

# NORTHPOINT DEVELOPMENT ASSISTED LIVING & MEMORY CARE

ROCHESTER RD.  
ROCHESTER HILLS, MI 48307

## SCHEMATIC DESIGN

1/20/2016

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**LANDSCAPE**  
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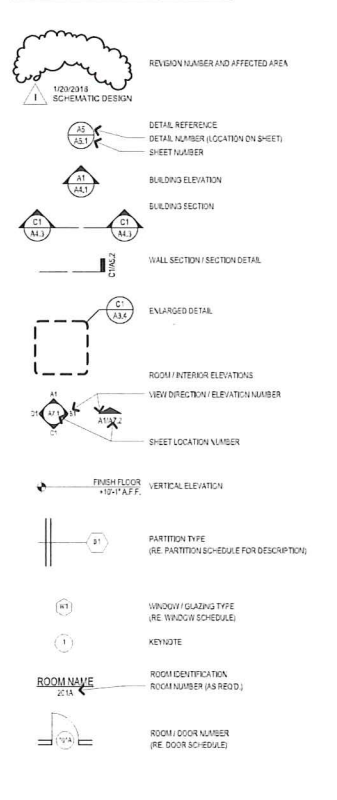
### ARCHITECTURAL ABBREVIATIONS

<b>A</b> ANCHOR BOLT	<b>E</b> EAST	<b>J</b> JOIST	<b>R</b> RISER	<b>TE</b> TUBE STEEL
<b>ABV</b> ABOVE	<b>EA</b> EACH	<b>JAN</b> JANITOR	<b>PKG</b> PARKING	<b>TTC</b> TELEPHONE TERMINAL CABINET
<b>ACC</b> ACCESS / ACCESSIBLE	<b>EDF</b> ELECTRIC DRIVING FOUNTAIN	<b>JT</b> JOINT	<b>FRCT</b> / <b>FC</b> PRECAST	<b>TV</b> TELEVISION
<b>ALUM</b> ALUMINUM COMPOSITE METAL	<b>ELB</b> ELBOW / ELBOW FITTING	<b>K</b> KITCHEN	<b>FP</b> FOUNDATION FOOT	<b>TYP</b> TYPICAL
<b>ACOUS</b> ACOUSTICAL	<b>ELC</b> ELECTRIC	<b>KTCHN</b> KITCHEN	<b>FS</b> POUNDS PER SQUARE FOOT	<b>TR</b> TERRAZZO
<b>ACT</b> ACOUSTICAL CEILING TILE	<b>ELEV</b> ELEVATOR	<b>KNCKOUT</b> KNOCKOUT	<b>FT</b> POUNDS PER SQUARE FOOT	<b>UC</b> UNDERCUT
<b>ADJ</b> ADJUSTABLE	<b>ELECTR</b> ELECTRICAL	<b>LD</b> LANDING	<b>P</b> POUNDS	<b>UNF</b> UNFINISHED
<b>ADR</b> AREA DRAIN	<b>EMER</b> EMERGENCY	<b>LAB</b> LABORATORY	<b>P/VT</b> POUNDS/VOLUME	<b>UNL</b> UNLESS NOTED OTHERWISE
<b>AFF</b> ABOVE FINISH FLOOR	<b>ENCL</b> ENCLOSURE	<b>LAV</b> LAVATORY	<b>PP</b> POUNDS PER SQUARE FOOT	<b>UR</b> UNDER SEPARATE CONTRACT
<b>AGG</b> AGGREGATE	<b>ENCLD</b> ENCLOSURE	<b>LAVATRY</b> LAVATORY	<b>PPF</b> POUNDS PER SQUARE FOOT	<b>USC</b> UNDER CONTRACT
<b>ALT</b> ALTERNATE	<b>EPC</b> ELECTRICAL PANEL	<b>LG</b> LOG	<b>R</b> RISER	<b>UT</b> UTILITY
<b>ALUJ</b> ALUMINUM	<b>EPNT</b> EPOXY PAINT	<b>LGR</b> LOG	<b>RA/RA</b> RETURN AIR	<b>VACUUM</b> VACUUM
<b>ANCH</b> ANCHOR / ANCHORAGE	<b>EQ</b> EQUIPMENT	<b>LF</b> LEFT HAND	<b>RAD</b> RADIUS	<b>VAR</b> VARNISH
<b>ANG</b> ANGLE	<b>EQIP</b> EQUIPMENT	<b>LL</b> LINE LOAD	<b>RB</b> RUBBER BASE	<b>VER</b> VAPOR BARRIER
<b>ANOD</b> ANODIZED	<b>ESR</b> EGRESS	<b>LK</b> LINE KICK	<b>RCP</b> REFLECTED CEILING PLANE	<b>VB</b> VIBRATION ISOLATION
<b>APPRX</b> APPROXIMATE	<b>EW</b> EACH WAY	<b>LL</b> LINE LOAD	<b>RCP</b> REINFORCED CONCRETE PIPE	<b>VCT</b> VINYL COMPOSITION TILE
<b>ARCH</b> ARCHITECT / ARCHITECTURAL	<b>EW</b> EACH WAY	<b>LL</b> LINE LOAD	<b>RD</b> ROOF DRAIN	<b>VERT</b> VERTICAL
<b>AUTO</b> AUTOMATIC	<b>EHC</b> ELECTRIC WATER COOLER	<b>LV</b> LIGHT	<b>REAR</b> REAR	<b>VEST</b> VESTIBULE
<b>AUX</b> AUXILIARY	<b>EHP</b> ELECTRIC WATER HEATER	<b>LV</b> LIGHT	<b>REAR</b> REAR	<b>VT</b> VENT THROUGH ROOF
<b>AVE</b> AVENUE	<b>EXP</b> EXPANSION	<b>LVT</b> LIGHTWEIGHT	<b>RECEP</b> RECEIPT	<b>VWC</b> VINYL WALL COVERING
<b>AVER</b> AVERAGE	<b>EXT</b> EXTERIOR	<b>LV</b> LOWER	<b>RECD</b> RECOMMENDATION	<b>W</b> WEIGHT
<b>AV</b> AIR CONDITIONING	<b>FA</b> FIRE ALARM	<b>LVT</b> LIGHTWEIGHT	<b>RIS</b> RECEIPTS	<b>W</b> WEIGHT
<b>AV</b> AUDIO VISUAL	<b>FACP</b> FIRE ALARM CONTROL PANEL	<b>M</b> METER	<b>REF</b> REFERENCE	<b>WV</b> WEEST
<b>B</b> BOTH SIDES	<b>FED</b> FURNISHED BY OTHERS	<b>MACH</b> MACHINE	<b>REG</b> REGULATION	<b>WD</b> WITHOUT
<b>BB</b> BULLET BOARD	<b>FD</b> FLOOR DRAIN	<b>MANT</b> MANTLE	<b>RENF</b> REINFORCED	<b>WC/WIC</b> WATER CLOSET
<b>BD</b> BOTH SIDES	<b>FDR</b> FIRE EXTINGUISHER CABINET	<b>MANT</b> MANTLE	<b>REQD</b> REQUIRED	<b>W</b> WOOD
<b>BIZ</b> BUSINESS	<b>FE</b> FINISHED FLOOR ELEVATION	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BLK</b> BLOCK / BLOC	<b>FEL</b> FINISHED FLOOR ELEVATION	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BK</b> BEAM	<b>FFR</b> FINISHED FLOOR ELEVATION	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BM</b> BEAM	<b>FHC</b> FIRE HOSE CABINET	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BOT</b> BOTTOM	<b>FMV</b> FIRE HOSE VALVE CABINET	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BTM</b> BOTTOM	<b>FHO</b> FIRE HOSE	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BTD</b> BOTTOM OF DECK	<b>FHV</b> FIRE HOSE VALVE	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BDR</b> BEDROOM	<b>FHV</b> FIRE HOSE VALVE	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BS</b> BOTH SIDES	<b>FHV</b> FIRE HOSE VALVE	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BSP</b> BASEMENT	<b>FLR</b> FLOOR	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BS</b> BOTH SIDES	<b>FLR</b> FLOOR	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BST</b> BASEMENT	<b>FLR</b> FLOOR	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BTV</b> BETWEEN	<b>FLSH</b> FLUORESCENT	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BW</b> BOTH WAY	<b>FLUR</b> FLUSH	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
<b>BW</b> BOTH WAY	<b>FLUR</b> FLUSH	<b>MANT</b> MANTLE	<b>REQU</b> REQUIRED	<b>WV</b> WOOD
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### APPLICABLE CODES

- 2012 MICHIGAN BUILDING CODE (IBC)
- 2012 MICHIGAN MECHANICAL CODE
- 2014 NATIONAL ELECTRIC CODE
- 2012 INTERNATIONAL FIRE CODE (IFC)
- ASHRAE 90.1 2013
- 2009 MICHIGAN UNIFORM ENERGY CODE
- 2012 NFPA LIFE SAFETY CODE
- 2010 NFPA 13

### ARCHITECTURAL SYMBOLS



### GENERAL NOTES

- CODES:**
- CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIREMENTS OF SAFETY.
  - ALL CONSTRUCTION SHALL MEET ALL APPLICABLE FIRE CODES AND FLAME SPREAD REQUIREMENTS.
- DAMAGE:**
- DURING CONSTRUCTION EACH TRADE SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THEIR WORK.
  - CONTRACTOR SHALL REPAIR PROMPTLY AND REWORK ANY DAMAGED AREA CAUSED BY THE WORK OF THIS CONTRACT TO ANY AREA OUTSIDE CONTRACT LIMITS.
- GENERAL COORDINATION:**
- ALL PLANS ARE DRAWN TO SCALE AS MUCH AS POSSIBLE BUT ARE NOT INTENDED TO BE SCALED.
  - ALL DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL SYMBOLS.
  - ALL MECHANICAL, PLUMBING AND ELECTRICAL ROUGH IN AND FINAL HOOK-UP SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
  - GENERAL CONTRACTOR TO PROVIDE COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS FOR COORDINATION WITH OTHER TRADES.
  - CONTRACTOR TO PROVIDE HOOK-UP ROOM FOR EACH RESIDENT ROOM TYPE FOR OWNER AND ARCHITECT'S REVIEW AND APPROVAL.
- SHOP DRAWINGS:**
- CONTRACTOR TO FURNISH SHOP DRAWINGS FOR ALL ITEMS NOTED IN SPECS.
- WARRANTY:**
- GENERAL CONTRACTOR SHALL WARRANTY ALL WORK (MATERIAL AND LABOR) BY GENERAL AND SUB-CRONTACTORS FOR A MINIMUM PERIOD OF 1 YEAR. WARRANTY SHALL START ON DATE OF SUBSTANTIAL COMPLETION. CONTRACTOR TO COORDINATE A REVIEW MEETING TWO MONTHS AFTER THE DATE OF SUBSTANTIAL COMPLETION TO REVIEW WARRANTY ITEMS.
- OTHER:**
- THE AMERICAN INSTITUTE OF ARCHITECTS STANDARD FORM #AIA DOCUMENT A011, 2007 FIFTEENTH EDITION, "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" IS HEREBY MADE A PART OF THESE CONSTRUCTION DOCUMENTS.
  - THE GENERAL CONTRACTOR AND ALL SUB-CRONTACTORS SHALL VISIT THE SITE PRIOR TO BIDDING AND VERIFY EXISTING CONDITIONS & UTILITY SERVICES AS RELATED TO THEIR SCOPE OF WORK.
  - CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, AND INCIDENTAL PARTS AND MATERIALS, EVEN IF NOT SPECIFICALLY NOTED ON THE PLANS FOR A COMPLETE OPERATIVE INSTALLATION.
  - THERE SHALL BE ABSOLUTELY NO SMOKING OR TOBACCO USE IN THE BUILDING.
  - DISPOSE OF DEBRIS IN ACCORDANCE WITH LOCALLY APPROVED REGULATIONS.

### BUILDING OCCUPANCY

OCCUPANCY GROUP 2 TYPE RA CONSTRUCTION  
FULLY AUTOMATIC SPRINKLER PER NFPA 13

**BUILDING:**  
 ALLOWABLE STORY HEIGHT PER 2012 IBC TABLE 502: **2 STORIES**  
 ACTUAL STORY HEIGHT: **2 STORIES**

**\*HEIGHT FRONTAGE AND SPRINKLER INCREASE, PER 2012 IBC 501.1, 503.2 & 503.3**

FRONTAGE AREA INCREASE CALCULATION:  
 1 + (FP - 2.21) \* 100  
 1 + (FP - 2.21) \* 100  
 1 + 2.21 \* 100

BUILDING AREA INCREASE CALCULATION:  
 A = ALLOWABLE AREA (TABLE 501)  
 A + 1.1 \* ALLOWABLE AREA INCREASE - FRONTAGE  
 A + 1.1 \* ALLOWABLE AREA INCREASE - SPRINKLER

**A = TOTAL ALLOWABLE AREA PER STORY: 33,000 SF**

**ACTUAL BUILDING AREA: LEVEL 1: 33,180 SF**  
**ACTUAL BUILDING AREA: LEVEL 2: 27,810 SF**

**FIRE RATING FOR BUILDING ELEMENTS PER 2012 IBC TABLE 601**

### INDEX OF SHEETS

**GENERAL**

G1.1 COVER SHEET  
 G2.1 CODE ANALYSIS

**ARCHITECTURAL**

S4.0 OVERALL FIRST FLOOR PLAN  
 S4.1 OVERALL SECOND FLOOR PLAN  
 S4.6 BUILDING ELEVATIONS  
 S4.7 BUILDING ELEVATIONS

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 Date: 11/12/16

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**NORTHPOINT DEVELOPMENT  
ASSISTED LIVING & MEMORY CARE**

**ROCHESTER RD.  
ROCHESTER HILLS, MI 48307**

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DATE:  
1/20/2016

PROJECT NUMBER:  
15019

SHEET TITLE:  
**COVER SHEET**

SHEET:  
**G1.1**

CITY FILE NUMBER:  
#15-019

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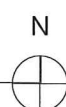
75' ROW PER LEGAL I  
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(L.7198, P.187)



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**A1** OVERALL FIRST FLOOR PLAN  
SCALE: 1/16" = 1'-0"



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#15-019

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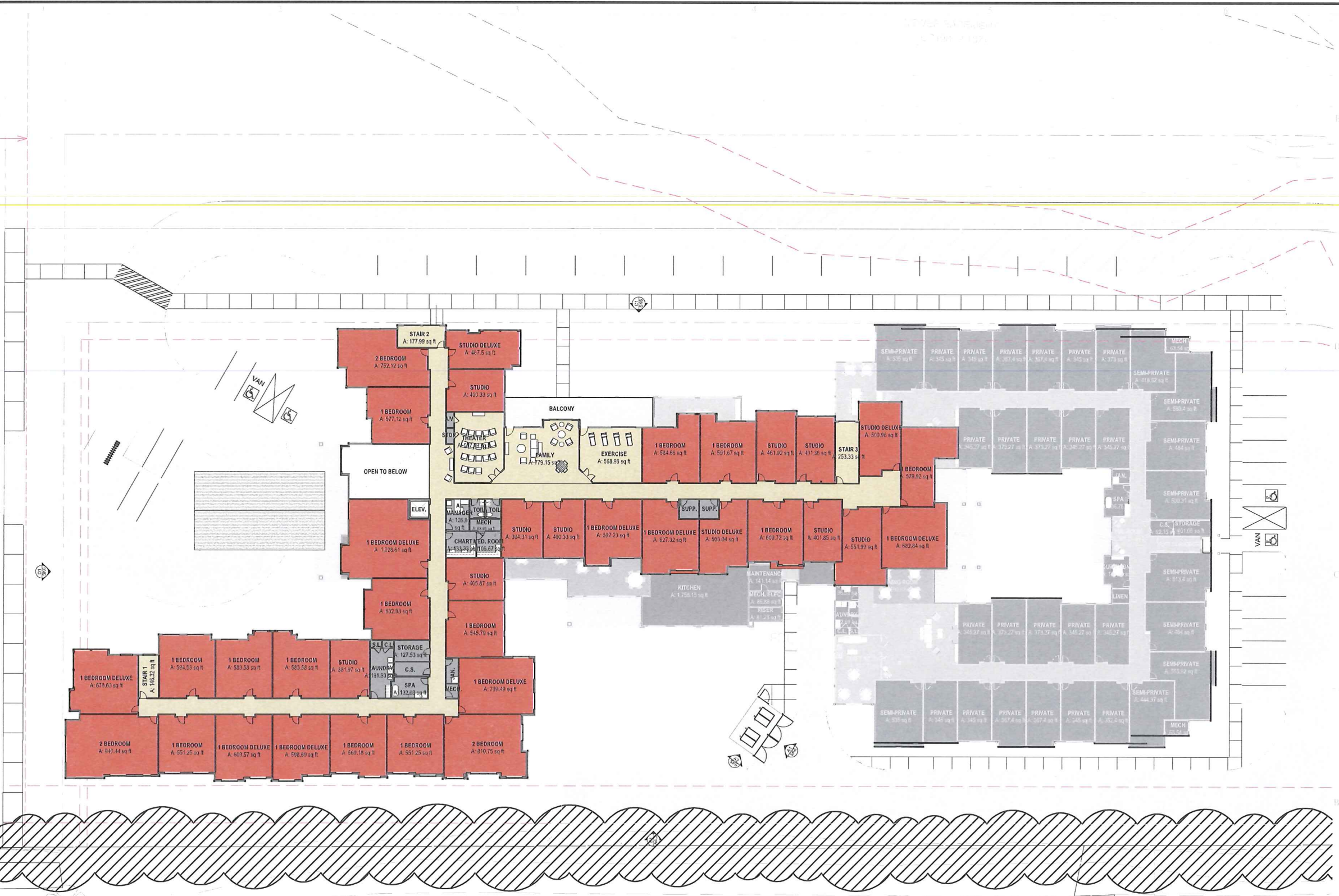
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REVISIONS  
12/10/15 CITY COMMENTS  
01/02/16 CITY COMMENTS

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SHEET TITLE:  
OVERALL FIRST  
FLOOR PLAN

SHEET:  
**SK0**

75' ROW PER LEGAL I  
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**A1** OVERALL SECOND FLOOR PLAN  
SCALE: 1/16" = 1'-0"



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ROCHESTER HILLS, MI 48307

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02/15

REVISIONS  
12/10/15  
CITY COMMENTS  
01/20/16  
CITY COMMENTS

DATE  
1/20/2016  
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15019  
SHEET TITLE  
OVERALL SECOND  
FLOOR PLAN

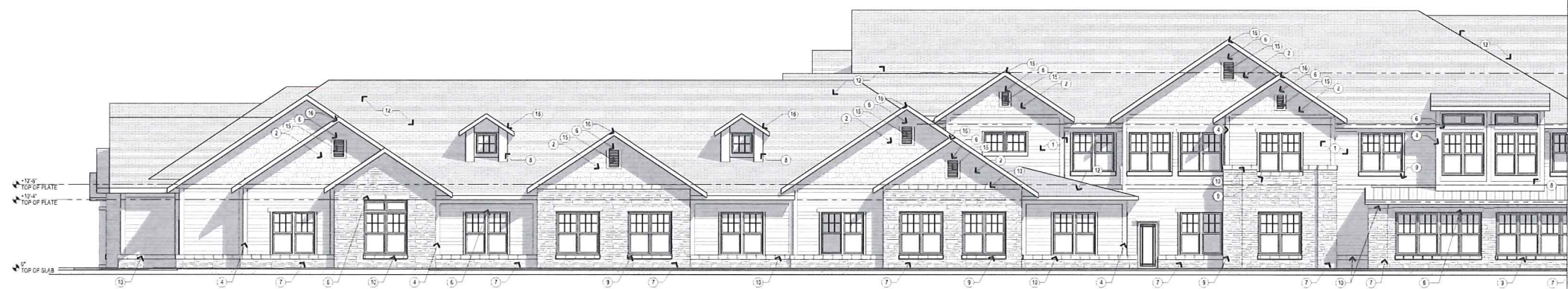
SHEET:  
**SK1**



**D1 WEST ELEVATION**  
SCALE: 1/8" = 1'-0"



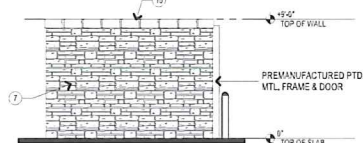
**C1 NORTH ELEVATION**  
SCALE: 1/8" = 1'-0"



**B1 NORTH ELEVATION**  
SCALE: 1/8" = 1'-0"



**A1 DUMPSTER ENCLOSER FRONT ELEV.**  
SCALE: 3/16" = 1'-0"



**A2 DUMPSTER ENCLOSURE SIDE ELEV.**  
SCALE: 3/16" = 1'-0"

**PERCENT FACADE TRANSPARENCY**

**NORTH ELEVATION**  
27%

**WEST ELEVATION (ROCHESTER RD.)**  
26%

**SOUTH ELEVATION**  
26%

**EAST OVERALL ELEVATION**  
25%

**ELEVATION KEYED NOTES**

- 1) 1" EXPOSURE FIBER CEMENT SIDING, PTD.
- 2) FIBER CEMENT SHAKE
- 3) 5" FIBER CEMENT TRIM SOFFIT TRIM, PTD, TYP.
- 4) 1" FIBER CEMENT TRIM AT CORNERS, PTD, TYP.
- 5) 1" FIBER CEMENT TRIM EXTERIOR SILL CASING, PTD, TYP.
- 6) 1" FIBER CEMENT TRIM HEADER, TYP. AT EXTERIOR, PTD.
- 7) CULTURED STONE
- 8) FIBER CEMENT PANEL WITH CEDAR MILL TEXTURE
- 9) LEDGE STONE WOODWILL, SLOPED, TYP.
- 10) 1" LEDGE STONE CAP
- 11) PTD. WOOD DECORATIVE BRACKET
- 12) ASPHALT SHINGLE ROOF
- 13) LIGHT SCOVING
- 14) METAL RAILING
- 15) LOUVERED VENT
- 16) FIBER CEMENT FASCIA BOARD

**BUILDING MATERIAL PERCENTAGES**

**WEST ELEVATION (ROCHESTER RD.)**

<b>PRIMARY:</b>	
FIBER CEMENT SIDING & TRIM "CEDAR MILL"	31%
FIBER CEMENT SHAKE	11%
CULTURED STONE + CAPS & SILLS	34%
<b>% SUBTOTAL:</b>	<b>76%</b>

<b>SECONDARY:</b>	
FIBER CEMENT PANEL "SMOOTH"	24%

**NORTH ELEVATION**

<b>PRIMARY:</b>	
FIBER CEMENT SIDING & TRIM "CEDAR MILL"	40%
FIBER CEMENT SHAKE	12%
CULTURED STONE + CAPS & SILLS	36%
<b>% SUBTOTAL:</b>	<b>88%</b>

<b>SECONDARY:</b>	
FIBER CEMENT PANEL "SMOOTH"	12%

**EAST ELEVATION (BACK)**

<b>PRIMARY:</b>	
FIBER CEMENT SIDING & TRIM "CEDAR MILL"	36%
FIBER CEMENT SHAKE	21%
CULTURED STONE + CAPS & SILLS	41%
<b>% SUBTOTAL:</b>	<b>97%</b>

<b>SECONDARY:</b>	
FIBER CEMENT PANEL "SMOOTH"	3%

**SOUTH ELEVATION**

<b>PRIMARY:</b>	
FIBER CEMENT SIDING & TRIM "CEDAR MILL"	47%
FIBER CEMENT SHAKE	16%
CULTURED STONE + CAPS & SILLS	36%
<b>% SUBTOTAL:</b>	<b>99%</b>

<b>SECONDARY:</b>	
FIBER CEMENT PANEL "SMOOTH"	1%

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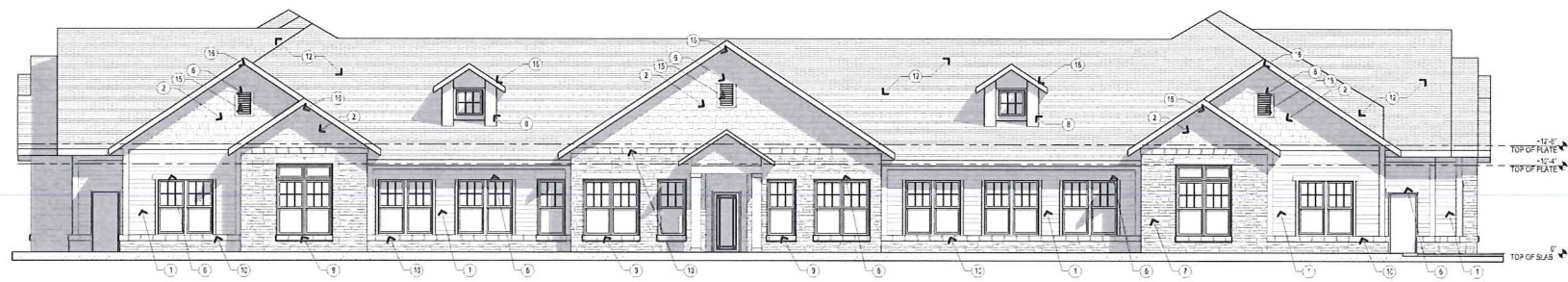
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BUILDING  
ELEVATIONS

SHEET:  
**SK6**

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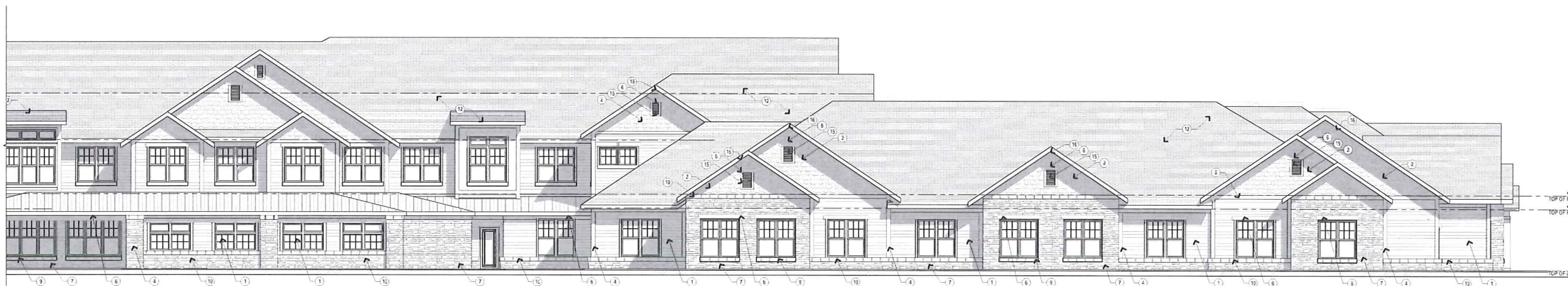
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#15-019



**D1 MC EAST ELEVATION**  
SCALE: 1/8" = 1'-0"



**B1 OVERALL SOUTH ELEVATION**  
SCALE: 1/8" = 1'-0"



**A1 OVERALL SOUTH ELEVATION**  
SCALE: 1/8" = 1'-0"

**BUILDING MATERIAL PERCENTAGES**

**WEST ELEVATION (ROCHESTER RD.)**

<b>PRIMARY:</b>	
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<b>PRIMARY:</b>	
FIBER CEMENT SIDING & TRIM "CEDAR MILL"	47%
FIBER CEMENT SHAKE	16%
CULTURED STONE + CAPS & SILLS	36%
% SUBTOTAL:	99%
<b>SECONDARY:</b>	
FIBER CEMENT PANEL "SMOOTH"	1%

**ELEVATION KEYED NOTES**

- 1) 7" EXPOSURE FIBER CEMENT SIDING, PTD.
- 2) FIBER CEMENT SHAKE
- 3) 5" FIBER CEMENT TRIM SCOFF TRIM PTD, TYP.
- 4) 8" FIBER CEMENT TRIM AT CORNERS, PTD, TYP.
- 5) 6" FIBER CEMENT TRIM EXTERIOR SILL CASING, PTD, TYP.
- 6) 8" FIBER CEMENT TRIM HEADER, TYP. AT EXTERIOR, PTD.
- 7) CULTURED STONE
- 8) FIBER CEMENT PANEL WITH CEDAR MILL TEXTURE
- 9) LEDGE STONE WINDOW SILL, SLOPED, TYP.
- 10) 8" LEDGE STONE CAP
- 11) PTD. WOOD DECORATIVE BRACKET
- 12) ASPHALT SHINGLE ROOF
- 13) LIGHT SCANCE
- 14) METAL RAILING
- 15) LOUVERED VENT
- 16) FIBER CEMENT FACIA BOARD

**pi architects**  
3500 Jefferson St. Suite 303  
Austin, TX 78731  
P: (512) 231-1910  
F: (512) 231-1959  
www.piaarch.com  
architecture + master planning  
interiors + landscape architecture

**NSA**  
ARCHITECTS  
23741 Westwood Drive  
Livonia, MI 48150  
Tel: 734.477.2444  
Fax: 734.477.2445  
www.nsa-arch.com  
Founded: 1988

Architect Registration:  
MICHIGAN #151031212  
Date: 12-2016  
Not for regulatory  
approval, permitting or  
construction

**NORTHPOINT DEVELOPMENT  
ASSISTED LIVING & MEMORY CARE**  
ROCHESTER RD.  
ROCHESTER HILLS, MI 48307

ISSUE:  
**SCHEMATIC  
DESIGN**

02015

REVISIONS:  
12/10/15  
CITY COMMENTS  
01/02/16  
CITY COMMENTS

DATE:  
1/20/2016  
PROJECT NUMBER:  
15019  
SHEET TITLE:  
BUILDING  
ELEVATIONS

SHEET:  
**SK7**

BIM Server: SERVER2015 - BIM Server: 1815019 NorthPoint Rochester Hills, MI | Ver. 18.001 | Wednesday, January 20, 2016 | 1:53 AM

CITY FILE NUMBER  
#15-349

# PRELIMINARY SITE PLANS FOR STONECREST AT ROCHESTER HILLS

PART OF THE SW 1/4 SECTION 23, T.3N., R.11 E.,  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

**OWNER:**

G&V PROPERTIES, LLC  
CONTACT: CORNELL G. VENNETILLI, MEMBER  
990 E. SOUTH BOULEVARD  
TROY, MICHIGAN 48085  
PHONE: (248) 760-0424

**APPLICANT/DEVELOPER:**

NP SENIOR LIVING DEVELOPMENT, LLC  
5105 NW CANAL ST, STE 200  
RIVERSIDE, MO 64150  
CONTACT: MARK POMERENKE  
PHONE: (816) 888-7380

**ARCHITECT:**

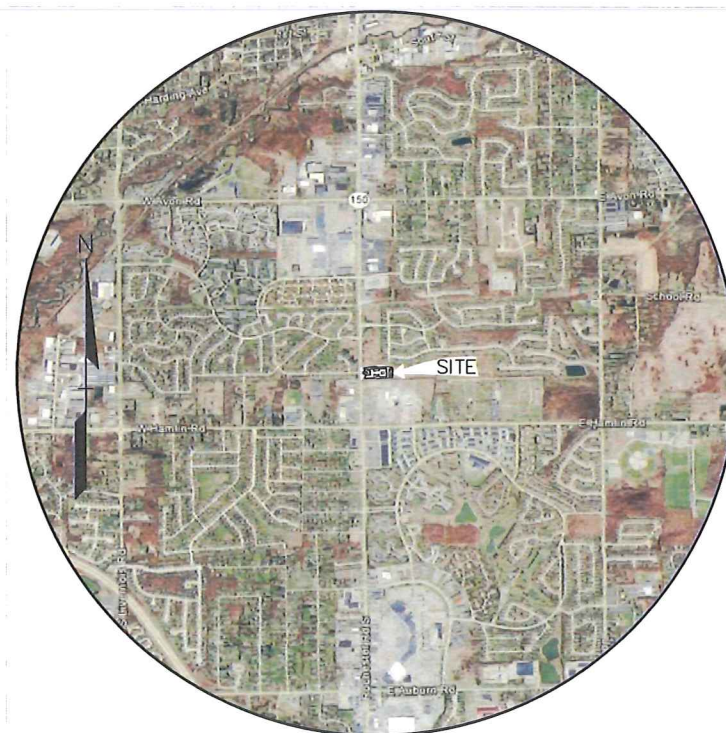
PI ARCHITECTS  
3500 JEFFERSON ST, STE 303  
AUSTIN, TX 78731  
CONTACT: GREG HUNTEMAN, AIA  
PHONE: (512) 231-1910

**CIVIL ENGINEER:**

PEA, Inc.  
2430 ROCHESTER CT, STE 100  
TROY, MI 48083-1872  
CONTACT: EMIL S. BUNEK III, PE  
PROJECT ENGINEER  
PHONE: (248) 689-9090  
FAX: (248) 689-1044

**LANDSCAPE ARCHITECT:**

PEA, Inc.  
2900 E. GRAND RIVER AVENUE  
HOWELL, MI 48843  
CONTACT: JANET EVANS, LLA  
LANDSCAPE ARCHITECT  
PHONE: (517) 546-8583  
FAX: (517) 546-8973



LOCATION MAP

**INDEX OF DRAWINGS:**

- C-0.0 COVER SHEET
- C-1.0 TOPOGRAPHIC SURVEY
- C-2.0 PRELIMINARY DIMENSION PLAN
- AC-2.0a PRELIMINARY DIMENSION PLAN-ALT**
- C-2.1 OVERALL PLAN
- C-2.3 FIRE PROTECTION PLAN
- C-3.0 PRELIMINARY GRADING AND UTILITY PLAN
  
- L-1 PRELIMINARY LANDSCAPE PLAN
- T-1 TREE PRESERVATION PLAN
  
- 1 of 1 SITE LIGHTING AND PHOTOMETRIC PLAN

NO.	DATE	BY	CHK.	DESCRIPTION	DATE
1	11/04/15	ESB	DN	ISSUE FOR PERMITS	
2	11/04/15	ESB	DN	ISSUE FOR PERMITS	
3	11/04/15	ESB	DN	ISSUE FOR PERMITS	
4	11/04/15	ESB	DN	ISSUE FOR PERMITS	
5	11/04/15	ESB	DN	ISSUE FOR PERMITS	
6	11/04/15	ESB	DN	ISSUE FOR PERMITS	
7	11/04/15	ESB	DN	ISSUE FOR PERMITS	
8	11/04/15	ESB	DN	ISSUE FOR PERMITS	
9	11/04/15	ESB	DN	ISSUE FOR PERMITS	
10	11/04/15	ESB	DN	ISSUE FOR PERMITS	



**CAUTION!**  
THE USER OF THESE DRAWINGS OR ANY PART THEREOF IS SOLELY RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION PROVIDED HEREON. THE USER OF THESE DRAWINGS OR ANY PART THEREOF IS SOLELY RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION PROVIDED HEREON. THE USER OF THESE DRAWINGS OR ANY PART THEREOF IS SOLELY RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION PROVIDED HEREON.

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Troy, MI 48083-1872  
t: 248.689.9090  
f: 248.689.1044  
www.peainc.com

**CITY FILE #15-019**

**NORTHPOINT DEVELOPMENT**  
5015 NW CANAL STREET, SUITE 200  
RIVERSIDE, MO 64150

**COVER SHEET**  
**STONECREST AT ROCHESTER HILLS**  
PART OF THE SW 1/4 SECTION 23, T.3N., R.11 E.,  
CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN

DES	ESB	DN	ESB	SUR	JW	P.M.	DNH
-----	-----	----	-----	-----	----	------	-----

ORIGINAL ISSUE DATE:  
NOVEMBER 4, 2015

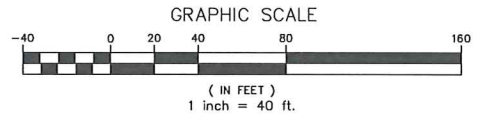
PEA JOB NO. 2015-233

SCALE: 1" = 2,000'

DRAWING NUMBER:  
**C-0.0**

**FLOOD NOTE:**  
 BY GRAPHICAL PLOTTING, THE SUBJECT PARCEL LIES WITHIN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE X) PER NON-PRINTED FEMA FLOOD INSURANCE RATE MAP 26125C-0394F, EFFECTIVE SEPTEMBER 29, 2006.

**BENCHMARKS**  
 (GPS DERIVED - NAVD88)  
**BM#300**  
 SPIKE IN WEST SIDE OF UTILITY POLE  
 ±58' EAST OF CL OF ROCHESTER ROAD  
 AND ±137' SOUTH OF CL OF  
 SANDALWOOD DRIVE.  
 ELEV. - 810.94  
**BM#301**  
 ARROW ON HYDRANT ±263' NORTH OF CL  
 OF SANDALWOOD DRIVE AND ±37' WEST  
 OF CL OF ROCHESTER ROAD  
 ELEV. - 809.95

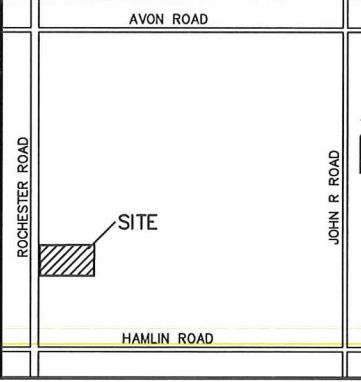


**LEGEND**

● IRON FOUND	⊗ BRASS PLUG SET	⊙ SEC. CORNER FOUND
⊗ IRON FOUND	⊙ MONUMENT FOUND	⊙ RECORDED
⊗ NAIL FOUND	⊙ MONUMENT SET	⊙ MEASURED
⊗ NAIL & CAP SET		⊙ CALCULATED

**EXISTING**

—OH-ELEC—W—C—	ELEC. PHONE OR CABLE TV ON LINE, POLE & GUY WIRE
—UG-CATV—	UNDERGROUND CABLE TV, CATV FEEDLINE
—UG-PHONE—	TELEPHONE U.S. CABLE, FEEDLINE & MANHOLE
—UG-ELEC—	ELECTRIC U.S. CABLE, MANHOLE, METER & MANHOLE
—GAS—	GAS MAIN VALVE & GAS LINE MARKER
—WATER—	WATERMAIN, HYD., GATE VALVE, TAPPING SLAVE & VALVE
—SEWER—	SANITARY SEWER, CLEANOUT & MANHOLE
—STORM—	STORM SEWER, CLEANOUT & MANHOLE
—SEWER & MANHOLE	COMBINED SEWER & MANHOLE
—CATCH BASIN, INLET, YARD DRAIN	CATCH BASIN, INLET, YARD DRAIN
—POST INDICATOR VALVE	POST INDICATOR VALVE
—WATER VALVE BOX/SHUTOFF VALVE BOX, SERVICE SHUTOFF	WATER VALVE BOX/SHUTOFF VALVE BOX, SERVICE SHUTOFF
—METER, TRANSFORMER, REGULATOR CONTROL VALVE	METER, TRANSFORMER, REGULATOR CONTROL VALVE
—UNIDENTIFIED STRUCTURE	UNIDENTIFIED STRUCTURE
—SPOT ELEVATION	SPOT ELEVATION
—CONTOUR LINE	CONTOUR LINE
—FENCE	FENCE
—DUMP PILE	DUMP PILE
—STREET LIGHT	STREET LIGHT
—BOX	BOX



**REVISIONS**

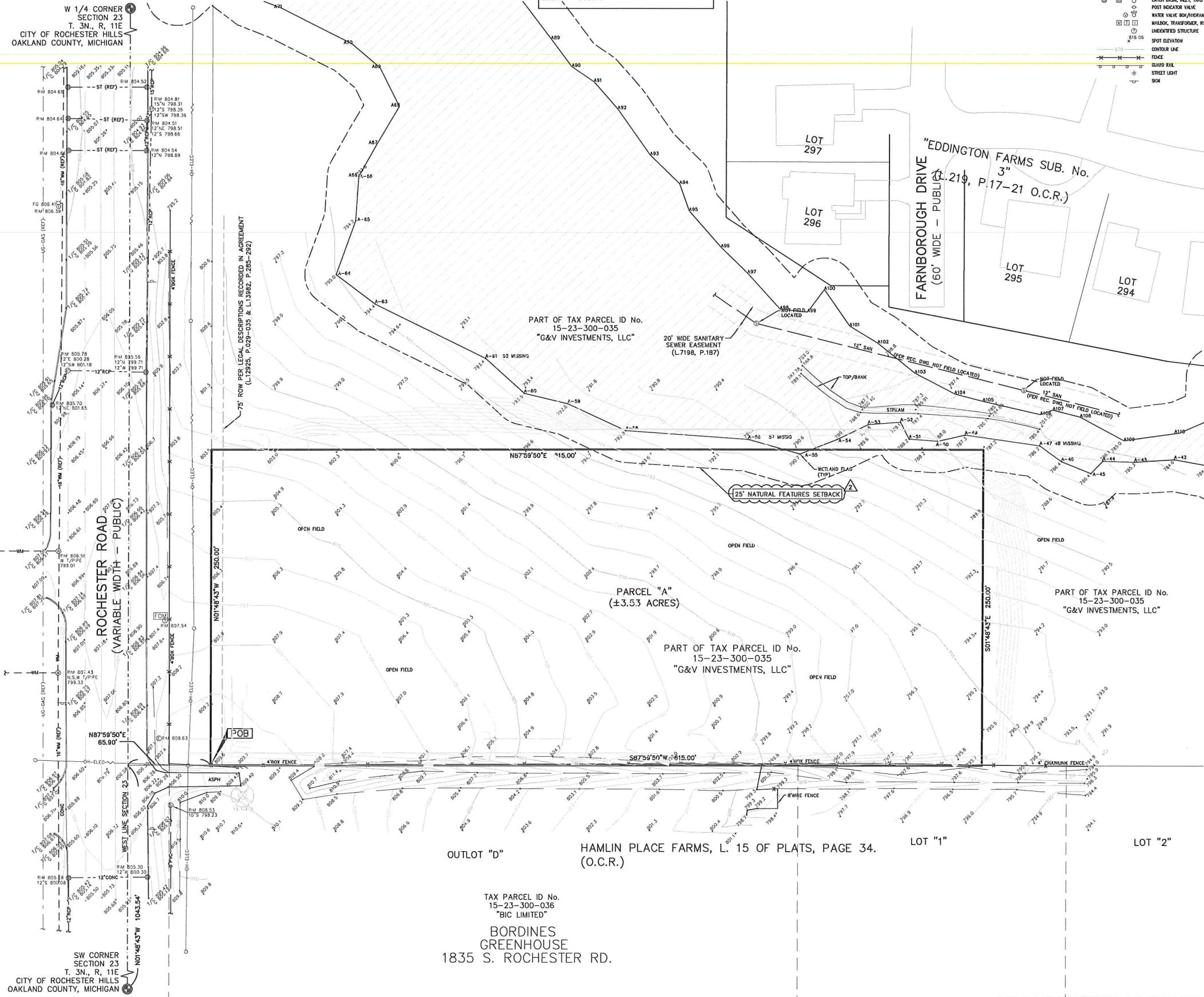
NO.	DATE	BY	DESCRIPTION

**REFERENCE DRAWINGS**  
 "ALTA/ACSM TITLE SURVEY BORDERS" PEA, PROJECT NO. 2006-131, DATED 3-12-07  
 TOPOGRAPHIC SURVEY, KEPT SURVEYING, PROJECT NO. 2006-131, DATED 3-5-07



**CAUTION!**  
 THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL INFORMATION SHOWN ON THIS DRAWING. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE RECORD DRAWINGS AND FIELD SURVEY. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE RECORD DRAWINGS AND FIELD SURVEY. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE RECORD DRAWINGS AND FIELD SURVEY.

**LEGAL DESCRIPTION - PARCEL "A":**  
 (Per Seaver Title Agency, File No.: 63-15437283-SCM, Rev. 1, Effective Date: August 20, 2015)  
 Part of the Southwest 1/4 of Section 23, Town 3 North, Range 11 East, City of Rochester Hills, Oakland County, Michigan, being more particularly described as follows: Beginning at a point which is North 01 degrees 48 minutes 43 seconds West 1043.54 feet along the West line of Section 23 and North 87 degrees 59 minutes 50 seconds East 65.90 feet from the Southwest corner of Section 23, Town 3 North, Range 11 East; thence North 01 degrees 48 minutes 43 seconds West 250.00 feet; thence North 87 degrees 59 minutes 50 seconds East 615.00 feet; thence South 01 degrees 48 minutes 43 seconds East 250.00 feet; thence South 87 degrees 59 minutes 50 seconds West 615.00 feet to the point of beginning.



TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENT
1	EE	14	Siberian Elm	Ulmus pumila	GOOD	
2	BE	10	Box elder	Acer negundo	GOOD	X3
3	BE	8	Box elder	Acer negundo	GOOD	X2
4	BX	7	Box elder	Acer negundo	GOOD	X6
5	BW	9	Black Walnut	Juglans nigra	GOOD	
6	AP	7	Domestic Apple	Malus sylvestris	POOR	X2
7	E	7	American Elm	Ulmus americana	GOOD	
8	NM	9	Norway Maple	Acer platanoides	GOOD	X2
9	BW	14	Black Walnut	Juglans nigra	GOOD	X3
10	BX	12	Box elder	Acer negundo	GOOD	X2
11	BW	12	Black Walnut	Juglans nigra	FAIR	X3
12	BW	12	Black Walnut	Juglans nigra	GOOD	
13	BW	15	Black Walnut	Juglans nigra	GOOD	X2
14	BX	7	Box elder	Acer negundo	FAIR	
15	BW	12	Black Walnut	Juglans nigra	GOOD	
16	BW	11	Black Walnut	Juglans nigra	GOOD	
17	BW	15	Black Walnut	Juglans nigra	GOOD	

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**NORTHPOINT DEVELOPMENT**  
 5015 NW CANAL STREET, SUITE 200  
 RIVERSIDE, MO 64150

**TOPOGRAPHIC SURVEY HILLS STONECREST AT ROCHESTER HILLS**  
 PART OF THE SW 1/4 SECTION 23, T3N, R11E, CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN

DES: ESB DN SUR: JMW P.M. DNH  
 DATE: 11/04/2015

ORIGINAL ISSUE DATE: NOVEMBER 4, 2015  
 PEA JOB NO. 2015-233  
 SCALE: 1" = 40'  
 DRAWING NUMBER: C-1.0

NOT TO BE USED AS CONSTRUCTION DRAWINGS

REF: S:\PROJ\2015\2015233\06\15233-TOPOBASE.DWG  
 REF: S:\PROJ\2015\2015233\06\CONSTRUCTIONVA-BASE-15233.DWG  
 REF: S:\PROJ\2015\2015233\06\CONSTRUCTIONVA-TBL-15233.DWG



**FIRE DEPARTMENT NOTES:**

FIRE LANES SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 503.

CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC CHAPTER 14.

OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND /OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION.

A KNOX KEY SYSTEM SHALL BE INSTALLED AT EACH BUILDING IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE KNOXBOX.COM.\* IFC 2006 SEC. 506

**GENERAL NOTES:**

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

- ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS CURRENT STANDARDS AND REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
- ALL SIGNS MUST MEET SECTION 138-8.603 AND CHAPTER 134 OF THE CITY CODE OF ORDINANCES AND BE APPROVED UNDER A SEPARATE PERMIT ISSUED BY THE BUILDING DEPARTMENT.

**SIDEWALK RAMP LEGEND:**

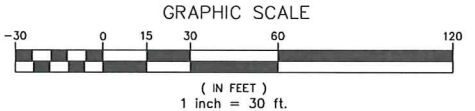
- SIDEWALK RAMP "TYPE RF" [Symbol]
  - SIDEWALK RAMP "TYPE R"
  - SIDEWALK RAMP "TYPE D"
  - SIDEWALK RAMP "TYPE P"
- REFER TO THE LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS.

**SIGN LEGEND:**

- 'STOP' SIGN [Symbol]
  - 'NO STOPPING STANDING PARKING FIRE LANE' SIGN [Symbol]
  - 'BARRIER FREE PARKING' SIGN [Symbol]
  - 'VAN ACCESSIBLE' SIGN [Symbol]
  - 'CROSSWALK' SIGN [Symbol]
- REFER TO CONSTRUCTION PLANS FOR ADDITIONAL SIGN DETAILS.

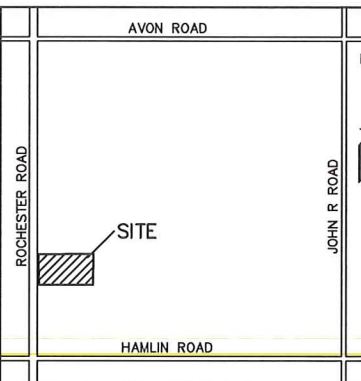
**ACCESSIBLE DOOR LEGEND:**

INDICATES ACCESSIBLE ACCESS DOOR. REFER TO ARCHITECTURAL PLANS FOR FURTHER DETAILS.



**SITE DATA TABLE:**

<b>LAND AREA:</b> GROSS = 3.53 ACRES NET (TO PROPOSED R.O.W.) = 2.54 ACRES	<b>ZONING INFO:</b> R-4 ONE FAMILY RESIDENTIAL FB-2 FLEX BUSINESS OVERLAY
<b>PROPOSED BUILDING AREA (GROSS):</b> PROPOSED BUILDING AREA = 81,073 S.F.	<b>BUILDING SETBACKS:</b> FRONT (ROCHESTER) SIDE (SOUTH) PROVIDED: 16.5' 27.36'
<b>PARKING REQUIRED:</b> Elderly housing, dependent (including nursing homes and assisted living): 1 SPACE / 0.5 SLEEPING ROOMS 100 SLEEPING ROOMS * 0.5 = 50 SPACES REQUIRED	<b>Notes:</b> 1. All roof and ground mounted mechanical equipment shall be screened from adjacent roads and properties. 2. Fire lanes shall be designated by the fire code official, and shall be conspicuously posted on both sides of the fire lane, with fire lane signs spaced not more than 100 feet apart, and in conformance with the MUTCD. 3. All pedestrian walkways and required access doors shall comply with Michigan Barrier Free Design Criteria.
<b>PARKING PROVIDED:</b> PARKING SPACES PROVIDED 57 SPACES (INCLUDING 4 HC SPACES)	



**REVISIONS**

NO.	DATE	BY	DESCRIPTION
1	12/21/15	EM	ISSUE FOR PERMITS
2	12/21/15	EM	REVISED PER CITY COMMENTS
3	12/21/15	EM	REVISED PER CITY COMMENTS
4	12/21/15	EM	REVISED PER CITY COMMENTS
5	12/21/15	EM	REVISED PER CITY COMMENTS
6	12/21/15	EM	REVISED PER CITY COMMENTS
7	12/21/15	EM	REVISED PER CITY COMMENTS
8	12/21/15	EM	REVISED PER CITY COMMENTS
9	12/21/15	EM	REVISED PER CITY COMMENTS
10	12/21/15	EM	REVISED PER CITY COMMENTS



**CAUTION!**  
THE LOCATION OF ALL UTILITIES IS SHOWN ON THIS DRAWING AND IS NOT TO BE USED FOR CONSTRUCTION UNLESS THE CONTRACTOR HAS BEEN ADVISED BY THE CITY ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

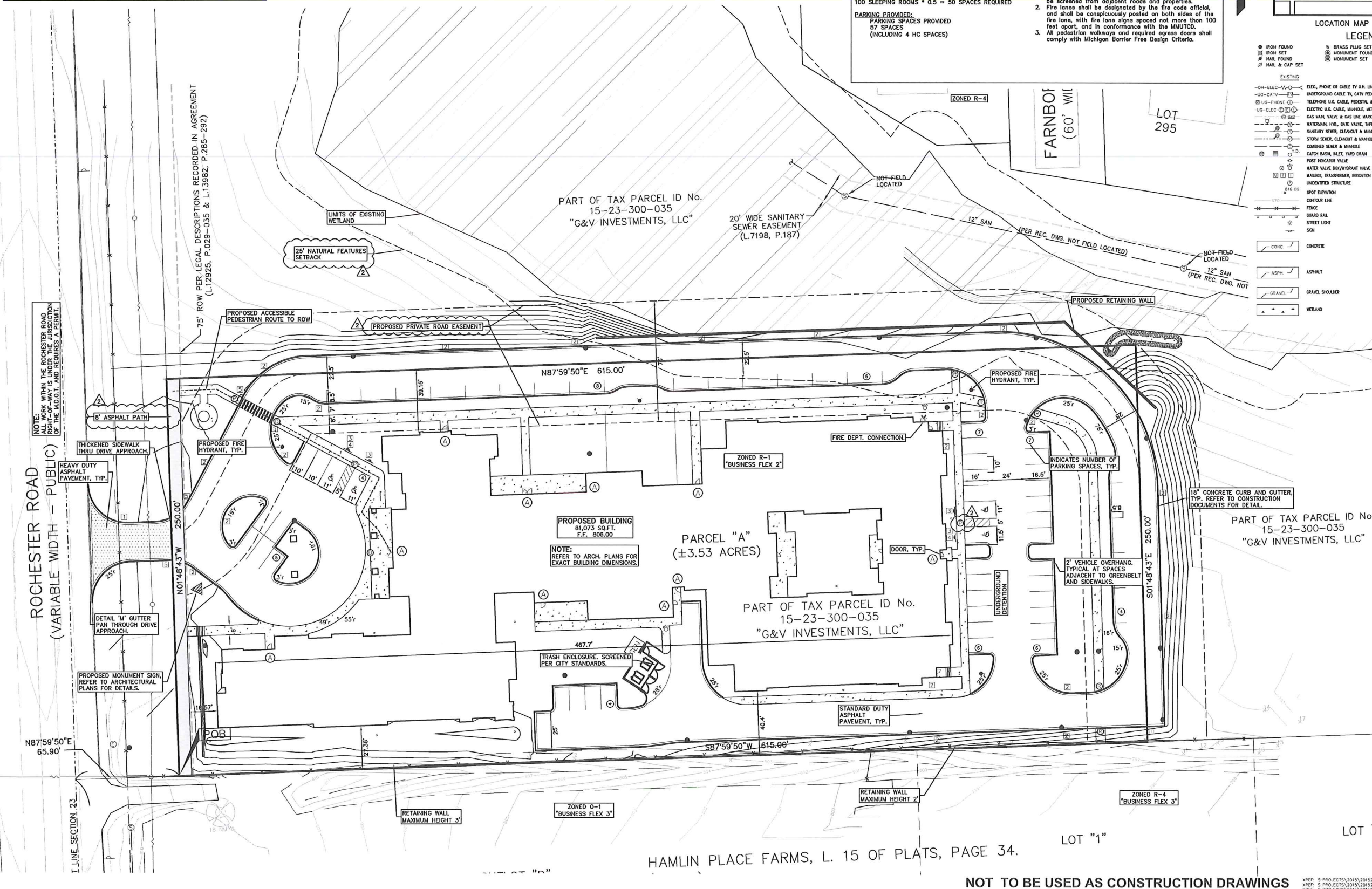
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RIVERSIDE, MO 64150  
**PRELIMINARY DIMENSION PLAN**  
**STONECREST AT ROCHESTER HILLS**  
PART OF THE SW 1/4 SECTION 23, T3N, R17E, E1/2  
CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN  
DES: ESB DN ESB SUR SUR JW P.M. DNH  
DATE: 12/21/15

**CITY FILE #15-019**  
ORIGINAL ISSUE DATE: NOVEMBER 4, 2015  
PEA JOB NO. 2015-233  
SCALE: 1" = 30'  
DRAWING NUMBER: **C-2.0**



**FIRE DEPARTMENT NOTES:**

FIRE LANES SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 503  
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FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 307.6.2 & 307.6.2.3  
A KNOX KEY SYSTEM SHALL BE INSTALLED AT EACH BUILDING IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL.  
ORDERING INFORMATION IS AVAILABLE KNOXBOX.COM.  
IFC 2008 SEC. 506

**GENERAL NOTES:**

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.  
1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.  
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**SIDEWALK RAMP LEGEND:**

- SIDEWALK RAMP "TYPE R"
- SIDEWALK RAMP "TYPE R"
- SIDEWALK RAMP "TYPE D"
- SIDEWALK RAMP "TYPE P"

**SIGN LEGEND:**

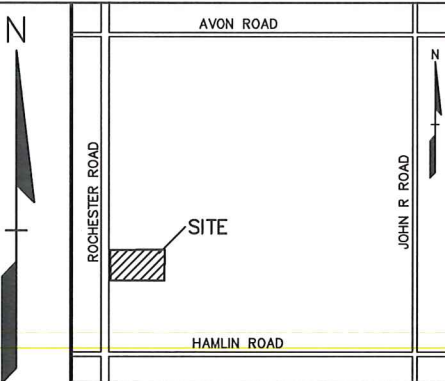
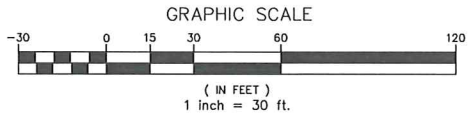
- 'STOP' SIGN
- 'NO STOPPING STANDING PARKING FIRE LANE' SIGN
- 'BARRIER FREE PARKING' SIGN
- 'VAN ACCESSIBLE' SIGN
- 'CROSSWALK' SIGN

**ACCESSIBLE DOOR LEGEND:**

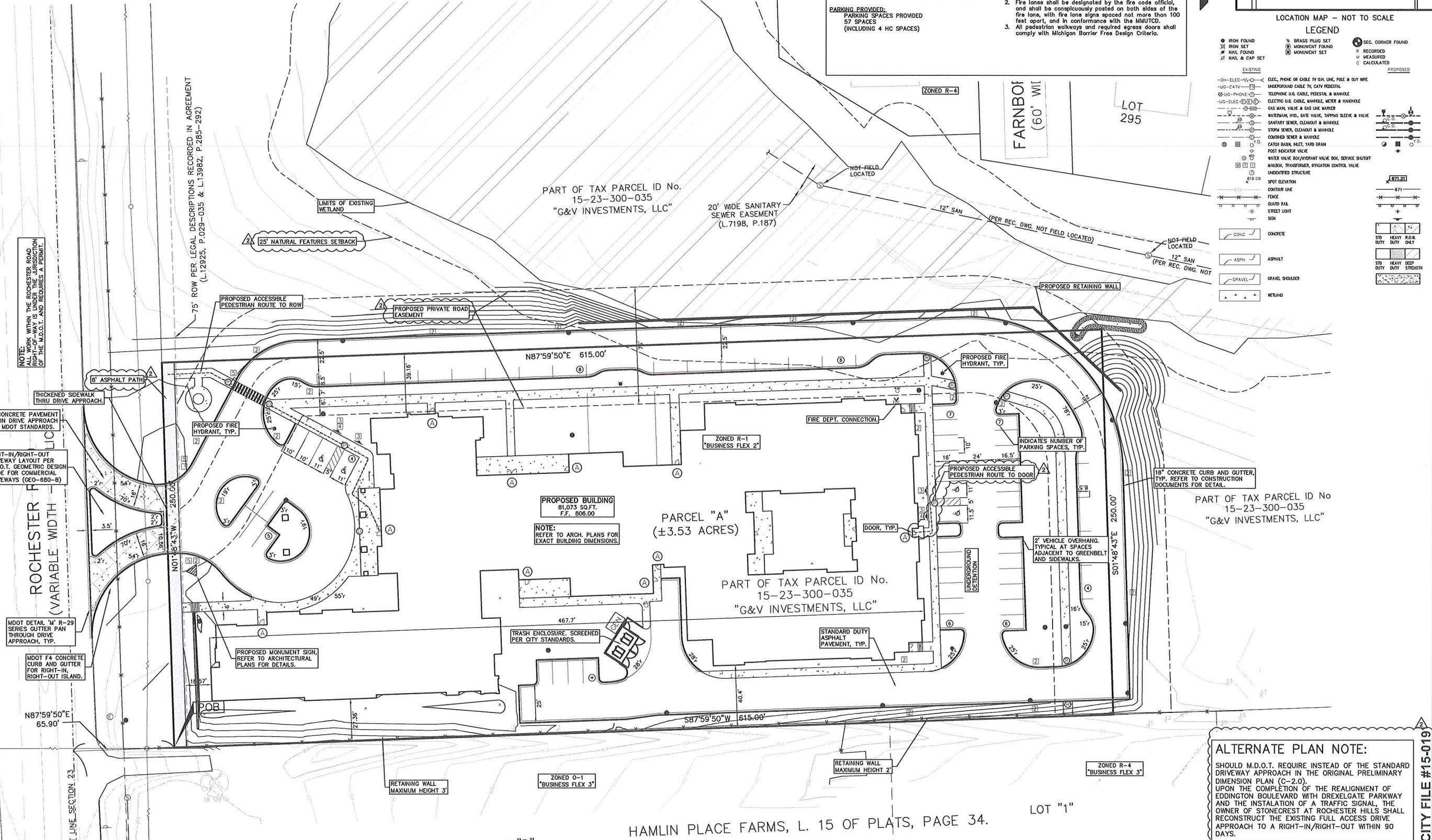
INDICATES ACCESSIBLE ACCESS DOOR  
REFER TO ARCHITECTURAL PLANS FOR FURTHER DETAILS.

**SITE DATA TABLE:**

Table with 2 columns: Category and Value. Includes Land Area (Gross: 3.53 ACRES, Net: 2.54 ACRES), Proposed Building Area (Gross: 81,073 S.F.), Parking Required (57 SPACES), and Zoning Info (R-4 ONE FAMILY RESIDENTIAL, FB-2 FLEX BUSINESS OVERLAY).



REVISIONS table with columns: No., Date, Description, and By.



LEGEND for symbols and materials. Includes categories like IRON FOUND, BRASS PLUG SET, ELEC. PHONE OR CABLE, CONCRETE, ASPHALT, and WELAND.

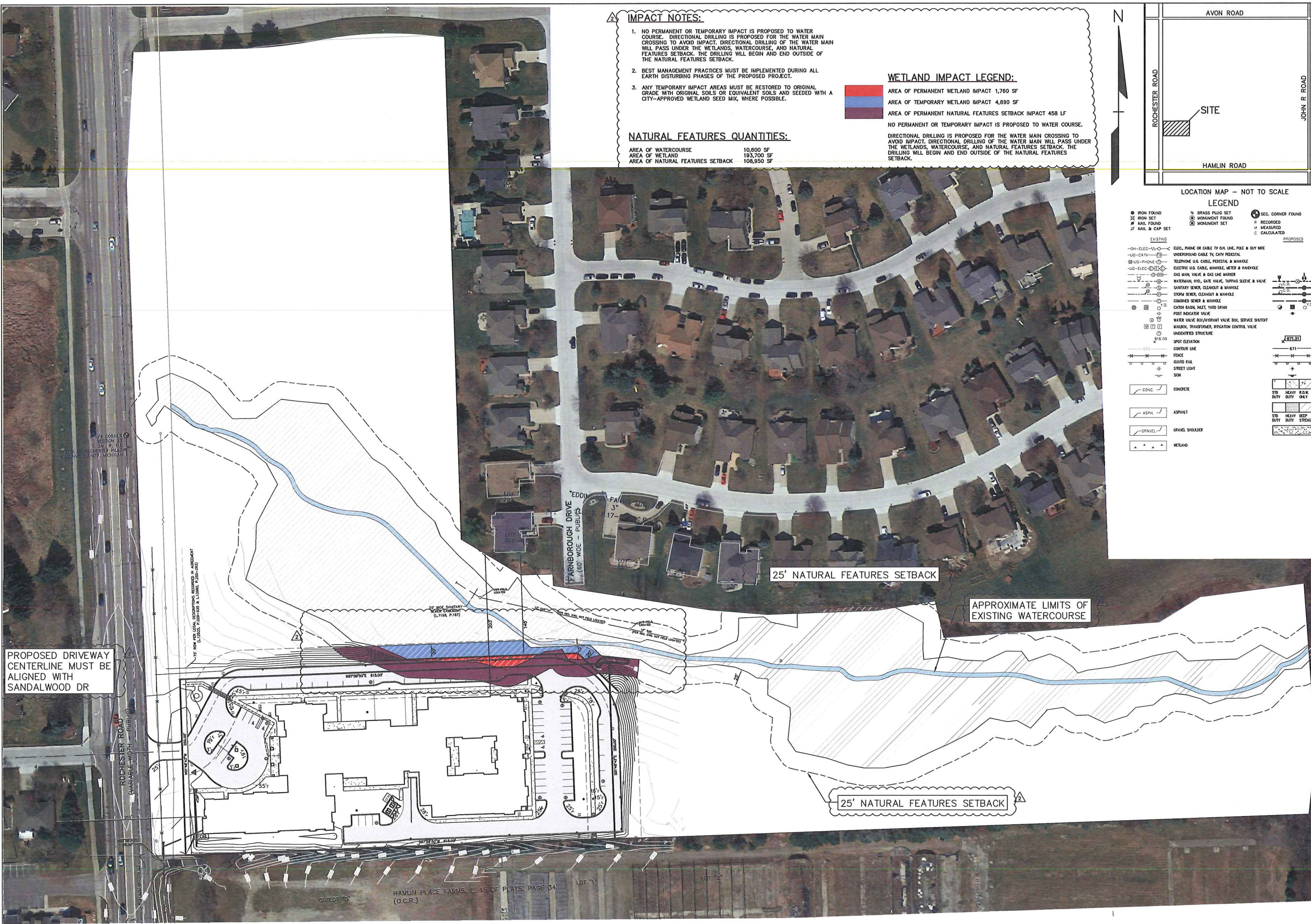
Professional Engineer seal for EML S. BUNEK III, ENGINEER 6201058445. Includes a CAUTION notice about utility lines.

811 MISSISSIPPI System, Inc. logo and text: "Know what's below Call before you dig".

PEA, Inc. logo and contact information: 2430 Rochester Ct, Ste 100, Troy, MI 48063-1872.

ALTERNATE PLAN NOTE: SHOULD M.D.O.T. REQUIRE INSTEAD OF THE STANDARD DRIVEWAY APPROACH IN THE ORIGINAL PRELIMINARY DIMENSION PLAN (C-2.0), UPON THE COMPLETION OF THE REALIGNMENT OF EDDINGTON BOULEVARD WITH DREXELGATE PARKWAY AND THE INSTALLATION OF A TRAFFIC SIGNAL, THE OWNER OF STONECREST AT ROCHESTER HILLS SHALL RECONSTRUCT THE EXISTING FULL ACCESS DRIVEWAY APPROACH TO A RIGHT-IN/RIGHT-OUT WITHIN 90 DAYS.

CITY FILE #15-0191 NORTHPOINT DEVELOPMENT 5015 NW CANAL STREET, SUITE 200 RIVERSIDE, MO 64150 PRELIMINARY DIMENSION PLAN - ALT STONECREST AT ROCHESTER HILLS PART OF THE SW 1/4 SECTION 23, T.3N., R.11 E., CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN



**IMPACT NOTES:**

1. NO PERMANENT OR TEMPORARY IMPACT IS PROPOSED TO WATER COURSE. DIRECTIONAL DRILLING IS PROPOSED FOR THE WATER MAIN CROSSING TO AVOID IMPACT. DIRECTIONAL DRILLING OF THE WATER MAIN WILL PASS UNDER THE WETLANDS, WATERCOURSE, AND NATURAL FEATURES SETBACK. THE DRILLING WILL BEGIN AND END OUTSIDE OF THE NATURAL FEATURES SETBACK.
2. BEST MANAGEMENT PRACTICES MUST BE IMPLEMENTED DURING ALL EARTH DISTURBING PHASES OF THE PROPOSED PROJECT.
3. ANY TEMPORARY IMPACT AREAS MUST BE RESTORED TO ORIGINAL GRADE WITH ORIGINAL SOILS OR EQUIVALENT SOILS AND SEEDED WITH A CITY-APPROVED WETLAND SEED MIX, WHERE POSSIBLE.

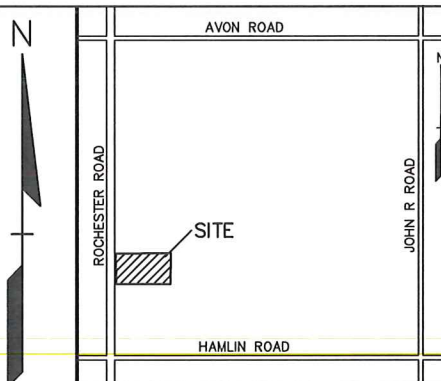
**WETLAND IMPACT LEGEND:**

- AREA OF PERMANENT WETLAND IMPACT 1,760 SF
- AREA OF TEMPORARY WETLAND IMPACT 4,890 LF
- AREA OF PERMANENT NATURAL FEATURES SETBACK IMPACT 458 LF
- NO PERMANENT OR TEMPORARY IMPACT IS PROPOSED TO WATER COURSE.

**NATURAL FEATURES QUANTITIES:**

AREA OF WATERCOURSE 10,600 SF  
 AREA OF WETLAND 193,700 SF  
 AREA OF NATURAL FEATURES SETBACK 108,950 SF

DIRECTIONAL DRILLING IS PROPOSED FOR THE WATER MAIN CROSSING TO AVOID IMPACT. DIRECTIONAL DRILLING OF THE WATER MAIN WILL PASS UNDER THE WETLANDS, WATERCOURSE, AND NATURAL FEATURES SETBACK. THE DRILLING WILL BEGIN AND END OUTSIDE OF THE NATURAL FEATURES SETBACK.



**LEGEND**

**EXISTING**

- IRON FOUND
- IRON SET
- NAIL FOUND
- NAIL & CAP SET
- BRASS PLUG SET
- MONUMENT FOUND
- MONUMENT SET
- SEC. CORNER FOUND
- RECORDED
- MEASURED
- CALCULATED

**PROPOSED**

- ELEC. PHONE OR CABLE TO SIX LINE, POLE & DUTY WIRE UNDERGROUND CABLE TO CITY FEEDSTATION
- TELEPHONE U.S. CABLE, FEEDSTATION & MANHOLE
- ELECTRIC U.S. CABLE, MANHOLE, METER & MANHOLE
- GAS MAIN, VALVE & GAS LINE MANHOLE
- WATERMAIN, HDG., GATE VALVE, TAPPING SLEEVE & VALVE
- SANITARY SINK, CLEANOUT & MANHOLE
- STORM SINK, CLEANOUT & MANHOLE
- COMBINED SINK & MANHOLE
- CATCH BASIN, PUMP, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- WALKING, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SOIL
- CONC.
- ASPH.
- GRAVEL
- WETLAND

**CAUTION!**  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES AND STRUCTURES PRIOR TO ANY EXCAVATION OR DRILLING OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF ROCHESTER HILLS AND THE MICHIGAN DEPARTMENT OF NATURAL RESOURCES PRIOR TO ANY EXCAVATION OR DRILLING OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF ROCHESTER HILLS AND THE MICHIGAN DEPARTMENT OF NATURAL RESOURCES PRIOR TO ANY EXCAVATION OR DRILLING OPERATIONS.

NO.	DATE	BY	DESCRIPTION
1	12/27/15	DNH	DATE
2	ESB	DNH	DATE
3	DNH	DATE	DESCRIPTION
4	DNH	DATE	DESCRIPTION
5	DNH	DATE	DESCRIPTION
6	DNH	DATE	DESCRIPTION
7	DNH	DATE	DESCRIPTION
8	DNH	DATE	DESCRIPTION
9	DNH	DATE	DESCRIPTION
10	DNH	DATE	DESCRIPTION



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**PEA, Inc.**

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 f: 248.689.1044  
 www.peainc.com

PROPOSED DRIVEWAY CENTERLINE MUST BE ALIGNED WITH SANDALWOOD DR

25' NATURAL FEATURES SETBACK

APPROXIMATE LIMITS OF EXISTING WATERCOURSE

25' NATURAL FEATURES SETBACK

NOT TO BE USED AS CONSTRUCTION DRAWINGS

PROJ: S:\PROJ\2015\2015233\DWG\15233-10\PEA.DWG  
 REF: S:\PROJ\2015\2015233\DWG\CONSTRUCTION\X-BASE-15233.DWG  
 REF: S:\PROJ\2015\2015233\DWG\CONSTRUCTION\X-TBLK-15233.DWG

**CITY FILE #15-019**

**NORTHPOINT DEVELOPMENT**  
 5015 NW CANAL STREET, SUITE 200  
 RIVERSIDE, MO 64150

**OVERALL PLAN**  
**STONECREST AT ROCHESTER HILLS**  
 PART OF THE SW 1/4 SECTION 23, T.3N, R.11E, E.1  
 CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN

DES: ESB DN ESB DN ESB DN ESB DN ESB DN  
 DES: DN ESB DN ESB DN ESB DN ESB DN ESB DN

ORIGINAL ISSUE DATE:  
 NOVEMBER 4, 2015

PEA JOB NO. 2015-233

SCALE: 1" = 30'

DRAWING NUMBER:  
**C-2.1**

**FIRE DEPARTMENT NOTES:**

FIRE LANES SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 503.

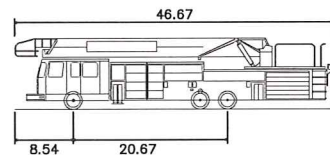
CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC CHAPTER 14.

OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION.

FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 307.6.2 & 307.6.2.3

A KNOX KEY SYSTEM SHALL BE INSTALLED AT EACH BUILDING IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL.

ORDERING INFORMATION IS AVAILABLE. KNOXBOX.COM.  
IFC 2006 SEC. 508



Rochester Hills Fire Truck  
Overall Length 46.670ft  
Overall Width 8.500ft  
Min Wheel Radius 42.5ft

**GENERAL NOTES:**

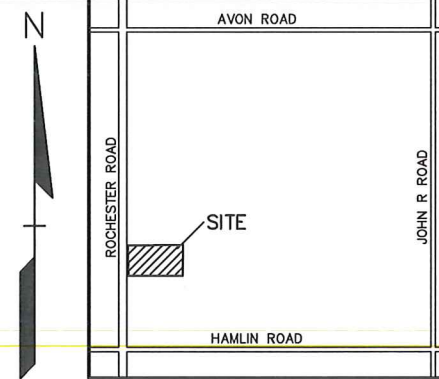
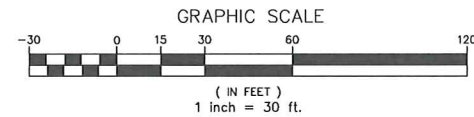
THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

- ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS CURRENT STANDARDS AND REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.

**SIGN LEGEND:**

- 'STOP' SIGN [1]
- 'NO STOPPING STANDING PARKING FIRE LANE' SIGN [2]
- 'BARRIER FREE PARKING' SIGN [3]
- 'VAN ACCESSIBLE' SIGN [4]
- 'CROSSWALK' SIGN [5]

REFER TO LATEST MDOT R-28 STANDARD DETAILS FOR ADDITIONAL SIGN DETAILS



NO.	DATE	BY	CHK.	DESCRIPTION
1	10/27/15	EMIL S. BUNEX II		DATE
2	11/04/15	EMIL S. BUNEX II		DATE
3	11/04/15	EMIL S. BUNEX II		DATE
4	11/04/15	EMIL S. BUNEX II		DATE
5	11/04/15	EMIL S. BUNEX II		DATE
6	11/04/15	EMIL S. BUNEX II		DATE
7	11/04/15	EMIL S. BUNEX II		DATE
8	11/04/15	EMIL S. BUNEX II		DATE
9	11/04/15	EMIL S. BUNEX II		DATE
10	11/04/15	EMIL S. BUNEX II		DATE



**CAUTION!**

THE EXISTING UTILITIES SHOWN ON THIS DRAWING ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. ANY UNIDENTIFIED UTILITIES SHALL BE DEEMED TO BE PRESENT AND SHALL BE PROTECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE CITY OF ROCHESTER HILLS AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

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f: 248.589.1044  
www.peainc.com

**CITY FILE #15-019**

**NORTHPOINT DEVELOPMENT**  
5015 NW CANAL STREET, SUITE 200  
RIVERSIDE, MO 64150

**FIRE PROTECTION PLAN**  
**STONECREST AT ROCHESTER HILLS**  
PART OF THE SW 1/4 SECTION 23, T.3N., R.11E.,  
CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN

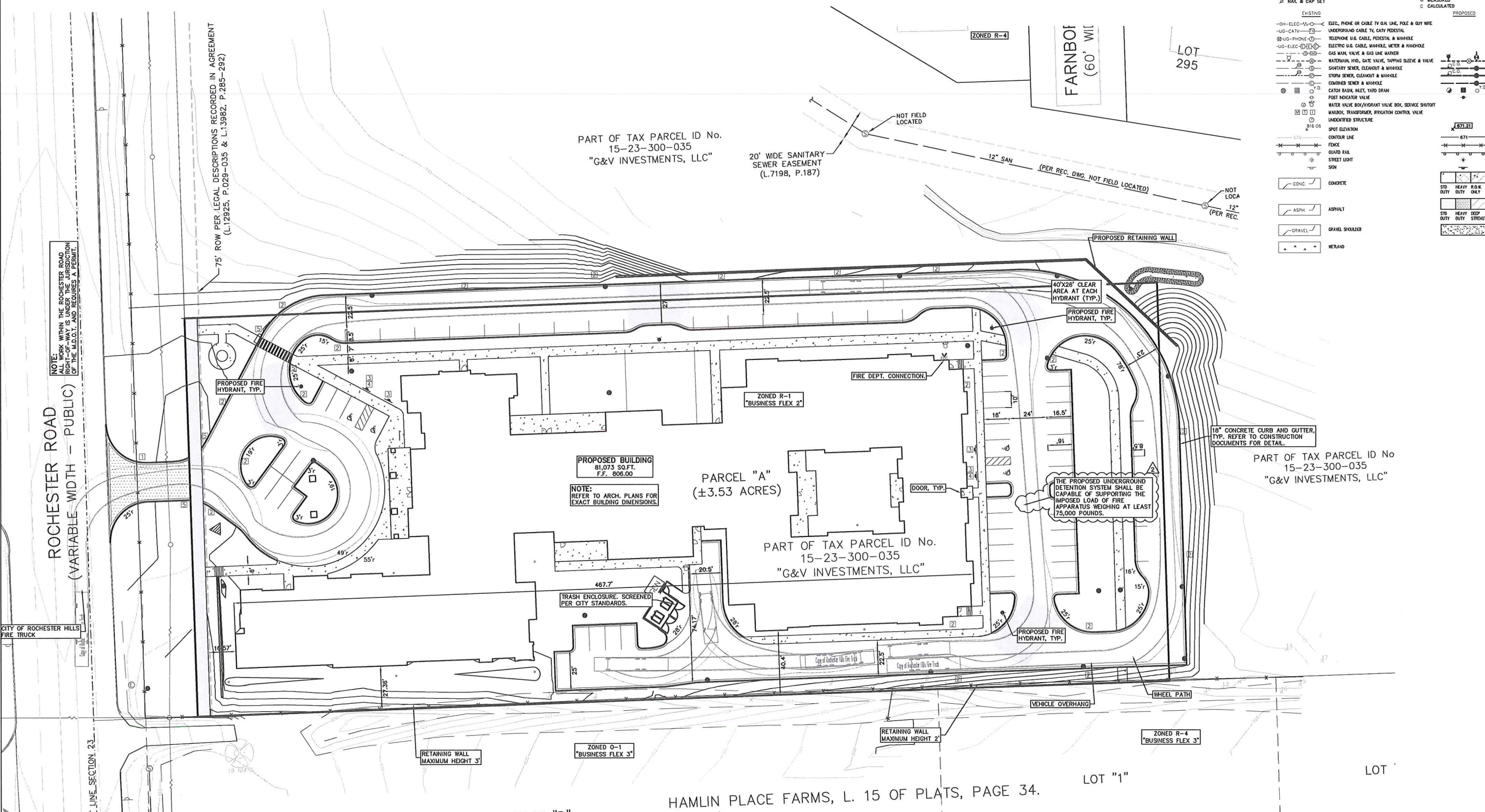
DES. ESB DN. ESB SUR. JW P.M. DNH

ORIGINAL ISSUE DATE:  
NOVEMBER 4, 2015

PEA JOB NO. 2015-233

SCALE: 1" = 30'

DRAWING NUMBER:  
**C-2.3**



**25 YEAR STORM DETENTION DESIGN (OAKLAND COUNTY DESIGN METHOD)**

Contributing Area (A): 3.61 AC.  
 Allowable Discharge (Qa): 0.72 C.F.S. (= 0.2 CFS/AC.)  
 Coefficient of Runoff (Cr): 0.70

**Calculation of Required Discharge/Acre**

$Q_0 = ((Q_a)/(A))(C_r)$ : 0.29  
 $T = -25 + ((8062.5/Q_0))0.5$ : 142.52

**Storage Volume Required:**

$V_s = (12900(T)/(T+25)) - 40Q_0(T)$ : 9336.99  
 $V_t = (V_s)(A)(C_r)$ : 23447

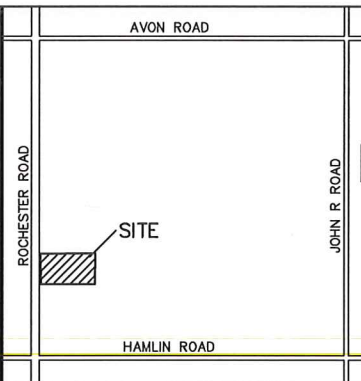
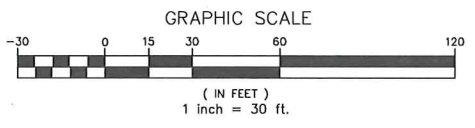
**DRAINAGE CALCULATIONS:**

ALL DEVELOPED AREA PROPOSED TO DRAIN TO DETENTION SYSTEM HAS BEEN INCLUDED IN THE DESIGN AT A "C" FACTOR OF 0.95 FOR IMPERVIOUS AREAS AND 0.25 FOR LANDSCAPE AREAS.

**SANITARY SEWER BASIS OF DESIGN:**

(Unit Factors Based on Oakland County Unit Assignment Factors)  
 CONVALESCENT AND/OR NURSING HOMES

BEDS	100
Unit Factor	0.3
REU	30.0
Population (P) (3.5 PEOPLE/EDU)	105.0 People
<b>TOTAL</b>	<b>30.0</b>
REU	105 People
Average Flow (100 GPCPD)	10,500 G.P.D.
	0.016 C.F.S.
P (1000s)	0.105
Peaking Factor (PF)	4.24
PF = (18+sqrt(P))/(4+sqrt(P))	
Peak Flow (G.P.D.)	44,496 G.P.D.
Peak Flow (C.F.S.)	0.069 C.F.S.
8" Pipe Capacity Provided =	0.76 C.F.S.



**REVISIONS**

NO.	DATE	BY	CHK	DESCRIPTION
1				
2				
3				



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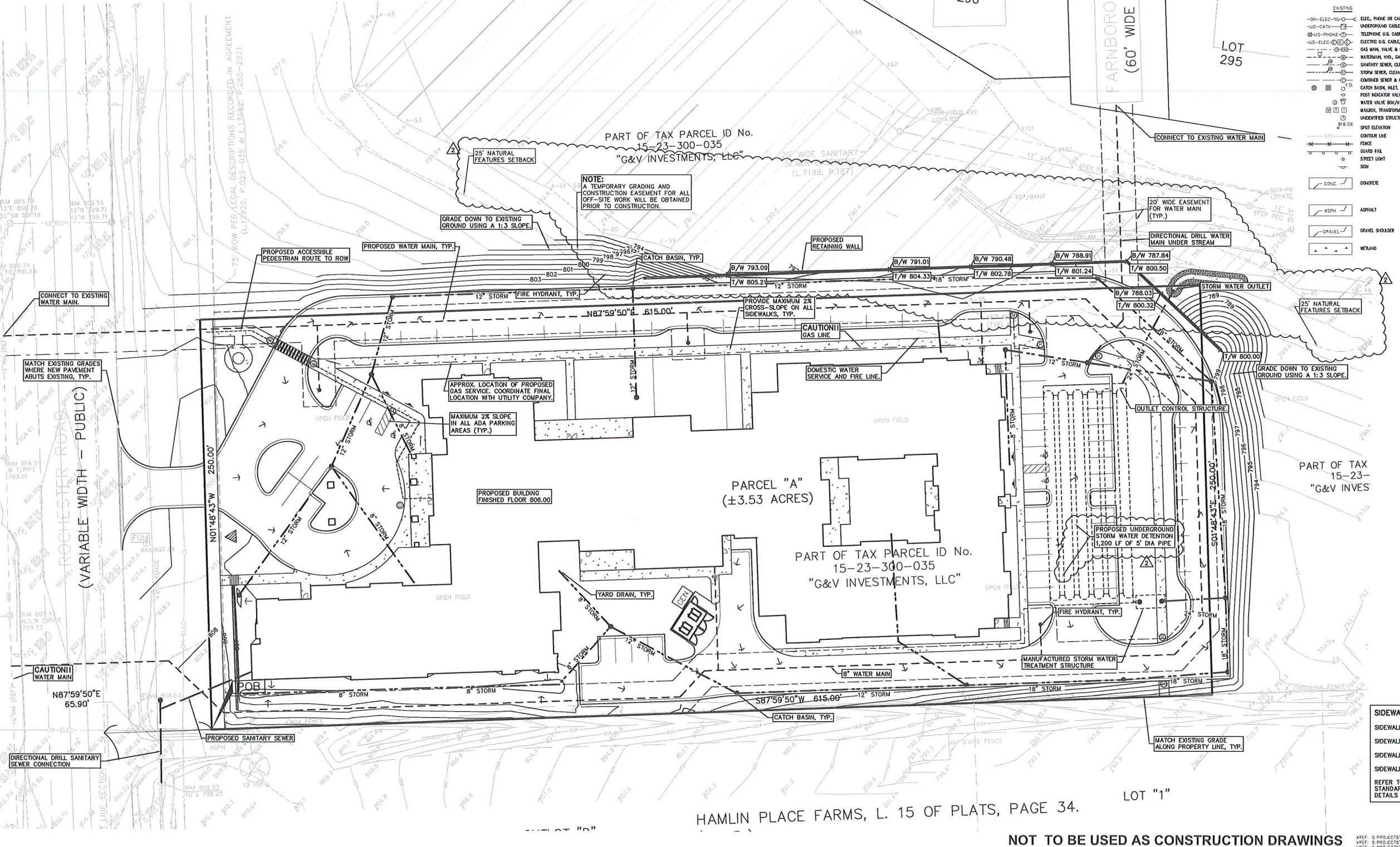
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 www.peainc.com

**NORTHPOINT DEVELOPMENT**  
 5015 NW CANAL STREET, SUITE 200  
 RIVERSIDE, MO 64150  
**PRELIMINARY GRADING AND UTILITY PLAN**  
**STONECREST AT ROCHESTER HILLS**  
 PART OF THE SW 1/4 SECTION 24, T4N, R12E, E1/2  
 CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN

**CITY FILE #15-019**  
 ORIGINAL ISSUE DATE: NOVEMBER 4, 2015  
 PEA JOB NO. 2015-233  
 SCALE: 1" = 30'  
 DRAWING NUMBER: C-3.0



**LEGEND**

EXISTING	PROPOSED
● IRON FOUND	○ REC. CORNER FOUND
⊗ IRON SET	⊗ MEASURED
⊗ NAIL FOUND	⊗ CALCULATED
⊗ NAIL & CAP SET	
— ON-ELEC—W—C	ELEC. PHONE OR CABLE TV OR LINE, POLE & BUY WIRE
— ON-CATV—C—C	UNDERGROUND CABLE TV, CATV PEDESTAL
— US-PHONE—P—P	TELEPHONE U.S. CABLE, PEDESTAL & MANHOLE
— US-ELEC—E—E	ELECTRIC U.S. CABLE, MANHOLE, METER & MANHOLE
— GAS—G—G	GAS MAIN, VALVE & GAS LINE MARKER
— W—W	WATER MAIN, HYD. GATE VALVE, STOPPING SERVICE & VALVE
— S—S	SEWER, CLEANOUT & MANHOLE
— C—C	CONCRETE SEWER & MANHOLE
— D—D	CATCH BASIN, INLET, YARD DRAIN
— F—F	POST INDICATOR VALVE
— V—V	WATER VALVE BOX/INDICATOR VALVE BOX, SERVICE SHUTOFF
— T—T	WALDOX, TRANSFORMER, SERVICION CONTROL VALVE
— U—U	UNIDENTIFIED STRUCTURE
— S—S	SPOT ELEVATION
— C—C	CONTOUR LINE
— F—F	FENCE
— G—G	GUARD RAIL
— L—L	STREET LIGHT
— S—S	SPIN
— C—C	CONCRETE
— A—A	ASPHALT
— G—G	GRAVEL SHOULDER
— W—W	WETLAND
— S—S	20' HEAVY DUTY
— S—S	30' HEAVY DUTY
— S—S	30' HEAVY DUTY STRENGTH

**SIDEWALK RAMP LEGEND:**

○	SIDEWALK RAMP "TYPE R"
○	SIDEWALK RAMP "TYPE R"
○	SIDEWALK RAMP "TYPE D"
○	SIDEWALK RAMP "TYPE P"

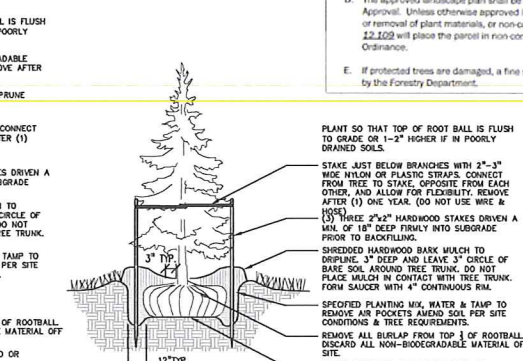
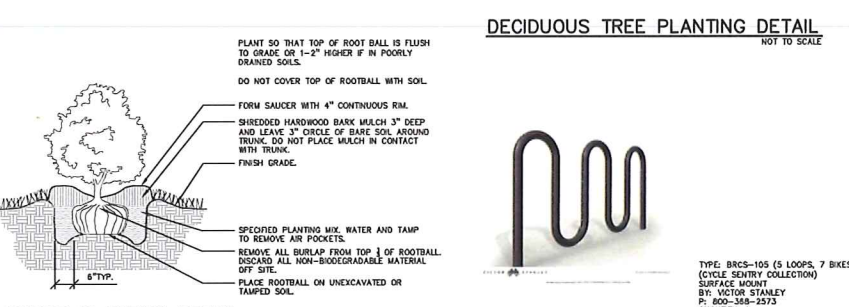
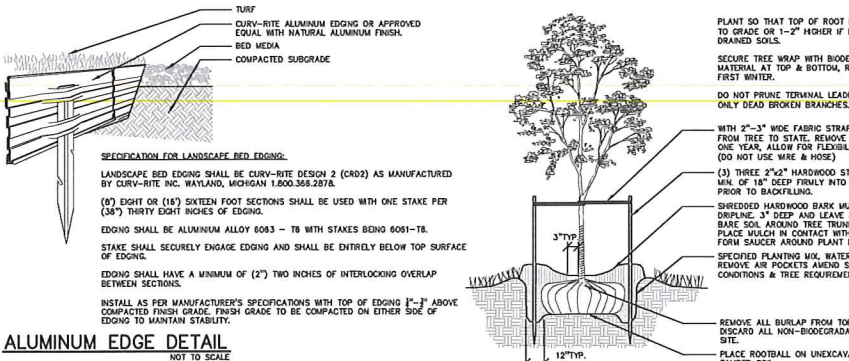
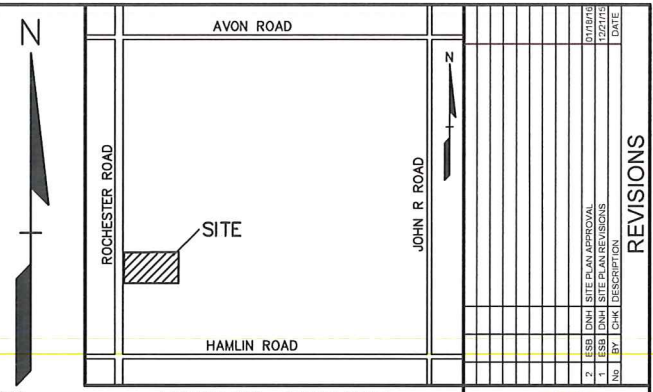
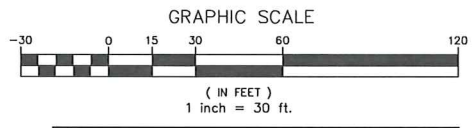
HAMLIN PLACE FARMS, L. 15 OF PLATS, PAGE 34.

**NOT TO BE USED AS CONSTRUCTION DRAWINGS**

REF: S:\PROJ\2015\2015233\0405\15233-10\BASE.DWG  
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CITY OF ROCHESTER HILLS NOTES: TREE PLANTING RESTRICTIONS: Prior approval is required to plant any tree or shrub on the public right-of-way...

PER CITY OF ROCHESTER HILLS MAINTENANCE AGREEMENT: Section 138-12.109 Maintenance The owner of the property shall be responsible for all maintenance of site landscaping...



BUFFER YARD TYPE B AT SOUTH PROPERTY LINE: REQUIRED: 2 DEC. + 1.5 ORN. + 2 EVG. + 4 SHRUBS/100 LF SOUTH/615 LF = 12 DEC; 9 ORN; 12 EVG; 25 SHRUBS REQ.D

BUFFER YARD TYPE D AT NORTH AND EAST PROPERTY LINE: REQUIRED: 2.5 DEC. + 1.5 ORN. + 5 EVG. + 8 SHRUBS/100 LF NORTH/615 LF = 15 DEC; 9 ORN; 31 EVG; 49 SHRUBS REQ.D

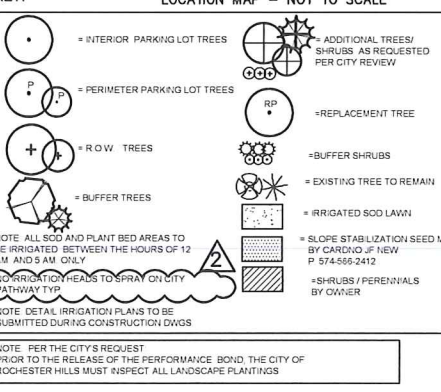
ADDITIONAL TREES REQUESTED PER CITY REVIEW COMMENTS: REQUIRED: 12 DEC; 15 ORN; 9 EVG; 44 SHRUBS

TREE REPLACEMENT: REQUIRED: 5 DEC. TREES TO BE REMOVED (1 IN POOR CONDITION) (3" CAL TREE OR 10" FT EVERGREEN = 2 TREE CREDIT)

EVERGREEN PLANT LIST and SHRUB PLANT LIST tables with columns: QUANTITY, KEY SYMBOL, COMMON NAME, SCIENTIFIC NAME, SIZE, SPEC.

LANDSCAPE CALCULATIONS: PER CITY OF ROCHESTER HILLS ZONING ORDINANCE INTERIOR PARKING LOT LANDSCAPE: REQUIRED: 5% OF VEHICLE USE AREA, 1 TREE/150 SF

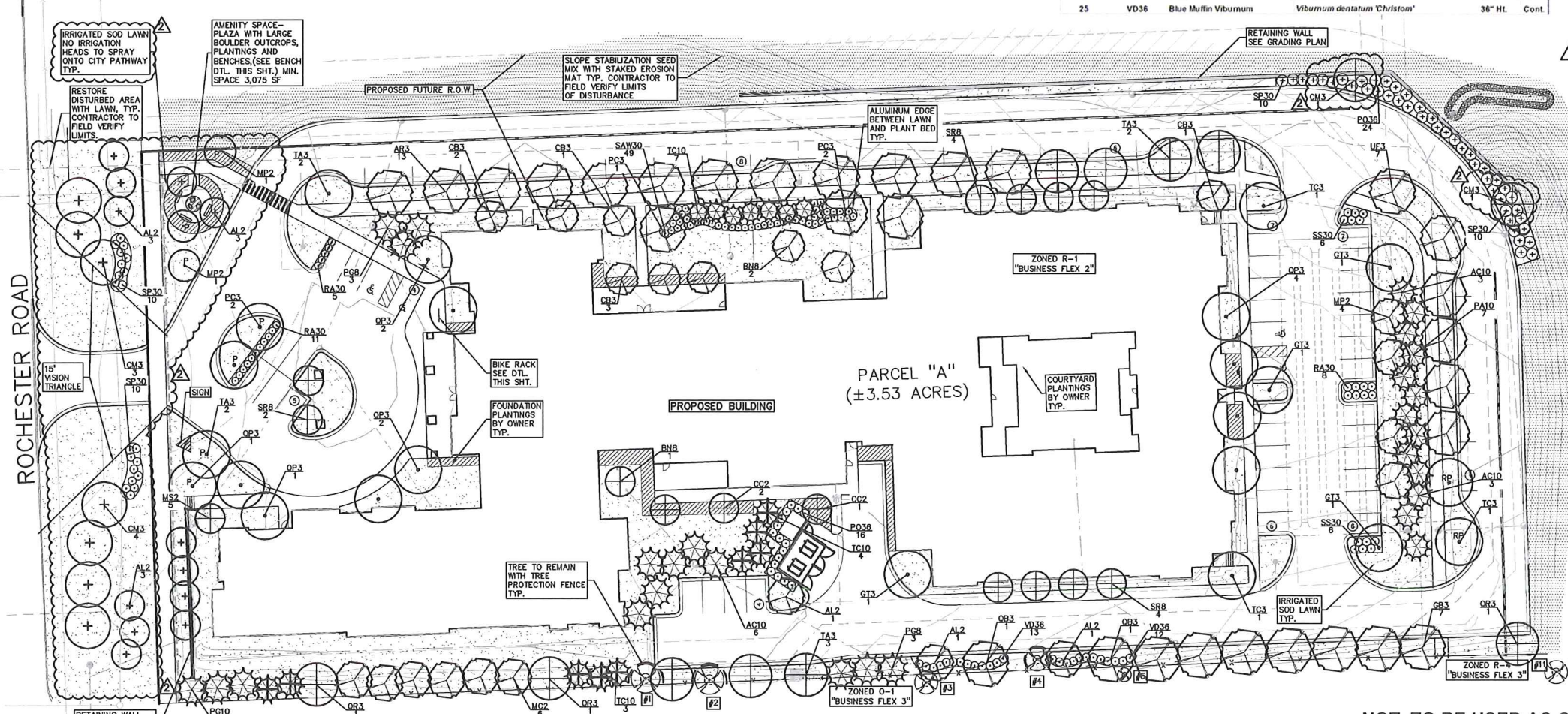
PERIMETER PARKING LOT LANDSCAPE: REQUIRED: 1 DEC TREE / 25 LF 1 ORN TREE / 35 LF CONTINUOUS SHRUB HEDGE ALONG PARKING LOT



TREE PLANT LIST table with columns: QUANTITY, KEY SYMBOL, COMMON NAME, SCIENTIFIC NAME, SIZE, SPEC. Lists various trees like Red Sunset Maple, Allegheny Serviceberry, etc.

LANDSCAPE table with columns: QUANTITY, ITEM DESCRIPTION, UNIT PRICE, TOTAL. Includes items like Deciduous and Evergreen Trees, Ornamental Trees, Shrubs, etc.

GENERAL PLANTING NOTES: 1. LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK... 7. ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER...



landscaperforms 431 LAINDALE AVE. KALAMAZOO, MI 49008 PHONE: 800-521-2548 FAX: 269-381-3455

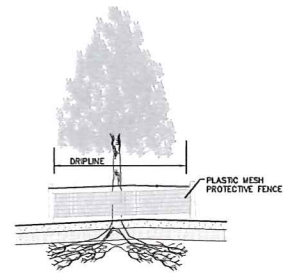
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CITY FILE #15-019 NORTHPOINT DEVELOPMENT 5015 N. COPPER HILLS DRIVE SUITE 200 WESTLAND, MI 48091 LANDSCAPE PLAN 15033.DWG

ORIGINAL ISSUE DATE: NOVEMBER 4, 2015 PEA JOB NO 2015-233 SCALE: 1" = 30' DRAWING NUMBER: L-1

NOT TO BE USED AS CONSTRUCTION DRAWINGS

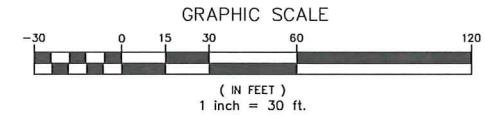


**TREE PROTECTION FENCE DETAIL**  
NOT TO SCALE

- TREE PROTECTION WILL BE ERRECTED PRIOR TO START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO PLACING SOLVENTS, BUILDING MATERIAL, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN DRIP LINES.
- GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINE OF PROTECTED TREES.
- DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE.
- ALL UTILITY SERVICE REQUEST MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
- IF TREE PROTECTION CANNOT BE MAINTAINED FOR A TREE THROUGHOUT THE CONSTRUCTION PERIOD, REPLACEMENT OF THAT TREE MAY BE REQUIRED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
- REGULATED TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.

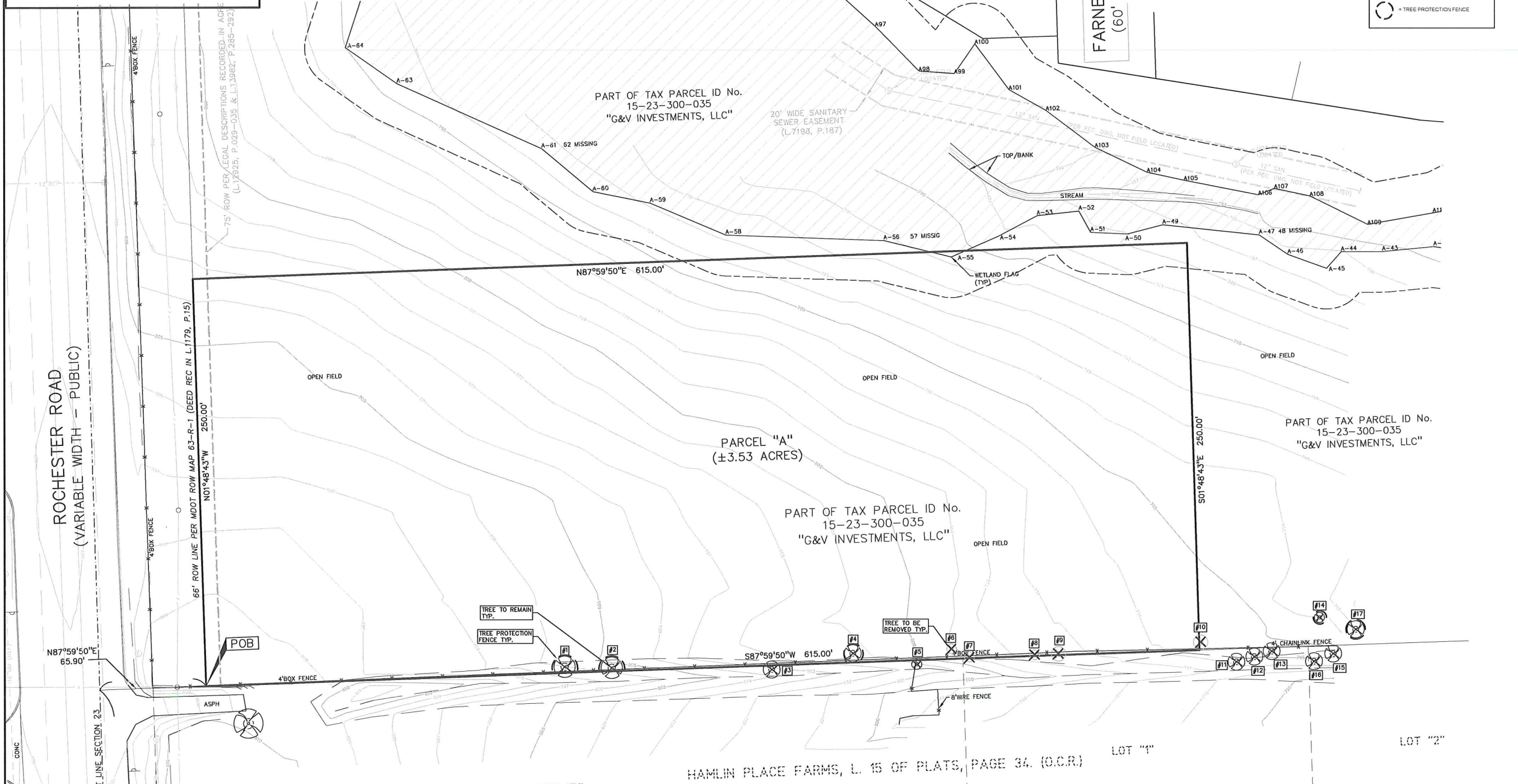
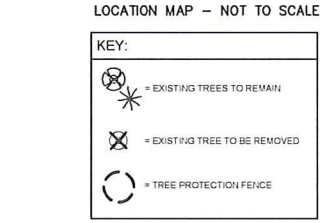
**CITY OF ROCHESTER HILLS NOTES:**

- IMPORTANT!**  
ALL TREES ON ADJACENT PROPERTIES MUST BE PROTECTED. THE TREE PROTECTIVE FENCING MAY BE PLACED ALONG THE ACTUAL PROPERTY LINE IF THE BRANCHES OF THE TREES ON THE ADJACENT PROPERTIES DO NOT OVERHANG ONTO THE SITE BEING DEVELOPED. IF THE BRANCHES OVERHANG ONTO THE AREA OF THE SITE BEING DEVELOPED, THE TREE PROTECTIVE FENCING MUST BE PLACED AT THE ACTUAL DRIP LINE OF THESE TREES. IT SHOULD ALSO BE NOTED THAT THE SILT FENCING MUST BE PLACED ON THE DEVELOPMENT SIDE OF THE TREE PROTECTIVE FENCING. THE SILT FENCING MAY NOT BE PLACED BETWEEN THE TREE BEING PRESERVED AND THE TREE PROTECTIVE FENCING. IF ANY REGULATED TREES ARE DAMAGED ON THE ADJACENT PROPERTIES, THE DAMAGED TREES WILL BE EITHER REPLACED ON THE OWNER'S PROPERTY ON AN INCH FOR INCH BASIS OR A FINE IN THE SUM OF \$122.00 PER CALIPER INCH WILL BE ISSUED AGAINST THE DEVELOPMENT. THIS FINE WILL BE DUE PRIOR TO BUILDING PERMITS BEING ISSUED. IF YOU HAVE ANY QUESTIONS OR NEED ADDITIONAL INFORMATION, CALL THE CITY'S PLANNING DEPARTMENT AT 248-656-4660.
- TREE PROTECTION NOTES:**
- The tree protection fencing (TPF) shall be erected per the plans approved by the City of Rochester Hills Planning Department. The TPF must be in place and be inspected by the City of Rochester Hills' Planning Staff prior to the start of any earthwork or construction operations. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule a TPF inspection. The TPF shall remain in place throughout the entire construction process or until the City authorizes the removal or issues a final Certificate of Occupancy, whichever occurs first.
  - Upon completion of grading and the installation of the infrastructure, a second inspection of the TPF and the trees designated for preservation is required by the City of Rochester Hills' Forester prior to the start of any additional construction. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule this TPF inspection.
  - A final inspection by the City of Rochester Hills Planning Staff is required at the end of the warranty and maintenance period. The Landscape Maintenance Bond will not be released until this inspection is complete and all related issues are resolved. It is the developer's responsibility to contact the City Planning Department at 248-656-4660 to schedule this inspection.
  - The Tree Conservation Ordinance prohibits any construction or development activities within the drip line of any regulated tree not approved for removal, including, but not limited to, land clearing, grubbing, trenching, grading or filling; no person shall place any solvents, building material, construction equipment, soil deposits or harmful materials within the drip line limit of trees designated for preservation.
  - Proposed grades are to match the existing elevations outside the limits of the TPF. No grading either cut or fill is permitted within the drip line of any tree designated for preservation.
  - During the construction process no person shall attach any device or wire/cable/cord/rope to an existing tree designated to be preserved.
  - All utility service requests must include notification to the installer that protected trees must be avoided. All trenching shall occur outside the TPF.
  - Swoles shall be routed to avoid the area within the drip line of the only tree designated for preservation. Swoles shall be constructed so as to not direct any additional flow into the drip line of a tree designated for preservation.
  - If tree protection cannot be maintained for a tree throughout entire period required, the replacement of that tree will be required on an inch for inch basis prior to the issuance of any Certificate of Occupancy.
  - Regulated trees located off-site on adjacent properties that may be affected by construction operations must be protected defined herein.
  - The TPF shall consist of four-foot high orange snow fencing to be installed around the drip line of all trees designated to be saved. This fencing shall be supported by six-foot metal T-bar posts five-feet on center and driven a minimum of 24" into the ground. The TPF fencing shall remain upright and securely in place for the required time as specified above.
  - Prior to the release of the Performance Bond, the City of Rochester Hills Forestry Division needs to inspect all trees existing or planted, to identify any that pose a hazard to the safe use of the public right-of-way. Forestry may require the developer to remove and possibly replace any such trees.



**EXISTING TREE LIST: TO BE REMOVED INDICATED WITH BOLD LINE**

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENT
1	EE	14	Siberian Elm	<i>Ulmus pumila</i>	GOOD	
2	BX	10	Box elder	<i>Acer negundo</i>	GOOD	X3
3	BX	8	Box elder	<i>Acer negundo</i>	GOOD	X2
4	BX	7	Box elder	<i>Acer negundo</i>	GOOD	X6
5	BW	9	Black Walnut	<i>Juglans nigra</i>	GOOD	
6	AP	7	Domestic Appl.	<i>Malus sylvestris</i>	POOR	X2
7	L	7	American Elm	<i>Ulmus americana</i>	GOOD	
8	NM	9	Norway Maple	<i>Acer platanoides</i>	GOOD	X2
9	BW	14	Black Walnut	<i>Juglans nigra</i>	GOOD	X3
10	BX	12	Box elder	<i>Acer negundo</i>	GOOD	X2
11	BW	12	Black Walnut	<i>Juglans nigra</i>	FAIR	X3
12	BW	12	Black Walnut	<i>Juglans nigra</i>	GOOD	
13	BW	15	Black Walnut	<i>Juglans nigra</i>	GOOD	X2
14	BX	7	Box elder	<i>Acer negundo</i>	FAIR	
15	BW	12	Black Walnut	<i>Juglans nigra</i>	GOOD	
16	BW	11	Black Walnut	<i>Juglans nigra</i>	GOOD	
17	BW	15	Black Walnut	<i>Juglans nigra</i>	GOOD	



**CAUTION!!**  
THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE BY THE ENGINEER FOR THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES AND UTILITIES.

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**NORTHPOINT DEVELOPMENT**  
 5015 NW CANAL STREET, SUITE 200  
 RIVERSIDE, MI 48150  
**TREE PRESERVATION PLAN**  
**STONECREST AT ROCHESTER HILLS**  
 CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN  
 DES: JLE DN JLE SUR JW P.M. DNH  
 I: VJL/ACT/09/05/2015 11:00AM 5/10/2015 11:00AM 5/10/2015 11:00AM 5/10/2015 11:00AM

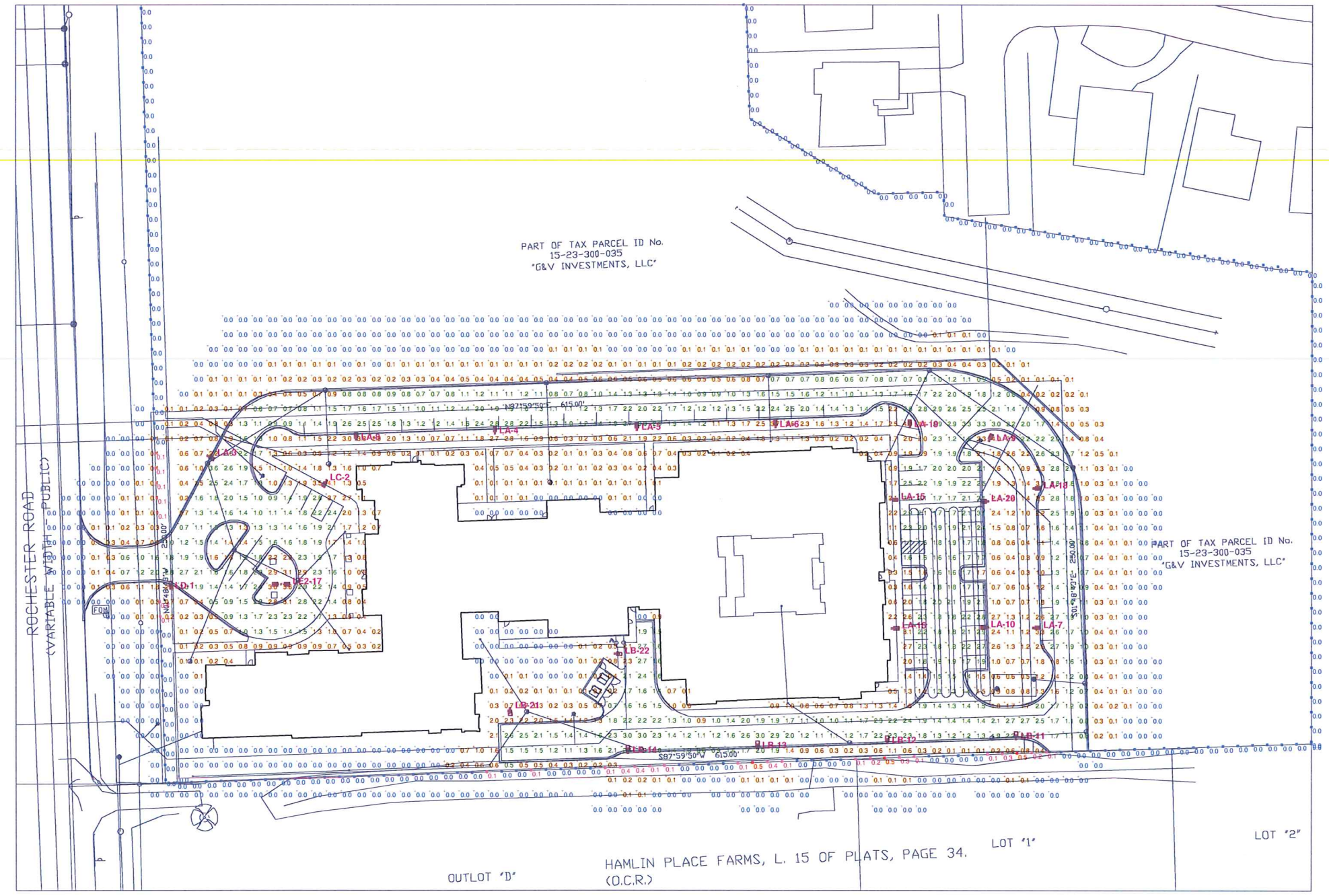
ORIGINAL ISSUE DATE:  
 NOVEMBER 4, 2015  
 PEA JOB NO: 2015-233  
 SCALE: 1" = 30'  
 DRAWING NUMBER:  
**T-1**

CITY FILE #15-019



STONECREST - ROCHESTER HILLS, MICHIGAN

SITE LIGHTING PHOTOMETRIC VALUES  
PREPARED FOR: PEA  
GASSER BUSH ASSOCIATES



LUMINAIRE LOCATIONS						
No.	Label	Location		MH	Orientation	Tilt
		X	Y			
1	LD	5036.1	6176.5	15.0	0.0	0.0
2	LC	5141.7	6249.0	15.0	210.3	0.0
3	LA	5061.4	6265.8	15.0	119.4	0.0
4	LA	5255.8	6280.7	15.0	0.0	0.0
5	LA	5351.5	6283.1	15.0	0.0	0.0
6	LA	5445.4	6285.2	15.0	0.0	0.0
7	LA	5620.6	6150.2	15.0	90.0	0.0
8	LA	5161.6	6276.6	15.0	0.0	0.0
9	LA	5590.6	6276.0	15.0	24.2	0.0
10	LA	5589.9	6150.5	15.0	270.0	0.0
11	LB	5609.3	6075.1	15.0	0.0	0.0
12	LB	5521.6	6072.3	15.0	0.0	0.0
13	LB	5433.7	6068.7	15.0	0.0	0.0
14	LB	5345.7	6065.7	15.0	0.0	0.0
15	LA	5523.8	6236.3	15.0	90.0	0.0
16	LA	5524.8	6149.5	15.0	90.0	0.0
17	LE2	5111.0	6179.2	15.0	90.0	0.0
18	LA	5620.6	6244.0	15.0	90.0	0.0
19	LA	5536.6	6285.2	15.0	0.0	0.0
20	LA	5589.9	6235.2	15.0	270.0	0.0
21	LB	5266.0	6095.6	15.0	176.8	0.0
22	LB	5336.9	6132.4	15.0	91.7	0.0

NOTES

- SEE MH COLUMN OF LUMINAIRE LOCATIONS FOR MOUNTING HEIGHTS.
  - SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTORS.
  - CALCULATIONS ARE SHOWN IN FOOTCANDLES AT GRADE WITHIN SITE AND AT 5' AFG ALONG PROPERTY LINE.
- THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.
- THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

SITE LIGHTING VALUES  
Scale 1" = 40'

STATISTICS						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
PARKING & DRIVES - VALUES AT GRADE	⊕	1.7 fc	4.1 fc	0.5 fc	8.2:1	3.4:1
PROPERTY LINE VALUES 5' AFG	■	0.0 fc	0.5 fc	0.0 fc	N/A	N/A
SITE	⊕	0.8 fc	4.1 fc	0.0 fc	N/A	N/A

LUMINAIRE SCHEDULE							
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens LLF Watts
■	LA	13	LITHONIA #DSX0 LED 40C 530 50K T3M MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINE, TYPE T3M OPTIC, 5000K, @ 530mA	LED	DSX0_LED 40 C_530 50K T3 M_MVOLT.ies	Absolute 0.90 68
■	LB	6	LITHONIA #DSX0 LED 40C 530 50K T3M MVOLT HS	DSX0 LED WITH (2) 20 LED LIGHT ENGINE, TYPE T3M OPTIC, 5000K, @ 530mA WITH HOUSE SIDE SHIELD	LED	DSX0_LED 40 C_530 50K T3 M_MVOLT_HS.ies	Absolute 0.90 68
■	LC	1	LITHONIA #DSX0 LED 40C 530 50K T4M MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINE, TYPE T4M OPTIC, 5000K, @ 530mA	LED	DSX0_LED 40 C_530 50K T4 M_MVOLT.ies	Absolute 0.90 68
■	LD	1	LITHONIA #DSX0 LED 40C 530 50K T4M MVOLT HS	DSX0 LED WITH (2) 20 LED LIGHT ENGINE, TYPE T4M OPTIC, 5000K, @ 530mA WITH HOUSE SIDE SHIELD	LED	DSX0_LED 40 C_530 50K T4 M_MVOLT_HS.ies	Absolute 0.90 68
■	LE2	1	LITHONIA #DSX0 LED 40C 530 50K T5W MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINE, TYPE T5W OPTIC, 5000K, @ 530mA	LED	DSX0_LED 40 C_530 50K T5 W_MVOLT.ies	Absolute 0.90 136

Designer  
BW/JAB  
Date  
DEC 22 2015  
Scale  
AS NOTED  
Drawing No.  
#15-45049-V2