



**SITE IMPROVEMENT PLANS
for
29 ORLAND SQUARE DRIVE RETAIL**

DEVELOPER

UG ORLAND PARK IL, LLC
999 FIFTH AVENUE, SUITE 390
SAN RAFAEL, CA 94901
PHONE: (415) 707-7008

SITE PLANNER

ZEPHYR ARCH
2053 E. BAYSHORE ROAD #14
REDWOOD CITY, CA 94063
PHONE: (650) 861-1444
FAX: (650) 839-1444

CALL J.U.L.I.E. 1-800-892-0123

WITH THE FOLLOWING:

COUNTY: COOK
CITY, TOWNSHIP ORLAND PARK, T36N
SEC. & 1/4 SEC. NO. W 1/2 OF SW 1/4, SECTION 10

48 HOURS BEFORE YOU DIG.
EXCLUDING SAT., SUN. & HOLIDAYS

ORLAND PARK, ILLINOIS

PROJECT NO: 8573



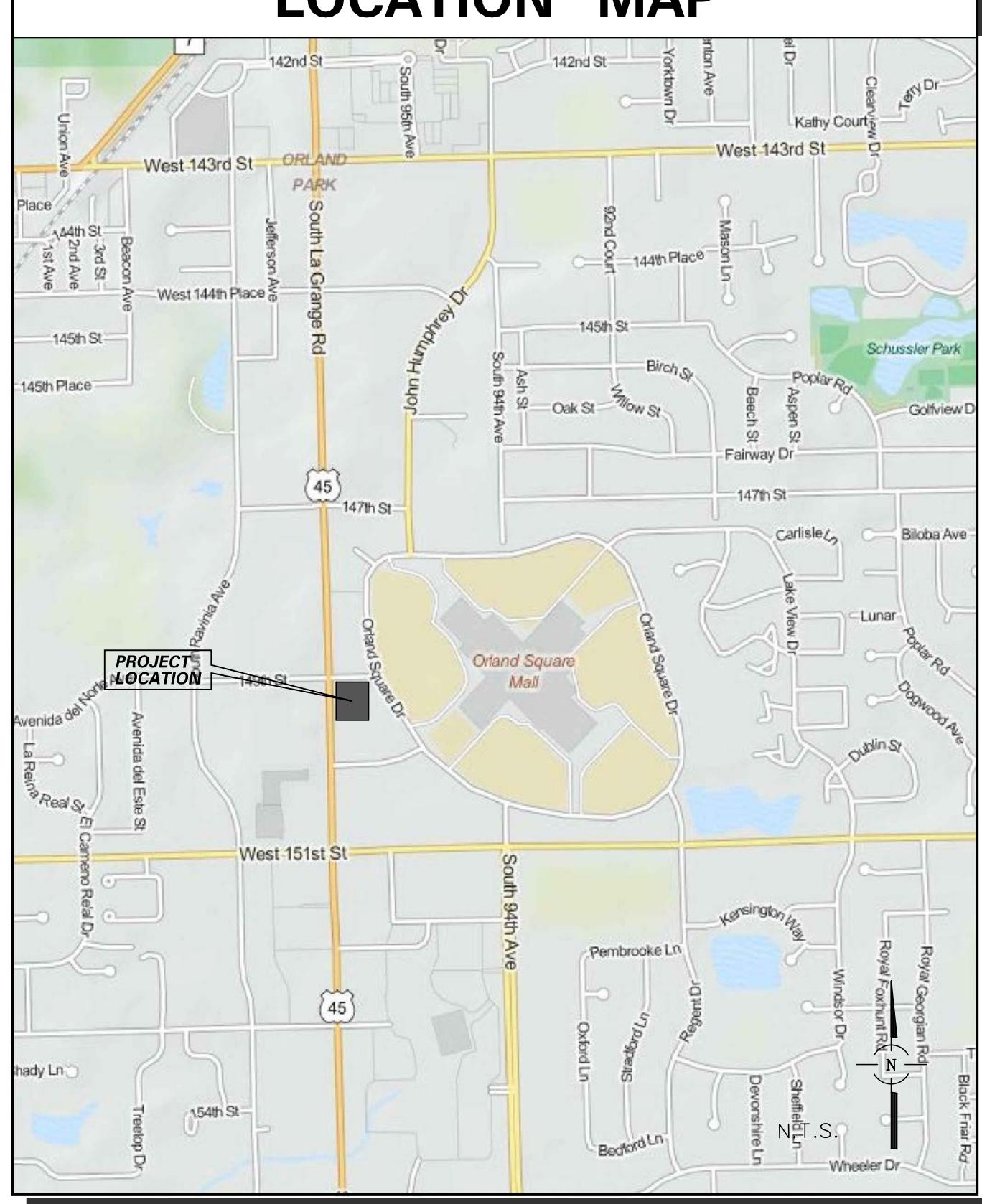
NOTE:

SPACECO, INC. IS TO BE NOTIFIED AT LEAST
THREE (3) DAYS PRIOR TO STARTING CONSTRUCTION
AND SHALL BE INCLUDED IN THE PRECONSTRUCTION MEETINGS

INDEX

SHEET #	SHEET I.D.	SHEET DESCRIPTION
1	C1	COVER SHEET
2	TS1	TYPICAL SECTIONS & GENERAL NOTES
3	EX1	EXISTING CONDITIONS PLAN
4	DEMO	DEMOLITION PLAN
5	GM1	GEOMETRIC PLAN
6	GR,UT,EC	GRADING, UTILITY, AND SOIL EROSION CONTROL PLAN
7	SE1	SOIL EROSION AND SEDIMENT CONTROL PLANS
8	S & D	SPECIFICATIONS AND DETAILS

LOCATION MAP



SEWER MAP



REVISIONS

ORIGINAL PLAN DATE: AUGUST 5, 2015

#	SHEET #	REMARKS	DATE
1	5,6	PER CLIENT	08/11/15
2	2,3,5,6	PER VILLAGE	11/23/15
3	2,8	PER MWWD PERMIT	01/18/16
4	1,2,6,8	PER MWWD	03/31/16
5	1,6	PER MWWD	04/27/16
7	7	PER MWWD	06/08/16
8	5,6	PER CLIENT	06/29/16

ENGINEER DATE
JASON E. WIESBROCK, P.E.
ILLINOIS REGISTRATION NO.: 062-057654
EXPIRATION DATE: 11/30/2017

PROFESSIONAL DESIGN FIRM NO.: 184-001157
EXPIRATION DATE: 04/30/2017

THESE PLANS OR ANY PART THEREOF SHALL BE CONSIDERED VOID WITHOUT
THE SIGNATURE, SEAL, AND EXPIRATION DATE OF SEAL OF THE ENGINEER



FOR CONSTRUCTION

29 ORLAND SQUARE
DRIVE RETAIL
ORLAND PARK, ILLINOIS

224 1/2 N. Liberty Street, Morris, Illinois 60450
Phone: (815) 941-0260 Fax: (815) 941-0263

CONSULTING ENGINEERS
SITE DEVELOPMENT ENGINEERS
LAND SURVEYORS



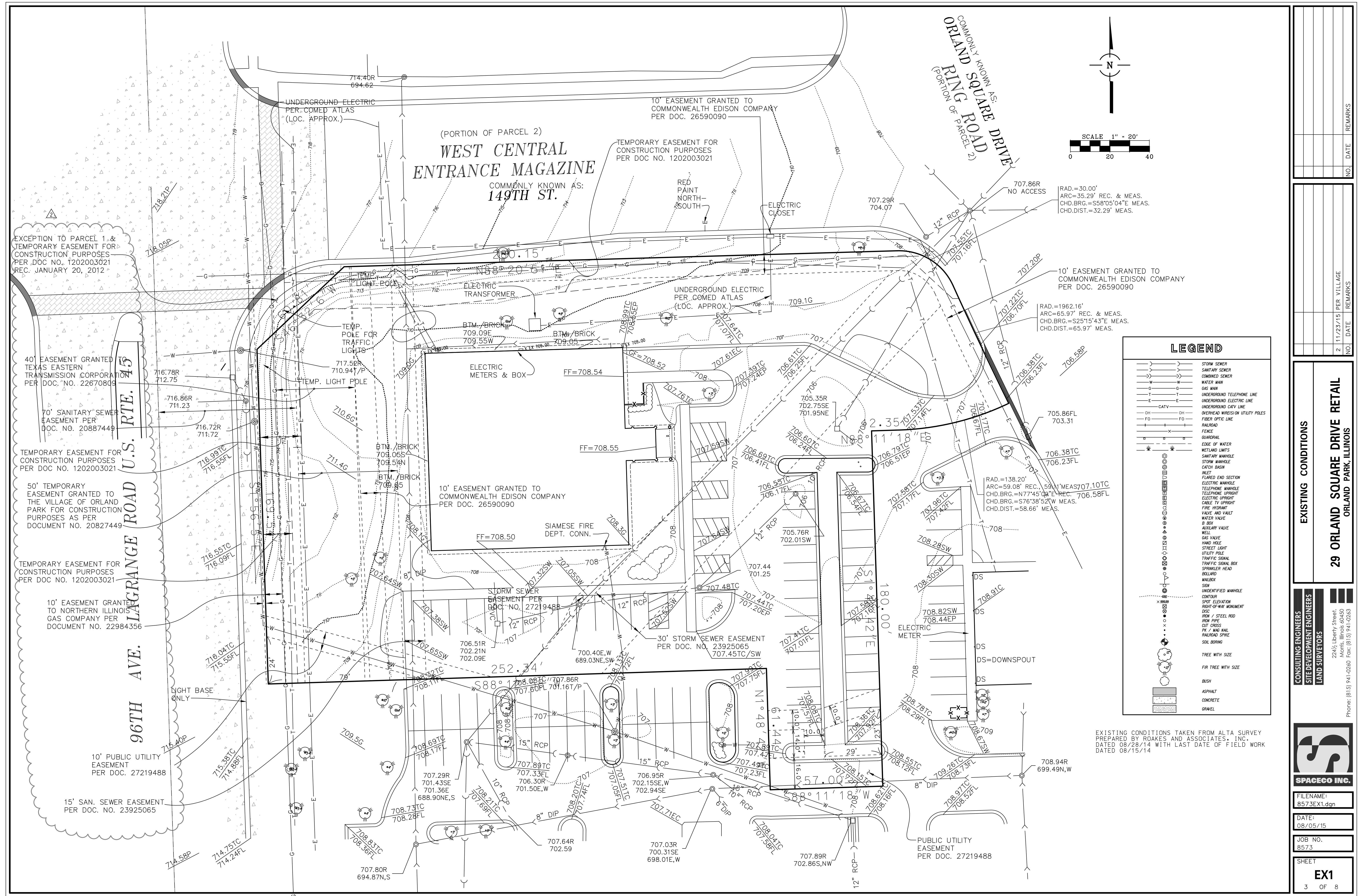
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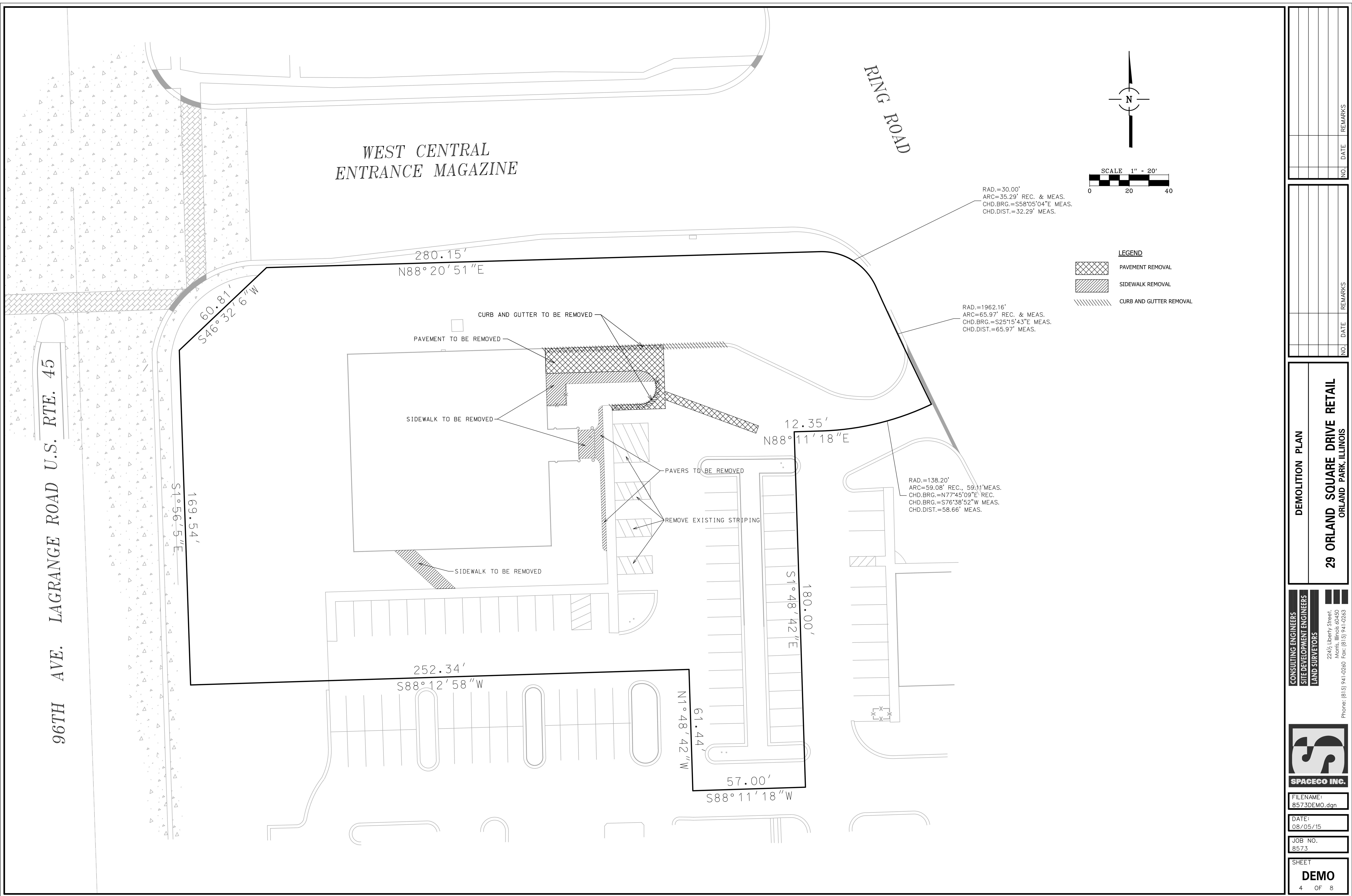
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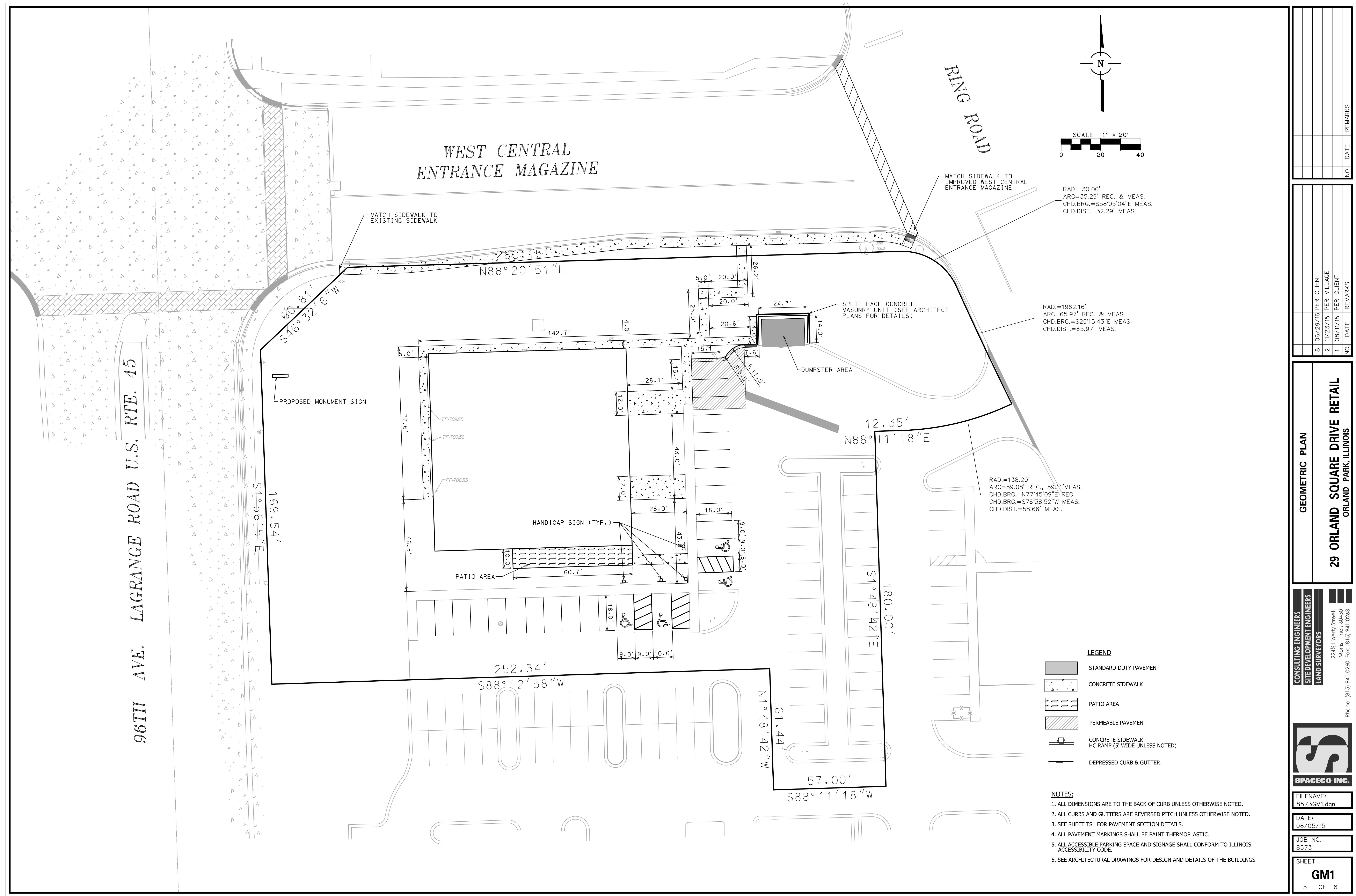
JOB NO. 8573

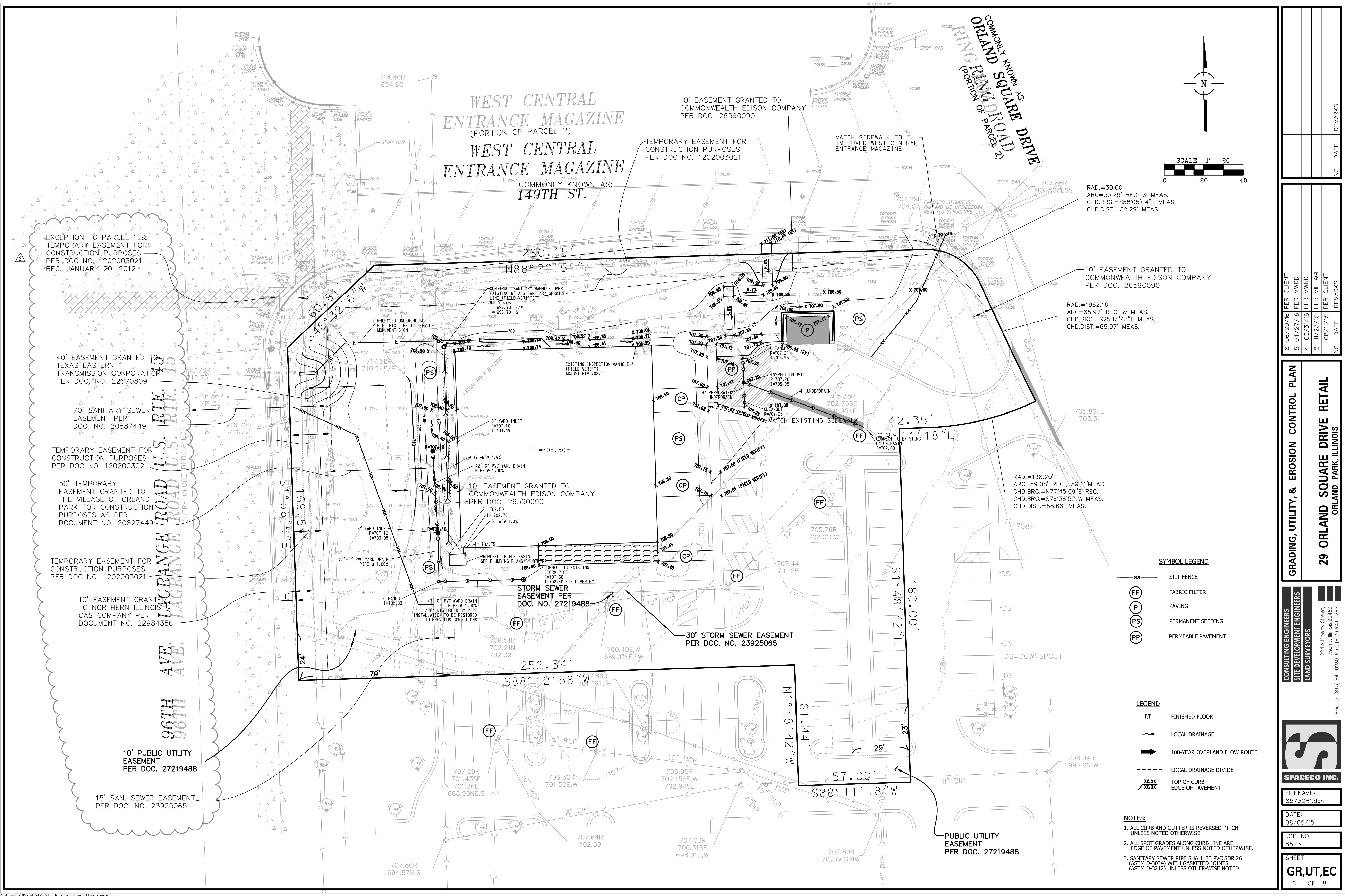
SHEET C1

1 OF 8









This Soil Erosion & Sediment Control (SESC) Plan has been prepared to fulfill one of the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit No. ILR10-N/A. The SESC Plan should be used as a reference for the implementation of the Storm Water Pollution Prevention Plan (SWPPP). The SWPPP, including the SESC Plan, should be amended whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the State and which has not otherwise been addressed in the SWPPP. The SESC Plan should also be used if there is a significant change in the implementation strategy of the pollutants, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with construction site activity. In addition, the SWPPP shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the SWPPP.

1. SITE DESCRIPTION

A. The following is a description of the nature of the construction activity: placement removal and installation (soil removal for sidewalk installation)

B. The following is a description of the intended sequence of construction activities which will disturb soils in major portions of the construction site:

Describe proposed construction sequence, sample follows:

1) Initial perimeter sediment control measures

a) Selective vegetation removal for silt fence installation

b) Silt fence installation

c) Construction fencing around areas not to be disturbed

d) Clear and grub (as necessary)

e) Construct sediment trapping devices (sediment traps, sediment basins, etc.)

f) Construct detention facilities and outlet control structure with restrictor & temporary

g) Strip topsoil, stockpile topsoil and grade site

h) Temporarily stabilize topsoil stockpiles (seed and silt fence around toe of slope)

i) Install storm sewer, sanitary sewer, water and gas lines and outlet protection

j) Temporarily stabilize all areas including lots that have reached mass grade

k) Install roadway

l) Grade all outlet areas

m) Install buildings and grade individual lots

n) Permanently stabilize lots

o) Remove all temporary soil erosion and sediment control measures after the site is stabilized with vegetation

C. The site has a total acreage of approximately 1.7 acres. Construction activity will disturb approximately 0.01 acres of the site.

D. 1) An estimated runoff coefficient of the site after construction activities are completed is NA.

2) Existing data describing the soil or quality of any discharge from the site is included in NA.

E. Refer to Sheets 5 for a site plan indicating:

1) drainage patterns;

2) approximate slopes anticipated before and after major grading activities;

3) areas where vehicles enter and exit the site and controls to minimize off-site sediment tracking;

4) areas of soil disturbance;

5) the location of major structural and structural controls;

6) locations where soil stabilization practices are expected to occur;

7) surface waters (including ponds, creeks, etc.);

8) locations where storm water is discharged to a surface water.

F. 1) The name of the receiving water(s) is/are: existing storm sewer.

2) The name of the ultimate receiving water is: NA.

3) The extent of wetland acreage at the site is: 0 acres.

G. Potential sources of pollution associated with this construction activity may include:

- sediment from disturbed soils

- sanitary wastes

- fuel tanks

- staging areas

- waste containers

- temporary storage areas

- oil or other petroleum products

- adhesives

- tar

- solvents

- detergents

- fertilizers

- concrete materials (e.g., bagged portland cement)

- construction debris

- landscape waste

- concrete and concrete trucks

2. CONTROLS

This section of the SESC Plan addresses the various controls that should be implemented for each of the major construction activities described in the "Site Description" section. For each measure identified in the SWPPP, the contractor(s) or subcontractor(s) that will implement the measure should be identified. All contractors or subcontractors that will be involved in the project should be required to sign a copy of the certification statement from Part IV.C. of the ILR10 Permit. In accordance with Part VI.C. of the Inventory Requirements, or the ILR10 Permit, all signed certification statements should be maintained in the SWPPP.

A. Approved State or Local Plans

The management practices, controls and other provisions contained in the SWPPP should be at least as protective as the requirements contained in the Illinois Environmental Agency's (IEPA) Stormwater Management Rules and the Illinois Natural Resources Conservation Service's Illinois Urban Manual. All requirements specified in sediment and erosion control site plans or storm water management site plans or site permits, approved by local officials that are applicable to protecting surface water resources, are, upon submittal of a Notice of Intent (NOI), to be filed with the Illinois Environmental Protection Agency (ILR10 permit), or by reference and/or incorporation under the ILR10 permit, in the order of precedence listed in a SESC Plan, unless the ILR10 permit, this provision does not apply to provisions of master plans, comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit that is issued for the construction site.

The soil erosion and sediment control measures for this site should meet the requirements of the following agencies:

- Municipality (be specific)

- County Agency and/or SWCD (be specific)

- IEPA

- U.S. Army Corps of Engineers

B. Control Implementation Schedule

Best Management Practices will be implemented on an as-needed basis to protect water quality. Perimeter controls on the site should be installed prior to soil disturbance (excluding soil disturbance necessary to install the controls), including demolition activities. Perimeter controls, including the silt fence, should be actively maintained until final stabilization of those portions of the site covered by the perimeter control. Stabilized construction entrances and sediment control sites should be developed in the order of precedence listed in the SESC Plan. The contractor is responsible for the adequate protection (including sediment control) of existing sewers and sewer structures during construction operations. As necessary, the appropriate sediment control measure should be installed prior to land disturbing activities.

Stabilization measures should be initiated where construction activities have temporarily or permanently ceased, in accordance with Local and State requirements, as described below. Once construction activity in an area has permanently ceased, that area should be permanently stabilized. Temporarily perimeter controls should be removed after final stabilization of those portions of the site under the perimeter control.

C. Erosion and Sediment Controls

The appropriate soil erosion and sediment controls should be implemented on site and should be modified to reflect the current phase of construction. All temporary sediment and erosion control measures should be repaired or replaced as soon as practicable to maintain 95% control. The Permittee or an authorized agent is responsible for inspecting and repairing sediment control measures at a minimum of every 7 calendar days and within 24 hours, or one working day, of the end of a 0.5-inch (or greater) rain event.

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices should be installed to the Standard Practice. The contractor is responsible for the installation of any additional erosion and sediment control measures necessary to minimize erosion and sedimentation as determined by the Engineer or Primary Contact.

1) Stabilization Practices - Areas that will not be paved or covered with non-erosive material should be stabilized using procedures in substantial conformance with the Illinois Urban Manual. This SESC Plan includes site-specific soil erosion and sediment control measures. Additional erosion controls should be implemented as necessary, as determined by the Engineer or Primary Contact.

The following temporary and permanent stabilization practices, at a minimum, are proposed:

- permanent seeding

- temporary seeding

- erosion control blanket

- other measures

Site-specific scheduling of the implementation of these practices is included in the Soil Protection Chart. A record of the dates when major grading activities occur, when construction activities cease on a portion of the site, and when stabilization measures are initiated should be included in the SWPPP.

Stabilization of disturbed areas must be initiated within 1 working day of permanent or temporary cessation of earth moving activities. Stabilization should be completed as soon as possible but not later than 14 days from the initialization of stabilization work on an area. Exceptions to these time frames are specified below.

a. Where the initialization of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

b. On areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method can be used. Temporary stabilization techniques and materials shall conform to the SWPPP.

2) Structural Practices - Provided below is a description of structural practices that should be implemented, to the degree practicable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices should be placed on upland soils to the degree practicable. The installation of the following devices may be subject to Section 404 of the Clean Water Act:

- stabilized construction entrance

- sediment traps (provide locations and dimensions in plan set)

- other measures

D. Storm Water Management

Provided below is a description of measures that will be installed during the construction process to control the pollutants in storm water discharges that will occur after the construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

1) The practices selected for implementation were determined on the basis of technical guidance contained in IEPAs Illinois Urban Manual, Federal, State, and/or Local Requirements. The storm water management measures include:

- detention basins (wet basins, dry basins, etc.)
- retention basins
- infiltration basins
- infiltration trenches
- other measures

2) Velocity dissipation devices, such as rip-rap aprons at flared end sections or level spreaders, shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a watercourse so that the natural, physical, and biological characteristics and functions of the watercourse are protected (e.g., maintenance of hydrologic conditions, such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

E. Water Management

Solid waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and disposed of by the contractor. The contractor is responsible to acquire the permit required for such disposal and on site disposal. All waste materials should be discharged to waters of the State, except as authorized by a Section 404 permit. All waste materials should be collected and stored in approved receptacles. No wastes should be placed in any location other than in the approved collection and storage areas. Receptacles with lids should be replaced as soon as possible. Proper clean-up procedures should take place, if necessary. Construction waste material is not to be buried on site. Waste disposal should comply with all Local, State, and Federal regulations.

On-site hazardous material storage should be minimized and stored in labeled, separate receptacles from non-hazardous waste. All hazardous waste should be disposed of in the manner specified by Local or State regulations or by the manufacturer.

F. Concrete Waste Management

Concrete waste or washout should not be allowed in the street or allowed to reach a storm water drainage system or watercourse. When practicable, a sign should be posted at each location to identify the washout. To the extent practicable, concrete washout areas should be located a reasonable distance from a storm water drainage inlet or watercourse, and should be located at least 10 feet behind the curb, if the washout area is adjacent to a paved road.

The containment facilities should be of sufficient volume to completely contain all liquid and concrete waste materials including enough capacity for anticipated levels of rainfall. The dried concrete waste material should be picked up and disposed of properly when 65% capacity is reached. Hardened concrete can be properly recycled and used again on site as approved by the Engineer or hauler off site to an appropriate landfill.

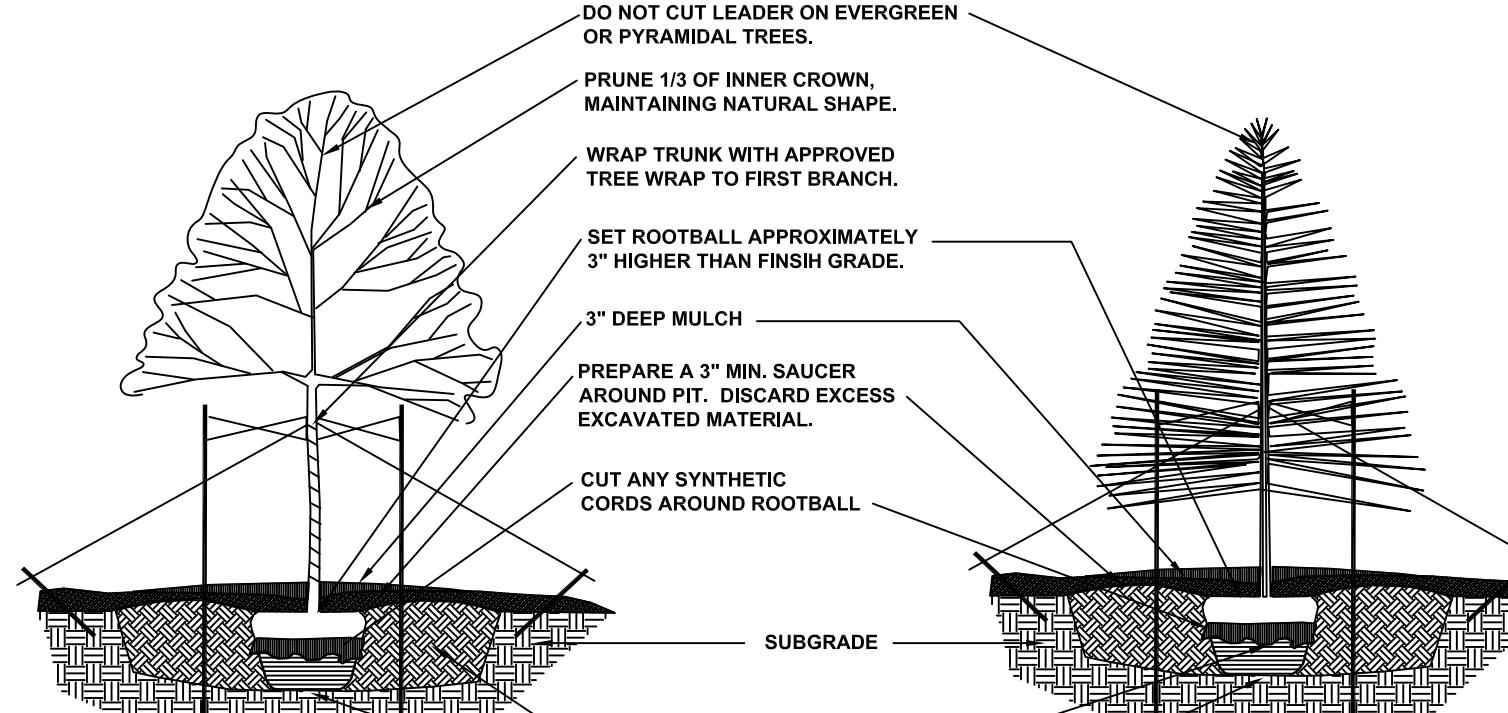
G. Concrete Cutting

Concrete waste management should be implemented to contain and dispose of saw-cutting slurries. Concrete cutting should not take place during or immediately after a rainfall event. Waste generated from concrete cutting should be cleaned up and disposed into the concrete washout facility as described above.

H. Vehicle Storage and Maintenance

When not in use, construction vehicles should be stored in a designated area outside of the temporary floodplain, away from any natural or created watercourse, pond, drainage way or storm drain. Controls should be installed to minimize the potential of runoff from the storage areas from reaching storm drains or water courses. Vehicle maintenance (including both routine maintenance as well as on-site repairs) should be conducted in a manner that minimizes the potential for discharges to the storm water drainage system.

Vehicle areas should be inspected frequently for leaking and/or leaking fluids. Any fluids that are removed from vehicles should be properly disposed of in designated disposal areas (e.g., oil, antifreeze, etc.) into watercourses, wetlands or storm drains. Drill pans or absorbent pads should be used for all vehicle and equipment maintenance activities that involve grease, oil, solvents, or other vehicle fluids. Construction vehicle storage areas should be inspected frequently for leaking and/or leaking fluids. Any fluids that are removed from vehicles should be properly disposed of in designated disposal areas (e.g., oil, antifreeze, etc.) into watercourses, wetlands or storm drains. Construction vehicle and equipment maintenance activities that involve grease, oil, solvents, or other vehicle fluids. Construction vehicle storage areas should be inspected frequently for leaking and/or leaking fluids. 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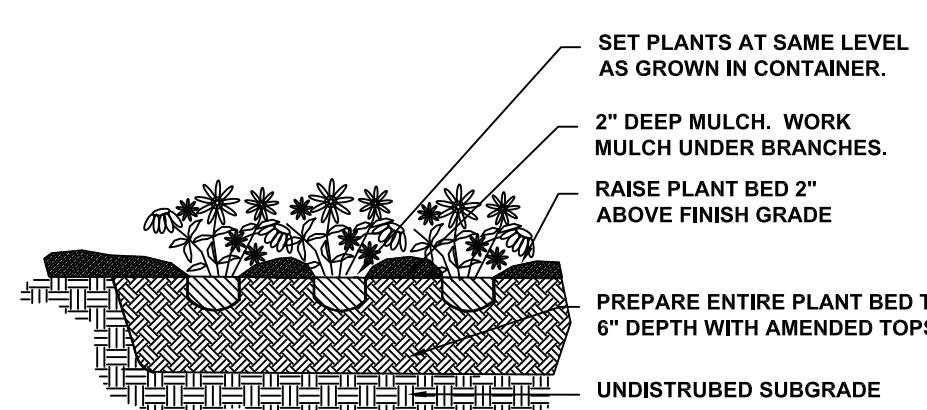


TREE PLANTING DETAIL

NO SCALE

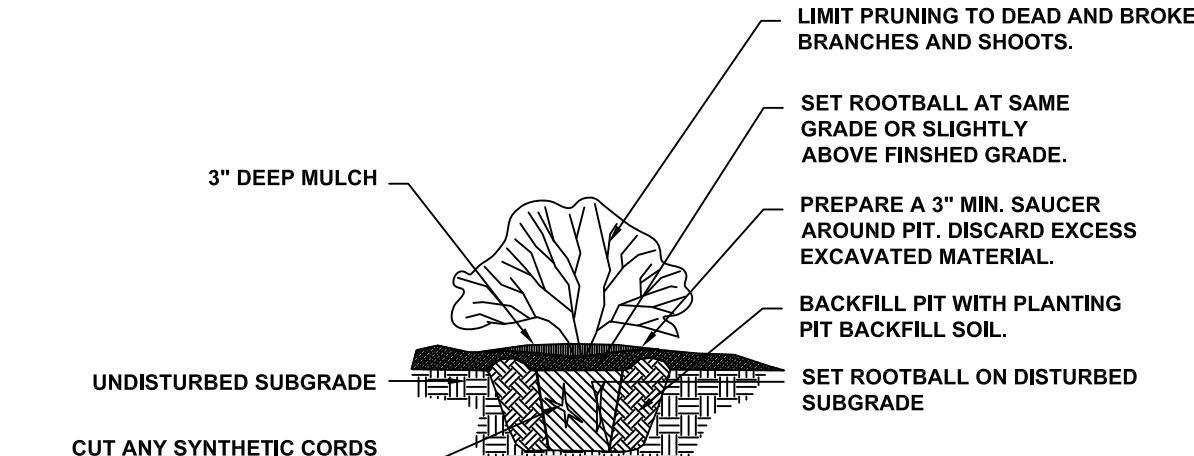
EVERGREEN TREE PLANTING DETAIL

NO SCALE



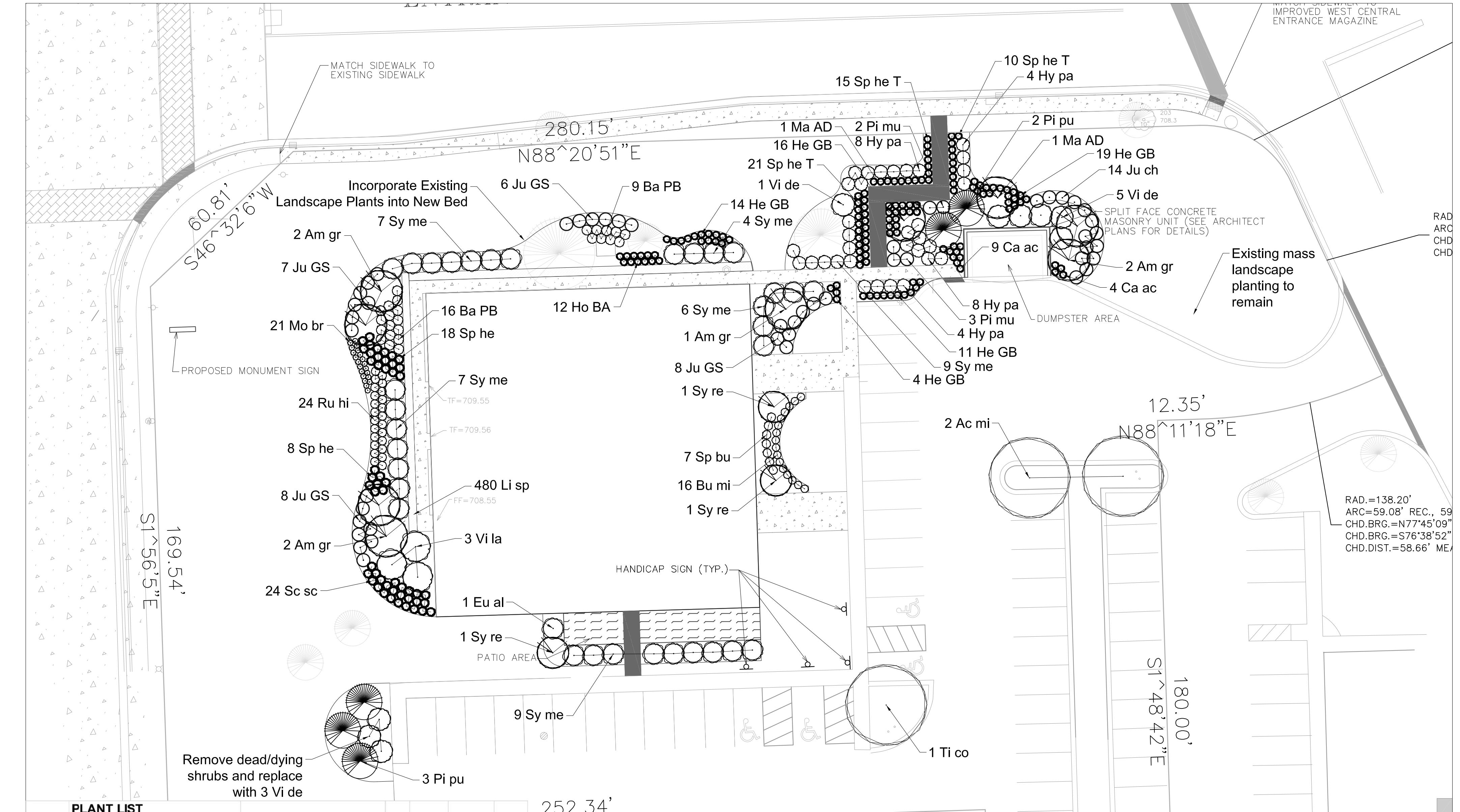
PERENNIAL, AND GROUNDCOVER DETAIL

NO SCALE



SHRUB PLANTING DETAIL

NO SCALE



SYM.	BOTANICAL NAME	COMMON NAME	Qty.	Spacing	Size	Cond.
Deciduous Trees						
Ac mi	Acer miyabei 'Morton'	State Street Maple	4	2.5'	6' Clump	B & B
Am gr	Amelanchier alnifolia 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7	11' o.c.	2"	B & B
Ma Ad	Malus Adams	Adams Crabapple	2		2"	B & B
Sy re	Syringa reticulata 'Summer Charm'	Summer Charm Lilac	3		2.5"	B & B
Ti co	Tilia cordata 'Greenspire'	Greenspire Linden	1		2.5"	B & B
Evergreen Trees						
Pi pu	Picea pungens	Colorado Spruce	5	8' o.c.	8'	B & B
Deciduous Shrubs						
Eu al	Euonymus alatus 'compactus'	Dwarf Burning Bush	1	4' o.c.	3'	B & B
Hy pa	Hydrangea paniculata 'Jane'	Little Lime Hydrangea	24	4' o.c.	3'	B & B
Sp bu	Spirea bumalda 'Goldflame'	Goldflame Spirea	7	30"	24"	B & B
Sy me	Syringa meyeri 'Palibin'	Dwarf Korean Lilac	42	4' o.c.	3'	Cont.
Vi de	Viburnum dentatum	Arrowwood Viburnum	9	4' o.c.	4'	B & B
Vi la	Viburnum lanata 'Mohican'	Mohican Viburnum	3	4' o.c.	4'	B & B
Evergreen Shrubs						
Bu mi	Buxus microphylla 'Chicagoland Green'	Chicagoland Green Boxwood	16	2' o.c.	24"	B & B
Ju GS	Juniperus chinensis var. sargentii 'Viridis'	Green Sargent Juniper	29	4' o.c.	#5	Cont.
Ju ch	Juniperus chinensis 'Kallay's Compact'	Kallay's Compact Juniper	14	4' o.c.	#5	Cont.
Pi mu	Pinus mugo 'Valley Cushion'	Dwarf Mugo Pine	5	3' o.c.	#3	Cont.
Perennials / Grasses / Groundcovers						
Ca ac	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	13	2' o.c.	#1	Cont.
Ba PB	Baptisia Starlite Prairieblues	Starlite False Indigo	25	3' o.c.	#1	Cont.
He GB	Hemerocallis 'Going Bananas'	Going Bananas Daylily	54	2' o.c.	#1	Cont.
Ho BA	Hosta 'Blue Angel'	Blue Angel Hosta	12	2' o.c.	#1	Cont.
Li sp	Liriope spicata	Creeping Lilyturf	480	1' o.c.	12 flat	Cont.
Mo br	Monarda bradburiana	Eastern Beebalm	21	2.5' o.c.	#1	Cont.
Ru hi	Rudbeckia hirta	Blackeyed Susan	24	2.5' o.c.	#1	Cont.
Sc sc	Schizachyrium scoparium	Little Bluestem	24	2.5' o.c.	#1	Cont.
Sp he T	Sporobolus heterolepis 'Tara'	Dwarf Prairie Dropseed	46	2' o.c.	#1	Cont.
Sp he	Sporobolus heterolepis 'Tara'	Dwarf Prairie Dropseed	26	2' o.c.	#1	Cont.



JUNE 30, 2016

DOUGLAS J. GOTHAM
ILLINOIS REGISTRATION No. 157-000575
EXPIRATION DATE: 08/31/15

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT:

1	10/1/15	Village Comments	DSGN.	DJG	TITLE:
			DWN.	DJG	
			CHKD.		
			SCALE:	1" = 20'	
			PLOT DATE:		
			CAD USER:		
			CHKD. MODEL:		
NO.	DATE	NATURE OF REVISION	FILE NAME	C:\Users\dgotham\Documents\CBEL 2015 Projects\ Mackie - Aloft	

PROJ. NO. 150460
DATE: 6/30/16
SHEET 1 OF 1
DRAWING NO. L 1
Douglas Gotham, RLA157.000575

ENGINEER'S ESTIMATE OF PROBABLE COSTS
 SPACECO ORLAND PARK
 ORLAND PARK
 Date: 7-11-16

PLANT LIST		COMMON NAME	Qty.	Spacing	Size	Cond.	Unit Price	Installed Price	Total Cost
SYM.	BOTANICAL NAME								
Deciduous Trees									
Ac mi	Acer miyabei 'Morton'	State Street Maple	4		2.5"	B & B	\$200.00	2.50	\$500.00
Am gr	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	7	11' o.c.	6' Clump	B & B	\$150.00	2.50	\$375.00
Ma Ad	Malus Adams	Adams Crabapple	2		2"	B & B	\$120.00	2.50	\$300.00
Sy re	Syringa reticulata 'Summer Charm'	Summer Charm Lilac	3		2.5"	B & B	\$180.00	2.50	\$450.00
Ti co	Tilia cordata 'Greenspire'	Greenspire Linden	1		2.5"	B & B	\$200.00	2.50	\$500.00
Evergreen Trees									
Pi pu	Picea pungens	Colorado Spruce	5	8' o.c.	8'	B & B	\$185.00	2.50	\$462.50
Deciduous Shrubs									
Eu al	Euonymus alatus 'compactus'	Dwarf Burning Bush	1	4' o.c.	3'	B & B	\$32.00	2.50	\$80.00
Hy pa	Hydrangea paniculata 'Jane'	Little Lime Hydrangea	24	4' o.c.	3'	B & B	\$32.00	2.50	\$80.00
Sp bu	Spirea bumalda 'Goldflame'	Goldflame Spirea	7	30"	24"	B & B	\$20.00	2.50	\$50.00
Sy me	Syringa meyeri 'Palibin'	Dwarf Korean Lilac	42	4' o.c.	3'	Cont.	\$50.00	2.50	\$125.00
Vi de	Viburnum dentatum	Arrowwood Viburnum	9	4' o.c.	4'	B & B	\$30.00	2.50	\$75.00
Vi la	Viburnum lantana 'Mohican'	Mohican Viburnum	3	4' o.c.	4'	B & B	\$30.00	2.50	\$75.00
Evergreen Shrubs									
Bu mi	Buxus microphylla 'Chicagoland Green'	Chicagoland Green Boxwood	16	2' o.c.	24"	B & B	\$55.00	2.50	\$137.50
Ju GS	Juniperus chinensis var. sargentii 'Viridis'	Green Sargent Juniper	29	4' o.c.	#5	Cont.	\$35.00	2.50	\$87.50
Ju ch	Juniperus chinensis 'Kallay's Compact'	Kallay's Compact Juniper	14	4' o.c.	#5	Cont.	\$35.00	2.50	\$87.50
Pi mu	Pinus mugo 'Valley Cushion'	Dwarf Mugo Pine	5	3' o.c.	#3	Cont.	\$25.00	2.50	\$62.50
Perennials / Grasses / Groundcovers									
Ca ac	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	13	2' o.c.	#1	Cont.			\$260.00
Ba PB	Baptisia Starlite Prairieblues	Starlite False Indigo	25	3' o.c.	#1	Cont.			\$500.00
He GB	Hemerocallis Going Bananas'	Going Bananas Daylily	54	2' o.c.	#1	Cont.			\$1,080.00
Ho BA	Hosta 'Blue Angel'	Blue Angel Hosta	12	2' o.c.	#1	Cont.			\$240.00
Li sp	Liriope spicata	Creeping Lilyturf	480	1' o.c.	12 flat	Cont.			\$4,800.00
Mo br	Monarda bradburiana	Eastern Beebalm	21	2.5' o.c.	#1	Cont.			\$420.00
Ru hi	Rudbeckia hirta	Blackeyed Susan	24	2.5' o.c.	#1	Cont.			\$480.00
Sc sc	Schizachyrium scoparium	Little Bluestem	24	2.5' o.c.	#1	Cont.			\$480.00
Sp he T	Sporobolus heterolepis 'Tara'	Dwarf Prairie Dropseed	46	2' o.c.	#1	Cont.			\$920.00
Sp he	Sporobolus heterolepis 'Tara'	Dwarf Prairie Dropseed	26	2' o.c.	#1	Cont.			\$520.00
									\$33,862.50

WINDOW FILM PERFORMANCE DATA | Architectural: Global



Solar Control Window Film

	% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorbance	% Visible Light Transmittance	% Visible Reflectance (exterior)	% Visible Reflectance (interior)	Winter U-value	Shading Coefficient	% Ultraviolet Ray Protection (Wavelengths 280-380nm)	Emissivity	Solar Heat Gain Coefficient	% Total Solar Energy Rejected	Light-to-Solar Heat Gain Ratio (LSG)	% Summer Solar Heat Gain Reduction	% Winter Heat Loss Reduction	% Glare Reduction
Clear Glass	83	8	9	90	8	8	1.03	1.00	29	0.84	0.86	14	1.05	0	0	0
Reflective Series																
RN-07G SR PS (One-Way Mirror)	6	53	41	5	60	14	0.91	0.20	99	0.59	0.16	84	0.31	80	12	94
R-15G SR CDF (Gray)	9	33	58	7	13	61	0.94	0.29	99	0.70	0.25	75	0.28	71	9	92
R-20 SR CDF (Silver)	12	54	34	16	62	62	0.94	0.25	99	0.71	0.21	79	0.76	75	9	82
R-35 SR CDF (Silver)	21	43	36	28	46	49	0.96	0.40	99	0.73	0.31	69	0.90	60	7	69
R-50 SR HPR (Silver)	36	29	35	48	28	26	0.97	0.54	99	0.75	0.46	54	1.04	46	6	47
Dual-Reflective Series																
DR-15 SR CDF (Warm Gray)	16	37	47	15	37	13	0.92	0.3	99	0.63	0.26	74	0.58	70	11	83
DR-25 SR CDF (Warm Gray)	25	26	49	22	27	13	0.92	0.41	99	0.61	0.35	65	0.63	59	11	76
DR-35 SR CDF (Warm Gray)	35	19	46	36	19	13	0.93	0.52	99	0.61	0.44	56	0.82	48	10	60
EnerLogic® Series																
LEP-35 SR CDF (Warm Neutral)	19	49	32	33	48	30	0.60	0.28	99	0.07	0.24	76	1.38	72	42	63
Low-E Series																
E-1220 SR CDF (Silver)	8	58	34	12	66	70	0.77	0.18	99	0.36	0.15	85	0.8	82	25	87
LE-35 SR CDF (Silver/Gold)	20	46	34	31	42	39	0.76	0.32	99	0.33	0.27	73	1.15	68	26	66
LE-50 SR CDF (Silver/Gold)	35	32	33	49	25	23	0.80	0.49	99	0.36	0.42	58	1.17	51	23	46
Deluxe Series																
DL-05G SR CDF (Gray)	14	25	61	6	13	13	0.92	0.35	99	0.62	0.3	70	0.2	65	11	93
DL-15B SR CDF (Bronze)	27	13	60	14	8	8	0.98	0.45	99	0.77	0.39	61	0.36	55	5	84
DL-15G SR CDF (Gray)	26	15	59	16	9	10	0.99	0.45	99	0.78	0.42	58	0.38	55	4	82
DL-30GN SR CDF (Green)	29	20	51	30	17	17	0.98	0.53	99	0.76	0.46	54	0.65	47	5	67
Neutral Series																
N-1020 SR CDF (Neutral)	21	26	53	24	29	28	1.03	0.44	99	0.84	0.37	63	0.65	56	0	73
N-1040 SR CDF (Neutral)	36	16	48	40	18	15	1.00	0.59	99	0.81	0.50	50	0.80	41	3	56
N-1050 SR CDF (Neutral)	44	13	43	49	14	12	1.03	0.67	99	0.84	0.58	42	0.84	33	0	46
N-1065 SR CDF (Neutral)	65	9	26	67	10	9	1.03	0.82	99	0.84	0.71	29	0.94	18	0	26
N-1020B SR CDF (Bronze)	12	49	39	20	37	35	0.93	0.27	99	0.69	0.23	77	0.87	73	10	78
N-1035B SR CDF (Bronze)	25	37	38	37	25	23	0.94	0.41	99	0.71	0.36	64	1.03	59	9	59
Exterior Series																
Exterior Series products are applied to the exterior face of the glazing and provide excellent heat rejection performance.																
NHE-20 ER HPR (Exterior Neutral)	22	23	55	25	24	27	1.04	0.45	99.9	0.84	0.38	62	0.66	55	-1	72
NHE-35 ER HPR (Exterior Neutral)	33	18	49	38	15	19	1.04	0.56	99.9	0.83	0.48	52	0.79	44	-1	58
RHE-20 ER HPR (Exterior Silver)	10	65	29	14	31	65	1.04	0.20	99.9	0.70	0.17	83	0.82	80	-1	84
RHE-35 ER HPR (Exterior Silver)	18	54	28	25	48	52	1.04	0.30	99.9	0.68	0.26	74	0.96	70	-1	72
RHE-50 ER HPR (Exterior Silver)	33	34	53	40	28	50	1.04	0.50	99.9	0.65	0.13	57	1.03	50	-1	59
Specialty Series																
AU-85UV SR HPR is the ideal solution for protecting valuables from sun damage. It provides the highest protection against harmful ultraviolet rays without altering glass aesthetics. AIR-80BL SR HPR is used where a combination of extremely low visible reflectance, high light transmission, and substantial reduction in solar infrared transmission is needed.																
AIR-80BL SR HPR (Clear)	48	7	45	79	9	9	0.99	0.71	99	0.75	0.61	39	1.30	29	4	12
AU-85UV SR HPR (UVCL-Clear)	81	9	10	89	9	9	1.03	0.97	99.9	0.83	0.84	16	1.06	3	0	1

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The solar performance data reported for LLumar architectural window films was captured using the National Fenestration Rating Council's (NFRC) standard guidelines for window film solar performance measurement as measured on single pane, 1/8 inch (3mm), clear glass. All values averaged from routinely accumulated quality control data. © 2015 Eastman Chemical Company. LLumar®, the LLumar® and EnerLogic® logo are trademarks of Eastman Chemical Company or one of its wholly owned subsidiaries. As used herein, ® denotes registered trademark status in the U.S. only. Printed in U.S.A. (01/15)