



August 22, 2023

Department of Planning & Development  
City of Fitchburg, Wisconsin  
5520 Lacy Road  
Fitchburg, Wisconsin 53711

Re: Architectural & Design Review Application – 5470 Nobel Drive, Fitchburg, Wisconsin  
Parcel number: 225/0609-152-6524-2

The following submittal is for an addition (5,280 sf) to an existing single story (26,568 sf) building. The building user is Cameca, Instruments, Inc. The submitted addition is to be used for production expansion. The existing building was completed in 2017.

**Contact Information:**

**Owner:**

2017 Tech Lands Lot 4, LLC  
4605 Dovetail Drive  
Madison, Wisconsin 53704  
(608) 249-2012  
Contact: Carl Ruedebusch

**Applicant:**

Ruedebusch Development & Construction  
4605 Dovetail Drive  
Madison, Wisconsin 53704  
(608) 957-7769  
Contact: Tim Cleary

**Architect:**

Eppstein Uhen Architects  
309 W. Johnson St Ste 202  
Madison, Wisconsin 53703  
(608) 442-5350  
Contact: John Chapman

**Site Engineer:**

Wyser Engineering  
300 E Front St  
Mt Horeb, Wisconsin 53572  
(608)437-1980  
Contact: Wade Wyse

**Noise Evaluation:**

Wise Associates  
1409 E. Skyline Drive  
Madison, WI 53705  
(608) 233-7683  
Contact: Steve Wise

**Landscape Design:**

Olson Toon Landscaping, Inc.  
3570 Pioneer Rd  
Verona, Wisconsin 53593  
(608) 827-9401  
Contact: Aaron Olson

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**CAMECA Instruments, Inc. -  
Building Addition & Level-2  
Alteration**

5470 NOBEL DRIVE  
TECH LANDS  
FITCHBURG, WISCONSIN 53711



## VICINITY MAP



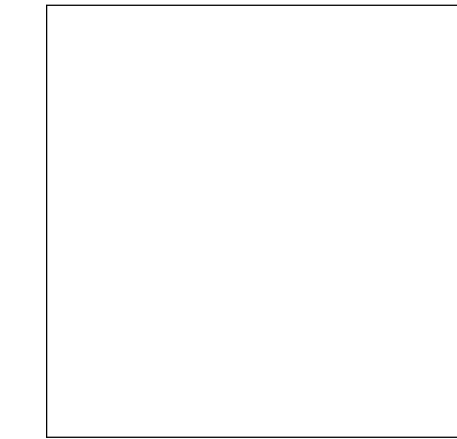
## PROJECT DATA : PROPOSED BUILDING ADD.

<b>OWNER</b>		
RUEDEBUSCH DEVELOPMENT & CONSTRUCTION		
<b>BUILDING TENANT</b>		
CAMECA INSTRUMENTS, INC.		
<b>LOCATION</b>		
MUNICIPALITY:	CITY OF FITCHBURG	
COUNTY:	DANE	
STATE:	WISCONSIN	
<b>APPLICABLE BUILDING CODES</b>		
WISCONSIN ADMINISTRATIVE CODE - 2009 IBC - CITY OF FITCHBURG, WI 53711		
<b>ZONING</b>	(IS) INDUSTRIAL SPECIALIZED	
<b>CONSTRUCTION CLASSIFICATION</b>		
TYPE III-B		
<b>OCCUPANCY GROUP</b>		
B (BUSINESS)	SECTION 304	
F-1 (FACTORY)	SECTION 306	
<b>PROJECT TYPE &amp; AREA</b>		
NEW CONSTRUCTION (ADDITION)	5,280 SQ FT	
LEVEL 2 ALTERATION	1,367 SQ FT	
<b>BUILDING HEIGHT</b>	ALLOWABLE	PROVIDED
	75	22'-5" +/- AT PARAPET, 27'-9" +/- AT MECH. SCREEN
<b>NUMBER OF STORIES</b>	ALLOWABLE	PROVIDED
	3	1
<b>FIRE PROTECTION</b>		
FIRE SUPPRESSION	COMPLETE	2015 IBC 903
NFPA STANDARD USED	13	2018 IBC 903
<b>BUILDING ADDITION ROOF</b>		
60 MIL BALLASTED EPDM BLACK UNREINFORCED ROOF MEMBRANE OVER CONTINUOUS RIGID (ISO) INSULATION		
<b>BUILDING ADDITION FOUNDATION</b>		
CONCRETE SLAB-ON-GRADE		
<b>ISR (IMPERVIOUS SURFACE RATIO):</b>		
	ALLOWABLE	PROVIDED
	65%	61.8% (ADDITION)
<b>CAR PARKING STALLS (EXISTING):</b>		
75		
<b>ACCESSIBLE PARKING STALLS (EXISTING):</b>		
3		
<b>BICYCLE STALLS (EXISTING):</b>		
10 BIKE BOLLARDS (20 TOTAL SPACES)		

FLOOR AREA AND OCCUPANT LOAD FOR BUILDING WITH ADDITION				
USE	FLOOR AREA	ADDITION FLOOR AREA	TOTAL	OCCUPANCY LOAD
B (BUSINESS)	12,107 SQ FT		12,107 SQ FT	122 PERSONS
F-1 (FACTORY)	16,461 SQ FT	5,280 SQ FT	21,741 SQ FT	218 PERSONS
<b>TOTAL</b>	<b>28,568 SQ FT</b>	<b>5,280 SQ FT</b>	<b>33,848 SQ FT</b>	<b>340 PERSONS</b>

MINIMUM PLUMBING FIXTURE COUNT WITH ADDITION								
B (BUSINESS)	CODE DATA	TOTAL / LAVS PER GENDER						
122 PERSONS	61 FEMALE	1 TOILET PER 25 PERSONS (1ST 50) 1/50 REMAINDER						
	61 MALE	1 LAV PER 40 PERSONS (1ST 80) 1/80 REMAINDER						
F-1 (FACTORY)	109 FEMALE	1 TOILET PER 25 PERSONS (1ST 50) 1/50 REMAINDER						
218 PERSONS	109 MALE	1 LAV PER 40 PERSONS (1ST 80) 1/80 REMAINDER						
		REQUIRED	PROVIDED					
		TOILETS	LAVS	TOILETS	URINALS	LAVATORIES	DRINKING FOUNTAIN	SERVICE SINK
WOMEN		4	3	4		4		
MEN		4	3	3	2	4	2	1

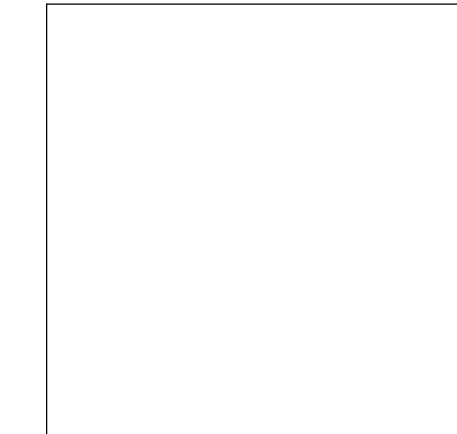
## PROJECT TEAM



### ARCHITECTURAL EUA

309 West Johnson Stree, Suite 202  
Madison, Wisconsin 53703  
PHONE: (608) 442-5350  
www.eua.com

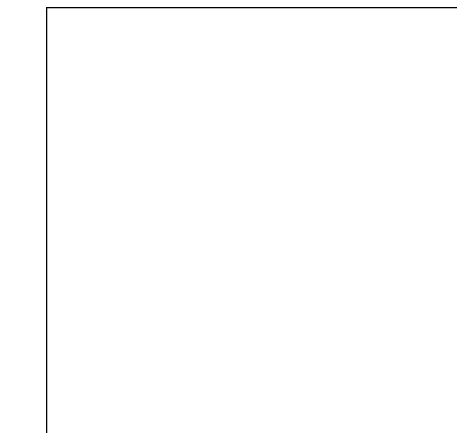
PROJECT CONTACT: Nick Kirscht , Project Architect  
DIRECT PHONE: (608) 442-6696  
EMAIL ADDRESS: nickk@eua.com



### CIVIL WYSER ENGINEERING

300 East Front Street  
Mt. Horeb, Wisconsin 53202  
PHONE: (608) 437-1980  
www.wyserengineering.com

PROJECT CONTACT: Wade Wyse , Principal  
DIRECT PHONE: (608) 437-1980  
EMAIL ADDRESS: wade.wyse@wyserengineering.com



### LANDSCAPE DESIGN OLSON TOON LANDSCAPING, INC.

3570 Pioneer Rd  
Verona, Wisconsin 53593  
PHONE: (608) 827-9401  
www.olsontoon.com

PROJECT CONTACT: Aaron Olson , Owner  
DIRECT PHONE: (608) 437-1980  
EMAIL ADDRESS: info@olsontoon.com

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A1.0 FLOOR PLAN  
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A3.1 BUILDING SECTIONS

**PROGRESS DOCUMENTS  
NOT FOR CONSTRUCTION**  
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**G0.1**  
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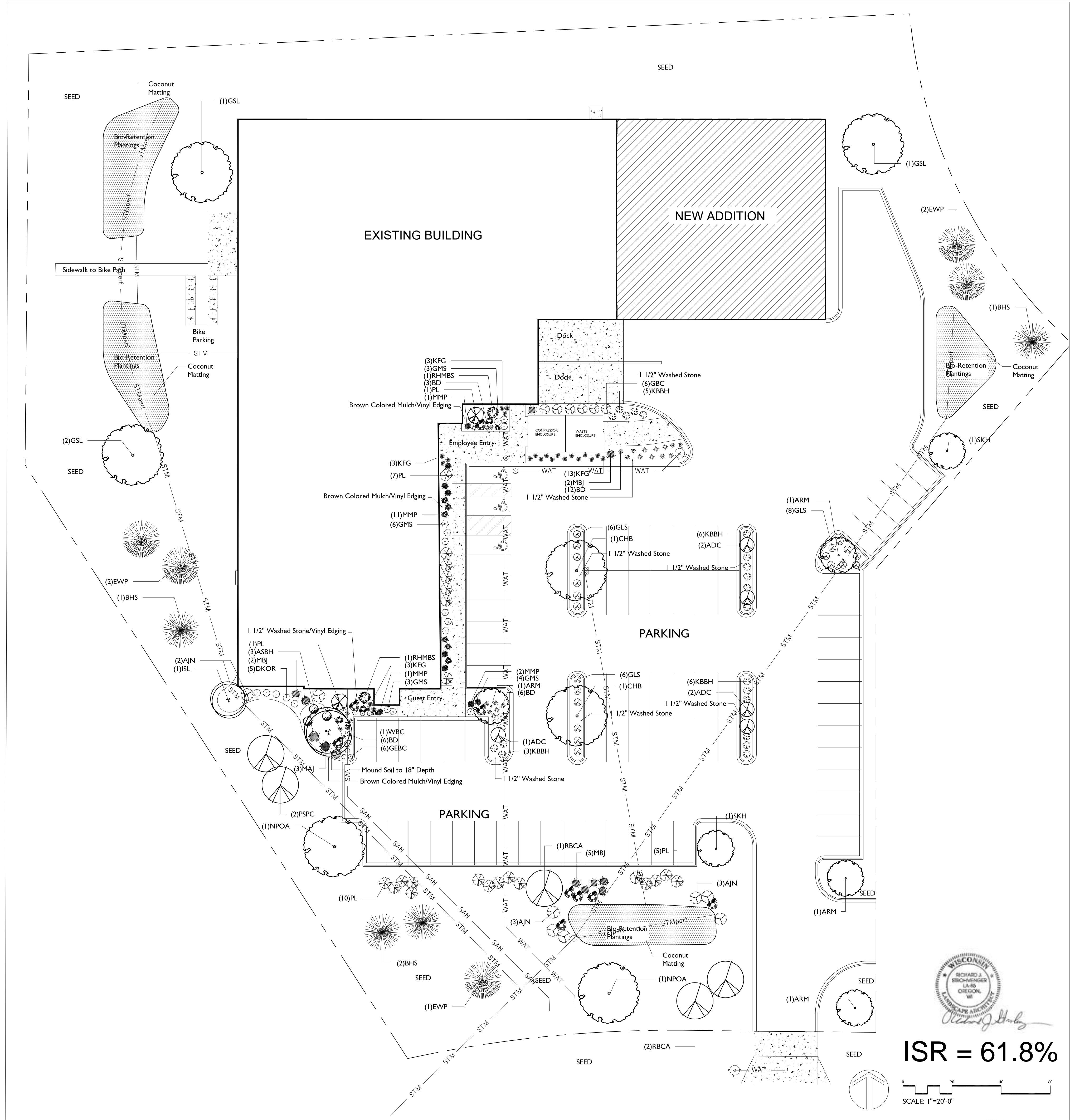




Plant Material List				
<b>Broadleaf Deciduous</b>				
Quantity	Code Name	Common Name	Scientific Name	Planting Size
4	ARM	Armstrong Maple	Acer X Freemanii 'armstrong'	2 1/2" B&B
1	WBC	Whitespire Gray Birch (clp)	Betula Populifolia 'whitespire' (clp)	16' B&B
2	CHB	Common Hackberry	Celtis Occidentalis	2 1/2" B&B
2	SKH	Street Keeper Honeylocust	Gleditsia Triacan 'draves'	2" B&B
5	ADC	Adirondack Crabapple	Malus 'adirondack'	1 1/2" B&B
2	PSPC	Professor Sprenger Crabapple	Malus 'professor Sprenger'	1 1/2" B&B
3	RBCA	Red Baron Crabapple	Malus 'red Baron'	1 1/2" B&B
2	PL	Tina Crabapple (std)	Malus Sargentii 'tina' (std)	2" B&B
2	NPOA	Northern Pin Oak	Quercus Ellipsoidalis	2 1/2" B&B
3	GSL	Greenspire Littleleaf Linden	Tilia Cordata 'greenspire'	2 1/2" B&B
1	ISL	Ivory Silk Japanese Lilac	Syringa Reticulata 'ivory Silk'	6' B&B
<b>Conifer Evergreen</b>				
Quantity	Code Name	Common Name	Scientific Name	Planting Size
9	MBJ	Mountbatten Juniper	Juniperus Chinen 'mountbatten'	5' B&B
3	MAJ	Mini Arcadia Juniper	Juniperus Sabina 'mini Arcadia'	#5 CONT.
4	BHS	Black Hills Spruce	Picea Glauca Var Densata	5' B&B
2	RHMB	Montgomery Blue Spruce	Picea Pungens 'montgomery'	4' B&B
15	MMP	Mops Mugo Pine	Pinus Mugo 'mops'	#3 CONT.
5	EWP	Eastern White Pine	Pinus Strobus	5' B&B
<b>Perennial</b>				
Quantity	Code Name	Common Name	Scientific Name	Planting Size
22	KFG	Karl Foerster's Feather Reed Grass	Calamagrostis Acutiflora 'karl Foerster'	#1 CONT.
27	BD	Baja Daylily	Hemerocallis 'baja'	#1 CONT.
6	GEBC	Grape Expectations Coral Bells	Heuchera 'grape Expectations'	#1 CONT.
<b>Shrub</b>				
Quantity	Code Name	Common Name	Scientific Name	Planting Size
6	GBC	Glossy Black Chokeberry	Aronia Melanocarpa Var Elata	#5 CONT.
20	KBBH	Kodiak Black Bush-Honeysuckle	Diervilla Rivalaris 'smndrsf'	#3 CONT.
3	ASBH	All Summer Beauty Hydrangea	Hydrangea Macro 'all Summer Beauty'	#2 CONT.
8	AJN	Amber Jubilee Ninebark	Physocarpus Opulifolius 'efam'	#5 CONT.
20	GLS	Gro-Low Fragrant Sumac	Rhus Aromatica 'gro-Low'	#3 CONT.
5	DKOR	Double Knock Out Rose	Rosa 'radtko'	#3 CONT.
16	GMS	Gold Mound Spirea	Spiraea Japonica 'gold Mound'	#2 CONT.
22	PL	Palibin Lilac	Syringa Meyer 'palibin'	#7 CONT.

**GENERAL NOTES** ISR = 56.0%

- A) Areas labeled "Brown Colored Wood Mulch" to receive a mixture of recycled wood mulch, colored brown, spread to a 3" depth over pre-emergent herbicide.
- B) Individual trees (and shrub groupings) found along perimeter of property as well as those found within lawn areas to receive wood mulch rings (and wood mulch beds) consisting of a mixture of recycled wood mulch, colored brown, spread to a minimum 3" depth (3' wide beds for shrub groupings).
- C) "Vinyl Edging" to be Valley View Black Diamond Vinyl Edging or equivalent.
- D) Areas labeled "washed stone" to receive 1-1/2" washed stone spread to a 3" depth over fabric weed barrier.
- E) "Seed" areas shall be finish-graded and seeded at a rate of 4 lbs. per 1,000 sq. ft.
- F) Seed shall consist of the following mixture:  
 10% Palmer IV Perennial Ryegrass  
 20% Dragon Kentucky Bluegrass  
 20% Diva Kentucky Bluegrass  
 20% Foxy II Creeping Red Fescue  
 15% Vail II Perennial Ryegrass  
 15% Ginney Kentucky Bluegrass
- G) Areas labeled "Seed with Straw Erosion Matting" shall be seeded with the above-noted premium lawn seed mixture and overlaid with DS75 straw erosion control netting that is then pegged into the soil with metal staples.
- H) Areas labeled "Sod" shall receive only No. 1 grade nursery-grown bluegrass sod.



BIO-RETENTION DEVICE PLANT LIST				
Quantity	Common Name	Scientific Name	Planting Size	Plant Spacing
<b>GRASSES AND SEDGES</b>				
192	VIRGINIA WILD RYE	ELYMUS VIRGINICUS	2.5" POT	12" O.C. Rect. Spacing
192	SWITCH GRASS	PANICUM VIRGATUM	2.5" POT	12" O.C. Rect. Spacing
224	LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	2.5" POT	12" O.C. Rect. Spacing
192	INDIAN GRASS	SORBASTRUM NUTANS	2.5" POT	12" O.C. Rect. Spacing
<b>FORBS</b>				
64	NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE	2.5" POT	12" O.C. Rect. Spacing
96	PURPLE CONEFLOWER	ECHINACEA PURPUREA	2.5" POT	12" O.C. Rect. Spacing
64	FALSE SUNFLOWER	HELIOPSIS HELIANTHODIES	2.5" POT	12" O.C. Rect. Spacing
64	WILD IRIS	IRIS VIRGINIANA SHREVEI	2.5" POT	12" O.C. Rect. Spacing
64	BERGAMOT	MONARDA FISTULOSA	2.5" POT	12" O.C. Rect. Spacing
96	SWEET BLACK-EYED SUSAN	RUDBECKIA SUBTOMENTOSA	2.5" POT	12" O.C. Rect. Spacing
64	STIFF GOLDENROD	SOLIDAGO RIGIDA	2.5" POT	12" O.C. Rect. Spacing

Checked By: SS  
Drawn By: 5/23/16 RS

Revised:  
Revised:  
Revised:  
Revised:  
Revised:  
Revised:  
Revised:

**ISR = 61.8%**

SCALE: 1"=20'-0"

**L1**

LANDSCAPE ARCHITECTS  
LANDSCAPE CONTRACTORS  
2830 PARKER STREET  
P.O. BOX 620330  
MIDDLETON, WI 53562-0330  
TEL: (608) 836-7041  
FAX: (608) 831-6266

**CAMECA INSTRUMENTS, INC**  
 LOT 4 NOBEL DRIVE  
 FITCHBURG TECHNOLOGY CAMPUS  
 FITCHBURG, WISCONSIN 53711

Checked By: SS  
Drawn By: 5/23/16 RS

Revised:  
Revised:  
Revised:  
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Revised:  
Revised:  
Revised:

Richard J. Schaeffer  
L.A.S.  
OREGON  
WI

**L1**

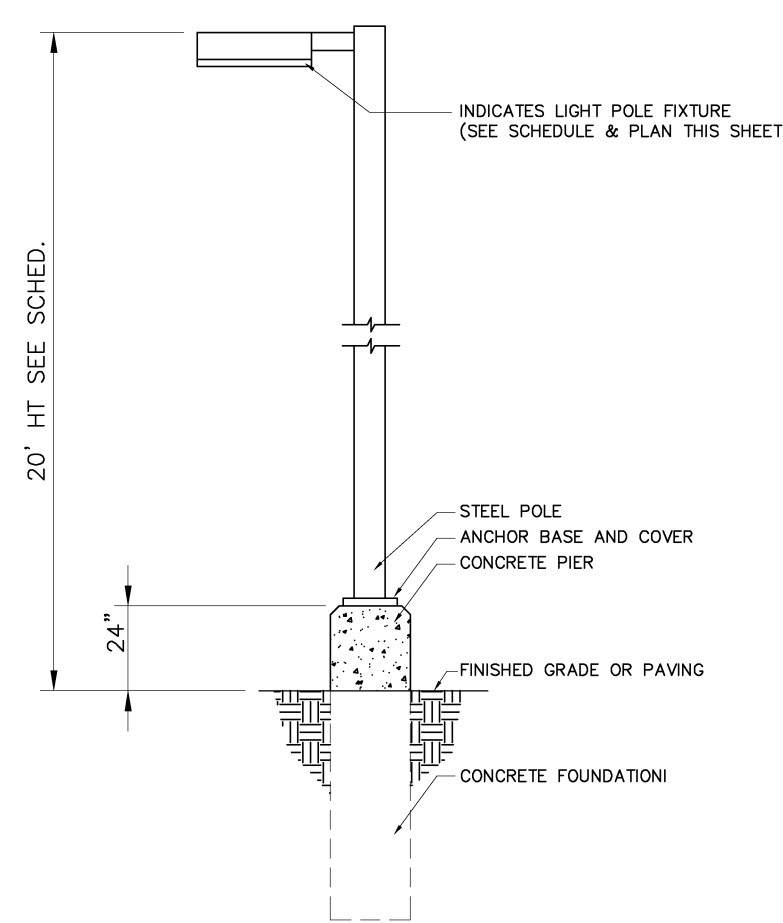
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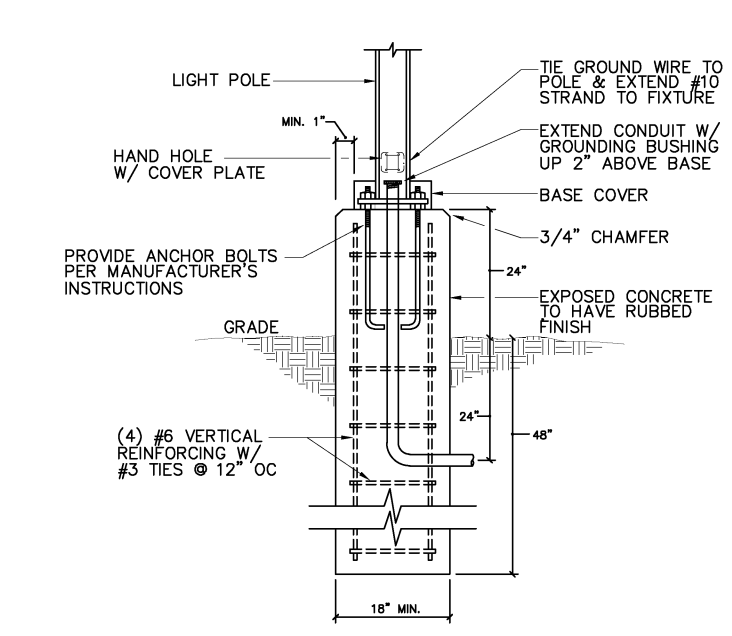
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	A EXISTING	4	KAD LED 40C 1000 40K R3 MVOLT	KAD LED 40 LED, 1 AMP MVOLT DRIVER, 4000K, TYPE 3 OPTICS, 20' HT.	LED	KAD_LED_40C _1000_40K_R3 MVOLT.es	Absolute	1.00	140
	B EXISTING	2	KAD LED 40C 1000 40K R3 MVOLT	KAD LED 40 LED, 1 AMP MVOLT DRIVER, 4000K, TYPE 3 OPTICS, 20' HT.	LED	KAD_LED_40C _1000_40K_R3 MVOLT.es	Absolute	1.00	280
	C EXISTING	5	KBR8 LED 12C 350 30K ASY MVOLT	KBR8 WITH 3 LIGHT BOARDS (12 LED), 300mA DRIVER, 3000K COLOR TEMP AND ASYMMETRIC OPTIC, 40" BOLLARD HT.	LED	KBR8_LED_12 C_350_30K_A SY_MVOLT.es	Absolute	1.00	16
	D EXISTING	4	WSR LED 2 10A70040K SR3 MVOLT	WSR LED WITH 2 MODULES, 20 LED'S, 700mA DRIVER, 4000K COLOR TEMPERATURE, TYPE 3 LENS, 11'-8" MOUNT HT.	Outdoor Wall Pack	WSR_LED_2 10A700_40K SR3_MVOLT.es	Absolute	1.00	47
	E REMOVE EXISTING	1	WSR LED 2 10A70040K SR3 MVOLT	WSR LED WITH 2 MODULES, 20 LED'S, 700mA DRIVER, 4000K COLOR TEMPERATURE, TYPE 3 LENS, 11'-8" MOUNT HT.	Outdoor Wall Pack	WSR_LED_2 10A700_40K SR3_MVOLT.es	Absolute	1.00	47
	F EXISTING RELOCATED	1	WSR LED 2 10A70040K SR3 MVOLT	WSR LED WITH 2 MODULES, 20 LED'S, 700mA DRIVER, 4000K COLOR TEMPERATURE, TYPE 3 LENS, 11'-8" MOUNT HT.	Outdoor Wall Pack	WSR_LED_2 10A700_40K SR3_MVOLT.es	Absolute	1.00	47
	G NEW	1	WSR LED 2 10A70040K SR3 MVOLT	WSR LED WITH 2 MODULES, 20 LED'S, 700mA DRIVER, 4000K COLOR TEMPERATURE, TYPE 3 LENS, 11'-8" MOUNT HT.	Outdoor Wall Pack	WSR_LED_2 10A700_40K SR3_MVOLT.es	Absolute	1.00	47

STATISTICS				
Description	Symbol	Avg	Max	Min
SITE AREA	+	0.9 ac	9.0 ac	0.0 ac

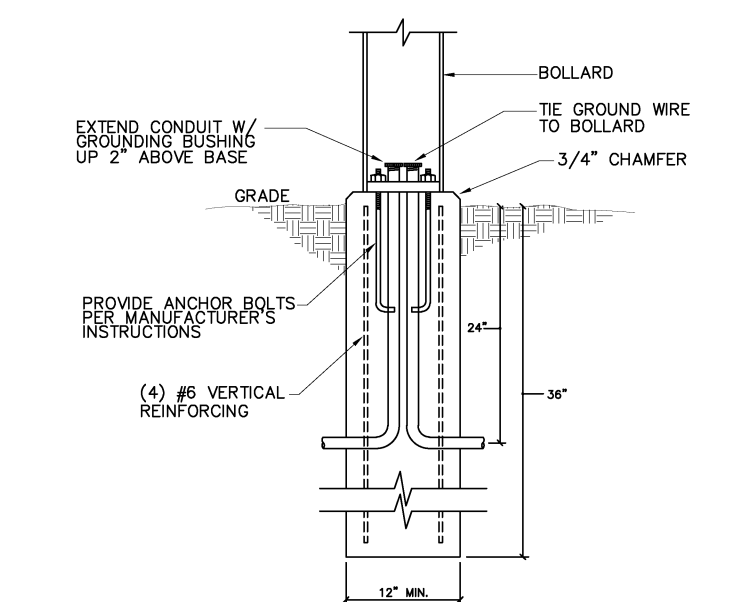
LUMINAIRE LOCATIONS											
No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Aim Y	Z	
1	A	352.5	-1.9	20.0	20.0	90.0	0.0	352.6	-1.9	0.0	
2	B	285.6	145.9	20.0	20.0	0.0	0.0				
3	B	355.1	86.3	20.0	20.0	0.0	0.0				
4	A	184.6	56.4	20.0	20.0	90.0	0.0	185.7	56.4	0.0	
5	A	266.4	20.9	20.0	20.0	0.0	0.0	266.4	22.0	0.0	
6	C	209.4	87.9	3.3	3.3	0.0	0.0	209.4	87.9	0.0	
7	C	242.2	90.8	3.3	3.3	0.0	0.0	242.2	90.8	0.0	
8	C	233.1	178.0	3.3	3.3	0.0	0.0	233.1	178.0	0.0	
9	C	233.0	112.2	3.3	3.3	0.0	0.0	233.0	112.2	0.0	
10	C	233.3	151.5	3.3	3.3	0.0	0.0	233.3	151.5	0.0	
11	D	146.1	250.2	11.7	11.7	-90.0	0.0	146.1	250.2	0.0	
12	D	145.5	286.2	11.7	11.7	-90.0	0.0	145.5	286.2	0.0	
13	D	299.3	248.6	11.7	11.7	180.0	0.0	299.3	248.6	0.0	
14	D	248.8	212.3	11.7	11.7	180.0	0.0	248.8	212.3	0.0	
15	D	327.8	289.3	11.7	11.7	90.0	0.0	327.8	289.3	0.0	
16	A	430.0	196.6	20.0	20.0	-90.0	0.0	428.9	196.6	0.0	



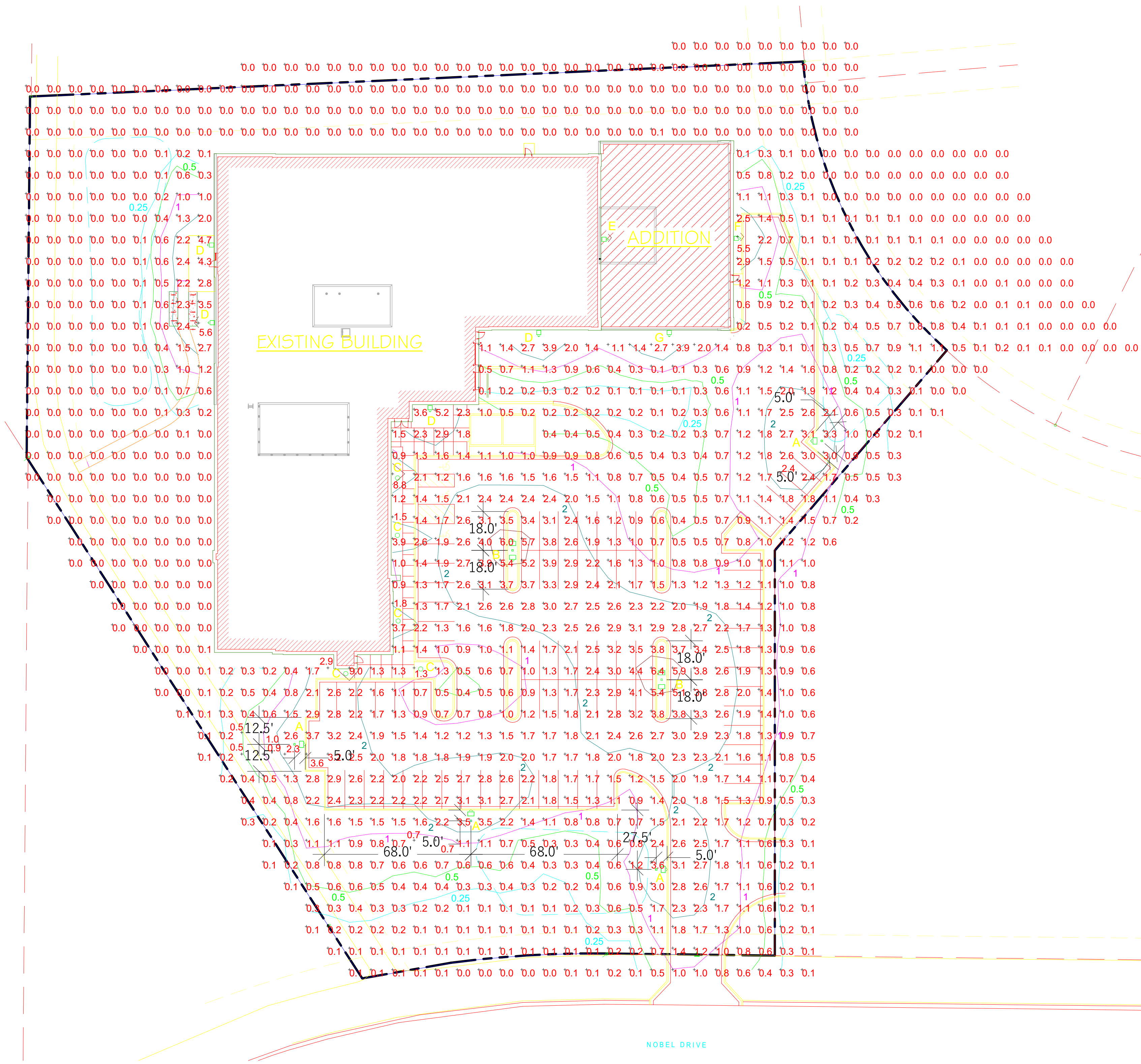
EXISTING LIGHT POLE ELEVATION  
SCALE: NTS



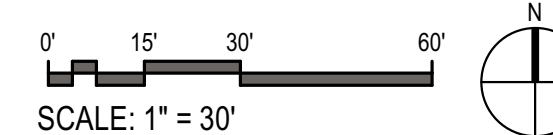
EXISTING LIGHT POLE BASE DETAIL  
SCALE: NTS



EXISTING BOLLARD BASE DETAIL  
SCALE: NTS



**SITE LIGHTING PLAN**

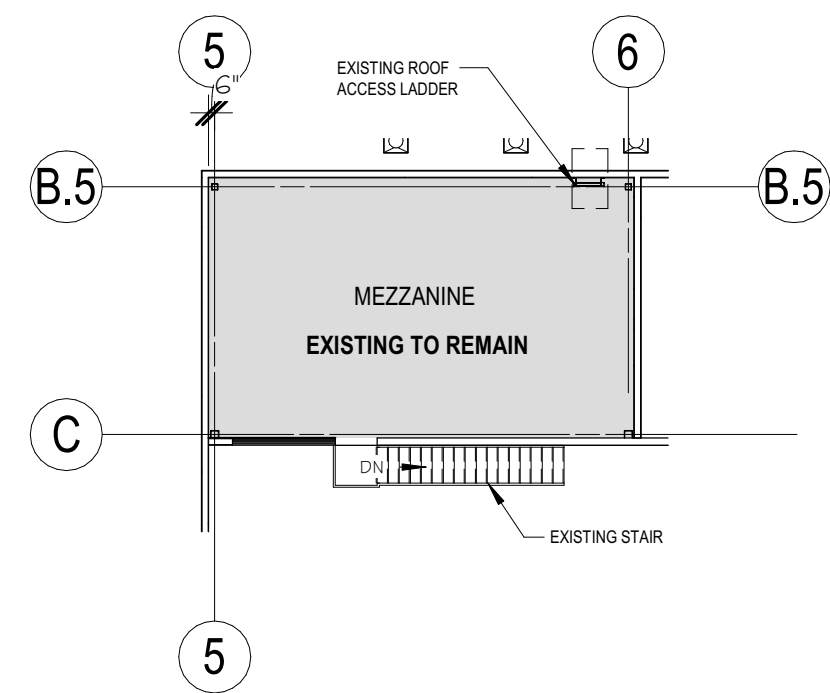
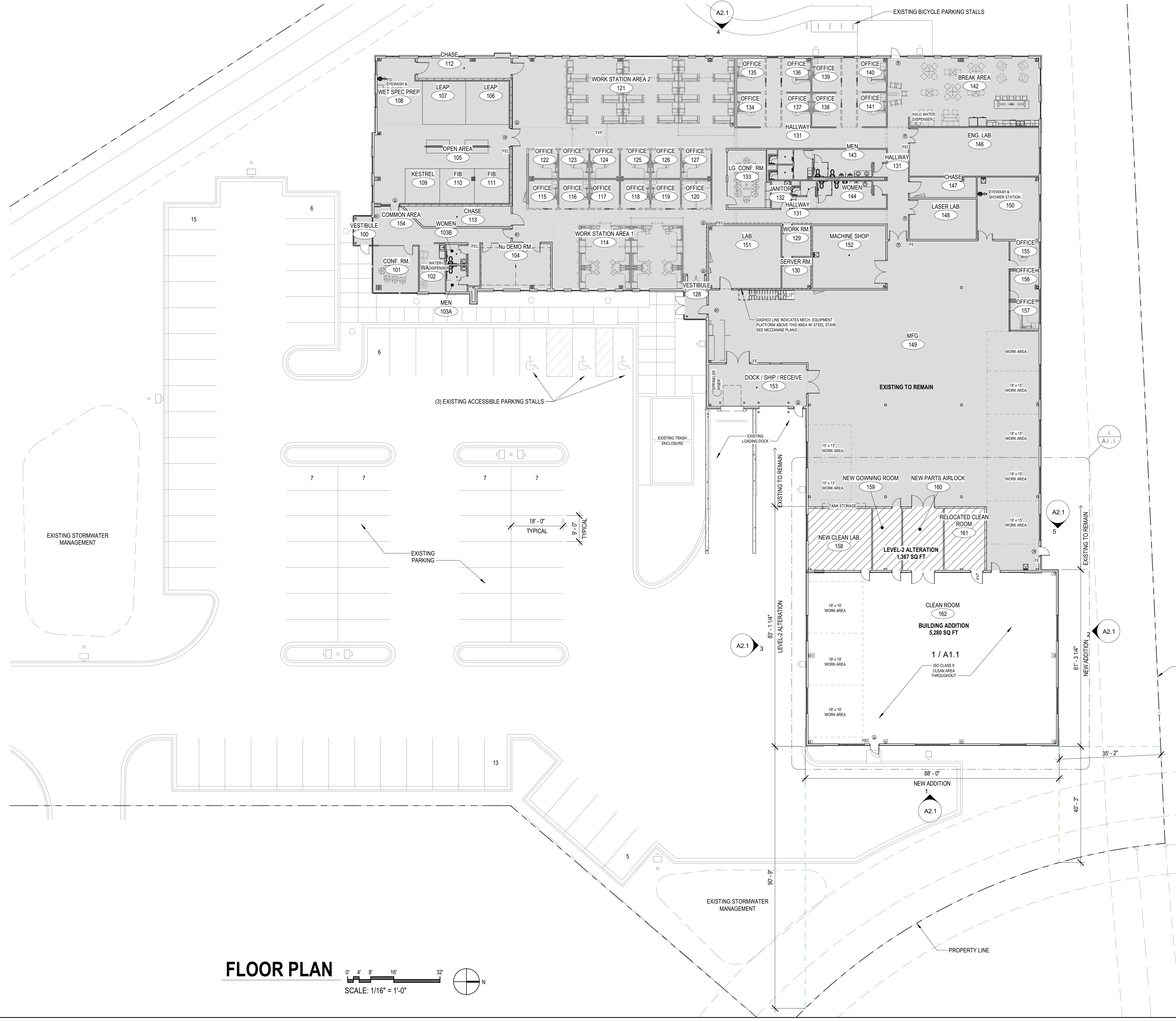


ISR = 61.8%

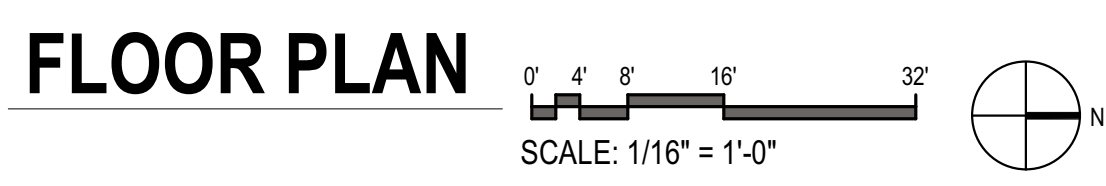
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**SL1.0**

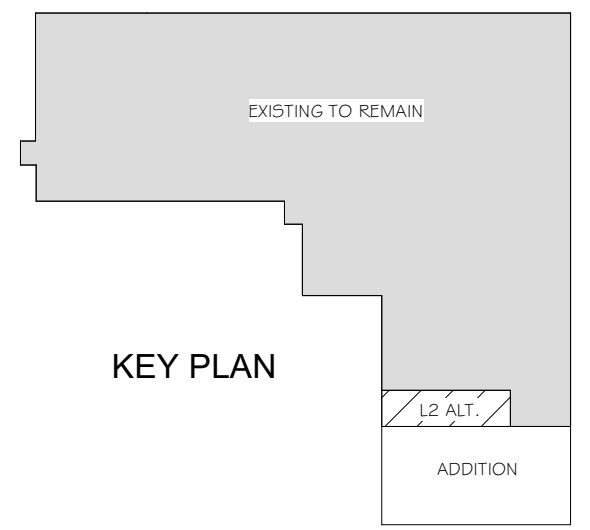
SITE LIGHTING PLAN



**EXIST. MECHANICAL MEZZANINE PLAN**



LEGEND KEY	
	EXIT SIGN
	SEMI-RECESSED FIRE EXTINGUISHER, CABINET w/ 10 lb. TYPE ABC EXTINGUISHER (SEE A5-3 FOR DETAILS)
	WALL MOUNTED FIRE EXTINGUISHER CABINET w/ 10 lb. TYPE ABC EXTINGUISHER (SEE A5-3 FOR DETAILS)

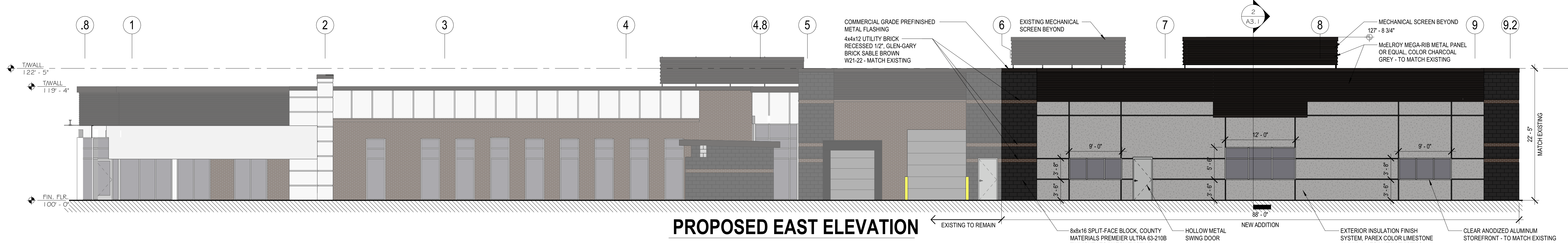


ISR = 61.8%

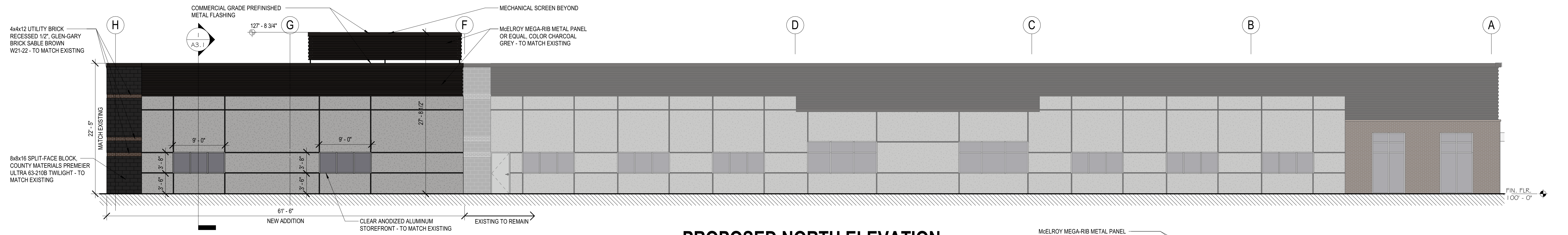
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**A1.0**  
FLOOR PLAN

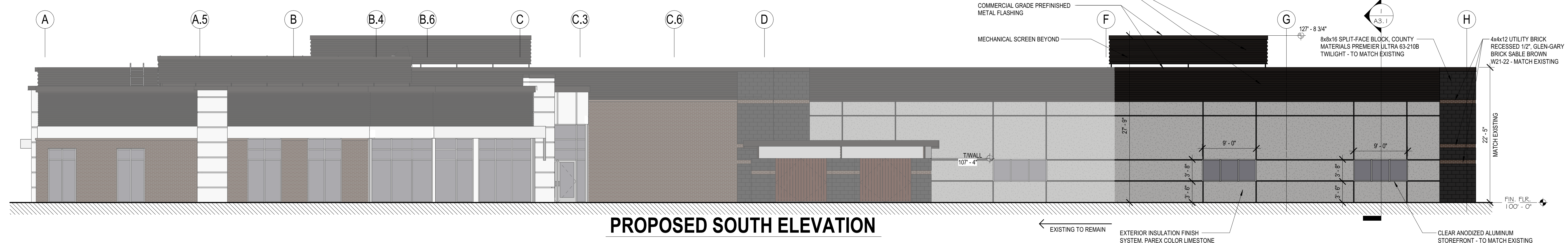




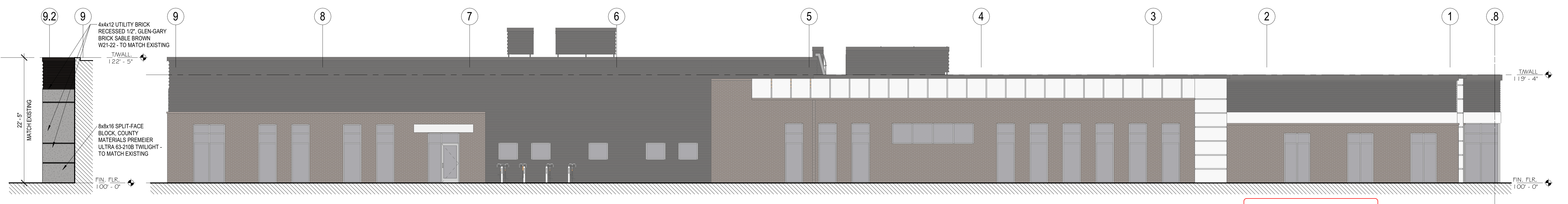
**PROPOSED EAST ELEVATION**



**PROPOSED NORTH ELEVATION**



**PROPOSED SOUTH ELEVATION**



**PROPOSED WEST ELEVATION**

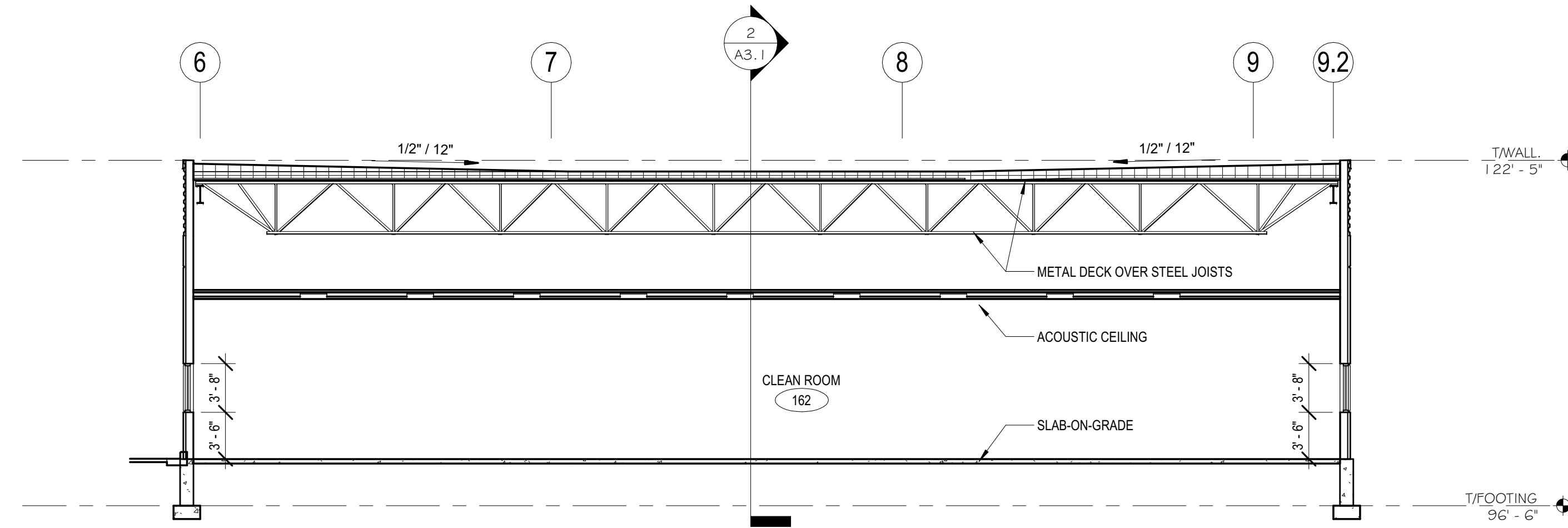
**EXISTING WEST ELEVATION**

ISR = 61.8%

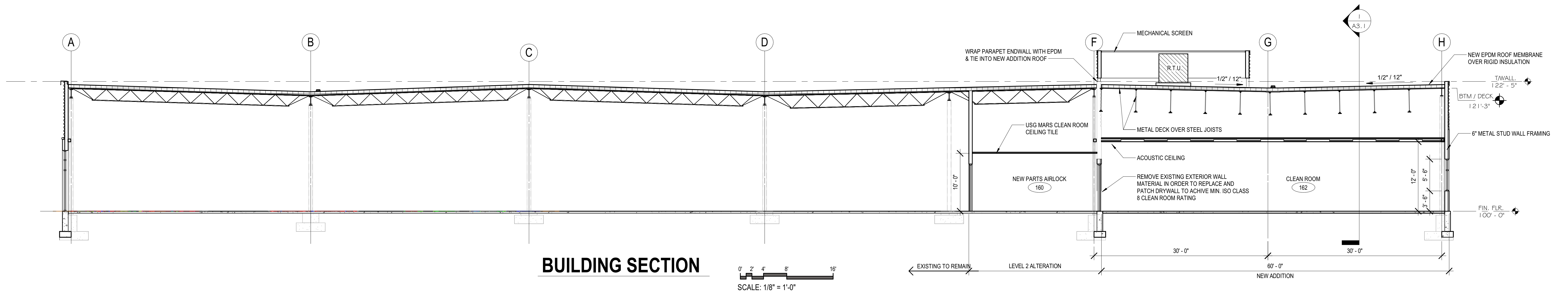
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**A2.1**

BUILDING ELEVATIONS



**BUILDING SECTION**



**BUILDING SECTION**

SCALE: 1/8" = 1'-0"

ISR = 61.8%

**PROGRESS DOCUMENTS  
NOT FOR CONSTRUCTION**  
These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and shall not be used for final bidding or construction-related purposes.

**A3.1**

BUILDING SECTIONS



## **STORMWATER MANAGEMENT REPORT & EROSION CONTROL PLAN**

CAMECA Instruments, Inc.

May 20, 2016

Prepared For: Ruedebusch Development

Wyser Engineering Project No.: 16-0328

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4.0	Stormwater Management Analysis / Design
4.1	Stormwater Discharge Quality
4.2	Stormwater Discharge Quantity
5.0	Erosion Control Analysis / Design
6.0	Conclusion

## APPENDICIES

Appendix A	Existing Conditions Exhibit
Appendix B	Soils Information
Appendix C	Proposed Construction Plans
Appendix D	Post Development Hydrologic Modeling
	Watershed Map
	Conveyance Design
	Infiltration Calculations
Appendix E	Universal Soils Loss Equation Worksheet
Appendix F	Declaration of Conditions, Covenants and Restrictions for Maintenance of Stormwater Management Measures

Future questions and comments can be directed to:

Dan Schneider, P.E.  
Principal – Sr. Project Engineer

Wyser Engineering, LLC  
201 ½ E. Main Street  
Mount Horeb, WI 53572

[dan.schneider@wyserengineering.com](mailto:dan.schneider@wyserengineering.com)

(608) 843-3638

## **1.0 Introduction**

Ruedebusch Development and Construction is proposing a commercial development located on a 3.04 acre portion of Lot 3 and Lot 4 of the Fitchburg Technology Campus located on Nobel Drive. The site is currently zoned as Industrial Specialized. The lot is part of the watershed for a regional detention basin that has partially been constructed on the east end of the plat.

Proposed improvements for the lot include a 26,518 square foot building with new parking, driveway and loading areas adding up to 43,068 square feet of new paved area. An additional 7,000 square foot future building addition has also been included within the site calculations. In addition, there is an existing public bike path within an easement along the west property line. This adds an additional 4,492 square feet of impervious area to the site. This is an impervious area ratio for the entire lot at final build out of 0.61 and an impervious area ratio of 0.62 for the site / disturbed area that does not include the bike path. A total disturbance limit of 123,000 square feet will be required to complete the project. Permanent stormwater management facilities for the site are proposed to meet applicable stormwater requirements including two bioretention basins and one rain garden. These stormwater devices will capture runoff from the proposed improvements as well as the future building addition. Ultimately, the stormwater devices discharge into the regional detention basin to the east of the site to provide final stormwater runoff treatment before final discharge into Swan Creek. The proposed stormwater improvements on the site incorporate site specific stormwater management for water quality and runoff volume to meet applicable requirements.

## **2.0 Existing Conditions**

The existing site conditions consist of a previously mass graded site including several feet of fill material. It is currently a grassy field. Prior to the mass grading, the site was an agricultural area. Generally, the site drains from the southwest to the north, east and south. This creates two watersheds, one that drains into the Nobel Drive right of way and one that drains into the drainage easement north and east of the property. The drainage easement includes 20-feet along the north property line and 20-feet centered on the east property line. A drainage swale has already been constructed within the east drainage easement. There is a 36" RCP pipe collecting stormwater runoff from the stormwater basin for the adjacent lot the east with an inlet along the north curb of Nobel Drive near the south property line. The storm sewer within Nobel is 48" RCP. Both of these systems drain into a regional detention basin located to the east of the site. The discharge for the regional basin is Swan Creek. Please refer to **Appendix A** for graphical representation.

There are four native onsite soils that are classified as Dodge, McHenry, St. Charles and Troxil silt loams (DnB and MdC2, ScB and TrB). The MdC2, ScB and TrB soils make up the majority of the site and have a Hydrologic Soil Group (HSG) classification 'B'. The DnB soil has a HSG classification of 'C'. However, it should be noted that significant development has taken place on this site that has included removal of topsoil and significant fill and replacement of a mixed topsoil. These soils properties may no longer be valid. Silt Loam has been assumed when calculating soil loss and HSG B soils have been assumed for both pre- and post-development conditions. Soil test pits and associated stormwater evaluation for the development area were provided by CGC on May 17, 2016. The soil borings generally indicated a 6" mixed

silt loam topsoil fill over a silty loamy clay fill layer between 2.5 and 7.5 feet thick over original silty clay layers of about 5-feet of thickness. This was the limits of excavation for pits 1 and 2. In pit 3, a fine to medium sand layer was found at a depth of 9 feet (6-feet below the bottom of the fill layer). Regional borings done for the plat done in 2012 prior to the development indicate that there is likely a fine to medium sand layer within the soil column at some depth prior to hitting groundwater or bedrock. Please refer to **Appendix B**.

### **3.0 Design Criteria**

Wisconsin Administrative Code  
Department of Natural Resources (WDNR)  
Chapter NR 151 & NR 216

City of Fitchburg, WI – City Code of Ordinances  
Title III Building and Environmental Control, Chapter 30 – Environment  
Article II. – Erosion Control and Stormwater Management

### **4.0 Stormwater Management Analysis / Design**

The proposed improvements include a 26,518 square foot building with a proposed future addition of 7,000 square feet. The building will be served by two loading docks on the northeast side and parking on the southeast side. A public bike path within an easement has already been completed along the west property line. A new connection to the building to the bike path with associated bike parking will be added. There is one full access driveway entries onto Nobel Drive on the southeast corner of the site. This will be shared in the future with any Lot 3 development project. Please refer to **Appendix C** for the proposed plan set.

In total, this project, including future addition, includes 81,122 square feet of impervious area over a total disturbance limit of 130,000 square feet on the 3.04 acre lot. This is a total impervious ratio of the full build out site of 0.61. As a result, the site will be required to meet the City of Fitchburg standards for new development.

In general, the pavement areas drain into two bioretention basins for pretreatment, oil and grease, and infiltration before discharging offsite. The rooftop water drains into a rain garden for infiltration before discharge offsite. The lot has two watersheds, one to the north public drainage easement and one to the public storm sewer system within Nobel Drive. The surface overflow runoff from the northern bioretention basin discharges into the public drainage easement with the underdrain discharging into the public storm sewer system. The southern bioretention basin has both overland flow and underdrain flow drain into the public storm sewer system. The rain garden has an overland flow discharge into the public drainage easement and the underdrain discharge into the public storm sewer system. Ultimately, the runoff from the site is safely conveyed into the regional detention basin for runoff rate control and total suspended solids reduction. The final discharge of the regional detention basin is Swan Creek.

The rain garden is designed to receive the entire rooftop as well as the future rooftop area. The basin is split into two cells by a connection to the building from the bike trail. An 18" CMP is designed as a water equalizer between the two sides of the rain garden. As a result, the basin was modeled as one large system.

Specifically, please note the following:

#### **4.1 Water Quality**

*Sediment Control: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(1)(a)*

The regional detention basin will provide the required sediment control for this site.

*Oil and Grease Control: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(2)*

The oil and grease control is designed to be provided by way of the proposed bioretention basins collecting stormwater runoff from the proposed parking and loading areas. The remaining smaller driveway areas that do not drain into a treatment facility are not large enough to have a significant oil and grease load.

*Temperature Control: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(7)*

The proposed development is located in the Swan Creek watershed. This is not identified as a Cold Water Community or a Class I, II, or III Trout Stream and is therefore exempt from temperature control requirements.

#### **4.2 Storm Water Discharge Quantity**

*Runoff Rate Control – Hydrologic Calculations: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(3)*

A regional detention basin provides runoff rate control for the development area. Appropriate curve numbers have been used for infiltration design. This has assumed the previously mass graded site has been deep tilled and all soils have a Type B HSG.

*Runoff Rate Control – Design Standards: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(4)*

A regional detention basin provides runoff rate control for the development area.

*Outlets: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(5)*

The storm sewer system has been designed per the SPS 'Area method' as described within SPS 382.36(5)(a)1. Please refer to **Appendix D** for analysis results. The three basins have three separate offsite discharge locations. Additionally, the northern two basins have two separate outlet locations. This was done to match the existing site drainage as required by the plat. Specifically, the rain garden and the east bioretention basin have overland flow discharge for larger storm events that do not fully infiltrate into the public drainage easement to the north and east of the site. The underdrain which captures runoff that is not infiltrated or overflows the facilities discharges into the public storm sewer system within Nobel Drive. The entire southern basin drains into the public storm sewer system within Nobel Drive. The associated public systems that the site discharges into have been designed to handle runoff from a fully developed site. The downstream receiving streams is protected by the regional detention basin which was designed to accommodate the additional runoff rate from the proposed development area.

*Infiltration: Fitchburg, WI – Code of Ordinances, Chapter 30 – 30.28(b)(2)*

RECARGA (Version 2.3) software has been used to analyze recharge and infiltration characteristics for the existing site and proposed site improvements. RECARGA uses the average annual storm for the area (Madison 1981) to determine the stormwater volume which stays on the site versus the stormwater volume which runs off the site after passing through the proposed infiltration system. Soil borings for the larger regional area on the site indicate the presence of fine sands between 5- and 10-feet of the original site surface. The soil evaluation done within test pits specific to the locations of the proposed infiltration facilities indicate a minimum of 10-feet to the assumed depth of the fine sand layer for the rain garden and south bioretention basin and 9-feet to the fine sand layer in the east bioretention basin. The facilities will need to be excavated to this layer and refilled with soils with at least an infiltration rate of the fine sand up to the bottom of the system. A geotechnical engineer is required to be on site to verify the soil layer and fill up to the designed bottom of the basins. The infiltration rate used within the model is 0.5 in/hr, consistent with the soil analysis for the fine sand layer.

The proposed infiltration facilities include 3,900 square feet of dedicated infiltration area. This is 3.2% of the development site. This provides a total of 79.36% of the predevelopment stay-on volume. Therefore, the secondary recharge standard will be used (9.5 inches per year based on the Wisconsin Geological and Natural History Survey's 2012 report, *Groundwater Recharge in Dane County, Estimated by a GIS-Based Water-Balanced Model*) for the entire disturbed area on a volume basis. This calculation was completed by running a predevelopment RECARGA model for the entire disturbed area excluding the maintenance areas and multiplying it by 9.5 inches per year and comparing it to the total watershed for the infiltration systems and remaining pervious areas not draining to dedicated infiltration systems. Refer to Table 1 for output summary. Please refer to **Appendix D** for RECARGA output.

Table 1: RECARGA based output for infiltration and recharge for the site development area.

Infiltration Volume Summary	
Total Area (Acres)	2.83
Pre-Development Infiltration Volume (Acre-Feet)	6.57
Post-Development Infiltration Volume Required (90%) (Acre-Feet)	5.92
Post-Development Infiltration Volume Provided (Acre-Feet)	5.23
Recharge Volume Summary	
Total Area (Acres)	2.83
Pre-Development Recharge (Inches)	9.50
Post-Development Recharge Required (Inches)	9.50
Post-Development Recharge Provided (Inches)	9.56

## 5.0 Erosion Control Analysis / Design

Erosion control measures proposed for the project site have been designed in accordance with the WDNR, and City of Fitchburg requirements. Best Management Practices (BMP's) for the site include stone tracking pad, silt fencing, check dams, seeding, mulching, erosion mat, etc. Construction sequencing, as follows, has been documented in accordance with soil loss rate calculations for the construction period per the Universal Soil Loss Equation included as **Appendix E**:

06/15/2016	Pre-development construction meeting. Install Perimeter BMP's (silt fence, stone tracking pad, etc.)
06/17/2016	Strip topsoil and stockpile. Provide silt fence around stockpile and seed within 7 days.
07/15/2016	Mass Grading / Subgrade preparation (note all 4:1 or greater slopes must be stabilized as soon as practicable and, at a minimum, within 14 days of finishing the grading.
09/01/2016	prior to winter and while doing internal construction activities, mulch and/or temporary seed the site.
03/01/2017	Re-open the site for grading and utility construction.
05/15/2017	Final seeding and mulching. Install bioretention and rain garden systems. Install Bioretention Vegetation Plan in accordance with WDNR Technical Standard 1004. Fix any landscaping issues including bioretention and rain garden areas. Provide City with a post-development as-built survey of all stormwater management facilities.

For additional information relative to erosion control, please refer to the Grading & Erosion Control Plan found in **Appendix C**.

## 6.0 Conclusion

Construction and Post Development BMP's for erosion control and stormwater management have been designed in accordance with applicable requirements of the City of Fitchburg Code of Ordinance and



Wisconsin Administrative Code. Stormwater runoff generated by the proposed development area will be collected within two bioretention basins and a rain garden to provide pretreatment, infiltration and oil and grease control. Runoff rate reduction and water quality treatment will be provided by the existing regional detention basin. Consistent with existing conditions, a portion of the stormwater runoff will be conveyed to the public storm sewer system of Nobel Drive and a portion will discharge into the public drainage easement to the north and east. Erosion control practices have been designed to limit the soil loss rate to less than 5.0 tons per acre per year, regulating soil transportation within the boundaries of the project site.

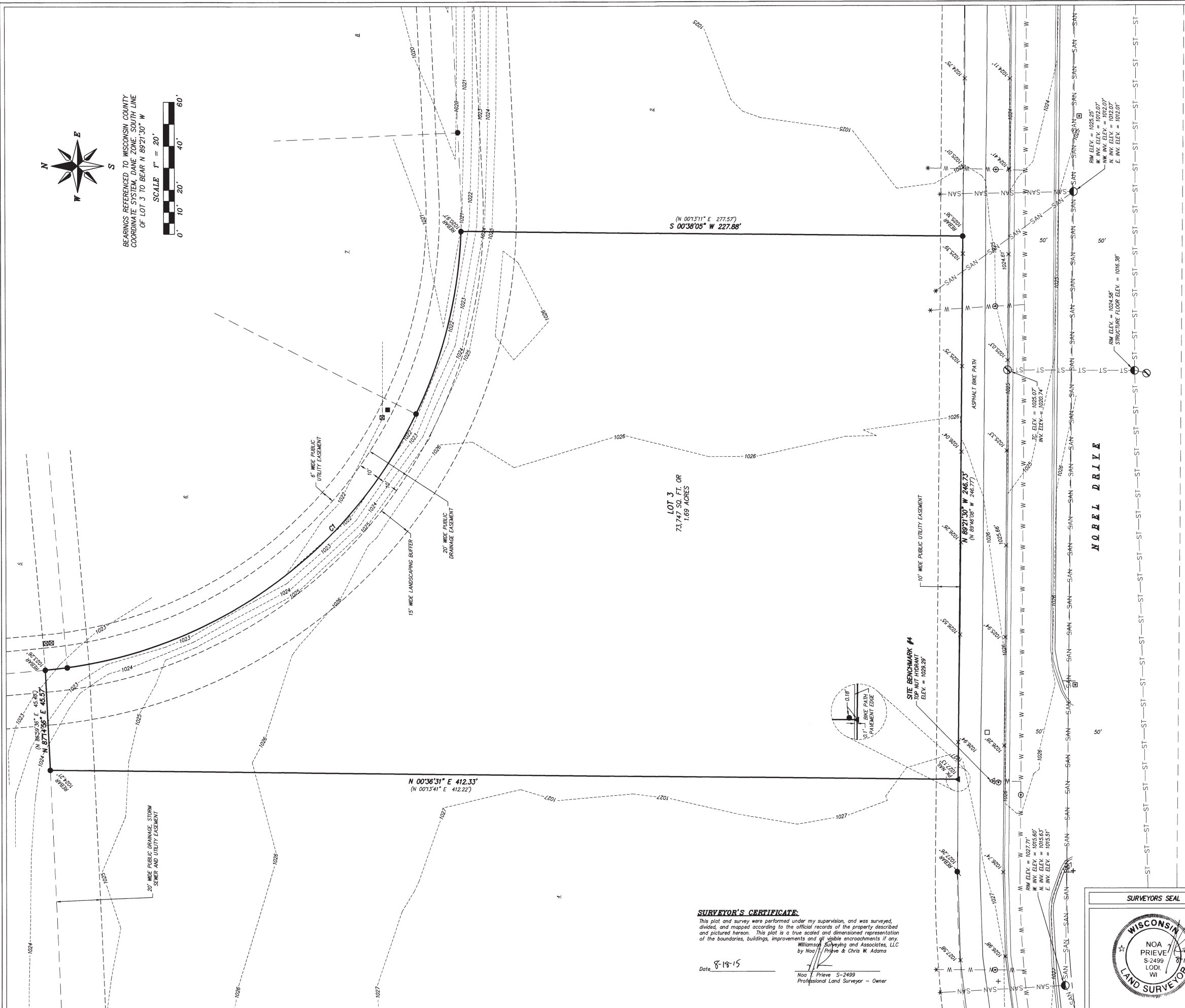
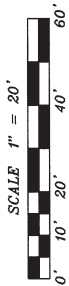


## **APPENDIX A**

Existing Conditions Exhibit



BEARINGS REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM, DANE ZONE. SOUTH LINE OF LOT 3 TO BEAR N 89°21'30" W



2.4

**CURVE TABLE**

CHORD BEARING	CHORD DISTANCE	ARC LENGTH	DELTA ANGLE
1024.00°	10.46	10.46	180.00
1024.00°	10.46	10.46	180.00
1024.00°	10.46	10.46	180.00

**PREPARED FOR:**  
RDC DEVELOPMENT, LLC  
1000 W. MAIN STREET  
MADISON, WISCONSIN 53704

**DESCRIPTION:**  
LOT 3, TECHLANDS, LOCATED IN THE SE 1/4 OF THE NW 1/4, SECTION 15, T6N, R9E, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

**LINE LEGEND**

- SAN — = SANITARY SEWER
- ST — = STORM SEWER
- W — = WATER MAIN
- C — = UNDERGROUND GAS MAIN

**LEGEND**

- = SET 3/4"x18" REBAR
- = WT 1.5 LB PER LIN FT
- = FOUND 3/4" REBAR
- ▲ = FOUND 1-1/4" REBAR
- = FOUND PK NAIL
- (M) = RECORDED AS
- 900.00'x = SPOT GRADE ELEVATION
- \* = UTILITY SERVICE MARKER POST
- + = STREET/PARKING SIGN
- = LIGHT POLE
- = STORM INLET/ GRATE INLET
- = MANHOLE
- △ = FIRE HYDRANT
- ⊕ = GAS VALVE
- ⊕ = WATER VALVE
- ⊕ = UTILITY PEDESTAL
- ⊕ = UTILITY BOX
- = UTILITY BASE VAULT
- IC = TOP OF CURB
- INV = INVERT

- NOTES:**
- 1) SURVEY WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT FOR THE SUBJECT TRACT OR ADJACENTS AND IS THEREFORE SUBJECT TO ANY EASEMENTS, AGREEMENTS, RESTRICTIONS AND STATEMENT OF FACTS REVEALED BY EXAMINATION OF SUCH DOCUMENTS.
  - 2) METLANDS, IF PRESENT, HAVE NOT BEEN DEICATED OR SHOWN.
  - 3) FLOOD PLAIN, IF PRESENT, HAS NOT BEEN LOCATED OR SHOWN.
  - 4) ELEVATIONS REFERENCED TO MAND 88.
  - 5) MANHOLE RIMS IN STREETS ARE SET FLUSH WITH UNDER COARSE OF PAVEMENT. RIM ELEVATIONS WILL CHANGE WHEN THEY ARE ADJUSTED BEFORE FINAL PAVING OF STREETS.
  - 6) UTILITIES SHOWN FROM OBSERVED EVIDENCE ONLY. NO DIGGER'S HOTLINE REQUEST WAS MADE. CALL DIGGER'S HOTLINE BEFORE ANY CONSTRUCTION OR EXCAVATION IS DONE.

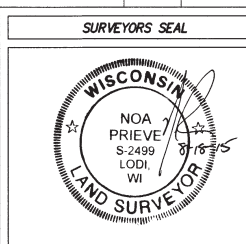
**SURVEYOR'S CERTIFICATE**

This plat and survey were performed under my supervision, and was surveyed, divided, and mapped according to the official records of the property described and pictured hereon. This plat is a true scaled and dimensioned representation of the boundaries, buildings, improvements and all visible encroachments if any.

Williamson Surveying and Associates, LLC  
by Noa T. Prieve & Chris W. Adams

Date: 8-19-15

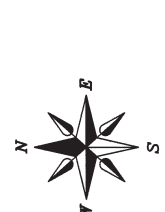
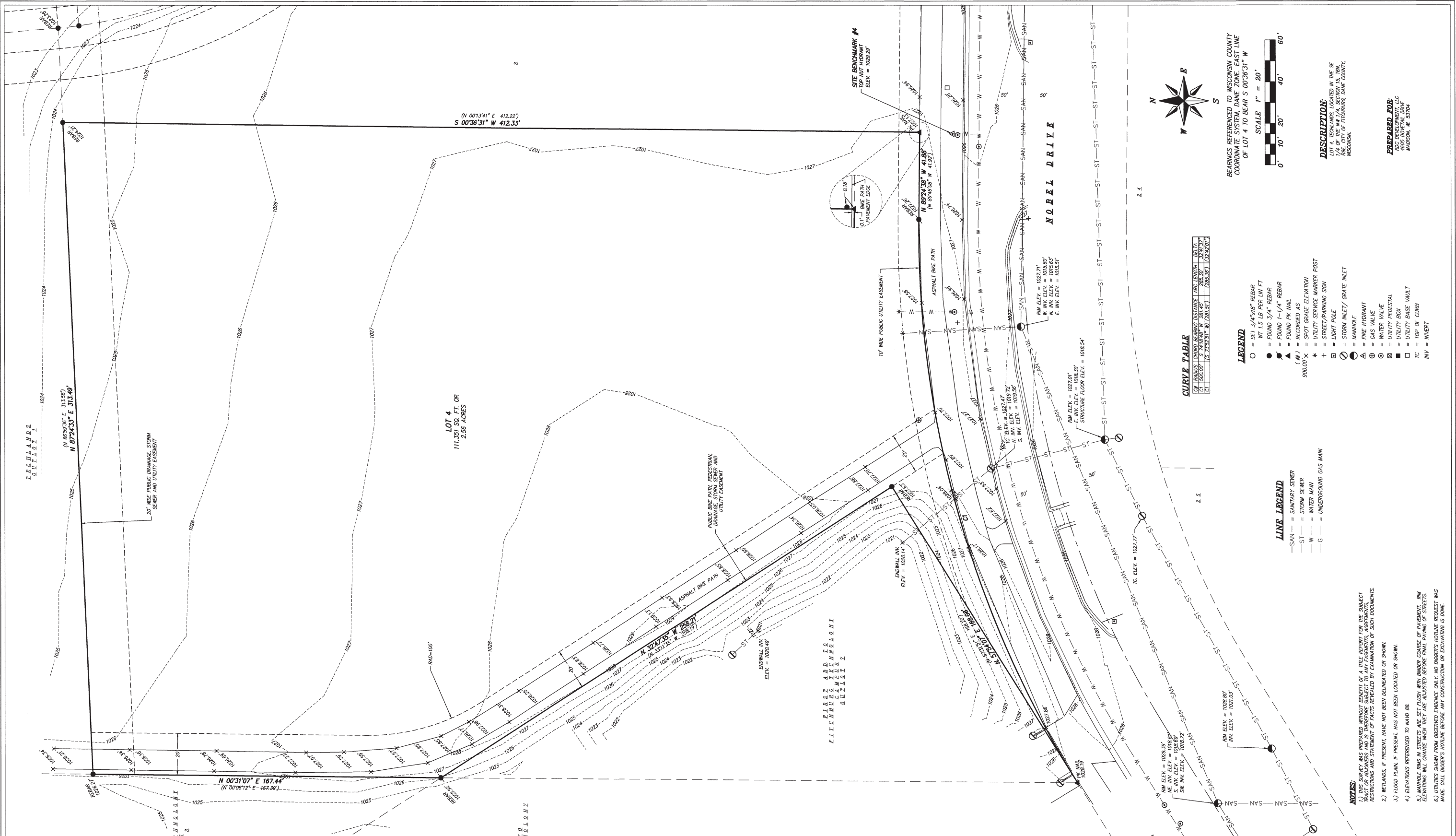
Noa T. Prieve S-2499  
Professional Land Surveyor - Owner



**WILLIAMSON SURVEYING & ASSOCIATES, LLC**  
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597.  
NOA T. PRIEVE & CHRIS W. ADAMS  
PROFESSIONAL LAND SURVEYORS  
PHONE: 608-255-5705 FAX: 608-849-9760 WEB: WILLIAMSONSURVEYING.COM

**TOPOGRAPHIC SURVEY**  
LOT 3, TECHLANDS, LOCATED IN THE SE 1/4 OF THE NW 1/4, SECTION 15, T6N, R9E, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

DATE	JULY 27, 2015	REVISION DATE	AUGUST 18, 2015	CHECK BY	N.T.P.
SCALE	1" = 20'	DRAWING NO.	15W-262		
DRAWN BY	SCOTT KOFKARNUS	SHEET			1 OF 1



BEARINGS REFERENCED TO WISCONSIN COUNTY  
COORDINATE SYSTEM, DANE ZONE, EAST LINE  
OF LOT 4 TO BEAR S 00°36'31\" W



**DESCRIPTION:**  
LOT 4, TECHLANDS, LOCATED IN THE SE  
1/4 OF THE NW 1/4, SECTION 15, T8N,  
R9E, CITY OF FITCHBURG, DANE COUNTY,  
WISCONSIN.

**PREPARED FOR:**  
RSC DEVELOPMENT, LLC  
4655 DOWETAL DRIVE  
MADISON, WI 53704

**CURVE TABLE**

CHORD BEARING	CHORD DISTANCE	ARC LENGTH	DELTA
CT	500.00	S 74°18'48\" W 281.43'	82°14'39\"
CT	500.00	S 73°52'51\" W 281.51'	79°53'07\"

- LEGEND**
- = SET 3/4\" REBAR
  - = SET 1.5 LB PER LIN FT
  - = FOUND 3/4\" REBAR
  - = FOUND 1-1/4\" REBAR
  - ▲ = FOUND PK NAIL
  - (#) = RECORDED AS
  - 900.00' X = SPOT GRADE ELEVATION
  - \* = UTILITY SERVICE MARKER POST
  - + = STREET/PARKING SIGN
  - ⊗ = LIGHT POLE
  - ⊙ = STORM INLET/ GRATE INLET
  - ⊖ = MANHOLE
  - ⊕ = FIRE HYDRANT
  - ⊗ = GAS VALVE
  - ⊙ = WATER VALVE
  - ⊗ = UTILITY PEDESTAL
  - ⊙ = UTILITY BOX
  - ⊖ = UTILITY BASE VAULT
  - TC = TOP OF CURB
  - INV = INVERT

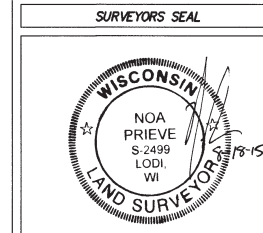
- LINE LEGEND**
- SAN- = SANITARY SEWER
  - ST- = STORM SEWER
  - W- = WATER MAIN
  - G- = UNDERGROUND GAS MAIN

- NOTES:**
- 1.) THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT FOR THE SUBJECT PROPERTY. THE SURVEYOR HAS CONDUCTED VISUAL INSPECTIONS AND RECONSTRUCTIONS AND STATEMENT OF FACTS REVEALED BY EXAMINATION OF SUCH DOCUMENTS.
  - 2.) METLANDS, IF PRESENT, HAVE NOT BEEN DELINEATED OR SHOWN.
  - 3.) FLOOD PLAIN, IF PRESENT, HAS NOT BEEN LOCATED OR SHOWN.
  - 4.) ELEVATIONS REFERENCED TO MAND 88.
  - 5.) MANHOLE RIMS IN STREETS ARE SET FLUSH WITH BINDER COURSE OF PAVEMENT. RIM ELEVATIONS WILL CHANGE WHEN THEY ARE ADJUSTED BEFORE FINAL PAVING OF STREETS.
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**SURVEYOR'S CERTIFICATE.**  
This plot and survey were performed under my supervision, and was surveyed, divided, and mapped according to the official records of the property described and pictured hereon. This plot is a true scaled and dimensioned representation of the boundaries, buildings, improvements and all visible encroachments if any. Williamson Surveying and Associates, LLC by Noa T. Prieve & Chris W. Adams

Date Aug. 19, 2015

Noa T. Prieve S-2499  
Professional Land Surveyor - Owner



**WILLIAMSON SURVEYING & ASSOCIATES, LLC**  
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597.  
NOA T. PRIEVE & CHRIS W. ADAMS  
PROFESSIONAL LAND SURVEYORS  
PHONE: 608-255-5705 FAX: 608-849-9760 WEB: WILLIAMSONSURVEYING.COM

**TOPOGRAPHIC SURVEY**

LOT 4, TECHLANDS, LOCATED IN THE SE 1/4 OF THE NW 1/4, SECTION 15, T8N, R9E, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

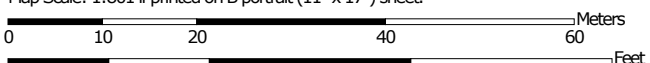
DATE	JULY 27, 2015	REVISION DATE:	AUGUST 18, 2015	CHECK BY:	N.T.P.
SCALE:	1" = 20'	DRAWING NO.:	15W-262	SHEET:	1 OF 1
DRAWN BY:	SCOTT KOFFARNUS				

## **APPENDIX B**

Soils Information




Map Scale: 1:801 if printed on B portrait (11" x 17") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

### MAP LEGEND

**Area of Interest (AOI)**









 Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

**Soil Rating Lines**

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

**Soil Rating Points**






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


**Water Features**

 Streams and Canals

**Transportation**

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

**Background**

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: <http://websoilsurvey.nrcs.usda.gov>  
 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: Dane County, Wisconsin  
 Survey Area Data: Version 14, Sep 25, 2015

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

Date(s) aerial images were photographed: Data not available.

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

## Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Dane County, Wisconsin (WI025)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DnB	Dodge silt loam, 2 to 6 percent slopes	C	1.6	41.7%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	B	0.5	14.3%
ScB	St. Charles silt loam, 2 to 6 percent slopes	B	1.4	37.8%
TrB	Troxel silt loam, 1 to 3 percent slopes	B	0.2	6.2%
<b>Totals for Area of Interest</b>			<b>3.8</b>	<b>100.0%</b>

## Description

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

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

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

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

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

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

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

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher



### SOIL EVALUATION - STORM

in accordance with Comm 82.365 & 85, Wis. Adm. Code

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

Please print all information.

Personal information you provide may be used for secondary purposes (Privacy Law, s.15.04 (1) (m)).

County	Dane
Parcel I.D.	060915265342
Review by	Date

Property Owner Techlands, LLC	Property Location Govt. Lot SE 1/4 NW 1/4 S 15 T 06 N R 09 E
Property Owner's Mailing Address 4605 Dovetail Drive	Lot # 4 Block # Techlands Subd. Name or CSM#
City Madison State WI Zip Code 53704 Phone Number	<input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town Nearest Road Fitchburg Nobel Drive

Drainage area <input type="checkbox"/> sq. ft. <input type="checkbox"/> acres Optional: Test Site Suitable for (check all that apply) <input type="checkbox"/> Irrigation <input type="checkbox"/> Bioretention trench <input type="checkbox"/> Trench(es) <input type="checkbox"/> Rain Garden <input type="checkbox"/> Grassed Swale <input type="checkbox"/> Reuse <input type="checkbox"/> Infiltration trench <input type="checkbox"/> SDS (>15' wide) <input type="checkbox"/> Other _____	Hydraulic Application Test Method <input checked="" type="checkbox"/> Morphological Evaluation <input type="checkbox"/> Double-Ring Infiltrometer <input type="checkbox"/> Other (Specify) _____
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------


1 Obs. #  Boring  Pit Ground Surface Elev. 1027 ft Depth to limiting factor 84 in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
1	0 - 6	10 YR 4/2	None	SiL(Fill)	Variable	Variable	as	<5	0.13
2	6 - 84	10 YR 4/3, 3/1, 3/2, 5/1	None	SiCL (Fill)	Variable	Variable	as	10 - 15	0.04
3	84 - 134	2.5 Y 5/3, 10 YR 5/2	C2D 7.5 YR 5/6	SiCL	2msbk, 1msbk	mvfi, mfi		<5	0.04

2 Obs. #  Boring  Pit Ground Surface Elev. 1027.5 ft Depth to limiting factor 83 in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
1	0 - 4	10 YR 2/2	None	SiL(Fill)	Variable	Variable	as	<5	0.13
2	4 - 21	7.5 YR 4/4	None	SL (Fill)	Variable	Variable	gs	10 - 15	0.5
3	21 - 83	10 YR 4/3, 5/2	C2P 7.5YR5/6	SiCL (Fill)	Variable	Variable	as	10 - 15	0.04
4	83 - 124	10 YR 5/4, 5/2	F1F 10 YR 5/6, C2P 7.5YR5/6	SiCL	2msbk, 1msbk	mvfi, mfi		<5	0.04

Groundwater encountered near 3.5 ft below existing grade in boring.

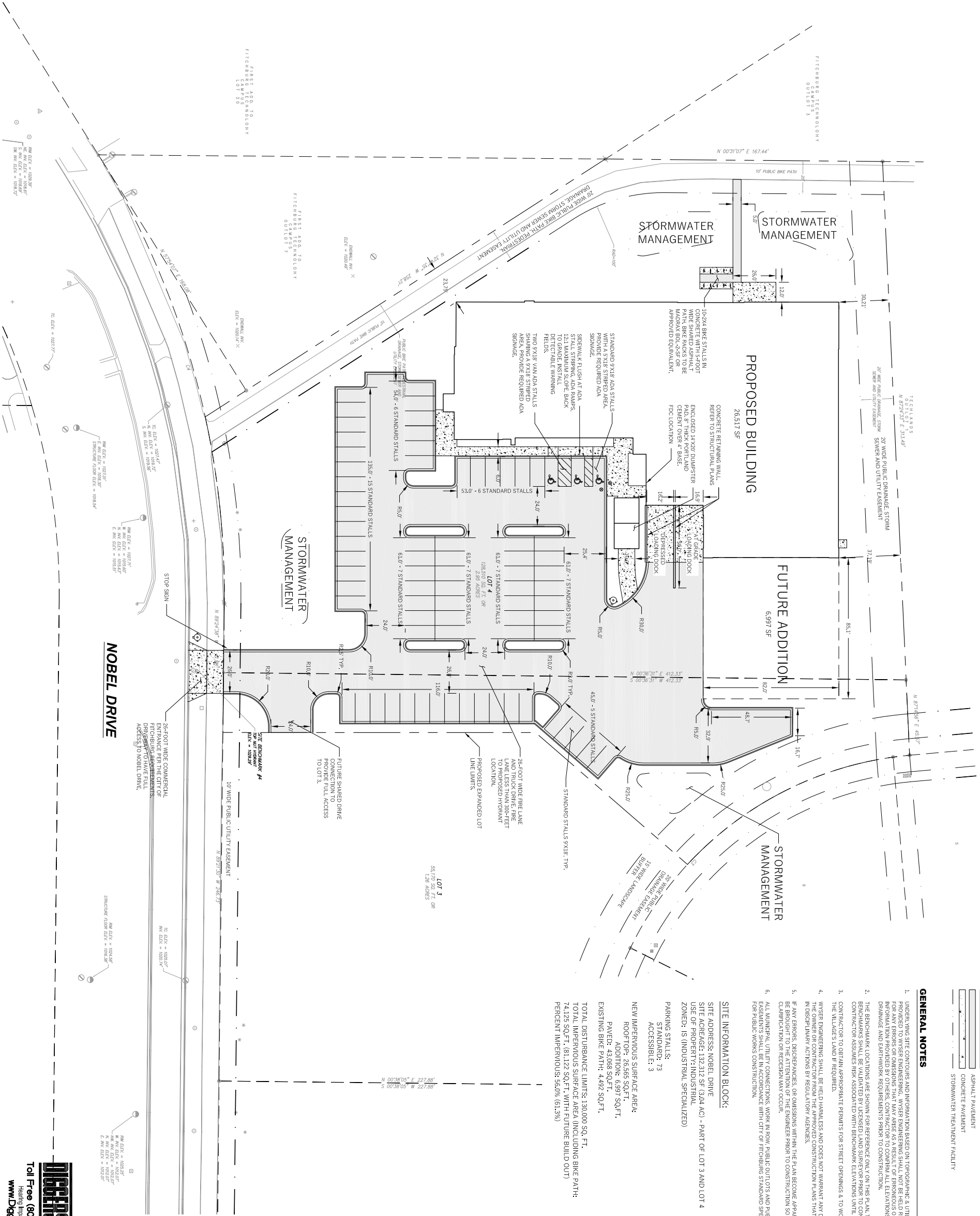
CST/PSS Name (Please Print) DAVID A STAAB	Signature 	CST/PSS Number 1042602
Address 641 PIPER DRIVE, MADISON, WI	Date Evaluation Conducted 5/17/2016	Telephone Number 608/279-4530





## **APPENDIX C**

Proposed Construction Plans



**LEGEND (PROPOSED)**

- PROPOSED PROPERTY BOUNDARY
- - - EASEMENT
- ▭ BUILDING FOOTPRINT
- ▭ 18" CURB AND GUTTER
- ▭ ASPHALT PAVEMENT
- ▭ CONCRETE PAVEMENT
- ▭ STORMWATER TREATMENT FACILITY

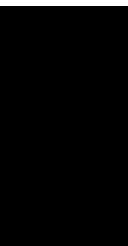


**GENERAL NOTES**

1. UNDERLYING SITE CONDITIONS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DETAILS PROVIDED TO WYSER ENGINEERING. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CORRECT ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE VILLAGE'S LAND USE REQUIREMENTS.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY OPERATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISPARATE ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REVISION MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC UTILITIES AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

**SITE INFORMATION BLOCK:**

**SITE ADDRESS:** NOBEL DRIVE  
**SITE ACREAGE:** 132,312 SF (3.04 AC) - PART OF LOT 3 AND LOT 4  
**USE OF PROPERTY:** INDUSTRIAL ZONED - IS (INDUSTRIAL SPECIALIZED)  
**PARKING STALLS:** STANDARD: 73 ACCESSIBLE: 3  
**NEW IMPERVIOUS SURFACE AREA:** ROOFTOP: 26,559 SQ.FT. PAVED: 43,068 SQ.FT. ADDITION: 6,997 SQ.FT. EXISTING BIKE PATH: 4,492 SQ.FT.  
**TOTAL DISTURBANCE LIMITS:** 130,000 SQ. FT.  
**TOTAL IMPERVIOUS SURFACE AREA (INCLUDING BIKE PATH):** 74,125 SQ.FT. (61,122 SQ.FT. WITH FUTURE BUILD OUT) PERCENT IMPERVIOUS: 56.0% (61.3%)



LOT 4 NOBEL DRIVE - FITCHBURG TECHNOLOGY CAMPUS  
 FITCHBURG, WI 53711

CAMECA INSTRUMENTS, INC.  
 CITY OF FITCHBURG, DANE COUNTY, WI  
 Sheet Title:  
 SITE PLAN

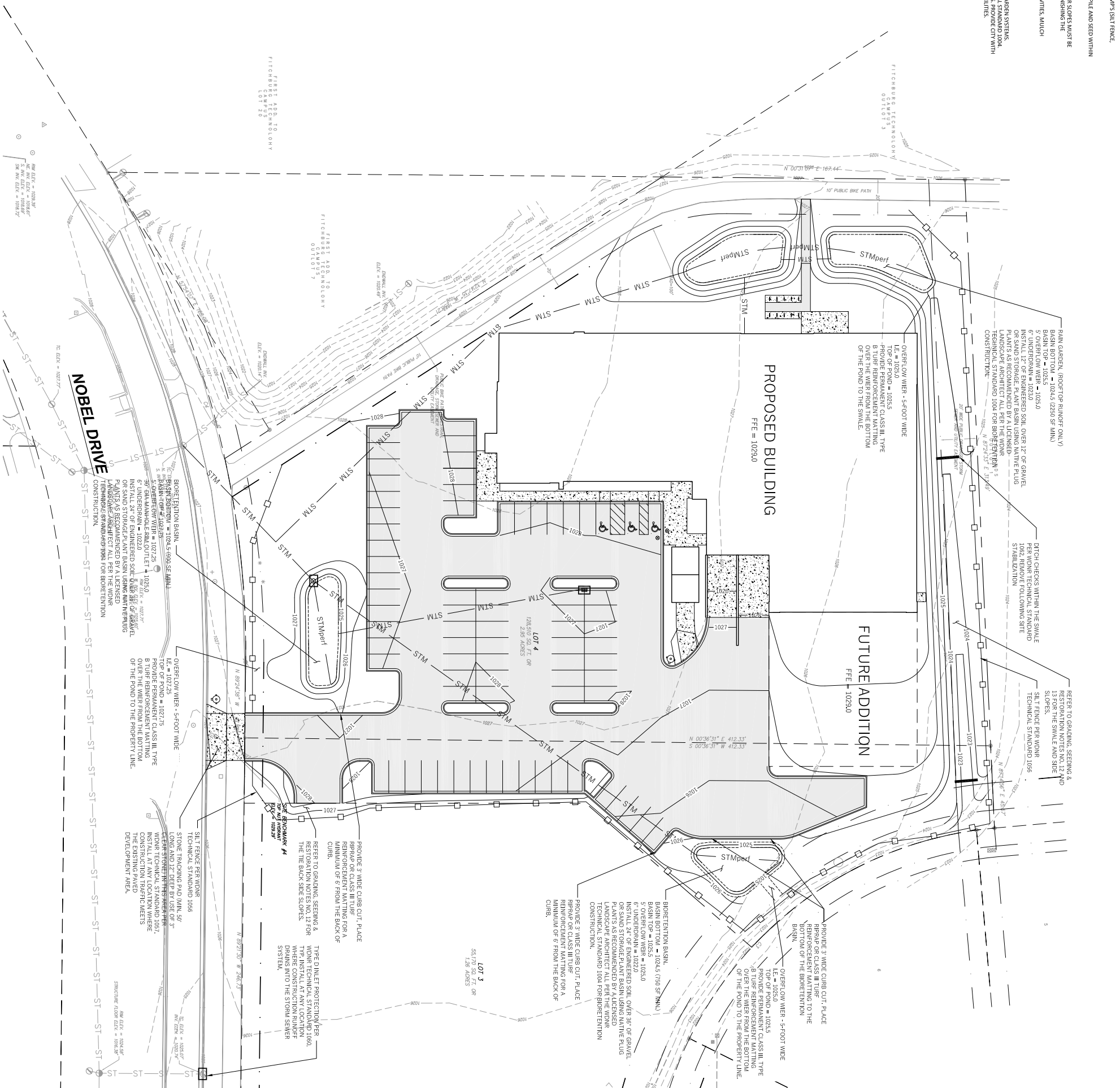
Revisions:	No.	Date:	Description:

Graphic Scale	0' 15' 30' 45'
Wysers Number	16-0328
Set Type	PERMIT
Date Issued	05/20/2016
Sheet Number	C100

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**EROSION CONTROL CONSTRUCTION SCHEDULE**

- 06/15/2016 PRE-DEVELOPMENT CONSTRUCTION MEETING, INSTALL PERMITS BARRIERS (SILT FENCE, STONE TRACKING PAD, ETC.)
- 06/27/2016 STRIP TOPSOIL AND STOCKPILE. PROVIDE SILT FENCE AROUND STOCKPILE AND SEED WITHIN 7 DAYS.
- 07/15/2016 MASS GRADING / SUBGRADE PREPARATION (NOTE ALL 4:1 OR GREATER SLOPES MUST BE GRADDED AS SOON AS PRACTICABLE AND, AT A MINIMUM, WITHIN 14 DAYS OF FINISHING THE SLOPE).
- 09/01/2016 RE-OPEN THE SITE FOR GRADING AND UTILITY CONSTRUCTION.
- 09/01/2016 FINAL SEEDING AND MULCHING, INSTALL ROBERTSON AND SAND GARDEN SYSTEMS, INSTALL ROBERTSON VEGETATION PLAN IN ACCORDANCE WITH WISCONSIN TECHNICAL STANDARD 1006, FIN AAY LANDSCAPING ISSUES INCLUDING ROBERTSON AND SAND GARDEN AREAS, PROVIDE CITY WITH A PDS DEVELOPMENT AS-BUILT SURVEY OF ALL STORMWATER MANAGEMENT FACILITIES.



**LEGEND (PROPOSED)**

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- 18" CURB AND GUTTER
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PROPOSED MAJOR CONTOUR
- 1180' PROPOSED MINOR CONTOUR
- STM
- PROPOSED STORM SEWER
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK



**GENERAL NOTES**

- UNDERLYING SITE CONDITIONS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA IS PROVIDED TO WISER ENGINEERING. WISER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CORRECT ALL ELEVATIONS, GENERAL DIMENSIONS AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
- THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY. ON THIS PLAN, THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONTRACTED CONTRACTOR OBTAIN APPROPRIATE RESULTS FOR STREET OPENINGS & TO WORK WITHIN THE WILLAGE'S LAND IF REQUIRED.
- WISER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY OPERATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISPLEASANT ACTIONS BY REGULATORY AGENCIES.
- IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
- ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC UTILITIES AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

**CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS**

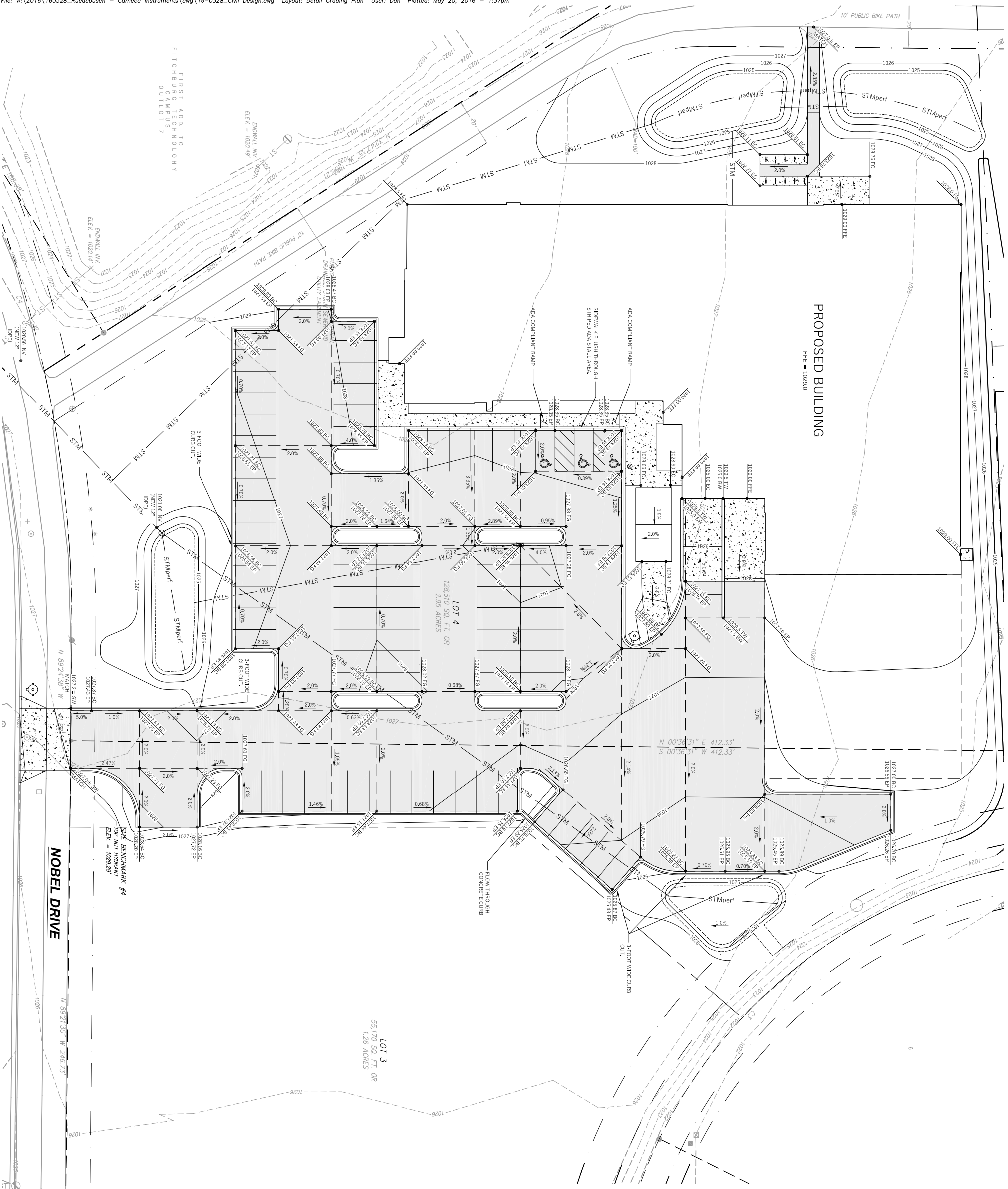
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS (dnr.wisconsin.gov) AND CITY OF FITCHBURG REQUIREMENTS.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
- ENGINEER / CITY OF FITCHBURG HAS THE RIGHT TO REQUIRE CONTRACTOR TO IMPLEMENT ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY.
- EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED ONCE PER WEEK AND MUNICIPAL REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES THROUGHOUT THE CONSTRUCTION PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL PRACTICES THROUGHOUT THE CONSTRUCTION PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL PRACTICES THROUGHOUT THE CONSTRUCTION PERIOD.
- DEWATERING PRACTICES SHALL COMPLY WITH TECHNICAL STANDARD 1061.
- DUST CONTROL SHALL BE MITIGATED IN ACCORDANCE WITH WISER TECHNICAL STANDARD 1068.
- ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING FINAL GRADING ACTIVITIES.
- SEED MIX AND RATE SHALL BE AT A MINIMUM IN ACCORDANCE WITH WISER TECHNICAL STANDARD 1069.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE MUNICIPAL AND WISER (NOI) EROSION CONTROL PERMIT AND FOLLOWING ALL APPLICABLE REQUIREMENTS.
- TRACKED SOIL FROM THE SITE TO THE PUBLIC STREET SHALL BE REMOVED AT THE END OF EACH WORK DAY OR AS DIRECTED BY THE CITY ENGINEER.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE VEGETATION PLAN FOR ENGINEER / ARCHITECT REVIEW AND APPROVAL. VEGETATION PLAN SHALL BE IN ACCORDANCE WITH WISER TECHNICAL STANDARD 1066.
- CONTRACTOR TO PROVIDE SOLID ID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.

**GRADING, SEEDING & RESTORATION NOTES**

- ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
- AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
- RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
- AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
- APPLY ANONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
- INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
- CONTRACTOR SHALL CHISEL, PLow OR DEEP TILL WITH DOUBLE TINES THE STORMWATER MANAGEMENT FACILITY JUST PRIOR TO SEEDING AND MULCHING TO PROMOTE INFILTRATION, AND MULCHING.
- CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SEEDING AND MULCHING.
- MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION (E7 OF STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION (WISDOT 2010)
- PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
- TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
  - TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER SQUAD FOOT.
  - WISDOT PAL CLASS II URBAN, TYPE A EROSION CONTROL MAT.
- ALL SLOPES GREATER THAN 4:1 SHALL BE STABILIZED WITHIN 2 WEEKS OF DISTURBANCE WITH TEMPORARY SEEDING AND CLASS II URBAN, TYPE A EROSION MATTING.
- ALL DRAINAGE SWALES SHALL BE STABILIZED WITH CLASS II TYPE C MATTING.

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<p>CAMECA INSTRUMENTS, INC.</p> <p>CITY OF FITCHBURG, DANE COUNTY, WI</p> <p>Sheet Title: GRADING &amp; EROSION CONTROL PLAN</p>		<p><b>RUEDEBUSCH DEVELOPMENT &amp; CONSTRUCTION</b></p> <p>DEVELOPMENT • CONSTRUCTION • BROKERAGE • CONSULTING          4605 DOVETAIL DRIVE MADISON, WI 53704          PHONE 608.249.2012 FAX 608.249.2032</p>	<p>LOT 4 NOBEL DRIVE – FITCHBURG TECHNOLOGY CAMPUS          FITCHBURG, WI 53711</p>					
<p>Revisions:</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Date:</th> <th>Description:</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	Date:	Description:				<p>Graphic Scale</p> <p>0' 15' 30' 45'</p>	<p>Wysier Engineering logo</p> <p><b>WYSIER ENGINEERING</b></p>
No.	Date:	Description:						
<p>Sheet Number</p> <p>C200</p>	<p>Date Issued</p> <p>05/20/2016</p>	<p>Set Type</p> <p>PERMIT</p>	<p>Wysier Number</p> <p>16-0328</p>					



6

**LEGEND (PROPOSED)**

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- 1" CURB AND GUTTER
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 1025 PROPOSED MAJOR CONTOUR
- 1027 PROPOSED MINOR CONTOUR
- STM PROPOSED STORM SEWER
- 1026.35 ELEV. SPOT GRADE
- DRAINAGE GRADE BREAK
- DRAINAGE ARROW



**GENERAL NOTES**

1. UNDERLIE SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITIES DATA AS PROVIDED TO WYSER ENGINEERING. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE VILLAGER'S LAND IF REQUIRED.
3. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY REGULATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
4. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT THEM PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REVISION MAY OCCUR.
5. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC UTILITIES SHALL BE IDENTIFIED AND MARKED WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.



CAMECA INSTRUMENTS, INC.

CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title:  
GRADING & EROSION CONTROL PLAN

**RUEDEBUSCH DEVELOPMENT & CONSTRUCTION**  
 DEVELOPMENT • CONSTRUCTION • BROKERAGE • CONSULTING  
 4605 DOVETAIL DRIVE MADISON, WI 53704  
 PHONE 608.249.2012 FAX 608.249.2032

LOT 4 NOBEL DRIVE - FITCHBURG TECHNOLOGY CAMPUS  
 FITCHBURG, WI 53711

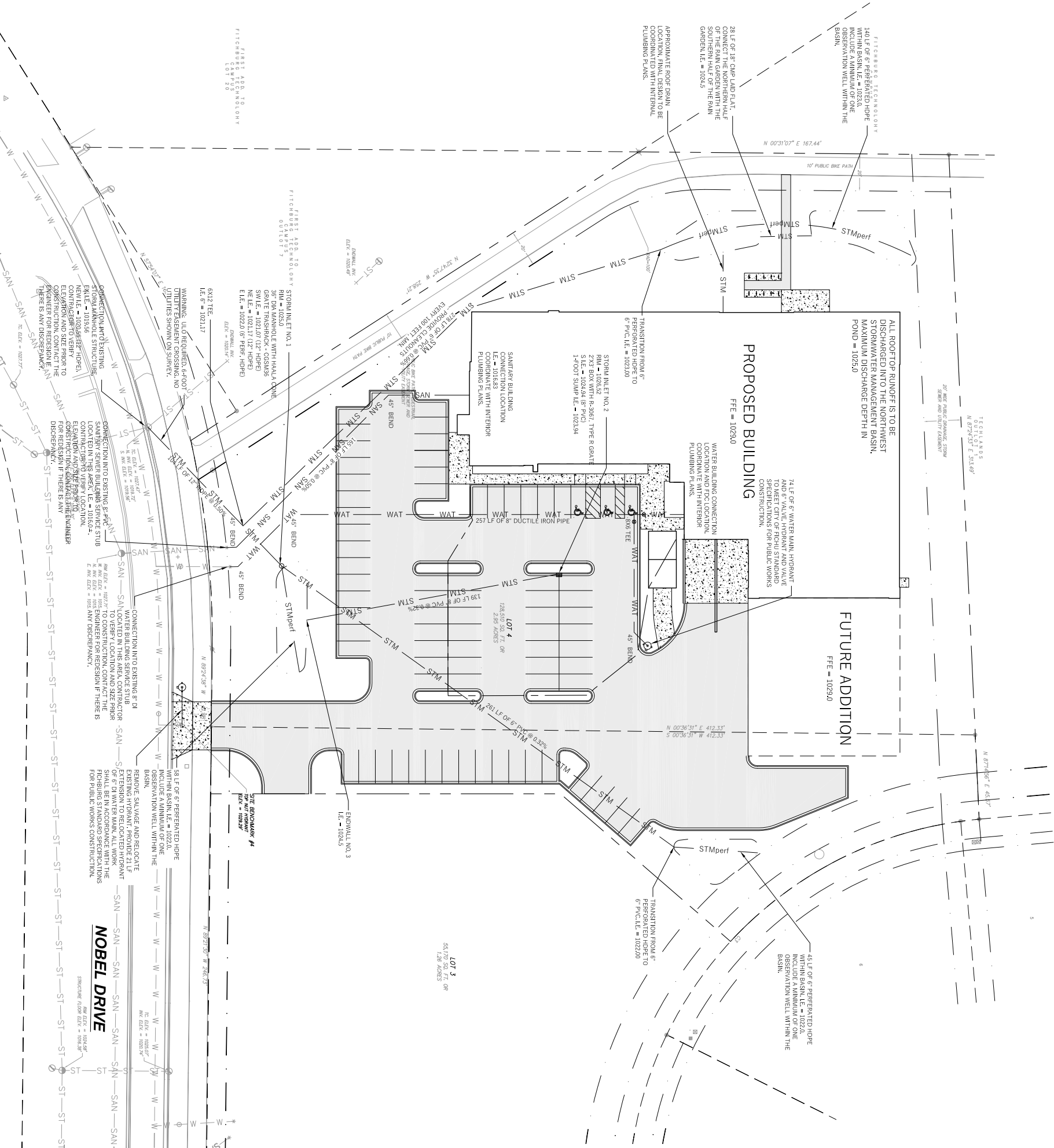
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Revisions:	No.	Date:	Description:

Graphic Scale	0" 10' 20' 30'
Wysers Number	16-0328
Set	PERMIT
Date Issued	05/20/2016
Sheet Number	C201



- LEGEND (PROPOSED)**
- PROPOSED PROPERTY BOUNDARY
  - EASEMENT
  - BUILDING FOOTPRINT
  - 1\"/>
- GENERAL NOTES**
1. UNDERLIE SITE CONDITIONS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA IS PROVIDED TO WYSER ENGINEERING. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFRONT ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
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  3. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY REGULATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISPLEASANT ACTIONS BY REGULATORY AGENCIES.
  4. IF ANY ERRORS, OMISSIONS, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REVISION MAY OCCUR.
  5. ALL UNDERGROUND UTILITY CONNECTIONS WITHIN ROW PUBLIC UTILITIES AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

- UTILITY NOTES**
1. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
  2. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
  3. CONTRACTORS SHALL VERIFY ALL EXISTING LOCATIONS AND SIZES OF SANITARY, WATER AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS.
  4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ENGINEERING STANDARDS, SPECIFICATIONS AND REQUIREMENTS OF THE MUNICIPALITY AND WISCONSIN AND WYSER.
  5. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
    - EXAMINING ALL SITES CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE PLANS AND VERIFYING ALL EXISTING UTILITIES, LOCATIONS, AND SIZES OF SANITARY, WATER AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS.
    - OBTAINING ALL PERMITS INCLUDING PERMIT FEES, TAP FEES, WATER OCCUPANCY, BONDS, AND ALL OTHER FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY.
    - VERIFYING ALL UTILITIES ARE PROTECTED AND NOT TO BE DISTURBED OR DAMAGED. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS RESOLVED.
    - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
    - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
    - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
  6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE EXISTING IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DIMENSIONS AND LOCATIONS OF ALL UTILITIES CAN BE VERIFIED. ANY ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
  7. ALL SANITARY SEWER, SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SERVICES, STORM SERVICES, WATER MAIN AND WATER SERVICES SHALL BE INSTALLED WITH A 6\"/>

8. GRANULAR BACKFILL MATERIALS ARE REQUIRED IN ALL UTILITY TRENCHES UNDER SIDEWALKS AND PROPOSED PAVED AREAS UNLESS OTHERWISE SPECIFIED BY A GEO-TECHNICAL ENGINEER. ALL TRENCHES SHALL BE PROTECTED BY CURBS OR OTHER MEANS. ALL PAVEMENT PATCHING SHALL COMPLY WITH THE CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. ADDITIONAL PAVEMENT MILLING AND OVERLAY MAY BE REQUIRED BY PERMIT.
9. CONTRACTOR SHALL NOTIFY THE MUNICIPAL PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS BEFORE CONNECTING TO PUBLIC UTILITIES.
10. ALL NON-METALLIC BUILDING SEWER AND WATER SERVICES MUST BE ACCOMPANIED BY 1\"/>

21. ALL PRIVATE STORM BUILDING PIPE AND TUBING SHALL CONFORM TO SFS 38.40-3.1.
22. ALL PRIVATE PPE AND TUBING FOR WATER SERVICE SHALL CONFORM TO SFS 38.40-4.
23. ALL PRIVATE PPE SHALL BE INSTALLED PER SFS 38.40-4 INCLUDING AT LEAST 8\"/>

**CAMECA INSTRUMENTS, INC.**

CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title:  
UTILITY PLAN

**RUEDEBUSCH DEVELOPMENT & CONSTRUCTION**

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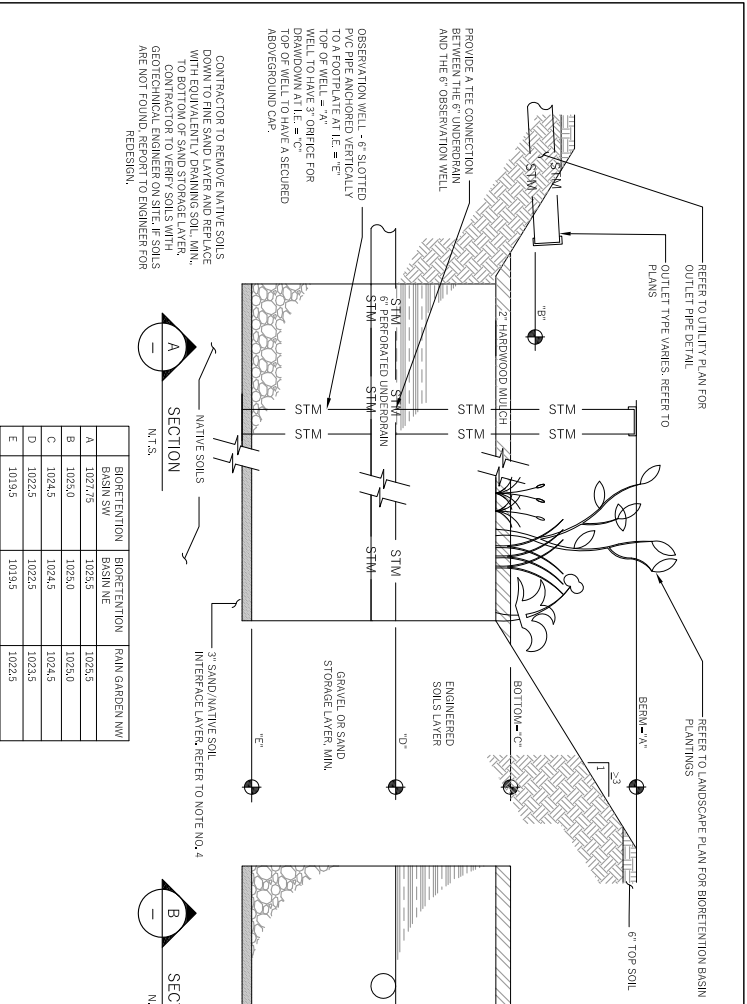
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Wysr Number: 16-0328

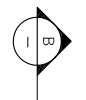
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Date Issued: 05/20/2016

Sheet Number: C300



BORERETENTION	BORERETENTION	RAIN GARDEN	NY
A	1027.2	1028.5	1028.5
B	1028.0	1029.0	1029.0
C	1024.5	1024.5	1024.5
D	1022.5	1022.5	1022.5
E	1019.5	1019.5	1022.5

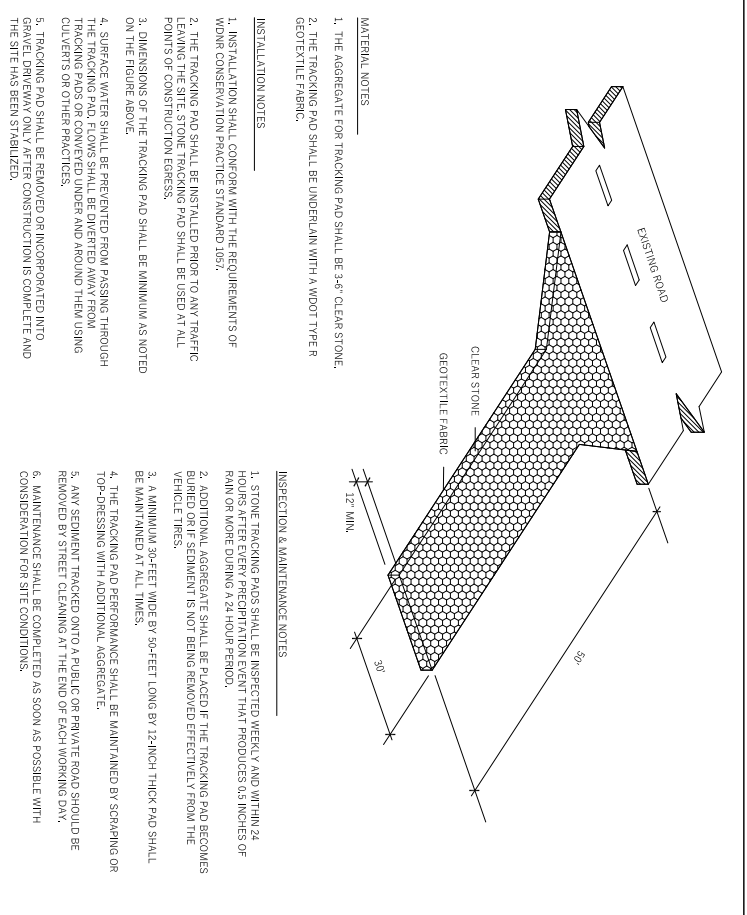


**GENERAL NOTES:**

- ALL CONSTRUCTION PRACTICES SHALL MEET THE SPECIFICATIONS OF THE WISCONSIN TECHNICAL STANDARD 1004 - BORETENTION FOR INFILTRATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THIS STANDARD AND CONSTRUCT THE BORETENTION DEVICE IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED HEREIN.
- CONTRACTOR SHALL INSTALL 2" OF HARDWOOD MULCH (AGE 1 MINIMUM) OF 12 MONTHS. PLACE A CLASS II EROSION CONTROL MAT (OVERLAPPED AND ANCHORED WITH MIN. 6" LONG HARDWOOD STAPLES OVER THE MULCH UNTIL VEGETATION HAS BEEN ESTABLISHED.
- CONTRACTOR SHALL INSTALL 18" OF ENGINEERED SOIL CONSISTING OF: 10% ASTM C33 SAND AND 90% CERTIFIED COMPOST (SEE GENERAL NOTE 4).
- CERTIFIED COMPOST SHALL CONSIST OF: >40% ORGANIC MATTER, <60% ASH CONTENT, pH OF 6-4, AND MOISTURE CONTENT OF 35-50% BY WEIGHT.
- SAND/NATIVE SOIL INTERFACE LAYER SHALL BE FORMED BY A LAYER OF SAND 3 INCHES DEEP WHICH IS VERTICALLY MIXED WITH THE NATIVE SOIL TO A DEPTH OF 2-4 INCHES. A CONSTRUCTION REPRESENTATIVE MUST BE ON SITE DURING OVER EXCAVATION TO APPROVE OF THE DEPTH AND SOIL TYPES.
- FILTER FABRIC SHALL BE PLACED ABOVE THE PERFORATED PIPE BETWEEN THE FEA GRAVEL AND THE ENGINEERED SOIL. A WIDTH OF 4 FEET CENTERED OVER THE FLOW LINE OF THE PIPE.
- ANNUAL FEE GRASS SHALL BE SEEDED AT 40 LB/ACR WITH THE SEED MIX IN THE AREAS SURROUNDING THE BASIN. ON SLOPE SLOPES AND REQUIRED TO ESTABLISH VEGETATION AT THE INVERT OF THE BASIN.
- RUNOFF MUST INFILTRATE WITHIN 48 HOURS. BASINS UNABLE TO MAINTAIN THESE RATES MUST BE DEEP TILLED, REGRADED, AND IF NECESSARY REPLANTED TO RESTORE ORIGINAL INFILTRATION RATES.
- ALL WORK TO BE CONDUCTED IN CONFORMANCE WITH APPLICABLE LOCAL, REGIONAL, AND STATE STORMWATER STANDARDS FOR THE PROJECT SITE AS APPROVED BY THE REGULATORY ENGINEER.
- OWNER OR CONTRACTOR MUST CONSULT LANDSCAPE ARCHITECT OR ECOLOGICAL PLANTING AGENCY FOR APPROPRIATE PLANTS AND PLANTING CONSIDERATIONS.

INFILTRATION DEVICES ARE DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WISCONSIN COUNTY, MUNICIPALITY, AND ENGINEERING STANDARD OF CARE). ALL DESIGNATED INFILTRATION AREAS (i.e., RAIN GARDENS, MULTIPLE BASINS, BRINE TRENCH DEVICES) SHALL BE FENCED PRIOR TO CONSTRUCTION AND BEHIND UNITS DRESSED AND PROTECTED TO PREVENT ACCESS BY THE PUBLIC. THE FENCING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTRIBUTING WATERSHED AREA MEETS ESTABLISHED VEGETATION REQUIREMENTS SET FORTH WITHIN THE RESPECTIVE WORK TECHNICAL STANDARDS. IF THE LOCATION OF THE INFILTRATION AREA CONFLICTS WITH CONSTRUCTION STAGING AND/OR CONSTRUCTION TRAFFIC IS DISTURBED, COMPENSATION MITIGATION WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR IS REQUIRED TO PROVIDE QUALIFIED STAFF FOR INSPECTION AND OBSERVATION OF THE CONSTRUCTION ACTIVITIES RELATING TO ALL JOB SITE REGULATORY COMPLIANCE INCLUDING THE PROTECTION AND CONSTRUCTION OF ALL STORMWATER MANAGEMENT FEATURES. ANY OBSERVATION OF PLAN OR SITE DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.



**CONSTRUCTION ENTRANCE (TRACKING PAD)**

**INSTALLATION NOTES:**

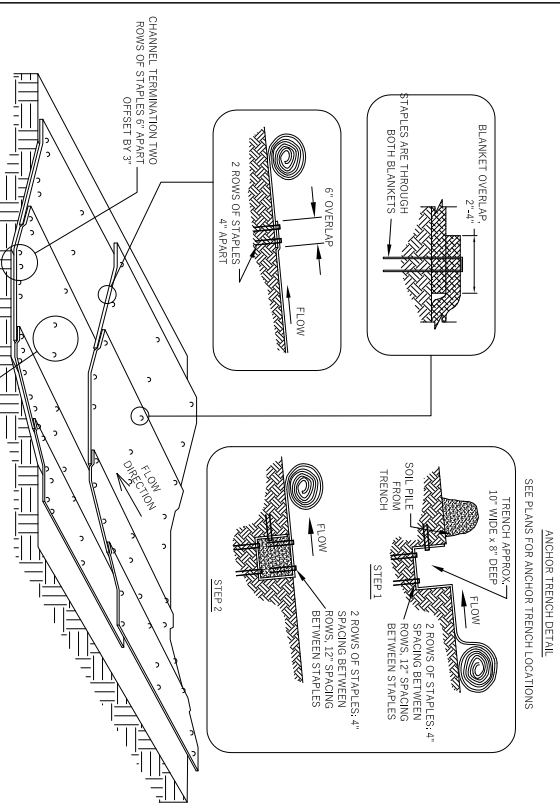
- INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WISCONSIN TECHNICAL STANDARD 1004.
- THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE. STONE TRACKING PAD SHALL BE USED AT ALL POINTS OF CONSTRUCTION EGRESS.
- DIMENSIONS OF THE TRACKING PAD SHALL BE MINIMUM AS NOTED ON THE DRAWING ABOVE.
- SURFACE WATER SHALL BE PREVENTED FROM RISING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERGED AWAY FROM CURBSIDES OR OTHER PRACTICES.
- TRACKING PAD SHALL BE REMOVED OR INCORPORATED INTO GRAVEL DRIVEWAY ONLY AFTER CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED.

**MATERIAL NOTES:**

- THE AGGREGATE FOR TRACKING PAD SHALL BE 3/4" CLEAR STONE.
- THE TRACKING PAD SHALL BE UNDERLAIN WITH A WOOL TYPE R GEOTEXTILE FABRIC.

**INSPECTION & MAINTENANCE NOTES:**

- STONE TRACKING PADS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD.
- ADDITIONAL AGGREGATE SHALL BE PLACED IF THE TRACKING PAD BECOMES BURIED OR IF SEDIMENT IS NOT BEING REMOVED EFFECTIVELY FROM THE VEHICLE TIRES.
- A MINIMUM 3/4" DEEP BY 30" FEET LONG BY 12" THICK TRACKING PAD SHALL BE MAINTAINED AT ALL TIMES.
- THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.
- ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING AT THE END OF EACH WORKING DAY.
- MAINTENANCE SHALL BE COMPLETED AS SOON AS POSSIBLE WITH CONSIDERATION FOR SITE CONDITIONS.



**BIORETENTION DEVICE**

**ANCHOR TRENCH DETAIL**  
SEE PLANS FOR ANCHOR TRENCH LOCATIONS

**TRENCH APPROACH**  
IF TRENCH APPROACH IS 4' OR GREATER

**STEP 1**  
SOIL PILE FROM TRENCH

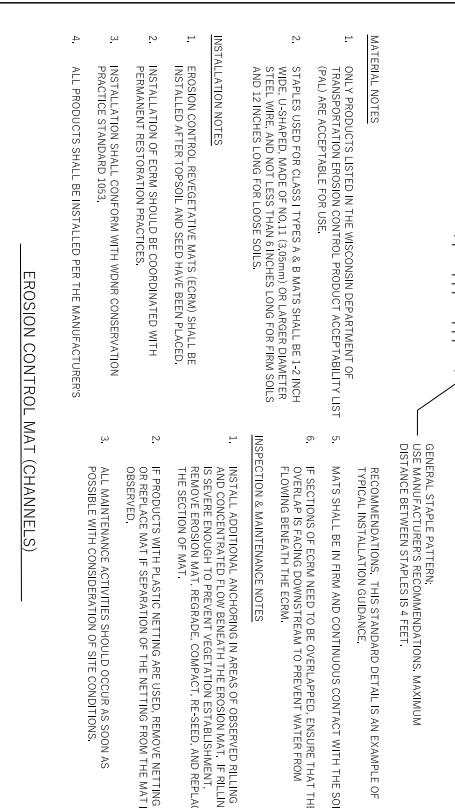
**STEP 2**  
2 ROWS OF STAPLES, 4" SPACING BETWEEN STAPLES

**GENERAL NOTES:**

- GEOTEXTILE FABRIC SHALL BE WOVEN AND SHALL CONFORM TO THE MATERIAL REQUIREMENTS LISTED IN SECTION 620 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, 2003 EDITION.
- INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WISCONSIN TECHNICAL STANDARD 1004.
- CONSTRUCT THE SILT FENCE IN AN ARC WITH THE ENDS POINTING UPSLOPE TO AVOID EROSION AROUND THE ENDS OF THE FENCE.
- FAILURE TO PROPERLY ANCHOR SILT FENCE COULD RESULT IN WATER AND SEDIMENT RELEASE BEHIND THE SILT FENCE. PROPERLY SECURE THE SILT FENCE INTO THE FENCE FROM A CONTINUOUS ROLL OF GEOTEXTILE TO AVOID JOINTS. WHERE JOINTS ARE NECESSARY, OVERLAP TO THE NEXT POST OR WRAP ADJOINING FABRICS TOGETHER AROUND THE JOINT POST AND TIGHTLY FASTEN.
- SILT FENCE SHALL NOT BE USED IN AREAS OF CONCENTRATED FLOW.

**INSPECTION & MAINTENANCE NOTES:**

- AT A MINIMUM, PERFORM INSPECTIONS WEEKLY AND WITHIN 24 HOURS OF PRECIPITATION EVENTS PRODUCING 0.5 INCHES OR MORE OF RAINFALL.
- INSPECT FENCES FOR DAMAGE TO STAPLES AND FABRIC (GREATER THAN 1/2 OF THE FENCE HEIGHT), AND INDICATIONS OF SCOUR AROUND THE EDGES.
- REPAIR OR REPLACE SILT FENCE WITHIN 24 HOURS OF IDENTIFYING AND DEFENDING.



**EROSION CONTROL MAT (CHANNELS)**

**MATERIAL NOTES:**

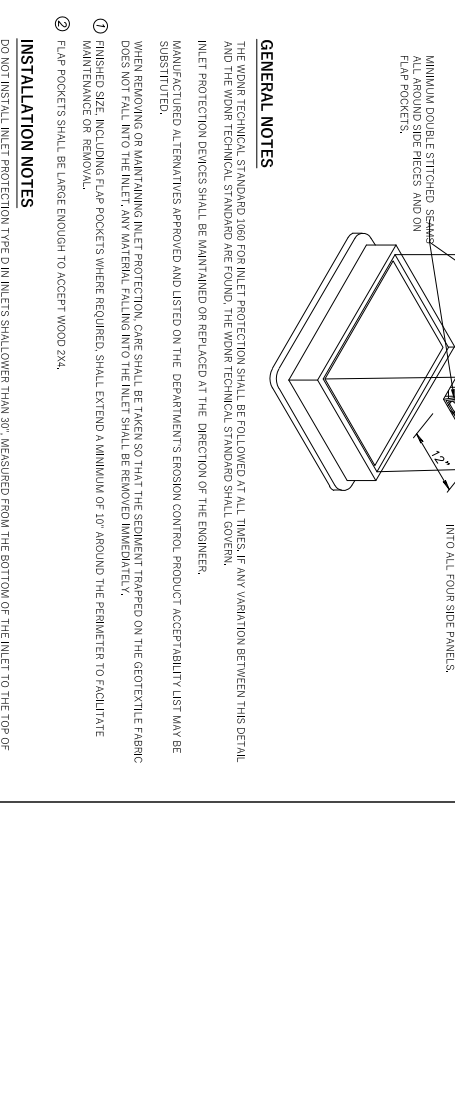
- ONLY PRODUCTS LISTED IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION (DOT) PRODUCT ACCEPTABILITY LIST (PAL) ARE ACCEPTABLE FOR USE.
- STAPLES USED FOR CLASS I TYPES A & B MATS SHALL BE 1.2 INCH WIDE U-SHAPED MADE OF #101 (30MM) OR LARGER DIAMETER GALVANNEAL STEEL. STAPLES LONGER THAN 12 INCHES AND 12 INCHES LONG FOR LOOSE SOILS.

**INSTALLATION NOTES:**

- EROSION CONTROL, REGENERATIVE MATS (ECRM) SHALL BE INSTALLED AFTER TOPSOIL, AND SEED HAVE BEEN PLACED.
- PERMANENT RESTORATION PRACTICES
- INSTALLATION SHALL CONFORM WITH WISCONSIN TECHNICAL STANDARD 1004.
- ALL PRODUCTS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

**INSPECTION & MAINTENANCE NOTES:**

- INSTALL ADDITIONAL ANCHORS IN AREAS OF OBSERVED PULLING OR SEVERE EROSION. ANCHORS SHALL BE PLACED AT 10' INTERVALS TO PREVENT VEGETATION ESTABLISHMENT. REMOVE EROSION MAT, REGRADE, RESEED, AND REPLACE THE SECTION OF MAT.
- IF PRODUCTS WITH PLASTIC NETTING ARE USED, REMOVE NETTING OR REPLACE MAT IF SEPARATION OF THE NETTING FROM THE MAT IS OBSERVED.
- ALL MAINTENANCE ACTIVITIES SHOULD OCCUR AS SOON AS POSSIBLE WITH CONSIDERATION OF SITE CONDITIONS.



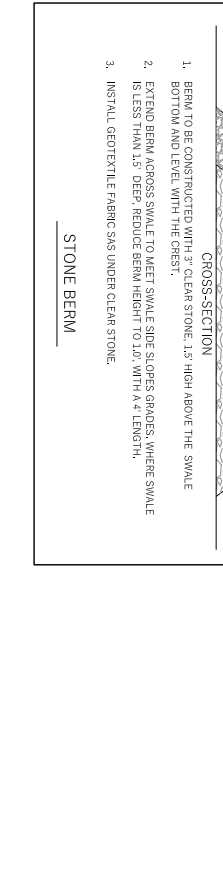
**STONE BERM**

**GENERAL NOTES:**

- BERM TO BE CONSTRUCTED WITH 3" CLEAR STONE, 1.5' HIGH ABOVE THE SWALE BOTTOM AND LEVEL WITH THE CREST.
- EXTEND BERM ACROSS SWALE TO MEET SWALE SIDE SLOPES GRASSES WHERE SWALE IS LESS THAN 1.5' DEEP. REDUCE BERM HEIGHT TO 1.0' WITH A 4:1 LENGTH.
- INSTALL GEOTEXTILE FABRIC SAS UNDER CLEAR STONE.

**GENERAL NOTES:**

- ALL CONSTRUCTION PRACTICES SHALL MEET THE SPECIFICATIONS OF THE WISCONSIN TECHNICAL STANDARD 1004 - BORETENTION FOR INFILTRATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THIS STANDARD AND CONSTRUCT THE BORETENTION DEVICE IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED HEREIN.
- CONTRACTOR SHALL INSTALL 2" OF HARDWOOD MULCH (AGE 1 MINIMUM) OF 12 MONTHS. PLACE A CLASS II EROSION CONTROL MAT (OVERLAPPED AND ANCHORED WITH MIN. 6" LONG HARDWOOD STAPLES OVER THE MULCH UNTIL VEGETATION HAS BEEN ESTABLISHED.
- CONTRACTOR SHALL INSTALL 18" OF ENGINEERED SOIL CONSISTING OF: 10% ASTM C33 SAND AND 90% CERTIFIED COMPOST (SEE GENERAL NOTE 4).
- CERTIFIED COMPOST SHALL CONSIST OF: >40% ORGANIC MATTER, <60% ASH CONTENT, pH OF 6-4, AND MOISTURE CONTENT OF 35-50% BY WEIGHT.
- SAND/NATIVE SOIL INTERFACE LAYER SHALL BE FORMED BY A LAYER OF SAND 3 INCHES DEEP WHICH IS VERTICALLY MIXED WITH THE NATIVE SOIL TO A DEPTH OF 2-4 INCHES. A CONSTRUCTION REPRESENTATIVE MUST BE ON SITE DURING OVER EXCAVATION TO APPROVE OF THE DEPTH AND SOIL TYPES.
- FILTER FABRIC SHALL BE PLACED ABOVE THE PERFORATED PIPE BETWEEN THE FEA GRAVEL AND THE ENGINEERED SOIL. A WIDTH OF 4 FEET CENTERED OVER THE FLOW LINE OF THE PIPE.
- ANNUAL FEE GRASS SHALL BE SEEDED AT 40 LB/ACR WITH THE SEED MIX IN THE AREAS SURROUNDING THE BASIN. ON SLOPE SLOPES AND REQUIRED TO ESTABLISH VEGETATION AT THE INVERT OF THE BASIN.
- RUNOFF MUST INFILTRATE WITHIN 48 HOURS. BASINS UNABLE TO MAINTAIN THESE RATES MUST BE DEEP TILLED, REGRADED, AND IF NECESSARY REPLANTED TO RESTORE ORIGINAL INFILTRATION RATES.
- ALL WORK TO BE CONDUCTED IN CONFORMANCE WITH APPLICABLE LOCAL, REGIONAL, AND STATE STORMWATER STANDARDS FOR THE PROJECT SITE AS APPROVED BY THE REGULATORY ENGINEER.
- OWNER OR CONTRACTOR MUST CONSULT LANDSCAPE ARCHITECT OR ECOLOGICAL PLANTING AGENCY FOR APPROPRIATE PLANTS AND PLANTING CONSIDERATIONS.



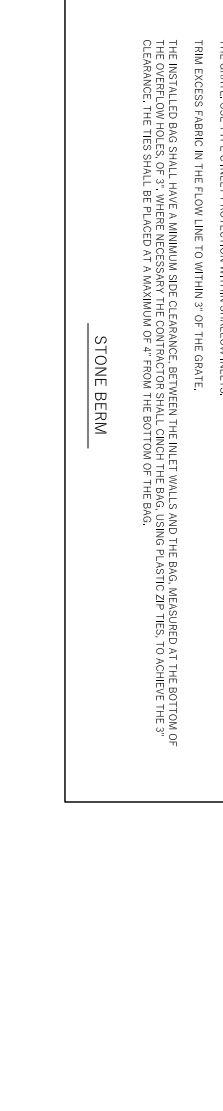
**SILT FENCE**

**GENERAL NOTES:**

- GEOTEXTILE FABRIC SHALL BE WOVEN AND SHALL CONFORM TO THE MATERIAL REQUIREMENTS LISTED IN SECTION 620 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, 2003 EDITION.
- INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WISCONSIN TECHNICAL STANDARD 1004.
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- FAILURE TO PROPERLY ANCHOR SILT FENCE COULD RESULT IN WATER AND SEDIMENT RELEASE BEHIND THE SILT FENCE. PROPERLY SECURE THE SILT FENCE INTO THE FENCE FROM A CONTINUOUS ROLL OF GEOTEXTILE TO AVOID JOINTS. WHERE JOINTS ARE NECESSARY, OVERLAP TO THE NEXT POST OR WRAP ADJOINING FABRICS TOGETHER AROUND THE JOINT POST AND TIGHTLY FASTEN.
- SILT FENCE SHALL NOT BE USED IN AREAS OF CONCENTRATED FLOW.

**INSPECTION & MAINTENANCE NOTES:**

- AT A MINIMUM, PERFORM INSPECTIONS WEEKLY AND WITHIN 24 HOURS OF PRECIPITATION EVENTS PRODUCING 0.5 INCHES OR MORE OF RAINFALL.
- INSPECT FENCES FOR DAMAGE TO STAPLES AND FABRIC (GREATER THAN 1/2 OF THE FENCE HEIGHT), AND INDICATIONS OF SCOUR AROUND THE EDGES.
- REPAIR OR REPLACE SILT FENCE WITHIN 24 HOURS OF IDENTIFYING AND DEFENDING.



**STONE BERM**

**GENERAL NOTES:**

- BERM TO BE CONSTRUCTED WITH 3" CLEAR STONE, 1.5' HIGH ABOVE THE SWALE BOTTOM AND LEVEL WITH THE CREST.
- EXTEND BERM ACROSS SWALE TO MEET SWALE SIDE SLOPES GRASSES WHERE SWALE IS LESS THAN 1.5' DEEP. REDUCE BERM HEIGHT TO 1.0' WITH A 4:1 LENGTH.
- INSTALL GEOTEXTILE FABRIC SAS UNDER CLEAR STONE.

**CAMECA INSTRUMENTS, INC.**

CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title:  
DETAILS

**RUEDEBUSCH DEVELOPMENT & CONSTRUCTION**

DEVELOPMENT • CONSTRUCTION • BROKERAGE • CONSULTING

4605 DOVETAIL DRIVE MADISON, WI 53704 PHONE 608.249.2012 FAX 608.249.2032

**WYSER ENGINEERING**

LOT 4 NOBEL DRIVE - FITCHBURG TECHNOLOGY CAMPUS  
FITCHBURG, WI 53711

Revisions:

No.	Date	Description

Graphic Scale: 0' 15' 30' 45'

Wysr Number: 16-0328

Set Type: PERMIT

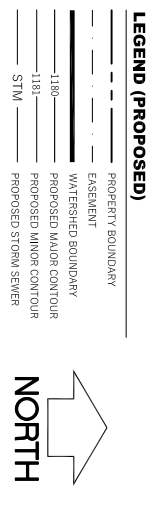
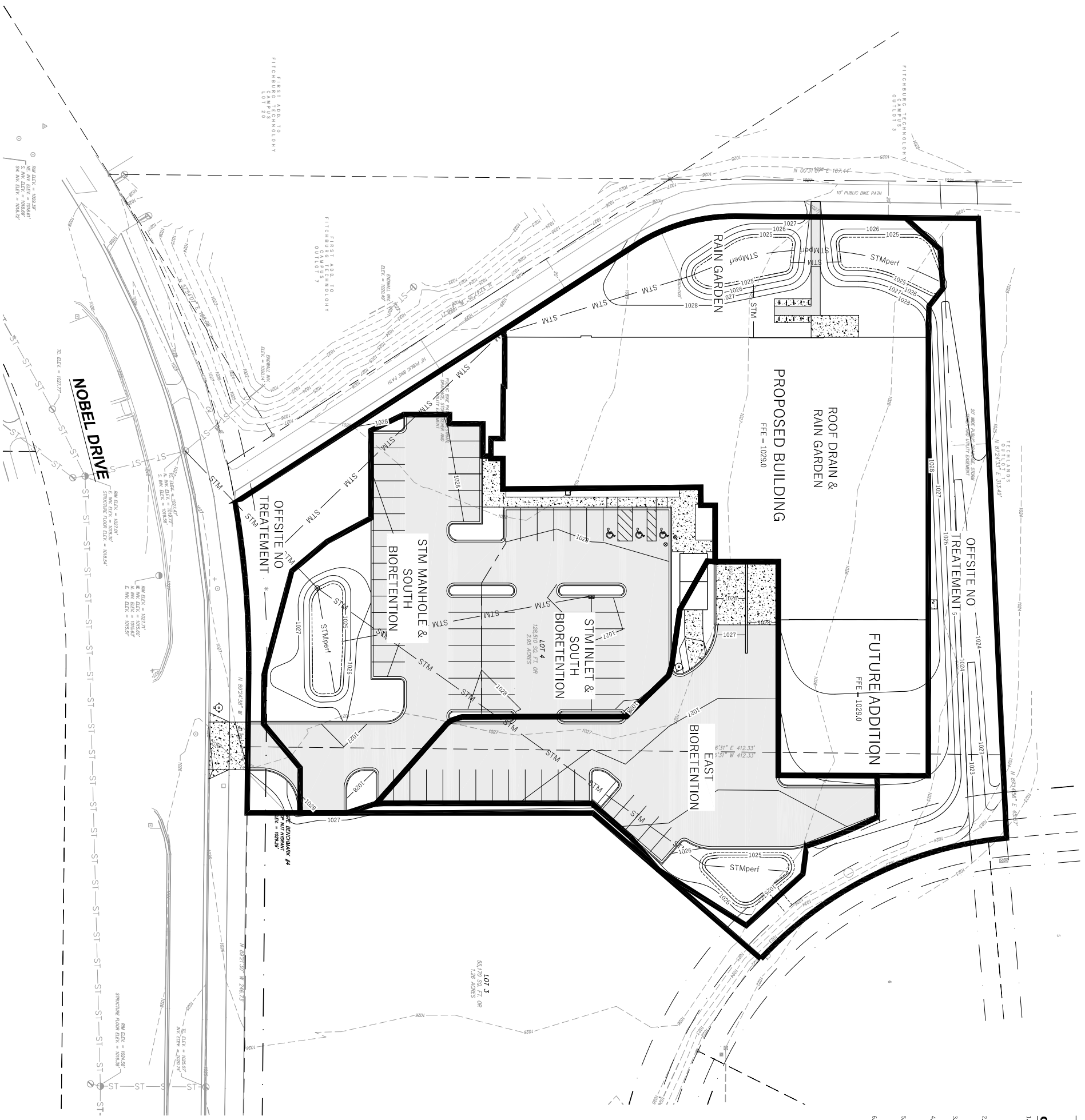
Date Issued: 05/20/2016

Sheet Number: C400



## **APPENDIX D**

Post Development Hydrologic Modeling



- GENERAL NOTES**
- UNDERLINGS SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATAS PROVIDED TO WYSER ENGINEERING. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CORRECT ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
  - THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARK SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED. THE VILLAGES LAND IF REQUIRED.
  - WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY OPERATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
  - IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
  - ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC UTILITIES AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

**DIGESTERS HOTLINE**  
 Toll Free (800) 242-6511 -or- 811  
 Hearing Impaired TDD (800) 542-2289  
 www.DigestersHotline.com

Revisions:	No.	Date:	Description:

Sheet Title:  
 WATERSHED MAP

Graphic Scale: 0' 15' 30' 45'

Wysér Number: 16-0328

Set Type: PERMIT

Date Issued: 05/20/2016

Sheet Number: C001

**CAMECA INSTRUMENTS, INC.**  
**CITY OF FITCHBURG, DANE COUNTY, WI**

**RUEDEBUSCH DEVELOPMENT & CONSTRUCTION**  
 DEVELOPMENT • CONSTRUCTION • BROKERAGE • CONSULTING  
 4605 DOVETAIL DRIVE MADISON, WI 53704  
 PHONE 608.249.2012 FAX 608.249.2032

**WYSER ENGINEERING**

LOT 4 NOBEL DRIVE – FITCHBURG TECHNOLOGY CAMPUS  
 FITCHBURG, WI 53711

# Infiltration Calculations - RECARGA

Project: CAMECA Instruments, Inc.

Wyser Project #: 16-0328

Modeled By: DOS

Date: 05/20/16



\*Note: Bioretention Basin is modeled with 61 Pervious CN, 24" Engineered Soil, 36" Sand Storage, 6" underdrain, 6" ponding area and an infiltration rate of 0.5"/hr for sandy loam -Rain Garden 12" Engineered Soil and 12" Sand Storage Layer

Watershed	Area (Acres)	Open Area (Acres)	Percent Impervious (%)	Facility Area (Square Feet)	Pre-Development Overall Stay-On (Inches)	Pre-Development Pervious Recharge (Inches)	Pre-Development Overall Recharge (Inches)	Post-Development Pervious Stay-On (Inches)	Post-Development Pervious Recharge (Inches)	Dev Open Area Volume (Acre-Feet)	Dev Open Area Recharge (Acre-Feet)	Recarga Stay-On (Inches)	Recarga Stay-On Volume (Acre-Feet)	Recarga Recharge within pond (Inches)	Recarga Recharge Volume (Acre-Feet)
<b>Bioretention Basin Southwest</b>	0.74	0.17	76.5%	900	-	9.50	-	-	-	-	0.14	20.77	1.28	7.29	0.45
<b>Bioretention Basin East</b>	0.47	0.08	84.0%	750	-	9.50	-	-	-	-	0.06	21.12	0.83	8.84	0.35
<b>Rain Garden Northwest</b>	1.05	0.27	74.2%	2250	-	9.50	-	-	-	-	0.22	21.07	1.85	6.95	0.61
<b>Offsite Area</b>	0.56	0.55	2.6%	-	-	9.50	-	27.90	9.5	1.27	0.43	-	-	-	-
	2.83	1.07	62.3%	-	27.90	9.50	9.50			1.27	0.84	-	3.96	-	1.41



# RECARGA Version 2.3

## Bioretention/Raingarden Sizing Program

Units English

### Planview Data

Facility Area  [sf]

Tributary Area  [acre]

Percent Impervious

Pervious CN

### Files

Regional Ave. ET  [in./day]

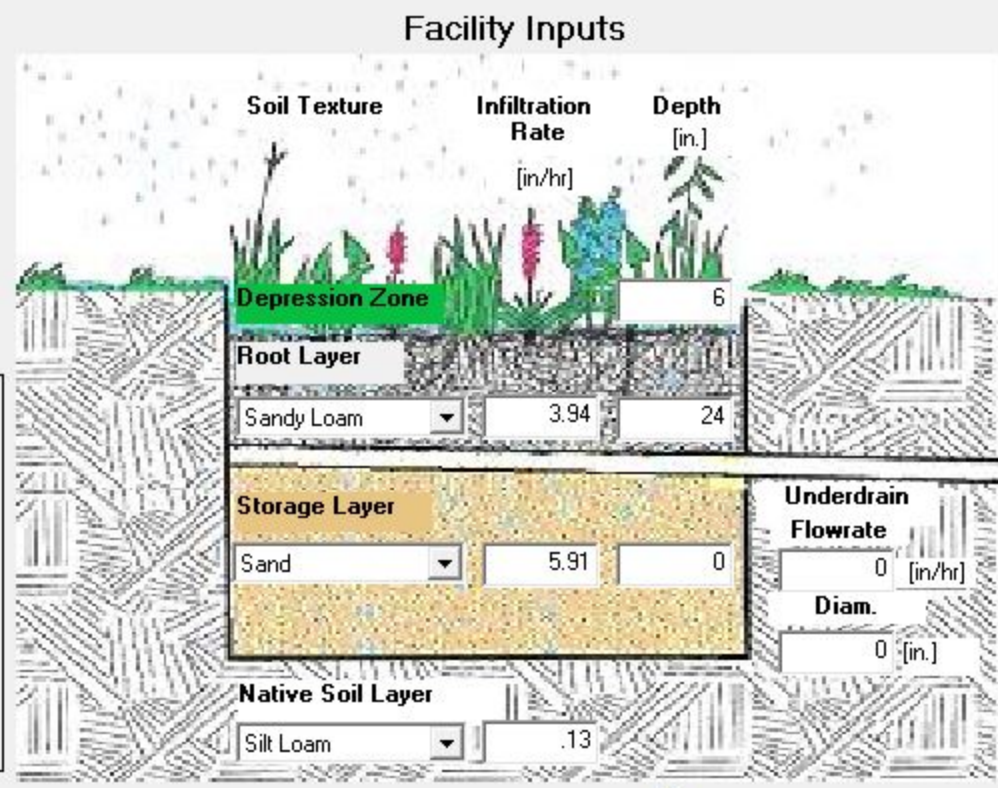
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Input File Length  days

Precip. File Name

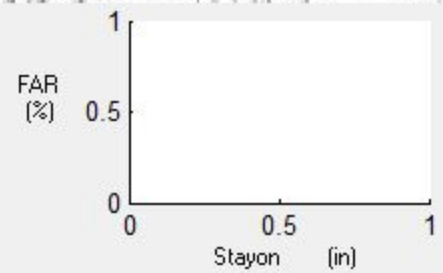
Output File Name

Summary  Record



Target Stay-on  [in]

Facility Area Ratio (%)  [%]



### Results

**Plant Survivability**  
(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	89.25	298.25
Number of overflows		6

**Tributary Runoff** [in]

Precipitation	28.81
Impervious Runoff	0
Pervious Runoff	0.91048

**Raingarden Water**

	[in.]	%
Runon	0.91064	3.1608
Runoff	0.90997	3.1585
Recharge	0.00053	0.001839
Evaporation	0.00018	0.000638
Underdrain	0	0
Soil Moisture	-	-
<b>Stay-on</b>	<b>27.9</b>	<b>96.8415</b>

Units English



# RECARGA Version 2.3

## Bioretention/Raingarden Sizing Program

### Facility Inputs

#### Planview Data

Facility Area  [sf]

Tributary Area  [acre]

Percent Impervious

Pervious CN

#### Files

Regional Ave. ET  [in./day]

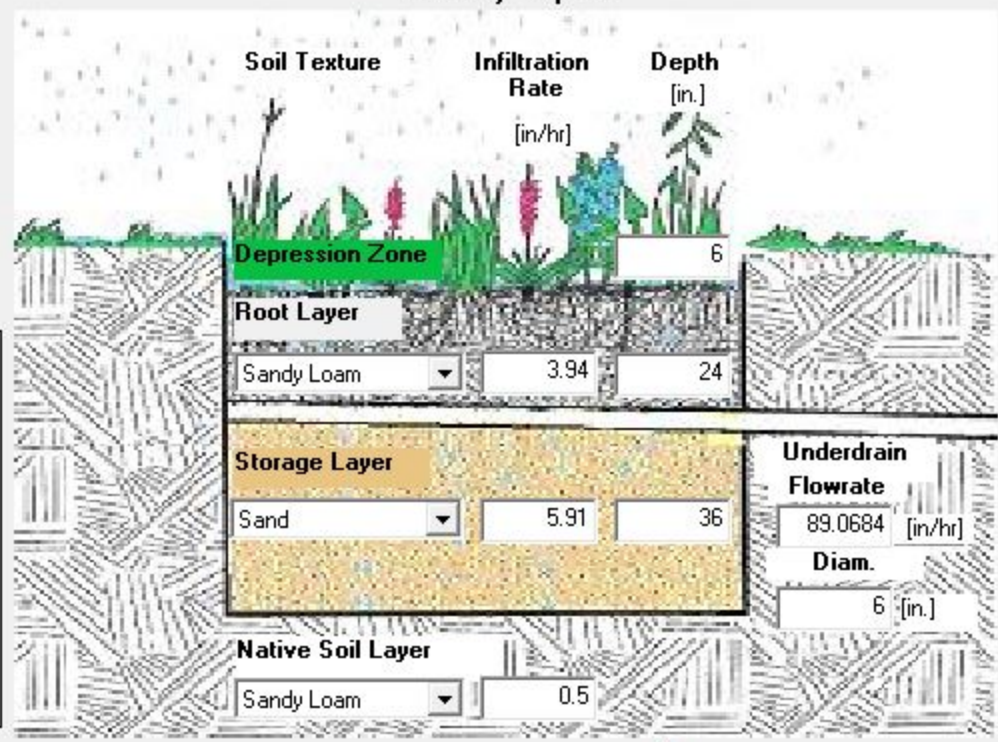
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Input File Length  days

Precip. File Name

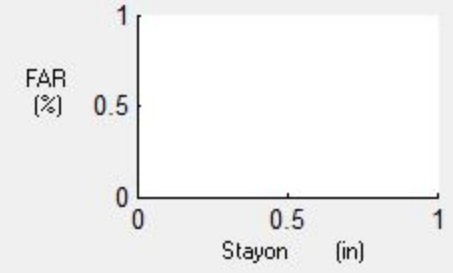
Output File Name

Summary  Record



Target Stay-on  [in]

Facility Area Ratio (%)  [%]



### Results

#### Plant Survivability

(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	4.75	49.75
Number of overflows		5

#### Tributary Runoff

Precipitation

Impervious Runoff

Pervious Runoff

#### Raingarden Water

	[in.]	%
Runon	17.7481	61.6038
Runoff	3.2828	11.3945
Recharge	8.8383	30.6779
Evaporation	1.3205	4.5834
Underdrain	4.4105	15.3087
Soil Moisture	-0.10393	-0.36073
<b>Stay-on</b>	<b>21.1168</b>	<b>73.2967</b>

Units English



# RECARGA Version 2.3

## Bioretention/Raingarden Sizing Program

### Facility Inputs

#### Planview Data

Facility Area  [sf]

Tributary Area  [acre]

Percent Impervious

Pervious CN

#### Files

Regional Ave. ET  [in./day]

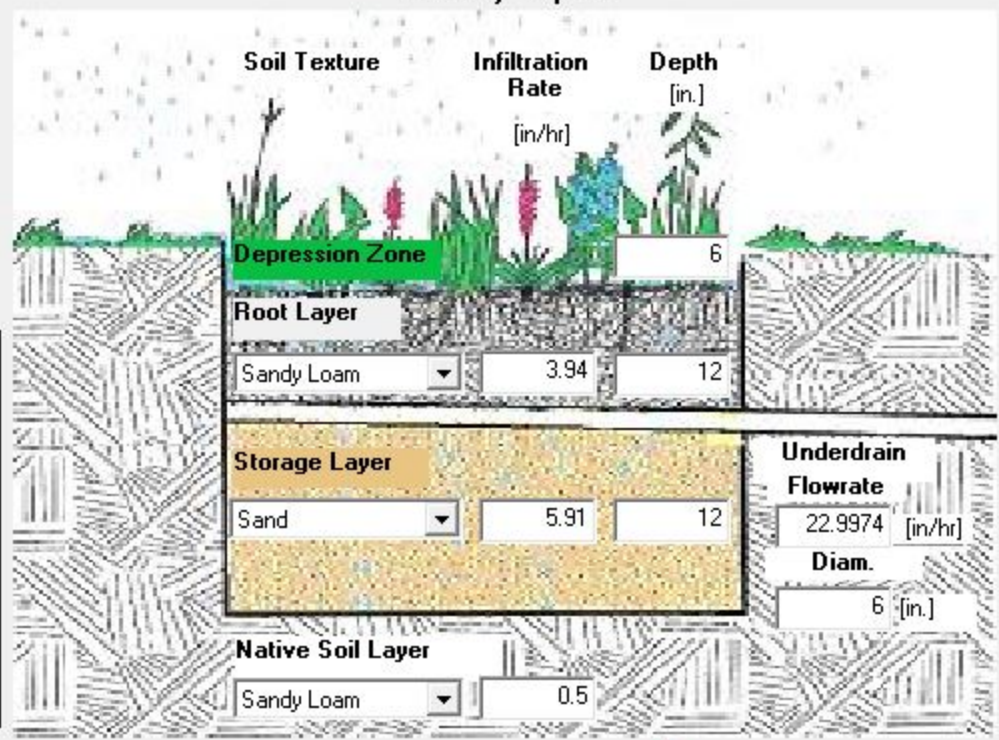
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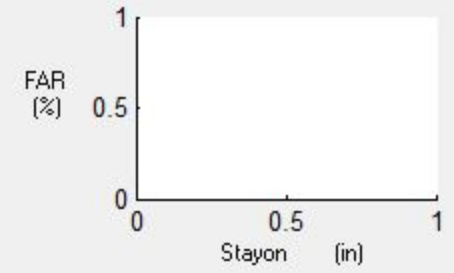
Output File Name

Summary  Record



Target Stay-on  [in]

Facility Area Ratio (%)  [%]



### Results

#### Plant Survivability

(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	<input type="text" value="4.75"/>	<input type="text" value="40.5"/>
Number of overflows		<input type="text" value="5"/>

#### Tributary Runoff

Precipitation

Impervious Runoff

Pervious Runoff

#### Raingarden Water

	[in.]	%
Runon	<input type="text" value="15.9251"/>	<input type="text" value="55.2762"/>
Runoff	<input type="text" value="2.0312"/>	<input type="text" value="7.0503"/>
Recharge	<input type="text" value="6.9494"/>	<input type="text" value="24.1215"/>
Evaporation	<input type="text" value="1.3257"/>	<input type="text" value="4.6016"/>
Underdrain	<input type="text" value="5.704"/>	<input type="text" value="19.7985"/>
Soil Moisture	<input type="text" value="-0.08517"/>	<input type="text" value="-0.29563"/>
<b>Stay-on</b>	<b><input type="text" value="21.0749"/></b>	<b><input type="text" value="73.1512"/></b>

Units English



# RECARGA Version 2.3

## Bioretention/Raingarden Sizing Program

### Facility Inputs

#### Planview Data

Facility Area  [sf]

Tributary Area  [acre]

Percent Impervious

Pervious CN

#### Files

Regional Ave. ET  [in./day]

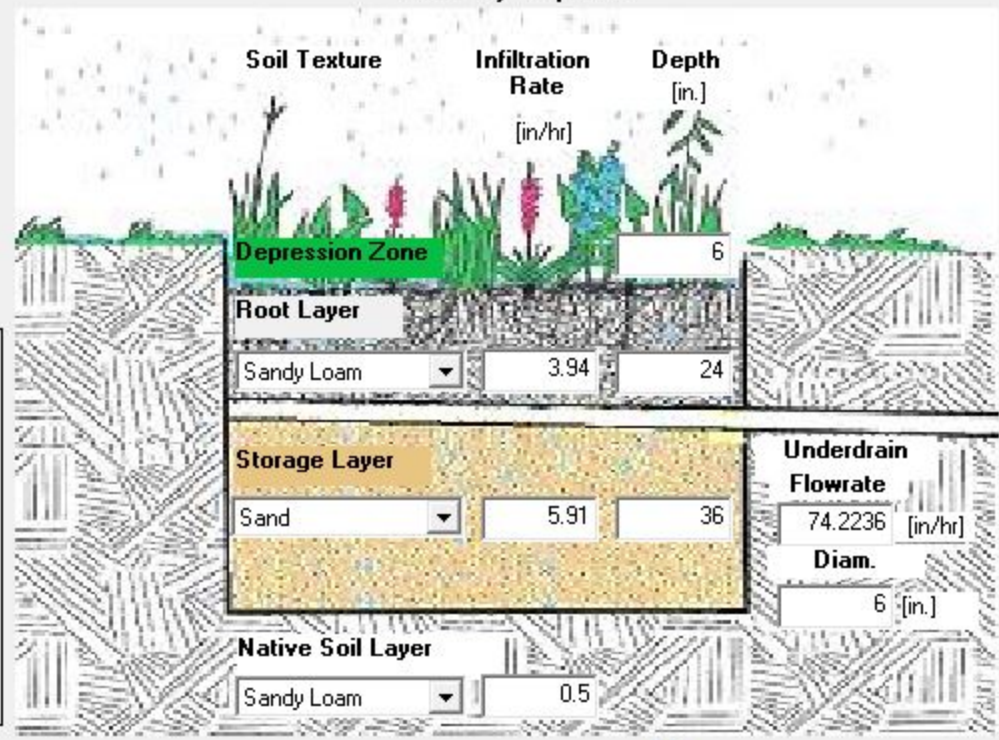
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Input File Length  days

Precip. File Name

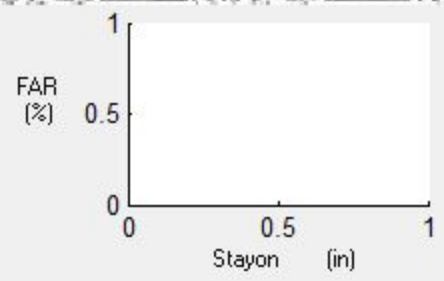
Output File Name

Summary  Record



Target Stay-on  [in]

Facility Area Ratio (%)  [%]



### Results

#### Plant Survivability

(Less than 48 hours max. ponding is desirable)

	max.	Total
Hrs. Ponded	<input type="text" value="5"/>	<input type="text" value="64"/>
Number of overflows		<input type="text" value="7"/>

#### Tributary Runoff

Precipitation

Impervious Runoff

Pervious Runoff

#### Raingarden Water

	[in.]	%
Runon	<input type="text" value="16.2693"/>	<input type="text" value="56.4709"/>
Runoff	<input type="text" value="3.6394"/>	<input type="text" value="12.6325"/>
Recharge	<input type="text" value="7.287"/>	<input type="text" value="25.2932"/>
Evaporation	<input type="text" value="1.0166"/>	<input type="text" value="3.5288"/>
Underdrain	<input type="text" value="4.4034"/>	<input type="text" value="15.2842"/>
Soil Moisture	<input type="text" value="-0.077135"/>	<input type="text" value="-0.26774"/>
<b>Stay-on</b>	<b><input type="text" value="20.7672"/></b>	<b><input type="text" value="72.0833"/></b>

# Storm Sewer Sizing Area Method

Project: CAMECA Instruments, Inc.  
Wyser Project #: 16-0328

Pipe Label	Roof Tops		Paved or graveled ground		Lawns, parks and similar land surfaces		Subcatchment Flow		Total Flow
	Contributing Area	Conversion	Contributing Area	Conversion	Contributing Area	Conversion	gpm	cfs	
	ft <sup>2</sup>	ft <sup>2</sup> /gpm	ft <sup>2</sup>	ft <sup>2</sup> /gpm	ft <sup>2</sup>	ft <sup>2</sup> /gpm			
P - 1	0	26	12573	32.5	6437	104	448.76	1.00	1.86
P - 2	0	26	12158	32.5	1173	104	385.37	0.86	0.86
Roofdrain	33514	26	0	32.5	0	104	1289.00	2.87	2.87

Note: Total Flow based on the "Area Method" as outlined in SPS. 382.36(5)1  
Please refer to Proposed Watershed, sheet C001 for the watershed areas



Pipe	P - 1	P - 2	Roofdrain
From	Stm Manhole	Stm Inlet	Building
To	Ex. Stm. Inlet	South Stormwater Basin	West Stormwater Basin
Pipe Material	HDPE	PVC	PVC
Manning's n	0.011	0.010	0.010
Invert Elevation	1021.07	1024.94	1024.66
Discharge Invert	1020.55	1024.50	1024.50
Length	103.90	138.57	31.00
Slope	0.50%	0.32%	0.50%
Pipe size (in)	12	8	12
Pipe Radius (ft)	0.50	0.33	0.50
Pipe Area	0.79	0.35	0.79
Pipe Circumference	3.14	2.09	3.14
Hydraulic Radius	0.25	0.17	0.25
Velocity	3.79	2.55	4.17
Q, Flowing Full	2.98	0.89	3.28
Q <sub>10</sub> , Required	1.86	0.86	2.87
Sizing ?	OK	OK	OK
Rim Elevation	1025.00	1026.52	-
Invert to Top of Pipe	1.08	0.75	1.08
Cover	2.85	0.83	-
Cover OK ?	OK	WARNING	OK

## **APPENDIX E**

Universal Soils Loss Equation Worksheet(s)



# Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Official Version 1.0 (05-15-2015)



**YEAR 1**

Developer: Ruedebusch Development & Construction  
 Project: CAMECA Instruments, Inc.  
 Date: 5/20/2016  
 County: Dane

Version 1.0

Activity	Begin Date	End Date	Period % R	Annual R Factor	Sub Soil Texture	Soil Erodibility K Factor	Slope (%)	Slope Length (feet)	LS Factor	Land Cover C Factor	Soil loss A (tons/acre)	Sediment Control Practice	Sediment Discharge (tons/acre)
Bare Ground	6/15/2016	7/15/2016	24.0%	150	Silt Loam	0.43	1.5%	200	0.20	1.00	3.1	Silt Fence	1.7
Bare Ground	7/15/2016	9/1/2016	27.9%	150	Silt Loam	0.43	2.0%	100	0.20	1.00	3.6	Silt Fence	2.0
Seed with Mulch or Er	9/1/2016	3/1/2017	21.6%	150	Silt Loam	0.43	2.0%	100	0.20	0.10	0.3	Silt Fence	0.0
Bare Ground	3/1/2017	5/15/2017	12.3%	150	Silt Loam	0.43	2.0%	100	0.20	1.00	1.6	Silt Fence	0.9
Seed with Mulch or Er	5/15/2017	7/15/2017	38.3%	150	Silt Loam	0.43	2.0%	100	0.20	0.10	0.5	Silt Fence	0.1
End	7/15/2017	-----	-----	-----	-----	-----	0.0%	0	-----	0.10	-----	-----	0.0
<b>TOTAL</b>											<b>9.1</b>	<b>TOTAL</b>	<b>4.7</b>
<b>DATES EXCEED 1 YEAR</b>												<b>% Reduction Required</b>	<b>NONE</b>

**Notes:**  
 See Help Page for further descriptions of variables and items in drop-down boxes.  
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.  
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

**Recommended Permanent Seeding Dates:**  
 4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes  
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	DOS
Date	5/20/2016



## **APPENDIX F**

Declaration of Conditions, Covenants and Restrictions for  
Maintenance of Stormwater Management Measures

DECLARATION OF CONDITIONS, COVENANTS AND RESTRICTIONS FOR MAINTENANCE OF STORMWATER MANAGEMENT MEASURES

RECITALS:

- A. Tech Lands, LLC (“Owner”) is the owner of Lot 3 TechLands more particularly described on Exhibit A attached hereto (the “Property”).
- B. Owner desires to construct stormwater management measures on the Property in accordance with certain plans and specifications approved by the City of Fitchburg (the “City”).
- C. The City requires Owner to record this Declaration of Conditions, Covenants and Restrictions for Maintenance of Stormwater Management Measures (this “Declaration”) regarding maintenance of certain stormwater management measures (“Stormwater Management Measures”) to be located on the Property all as more particularly described on Exhibit A. Owner agrees to maintain the Stormwater Management Measures and to grant to the City the rights set forth below.

NOW, THEREFORE, in consideration of the declarations herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the owner agrees as follows:

- 1. Maintenance. Owner and its successors and assigns shall be responsible to repair and maintain the Stormwater Management Measures located on the Property in good condition and in working order and such that the measures comply with approved plans on file with the City. Said maintenance shall be solely at the Owner’s cost and expense. Owner will conduct such maintenance or repair work in accordance with all applicable laws, codes, regulations, and similar requirements. *Any specific maintenance tasks and their schedules shall be conducted in accordance with Exhibit A.*
- 2. Easement to City. If Owner fails to maintain the Stormwater Management Measures as required in Section 1, then the City shall have the right, after providing Owner with written notice of the maintenance issue (each, a “Maintenance Notice”) and thirty (30) days to comply with the City’s Maintenance Notice, to enter the Property in order to conduct the maintenance specified in the Maintenance Notice. The City will conduct such maintenance work in accordance with all applicable laws, codes, regulations, and similar requirements and will not unreasonably interfere with Owner’s use of Property. All costs and expenses incurred by the City in conducting such maintenance may be charged to Owner by placing the amount on the tax roll for the Property as a special assessment in accordance with Section 66.0703, Wis. Stats.
- 3. Term/Termination. The term of this Declaration shall commence on the date that this Declaration is filed of record with the Register of Deeds Office for Dane County, Wisconsin, and except as otherwise herein specifically provided, shall continue in perpetuity. Notwithstanding the foregoing, this Declaration may be terminated by recording with the Register of Deeds Office for Dane County, Wisconsin, a written instrument of termination signed by the City and all of the then-owners of the Property.
- 4. Miscellaneous.
  - (a) Notices. Any notice, request or demand required or permitted under this Declaration shall be in writing and shall be deemed given when personally served or three (3) days after the same has been deposited with the United States Post Office, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

If to Owner: Tech Lands, LLC  
4605 Dovetail Drive  
Madison, WI 53704

If to the City: City Engineering Division  
5520 Lacy Road  
Fitchburg, WI 53711  
Attn: City Engineer

This space reserved for recording data

Return to:  
City of Fitchburg  
5520 Lacy Road  
Fitchburg, WI 53711

PIN#: 060915265342



**EXHIBIT A**  
**Stormwater Management Maintenance Measures**

Legal Description of Property: Lot 4 and part of Lot 3 of the Techlands Plat.

PIN: 060915265342

**Stormwater Management Measures Included in this Agreement as shown on Sheets C200 and C400 of the CAMECA Instruments, Inc construction drawings, hereby made a part of Exhibit A, specifically:**

- All site storm sewer pipes and structures
- Bioretention Basin located along Nobel Drive west of the driveway
- Bioretention Basin located east of the building along the east property line
- Rain Garden located along the north half of the west side of the building
- Stormwater Conveyance Channel north of the building

**Specific Maintenance Requirements:**

*Short Term Maintenance(during construction and/or restoration):*

- The building construction contractor at the owner's expense or as agreed to by the owner and contractor shall perform inspection of all facilities during construction and until site stabilization.
- Inspections during construction shall be weekly and/or after a rainfall event of 0.5" or more.
- Repairs necessary to restore the facility to design performance will be made within 48 hours of the inspection.
- Deficiencies include, but are not limited to, rill erosion, sediment deposition in the infiltration pond or behind perimeter control, and deposition of sediment on the tracking pad.
- Tracking on the public right-of-way shall be inspected regularly during days that construction traffic is leaving the construction site. Any excessive sediment tracked onto the public right-of-way shall be scraped immediately. Thorough sweeping, with appropriate equipment that physically picks up and removes the sediment (vs. pushing it to other locations within the public right-of-way) shall be conducted at the end of each working day during construction activities.

*Long Term Maintenance:*

- Inspector qualifications for Long Term Maintenance: Inspectors under this item shall maintain a current Registered Professional Engineer License in the State of Wisconsin or possess an alternate certification approved by the **City of Fitchburg's** Public Works Department.
- All stormwater provisions constructed as part of this project are permanent in location and function over time. The constructed stormwater provisions such as infiltration ponds, inlet filters, and storm structures shall not be removed or significantly altered without written permission from the **City of Fitchburg's** Public Works Department. Owner shall maintain records of inspections and maintenance as described below in accordance with Chapter 30 – Article II of the **City of Fitchburg** Municipal Code of Ordinances.

**EXHIBIT A**  
**Stormwater Management Maintenance Measures**

Inspections and maintenance reports shall be submitted to the **City of Fitchburg's** Public Works Department on an annual basis.

- To maximize filtration, mowing in buffer areas around stormwater ponds should be minimized. If occasional mowing is necessary, the mowing height is recommended to be no shorter than 6 inches. Applications of fertilizer, herbicide, pesticide or other chemicals are discouraged unless an approved chemical application plan is on file with the **City of Fitchburg's** Public Works Department.
- Facilities showing signs of soil erosion should be repaired with emphasis put on grassed waterways being maintained for proper stormwater conveyance.
- Facilities or parts of facilities with no vegetation shall be restored to good vegetated catch.
- Inspections of the infiltration facilities shall be done at least semi-annually in early spring and early fall. Infiltration area inspections shall include spreader and overflow spillway for indication of failure. Note the condition of vegetation as part of inspection. If standing water is observed over 50% of the pond floor 3 days after rainfall, the pond is clogged and measures should be undertaken to unclog it. Acceptable measures include removing the top 2 to 3 inches, chisel plowing and adding topsoil and engineered compost material. If deep tilling is used, the pond shall be drained and the soils dried to a depth of 8 inches. After procedures, the owner /operator shall replant with State-approved native plugs.



