



# PLAN COMMISSION STAFF REPORT

JULY 2, 2015

## AETNA RETAIL

7201 191<sup>st</sup> Street

### Applicant

Mr. George Hanus,  
Aetna Development

### Property Location

7201 191<sup>st</sup>

### Parcel Size

85,415 SF ±  
1.96 ac ±

### Zoning

R-1

### Approval Sought

Site Plan,  
Rezoning from R-1 to B-3  
(General Business and  
Commercial),  
Plat approval granting  
cross access easements

### Requested Action

Assign two Commissioners  
to meet with the Applicant  
in a Work Session.

### Project Planner

Paula J. Wallrich, AICP  
Deputy Planning Director



## EXECUTIVE SUMMARY

The Applicant, Mr. George Hanus of Aetna Development, seeks approval for the rezoning of a 1.96 acre vacant parcel located at the southwest corner of Harlem Avenue and 191<sup>st</sup> Street. The property was zoned R-1 upon its annexation in 2010. The Applicant is requesting rezoning to B-3, General Business and Commercial Zoning District, for purposes of constructing a 16,722 SF multi-tenant retail structure. The property is located in the Urban Overlay District. A national furniture retailer is the only tenant identified by the Applicant at this time. The Comprehensive Plan identifies the property as commercial.

The project meets all Zoning District requirements; therefore the development will only require a Site Plan review by the Commission in addition to the rezoning application. Cross-access easements have also been provided; the Commission will have a plat of easement presented for their approval. The Applicant has revised earlier submittals in response to Staff comments which reduced their proposal of two (2) structures to one (1) structure located adjacent to Harlem Avenue. This is consistent with the Overlay District's design intent to allow the architecture to dominate the streetscape rather than parking fields. The proposed architecture meets masonry requirements and benefits from the additional signage allowances provided for structures that provide greater than 50% transparency on facades facing parking fields. Landscaping issues have been primarily resolved with some minor plant choice issues that are highlighted later in the report; however Staff believes the proposed plan generally meets the overall design intent of the Landscape Ordinance.

The Applicant is working with Staff to finalize a Development Agreement which will resolve outstanding Site Plan related issues dealing with access on 191<sup>st</sup> Street and the burial of utility lines. Staff is recommending the Site Plan approval be conditioned upon approval of the Development Agreement by the Village Board.

**SUMMARY OF OPEN ITEMS**

OPEN ITEM	SUGGESTED RESOLUTION
1. Coordinate burial of utility lines along 191st with property development to the west.	Address in Development Agreement
2. Due to engineering concerns the right-out egress lane on 191 <sup>st</sup> Street will be eliminated upon provision of cross access to the west or south.	Development Agreement will outline the elimination of the egress on 191 <sup>st</sup> Street once cross access is obtained.
3. Cross -access easement will need to be platted to west and south properties.	Provide plat of easement for cross access.
4. Information on HVAC units and parapet is needed to determine adequate screening from public view. An architectural detail of trash enclosures has not been provided.	Provide information on HVAC and trash enclosures.
5. Minor landscape design and plant choice issues need to be addressed; location of street trees needs to be determined and conflict between cross access easement and trees must be resolved.	Revise Landscape Plan
6. The location and design of the ground mounted sign should be addressed.	Revise Site Plan for 10' sign setback; eliminate or redesign ground sign.
7. Engineering concerns have been identified and must be addressed prior to final engineering approval.	Submit revised engineering.

**EXISTING SITE**



The subject property is an undeveloped 1.96 acre parcel located just south of Brookside Marketplace Shopping Center at the southwest corner of 191<sup>st</sup> and Harlem Avenue. The property slopes over 7' from the northwest corner to the southeast corner where it drains into an isolated wetland. The northeast corner of the property is approximately 6-7' below the grade of adjacent roadways.

The property is encumbered with 100 year and 10 year floodplain contours. A drainage ditch runs through the adjacent parcel to the west. Overhead power lines border the north property lines obscuring clean sight lines to the property. The Will County Department of Transportation has jurisdiction of 191<sup>st</sup> Avenue; Illinois Department of Transportation controls Harlem Avenue. Both roadways have four-lane cross sections; 191<sup>st</sup> Street has double turn lanes. 191<sup>st</sup> Street has a non-mountable median; Harlem Avenue has a mountable median.

The Applicant owns a parcel south of the subject parcel (approximately 6 acres) which will provide the fill for land balancing the site and raising the grade, especially at the northeast corner of the parcel. Per the proposed mass grading plan the northeast corner of the property will be



filled five (5) feet or greater to an elevation approximately equal to the adjacent roadways, thus improving visibility to the site. To accommodate the leveling of the site, two (2) retaining walls have been proposed; one along the west property line and the other along the south property line. Each wall will be approximately five (5) feet in height.

## PROPOSED USE & COMPLIANCE WITH THE COMPREHENSIVE PLAN

The Applicant proposes to construct a 16,722 S.F. multi-tenant retail structure. There are seven tenant spaces defined, however the Applicant has stated that he wishes to maintain flexibility with the tenant spaces to accommodate the market. A national furniture retailer is the only tenant identified at this time.

The Village of Tinley Park Comprehensive Plan (2000) identifies this site as commercial; therefore, the proposed development is in accord with the Village's Comprehensive Plan.

## ZONING & NEARBY LAND USES

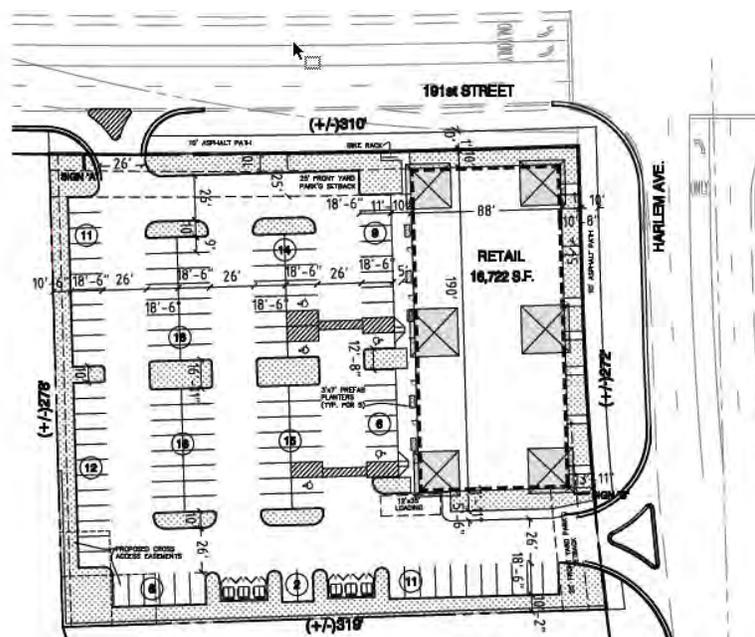
The subject property was zoned R-1, Single-Family Residential, upon annexation. The Applicant is requesting rezoning of the property to B-3, General Business and Commercial District. The property is located in the Urban Overlay District (UOD) and must therefore respect the guidelines of that District regulating site planning, architecture, parking, signage and circulation.

The intent of the Urban Overlay District is to create development patterns that accommodate the automobile, but are primarily designed to promote non-motorized and public transportation movements to, within, and among properties.

The proposed site plan meets the setback requirements of the Urban Overlay District and minimum lot size requirements of the B-3 Zoning District. It also meets the design regulations regarding architecture, site plan and access with the exception as noted below under 'circulation'. The property to the west and south are zoned R-1, which is the zoning classification assigned upon annexation. The properties to the north and east are zoned B-3 PUD.



## GENERAL SITE PLAN REVIEW



OVERHEAD UTILITY LINES

The overhead utility lines along 191<sup>st</sup> Street obscure views onto the site. The Applicant has agreed to the burial of these lines however Staff has recommended that the Applicant work with the property to the west to coordinate the burial of the lines when that property develops. This issue will be addressed in the Development Agreement which is currently being drafted.

***Open Item #1: Coordinate burial of utility lines along 191<sup>st</sup> with property development to the west.***

SETBACKS

Per the Overlay District design parameters the proposed structure has been sited along Harlem Avenue with over 1/3 of the length of the property, excluding driveways, occupied by the façade of the building. As a corner parcel, there are two (2) front yards; each has been provided with a front yard setback less than the prescribed 20’ maximum. The side and rear yard setbacks are also in conformance. Parking has met the front, side and rear yard setbacks as well.

<i>Building Setbacks</i>		
Front Yard	20’ max	Ⓐ
Side Yard	10’ min	Ⓑ
Rear Yard	10’ min	Ⓒ
<i>Parking Setbacks</i>		
Front Yard	25’ min	Ⓓ
Side Yard	10’ min	Ⓔ
Rear Yard	0’	Ⓕ
<i>Outdoor Dining Setbacks</i>		
All Yards	5’	
<i>Accessory Structures</i>		
Front Yard	20’ max	
Side Yard	5’	
Rear Yard	5’	

PARKING/CIRCULATION

The proposed parking lot meets Ordinance dimension requirements for the parking stalls and drive aisles. Without a defined end user a retail parking ratio of 1/150 SF has been applied resulting in a requirement of 112 parking spaces; 118 spaces have been provided. Per Staff’s request, the Applicant has limited access to right-in/right-out (R-I/R-O) on both frontages. The access on 191<sup>st</sup> has been located at the far western property due to concerns identified by the Village’s consulting engineer who is not recommending access on 191<sup>st</sup> Street. Northbound egress from the site at 191<sup>st</sup> Street requires a merge across four (4) lanes of traffic with storage bays for dual left turn lanes at 420’ (the subject property has only a 310’ frontage on 191<sup>st</sup> Street). The Applicant has agreed to eliminate the egress on 191<sup>st</sup> Street once cross-access to the west or south is provided. This issue will be finalized in the Development Agreement.

***Open Item #2: Due to engineering concerns the right-out egress lane on 191<sup>st</sup> Street will be eliminated upon provision of cross access to the west or south which will be legitimized through a Development Agreement.***

Cross access easements will be provided at the southwest corner of the property for the adjacent properties to the south and west. These easements will be platted and made a matter of record upon final approval by the Village Board.



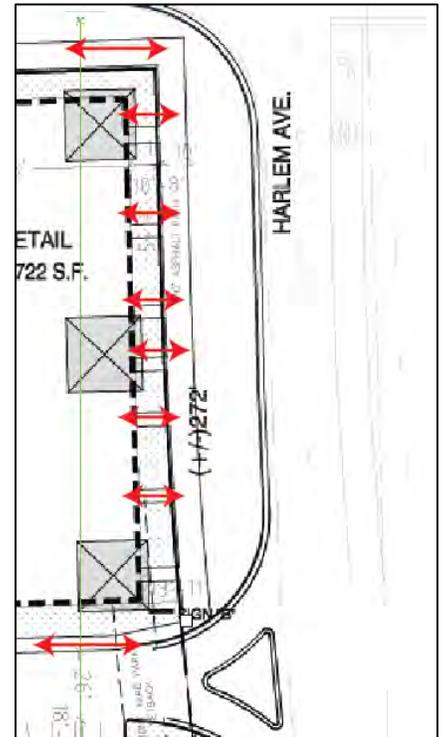
***Open Item #3: Cross -access easement will need to be platted to west and south properties.***

The Overlay District also states “each site must provide opportunities for the public to bike, walk, drive, or take public transportation to, among, and within the development while minimizing the conflicts between the these methods..” It states further “non-

motorized transportation improvements shall be completed on and around the property as outlined in the Village’s Active Transportation Plan, as amended.”

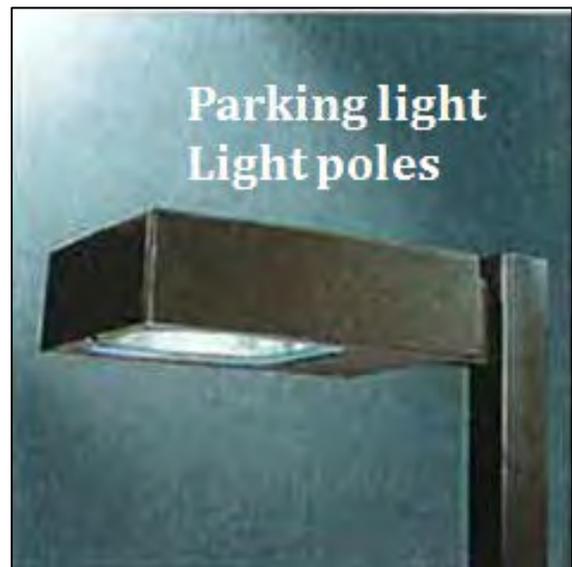
The Active Transportation Plan adopted in 2012 identifies Class I Multiuse Trails (10’ asphalt) on both ROW frontages. The Applicant has provided 10’ wide asphalt bike trails on both 191<sup>st</sup> Street and Harlem Avenue. The path on 191<sup>st</sup> will be installed after the utility lines are buried; a cash-in-lieu payment will be paid as part of the Development Agreement. In addition, a bike rack has been provided at the north end of the project.

Per the Urban Overlay District, direct access must be provided into the buildings from public sidewalks via a walkway. In addition each development shall include an approved pedestrian circulation system (sidewalks, pavement striping, etc.) that provides pedestrian linkages to and from public transportation, among buildings, among parking lots and buildings, and among adjacent uses. The Applicant has complied with this requirement and has provided sidewalks to each tenant space. It is unclear at this time whether these storefronts (on Harlem) will be utilized. If they are not used, signage on this façade is reduced by 25%. This will need to be analyzed as the tenant spaces are leased.



**LIGHTING**

There are six (6) pole lights in the main parking lot, and two (2) at the entrance off of Harlem. The parking lot lights are metal halide and are mounted on 27.5 foot poles. There are also wall mounted lights provided on all sides of the building; ten (10) on both the east and west facades, four (4) on the north and south facades. The photometric plan meets the Village requirement of .5 foot candles at the property line. Cut sheets are provided for the parking light lighting as well as the wall lighting for the new structure.



## ARCHITECTURE



East and West Facades



North Facade



South Facade

The Applicant has worked closed with Staff to develop an attractive masonry multi-tenant retail center which provides architectural interest on all four sides. The tower elements have stone accents, brackets and stone medallions to provide architectural interest. The middle tower unit has been provided with a clerestory window with obscured glass which provides a perception of depth to the tower. A variation in height has been provided with the tower elements (that are each four sided); the middle element is taller and establishes an architectural hierarchy for the dominant east and west facades. The standing seam canopies provide articulation on all four sides and a color break from the solid masonry walls. The color rendering does not adequately depict the coloration of the brick which provides attractive subtle color modulations. A material board will be presented at the Plan Commission meeting.



All four elevations meet the masonry requirements; the percentage of windows on all four sides exceeds 50% and therefore additional wall signage will be allowed (discussed under signage).

The Applicant has stated that the HVAC units will be completely screened from public view on all four sides of the structure. Staff has requested details on the height of the units and the height of the parapet walls to verify that the units are adequately screened.

The trash enclosures are enclosed by 6' brick walls with solid wood gates. Staff has requested an architectural detail be provided for review.

***Open Item #4: Information on HVAC units and parapet is needed to determine adequate screening from public view. An architectural detail of trash enclosures has not been provided.***

## LANDSCAPING

The intent of the Village's Landscape Ordinance is to utilize landscape materials to enhance proposed development, soften the impact of parking areas, provide a buffer between land uses, and create an overall quality aesthetic for the site. Bufferyards are required on all property edges per Village Ordinance. The Overlay District setbacks limit the width of the bufferyards; however the intent of the ordinance must still be met. Landscape requirements for minimum parking lot landscape coverage as well as screening and foundation plantings must also be addressed.

Staff has worked with the Applicant on the Landscape Plan and several revisions have provided plans more in compliance with the intent of the Landscape Ordinance. Per Staff’s request additional plantings have been provided around the foundation along with increased evergreen plant material for screening purposes. Two (2) interior parking lot landscape islands have been provided that are 17’ in width exceeding ordinance width requirements of 10’. This allows for the planting of two (2) trees and a variety of ground cover, ornamental grasses and shrubbery.

The Landscape Ordinance allows for the planting of 50% of the required bufferyard when adjacent to a vacant parcel, therefore the west and south property lines have provided landscape material at this level. Street trees may be compromised along these major commercial corridors, therefore Staff has encouraged the Applicant to plant the required number of street trees (24) on private property rather than the right-of-way. Discussions continue with the Applicant regarding the appropriate location for these trees. Additional trees along the building façade is suggested. Staff has also expressed some concern regarding the potential conflict between the future cross access easements and planting of trees.

LOCATION	REQUIRED BUF YD WIDTH	PROPOSED BUF YD WIDTH	BUF YD LENGTH	REQ'D UNITS	PRO-VIDED UNITS	DEFICIT	COMMENT
East Property Line	C/10'	10'	47'	3 CT 1 US 10 SH	3 CT 1 US 39 SH	0 CT 0 US +29 SH	
West Property Line	C/10'	10'	278'	7 CT 3 US 28 SH	7 CT 3 US 35 SH	0 CT 0 US +7 SH	½ requirement due to adjacent vacancy
North Property Line	C/10'	10'	175'	9 CT 4 US 35 SH	9 CT 4 US 38 SH	0 CT 0 US +3SH	
South Property Line	C/10'	10'	298'	7 CT 3 US 30 SH	7 CT 3 US 81 SH	0 CT 0 US +51 SH	½ requirement due to adjacent vacancy
Prkwy				24 CT	0 CT	-24 CT	Proposed off ROW
<b>TOTAL</b>						<b>-24 CT</b> <b>-0 US</b> <b>+90 SH</b>	

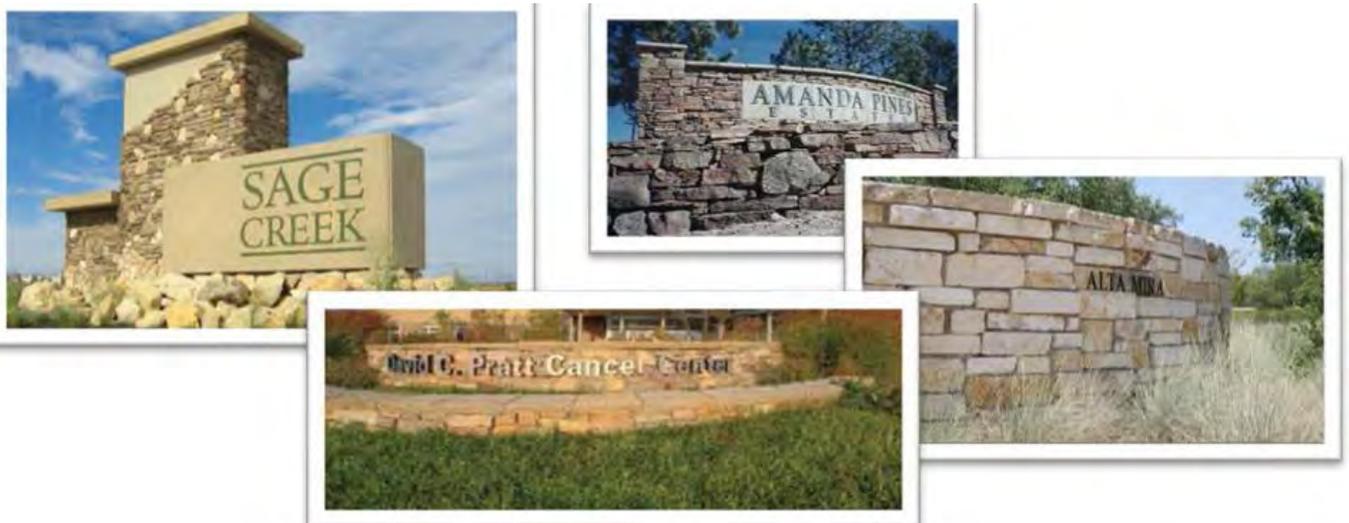
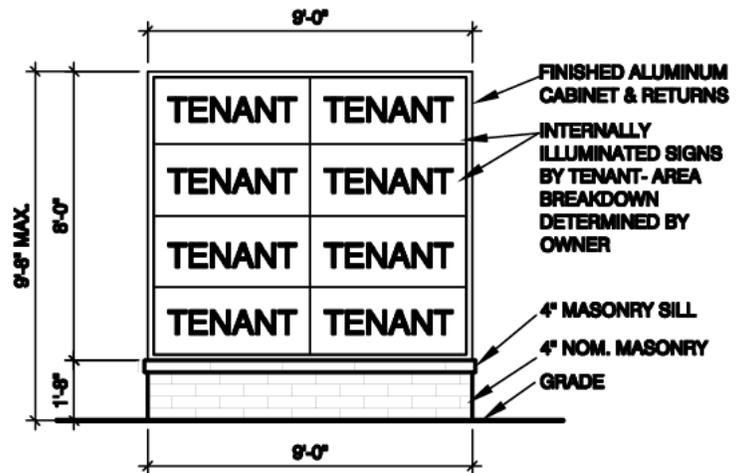
CT= Canopy Tree  
 US= Understory Tree  
 SH=Shrubs  
 EV=Evergreen

***Open Item #5: Minor landscape design and plant choice issues need to be addressed; location of street trees needs to be determined and conflict between cross access easement and trees must be resolved.***

## SIGNAGE

The Applicant has provided a ‘Unified Sign Plan’ for their future tenants. No formal sign submittal has been provided since the tenants are unknown. The merit of a Unified Sign Plan is the consistency in design and materials for the signs it provides. Staff applauds this initiative and encourages the Applicant to support attractive one color signs or minimize the number of colors allowed in the wall signs. Some of the Unified Sign Plan conflicts with Village Sign regulations; however the Plan also notes that final Village approval is required on all signs. The Unified Sign Plan is not part of the review approval for this project.

The ground mounted sign is proposed as a 9’8” internally illuminated box sign with 8 individual sign panels. Staff has expressed concern about the design of the ground mounted sign and suggests either eliminating the ground mounted sign or install a ground sign with just the name of the center as depicted below. This is a high traffic corner with 4-lane cross sections in both directions. The advantage of the Urban Overlay District is locating the buildings closer to the street where wall signage is easily read. The ground mounted sign as proposed may be difficult to read at only 24” in height per panel. In addition, the proposed location on the site plan conflicts with line of sight regulations in the Village Code requiring a minimum 10’ setback.



The Urban Overlay District provides some sign incentives if 50% or greater of the building elevation is transparent. The proposed structures exceed the 50% threshold on all four sides of the building and therefore the façade facing the parking will be allowed equal signage to that provided on the Harlem Avenue façade. In addition, if the east façade entrances are operational, wall signage can be provided at 100% of the allowable area, otherwise a 25% reduction in area is imposed.

**Open Item #6: The location and design of the ground mounted sign should be addressed.**

## **STAFF REVIEW: ENGINEERING**

---

The Village Engineer has provided a list of concerns to the Applicant. Final engineering approval will be required prior to issuance of a Building Permit. Engineering concerns which impact the site plan are listed below:

1. Street light poles need to be relocated along 191<sup>st</sup> Street. This work must be in accordance with Village standards and detailed plans submitted during final engineering. The Village does not allow splicing.
2. Much of this site is in floodplain, a CLOMR must be received from FEMA prior to any construction on the site.
3. The 10 foot sidewalk along 191<sup>st</sup> Street will be provided at a later date per the development agreement; however, all the work to prepare for this path including street light relocation and grading must be done at the time of this retail development.
4. The stormwater management and compensatory storage calculations appear to meet Village standards. Full review and comment will be during final engineering when all calculations are received. Agreements/arrangements with the Park District for use of their land as well as maintenance agreements must be received and reviewed by the Village prior to issuing any permits.
5. Retaining walls must be designed and calculations signed and sealed by an Illinois structural engineer provided.

***Open Item #7: Engineering concerns have been identified and must be addressed prior to final engineering approval.***

## **STAFF REVIEW: FIRE DEPARTMENT**

---

All Fire Department items have been addressed.

## **RECOMMENDATION/RECOMMENDED MOTION**

---

Assign two Commissioners to meet with the Applicant in a work session with Staff.

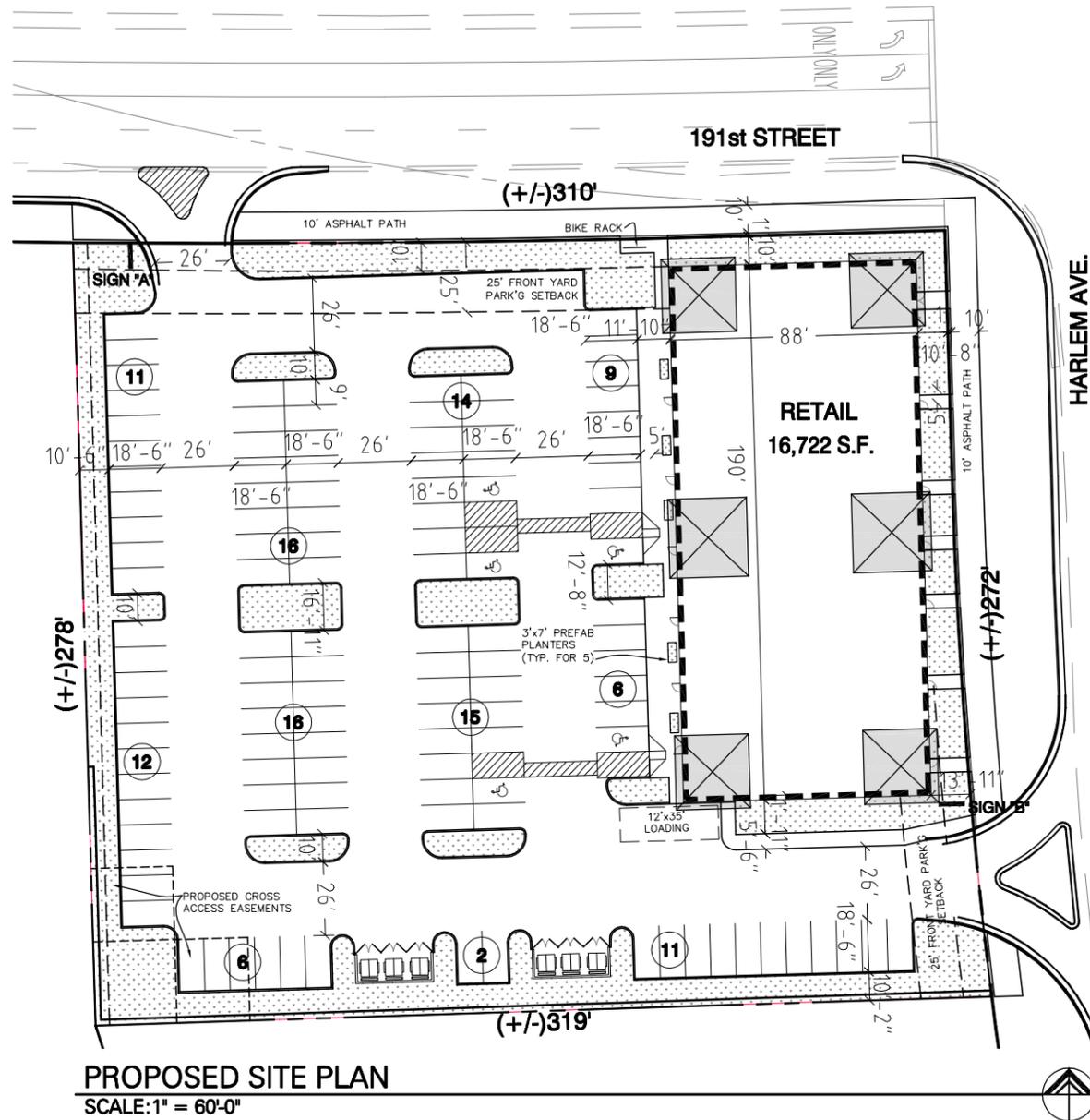
**LIST OF REVIEWED PLANS**

**Aetna Retail Development – 191<sup>st</sup> & Harlem Ave.  
LIST OF SUBMITTED PLANS**

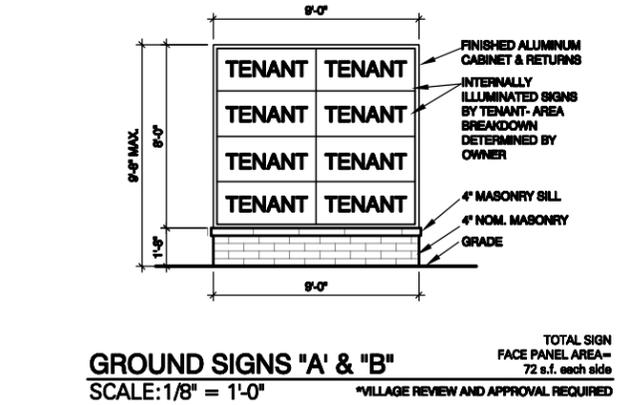
Submitted Sheet Name		Prepared By	Date On Sheet
1	Letter of Transmittal	KMA	07/22/15
1 of 6	Unified Sign Plan	KMA	06/26/15
2 of 6	Unified Sign Plan	KMA	06/26/15
3 of 6	Unified Sign Plan	KMA	06/26/15
4 of 6	Unified Sign Plan	KMA	06/26/15
5 of 6	Unified Sign Plan	KMA	06/26/15
6 of 6	Unified Sign Plan	KMA	06/26/15
1A	Preliminary Floor Plan	KMA	06/26/15
2	Elevations	KMA	06/26/15
3	Landscape Development Plan	KMA	07/16/15
4	Landscape Details	KMA	07/16/15
5	Photometric Plan	KMA (COOPER)	05/13/15
1 of 14	Title Sheet	MANHARD	07/16/15
2 of 14	Existing Conditions and Demolition Plan	MANHARD	05/14/15
3 of 14	Site Dimensional and Paving Plan	MANHARD	07/16/15
4 of 14	Mass Grading Plan - Overall	MANHARD	07/16/15
5 of 14	Mass Grading Plan – Oak Park Ave.	MANHARD	05/14/15
6 of 14	Grading Plan	MANHARD	07/16/15
7 of 14	Utility Plan	MANHARD	07/16/15
8 of 14	Offsite Utility Plan	MANHARD	07/16/15
9 of 14	Soil Erosion and Sediment Control Plan	MANHARD	07/16/15
10 of 14	Soil Erosion and Sediment Control Plan Oak Park Avenue Lots	MANHARD	05/14/15
11 of 14	Soil Erosion and Sediment Control Details	MANHARD	05/14/15
12 of 14	Construction Details	MANHARD	05/14/15
13 of 14	Construction Details	MANHARD	05/14/15
14 of 14	Construction Specifications	MANHARD	05/14/15
1 of 5	Lighting Cut Sheet	COOPER	02/24/15
2 of 5	Mounting Configurations	COOPER	02/24/15
3 of 5	Ordering Information	COOPER	02/24/15
4 of 5	Features and Specifications	LITHONIA	
5 of 5	WSR Metal Halide, High Pressure Sodium Wall Mounted	LITHONIA	

KMA      KMA & Associates  
MANHARD    Manhard Consulting Ltd

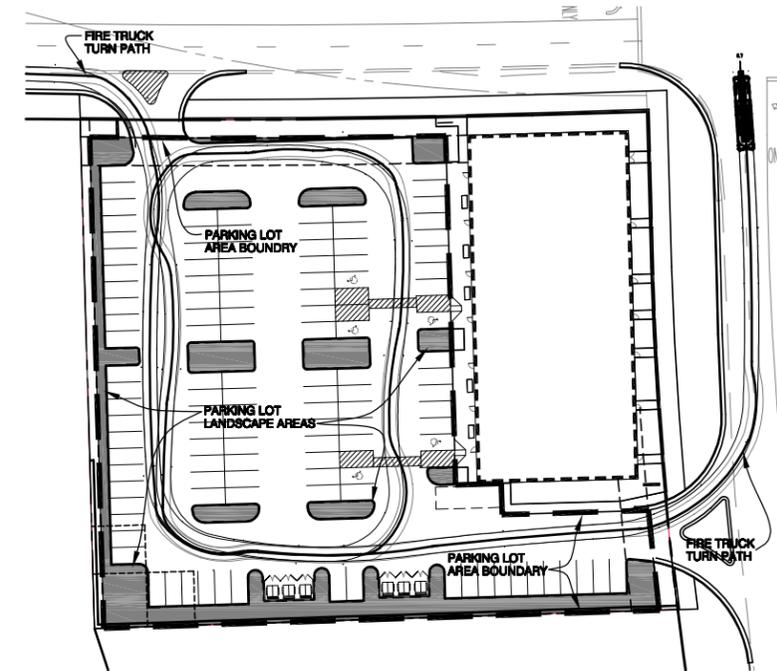
COOPER    Cooper Lighting  
LITHONIA    Lithonia Lighting



**PROPOSED SITE PLAN**  
SCALE: 1" = 60'-0"



**GROUND SIGNS 'A' & 'B'**  
SCALE: 1/8" = 1'-0"  
TOTAL SIGN FACE PANEL AREA = 72 s.f. each side  
VILLAGE REVIEW AND APPROVAL REQUIRED

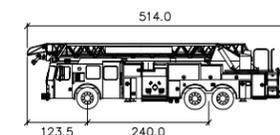


**PARKING LOT LANDSCAPE AREAS AND FIRE TRUCK TURN DIAGRAM**  
SCALE: 1" = 100'-0"  
SEE ZONING & SITE DATA FOR MORE INFORMATION

**ZONING & SITE DATA**

PROPOSED BUILDING	SITE AREA (ACRES / S.F.)	LOT COVERAGE (50% MAX.)	GREENSPACE (% / S.F.)	LANDSCAPE AREA (10% MIN. PUD)	PARKING LOT AREA	PARKING LOT LANDSCAPE AREA (15% MIN.)	F.A.R. (B3) (1.0 MAX.)	PROPOSED BLDG AREA (S.F.)	OVERALL BUILD'G SIZE	PARKING (1/150) REQ'D / PROVD	ADA PARKING REQ'D / PROVD
Retail	1.96 / 85,415	20.2%	19.4% / 16,588	19.4% / 16,588	57,744	16% / 9,281	.20	16,722	190' x 88'	111 / 118	5 / 5

- Requirements based on Urban Design Overlay District (UD-1) & B3. General UD-1 yard setbacks = Bldg FY / 0'-20', Prkg FY / 25', SY / 10', Bldg RY / 10' & Prkg RY / 0'.
- Greenspace area includes general landscape areas.
- Landscape area includes areas not covered by bldgs., structures, paving, or impervious surface.
- Parking Lot Area includes entire site area within the boundary lines of the lot, excluding required min. bufferyards, building area, walkways or areas not adjacent to parking.
- Parking Lot Landscape Area includes all landscape areas within the boundary lines of the lot, excluding required min. bufferyards, foundation planting areas or landscaping not adjacent to parking.



Smeal Aerial RM 105ft  
 inches  
 Width : 100.0  
 Track : 95.0  
 Lock to Lock Time : 6.0  
 Steering Angle : 32.0

0503 SITE 18.2 6/19/15

**PROPOSED RETAIL**

S.W.C. 191st STREET & HARLEM AVENUE  
 TINLEY PARK, WILL COUNTY, ILLINOIS

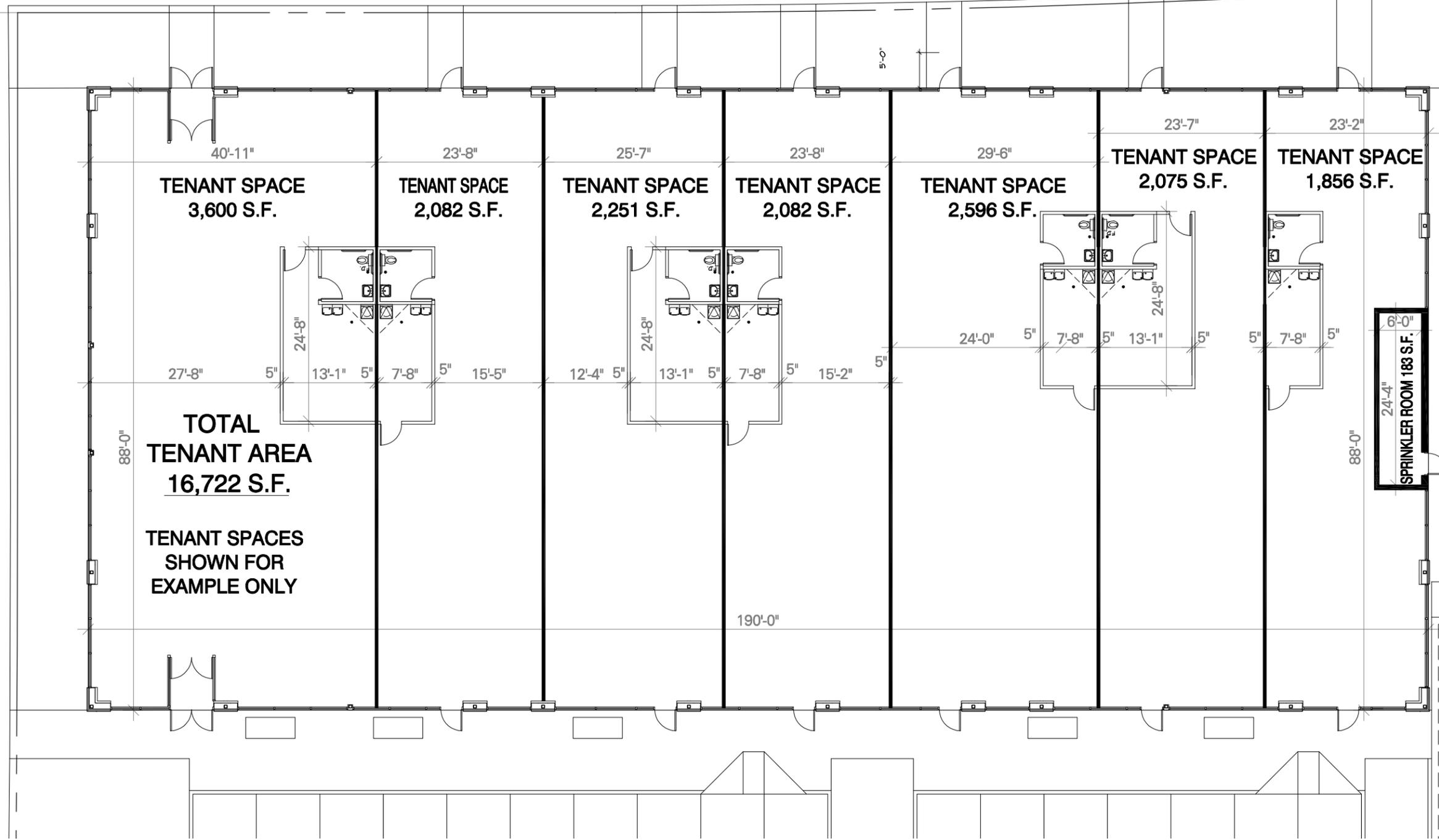
**AETNA DEVELOPMENT CORPORATION**

200 W. MADISON STREET  
 CHICAGO, ILLINOIS

**KMA & ASSOCIATES, INC. ARCHITECTS**

1161 LAKE COOK ROAD  
 DEERFIELD, ILLINOIS





PRELIMINARY FLOOR PLAN  
SCALE: 1/16" = 1'-0"



KMA PROJECT No. 0503

6/26/15

# PROPOSED RETAIL

S.W.C. 191st STREET & HARLEM AVENUE  
TINLEY PARK, WILL COUNTY, ILLINOIS

## AETNA DEVELOPMENT CORPORATION

200 W. MADISON STREET  
CHICAGO, ILLINOIS

## KMA & ASSOCIATES, INC. ARCHITECTS

1161 LAKE COOK ROAD  
DEERFIELD, ILLINOIS





\*BUILDING SIGNAGE WILL BE PURSUANT TO VILLAGE CODE

KMA PROJECT No. 0503

ELEV 7 6/26/15

# PROPOSED RETAIL

S.W.C. 191st STREET & HARLEM AVENUE  
TINLEY PARK, WILL COUNTY, ILLINOIS

## AETNA DEVELOPMENT CORPORATION

200 W. MADISON STREET  
CHICAGO, ILLINOIS

## KMA & ASSOCIATES, INC. ARCHITECTS

1161 LAKE COOK ROAD  
DEERFIELD, ILLINOIS



**Plant List**

Shade Trees	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
ACM	4	2.5"	Acer miyabei 'Morton'	State Street Miyabe Maple	BB	NA	
CEO	7	2.5"	Celtis occidentalis 'Prairie Pride'	Prairie Pride Common Hackberry	BB	NA	
GPS	11	2.5"	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Ginkgo	BB	NA	
GTS	7	2.5"	Gleditsia triacanthos var. inermis 'Skyline'	Skyline Thornless Honeylocust	BB	NA	
QUC	7	2.5"	Quercus muehlenbergii	Chinkapin Oak	BB	NA	

Ornamental Trees	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
AMC	5	6'	Amelanchier canadensis	Shadblow Serviceberry	BB/Clump	NA	
CCI	3	6'	Crataegus crusgalli var. inermis	Thornless Cockspur Hawthorn	BB/Clump	NA	
MLS	1	6'	Malus sargentii	Sargent Crabapple	BB/Clump	NA	
MPF	3	6'	Malus 'Prairie Fire'	Prairie Fire Crabapple	BB/Clump	NA	

Shrubs	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
FVB	79	24"	Forsythia viridissima 'Bronxensis'	Bronx Dwarf Forsythia	BB	36"	
JCS	26	24"	Juniperus chinensis var. sargentii	Sargent Juniper	BB	48"	
JKC	26	24"	Juniperus chinensis 'Kallay's Compact'	Kallay's Compact Juniper	BB	48"	
JSG	8	24"	Juniperus chinensis 'Sea Green'	Sea Green Juniper	BB	48"	
RHG	56	24"	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	BB	48"	
SMK	24	24"	Syringa patula 'Miss Kim'	Miss Kim Dwarf Lilac	BB	48"	
TMD	40	24"	Taxus x media 'Densiflora'	Dense Yew	BB	48"	
TOT	36	4'	Thuja occidentalis 'Technyii'	Mission Arborvitae	BB	48"	
VBM	25	24"	Viburnum dentatum 'Christom'	Blue Muffin Arrowwood Viburnum	BB	48"	
WFM	10	24"	Weigela florida 'Minuet'	Minuet Weigela	BB	30"	

Perennials and Ornamental Grasses	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
ACH	47	#1	Achillea 'Moonshine'	Moonshine Yarrow	Container	24"	
ALL	86	#1	Allium 'Summer Beauty'	Summer Beauty Allium	Container	24"	
CMK	52	#1	Calamagrostis acutiflora 'Karl Foerster'	Feather Reed Grass	Container	30"	
DIA	20	#1	Dianthus gratianopolitanus 'Firewitch'	Firewitch Cheddar Pinks	Container	24"	
HRR	67	#1	Hemerocallis 'Happy Returns'	Happy Returns Daylily	Container	24"	
HLG	68	#1	Hemerocallis 'Little Grapette'	Little Grapette Daylily	Container	24"	
HPM	52	#1	Hemerocallis 'Pardon Me'	Pardon Me Daylily	Container	24"	
HRR	24	#1	Hemerocallis 'Rosey Returns'	Rosey Returns Daylily	Container	24"	
HWC	40	#1	Hemerocallis 'Little Wine Cup'	Little Wine Cup Daylily	Container	24"	
SCH	25	#1	Schizachyrium scoparium	Little Bluestem	Container	30"	
SPO	69	#1	Sporobolus heterolepis	Prairie Dropseed	Container	30"	

**LANDSCAPE DEVELOPMENT PLAN**

SCALE: 1" = 40'



KMA JOB No. 0503 SITE 17D 7/16/15

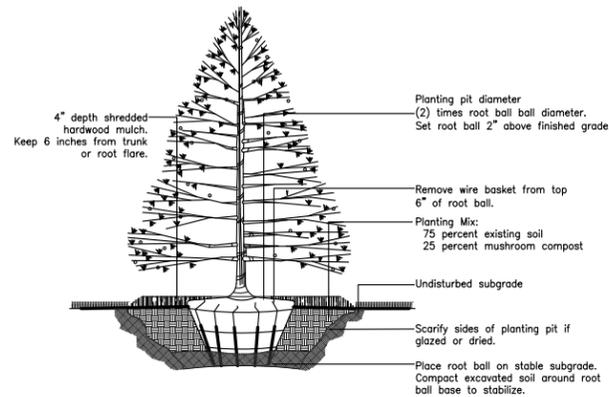
**PROPOSED RETAIL DEVELOPMENT**

S.W.C. 191st STREET & HARLEM AVENUE  
TINLEY PARK, ILLINOIS

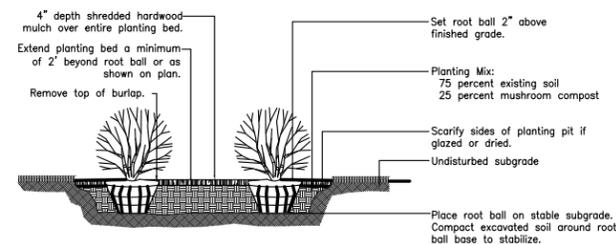
**AETNA DEVELOPMENT CORPORATION**  
200 W. MADISON STREET, SUITE 4200  
CHICAGO, ILLINOIS 60606  
(312) 332-4172

**DAVID R. McCALLUM ASSOCIATES, INC.**  
350 NORTH MILWAUKEE AVENUE  
LIBERTYVILLE, ILLINOIS 60048  
(847) 362-0209

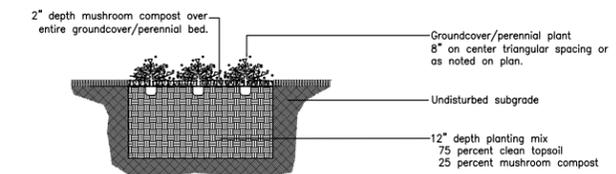




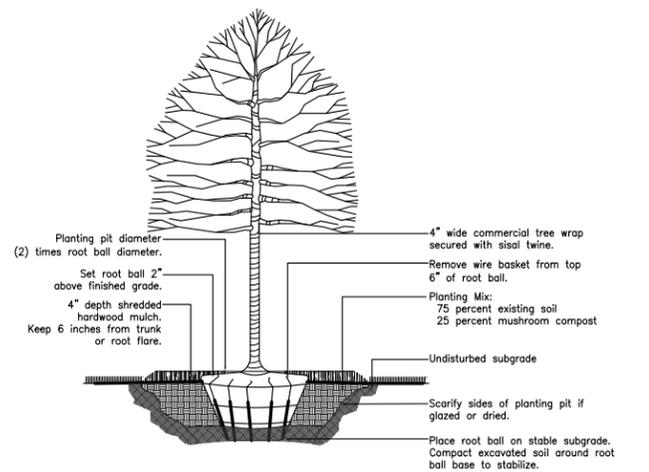
Detail  
Evergreen Tree Planting



Detail  
Shrub Planting



Detail  
Groundcover/Perennial Planting



Detail  
Deciduous Tree Planting

**Plant List**

Shade Trees	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
ACM	4	2.5"	Acer miyabei 'Morton'	State Street Miyabe Maple	BB	NA	
CEO	7	2.5"	Celtis occidentalis 'Prairie Pride'	Prairie Pride Common Hackberry	BB	NA	
GPS	11	2.5"	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Ginkgo	BB	NA	
GTS	7	2.5"	Gleditsia triacanthos var. inermis 'Skyline'	Skyline Thornless Honeylocust	BB	NA	
QUC	7	2.5"	Quercus muehlenbergii	Chinkapin Oak	BB	NA	

Ornamental Trees	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
AMC	5	6'	Amelanchier canadensis	Shadblow Serviceberry	BB/Clump	NA	
CCI	3	6'	Crataegus crusgalli var. inermis	Thornless Cockspur Hawthorn	BB/Clump	NA	
MLS	1	6'	Malus sargentii	Sargent Crabapple	BB/Clump	NA	
MPF	3	6'	Malus 'Prairie Fire'	Prairie Fire Crabapple	BB/Clump	NA	

Shrubs	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
FVB	79	24"	Forsythia viridissima 'Bronxensis'	Bronx Dwarf Forsythia	BB	36"	
JCS	26	24"	Juniperus chinensis var. sargentii	Sargent Juniper	BB	48"	
JKC	26	24"	Juniperus chinensis 'Kallay's Compacta'	Kallay's Compact Juniper	BB	48"	
JSG	8	24"	Juniperus chinensis 'Sea Green'	Sea Green Juniper	BB	48"	
RHG	56	24"	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	BB	48"	
SMK	24	24"	Syringa patula 'Miss Kim'	Miss Kim Dwarf Lilac	BB	48"	
TMD	40	24"	Taxus x media 'Densiformis'	Dense Yew	BB	48"	
TOT	36	4'	Thuja occidentalis 'Technyii'	Mission Arborvitae	BB	48"	
VBM	25	24"	Viburnum dentatum 'Christom'	Blue Muffin Arrowwood Viburnum	BB	48"	
WFM	10	24"	Weigela florida 'Minuet'	Minuet Weigela	BB	30"	

Perennials and Ornamental Grasses	Key	Qty.	Size	Botanical Name	Common Name	Remarks	Plant Spacing
ACH	47	#1	Achillea 'Moonshine'	Moonshine Yarrow	Container	24"	
ALL	86	#1	Allium 'Summer Beauty'	Summer Beauty Allium	Container	24"	
CMK	52	#1	Calamagrostis acutiflora 'Karl Foerster'	Feather Reed Grass	Container	30"	
DIA	20	#1	Dianthus gratianopolitanus 'Firewitch'	Firewitch Cheddar Pinks	Container	24"	
HHR	67	#1	Hemerocallis 'Happy Returns'	Happy Returns Daylily	Container	24"	
HGL	68	#1	Hemerocallis 'Little Grapette'	Little Grapette Daylily	Container	24"	
HPM	52	#1	Hemerocallis 'Pardon Me'	Pardon Me Daylily	Container	24"	
HRR	24	#1	Hemerocallis 'Rosey Returns'	Rosey Returns Daylily	Container	24"	
HWC	40	#1	Hemerocallis 'Little Wine Cup'	Little Wine Cup Daylily	Container	24"	
SCH	25	#1	Schizachyrium scoparium	Little Bluestem	Container	30"	
SPO	69	#1	Sporobolus heterolepis	Prairie Dropseed	Container	30"	

**Landscape Calculations**

Bufferyards

East : Bufferyard "C" per Sec. 158 (10' width)  
Retail Building : Not Applicable per Urban Design Overlay District  
73' - 26' entrance/exit = 47'

	Required	Proposed
Canopy trees	3	3
Understory trees	1	1
Shrubs	10	39
Ornamental grasses/Perennials	0	170

West : 1/2 Bufferyard "C" per Sec. 158.02.D (10' width/2 = 5' width) - 278'

	Required	Proposed
Canopy trees	7	7
Understory trees	3	3
Shrubs	28	35
Ornamental grasses/Perennials	0	121

North/191st Street : Bufferyard "C" per Sec. 158 (10' width)  
211' - 10' west overlap - 26' entrance/exit = 175'

	Required	Proposed
Canopy trees	9	9
Understory trees	4	4
Shrubs	35	38
Ornamental grasses/Perennials	0	128

South : 1/2 Bufferyard "C" per Sec. 158.02.D (10' width/2 = 5')  
319' - 10' west overlap - 10' east overlap = 299'

	Required	Proposed
Canopy trees	7	7
Understory trees	3	3
Shrubs	30	81
Ornamental grasses/Perennials	0	11

Interior Lot

Foundation - Retail Building  
88' (191st Street)  
0' Building Setback or Foundation  
Landscaping per Urban Design Overlay District Sec. 5.D.2.D.2 Table  
Required  
None per UD-1  
Proposed  
88' x 10' width

Foundation - Retail Building  
0' Building Setback or Foundation  
190' (Harlem Avenue)  
Landscaping per Urban Design Overlay District Sec. 5.D.2.D.2 Table  
Required  
None per UD-1  
Proposed  
190' x 10' - 13'11" width

(1) tree / 10,000 square feet lot area  
85,415 square feet lot area  
Required  
9 trees  
Proposed  
10 canopy trees  
1 understory tree

Parkway

191st Street (Will County) - 310'  
(1) tree / 25' frontage  
Required  
13  
Proposed  
Off-Site T.B.D.

Harlem Avenue (IDOT) - 272'  
(1) tree / 25' frontage  
Required  
11  
Proposed  
Off-Site T.B.D.

Parking Lot (57,744 square feet)

15% of parking lot shall be covered by landscaping  
See KMA Site Plan, Parking Lot Landscape Area Diagram + Zoning/Site Data for additional  
detailed info + calculations

Landscaping area  
Required  
8662 square feet  
Proposed  
9302 square feet

North/191st Street  
West  
Screen to 30" height  
Screen to 30" height  
Proposed  
Screened with Shrubs, Grasses & Perennials  
Screened with Shrubs, Grasses & Perennials

South  
Screen to 30" height  
Screen to 30" height  
Proposed  
Screened with Shrubs & Grasses  
Screened with Shrubs & Perennials

East/Harlem Avenue  
Screen to 30" height  
Proposed  
Screened with Shrubs & Perennials

**LANDSCAPE DETAILS**

**PROPOSED RETAIL DEVELOPMENT**

S.W.C. 191st STREET & HARLEM AVENUE  
TINLEY PARK, ILLINOIS

**AETNA DEVELOPMENT CORPORATION**  
200 W. MADISON STREET, SUITE 4200  
CHICAGO, ILLINOIS 60606  
(312) 332-4172

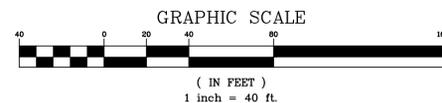
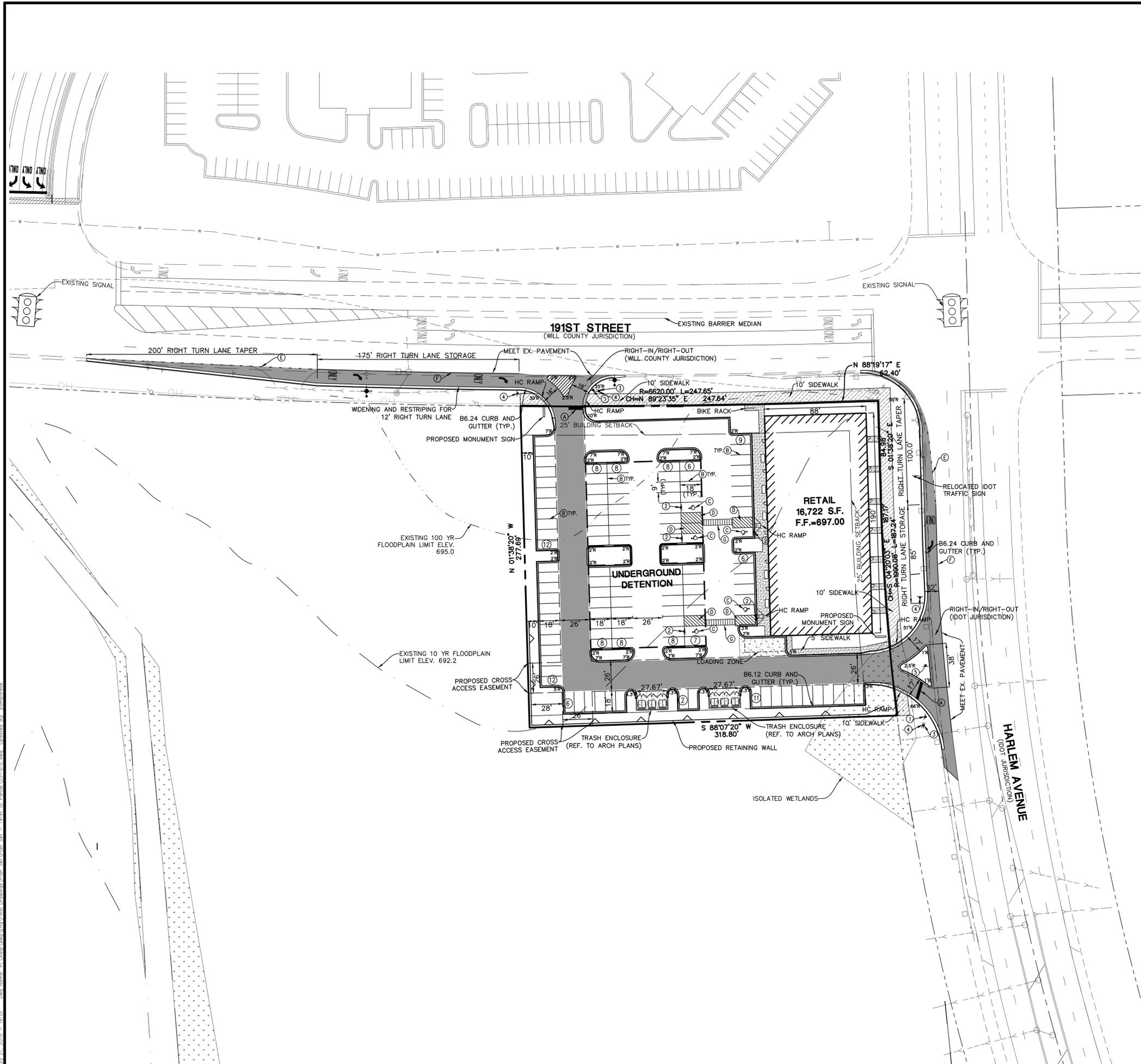
**KMA JOB No. 0503 SITE 17D 7/16/15**

**DAVID R. McCALLUM ASSOCIATES, INC.**  
350 NORTH MILWAUKEE AVENUE  
LIBERTYVILLE, ILLINOIS 60048  
(847) 362-0209









SITE DATA	
SITE AREA	1.96 ACRES
PARKING PROVIDED	114 SPACES
HANDICAP PROVIDED	5 SPACES
TOTAL PARKING PROVIDED	119 SPACES
PARKING RATIO	6.90 SPACES/1000 S.F.

- SITE DIMENSIONAL AND PAVING NOTES:**
- ALL DIMENSIONS ARE FACE OF CURB TO FACE OF CURB OR BUILDING FOUNDATION UNLESS NOTED OTHERWISE.
  - ALL PROPOSED CURB AND GUTTER SHALL BE B6.12 UNLESS OTHERWISE NOTED.
  - ALL CURB RADI SHALL BE 3' MEASURED TO FACE OF CURB UNLESS NOTED OTHERWISE.
  - TIE ALL PROPOSED CURB AND GUTTER TO EXISTING CURB AND GUTTER WITH 2-#4 BARS x 18" LONG DOWELED INTO EXISTING.
  - BUILDING DIMENSIONS AND ADJACENT PARKING HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF THIS DRAWING. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
  - IMPROVEMENTS ADJACENT TO BUILDING, SUCH AS TRUCK DOCK, RETAINING WALLS, SIDEWALKS, CURBING, FENCES, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, AND TRANSFORMERS ETC. HAVE BE SHOWN FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
  - LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAY. CONTRACTOR TO VERIFY ACTUAL BUILDING PLAN LOCATIONS WITH ARCHITECT/DEVELOPER PRIOR TO CONSTRUCTING THE SIDEWALKS.
  - ALL ROADWAY AND PARKING LOT SIGNAGE, STRIPING, SYMBOLS, ETC. SHALL BE IN ACCORDANCE WITH LATEST JURISDICTIONAL GOVERNMENTAL ENTITY DETAILS.
  - SOME EXISTING ITEMS TO BE REMOVED HAVE BEEN DELETED FROM THIS PLAN FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
  - DEPRESS CURB & GUTTER AT ALL SIDEWALK AND PATH LOCATIONS FOR HANDICAP ACCESS AS PER FEDERAL AND STATE STANDARDS.
  - THE CONTRACTOR SHALL CONTACT JULL.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.

PAVEMENT LEGEND	
	<b>STANDARD DUTY PAVEMENT</b> 1 1/2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50 2 1/4" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50 8" AGGREGATE BASE COURSE, TYPE B
	<b>HEAVY DUTY PAVEMENT</b> 2 1/4" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50 2 1/4" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50 12" AGGREGATE BASE COURSE, TYPE B
	<b>CONCRETE PAVEMENT</b> 8" CONCRETE PAVEMENT W/ 6 X 6 W1.4 WWF 4" COMPACTED AGGREGATE BASE, TYPE B
	<b>BIKE PATH ASPHALT</b> 1 1/2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50 1 1/2" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50 6" AGGREGATE BASE COURSE, TYPE B
	<b>SIDEWALK</b> 4" PORTLAND CEMENT CONCRETE 4" COMPACTED AGGREGATE BASE COURSE, TYPE B

PAVEMENT MARKING LEGEND	
(A)	24" WHITE STOP BAR
(B)	4" YELLOW LINE
(C)	HANDICAP PARKING SYMBOLS AND PAVEMENT MARKINGS (PER LATEST IL ADA STANDARDS)
(D)	4" YELLOW DIAGONAL AT 45° SPACED 2' O.C.
(E)	4" WHITE (30' SKIP-10' DASH)
(F)	4" SOLID WHITE
(G)	PEDESTRIAN CROSSWALK WITH 6" WHITE SOLID STRIPING PARALLEL TO DIRECTION OF TRAFFIC SPACED 2' O.C. WITH 8" WHITE SOLID STRIPE PERPENDICULAR ON BOTH ENDS UNLESS NOTED OTHERWISE

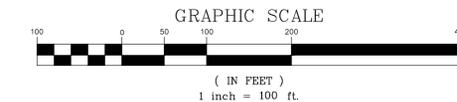
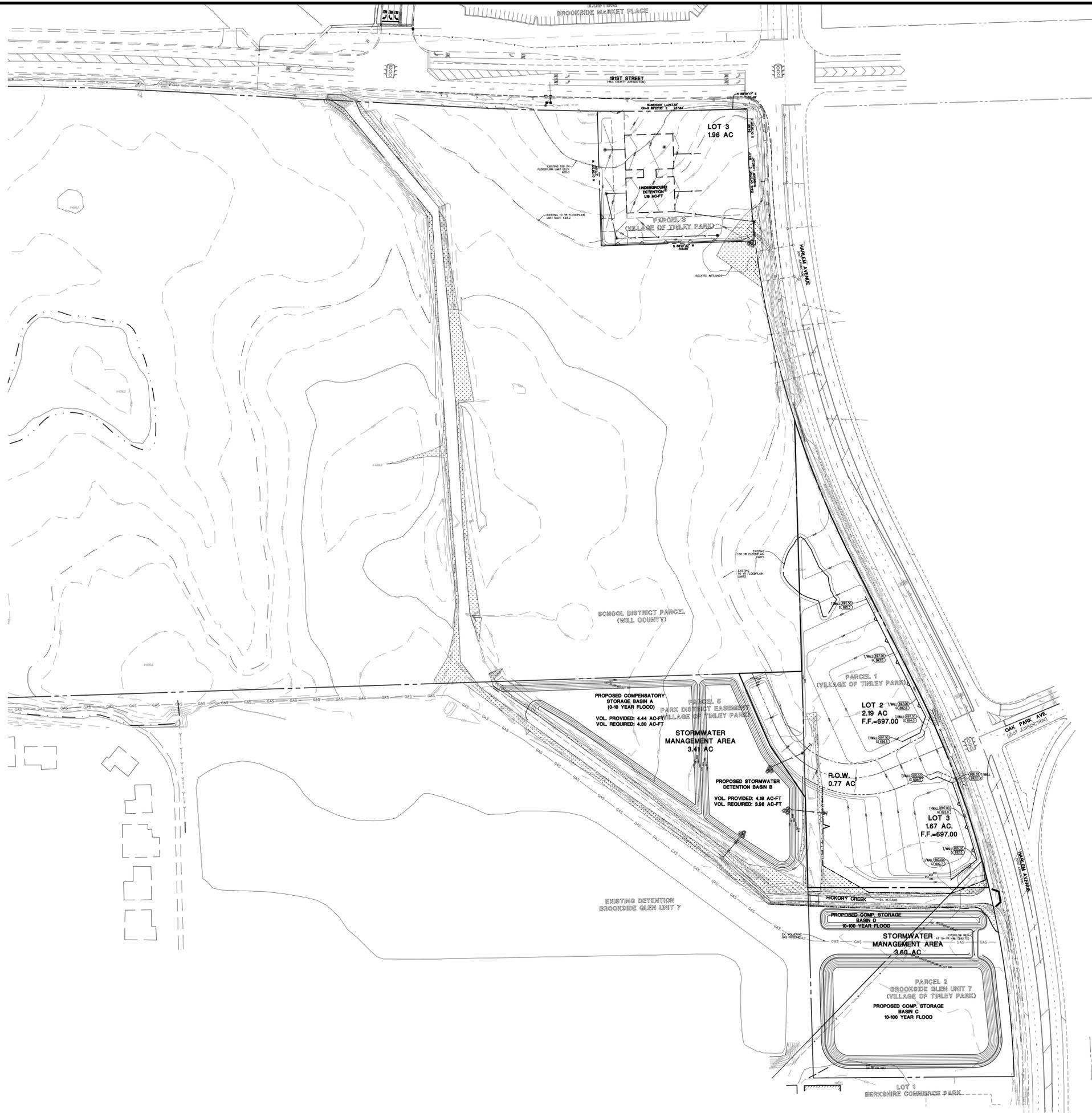
SIGN LEGEND	
(1)	R1-1 STOP SIGN
(2)	R7-8 HANDICAP PARKING SIGN
(3)	R5-1 DO NOT ENTER
(4)	R3-5 RIGHT TURN ONLY
(5)	R3-2 NO LEFT TURN

DATE	REVISIONS	BY	CHK
2-18-15	REVISED PER VILLAGE REVIEW	JRC	JRC
5-14-15	REVISED PER VILLAGE REVIEW	JRC	JRC

**Manhard CONSULTING LTD.**  
 800 Woodlands Parkway, Vernon Hills, IL 60061 | PH: 847.634.0050 | FAX: 847.634.0055 | manhard.com  
 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

**191ST AND HARLEM RETAIL DEVELOPMENT**  
 VILLAGE OF TINLEY PARK, COOK COUNTY, ILLINOIS  
 SITE DIMENSIONAL AND PAVING PLAN

PROJ. MGR.: GMC  
 PROJ. ASSOC.: JRC  
 DRAWN BY: JRC  
 DATE: 2-18-15  
 SCALE: 1"=40'  
 SHEET  
**3** OF **14**  
 ADTP 140147



SITE DATA	
LOT 1	2.19± ACRES
LOT 2	1.67± ACRES
LOT 3	1.96± ACRES
OAK PARK AVE. ROW	0.77± ACRES
STORMWATER MANAGEMENT AREA (BASIN A & B)	3.41± ACRES
STORMWATER MANAGEMENT AREA (BASIN C & D)	3.60± ACRES
TOTAL	11.71± ACRES

- GRADING NOTES:**
- RETAINING WALL DESIGN TO BE PROVIDED BY OTHERS.
  - PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
  - ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
  - MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
  - CONTRACTOR SHALL REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND DETAILS FOR CONSTRUCTION SCHEDULING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
  - THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
  - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
  - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
  - ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
  - EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY SPACECO, INC. ON NOVEMBER 9, 2006. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.

STORMWATER DETENTION SUMMARY		
DESCRIPTION	DETENTION REQUIRED	DETENTION PROVIDED
191ST STREET	0.94 AC-FT	1.19 AC-FT
OAK PARK AVE. (NORTH)	1.05 AC-FT	1.05 AC-FT
OAK PARK AVE. (SOUTH)	0.80 AC-FT	0.80 AC-FT
COLLECTOR ROAD R.O.W.	0.37 AC-FT	0.37 AC-FT
STORMWATER BASIN A & B	0.86 AC-FT	0.86 AC-FT
STORMWATER BASIN C & D	0.90 AC-FT	0.90 AC-FT
*UNDERGROUND DETENTION	0.94 AC-FT	1.19 AC-FT
**AT-GRADE DETENTION (BASIN B)	3.98 AC-FT	4.18 AC-FT

\*DETENTION FOR 191ST ST. PARCEL WILL BE PROVIDED ON-SITE IN AN UNDERGROUND DETENTION VAULT  
 \*\*DETENTION FOR OAK PARK AVE. & HARLEM PARCELS WILL BE PROVIDED IN STORMWATER BASIN B.

FLOODPLAIN STORMWATER SUMMARY			
DESCRIPTION	FLOODPLAIN FILL (AC-FT)		
	0-10 YR.	10-100 YR.	0-100 YR.
191ST STREET	1.4	4.0	5.4
BASIN A & B	0.5	0.9	1.0
BASIN C / OAK PARK AVE.	2.4	6.7	9.1
BASIN D	--	--	--
TOTAL SITE	4.30	11.6	15.5

FLOODPLAIN STORMWATER SUMMARY			
DESCRIPTION	COMP. STORAGE (AC-FT)		
	0-10 YR.	10-100 YR.	0-100 YR.
191ST STREET	--	--	--
BASIN A & B	4.44	--	9.0
BASIN C / OAK PARK AVE.	--	11.3	11.3
BASIN D	--	0.9	0.9
TOTAL SITE	4.44	12.2	21.2

FLOOD ELEVATION TABLE		
DESCRIPTION	BASE FLOOD ELEVATION	
	10-YEAR	100-YEAR
191ST STREET	692.30	695.10
BASIN A & B	692.40	695.10
BASIN C & D	692.70	695.10
OAK PARK AVE. LOTS 1 & 2	692.70	695.10

DATE	REVISIONS
7-16-15	REVISED PER VILLAGE REVIEW
12-29-14	REVISED PER VILLAGE COMMENTS

**Manhard CONSULTING LTD.**  
 800 Woodlands Parkway, Vernon Hills, IL 60061  
 847.837.8343  
 manhard.com  
 Civil Engineers • Surveyors • Water-Resource Engineers • Water & Wastewater Engineers  
 Construction Managers • Environmental Scientists • Landscaping Architects • Planners

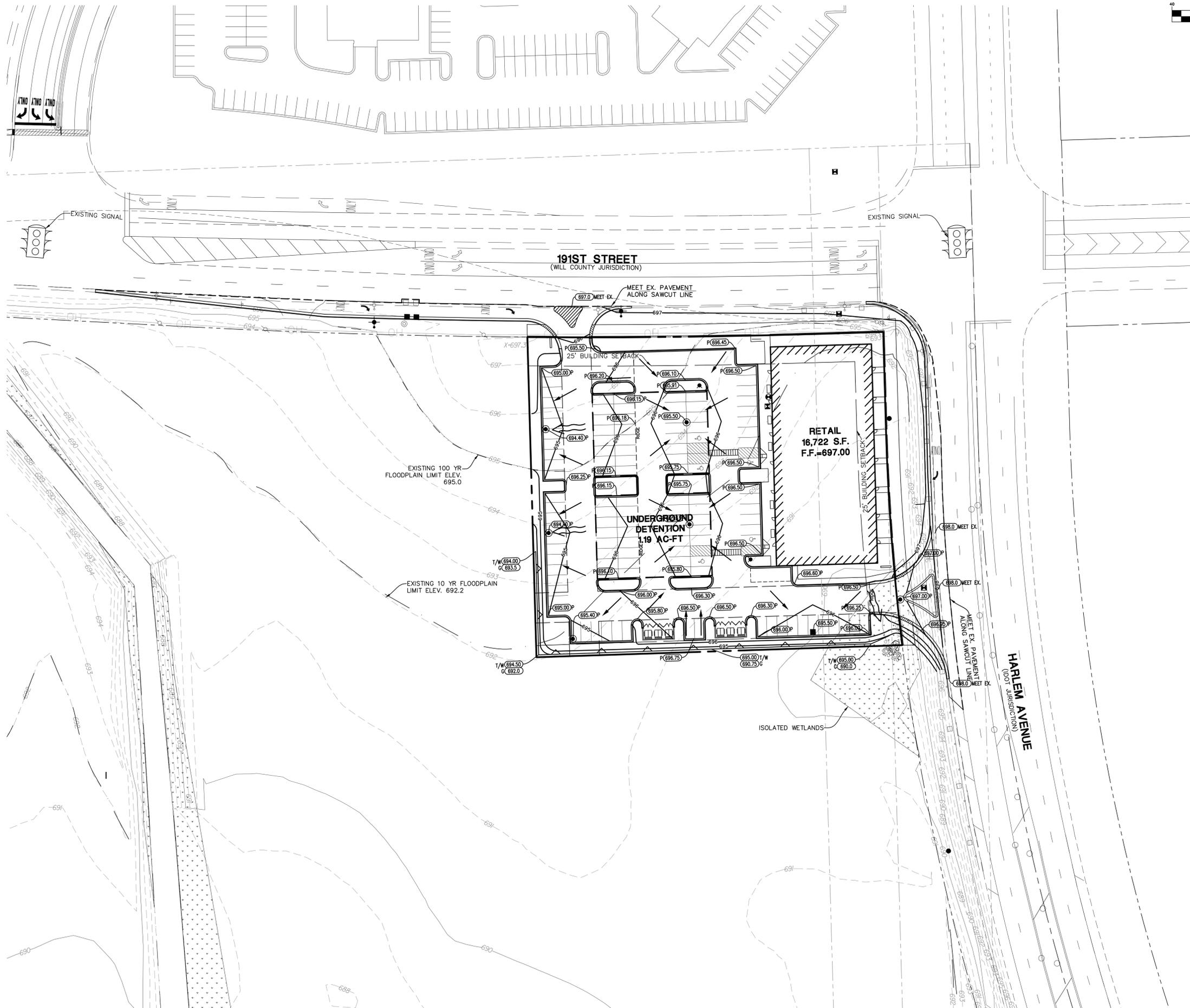
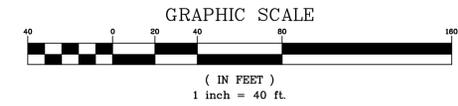
**191ST AND HARLEM RETAIL DEVELOPMENT**  
**VILLAGE OF TINLEY PARK, COOK COUNTY, ILLINOIS**  
**MASS GRADING PLAN - OVERALL**

PROJ. NO.: GMC  
 PROJ. ASSOC.: JRC  
 DRAWN BY: JRC  
 DATE: 2-18-15  
 SCALE: 1"=100'

SHEET  
**4 OF 14**  
 ADTP

JULY 10, 2015 14:20 Data Name: D:\MultiMedia\Work\Drawings\191st St. Parcel\191st St. Parcel.dwg User: jrc Date: 7/10/2015 14:20





- GRADING NOTES:**
1. RETAINING WALL DESIGN TO BE PROVIDED BY OTHERS.
  2. PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
  3. ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
  4. MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
  5. CONTRACTOR SHALL REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND DETAILS FOR CONSTRUCTION SCHEDULING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
  6. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
  7. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
  8. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
  9. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
  10. EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY SPACECO, INC. ON NOVEMBER 9, 2006. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.

NO.	DATE	REVISIONS
1	2-18-15	REVISED PER VILLAGE REVIEW
2	2-18-15	REVISED PER VILLAGE REVIEW
3	2-18-15	REVISED PER VILLAGE REVIEW

**Manhard CONSULTING LTD.**  
 800 Woodlands Parkway, Vernon Hills, IL 60061  
 (847) 634-9550  
 manhard.com  
 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers • Landscaping Architects • Planners  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

**191ST AND HARLEM RETAIL DEVELOPMENT**  
**VILLAGE OF TINLEY PARK, COOK COUNTY, ILLINOIS**  
**GRADING PLAN**

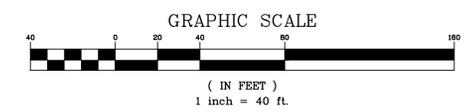
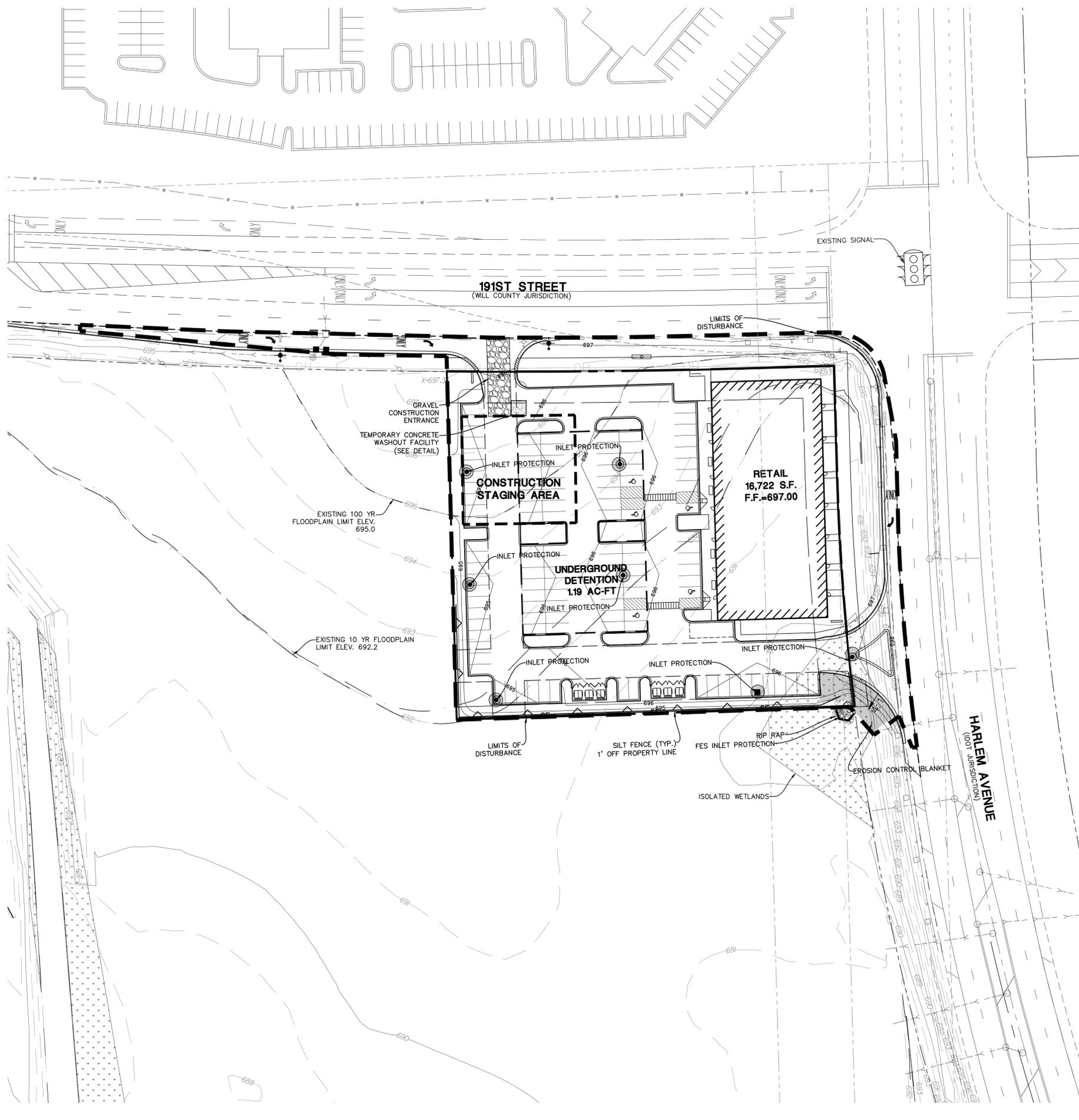
PROJ. NO.	GMC
PROJ. ASSOC.	JRC
DRAWN BY	JRC
DATE	2-18-15
SCALE	1"=40'
SHEET	6 OF 14
ADTP	140147

Date Plotted: 2/18/2015 14:22 Data Name: 80\_MultiMedia\Proj\191st\Drawings\191st\_Site\_Plan.dwg User: jrc Updated By: jrc

© 2015 MANHARD CONSULTING LTD. ALL RIGHTS RESERVED.







**SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:**

- ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL".
- MAINTENANCE AND REPLACEMENT OF EROSION CONTROL ITEMS, WHEN DIRECTED BY THE OWNER, SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF SAID MEASURES SHALL BE MADE IMMEDIATELY.
- INSTALL ALL PERIMETER SILT FENCING PRIOR TO ANY CLEARING OR GRADING. ON-SITE SEDIMENT CONTROL MEASURES AS SHOWN AND SPECIFIED BY THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO INITIATING CLEARING, GRADING, STRIPPING, EXCAVATION OR FILLING ACTIVITIES ON THE SITE.
- STORM WATERS FALLING ON THE ENTIRE SITE SHALL BE DIVERTED INTO THE DETENTION BASIN, PRIOR TO BEGINNING MASS EXCAVATION, THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENTATION TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY AND CONVEY THEM TO THE DETENTION BASIN.
- DISTURBED AREA SHALL BE STABILIZED BY SEEDING AT A MINIMUM, WITHIN SEVEN (7) DAYS OF COMPLETION OF DISTURBANCE UNLESS THE AREA WILL BE DISTURBED WITHIN FOURTEEN (14) DAYS AND GRASS SOWING AS NECESSARY TO RE-ESTABLISH VEGETATION FOR CONTROL OF SILTATION AND SOIL EROSION.
- TEMPORARY SEED MIXTURE SHALL BE APPLIED AT 64 LBS./ACRE.
- INLET PROTECTION SHALL BE INSTALLED UNDER THE GRATING OF EACH DRAINAGE STRUCTURE.
- TOPSOIL STOCKPILES SHALL BE SEEDED WITHIN SEVEN (7) CALENDAR DAYS OF COMPLETION FOR EROSION CONTROL UNLESS THEY WILL BE DISTURBED WITHIN FOURTEEN (14) CALENDAR DAYS. ALL SOIL STORAGE PILES SHALL BE PROTECTED FROM EROSION WITH SILT FENCE ON THE DOWN SLOPE SIDE OF THE PILES.
- DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
- WATER PUMPED DURING CONSTRUCTION OPERATION SHALL BE FILTERED.
- DUST CONTROL SHALL BE PERFORMED ON A DAILY BASIS USING WATER DISPERSED FROM A TRUCK MOUNTED TANK WITH STANDARD DISCHARGE HEADER TO PROVIDE A UNIFORM RATE OF APPLICATION.
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED, ADJUSTED OR RELOCATED AS NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
- ANY LOOSE MATERIAL THAT IS DEPOSITED IN THE FLOW LINE OF ANY GUTTER OR DRAINAGE STRUCTURE DURING CONSTRUCTION OPERATIONS SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY.
- OVERLAND FLOW SHALL BE DIRECTED TO THE DETENTION BASIN PRIOR TO LEAVING THE SITE.
- THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE CLIENT OR OTHER JURISDICTIONAL GOVERNMENTAL ENTITIES.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL JURISDICTIONAL GOVERNMENTAL AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.

**LEGEND**

- SF — SF TEMPORARY SILT FENCE (PERIMETER EROSION BARRIER)
- EROSION CONTROL BLANKET (NORTH AMERICAN GREEN DS 75) (SEEDING PER LANDSCAPE PLAN)
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
- TEMPORARY STORM STRUCTURE PROTECTION
- PAVEMENT DRAINAGE FLOW
- LIMITS OF DISTURBANCE/CONSTRUCTION
- FES PROTECTION
- RIP RAP

**CONSTRUCTION SEQUENCE:**

- INSTALL SILT FENCE AT LOCATIONS AS INDICATED ON THE PLANS.
- PROVIDE STABILIZED CONSTRUCTION ENTRANCE.
- CONSTRUCT TEMPORARY SEDIMENT TRAPS AND/OR BASINS.
- STRIP EXISTING TOPSOIL FROM PROPOSED STORMWATER MANAGEMENT AREAS AND STOCKPILE WHERE SHOWN ON PLANS.
- PROVIDE SILT FENCE AROUND THE BASE OF THE STOCKPILES.
- CONSTRUCT STORMWATER MANAGEMENT (DETENTION) FACILITIES TO SUB-GRADE AND INSTALL OUTLET PIPES.
- COMPLETE TOPSOIL PLACEMENT AND PERMANENT SEEDING AND SODDING OF STORMWATER MANAGEMENT FACILITIES.
- CUT AND FILL SITE TO PLAN SUB-GRADE.
- CONSTRUCT UNDERGROUND IMPROVEMENTS, I.E. SANITARY SEWER WATERMAIN AND STORM SEWER\*\*, ETC.
- CONSTRUCT PAVEMENT IMPROVEMENTS PER PLAN.
- COMPLETE CONSTRUCTION OF SITE WITH PERMANENT STABILIZATION.
- REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
- \*\* INSTALL INLET PROTECTION AROUND DRAINAGE STRUCTURES AS CONSTRUCTED.

**SOIL PROTECTION CHART**

STABILIZATION CHART	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDINGS	A											
DORMANT SEEDINGS	B											
TEMPORARY SEEDINGS	C											
SODDING	E											
MULCHING	F											

A — KENTUCKY BLUEGRASS 30 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 30 LBS./AC.  
 B — KENTUCKY BLUEGRASS 135 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 45 LBS./AC. 2 TONS STRAW MULCH PER ACRE  
 C — SPRING OATS 100 LBS./AC.  
 D — WHEAT OR CEREAL RYE  
 E — SOD (NURSERY GROWN KENTUCKY BLUEGRASS)  
 F — STRAW MULCH 2 TONS PER ACRE

\* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER  
 \*\* IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING

NOTE: THIS CHART IS A GUIDE TO ASSIST THE CONTRACTOR IN UNDERSTANDING OPTIONS FOR SOIL STABILIZATION. THE LANDSCAPE PLAN SHALL TAKE PRECEDENCE OVER THIS CHART. ANY CONFLICT SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.

DATE	REVISIONS
7-16-15	REVISED PER VILLAGE REVIEW
5-14-15	REVISED PER VILLAGE REVIEW

**Manhard CONSULTING LTD.**

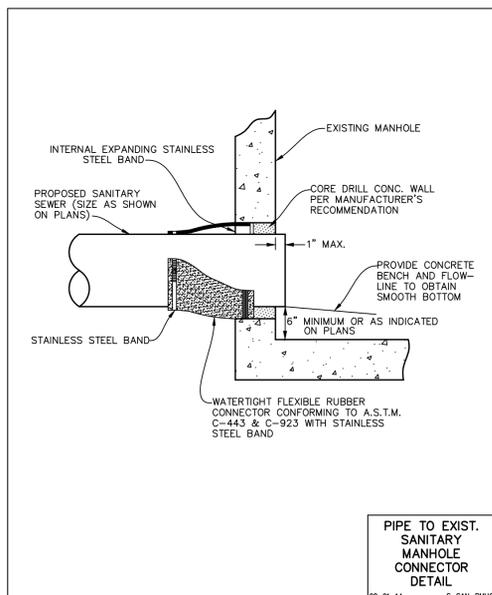
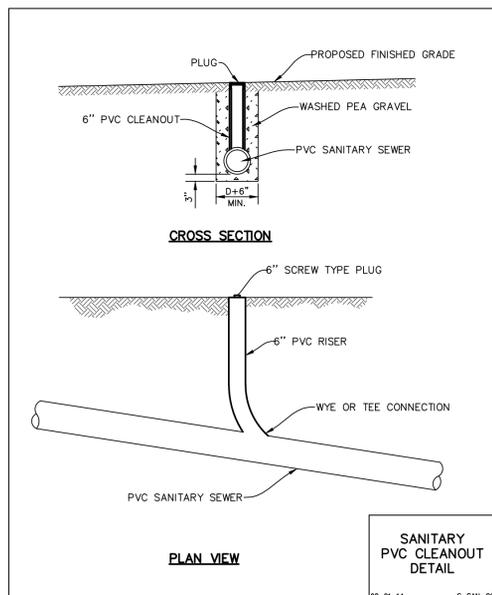
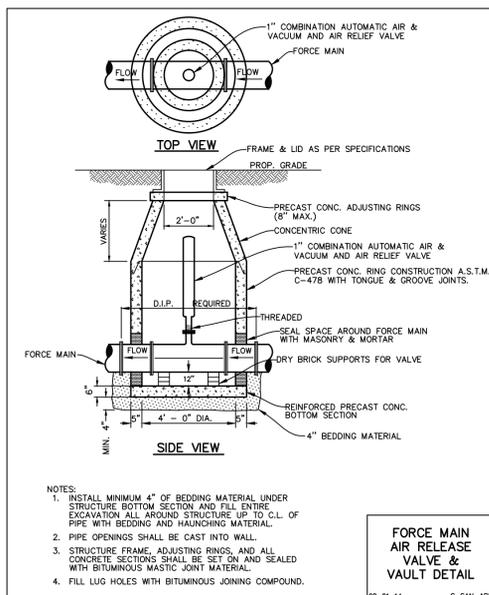
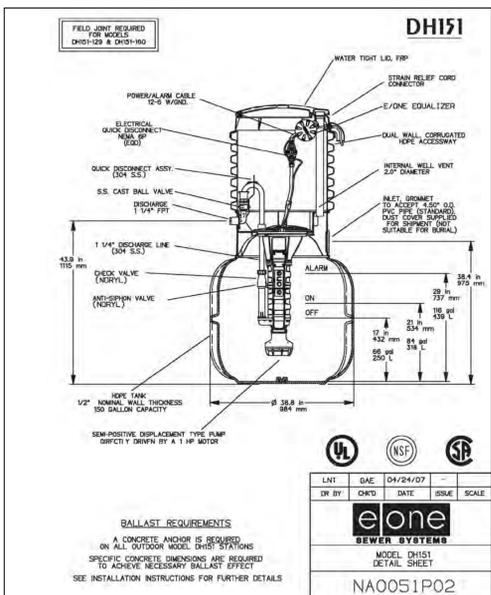
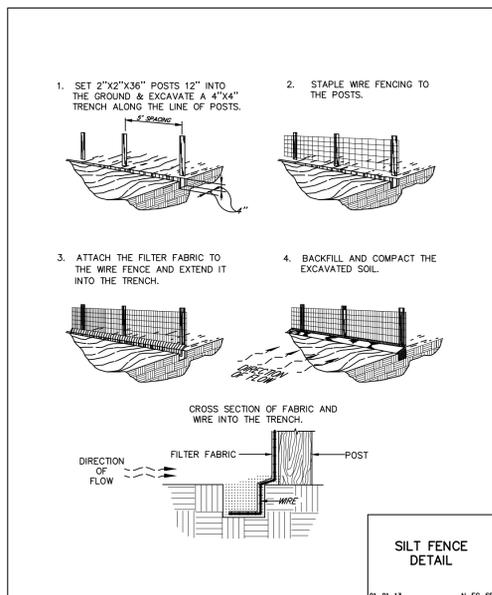
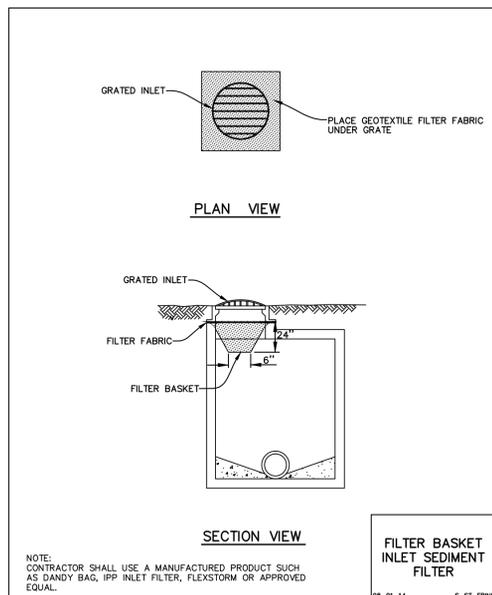
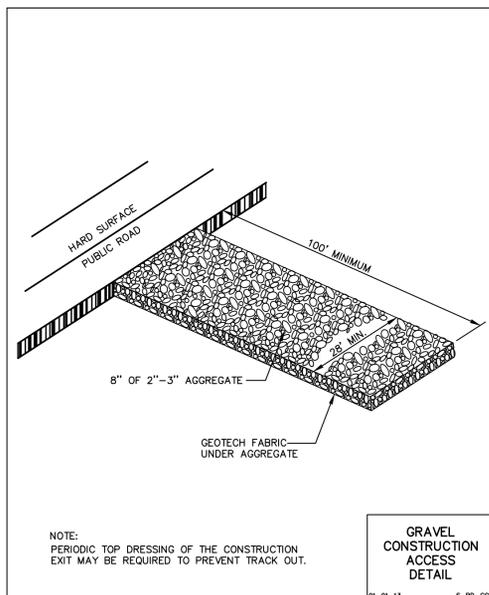
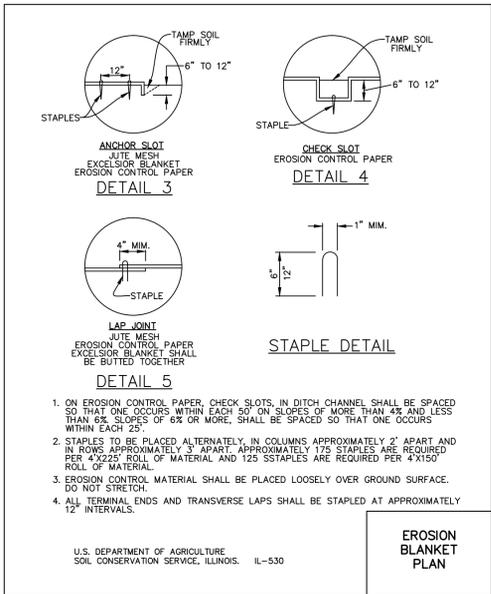
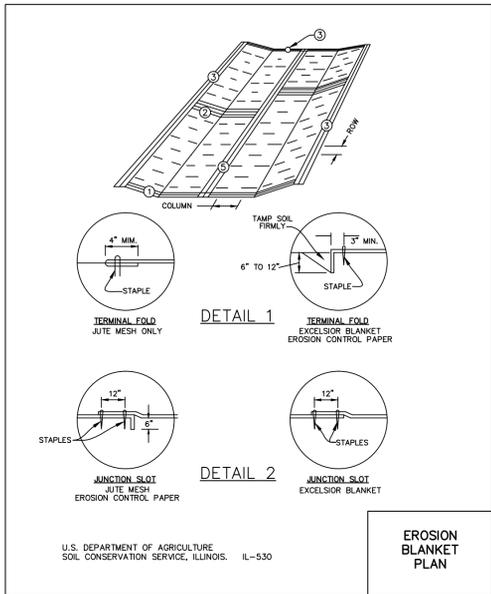
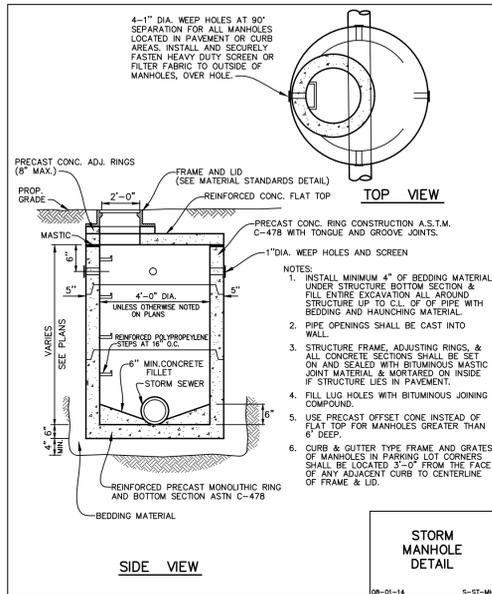
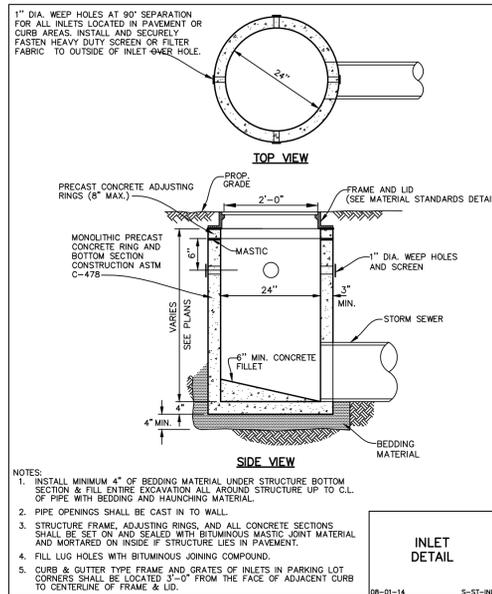
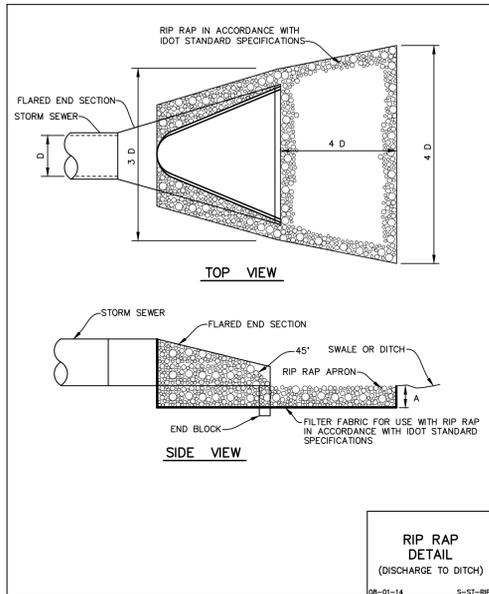
800 Woodlands Parkway, Vernon Hills, IL 60061 phone: 847.834.5550 fax: 847.834.0985 manhard.com  
 Civil Engineers • Surveyors • Water-Resource Engineers • Water & Wastewater Engineers  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

**191ST AND HARLEM RETAIL DEVELOPMENT**  
**VILLAGE OF TINLEY PARK, COOK COUNTY, ILLINOIS**  
**SOIL EROSION AND SEDIMENT CONTROL PLAN**



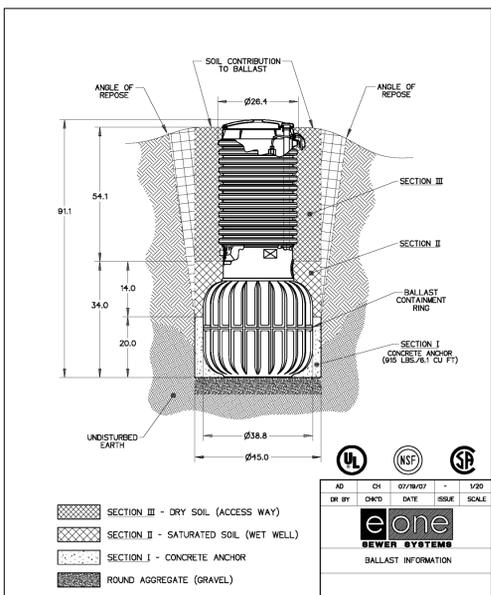






**BALLAST WORKSHEET 2012**

Year	Full Year (100%)	Full Year (90%)	Full Year (80%)	Full Year (70%)	Full Year (60%)	Full Year (50%)	Full Year (40%)	Full Year (30%)	Full Year (20%)	Full Year (10%)	Full Year (0%)
2012	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2013	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2014	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2015	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2016	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2017	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2018	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2019	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2020	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2021	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2022	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%



MANHARD CONSULTING, LTD. STANDARD SPECIFICATIONS

GENERAL CONDITIONS CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S covenants stated herein.

DEFINITION OF TERMS

- a. "CLIENT" shall mean Aetna Development Corporation... b. "ENGINEER" shall mean Manhard Consulting, Ltd... c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER... d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS... e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government...

INTENT OF THE PLANS AND SPECIFICATIONS

The intention of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be infinitely determined so as to include minor items obviously required as part of the work.

INTERPRETATION OF PLANS AND SPECIFICATIONS

a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.

GOVERNING PROPOSES

All works herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, executive orders, rules and regulations. If a discrepancy is noted between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary to the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the precise location, elevation and size and material (if appropriate) of the facilities and utilities.

UNITS AND MEASUREMENTS

It shall be the CONTRACTOR'S responsibility to notify all Utility Companies of the intentions to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities.

UNITS AND MEASUREMENTS

The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT and/or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

PROTECTION OF TREES

All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES

The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL

The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under other or other circumstances where it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT'S construction representative, all existing access points shall be maintained at all times throughout the construction. The need for traffic control shall be anticipated by the CLIENT.

WORK AREA

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the Client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

UTILITY POLES

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION

It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, or when so directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain tiles, water mains, etc.

CLEANING UP

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material and rubbish caused by his employees or work, and at the completion of the work he shall remove all his brushes, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING

The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR'S trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

SAFETY AND PROTECTION

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during the performance of the work. This responsibility shall not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR'S duties and responsibilities for safety and for protection of the work shall continue until the work is completed and the CLIENT has notified the CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR'S or the general public's safety in, on, or near the construction site.

HOLD HARMLESS

To the fullest extent permitted by law, any CONTRACTOR, material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all claims, damages, losses and expenses, including but not limited to, attorneys' fees arising out of or resulting from any claim or action for or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to: (1) injury or damage occurring by reason of the failure of or use of any kind of rigging, blocking, scaffolding or any and all other kind of equipment, whether or not the same be owned, furnished or loaned by any party or entity, including any contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs in any way expended by the indemnified party and its employees, at its usual rates plus costs or travel, long distance telephone and reproduction of documents; (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents, employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anytime directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount of type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by the CONTRACTOR or any Subcontractor or any other party.

INSURANCE

Any party relying or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any major general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damage arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds on such insurance policy, provided that any party relying on these plans having obligations to maintain specific insurance as required by any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER'S other applicable coverage is considered secondary. This insurance shall insure against a limit any liability of any party providing work or services or providing materials.

THIRD PARTY BENEFICIARY

Manhard Consulting, Ltd., the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement. Note: These Specifications are for Northern Illinois.

DETAILED SPECIFICATIONS

I. DEMOLITION

- A. The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges. B. Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials designed to be relocated on the site, all other construction materials shall be new. C. Prior to demolition occurring, all erosion control devices are to be installed. D. All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under drives, on-site parking, roads or sidewalks shall be filled with a flowable backfill and plugged. All existing structures shall be removed. E. CONTRACTOR shall perform all demolition work in accordance with all applicable Federal, State and local government. F. The CONTRACTOR is responsible for demolition, removal and disposal in a location approved by all JURISDICTIONAL GOVERNMENT ENTITIES of all structures, piers, walls, fences, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All facilities to be removed shall be undisturbed to suitable material and brought to grade with suitable compacted fill material per the specifications. G. The CONTRACTOR is responsible for removing all debris from the site and disposing the debris in a lawful manner. H. The CONTRACTOR is responsible for obtaining all permits required for demolition and approval. I. Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company. J. CONTRACTOR must protect the public at all times with fencing, barricades, enclosures, and other appropriate best management practices. K. Continuous access shall be maintained for surrounding properties at all times during demolition. L. All fire access lanes within the project area shall remain in service, clean of debris, and accessible for use by emergency vehicles. M. The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNMENT ENTITY to plan the proposed improvements and to ensure adequate fire protection is consistently available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNMENT ENTITY during construction. Any

- costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provide. N. CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc. clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate/pack all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations. O. CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is caused on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for its removal and repair. P. Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of the Illinois Water Well Construction Code, Department of Public Health, and all applicable local rules and regulations. Q. Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with the JURISDICTIONAL GOVERNMENT ENTITY regulations, and the tanks and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR. R. Voids left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the CONTRACTOR. S. The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings. T. Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with County, State and Federal regulations. U. CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNMENT ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNMENT ENTITY as requested. V. The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNMENT ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation. W. The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution around any anticipated features. X. The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system and remain open until such that the remaining system shall continue to function properly. Y. The parking lot shall be completed in sections so that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager for work to be performed.

II. EARTHWORK

A. STANDARDS

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

B. SOIL BORING DATA

Copies of soils of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The CONTRACTOR makes no warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

C. EARTHWORK CALCULATIONS AND CROSS SECTIONS

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only. The CONTRACTOR shall verify the quantity of the work as provided by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will be adequate under the varying field conditions, changing soil types, allowable construction to tolerances and construction methods that are beyond the control of the ENGINEER.

D. CLEARING, GRUBBING AND TREE REMOVAL

The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

E. TOPSOIL STRIPPING

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

F. TOPSOIL SPREAD

Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of four inches (4") of topsoil shall be respread over all unpaved areas that have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

G. SEEDING

Upon completion of topsoil spread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

H. SODDING

Upon completion of topsoil spread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

I. EXCAVATION AND EMBANKMENT

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be hauled, placed (moisture conditioned if necessary) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment.

Specifically included in the scope of Excavation and Embankment's grading and shaping of all cut or fill areas including swales and ditches, handling of topsoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil toxic or any undercutting that may be required).

Table with 4 columns: Percent Completion, Pavement & Floor Slabs, Grass Areas, and Type Material. Rows include Sandy Silt, Clayey Silt, and Standard Proctor.

Specifically included in the scope of Excavation and Embankment's grading and shaping of all cut or fill areas including swales and ditches, handling of topsoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil toxic or any undercutting that may be required).

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed. A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site. For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

- 1. Any soil whose optimum moisture content exceeds 25%. 2. Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less. 3. Any soil whose silt content exceeds 60% by weight. 4. Any soil whose maximum density is less than 100 pounds per cubic foot. 5. Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottom, side slopes, embankments, and berms, but not limited to, attorneys' fees arising out of or resulting from any claim or action for or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If, in the opinion of the CLIENT or the JURISDICTIONAL GOVERNMENT ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall install the same.

During excavation and embankment, grades may be adjusted to provide an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation /lake /detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation.

J. EROSION CONTROL

Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

K. UNDERCUTTING DURING EARTHWORK

If the subgrade cannot be dried adequately by discing as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

L. MISCELLANEOUS CONTROL ITEMS

The following items may be required at the CLIENT'S option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNMENT ENTITY:

- (1) GEOTEXTILE FABRIC: Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNMENT ENTITY to shut down any area, including substantial of a schedule of the time of shut and of the time the live will be returned to service. All mains shut down that are only to atmosphere must be disinfected prior to returning main into service. (2) EROSION CONTROL BLANKET: Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNMENT ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards, the Illinois Urban Manual and/or the details shown on the PLANS.

III. UNDERGROUND IMPROVEMENTS

A. GENERAL STANDARDS

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL

Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASIN, INLETS & VALVE VAULTS

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C-478. All joints between sections and frames (except sanitary manholes, see Section III-B Manholes, below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and butter joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a

reinforced concrete flat top section shall be used, and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 8" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous 1/2" steel reinforcement as manufactured by MA industries, or approved equal.

AUGERBORING AND CASING

Casing pipe shall be welded steel pipe, installed where shown on the PLANS. The carrier pipe shall be securely blocked and banded and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the ends shall be sealed with hydraulic cement.

AUGER (OPEN BORE)

The CONTRACTOR shall auger (open bore) where noted on PLANS.

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS

Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Illinois Section 41-2.01A and 41-2.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

STRUCTURE ADJUSTMENTS

Structures shall be adjusted to the finished grade as shown on PLANS.

B. SANITARY SEWERS AND APPURTENANCES

SANITARY SEWER PIPE

Sanitary sewer pipe including building services, shall conform to the following: (1) Polyvinyl Chloride (PVC) Sewer Pipe shall conform to ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 48-inch) minimum SDR 26 with flexible elastomeric seal gasket gasketed joints conforming to ASTM D3212 and F477.

(2) Ductile Iron Sewer Pipe shall conform with ANSI/AWWA C151/A21.5.1 Class 50, cement lined with push on type joints conforming to ANSI/AWWA C11/A21.11.

(3) Extra Strength Clay Sewer Pipe shall conform with ASTM Specification C700 (glazed) with ASTM D1784 type joints conforming to Clov No-BEL (ESVCP), with flexible gasket meeting ASTM C425 (MWRD only).

Sanitary sewers shall include bedding and backfilling.

MANHOLES

Manholes shall be constructed in conformance with Section IIA Manholes, etc. above. The concrete base and bottom section shall be constructed of precast reinforced concrete monolithically cast sections including benches, pipe connection and invert flow lines. Manhole frame and lids shall be Neenah R-1772 or approved equal, with lids imprinted "SANITARY", with recessed pick holes. Manhole joints between adjustment rings and frames and between manhole sections shall be set on preformed plastic gasket consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler to provide a water tight seal. All pipe connection openings shall be precast with resilient rubber watertight pipe sleeves. A 10" elastomeric band (chime seal) shall be installed extending from the manhole top to the manhole frame as shown on detail. Manholes shall include steps, frame & grate, bedding, and trench backfill.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TESTING

Sanitary sewers shall be air tested and tested for deflection in accordance with the requirements of Section 31-1.12 TESTING AND INSPECTION FOR ACCEPTANCE OF SANITARY SEWERS" of the Standard Specifications for Water and Sewer Construction in Illinois or the JURISDICTIONAL GOVERNMENT ENTITY, whichever is more restrictive. In addition, a televised inspection of the completed sanitary sewers shall be conducted and a copy of the videotape and report furnished to the JURISDICTIONAL GOVERNMENT ENTITY.

All sanitary manholes are to be tested for water tightness in accordance with ASTM C969 "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines" or ASTM C1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test".

SERVICES

A pipe trench or "tee" and sanitary sewer line, properly plugged and sealed shall be constructed as shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted red. The CONTRACTOR shall keep accurate records of all Hvee or Tee locations as measured from the downstream manhole as well as the service lengths and furnish same to CLIENT.

RISERS

Risers shall be constructed in locations as shown on the PLANS and according to the detail.

DROP MANHOLE CONNECTIONS

Drop manhole connections to existing manholes shall be constructed according to the PLANS and the detail.

SANITARY SEWER FORCE MAIN

Sanitary sewer force main shall conform to the following: (1) Polyvinyl Chloride (PVC) Pressure Pipe conforming to the latest revision of ANSI/AWWA C900, Class 150 with integral bell and flexible elastomeric gasket joints conforming to ASTM F477.

(2) Ductile iron cement lined pipe conforming to the latest revision of ANSI/AWWA C151/A21.5.1, Thickness Class 50, minimum 150 psi working pressure with "push on" type joints.

Force mains shall have a minimum of five feet six inches (5'-6") of cover and shall include bedding and trench backfill.

Upon completion of installation, force mains are to be plugged and pressure tested at 2 times the working pressure or most dynamic head for a period of 10 minutes, with no loss of pressure or as required by the JURISDICTIONAL GOVERNMENT ENTITY, whichever is more stringent.

TELEVISION INSPECTION

Upon completion of construction a television inspection of the sanitary sewer system shall be performed on all portions of the sewer if required by the JURISDICTIONAL GOVERNMENT ENTITY. Videotapes and written report of all television inspections shall be provided to the CLIENT. The form of report and size and format of the videotape shall be approved by the JURISDICTIONAL GOVERNMENT ENTITY.

All sewers and appurtenances shall be cleaned prior to inspection and testing required by this section.

All defects and corrective work required as the result of television inspection shall be performed by the CONTRACTOR without delay. All dips, cracks, leaks, improperly sealed joints and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe. Upon completion thereof, the sewer shall be retested and such further inspection made as may appear warranted by the CLIENT.

MISCELLANEOUS

All fire drains shall be connected to the sanitary sewer.

C. WATER MAINS AND APPURTENANCES

5" HMF AS 6" DOD 11" SB 8" F 6"

Water main pipe shall conform to the following: (1) Ductile iron cement lined pipe conforming to the latest revision of ANSI/AWWA C151/A21.5.1, Thickness Class 52, minimum 150 psi working pressure with "push on" type joints (2) Polyvinyl Chloride Pipe (PVC) conforming to the latest revision of ANSI/AWWA C900 (4-inch thru 12-inch) or ANSI/AWWA C905 (14-inch thru 48-inch) with a pressure rating of 235 psi, SDR 18 in accordance with ASTM D2441. Joints shall be pressure rated in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477.

Installation shall be in accordance with ANSI/AWWA C600 (Ductile Iron) or ANSI/AWWA C605 (PVC). All water main shall have mechanical joint cast iron or reinforced concrete manholes in accordance with ANSI/AWWA C110/A21.10 or compact ductile iron fittings in accordance with ANSI/AWWA C151/A21.5.1 with 250 psi working pressure.

Poured or monolithic concrete thrust blocks are required to brace all tees, plugs, caps, and bends in 114 degree deflection or greater. Minimum cover for all water mains, including services, shall be 5'-0" from the finished grade. Water main shall include bedding and backfilling.

VALVE VALVES

All valves shall be resilient wedge gate valves conforming to the latest revision of ANSI/AWWA C509, with a rated working pressure of 200 psi in accordance with JURISDICTIONAL GOVERNMENT ENTITY requirements, except that butterfly valves conforming to ANSI/AWWA C515 shall be constructed on all water mains 18" diameter and larger. Valves shall be non-rising stem and shall close by turning clockwise.

VALVE VAULTS

Valve vaults shall be constructed in conformance with Section IIA Manholes, etc. above. Frame and lids shall be as approved by the JURISDICTIONAL GOVERNMENT ENTITY and shall be imprinted "WATER".

VALVE BOXES



**DESCRIPTION**

The Lumark Tribute luminaire is the most versatile, functionally designed, universally adaptable outdoor luminaire available. The Tribute luminaire brings outstanding performance to walkways, parking lots, roadways, loading docks, building areas and any security lighting application. U.L. listed and CSA certified for wet locations.

<b>Catalog #</b>		<b>Type</b>	
<b>Project</b>			
<b>Comments</b>		<b>Date</b>	
<b>Prepared by</b>			

**SPECIFICATION FEATURES**

**Construction**

Rugged, one-piece, die-cast aluminum housing and door frame. One-piece silicone gasket protects the optical chamber from performance degrading contaminants. One stainless spring latch and two stainless hinges allow tool-less opening and removal of door frame.

**Electrical**

Ballast and related electrical componentry are hard mounted to die-cast housing for optimal heat transfer and operating efficiency. Optional swing-down galvanized steel power tray with integral handle and quick disconnects allows tray to be completely removed from housing providing ample room for fixture installation and maintenance.

**Reflector**

Choice of nine high efficiency optical distributions, including five segmented optical systems constructed of premium 95% reflective anodized aluminum sheet. Optical segments are rigidly mounted inside a thick gauge aluminum housing for superior protection. All segment faces are clean of rivet heads, tabs or other means of attachment which may cause streaking in the light distribution. Optical modules are field rotatable in 90° increments and offered standard with mogul-base lampholders for High Pressure Sodium and 200-400W Metal Halide assemblies or medium-base lampholders for Metal Halide 150W and below.

**Mounting**

Extruded 8" aluminum arm features internal bolt guides for easy positioning of fixture during installation to pole or wall surface. Standard single carton packaging of housing, square pole arm and round pole adapter allow for consolidated product arrival to site. Optional internal mast arm mount accepts a 1-1/4" to 2-3/8" O.D. horizontal tenon, while a four-bolt clamping mechanism secures fixture. Cast-in leveling guides provide +/-5° vertical leveling adjustment.

**Finish**

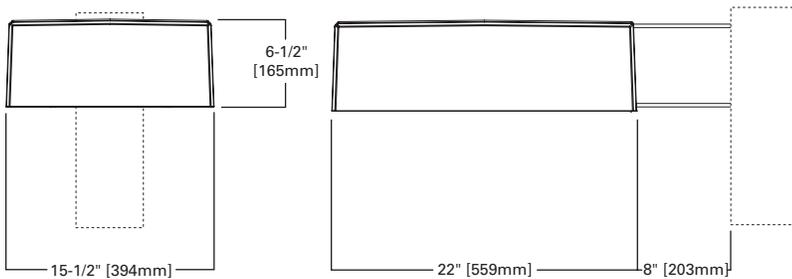
Housing and arm finished in a five-stage premium TGIC bronze polyester powder coat paint. Optional colors include black, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.



**TR TRIBUTE**

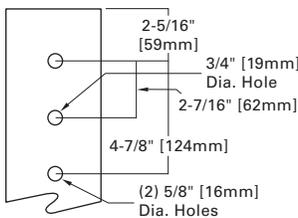
**70 - 400W**  
**High Pressure Sodium**  
**Metal Halide**  
**Pulse Start Metal Halide**  
**AREA/SITE LUMINAIRE**

**DIMENSIONS**

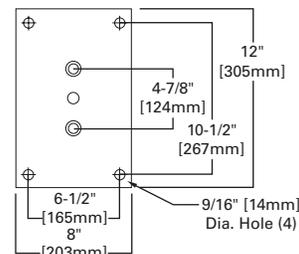


**DRILLING PATTERNS**

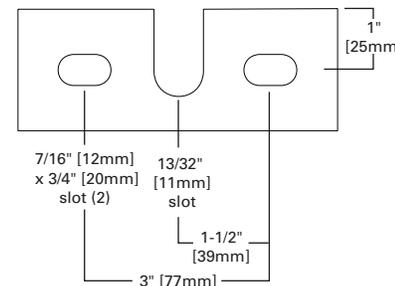
**TYPE "M"**



**WALL MOUNT (MA1219-XX)**



**TRUNNION MOUNT**



**TECHNICAL DATA**

UL Wet Locations Listed  
 CSA Certified  
 EISA Compliant ©

**ENERGY DATA**

**Hi-Reactance Ballast Input Watts**

70W HPS HPF (95 Watts)  
 100W HPS HPF (130 Watts)  
 150W HPS HPF (190 Watts)  
 150W MP HPF (185 Watts)

**CWI Ballast Input Watts**

250W HPS HPF (300 Watts)

**CWA Ballast Input Watts**

175W MH HPF (210 Watts)  
 200W MP HPF (227 Watts) ©  
 200W HPS HPF (250 Watts)  
 250W MH HPF (295 Watts)  
 250W MP HPF (283 Watts) ©  
 320W MP HPF (365 Watts) ©  
 350W MP HPF (397 Watts) ©  
 400W MP HPF (452 Watts) ©  
 400W MH HPF (455 Watts)  
 400W HPS HPF (465 Watts)

**EPA DATA**

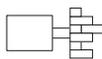
**Effective Projected Area:** (Sq. Ft.)  
 Single w/Arm: 1.59  
 Single w/o Arm: 1.19

**SHIPPING DATA**

**Approximate Net Weight:**  
 39 lbs. (17.73 kgs.)

**MOUNTING CONFIGURATIONS**

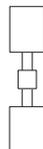
**Wall Mount**



**Arm Mount Single**  
EPA: 1.59



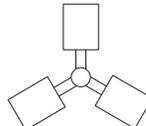
**Arm Mount 2@180°**  
EPA: 3.18



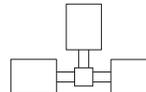
**Arm Mount 2@90°**  
EPA: 2.63



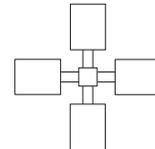
**Arm Mount 3@120°**  
(Round Pole Only)  
EPA: 3.87



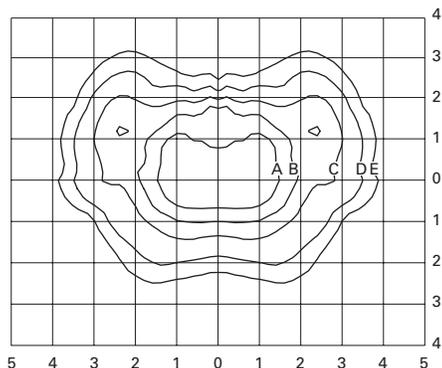
**Arm Mount 3@90°**  
EPA: 4.02



**Arm Mount 4@90°**  
EPA: 5.25



**PHOTOMETRICS**

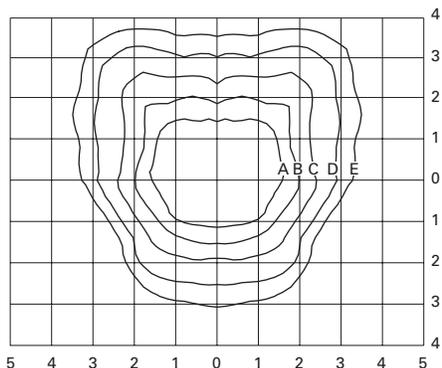


**MPTR-3S-320**  
320—Watt MP  
30,000—Lumen Clear Lamp  
Type III Segmented

**Footcandle Table**

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	2.00	1.00	0.50	0.20	0.10
30'	1.38	0.69	0.34	0.13	0.06

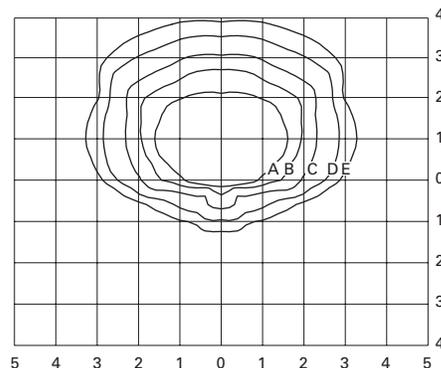


**MPTR-4S-400**  
400—Watt MP  
40,000—Lumen Clear Lamp  
Type IV Segmented

**Footcandle Table**

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	2.00	1.00	0.50	0.20	0.10
30'	1.38	0.69	0.34	0.13	0.06



**MPTR-SL-400**  
400—Watt MP  
40,000—Lumen Clear Lamp  
Spill Light Eliminator

**Footcandle Table**

Select mounting height and read across for footcandle values of each isofootcandle line. Distance in units of mounting height.

Mounting Height	Footcandle Values for Isofootcandle Lines				
	A	B	C	D	E
20'	3.00	1.50	0.75	0.30	0.15
25'	2.00	1.00	0.50	0.20	0.10
30'	1.38	0.69	0.34	0.13	0.06

## ORDERING INFORMATION

Sample Number: MPTR-SL-400-MT-LL

Lamp Type	Series <sup>1</sup>	Distribution	Lamp Wattage <sup>2</sup>	Voltage <sup>5</sup>
MP=Pulse Start Metal Halide MH=Metal Halide HP=High Pressure Sodium	TR=Tribute	2F=Type II Formed 2S=Type II Segmented 3F=Type III Formed 3S=Type III Segmented 4F=Type IV Formed 4S=Type IV Segmented 5F=Type V Formed 5S=Type V Segmented SL=Spill Light Eliminator	Pulse Start Metal Halide 70=70W 100=100W 150=150W 200=200W 250=250W 320=320W 350=350W 400=400W <sup>3</sup>  Metal Halide 175=175W <sup>4</sup> 250=250W <sup>4</sup> 400=400W <sup>3,4</sup>  High Pressure Sodium 70=70W 100=100W 150=150W 250=250W 400=400W <sup>3</sup>	120V=120V 208V=208V 240V=240V 277V=277V 347V=347V <sup>6</sup> 480V=480V DT=Dual-Tap MT=Multi-Tap wired 277V TT=Triple-Tap wired 347V <sup>6</sup> 5T=5-Tap wired 480V <sup>5</sup>
Options (Add as Suffix)		Color	Accessories (Order Separately) <sup>10</sup>	
F1=Single Fuse (120, 277 or 347V. Must Specify Voltage) F2=Double Fuse (208, 240 or 480V. Must Specify Voltage) Q=Quartz Restrike (Hot Strike Only) <sup>7</sup> EM=Quartz Restrike with Delay Relay (Quartz Lamp Strikes at both Hot and Cold Starts) <sup>7</sup> EM/SC=Emergency Separate Circuit <sup>7</sup> LL=Lamp Included S=1-1/4" - 2-3/8" Internal Mast Arm Mount TM=Trunnion Mount CEC=California Title 20 Compliant Ballast (Applies to 200-320W and 400W MP Only) PT=Electrical Power Tray PER=NEMA Twistlock Photocontrol Receptacle PC=Button Type Photocontrol <sup>8</sup> HS=House Side Cutoff <sup>9</sup> LA=Less Arm (Order Mounting Separately)		BZ=Bronze (Standard) BK=Black AP=Grey WH=White DP=Dark Platinum GM=Graphite Metallic	MA1201-XX=Direct Wall Mount Kit <sup>1</sup> MA1218-XX=Direct Mount for Pole <sup>1</sup> MA1219-XX=Wall Mounting Plate OA1090-XX=Adjustable Slipfitter Arm for Tenon Mount 2-3/8" O.D. Tenon <sup>1</sup> MA1221-XX=External House Side Shield Kit - EPA 0.38 MA1222=House Side Shield Kit for 2S/3S MA1223=House Side Shield Kit for 4S MA1224=House Side Shield Kit for 2F/3F MA1225=House Side Shield Kit for 4F MA1010-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon MA1011-XX=2 @ 180° Tenon Adapter for 3-1/2" O.D. Tenon MA1012-XX=3 @ 120° Tenon Adapter for 3-1/2" O.D. Tenon MA1013-XX=4 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1014-XX=2 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1015-XX=2 @ 120° Tenon Adapter for 3-1/2" O.D. Tenon MA1016-XX=3 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon MA1017-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon MA1018-XX=2 @ 180° Tenon Adapter for 2-3/8" O.D. Tenon MA1019-XX=3 @ 120° Tenon Adapter for 2-3/8" O.D. Tenon MA1045-XX=4 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon MA1048-XX=2 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon MA1049-XX=3 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon TR/VS=Field Installed Vandal Shield <sup>11</sup> OA/RA1013=Photocontrol Shorting Cap OA/RA1016=NEMA Photocontrol - Multi-Tap OA/RA1027=NEMA Photocontrol - 480V OA/RA1201=NEMA Photocontrol - 347V	

## Notes:

- 8" Arm and pole adapter included with fixture. Specify less arm "LA" option when mounting accessory is ordered separately.
- 150W and below in pulse start metal halide are medium-base sockets. All other wattages are mogul-base.
- Requires reduced envelope lamp.
- 175W, 250W and 400W metal halide available in non-U.S. markets only.
- Products also available in non-US voltages and 50Hz for international markets. Consult your Eaton's Cooper Lighting business representative for availability and ordering information. 5T only available in 400W metal halide.
- 88% efficient EISA Compliant pulse start metal halide fixtures not available in 347V or Triple-Tap voltages.
- Quartz options not available with SL optics.
- Specify 120V, 208V, 240V or 277V only.
- House side shield not available on 5S, 5F or SL optics.
- Replace XX with color designation.
- Not available with spill light eliminator or house side shield.

## STOCK SAMPLE NUMBER (LAMP INCLUDED)

Sample Number: MPTR2340

Lamp Type	Series <sup>2</sup>	Distribution	Lamp Wattage
MP=Pulse Start Metal Halide HP=High Pressure Sodium <sup>2</sup>	TR=Tribute	23=Type II /III Formed	15=150W 25=250W 32=320W 40=400W

## Notes:

- Available in 150, 250 and 400W. Refer to In Stock Guide for availability.

## VOLTAGE CHART

DT=Dual-Tap	120/277V (Wired 277V)
MT=Multi-Tap	120/208/240/277V (Wired 277V)
TT=Triple-Tap	120/277/347V (Wired 347V)
5T=5-Tap	120/208/240/277/480V (Wired 480V)

## WATTAGE CHART

Lamp Type	Wattage
Pulse Start Metal Halide	70, 100, 150, 250, 320, 350, 400W
Metal Halide	175, 250, 400W
High Pressure Sodium	70, 100, 150, 250, 400W

## FEATURES & SPECIFICATIONS

**INTENDED USE** — For building- and wall-mounted applications.

**CONSTRUCTION** — Rugged, die-cast, single-piece aluminum housing. Die-cast door frame has a 1/8" thick tempered glass lens. Door frame is fully gasketed with one-piece solid silicone.

Finish: Standard finish is textured dark bronze (DDBT) corrosion-resistant polyester powder finish. Additional architectural colors are available. Striping is also available.

**OPTICS** — Segmented reflectors for superior uniformity and control. Reflectors are interchangeable. Three full cutoff downlight distributions available: FT (forward throw), MD (medium throw) and WT (wide throw). Six uplight distributions available: FTU (forward throw, 10% up), MDU (medium throw, 10% up), WTU (wide throw, 10% up) and MDU5 (up/down medium throw, 50% up 50% down), WTUP (pencil beam) and WTUC (column beam).

**ELECTRICAL** — Ballast: 50W-150W utilizes a high reactance, high power factor ballast. Metal halide 150W and below are standard with pulse-start technology. 35S utilizes a reactance high power factor ballast. 175W utilizes a constant-wattage auto transformer ballast. CSA, NOM or INTL required for probe start shipments outside of the US for 175M. Not available 175M SCWA. Ceramic metal halide lamps are recommended for use in applications where superior color rendition, lumen maintenance and longer lamp life are desired.

Quick disconnect plug easily disconnects reflector from ballast. Ballasts are 100% factory-tested.

Socket: Porcelain, medium-base socket with copper alloy, nickel-plated screw shell and center contact. UL listed 660W, 600V 4KV pulse rated.

**INSTALLATION** — Universal mounting mechanism with integral mounting support allows fixture to hinge down. Bubble level provides correct alignment with every installation.

**LISTINGS** — UL Listed (standard). CSA Certified (see Options). Suitable for wet locations (damp location listed in lens-up orientation). WLU option offers wet location listing in up orientation (see Options). IP65 rated. 25°C ambient. ELED: U.S. Patent No. 7,737,640.

Note: Specifications subject to change without notice.

**WARRANTY** — 1-year limited warranty. Complete warranty terms located at [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

Note: Specifications subject to change without notice.



Catalog Number
Notes
Type

### Decorative Wall-Mounted Lighting



# WSR

METAL HALIDE: 50W-175W  
HIGH PRESSURE SODIUM: 35W-150W

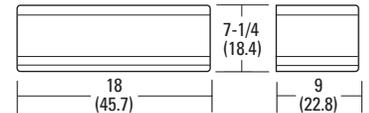
#### Specifications

Length: 18 (45.7)

Depth: 9 (22.8)

Overall Height: 7-1/4 (18.4)

\*Weight: 30 (13.6 kg)



All dimensions are inches (centimeters) unless otherwise indicated.

\*Weight as configured in example below.

### ORDERING INFORMATION For shortest lead times, configure product using **standard options (shown in bold)**.

**Example: WSR 100M FT 120 LPI**

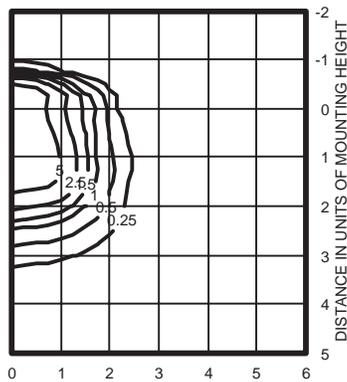
WSR											
Series	Wattage			Distribution		Uplight color options <sup>5</sup>		Voltage	Ballast		Mounting
WSR	<b>High pressure sodium</b>	<b>Metal halide</b>	<b>Ceramic metal halide</b>	<b>Downlight distributions</b>	<b>Up/down distributions</b>		BLUE Blue	<b>120</b> 208 <sup>6</sup> 240 <sup>6</sup> <b>277</b> <b>347</b> <b>TB<sup>7</sup></b> 23050HZ <sup>8</sup>	<b>(blank)</b> Magnetic ballast	<b>(blank)</b> Surface mount <i>Shipped separately<sup>10</sup></i> BBW Surface mount back box UT5 Uplight 5 degrees	
	35S <sup>1</sup>	50M	50MHC	<b>FT</b> Forward throw	FTU Forward throw with 10% uplight	GRN Green	CWI Constant wattage isolated				
	50S	<b>70M</b>	70MHC	<b>MD</b> Medium throw (coated lamp std.)	<b>MDU</b> Medium throw with 10% uplight (coated lamp std.)	RED Red	Super CSA pulse start ballast <sup>9</sup>				
	70S	<b>100M</b>	100MHC	<b>WT</b> Wide throw	WTU Wide throw with 10% uplight	YEL Yellow					
	100S	<b>150M</b>	150MHC		<b>MDU5</b> Up/down medium throw with 50% uplight and 50% downlight (coated lamp std.)						
	150S	175M <sup>2</sup>	150MHC		WTUP Pencil beam <sup>3,4</sup>						
					WTUC Column beam <sup>3,4</sup>						

Options				Finish <sup>19</sup>		Lamp <sup>21</sup>
<b>Shipped installed in fixture</b>				<b>(blank)</b> Dark bronze, textured	<b>LPI</b> Lamp included	
SF	Single fuse (120, 277, 347V) <sup>11</sup>	ELED	Emergency LED secondary source battery pack with time delay (-4°F min. operating temperature) <sup>13</sup>	DSST	Sandstone, textured	<b>L/LP</b> Less lamp
DF	Double fuse (208, 240V) <sup>11</sup>	2ELED	Emergency LED secondary source (two modules) battery pack with time delay (-4°F min. operating temperature) <sup>13</sup>	<b>DNAT</b>	<b>Natural aluminum, textured</b>	
DC12	Emergency circuit 12-volt (35W lamp included) <sup>12</sup>	DFL	Diffusing lens	<b>DWHG</b>	White, textured	
2DC12	Emergency circuit 12-volt (two 35W lamps included) <sup>12</sup>	EC	Emergency circuit <sup>14, 15</sup>	<b>DBLB</b>	Black, textured	
DC2012	Emergency circuit 12-volt (20W lamp included) <sup>12</sup>	IBS	Internal backlight shield <sup>16</sup>	CRT	Non-stick protective coating <sup>20</sup>	
2DC2012	Emergency circuit 12-volt (two 20W lamps included) <sup>12</sup>	<b>PE</b>	Photoelectric cell-button type (n/a TB) <sup>3</sup>	<b>Super Durable Finishes</b>		
		QRS	Quartz restrike system <sup>14, 17</sup>	DDBXD	Dark bronze	
		UCS	Uplight component shield <sup>18</sup>	DBLXD	Black	
		WLU	Wet location door for up orientation	DNAXD	Natural aluminum	
		<b>CSA</b>	CSA certified	DWHXD	White	
		NOM	NOM certified <sup>8</sup>	DBBTD	Textured dark bronze	
		INTL	International shipment for 175M	DBLBXD	Textured black	
				DNATXD	Textured natural aluminum	
				DWHGXD	Textured white	

# WSR Metal Halide, High Pressure Sodium Wall Mounted

## WSR 150MHC FT LTL11336P

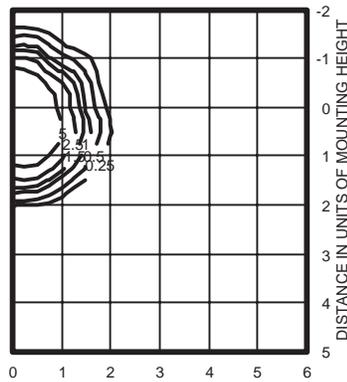
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 14000 rated lumens.  
Luminaire Efficiency: 55.6%

## WSR 150MHC MD LTL11335P

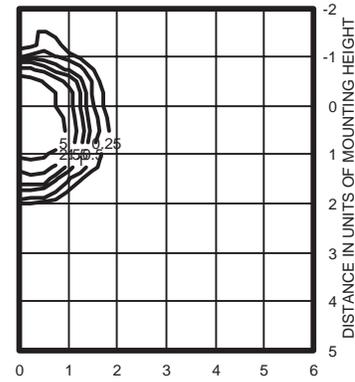
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 12500 rated lumens.  
Luminaire Efficiency: 55.3%

## WSR 150MHC MDU5 LTL11310P

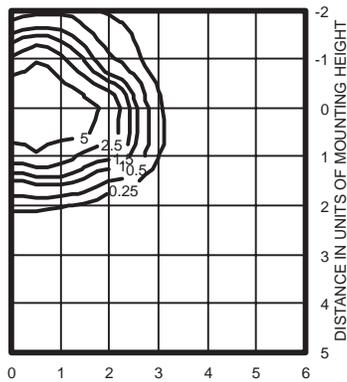
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 12500 rated lumens.  
Luminaire Efficiency: 77.1%

## WSR 150MHC WT LTL11337P

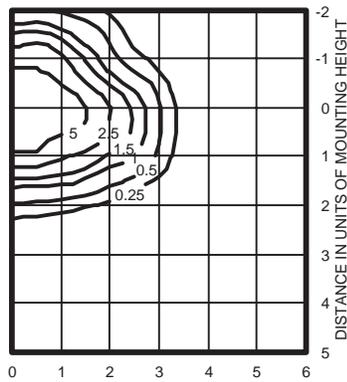
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 14000 rated lumens.  
Luminaire Efficiency: 68.1%

## WSR 150MHC WTU LTL11312P

ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 14000 rated lumens.  
Luminaire Efficiency: 69.7%

### Notes

- 1 120V only.
- 2 These wattages do not comply with California Title 20 regulations.
- 3 Must be ordered with fixture; cannot be field installed.
- 4 Available with WT (wide throw) distribution only.
- 5 Available with WTUC and WTUP only.
- 6 Must specify CWI for use in Canada.
- 7 Optional multi-tap ballast (120, 208, 240, 277V); (120, 277, 347V in Canada).
- 8 Consult factory for available wattages.
- 9 Available with 150M or 150MHC only.
- 10 May be ordered as an accessory with prefix "WS". Must specify finish.
- 11 Not available with DC options.
- 12 Not available with ELED, SF, DF, EC or QRS.
- 13 Maximum wattage 100M, 70S. Not available with QRS, DC or EC. Must specify 120V or 277V.
- 14 Maximum allowable wattage lamp included.
- 15 Not available with ELED, QRS or DCs.
- 16 Not available with medium throw (MD, MDU, MDU5) distributions.
- 17 Not available with ELED, EC or DCs.
- 18 Used with FTU and WTU distributions to conceal internal electrical components.
- 19 See [www.lithonia.com/archcolors](http://www.lithonia.com/archcolors) for additional color options.
- 20 Black finish only.
- 21 Must be specified. L/LP N/A with MHC.

### Emergency Option Lamp Compatibility

Lamp options # of lamps/watt- age	DC12	2DC12	DC2012	2DC2012	EC	ELED	2ELED
35S	■	■	■	■	■	■	■
50S	■	■	■	■	■	■	■
70S	■	■	■	■	■	■	■
100S	■	■	■	■	■	■	■
150S	■	■	■	■	■	■	■
50M	■	■	■	■	■	■	■
70M	■	■	■	■	■	■	■
100M	■	■	■	■	■	■	■
150M	■	■	■	■	■	■	■
175M	■	■	■	■	■	■	■

Lamp	Initial lumens	Mounting height			
		10'	12'	14'	16'
<b>Metal halide</b>					
50W MH	3,900	0.43	0.30	0.22	0.17
70W MH	5,500	0.62	0.43	0.31	0.24
100W MH	8,500	0.95	0.66	0.48	0.37
150W MH	12,500	1.41	0.98	0.72	0.55
175W MH	12,800	1.44	1.0	0.73	0.56
<b>High pressure sodium</b>					
35W HPS	2,250	0.26	0.18	0.13	0.10
50W HPS	4,000	0.45	0.31	0.23	0.17
70W HPS	6,400	0.72	0.50	0.37	0.28
100W HPS	9,500	1.07	0.74	0.54	0.41
150W HPS	16,000	1.80	1.25	0.91	0.70

PREPARED FOR:  
AETNA DEVELOPMENT  
200 WEST MADISON STREET, SUITE 1200  
CHICAGO, ILLINOIS 60606

CURRENT P.I.N.:  
19-09-12-200-012

# PLAT OF SURVEY

## PARCEL 3

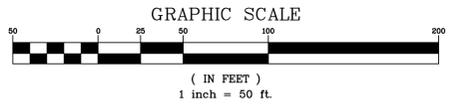
THAT PART OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 12, IN TOWNSHIP 35 NORTH, AND IN RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE POINT OF INTERSECTION OF THE NORTH LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 12, AFORESAID WITH A LINE 140.00 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 12; THENCE SOUTH ALONG SAID PARALLEL LINE 150.28 FEET; THENCE EAST PARALLEL WITH SAID NORTH LINE 60 FEET; THENCE SOUTH PARALLEL WITH SAID EAST LINE 95.53 FEET; THENCE SOUTHEASTERLY ALONG THE ARC OF CIRCLE OF 1990.08 FEET RADIUS, CONVEX TO THE SOUTHWEST AND TANGENT TO THE LAST DESCRIBED PARALLEL LINE TO THE POINT OF INTERSECTION WITH A LINE 433 FEET SOUTH OF AND PARALLEL WITH SAID NORTH LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 12, AFORESAID; THENCE WEST ALONG SAID PARALLEL LINE TO THE POINT OF INTERSECTION WITH A LINE 390.00 FEET WEST OF AND PARALLEL WITH THE EAST LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 12, AFORESAID; THENCE NORTH ALONG SAID PARALLEL LINE TO A POINT ON THE NORTH LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 12, AFORESAID; THENCE EAST ALONG SAID NORTH LINE TO THE POINT OF BEGINNING, EXCEPT THAT PART CONVEYED TO THE COUNTY OF WILL FOR HIGHWAY PURPOSES BY DEED DATED AUGUST 5, 1971 AS DOCUMENT NO. R71-32454, ALL IN WILL COUNTY, ILLINOIS.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PROPERTY:

THAT PART OF THE NORTHEAST QUARTER OF SECTION 12, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER; THENCE ON AN ASSUMED BEARING OF SOUTH 89 DEGREES 38 MINUTES 55 SECONDS WEST, A DISTANCE OF 390.00 FEET TO THE WEST LINE OF THE EAST 390.00 FEET OF SAID NORTHEAST QUARTER; THENCE SOUTH 00 DEGREES 08 MINUTES 25 SECONDS EAST ALONG SAID WEST LINE, A DISTANCE OF 104.56 FEET (104.90 FEET PER DOCUMENT R71-32454) TO THE SOUTHERLY LINE OF DEDICATION AS SHOWN IN DOCUMENT R71-32454 AND THE POINT OF BEGINNING; THENCE FOLLOWING THE COURSE ALONG SAID SOUTHERLY LINE OF DEDICATION; THENCE SOUTHEASTERLY ALONG A NON-TANGENT ARC HAVING A RADIUS OF 1178.916 FEET, AN ARC LENGTH OF 314.39 FEET (314.65 FEET PER DOCUMENT R71-32454) AND A CHORD BEARING OF SOUTH 81 DEGREES 37 MINUTES 14 SECONDS EAST TO THE WEST LINE OF THE EAST 80.00 FEET OF SAID NORTHEAST QUARTER; THENCE SOUTH 00 DEGREES 08 MINUTES 25 SECONDS EAST, ALONG SAID WEST LINE, A DISTANCE OF 8.88 FEET; THENCE SOUTH 89 DEGREES 50 MINUTES 52 SECONDS WEST, A DISTANCE OF 62.77 FEET TO A TANGENT ARC; THENCE WESTERLY ALONG AN ARC HAVING A RADIUS OF 6620.00 FEET, AN ARC LENGTH OF 247.29 FEET, AND A CHORD BEARING OF NORTH 89 DEGREES 04 MINUTES 56 SECONDS WEST, TO THE WEST LINE OF THE EAST 390.00 FEET OF SAID NORTHEAST QUARTER; THENCE NORTH 00 DEGREES 08 MINUTES 25 SECONDS WEST ALONG SAID WEST LINE, A DISTANCE OF 50.76 FEET TO THE POINT OF BEGINNING, IN WILL COUNTY, ILLINOIS.



## BASIS OF BEARINGS

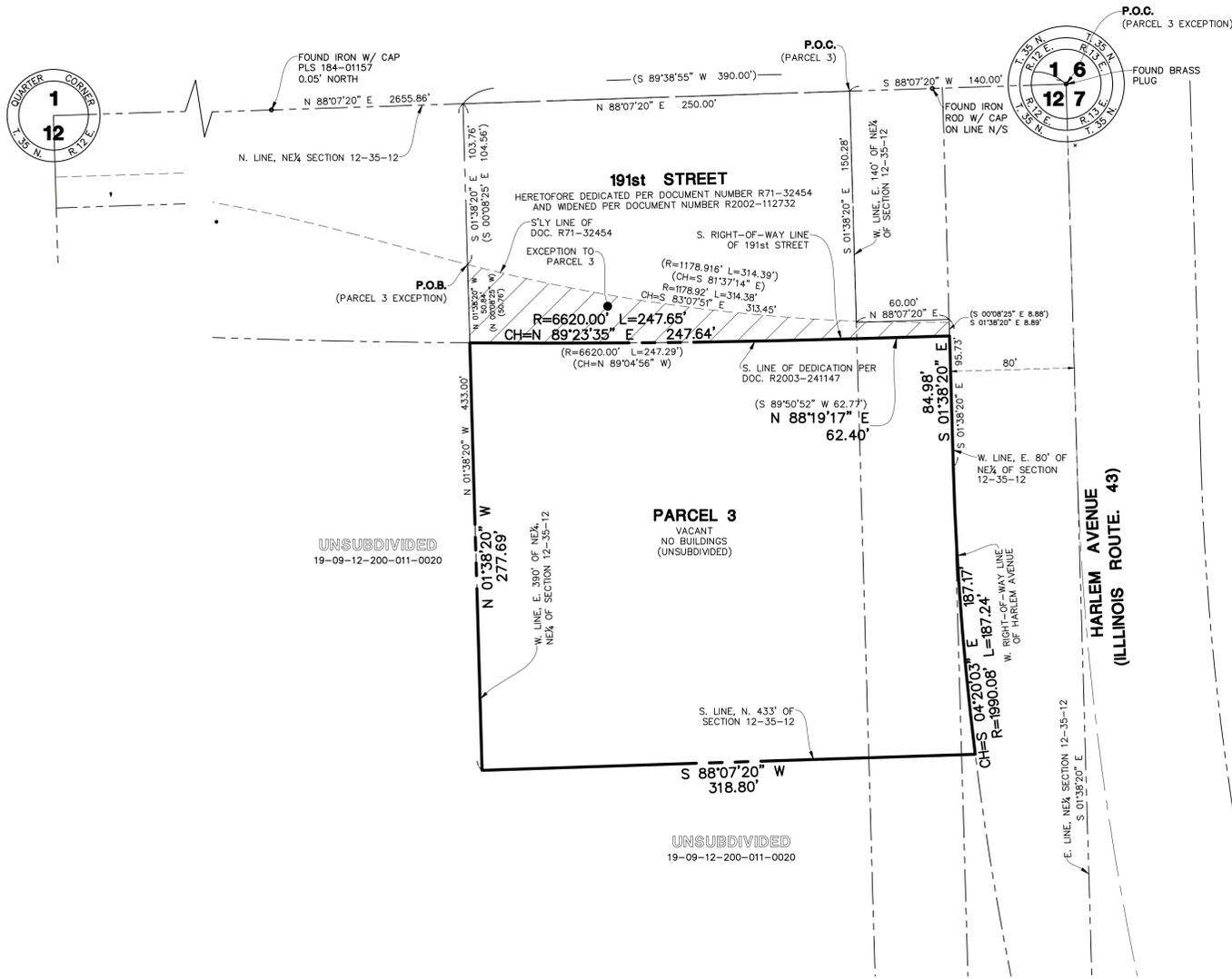
BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, ADJUSTED TO GROUND VALUES, AS ESTABLISHED BY REAL TIME KINEMATIC (RTK) GPS METHODS

## LEGEND

- = EX. PROPERTY LINE
- = EX. SECTION LINE
- - - = EX. EASEMENT LINE
- (0.00) = RECORD DIMENSION
- 0.00 = LOT DIMENSION
- N,S,W,E = NORTH, SOUTH, WEST, EAST
- P.O.C. = POINT OF COMMENCEMENT
- P.O.B. = POINT OF BEGINNING

## SURVEYED AREA

PARCEL 1: 234,739 SQUARE FEET (5.389 ACRES ±)  
PARCEL 2: 111,617 SQUARE FEET (2.562 ACRES ±)  
PARCEL 3: 85,411 SQUARE FEET (1.961 ACRES ±)  
TOTAL: 431,767 SQUARE FEET (9.912 ACRES ±)



### GENERAL NOTES:

1. THIS SURVEY IS SUBJECT TO MATTERS OF TITLE WHICH MAY BE REVEALED BY A CURRENT TITLE REPORT.
2. DISTANCES ARE MARKED IN FEET AND DECIMAL PLACES THEREOF.
3. NO DIMENSION SHALL BE ASSUMED BY SCALE MEASUREMENT HEREON.
4. THERE MAY BE ADDITIONAL TERMS, POWERS, PROVISIONS AND LIMITATIONS CONTAINED IN AN ABSTRACT DEED, LOCAL ORDINANCES, DEEDS, TRUSTS, COVENANTS OR OTHER INSTRUMENTS OF RECORD.
5. COMPARE ALL POINTS BEFORE BUILDING BY SAME AND IMMEDIATELY REPORT ANY DISCREPANCIES.

SHEET <b>1</b> OF <b>2</b> ADTP	PROJ. MGR.: <b>WWW</b>	<b>SOUTHWEST CORNER OF 191st STREET &amp; HARLEM AVENUE</b>  <b>TINLEY PARK, IL</b>  <b>PLAT OF SURVEY</b>
	PROJ. ASSOC.: <b>SJP</b>	
	DRAWN BY: <b>LWD</b>	
	DATE: <b>02/13/15</b>	
SCALE: <b>1" = 50'</b>		

**Manhard CONSULTING LTD**

700 Springer Drive, Lombard, IL 60148 ph: 830.881.8800 fx: 830.881.8885 manhard.com  
 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

DATE	REVISIONS	DRAWN BY
02/18/15	REVISED HARLEM ROW LINE	WWW

PREPARED FOR:  
AETHA DEVELOPMENT  
200 WEST MADISON STREET, SUITE 4200  
CHICAGO, ILLINOIS 60606

# PLAT OF SURVEY



## BASIS OF BEARINGS

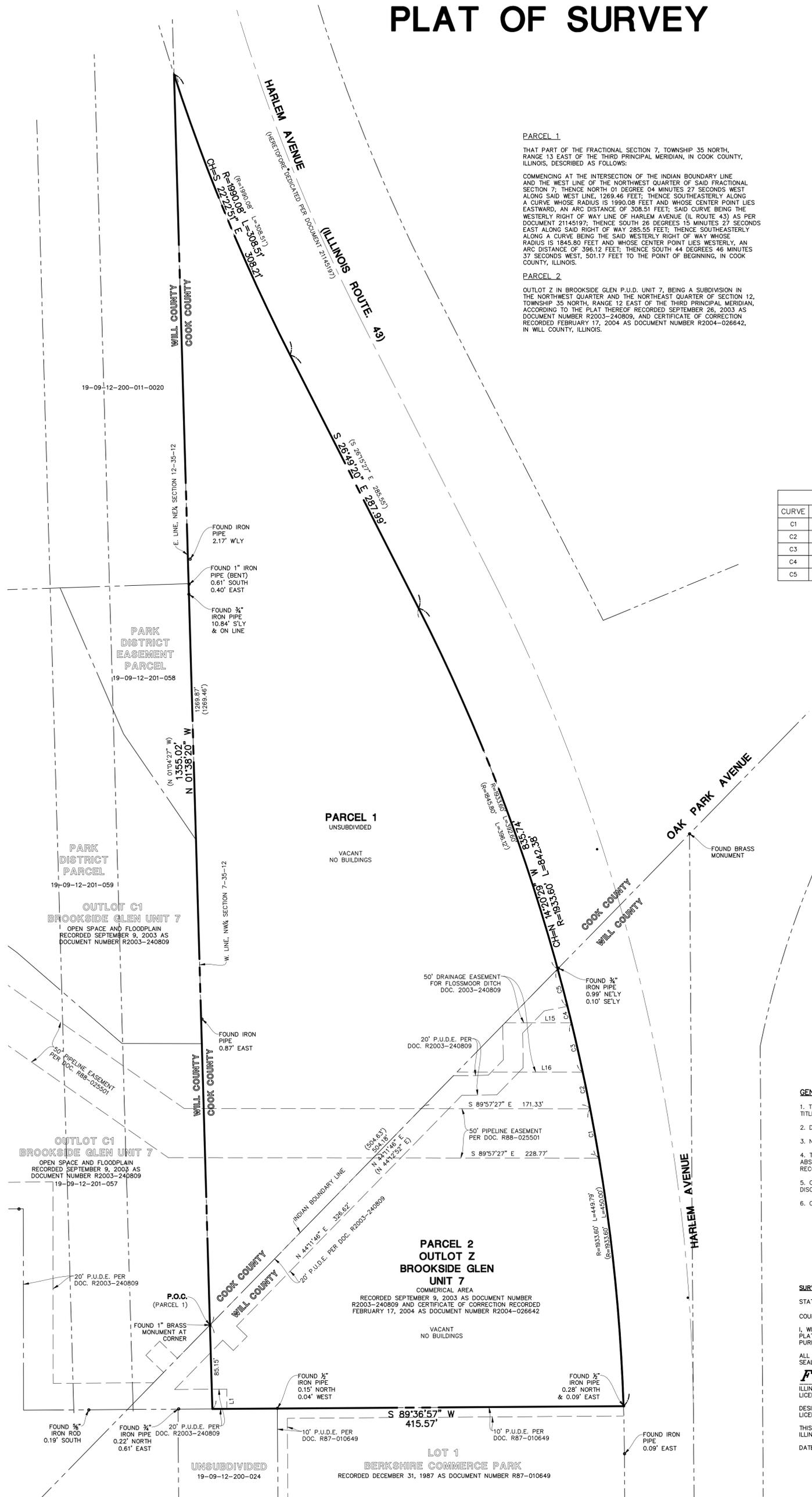
BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, ADJUSTED TO GROUND VALUES, AS ESTABLISHED BY REAL TIME KINEMATIC (RTK) GPS METHODS

## LEGEND

- = EX. PROPERTY LINE
- = EX. SECTION LINE
- - - = EX. EASEMENT LINE
- (0.00) = RECORD DIMENSION
- 0.00 = LOT DIMENSION
- N,S,W,E = NORTH, SOUTH, WEST, EAST
- P.O.C. = POINT OF COMMENCEMENT
- P.O.B. = POINT OF BEGINNING
- P.U.D.E. = PUBLIC UTILITY & DRAINAGE EASEMENT

CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD
C1	1933.60'	50.80'	N10°06'57"W	50.80'
C2	1933.60'	38.03'	N11°25'54"W	38.03'
C3	1933.60'	51.28'	N12°45'17"W	51.27'
C4	1933.60'	17.16'	N13°46'07"W	17.16'
C5	1933.60'	39.35'	N14°36'21"W	39.34'

LINE TABLE		
LINE	BEARING	LENGTH
L1	S00°23'03"E	20.00'
L15	S89°57'27"E	67.18'
L16	S89°57'27"E	127.08'



### GENERAL NOTES:

- THIS SURVEY IS SUBJECT TO MATTERS OF TITLE WHICH MAY BE REVEALED BY A CURRENT TITLE REPORT.
- DISTANCES ARE MARKED IN FEET AND DECIMAL PLACES THEREOF.
- NO DIMENSION SHALL BE ASSUMED BY SCALE MEASUREMENT HEREON.
- THERE MAY BE ADDITIONAL TERMS, POWERS, PROVISIONS AND LIMITATIONS CONTAINED IN AN ABSTRACT DEED, LOCAL ORDINANCES, DEEDS, TRUSTS, COVENANTS OR OTHER INSTRUMENTS OF RECORD.
- COMPARE ALL POINTS BEFORE BUILDING BY SAME AND IMMEDIATELY REPORT ANY DISCREPANCIES.
- CURVE AND LINE TABLES BASED ON MEASURED COORDINATE SYSTEM.

### SURVEYORS CERTIFICATE

STATE OF ILLINOIS )  
                          )SS  
COUNTY OF DUPAGE)

I, WILLIAM W. WRIGHT, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT THIS PLAT AND THE SURVEY UPON WHICH IT IS BASED HAS BEEN PREPARED FOR THE USES AND PURPOSES HEREIN SET FORTH.

ALL DIMENSIONS ARE GIVEN IN FEET AND DECIMALS THEREOF, GIVEN UNDER MY HAND AND SEAL THIS 13th DAY OF FEBRUARY, A.D. 2015.

### FOR REVIEW ONLY

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3502  
LICENSE EXPIRES NOVEMBER 30, 2016

DESIGN FIRM PROFESSIONAL LICENSE NO. 184003350  
LICENSE EXPIRES APRIL 30, 2015

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DATE OF FIELD SURVEY: FEBRUARY 11, 2015



SHEET <b>2</b> OF <b>2</b> ADTP	PROJ. MGR.: <b>WWW</b>	<b>SOUTHWEST CORNER OF 191st STREET &amp; HARLEM AVENUE</b> <b>TINLEY PARK, IL</b> <b>PLAT OF SURVEY</b>
	PROJ. ASSOC.: <b>SJP</b>	
	DRAWN BY: <b>LWD</b>	
	DATE: <b>02/12/15</b>	
SCALE: <b>1" = 50'</b>		

**Manhard CONSULTING LTD**

700 Springer Drive, Lombard, IL 60148 ph: 830.881.8800 f: 830.881.8868 manhard.com  
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers  
Construction Managers • Environmental Scientists • Landscape Architects • Planners

DATE	REVISIONS	DRAWN BY
02/18/15	REVISED HARLEM ROW LINE	WWW



# PLAN COMMISSION STAFF REPORT

JULY 2, 2015

## AETNA RETAIL

7201 191<sup>st</sup> Street

### Applicant

Mr. George Hanus,  
Aetna Development

### Property Location

7201 191<sup>st</sup>

### Parcel Size

85,415 SF ±  
1.96 ac ±

### Zoning

R-1

### Approval Sought

Site Plan,  
Rezoning from R-1 to B-3  
(General Business and  
Commercial),  
Plat approval granting  
cross access easements

### Requested Action

Assign two Commissioners  
to meet with the Applicant  
in a Work Session.

### Project Planner

Paula J. Wallrich, AICP  
Deputy Planning Director



## EXECUTIVE SUMMARY

The Applicant, Mr. George Hanus of Aetna Development, seeks approval for the rezoning of a 1.96 acre vacant parcel located at the southwest corner of Harlem Avenue and 191<sup>st</sup> Street. The property was zoned R-1 upon its annexation in 2010. The Applicant is requesting rezoning to B-3, General Business and Commercial Zoning District, for purposes of constructing a 16,722 SF multi-tenant retail structure. The property is located in the Urban Overlay District. A national furniture retailer is the only tenant identified by the Applicant at this time. The Comprehensive Plan identifies the property as commercial.

The project meets all Zoning District requirements; therefore the development will only require a Site Plan review by the Commission in addition to the rezoning application. Cross-access easements have also been provided; the Commission will have a plat of easement presented for their approval. The Applicant has revised earlier submittals in response to Staff comments which reduced their proposal of two (2) structures to one (1) structure located adjacent to Harlem Avenue. This is consistent with the Overlay District's design intent to allow the architecture to dominate the streetscape rather than parking fields. The proposed architecture meets masonry requirements and benefits from the additional signage allowances provided for structures that provide greater than 50% transparency on facades facing parking fields. Landscaping issues have been primarily resolved with some minor plant choice issues that are highlighted later in the report; however Staff believes the proposed plan generally meets the overall design intent of the Landscape Ordinance.

The Applicant is working with Staff to finalize a Development Agreement which will resolve outstanding Site Plan related issues dealing with access on 191<sup>st</sup> Street and the burial of utility lines. Staff is recommending the Site Plan approval be conditioned upon approval of the Development Agreement by the Village Board.

**SUMMARY OF OPEN ITEMS**

OPEN ITEM	SUGGESTED RESOLUTION
1. Coordinate burial of utility lines along 191st with property development to the west.	Address in Development Agreement
2. Due to engineering concerns the right-out egress lane on 191 <sup>st</sup> Street will be eliminated upon provision of cross access to the west or south.	Development Agreement will outline the elimination of the egress on 191 <sup>st</sup> Street once cross access is obtained.
3. Cross -access easement will need to be platted to west and south properties.	Provide plat of easement for cross access.
4. Information on HVAC units and parapet is needed to determine adequate screening from public view. An architectural detail of trash enclosures has not been provided.	Provide information on HVAC and trash enclosures.
5. Minor landscape design and plant choice issues need to be addressed; location of street trees needs to be determined and conflict between cross access easement and trees must be resolved.	Revise Landscape Plan
6. The location and design of the ground mounted sign should be addressed.	Revise Site Plan for 10' sign setback; eliminate or redesign ground sign.
7. Engineering concerns have been identified and must be addressed prior to final engineering approval.	Submit revised engineering.

**EXISTING SITE**



The subject property is an undeveloped 1.96 acre parcel located just south of Brookside Marketplace Shopping Center at the southwest corner of 191<sup>st</sup> and Harlem Avenue. The property slopes over 7' from the northwest corner to the southeast corner where it drains into an isolated wetland. The northeast corner of the property is approximately 6-7' below the grade of adjacent roadways.

The property is encumbered with 100 year and 10 year floodplain contours. A drainage ditch runs through the adjacent parcel to the west. Overhead power lines border the north property lines obscuring clean sight lines to the property. The Will County Department of Transportation has jurisdiction of 191<sup>st</sup> Avenue; Illinois Department of Transportation controls Harlem Avenue. Both roadways have four-lane cross sections; 191<sup>st</sup> Street has double turn lanes. 191<sup>st</sup> Street has a non-mountable median; Harlem Avenue has a mountable median.

The Applicant owns a parcel south of the subject parcel (approximately 6 acres) which will provide the fill for land balancing the site and raising the grade, especially at the northeast corner of the parcel. Per the proposed mass grading plan the northeast corner of the property will be



filled five (5) feet or greater to an elevation approximately equal to the adjacent roadways, thus improving visibility to the site. To accommodate the leveling of the site, two (2) retaining walls have been proposed; one along the west property line and the other along the south property line. Each wall will be approximately five (5) feet in height.

### PROPOSED USE & COMPLIANCE WITH THE COMPREHENSIVE PLAN

The Applicant proposes to construct a 16,722 S.F. multi-tenant retail structure. There are seven tenant spaces defined, however the Applicant has stated that he wishes to maintain flexibility with the tenant spaces to accommodate the market. A national furniture retailer is the only tenant identified at this time.

The Village of Tinley Park Comprehensive Plan (2000) identifies this site as commercial; therefore, the proposed development is in accord with the Village’s Comprehensive Plan.

### ZONING & NEARBY LAND USES

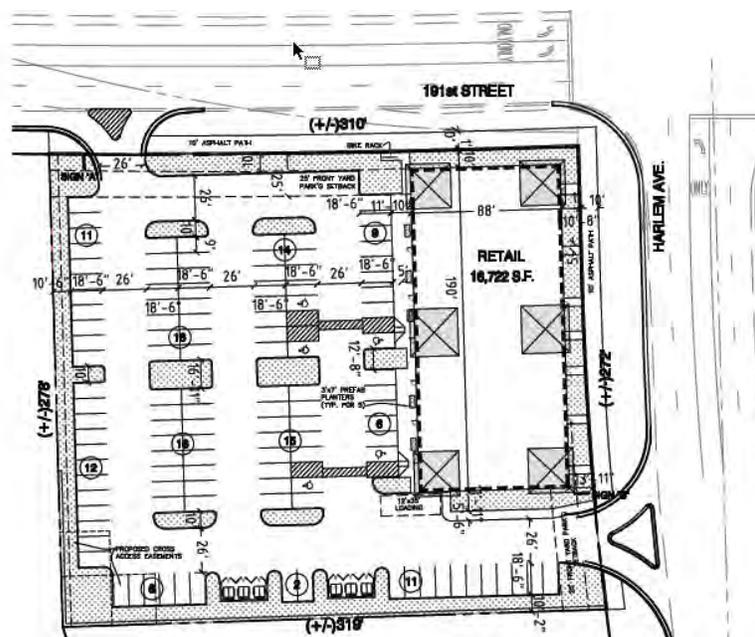
The subject property was zoned R-1, Single-Family Residential, upon annexation. The Applicant is requesting rezoning of the property to B-3, General Business and Commercial District. The property is located in the Urban Overlay District (UOD) and must therefore respect the guidelines of that District regulating site planning, architecture, parking, signage and circulation.



The intent of the Urban Overlay District is to create development patterns that accommodate the automobile, but are primarily designed to promote non-motorized and public transportation movements to, within, and among properties.

The proposed site plan meets the setback requirements of the Urban Overlay District and minimum lot size requirements of the B-3 Zoning District. It also meets the design regulations regarding architecture, site plan and access with the exception as noted below under ‘circulation’. The property to the west and south are zoned R-1, which is the zoning classification assigned upon annexation. The properties to the north and east are zoned B-3 PUD.

### GENERAL SITE PLAN REVIEW



OVERHEAD UTILITY LINES

The overhead utility lines along 191<sup>st</sup> Street obscure views onto the site. The Applicant has agreed to the burial of these lines however Staff has recommended that the Applicant work with the property to the west to coordinate the burial of the lines when that property develops. This issue will be addressed in the Development Agreement which is currently being drafted.

***Open Item #1: Coordinate burial of utility lines along 191<sup>st</sup> with property development to the west.***

SETBACKS

Per the Overlay District design parameters the proposed structure has been sited along Harlem Avenue with over 1/3 of the length of the property, excluding driveways, occupied by the façade of the building. As a corner parcel, there are two (2) front yards; each has been provided with a front yard setback less than the prescribed 20’ maximum. The side and rear yard setbacks are also in conformance. Parking has met the front, side and rear yard setbacks as well.

Building Setbacks		
Front Yard	20’ max	Ⓐ
Side Yard	10’ min	Ⓑ
Rear Yard	10’ min	Ⓒ
Parking Setbacks		
Front Yard	25’ min	Ⓓ
Side Yard	10’ min	Ⓔ
Rear Yard	0’	Ⓕ
Outdoor Dining Setbacks		
All Yards	5’	
Accessory Structures		
Front Yard	20’ max	
Side Yard	5’	
Rear Yard	5’	

PARKING/CIRCULATION

The proposed parking lot meets Ordinance dimension requirements for the parking stalls and drive aisles. Without a defined end user a retail parking ratio of 1/150 SF has been applied resulting in a requirement of 112 parking spaces; 118 spaces have been provided. Per Staff’s request, the Applicant has limited access to right-in/right-out (R-I/R-O) on both frontages. The access on 191<sup>st</sup> has been located at the far western property due to concerns identified by the Village’s consulting engineer who is not recommending access on 191<sup>st</sup> Street. Northbound egress from the site at 191<sup>st</sup> Street requires a merge across four (4) lanes of traffic with storage bays for dual left turn lanes at 420’ (the subject property has only a 310’ frontage on 191<sup>st</sup> Street). The Applicant has agreed to eliminate the egress on 191<sup>st</sup> Street once cross-access to the west or south is provided. This issue will be finalized in the Development Agreement.

***Open Item #2: Due to engineering concerns the right-out egress lane on 191<sup>st</sup> Street will be eliminated upon provision of cross access to the west or south which will be legitimized through a Development Agreement.***

Cross access easements will be provided at the southwest corner of the property for the adjacent properties to the south and west. These easements will be platted and made a matter of record upon final approval by the Village Board.



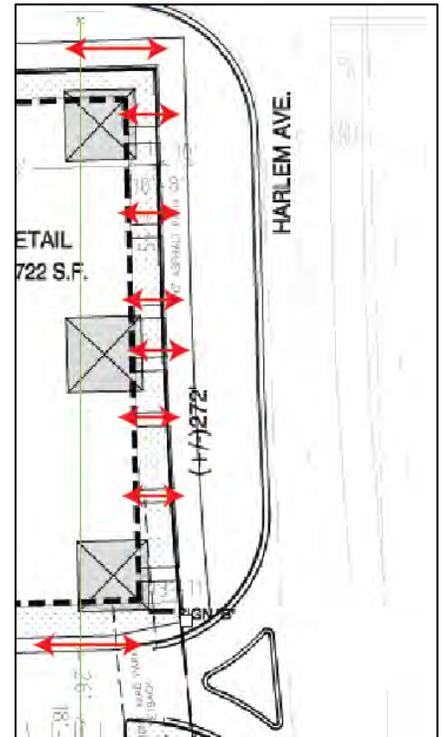
***Open Item #3: Cross -access easement will need to be platted to west and south properties.***

The Overlay District also states “each site must provide opportunities for the public to bike, walk, drive, or take public transportation to, among, and within the development while minimizing the conflicts between the these methods..” It states further “non-

motorized transportation improvements shall be completed on and around the property as outlined in the Village’s Active Transportation Plan, as amended.”

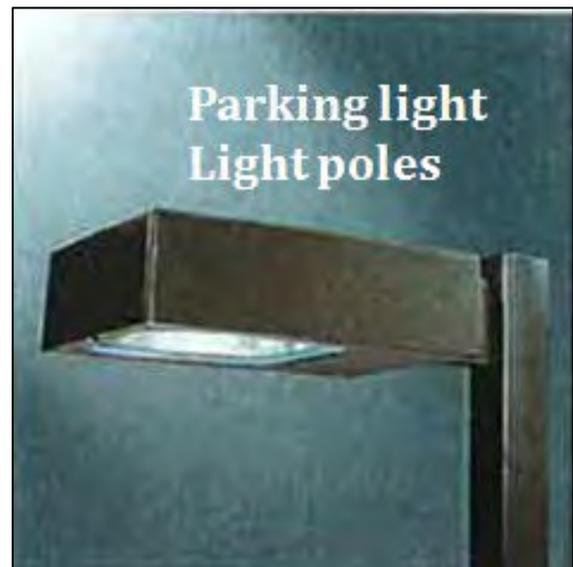
The Active Transportation Plan adopted in 2012 identifies Class I Multiuse Trails (10’ asphalt) on both ROW frontages. The Applicant has provided 10’ wide asphalt bike trails on both 191<sup>st</sup> Street and Harlem Avenue. The path on 191<sup>st</sup> will be installed after the utility lines are buried; a cash-in-lieu payment will be paid as part of the Development Agreement. In addition, a bike rack has been provided at the north end of the project.

Per the Urban Overlay District, direct access must be provided into the buildings from public sidewalks via a walkway. In addition each development shall include an approved pedestrian circulation system (sidewalks, pavement striping, etc.) that provides pedestrian linkages to and from public transportation, among buildings, among parking lots and buildings, and among adjacent uses. The Applicant has complied with this requirement and has provided sidewalks to each tenant space. It is unclear at this time whether these storefronts (on Harlem) will be utilized. If they are not used, signage on this façade is reduced by 25%. This will need to be analyzed as the tenant spaces are leased.



**LIGHTING**

There are six (6) pole lights in the main parking lot, and two (2) at the entrance off of Harlem. The parking lot lights are metal halide and are mounted on 27.5 foot poles. There are also wall mounted lights provided on all sides of the building; ten (10) on both the east and west facades, four (4) on the north and south facades. The photometric plan meets the Village requirement of .5 foot candles at the property line. Cut sheets are provided for the parking light lighting as well as the wall lighting for the new structure.



## ARCHITECTURE



East and West Facades



North Facade



South Facade

The Applicant has worked closed with Staff to develop an attractive masonry multi-tenant retail center which provides architectural interest on all four sides. The tower elements have stone accents, brackets and stone medallions to provide architectural interest. The middle tower unit has been provided with a clerestory window with obscured glass which provides a perception of depth to the tower. A variation in height has been provided with the tower elements (that are each four sided); the middle element is taller and establishes an architectural hierarchy for the dominant east and west facades. The standing seam canopies provide articulation on all four sides and a color break from the solid masonry walls. The color rendering does not adequately depict the coloration of the brick which provides attractive subtle color modulations. A material board will be presented at the Plan Commission meeting.



All four elevations meet the masonry requirements; the percentage of windows on all four sides exceeds 50% and therefore additional wall signage will be allowed (discussed under signage).

The Applicant has stated that the HVAC units will be completely screened from public view on all four sides of the structure. Staff has requested details on the height of the units and the height of the parapet walls to verify that the units are adequately screened.

The trash enclosures are enclosed by 6' brick walls with solid wood gates. Staff has requested an architectural detail be provided for review.

***Open Item #4: Information on HVAC units and parapet is needed to determine adequate screening from public view. An architectural detail of trash enclosures has not been provided.***

## LANDSCAPING

The intent of the Village's Landscape Ordinance is to utilize landscape materials to enhance proposed development, soften the impact of parking areas, provide a buffer between land uses, and create an overall quality aesthetic for the site. Bufferyards are required on all property edges per Village Ordinance. The Overlay District setbacks limit the width of the bufferyards; however the intent of the ordinance must still be met. Landscape requirements for minimum parking lot landscape coverage as well as screening and foundation plantings must also be addressed.

Staff has worked with the Applicant on the Landscape Plan and several revisions have provided plans more in compliance with the intent of the Landscape Ordinance. Per Staff’s request additional plantings have been provided around the foundation along with increased evergreen plant material for screening purposes. Two (2) interior parking lot landscape islands have been provided that are 17’ in width exceeding ordinance width requirements of 10’. This allows for the planting of two (2) trees and a variety of ground cover, ornamental grasses and shrubbery.

The Landscape Ordinance allows for the planting of 50% of the required bufferyard when adjacent to a vacant parcel, therefore the west and south property lines have provided landscape material at this level. Street trees may be compromised along these major commercial corridors, therefore Staff has encouraged the Applicant to plant the required number of street trees (24) on private property rather than the right-of-way. Discussions continue with the Applicant regarding the appropriate location for these trees. Additional trees along the building façade is suggested. Staff has also expressed some concern regarding the potential conflict between the future cross access easements and planting of trees.

LOCATION	REQUIRED BUF YD WIDTH	PROPOSED BUF YD WIDTH	BUF YD LENGTH	REQ'D UNITS	PRO-VIDED UNITS	DEFICIT	COMMENT
East Property Line	C/10'	10'	47'	3 CT 1 US 10 SH	3 CT 1 US 39 SH	0 CT 0 US +29 SH	
West Property Line	C/10'	10'	278'	7 CT 3 US 28 SH	7 CT 3 US 35 SH	0 CT 0 US +7 SH	½ requirement due to adjacent vacancy
North Property Line	C/10'	10'	175'	9 CT 4 US 35 SH	9 CT 4 US 38 SH	0 CT 0 US +3SH	
South Property Line	C/10'	10'	298'	7 CT 3 US 30 SH	7 CT 3 US 81 SH	0 CT 0 US +51 SH	½ requirement due to adjacent vacancy
Prkwy				24 CT	0 CT	-24 CT	Proposed off ROW
<b>TOTAL</b>						<b>-24 CT</b> <b>-0 US</b> <b>+90 SH</b>	

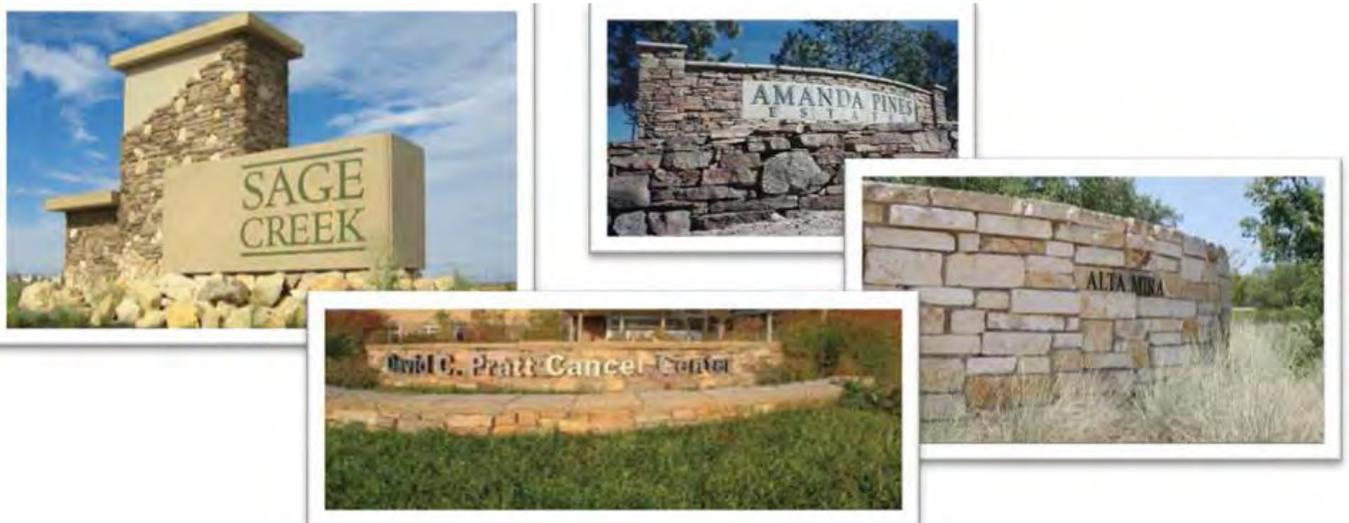
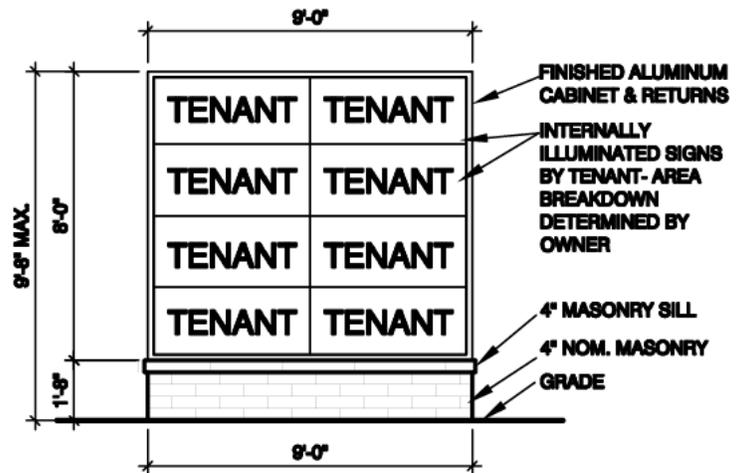
CT= Canopy Tree  
 US= Understory Tree  
 SH=Shrubs  
 EV=Evergreen

***Open Item #5: Minor landscape design and plant choice issues need to be addressed; location of street trees needs to be determined and conflict between cross access easement and trees must be resolved.***

## SIGNAGE

The Applicant has provided a ‘Unified Sign Plan’ for their future tenants. No formal sign submittal has been provided since the tenants are unknown. The merit of a Unified Sign Plan is the consistency in design and materials for the signs it provides. Staff applauds this initiative and encourages the Applicant to support attractive one color signs or minimize the number of colors allowed in the wall signs. Some of the Unified Sign Plan conflicts with Village Sign regulations; however the Plan also notes that final Village approval is required on all signs. The Unified Sign Plan is not part of the review approval for this project.

The ground mounted sign is proposed as a 9’8” internally illuminated box sign with 8 individual sign panels. Staff has expressed concern about the design of the ground mounted sign and suggests either eliminating the ground mounted sign or install a ground sign with just the name of the center as depicted below. This is a high traffic corner with 4-lane cross sections in both directions. The advantage of the Urban Overlay District is locating the buildings closer to the street where wall signage is easily read. The ground mounted sign as proposed may be difficult to read at only 24” in height per panel. In addition, the proposed location on the site plan conflicts with line of sight regulations in the Village Code requiring a minimum 10’ setback.



The Urban Overlay District provides some sign incentives if 50% or greater of the building elevation is transparent. The proposed structures exceed the 50% threshold on all four sides of the building and therefore the façade facing the parking will be allowed equal signage to that provided on the Harlem Avenue façade. In addition, if the east façade entrances are operational, wall signage can be provided at 100% of the allowable area, otherwise a 25% reduction in area is imposed.

**Open Item #6: The location and design of the ground mounted sign should be addressed.**

## **STAFF REVIEW: ENGINEERING**

---

The Village Engineer has provided a list of concerns to the Applicant. Final engineering approval will be required prior to issuance of a Building Permit. Engineering concerns which impact the site plan are listed below:

1. Street light poles need to be relocated along 191<sup>st</sup> Street. This work must be in accordance with Village standards and detailed plans submitted during final engineering. The Village does not allow splicing.
2. Much of this site is in floodplain, a CLOMR must be received from FEMA prior to any construction on the site.
3. The 10 foot sidewalk along 191<sup>st</sup> Street will be provided at a later date per the development agreement; however, all the work to prepare for this path including street light relocation and grading must be done at the time of this retail development.
4. The stormwater management and compensatory storage calculations appear to meet Village standards. Full review and comment will be during final engineering when all calculations are received. Agreements/arrangements with the Park District for use of their land as well as maintenance agreements must be received and reviewed by the Village prior to issuing any permits.
5. Retaining walls must be designed and calculations signed and sealed by an Illinois structural engineer provided.

***Open Item #7: Engineering concerns have been identified and must be addressed prior to final engineering approval.***

## **STAFF REVIEW: FIRE DEPARTMENT**

---

All Fire Department items have been addressed.

## **RECOMMENDATION/RECOMMENDED MOTION**

---

Assign two Commissioners to meet with the Applicant in a work session with Staff.

**LIST OF REVIEWED PLANS**

**Aetna Retail Development – 191<sup>st</sup> & Harlem Ave.  
LIST OF SUBMITTED PLANS**

Submitted Sheet Name		Prepared By	Date On Sheet
1	Letter of Transmittal	KMA	07/22/15
1 of 6	Unified Sign Plan	KMA	06/26/15
2 of 6	Unified Sign Plan	KMA	06/26/15
3 of 6	Unified Sign Plan	KMA	06/26/15
4 of 6	Unified Sign Plan	KMA	06/26/15
5 of 6	Unified Sign Plan	KMA	06/26/15
6 of 6	Unified Sign Plan	KMA	06/26/15
1A	Preliminary Floor Plan	KMA	06/26/15
2	Elevations	KMA	06/26/15
3	Landscape Development Plan	KMA	07/16/15
4	Landscape Details	KMA	07/16/15
5	Photometric Plan	KMA (COOPER)	05/13/15
1 of 14	Title Sheet	MANHARD	07/16/15
2 of 14	Existing Conditions and Demolition Plan	MANHARD	05/14/15
3 of 14	Site Dimensional and Paving Plan	MANHARD	07/16/15
4 of 14	Mass Grading Plan - Overall	MANHARD	07/16/15
5 of 14	Mass Grading Plan – Oak Park Ave.	MANHARD	05/14/15
6 of 14	Grading Plan	MANHARD	07/16/15
7 of 14	Utility Plan	MANHARD	07/16/15
8 of 14	Offsite Utility Plan	MANHARD	07/16/15
9 of 14	Soil Erosion and Sediment Control Plan	MANHARD	07/16/15
10 of 14	Soil Erosion and Sediment Control Plan Oak Park Avenue Lots	MANHARD	05/14/15
11 of 14	Soil Erosion and Sediment Control Details	MANHARD	05/14/15
12 of 14	Construction Details	MANHARD	05/14/15
13 of 14	Construction Details	MANHARD	05/14/15
14 of 14	Construction Specifications	MANHARD	05/14/15
1 of 5	Lighting Cut Sheet	COOPER	02/24/15
2 of 5	Mounting Configurations	COOPER	02/24/15
3 of 5	Ordering Information	COOPER	02/24/15
4 of 5	Features and Specifications	LITHONIA	
5 of 5	WSR Metal Halide, High Pressure Sodium Wall Mounted	LITHONIA	

KMA      KMA & Associates  
MANHARD    Manhard Consulting Ltd

COOPER    Cooper Lighting  
LITHONIA    Lithonia Lighting

**KMA & ASSOCIATES, INC ARCHITECTS**1141 LAKE COOK ROAD  
DEERFIELD, ILLINOIS  
(847) 945-6869SUITE F  
60015  
Fax (847) 945-0284

## LETTER OF TRANSMITTAL

DATE: 7/24/15	JOB NO.: 0503
RE Aetna Development	
Proposed Retail Development	
SWC 191 <sup>st</sup> Street and Harlem Avenue	
Tinley Park, Will County, IL	

To:

**Paula Wallrich**  
**Planning Department**  
**Village of Tinley Park**  
**16250 S. Oak Park Avenue**  
**Tinley Park, Illinois 60477**

WE ARE SENDING YOU  Attached  Under separate cover via UPS the following items:

COPIES	DATE	NO.	DESCRIPTION
15	5/13/15		Photometric Site Lighting Plan & Pole/Base Detail – Sheet 5 – 11x17 B&W <i>(Previously submitted, reviewed &amp; accepted as compliant with Village 5/28/15)</i>
4	5/13/15		Photometric Site Lighting Plan & Pole/Base Detail – Sheet 5 – 24x36 B&W <i>(Previously submitted, reviewed &amp; accepted as compliant with Village 5/28/15)</i>
15	3/12/15		Lighting Product Sheets – 5 Sheets - 8.5x11 Color <i>(Previously submitted &amp; reviewed 3/23/15 without comment)</i>

## REMARKS

**Attached are the additional documents requested. We hope to keep moving forward and that the large amount of resources, paperwork & information submitted and reviewed, is finite.**

**Thank you for all your efforts during this process.**

**Please contact us with any questions or requests for additional copies.**

COPY TO: A. Connolly, G. Hanus, J. Hanus, A. Ragona, T. Richard, J. Murphey,

D. Mangurten, M. Wiegel, D. McCallum

SIGNED: Peter Pocijowski



# PLAN COMMISSION STAFF REPORT

AUGUST 6, 2015

## CELLULAR TOWER, VERIZON- 16640 S. 66<sup>TH</sup> STREET CO-APPLICANT- VILLAGE OF TINLEY PARK

### Applicant

Jim Auld, on behalf of  
Verizon Wireless  
Personal  
Communications, LC.

Village of Tinley Park

### Property Location

16640 66<sup>th</sup> Street.

### Parcel Size

3 acres ±

### Zoning

BR-1, Single-Family  
Residential

### Approval Sought

Site Plan &  
Special Use

### Requested Action

Assign two Commissioners  
to meet with the Applicant  
in a Work Session.

### Project Planner

Paula J. Wallrich, AICP  
Deputy Planning Director

### EXECUTIVE SUMMARY

Verizon has requested to co-locate their antennas on the existing 60' monopole cellular tower owned by SBA. The tower is located at 16640 S. 66<sup>th</sup> Street, on approximately 3 acres of property owned by the Village of Tinley Park. In addition to the 12 antennas requested by Verizon, the Village will also locate antenna for public safety purposes and for use by the SCADA system (Supervisory Control and Data Acquisition software system for real time data on the Village's water utility system). The Village is a co-applicant with Verizon.



The co-location of these antennas will require an extension of the existing tower to an overall height of 104'. The Verizon towers will be located at an elevation of 85' A.G.L. the Village's antenna will be located at 95' A.G.L. and the lightning rod will extend to the full height of the antenna at 104'. The maximum height for cellular towers is 100' unless specifically approved by grant of a Special Use Permit. The Village's consultant Max Machuta, MSC Municipal Services, has analyzed the coverage maps provided by Verizon and has determined that their requested antenna location would 'ensure maximum coverage in a confined area' for Verizon users. The area targeted has a high residential population with limited coverage from Verizon's system for vehicle and in-house residential services.

Mr. Machuta's analysis for the SCADA antenna's reported that the Village has been investigating this area for antenna installation for over three years and that currently the Village's SCADA system is unreliable and expensive using the telephone network. He states that the installation of SCADA antenna at this location will fulfill the needs of the Village and improve the connections for the SCADA system at a cost savings to the Village.

As part of the proposed improvements a 250 SF equipment shelter will be constructed, the 6' PVC fence will be extended to completely enclose the new and the existing shelter, and additional landscaping will be provided to mitigate the impact of the proposed improvements.

Due to some administrative errors at SBA, the monopole extension was installed prior to any approvals and without a permit. There are no antennas erected therefore the tower is not operational. Only the pole infrastructure is in place. It reflects the height of the proposed tower extension, absent the antennas.

**SUMMARY OF OPEN ITEMS**

OPEN ITEM	SUGGESTED RESOLUTION
1. The Applicant has agreed to paint the eaves however has not specified a color.	Staff recommends a dark brown stain.
2. The proposed plans do not indicate the limits of asphalt.	Staff recommends the area enclosed by the fence be improved with asphalt.
3. Staff questions whether a gate or sidewalk is needed on the south side of the proposed fence surrounding the Sprint facility.	Applicant response needed.
4. Conflicting information has been provided regarding the exterior of the proposed equipment shelter	Applicant response needed.
5. Provide Photometrics or install the wall mounted light at a height lower than the adjacent fence.	Applicant response needed.
6. The Applicant has requested the use of an ice bridge.	Commission discussion
7. Arborvitae plantings should be installed at 8' to match existing evergreen screen. Additional Arborvitae required along the south edge of the Sprint shelter and the southeast corner of the proposed Verizon shelter to complete the screen.	Revise Landscape Plan.
8. Shelter is required to be non-combustible construction.	Applicant response needed.
9. Outstanding Public Works and Engineering items must be addressed prior to issuance of a building permit.	Applicant response needed.

**EXISTING SITE**



The subject property is located at the northwest corner of 66<sup>th</sup> Avenue and 167<sup>th</sup> Street; it is owned by the Village and is occupied by two water tanks, a pump station, an existing 60' cellular tower, and equipment shed owned by Sprint Wireless. A 6' vinyl fence encloses the majority of the tower and equipment shed with evergreen plant material provided as a screen immediately adjacent to the fence. Additional landscaping has been planted on the site as depicted in the aerial; however some plant material no longer exists as shown with the red 'X'. The existing Sprint equipment shed (13' x 20') has a flat roof with an exposed aggregate exterior. The eaves of the shed are in need of painting. Sheet C-1 of the proposed plans indicates they will be painted; color unspecified.



The facility is accessed by a 13' wide asphalt drive from 66<sup>th</sup> Avenue. A concrete walk connects the south entrance of the Sprint equipment shed with the access drive.

**Open Item #1:** *The Applicant has agreed to paint the eaves however has not specified a color.*

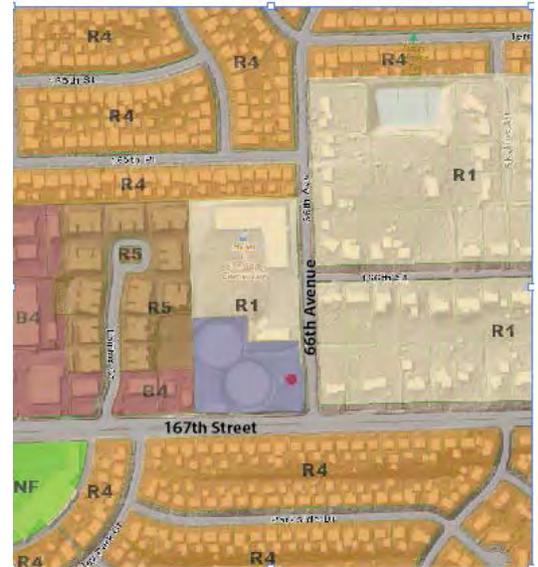
## ZONING & NEARBY LAND USES

The subject property is zoned R-1. The property is a corner lot with front yards on both 66<sup>th</sup> Avenue and 167<sup>th</sup> Street; the front yard setback is 40 feet. The proposed improvements meet the front yard setback requirements.

The property is bounded by Sandidge Elementary School property to the north; the school is currently vacant however there is a storage garage that is occupied at the south end of the school property. Single family detached residential property is located to the east and south, multi-family to the northwest and commercial office immediately to the west.

Per Section III.V.1. of the Village Zoning Ordinance, the preferred location for personal wireless service facilities is on an existing freestanding tower on Village owned property; therefore the proposed improvements meet the location preferences established in the Ordinance.

The Village ordinance establishes a maximum height for a freestanding tower of 100'. If the proposed height exceeds 100', a Special Use is required. Applications for Special Use approval of a personal wireless facility must demonstrate that the facility does not exceed the minimum height required to function satisfactorily. Per Section III.V.2. "Under any circumstances, personal wireless facilities shall not exceed the maximum height of one hundred (100) feet unless the Applicant can demonstrate that the elevation of the tower antenna(s) is the minimum height require to function satisfactorily." The Applicant has provided information supporting the requested height of the extended tower which is discussed in greater detail in the following section. In addition, the Village's consultant, Max Machuta of Municipal Services, has provided an analysis the Applicant's data, also discussed below..



The Applicant's Findings of Fact is attached for the Commission's review. Staff will also provide findings in accordance with the Special Use Standards Section X, J. 5. a-g. established in the Zoning Ordinance in the next Staff report.

## STATEMENT OF PURPOSE AND PROOF OF NEED

Verizon has approached the Village in an effort to address coverage deficiencies in the vicinity of 167<sup>th</sup> Street. Due to a high consumer demand for continued and improved wireless service, Verizon has investigated opportunities to expand their network in Tinley Park. Increased demands for wireless voice and data services dictated the need to provide capacity relief of existing sites in the area. The collocation of the Verizon equipment on the SBA tower will improve both 'in building' and 'in vehicle' coverage for the area. Verizon provided the attached 'Propagation Map Analyses' that graphically demonstrates the need for the SBA site.

The first map "With-out Proposed N Tinley Site", shows current coverage. The color coding is on a progressive scale going from *Un-Reliable* coverage (white), to *Marginal* (red) to *Reliable On-Street* (yellow), *Un-Reliable In-Vehicle* (light green), to *Reliable In-Vehicle* (dark green) to *Un-Reliable In-Residence* (light

blue) and then *Reliable In-Residence* (dark blue) coverage. Areas of dark blue that indicate *Reliable In-Residence* coverage also imply reliable in-vehicle and on-street coverage.

The propagation map indicates that current coverage without the proposed site is mostly light green indicating *Un-Reliable In-Vehicle* coverage. The goal for Verizon is to provide the area with most dark blue *Reliable In-Residence* coverage as possible. The second propagation map "With N Proposed Tinley Site", indicates an improved coverage converting a significant amount of the service area to dark blue *Reliable In-Residence* coverage.

Verizon's proposal includes a 25 foot tower extension to allow for the placement of their antennas at the 85 foot level. They have stated that collocating at a height of 85 provides for a larger area of desired increased *Reliable In-Residence* and *Reliable In-Vehicle* coverage in the area. Without the extension, the next elevation available for Verizon's antennas on the SBA tower would be at a lower elevation, at the 50 feet level. The last map compares coverage between the two elevation levels, with the 85' elevation indicating greater coverage which meet their needs to provide capacity offload to surrounding sites.

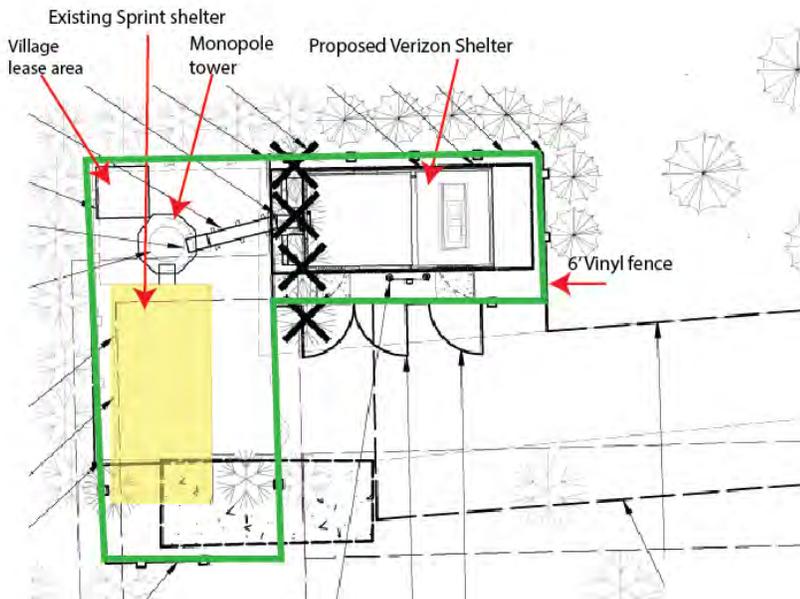
The Village's Technology Consultant, Max Macuta, has reviewed the pre and post simulation exhibits and has verified Verizon's need for locating antennas at 95' A.G.L. to ensure maximum coverage in a confined area. (Report is attached) Mr. Machuta has stated that the area targeted by Verizon has a high residential population with limited coverage from Verizon's system to vehicle and in-house residential services. As part of Machuta's analysis he compared the coverage studies with those issued by AT&T in September of 2014 and found them to be comparable with similar coverage indications.

The request to extend the tower to 95' where Verizon would place the antenna RAD centers at 85' which Machuta states is essential to ensure maximum coverage in a confined area. The total structure height with all appurtenances would be 104' to include a lightning rod suitable to protect the structure and surrounding objects. The increased height allows SBA to maximize on future growth and prevent another tower from being built in close proximity.

Due to unreliable and expensive SCADA monitoring over telephone networks the Village has studied the 167<sup>th</sup> area in an effort to install a tower for their SCADA system. In 2014 the Village investigated the possibility of locating on the 60' SBA tower but found that the current height of 60' was inadequate for the SCADA system needs. In February of 2015, the Village was approached by SBA to increase the current structure height of the monopole located at 16640 66<sup>th</sup> Street from 60' to 95'. Upon receiving this information the Village approached SBA to potentially collocate on the structure with the increased height. The proposed height of 95' is adequate for the Village's needs as long as the Village is granted permission to place their antennas above all other equipment located on the tower, (except the lightning rod). The coverage analysis performed by the Village for SCADA and microwave implementation indicates a minimum height requirement of 94'; therefore the Village has proposed to install a 10' long antenna on the same tower as Verizon at an elevation of 95', with a lighting rod above that resulting in an overall height of 104'.

In a phone conversation with Village Utility Staff it was stated that the new antenna will allow for improved communication with the master radio site at the Village's Edgewater walk lift station and Central Avenue Meter vault which would allow for the elimination of two leased phone lines. The high-speed microwave radio antenna will connect to the Post 2 Village pump station eliminating another phone line for an estimated total savings to the Village of approximately \$5,800.00 annually. In addition to the savings there will be increased reliability and redundancy of the Village's SCADA system.

**GENERAL SITE PLAN REVIEW**



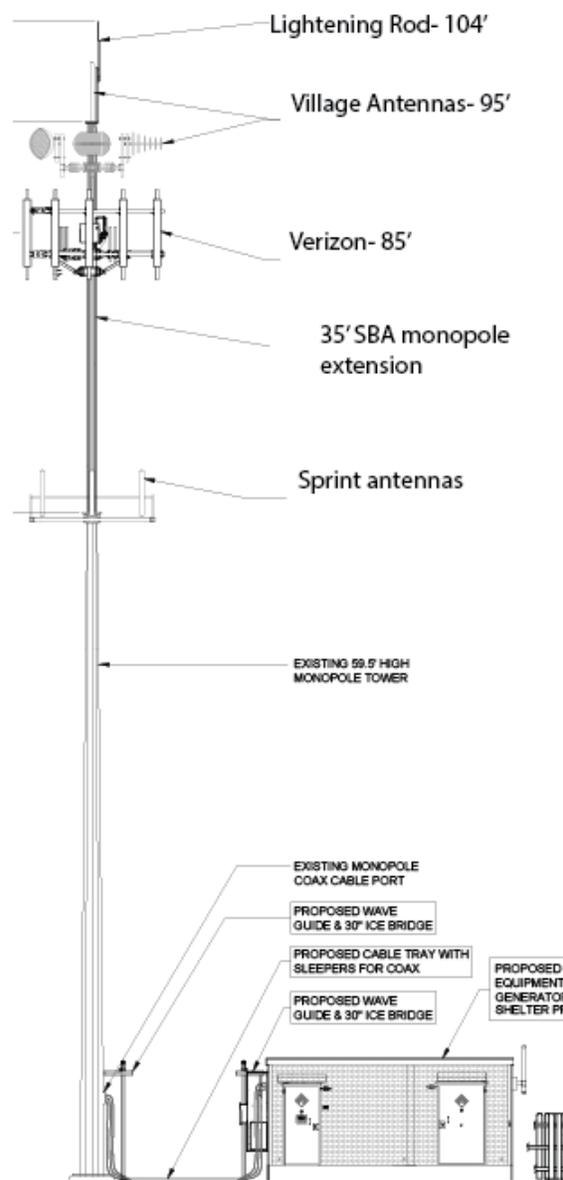
The proposed plans indicate the construction of a 11'6" x 21'9" equipment shelter to be located northeast of the existing Sprint shelter. Access is taken on the south side of the shelter to the asphalt access drive from 66<sup>th</sup> Avenue. The shelter will be completely enclosed by a 6' vinyl fence that will match the design and color of the existing fence. Two gates are provided along the side of the fence. Landscaping is also provided along the exterior of the fence. A concrete foundation will be poured for the new equipment shelter and the remaining lease area will be paved with asphalt to match existing asphalt grades. The proposed plans do not indicate the limits of the asphalt; Staff recommends all areas within the fence enclosure be paved.

**Open Item #2:** *The proposed plans do not indicate the limits of asphalt.*

The Village of Tinley will be utilizing a 6' x 6' concrete pad located in the northwest corner of the enclosed area to place their equipment cabinet. The cabinet is less approximately 3' x 5' and will therefore be screened by the 6' fence.

**MONOPOLE**

The Applicant is proposing to provide an extension to the existing monopole to provide co-location for 12 sprint antennas at an elevation of 85' A.G.L. The antennas will be mounted on a triangular array with four (4) antennas mounted on each side of the triangle. The Village of Tinley is proposing to mount their SCADA and Public Safety antennas on a 10' monopole extension at an elevation of 95' A.G.L. A lightning rod will be erecting at the top of the monopole at an elevation of 104' A.G.L.



With the 104' extension the fall zone for the antenna is still primarily within the Village property with an exception of a small area on the public sidewalk on the east side of the property.



The closest residential structure is 180' to the east; the residential structures to the south are 270', the school garage is 130'. The water tanks are the closest structure and they fall within the 104' fall zone at approximately 60' from the tower.

### SCREENING

The existing fence does not completely enclose the south side of the Sprint equipment shed; the entrance to the shed is visible from 167<sup>th</sup> Street. Per Staff's recommendation the Applicant will extend the fence to completely enclose the Sprint equipment shelter thus improving the view from 167<sup>th</sup> Street. The Verizon equipment shelter will also be completely enclosed by a matching 6' vinyl fence.



Staff has questioned whether an additional gate or sidewalk will need to be provided to the south side of the Sprint equipment shed. If this is required the plans will need to be amended to illustrate these improvements.

***Open Item #3: Staff questions whether a gate or sidewalk is needed on the south side of the proposed fence surrounding the Sprint facility.***

### ARCHITECTURE

The Applicant has proposed an 11'6" x 21'9" equipment shelter to be located northeast of the existing Sprint Shelter on a 20' x 13' ground lease area. It is proposed with a flat roof consistent with the roof on the Sprint shelter. Conflicting information has been provided by the Applicant regarding the proposed equipment shelter. The plans indicate the shelter will be faced with brick (Sheets C-1, C-2, B-2 and Ant-1), however correspondence with the SBA representative indicates a pebble aggregate



finish as indicated in the submitted photo. The shelter is approximately 11.5' in height, therefore a portion will be visible above the fence (landscaping may exceed that height eventually). The existing Sprint shelter has an aggregate finish; recent cell tower equipment shelter approvals provided brick exteriors.

**Open Item #4:** *Conflicting information has been provided regarding the exterior of the proposed equipment shelter.*

### LIGHTING

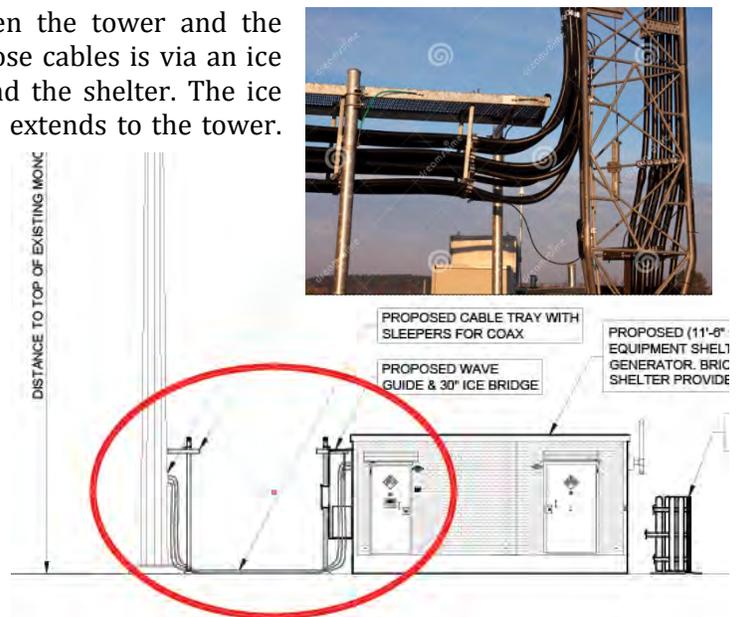
There are three (3) wall mount lights proposed on the shelter. Two (2) are on the south façade and one (1) on the north façade. Neither of these façades directly face residential property. The light is designed to shed light in a downward direction and is operated by a photocell. No photometrics have been provided, however the fence will provide some screening of the light fixture. The light is proposed to be mounted at a height of approximately 9' from the ground elevation. Staff recommends the light fixture be mounted on the structure at a height of 6' or less. PICTURE



**Open Item #5:** *Provide Photometrics or install the wall mounted light at an height lower than the adjacent fence.*

Large coax cables provide the connection between the tower and the equipment shed. A common practice to convey those cables is via an ice bridge that spans the space between the tower and the shelter. The ice bridge protects the cable as it exits the shelter and extends to the tower. These bridges are typically the height of the shelter, or in this case at approximately 11' above grade.

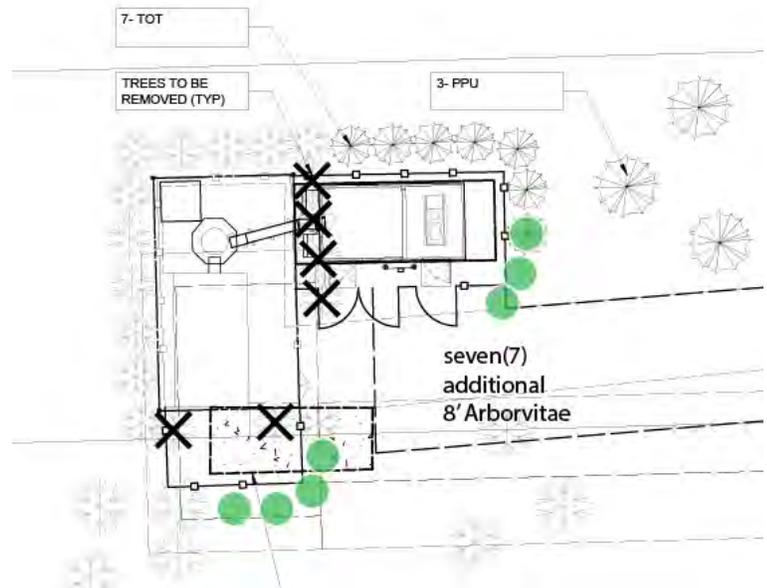
In previous wireless facility reviews the Commission has requested the cables be buried so they are not visible from public view. Staff expressed this concern to the Applicant and in response they provided a partial bridge which extends 30" from the shelter and then traverses on the ground to the tower where it is raised to a partial ice bridge again 30" in length. The existing Sprint facility has an ice bridge however their shelter is closer to the tower and therefore the bridge is only a few feet long. An ice bridge, if approved, would be screened by the proposed shelter from 66<sup>th</sup> Avenue, and partially screened from 167<sup>th</sup> Street by the existing shelter, fence and landscaping. The Applicant has requested the Commission consider the use of an ice bridge in this location.



**Open Item #6:** *The Applicant has requested the use of an ice bridge.*

## LANDSCAPING

The Applicant has also proposed extending the existing evergreen screen around the fence. The existing Arborvitae are approximately 8'-10' in height. The Landscape Plan indicates planting 6' Arborvitae; Staff recommends increasing installation height to 8'. In addition, due to the expansion of the fence around the Sprint equipment shelter, two (2) of the Arborvitae will be enclosed inside of the fence and are scheduled to be removed. Staff is recommending the evergreen screen continue along the outside of the fence on the south side of the Sprint facility (green circles on diagram). In addition, three (3) additional Arborvitae will need to be planted at the southeast corner of the proposed shelter to complete the screening.



In addition, there have been several trees that have died on the property that provided additional screening of the site. The proposed Landscape Plan provides additional four 8' Spruce to be planted; three (3) will be on the east side of the property serving as additional buffer to the residential areas and one (1) will replace a dead Spruce surrounding the water tanks.

***Open Item #7: Arborvitae plantings should be installed at 8' to match existing evergreen screen. Additional Arborvitae required along the south edge of the Sprint shelter and the southeast corner of the proposed Verizon shelter to complete the screen.***

## STAFF REVIEW: BUILDING DEPARTMENT /FIRE DEPARTMENT

Both the Building and Fire Department stated that the shelter is required to be non-combustible construction. As discussed under Architecture, staff is recommending further discussion on the building's exterior.

***Open Item #8: Shelter is required to be non-combustible construction.***

## STAFF REVIEW: ENGINEERING

The Village Engineer and Public Works Department provided a list of concerns to the Applicant. Final engineering approval will be required prior to issuance of a Building Permit. The Applicant has addressed the majority of the requests made by the Public Works Department. They are requesting a small ice bridge to run from the tower to the location of their equipment cabinet in the northwest corner and that all locations of Village services need to be approved on site by Public Works prior to building installation and pouring of concrete. Inspection notice from Public Works requires 48 hours in advance.

A few questions from the Village's engineer also remain :

1. Can a portion of the proposed access and utility easements as shown be combined with the existing so as to not tie up more land?

2. The proposed privacy fence has a 2 inch or 3 inch gap maximum from finished grade to the bottom rail of the fence. Please show how this fence does or does not impede drainage.

***Open Item #9: Outstanding Public Works and Engineering items must be addressed prior to issuance of a building permit.***

## **RECOMMENDATION/RECOMMENDED MOTION**

---

Assign two Commissioners to meet with the Applicant in a work session with Staff.

**LIST OF REVIEWED PLANS****SBA – 6640 W. 167<sup>th</sup> St.****LIST OF SUBMITTED PLANS**

<b>Submitted Sheet Name</b>	<b>Prepared By</b>	<b>Date On Sheet</b>
T-1 Title Sheet	Terra	07/02/2015
LP Location Plan	Terra	07/02/2015
C-1 Enlarged Site Plan	Terra	07/02/2015
C-2 Equipment Enclosure Foundation Plan	Terra	07/02/2015
C-3 Fence Details	Terra	07/02/2015
C-4 Fence Details	Terra	07/02/2015
C-5 Fence Details	Terra	07/02/2015
ANT-1 Site Elevation	Terra	07/02/2015
ANT-2 Antenna Information	Terra	07/02/2015
ANT-3 Antenna Mounting Details	Terra	07/02/2015
ANT-4 Antenna Mounting Details	Terra	07/02/2015
B-1 Equipment Enclosure Plan & Section	Terra	07/02/2015
B-2 Equipment Enclosure Elevations	Terra	07/02/2015
E-1 Utility Routing Plan	Terra	07/15/2015
E-2 Site Grounding Plan	Terra	07/02/2015
E-3 Electrical and Grounding Details	Terra	07/02/2015
E-4 Electrical and Grounding Details	Terra	07/15/2015
SP-1 Specifications	Terra	07/02/2015
SP-2 Specifications	Terra	07/02/2015
L-1 Landscape Plan	Terra	07/02/2015
L-1 Plat of Survey of Lease Area and Easement	ASM	11/25/2014
L-2 Plat of Survey of Lease Area and Easement	ASM	11/25/2014

Terra Terra Consulting Group, Ltd.

ASM ASM Consultants, Inc.