III. B.

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Phone: 636-537-4000 • Fax 636-537-4798 • www.chesterfield.mo.us

Architectural Review Board Staff Report

Project Type: Amended Site Development Section Plan

Meeting Date: August 8, 2013

From: John Boyer
Senior Planner

Location: Monsanto

Applicant: Cannon Design and Civil Design Inc.

Description: **Monsanto**: An Amended Site Development Section Plan, Landscape Plan, Architectural Elevations and Architect's Statement of Design for a 200.51 acre tract of land zoned "C-8" Planned Commercial District on the north side of Chesterfield Pkwy West, approximately 2,000 feet east of City Center Dr.

PROPOSAL SUMMARY

The request is for an addition of a 564,729 square foot parking garage (4 tiers) to an existing 200 acre+ development. The subject site is zoned "C-8" Planned Commercial District and is governed under the terms and conditions of City of Chesterfield Ordinance #258.

HISTORY OF SUBJECT SITE

In 1979, St. Louis County Ordinance #9002 was approved which rezoned the site from "NU" Non-Urban, and "R-3" Residence District to the "C-8" Planned Commercial District. This original ordinance was amended by St. Louis County numerous times (Ordinances #10,573, 10,688, and 10,986). In March 1989, Ordinance #258 was approved by the City of Chesterfield amending previous County ordinances. Ordinance #258 is the current ordinance authority for this site.

There are currently nine buildings located at this site, totaling 1,520,878 square feet. Current ordinance authority limits total building square footage to 2,660,000 square feet. The addition of the garage would bring the total square footage to 2,085,607.

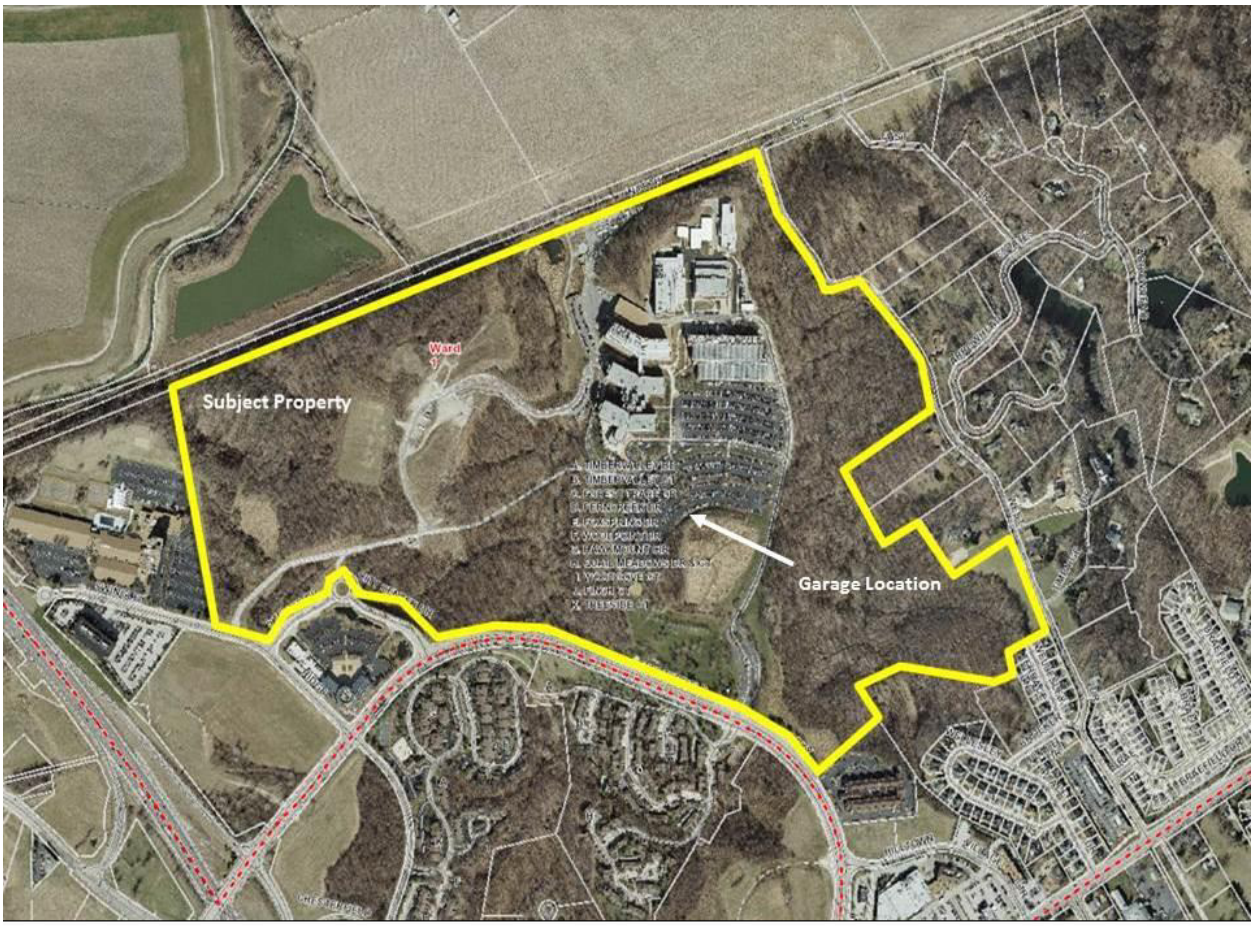


Figure 1: Site Photo

STAFF ANALYSIS

General Requirements for Site Design:

A. Site Relationships
The parking garage is proposed to be placed interior to the 200+ acre site where the existing surface parking area is located (this surface parking will be eliminated with this planned improvement). This 564,729 square foot addition is designed, per the architect's description, in conjunction with existing grade in order to alleviate major ramping to access the four levels of the garage. By incorporating the proposed structure into existing grade, its visible presence can also be limited.

B. Circulation System and Access
No changes in access points are proposed for the site due to planned constructions; however small internal changes are identified to accommodate the planned parking structure. Vehicular access to the garage is planned on both the east and west sides with pedestrian access provided by sidewalks around the perimeter of the garage connecting to existing sidewalks.

C. Topography
As indicated in the Site Relationship section, the architect is planning to utilize existing grade as much as possible to blend this structure into the site and to limit unnecessary grading.

D. Retaining Walls
Retaining walls are proposed due to existing grade at the project site. These walls are proposed to be tiered to provide gradual grade changes. Material on walls which are incorporated into the parking structure are planned to match proposed material (textured precast concrete), while other walls will be gabion walls to match existing gabions walls throughout the site.

General Requirements for Building Design:

A. Scale
At 564,729 square feet, the proposed garage would be the largest structure on the site; however existing structures are large in nature necessitating parking demand for such a structure. Existing buildings total 1,520,878 square feet. Per current ordinance authority, all structures within this development are limited in height to not exceed 660 feet (mean sea level). The proposed garage is 610 mean seal level (or 64 feet in height from lowest grade). By integrating the garage structure into the existing topography of the site (tiered), its scale and height appear less overall and allows a blending into the site.

B. Design
The proposed garage is a four level parking garage with multiple accesses utilizing existing topography to limit ramping and grading. Per the applicant's Design Statement, the garage is planned to eventually house a future greenhouse. The garage structure's design also allows for this future addition to the top level.

C. Materials and Color
Material planned for this proposal is a textured precast concrete. Existing structures on the site are of a brick construction (see photos submitted by the applicant). While the structure is a parking garage with limited public visibility, a desirable practice under the General Requirements for Site Design is to use compatible colors, materials and detailing which complements adjacent existing buildings.

Staff requested clarification on this item, specifically if the proposed garage would be used to architecturally reflect future structures. The applicant responded that this garage was not intended to direct future design on other structures. It is unclear if future structures proposed by the applicant will match existing building (brick façade). While the matching of material and colors of adjacent building is not a strict requirement of the code, it is however encouraged. Staff understands this item (color and material) may be further evaluated by the Board for merit (limited public exposure, typical parking garages are concrete in nature).

Material samples will be made available for the Board's review at the meeting.

D. Landscape Design and Screening
Additional landscaping is proposed associated with the planned improvement. A mixture of ornamental, deciduous and coniferous trees are proposed along the drive aisle and perimeter of the garage. In addition, existing tree canopy on the site is substantial which limits the public view of the proposed garage addition and assists in maintaining Code compliance in Tree Preservation.

E. Signage
No signage is proposed with this development.

F. Lighting
Lighting is planned associated with this improvement. Lighting elements planned include lighting standards on and around the parking garage and integrated (recessed) lighting on the garage near entrance points. Detail on planned lighting is included for ARB's review and comment.

DEPARTMENTAL INPUT
Staff has reviewed the Architectural Elevations and Architect's Statement of Design and has found the application to be in general conformance with all applicable Zoning Ordinance requirements. Staff requests action on the Architectural Elevations for Monsanto.

MOTION
The following options are provided to the Architectural Review Board for consideration relative to this application:

1) "I move to forward the Amended Site Development Section Plan, Landscape Plan, Architectural Elevations, and Architect's Statement of Design, for Monsanto, as presented, with a recommendation for approval (or denial) to the Planning Commission."

2) "I move to forward the Amended Site Development Section Plan, Landscape Plan, Architectural Elevations, and Architect's Statement of Design, for Monsanto, to the Planning Commission with the following recommendations…"

Attachments
1. Architectural Review Packet Submittal

City of Chesterfield

ARCHITECTURAL REVIEW BOARD
Project Statistics and Checklist

RECEIVED
City of Chesterfield
JUL 26 2013
Department of Public Services

Date of First Comment Letter Received from the City of Chesterfield 7-19-2013

Project Title: Open Parking Garage **Location:** Chesterfield, Missouri

Developer: Monsanto Corporation **Architect:** Cannon Design **Engineer:** Cannon Design

PROJECT STATISTICS:

Size of site (in acres): 14 **Total Square Footage:** 564,729GSF **Building Height:** 65'-0"

Proposed Usage: Parking Garage

Exterior Building Materials: Precast Concrete, Aluminum Curtain Wall/Glazing.

Roof Material & Design: SBS Modified Bituminous

Screening Material & Design: N/A

Description of art or architecturally significant features (if any): Precast board-formed concrete spandrel contrasted by lighter tone acid-etched precast spandrel.

ADDITIONAL PROJECT INFORMATION:

1716 Parking spaces/ 3 levels. Monsanto parcel is 200.51 acres per approved Amended Site Development Package #5.

Checklist: Items to be provided in an 11" x 17" format

- [x] **Color Site Plan with contours, site location map, and identification of adjacent uses.**
- [x] **Color elevations for all building faces.**
- [x] **Color rendering or model reflecting proposed topography.**
- [x] **Photos reflecting all views of adjacent uses and sites.**
- [x] **Details of screening, retaining walls, etc.**
- [ ] **Section plans highlighting any building off-sets, etc. (as applicable)**
- [x] **Architect's Statement of Design which clearly identifies how each section in the Standards has been addressed and the intent of the project.**
- [x] **Landscape Plan.**
- [x] **Lighting cut sheets for any proposed building lighting fixtures. (as applicable)**
- [x] **Large exterior material samples. (to be brought to the ARB meeting)**
- [ ] **Any other exhibits which would aid understanding of the design proposal. (as applicable)**
- [x] **Pdf files of each document required.**

CANNONDESIGN

Architect's Statement of Design:
Monsanto Company - Open Parking Garage

July 24, 2013

The proposed parking garage development is located on the Monsanto campus in the area currently occupied by tiered surface parking.

General Requirements for Site Design:

St. Louis
Boston
New York
Baltimore
Washington DC
Buffalo
Toronto
Montreal
Chicago
Vancouver
San Francisco
Los Angeles
Phoenix
Shanghai
Mumbai

Site Relationship:

The garage is placed on the site to work in conjunction with the natural grades and the existing tiered parking. The shape of the garage follows the curve of the existing parking on the hillside. The lowest levels coincide with the existing parking tiers, and the elevated slabs work with the natural grade to allow access to each level from grade without major ramping. The south façade is nestled into the hillside, limiting its visible presence from the main campus entry, and retaining focus on the existing research buildings.

The predominant façade and retaining wall material is a textured precast concrete, which evokes the existing gabion retaining walls in color and texture. The material selection and curvilinear shape reinforce the sense of the garage as an outgrowth of the existing terraced site where gabion walls and rock outcroppings are visible, and differentiates this open structure from the enclosed rectilinear research buildings.

Circulation System and Access:

Circulation is planned to allow vehicle entry and exit from both the East and West sides of the building at each parking level. A thorough study of traffic patterns on site is currently being conducted to determine if one-way or two-way flow through the garage will be ultimately be preferable. Sidewalks are provided around the perimeter of the building for pedestrian access, with crosswalks connecting to the rest of the campus at the same locations that currently serve the existing tiered parking. Generous sidewalk area is provided at the main exit tower (closest to current buildings) and main path of travel to the rest of the campus. Monsanto's Environmental Safety and Health group has involved throughout the design to ensure clear and safe traffic patterns where pedestrians and vehicles mix.

Topography:

The existing topography is utilized to allow multi-level access without internal ramping, and to limit the building's visibility from the campus entry. Where adjustments to existing grades are required, they are done gradually, not to exceed a 3:1 slope, and with tiered retaining walls.

1100 Clark Avenue
St. Louis, Missouri
63102
T 314.241.6250
F 314.241.2570
cannondesign.com

Retaining Walls:

Retaining walls are tiered to provide for gradual grade changes and limit fall potential for maintenance workers. Retaining walls have been incorporated at water retention basins as well as vehicle entry ramps. The retaining walls that engage the parking garage spandrel are designed to be the same material and finish as the spandrel. Retaining walls that do not engage the building will be gabion (extension) to blend with the existing gabion walls.

General Requirements for Building Design:

Scale:

The garage does not directly abut any other buildings. In plan it matches the scale of the existing tiered surface parking. In section, levels are spaced to provide the required minimum clearances and to coordinate with the existing tiered parking levels. The projecting stair towers step the scale down from vehicle to pedestrian with door openings, elevator/stair lobbies, and glazed areas.

Design:

All facades are treated uniformly, with the main variation designating the entry/exit location at the perimeter stair/elevator tower. Material usage changes as the function changes, indicating a separation between the garage on the lower levels and the future research greenhouses on the partial top level. The palette and form is in keeping with its relative importance on a site predominantly dedicated to research.

Materials and Color:

The predominant façade and retaining wall material is a textured precast concrete, which evokes the existing gabion retaining walls in color and texture. The top level which is dedicated to future greenhouses is clad in a smooth light colored concrete. The use of horizontally banded concrete at the greenhouses is modeled after a similar use on the CC building at the dock and vivarium levels, where these support functions are treated differently than the more refined enclosed labs and offices.

Landscape Design and Screening:

Landscaping is consistent with the City of Chesterfield's requirements, and existing plantings on the Monsanto campus. Landscaping is designed to shade hardscaping and provide color accents along the entry drive and parking garage perimeter. Ornamental, canopy and coniferous trees are located around the garage to provide enhance the streetscape experience across seasons. Canopy trees are used to line the entry drive, with groupings of evergreens and ornamental trees providing variety and selective screening of the garage to reduce its visual mass. There are no trash or service areas in the garage project to require other specific screening.

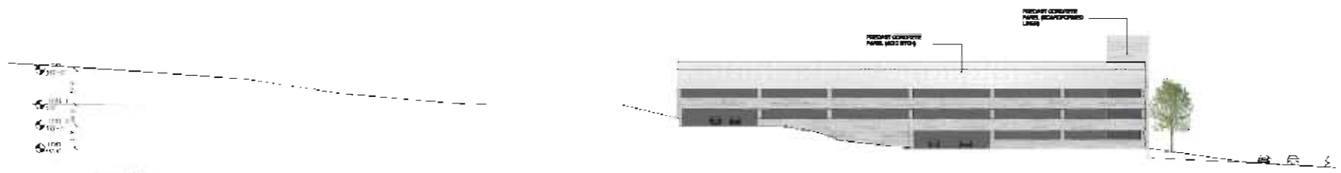
Signage:

Building identification signage is not being proposed for this project. Typical directional signage at entries/exits and stair/elevator towers will be provided. Minimal signage is proposed on the exterior of the garage, but where required all graphics and way finding will incorporate the campus master plan for graphics and signage.

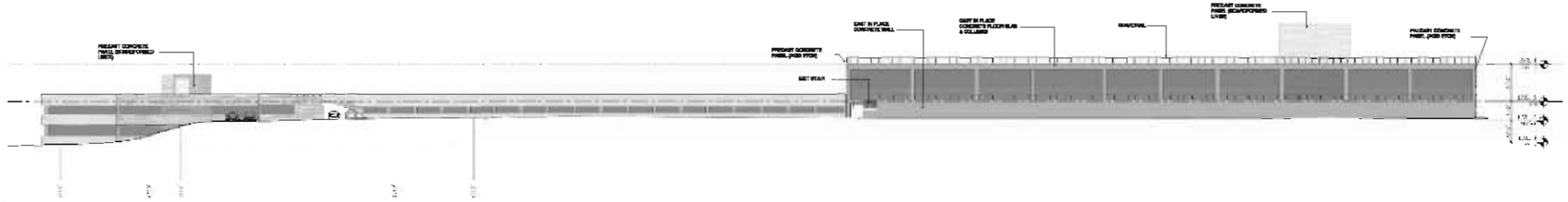
Lighting:

Lighting will adhere to the City of Chesterfield requirements. Photometrics and fixture cuts for the top deck lighting are included in this submittal.

NORTH ELEVATION

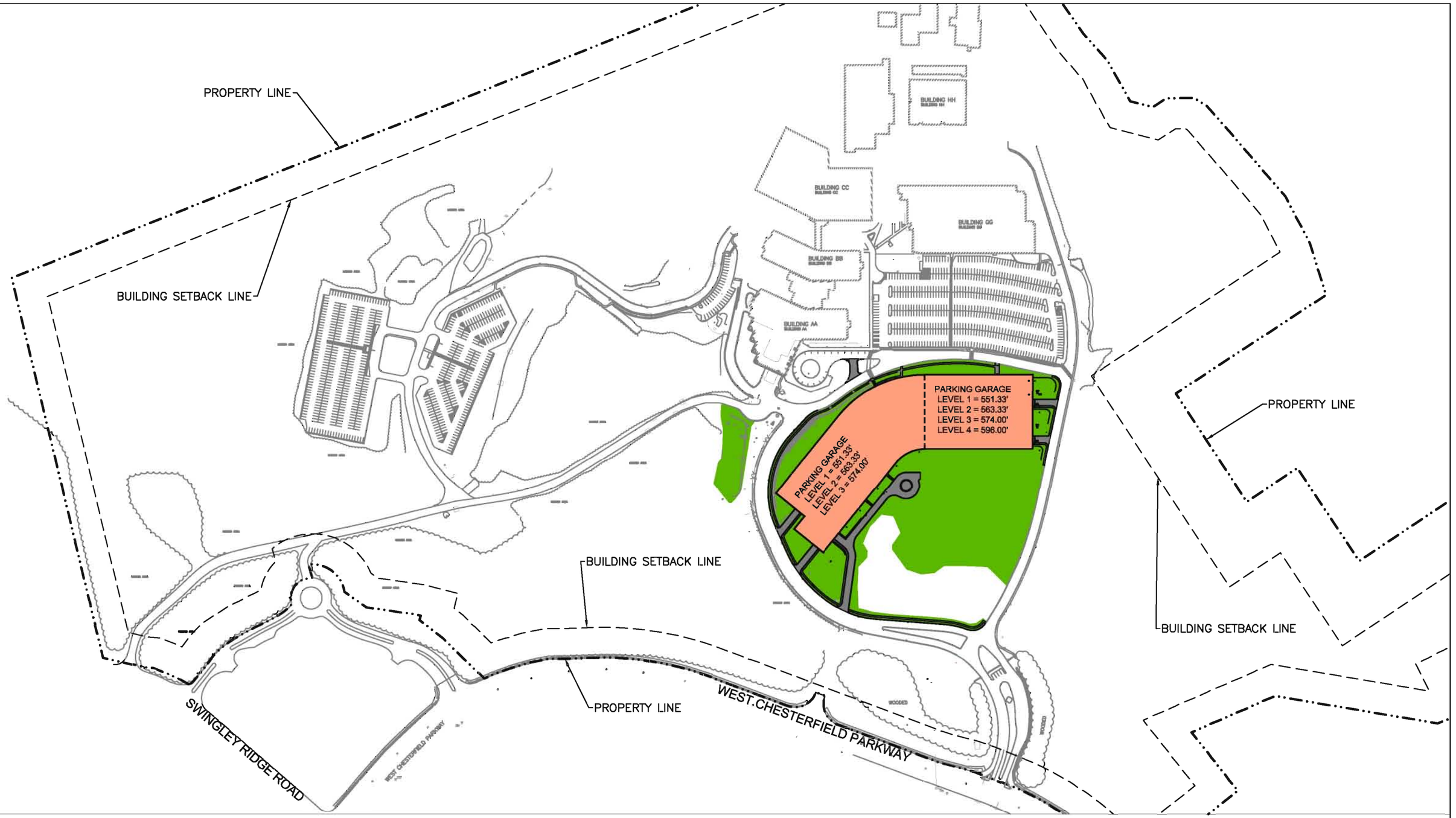


EAST ELEVATION



SOUTH ELEVATION

WEST ELEVATION



MONSANTO - CHESTERFIELD CAMPUS
1D - NEW PARKING GARAGE

SUBJECT PROPERTY

0 150' 300' 600'

N

C-1

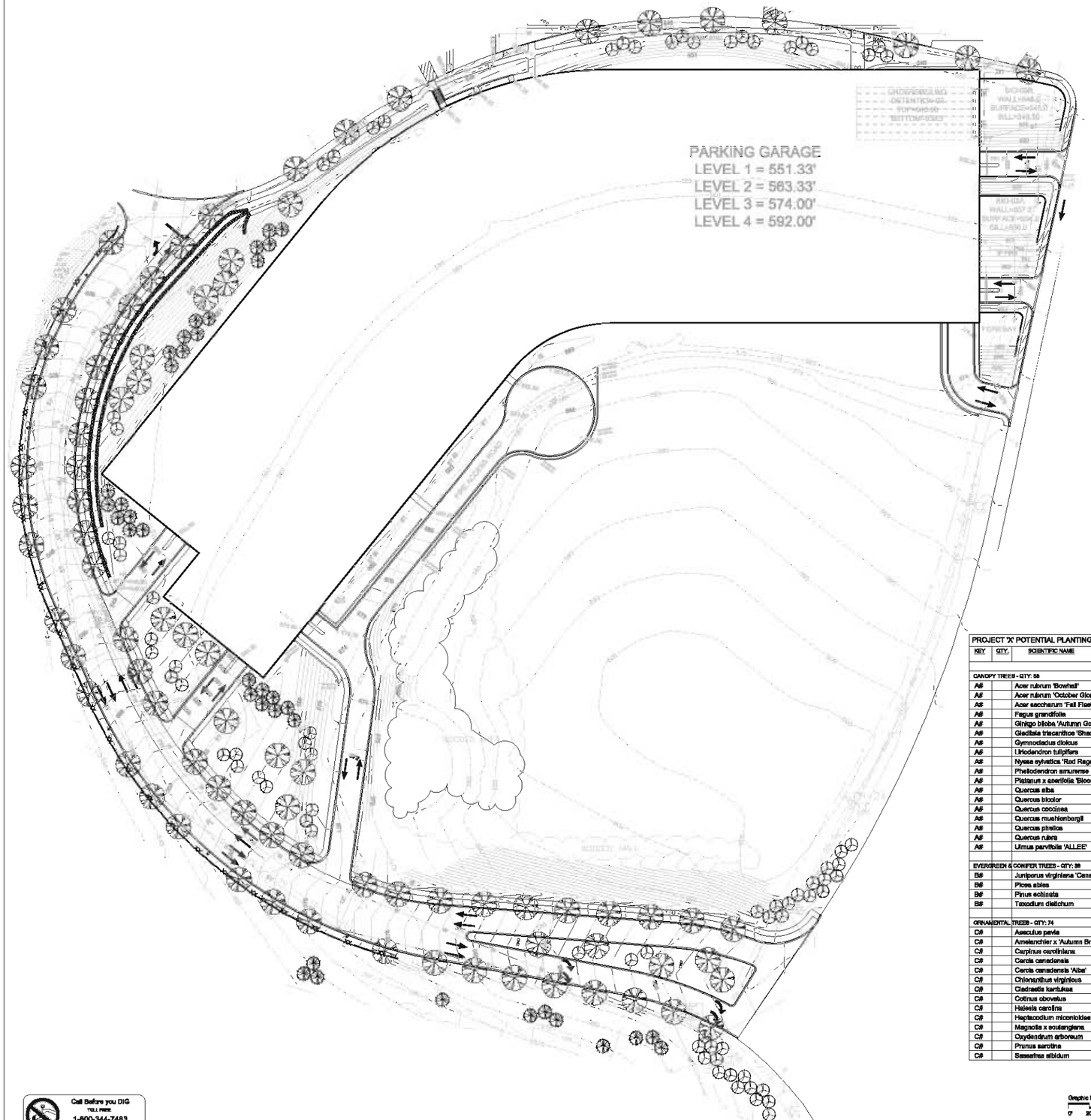
MONSANTO - CHESTERFIELD CAMPUS
1D - NEW PARKING GARAGE

NEW PARKING GARAGE

N

0 50' 100' 200'

C-2



A TREE PLANTING PLAN
1" = 40'

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LEGEND

CANOPY TREES

EVERGREEN & CONIFER TREES

ORNAMENTAL TREES

TOTAL SITE AREA: 200.51 A
BUILDINGS & PAVEMENT: 35.3 A (17.6%)
OPEN SPACE: 165.2 A (82.4%)

PROJECT 'X' POTENTIAL PLANTING SCHEDULE

KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	COMMENTS
CANOPY TREES - QTY: 58						
A#		Acer rubrum 'Bowhall'	'Bowhall' Red Maple	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: to 50'
A#		Acer rubrum 'October Glory'	'October Glory' Red Maple	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 40' - 50'
A#		Acer saccharum 'Fall Fiesta'	'Fall Fiesta' Sugar Maple	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 60' - 75'
A#		Fagus grandifolia	American Beach	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 60' - 80'
A#		Ginkgo biloba 'Autumn Gold'	'Autumn Gold' Ginkgo	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: to 60'
A#		Gleditsia triacanthos 'Shademaster'	'Shademaster' Honeylocust	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 50' - 70'
A#		Gymnocladus dioicus	Kentucky Coffeetree	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 60' - 75'
A#		Liriodendron tulipifera	Tulip Tree	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 70' - 90'
A#		Nyssa sylvatica 'Red Rage'	'Red Rage' Black Gum	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: to 35'
A#		Phellodendron amurense	Amur Corktree	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 30' - 45'
A#		Platanus x acerifolia 'Bloodgood'	'Bloodgood' London Plane Tree	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 70' - 85'
A#		Quercus alba	White Oak	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 50' - 80'
A#		Quercus bicolor	Swamp White Oak	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 50' - 75'
A#		Quercus coccinea	Scarlet Oak	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 70' - 75'
A#		Quercus muehlenbergii	Chinkapin Oak	2.5" Cal.	As Shown	Per Details, B&B, Matue Height: 40' - 60'
A#		Quercus phellos	Willow Oak	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 40' - 60'
A#		Quercus rubra	Red Oak	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 60' - 75'
A#		Ulmus parvifolia 'ALLEE'	'ALLEE' Lacebark Elm	2.5" Cal.	As Shown	Per Details, B&B, Mature Height: 50' - 70'
EVERGREEN & CONIFER TREES - QTY: 36						
B#		Juniperus virginiana 'Canaertil'	'Canaertil' Eastern Red Cedar	6' Ht.	As Shown	Per Details, B&B, Mature Height: 20' - 30'
B#		Picea abies	Norway Spruce	6' Ht.	As Shown	Per Details, B&B, Mature Height: 40' - 60'
B#		Pinus echinata	Shortleaf Pine	6' Ht.	As Shown	Per Details, B&B, Mature Height: 60' - 80'
B#		Taxodium distichum	Bald Cypress	14' Ht.	As Shown	Per Details, B&B, Mature Height: 50' - 70'
ORNAMENTAL TREES - QTY: 74						
C#		Aesculus pavia	Red buckeye	2" Cal.	As Shown	Per Details, B&B, Mature Height: 15' - 20'
C#		Amelanchier x 'Autumn Brilliance'	'Autumn Brilliance' Serviceberry	8' Ht.	As Shown	Per Details, B&B, Multi-stem, Mature Height: 15' - 25'
C#		Carpinus caroliniana	Musclewood	8' Ht.	As Shown	Per Details, B&B, Multi-stem, Mature Height: 20' - 30'
C#		Cercis canadensis	Eastern Redbud	2" Cal	As Shown	Per Details, B&B, Mature Height: 15' - 25'
C#		Cercis canadensis 'Alba'	White Redbud	2" Cal	As Shown	Per Details, B&B, Mature Height: 20' - 30'
C#		Chionanthus virginicus	Fringe Tree	8' Ht.	As Shown	Per Details, B&B, Multi-stem, Mature Height: 12' - 20'
C#		Cladrastis kentukea	American Yellowwood	2" Cal.	As Shown	Per Details, B&B, Mature Height: 30' - 50'
C#		Cotinus obovatus	American Smoke Tree	8' Ht.	As Shown	Per Details, B&B, Mature Height: 20' - 30'
C#		Halesia carolina	Carolina Silverbell	8' Ht.	As Shown	Per Details, B&B, Multi-stem, Mature Height: 30' - 40'
C#		Heptacodium miconioides	Seven-Son-Flower	8' Ht.	As Shown	Per Details, B&B, Multi-stem, Mature Height: 15' - 20'
C#		Magnolia x soulangiana	Saucer Magnolia	2" Cal	As Shown	Per Details, B&B, Mature Height: 20' - 30'
C#		Oxydendrum arboreum	Sourwood	2" Cal.	As Shown	Per Details, Cont, Mature Height: 25' - 30'
C#		Prunus serotina	Black Cherry	2" Cal	As Shown	Per Details, B&B, Mature Height: 50' - 80'
C#		Sassafras albidum	Common Sassafras	2" Cal	As Shown	Per Details, B&B, Mature Height: 30' - 60'

Graphic Scale: 1" = 40'
0' 20' 40' 80' 120'

FOR HARDSCAPE CONSTRUCTION DETAILS, REFER TO SHEET L1-3.X - L1-3.X
FOR HARDSCAPE NOTES, REFER TO SHEET L1-1.X
FOR GRADING, CONTOURS, AND DETAILS, REFER TO CIVIL SHEETS

NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IN EVENTS OF DISCREPANCIES, OMISSIONS, AND/OR CONFLICTS IN THE DRAWINGS OR SPECIFICATIONS. THE CONTRACTOR IS NOT AUTHORIZED TO SCALE THE DRAWINGS. ALL QUESTIONS IN REFERENCE TO CONTRACT DOCUMENTS SHALL BE IMMEDIATELY DIRECTED TO THE LANDSCAPE ARCHITECT.

MONSANTO - CHESTERFIELD CAMPUS

BID PACKAGE 1D

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1100 Clark Avenue
St. Louis, Missouri 63103
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F: 314.241.2507

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CDI

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SAINT LOUIS, MO 63119
PHONE 314.644.2700
FAX 314.644.8376

7-23-2013

6TH AMENDED SITE DEVELOPMENT PLAN

No.	Description	Date
-		22 MAY 2013

Drawing Title:

TREE PLANTING PLAN

Project No.: 60682210 Checked by: XXX

3 of 3

Site Location Map and Photo Key

Looking West down Chesterfield Parkway West from campus entry

A

Entry to campus seen from Chesterfield Parkway West

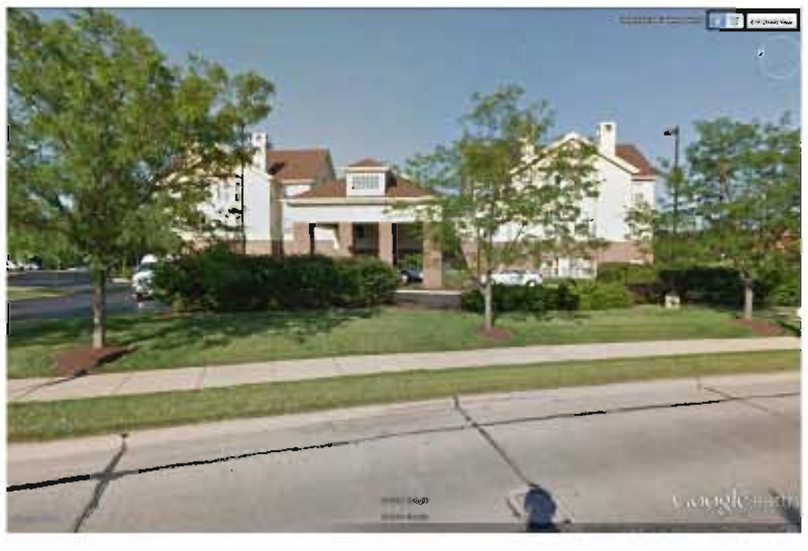
B

DoubleTree Hotel from Chesterfield Parkway West

C

Chesterfield City Hall

D



Hotel on adjacent property

E

Retail development on nearby property

F

Southwest corner of existing tiered parking, looking North

G

South end of meadow near entry, looking North

H

Looking South toward Chesterfield Parkway West

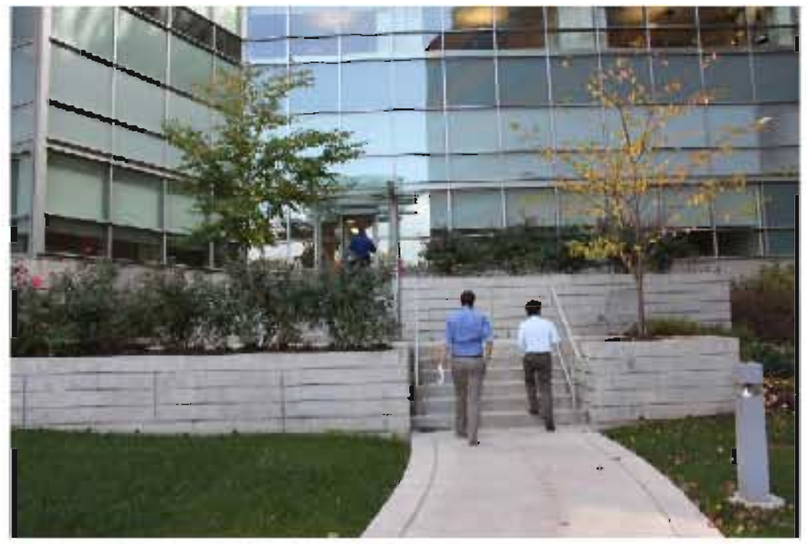
I

Existing Building CC built approx 2009 (BB in foreground)

J

Existing Building CC

K



Existing Building CC

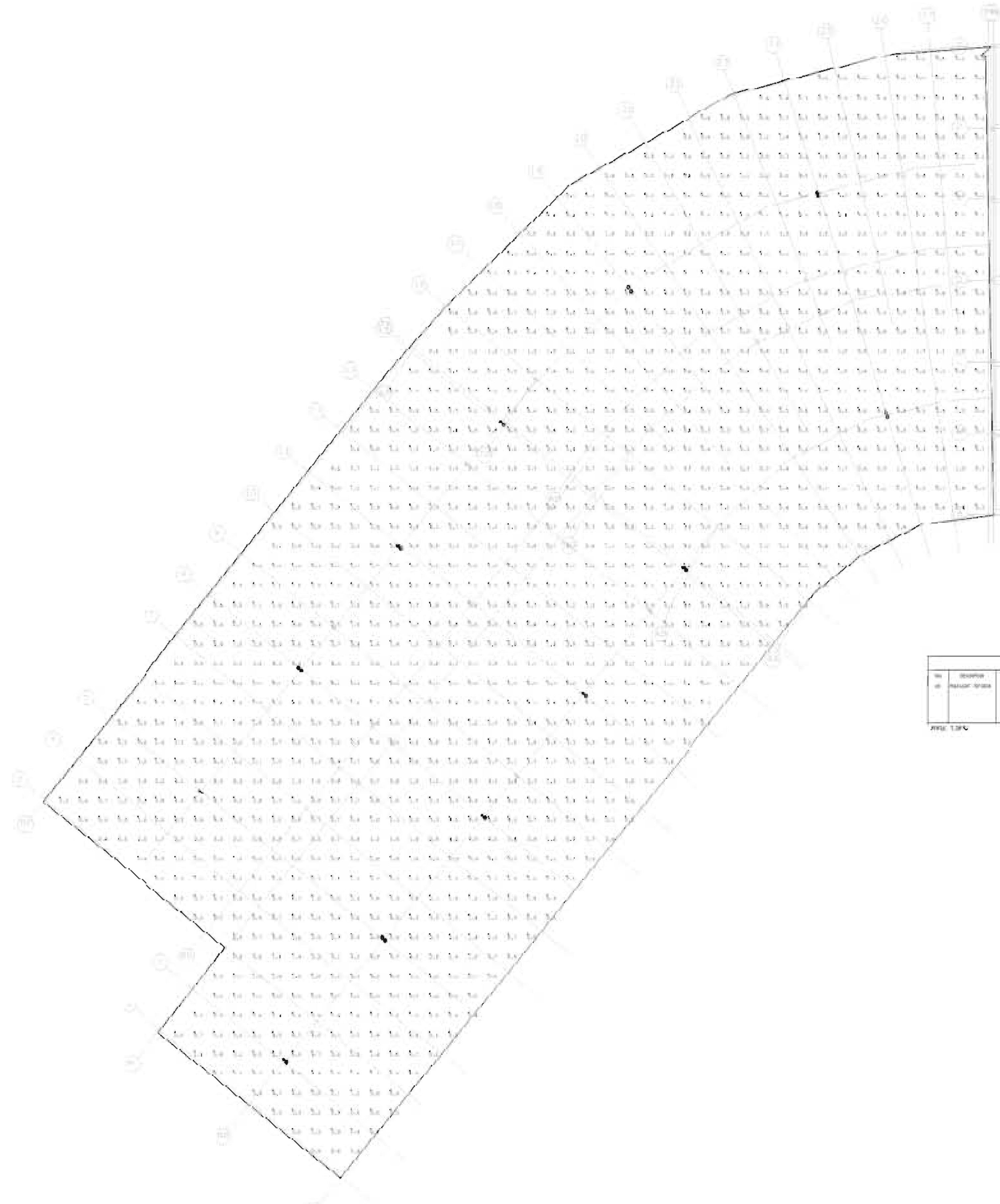
L

Typical existing gabion wall, and view to farm land beyond

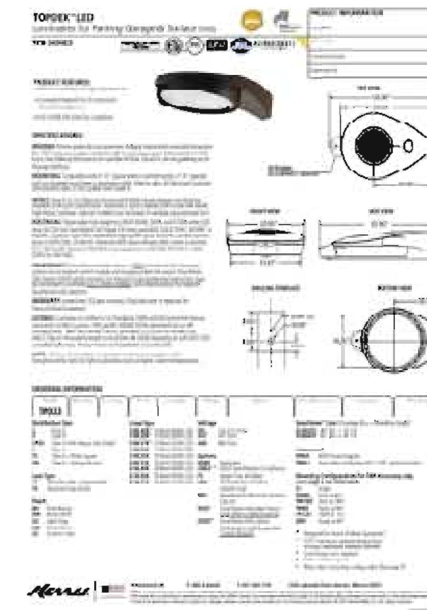
M

Existing surface parking and hill beyond

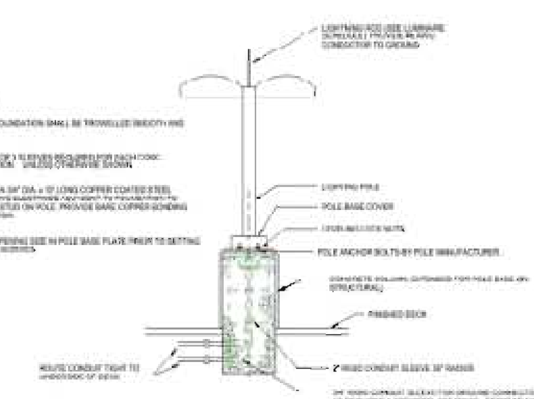
N



1 LIGHTING PHOTOMETRICS



LUMINAIRE SCHEDULE



4 LIGHTING POLE FOUNDATION

CONFIDENTIAL PROJECT

PARKING GARAGE

CANNONDESIGN

NOT FOR CONSTRUCTION

LIGHTING PHOTOMETRICS

LP001

TOPDEK™ LED
Luminaires for Parking Garages & Surface Lots

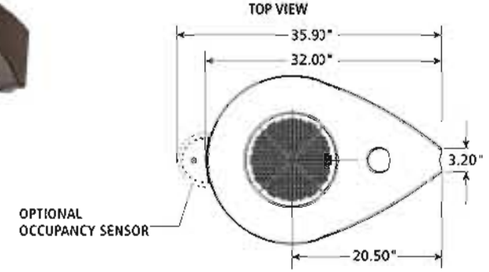
TPD SERIES

PEACE OF MIND Guarantee® · ETL US · IP65 · LED · DESIGNLIGHTS CONSORTIUM

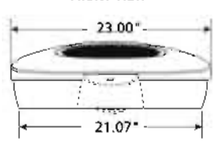
PROJECT INFORMATION	
Job Name	
Fixture Type	
Catalog Number	
Approved by	

PRODUCT FEATURES:
- » Pole-mounted LED area light; 23" Diameter
- » Concealed heatsink fins for optimized thermal management
- » Full-Cutoff; IDA Dark-Sky Compliant

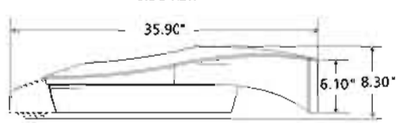
TOP VIEW



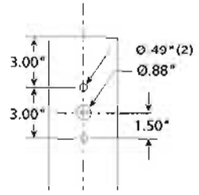
FRONT VIEW



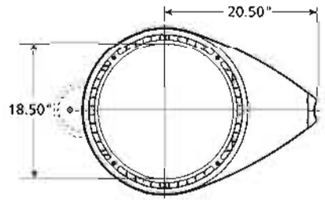
SIDE VIEW



DRILLING TEMPLATE



BOTTOM VIEW



SPECIFICATIONS:

HOUSING: Marine grade die-cast aluminum. Integral heatsink with concealed convection fins. TGIC polyester powder coat finish with 5-step pre-treatment. Salt spray test* 1,000 hours. See Ordering Information for available finishes. Closed-cell silicone gasketing at all housing interfaces.

MOUNTING: Compatible with 3"-6" square steel or aluminum poles, 3"-6" tapered and non-tapered round steel or aluminum poles. Poles by others. All structural hardware 304 stainless steel, or zinc plated steel Grade 8.

OPTICS: Type II, III, IV, V-Narrow Round and V-Wide Square roadway classifications available. Full-cutoff classification. Asymmetric option available with house-side shield. High impact resistant, injection molded clear textured UV-stabilized polycarbonate lens.

ELECTRICAL: Replaceable high-brightness ANSI 4000K, 5000K, and 5700K white LED array. 65 CRI min. See Options for higher CRI lamp availability. 120-277VAC, 347VAC or 480VAC, 50/60Hz input with replaceable high power factor electronic constant-current driver (<10% THD, >0.95 PF). Minimum 85% driver efficiency. EMC meets or exceeds FCC CFR Part 15 Standard. 20KV/KA surge protection to IEEE/ANSI C62.41.2 C High (10KV for 347 VAC).

SMARTSENSE™: SmartSense Individual Sensor (SSIS) provides individual luminaire control via an integral control module and occupancy/light level sensor. SmartSense Only Sensor (SSOS) option provides an integral occupancy/light level sensor but must be connected to a remote SSCS Control Module. See Ordering options for required SmartSense Lens selection.

WARRANTY: Limited ten (10) year warranty. Polycarbonate lens required for Peace of Mind Guarantee®.

LISTINGS: Luminaire is certified to UL Standards 1598 and 8750 by Intertek Testing Laboratory for Wet Location. IP65 per IEC 60598. IESNA-designated full cut-off. IDA-Approved™ Dark-Sky Friendly Fixture. Luminaire is 2G tested for vibration per ANSI C136.31. Photometry tested to the IESNA LM-79-08 standard by an ILAC/ISO17025 accredited laboratory. Product listed on Designlights Consortium QPL.

NOTE: -40°C to 40°C ambient temperature rated unless otherwise noted (See photometric data for light output reductions at higher ambient temperatures).

ORDERING INFORMATION

Model	Dist. Type	Lens Type	Finish	Lamp Type	Voltage	Options	SmartSense Lens	Accessories	Mounting
TPD23									

Distribution Type
- **2** Type II
- **3** Type III
- **3HSS** Type III with House-side Shield
- **4** Type IV
- **5S** Type V – Wide Square
- **5N** Type V – Narrow Round

Lens Type
- **TP*** Textured Clear Polycarbonate
- **TA** Textured Clear Acrylic

Finish
- **DB** Dark Bronze
- **GW** Gloss White
- **LG** Light Gray
- **MB** Matte Black
- **CC** Custom Color

Lamp Type
- **100L40K*** 100 Watt 4000K LED
- **100L50K*** 100 Watt 5000K LED
- **100LS7K*** 100 Watt 5700K LED
- **160L40K** 160 Watt 4000K LED
- **160L50K** 160 Watt 5000K LED
- **160L57K** 160 Watt 5700K LED
- **216L40K** 216 Watt 4000K LED
- **216L50K** 216 Watt 5000K LED
- **216L57K** 216 Watt 5700K LED

Voltage
- **DV** 120-277 Volts
- **347** 347 Volts
- **480** 480 Volts

Options
- **8SPK** Birdspikes
- **CBEA**** CBEA Specification Compliance
- **FS** Single Fuse & Holder
- **R80** Minimum 80 CRI Lamp (4000K only)
- **RPC** Receptacle for Photocell, Shorting Cap, etc.
- **SSIS▼** SmartSense Individual Sensor (click here for specifications)
- **SSOS▼** SmartSense Only Sensor (click here to specify required Control Module)

SmartSense™ Lens (Coverage Dia. × Mounting Height)
- **SS4020†** 40' Dia. × 20' Ht.
- **SS6040†** 60' Dia. × 40' Ht.

Accessories
- **WMA** Wall Mount Adapter
- **TMA▲** Tenon Mount Adapter (fits 2 3/8" vertical tenons)

Mounting Configurations for TMA Accessory only (See page 2 for selections)
- **S1** Single
- **TW90** Twin at 90°
- **TW180** Twin at 180°
- **TR90** Triple at 90°
- **TR120** Triple at 120°
- **Q90** Quad at 90°

* Required for Peace of Mind Guarantee®
▼ 55°C maximum ambient temperature
** Includes additional warranty benefits
▼ SmartSense Lens required
† SSIS or SSOS required
▲ Must select mounting configuration (See page 2)

KENALL

www.kenall.com **P: 800-4-Kenall** **F: 847-360-1781** **1020 Lakeside Drive Gurnee, Illinois 60031**

TOPDEK™ LED
Luminaires for Parking Garages & Surface Lots

For additional photometry, go to www.kenall.com

TPD SERIES – TECHNICAL DATA

Mounting Configuration	S1	TW90	TW180	TR90	TR120	Q90
						
EPA DATA	**SINGLE**	**TWIN @ 90°**	**TWIN @ 180°**	**TRIPLE @ 90°**	**TRIPLE @ 120°**	**QUAD @ 90°**
Standard Unit	**0.81 ft²**	1.34 ft²	1.62 ft²	2.32 ft²	2.10 ft²	2.32 ft²
Unit w/SmartSense Micro	**0.91 ft²**	1.38 ft²	1.82 ft²	2.32ft²	2.10 ft²	2.32 ft²

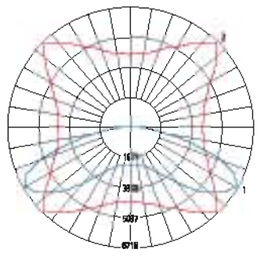
Note: Kenall's optional HSS house-side shield is internal and does not affect EPA

Performance Matrix

				Delivered Lumens				
LED Color (°K)	Drive Current (mA)	Input Watts (W)	LED Engine	Type III	Type III HSS	Type V Square	Type V Round	Est. L70 LED Life
5700	350	112	100L57K	10,737	7,354	11,490	12,180	150,000
5700	525	158	160L57K	14,412	9,871	15,442	16,348	150,000
5700	700	224	216L57K	17,821	12,206	19,070	20,215	100,000
5000	350	112	100L50K	10,042	6,878	10,764	11,391	150,000
5000	525	158	160L50K	13,479	9,232	14,423	15,289	150,000
5000	700	224	216L50K	16,667	11,416	17,835	18,906	100,000
4000	350	112	100L40K	9,424	6,455	10,084	10,690	150,000
4000	525	158	160L40K	12,649	8,664	13,536	14,348	150,000
4000	700	224	216L40K	15,641	10,713	16,738	17,743	100,000

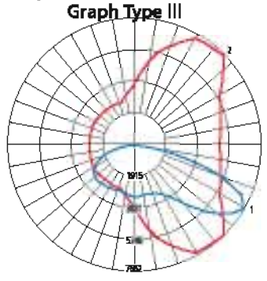
Displayed information above is for selected luminaires only. Additional wattages and color temperatures are also available. Visit www.kenall.com for additional information.

TopDek Polar Distribution Graph Type V-Square



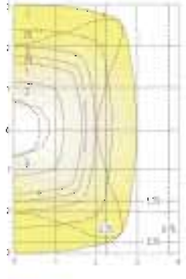
Maximum Candela = 6716.077 Located At Horizontal Angle = 45, Vertical Angle = 60
1 - Vertical Plane Through Horizontal Angles (45-225) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (60) (Through Max. Cd.)

TopDek Polar Distribution Graph Type III



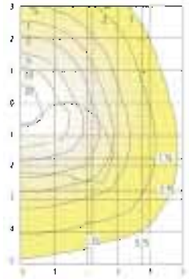
Maximum Candela = 7213.481 Located At Horizontal Angle = 45, Vertical Angle = 60
1 - Vertical Plane Through Horizontal Angles (45-225) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (60) (Through Max. Cd.)

TopDek ISO Ft-Candle Chart Measured at 25' mounting height



Distance In Units Of Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve

TopDek ISO Ft-Candle Chart Measured at 25' mounting height



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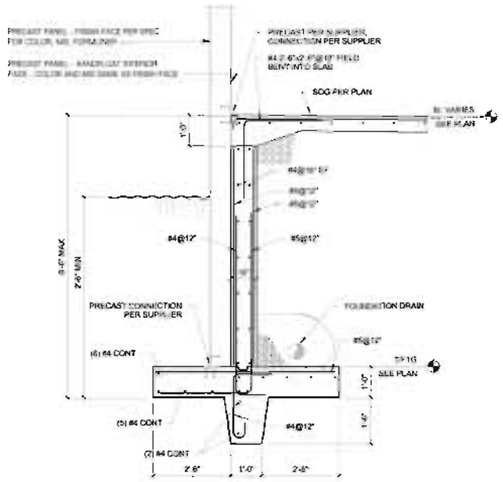
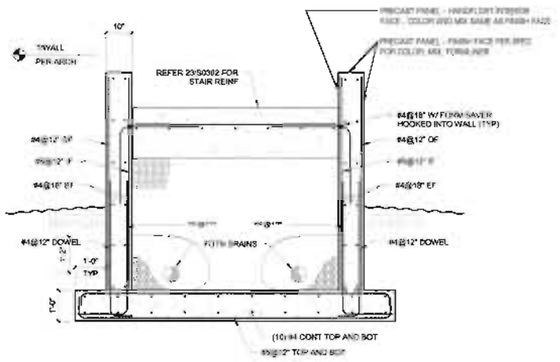
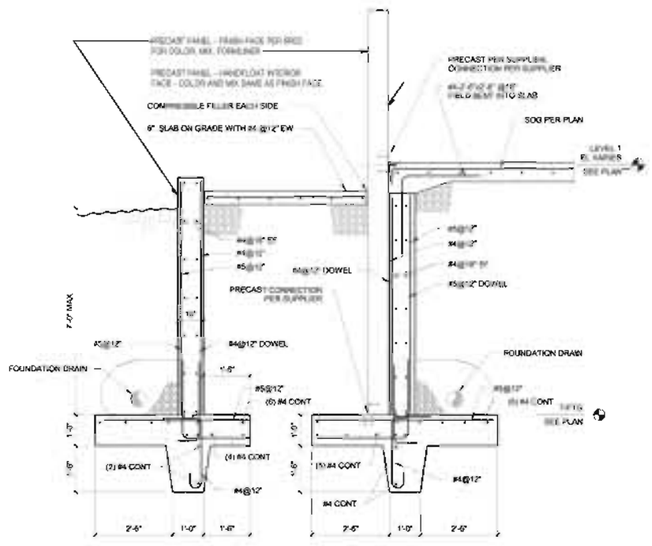


9 RETAINING WALL SECTION
1/2" = 1'-0"



8 STAIR SECTION
1/2" = 1'-0"



7 RAMP FOUNDATION SECTION
1/2" = 1'-0"