ROCHESTER HILLS
MICHIGAN

Planning and Economic Development
Sara Roediger, AICP, Interim Director

From: Sara Roediger, AICP
Date: 2/10/2017
Re: **Fire Station #4 Upgrade (City File # 14-020)**
Preliminary/Final Site Plan -- Planning Review#1

The applicant, the City of Rochester Hills Fire Department, is proposing an addition to and modernization of the City's fire station #4 in response to the City Council's direction to provide 24 hours a day, seven days a week fire department operations. The project was reviewed for conformance with the City of Rochester Hills Zoning Ordinance. The comments below and in other review letters are minor in nature and can be addressed by staff during final review following review and approval by the Planning Commission.

1. **Zoning and Use** *(Section 138-4.300).* The site is zoned R-1 One Family Residential District which permits municipal buildings and uses as permitted uses and are located in predominately residential areas on major roads. Refer to the table below for the zoning and existing and future land use designations for the site and surrounding parcels.

	Zoning	Existing Land Use	Future Land Use
Site	**R-1 One Family Residential**	**Fire station**	**Residential 2.5**
North	RM-1 Multiple Family Residential	Apartments	Multiple Family
South	R-1 One Family Residential	Single family homes	Residential 2.5
East	R-1 One Family Residential	Single family homes	Residential 2.5
West	R-1 One Family Residential	Meadowbrook Christian Church	Residential 2.5

2. **Site Layout** *(Section 138-5.100-101).* Refer to the table below as it relates to the area, setback, and building requirements of the R-1 district for this project.

Requirement	Proposed	Staff Comments
Min. Lot Area 20,000 sq. ft.	1.5 ac.	In compliance
Min. Lot Width 100 ft.	335 ft.	In compliance
Max. Height 2 stories/35 ft.	1 story/ 28 ft. 8 in.	In compliance
Min. Front Setback (Walton) 40 ft.	40 ft.	In compliance
Min. Side Setback (east/west) 15 ft./30 ft.	175+ ft./ 15 ft.	In compliance
Min. Rear Setback (south) 35 ft.	65 ft.	In compliance
Max. Lot Coverage 25%	14.8%	

3. **Exterior Lighting** *(Section 138-10.200-204).* A photometric plan showing the location and intensity of exterior lighting has been provided. Refer to the table below as it relates to the lighting requirements for this project.

Requirement	Proposed	Staff Comments
Shielding/Glare Lighting shall be fully shielded & directed downward at a 90° angle Fixtures shall incorporate full cutoff housings, louvers, glare shields, optics, reflectors or other measures to prevent off-site glare & minimize light pollution Only flat lenses are permitted on light fixtures; sag or protruding lenses are prohibited	17 building mounted fixtures	In compliance
Max. Intensity (measured in footcandles fc.) 20 fc. Areas intense vehicular use, 10 fc. elsewhere on-site, 1 fc. at ROW, & 0.5 fc. at any other property line	17.3 at truck bays, 0.0 along ROW, 0.0 along other property lines	In compliance
Lamps Max. wattage of 250 watts per fixture LED or low pressure sodium for low traffic areas, LED, high pressure sodium or metal halide for parking lots	50 watt, LED fixtures	In compliance
Max. Height 15 ft.	15 ft.	In compliance

4. **Equipment Screening** *(Section 138-10.310.J).* All heating, ventilation and air conditioning mechanical equipment located on the exterior of the building is screened from adjacent streets and properties through the use of masonry screen walls and landscaping.
5. **Parking and Loading** *(Section 138-11.100-308).* Refer to the table below as it relates to the parking and loading requirements for this project.

Requirement	Proposed	Staff Comments
Min. # Parking Spaces Municipal building: 1 space per employee = 13 spaces	14 spaces	In compliance
Max. # Parking Spaces 125% of Min. = 16 spaces		
Min. Parking Space Dimensions 10 ft. x 18 ft. w/ 24 ft. aisle, width may be reduced to 9 ft. for employee parking	10 ft. x 18 ft. w/ 24 ft. aisle	In compliance
Min. Barrier Free Spaces 1 BF spaces 11 ft. in width w/ 5 ft. aisle for up to 25 parking spaces	1 space, 11 ft. in width w/ 5 ft. aisle	In compliance
Min. Parking Setback (all sides) 10 ft.	10+ ft.	In compliance

   a. In an effort to improve pedestrian access, a sidewalk into the site connect to the pathway on Walton Blvd. and a bike rack have been proposed to further accommodate non-motorized travel, particularly during special events and in cases of emergencies.

6. **Landscaping** *(Section 138-12.100-308).* A landscape plan has been provided. Refer to the table below as it relates to the landscape requirements for this project.

Requirement	Proposed	Staff Comments
Right of Way (Walton Blvd.: 335 ft.) 1 deciduous per 35 ft. + 1 ornamental per 60 ft. = 10 deciduous + 6 ornamental	2 deciduous 8 existing deciduous (5 relocated) 7 ornamental	The site meets or exceeds landscape requirements
Parking Lot Perimeter 1 deciduous per 25 ft. + 1 ornamental per 35 ft. + continuous hedge = 3 deciduous + 2 ornamental + 21 shrubs (continuous hedge)	3 deciduous 2 ornamental 21 shrubs	
Stormwater (400 ft.) 1.5 deciduous + 1 evergreen + 4 shrubs per 100 ft. pond perimeter = 6 deciduous + 4 evergreen + 16 shrubs	6 deciduous 4 evergreen 16 shrubs	
TOTAL 19 deciduous 8 ornamental 4 evergreen 37 shrubs	 19 deciduous 9 ornamental 4 evergreen 37 shrubs	

a. Proposed required evergreen trees must be increased to a minimum height of 10 ft., deciduous to 3 in. caliper, and ornamental 2 in. caliper or 6 ft. in height at time of planting.
b. Buffer plantings are not required as the site and surrounding properties are all zoned residential, however as discussed with the neighbors previously, the City wishes to provide adequate screening along property lines that will be affected by the proposed plan. Existing vegetation is being preserved whenever possible, and the existing wood fence along the south property line is being extended 20 feet to better screen the adjacent home. A meeting with the adjacent property owners was held on January 17, 2017 and the updated plans were well received.
c. The landscape planting schedule must include a unit cost estimate and total landscaping cost summary, including irrigation costs.
d. An irrigation plan must be submitted prior to staff approval of the final site plan.

7. **Architectural Design** *(Architectural Design Standards).* The proposed addition has been designed with a consistent theme to complement the existing building, to match each other to establish a certain look and feel to all the fire stations, and to respect the surrounding residential neighborhoods with the use of brick and pitched roofs.

ROCHESTER HILLS
MICHIGAN

'MENT
or

From: Nancy McLaughlin
To: Sara Roediger
Date: 02/07/17
Re: Project: Fire Station No. 4 Review #1
Parcel No: 70-15-17-128-022
File No.: 14-020
Applicant: City of Rochester Hills

No comment.

ROCHESTER HILLS
MICHIGAN

PARKS & FORESTRY DEPARTMENT
Ken Elwert, CPRP, Director

To: Sara Roediger
From: Gerald Lee
Date: February 14, 2017
Re: Fire Station No. 4, Review #1
File #14-020

Forestry review pertains to public right-of-way (r/w) tree issues only.

Landscape Plan, Sheet L-200

The applicant needs to identify the 15' corner clearance/sight distance triangle at the intersection of the driveways and public walkways at a distance of 15' from their point of intersection. The base of the triangle needs to extend from the edge of the driveways to the edge of Walton Blvd. No trees or shrubs can be planted in this area.

The two sugar maples, on either side of the west driveway, are within the clearance triangle. They are also less than 5' from the walkway. They need to be deleted or their locations adjusted to comply with ordinance requirements.

The crabapple on the east side of the main, middle driveway is within the clearance triangle and less than 10' from the pathway. It needs to be deleted or its location adjusted.

The crabapple on the east side of the east driveway is less than 10' from the pathway. There are two additional crabapples, further to the east, that are also less than 10' from the pathway. All need to be deleted or their locations adjusted.

The random placement of trees and shrubs in the lawn area poses numerous mowing obstacles. It would be better to incorporate the woody plants in beds or in rows to screen adjacent properties to facilitate lawn maintenance.

Please identify the variety/cultivar of the arborvitae and crabapple proposed.

Forestry does not recommend using pin oak or Austrian pine. Pin oak is highly susceptible to nutrient deficiencies in our local soil and a pine is susceptible to disease. Please use a different oak species and white pine instead of an Austrian pine.

Relocated trees typically do not survive transplanting. Please use an approved nursery grown shade tree.

Please use a compact variety/cultivar of burning bush and a hardy variety/cultivar of forsythia.

Please show the root ball sitting on undisturbed soil in the shrub and tree planting diagrams.

ROCHESTER HILLS
MICHIGAN

DPS/Engineering
Allan E. Schneck, P.E., Director

JRB

From: Jason Boughton, AC, Engineering Utilities Coordinator
To: Sara Roediger, AICP, Manager of Planning
Date: February 16, 2017
Re: Fire Station #4, City File #14-020, Section #17
Site Plan Review #1

Engineering Services has reviewed the site plan received by the Department of Public Services on February 6, 2017 for the above referenced project. Engineering Services **does** recommend site plan approval with the following comments:

Sanitary Sewer

1. Revise the sanitary sewer basis of design to the residential equivalent unit method. Use 3 people @ 0.27 per person for the calculation. (See example.)

Water Main

1. Relocate the proposed gate valve @ 0+07 to south of the existing fire suppression and domestic tie in, in the greenbelt area and change to a 4 inch PRV due to separate pressure districts. (See attached detail).

Storm Sewer

1. Revise the slopes between the forebay and detention basin to be 1:6 maximum.
2. There needs to be a permanent 3 foot pool of water within the forebay; revise as necessary.
3. Revise the storm sewer network to not be a submerged system once the forebay is designed to have a permanent 3 foot normal water depth as a minimum.

Traffic

1. Coordinate the design and replacement of the traffic signal heads with RCOC and include traffic signal notes on the plans. Traffic signal plans will be required to be included with the approved construction plans.
2. Label Walton Boulevard on all plan sheets and identify it as being under the jurisdiction of the Road Commission for Oakland County. A RCOC right-of-way permit is required for all work within Walton Boulevard right-of-way.
3. The existing heavy-duty concrete pavement is 9 inches thick. It is recommended that the proposed heavy-duty concrete section be a minimum 8-inch thick. Please revise details accordingly.
4. Include the required sight lines on the landscape plan per the attached details. Anything with the sight lines must be less than 30 inches in height.

Pathway

1. The pathway that is going through the proposed driveway approaches shall be same thickness as approach and be jointed at maximum 8-foot panels, with a minimum 1/2 inch expansion paper between the pathway and approach. Expansion paper at fifty-foot intervals between the pathway flags is not recommended.
2. The pathway panels should be 8'x 8'.

The applicant will need to submit a Land Improvement Permit (LIP) application with engineer's estimate, fee and construction plans to get the construction plan review process started.

JB/bd

Attachments: Sanitary Basis of Design Example, PRV Detail, Sight Llines Details

c: Allan E. Schneck, P.E., Director; DPS
Paul Davis, P.E., Deputy Director/City Engineer; DPS
Tracey Balint, P.E., Public Utilities Engineer; DPS
Paul Shumejko, P.E., PTOE, Transportation Engineer; DPS
Keith Depp; Staff Engineer; DPS
Sheryl McIsaac, Office Coordinator; DPS
Sandi DiSipio; Planning & Development Dept.
File

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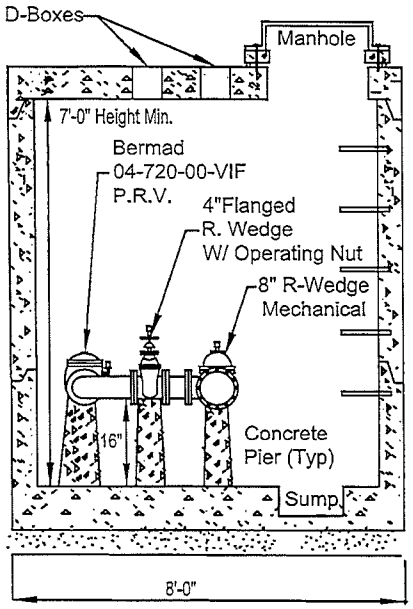
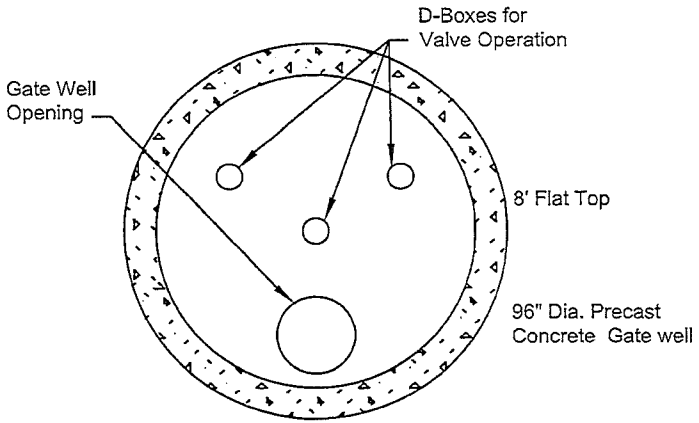
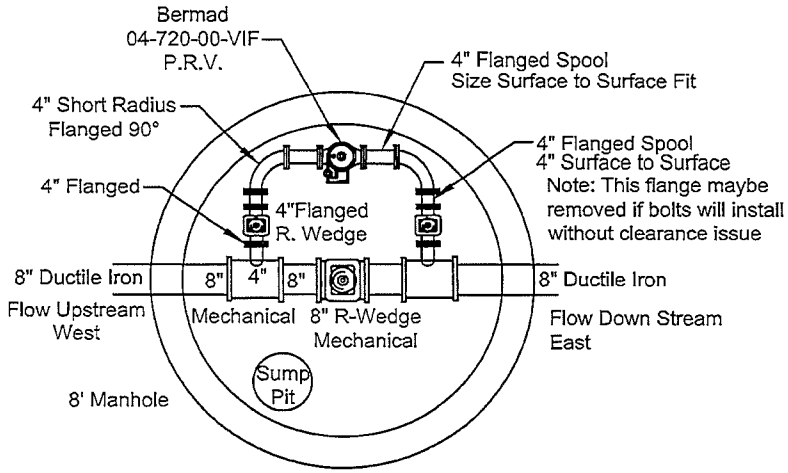


Manhole steps to be plastic coated steel meeting the requirements in astm d 2146, type ii, grade 49108. ma. industries p.s.i. polypropylene or approved equal. Steps to be installed during manhole manufacture, placed at 16" c. to c., 45" from centerline of water main.

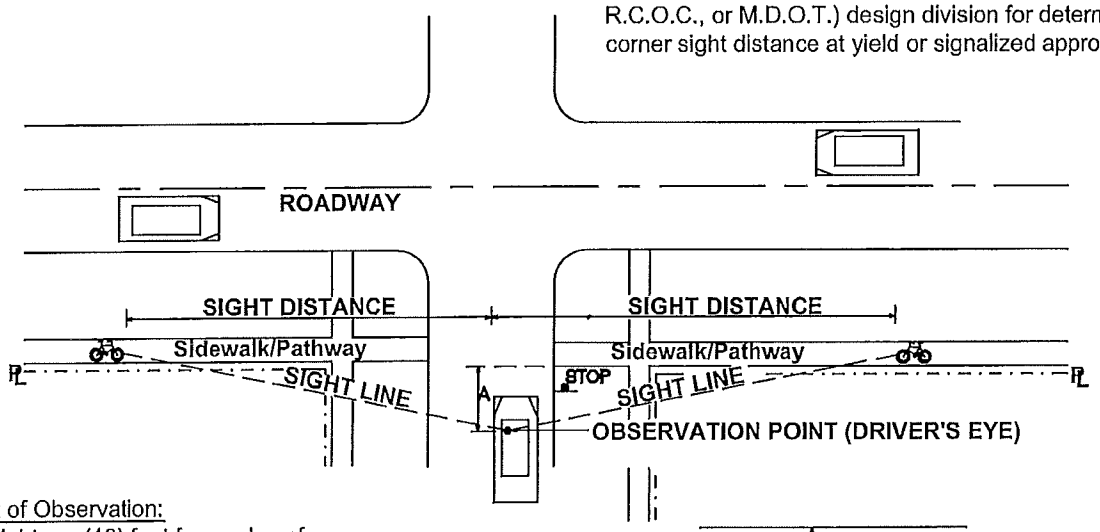




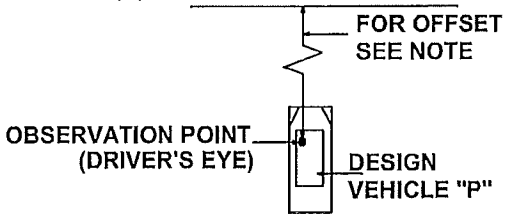
Pressure Reducing Valve #46

No Scale

Different sight distances are required for yield or signal controlled intersections. Contact road agency's (City, R.C.O.C., or M.D.O.T.) design division for determining corner sight distance at yield or signalized approaches.



Point of Observation:
(A) Eighteen (18) feet from edge of pavement of sidewalk/pathway.



The point of vision shall be from the height of eye, 3.5 feet above the proposed intersecting elevation to a height of object 3.5 feet above the existing or proposed road centerline and shall be continuously visible within the specified limits.

MINIMUM CORNER SIGHT DISTANCE FOR STREETS AT INTERSECTIONS	
PATHWAY GRADE APPROACHING INTERSECTION (%)	MINIMUM SIGHT DISTANCE IN FEET, BOTH DIRECTIONS
0	135
-1	140
-2	145
-3	150
-4	160
-5	165
-6	175
-7	190
-8	205

NOTES

1. Any deviation from given data requires an engineering study approved by the road agency (City, R.C.O.C., or M.D.O.T.) in accordance with the latest edition AASHTO Guide for the Development of Bicycle Facilities.
2. This design guide also applies to new Permit and Plat construction projects.
3. The bicycle design speed used in the chart is 18 MPH.
4. Approach pathway slope greater than 8% is not allowed due to ADA compliance.
5. Existing site conditions may require an engineering study to determine sight distance.

CITY OF ROCHESTER HILLS
STANDARD DETAIL FOR:

Sight Distance Pathways

ROCHESTER HILLS MICHIGAN

DRAWN BY:	FILE NAME:	PLAN DATE:	REV.	REV.	REV.
B. SMITH	CIRC DRV	8/28/1996	4/12/2012	3/15/2014	
APPROVED BY: PAUL SHUMEJKO, P.E., PTOE CITY TRANSPORTATION ENGINEER			NOT TO SCALE		SHEET 2 OF 2

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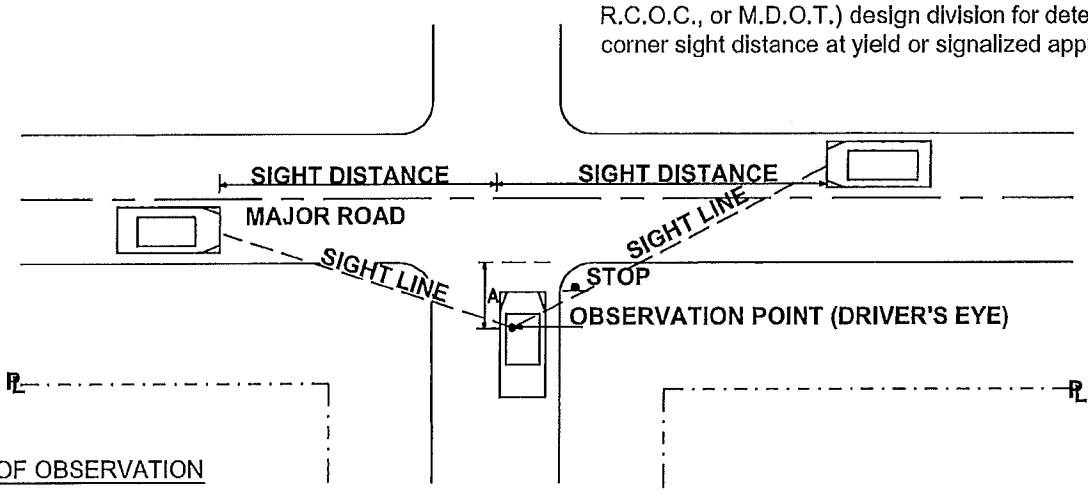
Different sight distances are required for yield or signal controlled intersections. Contact road agency's (City, R.C.O.C., or M.D.O.T.) design division for determining corner sight distance at yield or signalized approaches.

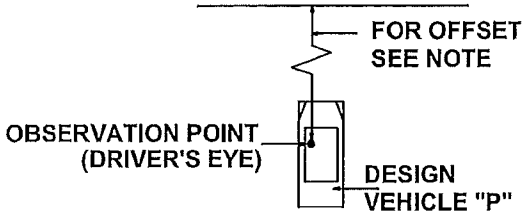


POINT OF OBSERVATION

Paved Surface:
(A) Eighteen (18) feet from edge of pavement of through lane.

Gravel Surface:
(A) Eighteen (18) feet from edge of gravel road.

* For residential driveways approaching gravel or paved roads (A) is 10' from the edge of gravel/pavement.



The point of vision shall be from the height of eye, 3.5 feet above the proposed intersecting elevation to a height of object 3.5 feet above the existing or proposed road centerline and shall be continuously visible within the specified limits.

MINIMUM CORNER SIGHT DISTANCE FOR DRIVEWAYS AND STREETS AT MAJOR ROAD INTERSECTIONS FOR PASSENGER VEHICLES		
MAJOR ROAD POSTED OR 85% SPEED IN MPH	MINIMUM SIGHT DISTANCE IN FEET, BOTH DIRECTIONS	
	2 OR 3 LANE THRU ROAD IN FEET	4 OR 5 LANE THRU ROAD IN FEET
25	280	295
30	335	355
35	390	415
40	445	470
45	500	530
50	555	590
55	610	650

The basic prima facia speed shall be used for gravel roads, unless otherwise approved by the Engineer.

NOTES

1. Any deviation from given data requires an engineering study approved by the road agency (City, R.C.O.C., or M.D.O.T.) in accordance with the latest edition AASHTO policy on geometric design.
2. This design guide also applies to new Permit and Plat construction projects.
3. The above data is based on a left turn maneuver into the intersecting roadway as described in AASHTO. Due to the higher potential accident severity, the left turning sight distance was used to determine the corner sight distanced required. Right turn onto major roads shall have the same sight distances.
4. Existing site conditions may require an engineering study to determine sight distance.

CITY OF ROCHESTER HILLS
STANDARD DETAIL FOR:

Sight Distance Roadways

ROCHESTER HILLS MICHIGAN

DRAWN BY:	FILE NAME:	PLAN DATE:	REV.	REV.	REV.
B. SMITH	CIRC DRV	8/28/1996	4/12/2012	3/15/2014	
APPROVED BY: PAUL SHUMEJKO, P.E., PTOE CITY TRANSPORTATION ENGINEER			NOT TO SCALE		SHEET 1 OF 2

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s.f.

PROPOSED SANITARY SEWER BASIS OF DESIGN:

(Unit Factors Based on Oakland County Unit Assignment Factors)

RETAIL

Square Footage	22,814 S.F.
Estimated No. of Employees	34
Unit Factor	0.16 per employee
REU	5.5
Population (P) (3.5 PEOPLE/EDU)	19.2 People

RESTAURANT (QUICK SERVE)

Number	2
Unit Factor	5.6 per restaurant
REU	11.2
Population (P) (3.5 PEOPLE/EDU)	39.2 People

RESTAURANT (CARRY OUT)

Number	2
Unit Factor	1.8 per restaurant
REU	3.6
Population (P) (3.5 PEOPLE/EDU)	12.6 People

TOTAL

REU	**20.3**
	71 People
Average Flow (100 GPCPD)	**7,100 G.P.D.**
	0.011 C.F.S.
P (1000s)	**0.071**
Peaking Factor (PF)	**4.00**
PF = (18+sqrt(P))/(4+sqrt(P)) - between 2.5 and 4	
Peak Flow (G.D.P.)	**28,400 G.P.D.**
Peak Flow (C.F.S.)	**0.044 C.F.S.**

6" Pipe Capacity Provided =	**0.73 C.F.S.**

ROCHESTER HILLS
MICHIGAN

DPS/Engineering
Allan E. Schneck, P.E., Director

From: Michael Taunt, Survey Technician
To: Sara Roediger, Manager of Planning
Date: Tuesday, February 14, 2017
Re: Fire Station #4, City File #14-020, Section 17
Site Plan Legal Review #1

I have reviewed the site plan drawings, received 02/07/2017, and have the following comments:

1. In due course the following will be required:

   - Existing easements for water main and cell tower access must be vacated.
   - New easements for water main, cell tower and cell tower access easements (including exhibits in recordable form) must be provided.
   - A storm system maintenance agreement and exhibits in recordable form must be provided.

MLT/bd

c: Allan E. Schneck, P.E.; DPS Director
Paul Davis, P.E., Deputy Director/City Engineer; DPS
Tracey Balint, P.E., Public Utilities Engineer; DPS
Paul Shumejko, P.E., PTOE, Transportation Engineer; DPS
File
Sheryl McIsaac, Office Coordinator; DPS
Sandi DiSipio; Planning & Development Dept.
Keith Depp; Staff Engineer; DPS
Jason Boughton, AC, Engineering Utilities

ROCHESTER HILLS
MICHIGAN

FIRE DEPARTMENT
Sean Canto
Chief of Fire and Emergency Services

From: James L. Bradford, Lieutenant/Inspector
To: Planning Department
Date: February 8, 2017
Re: Fire Station No. 4

SITE PLAN REVIEW

FILE NO: 14-020 **REVIEW NO: 1**

APPROVED_____X_____ **DISAPPROVED_____**

The Rochester Hills Fire Department recommends approval of the above referenced site plan contingent upon the following conditions being met.

1. Indicate construction type, square footage, and building height on sheet C-200.

2. Provide documentation, including calculations that a fire flow of 2000 GPM can be provided.

    - This fire flow is based on the assumption that the construction type is IIB, If this is not the construction type, please contact my office with the correct construction type. This information will then determine the new fire flow requirement.

    - A flow test will be required and can be obtained by contacting the Rochester Hills Engineering Department at (248) 656-4640. This information is required to determine if adequate fire flows are available for the proposed development. *IFC 2006 508.4*

3. Provide note on site plan "If Fire Department connection is not located on the street front of the building, a white/clear strobe light shall be tied into the fire alarm system and installed over the Fire Department Connection."

Lt. James L. Bradford
Fire Inspector

ROCHESTER HILLS
MICHIGAN

BUILDING DEPARTMENT
Scott Cope

From: Craig McEwen, Building Inspector/Plan Reviewer CDM
To: Sara, Roediger, Planning Department
Date: February 7, 2017
Re: Fire Station No. 4 – Review #1
2723 Walton Blvd.
Sidwell: 15-17-128-022
City File: 14-020

The site plan review for the above reference project was based on the following drawings and information submitted:

Drawings: CS-001, Topographical Survey, C-000, C-101,C-200, C-210, C-220, C-221, C-222, C-230, C-231, C-300, C-301, C-800, C-801, C-802, C-803, C-804, C-805, C-806, C-807, C-808, L-200, A-210, A-300, ES-003 and supplemental code information CS-003

Approval recommended.

If there are any questions, please call the Building Department at 248-656-4615. Office hours are 8 a.m. to 4:30 p.m. Monday through Friday.