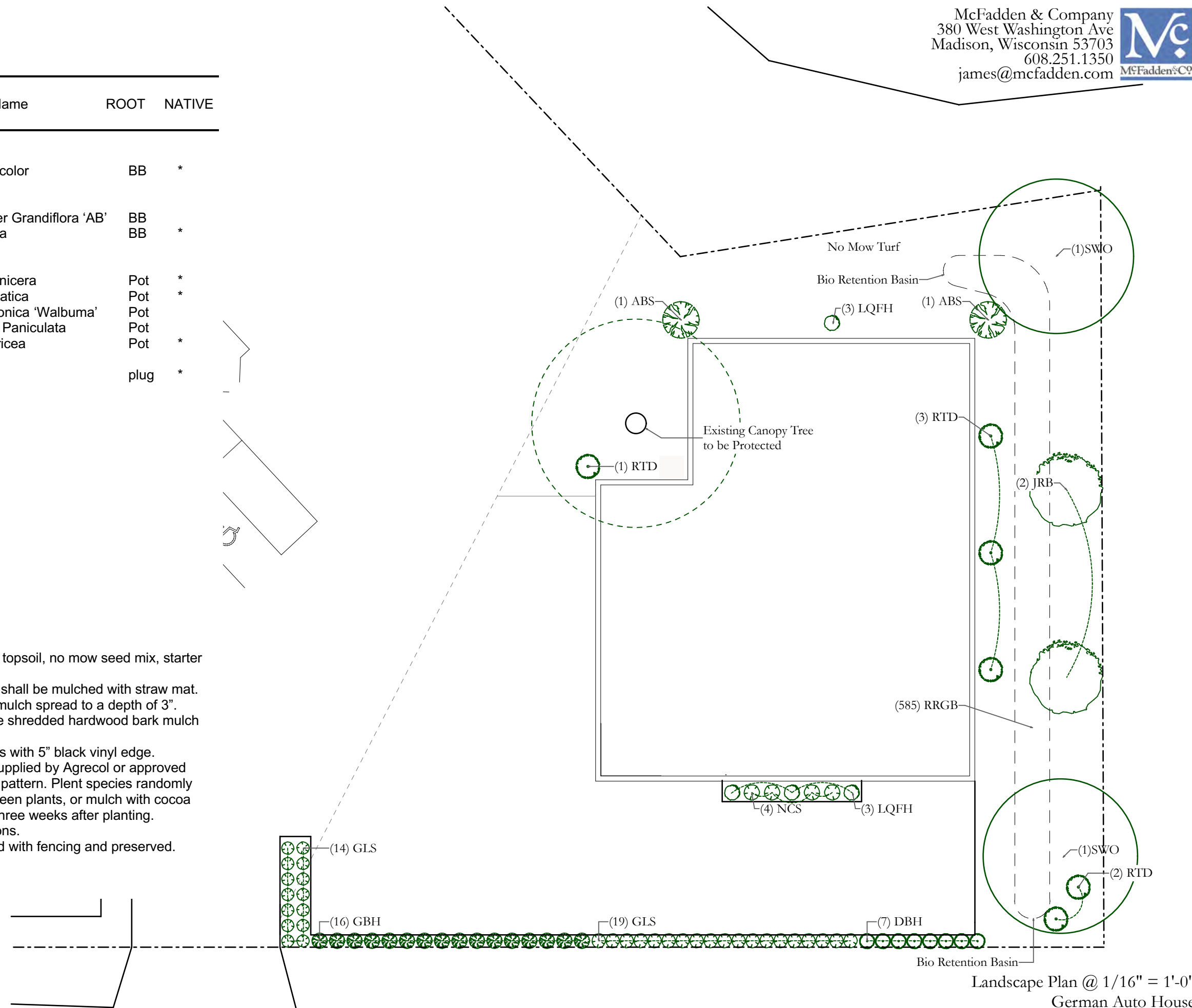


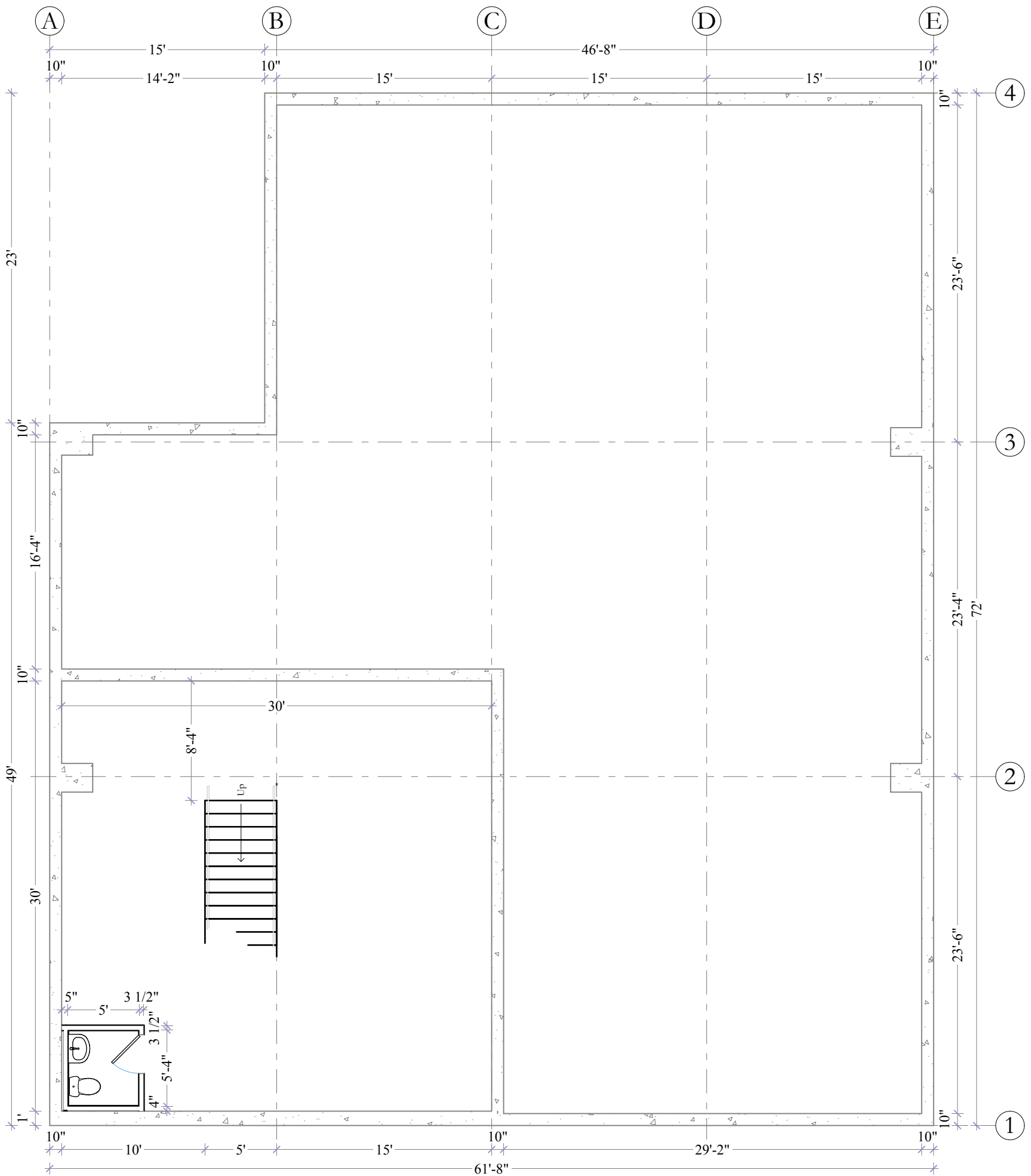
PLANT LIST

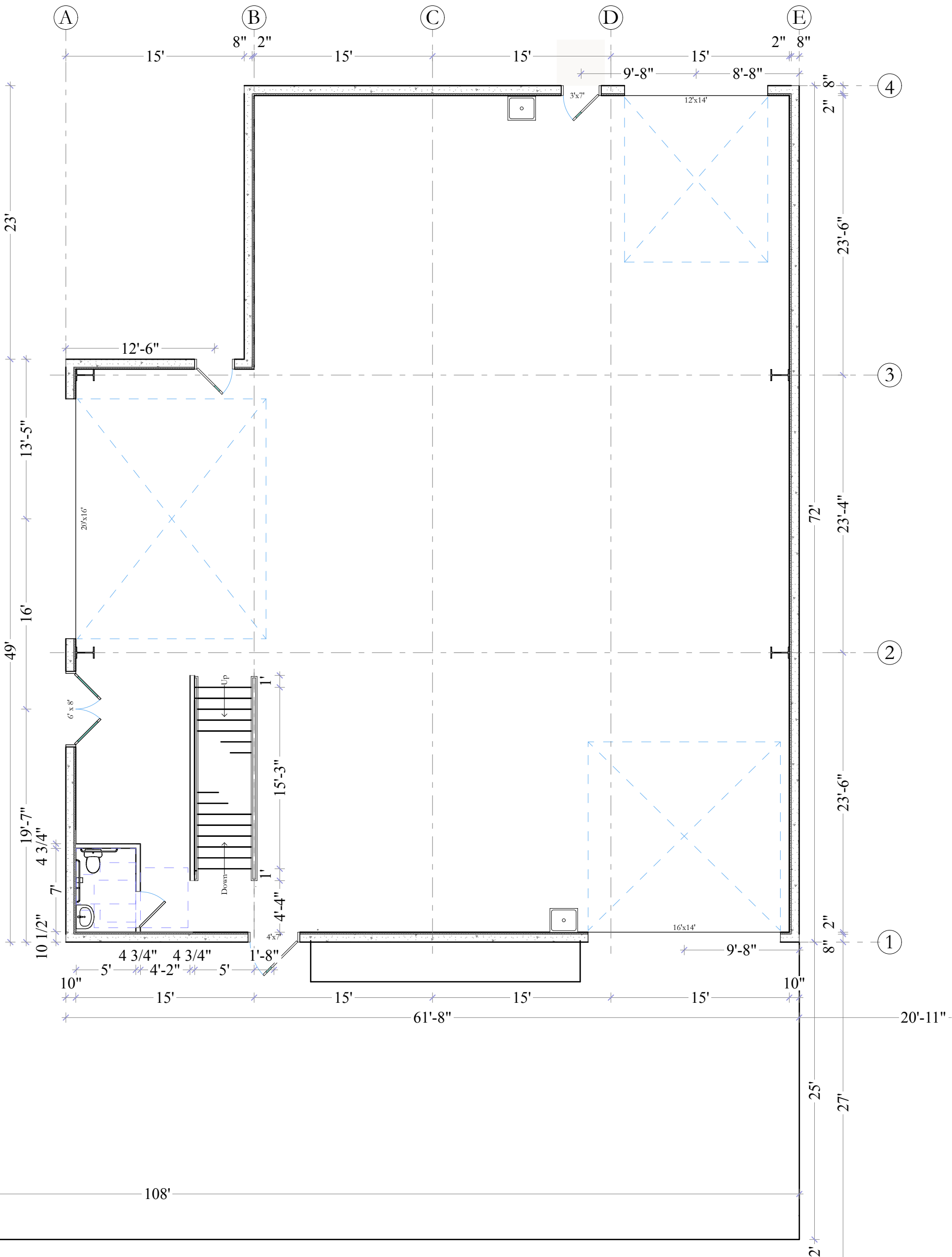
KEY	QUAN	SIZE	COMMON NAME	Botanical Name	ROOT	NATIVE
Canopy Trees						
SWO	(2)	2"	Swamp White Oak	Quercus Bicolor	BB	*
Understory Trees						
ABS	(5)	6'	Autum Brilliance Serviceberry	Amelanchier Grandiflora 'AB'	BB	
RBC	2	10'	River Birch Clump	Betula Nigra	BB	*
Deciduous Shrubs						
DBH	(141)	24"	Dwarf Bush Honeysuckle	Diervilla Lonicera	Pot	*
GLS	39	18"	Gro Low Sumac	Rhus Aromatica	Pot	*
MCS	4	18"	Magic Carpet Spirea	Spirea Japonica 'Walbuma'	Pot	
LQFH	3	24"	Little Quick Fire Hydrangea	Hydrangea Paniculata	Pot	
RTD	6	24"	Red Twig Dogwood	Cornus Sericea	Pot	*
Bio-retention Plantings						
RGP	(585)	2 1/2"	Common Blue Star		plug	*
			Bottle Gentine			
			Obedient Plant			
			Columbine			
			Switchgrass			
			Black Eyed Susan			
			Wild Iris			
			Swamp Milkweed			
			White Turtlehead			
			Cardinal Flower			
			Turk's Cap Lily			
			Little Bluestem			
			Canada Wild Rye			
			Nodding Onion			

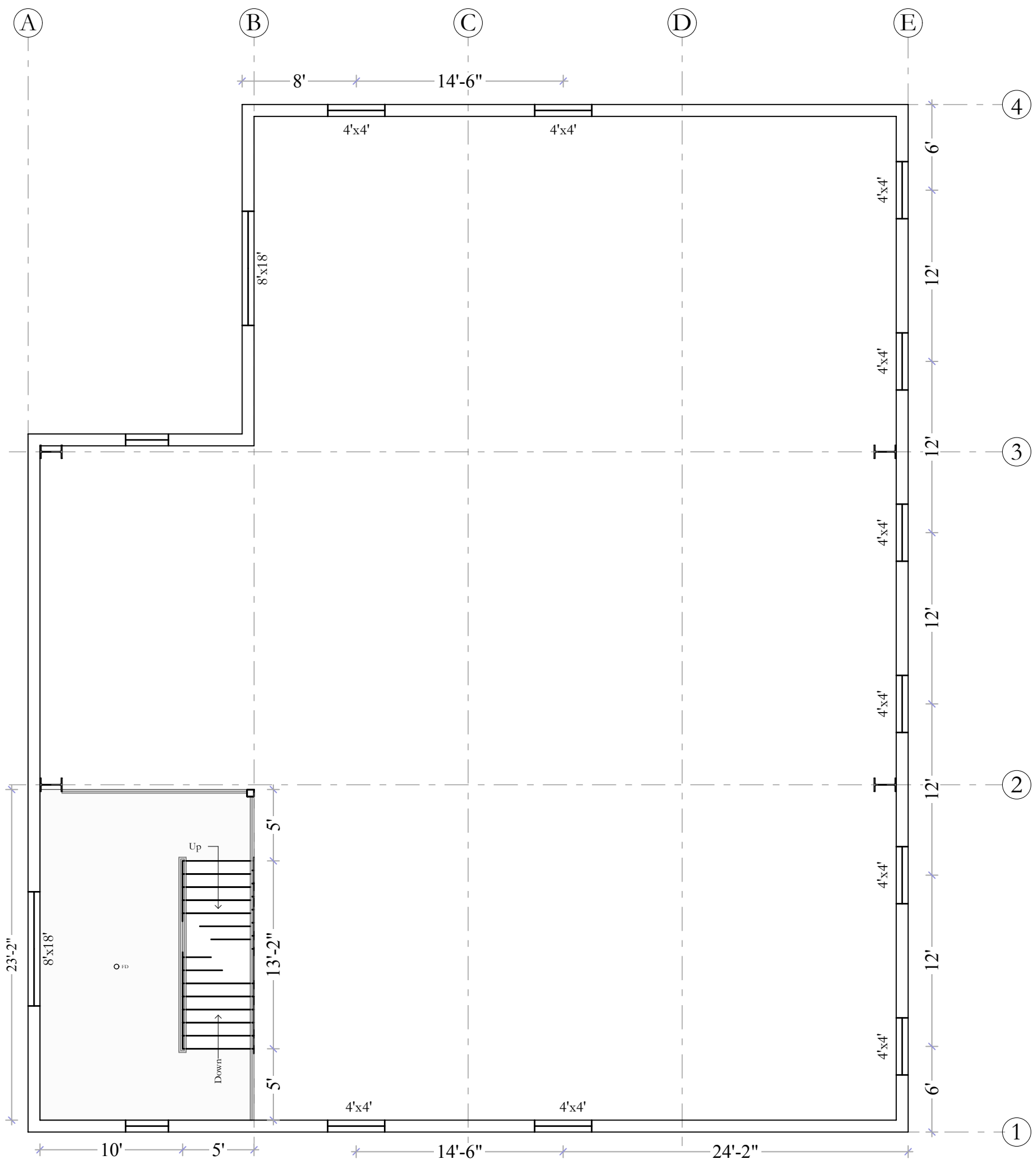
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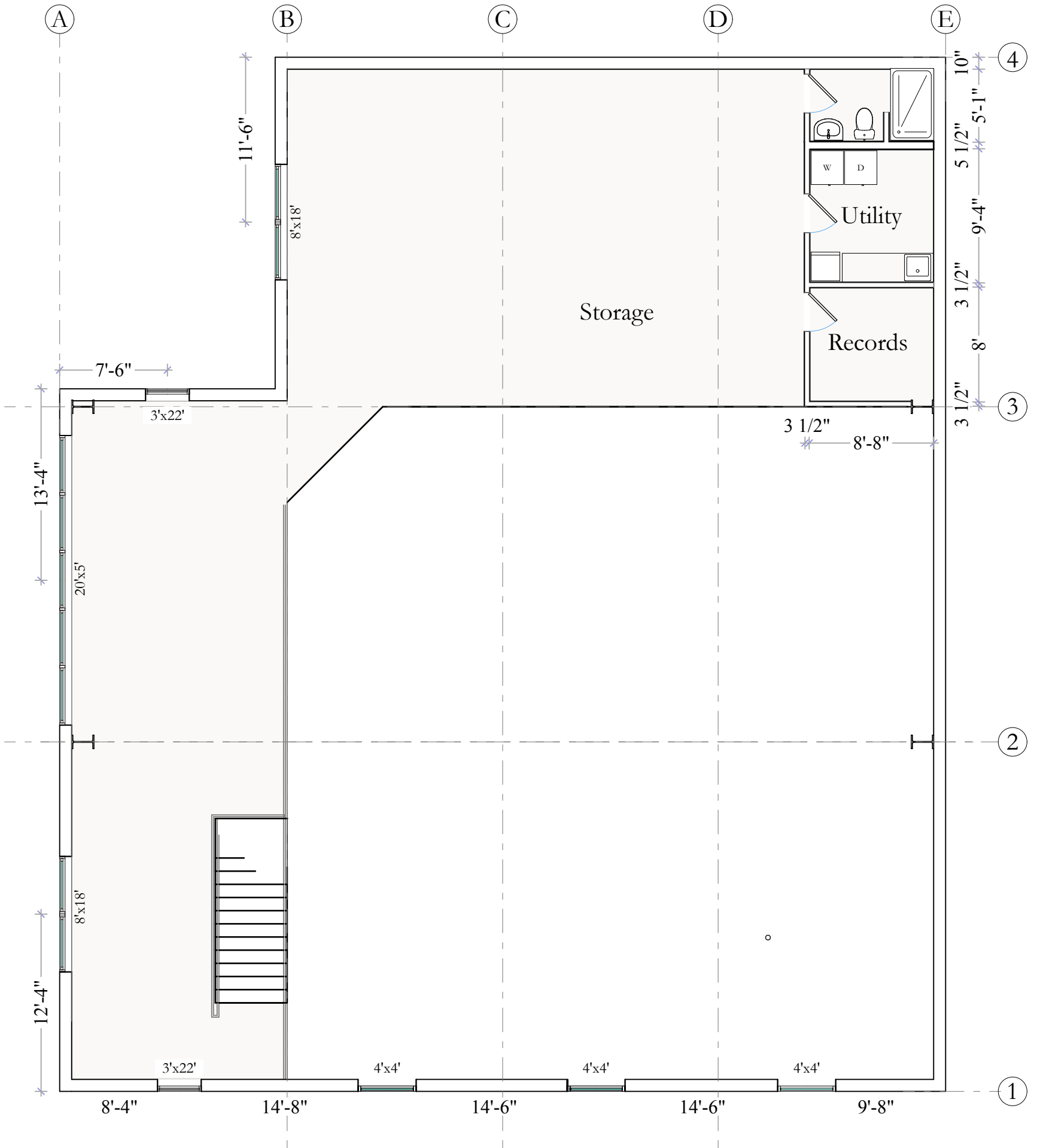
- 1) Designated no mow turf areas to receive a minimum of 4" of topsoil, no mow seed mix, starter fertilizer, and straw or straw mat mulch.
- 2) No mow turf areas in swales and on slopes greater than 3:1 shall be mulched with straw mat.
- 3) Planting beds to be mulched with shredded hardwood bark mulch spread to a depth of 3".
- 4) Individual trees and shrub groupings in lawn areas to receive shredded hardwood bark mulch plant rings (4' diameter) spread to a depth of 3".
- 5) Designated planting beds separated from lawn and turf areas with 5" black vinyl edge.
- 6) Bio-retention areas to be planted with 2" x 2" x 5" plugs as supplied by Agrecol or approved equal. Plugs to be installed 12" on center in a triangular grid pattern. Plant species randomly throughout specified areas. Apply bark mulch (2" thick) between plants, or mulch with cocoa mat fabric. Apply 1/2" water daily (in the absence of rain) for three weeks after planting.
- 7) Bio-retention areas to be constructed per WDNR specifications.
- 8) Existing canopy tree adjacent to new building to be protected with fencing and preserved.
- 9) Note: * denotes native plant.

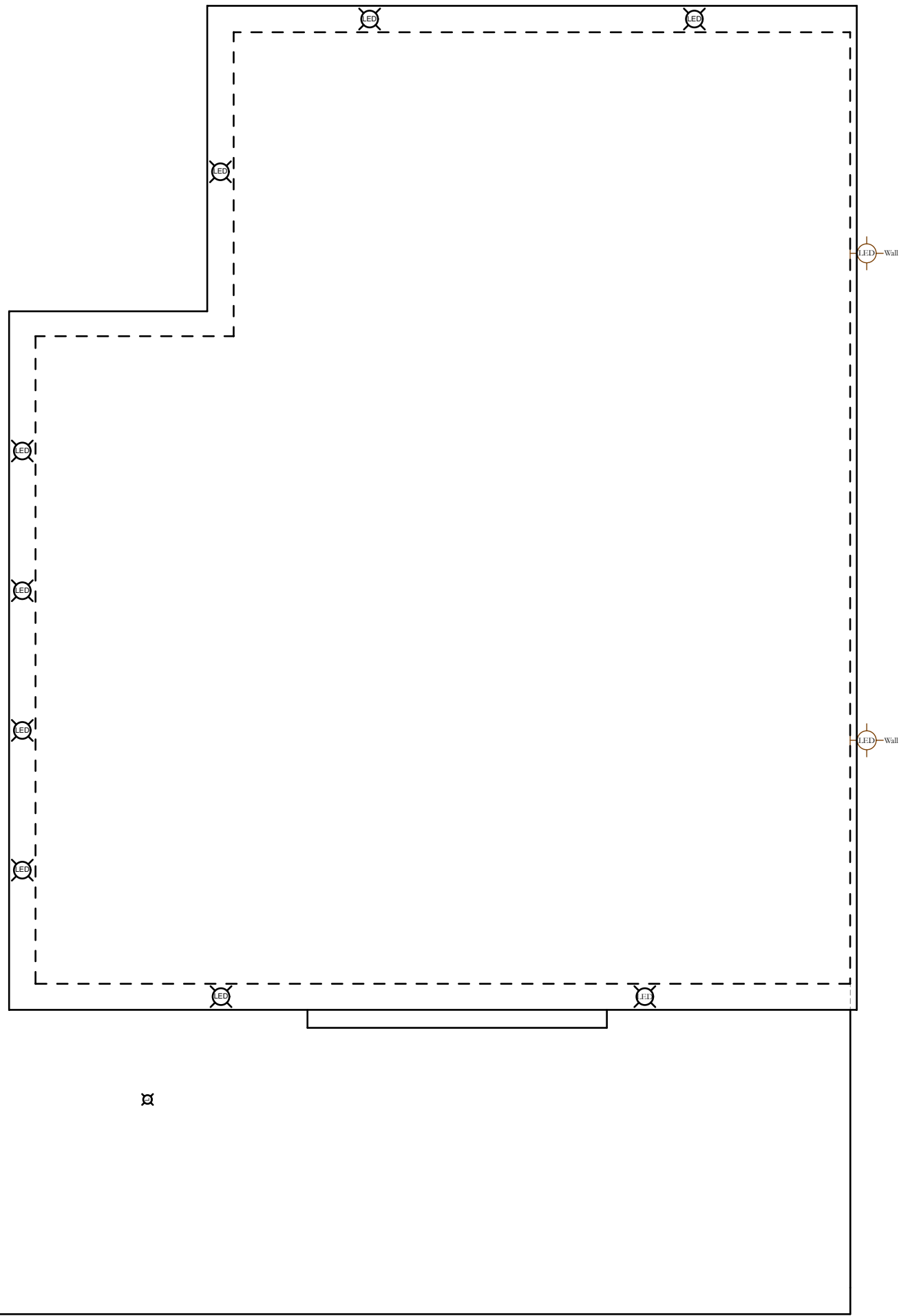












Halco
 LIGHTING TECHNOLOGIES



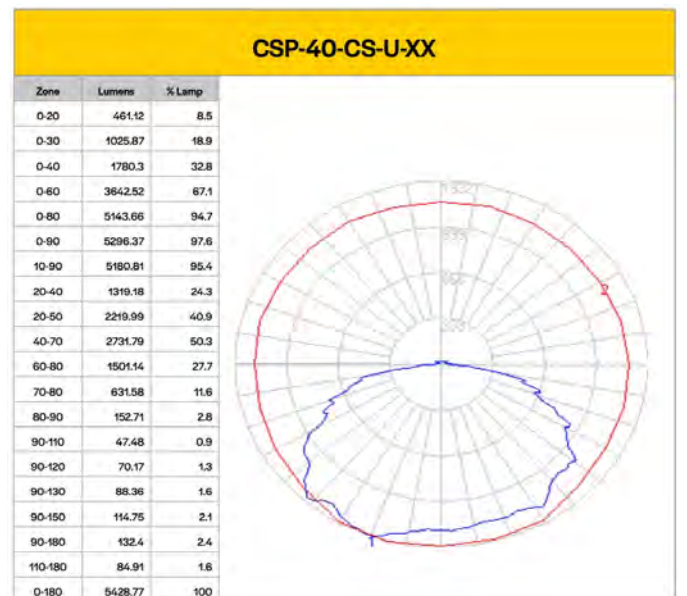
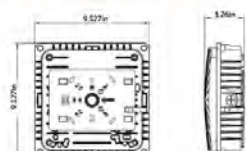
	CSP-28	CSP-40	CSP-60
Selectable CCT	3000K-4000K-6000K	3000K-4000K-6000K	3000K-4000K-6000K
Lumens	3,500-3,780 Lumens	5,000-5,400 Lumens	7,800-8,100 Lumens
Replacement	80W MH	175W MH	280W MH
Efficiency	125-135 LPW		
Amperage	120VAC(23A) 277VAC(10A)	120VAC(33A) 277VAC(15A)	120VAC(50A) 277VAC(21A)
CFR	>70		
L70 Lifetime (hrs)	~100,000 hrs at 25°C		
Voltage	Universal 120-277VAC		
Power Factor	>.90		
Dimming	0-10VDC Dimming		
Surge Protection	4kV		
Housing	Die-cast aluminum with powder coated finish		
Lens	Polycarbonate Lens		
Op. Temperature	-40°C to 60°C		
Listings	eULus, DLC Premium, FCC		
Environment	UL Listed for Wet Location		
Weight	5.04 lbs	5.17 lbs	5.85 lbs
Warranty	5 Years Standard		

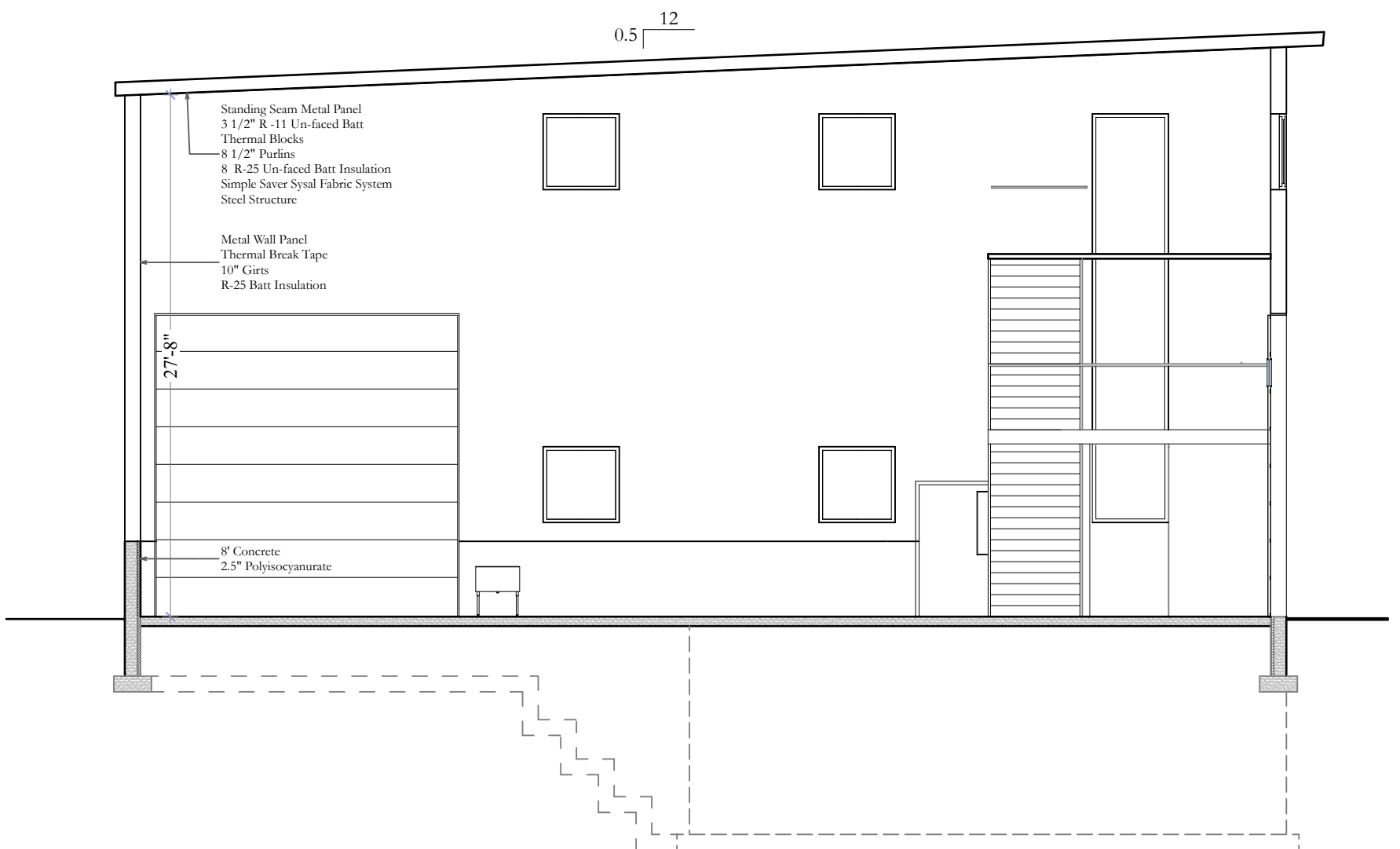
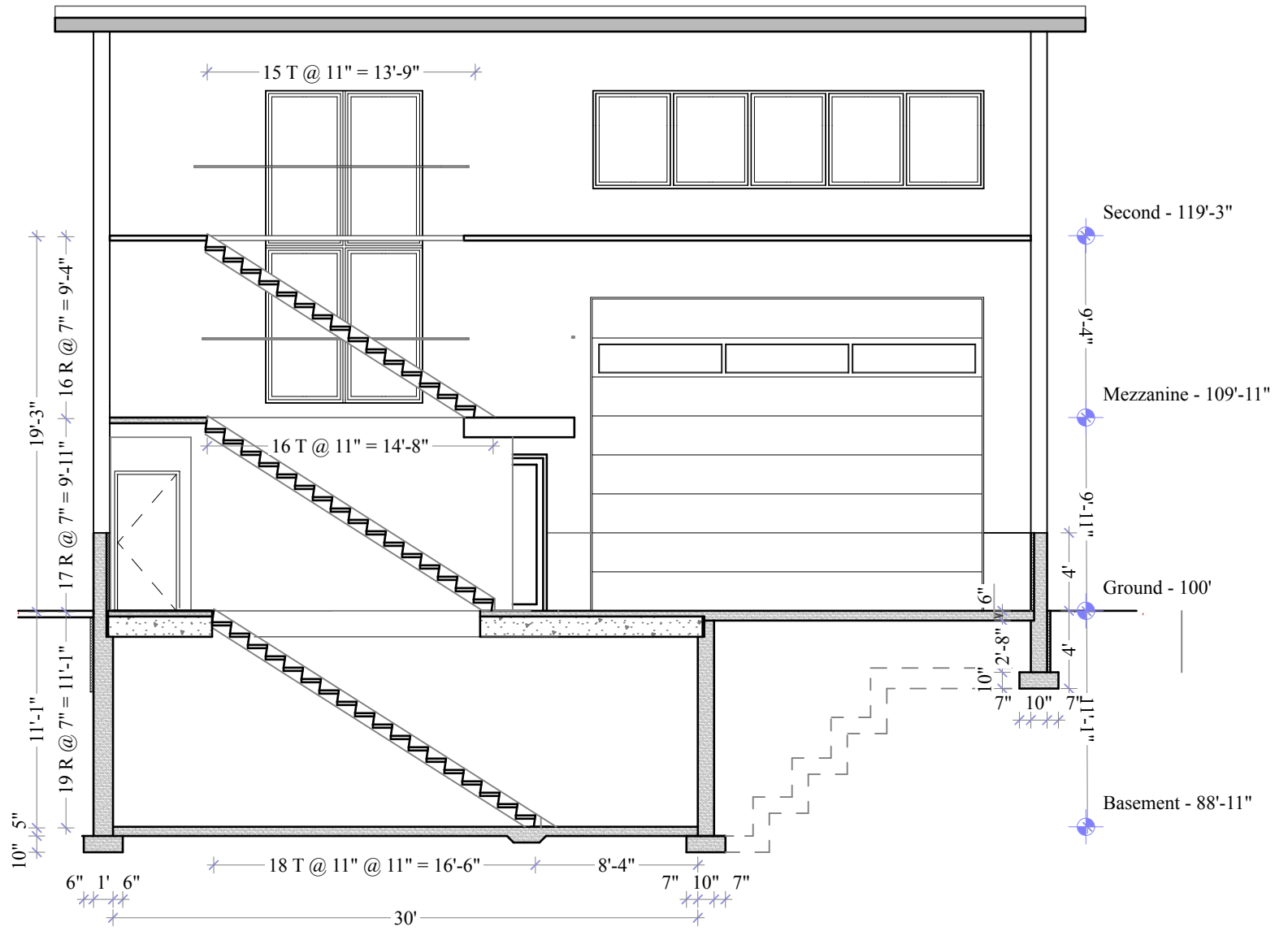
Performance Table

Model Number	Nominal Watts	3000K		4000K		5000K	
		Lumens	Efficiency	Lumens	Efficiency	Lumens	Efficiency
CSP-28-CS-U-XX	28 Watts	3500LM	125 LPW	3780LM	135 LPW	2840LM	130 LPW
CSP-40-CS-U-XX	40 Watts	5000LM	125 LPW	5400LM	135 LPW	5200LM	130 LPW
CSP-60-CS-U-XX	60 Watts	7500LM	125 LPW	8100LM	135 LPW	7800LM	130 LPW

Dimensions

ProLED Select Canopy Housing Dimensions







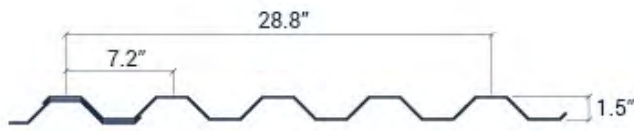
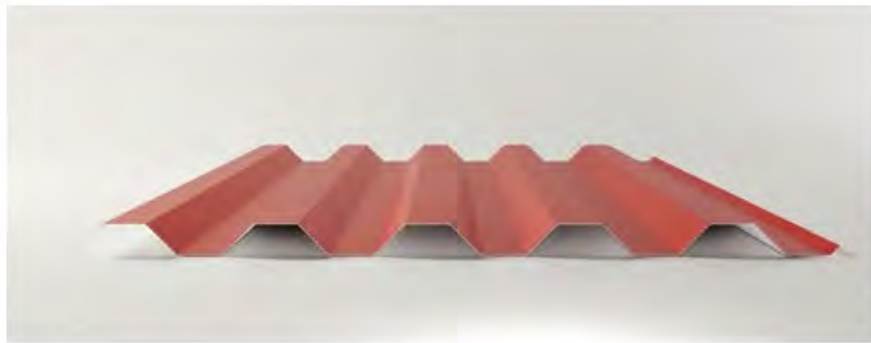
Roof

SUPER SEAM PLUS



Super Seam Plus is a mechanically seamed roof panel. It is available in 24 gauge only.

- UL Construction No. 180C, 287, 308A, 450, 538, 539, 540
- UL 580 Up-Lift tested / Class 90 Rated
- UL 2218 Hail Impact Resistant Tested
Inclined: Unlimited / Impact Class 4
- Florida Product Approval*



7.2N RIB FEATURES

Roofing	Yes
Siding	Yes
Coverage Width	28.8"
Rib Spacing	7.2"
Rib Height	1-1/2"
Minimum Slope	1/2:12

Wall



Wall

Galvalume Plus®



Doors

Steel Gray



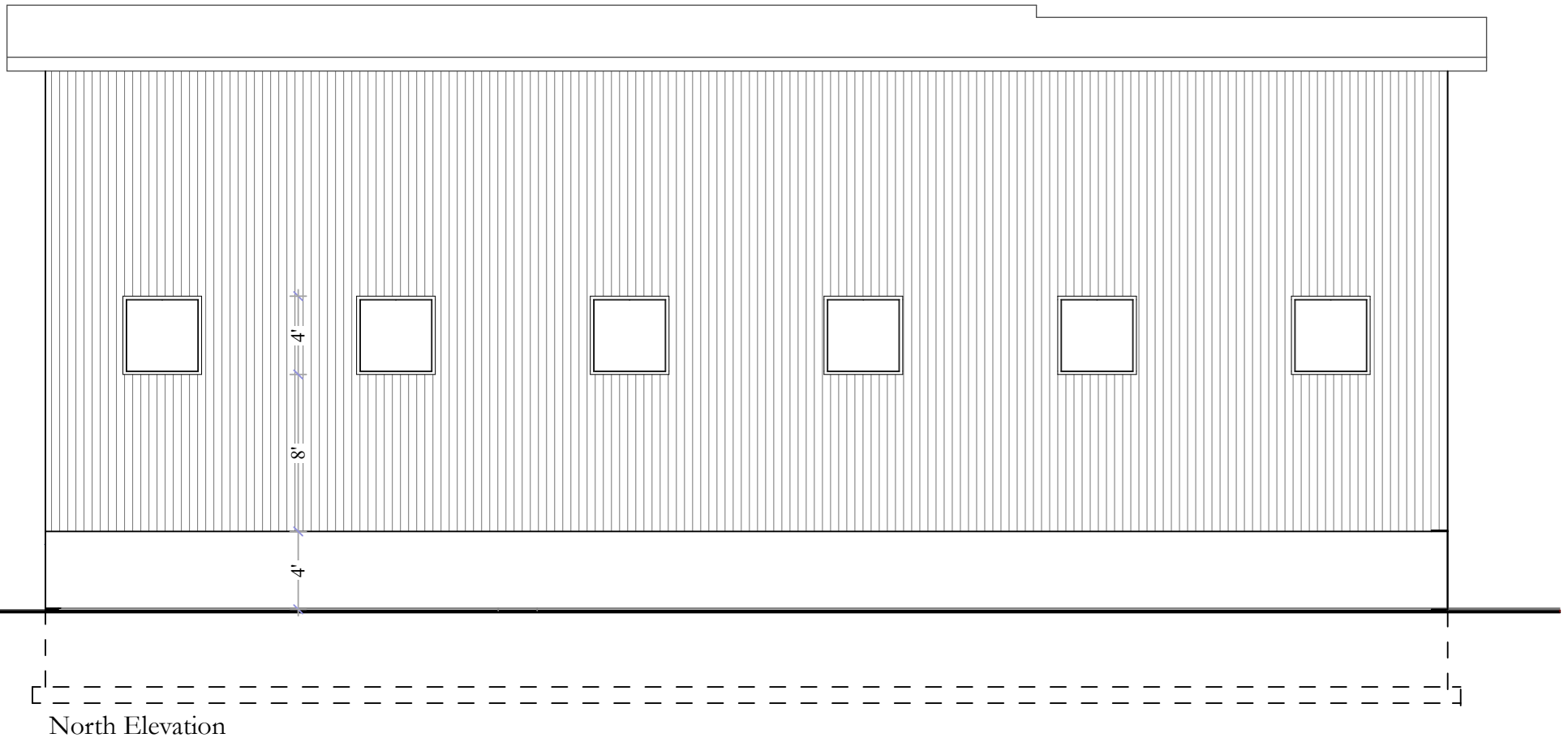
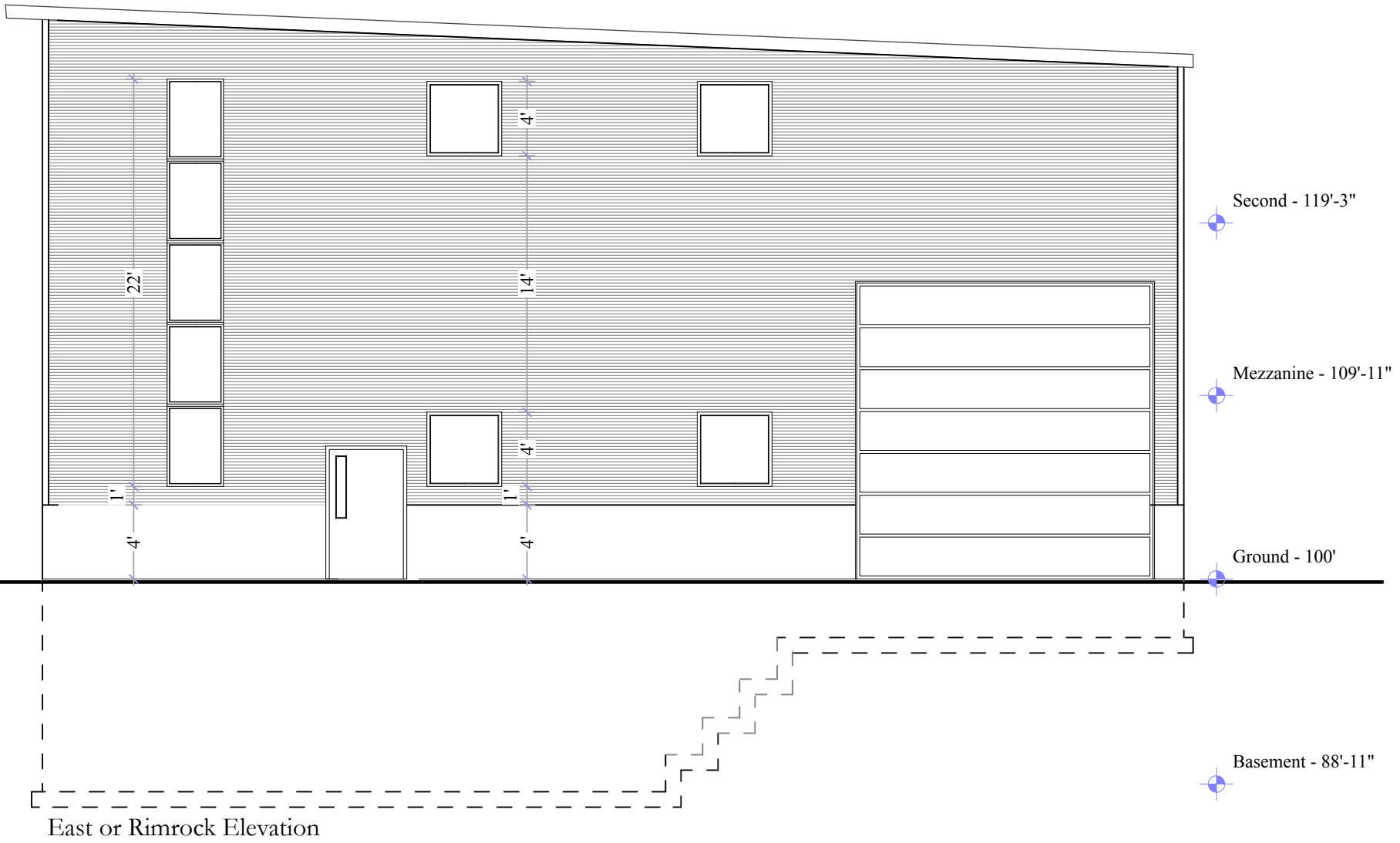
Window Frames

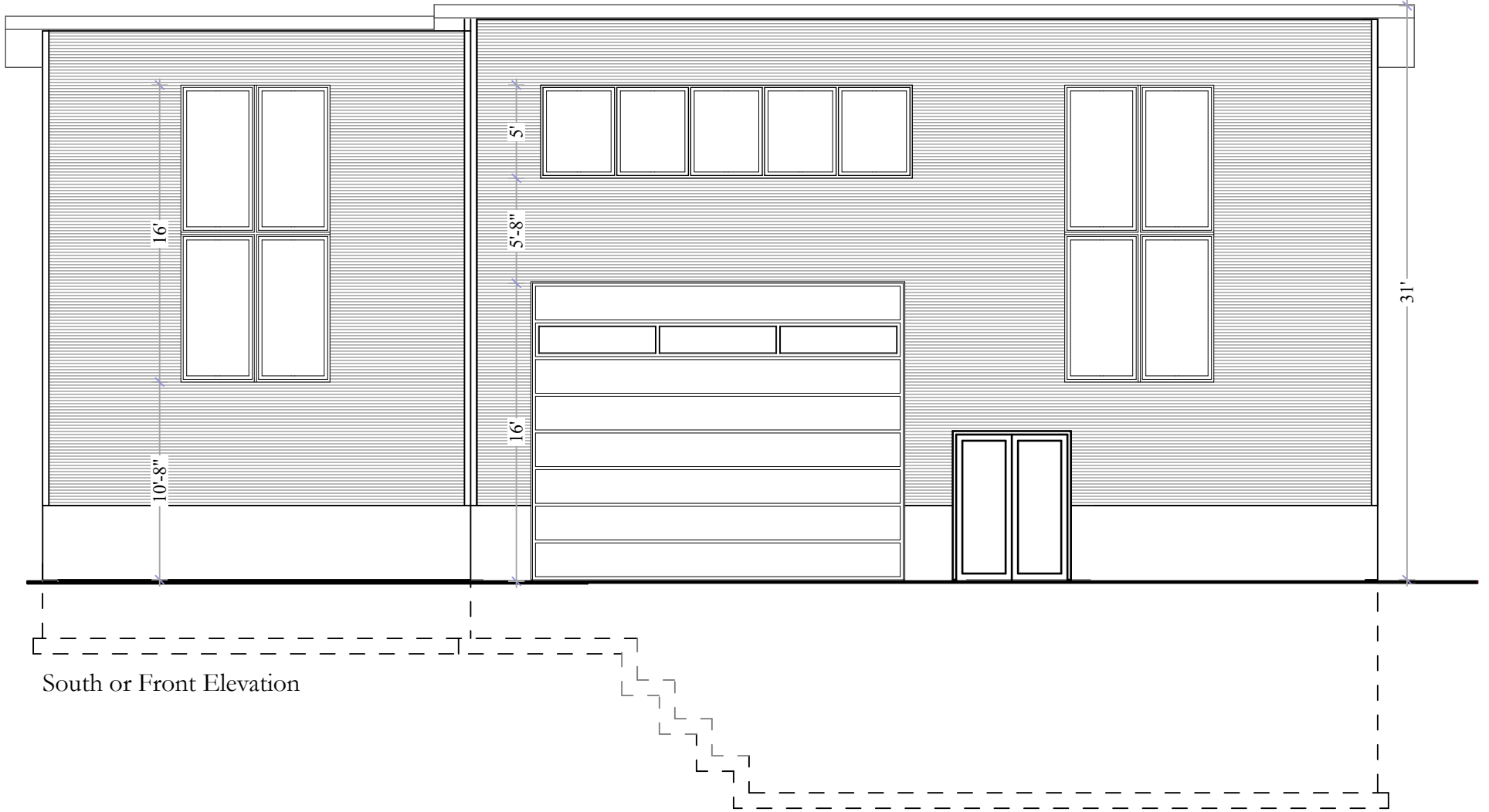
Black



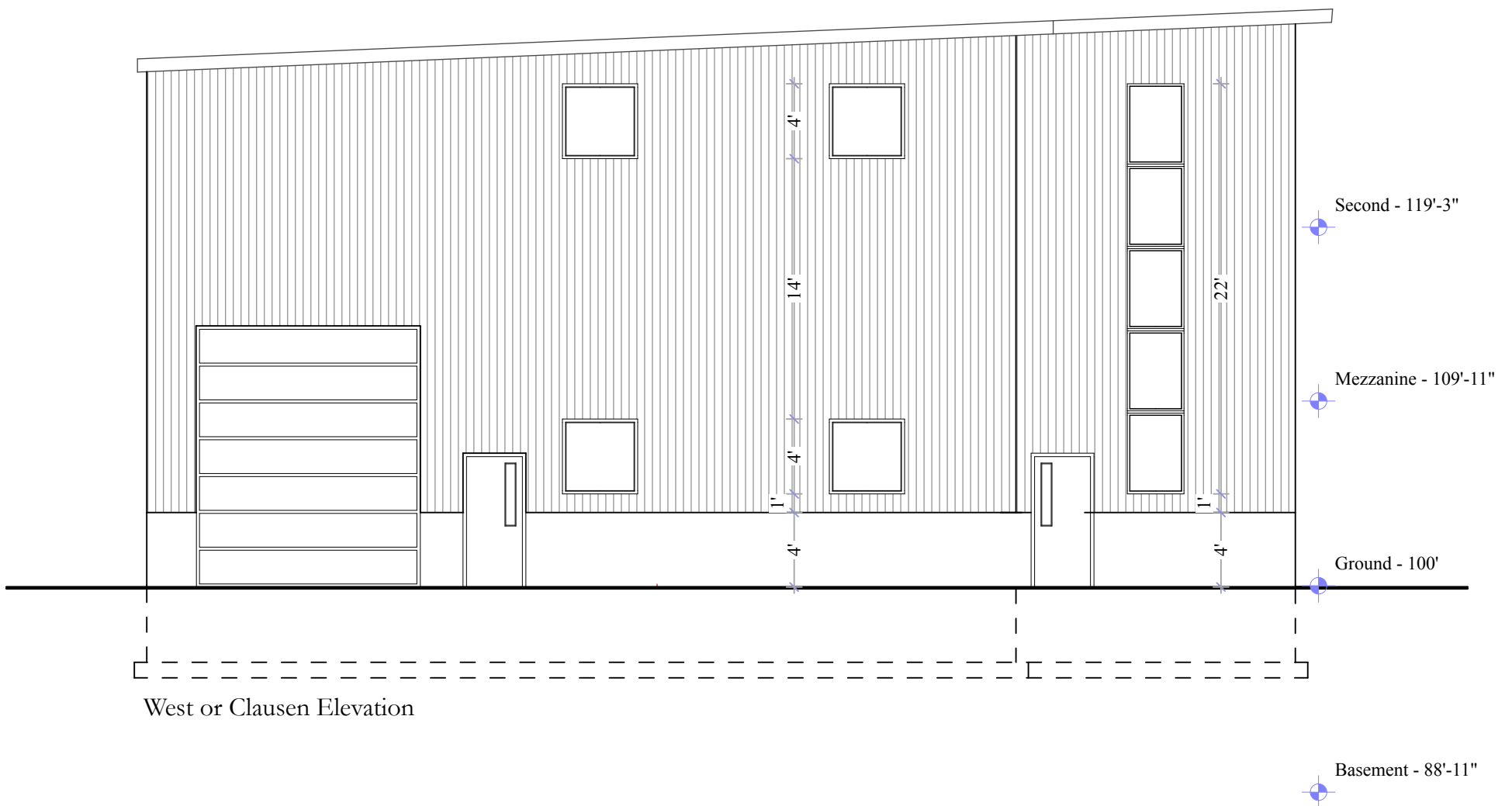
Roof

Fern Green





South or Front Elevation

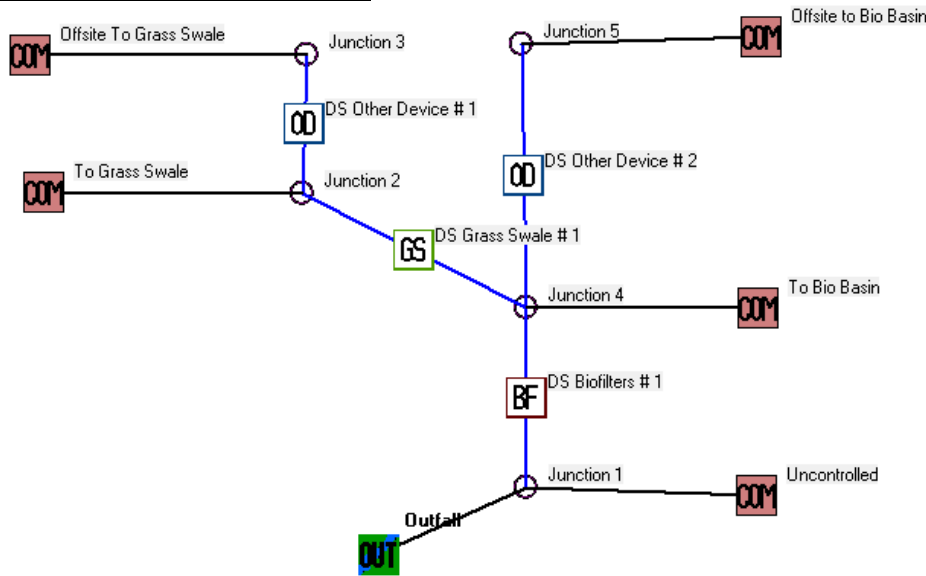


West or Clausen Elevation

SEDIMENT CONTROL CALCULATIONS

The following calculations using the WinSLAMM output indicates that the proposed development will remove 80% of total suspended solids (TSS).

WinSLAMM Model Summary:



Land Use:					
To Bio Basin					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.094			
1	Roofs 1	0.094	Entered	--	--
	Parking	0.086			
13	Paved Parking 1	0.086	Entered	--	--
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.047			
45	Large Landscaped Areas 1	0.047	Entered	--	--
	Other Areas	0.013			
70	Water Body Areas	0.013	Entered	--	--

Land Use:					
Offsite to Bio Basin					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.071			
45	Large Landscaped Areas 1	0.071	Entered	--	--
	Other Areas	0.000			

Land Use:					
To Grass Swale					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.015			
45	Large Landscaped Areas 1	0.015	Entered	--	--
	Other Areas	0.000			

Land Use:					
Offsite to Bio Basin					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.071			
45	Large Landscaped Areas 1	0.071	Entered	--	--
	Other Areas	0.000			

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Commercial	To Grass Swale	0.015
2	Commercial	Offsite To Grass Swale	0.005
3	Commercial	Offsite to Bio Basin	0.071
4	Commercial	To Bio Basin	0.240
5	Commercial	Uncontrolled	0.018

Land Use:					
Uncontrolled					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.018			
57	Undeveloped Areas 1	0.018	Entered	--	--
	Other Areas	0.000			

SEDIMENT CONTROL CALCULATIONS

Grass Swale

Grass Swales
✕

Drainage System Control Practice
Grass Swale Number 1
Press 'F1' for Help

Grass Swale Data	
Total Drainage Area (ac)	0.020
Fraction of Drainage Area Served by Swales (0-1)	1.00
Swale Density (ft/ac)	1818.18
Total Swale Length (ft)	40
Average Swale Length to Outlet (ft)	20
Typical Bottom Width (ft)	2.0
Typical Swale Side Slope (___ ft H : 1 ft V)	3.0
Typical Longitudinal Slope (ft/ft, V/H)	0.010
Swale Retardance Factor	D
Typical Grass Height (in)	3.0
Swale Dynamic Infiltration Rate (in/hr)	0.015
Typical Swale Depth (ft) for Cost Analysis (Optional)	0.0

Use Total Swale Length Instead of Swale Density for Infiltration Calculations

Select dynamic infiltration rate by soil type

- Sand - 4 in/hr
- Loamy sand - 1.25 in/hr
- Sandy loam - 0.5 in/hr
- Loam - 0.25 in/hr
- Silt loam - 0.15 in/hr
- Sandy clay loam - 0.1 in/hr
- Clay loam - 0.05 in/hr
- Silty clay loam - 0.025 in/hr
- Sandy clay - 0.025 in/hr
- Silty clay - 0.02 in/hr
- Clay - 0.01 in/hr

Total area served by swales (acres): 0.020
Total area (acres): 0.020

Select Particle Size Distribution File:

View Retardance Table:

Select Swale Density by Land Use

- Low density residential - 240 ft/ac
- Medium density residential - 350 ft/ac
- High density residential - 375 ft/ac
- Strip commercial - 410 ft/ac
- Shopping center - 90 ft/ac
- Industrial - 250 ft/ac
- Freeways (shoulder only) - 480 ft/ac
- Freeways (center and shoulder) - 540 ft/ac

Control Practice #: 3 CP Index #: 3

Bio Retention Basin

Biofiltration Control Device
✕

Drainage System Control Practice
Biofilter Number 1

Device Properties	Biofilter Number 1
Top Area (sf)	2900
Bottom Area (sf)	585
Total Depth (ft)	4.10
Typical Width (ft) (Cost est. only)	10.00
Native Soil Infiltration Rate (in/hr)	0.030
Native Soil Infiltration Rate COV	N/A
Infil. Rate Fraction-Bottom (0.001-1)	1.000
Infil. Rate Fraction-Sides (0.001-1)	0.001
Rock Filled Depth (ft)	0.50
Rock Fill Porosity (0-1)	0.33
Engineered Media Type	Media Data
Engineered Media Infiltration Rate	3.60
Engineered Media Infiltration Rate COV	N/A
Engineered Media Depth (ft)	2.00
Engineered Media Porosity (0-1)	0.27
Percent solids reduction due to Engineered Media (0-100)	80.00
Inflow Hydrograph Peak to Average Flow Ratio	3.80
Number of Devices in Source Area or Upstream Drainage System	1

Add Sharp Crested Weir

Weir Length (ft):

Height from datum to bottom of weir opening (ft):

Remove **Broad Crested Weir Reqd**

Weir crest length (ft):

Weir crest width (ft):

Height from datum to bottom of weir opening (ft):

Remove **Vertical Stand Pipe**

Pipe diameter (ft):

Height above datum (ft):

Add **Surface Discharge Pipe**

Pipe Diameter (ft):

Invert elevation above datum (ft):

Number of pipes at invert elev.:

Remove **Drain Tile/Underdrain**

Pipe Diameter (ft):

Invert elevation above datum (ft):

Number of pipes at invert elev.:

Add Other Outlet

Stage Number	Stage (ft)	Other Outflow Rate (cfs)
1		
2		
3		
4		
5		

Add **Evapotranspiration**

Soil porosity (saturation moisture content, 0-1):

Soil field moisture capacity (0-1):

Permanent wilting point (0-1):

Supplemental irrigation used?

Fraction of available capacity when irrigation starts (0-1):

Fraction of available capacity when irrigation stops (0-1):

Fraction of biofilter that is vegetated:

Plant type:

Root depth (ft):

ET Crop Adjustment Factor:

Evaporation

Month	Evapotranspiration (in/day)	Evaporation (in/day)
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
Oct		
Nov		
Dec		

Plant Types

	1	2	3	4
Fraction of biofilter that is vegetated	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Plant type	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Root depth (ft)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ET Crop Adjustment Factor	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Activate Pipe or Box Storage: Pipe Box

Diameter (ft):

Length (ft):

Within Biofilter (check if Yes):

Perforated (check if Yes):

Bottom Elevation (ft above datum):

Discharge Orifice Diameter (ft):

Select Native Soil Infiltration Rate

- Sand - 8 in/hr
- Loamy sand - 2.5 in/hr
- Sandy loam - 1.0 in/hr
- Loam - 0.5 in/hr
- Silt loam - 0.3 in/hr
- Sandy silt loam - 0.2 in/hr
- Clay loam - 0.1 in/hr
- Silty clay loam - 0.05 in/hr
- Sandy clay - 0.05 in/hr
- Silty clay - 0.04 in/hr
- Clay - 0.02 in/hr
- Rain Barrel/Cistern - 0.00 in/hr

Use Random Number Generation to Account for Infiltration Rate Uncertainty:

Copy Biofilter Data:

Paste Biofilter Data:

Estimated Surface Drain Time = 2.00 hrs.

Biofilter Geometry Schematic Refresh Schematic

Press 'F1' for Help

Control Practice #: 1 CP Index #: 1

Bio Retention Basin Detail Datum: 854.90

SEDIMENT CONTROL CALCULATIONS

WinSLAMM Output Summary:

File Name:

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	18115		0.45	69.49 (1)	78.58 (1)	
Outfall Total with Controls	17362	4.16 %	0.43	14.45	15.66	80.07 %
Current File Output: Annualized Total After Outfall Controls	17409					
		Years in Model Run:	1.00		15.71	

(1) Values reduced to remove off-site loadings due to setting Other Control Device Concentration Reduction values to 1.

Total Area Modeled (ac)

0.349

Receiving Water Impacts Due To Stormwater Runoff

(CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.45	Poor
With Controls	0.43	Poor

Total Control Practice Costs

Capital Cost	N/A
Land Cost	N/A
Annual Maintenance Cost	N/A
Present Value of All Costs	N/A
Annualized Value of All Costs	N/A

SEDIMENT CONTROL CALCULATIONS

WinSLAMM Input Data:

Data file name: Q:\Projects\MC-17-18\ECSWM-Fitchburg (2024)\WinSLAMM.mdb

WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdX

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Date: 10-22-2024 Time: 12:50:27

Site information:

LU# 1 - Commercial: To Grass Swale Total area (ac): 0.015

45 - Large Landscaped Areas 1: 0.015 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Offsite To Grass Swale Total area (ac): 0.005

57 - Undeveloped Areas 1: 0.005 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Commercial: Offsite to Bio Basin Total area (ac): 0.071

45 - Large Landscaped Areas 1: 0.071 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Commercial: To Bio Basin Total area (ac): 0.240

1 - Roofs 1: 0.094 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.086 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.047 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.013 ac. Source Area PSD File:

LU# 5 - Commercial: Uncontrolled Total area (ac): 0.018

57 - Undeveloped Areas 1: 0.018 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

SEDIMENT CONTROL CALCULATIONS

Control Practice 1: Biofilter CP# 1 (DS) - DS Biofilters # 1

1. Top area (square feet) = 2900
2. Bottom area (square feet) = 585
3. Depth (ft): 4.1
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.03
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 2
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil
User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 1
3. Height of datum to bottom of weir opening: 3.9

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 3.1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 2: Other Device CP# 1 (DS) - DS Other Device # 1

Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 1.00
Runoff volume reduction fraction = 0

Control Practice 3: Grass Swale CP# 1 (DS) - DS Grass Swale # 1

Total drainage area (acres) = 0.020
Fraction of drainage area served by swales (ac) = 1.00
Swale density (ft/ac) = 1818.18
Total swale length (ft) = 40
Average swale length to outlet (ft) = 20
Typical bottom width (ft) = 2.0
Typical swale side slope (H:1V) = 3.0
Typical longitudinal slope (ft.H/ft.V) = 0.010
Swale retardance factor: D
Typical grass height (in) = 3.0

SEDIMENT CONTROL CALCULATIONS

Swale dynamic infiltration rate (in/hr)= 0.015

Typical swale depth (ft) for cost analysis (optional) = 0.0

Particle size distribution file name: Not needed - calculated by program

Use total swale length instead of swale density for infiltration calculations: True

Control Practice 4: Other Device CP# 2 (DS) - DS Other Device # 2

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0