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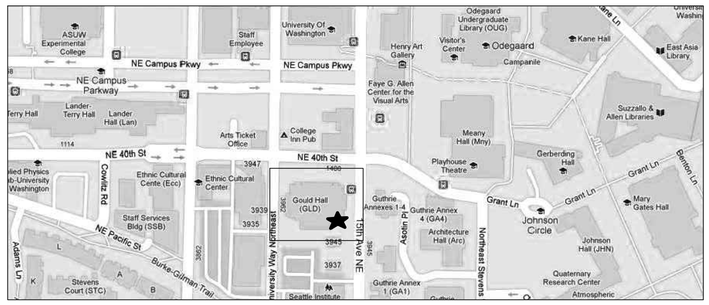

PROJECT LOCATION MAP

PROJECT DESCRIPTION

The intent of the project is to install 240 SF of living wall, 39 LF of green screen, electrical and lighting, water harvesting cistern and irrigation system, backup potable water, and decorative and maintenance structures. Solar panels and LED spotlights will be bidding alternatives.

University of Washington Facilities will perform all necessary interior modification for utilities to be accessed from the exterior as well as installation of green screen irrigation. Design graduate students from the University of Washington will plant the green wall and green screen, however contractor is responsible for the purchasing of plant material.

BIODIVERSITY GREEN WALL, EDIBLE GREEN SCREEN & WATER HARVESTING DEMONSTRATION PROJECT

Gould Hall
University of Washington
3949 15th Avenue NE
Seattle, Washington

May 7, 2012
Bid Set

DRAWING INDEX

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Structural Engineer

Electrical Engineer

UNDERGROUND UTILITIES

811 Know what's below. Call before you dig.

Two business days before you plan to dig, call 1-800-424-5555 or 811. Washington Utilities Coordinating Council (WUCC)

PLANS PREPARED BY

GREEN FUTURES RESEARCH & DESIGN LAB
University of Washington College of Built Environments
242 Gould Hall Box 355734 | Seattle, WA 98195 | www.greenfutures.washington.

SHEET NOTES

KEY PLAN

REVISIONS

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SEATTLE, WA 98105
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T: 206.685.0521 F: 206.685.4486

SCALE
N.T.S.

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	N.T.S.

COVER SHEET

L-001

SHEET 1 OF 21

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Project Objective (Intent)

The intent of the project is to install 240 SF of living wall, 39 LF of green screen, electrical and lighting, water harvesting cistern and irrigation system, backup potable water, and decorative and maintenance structures. Solar panels& spotlights will be a bidding alternative.

Coordination with Others

Contractor shall be responsible for the purchase and installation of green wall panels with corten steel decorative covers, stand offs, cisterns, pumps and secondary overflow backup, maintenance ladder and tie-offs, and all required hardware. Contractor shall be responsible for the purchase of plant material, however UW graduate students will perform planting under the guidance of the Contractor. Contractor shall be responsible for the purchase of the Bermead Valve, however UW Facilities will install Bermead Valve. Contractor shall be responsible for installation of monitoring equipment, however the UW Green Futures Lab shall be responsible for acquiring monitoring equipment. UW Facilities shall be responsible for field verification of existing utilities, removal and pruning of existing tree and shrubs affected by the project, purchase and installation of green screen irrigation, electrical service line out of building, and all interior work. See scope/contract for an outline of these tasks in more detail.

Performance of this contract will require the contractor to coordinate with UW Facilities and UW Green Futures Lab, directed by the UW FS Works Department. All design alterations to be consulted with the UW Project Manager. All dialogue regarding contractual issues to be coordinated with UW Purchasing Manager.

Basis for Design

In the preparation of working drawings and specifications, the Designer has relied upon blueprints from the 1969 construction of Gould Hall, identified as Architecture Building, University of Washington, Department of Health, Education and Welfare. Drawings were created by architects Daniel Streissguth and Gene Zema, AIA. Full digital building drawings are available online at the University of Washington Facilities Records Documents, Facility #222, FacNum 1135, www.washington.edu/facilities/records. Contractor to verify the accuracy of baseplan assumptions.

Contractor Acknowledgement

By submitting a bid, the Contractor acknowledges that he/she has satisfied himself/herself as to the nature and location of the work, the general and local conditions, particularly those bearing upon the handling of materials, availability of labor and necessary utilities, the uncertainties of weather, groundwater table or similar conditions at the site, the conformation and conditions of the soils and ground surface, the character of equipment and facilities needed prior to and during the prosecution of the work or cost thereof under this contract. Any failure of the contractor to acquaint himself/herself with the available information concerning these conditions will not relieve him/her from responsibility for estimating properly the difficulty and cost of successfully performing the work.

Access to the Project

All construction access to the project shall be from 15th Avenue NE, unless otherwise directed by the Construction Manager. Please note, steel and concrete gateway structures may impede access of large scale equipment. See Sheet L-100, Site Plan and Key Map for dimensions of gateway structures.

Project Kickoff Meeting

A field meeting between the Contractor and UW, (including UW Construction Manager, UW Project Manager, UW Green Futures Lab Director & Designer, UW Purchasing Manager, UW Grounds & Operations Manager), will occur prior to construction activity to familiarize contractor with the plans. A detailed construction schedule shall be formulated at the kickoff meeting to assist with coordination among the project team.

Project Team

Landon Conrad	Construction Manager	UW FS Works	lconrad@u.washington.edu	(206) 465-3435
Leann Andrews, RLA	Project Manager, Designer	UW Green Futures Lab	gflab@uw.edu	(614) 657-8276
Nancy Rottle, RLA	Director	UW Green Futures Lab	nrottle@uw.edu	(206) 685-0521
David Tomlinson	Designer	UW Green Futures Lab	dtmurcielago@yahoo.com	(206) 685-0521
Claudia Christensen	Purchasing Manager	UW Procurement	claudiac@u.washington.edu	(206) 543-4156
Howard Nakase	Grounds/Operations Manager	UW Facilities	hmnakase@u.washington.edu	(206) 685-1407
Brian Davis	Grounds/Irrigation Manager	UW Facilities	bkdavis@u.washington.edu	(206) 510-6013
Sara Shores	Campus Arborist	UW Facilities	shores@u.washington.edu	(206) 255-0645
Brian Heather	Contractor	SolTerra Systems	brian@solterrasystems.com	(206) 778-8727

Disturbance of Existing Features

Contractor to avoid soil compaction with construction equipment and to avoid damage with Varey Garden and Gould Hall features. Construction must not damage existing pavers, benches, vents, balconies, planters, trees and other desirable vegetation and site features in the project area. Contractor to photograph and/or videotape site conditions prior to construction to document existing conditions. Contractor is responsible for replacement of all pavers, benches, planters, trees, vegetation and other site features that have been damaged as determined by Construction Manager. All punctures into the building walls shall be minimized.

Contractor to submit a Construction Work Plan at Project Kickoff Meeting outlining proposed site access, staging area, and a protection plan. Contractor to lay out green wall, green screen and cistern elements in field prior to construction for approval by Project Manager and Construction Manager.

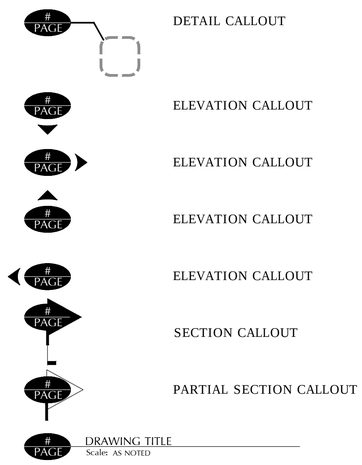
Monitoring

The UW Green Futures Lab will provide monitoring and research services prior to and after construction on the Demonstration Project. Monitoring will include temperature analysis, water use, plant growth, insect and biodiversity counts, and human use of the garden.

Abbreviations:

@	At
A.B.	Anchor bolt
B.O.	Bottom of <x>
℄	Center line
E.O.F	Edge of framing
F..C.	Face of concrete
GALV	Galvanized
MIN	Minimum
N.T.S.	Not to scale
O.C.	On center
℗	Plate
SIM.	Similar
SS	Stainless steel
T.O.	Top of <x>
T.O.S	Top of slab
TYP.	Typical
V.I.F.	Verify in field
W/	With

Notation Key:



SHEET NOTES

KEY PLAN

REVISIONS

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T: 206.685.0521 F: 206.685.4486

SCALE

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	NTS

GENERAL NOTES

L-002

SHEET 2 OF 21

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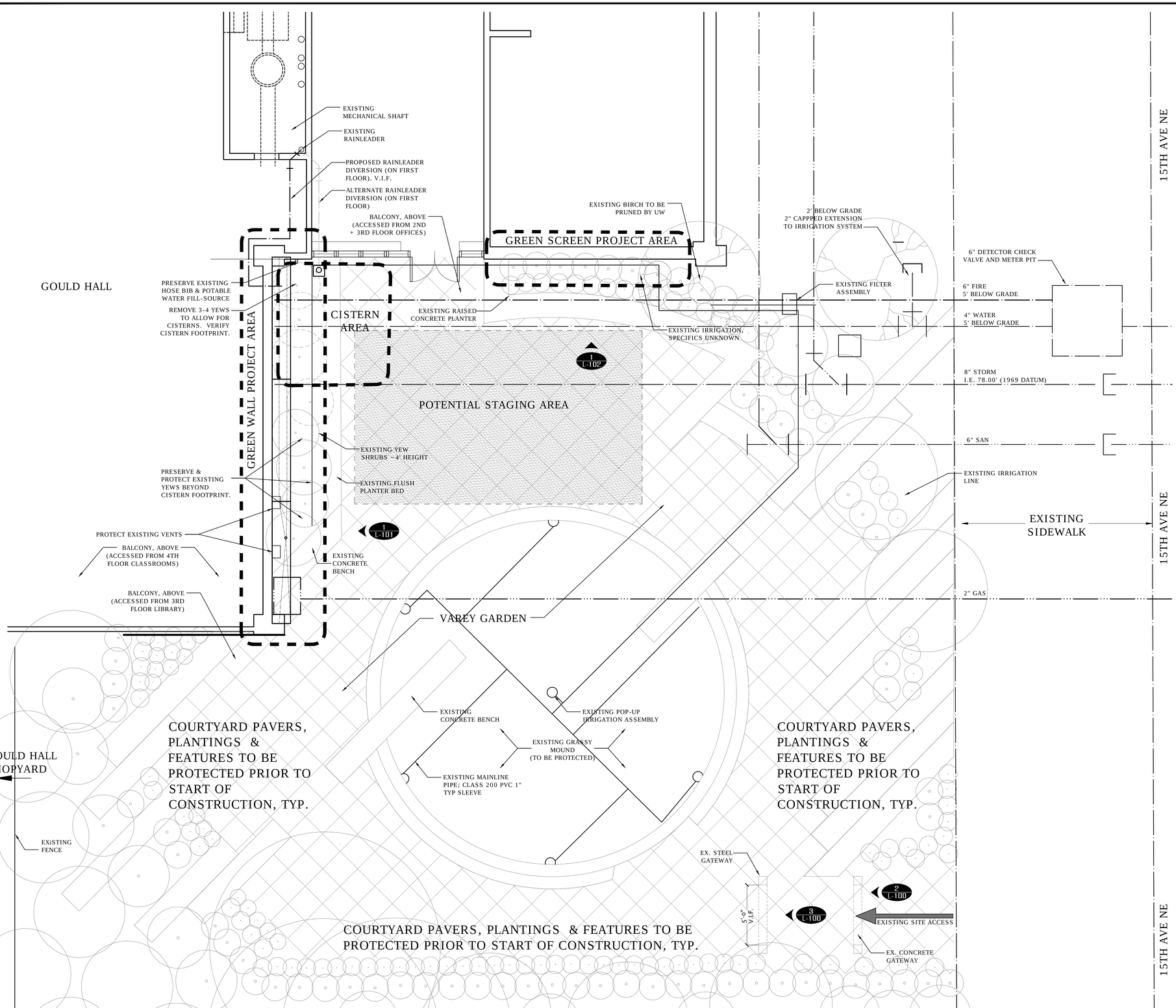
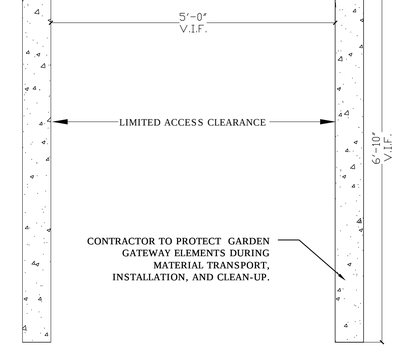


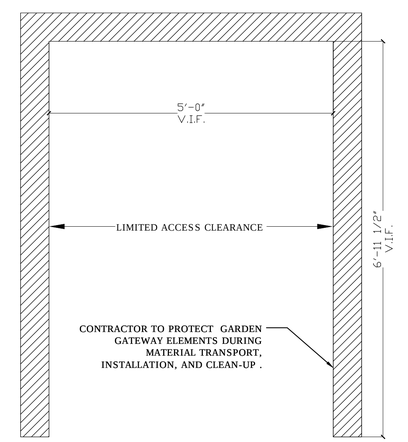
1 L-100 EXISTING CONDITIONS
Scale: 1/4" = 1'-0"

NOTES:

1. Varey Garden and project area located in the southeast corner of Gould Hall
2. See Sheet L-002, General Notes, for information about coordination with University of Washington Facilities (interior work, green screen irrigation, electrical) and UW Green Futures Lab (students performing planting).
3. See Sheet L-002, General Notes, for information about disturbance of existing features & construction work plan submittal.
4. Caution: elevations shown are based on OLD City of Seattle Datum.
5. 8" storm service is approx 7'-0" below grade at building face.



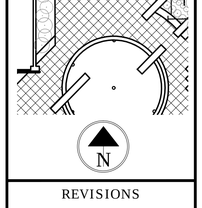
2 L-100 SITE ACCESS, CONCRETE GATEWAY - ELEVATION
Scale: 3/4" = 1'-0"



3 L-100 SITE ACCESS, STEEL GATEWAY - ELEVATION
Scale: 3/4" = 1'-0"

SHEET NOTES

KEY PLAN



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SCALE

0 1 2 4 8
SCALE: 1/4" = 1'-0"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

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CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	1/4" = 1/-0"

EXISTING CONDITIONS

L-100

SHEET 3 OF 21

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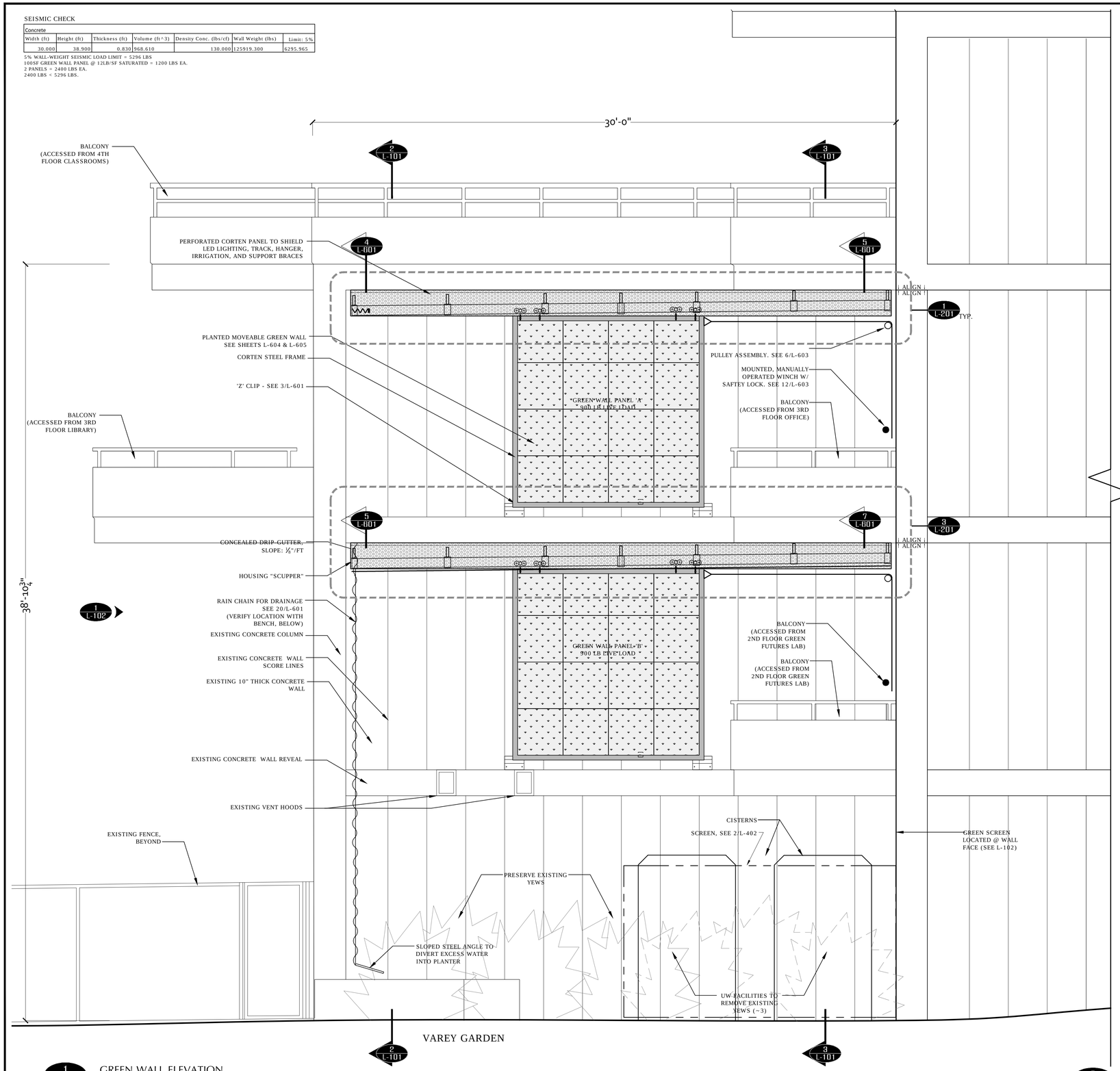
SEISMIC CHECK

Concrete						
Width (ft)	Height (ft)	Thickness (ft)	Volume (ft^3)	Density Conc. (lbs/cf)	Wall Weight (lbs)	Limit: 5%
30.000	38.900	0.830	968.610	130.000	125919.300	6295.965

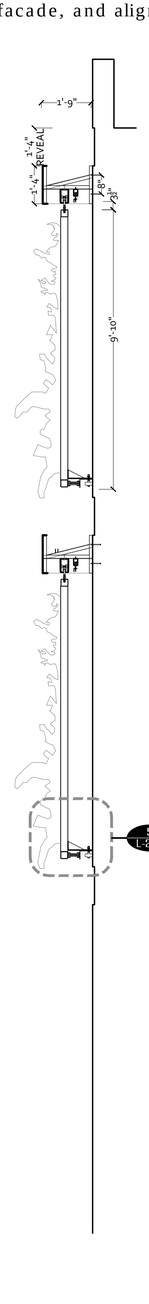
5% WALL-WEIGHT SEISMIC LOAD LIMIT = 5296 LBS
100SF GREEN WALL PANEL @ 12LB/SF SATURATED = 1200 LBS EA.
2 PANELS = 2400 LBS EA.
2400 LBS < 5296 LBS.

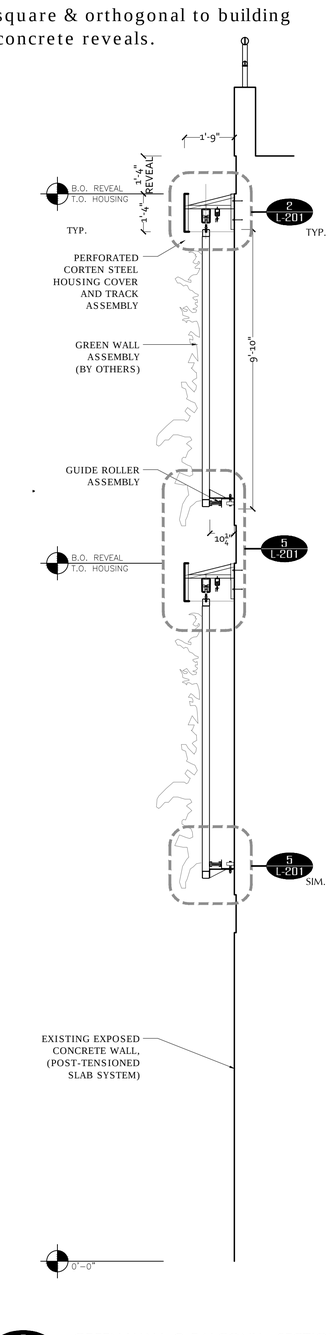


1 L-101 GREEN WALL ELEVATION
Scale: 3/8" = 1'-0"

NOTES:

1. Maximum track slope to ⅛"/ft. Contractor to submit shop drawings for approval.
2. Verify slope:friction of trucks @ track w/ manufacturer.
3. Track to be Richard-Wilcox 888-series 2500lb rating, or approved equal.
4. Winch and cable to be rated to 5000lb.
5. Winch to be manual operated with ratchet lock feature.
6. Corten housings to be square & orthogonal to building facade, and align with concrete reveals.



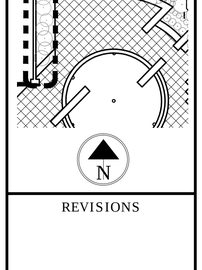


2 L-101 GREEN WALL @ CORNER - SECTION
Scale: 3/8" = 1'-0"

3 L-101 GREEN WALL @ BALCONY - SECTION
Scale: 3/8" = 1'-0"

SHEET NOTES

KEY PLAN



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SCALE
0 1 2 4
SCALE: 3/8" = 1'-0"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

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CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	3/8" = 1'-0"

GREEN WALL ELEVATION

L-101

SHEET 4 OF 21

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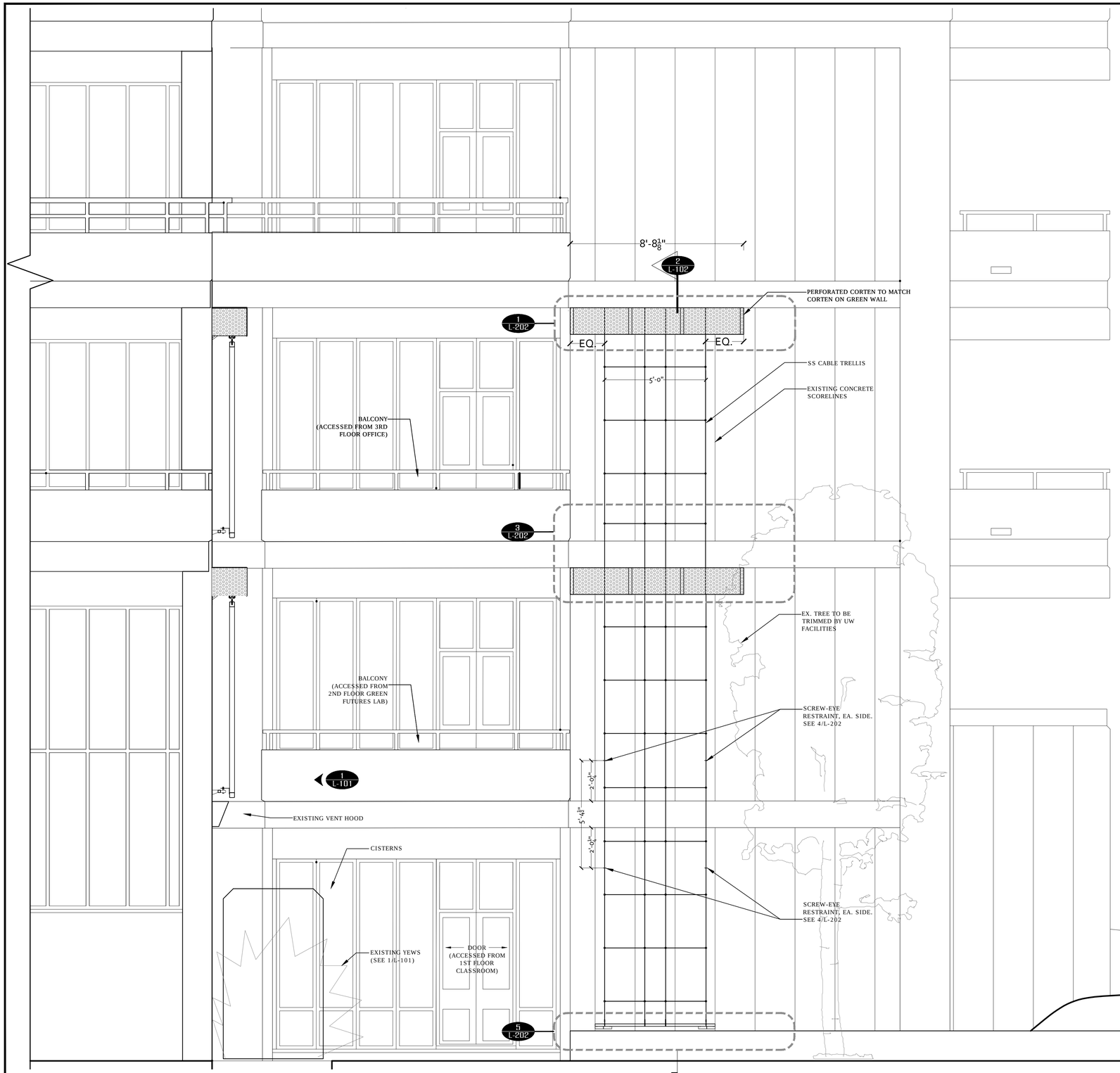
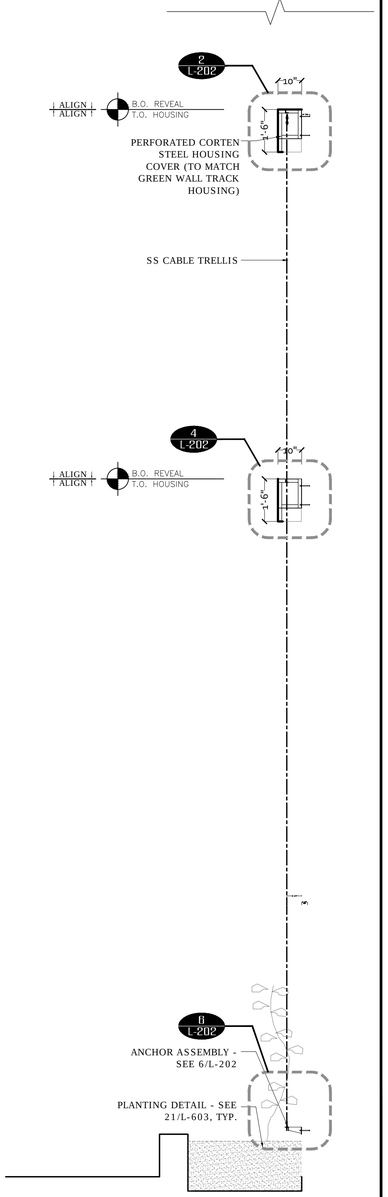


1 L-102 GREEN SCREEN ELEVATION
Scale: 3/8" = 1'-0"

NOTES:

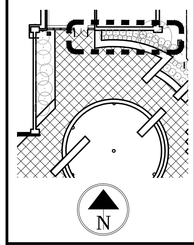
1. UW facilities to trim existing birch tree as directed by Construction Manager.



2 L-102 GREEN SCREEN - SECTION
Scale: 3/8" = 1'-0"

SHEET NOTES

KEY PLAN



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SCALE

0 1 2 4

SCALE: 3/8" = 1'-0"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

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CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	3/8" = 1'-0"

GREEN SCREEN ELEVATION

L-102

SHEET 5 OF 21

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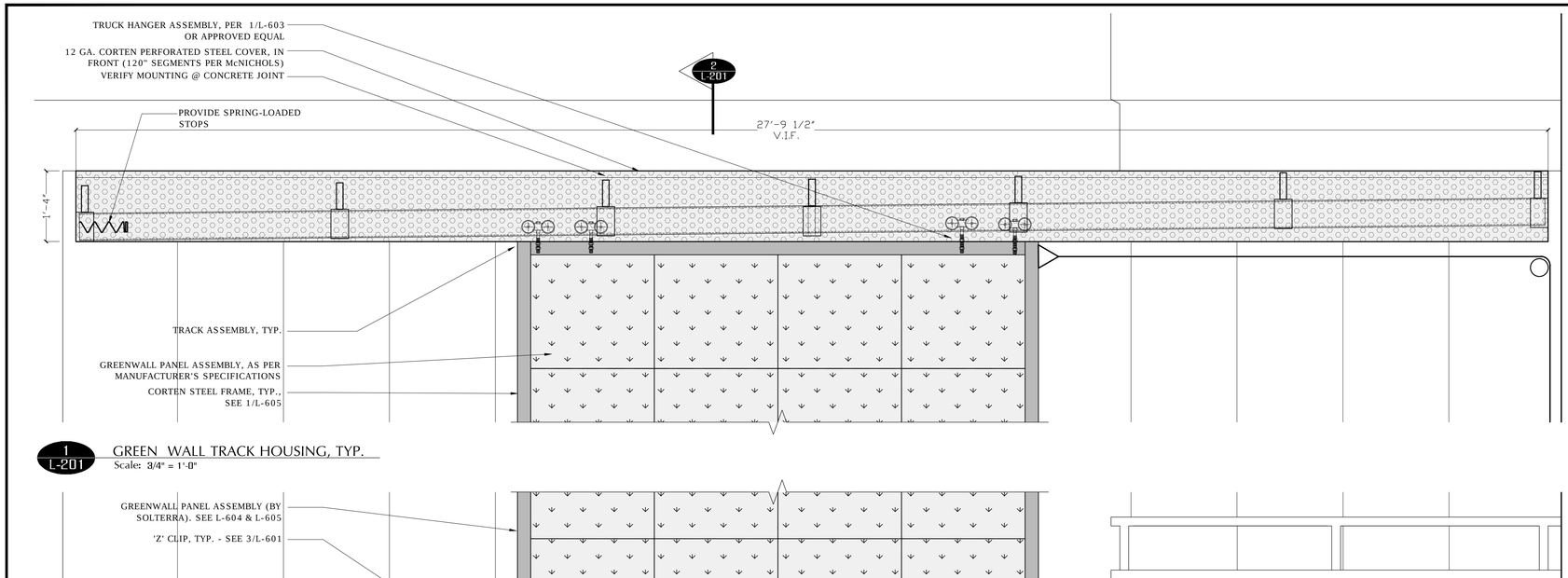
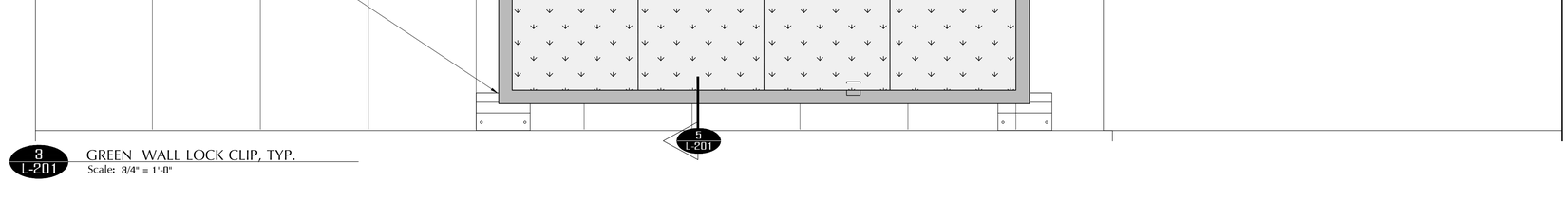
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

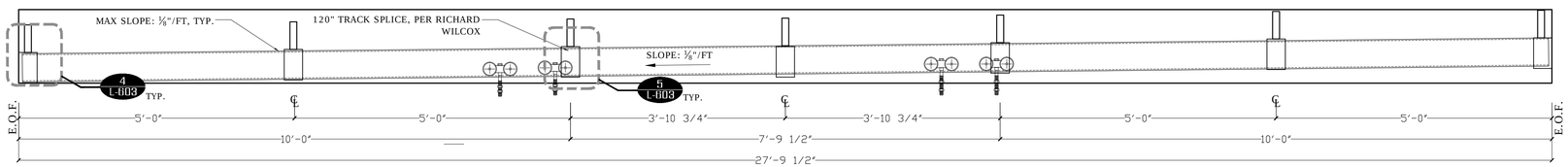
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



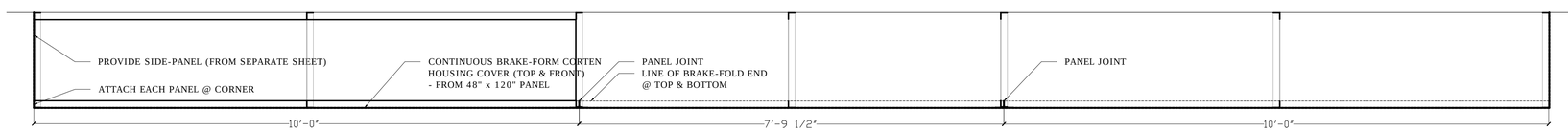
1 L-201 GREEN WALL TRACK HOUSING, TYP.
Scale: 3/4" = 1'-0"



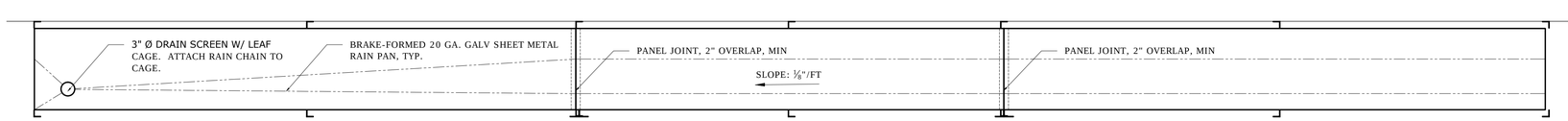
3 L-201 GREEN WALL LOCK CLIP, TYP.
Scale: 3/4" = 1'-0"



4 L-201 GREEN WALL TRACK - ELEVATION
Scale: 3/4" = 1'-0"



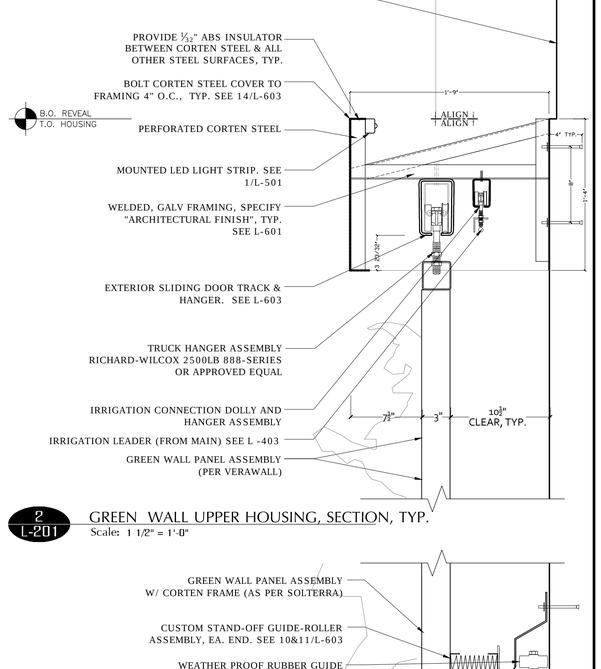
6 L-201 CORETEN HOUSING - HORIZONTAL SECTION
Scale: 3/4" = 1'-0"



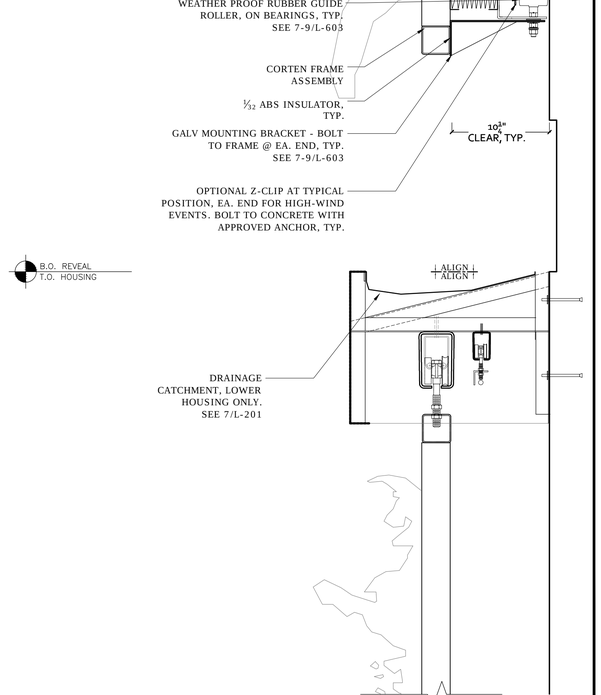
7 L-201 CORETEN HOUSING - RAIN PAN,
Scale: 3/4" = 1'-0"

NOTES:

1. Contractor to submit shop drawings for approval.



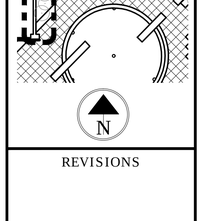
2 L-201 GREEN WALL UPPER HOUSING, SECTION, TYP.
Scale: 1 1/2" = 1'-0"



5 L-201 GREEN WALL GUIDE & LOWER HOUSING - SECTION
Scale: 1 1/2" = 1'-0"

SHEET NOTES

KEY PLAN



REVISIONS

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SCALE

0 1 2
SCALE: 3/4" = 1'-0"

Biodiversity Green Wall
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Demonstration Project

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TOTAL GSF:	
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CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	VARIES

GREEN WALL TRACK HOUSING

L-201

SHEET 6 OF 21

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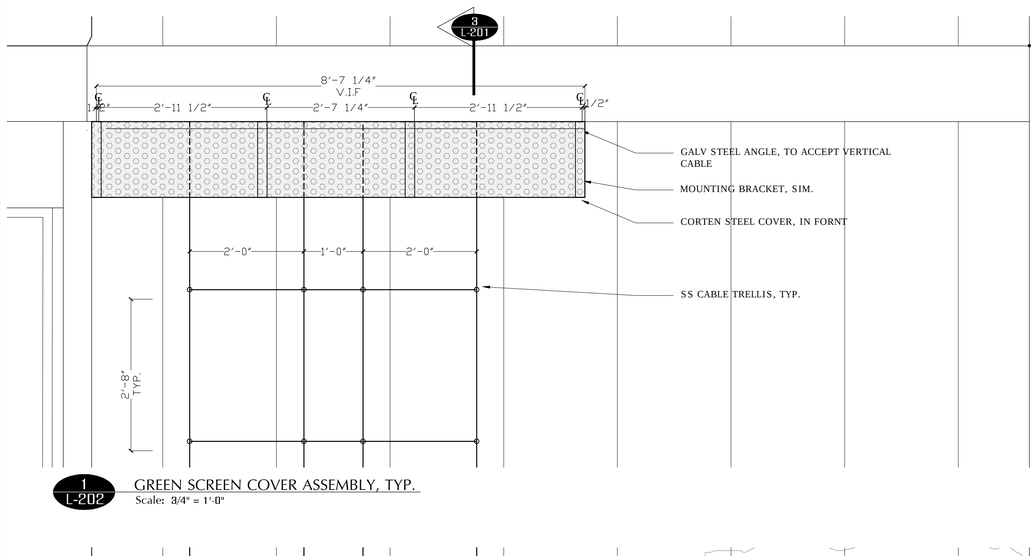
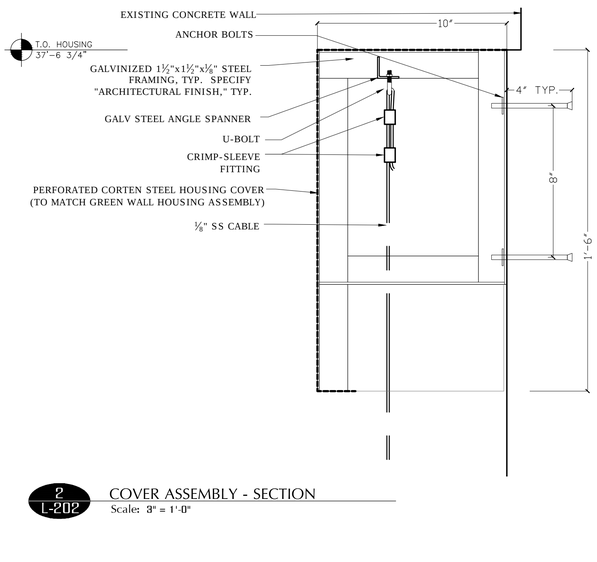


1 L-202 GREEN SCREEN COVER ASSEMBLY, TYP.
Scale: 3/4" = 1'-0"



2 L-202 COVER ASSEMBLY - SECTION
Scale: 3" = 1'-0"

NOTES:

1. Contractor to submit shop drawings for approval.
2. Provide cable-clamps @ intersections, TYP.
3. Materials to conform to below table or approved equal. (Verify compatability of shoulder bolt and turnbuckle).

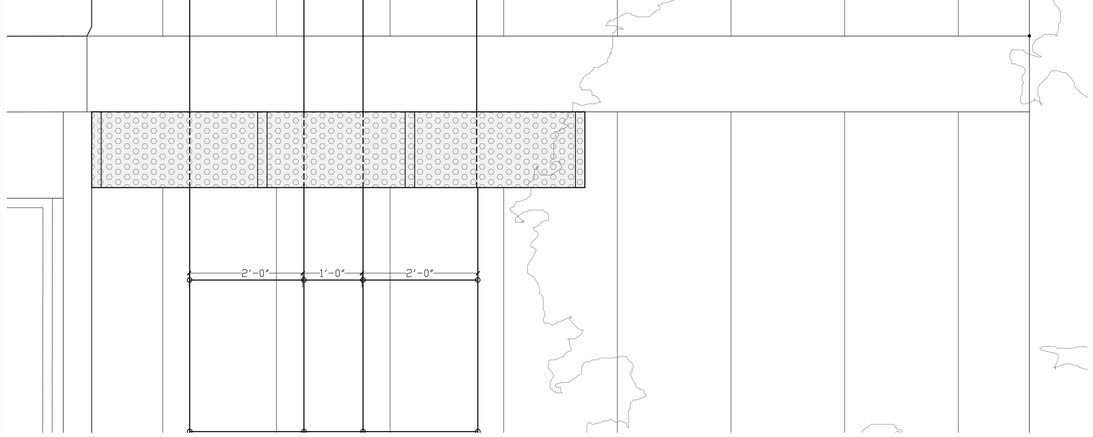
SS CABLE LENGTHS
VERTICAL:
(4) @ 36'-2" = 144'-8" + LOOP-ENDS
HORIZONTAL:
(14) @ 5'-0" = 70'-0"
TOTAL:
214'-8" + LOOP ENDS @ VERTICALS

McMASTER-CARR BILL OF MATERIALS - GREEN SCREEN
3475T898
Strong-Grip Wire Rope Stud End Fitting for 1/8" Rope Dia, 1/4"-20 Thrd, 316 Stainless Steel
90107A029
Type 316 SS General Purpose Flat Washer 1/4" Screw Size, 5/8" OD, .04"-.06" Thick, packs of 100
90775A029
Alloy 20 Stainless Steel Hex Nut 1/4"-20 Thread Size, 7/16" Width, 7/32" Height
8908T66
Type 316 Stainless Steel Wire Rope 7 X 7 Strand Core, 1/8" Dia, 1360# Break Strength
3936T14
Zinc-Plated Copper Stop Compression Sleeve for 1/8" Rope Diameter, 5/16" Sleeve Length, packs of 50
3016T38
Galvanized Steel Eyebolt with Nut for Lifting 3/8"-16 Thread, 1200# Wll, 8" Shank, 4" Thread Length
97045A031
Variable Depth Internally Threaded Anchor 3/8"-16 Screw Size, packs of 4

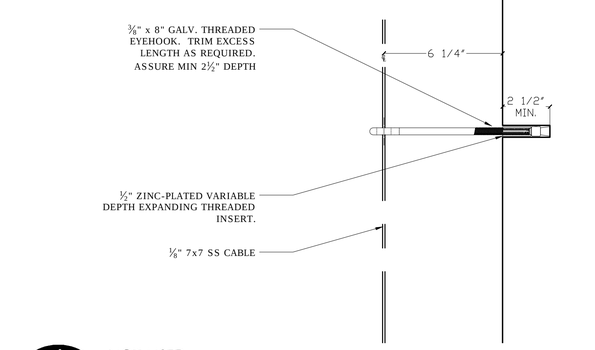
Micro Cross-Clamps For attaching two intersecting 1/8" diameter rods/cables.
Each fitting includes locking setscrew.
http://www.cabletrellis.com/cabletrellis_print.shtml

8402-Micro Cross-Clamp, 2 hole$2.95 8404-Micro Cross-Clamp, slotted Online Meetals
Stainless Angle 316/316L
http://www.onlinemetals.com/merchant.cfm?pid=2162&step=4&showunits=inches&id=4&top_cat=0

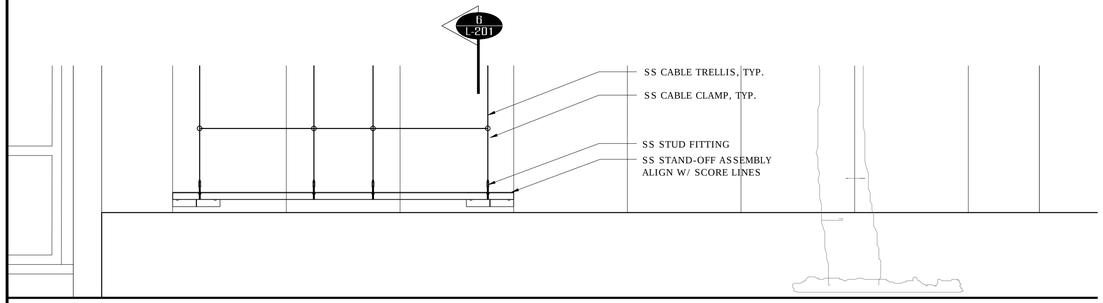
Stainless Square Tube 316/316L
http://www.onlinemetals.com/merchant.cfm?pid=2162&step=4&showunits=inches&id=4&top_cat=0



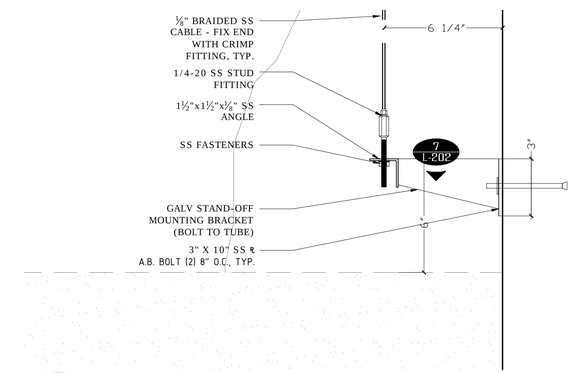
3 L-202 GREEN SCREEN STAND-OFF ASSEMBLY, TYP.
Scale: 3/4" = 1'-0"



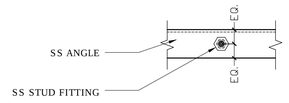
4 L-202 NOT USED
Scale: 3" = 1'-0"



5 L-202 GREEN SCREEN STAND-OFF ASSEMBLY @ GROUND
Scale: 3/4" = 1'-0"



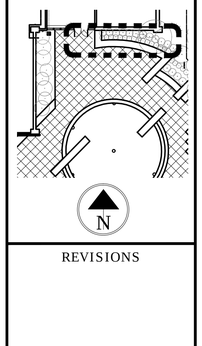
6 L-202 STAND-OFF ASSEMBLY @ ANCHOR - ELEV
Scale: 3" = 1'-0"



7 L-202 STAND-OFF ASSEMBLY - @ ANCHOR - PLAN
Scale: 3" = 1'-0"

SHEET NOTES

KEY PLAN



REVISIONS

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SCALE
0 1 2
SCALE: 3/4" = 1'-0"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	VARIES

GREEN SCREEN LAYOUT

L-202

SHEET 7 OF 21

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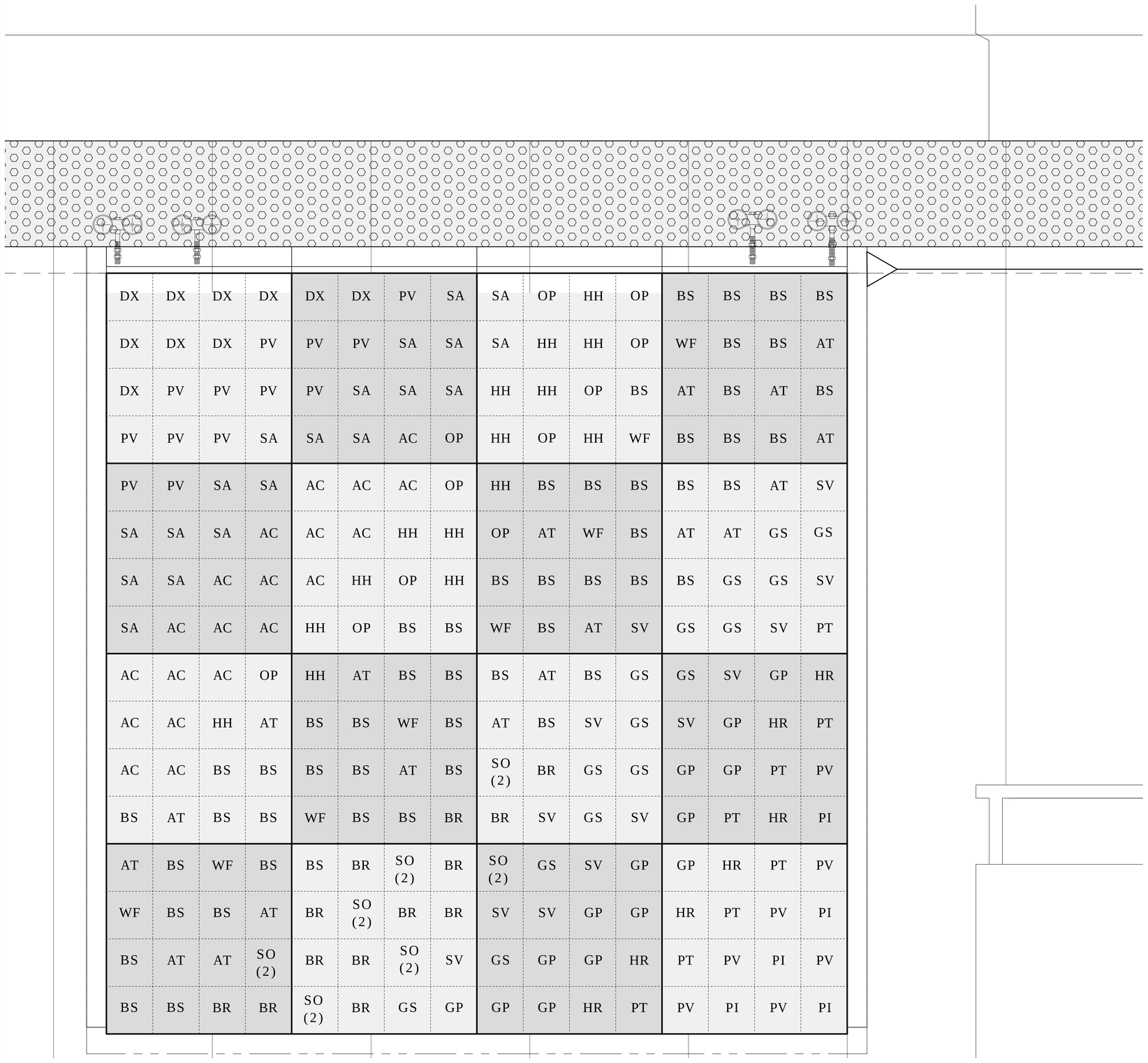


DX	DX	DX	DX	DX	DX	PV	SA	SA	OP	HH	OP	BS	BS	BS	BS
DX	DX	DX	PV	PV	PV	SA	SA	SA	HH	HH	OP	WF	BS	BS	AT
DX	PV	PV	PV	PV	SA	SA	SA	HH	HH	OP	BS	AT	BS	AT	BS
PV	PV	PV	SA	SA	SA	AC	OP	HH	OP	HH	WF	BS	BS	BS	AT
PV	PV	SA	SA	AC	AC	AC	OP	HH	BS	BS	BS	BS	BS	AT	SV
SA	SA	SA	AC	AC	AC	HH	HH	OP	AT	WF	BS	AT	AT	GS	GS
SA	SA	AC	AC	AC	HH	OP	HH	BS	BS	BS	BS	BS	GS	GS	SV
SA	AC	AC	AC	HH	OP	BS	BS	WF	BS	AT	SV	GS	GS	SV	PT
AC	AC	AC	OP	HH	AT	BS	BS	BS	AT	BS	GS	GS	SV	GP	HR
AC	AC	HH	AT	BS	BS	WF	BS	AT	BS	SV	GS	SV	GP	HR	PT
AC	AC	BS	BS	BS	BS	AT	BS	SO (2)	BR	GS	GS	GP	GP	PT	PV
BS	AT	BS	BS	WF	BS	BS	BR	BR	SV	GS	SV	GP	PT	HR	PI
AT	BS	WF	BS	BS	BR	SO (2)	BR	SO (2)	GS	SV	GP	GP	HR	PT	PV
WF	BS	BS	AT	BR	SO (2)	BR	BR	SV	SV	GP	GP	HR	PT	PV	PI
BS	AT	AT	SO (2)	BR	BR	SO (2)	SV	GS	GP	GP	HR	PT	PV	PI	PV
BS	BS	BR	BR	SO (2)	BR	GS	GP	GP	GP	HR	PT	PV	PI	PV	PI

1 L-301a GREEN WALL PLANTING, PANEL: 'A'
Scale: 1 1/2" = 1'-0"

NOTES:

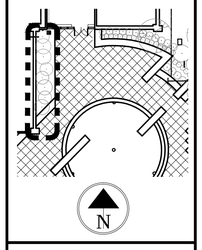
1. Contractor to provide plant material. Planting to be performed by UW Design Graduate Students, under supervision of Contractor + UW Project Manager.
2. Color-coded planting plan available. Contact UW Project Manager.
3. All plantings to be over-seeded with moss.

PLANT SCHEDULE

SYMBOL	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	NOTES
AC	20	ASARUM CAUDATUM	WILD GINGER	NO. 1 CONT	NATIVE
AT	19	ASPLENIA TRICHOMANES	SPLEENWORT	PLUG	NATIVE
BR	13	BERBERIS REPENS	OREGON GRAPE	NO. 1 CONT	NATIVE, YELLOW FLOWERING
BS	52	BLECHNUM SPICANT	DEER FERN	NO. 1 CONT	NATIVE
DX	10	DRYOPTERIS EXPANSA	SPREADING WOODFERN	NO. 1 CONT	NATIVE
GP	14	GAULTHERIA PROCUMBENS	WINTERGREEN	NO. 1 CONT	NATIVE, RED BERRIES
GS	15	GAULTHERIA SHALLON	SALAL	NO. 1 CONT	NATIVE, BLACK BERRIES
HH	15	HEUCHERA 'HOLLYWOOD'	HOLLYWOOD CORALBELLS	PLUG	RED FLOWER SPIKES
HR	7	HEUCHERELLA 'REDSTONE FALLS'	TRAILING FOAMY BELLS	PLUG	CASCADING, RED LEAVES
OP	11	OPHIOPOGON PLANISCAPUS 'NIGRESCENS'	BLACK MONDO GRASS	NO. 1 CONT	BLACK LEAVES
PI	5	POLYSTICHUM IMBRICANS	SMALL SWORD FERN	NO. 1 CONT	NATIVE
PT	8	PHORMIUM TENAX 'BRONZE BABY'	BRONZE NEW ZEALAND FLAX	NO. 1 CONT	BRONZE LEAVES
PV	20	POLYPODIUM VULGARE	LICORICE FERN	NO. 1 CONT	NATIVE
SA	19	SEDUM 'ANGELINA'	ANGELINA STONECROP	PLUG	GOLDEN YELLOW
SO	14	SEDUM OREGANA	NATIVE STONECROP	PLUG	NATIVE, YELLOW FLOWERS
SV	13	SAXIFRAGE	SAXIFRAGA	PLUG	NATIVE, YELLOW FLOWERS
WF	8	WOODWARDIA FIMBRIATA	CHAIN FERN	NO. 1 CONT	NATIVE

SHEET NOTES

KEY PLAN



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SCALE

SCALE: 1 1/2" = 1'-0"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	1 1/2" = 1'

GREEN WALL PLANTING ELEVATION 'A'

L-301a

SHEET 8 OF 21

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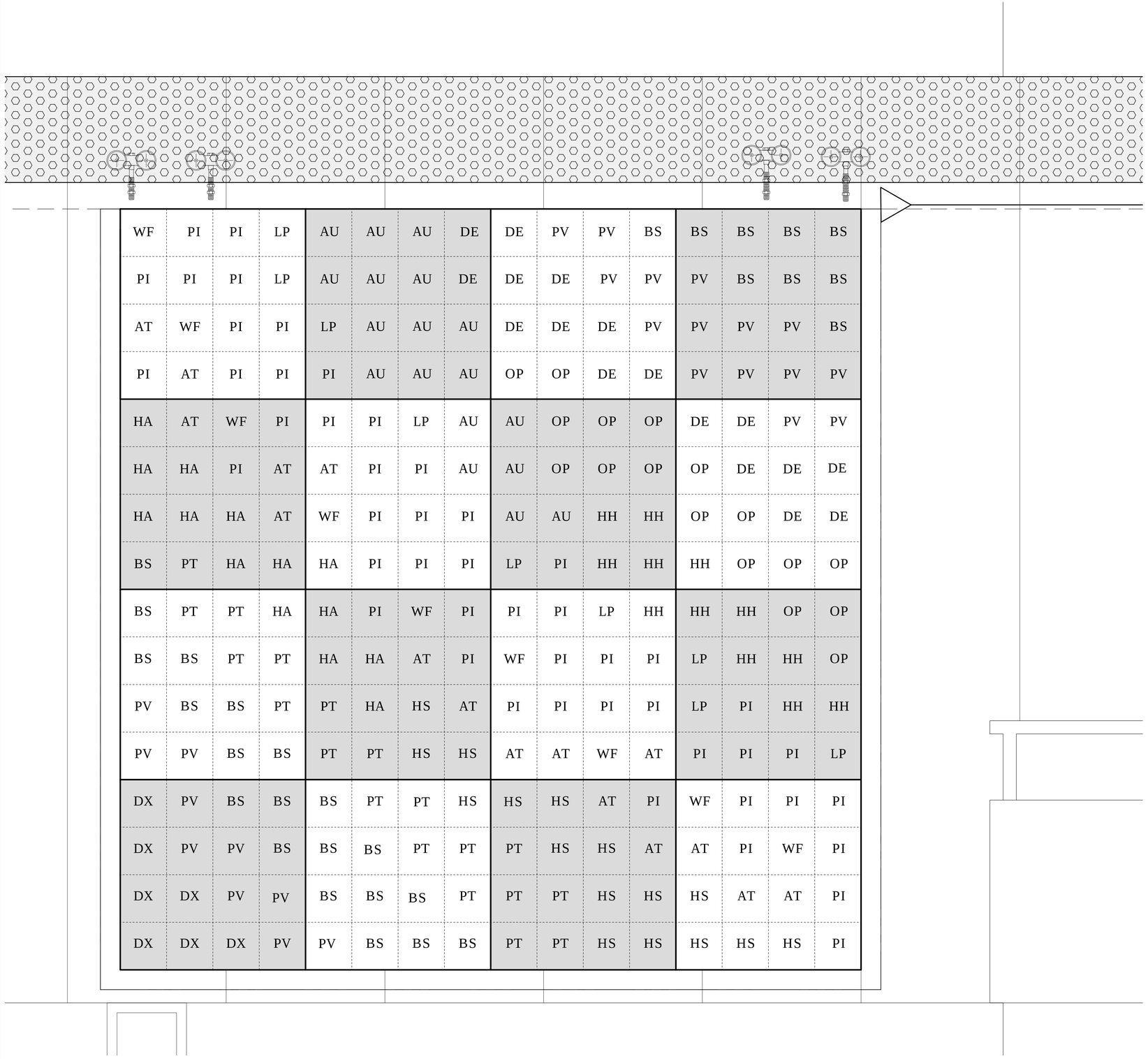


WF	PI	PI	LP	AU	AU	AU	DE	DE	PV	PV	BS	BS	BS	BS	BS
PI	PI	PI	LP	AU	AU	AU	DE	DE	DE	PV	PV	PV	BS	BS	BS
AT	WF	PI	PI	LP	AU	AU	AU	DE	DE	DE	PV	PV	PV	PV	BS
PI	AT	PI	PI	PI	AU	AU	AU	OP	OP	DE	DE	PV	PV	PV	PV
HA	AT	WF	PI	PI	PI	LP	AU	AU	OP	OP	OP	DE	DE	PV	PV
HA	HA	PI	AT	AT	PI	PI	AU	AU	OP	OP	OP	OP	DE	DE	DE
HA	HA	HA	AT	WF	PI	PI	PI	AU	AU	HH	HH	OP	OP	DE	DE
BS	PT	HA	HA	HA	PI	PI	PI	LP	PI	HH	HH	HH	OP	OP	OP
BS	PT	PT	HA	HA	PI	WF	PI	PI	PI	LP	HH	HH	HH	OP	OP
BS	BS	PT	PT	HA	HA	AT	PI	WF	PI	PI	PI	LP	HH	HH	OP
PV	BS	BS	PT	PT	HA	HS	AT	PI	PI	PI	PI	LP	PI	HH	HH
PV	PV	BS	BS	PT	PT	HS	HS	AT	AT	WF	AT	PI	PI	PI	LP
DX	PV	BS	BS	BS	PT	PT	HS	HS	HS	AT	PI	WF	PI	PI	PI
DX	PV	PV	BS	BS	BS	PT	PT	PT	HS	HS	AT	AT	PI	WF	PI
DX	DX	PV	PV	BS	BS	BS	PT	PT	PT	HS	HS	HS	AT	AT	PI
DX	DX	DX	PV	PV	BS	BS	BS	PT	PT	HS	HS	HS	HS	HS	PI

1 L-301b GREEN WALL PLANTING, PANEL: 'A'
Scale: 1 1/2" = 1'-0"

NOTES:

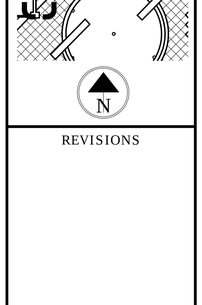
1. Contractor to provide plant material. Planting to be performed by UW Design Graduate Students, under supervision of contractor + UW Project Manager.
2. Color-coded planting plan available. Contact UW Project Manager.
3. All plantings to be over-seeded with moss.

PLANT SCHEDULE

SYMBOL	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	NOTES
AT	16	ASPLENIA TRICHOMANES	SPLEENWORT	PLUG	NATIVE
AU	18	ARCTOSTAPHYLOS UVA-URSA	KINNICKINNICK	NO. 1 CONT	NATIVE, WHITE FLOWERS, RED BERRIES
BS	29	BLECHNUM SPICANT	DEER FERN	NO. 1 CONT	NATIVE
DE	17	DRYOPTERIS ERYTHROSORA	AUTUMN FERN	NO. 1 CONT	RED IN FALL
DX	7	DRYOPTERIS EXPANSA	SPREADING WOODFERN	NO. 1 CONT	NATIVE
HA	14	HEUCHERELLA 'ALABAMA SUNRISE'	ALABAMA SUNRISE FOAMY BELLS	PLUG	CHARTRUESE LEAVES
HH	12	HEUCHERA 'HOLLYWOOD'	HOLLYWOOD CORALBELLS	PLUG	BLACK LEAVES, RED FLOWER SPIKES
HS	16	HEUCHERELLA 'SWEET TEA'	SWEET TEA FOAMY BELLS	PLUG	RED LEAVES
LP	9	LUETKIA PECTINATA	PARTRIDGEFOOT	PLUG	NATIVE, WHITE FLOWERS
OP	17	OPHIOPOGON PLANISCAPUS 'NIGRESCENS'	BLACK MONDO GRASS	NO. 1 CONT	BLACK LEAVES
PI	48	POLYSTICHUM IMBRICANS	SMALL SWORD FERN	NO. 1 CONT	NATIVE
PT	19	PHORMIUM TENAX 'BRONZE BABY'	BRONZE NEW ZEALAND FLAX	NO. 1 CONT	BRONZE LEAVES
PV	25	POLYPODIUM VULGARE	LICORICE FERN	NO. 1 CONT	NATIVE
WF	9	WOODWARDIA FIMBRIATA	CHAIN FERN	NO. 1 CONT	NATIVE

SHEET NOTES

KEY PLAN



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SCALE

0 1

SCALE: 1 1/2" = 1'-0"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	1 1/2" = 1'

GREEN WALL PLANTING ELEVATION 'B'

L-301b

SHEET 9 OF 21

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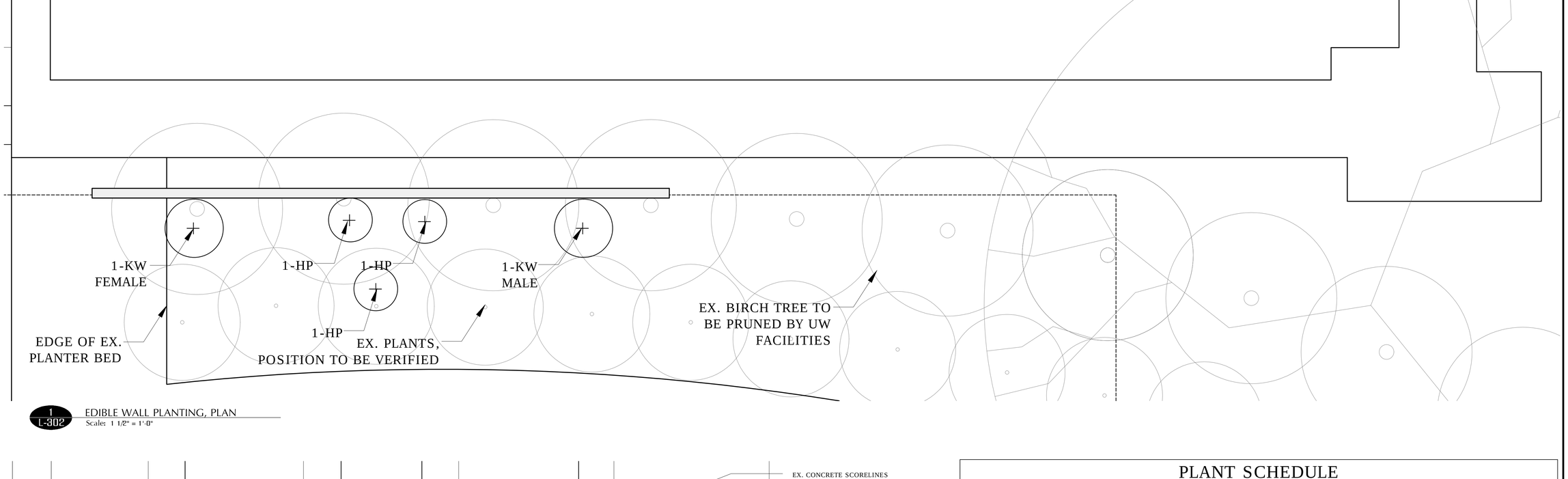
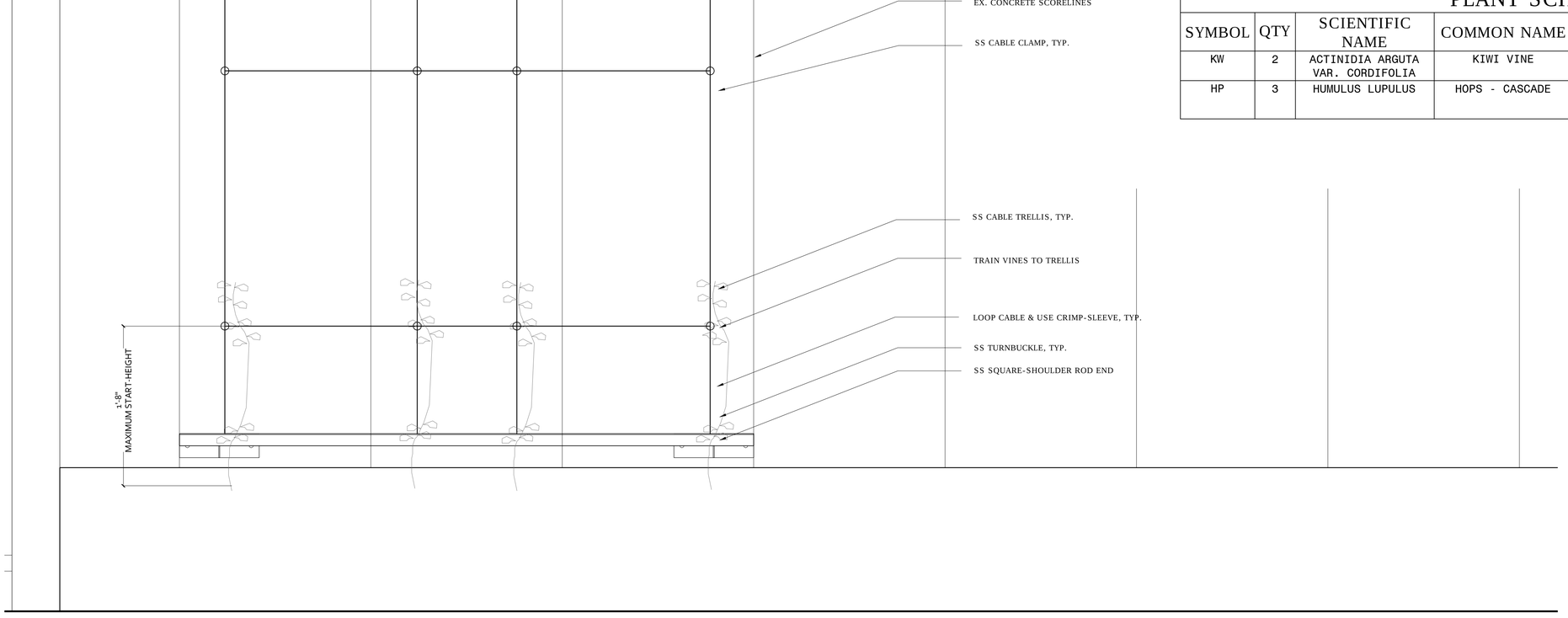


1 L-302 EDIBLE WALL PLANTING, PLAN
Scale: 1 1/2" = 1'-0"



2 L-302 EDIBLE WALL PLANTING, ELEVATION
Scale: 1 1/2" = 1'-0"

PLANT SCHEDULE

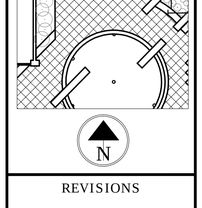
SYMBOL	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	NOTES
KW	2	ACTINIDIA ARGUTA VAR. CORDIFOLIA	KIWI VINE	NO. 1 CONT	PLANT 1 MALE 1 FEMALE AS PER PLANS, A. ARGUTA 'MEANDER' FOR MALE
HP	3	HUMULUS LUPULUS	HOPS - CASCADE	NO. 1 CONT	

NOTES:

1. EXISTING LANDSCAPING TO BE VERIFIED.
2. UW FACILITIES TO PRUNE BACK BIRCH TREE TO MAKE ROOM FOR GREEN SCREEN.
3. VINES PLANTED SHALL BE LARGE ENOUGH TO BEGIN TO TRAIN UP TRELLIS.
4. PLANT 1 MALE AND 1 FEMALE KIWI PLANT TO ALLOW FOR FRUITING.
5. EXISTING SOIL TO BE AMENDED IN VICINITY OF NEW PLANTINGS.

SHEET NOTES

KEY PLAN



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SCALE
0 1
SCALE: 1 1/2" = 1'-0"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	1 1/2" = 1'-0"

GREEN SCREEN
PLANTING PLAN
+ ELEVATION

L-302

SHEET 10 OF 21

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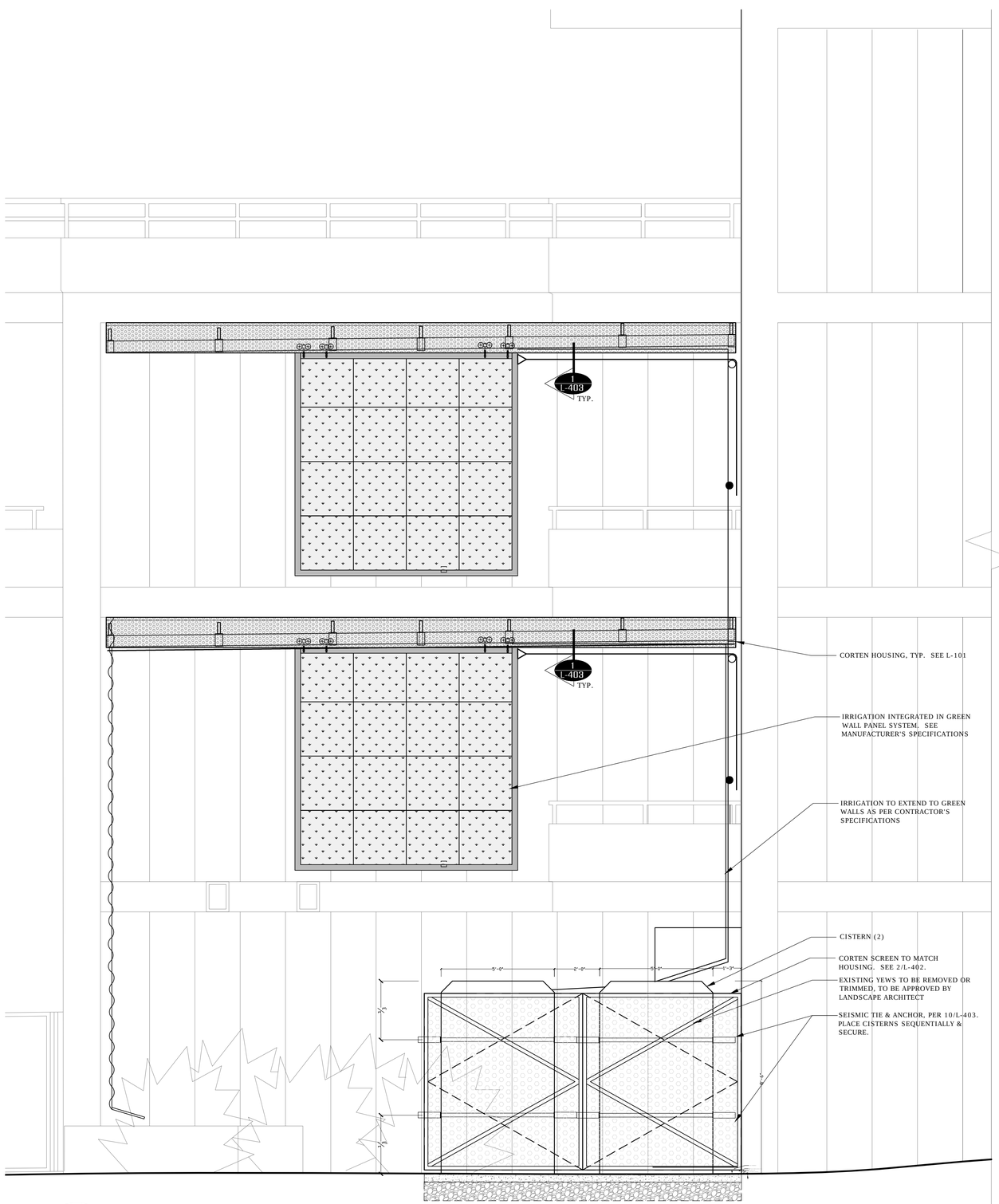
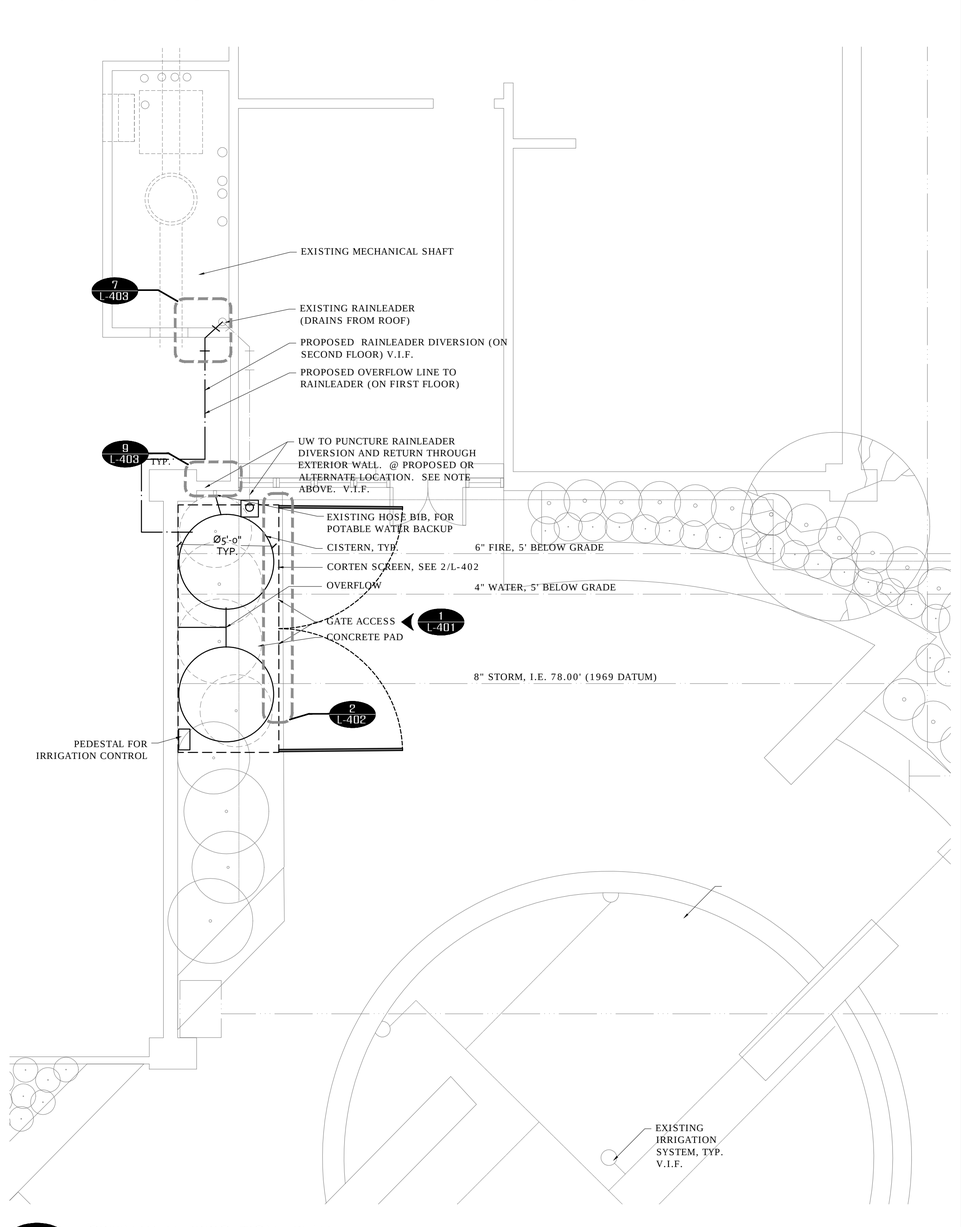


1 L-401 GREEN WALL, IRRIGATION - ELEVATION
Scale: 3/8" = 1'-0"

NOTES:

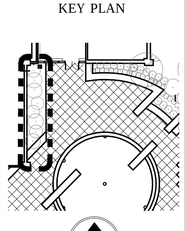
1. ALL BURIED PIPES SHALL BE BACKFILLED AND BEDDED WITH BANK RUN GRAVEL OR SUITABLE NATIVE MATERIAL.
2. IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR OR MORE FEET IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF WSDOT SECTION 2-09.03(3)B, IT SHALL BE SHORED AND CRIBBED. THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR WORKER SAFETY. ALL TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.
3. CONCRETE PAD TO BE SUBSTANTIAL ENOUGH TO SUPPORT CISTERN LOADS.
4. CISTERNS SHALL MEET ALL SEISMIC AND STRUCTURAL CODES.



2 L-401 GREEN WALL, IRRIGATION - PLAN
Scale: 1/4" = 1'-0"

SHEET NOTES

KEY PLAN



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SCALE

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	1" = 50'

GREEN WALL
IRRIGATION PLAN
+ ELEVATION

L-401

SHEET 11 OF 21

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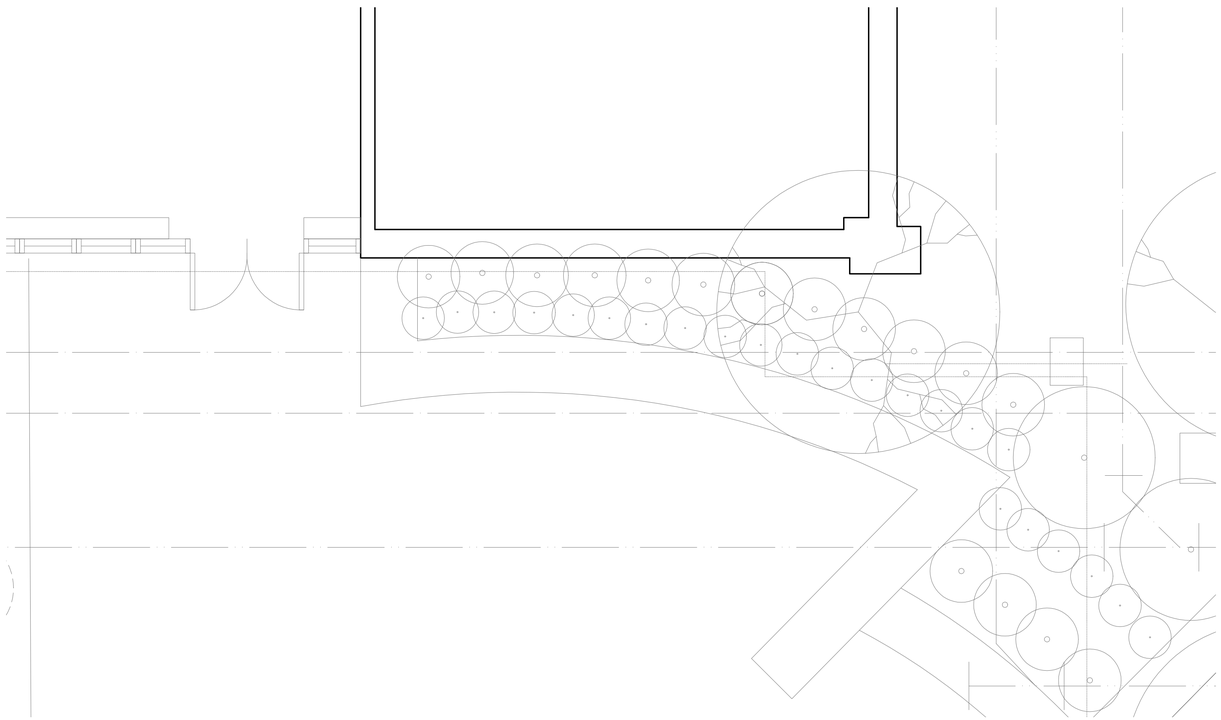
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



1 L-402 GREEN SCREEN, IRRIGATION - PLAN
Scale: 3/8" = 1'-0"

NOTES:

1. Existing Varey Garden irrigation specifics unknown. UW Staff to verify records prior to construction.

DRAINAGE CALCULATIONS

Total Roof Area = 23,629 sf
= 0.542 acres

There are four rain leaders that drain the roof. They all drain approximately one-quarter of the roof area. The rain leader in the southeast corner of the building will be diverted. This rain leader is smaller than the other 3 at the second floor, suggesting that it drains the smallest area.

The total drainage area to the SE rain leader was determined to be 25% of the roof area or approximately 6,000 sf.

Contributing drainage area
=6000 sf
=0.138 acres

Drainage Basin: 0.138 acres impervious

From WWHM3,
100 year, 24-hour peak storm flow:

Q100 = 0.062 cfs (1-hour time step)

Convert to 15 minute timestep by multiplying by a factor of 1.6…

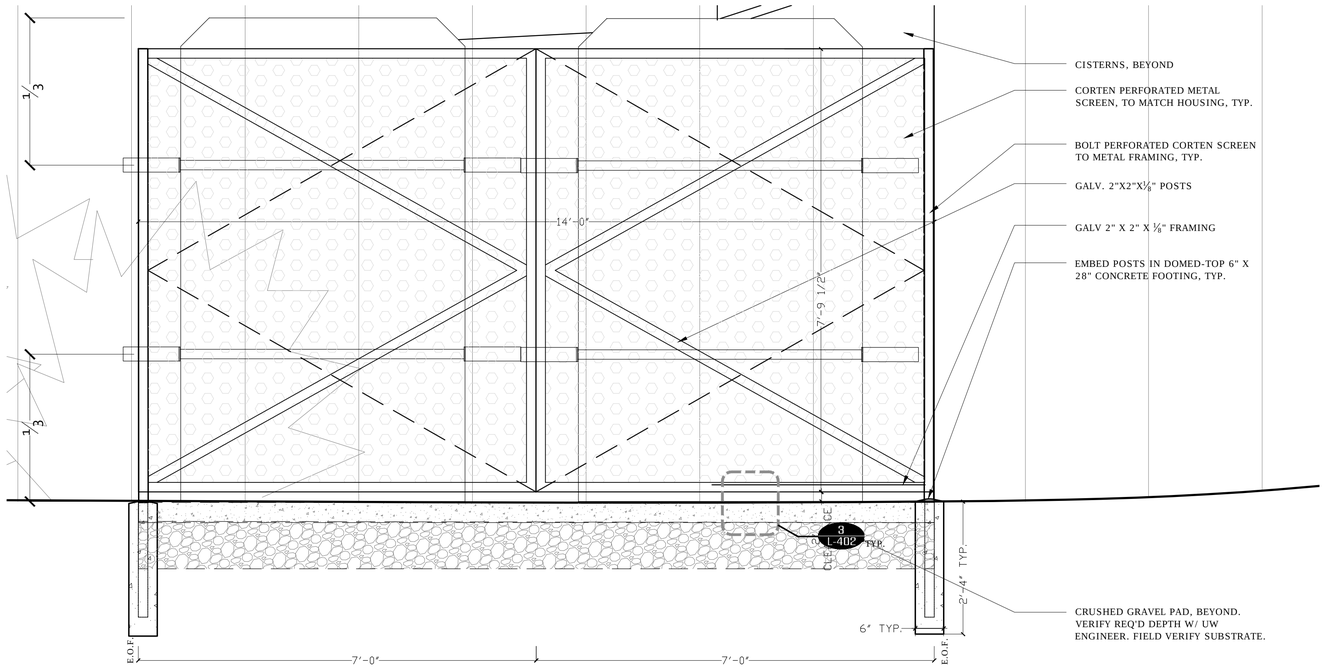
Q100 = 0.099 cfs (15-minute time step)

Pipe Conveyance Calculation:
Manning's Equation for open channel flow - Flow through circular conduit

For a 4-inch diameter plastic pipe at 2.0% slope, the design capacity (90% full) is…

A 4" pipe at minimum slope (2.0%) has capacity to convey the 100-year discharge from the contributing drainage area.
Qcap > Q100 (0.277 cfs > 0.099 cfs)

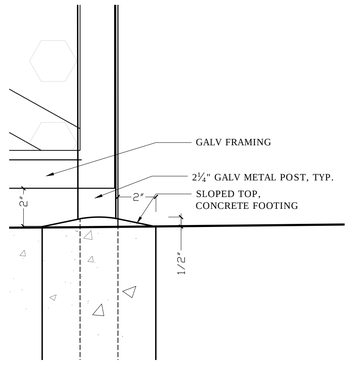
A 4" pipe @ 2.0% slope will be approximately 39% full during the 100-year peak discharge.



2 L-402 CISTERN SCREEN ASSEMBLY - ELEVATION
Scale: 3/4" = 1'-0"

MODEL PARAMETERS:

Diameter, D	4	in
Area , A (full)	0.087	sf
Slope, So	0.02	ft/ft
Manning's Coefficient,n	0.013	
Water Depth, h	3.38	in
theta	4.66	rad
Flow Area	0.079	sf
Wetted Perimeter	0.78	ft
Hydraulic Radius	0.101	ft
FLOW, Q	**0.277**	**cfs**
% full	**90.1%**	



9 L-402 CISTERN SCREEN ASSEMBLY - DETAIL
Scale: 3/4" = 1'-0"

PROJECT REPORT

Project Name: Gould
Site Address:
City :
Report Date : 2/26/2012
Gage : Seatac
Data Start : 1948/10/01
Data End : 1998/09/30
Precip Scale: 1.00

MITIGATED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

Pervious Land Use	Acres

Impervious Land Use	Acres
ROOF TOPS FLAT	0.138

Element Flows To:
Surface **Interflow** **Groundwater**

ANALYSIS RESULTS

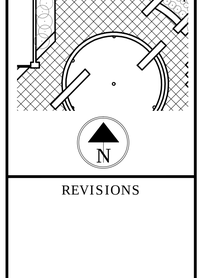
Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	0.034465
5 year	0.041905
10 year	0.046713
25 year	0.052712
50 year	0.05715
100 year	0.061575

This program and accompanying documentation is provided 'as-is' without warranty of any kind. The entire risk regarding the performance and results of this program is assumed by the user. Clear Creek Solutions and the Washington State Department of Ecology disclaims all warranties, either expressed or implied, including but not limited to implied warranties of program and accompanying documentation. In no event shall Clear Creek Solutions and/or the Washington State Department of Ecology be liable for any damages whatsoever (including without limitation to damages for loss of business profits, loss of business information, business interruption, and the like) arising out of the use of, or inability to use this program even if Clear Creek Solutions or the Washington State Department of Ecology has been advised of the possibility of such damages.

SHEET NOTES

KEY PLAN



REVISIONS

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SEATTLE, WA 98105
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T: 206.685.0521 F: 206.685.4486

SCALE

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	3/8" = 1'-0"

GREEN SCREEN IRRIGATION PLAN + CALCS

L-402

SHEET 12 OF 21

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT
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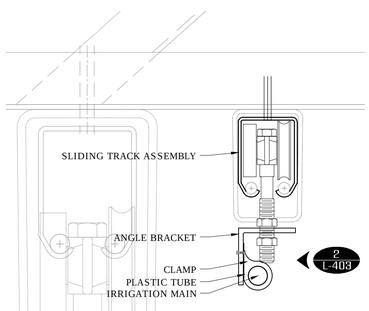
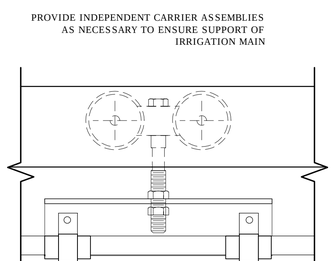
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



1 L-403 IRRIGATION TRUCK ASSEMBLY - SECT
Scale: 6" = 1'-0"



2 L-403 IRRIGATION TRUCK ASSEMBLEY - ELEV
Scale: 6" = 1'-0"

CONTRACTOR TO PROVIDE

3 L-403 BACKFLOW PREVENTER
Scale: 3" = 1'-0"

CONTRACTOR TO PROVIDE

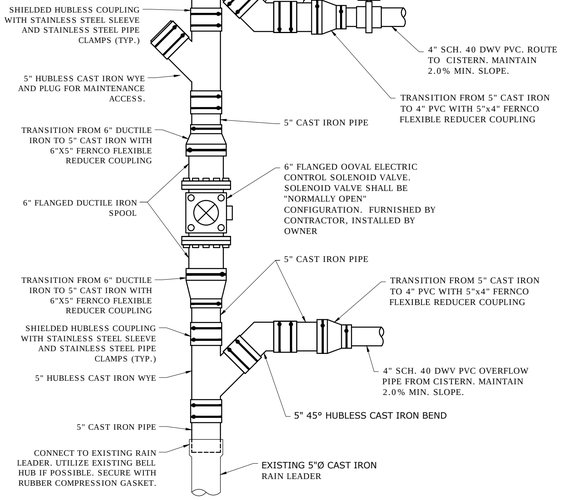
4 L-403 OVERFLOW
Scale: 3" = 1'-0"

CONTRACTOR TO PROVIDE

5 L-403 IRRIGATION CONTROLLER
Scale: 3" = 1'-0"

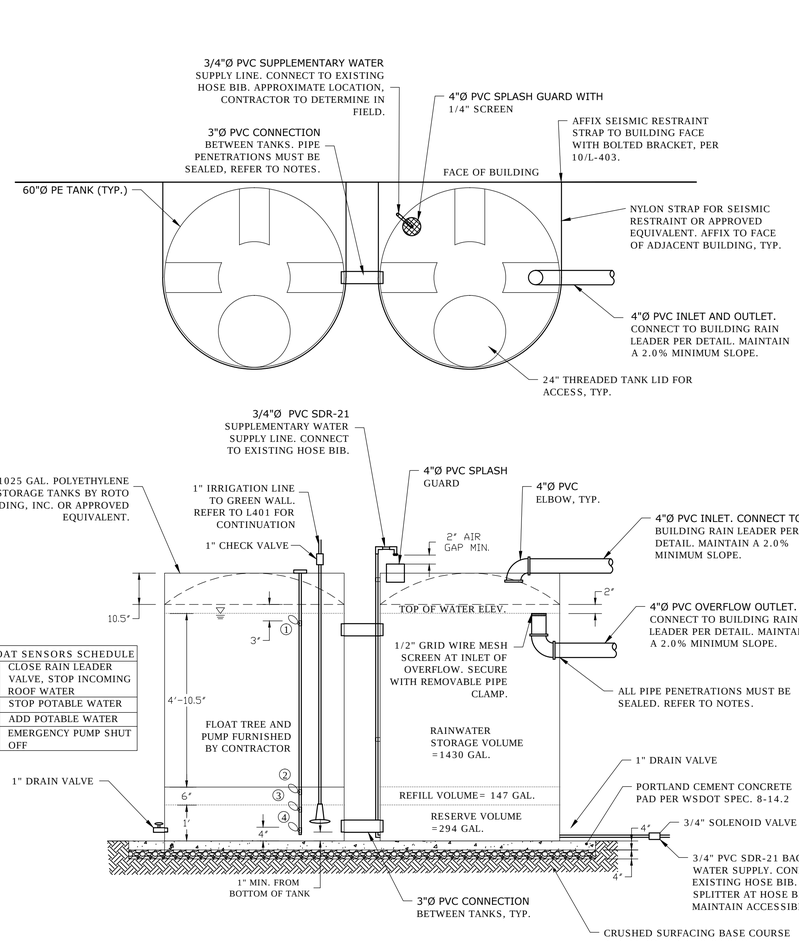
CONTRACTOR TO PROVIDE

6 L-403 FERTILIZER INJECTOR
Scale: 3" = 1'-0"



NOTES:
1. UW STAFF TO COMPLETE INTERIOR PIPING ADJUSTMENTS.
2. RAINLEADER PIPE DIAMETER AND MATERIAL TO BE VERIFIED.
3. SUPPORTS FOR RAINLEADER DIVERSION PIPE TO BE DETERMINED BY UW STAFF.
4. CAUTION: ASBESTOS TESTING TO BE PERFORMED PRIOR TO ENTERING MECHANICAL SHAFT.
5. ALL PIPE AND FITTINGS SHALL HUBLESS DWV CAST IRON UNLESS OTHERWISE NOTED.
6. RAINLEADER WATER MUST DIVERT DOWN RAINLEADER IN FAILURE CONDITIONS.
7. ALL VALVES TO BE CONTROLLED AND MONITORED THROUGH BOTH A WEBSITE AND MANUAL HAND-HELD DEVICE
8. HUB FITTINGS WITH RUBBER COMPRESSION GASKET MAY BE USED INSTEAD OF HUBLESS FITTINGS.

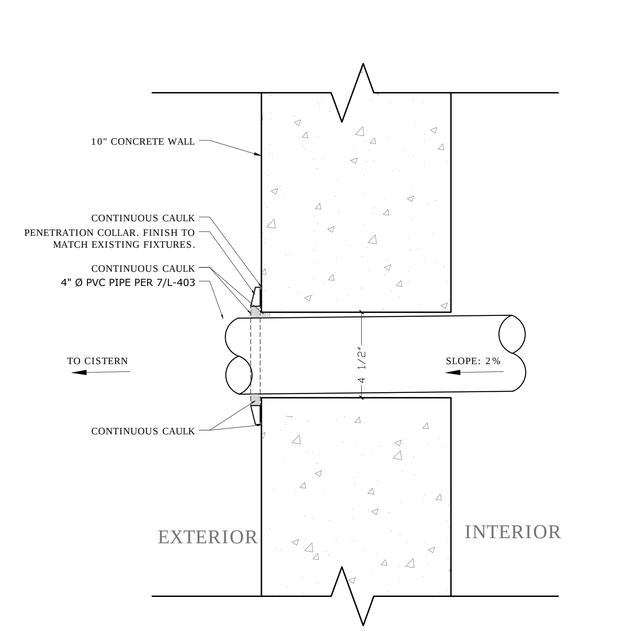
7 L-403 RAINLEADER DIVERSION, DETAIL
Scale: N.T.S.



FLOAT SENSORS SCHEDULE	
①	CLOSE RAIN LEADER VALVE, STOP INCOMING ROOF WATER
②	STOP POTABLE WATER
③	ADD POTABLE WATER
④	EMERGENCY PUMP SHUT OFF

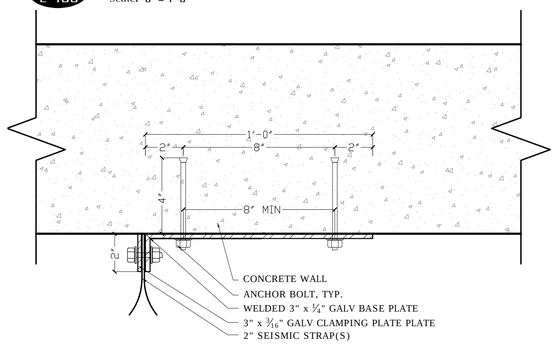
NOTES:
1. COMPACT SUBGRADE AND GRAVEL LEVELING COURSE. TANK BASE SHALL BE COMPACTED, FLAT AND LEVEL AND REMOVED OF FOREIGN ROCKS AND DEBRIS.
2. AUTOFILL VALVE TO BE INSTALLED PER MANUFACTURER GUIDELINES.
3. AUTOFILL VALVE FLOAT HEIGHT SHALL BE SET SO THAT "ON" LEVEL IS 1 FOOT ABOVE BOTTOM OF TANK.
4. REFER TO IRRIGATION DRAWINGS FOR CONNECTION OF CISTERN PUMP.
5. ALL PIPE PENETRATIONS INTO TANK MUST BE SEALED AND WATER TIGHT USING BULKHEAD OR RING GASKET FITTINGS OR APPROVED EQUIVALENT.
6. PROVIDE INSULATION WITH VAPOR BARRIER FOR THE INLET PIPING FROM THE STORM RISER IN THE BUILDING SHAFT TO THE CISTERN AND THE OUTER PIPING FROM THE CISTERN BACK TO THE STORM DRAIN RISER IN THE BUILDING. PROVIDE IMMERSION HEATER IN EACH OF THE CISTERN TANKS TO PROTECT AGAINST FREEZING.
7. ALL EXTERIOR PVC PIPES SHALL BE COATED WITH A WATER BASED LATEX PAINT FOR UV PROTECTION.

8 L-403 CISTERN, DETAIL
Scale: N.T.S.



NOTES:
1. PIPE SLOPE SHOULD BE OPPOSITE OF THAT SHOWN FOR OVERFLOW RETURN LINE.

9 L-403 WALL PENETRATION, DETAIL
Scale: 3" = 1'-0"



10 L-403 SEISMIC STRAP ANCHOR, TYP.
Scale: 3" = 1'-0"

SHEET NOTES

KEY PLAN

REVISIONS

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SCALE

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
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BUILDING:	Gould Hall
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DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	VARIES

IRRIGATION DETAILS

L-403

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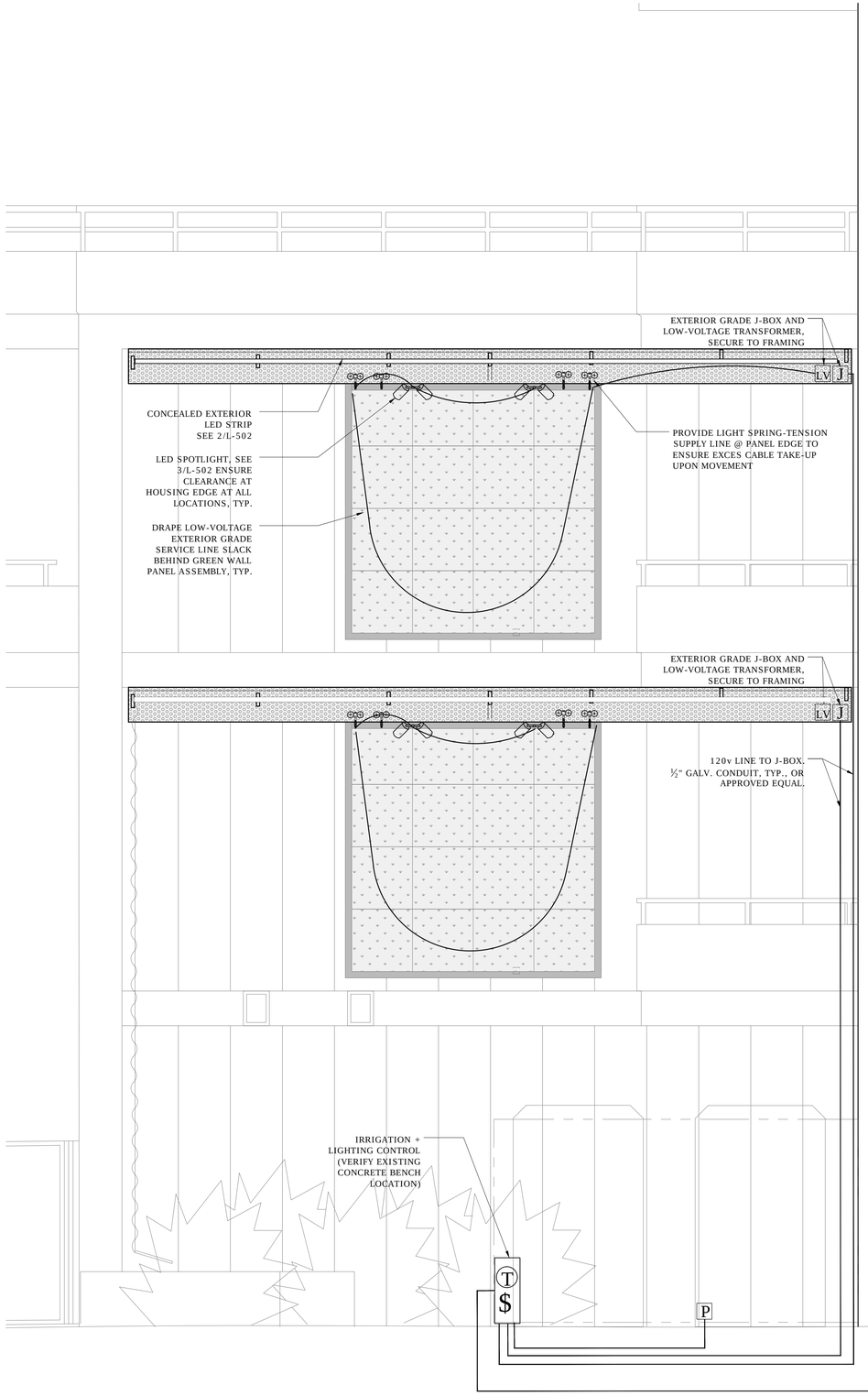
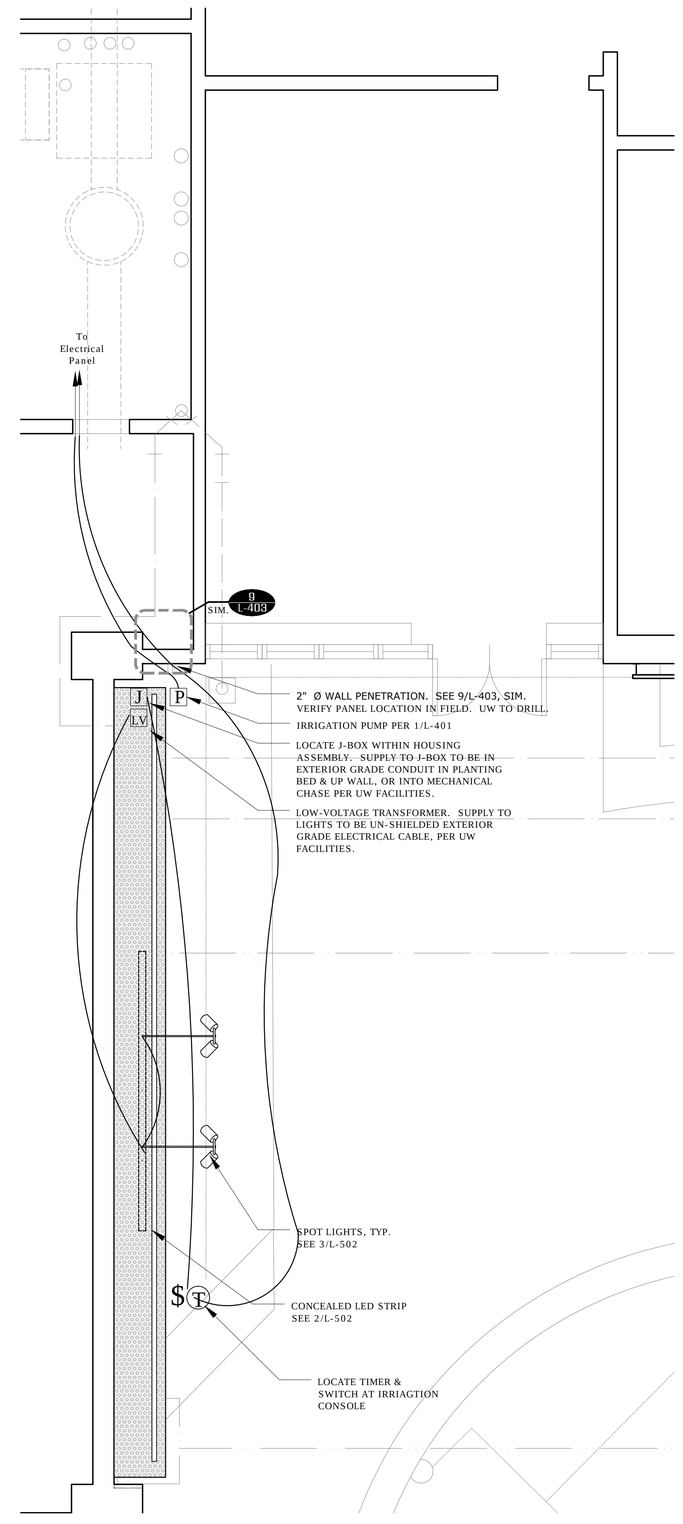


1 L-501 GREEN WALL, ELECTRICAL - ELEVATION
Scale: 3/8" = 1'-0"



2 L-501 GREEN WALL, ELECTRICAL - PLAN
Scale: 3/8" = 1'-0"

NOTES:

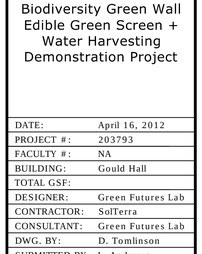
1. ALL FIXTURES TO BE RATED FOR EXTERIOR CONDITIONS
2. PROVIDE FOR FIXTURE MOUNTING IN LOCATIONS SHOWN
3. LOW VOLTAGE, LED FIXTURES TO BE USED WHEN AVAILABLE
4. FINISH TO BE APPROVED BY PROJECT MANAGER.

SYMBOLS:

$	SWITCH
Ⓣ	GE 7-DAY DIGITAL OUTDOOR BOX TIMER # 15136
J	JUNCTION BOX
LV	LOW-VOLTAGE TRANSFORMER
P	IRRIGATION PUMP PER CONTRACTOR SPECIFICATIONS

SHEET NOTES

KEY PLAN



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SCALE

0 1 2 4

SCALE: 3/8" = 1'-0"

Biodiversity Green Wall
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CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	3/8" = 1'-0"

GREEN WALL ELECTICAL PLAN + ELEVATION

L-501

SHEET 14 OF 21

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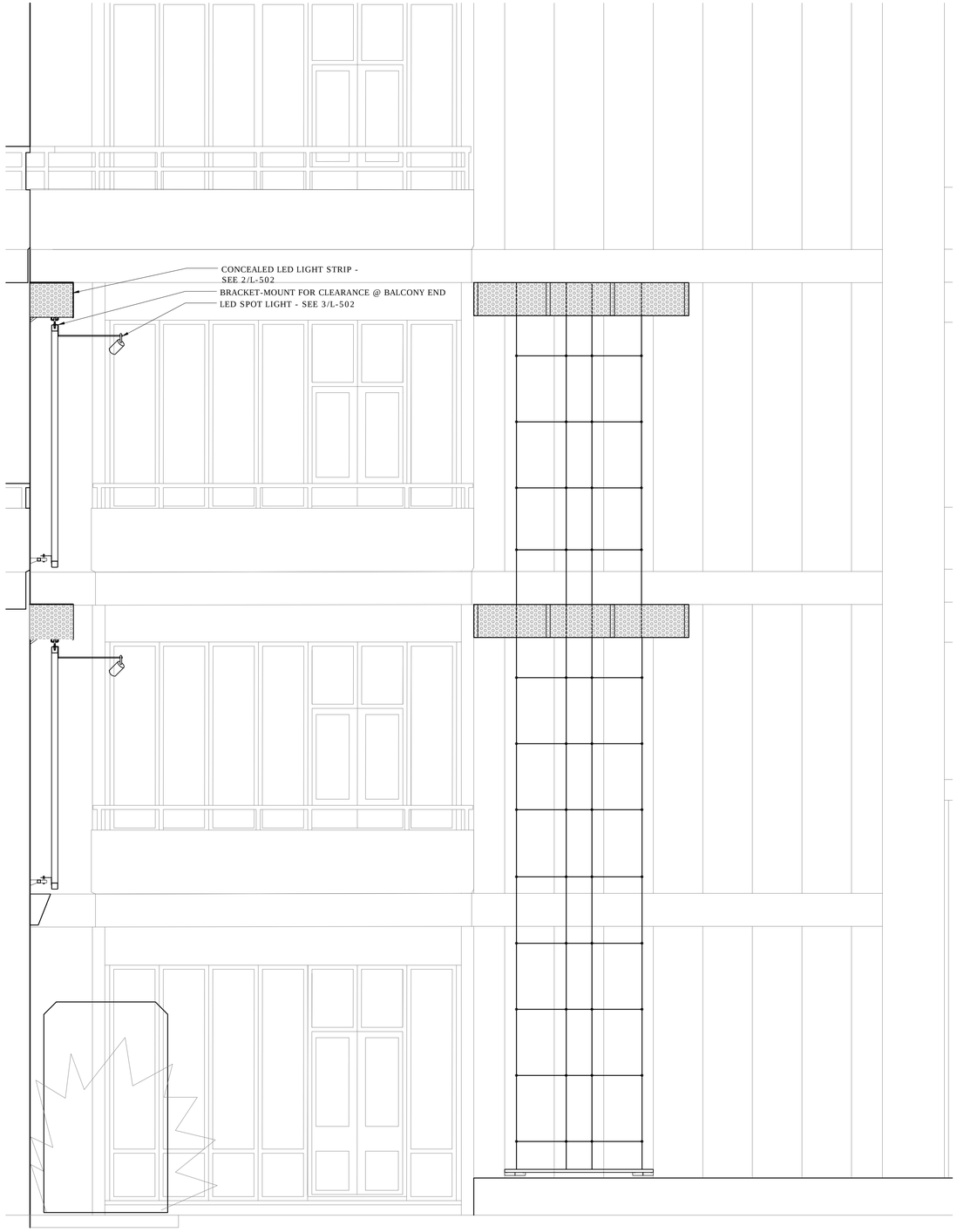
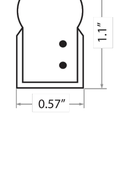


1 L-502 *GREEN WALL, ELECTRICAL - ELEVATION*
Scale: 3/8" = 1'-0"

DIMENSIONS



WARRANTY

Any component that fails due to manufacture defect is guaranteed for one year from the time of shipment. Warranty does not apply to damages caused by improper installation, abuse, fire or acts of God.

ORDERING INFO

FBT	150	WW	120	T	LP-1600A
SERIES	LENGTH	LED COLOR	VOLTAGE	OPTIONS (Factory Installed)	ACCESSORIES (Enter as separate line item)
FBT	150[1] = 150 Feet XX = Custom Length	R = Red, O = Orange, Y = Yellow, B = Blue, P = Pink, G = Green, WC[3] = Cool White (6500K), WP[3] = Pure White (5000K), WW[3] = Warm White (3500K)	24[2] = 24V 120 = 120V	T = Tru-Color	BLP-1600A = 120V, 1.6 AMP, with AC/DC converter, drives 96' max BLP-4000A = 120V, 4.0 AMP, with AC/DC converter, drives 240' max BLP-1600B = 120V, 1.6 AMP, includes AC/DC converter, drives 16' max BLP-4000B = 24V, 4.0 AMP, includes AC/DC converter, drives 40' max

[1] Complete rolls come standard with: (5) Power Supplies, (5) Connector Pins, (5) End Caps, (5) Heat Shrink Tubes & (50) Mounting Clips
[2] Requires 120V to 24VDC Transformer - to be FBO
[3] Color temps can vary +/- 500K

U.L. Listed, custom cut lengths are available, but may have additional lead time.

BARRON lighting group
1911 W. Parkside Lane • Phoenix, AZ 85027
(800) 533-3948 • Fax: (623) 580-8948
www.barronltg.com

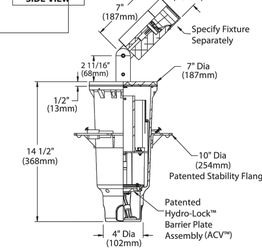
2 L-502 *GREEN WALL, LED LIGHT STRIP*
Scale: N.T.S.

Precision² — BKSSL Constant Current Driver

HP² Driver Housing

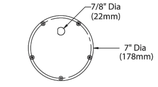
PROJECT:
TYPE:

SIDE VIEW

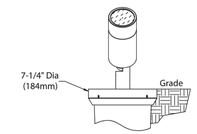


TOP VIEW

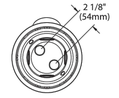
TOP VIEW WITHOUT FIXTURE



CPC OPTION



BOTTOM VIEW



SPECIFICATIONS

GreenSource Initiative™
Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced onsite. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFCs). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.bklighting.com/greensource for program requirements.

Installation
For direct burial in soil or concrete.

Faceplate
Solid, 1/2" machined 6061T6 copper-free aluminum with (5) black oxide, captive, stainless steel mounting screws.

Housing
Corrosion-free composite, made from high strength, thermoformed, sheet molded polyester compound. Glass reinforced, flame retardant and UV stabilized. (2) Bottom-Entry, 3/4" NPT female conduit entries with knockout plugs and (4) side flats for 1/2" or 3/4" conduit adapters.

Patented Stability Flange
Corrosion-free composite flange projects into installation substrate to reinforce housing stability. Integral REBAR saddles simplify installation onto concrete form. (4) Orthogonal bosses permit use of ½" PCV conduit or EMT to simplify vertical position and leveling of housing. Pre-set self-tapping screws anchor housing at proper elevation.

Water Management
Self Evacuating Airtight Lamp Module (S.E.A.L.™). IP-68 rated, vacuum sealed enclosure. Patented Anti-Condensation Valve (ACV™) eliminates condensation on interior components. Hightemperature silicone 'O' Ring at faceplate. Patented HydroLock® technology provides fail safe water barrier between junction box and interior components. Anti-siphon valve (ASV™) prevents "wicking" through conductor insulation.

Driver Assembly
[1] 700mA, constant current driver. 120V, 208V, 240V, or 277V primary voltage. 50/60Hz. Non-dimming. >0.92 Power Factor. <20%THD. Efficiency >85% (Typical). Over-voltage, over-current, and short circuit protection. Integral, removable gear tray with quick disconnect and carrying handle.

Wiring / Connectors
Teflon* coated wire, 18 gauge, 600V, 250°C rated and certified to UL1659 standard. OptiLock® and gear tray quick disconnects. [3] Water-Tight connectors supplied for line connection. Maximum [2] #10 & [1] #18. Minimum [1] #12 & [1] #18.

Finish
StarGuard® (Patent Pending), a 15 stage, chromate-free processclean and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating. RoHs compliant.

Warranty
5 year limited warranty.

Listings
IP-68 Rated Enclosure. ETL Listed to ANSI/UL Standard 1598 and Certified to CAN/CSA Standard C22.2 No. 250. RoHs compliant. Made in the USA.

RoHS

*Teflon is a registered trademark of DuPont Corporation.

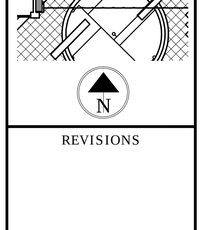
B-K LIGHTING	40429 Brickyard Drive • Madera, CA 93636 • USA 559.438.5800 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com	SUBMITTAL DATE	DRAWING NUMBER
		5-6-11	SUB001120

Precision2® and its features are covered in whole or in part by U.S. Patent Nos. 7,033,038; 6,254,258 B1; 7,249,867 B2; 7,370,988 B2; 7,553,042; 7,560,148; and 7,699,489

3 L-502 *GREEN WALL, LED SPOTLIGHT*
Scale: N.T.S.

SHEET NOTES

KEY PLAN



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SCALE

0 1 2 4
SCALE: 3/8" = 1'-0"

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Demonstration Project

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CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	4/15/2012
SCALE:	VARIES

GREEN SCREEN ELECTICAL PLAN + ELEVATION

L-502

SHEET 15 OF 21

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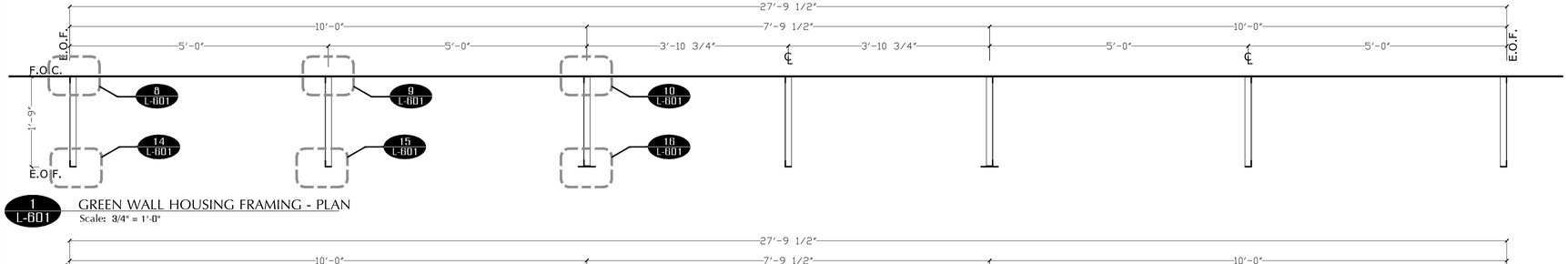
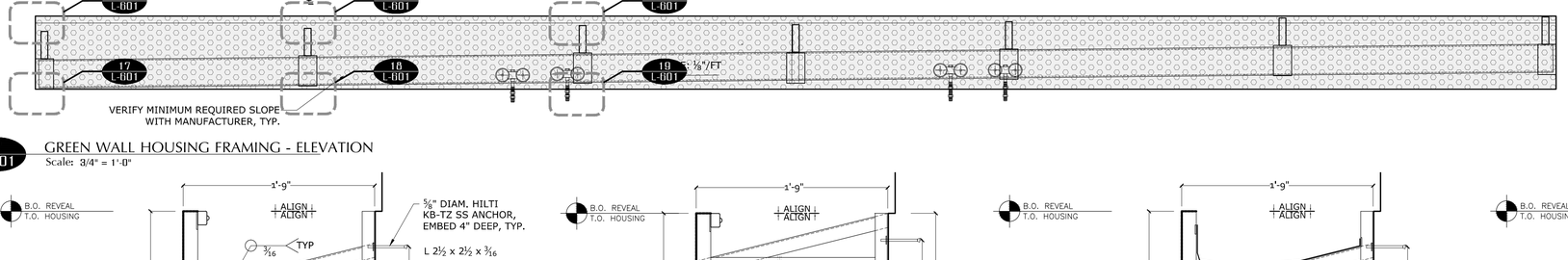
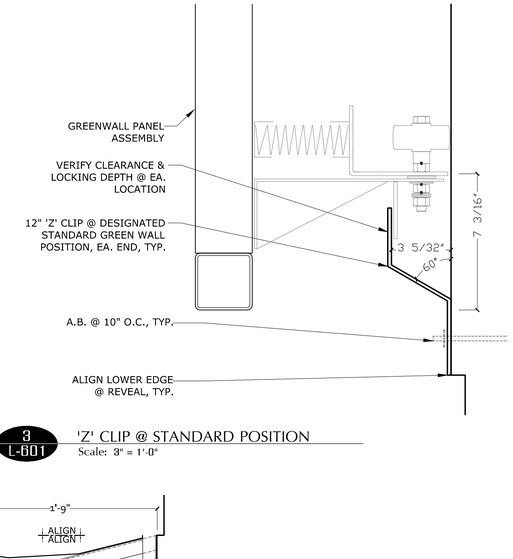


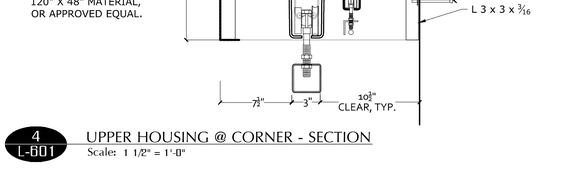
1 L-601 GREEN WALL HOUSING FRAMING - PLAN
Scale: 3/4" = 1'-0"



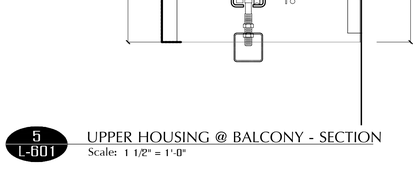
2 L-601 GREEN WALL HOUSING FRAMING - ELEVATION
Scale: 3/4" = 1'-0"



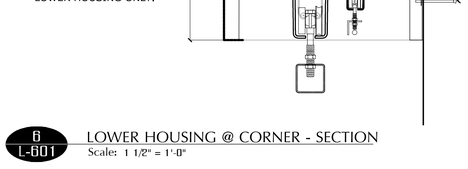
3 L-601 'Z' CLIP @ STANDARD POSITION
Scale: 3" = 1'-0"



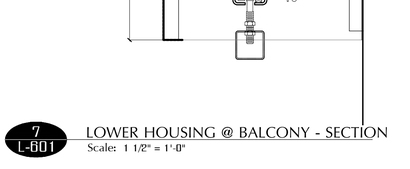
4 L-601 UPPER HOUSING @ CORNER - SECTION
Scale: 1 1/2" = 1'-0"



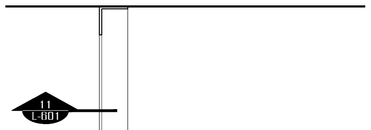
5 L-601 UPPER HOUSING @ BALCONY - SECTION
Scale: 1 1/2" = 1'-0"



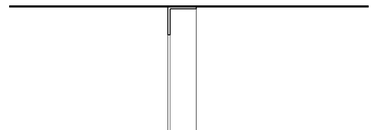
6 L-601 LOWER HOUSING @ CORNER - SECTION
Scale: 1 1/2" = 1'-0"



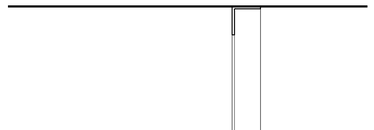
7 L-601 LOWER HOUSING @ BALCONY - SECTION
Scale: 1 1/2" = 1'-0"



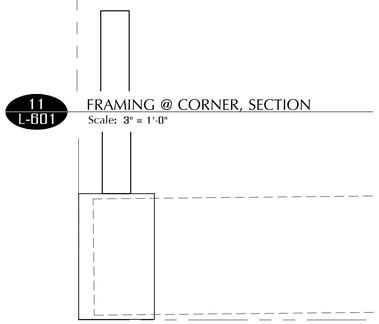
8 L-601 FRAMING @ CORNER, PLAN
Scale: 3" = 1'-0"



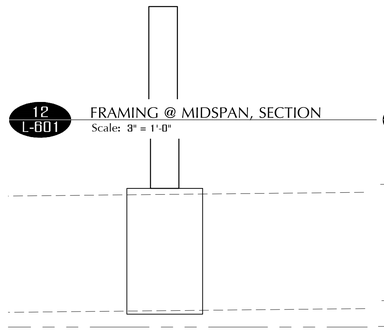
9 L-601 FRAMING @ MIDSPAN, PLAN
Scale: 3" = 1'-0"



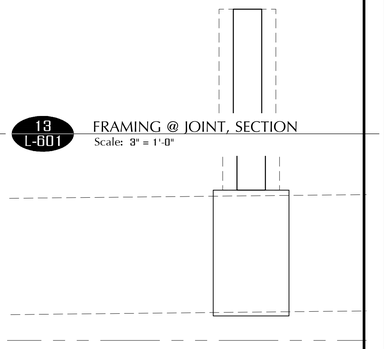
10 L-601 FRAMING @ JOINT, PLAN
Scale: 3" = 1'-0"



11 L-601 FRAMING @ CORNER, SECTION
Scale: 3" = 1'-0"



12 L-601 FRAMING @ MIDSPAN, SECTION
Scale: 3" = 1'-0"



13 L-601 FRAMING @ JOINT, SECTION
Scale: 3" = 1'-0"

14 L-601 FRAMING @ CORNER, PLAN
Scale: 3" = 1'-0"

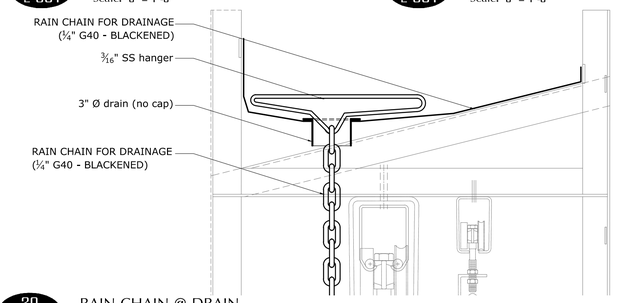
15 L-601 FRAMING @ MIDSPAN, PLAN
Scale: 3" = 1'-0"

16 L-601 FRAMING @ JOINT, PLAN
Scale: 3" = 1'-0"

17 L-601 FRAMING @ CORNER, SECTION
Scale: 3" = 1'-0"

18 L-601 FRAMING @ MIDSPAN, SECTION
Scale: 3" = 1'-0"

19 L-601 FRAMING @ JOINT, SECTION
Scale: 3" = 1'-0"



20 L-601 RAIN CHAIN @ DRAIN
Scale: 3" = 1'-0"

SHEET NOTES

KEY PLAN

REVISIONS

GREEN FUTURES RESEARCH & DESIGN LAB
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T: 206.685.0521 F: 206.685.4486

SCALE

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	VARIES

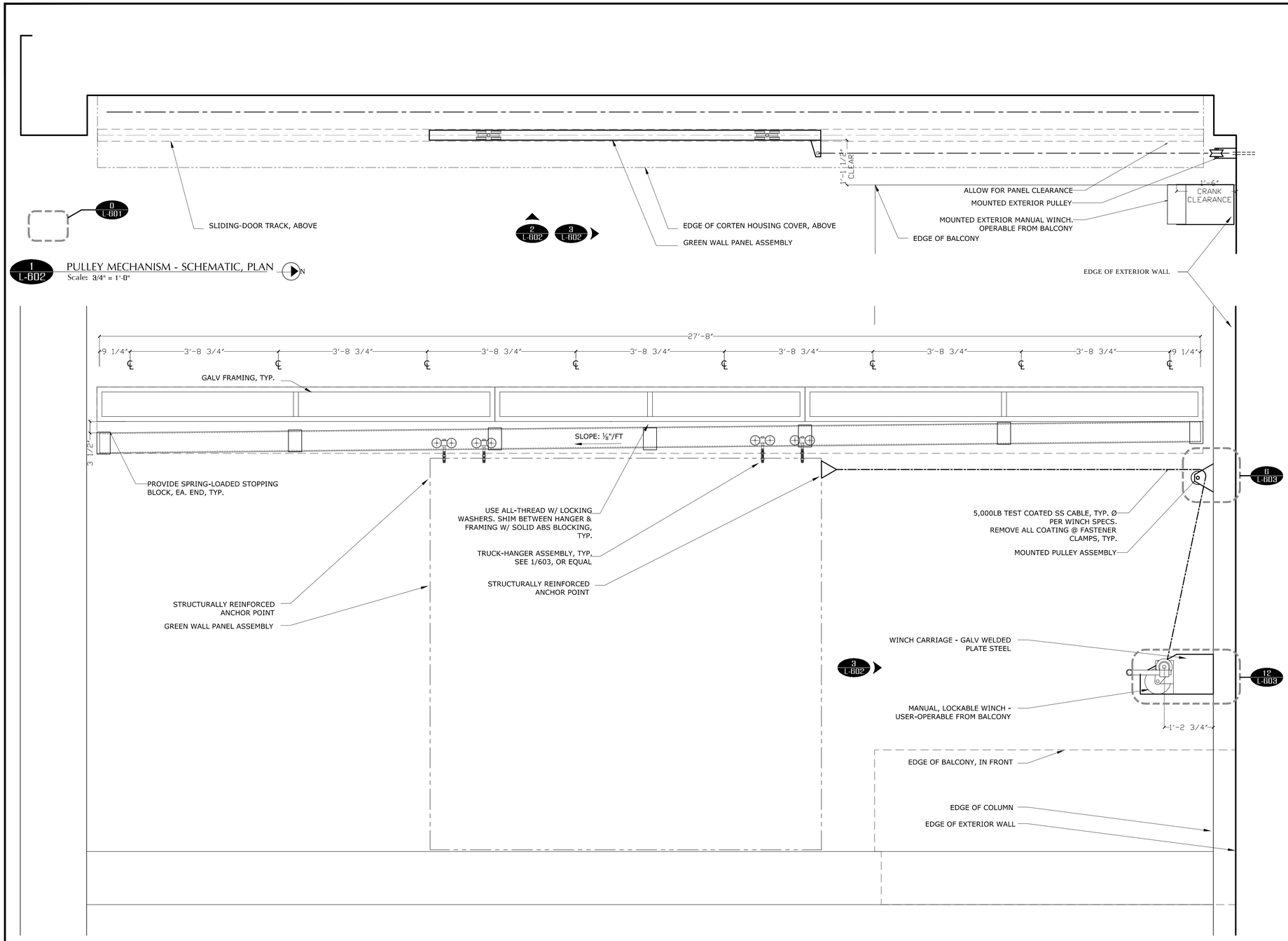
GREEN WALL DETAILS

L-601

SHEET 16 OF 21

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



1 L-602 PULLEY MECHANISM - SCHEMATIC, PLAN
Scale: 3/4" = 1'-0"

2 L-602 PULLEY MECHANISM - SCHEMATIC, ELEVATION
Scale: 3/4" = 1'-0"

3 L-602 PULLEY MECHANISM - SCHEMATIC, ELEVATION
Scale: 3/4" = 1'-0"

WINCH: Thern M4022PB, mounted to carriage or approved equal. Provide 14" crank clearance (MIN) @ wall.

CARRIAGE: 1 1/2" x 1 1/2" x 3/16" galv framing. Provide mounting plate per Thern M4022PB winch. Carriage to be mounted to building wall as shown, or alternate: to interior balcony wall surface.

SHEET NOTES

KEY PLAN

REVISIONS

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SCALE
0 1 2
SCALE: 1" = 1"

Biodiversity Green Wall
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DATE:	April 16, 2012
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FACULTY #:	NA
BUILDING:	Gould Hall
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DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	VARIES

PULLEY SCHEMATICS

L-602

SHEET 17 OF 21

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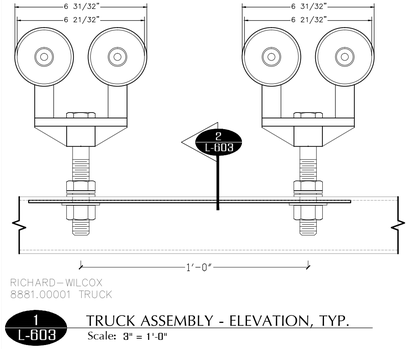
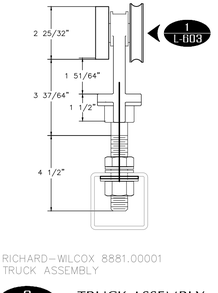
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



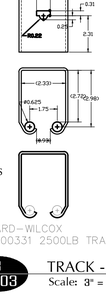
RICHARD–WILCOX
8881.00001 TRUCK

1 TRUCK ASSEMBLY - ELEVATION, TYP.
L-603 Scale: 3" = 1'-0"



RICHARD–WILCOX 8881.00001
TRUCK ASSEMBLY

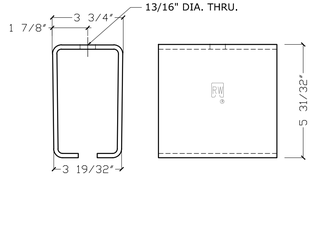
2 TRUCK ASSEMBLY - SECTION, TYP.
L-603 Scale: 3" = 1'-0"



NOTE: MANUFACTURE'S DRAWINGS
DO NOT ALIGN! VERIFY RICHARD
WILCOX DOOR PART ORDER

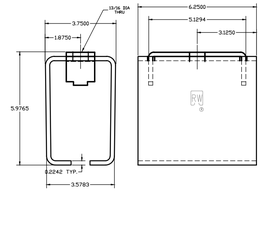
RICHARD–WILCOX
0888.00331 2500LB TRACK

3 TRACK - PLAN & SECTION, TYP.
L-603 Scale: 3" = 1'-0"



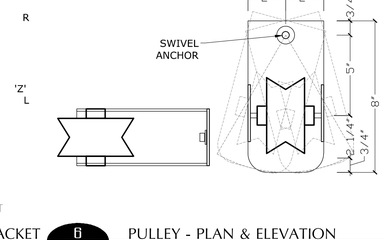
RICHARD–WILCOX
0888.00381 OH TRACK BRACKET

4 TRACK OH HANGING BRACKET
L-603 Scale: 3" = 1'-0"

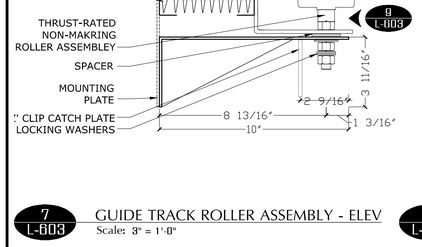


RICHARD–WILCOX
0888.00387ZC–ZINC PLATED OH LOCKING TRACK BRACKET

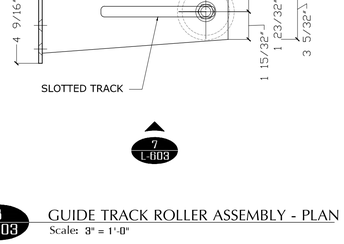
5 TRACK OH LOCKING HANGER BRACKET
L-603 Scale: 3" = 1'-0"



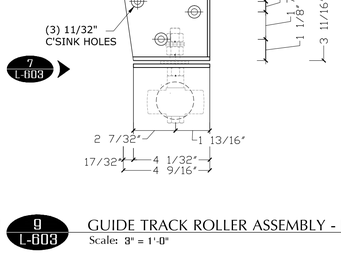
6 PULLEY - PLAN & ELEVATION
L-603 Scale: N.T.S.



7 GUIDE TRACK ROLLER ASSEMBLY - ELEV
L-603 Scale: 3" = 1'-0"

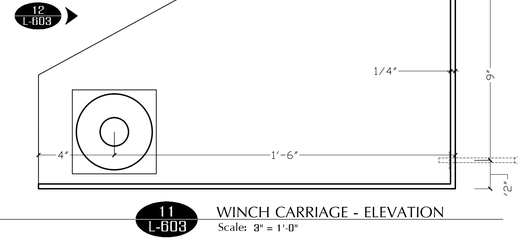


8 GUIDE TRACK ROLLER ASSEMBLY - PLAN
L-603 Scale: 3" = 1'-0"

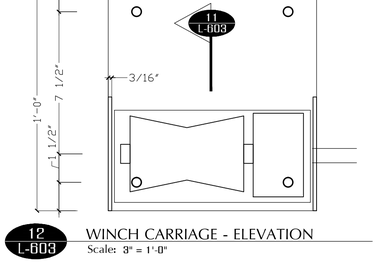


9 GUIDE TRACK ROLLER ASSEMBLY - ELEV
L-603 Scale: 3" = 1'-0"

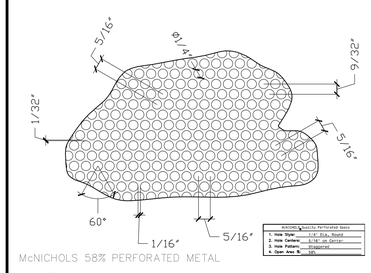
10 NOT USED
L-603 Scale: 3" = 1'-0"



11 WINCH CARRIAGE - ELEVATION
L-603 Scale: 3" = 1'-0"

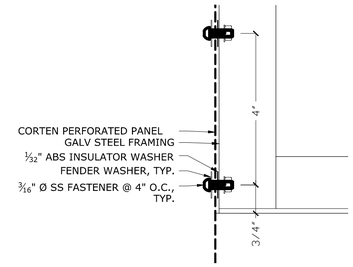


12 WINCH CARRIAGE - ELEVATION
L-603 Scale: 3" = 1'-0"

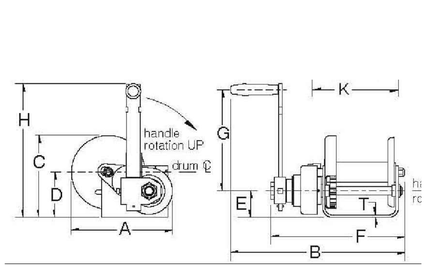


McNICHOLS 58% PERFORATED METAL

13 12 GA CORETEN PERFORATED METAL
L-603 Scale: 3" = 1'-0"



14 BOLT CONNECTION @ FRAMING, TYP.
L-603 Scale: 6" = 1'-0"

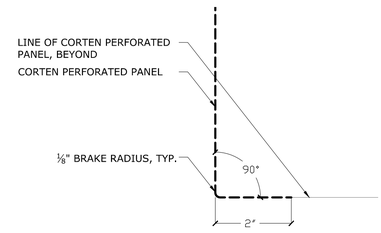


15 THERN M4022PB - ELEVATIONS
L-603 Scale: 1 1/2" = 1'-0"

16 NOT USED
L-603 Scale: 3" = 1'-0"

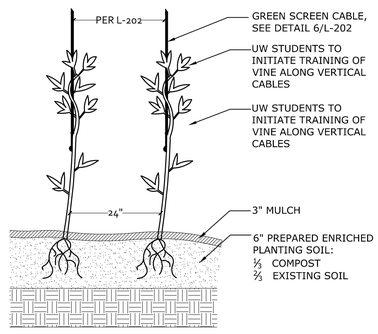
17 NOT USED
L-603 Scale: 1" = 1'-0"

18 NOT USED
L-603 Scale: 3" = 1'-0"



19 NOT USED
L-603 Scale: 3" = 1'-0"

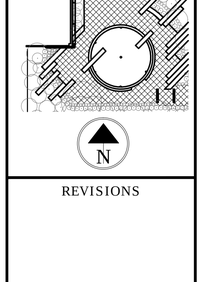
20 BREAK ANGLE @ B.O. HOUSING, TYP.
L-603 Scale: 6" = 1'-0"



21 PLANTING DETAIL, TYP.
L-603 Scale: 1 1/2" = 1'-0"

SHEET NOTES

KEY PLAN



REVISIONS

GREEN FUTURES
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SEATTLE, WA 98105
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SCALE

0 1 2

SCALE: 1" = 1"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	VARIES

GREEN WALL
DETAILS

L-603

SHEET 18 OF 21

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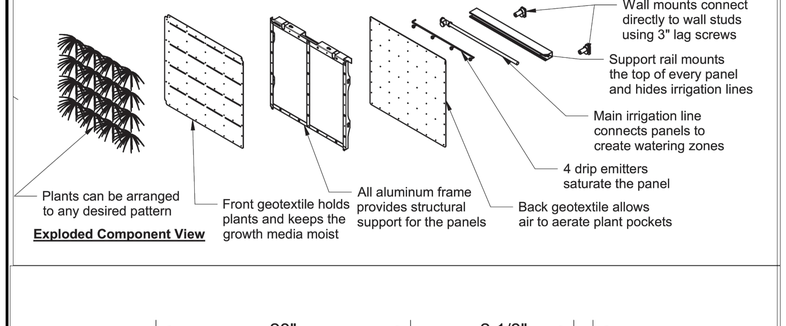
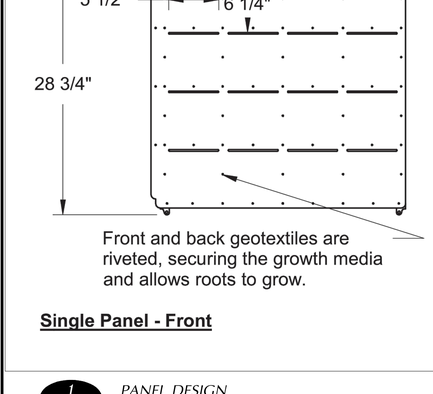
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

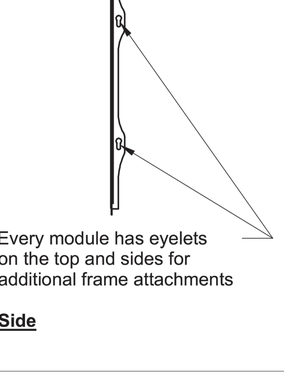


Exploded Component View



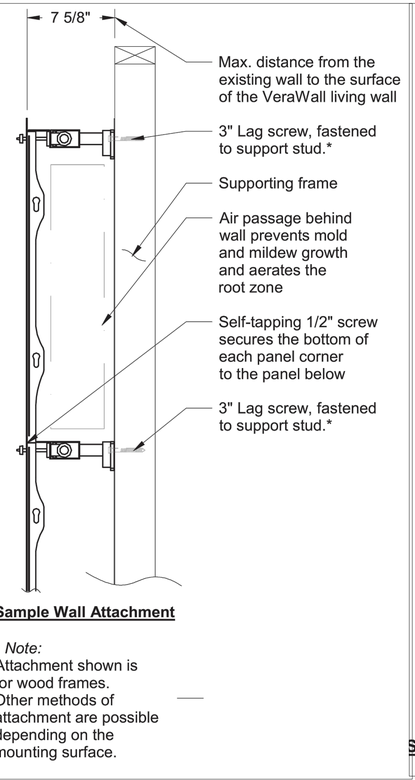
Front and back geotextiles are riveted, securing the growth media and allows roots to grow.

Single Panel - Front



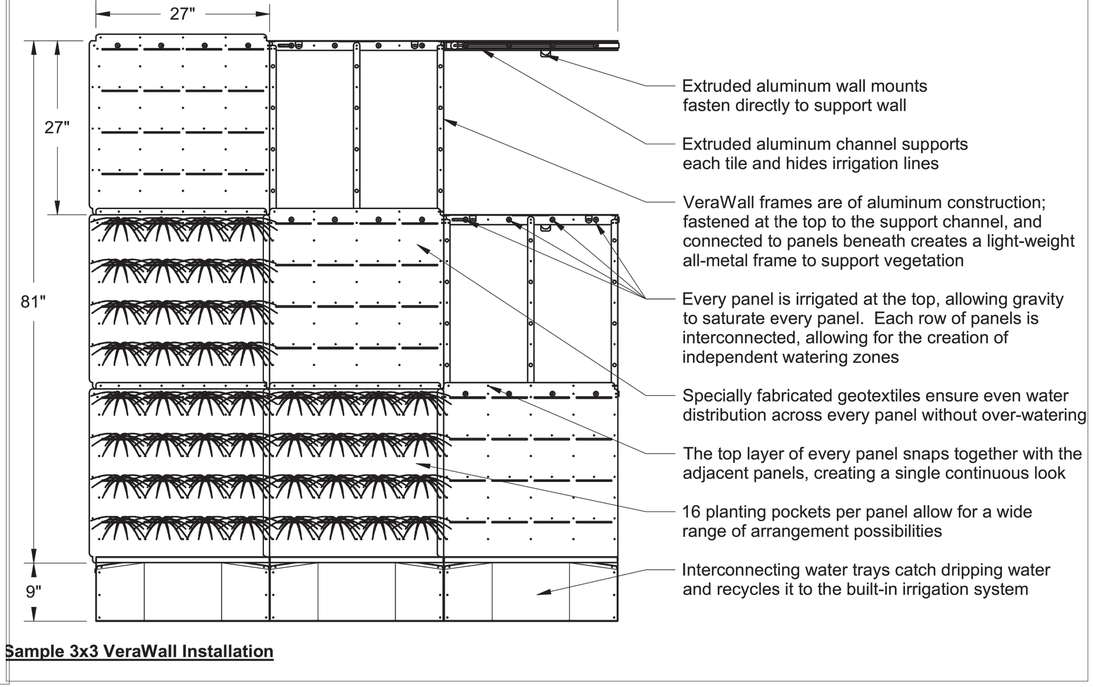
Every module has eyelets on the top and sides for additional frame attachments

Side



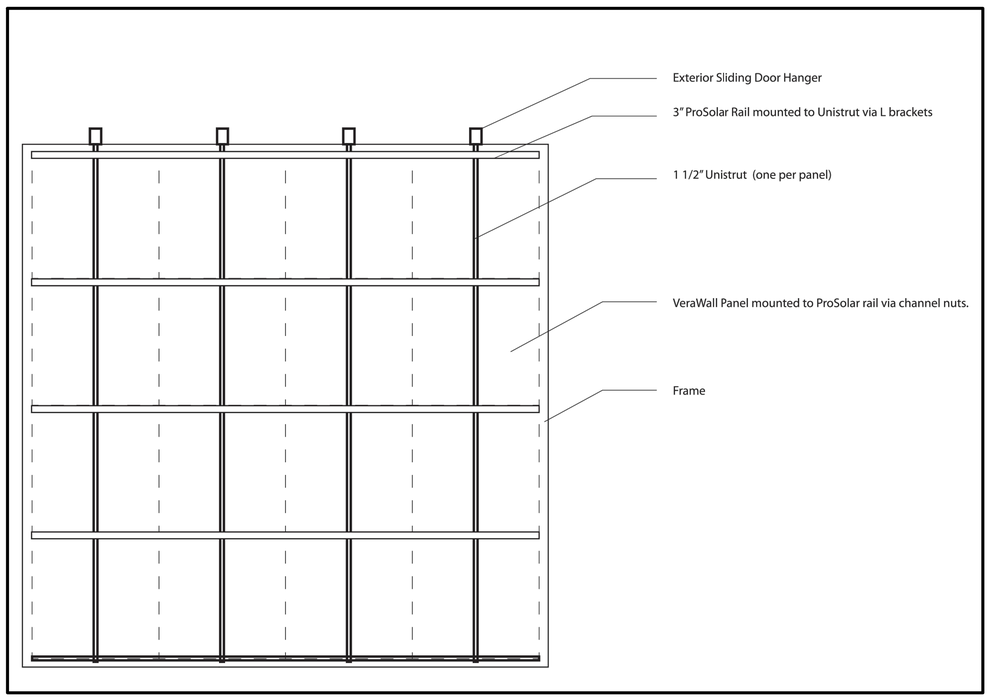
Sample Wall Attachment

** Note:*
Attachment shown is for wood frames. Other methods of attachment are possible depending on the mounting surface.

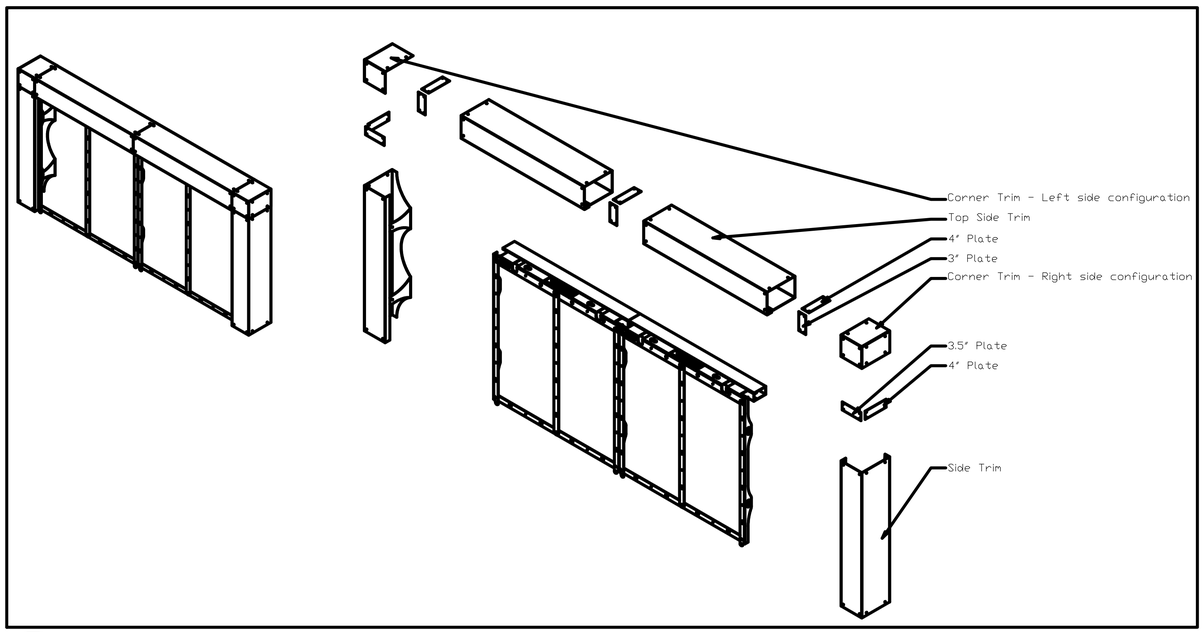


Sample 3x3 VeraWall Installation

1 L-604 *PANEL DESIGN*
Scale: N.T.S.



2 L-604 *PANEL FRAMING*
Scale: N.T.S.



3 L-604 *CORTEN TRIM*
Scales: NTS

SHEET NOTES

KEY PLAN

REVISIONS

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SCALE

0 1 2

SCALE: 1" = 1"

Biodiversity Green Wall
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FACULTY #:	NA
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TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	4/15/2012
SCALE:	VARIES

CONTRACTOR OPTIONS

L-604

SHEET 19 OF 21

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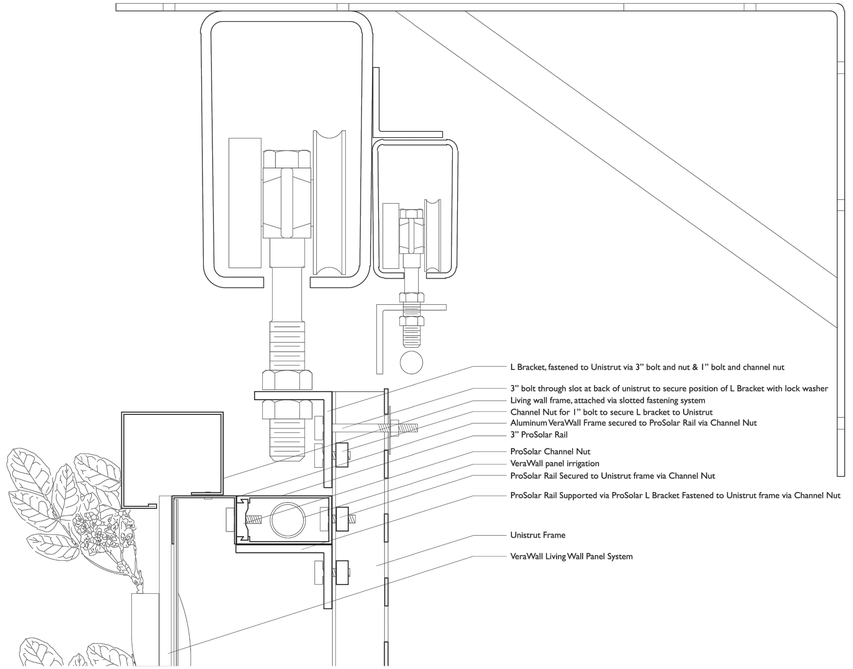


University of Washington Gould Hall
Living Wall
scale 1/4"=1"

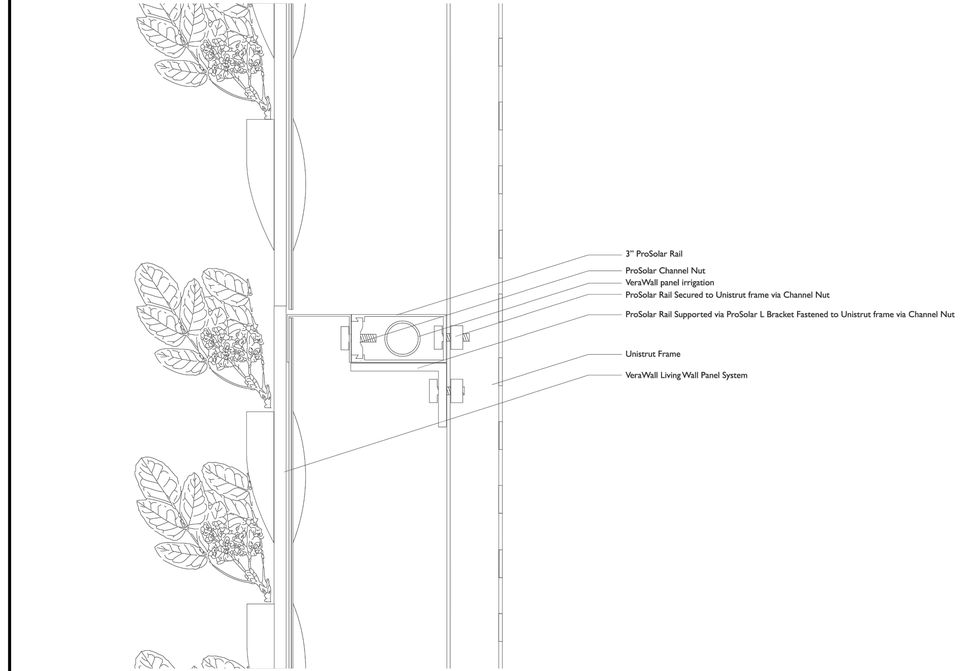
DRAWN ALM
DATE 1/23/2012

SOLTERRA SYSTEMS
79 se Taylor Street, Suite 401
Portland, OR 97214

REVISIONS

Rev	Date	Description	Approved

1 L-605 *PANEL FRAMING*
Scale: N.T.S.



University of Washington Gould Hall
Living Wall
scale 1/4"=1"

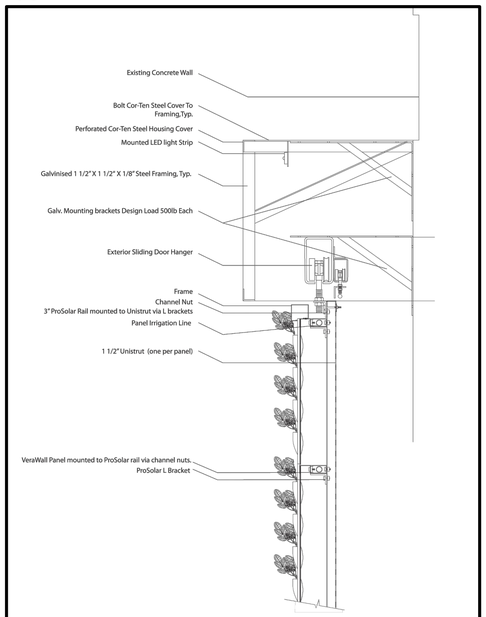
DRAWN ALM
DATE 1/23/2012

SOLTERRA SYSTEMS
79 se Taylor Street, Suite 401
Portland, OR 97214

REVISIONS

Rev	Date	Description	Approved

2 L-605 *PANEL FRAMING*
Scale: N.T.S.



REVISIONS

Rev	Date	Description	Approved

SOLTERRA SYSTEMS
79 se Taylor Street, Suite 401
Portland, OR 97214

DRAWN ALM
DATE 1/23/2012

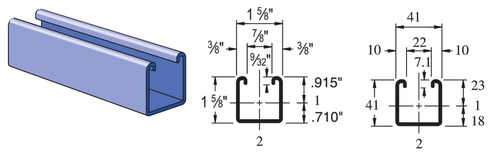
University of Washington Gould Hall
Living Wall
scale 1/32" = 1"

3 L-605 *PANEL BRACING DESIGN*
Scale: N.T.S.

4 L-605 *NOT USED*
Scale: N.T.S.

UNISTRUT 1⅝" Framing System – Channel

P1000®



Notes:
* Load limited by spot weld shear.
** KL/r > 200
NR = Not Recommended.

1. Above loads include the weight of the member. This weight must be deducted to arrive at the net allowable load the beam will support.
2. Long span beams should be supported in such a manner as to prevent rotation and twist.
3. Allowable uniformly distributed loads are listed for various simple spans, that is, a beam on two supports. If load is concentrated at the center of the span, multiply load from the table by 0.5 and corresponding deflection by 0.8.
4. For Pierced Channel, Beam Load Values in the tables are multiplied by the following factor:

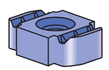
"DS" Series	70%	"T" Series	85%
"KO" Series	95%	"H3" Series	90%
"SL" Series	85%	"HS" Series	90%

Wt/100 Ft:189 Lbs (281 kg/100 m)
Allowable Moment 5,070 In-Lbs (570 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

5 L-605 *UNISTRUT CHANNEL*
Scale: NTS

UNISTRUT 1⅝" Framing System – Nuts & Hardware

CHANNEL NUT WITHOUT SPRING



Part Number	Nut Size Thread		Wt/100 pcs Lbs *(kg)*	Use With
P1012	½"	-11	20 *(9.1)*	Any Channel Except P3300, P4000, P4100
P1023	¾"	-10	20 *(9.1)*	
P1024	⅞"	-9	20 *(9.1)*	

SHEET NOTES

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SEATTLE, WA 98105
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T: 206.685.0521 F: 206.685.4486

SCALE

0 1 2

SCALE: 1" = 1"

Biodiversity Green Wall
Edible Green Screen +
Water Harvesting
Demonstration Project

DATE:	April 16, 2012
PROJECT #:	203793
FACULTY #:	NA
BUILDING:	Gould Hall
TOTAL GSF:	
DESIGNER:	Green Futures Lab
CONTRACTOR:	SolTerra
CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	4/15/2012
SCALE:	VARIES

CONTRACTOR OPTIONS

L-605

SHEET 20 OF 21

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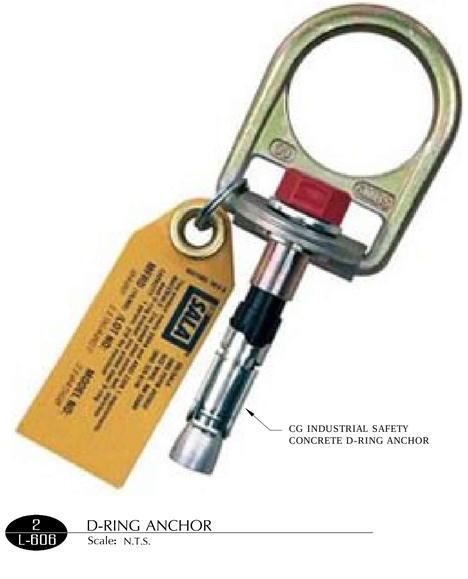
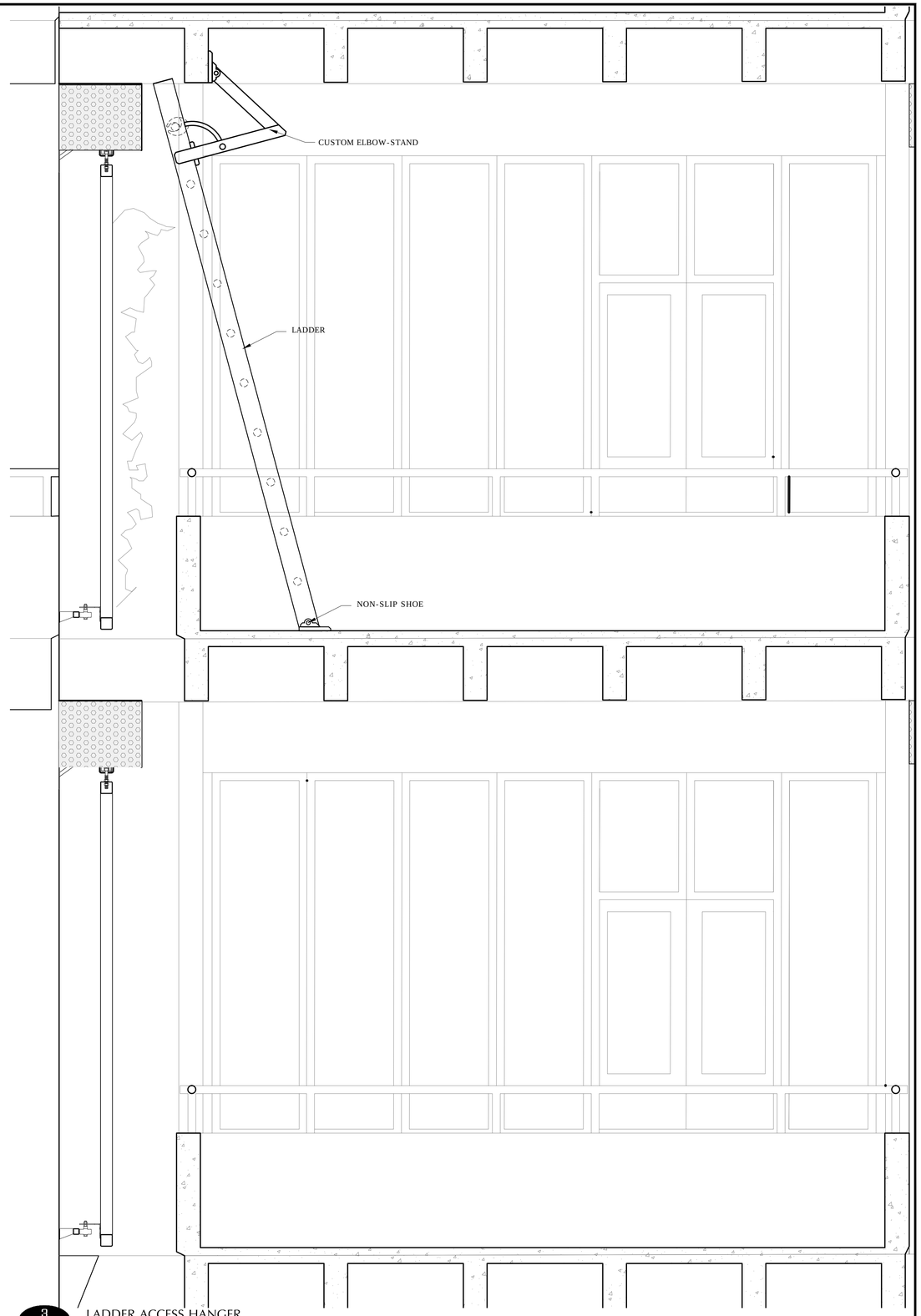
1 L-606
RETRACTABLE WEB LANYARD
Scale: N.T.S.



2 L-606
D-RING ANCHOR
Scale: N.T.S.



3 L-606
LADDER ACCESS HANGER
Scale: 3/4" = 1'-0"

SHEET NOTES

KEY PLAN

REVISIONS

GREEN FUTURES
RESEARCH & DESIGN LAB

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SEATTLE, WA 98105

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SCALE

0 1 2

SCALE: 1" = 1"

Biodiversity Green Wall
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CONSULTANT:	Green Futures Lab
DWG. BY:	D. Tomlinson
SUBMITTED BY:	L. Andrews
FILE NAME:	
PLOT DATE:	5/7/2012
SCALE:	VARIES

LIFE & SAFTEY

L-606

SHEET 21 OF 21

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