

PRELIMINARY/FINAL SITE CONDOMINIUM PLANS FOR  
**SADDLEBROOK ORCHARDS**  
 PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E.,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

**OWNER/APPLICANT/DEVELOPER:**

GIANNA INVESTMENTS, LLC  
 59227 VAN DYKE  
 WASHINGTON, MI 48094  
 CONTACT: MICHAEL MAGNOLI  
 PHONE: (586) 781-5712

**ARCHITECT:**

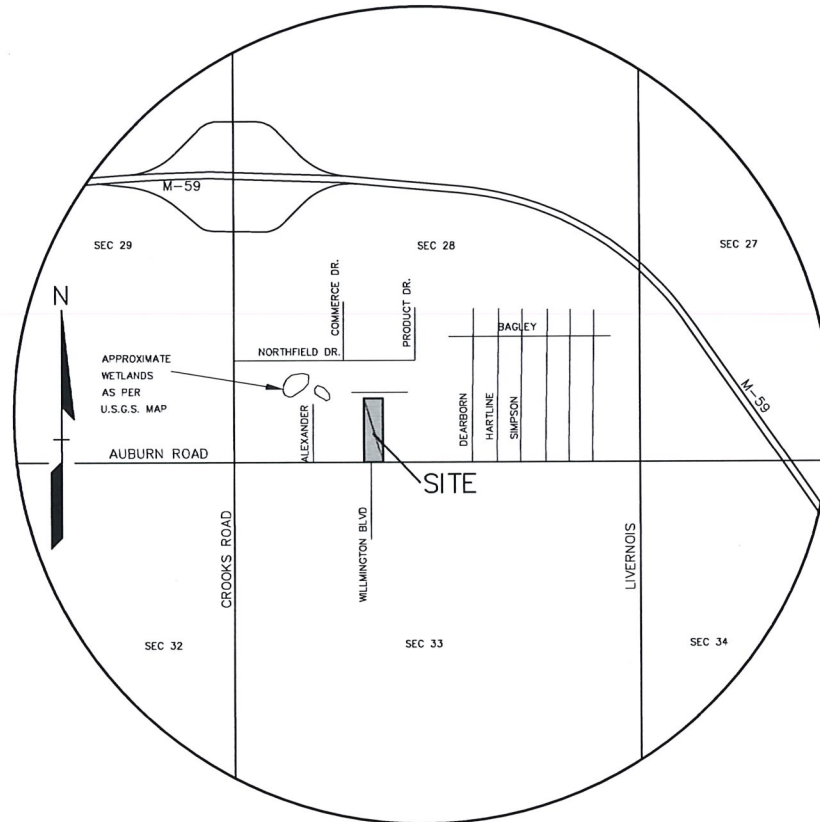
MARTINI SAMARTINO DESIGN GROUP  
 920 E LONG LAKE ROAD  
 TROY, MI 48065  
 PHONE: (248) 524-0445

**CIVIL ENGINEER:**

PEA, INC.  
 59255 VAN DYKE AVENUE  
 WASHINGTON TWP, MI 48094  
 CONTACT: JOHN DELL'ISOLA, PE  
 PHONE: (586) 272-2280  
 EMAIL: JDDELLISOLA@PEAINC.COM

**LANDSCAPE ARCHITECT:**

PEA, INC.  
 7927 NEMCO WAY, SUITE 115  
 BRIGHTON, MI 48116  
 CONTACT: JEFF SMITH  
 PHONE: (517) 546-8583  
 FAX: (517) 546-8973  
 EMAIL: JSMITH@PEAINC.COM



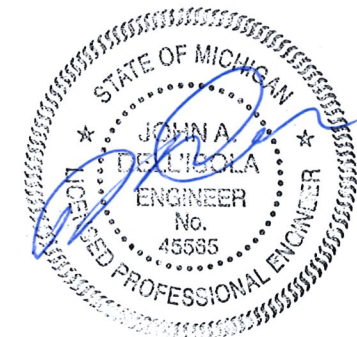
LOCATION MAP  
 NO SCALE

**LEGAL DESCRIPTION:**

PROPERTY DESCRIPTION: PARCEL ID # 15-28-300-029  
 THE FOLLOWING IS THE DESCRIPTION OF A PARCEL OF LAND LOCATED IN THE SOUTHWEST 1/4 OF SECTION 28, T3N, R11E, CITY OF ROCHESTER HILLS, FORMERLY AVON TOWNSHIP, OAKLAND COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 28; TH N 89°23'17" E 1598.44 FT ALONG THE SOUTH LINE OF SAID SECTION 28 AND THE CENTERLINE OF AUBURN ROAD, 120 FT WIDE, TO THE POINT OF BEGINNING; TH N 00°22'02" W 831.90 FT; TH N 89°23'24" E 261.20 FT; TH S 00°25'39" E 831.89 FT; TH S 89°23'17" W 262.07 FT ALONG THE SOUTH LINE OF SAID SECTION 28 AND THE CENTERLINE OF SAID AUBURN ROAD TO THE POINT OF BEGINNING. THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 4.997 ACRES.

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- P-4 PRELIMINARY UTILITY PLAN
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- 3 OF 8 2600 GARAGE LEFT - ELEVATIONS 'A'
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- 5 OF 8 2600 GARAGE LEFT - ELEVATIONS 'B'
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- 4 OF 8 2600 GARAGE RIGHT - BUILDING SECTION
- 5 OF 8 2600 GARAGE RIGHT - ELEVATIONS 'B'
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- 7 OF 8 2600 GARAGE RIGHT - PARTIAL FLOOR PLAN 'C'
- 8 OF 8 2600 GARAGE RIGHT - DETAILS



NO.	BY	CHK	DESCRIPTION	DATE
1	JD		CONCURRENT PRELIMINARY/FINAL SITE PLAN REVIEW	10/27/16
2	JD		CONCURRENT PRELIMINARY/FINAL SITE PLAN REVIEW	10/27/16
3	JD		CONCURRENT PRELIMINARY/FINAL SITE PLAN REVIEW	10/27/16
4	JD		CONCURRENT PRELIMINARY/FINAL SITE PLAN REVIEW	10/27/16

**CAUTION!!**  
 THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES SHOWN ON THIS DRAWING ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND ELEVATION OF ALL UTILITIES AND STRUCTURES PRIOR TO THE START OF CONSTRUCTION.

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 59227 VAN DYKE  
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**PRELIMINARY/FINAL COVER SHEET**  
**SADDLEBROOK ORCHARDS**  
 PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E.,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN  
 DES. RLS/CHK DN. RLS/CHK SUR. RLS/CHK P.M. JD

ORIGINAL ISSUE DATE:  
 OCTOBER 20, 2016

PEA JOB NO. 2016-137

SCALE: NONE  
 DRAWING NUMBER:

**COVER**

**SECTION #28**  
**CITY FILE #16-029**

REF: S:\PROJECTS\2016\16-029\04\16-029-10\0416-137-10\0416-137-10.DWG  
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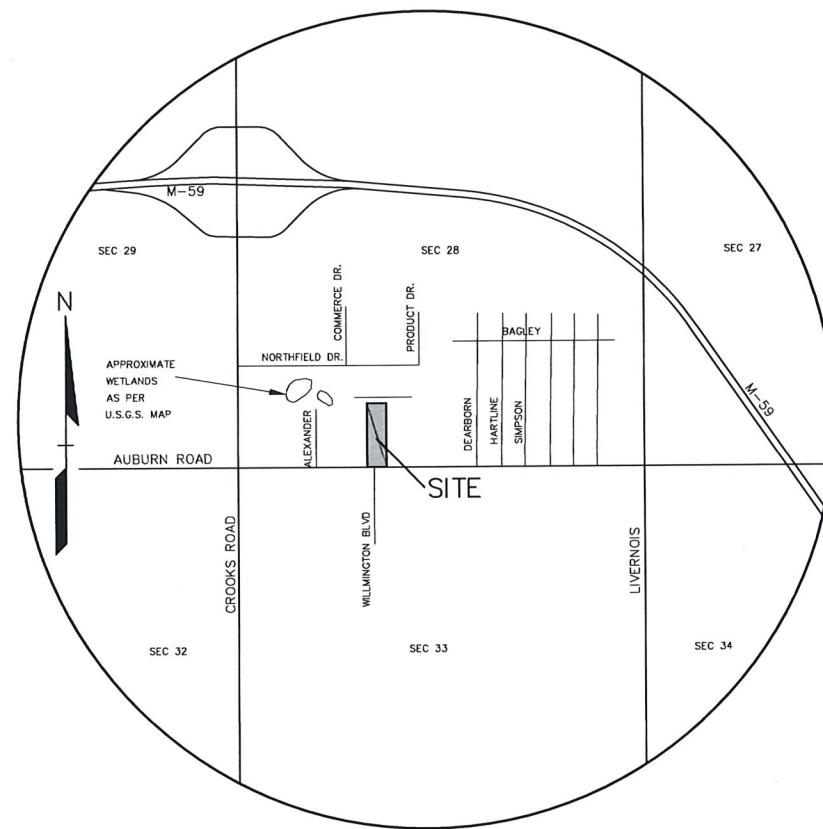
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LOCATION MAP  
 NO SCALE

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 THE FOLLOWING IS THE DESCRIPTION OF A PARCEL OF LAND LOCATED IN THE SOUTHWEST 1/4 OF SECTION 28, T3N, R11E, CITY OF ROCHESTER HILLS, FORMERLY AVON TOWNSHIP, OAKLAND COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 28; TH N 89°23'17" E 1598.44 FT ALONG THE SOUTH LINE OF SAID SECTION 28 AND THE CENTERLINE OF AUBURN ROAD, 120 FT WIDE, TO THE POINT OF BEGINNING; TH N 00°22'02" W 831.90 FT; TH N 89°23'24" E 261.20 FT; TH S 00°25'39" E 831.89 FT; TH S 89°23'17" W 262.07 FT ALONG THE SOUTH LINE OF SAID SECTION 28 AND THE CENTERLINE OF SAID AUBURN ROAD TO THE POINT OF BEGINNING. THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 4.997 ACRES.

**INDEX OF DRAWINGS:**

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| P-4    | PRELIMINARY UTILITY PLAN                   |
| P-5    | PRELIMINARY DETAIL SHEET                   |
| P-6    | PRELIMINARY DETAIL SHEET                   |
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| T-1.0  | TREE PRESERVATION PLAN                     |
| T-1.1  | TREE LIST                                  |
| L-1.0  | LANDSCAPE PLAN                             |
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| 8 OF 8 | 2600 GARAGE RIGHT - DETAILS                |



**CAUTION!**  
 THESE PLANS AND SPECIFICATIONS OF EXISTING UTILITIES ARE BASED ON THE INFORMATION PROVIDED TO THE ENGINEER BY THE CLIENT. THE ENGINEER HAS CONDUCTED VISUAL INSPECTIONS OF THE EXISTING UTILITIES AND HAS FOUND NO EVIDENCE OF ANY OTHER UTILITIES. THE CLIENT SHALL BE RESPONSIBLE FOR THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.  
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**PRELIMINARY/FINAL COVER SHEET**  
**SADDLEBROOK ORCHARDS**  
 PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E.,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN  
 DES: RLST/MK | DN: RLST/MK | SUR: KIEFT | P.M. | JD

ORIGINAL ISSUE DATE:  
 OCTOBER 20, 2016  
 PEA JOB NO 2016-137  
 SCALE: NONE  
 DRAWING NUMBER:  
**COVER**

**SECTION #28**  
**CITY FILE #16-029**

REF: S:\PROJECTS\2016\16137\PA\16137-TOPBASE.DWG  
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 REF: S:\PROJECTS\2016\16137\PA\16137-SITE PLANS-TL-16137.DWG

NO.	BY	CHK	DESCRIPTION	DATE
1	JD		CONCURRENT PRELIMINARY/FINAL SITE PLAN REVIEW	10/20/16
2	RLST	RLS	REVISED PEEL CITY PRELIM. SITE PLAN REVIEW	10/27/16
3	RLST	RLS	REVISED PEEL CITY PRELIM. SITE PLAN REVIEW	11/02/16
4	JD		CONCURRENT PRELIMINARY/FINAL SITE PLAN REVIEW	11/18/16

**BENCHMARKS**  
(PER KIETT ENGINEERING SURVEY)  
(USGS DATUM)

BM #1  
ARROW ON HYDRANT  
LOT 15 OF NORTHFIELD INDUSTRIAL PARK  
ELEV. - 815.32

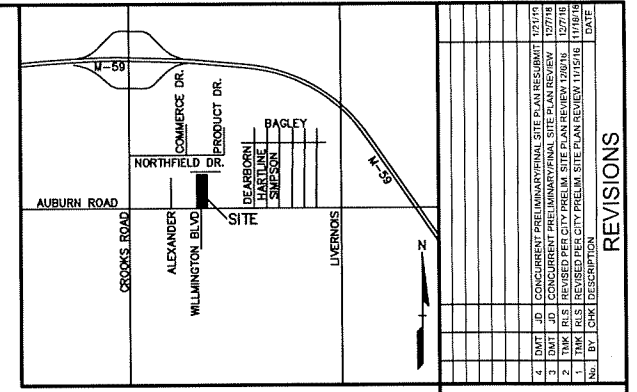
BM #2  
PK NAIL IN EAST FACE OF 36" OAK (#1740)  
ELEV. - 814.45

**FLOODPLAIN NOTE:**  
BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE IV. AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 26125C0393F DATED SEPTEMBER, 29, 2006.

**REFERENCE DRAWINGS**  
KIETT ENGINEERING FINAL CONSTRUCTION PLANS DATED 6/5/07  
KIETT ENGINEERING EXISTING CONDITIONS PLAN AND BENCHMARKS DATED 3/16/07

**TOPOGRAPHIC AND BOUNDARY SURVEY DISCLAIMER:**  
TOPOGRAPHIC AND BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, EXISTING ELEVATIONS, EXISTING PHYSICAL FEATURES AND STRUCTURES WAS PROVIDED BY KIETT ENGINEERING.

PEA, INC. WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS/OMISSIONS RESULTING FROM SURVEY INACCURACIES.



NO.	DATE	BY	CHKD	DESCRIPTION
1	10/20/16	JD	JD	ISSUED FOR CITY REVIEW
2	10/20/16	JD	JD	ISSUED FOR CITY REVIEW
3	10/20/16	JD	JD	ISSUED FOR CITY REVIEW
4	10/20/16	JD	JD	ISSUED FOR CITY REVIEW

LOCATION MAP - NOT TO SCALE

- LEGEND**
- IRON FOUND
  - ⊗ IRON SET
  - ⊕ NAIL FOUND
  - ⊕ NAIL & CAP SET
  - ⊕ BRASS PLUG SET
  - ⊕ WORKMAN FOUND
  - ⊕ WORKMAN SET
  - ⊕ SEC. CORNER FOUND
  - ⊕ RECORDED
  - ⊕ MEASURED
  - ⊕ CALCULATED
- EXISTING**
- O-ELEC- ( ) -O- ELEC. PHONE OR CABLE TV OR LINE, POLE & DUT WIRE
  - U-C- ( ) -U- UNDERGROUND CABLE TV, CATV PEDESTAL
  - U-LG- ( ) -U- TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
  - U-ELEC- ( ) -U- ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
  - S- ( ) -S- GAS MAIN, VALVE & GAS LINE WARDER
  - S- ( ) -S- PATENTMAN, HDL, DATE MARK, TAPPING SLIWE & VALVE
  - S- ( ) -S- SANITARY SEWER, CLEANOUT & MANHOLE
  - S- ( ) -S- STORM SEWER, CLEANOUT & MANHOLE
  - S- ( ) -S- COMBINED SEWER & MANHOLE
  - S- ( ) -S- SQUARE, ROUND & BEDDING CATCH BASIN
  - S- ( ) -S- POST INDICATOR VALVE
  - S- ( ) -S- WATER VALVE, SHUT-OFF VALVE, ICE SERVICE SHUT-OFF
  - S- ( ) -S- VALVEBOX, TRANSFORMER, PRIGATION CONTROL VALVE
  - S- ( ) -S- UNIDENTIFIED STRUCTURE
  - S- ( ) -S- SPOT ELEVATION
  - S- ( ) -S- CONTOUR LINE
  - S- ( ) -S- FENCE
  - S- ( ) -S- GUARD RAIL
  - S- ( ) -S- STREET LIGHT
  - S- ( ) -S- SIGN
- CONC** CONCRETE
- ASPH** ASPHALT
- GRAVEL** GRAVEL SHOULDER
- WETLAND** WETLAND

**CAUTION!**  
THE LOCATION OF UTILITIES IS BASED ON THE INFORMATION PROVIDED BY THE CLIENT AND THE INFORMATION OBTAINED FROM THE SURVEY. THE CLIENT IS RESPONSIBLE FOR VERIFYING THE LOCATION OF UTILITIES PRIOR TO ANY CONSTRUCTION. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

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**TOPOGRAPHIC SURVEY**  
**SADDLEBROOK ORCHARDS**  
PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E.,  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. RLS/TKM DN. SUR. KIEFT P.M. JD.  
C:\WORK\2016\2016-137\_24011600V.DWG

ORIGINAL ISSUE DATE:  
OCTOBER 20, 2016

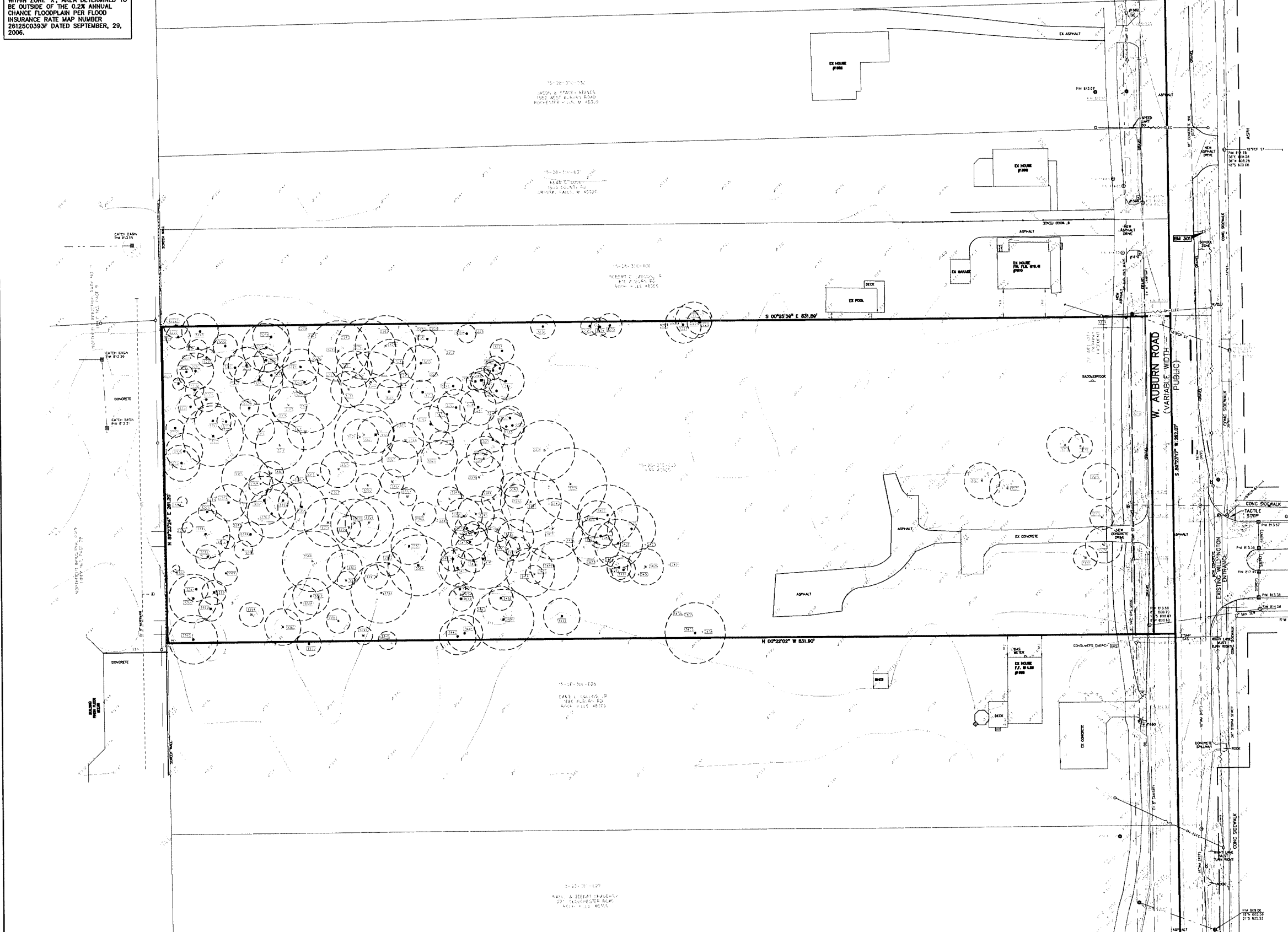
PEA JOB NO. 2016-137

SCALE: 1" = 40'

DRAWING NUMBER:  
**P-1**

**SECTION #28**  
**CITY FILE #16-029**

REF: S:\PROJ\2016\2016-137\24011600V.DWG  
REF: S:\PROJ\2016\2016-137\24011600V.DWG  
REF: S:\PROJ\2016\2016-137\24011600V.DWG



**BENCHMARKS**  
(PER KIET ENGINEERING SURVEY)  
(USGS DATUM)

BM #1  
ARROW ON HYDRANT  
LOT 15 OF NORTHFIELD INDUSTRIAL PARK  
ELEV. - 815.32

BM #2  
PK NAIL IN EAST FACE OF 36" OAK (#740)  
ELEV. - 814.45

**REFERENCE DRAWINGS**

KEPT ENGINEERING FINAL CONSTRUCTION PLANS DATED 6/5/07  
KEPT ENGINEERING EXISTING CONDITIONS PLAN AND BENCHMARKS DATED 3/16/07

**TOPOGRAPHIC AND BOUNDARY SURVEY DISCLAIMER:**  
TOPOGRAPHIC AND BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, EXISTING ELEVATIONS, EXISTING PHYSICAL FEATURES AND STRUCTURES WAS PROVIDED BY KIET ENGINEERING.  
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**SITE DATA:**

**LOCATION OF PROJECT:**  
WEST AUBURN ROAD (NORTH SIDE OF WEST AUBURN ROAD, EAST OF CROOKS)

**SIZE OF PROPERTY:**  
5.0 ACRES (GROSS), 4.84 ACRES (NET)

**PROPOSED USE OF PROPERTY:**  
TEN (10) DETACHED, SINGLE FAMILY HOMES

**CURRENT ZONING:**  
R-4, ONE-FAMILY RESIDENTIAL DISTRICT WITH MR MIXED RESIDENTIAL OVERLAY

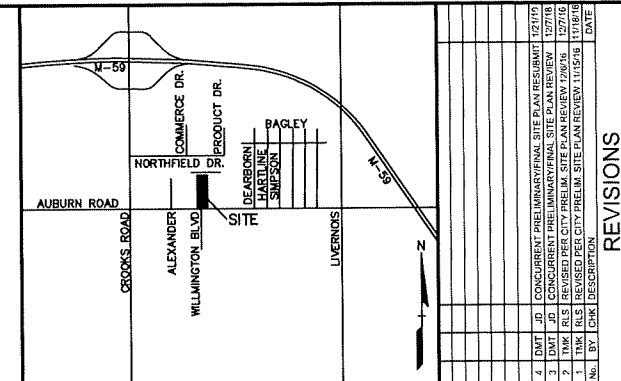
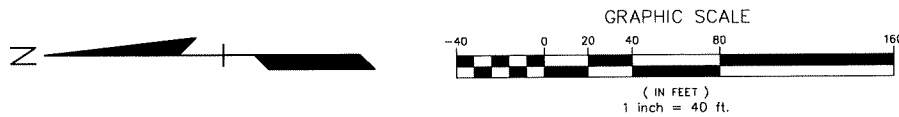
**SURROUNDING PROPERTY DETAILS:**

DIRECTION	ZONING
NORTH	REC-W, REGIONAL EMPLOYMENT CENTER WORKPLACE
SOUTH	R-4, ONE-FAMILY RESIDENTIAL DISTRICT
EAST	R-4, ONE-FAMILY RESIDENTIAL DISTRICT WITH MR MIXED RES. OVERLAY
WEST	R-4, ONE-FAMILY RESIDENTIAL DISTRICT WITH MR MIXED RES. OVERLAY

**REQUIRED AND PROVIDED LOT DIMENSIONS:**

	REQUIRED	PROVIDED
FRONT	25 FOOT SETBACK	25 FOOT SETBACK
REAR	35 FOOT SETBACK	35 FOOT SETBACK
SIDES	10 FOOT MIN. (ONE), 20 FOOT TOTAL	10 FOOT MIN. (ONE), 20 FOOT TOTAL
DENSITY (# OF UNITS)	3.4 UNIT/ACRE=16 UNITS	2.2 UNIT/ACRE=10 UNITS
LOT SIZE PER UNIT	6640 SQ. FT.*	6689 SQ. FT. SMALLEST 9490 SQ. FT. AVERAGE
MAXIMUM HEIGHT	30 FEET, 2 STORY	MAX 30' FEET, 2 STORY
LOT WIDTH	80 FEET	86.5 FEET SMALLEST 104 FEET LARGEST 93.3 FEET AVERAGE
MAX. LOT AREA COVERED BY BUILDINGS	30 PERCENT	28 PERCENT
MIN. FLOOR AREA PER UNIT	912 SQ. FT.	MIN 912 SQ. FT.

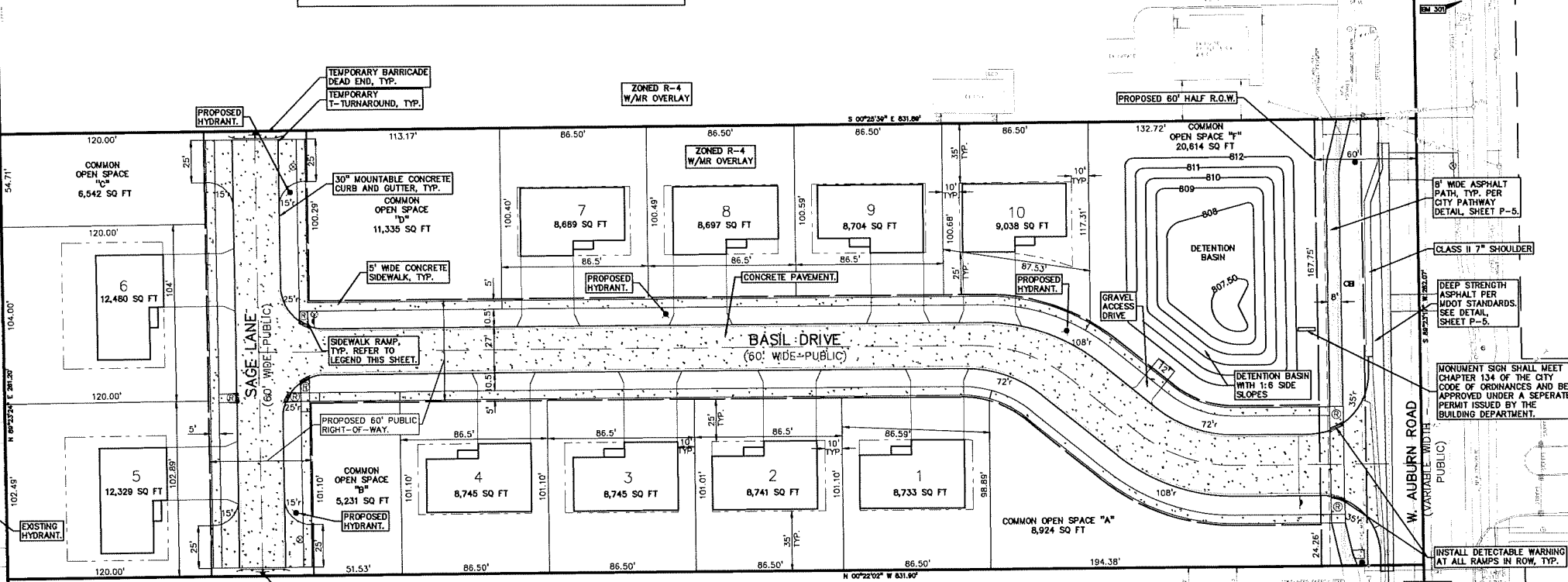
\* THE LOT SIZE AVERAGE OPTION HAS BEEN APPLIED PER SECTION 138-5.201.  
MIN. UNIT AREA REQUIRED = 7,000 SQ. FT.  
MIN. UNIT WIDTH AT BLDG. SETBACK REQUIRED = 60.00 FEET



**FLOODPLAIN NOTE:**  
BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE "X", AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 26125C0393F DATED SEPTEMBER, 29, 2006.

**Fire Department Notes:**

- 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. Fire lane signs shall read "No Stopping, Standing, Parking, Fire Lane", and shall conform to the MMUTCD.
- Construction sites shall be safeguarded in accordance with IFC 2006 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 the City of Rochester Hills Burn Permit Guidelines.
- Building Construction Type V. Building square footage is 2800 sf.



**LEGEND**

EXISTING	PROPOSED
● IRON FOUND	● BRASS PILE SET
■ IRON FOUND	■ CONCRETE FOUND
✱ NAIL & CAP SET	✱ RECORDING
	✱ WEARIED
	✱ CALCULATED

**EXISTING**

- OH-ELEC-W-V-O: ELEC. PHONE OR CABLE TV OR LINE, POLE & GUY WIRE
- UG-CATV: UNDERGROUND CABLE TV, CATV RECEIVING
- UG-PHONE: UNDERGROUND CABLE, PHONE, & WIRELESS
- UG-ELEC: UNDERGROUND ELECTRIC B.C. CABLE, MANHOLE, METER & HARDWARE
- UG-GAS: GAS MAIN, VALVE & GAS LINE MARKER
- UG-SAN: SANITARY SEWER, CLEANOUT & MANHOLE
- UG-SEWER: STORM SEWER, CLEANOUT & MANHOLE
- UG-ROAD: SQUARE, ROAD & BEDDING CATCH BASIN
- UG-POST: POST HOODER VALVE
- UG-WATER: WATER MAIN, BOY/RODENT VALVE BOX, SERVICE SHAFT/OT
- UG-WATER: WATER MAIN, TRANSFORMER, PROTECTION CONTROL VALVE
- UG-SPOT: UNIDENTIFIED STRUCTURE
- UG-CONTR: CONCRETE
- UG-FENCE: FENCE
- UG-GUARD: GUARD RAIL
- UG-STREET: STREET LIGHT
- UG-SIDWALK: SIDEWALK

**PROPOSED**

- CONC: CONCRETE
- ASPH: ASPHALT
- GRAVEL: GRAVEL SHOULDER
- METALD: METALD
- STB: STRENGTH
- HEAVY: HEAVY
- SOFT: SOFT
- STR: STRENGTH
- STR: STRENGTH

**CAUTION!!**  
THESE PLANS ARE PRELIMINARY AND NOT TO BE USED FOR CONSTRUCTION WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY ENGINEER'S REVIEW IS LIMITED TO THE TECHNICAL ASPECTS OF THE PLANS AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED HEREON. THE USER OF THESE PLANS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF ALL INFORMATION PROVIDED HEREON. THE USER OF THESE PLANS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF ALL INFORMATION PROVIDED HEREON.

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**GIANNA INVESTMENTS, LLC**  
59227 VAN DYKE  
WASHINGTON, MI 48094

**PRELIMINARY/FINAL SITE PLAN**  
**SADDLEBROOK ORCHARDS**  
PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E.,  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: RLSTMK | SUR: KIET | P.M. | JD  
DRAWN: RLSTMK | SUR: KIET | P.M. | JD

ORIGINAL ISSUE DATE:  
OCTOBER 20, 2016

PEA JOB NO: 2016-137

SCALE: 1" = 40'

DRAWING NUMBER:  
**P-2**

**PROJECT AND SITE DESCRIPTION:**  
PROPOSED CONSTRUCTION OF 9-LOT SINGLE FAMILY DETACHED SITE CONDOMINIUM PROJECT ON THE NORTH SIDE OF W. AUBURN ROAD. ACCESS TO ALL UNITS WILL BE VIA PROPOSED ROAD OFF OF W. AUBURN ROAD. THE PROPOSED RESIDENTIAL USE IS PERMITTED BY-RIGHT IN THE R-4, ONE-FAMILY RESIDENTIAL DISTRICT WITH MR MIXED RESIDENTIAL OVERLAY. THE SITE IS CURRENTLY A PARTIALLY CLEARED LOT.

**SITE ARRANGEMENT:**  
THE PROPOSED SITE CONDOMINIUM CONSISTS OF 9 UNITS WITH LOT SIZES RANGING BETWEEN 6,689 SQUARE FEET TO 12,480 SQUARE FEET WITH AN AVERAGE LOT SIZE OF 9,688 SQUARE FEET. ALL UNITS FRONT ON THE NEW PUBLIC STREET CONNECTION. THE PROPOSED LOTS ARE REGULAR IN SHAPE, ALLOW FOR ADEQUATE SETBACKS, AND PERMIT SUFFICIENT SPACE FOR THE HOMES AND INGRESS AND EGRESS FOR EACH UNIT ACCORDING TO THE LOT SIZING AVERAGING OPTION.

**NATURAL RESOURCES:**  
THE SITE IS CURRENTLY A PARTIALLY CLEARED LOT. SEE TREE PRESERVATION PLAN FOR EXISTING TREES TO BE SAVED.

**FLOODPLAIN:**  
ACCORDING TO FEMA FLOODPLAIN MAP THERE ARE NO IMPACTS TO THE PROPERTY.

**ACCESS AND CIRCULATION:**  
**VEHICULAR ACCESS AND CIRCULATION:**  
VEHICULAR ACCESS TO ALL UNITS WILL BE VIA A NEW PUBLIC STREET OFF OF W. AUBURN ROAD. THE NEW ROAD WILL HAVE A SIXTY (60) FOOT WIDE RIGHT-OF-WAY AND WILL HAVE STUBS PROVIDED NEAR THE BACK OF THE SITE FOR FUTURE CONNECTIONS FOR POSSIBLE SUBDIVISION EXTENSION IF/FUTURE LOTS ARE DEVELOPED. AN ACCESS DRIVE TO THE STORMWATER DETENTION BASIN IS PROVIDED.

**PEDESTRIAN ACCESS AND CIRCULATION:**  
A 5-FOOT WIDE SIDEWALK IS PROVIDED AT BOTH SIDES OF THE NEW ROAD AND AN 8-FOOT WIDE SIDEWALK IS PROVIDED ALONG W. AUBURN. RAMPS HAVE BEEN INDICATED.

**UTILITIES:**  
UTILITIES ARE PLACED WITHIN STREET RIGHT-OF-WAY, OR WITHIN EASEMENTS APPROVED AS TO SIZE AND LOCATION BY THE CITY ENGINEER.

**ALL SITES ARE SERVED BY PUBLIC WATER, SANITARY SEWER, STORM WATER AND DETENTION SYSTEMS CONSTRUCTED TO CITY STANDARDS, AT THE EXPENSE OF THE DEVELOPER. EASEMENTS OVER THESE SYSTEMS SHALL BE CONVEYED AND RECORDED BEFORE OCCUPANCY PERMITS ARE ISSUED FOR DWELLING UNITS.**

**SIDEWALK RAMP LEGEND:**

SIDEWALK RAMP "TYPE R" (Symbol)

REFER TO M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS ON SHEET P-6

**SECTION #28**  
**CITY FILE #16-029**

REF: S:\PROJECTS\2016\2016137\02\02137-10\FORBASE.DWG  
REF: S:\PROJECTS\2016\2016137\02\02137-10\FORBASE.DWG  
REF: S:\PROJECTS\2016\2016137\02\02137-10\FORBASE.DWG

**BENCHMARKS**  
(PER KIET ENGINEERING SURVEY)  
(USGS DATUM)

BM #1  
ARROW ON HYDRANT  
LOT 15 OF NORTHFIELD INDUSTRIAL PARK  
ELEV. - 815.32

BM #2  
PK NAIL IN EAST FACE OF 36" OAK (#740)  
ELEV. - 814.45

**FLOODPLAIN NOTE:**  
BY GRAPHICAL PLOTTING, SITE IS  
WITHIN ZONE "X". AREA DETERMINED TO  
BE OUTSIDE OF THE 0.2% ANNUAL  
CHANCE FLOODPLAIN PER FLOOD  
INSURANCE RATE MAP NUMBER  
28125C0393F DATED SEPTEMBER, 29,  
2006.

**REFERENCE DRAWINGS**

KEFT ENGINEERING FINAL CONSTRUCTION PLANS DATED 6/25/07  
KEFT ENGINEERING EXISTING CONDITIONS PLAN AND BENCHMARKS DATED 3/16/07

**TOPOGRAPHIC AND BOUNDARY SURVEY DISCLAIMER:**  
TOPOGRAPHIC AND BOUNDARY SURVEY, INCLUDING PROPERTY  
LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, EXISTING  
ELEVATIONS, EXISTING PHYSICAL FEATURES AND STRUCTURES  
WAS PROVIDED BY KIET ENGINEERING.

PEA, INC. WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY  
OF THE SURVEY OR FOR DESIGN ERRORS/OMISSIONS RESULTING  
FROM SURVEY INACCURACIES.

**SYMBOLS: GRADING**

PROPOSED SPOT GRADE ELEVATION. ALL GRADES  
INDICATED ARE TOP OF PAVEMENT UNLESS  
OTHERWISE NOTED.

PROPOSED CONTOUR LINE

**EARTHWORK BALANCING NOTE:**

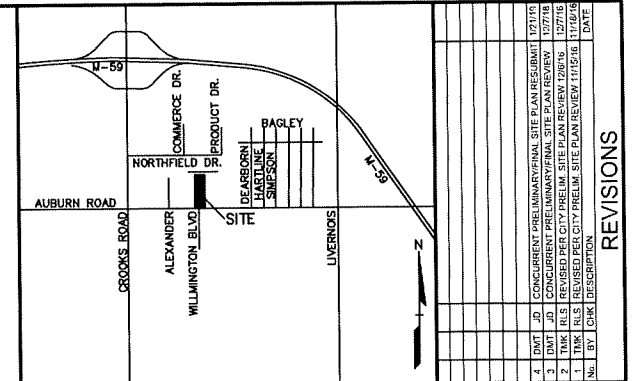
THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING  
ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE  
FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR  
SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES  
AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL  
MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

**SIDEWALK RAMP LEGEND:**

SIDEWALK RAMP "TYPE R"

SIDEWALK RAMP "TYPE D"

REFER TO M.D.O.T. R-28 STANDARD RAMP AND  
DETECTABLE WARNING DETAILS ON SHEET P-6



NO.	BY	CHK	DESCRIPTION	DATE
1	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
2	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
3	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
4	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
5	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
6	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
7	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
8	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
9	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16
10	JD	JD	CONCURRENT PRELIMINARY SITE PLAN REVISION	10/27/16

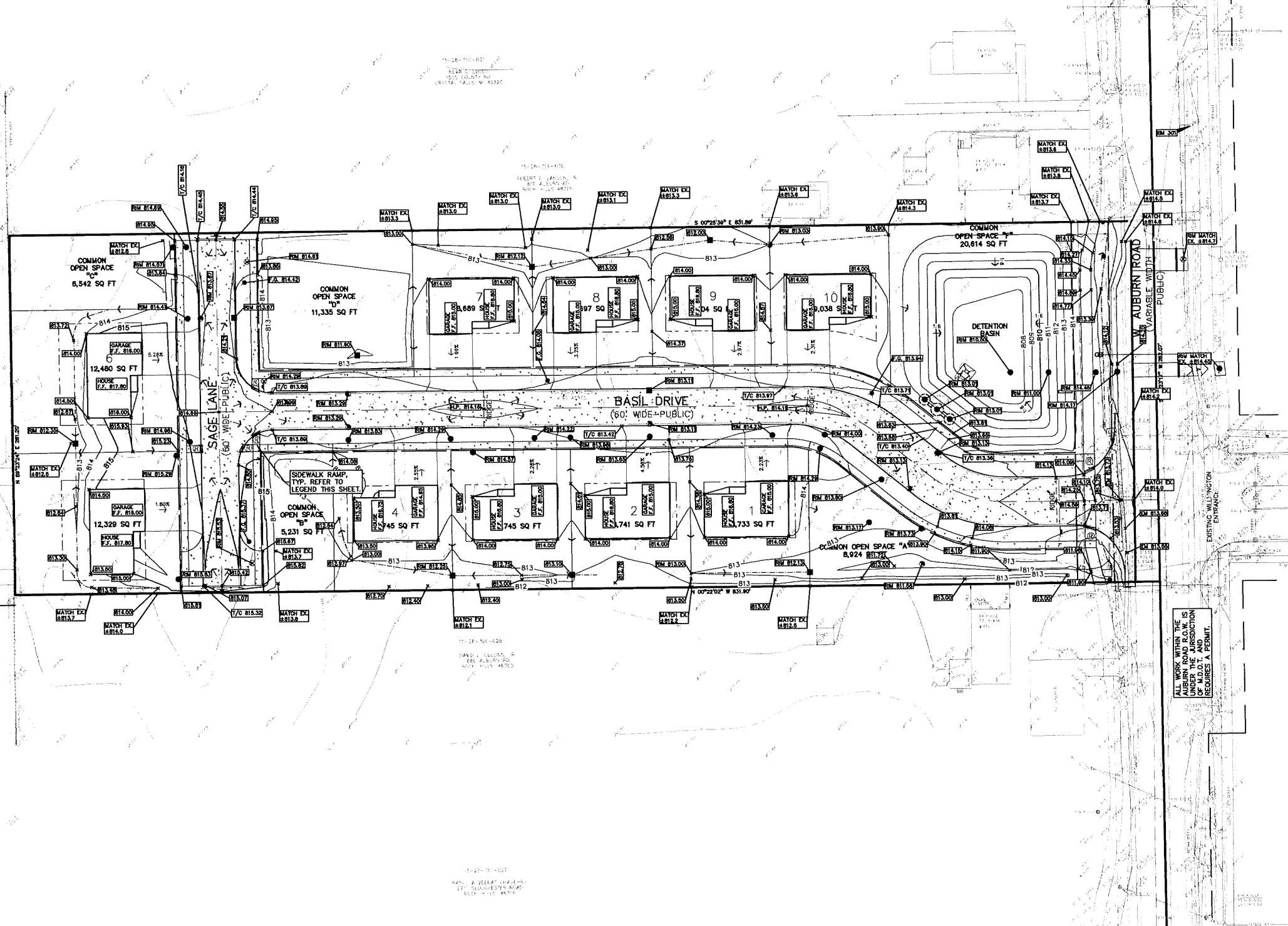
**LEGEND**

**EXISTING**

- IRON FOUND
- WOOD FOUND
- NAIL FOUND
- NAIL & CAP SET
- BRASS PLUG SET
- MONUMENT FOUND
- MONUMENT SET
- RECORDED
- MEASURED
- CALCULATED

**PROPOSED**

- ELEC. PHONE OR CABLE TV ON LINE, POLE & DUT WRE
- UNDERGROUND CABLE TV, GUY PENDING
- TELEPHONE E.C. CABLE, FIBER, OPTICAL & MANHOLE
- ELECTRIC D.C. CABLE, MANHOLE, METERS & MANHOLE
- GAS MAIN, VALVE & GAS LINE MARKER
- WATERMAIN, MID, GATE VALVE, TAPPING SLEEVE & VALVE
- SAWTOOTH SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- CONCRETE SEWER & MANHOLE
- SQUARE, ROUND & BEDDING CATCH BASIN
- POST INDICATOR VALVE
- WATER VALVE, BODYPUMP VALVE, BOX SERVICE SHUTOFF
- WALKER, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNDEVELOPED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SOIL
- CONCRETE
- ASPHALT
- GRAVEL SHOULDER
- WETLAND
- SEC. CORNER FOUND
- RECORDED
- MEASURED
- CALCULATED
- CONC.
- ASPH.
- GRAVEL
- WETLAND
- STD. HEAVY K&B
- DOT DUTY ONLY
- SEC. KEEP
- PAV. STRENGTH



**CAUTION!**

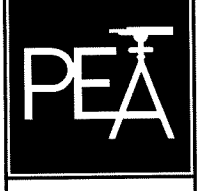
THIS PLAN IS A PRELIMINARY DESIGN. IT IS NOT TO BE USED FOR CONSTRUCTION WITHOUT THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL FIELD DATA AND FOR OBTAINING ALL NECESSARY PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY PERMITS.

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**PRELIMINARY/FINAL GRADING PLAN**  
**SADDLEBROOK ORCHARDS**  
PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 1E.,  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. RLS/TMK I. SUR. KIET P.M. JD

ORIGINAL ISSUE DATE:  
OCTOBER 20, 2016

PEA JOB NO 2016-137

SCALE: 1" = 40'

DRAWING NUMBER:  
**P-3**

**SECTION #28**  
**CITY FILE #16-029**

REF: S:\PROJECTS\2016\20161013\20161013-16029.DWG  
REF: S:\PROJECTS\2016\20161013\20161013-16029.DWG  
REF: S:\PROJECTS\2016\20161013\20161013-16029.DWG

**BENCHMARKS  
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(USGS DATUM)**

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BM #2  
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BE OUTSIDE OF THE 0.2% ANNUAL  
CHANCE FLOODPLAIN PER FLOOD  
INSURANCE RATE MAP NUMBER  
26125C0393F DATED SEPTEMBER, 29,  
2006.

**REFERENCE DRAWINGS**  
KIET ENGINEERING FINAL CONSTRUCTION PLANS DATED 6/5/07  
KIET ENGINEERING EXISTING CONDITIONS PLAN AND BENCHMARKS DATED 3/16/07

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FROM SURVEY INACCURACIES.

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

**DETENTION AREA**

Area (A)	4.99	AC (INCLUDES OFF-SITE DRAINAGE)
Allowable Discharge (Qa)	2.10	C.F.S. (per OCWRC)
Coefficient of Runoff (Cr)	0.46	

**Calculation of Required Discharge/Acre**

$Qo = (Qa)/(A)(Cr)$  = 0.91

$T = .25 + ((8062.5/Qo))0.5$  = 69.13

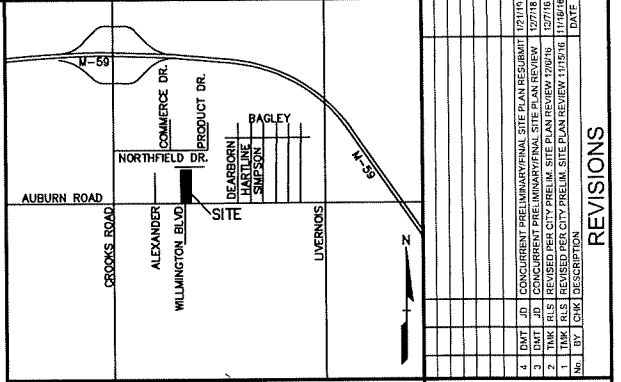
**25 Year Storage Volume Required:**

$Vs = (12500T)(T+25) - 40Qo(T)$  = 6958

$V1 = (Vs)/(A)(Cr)$  = 15,971 cf required

DETENTION CONTOUR	AREA	VOLUME	CUMM
807.5	484		
808	3,509	998	998
809	5,648	4,579	5,577
810	7,609	6,629	12,205
810.5	8,693	4,076	16,281

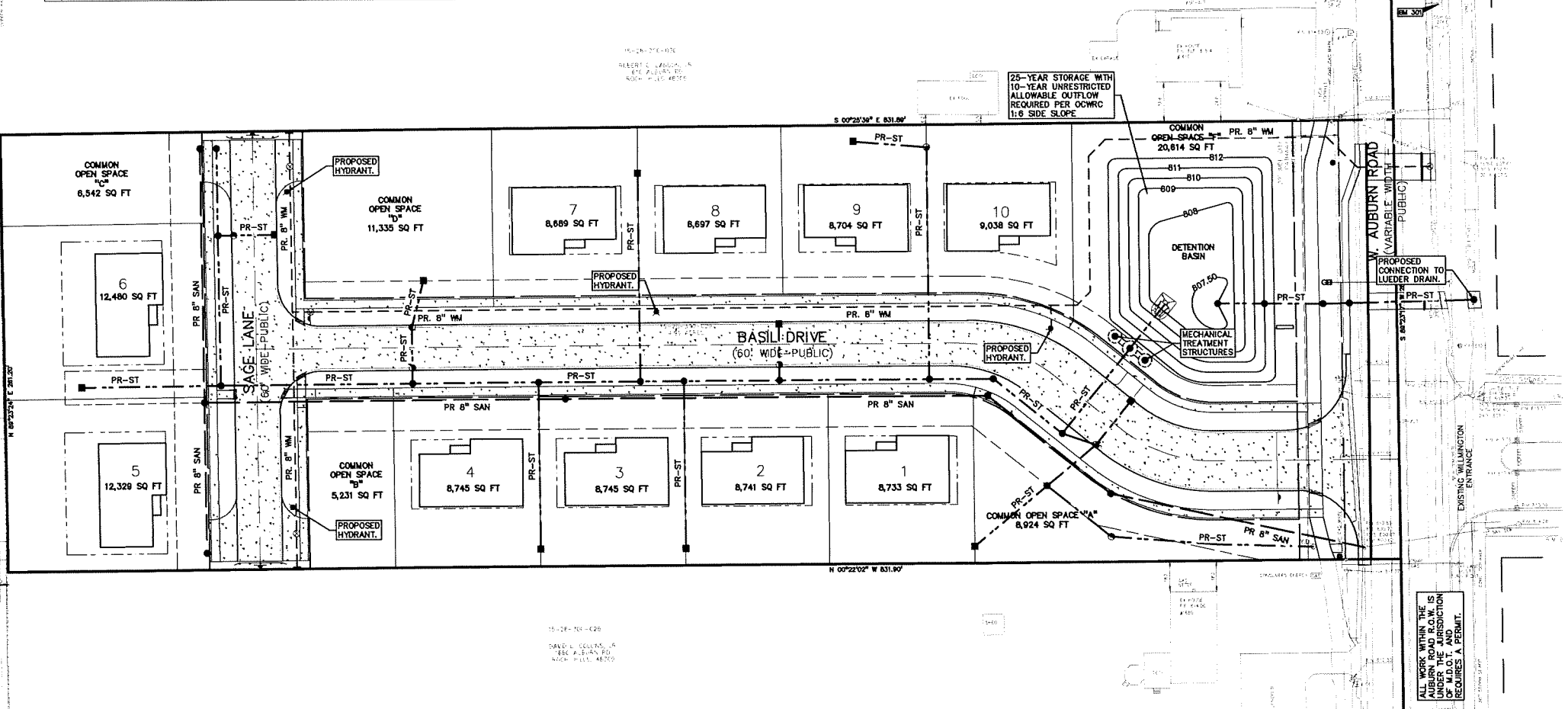
**Water Quality Volume:**  
Water Quality Volume Required =  $1815 * A * C$  = 4,166.15 cf  
Proposing (2) CDS 3030-6-C Mechanical Treatment Structures



**REVISIONS**

NO.	BY	DATE	DESCRIPTION
1	DMT	10/20/16	CONCURRENT PRELIMINARY/FINAL SITE PLAN SUBMIT
2	DMT	10/20/16	CONCURRENT PRELIMINARY/FINAL SITE PLAN SUBMIT
3	DMT	10/20/16	CONCURRENT PRELIMINARY/FINAL SITE PLAN SUBMIT
4	DMT	10/20/16	CONCURRENT PRELIMINARY/FINAL SITE PLAN SUBMIT
5	DMT	10/20/16	CONCURRENT PRELIMINARY/FINAL SITE PLAN SUBMIT

**CAUTION!!**  
THIS DRAWING IS A DESIGN. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PROPERTY OF OTHERS. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PROPERTY OF OTHERS. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE PROPERTY OF OTHERS.



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WASHINGTON, MI 48194

**PRELIMINARY/FINAL UTILITY PLAN  
SADDLEBROOK ORCHARDS**  
PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E.,  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: RLS/TWK DN: RLS/TWK SUR: KIET P.M. JD

ORIGINAL ISSUE DATE: OCTOBER 20, 2016  
PEA JOB NO: 2016-137  
SCALE: 1" = 40'  
DRAWING NUMBER: P-4

**GENERAL UTILITY NOTES:**

- ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS STANDARDS AND REQUIREMENTS.
- NO PHYSICAL CONNECTION TO THE EXISTING WATER MAIN CAN BE MADE UNTIL THE NEW WATER MAIN PASSES ALL PRESSURE AND BACTERIOLOGICAL TESTS.
- ALL WATER LEADS 2" AND SMALLER SHALL BE TYPE 'K' COPPER.
- ALL WATER MAINS SHALL BE PROVIDED WITH 6 FEET MINIMUM COVER.
- ALL STORM LEADS SHALL BE P.V.C. SOLID WALL PIPE, SCHEDULE 40 UNLESS OTHERWISE NOTED. ALL 12" DIAMETER STORM SEWER AND LARGER SHALL BE REINFORCED CONCRETE (RCP) CL-IV, UNLESS OTHERWISE NOTED.
- ALL 8" SANITARY SEWER LEADS SHALL BE P.V.C. SOLID WALL PIPE, SDR 23.5 W/ RUBBER GASKET JOINTS.
- BOXES ARE TO BE PROVIDED FOR ALL CLEANOUTS. THE BOXES SHALL BE E.I.I.W. # 1565 OR APPROVED EQUAL.
- ALL NECESSARY FITTINGS, THRUST BLOCKS, RESTRAINING GLANDS, BLOW OFFS, ETC. FOR WATER LEAD SYSTEM ARE CONSIDERED INCIDENTAL TO THIS PROJECT. THE CONTRACTOR SHALL INSTALL THESE ITEMS AS NECESSARY AND AS REQUIRED BY THE CITY.
- A SOIL EROSION PERMIT WILL BE REQUIRED FROM THE CITY OF ROCHESTER HILLS.
- ALL ELECTRIC, TELEPHONE AND CABLE TV SERVICES WILL BE UNDERGROUND.

**SECTION #28  
CITY FILE #16-029**

SCALE: 1" = 40'  
DRAWING NUMBER: P-4

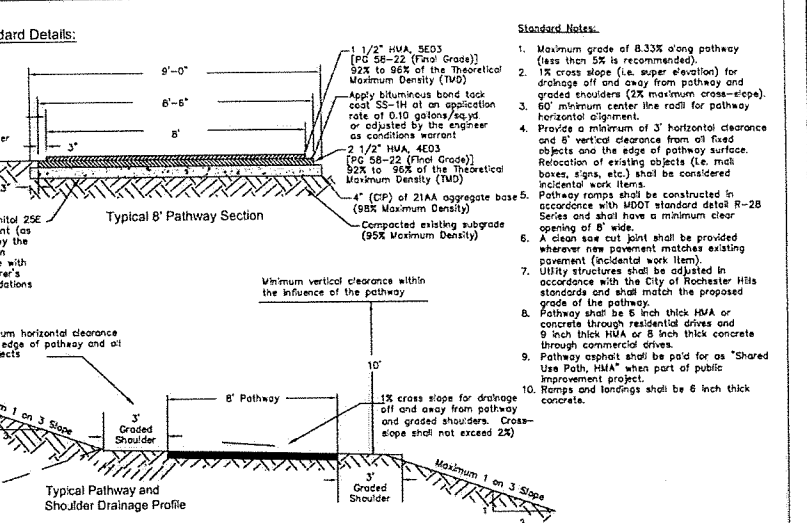
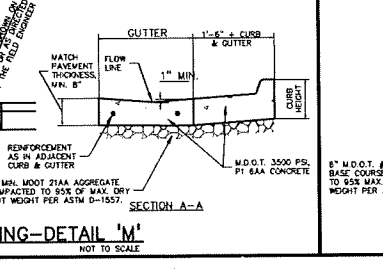
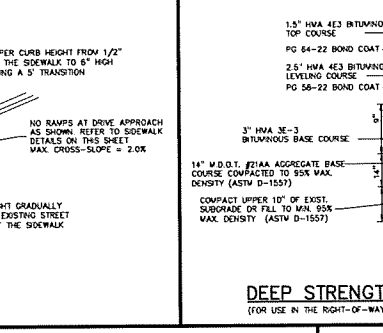
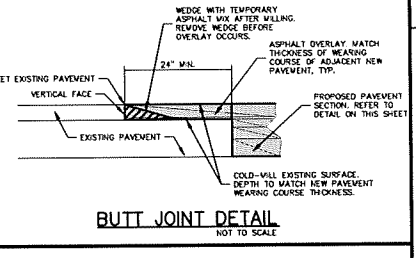
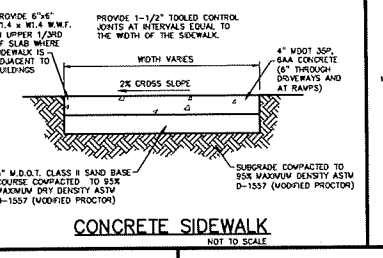
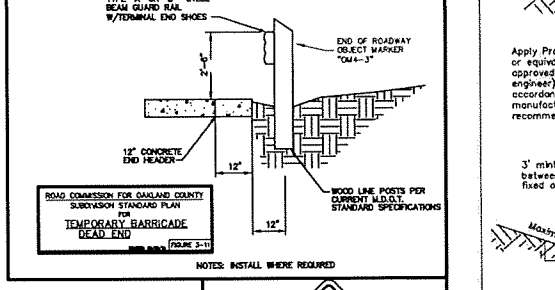
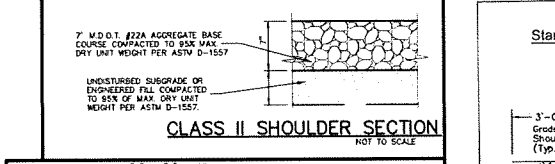
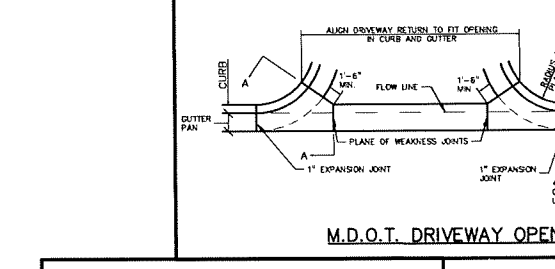
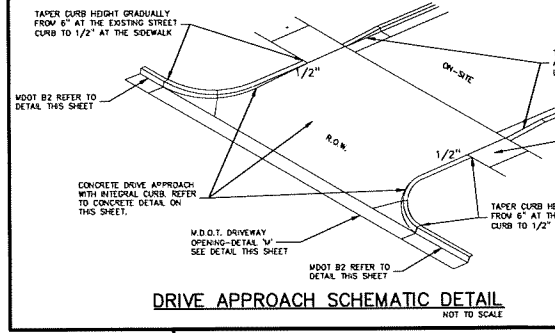
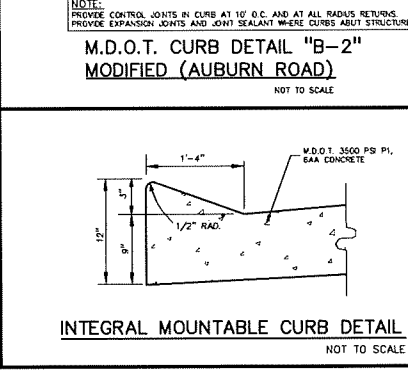
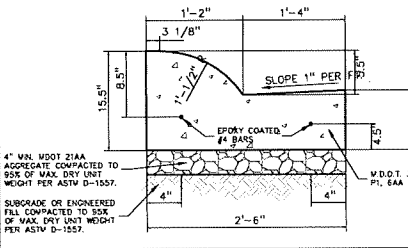
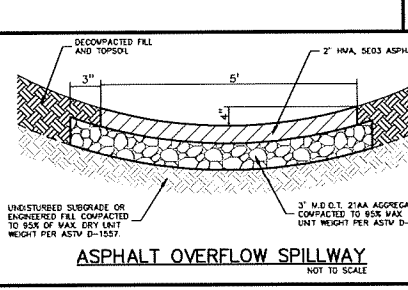
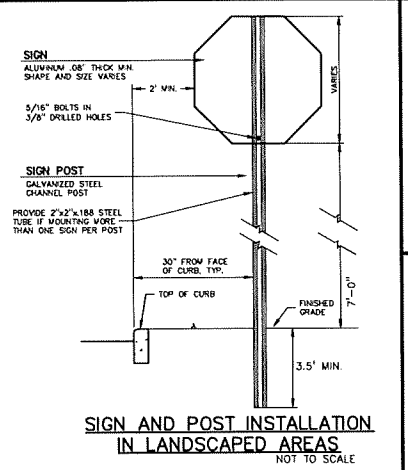
- GENERAL NOTES:**
1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS, ROOG, M.D.O.T.
  2. THE CONTRACTOR MUST CONTACT THE ENGINEER SHOULD THEY ENCOUNTER ANY DESIGN ISSUES DURING CONSTRUCTION. IF THE CONTRACTOR MAKES DESIGN MODIFICATIONS WITHOUT THE WRITTEN DIRECTION OF THE DESIGN ENGINEER, THE CONTRACTOR DOES SO AT HIS OWN RISK.
  3. ALL NECESSARY PERMITS, TESTING, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL ROCHESTER HILLS INSPECTION FEES.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING THE PERIODS OF CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO THE JOB.
  5. THE CONTRACTOR SHALL NOTIFY MISS DIG (811) AND REPRESENTATIVES OF OTHER UTILITIES IN THE VICINITY OF THE WORK A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION (EXCLUDING WEEKENDS AND HOLIDAYS) FOR LOCATION AND STAKING OF ON-SITE UTILITY LINES. IF NO NOTIFICATION IS GIVEN AND DAMAGE RESULTS, SAID DAMAGE WILL BE REPAIRED AT SOLE EXPENSE OF THE CONTRACTOR. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
  6. CONTRACTOR TO VERIFY THAT THE PLANS AND SPECIFICATIONS ARE THE VERY LATEST PLANS AND SPECIFICATIONS AND FURTHERMORE, VERIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN APPROVED. ALL ITEMS CONSTRUCTED BY THE CONTRACTOR PRIOR TO RECEIVING FINAL APPROVAL, HAVING TO BE ADJUSTED OR RE-DONE, SHALL BE AT THE CONTRACTOR'S EXPENSE. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE PLANS AND/OR SPECIFICATIONS, THEY SHALL SEEK CLARIFICATION IN WRITING FROM THE ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
  7. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
  8. MANHOLE, CATCH BASIN, GATE VALVES AND HYDRANT FINISH GRADES MUST BE CLOSELY CHECKED AND APPROVED BY THE ENGINEER BEFORE THE CONTRACTOR'S WORK IS CONSIDERED COMPLETE.
  9. CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF-SITE ANY TREES, BRUSH, STUMPS, TRASH OR OTHER UNWANTED DEBRIS AT THE OWNER'S DIRECTION, INCLUDING OLD BUILDING FOUNDATIONS AND FLOORS. BURNING OF TRASH, STUMPS OR OTHER DEBRIS SHALL NOT BE PERMITTED.
  10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADING, SIGNAGE, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION). THE DESIGN ENGINEER, OWNER, CITY AND STATE SHALL NOT BE HELD LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
  11. ALL EXCAVATIONS SHALL BE SLOPED, SHORED OR BRACED IN ACCORDANCE WITH MI-OSHA REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE AN ADEQUATELY CONSTRUCTED AND BRACED SHORING SYSTEM FOR EMPLOYEES WORKING IN AN EXCAVATION THAT MAY EXPOSE EMPLOYEES TO THE DANGER OF MOVING GROUND.

- PAVING NOTES:**
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND M.D.O.T.
  2. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
  3. ON-SITE FILL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON-SITE SOIL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
  4. THE FINAL SUBGRADE/EXISTING AGGREGATE BASE SHOULD BE THOROUGHLY PROOFOOLED USING A FULLY LOADED TANDEM AXLE TRUCK OR FRONT END LOADER UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REINFORCED USING GEORGRIDS OR REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
  5. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS. ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL SECTIONS OR BELOW SUBGRADE IN CUT SECTIONS, WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
  6. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED WITH SAND OR OTHER SIMILAR APPROVED MATERIAL. BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM UNIT WEIGHT (PER ASTM D-1557) UNLESS OTHERWISE SPECIFIED.
  7. BACKFILL UNDER PAVED AREAS SHALL BE AS SPECIFIED ON DETAILS.
  8. ANY SUB-GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.
  9. FINAL PAVEMENT ELEVATIONS SHOULD BE SO DESIGNED TO PROVIDE POSITIVE SURFACE DRAINAGE. A MINIMUM SURFACE SLOPE OF 1.0 PERCENT IS RECOMMENDED.
  10. CONSTRUCTION TRAFFIC SHOULD BE MINIMIZED ON THE NEW PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, THE INITIAL LIFT THICKNESS COULD BE INCREASED AND PLACEMENT OF THE FINAL LIFT COULD BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM.

- GENERAL UTILITY NOTES:**
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND M.D.O.T.
  2. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
  3. WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JOINT BEFORE BREAKING SECTION OUT.
  4. THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING UTILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE DESIGN ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. CONTRACTOR TO FIELD VERIFY UTILITIES.
  5. THE CONTRACTOR MUST COORDINATE TO ENSURE ALL REQUIRED PIPES, CONDUITS, CABLES AND SLEEVES ARE PROPERLY PLACED FOR THE INSTALLATION OF GAS, ELECTRIC, PHONE, CABLE, IRRIGATION, ETC. IN SUCH A MANNER THAT WILL FACILITATE THEIR PROPER INSTALLATION PRIOR TO THE PLACEMENT OF THE PROPOSED PAVEMENT AND LANDSCAPING.
  6. REFER TO CITY OF ROCHESTER HILLS STANDARD DETAILS FOR PIPE BEDDING DETAILS.
  7. REFER TO CITY OF ROCHESTER HILLS STANDARD DETAIL SHEETS FOR ADDITIONAL INFORMATION.

- STORM SEWER NOTES:**
1. ALL STORM SEWER 12" AND LARGER SHALL BE RCP CLASS IV UNLESS OTHERWISE NOTED. REFER TO CITY STANDARD DETAIL SHEETS FOR STANDARD BEDDING DETAILS.
  2. JOINTS FOR ALL STORM SEWER 12" AND LARGER SHALL BE MODIFIED TONGUE AND GROOVE JOINT WITH RUBBER GASKETS UNLESS SPECIFIED OTHERWISE (ASTM C-443)
  3. ALL STORM SEWER LEADS SHALL BE CONSTRUCTED OF PVC SCHEDULE 40 PIPE AT 1.00% MINIMUM SLOPE WITH GLEED JOINTS, UNLESS OTHERWISE NOTED.

- WATER MAIN NOTES:**
1. ALL WATER MAIN SHALL BE INSTALLED WITH A MINIMUM COVER OF 6' BELOW FINISH GRADE. WHEN WATER MAINS MUST DIP TO PASS UNDER A STORM SEWER OR SANITARY SEWER, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE KEPT TO A MINIMUM LENGTH BY THE USE OF VERTICAL TWENTY TWO AND A HALF (22.5) DEGREE BENDS, PROPERLY ANCHORED.
  2. ALL TEES, BENDS, CONNECTIONS, ETC. ARE CONSIDERED INCIDENTAL TO THE JOB.
  3. PHYSICAL CONNECTIONS SHALL NOT BE MADE BETWEEN EXISTING AND NEW WATER MAINS UNTIL TESTING IS SATISFACTORILY COMPLETED.
  4. MAINTAIN 10' HORIZONTAL CLEARANCE BETWEEN OUTER EDGE OF WATERMAIN AND ANY SANITARY SEWER OR STRUCTURE.
  5. ALL WATER MAIN SHALL BE DUCTILE IRON CLASS 54 WITH POLYETHYLENE WRAP.
- SANITARY SEWER NOTES:**
1. DOWNSPOUTS, WEEP TILE, FOOTING DRAINS OR ANY CONDUIT THAT CARRIES STORM OR GROUND WATER SHALL NOT BE ALLOWED TO DISCHARGE INTO A SANITARY SEWER.
  2. ALL SANITARY LEADS SHALL BE CONSTRUCTED OF PVC SDR 23.5 AT 1.00% MINIMUM SLOPE.
  3. ALL SANITARY SEWER SHALL BE CONSTRUCTED OF PVC TRUSS PIPE WITH A MINIMUM DIAMETER OF 8" PER CITY REQUIREMENTS.
  4. JOINTS FOR P.V.C. SOLID WALL PIPE SHALL BE ELASTOMERIC (RUBBER GASKET) AS SPECIFIED IN A.S.T.M. DESIGNATION D-3212.

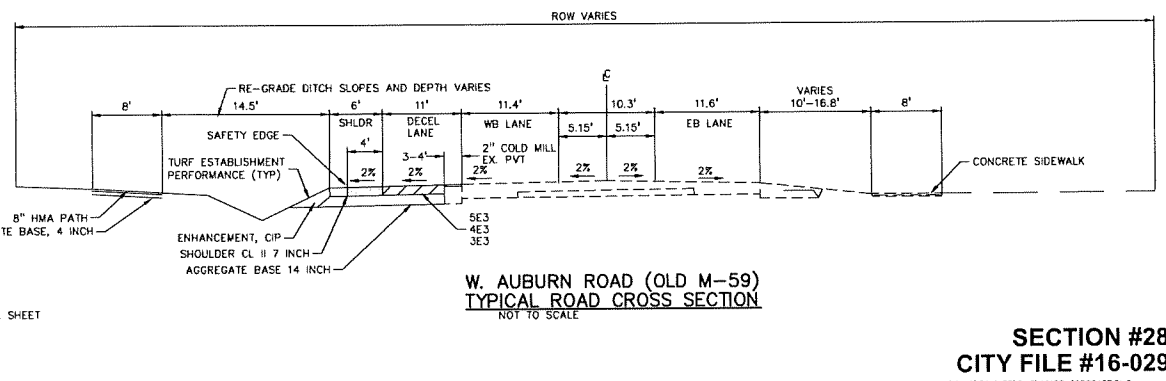
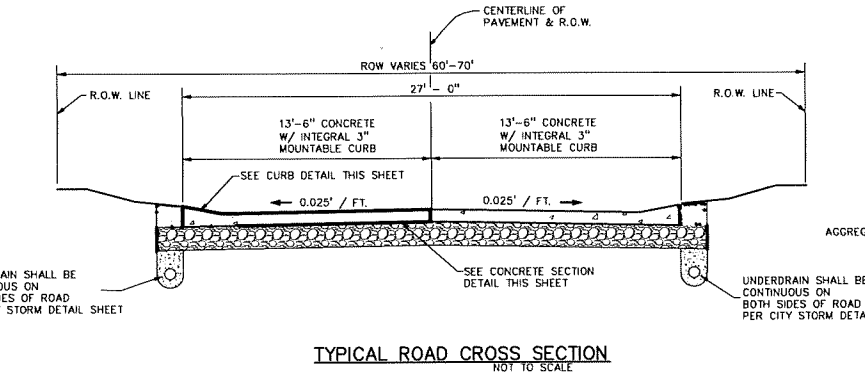


**CITY OF ROCHESTER HILLS STANDARD DETAIL FOR:**

Pathway Details:  
Hot-Mixed Asphalt Pathway Construction, Extensions and Relocations

APPROVED BY: PAUL SHANLEY, P.E. PTOE CITY TRANSPORTATION ENGINEER

NOT TO SCALE



NO.	DATE	DESCRIPTION
1	10/20/20	ISSUED FOR PERMITS
2	10/20/20	ISSUED FOR PERMITS
3	10/20/20	ISSUED FOR PERMITS
4	10/20/20	ISSUED FOR PERMITS
5	10/20/20	ISSUED FOR PERMITS
6	10/20/20	ISSUED FOR PERMITS
7	10/20/20	ISSUED FOR PERMITS
8	10/20/20	ISSUED FOR PERMITS
9	10/20/20	ISSUED FOR PERMITS
10	10/20/20	ISSUED FOR PERMITS

**CAUTION!**

THE USER OF THESE STANDARD DETAILS SHALL BE RESPONSIBLE FOR VERIFYING THAT THE LATEST EDITIONS OF THE CITY OF ROCHESTER HILLS STANDARD DETAILS ARE BEING USED. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THAT THE LATEST EDITIONS OF THE CITY OF ROCHESTER HILLS STANDARD DETAILS ARE BEING USED.

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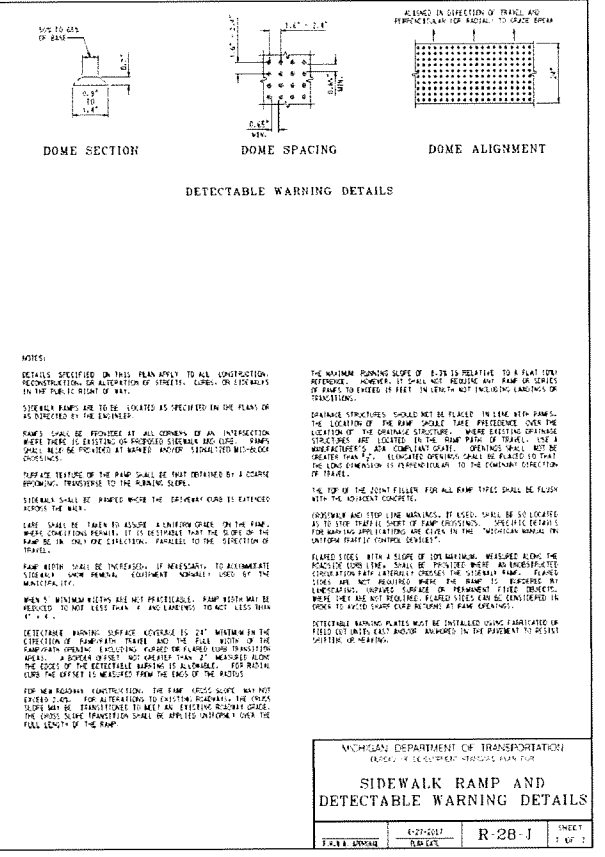
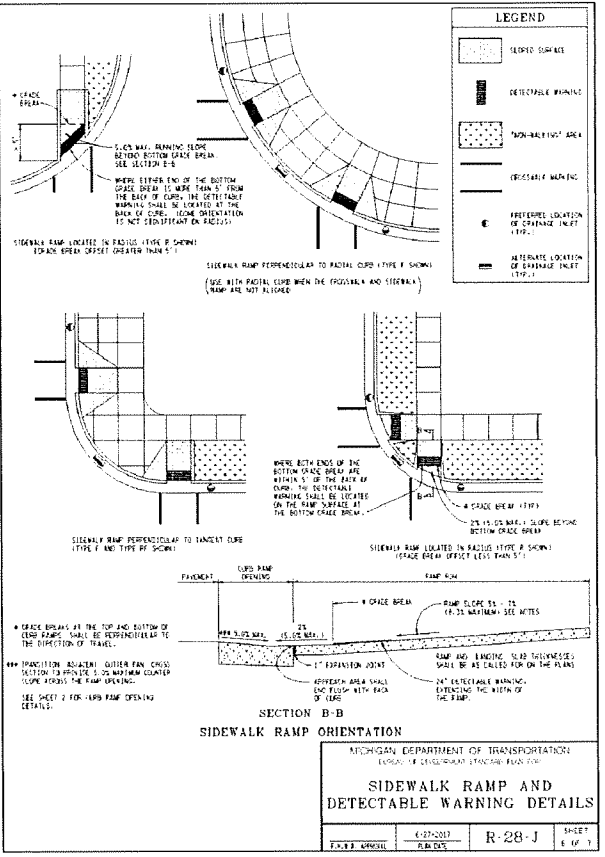
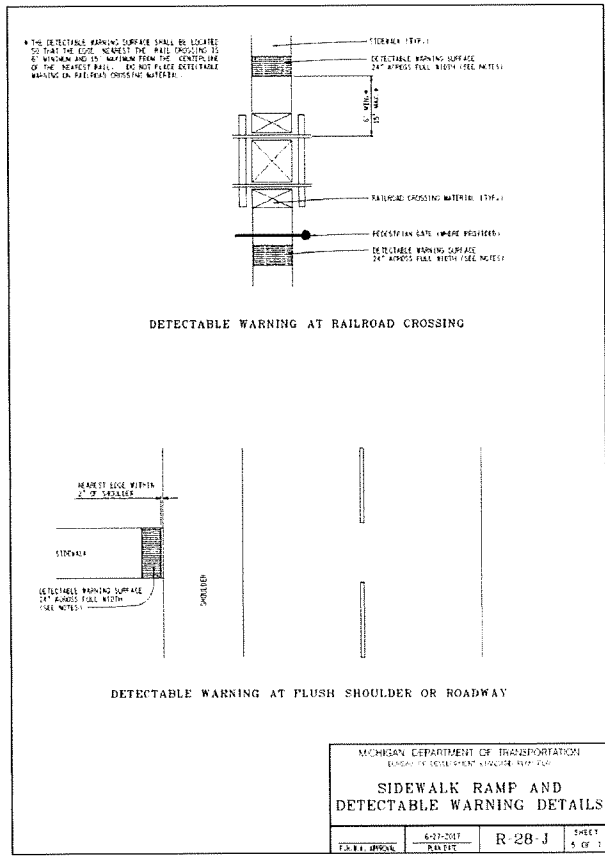
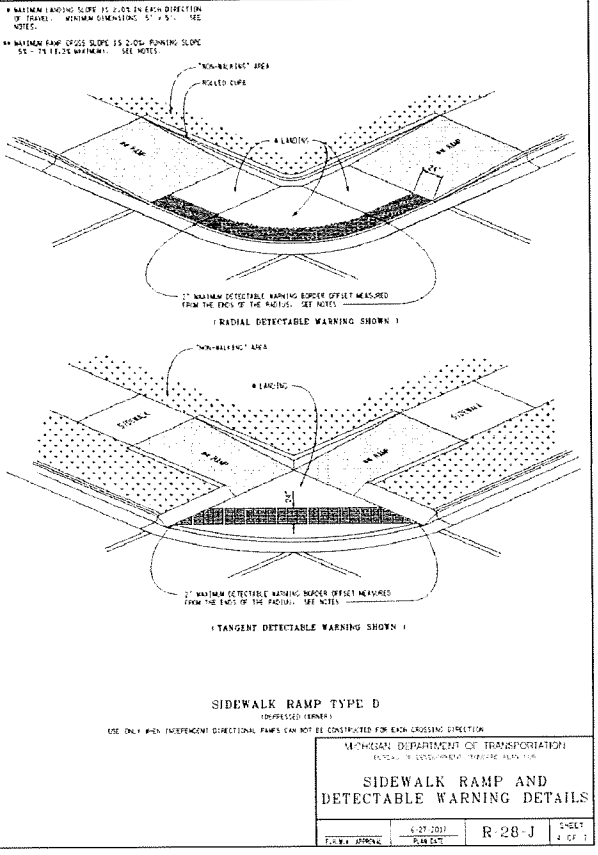
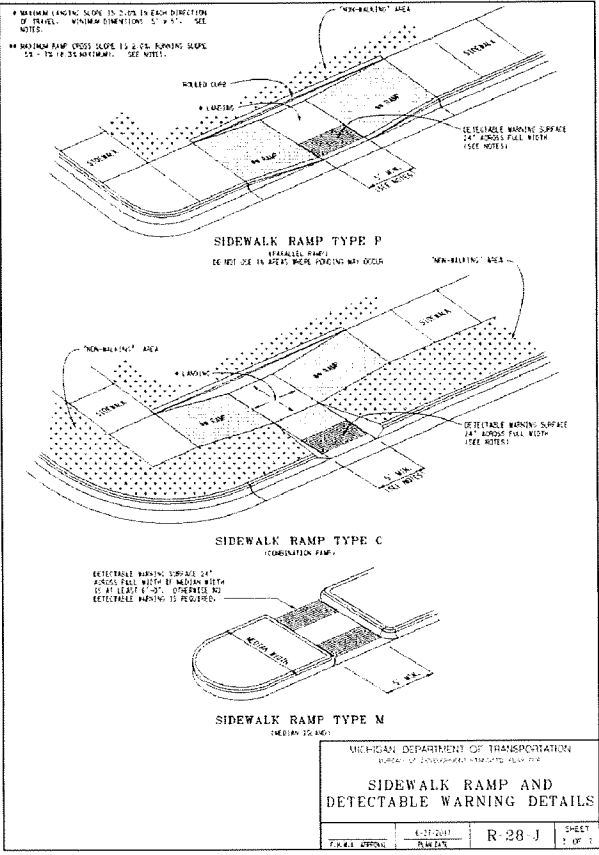
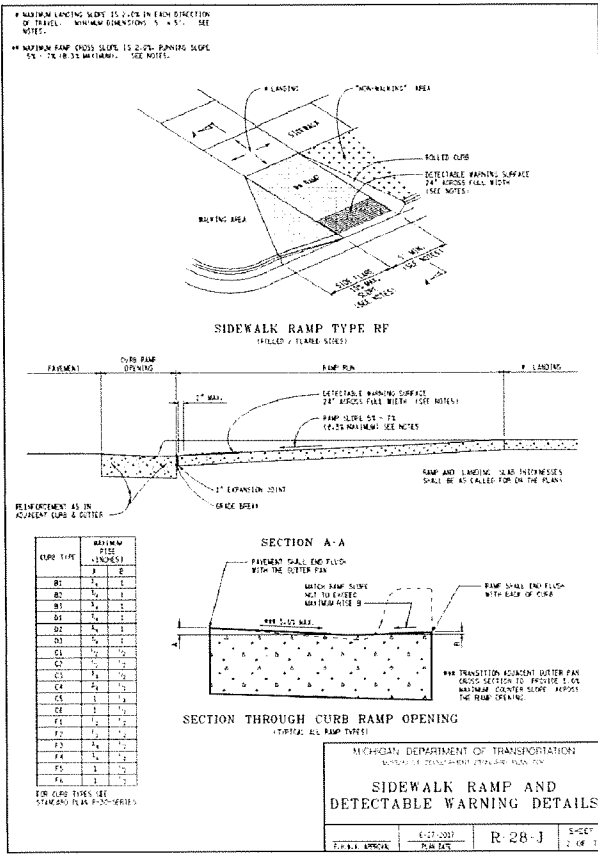
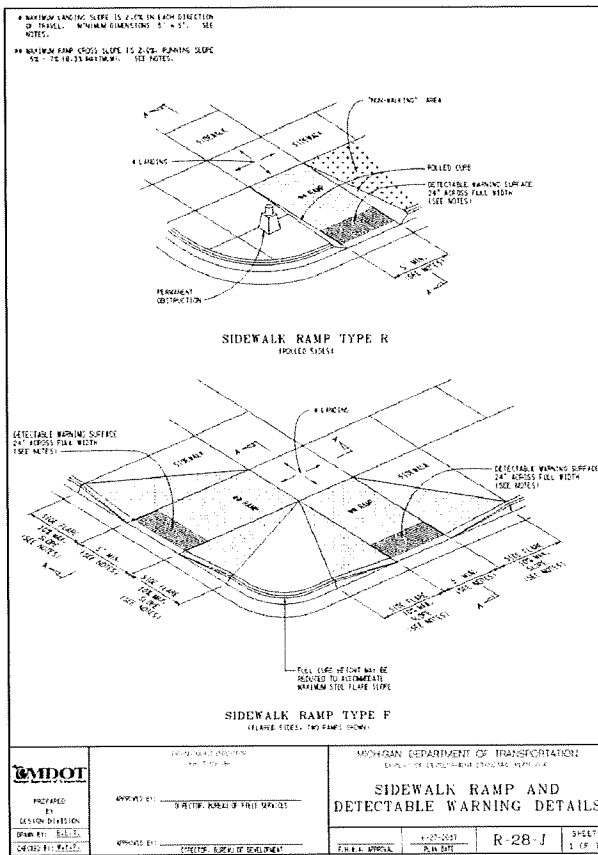
**GIANNA INVESTMENTS, LLC**  
59227 VAN DYKE WASHINGTON, MI 48094

**PRELIMINARY/FINAL DETAIL SHEET**  
**SADDLEBROOK ORCHARDS**  
PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E., CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: RLSTMK SUR: KIEFT P.M. J.D.

ORIGINAL ISSUE DATE: OCTOBER 20, 2016  
PEA JOB NO: 2016-137  
SCALE: 1" = NONE  
DRAWING NUMBER: P-5

SECTION #28  
CITY FILE #16-029



NO.	DATE	BY	CHKD.	DESCRIPTION
1	11/16/16	JLB	MBB	PRELIMINARY
2	11/16/16	JLB	MBB	CONCURRENT REVIEW
3	11/16/16	JLB	MBB	CONCURRENT REVIEW
4	11/16/16	JLB	MBB	CONCURRENT REVIEW

**CAUTION!!**  
 THE LOCATION AND ELEVATION OF EXISTING UTILITIES MUST BE DETERMINED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES AND FOR PROTECTING THEM FROM DAMAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE REGULATIONS AND ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE REGULATIONS AND ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE REGULATIONS AND ORDINANCES.

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**GIANNA INVESTMENTS, LLC**  
 59227 VAN DYKE  
 WARREN, MI 48090

**PRELIMINARY/FINAL DETAIL SHEET**  
**SADDLEBROOK ORCHARDS**  
 PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E.,  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES. RLS/TWK DN RLS/TWK SUR. KIEFT L.P.M. JD  
 2. PROJECTIONS: 11/16/16 11/16/16 11/16/16 11/16/16 11/16/16 11/16/16

ORIGINAL ISSUE DATE: OCTOBER 20, 2016  
 PEA JOB NO: 2016-137  
 SCALE: 1" = NONE  
 DRAWING NUMBER:  
**P-6**

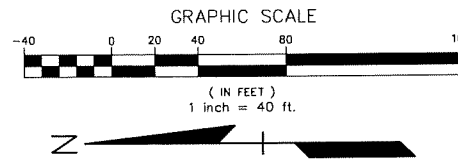


**CITY OF ROCHESTER HILLS NOTES:**

**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 MANAGED 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 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 trees 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/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.
- Swales shall be required to avoid the area within the drip line of the only tree designated for preservation. Swales 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.



**TREE SUMMARY NOTE:**

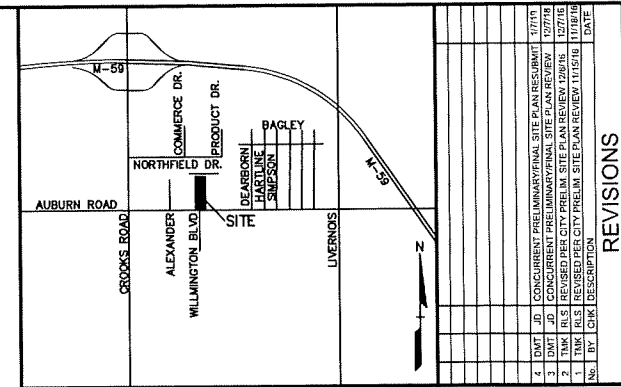
235 TOTAL TREES ON SITE - 18 POOR/DAMAGED/DISEASED - 31 TREES WITHIN BLDG. ENVELOPE  
 = 186 TOTAL REGULATED TREES ON SITE.

90 TREES TO REMAIN (INCLUDES 8 POOR TREES)

145 TREES TO BE REMOVED - 10 POOR TREES - 31 TREES WITHIN BLDG. ENVELOPE  
 = 104 TREES TO BE REPLACED.

104 REGULATED TREES TO BE REPLACED/ 186 TOTAL REGULATED TREES =  
 55% REMOVED AND 45% PRESERVED.

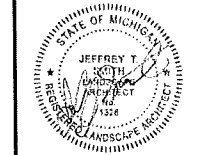
SEE SHEET L-1 FOR TREE REPLACEMENT.



LOCATION MAP - NOT TO SCALE

**KEY:**

- (Dashed circle) = TREE PROTECTION FENCING
- (Solid circle) = TREE TO REMAIN DRIP LINE
- (Dotted circle) = TREE TO REMOVE DRIP LINE
- (Circle with 'R') = TREE TO REMAIN
- (Circle with 'X') = TREE TO REMOVE



**CAUTION!!**  
 THE ACCURACY AND RELIABILITY OF ANY INFORMATION CONTAINED HEREIN IS GUARANTEED BY THE ENGINEER OR ARCHITECT ONLY TO THE EXTENT SPECIFICALLY STATED IN WRITING. THE USER OF THIS INFORMATION SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY INFORMATION FROM OTHER SOURCES AND FOR VERIFYING THE ACCURACY AND RELIABILITY OF SUCH INFORMATION. THE ENGINEER OR ARCHITECT SHALL NOT BE RESPONSIBLE FOR ANY CONSEQUENCES ARISING FROM THE USE OF THIS INFORMATION FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED.

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**TREE INVENTORY PRESERVATION SADDLEBROOK ORCHARDS**  
 PART OF THE SW 1/4 OF SECTION 28, T. 3N., R. 11E., CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: JTS DN, KD SUR, KIEFT J.P.M. JD

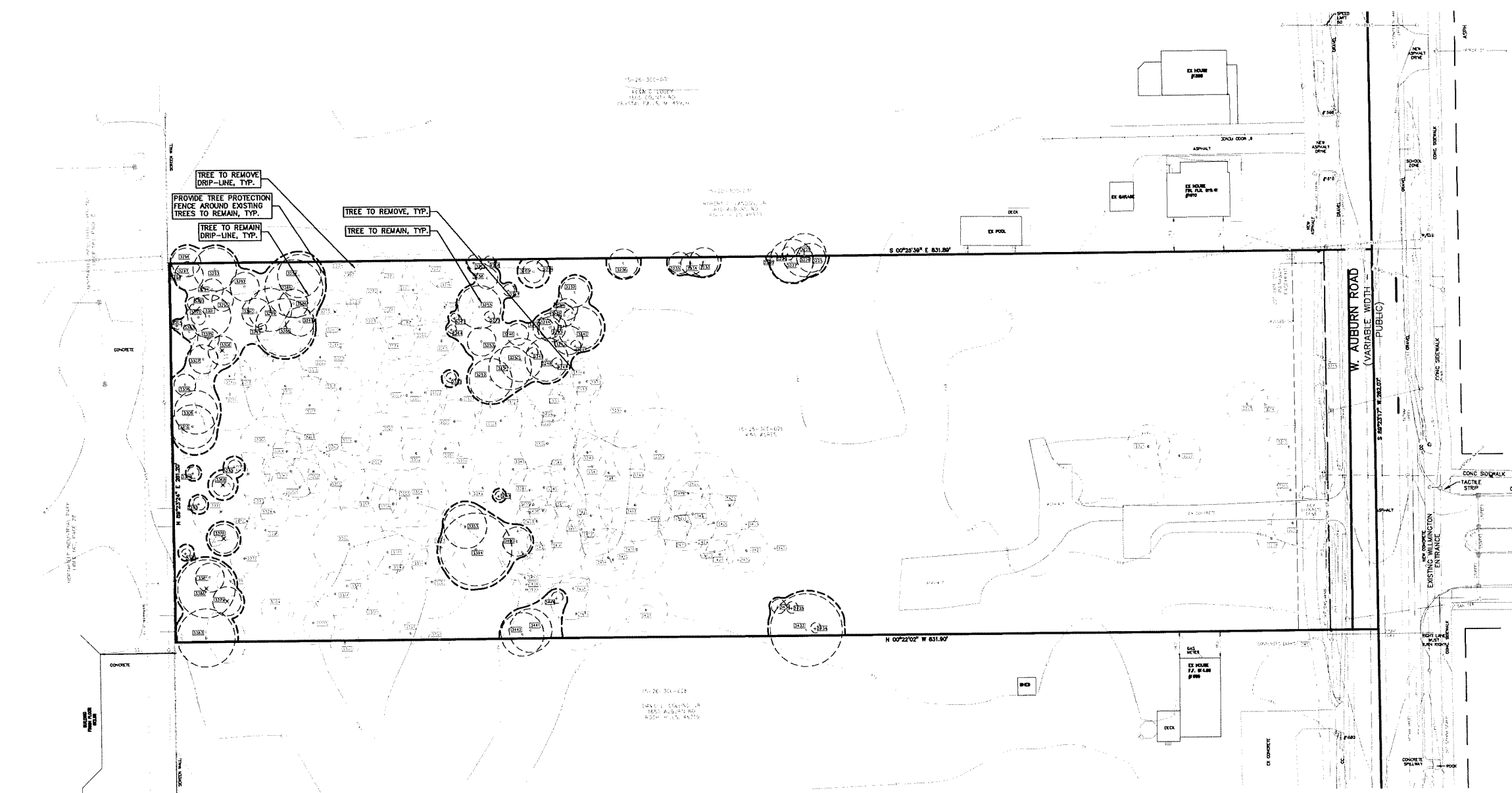
ORIGINAL ISSUE DATE: OCTOBER 20, 2016

PEA JOB NO 2016-137

SCALE: 1" = 40'

DRAWING NUMBER: T-1

REF: S:\PROJECTS\2016\10\16\137\ORCHARD\137-10\ORCHARD.DWG  
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**SECTION #28  
 CITY FILE #16-029**



**CITY OF ROCHESTER HILLS NOTES:**  
**TREE PLANTING RESTRICTIONS:**  
 Prior approval is required to plant any tree or shrub on the public right-of-way. All trees and shrubs must be planted at least 10' from the edge of the public road.  
 (Trees must be planted at least 15' away from curb or road edge where the speed limit is more than 35 mph).  
 Shade trees and shrubs must be planted at least 5' from the edge of the public walkway. Evergreen and ornamental trees must be planted at least 10' from the edge of the public walkway. No trees or shrubs may be planted within the triangular area formed at the intersection of any street right-of-way lines at a distance along each line of 25' from their point of intersection. No trees or shrubs may be planted in the triangular area formed at the intersection of any driveway with a public walkway at a distance along each line of 15' from their point of intersection. All trees and shrubs must be planted at least 10' from any fire hydrant. Shade and evergreen trees must be at least 15' away from the nearest overhead wire. Trees must be planted a minimum of 5' from an underground utility, unless the city's Landscape Architect requires a greater distance.

**CLOSING COMMENT:**  
 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.  
 NOTE: THESE REQUIREMENTS ABOVE ARE INCORPORATED INTO THE PLAN.

- GENERAL PLANTING NOTES:**
- LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
  - CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO COMMENCING.
  - ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERYMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1. GRADE.
  - CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
  - THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
  - ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
  - ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
  - ALL MULTI STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
  - ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
  - ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS, TREES WITH SAND BALLS WILL BE REJECTED.
  - NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES; HAND GRADE ALL LAWN AREAS WITHIN THE DRIP LINE OF EXISTING TREES.
  - ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
  - IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.
  - ALL PLANTING BEDS SHALL RECEIVE 3" SHREDDED HARDWOOD BARK MULCH, SEE SPECIFICATIONS. SHREDDED PALETTE AND DIED MULCH WILL NOT BE ACCEPTED.
  - ALL LANDSCAPED AREAS SHALL RECEIVE 3" COMPACTED TPOISOL.
  - SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.
  - FOR NON-LAWN SEED MIX AREAS, AS NOTED ON PLAN, BRUSH MOW ONCE SEASONALLY FOR INVASIVE SPECIES CONTROL.

**TREE PLANT LIST:**  
 NOTE: 10 TREES TO BE PROVIDED BY CITY - ONE PER LOT ALONG BASIL DR AND SAGE LN (SPECIES TO BE SPECIFIED BY CITY)

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC.
5	AL10	Cumulus Serviceberry	<i>Ambelanchier x laevis 'Cumulus'</i>	10' Ht.	B&B
5	AR3	Redpoint Maple	<i>Acer x freemanii 'Redpoint'</i>	3" Cal.	B&B
4	AS3	Sugar Maple	<i>Acer saccharum 'Green Mountain'</i>	3" Cal.	B&B
8	BN3	River Birch - single stem	<i>Betula nigra</i>	3" Cal.	B&B
4	CC2.5	American Hornbeam	<i>Carpinus carolina</i>	2.5" Cal.	B&B
6	CF2.5	Pink Dogwood	<i>Cornus florida var. 'Rubra'</i>	2.5" Cal.	B&B
3	GT3	Skyline Honeylocust	<i>Gleditsia litacanthos 'Skyline' Inermis</i>	3" Cal.	B&B
5	PA3	Encore London Planetree	<i>Platanus x acerifolia 'Encore'</i>	3" Cal.	B&B
2	QB3	Swamp White Oak	<i>Quercus bicolor</i>	3" Cal.	B&B
6	QP3	Regal Prince Oak	<i>Quercus robur x bicolor 'Long' (columnar)</i>	3" Cal.	B&B
5	SR2.5	Japanese Tree Lilac	<i>Syringa reticulata 'Ivory Silk'</i>	2.5" Cal.	B&B
7	TA3	Boulevard Linden	<i>Tilia americana 'Boulevard'</i>	3" Cal.	B&B
60		TOTAL DEC.			

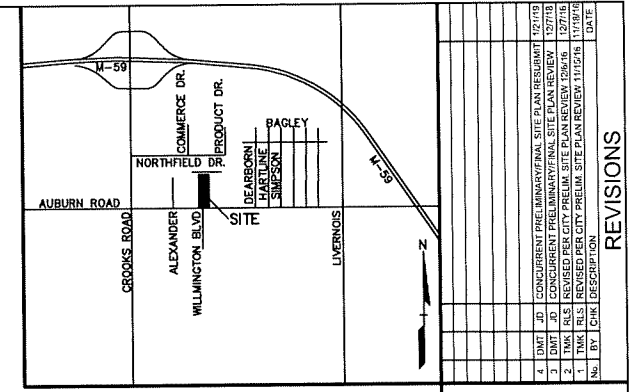
**EVERGREEN PLANT LIST:**

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC.
4	AC6	Concolor Fir	<i>Abies concolor</i>	8' Ht.	B&B
6	PA8	Norway Spruce	<i>Picea abies</i>	8' Ht.	B&B
16	PGB	Black Hills Spruce	<i>Picea glauca 'Densata'</i>	8' Ht.	B&B
8	PS8	Eastern White pine	<i>Pinus strobus</i>	8' Ht.	B&B
34		TOTAL EVG.			

**SHRUB PLANT LIST:**

QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC.
20	AM30	Black Chokeberry	<i>Aronia melanocarpa</i>	30" Ht.	Cont.
8	CS36	Red Twig Dogwood	<i>Cornus sericea</i>	36" Ht.	Cont.
7	PO36	Diablo Ninebark	<i>Physocarpus opulifolius 'Monro'</i>	36" Ht.	Cont.
9	VD30	Chicago Lustre Viburnum	<i>Viburnum dentatum 'Synaestved'</i>	30" Ht.	Cont.
21	VM30	Mohican Viburnum	<i>Viburnum lentana 'Mohican'</i>	30" Ht.	Cont.
65		TOTAL SHRUBS			



**LANDSCAPE CALCULATIONS:**  
 PER CITY OF ROCHESTER HILLS ZONING ORDINANCE

**RIGHT OF WAY LANDSCAPING**  
 REQUIRED: 1 DEC TREE / 35 LF OF RIGHT OF WAY  
 1 ORN TREE / 60 LF OF RIGHT OF WAY

AUBURN ROAD: 282 LF / 35 LF = 8 DEC TREES  
 282 LF / 60 LF = 4 ORN TREES

PROVIDED: 8 DEC (6 IN R.O.W. AND 2 NOT IN R.O.W.) AND 4 ORN.  
 10 TREES TO BE PROVIDED BY THE CITY ADJACENT TO INTERIOR ROAD (CITY TREES NOT SHOWN ON PLAN OR PLANT LIST)

**BUFFER ZONE TYPE E (NORTH PROPERTY LINE)**  
 REQUIRED: 2.5 DEC TREES / 100 LF, 1.5 ORN TREES / 100 LF,  
 6 EVG TREES / 100 LF, 10 SHRUBS / 100 LF

282 LF / 100 = 2 DEC, 4 ORN, 18 EVG & 28 SHRUBS

NO EVERGREEN TREES WERE PROVIDED DUE TO THE PRESENCE OF THE EXISTING MASONRY WALL. DEC AND SHRUBS ARE PROVIDED AT 1.5X REQUIRED NUMBER OF EVERGREEN TREES = 24 ADDITIONAL DEC TREES AND SHRUBS.

PROVIDED: 0 DEC, 0 ORN, 0 EVG TREES & 50 SHRUBS  
 NO DECIDUOUS OR ORNAMENTAL TREES WERE PROVIDED DUE TO 25 EXISTING DECIDUOUS TREES TO REMAIN WITHIN 35' BUFFER OF EXISTING MASONRY WALL.

**POUD / BASIN VEGETATION**  
 REQUIRED: NATIVE VEGETATION EXTENDING 25' FROM FREEBOARD  
 DEC SHADE TREES MUST BE PROVIDED AT THE S & W EDGE.  
 1.5 DEC, 1 EVG, AND 4 SHRUBS / 100 LF BASIN PERMETER.  
 BASIN PERMETER = 365 LF / 100 = 6 DEC, 4 EVG, & 15 SHRUBS

PROVIDED: -6 DEC SHADE TREES, 4 EVG TREES AND 15 SHRUBS

**REPLACEMENT TREES**  
 REQUIRED: MIN. 37% OF TOTAL REGULATED TREES MUST BE PRESERVED.  
 1 TREE REQUIRED FOR EACH REMOVED TREE.

235 TOTAL TREES ON SITE - 18 POOR/DAMAGED/DISEASED - 31 TREES WITHIN BLDG. ENVELOPE = 186 TOTAL REGULATED TREES ON SITE.

90 TREES TO REMAIN (INCLUDES 8 POOR TREES)

145 TREES TO BE REMOVED - 10 POOR TREES - 31 TREES WITHIN BLDG. = 104 TREES TO BE REPLACED.

104 REGULATED TREES TO BE REMOVED / 186 TOTAL REGULATED TREES = 55% REMOVED AND 45% PRESERVED.

(MIN. 2" CAL DEC AND 8' HT. EVG. FOR EACH 1" CAL OR 1' HT. INCREASE WILL COUNT FOR AN EXTRA 1/2 TREE CREDIT)  
 9 POOR TREES REMOVED PER CITY WITHOUT REPLACEMENT.

PROVIDED: 28, 3" CAL DEC. (2 CREDITS EACH = 52 EQUIVALENT)  
 16, 2.5" CAL ORN. (1.5 CREDITS EACH = 24 EQUIVALENT)  
 30, 8' EVG. TREES = 106 TREE EQUIVALENT

**NATURAL FEATURES/ENVIRONMENTAL IMPACT STATEMENT**  
 A. ENVIRONMENTAL IMPACT STATEMENT: Measures were taken to preserve existing features on site and minimize environmental impacts, especially with regard to maintaining as many trees as possible along the north, west and east border of the site.  
 B. TREE REMOVAL: The site is subject to the City's tree conservation ordinance, and so any healthy tree greater than 6" caliper that will be removed must be replaced with one credit. Trees that are dead or in poor condition need not be replaced.  
 C. WETLANDS: The site does not contain regulated wetlands.  
 D. NATURAL FEATURES SETBACK: The site does not contain regulated natural features.  
 E. STEEP SLOPES: The site does not contain any regulated steep slopes.

**REVISIONS**

NO.	BY	CHK.	DESCRIPTION	DATE
4	JMS	DN	CONCURRENCE FREEBOARD	11/11/16
3	JMS	DN	CONCURRENCE FREEBOARD	11/11/16
2	JMS	DN	CONCURRENCE FREEBOARD	11/11/16
1	JMS	DN	CONCURRENCE FREEBOARD	11/11/16



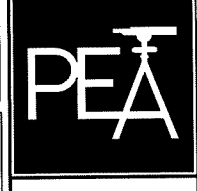
**CAUTION!**  
 THE EXISTING ACCESS DRIVE AND DRIVEWAY ARE NOT TO BE REMOVED OR ALTERED. ANY CHANGES TO THESE AREAS MUST BE APPROVED BY THE CITY OF ROCHESTER HILLS. THE EXISTING MASONRY WALL IS TO BE PRESERVED AND REPAIRED AS NEEDED. ANY REMOVAL OF THIS WALL MUST BE APPROVED BY THE CITY OF ROCHESTER HILLS. THE EXISTING MASONRY WALL IS TO BE PRESERVED AND REPAIRED AS NEEDED. ANY REMOVAL OF THIS WALL MUST BE APPROVED BY THE CITY OF ROCHESTER HILLS.

**3 FULL WORKING DAYS BEFORE YOU DIG CALL**

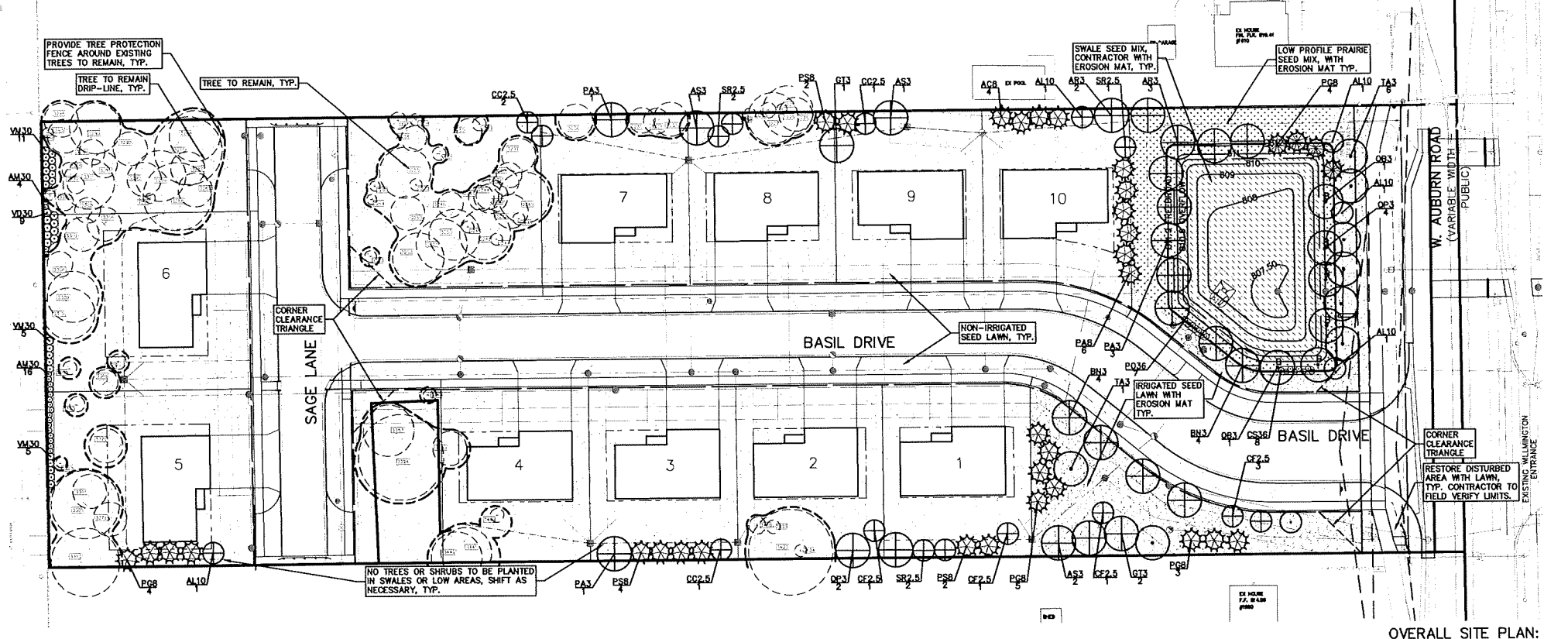
**811**

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 Call before you dig

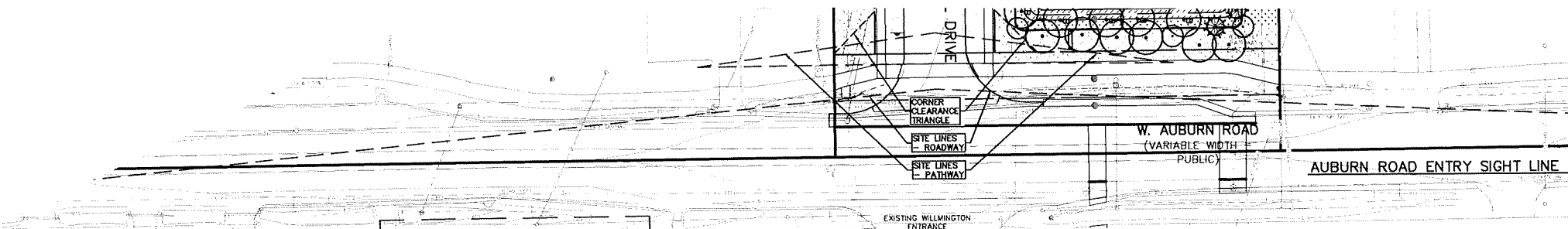
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 T: 248-689-9090  
 F: 248-689-1044  
 www.peainc.com



**CITY OF ROCHESTER HILLS MAINTENANCE AGREEMENT:**  
**PROPERTY MAINTENANCE:**  
 A. Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse.  
 B. Pruning shall be minimal at the time of installation, only to remove dead or diseased branches. Subsequent pruning shall assure proper maturation of plants to achieve their approved purpose.  
 C. All dead, damaged, or diseased plant material shall be removed immediately and replaced within six (6) months after it dies or in the next planting season, whichever occurs first. For purposes of this Section, the planting season for deciduous plants shall be between March 1 and June 1 and from October 1 until the prepared soil becomes frozen. The planting season for evergreen plants shall be between March 1 and June 1. Plant material installed to replace dead or diseased materials shall be as close as practical to the size of the material it is intended to replace. The City may notify property owners of the need to replace dead, damaged, or diseased materials.  
 D. The approved landscape plan shall be considered a permanent record and integral part of the Site Plan Approval. Unless otherwise approved in accordance with the aforementioned procedures, any revisions to or removal of plant materials, or non-compliance with the maintenance requirements of this Section 138-12.109 will place the parcel in non-conformity with the approved landscape plan and be a violation of the Ordinance.  
 E. If protected trees are damaged, a fine shall be issued on an inch-by-inch basis of a monetary rate as defined by the Forestry Department.



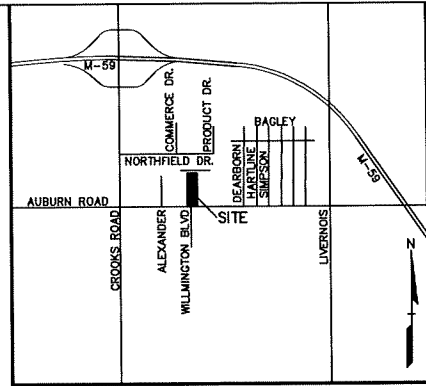
**GIANNA INVESTMENTS, LLC**  
 5922 VAN DYKE  
 WASHINGTON, MI 48994

**PRELIM. FINAL LANDSCAPE PLAN**  
**SADDLEBROOK ORCHARDS**  
 PART OF THE SW 1/4 OF SECTION 28 T. 3N. R. 1E.  
 CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

DES: JTS DN KO SJLR KIEFT P.M. JD  
 DATE: 10/20/16

**SECTION #28**  
**CITY FILE #16-029**

ORIGINAL ISSUE DATE: OCTOBER 20, 2016  
 PEAJOB NO 2016-137  
 SCALE: 1" = 40'  
 DRAWING NUMBER: L-1



NO.	DATE	DESCRIPTION
1	10/10/19	PRELIMINARY SITE PLAN SUBMITTAL
2	10/10/19	PRELIMINARY SITE PLAN REVIEW
3	10/10/19	FINAL SITE PLAN REVIEW
4	10/10/19	FINAL SITE PLAN REVIEW
5	10/10/19	FINAL SITE PLAN REVIEW
6	10/10/19	FINAL SITE PLAN REVIEW
7	10/10/19	FINAL SITE PLAN REVIEW
8	10/10/19	FINAL SITE PLAN REVIEW
9	10/10/19	FINAL SITE PLAN REVIEW
10	10/10/19	FINAL SITE PLAN REVIEW

FOR ALL SEED MIXES, PROVIDE EROSION MAT ON SLOPES AND AREAS OF WASH OUT TYP. INSTALL AND PREP PER MANUFACTURER'S SPECIFICATIONS.

**Swale Seed Mix**  
CARDNO 574-586-2412  
cardnonativeplantnursery.com

Botanical Name	Common Name
<b>Permanent Grasses/Sedges:</b>	
<i>Andropogon gerardi</i>	Big Bluestem
<i>Carex comosa</i>	Bristly Sedge
<i>Carex cristata</i>	Crested Oval Sedge
<i>Carex lasiocarpa</i>	Boitebrush Sedge
<i>Carex spp.</i>	Prairie Sedge Mix
<i>Carex vulpinoidea</i>	Brown Fox Sedge
<i>Elymus virginicus</i>	Virginia Wild Rye
<i>Glyceria striata</i>	Fox Manna Grass
<i>Panicum virgatum</i>	Switch Grass
<i>Scirpus atrovirens</i>	Dark Green Rush
<i>Scirpus cyperinus</i>	Wool Grass
<i>Spartina pectinata</i>	Prairie Cord Grass
<b>Temporary Cover:</b>	
<i>Avena sativa</i>	Common Oat
<i>Lolium multiflorum</i>	Annual Rye
<b>Forbs:</b>	
<i>Alopecurus spp.</i>	Water Plantain (Various)
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Coccoloba triflora</i>	Tall Coreopsis
<i>Eutrochium maculatum</i>	Spotted Joe-Pye Weed
<i>Impatiens</i>	Blue Flag
<i>Liatris spicata</i>	Marsh Blazing Star
<i>Lobelia cardinalis</i>	Cardinal Flower
<i>Lobelia siphillica</i>	Great Blue Lobelia
<i>Lycopus americanus</i>	Common Water Horehound
<i>Pycnanthemum virginianum</i>	Common Mountain Mint
<i>Rudbeckia triloba</i>	Brown-Eyed Susan
<i>Sagittaria latifolia</i>	Common Arrowhead
<i>Senna hebecarpa</i>	Wild Senna
<i>Siphium terebinthaceum</i>	Prairie Dock
<i>Symphoricarum novae-angliae</i>	New England Aster
<i>Verbena hastata</i>	Blue Vervain
<i>Zizia aurea</i>	Golden Alexanders

**Low Profile Prairie Seed Mix**  
CARDNO 574-586-2412  
cardnonativeplantnursery.com

Botanical Name	Common Name
<b>Permanent Grasses:</b>	
<i>Bouteloua curtipendula</i>	Side Oats Grama
<i>Carex spp.</i>	Prairie Carex Mix
<i>Elymus canadensis</i>	Canada Wild Rye
<i>Koeleria pyramidata</i>	June Grass
<i>Panicum virgatum</i>	Switch Grass
<i>Schizachyrium scoparium</i>	Little Bluestem
<b>Temporary Cover:</b>	
<i>Avena sativa</i>	Common Oat
<i>Lolium multiflorum</i>	Annual Rye
<b>Forbs:</b>	
<i>Amorpha canescens</i>	Lead Plant
<i>Anemone cylindrica</i>	Thimbleweed
<i>Asclepias tuberosa</i>	Common Milkweed
<i>Baptisia alba</i>	White Wild Indigo
<i>Chamaecrista fasciculata</i>	Partridge Pea
<i>Coccoloba triflora</i>	Sand Coreopsis
<i>Coccoloba palmata</i>	Prairie Coreopsis
<i>Dalea candida</i>	White Prairie Clover
<i>Dalea purpurea</i>	Purple Prairie Clover
<i>Desmanthus illinoensis</i>	Illinois Sensitive Plant
<i>Echinacea purpurea</i>	Broad-Leaved Purple Coneflower
<i>Eryngium yuccifolium</i>	Rattlesnake Master
<i>Lespedeza capitata</i>	Round-Head Bush Clover
<i>Liatris aspera</i>	Rough Blazing Star
<i>Lupinus perennis</i>	Wild Lupine
<i>Monarda fistulosa</i>	Wild Bergamot
<i>Oligoneuron rigidum</i>	Stiff Goldenrod
<i>Parthenium integrifolium</i>	Wild Quinine
<i>Penstemon digitalis</i>	Foxglove Beard Tongue
<i>Penstemon hirsutus</i>	Hairy Beard Tongue
<i>Pycnanthemum virginianum</i>	Common Mountain Mint
<i>Ratibida pinnata</i>	Yellow Coneflower
<i>Rudbeckia hirta</i>	Black-Eyed Susan
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan
<i>Siphium terebinthaceum</i>	Prairie Dock
<i>Solidago speciosa</i>	Showy Goldenrod
<i>Symphoricarum ericoides</i>	Heath Aster
<i>Symphoricarum laeve</i>	Smooth Blue Aster
<i>Symphoricarum novae-angliae</i>	New England Aster
<i>Tradescantia ohniensis</i>	Common Spiderwort
<i>Verbena stricta</i>	Hoary Vervain
<i>Vernonia spp.</i>	Ironweed (Various Mix)
<i>Veronicastrum virginicum</i>	Culvers Root

**COST OPINION**

PROJECT: SADDLEBROOK - Rochester Hills - 1.7.19 JOB NO. 2016-137

QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
74	EA	3" Deciduous and 8" Evergreen Trees	\$400.00	\$29,600.00
20	EA	Ornamental Trees	\$250.00	\$5,000.00
65	EA	Shrubs	\$90.00	\$5,850.00
1,076	S.Y.	Low-profile prairie seed mix	\$3.00	\$3,228.00
849	S.Y.	Seed lawn	\$3.00	\$2,547.00
13,295	S.Y.	Seed lawn	\$3.00	\$39,885.00
1	L.S.	Irrigation	\$7,500.00	\$7,500.00
1,168	CY	Topsoil (Haul and Spread) for lawn @ 3"	\$45.00	\$52,560.00
9	CY	Mulch	\$175.00	\$1,575.00
55	CY	Flora Mix for Planting Beds	\$30.00	\$1,650.00
315	L.F.	Metal Edge	\$5.75	\$1,811.25
<b>TOTAL LANDSCAPE</b>				<b>\$102,643.50</b>



**CAUTION!**  
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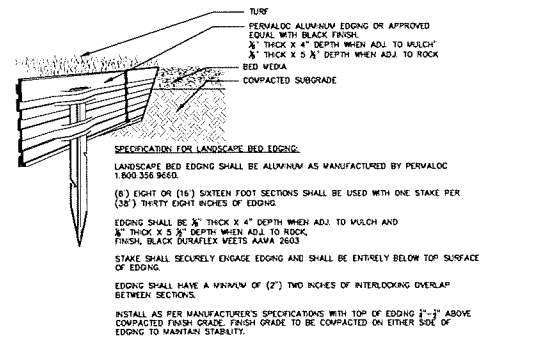
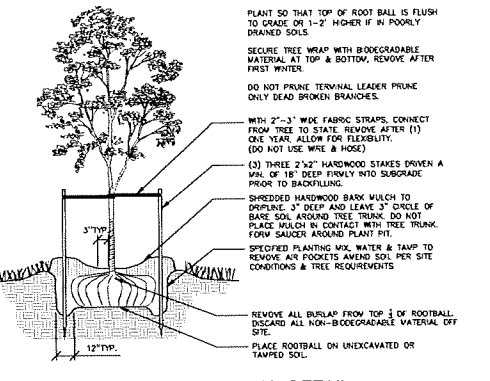
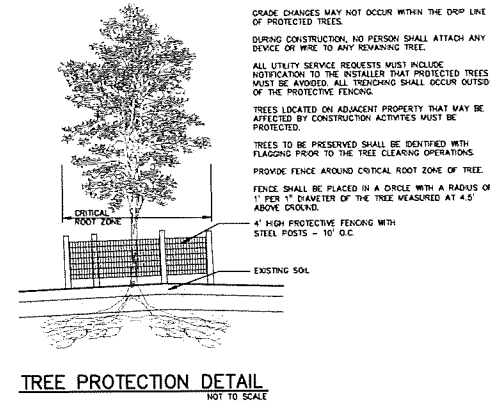
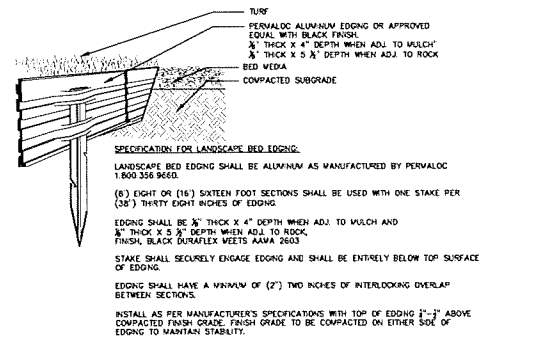
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**GIANNA INVESTMENTS, LLC**  
58227 VAN DYKE  
WASHINGTON, MI 48084  
**PRELIM./FINAL LANDSCAPE DETAILS**  
**SADDLEBROOK ORCHARDS**  
PART OF THE SW 1/4 OF SECTION 28, T. 3N, R. 11E,  
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN  
DES: JTS DN KO SUR KIEFT P.M. JD  
SCALE: N/A

ORIGINAL ISSUE DATE: OCTOBER 20, 2016  
PEA JOB NO: 2016-137  
SCALE: N/A  
DRAWING NUMBER: L-2



**ALUMINUM EDGE DETAIL**  
NOT TO SCALE

**EVERGREEN TREE PLANTING DETAIL**  
NOT TO SCALE

**DECIDUOUS TREE PLANTING DETAIL**  
NOT TO SCALE

REF: S:\PROJECTS\2016\16137\DWG\16137-10P0046.DWG  
REF: S:\PROJECTS\2016\16137\DWG\16137-10P0047.DWG  
REF: S:\PROJECTS\2016\16137\DWG\16137-10P0048.DWG

# GENERAL NOTES:

- 2ND FLOOR JOISTS # 12" O.C. UNDER ALL TILE OR MARBLE FLOORS TO BE 20 LB DEAD LOAD REQUIRED.
- ALL POURED CONCRETE WALLS TO BE BACKFILLED WITH SANDY TYPE SOIL AND BE WELL BRACED UNTIL CONCRETE IS THOROUGHLY CURED AND ADDITIONAL WEIGHT OF THE BUILDING IS IN PLACE.
- ALL FLOOR JOISTS TO BE 1" OR BETTER HEM FIR WITH 1" X 3" CROSS BRIDGING 8'-0" O.C.
- ROOF TRUSSES DESIGNED BY TRUSS MANUFACTURER TO CONFORM TO ALL MINIMUM DESIGN LOAD REQUIREMENTS BRACE ROOF TRUSSES AS RECOMMENDED BY MANUFACTURER.
- ROOF TRUSS FRAMING INDICATED ON DRAWINGS IS OUR ASSUMED LAYOUT. TRUSS MANUFACTURER SHOULD REVIEW THE DRAWING AND INDICATE TO ARCHITECT PRIOR TO FABRICATION ANY CHANGE IN BEARING CONDITIONS THAT WOULD REQUIRE RE-FRAMING OF OUR STRUCTURE TO ACCOMMODATE TRUSSES.
- ALL POURED CONCRETE FOOTING TO BE A MINIMUM OF 3'-4" BELOW FINISHED GRADE BEARING ON UNDISTURBED VIRGIN SOIL WITH MINIMUM BEARING CAPACITY OF 2000 PSF. MUST BE VERIFIED BY SOILS ENGINEER IN THE FIELD FOR FOOTING INSPECTION.
- ALL POURED CONCRETE WALLS WITH 7'-0" OR MORE BACKFILL TO BE REINFORCED WITH #4 BARS @ 16" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY. VERIFY IN FIELD FOR FOOTING INSPECTION.
- ALL WINDOW NUMBERS REFER TO 'GENERIC' WINDOWS. IF ALTERNATE WINDOW MANUFACTURER IS USED ALL SIZES AND SHAPES TO MATCH DIMENSIONS ONLY.
- ALL ENGINEERED WOOD FLOOR TRUSSES TO BE #1 DENSE KD WITH 2" BY 6" CONTINUOUS RIBBON BRACING ON BOTTOM CHORD 8'-0" O.C. (MINIMUM 2' SPAN) WELL NAILED TO TRUSSES. PROVIDE DRAFT STOPPING.
- THE ROOF TRUSS MANUFACTURER TO FURNISH SHOP DRAWINGS TO THE DESIGNER PRIOR TO FABRICATION OF THE TRUSSES.
- ALL MICRO-LAM BEAMS TO BE JOINED TOGETHER PER MANUFACTURER'S SPECIFICATIONS.
- ALL POURED CONCRETE WALLS WITH BRICK LEDGE GREATER THAN 4'-0" SHALL BE REINFORCED WITH #5 BARS 24" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY.
- DO NOT SCALE DRAWING. USE PRINTED DIMENSIONS ONLY. IF ANY DISCREPANCY OCCURS NOTIFY THE DESIGNER IMMEDIATELY FOR DIRECTION. BUILDER RESPONSIBLE TO HAVE REVIEWED ALL DRAWINGS AND FOR ADDITIONAL CLARIFICATION OR INFORMATION IS NEEDED BUILDER IS TO CONTACT DESIGNER AND SALES COUNSELOR.
- PROVIDE 5 POUND FELT AT UNTREATED EXPOSED LUMBER.
- ALL BEDROOM WINDOWS TO MEET 1603 MICHIGAN RESIDENTIAL EGRESS CODES. ALL WINDOW SILLS TO BE ABOVE FINISH GRADE. SHALL HAVE THE BOTTOM OF THE OPENING LOCATED A MIN. OF 24" ABOVE FINISH FLOOR OF THE ROOM PER MRC 205 SEC R302.2.
- PROVIDE FIBER-CEMENT FIBER-MAT REINFORCED GLASS MAT GYPSUM BACKERS OR FIBER REINFORCED GYPSUM BACKERS AS BACKERS FOR TUB SHOWER WALL TILES AND PANELS. BACKERS MUST COMPLY WITH ASTM C 1288, C 1315, C1178 OR C 1178 AND BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. MRC 205 SEC R107.42.
- WHERE HANDRAILS ARE SHOWN HANDRAIL HEIGHT IS TO BE NOT LESS THAN 34" AFF AND MORE THAN 38" AFF PER R311.1. GUARD RAIL IS TO BE NOT LESS THAN 36" AFF PER R312.1 (MRC-205). PROVIDE HANDRAIL ON AT LEAST (1) SIDE OF EVERY STAIRWAY PER SECTION R311.1.1 OF THE 2003 MICHIGAN RESIDENTIAL CODE. HANDRAIL GRIP TO COMPLY WITH 205 MICHIGAN RESIDENTIAL CODE SECTION R311.1.2.
- DO NOT DRILL KITCHEN WINDOW DOUBLERS.
- PROVIDE A BATH FAN WHERE SHOWN ON PLAN AND VENT FAN TO EXTERIOR AS REQUIRED.
- TYPICAL ALL HABITABLE ROOMS TO HAVE PROPER LIGHT AND VENTILATION AND COMPLY WITH 205 MICHIGAN RESIDENTIAL CODES.
- PROVIDE ELECTRICAL SMOKE DETECTORS IN ALL SLEEPING AREAS, HALLWAYS AND MECHANICAL ROOMS ON ALL FLOOR LEVELS INCLUDING THE BASEMENT. SMOKE DETECTORS SHALL BE WIRED TOGETHER SO AS WHEN ONE SOUNDS THEY ALL SOUND AND HAVE BATTERY BACKUP PER SEC. R314 OF 205 MICHIGAN RESIDENTIAL CODE.
- PROVIDE ADEQUATE ROOF VENTILATION AND SOFT VENTILATION (MIN) AS REQUIRED. VERIFIED BY CALCULATION V50 OF AREA VENTILATION REQ'D PER SEC. R506.2.
- TYPICALLY ALL FINISHERS IN POURED CONCRETE FOUNDATION WALLS MUST BE REMOVED AND FILLED WITH FOUNDATION COATING PRIOR TO BACK FILL INSPECTION.
- PROVIDE METAL FLASHING, COUNTER FLASHING AND STEPPED FLASHING WHERE NOTED AND BRICK AND SIDING MEET.
- PROVIDE APPROVED SEALANT WHERE REQUIRED AND AS DETAILED BY MFG.
- VERIFY ELECTRICAL SERVICE IN ACCOMMODATING ALL NEW WORK. VERIFY ALL PROPOSED ELECTRICAL OUTLETS, SWITCHES, DIMMERS, LIGHT LOCATION ETC. INCLUDING CABLE AND PHONE PRE-WIRING SECURITY. TAKE INTO CONSIDERATION ALL ELECTRICAL INSTALLATION WITH OWNER AND COMPLY WITH 205 MICHIGAN RESIDENTIAL ELECTRICAL CODES.
- VERIFY FIREPLACE OPTION WITH SUBDIVISION SPECS AND WORK ORDER.
- PROVIDE 2-LAYER MINERAL COATED ROLLED ROOFING AT ALL EAVES TO 24" INSIDE BUILDING. 2-LAYERS MUST BE CEMENTED TOGETHER. VERIFY WITH BUILDING DEPARTMENT.
- PROVIDE 2X6 SOLVANTREATED PRESSURE TREATED SILL PLATE ON SILL SEALER WITH 1/2" ANCHOR BOLTS # 6 @ 4'-0" O.C. AND LOCATED NOT MORE THAN 12" INCHES AND NOT LESS THAN 36" INCHES FROM THE ENDS OF EACH PLATE SECTION. EXCEPTION: USE ANCHOR STRIPS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" INCH ANCHOR BOLTS.
- PROVIDE 4" PERF. DRAIN TILE CONT. AT BASEMENT FIG. IN 2" (MIN) PEASTONE WITH 2" BELOW DRAIN TILE. CONNECT TO SUMP AND STORM SEWER AS REQUIRED.
- 6'-8" CLEAR HEADROOM REQUIRED ON ALL STAIRS.
- CHIMNEY TERMINATION MUST PROJECT 2 FEET ABOVE ANY PART OF THE BUILDING WITH IN 10 FEET.
- FIRESTOP ALL DROPS AND CHASES ELECTRICAL, PLUMBING AND HVAC.
- PROVIDE 1/2" DRYWALL ON THE GARAGE SIDE OF WALLS COMMON TO RESIDENCE AND GARAGE. APPLY 1/2" TYPE 'X' DRYWALL TO GARAGE CEILING AREAS BELOW HABITABLE ROOMS PER MRC 205 TABLE R307.6.
- LOWER LEVEL AREA CONSIDERED UNHABITABLE. ANY FUTURE ALTERATIONS TO MODIFY LOWER LEVEL TO A HABITABLE SPACE WILL COMPLY STRICTLY TO THE 2003 MICHIGAN RESIDENTIAL CODE. EGRESS WINDOWS PROVIDED AS REQUIRED, IN COMPLIANCE WITH MRC 205 SEC. R301.1 - R303.5.
- AREAS THAT REQUIRE TEMPERED GLASS:
  - FIXED AND SLIDING PANELS OF SLIDING TYPE DOORS
  - SHOWER AND BATH/TUB DOORS AND ENCLOSURES (IF APPLICABLE)
  - PANELS WITH A GLAZED AREA IN EXCESS OF 9 SQ FT. WITH LOWEST EDGE LESS THAN 8 INCHES ABOVE THE FINISHED FLOOR LEVEL.
  - ALL OTHER AREAS AS CODE REQUIRES PER 205 MICHIGAN RESIDENTIAL CODE.
- ROOF VENTILATION WHERE EAVE OR CORNER VENTS ARE INSTALLED INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR. A MINIMUM OF A 1 INCH SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING AT THE LOCATION OF THE VENTS.

**NOTE:**  
ALL CODES SHALL COMPLY WITH THE INTERNATIONAL RESIDENTIAL CODES & 205 MICHIGAN RESIDENTIAL CODE. THEY SHALL ALSO COMPLY WITH ANY JURISDICTION CODES IN THEIR RESPECTIVE COUNTY, CITY, VILLAGE, OR TOWNSHIP AND THEIR PROVISIONS AND ORDINANCES.

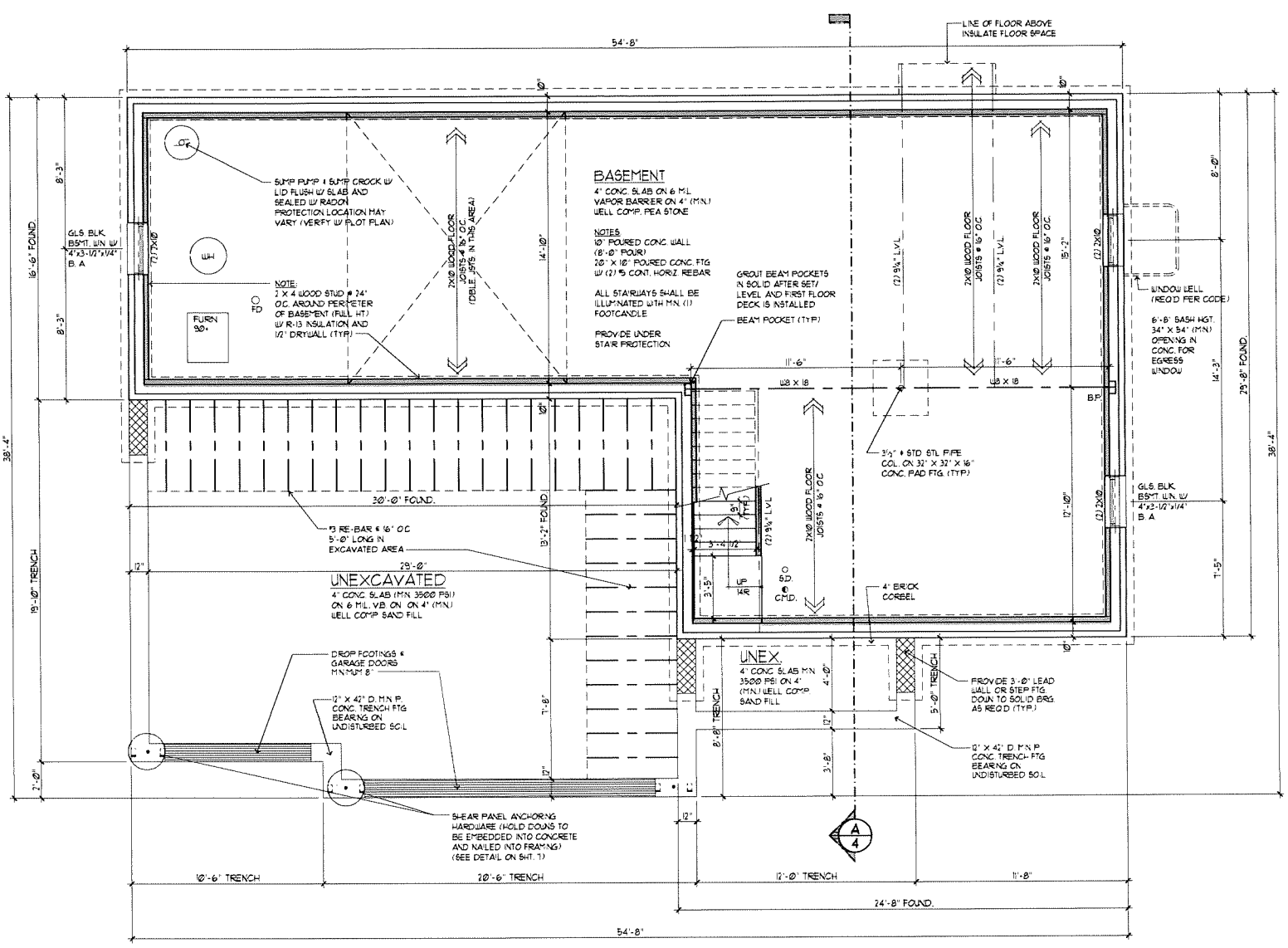
**NOTE:**  
GENERAL NOTES INDICATED ABOVE ARE JUST A SMALL PORTION OF OUR STANDARD NOTES IN THE 205 MICHIGAN RESIDENTIAL CODE BUT THE CODE IS MUCH BROADER & SHOULD BE STRICTLY FOLLOWED BY BUILDERS, TRACERS & CRAFTSMAN.

- ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. (1) FOOT CANDLE OF LIGHT.
- PROVIDE UNDERSTAIR PROTECTION MRC 205 ENCLOSED ACCESSIBLE SPACE UNDER SHALL HAVE WALLS UNDER STAIR SURFACE AND ANY SPOTS PROTECTED ON THE ENCLOSED SIDE WITH 1/2" GYPSUM BOARD.
- UNEXCAVATED GARAGE SLAB SHALL COMPLY WITH TABLE R402.2 4" CONCRETE SLAB MIN. 3500 MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE ON 4" MIN. WELL COMPACTED SAND FILL.
- PROVIDE NON-ABSORBENT FINISH TO THE SURFACE OF ALL BATHING AREAS WITH WALL MOUNTED SHOULDER HEADS, A MIN. OF 6'-0" ABOVE FINISH FLOOR PER MRC 205 SEC. R307.2.
- PROVIDE A 1 1/2" MIN. SOLID CORE FIRERATED DOOR BETWEEN GARAGE AND RESIDENCE MIN. 20 MINUTE FIRERATED R307.5).
- BUILDER AND SUB BRICK CONTRACTORS TO PROVIDE LEAF HOLES RESTING ON THE FLASHING SPACED 33" O.C. MAX. (24" PREFERRED) AT HEAD DETAILS OF WINDOWS, DOORS, BASEMENT WINDOWS AND GARAGE DOORS. ALSO PROVIDE FLASHING TO FACE OF BRICK WITH MIN. 8" VERTICAL LEG AND FORM END DAMS (LAP UNDER AIR/MOISTURE BARRIER) MICHIGAN RESIDENTIAL CODE 205 SEC. 103.15 - 103.18. A PRE-BRICK INSPECTION WILL BE REQUIRED PRIOR TO BRICK INSTALLATION FOR FLASHING INSPECTION.
- FASTENER SCHEDULE FOR STRUCTURAL MEMBERS: TABLE R602.3 (1) WOOD STRUCTURAL PANELS, SUBFLOOR ROOF AND WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING BUILDING MATERIALS OF 2" 1/2" USE 6d COMMON NAILS (SUBFLOOR WALL) # 6" FROM EDGES (2) INTERMEDIATE SUPPORTS AND USE 8d COMMON NAILS FOR ROOF # 6" FROM EDGES (3) INTERMEDIATE.
- BUILDER TO PROVIDE WATERPROOFING TO CODE SUBMIT INFORMATION ON APPROVED PRODUCTS.
- BUILDER/TRUSS MFG. TO PROVIDE TRUSS DESIGN DRAWINGS IN COMPLIANCE WITH MRC 205 AND SHALL INCLUDE AT MINIMUM THE INFORMATION SPECIFIED BELOW:
  - SLOPE OR DEPTH, SPAN AND SPACING
  - LOCATION OF ALL JOINTS
  - REQUIRED BEARING WIDTHS
  - DESIGN LOADS AS APPLICABLE
    - TOP CHORD LIVE LOAD (INCLUDING SNOW LOADS)
    - TOP CHORD DEAD LOAD
    - BOTTOM CHORD LIVE LOAD
    - BOTTOM CHORD DEAD LOAD
    - CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION
    - CONTROLLING WIND AND EARTH QUAKE LOADS
- ADJUSTMENTS TO LUMBER AND JOINT CONNECTOR DESIGN VALUES FOR CONDITIONS OF USE.
- EACH REACTION FORCE AND DIRECTION.
- JOINT CONNECTOR TYPE AND DESCRIPTION, E.G. SIZE, THICKNESS OR GAUGE # AND THE DIMENSIONED LOCATION OF EACH JOINT CONNECTOR EXCEPT WHERE SYMMETRICALLY LOCATED RELATIVE TO THE JOINT INTERFERENCE.
- LUMBER SIZE, SPECIES AND GRADE FOR EACH MEMBER.
- CONNECTION REQUIREMENTS FOR:
  - TRUSS-TO-TRUSS GIRDERS
  - TRUSS PLY TO FLY
  - FIELD SPLICES
- CALCULATED DEFLECTION RATIO AND/OR MAXIMUM DEFLECTION FOR LIVE AND TOTAL LOAD.
- MAXIMUM AXIAL COMPRESSION FORCES IN THE TRUSS MEMBERS TO ENABLE THE BUILDING DESIGNER TO DESIGN THE SIZE CONNECTIONS AND ANCHORAGE OF THE PERMANENT CONTINUOUS LATERAL BRACING. FORCES SHALL BE SHOWN ON THE TRUSS DRAWING OR ON SUPPLEMENTAL DOCUMENTS.
- REQUIRED PERMANENT TRUSS MEMBER BRACING LOCATION.

**ALLOWABLE SPANS FOR LINTELS SUPPORTING MASONRY VENEER**  
TABLE R603.21 OF MRC 205

SIZE OF ANGLE (IN")	NO STORIES ABOVE	ONE STORY ABOVE	TWO STORIES ABOVE	NO OF 1" OR EQ. REIN. BARS
3 X 3 X 1/4	6'-0"	4'-6"	3'-0"	1
4 X 3 X 1/4	8'-0"	6'-0"	4'-6"	1
5 X 3 1/2 X 1/4	10'-0"	8'-0"	6'-0"	2
6 X 3 1/2 X 1/4	14'-0"	9'-6"	7'-0"	2
(2) 6 X 3 1/2 X 1/4	18'-0"	12'-0"	9'-6"	4

- LONG LEG OF THE ANGLE SHALL BE PLACED IN A VERTICAL POSITION.
- DEPTH OF REINFORCED LINTELS SHALL NOT BE LESS THAN 8 INCHES AND ALL CELLS OF HOLLOW MASONRY LINTELS SHALL BE GROUTED SOLID. REINFORCING BARS SHALL EXTEND NOT LESS THAN 8 INCHES INTO THE SUPPORT.
- STEEL MEMBERS INDICATED ARE ADEQUATE TYPICAL EXAMPLES. OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS MAY BE USED.



## FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

- S.D.** BUILDER TO PROVIDE APPROVED SMOKE DETECTORS AS REQ'D ON ALL FLOORS (INTER-CONNECTED) WITH BATTERY BACK-UP.
- C.M.D.** SINGLE STATION CARBON MONOXIDE DETECTOR TO COMPLY W/ UL 2034 AND INSTALLED PER MANUF. SPECIFICATIONS.
- NOTE:** ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. (1) FOOTCANDLE.



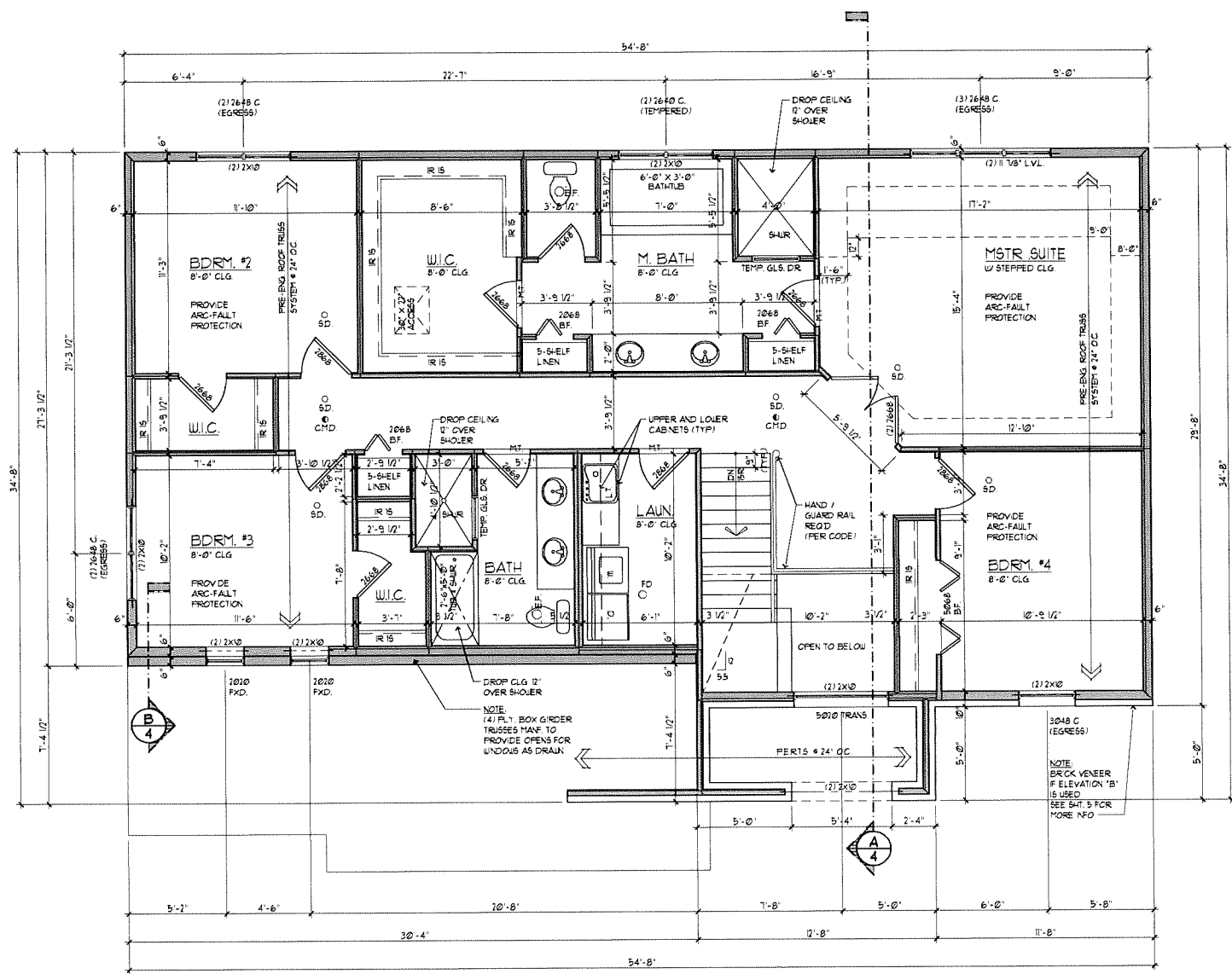
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**MICHAELANGELO**  
CONSTRUCTION

2600 GARAGE LEFT  
SADDELBROOK  
ORCHARDS  
ROCHESTER HILLS MI

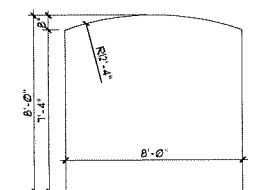
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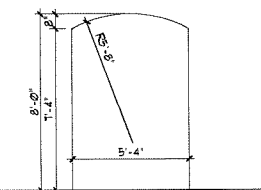


**SECOND FLOOR PLAN**

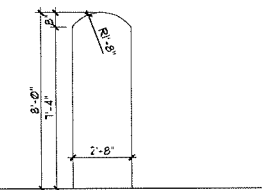
1441 SQ FT SCALE: 1/4" = 1'-0"



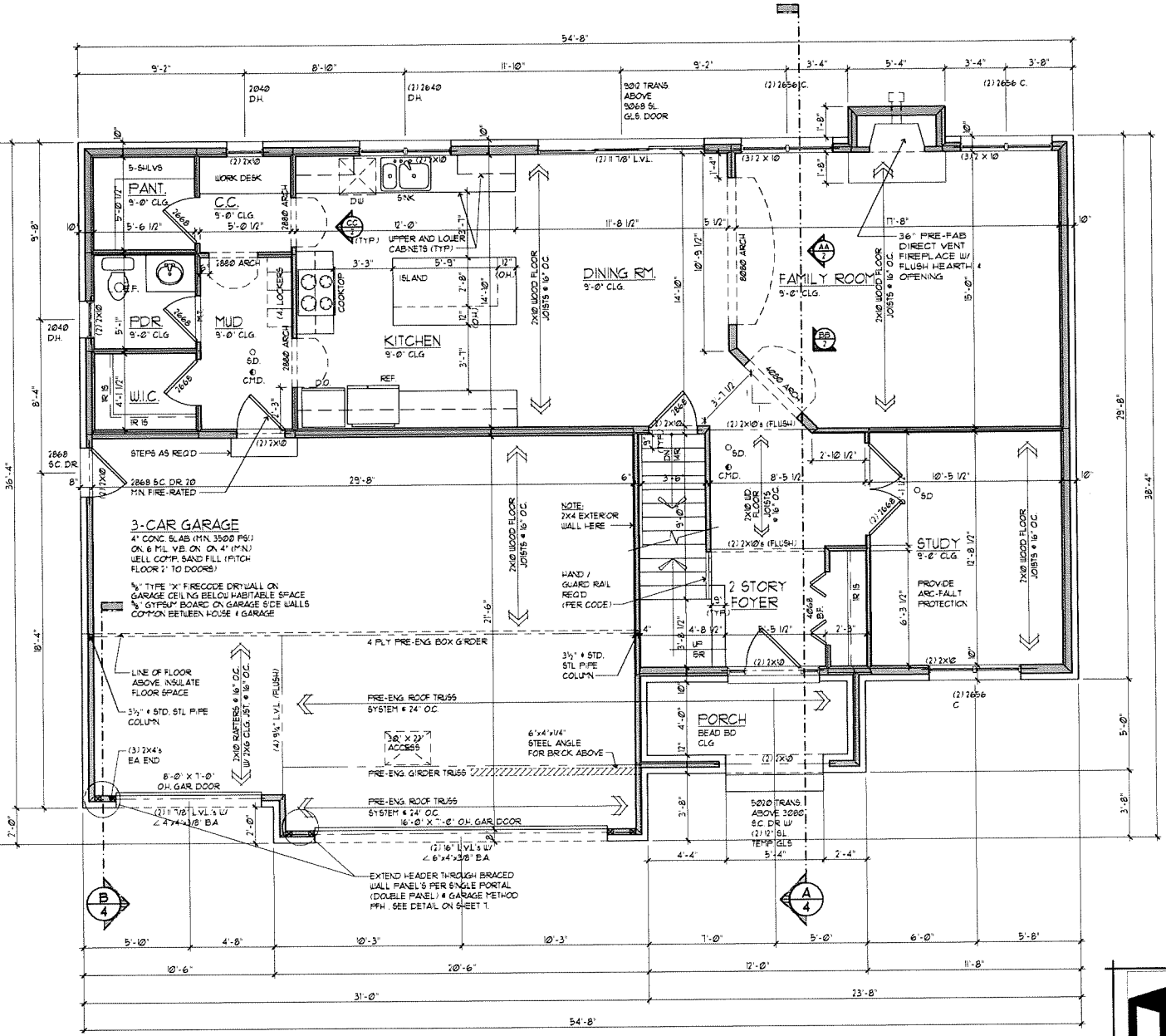
**DETAIL AA**  
SCALE: 1/4" = 1'-0"



**DETAIL BB**  
SCALE: 1/4" = 1'-0"



**DETAIL CC**  
SCALE: 1/4" = 1'-0"



**FIRST FLOOR PLAN**

127 SQ FT  
1441 SQ FT  
TOTAL: 2633 SQ FT  
SCALE: 1/4" = 1'-0"

**GENERAL STRUCTURAL NOTES:**

- (REFER ONLY TO NOTES APPLICABLE TO THE PROJECT)
- DESIGN CRITERIA:**
- BUILDING CODES USED FOR DESIGN: 2015 MINNESOTA RESIDENTIAL CODE (MRC)
  - FLOOR LIVE AND DEAD LOADS: 40 PSF LIVE, 15 PSF DEAD FOR WOOD LAMINATE AND CARPET FLOORING, 25 PSF DEAD FOR TYP. SET CERAMIC FLOORING, 35 PSF DEAD FOR MARBLE / GRANITE FLOORING
  - MAXIMUM DEFLECTION CRITERIA: L/480 LIVE AND L/240 TOTAL FOR ROOF COMPONENTS, L/360 LIVE AND L/240 TOTAL FOR FLOOR COMPONENTS WITH RIGID FLOORING (e.g. TILE), L/480 LIVE AND L/240 TOTAL FOR FLOOR COMPONENTS WITH FLEXIBLE FLOORING (e.g. CARPET)
  - ROOF LIVE AND SNOW LOADS: FLAT-ROOF SNOW LOAD: 30 PSF, FLAT-ROOF DEAD: 15 PSF
  - WIND LOADS: BASIC WIND SPEED: 90 MPH, WIND IMPORTANCE FACTOR: 1.0, BUILDING CATEGORY: II, WIND EXPOSURE: B
  - DESIGN STRENGTHS: CONCRETE: CLASS, STRENGTH AT 28 DAYS (PSI), LOCATION: A: 3000, INTERIOR SLABS & WALLS; B: 3000, FOOTINGS & FOUNDATION WALLS; C: 3000, AIR-ENTRAINED EXTERIOR SLABS & WALLS. CONCRETE REINFORCEMENT: LEWELDED WIRE FABRIC: ASTM A618/A618M-03 (Fy = 60 KSI) / ASTM A615-01. STRUCTURAL STEEL: ANCHOR BOLTS: ASTM A307-02, ALTERNATIVELY - F554-99 OR 36 MAY BE USED. MASONRY: NORMAL WEIGHT, Fm = 500 PSI.

**FOUNDATIONS AND EARTHWORK:**

- WATER SHALL NOT BE PERMITTED TO ACCUMULATE IN FOOTING EXCAVATIONS.
- PROVIDE A MINIMUM OF 6 INCHES OF GRANULAR FILL BELOW ALL INTERIOR SLABS-ON-GRADE.
- PROVIDE GRANULAR BACKFILL FOR BASEMENT WALLS. ALL BACKFILL SHALL BE WELL DRAINED.
- THE FOUNDATION DESIGN IS BASED ON A SOIL BEARING CAPACITY OF 1500 PSF. OTHERS SHALL DETERMINE THE ACTUAL BEARING VALUE OF THE SOIL.
- ALL FOOTING EXCAVATIONS SHALL BE INSPECTED, PRIOR TO CONCRETE PLACEMENT.
- WHERE COMPACTION OF FILL IS SPECIFIED, COMPACTION OF FILL MATERIAL SHALL BE A MINIMUM 98% OF MAXIMUM DRY DENSITY.
- BOTTOM OF EXTERIOR BUILDING FOOTINGS ARE TO BE AT LEAST 42 INCHES BELOW FINAL OUTSIDE GRADE REGARDLESS OF ELEVATION SHOWN ON PLAN.
- ALL CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS AND ALL PIERS AND SPREAD FOOTINGS SHALL BE CENTERED UNDER COLUMNS OR PIERS UNLESS NOTED OTHERWISE.
- NO SLABS OR FOUNDATIONS SHALL BE PLACED INTO OR ADJACENT TO SUBGRADE CONTAINING WATER, ICE, FROST OR ORGANIC MATERIAL.
- WHERE FOUNDATION WALLS ARE TO HAVE SOIL PLACED ON BOTH SIDES, PLACE SOIL SIMULTANEOUSLY SO AS TO MAINTAIN A COMMON ELEVATION ON EACH SIDE OF THE WALL.

**CONCRETE:**

- THE REINFORCING STEEL CONTRACTOR SHALL FABRICATE ALL REINFORCEMENT AND FURNISH ALL ACCESSORIES, CHAIRS, SPACER BARS AND SUPPORTS NECESSARY TO SECURE THE REINFORCEMENT UNLESS SHOWN OTHERWISE ON THE PLANS AND/OR DETAILS.
- REINFORCING STEEL SHALL BE ASTM A615 (GRADE 60).
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A615.
- CONCRETE REINFORCEMENT SHALL BE PLACED ACCORDING TO THE CRSI 'RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS'.
- CONCRETE COVERAGE FOR REINFORCEMENT: FOOTINGS: 3" SLAB ON GRADE: WALLS EXPOSED TO EARTH: 2" COLUMN TIES: 1 1/2"
- COMPRESSION LAP SPLICES FOR GRADE 60 BARS SHALL BE 30 BAR DIAMETER MINIMUM.
- TENSION LAP SPLICES SHALL BE AS DETAILED. USE CLASS 'B' SPLICES UNLESS NOTED OTHERWISE.
- ALL WELDED WIRE FABRIC LAPS SHALL BE 8" AT ENDS AND SIDES.
- BAR LENGTHS SHOWN DO NOT INCLUDE HOOKS OR BENDS.
- CONCRETE AT THE TIME OF PLACEMENT SHALL HAVE A SLUMP OF 4" ± 1" UNLESS A SUPER-PLASTICIZING AGENT IS USED.
- ALL OPENINGS IN CONCRETE WALLS SHALL HAVE (2) #5 x 4'-0" LONG BARS DIAGONALLY AT EACH CORNER.

**MASONRY:**

- GROUT FOR VERTICALLY REINFORCED MASONRY WALLS AND BOND BEAMS SHALL CONSIST OF 1 PART CEMENT, 2 PARTS FINE AGGREGATE, 2 PARTS #4 GRAVEL (FC = 3000 PSI) AT 28 DAYS GROUT SLUMP: 9" TO 10". GROUT SOLID ALL CELLS CONTAINING REINFORCING.
- MASONRY WALLS SHALL HAVE HORIZONTAL REINFORCING CONSISTING OF GALVANIZED STANDARD WEIGHT #3 GAUGE CURB-WALL DIA 3/8 TRUSS TIE OR EQUAL REINFORCING LOCATED AT EVERY OTHER COURSE UNDO.
- LAP ALL VERTICAL REINFORCING BARS USING 48 BAR DIAMETERS 24" FOR #4 BARS, 36" FOR #5 BARS AND 36" FOR #6 BARS.
- ANCHOR BEAMS AND LINTELS TO WALL.
- MASONRY WALLS SHALL BE LAID UP AND GROUTED IN 4 FOOT LIFTS (LOW LIFT) GROUTING PROCEDURE PER ACI 530.1. IF CLEANDRILLS ARE PROVIDED AT EACH GROUTED COURSE, WALLS MAY BE GROUTED IN 8 FOOT LIFTS FOLLOWING THE HIGH-LIFT GROUTING PROCEDURE PER ACI 530.1.
- THE PROCEDURE OF ACI 530.1 FOR COLD WEATHER CONSTRUCTION SHALL BE ADHERED TO WHENEVER THE AIR OUTSIDE TEMPERATURE IS BELOW 40 DEGREES F.

**STRUCTURAL STEEL:**

- YIELD STRESS AND TYPE OF STEEL: FOR WIDE FLANGE SHAPES: ASTM A992 WITH YIELD STRESS OF 50,000 PSI; FOR S SHAPES, CHANNELS, ANGLES, PLATES AND RODS: ASTM A36 WITH YIELD STRESS OF 36,000 PSI; FOR RECTANGULAR AND SQUARE TUBULAR SHAPES: ASTM A500 WITH YIELD STRESS OF 46,000 PSI.
- BOLTS: USE CARBON OR ALLOY STEEL ASTM A325 3/4" DIA OR LARGER IF REQUIRED BY CONNECTION DESIGN. ANCHOR BOLTS SHALL BE WEDGE STYLE ANCHOR H111 K11K BOLT 3. NUTS: CARBON STEEL MEETING ASTM A563. WASHERS: HARDENED STEEL WASHERS MEETING ASTM F426. ASTM A307 BOLTS MAY BE USED FOR WOOD TO WOOD CONNECTIONS AND STEEL LINTEL TO WOOD CONNECTIONS.
- ANCHOR RODS: ASTM F554, GRADE 36.

**MISCELLANEOUS:**

- PREFABRICATED JOISTS SHALL BE DESIGNED TO SUPPORT THEIR OWN WEIGHT PLUS THE SUPERIMPOSED DEAD AND LIVE LOADS STATED IN THE GENERAL NOTES AND 2006 MRC. I-JOIST SERIES MANUFACTURER SPACING BRIDGING BLOCKING AND DETAILING SHALL BE DESIGNED BY THE FLOOR SYSTEM PROVIDER SUCH THAT IT MEETS THE DESIGN CRITERIA HEREIN AS A MINIMUM, THE CONTRACTOR SHALL SUBMIT TO THE DESIGNER FOR REVIEW THE DESIGN LAYOUT AND COMPONENT CALCULATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MINNESOTA PRIOR TO USE IN THE STRUCTURE.
- MIN. LIVE PROPERTIES SHALL BE: E = 29,000,000 PSI; Fy = 250 PSI; Fv = 125 PSI; MIN. PSL COLUMN PROPERTIES SHALL BE: E = 18 x 10<sup>6</sup> PSI; Fy = 1400 PSI; TRUS JOIST PARALLEL OR EQUAL.
- WALLS SHALL BE BRACED ACCORDING TO PART 10 OF THE 2006 MRC.
- TRUSSES SHALL BE BRACED IN ACCORDANCE WITH BCSA'S OCTOBER 2006 'GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING AND BRACING OF METAL PLATE CONNECTED WOOD TRUSSES'.
- ALL POINT LOADS SHALL BE CONTINUOUSLY BLOCKED THROUGHOUT THE STRUCTURE TO THE FOUNDATION OR SUPPORT BEAM.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
- THE STRUCTURAL DESIGN IS BASED ON THE BUILDING IN ITS COMPLETED STATE. CONTRACTORS AND THEIR SUBCONTRACTORS SHALL TAKE WHATEVER PRECAUTIONS MADE NECESSARY TO WITHSTAND ALL HORIZONTAL AND VERTICAL LOADINGS THAT MAY BE ENCOUNTERED DURING THE CONSTRUCTION PRIOR TO COMPLETION OF THE BUILDING.
- DO NOT SCALE DRAWINGS.

**S.D. BUILDER TO PROVIDE APPROVED SMOKE DETECTORS AS RECD ON ALL FLOORS (INTER-CONNECTED) WITH BATTERY BACK-UP.**

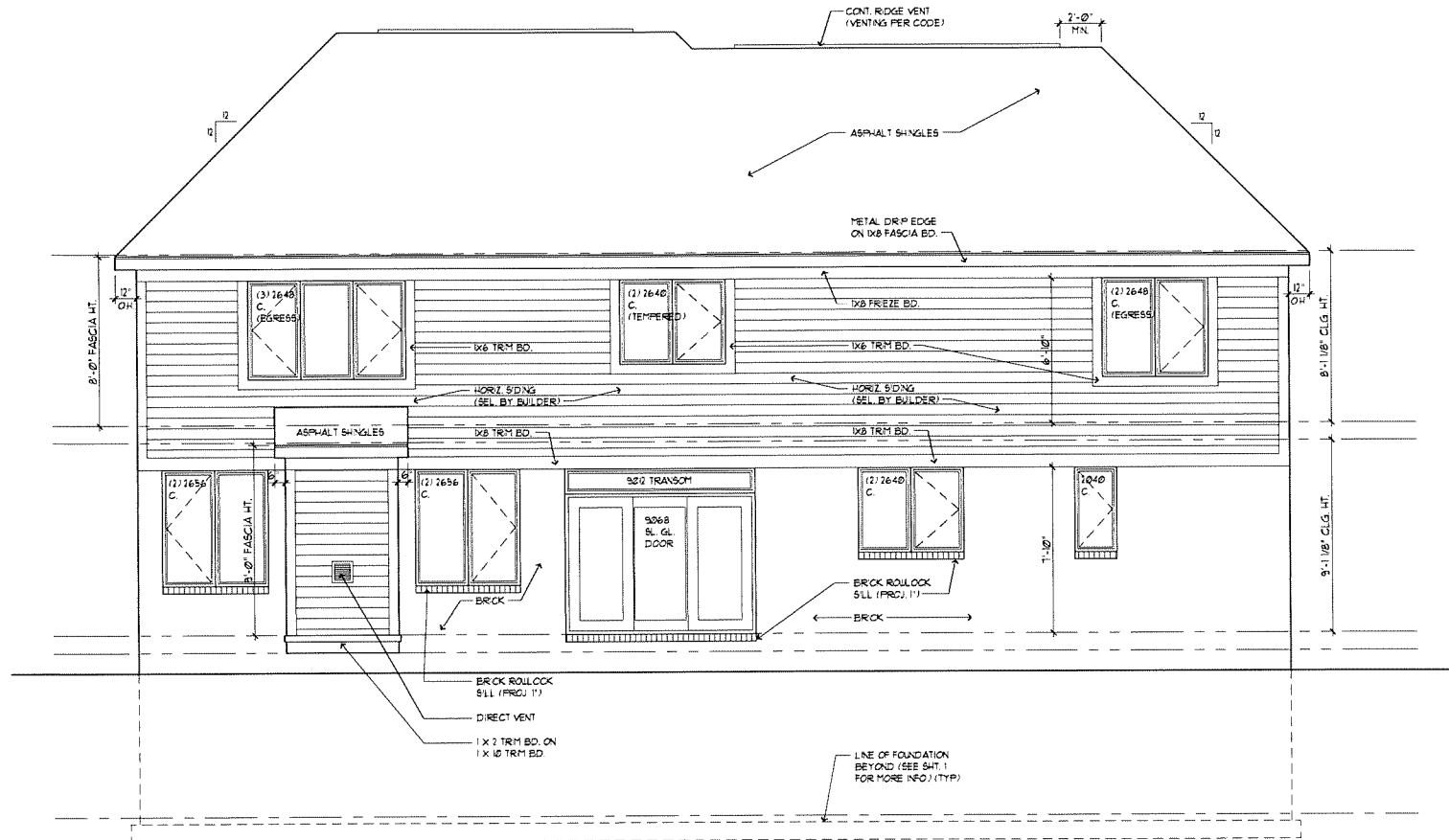
**CMD SINGLE STATION CARBON MONOXIDE DETECTOR TO COMPLY W/ UL 2034 AND INSTALLED PER MANUF. SPECIFICATIONS.**

**NOTE: ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. (1) FOOTCANDLE.**

**MARTINO Design Group**  
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**MICHAELANGELO CONSTRUCTION**  
2600 GARAGE LEFT SADDLEBROOK ORCHARDS ROCHESTER HILLS MI

Review Set:	-
Permit Set:	-
Final Set:	10.07.16
Revisions:	-
Drawn By:	SHCPNSF
Checked By:	P.S.
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Sheet No:	2 OF 8

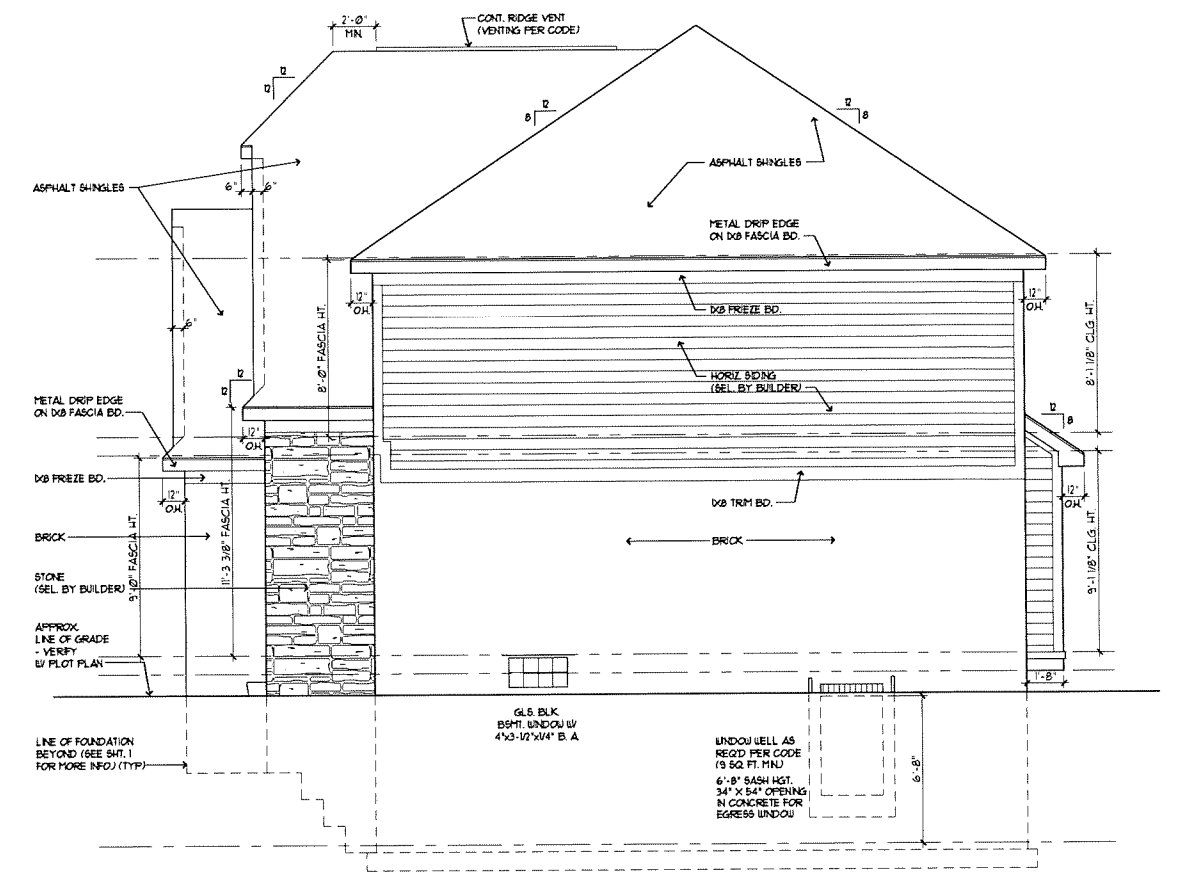
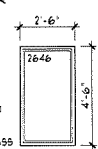


REAR ELEVATION - "A"

SCALE: 1/4" = 1'-0"

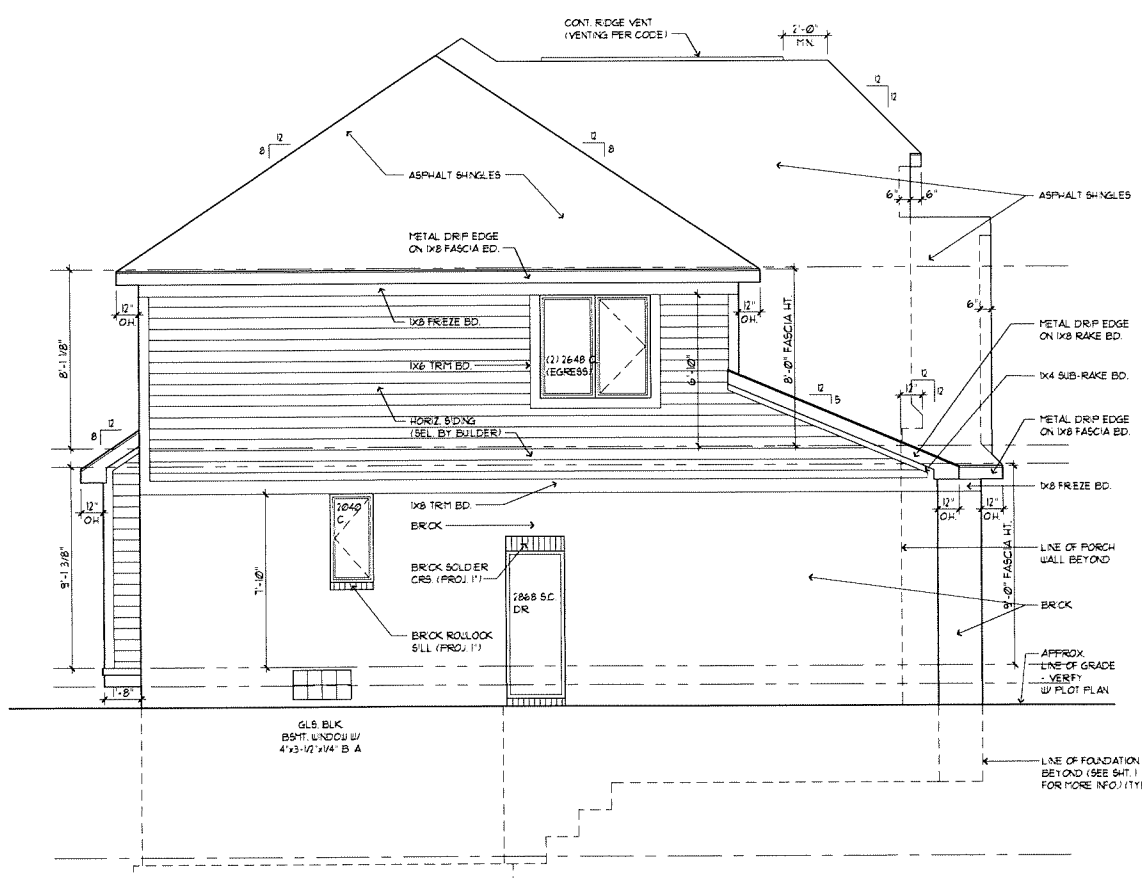
NOTE: ANY WINDOWS WITH BOTTOM SILL LOWER THAN 24" FROM FINISH FLOOR AND EXCEEDING 12" FROM FINISH GRADE MUST BE NON-EGRESS AND/OR NON-OPERABLE

TYPICAL WINDOW DESIGNATION  
NOTE: WINDOW SIZES AS NOTED ON DRAWINGS INDICATE ROUGH OPENING SIZES AND ARE FOR GENERAL REFERENCE ONLY.  
CONSULT WITH WINDOW MANUFACTURER FOR EXACT SPECIFICATIONS



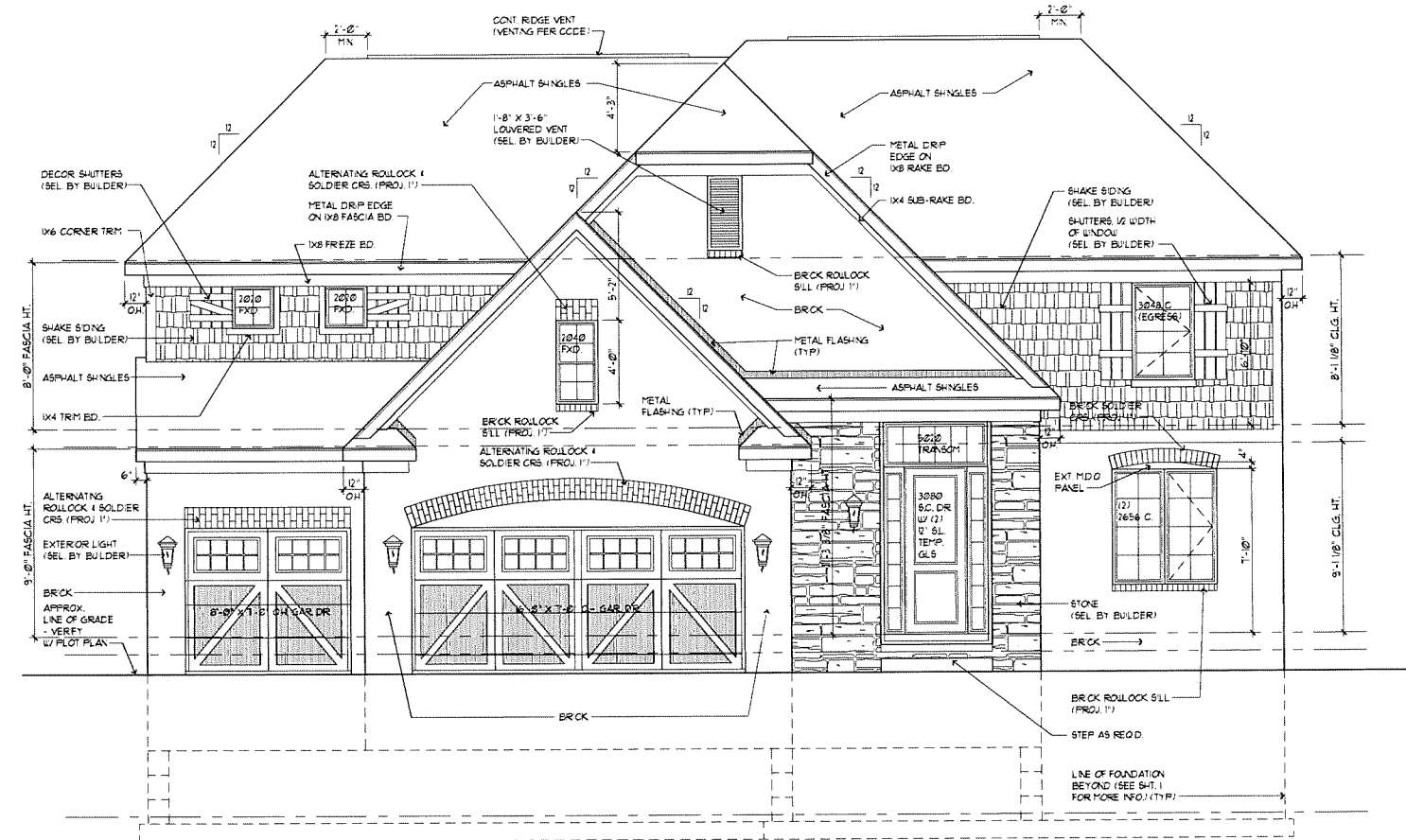
RIGHT ELEVATION - "A"

SCALE: 1/4" = 1'-0"



LEFT ELEVATION - "A"

SCALE: 1/4" = 1'-0"



FRONT ELEVATION - "A"

SCALE: 1/4" = 1'-0"



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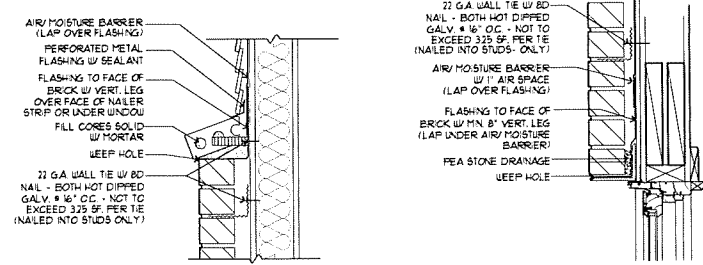
MICHAELANGELO CONSTRUCTION

2600 GARAGE LEFT  
SADLERBROOK  
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ROCHESTER HILLS MI

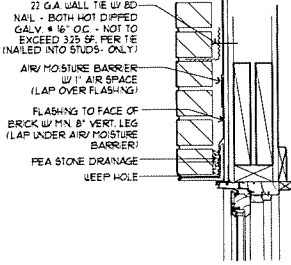
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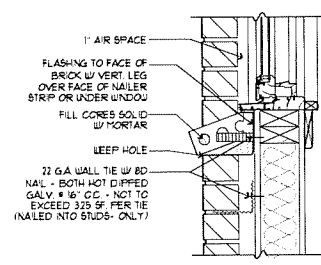
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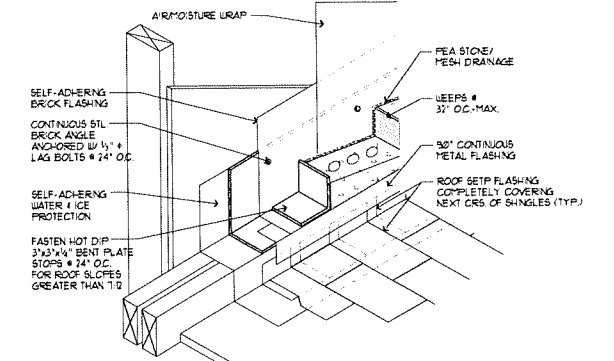
**BRICK ROWLOCK SILL (PRO WINDOW HEADER)**  
SCALE: 1/2" = 1'-0"



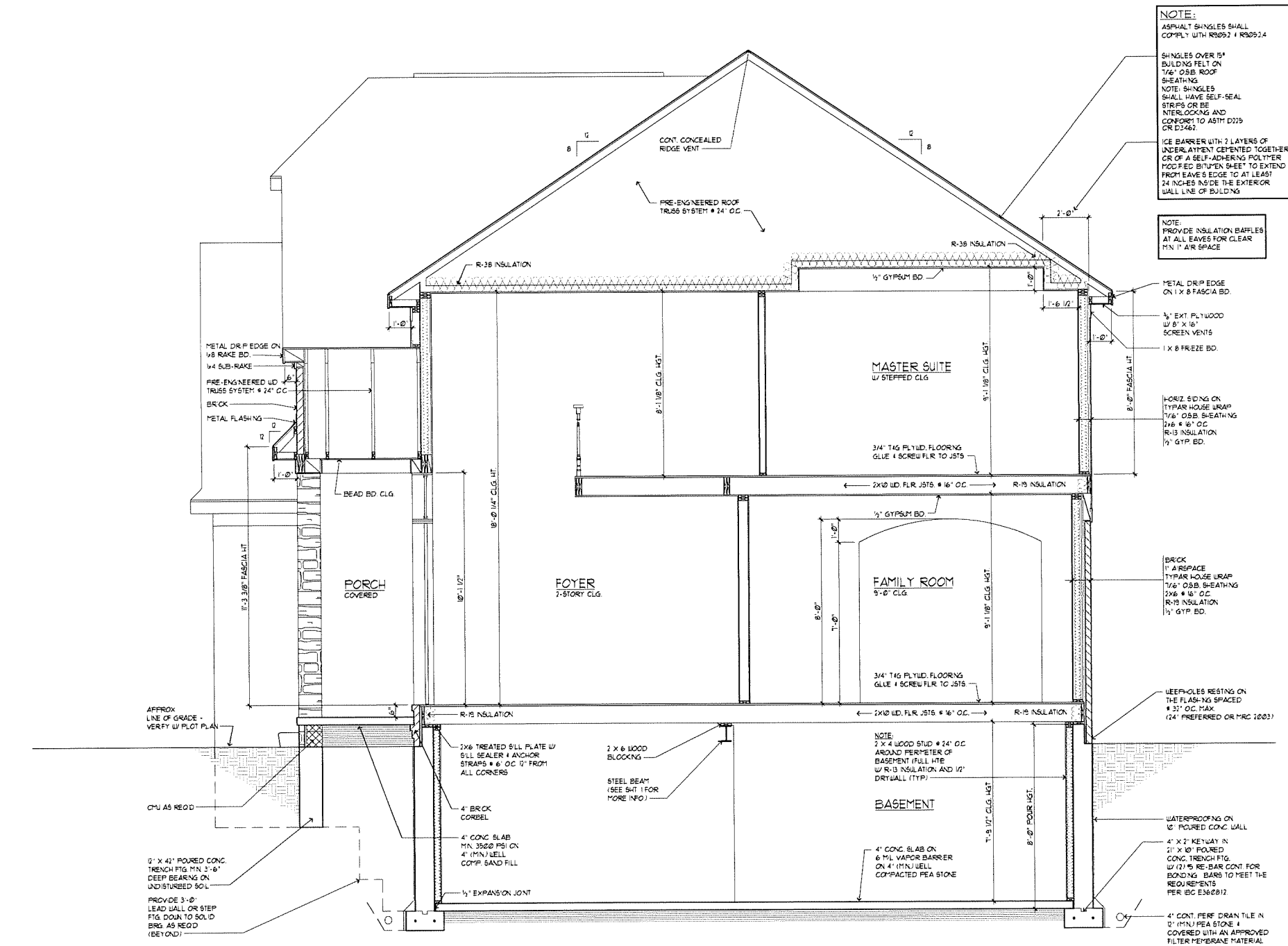
**WINDOW SILL**  
SCALE: 1/2" = 1'-0"



**WALL DETAIL**  
SCALE: 1/2" = 1'-0"



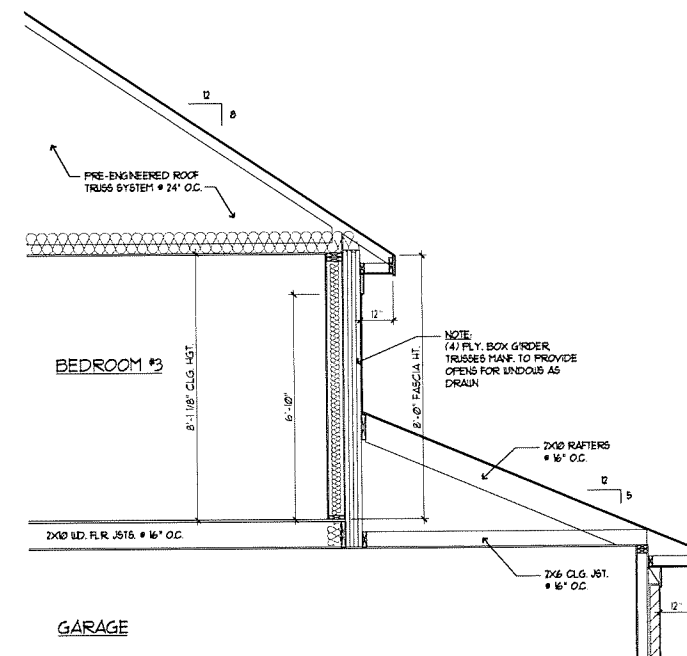
**RAKE TRUSS-FLASHING DETAIL**  
SCALE: 1/2" = 1'-0"



**A BUILDING SECTION**  
SCALE: 3/8" = 1'-0"

**NOTE:**  
ASPHALT SHINGLES SHALL COMPLY WITH R9052 & R9052.4  
SHINGLES OVER 15' BUILDING FELT ON 7/8" OSB ROOF SHEATHING  
NOTE: SHINGLES SHALL HAVE SELF-SEAL STRIPS OR BE INTERLOCKING AND CONFORM TO ASTM D225 OR D2462  
ICE BARRIER WITH 2 LAYERS OF UNDERLAYMENT CEMENTED TOGETHER OR A SELF-ADHERING POLYMER MODIFIED BITUMEN SHEET TO EXTEND FROM EAVE S EDGE TO AT LEAST 24 INCHES INSIDE THE EXTERIOR WALL LINE OF BUILDING

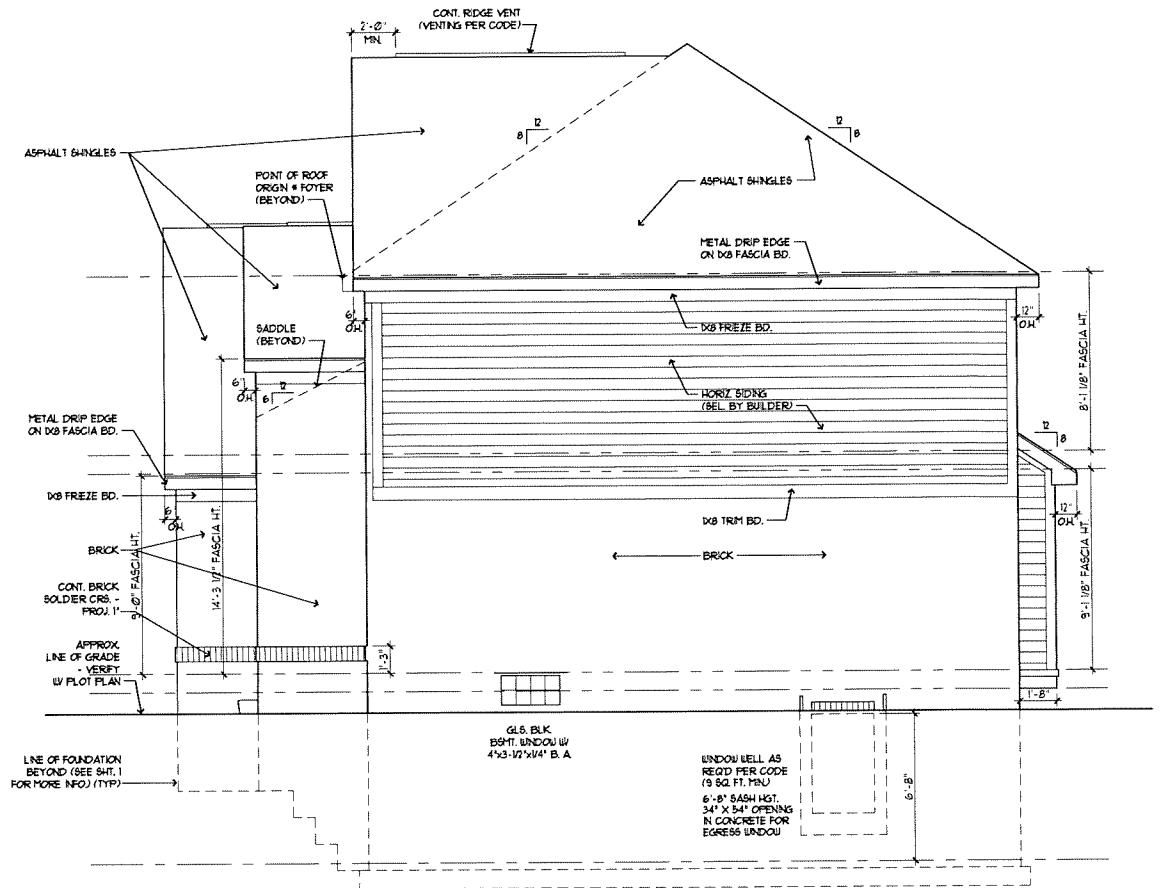
**NOTE:**  
PROVIDE INSULATION BAFFLES AT ALL EAVES FOR CLEAR MIN 1" AIR SPACE



**B PARTIAL SECTION**  
SCALE: 3/8" = 1'-0"

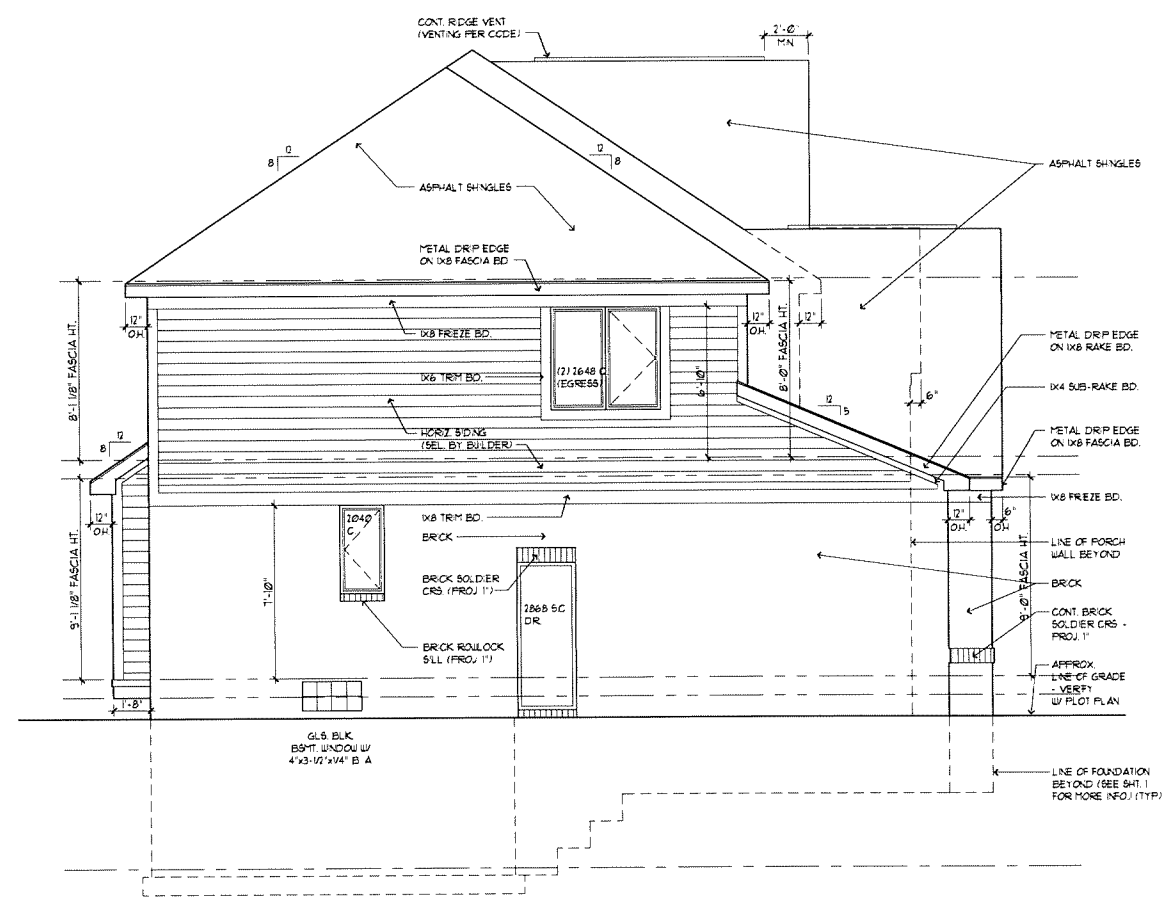
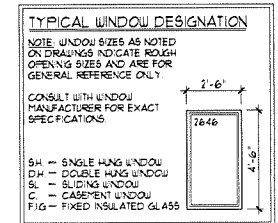
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MICHAELANGELO CONSTRUCTION  
2600 GARAGE LEFT SADDLEBROOK ORCHARDS ROCHESTER HILLS MI  
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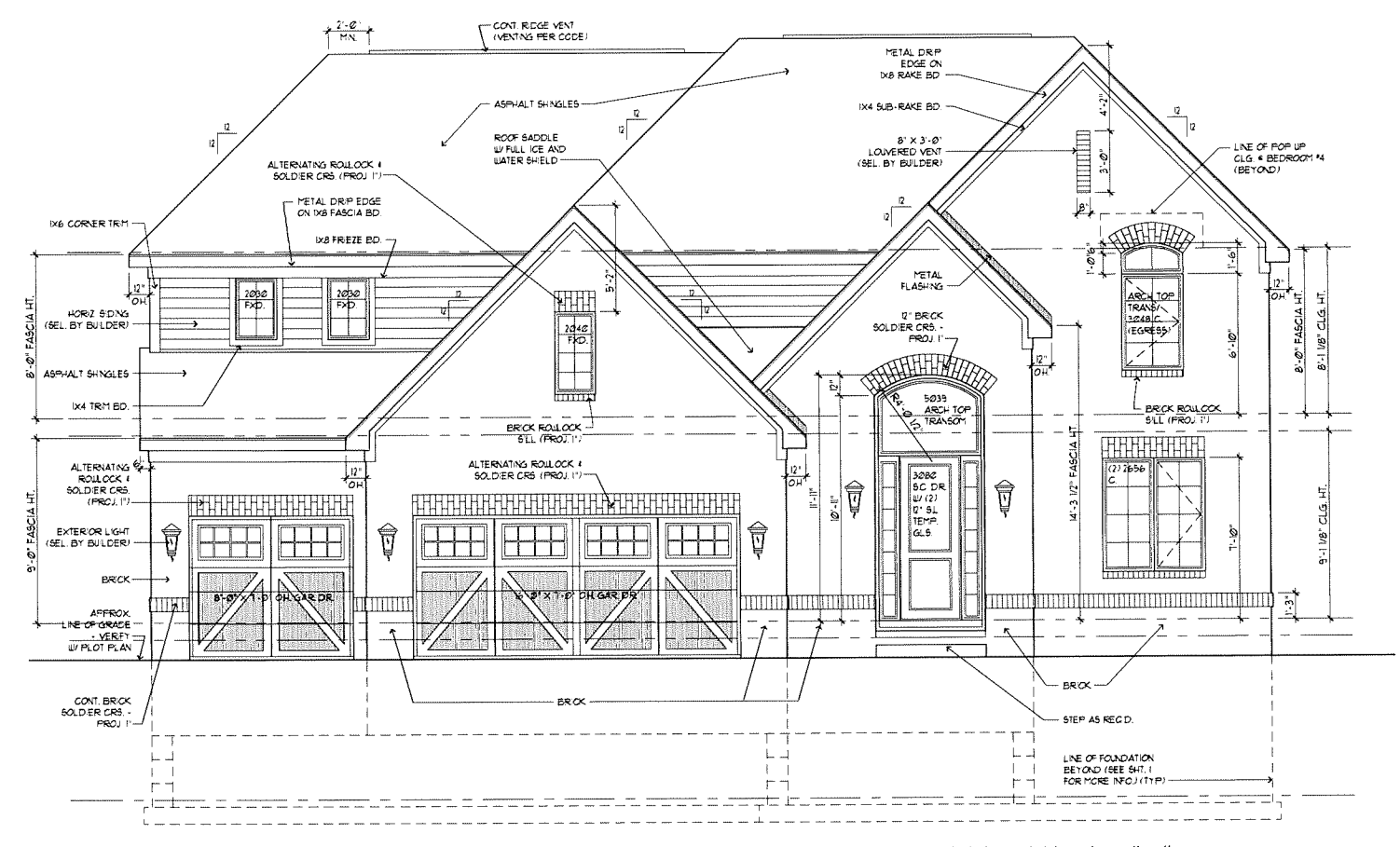


**RIGHT ELEVATION - "B"**  
SCALE: 1/4" = 1'-0"

NOTE: ANY WINDOWS WITH BOTTOM SILL LOWER THAN 2" FROM FINISH FLOOR AND EXCEEDING 12" FROM FINAL GRADE MUST BE NON-EGRESS AND/OR NON-OPERABLE.



**LEFT ELEVATION - "B"**  
SCALE: 1/4" = 1'-0"



**FRONT ELEVATION - "B"**  
SCALE: 1/4" = 1'-0"

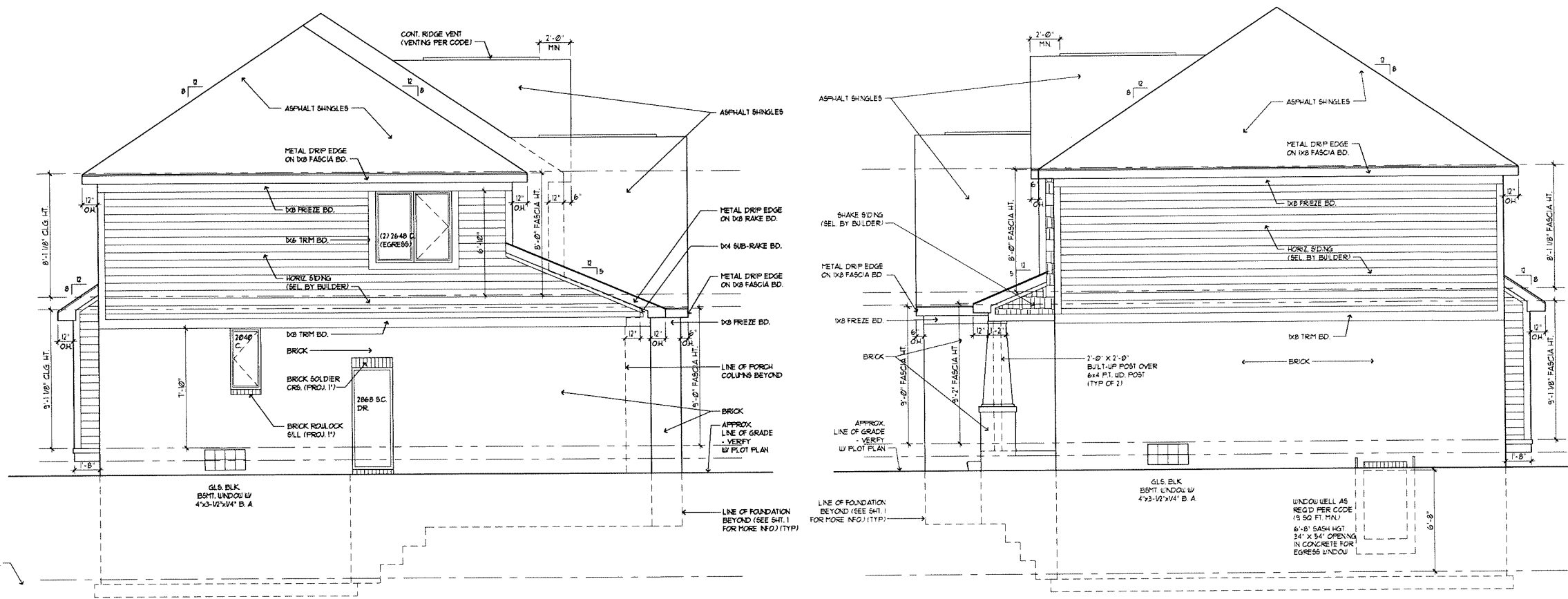
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MICHELANGELO CONSTRUCTION

2600 GARAGE LEFT SADDLEBROOK ORCHARDS ROCHESTER HILLS MI

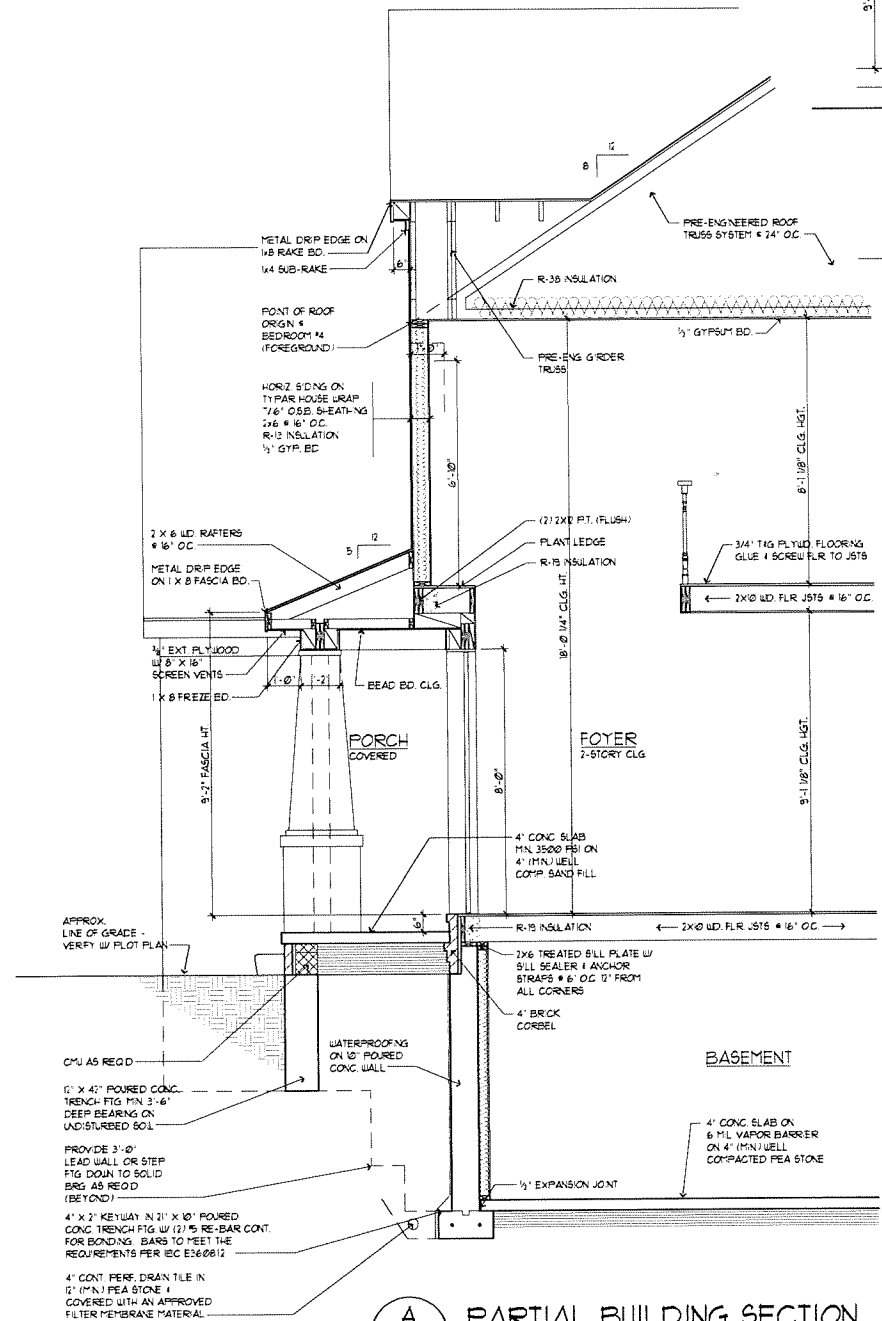
Review Set: -  
Permit Set: -  
Final Set: 10.07.16  
Revisions: -  
Drawn By: SHCPNSF  
Checked By: P.S.

Job No: 16-335  
Sheet No: 5 OF 8



LEFT ELEVATION - "C"  
SCALE: 1/4" = 1'-0"

RIGHT ELEVATION - "C"  
SCALE: 1/4" = 1'-0"

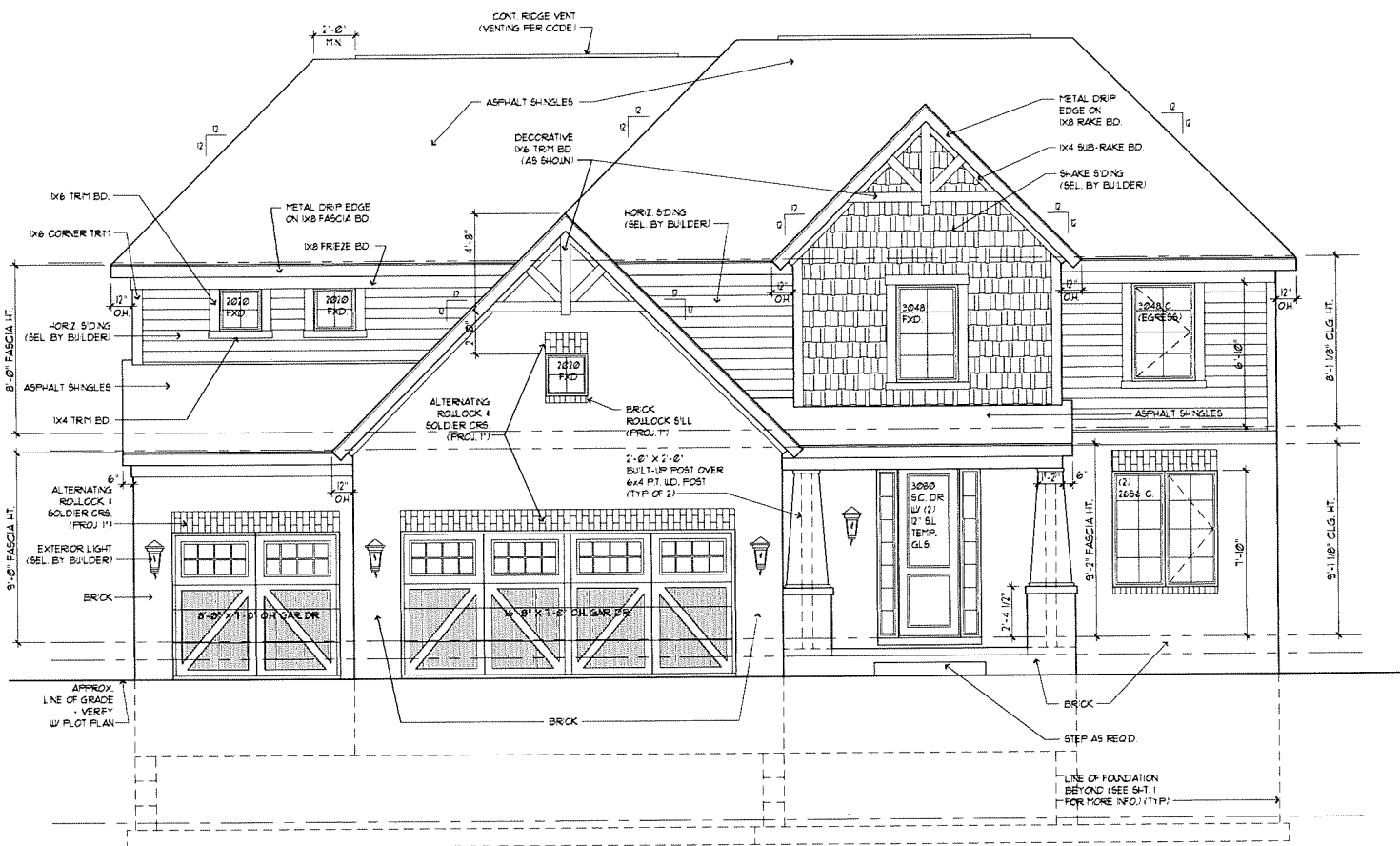


A PARTIAL BUILDING SECTION  
SCALE: 3/8" = 1'-0"

NOTE: ANY WINDOWS WITH BOTTOM SILL LOWER THAN 24" FROM FINISH FLOOR AND EXCEEDING 12" FROM FINAL GRADE MUST BE NON-EGRESS AND/OR NON-OPERABLE.

**TYPICAL WINDOW DESIGNATION**  
NOTE: WINDOW SIZES AS NOTED ON DRAWINGS INDICATE ROUGH OPENING SIZES AND ARE FOR GENERAL REFERENCE ONLY. CONSULT WITH WINDOW MANUFACTURER FOR EXACT SPECIFICATIONS.

SH - SINGLE HUNG WINDOW  
DH - DOUBLE HUNG WINDOW  
SL - SLIDING WINDOW  
C - CASEMENT WINDOW  
FIG - FIXED INSULATED GLASS



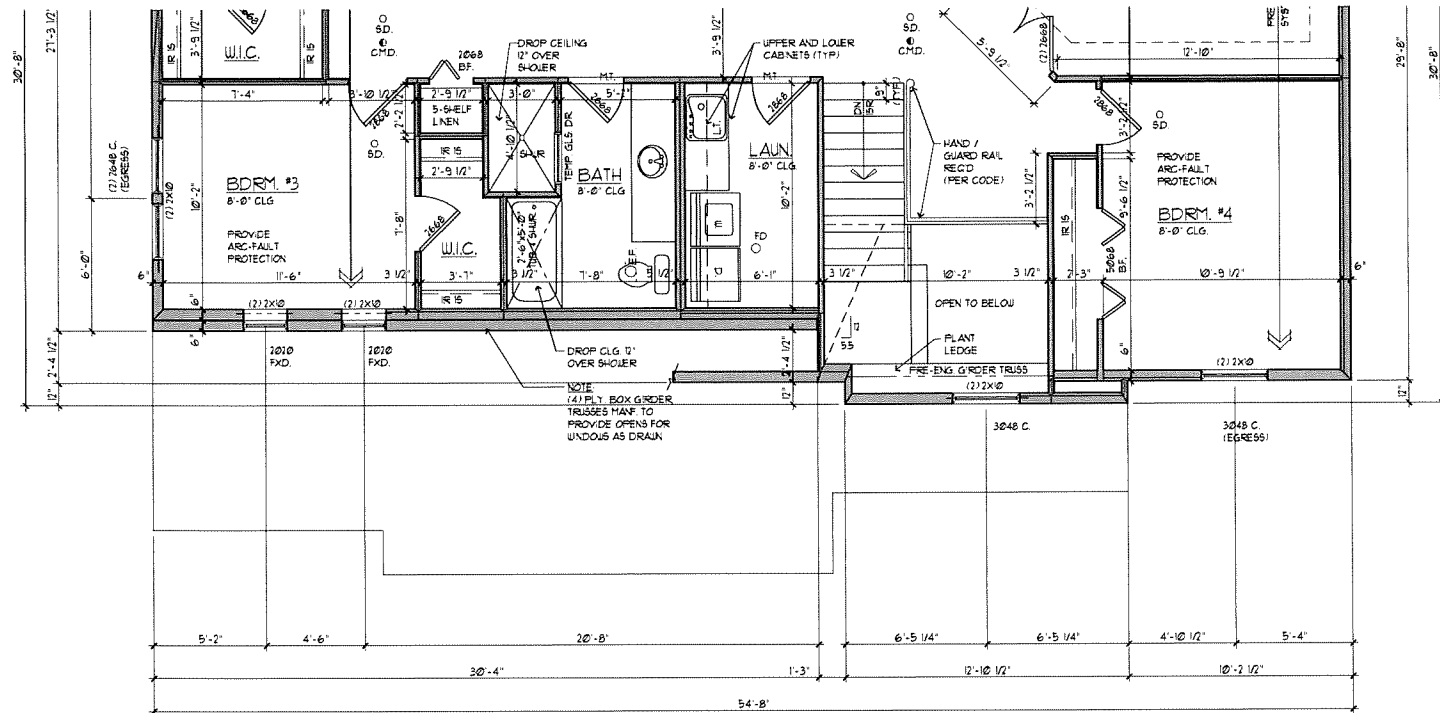
FRONT ELEVATION - "C"  
SCALE: 1/4" = 1'-0"

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MICHELANGELO CONSTRUCTION  
2600 GARAGE LEFT  
SADLERBROOK ORCHARDS  
ROCHESTER HILLS MI

Review Set: -  
Permit Set: -  
Final Set: 10.07.16  
Revisions: -  
Drawn By: SH/CP/NSF  
Checked By: P.S.

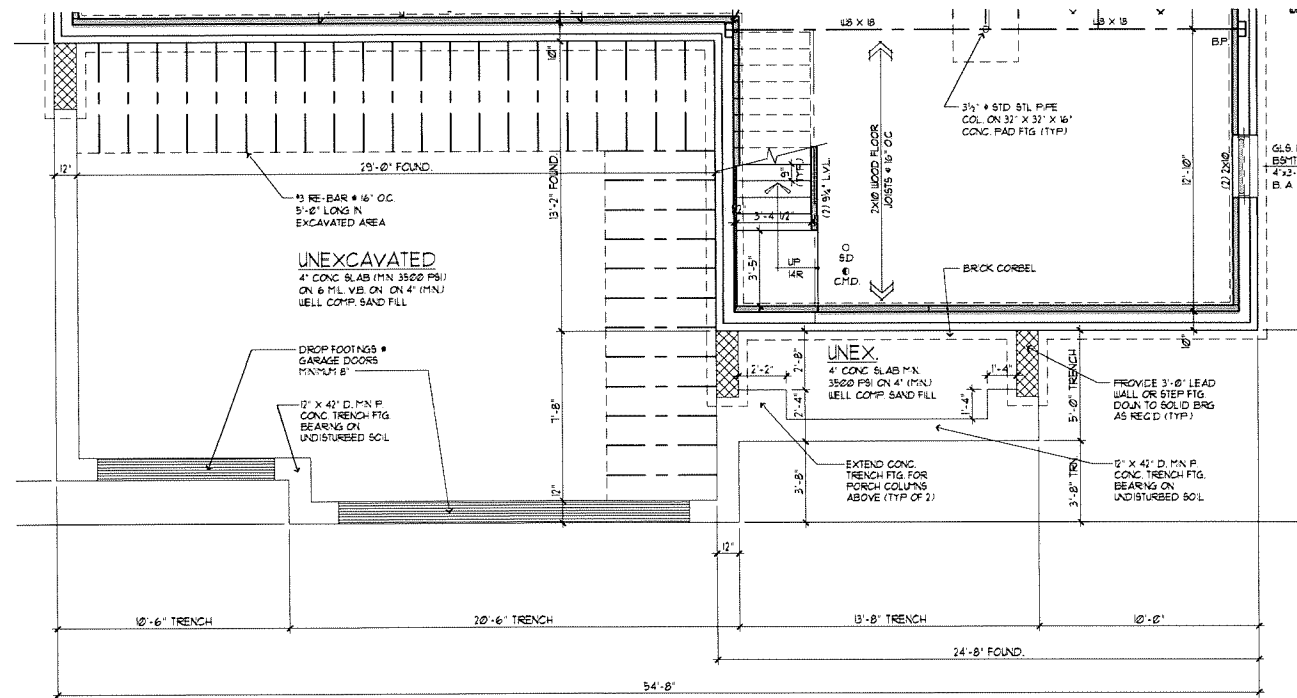
Job No: 16-335  
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- SD: BUILDER TO PROVIDE APPROVED SMOKE DETECTORS AS REQ'D ON ALL FLOORS (INTER-CONNECTED) WITH BATTERY BACK-UP
- CHD: SINGLE STATION CARBON MONOXIDE DETECTOR TO COMPLY W/UL 2034 AND INSTALLED PER MANUF. SPECIFICATIONS
- NOTE: ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. (1) FOOTCANDLE

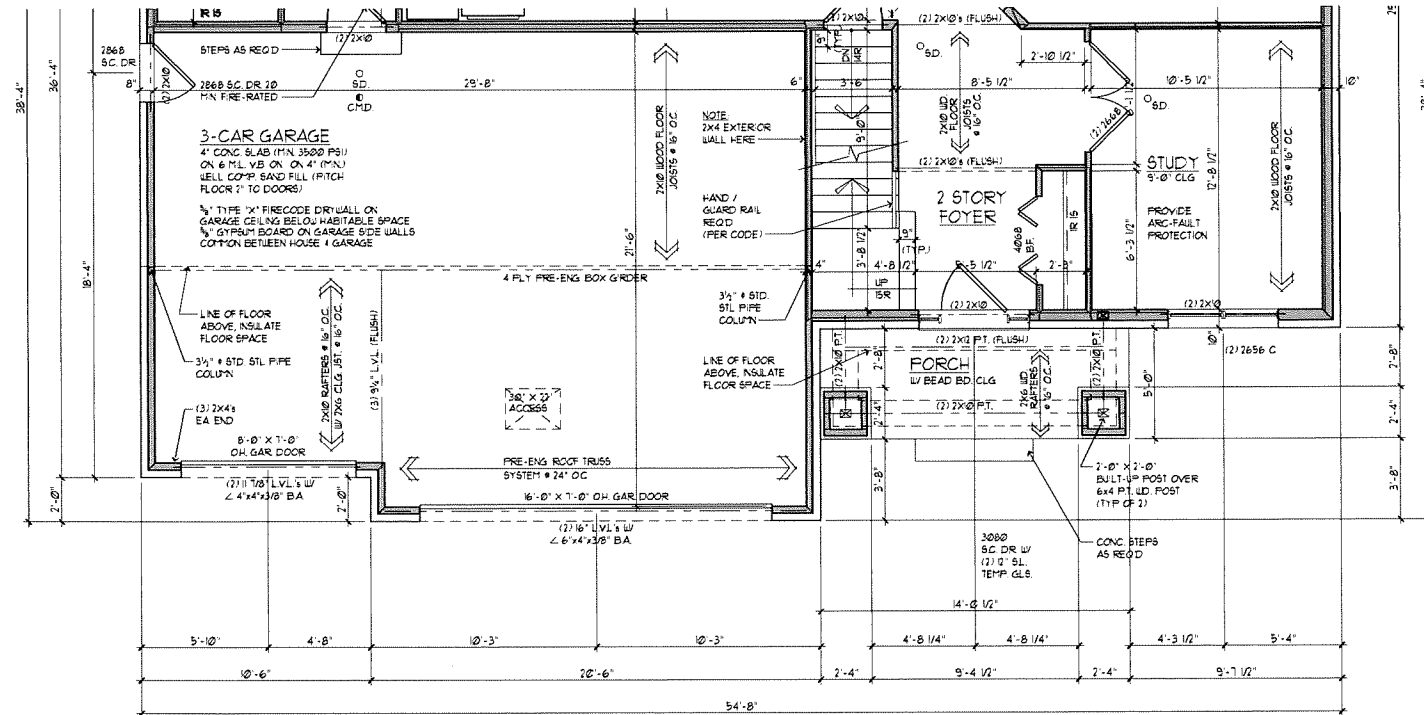
PARTIAL SECOND FLOOR PLAN - "C"

1441 SQ FT SCALE: 1/4" = 1'-0"



PARTIAL FOUNDATION PLAN - "C"

SCALE: 1/4" = 1'-0"



PARTIAL FIRST FLOOR PLAN - "C"

FIRST FLOOR: 127 SQ FT  
 SECOND FLOOR: 1441 SQ FT  
 TOTAL: 2655 SQ FT  
 SCALE: 1/4" = 1'-0"



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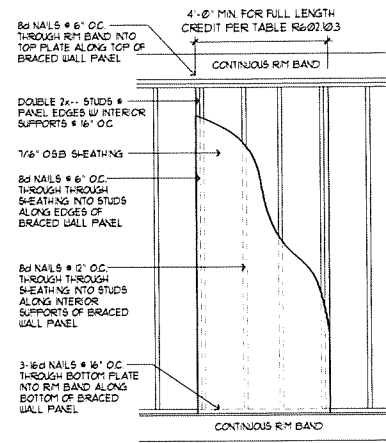
MICHAELANGELO CONSTRUCTION

2600 GARAGE LEFT  
 SADDLEBROOK ORCHARDS  
 ROCHESTER HILLS MI

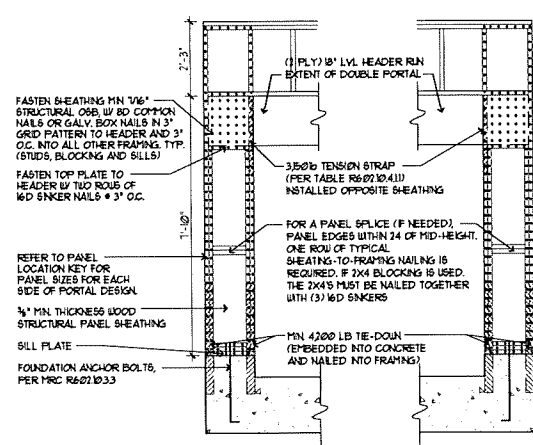
Review Set: -  
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Job No:  
**16-335**

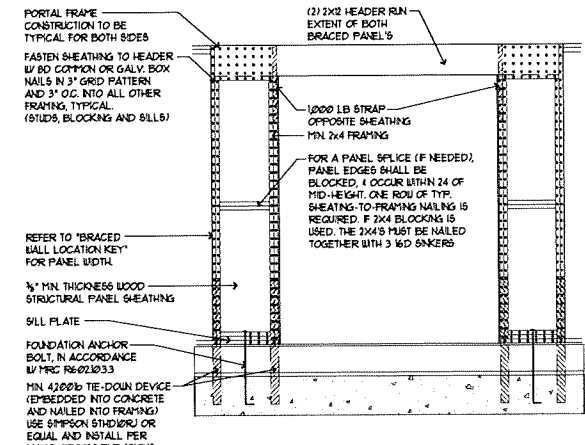
Sheet No:  
**7 OF 8**



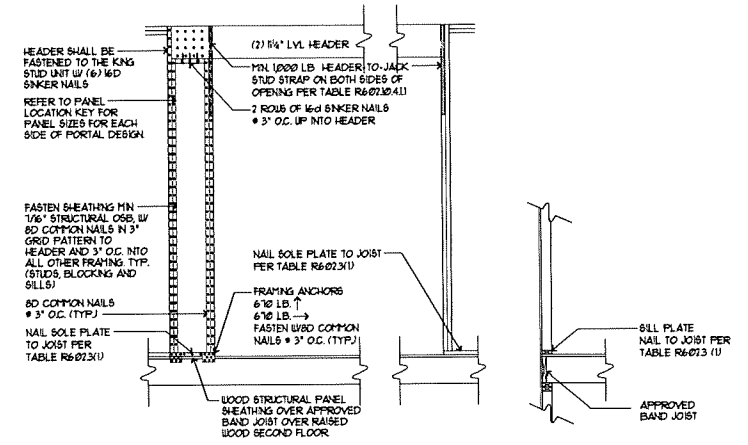
WOOD STRUCTURAL PANEL DETAIL  
SCALE: 1/4" = 1'-0"



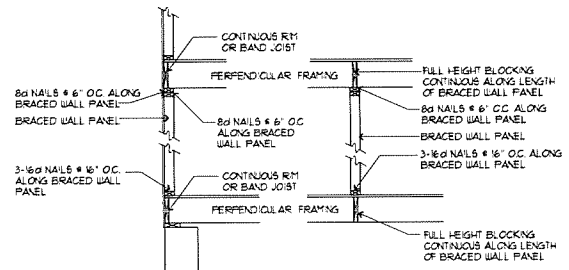
SINGLE PORTAL (DOUBLE PANEL) METHOD PFH - PORTAL FRAME W/ HOLD-DOWNS @ GARAGE DETAIL  
SCALE: 1/4" = 1'-0"



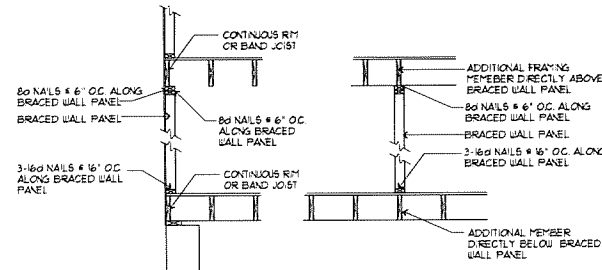
SINGLE PORTAL (DOUBLE PANEL) METHOD PFH PORTAL FRAME W/ HOLD-DOWNS  
SCALE: 1/4" = 1'-0"



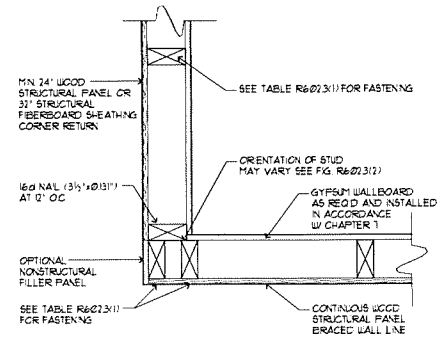
SINGLE PORTAL (SINGLE PANEL) METHOD CS-PF FRAMING ANCHOR OPTION  
SCALE: 1/4" = 1'-0"



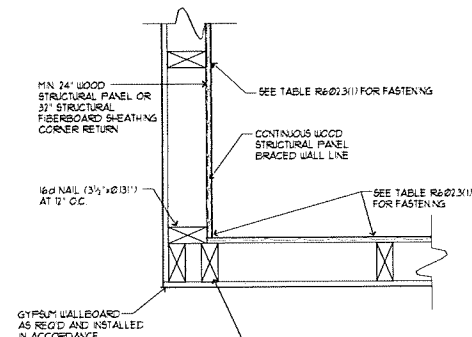
BRACED WALL PANEL CONNECTION  
SCALE: 1/4" = 1'-0"



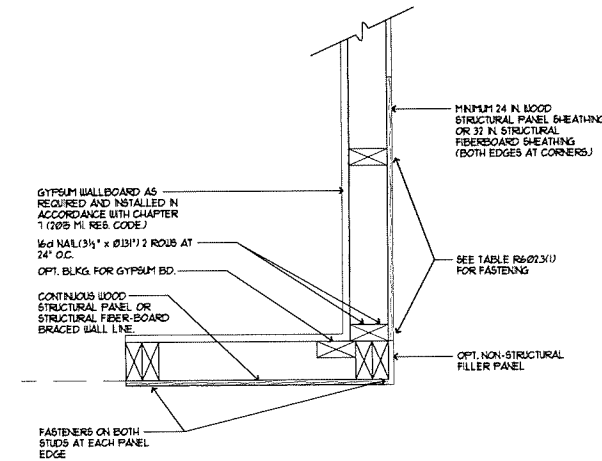
BRACED WALL PANEL CONNECTION  
SCALE: 1/4" = 1'-0"



OUTSIDE CORNER PLAN DETAIL  
SCALE: 1/4" = 1'-0"



INSIDE CORNER PLAN DETAIL  
SCALE: 1/4" = 1'-0"



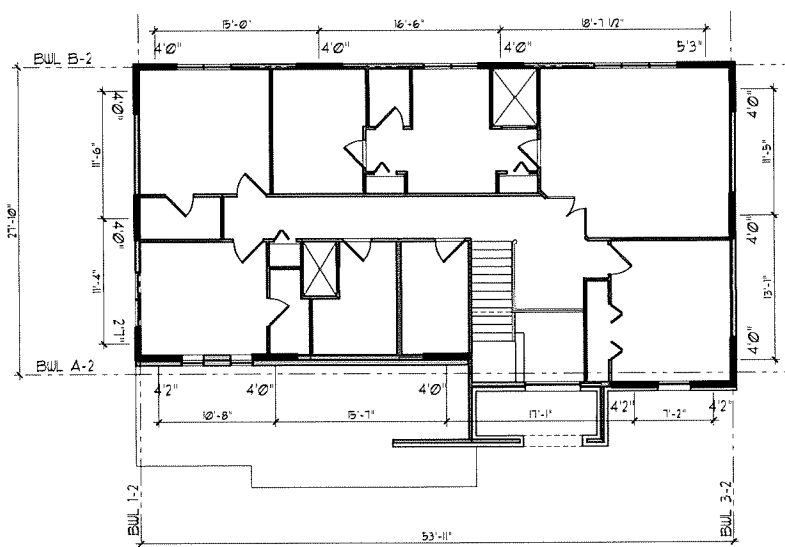
GARAGE DOOR CORNER (TYP.)  
SCALE: 1/4" = 1'-0"

BRACED WALL DESIGN												
BRACED WALL LINE	FLOORS ABOVE BULL	EAVE-TO-RIDGE HEIGHT (ft.)	BULL SPACING (ft.)	WALL HEIGHT (ft.)	BRACING METHOD	EAVE-TO-RIDGE HEIGHT FACTOR	WIND WALL HEIGHT FACTOR	NUMBER OF WALL PANELS	HOLD-DOWN DEVICE FACTOR	WIND BRACING AMOUNTS		
										MIN REQ'D PER TABLE R602.12(1) (ft.)	COMBINED ADJUSTMENT FACTORS	ADJUSTED MIN REQ'D AMOUNT
BULL 1-1	1	10.0	54.0	9.0	USP	9.0	9.0	9.0	9.0	9.0	9.0	17.9
BULL 2-1	1	1.0	54.0	9.0	USP	1.0	9.0	9.0	9.0	9.0	9.0	17.8
BULL A-1	0	6.0	7.0	11.0	USP	1.06	11	14.5	-	14	14.5	4.0
BULL B-1	1	10.0	4.0	9.0	CS	1.03	9.0	14.5	-	4.1	14.2	6.67
BULL C-1	1	10.0	9.0	9.0	USP	1.03	9.0	14.5	-	12.0	14.2	14.9
BULL D-1	1	6.0	9.0	9.0	CS	1.03	9.0	14.5	-	5.0	14.2	7.09
BULL 1-2	0	11.0	21.83	8.0	CS	-	9.0	-	-	8.08	9.0	7.8
BULL 2-2	0	11.0	21.83	8.0	USP	1.06	9.0	-	-	9.9	9.0	9.9
BULL A-2	0	11.0	21.83	8.0	CS	-	9.0	-	-	4.67	9.0	4.46
BULL B-2	0	11.0	21.83	8.0	USP	1.06	9.0	-	-	5.71	9.0	4.94

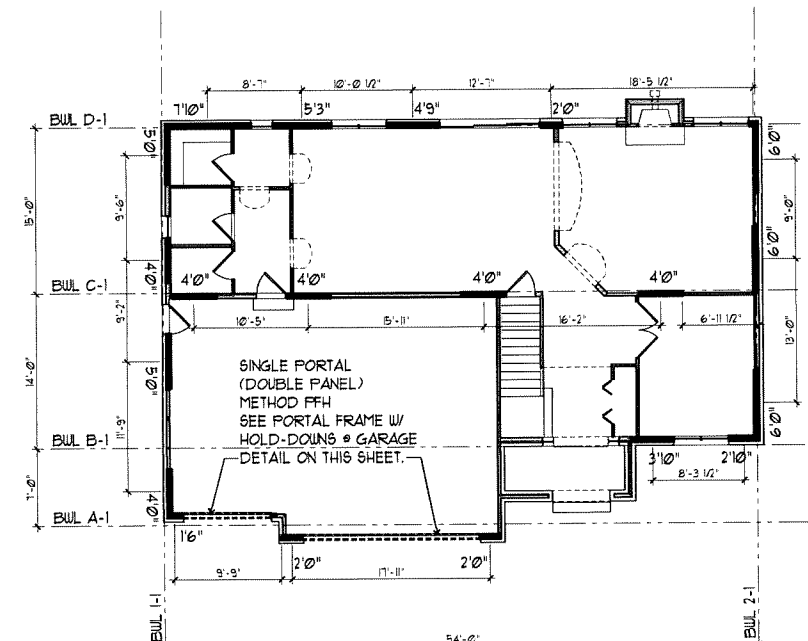
NOTES:  
1. WALL BRACING CALCULATIONS WERE COMPLETED USING THE "WALL BRACING LENGTH CALCULATOR" APPLICATION ON SIMPSON STRONG-TIE WEBSITE: WWW.STRONGTIE.COM  
2. DESIGN FACTORS  
SEISMIC DESIGN CATEGORY: A  
BASIC WIND SPEED: 80MPH  
WIND EXPOSURE CATEGORY: B  
4. ALL EXTERIOR WALLS TO BE STRUCTURALLY SHEATHED  
5. SPACE PANELS PER CODE ACROSS LENGTH OF BULL S.

BRACED WALL PANEL SCHEDULE										
BRACED WALL LINE	BEGINNING BUP		INTERMEDIATE BUP		INTERMEDIATE BUP		ENDING BUP		PROVIDED AMOUNT	ADJUSTED MIN REQ'D AMOUNT
	BRACING METHOD	EFFECTIVE LENGTH	BRACING METHOD	EFFECTIVE LENGTH	BRACING METHOD	EFFECTIVE LENGTH	BRACING METHOD	EFFECTIVE LENGTH		
BULL 1-1	USP	4.0	USP	3.0	USP	4.0	USP	5.0	9.0	17.9
BULL 2-1	USP	6.0	USP	6.0	-	-	USP	6.0	9.0	17.8
BULL A-1	USP	4.0	USP	4.0	-	-	USP	4.0	12.0	4.0
BULL B-1	CS	3.83	-	-	-	-	CS	3.83	6.67	6.67
BULL C-1	GB	4.0	GB	4.0	GB	4.0	GB	4.0	14.2	14.9
BULL D-1	CS	7.83	CS	5.75	CS	4.75	CS	7.0	14.2	7.09
BULL 1-2	CS	7.58	CS	4.0	-	-	CS	4.0	10.58	7.8
BULL 2-2	USP	4.0	USP	4.0	-	-	USP	4.0	9.0	9.9
BULL A-2	CS	4.6	CS	4.0	CS	4.0	CS	4.6 (X2)	10.48	4.46
BULL B-2	USP	4.0	USP	4.0	USP	4.0	USP	5.75	17.9	4.94

NOTES:  
1. SEE PANEL LOCATION KEY FOR PANEL SPACING  
2. WHEN REFERRING TO THE "BRACED WALL PANEL LOCATION KEY" FOR CORRESPONDING PANELS THE TITLE FOR EACH BRACED WALL LINE (E.G. BULL 1-1) DENOTES THE BEGINNING SIDE OF EACH BRACED WALL LINE  
3. WHEN DETERMINING EFFECTIVE BRACING LENGTHS FOR FRG METHOD APPLY A FACTOR OF (1.5) TO THE ACTUAL PANEL LENGTHS PER R602.10.3.4  
4. WHEN DETERMINING EFFECTIVE BRACING LENGTHS FOR PFH METHOD MIN. PANEL WIDTH AND GREATER IS EQUIVALENT TO 4'-0" OF QUALIFIED BRACED WALL LENGTH  
5. (X2) INDICATES A NUMBER OF BRACED WALL PANELS OF EQUAL EFFECTIVE LENGTH POSITIONED NEXT TO EACH OTHER. INDICATED EFFECTIVE LENGTH TO BE MULTIPLIED BY THAT FACTOR



SECOND FLOOR BRACED WALL LOCATION KEY  
SCALE: 1/4" = 1'-0"



FIRST FLOOR BRACED WALL LOCATION KEY  
SCALE: 1/4" = 1'-0"

**MARTINO Design Group**

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2000 GARAGE LEFT SADDLERBROOK ORCHARDS ROCHESTER HILLS MI

Review Set: -  
Permit Set: -  
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Revisions: -  
Drawn By: SHCP/NSF  
Checked By: P.S.  
Job No: 16-335  
Sheet No: 8 OF 8

# GENERAL NOTES:

- 2ND FLOOR JOISTS @ 17" O.C. UNDER ALL TILE OR MARBLE FLOORS TO BE DEAD LOAD REQUIRED.
- ALL POURED CONCRETE WALLS TO BE BACKFILLED WITH SANDY TYPE SOIL AND BE WELL BRACED UNTIL CONCRETE IS THOROUGHLY CURED AND ADDITIONAL WEIGHT OF THE BUILDING IS IN PLACE.
- ALL FLOOR JOISTS TO BE 2" OR BETTER LEM FIR WITH 1" X 3" CROSS BRIDGING @ 8'-0" O.C.
- ROOF TRUSSES DESIGNED BY TRUSS MANUFACTURER TO CONFORM TO ALL MINIMUM DESIGN LOAD REQUIREMENTS. BRACE ROOF TRUSSES AS RECOMMENDED BY MANUFACTURER.
- ROOF TRUSS FRAMING INDICATED ON DRAWINGS IS OUR ASSUMED LAYOUT. TRUSS MANUFACTURER SHOULD REVIEW THE DRAWING AND INDICATE TO ARCHITECT PRIOR TO FABRICATION ANY CHANGE IN BEARING CONDITIONS THAT WOULD REQUIRE RE-FRAMING OF OUR STRUCTURE TO ACCOMMODATE TRUSSES.
- ALL POURED CONCRETE FOOTING TO BE A MINIMUM OF 3'-6" BELOW FINISHED GRADE BEARING ON UNDISTURBED VIRGIN SOIL WITH A MINIMUM BEARING CAPACITY OF 2000 PSF. MUST BE VERIFIED BY SOILS ENGINEER IN THE FIELD FOR FOOTING INSPECTION.
- ALL POURED CONCRETE WALLS WITH 1'-0" OR MORE BACKFILL TO BE REINFORCED WITH 4 BARS @ 6" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY. VERIFY IN FIELD FOR FOOTING INSPECTION.
- ALL WINDOW NUMBERS REFER TO 'GENERIC' WINDOWS. IF ALTERNATE WINDOW MANUFACTURER IS USED, ALL SIZES AND SHAPES TO MATCH DIMENSIONALLY.
- ALL ENGINEERED WOOD FLOOR TRUSSES TO BE 2" DENSE KD WITH 2" BY 6" CONTINUOUS RIBBON BRACING ON BOTTOM CHORD @ 8'-0" O.C. (MINIMUM 2 PER SPAN WELL NAILED TO TRUSSES. PROVIDE DRAFT STOPPING.
- THE ROOF TRUSS MANUFACTURER TO FURNISH SHOP DRAWING TO THE DESIGNER PRIOR TO FABRICATION OF THE TRUSSES.
- ALL MICRO-LAM BEAMS TO BE JOINED TOGETHER PER MANUFACTURER'S SPECIFICATIONS.
- ALL POURED CONCRETE WALLS WITH BRICK LEDGE GREATER THAN 4'-0" SHALL BE REINFORCED WITH 5 BARS @ 24" O.C. VERTICALLY WITH ONE #4 BAR TOP AND BOTTOM OF WALL HORIZONTALLY.
- DO NOT SCALE DRAWING. USE PRINTED DIMENSIONS ONLY. IF ANY DISCREPANCY OCCURS NOTIFY THE DESIGNER IMMEDIATELY FOR CORRECTION. BUILDER RESPONSIBLE TO HAVE REVIEWED ALL DRAWINGS AND IF ADDITIONAL CLARIFICATION OR INFORMATION IS NEEDED BUILDER IS TO CONTACT DESIGNER AND SALES COUNSELOR.
- PROVIDE 5 POUND FELT AT UNTREATED EXPOSED LUMBER.
- ALL BEDROOM WINDOWS TO MEET 2015 MICHIGAN RESIDENTIAL EGRESS CODES. ALL WINDOWS 5'6" TO 7' ABOVE FINISH GRADE SHALL HAVE THE BOTTOM OF THE OPENING LOCATED A MIN. OF 24" ABOVE FINISH FLOOR OF THE ROOM PER MRC 2015 SEC. R310.2.
- PROVIDE FIBER-CEMENT FIBER-MAT REINFORCED GYPSUM BACKERS OR FIBER REINFORCED GYPSUM BACKERS AS BACKERS FOR TUB WORK, SHOWER WALLS AND PANELS. BACKERS MUST COMPLY WITH ASTM C 1333, C 1335, C 1336 OR C 1338 AND BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. MRC 2015 SEC. R7101.42.
- WHERE HANDRAILS ARE SHOWN HANDRAIL HEIGHT IS TO BE NOT LESS THAN 34" AFF. AND MORE THAN 38" AFF. PER R311.11. GUARD RAIL IS TO BE NOT LESS THAN 36" AFF. PER R312.1 (MRC-2015). PROVIDE HANDRAIL ON AT LEAST (1) SIDE OF EVERY STAIRWAY PER SECTION R311.11 OF THE 2015 MICHIGAN RESIDENTIAL CODE. HANDRAILS TO COMPLY WITH 2015 MICHIGAN RESIDENTIAL CODE SECTION R311.13.
- DO NOT DRILL KITCHEN WINDOW DOUBLERS.
- PROVIDE A BATH FAN WHERE SHOWN ON PLAN AND VENT FAN TO EXTERIOR AS REQUIRED.
- TYPICAL ALL HABITABLE ROOMS TO HAVE PROPER LIGHT AND VENTILATION AND COMPLY WITH 2015 MICHIGAN RESIDENTIAL CODES.
- PROVIDE ELECTRICAL SMOKE DETECTORS IN ALL SLEEPING AREAS, HALLWAYS AND MECHANICAL ROOMS ON ALL FLOOR LEVELS INCLUDING THE BASEMENT. SMOKE DETECTORS SHALL BE WIRED TOGETHER SO AS WHEN ONE SOUNDS THEY ALL SOUND AND HAVE BATTERY BACKUP PER SEC. R314 OF 2015 MICHIGAN RESIDENTIAL CODE.
- PROVIDE ADEQUATE ROOF VENTILATION AND SOFFIT VENTILATION (IF N/A) AS REQUIRED. VERIFY BY CALCULATION VS.0 OF AREA VENTILATION REQ'D PER SEC. R606.2.
- TYPICALLY ALL PINS IN POURED CONCRETE FOUNDATION WALLS MUST BE REMOVED AND FILLED WITH FOUNDATION COATING PRIOR TO BACK FILL INSPECTION.
- PROVIDE METAL FLASHING, COUNTER FLASHING AND STEEPED FLASHING WHERE NOTED AND BRICK AND S.D.ING MEET.
- PROVIDE APPROVED SEALANT WHERE REQUIRED AND AS DETAILED BY MFG.
- VERIFY ELECTRICAL SERVICE IN ACCOMMODATING ALL NEW WORK. VERIFY ALL PROPOSED ELECTRICAL OUTLETS, SWITCHES, DIMMERS, LIGHT LOCATION ETC. INCLUDING CABLE AND PHONE PRE-WIRING SECURITY. TAKE INTO CONSIDERATION ALL ELECTRICAL INSTALLATION WITH OWNER AND COMPLY WITH 2015 MICHIGAN RESIDENTIAL ELECTRICAL CODES.
- VERIFY FIREPLACE OPTION WITH SUBDIVISION SPECS. AND WORK ORDER.
- PROVIDE 2-LAYER MINERAL COATED ROLLED ROOFING AT ALL EAVES TO 24" INSIDE BUILDING. 2-LAYERS MUST BE CEMENTED TOGETHER. VERIFY WITH BUILDING DEPARTMENT.
- PROVIDE 2x6 UNOLMANIZED PRESSURE TREATED SILL PLATE ON SILL SEALER WITH 1/2" ANCHOR BOLTS @ 6'-0" O.C. AND LOCATED NOT MORE THAN 12" INCHES AND NOT LESS THAN 3/4" INCHES FROM THE ENDS OF EACH PLATE SECTION. EXEMPTION: USE ANCHOR STRAPS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" INCH ANCHOR BOLTS.
- PROVIDE 4" PERK DRAIN TILE CONT. AT BASEMENT FTG. IN 0" (MIN) PEASSTONE WITH 2" BELOW DRAIN TILE. CONNECT TO SUMP AND STORM SEWER AS REQUIRED.
- 6'-8" CLEAR HEADROOM REQUIRED ON ALL STAIRS.
- CHIMNEY TERMINATION MUST PROJECT 2 FEET ABOVE ANY PART OF THE BUILDING WITHIN 10 FEET.
- FIRESTOP ALL DROPS AND CHASES ELECTRICAL, PLUMBING AND HVAC.
- PROVIDE 1/2" DRYWALL ON THE GARAGE SIDE OF WALLS COMMON TO RESIDENCE AND GARAGE. APPLY 1/2" TYPE 'X' DRYWALL TO GARAGE CEILING AREAS BELOW HABITABLE ROOMS PER MRC 2015 TABLE R307.6.
- LOWER LEVEL AREA CONSIDERED UNHABITABLE. ANY FUTURE ALTERATIONS TO MODIFY LOWER LEVEL TO A HABITABLE SPACE WILL COMPLY STRICTLY TO THE 2015 MICHIGAN RESIDENTIAL CODE. EGRESS WINDOW(S) PROVIDED AS REQUIRED, IN COMPLIANCE WITH MRC 2015 SEC. R310.1 - R310.5.
- AREAS THAT REQUIRE TEMPERED GLASS:
  - FIXED AND SLIDING PANELS OF SLIDING TYPE DOORS.
  - SHOWER AND BATH/TUB DOORS AND ENCLOSURES (IF APPLICABLE).
  - PANELS WITH A GLAZED AREA IN EXCESS OF 9 SQ. FT. WITH LOWEST EDGE LESS THAN 8 INCHES ABOVE THE FINISHED FLOOR LEVEL.
  - ALL OTHER AREAS AS CODE REQUIRES PER 2015 MICHIGAN RESIDENTIAL CODE.
- ROOF VENTILATION WHERE EAVE OR CORNER VENTS ARE INSTALLED INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR. A MINIMUM OF A 1" INCH SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING AT THE LOCATION OF THE VENTS.

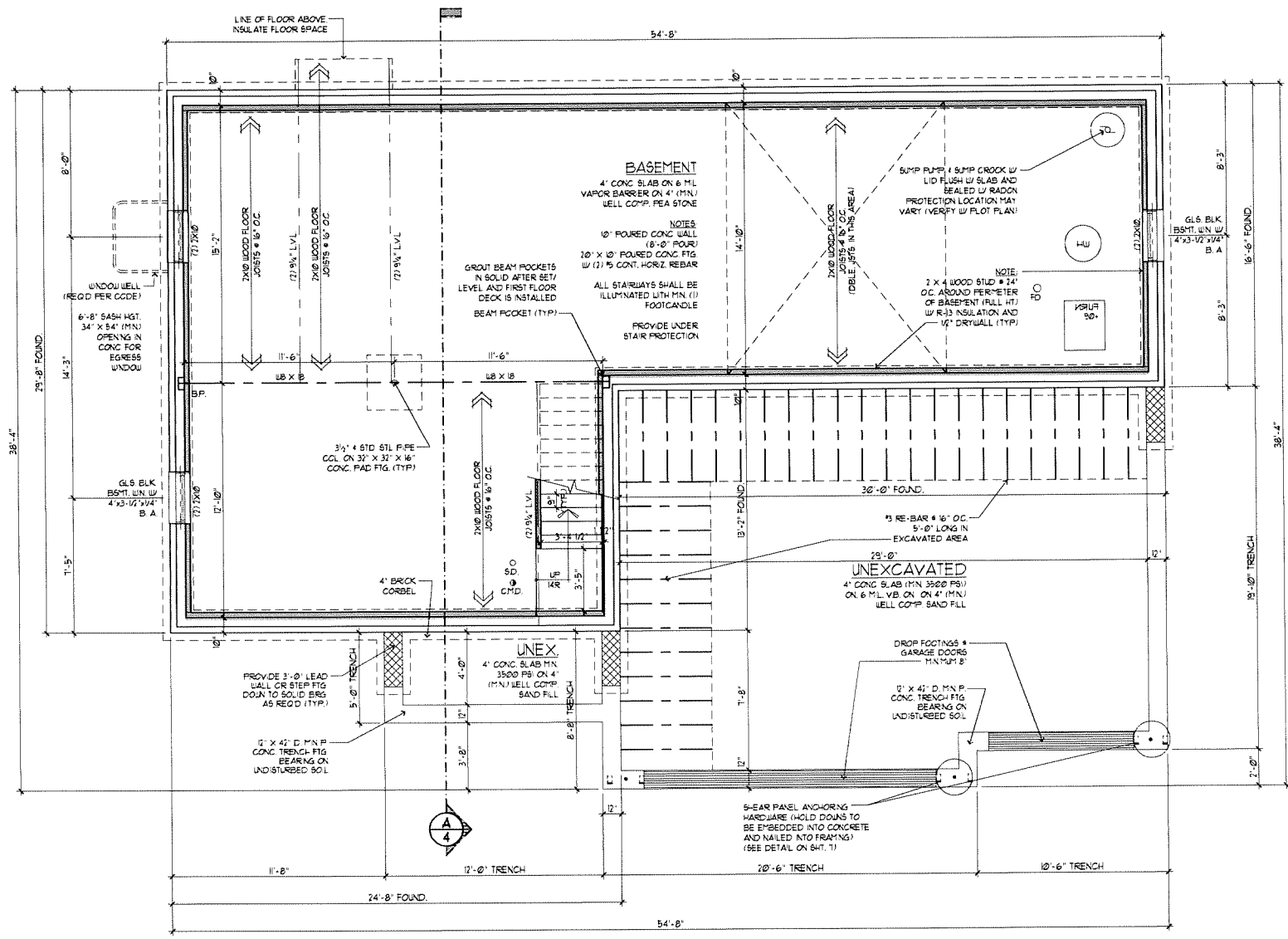
NOTE:  
ALL CODES SHALL COMPLY WITH THE INTERNATIONAL RESIDENTIAL CODES & 2015 MICHIGAN RESIDENTIAL CODE. THEY SHALL ALSO COMPLY WITH ANY JURISDICTION CODES IN THEIR RESPECTIVE COUNTY, CITY, VILLAGE, OR TOWNSHIP AND THEIR PROVISIONS AND ORDINANCES.

NOTE:  
GENERAL NOTES INDICATED ABOVE ARE JUST A SMALL PORTION OF OUR STANDARD NOTES & THE 2015 MICHIGAN RESIDENTIAL CODE BUT THE CODE IS MUCH BROADER & SHOULD BE STRICTLY FOLLOWED BY BUILDERS, TRACERS & GRANITORS.

- ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. (1) FOOT CANDLE OF LIGHT.
- PROVIDE UNDERSTAIR PROTECTION MRC 2015 ENCLOSED ACCESSIBLE SPACE UNDER SHALL HAVE WALLS UNDER STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2" GYPSUM BOARD.
- UNEXCAVATED GARAGE SLAB SHALL COMPLY WITH TABLE R402.2 4" CONCRETE SLAB MIN. 3500 P.S.F. SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE ON 4" MIN. WELL COMPACTED SAND FILL.
- PROVIDE NON-ABSORBENT FINISH TO THE SURFACE OF ALL BATHING AREAS WITH WALL MOUNTED SHOWER HEADS. A MIN. OF 6'-0" ABOVE FINISH FLOOR PER MRC 2015 SEC. R307.2.
- PROVIDE A 1/4" MIN. SOLID CORE FIRERATED DOOR BETWEEN GARAGE AND RESIDENCE MIN. 20 MINUTE FIRERATED R307.5.
- BUILDER AND SUB BRICK CONTRACTORS TO PROVIDE LEEP HOLES RESTING ON THE FLASHING SPACED 33" O.C. MAX. (24" PREFERRED) AT HEAD DETAILS OF WINDOWS, DOORS, BASEMENT WINDOWS AND GARAGE DOORS. ALSO PROVIDE FLASHING TO FACE OF BRICK WITH MIN. 8" VERTICAL LEG AND FORM END DAMS (LAP UNDER AIR/MOISTURE BARRIER) MICHIGAN RESIDENTIAL CODE 2015 SEC. 103.75 - 103.8. A PRE-BRICK INSPECTION WILL BE REQUIRED PRIOR TO BRICK INSTALLATION FOR FLASHING INSPECTION.
- FASTENER SCHEDULE FOR STRUCTURAL MEMBERS TABLE R403.3 (1) WOOD STRUCTURAL PANELS, SUBFLOOR ROOF AND WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING BUILDING MATERIALS OF 2" x 1/2" USE 6d COMMON NAIL (SUBFLOOR WALL) & 6" FROM EDGES 2" INTERMEDIATE SUPPORTS AND USE 16d COMMON NAILS FOR ROOF & FROM EDGES 2" INTERMEDIATE.
- BUILDER JOINER TO PROVIDE WATERPROOFING TO CODE. SUBMIT INFORMATION ON APPROVED PRODUCTS.
- BUILDER/TRUSS MFG. TO PROVIDE TRUSS DESIGN DRAWINGS IN COMPLIANCE WITH MRC 2015 AND SHALL INCLUDE AT MINIMUM THE INFORMATION SPECIFIED BELOW:
  - SLOPE OR DEPTH, SPAN, AND SPACINGS
  - LOCATION OF ALL JOISTS
  - REQUIRED BEARING LUTHS
  - DESIGN LOADS AS APPLICABLE
    - TOP CHORD LIVE LOAD (INCLUDING SNOW LOADS)
    - TOP CHORD DEAD LOAD
    - BOTTOM CHORD LIVE LOAD
    - BOTTOM CHORD DEAD LOAD
    - CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION
    - CONTROLLING UNIFORM AND EARTH QUAKE LOADS
- ADJUSTMENTS TO LUMBER AND JOINT CONNECTOR DESIGN VALUES FOR CONDITIONS OF USE.
- EACH REACTION FORCE AND DIRECTION.
- JOINT CONNECTOR TYPE AND DESCRIPTION, E.G. SIZE, THICKNESS OR GAUGE H. AND THE DIMENSIONED LOCATION OF EACH JOINT CONNECTOR EXCEPT WHERE SYMMETRICALLY LOCATED RELATIVE TO THE JOINT INTERACE.
- LUMBER SIZE, SPECIES AND GRADE FOR EACH MEMBER.
- CONNECTION REQUIREMENTS FOR:
  - TRUSS-TO-TRUSS ORDER
  - TRUSS PLY TO PLY
  - FIELD SPLICES
- CALCULATED DEFLECTION RATIO AND/OR MAXIMUM DEFLECTION FOR LIVE AND TOTAL LOAD.
- MAXIMUM AXIAL COMPRESSION FORCES IN THE TRUSS MEMBERS TO ENABLE THE BUILDING DESIGNER TO DESIGN THE SIZE CONNECTIONS AND ANCHORAGE OF THE PERMANENT CONTINUOUS LATERAL BRACING FORCES SHALL BE SHOWN ON THE TRUSS DRAWING OR ON SUPPLEMENTAL DOCUMENTS.
- REQUIRED PERMANENT TRUSS MEMBER BRACING LOCATION.

SIZE OF ANGLE (IN. x IN.)	NO STORIES ABOVE	ONE STORY ABOVE	TWO STORIES ABOVE	NO OF 1/2" OR EQ. BENT REIN.
3 x 3 x 1/4	6'-0"	4'-6"	3'-0"	1
4 x 3 x 1/4	8'-0"	6'-0"	4'-6"	1
5 x 3 1/2 x 1/4	10'-0"	8'-0"	6'-0"	2
6 x 3 1/2 x 1/4	14'-0"	9'-6"	7'-0"	2
(2) 6 x 3 1/2 x 1/4	20'-0"	12'-0"	9'-6"	4

- LONG LEG OF THE ANGLE SHALL BE PLACED IN A VERTICAL POSITION.
- DEPTH OF REINFORCED LINTELS SHALL NOT BE LESS THAN 8 INCHES AND ALL CELLS OF HOLLOW MASONRY LINTELS SHALL BE GROUTED SOLID. REINFORCING BARS SHALL EXTEND NOT LESS THAN 8 INCHES INTO THE SUPPORT.
- STEEL MEMBERS INDICATED ARE ADEQUATE TYPICAL EXAMPLES. OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS MAY BE USED.



FOUNDATION PLAN  
SCALE: 1/4" = 1'-0"

- SD: BUILDER TO PROVIDE APPROVED SMOKE DETECTORS AS REQ'D ON ALL FLOORS (INTER-CONNECTED) WITH BATTERY BACK-UP.
- CPD: SINGLE STATION CARBON MONOXIDE DETECTOR TO COMPLY WITH U.L. 2034 AND INSTALLED PER MANUF. SPECIFICATIONS.
- NOTE: ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. (1) FOOTCANDLE.



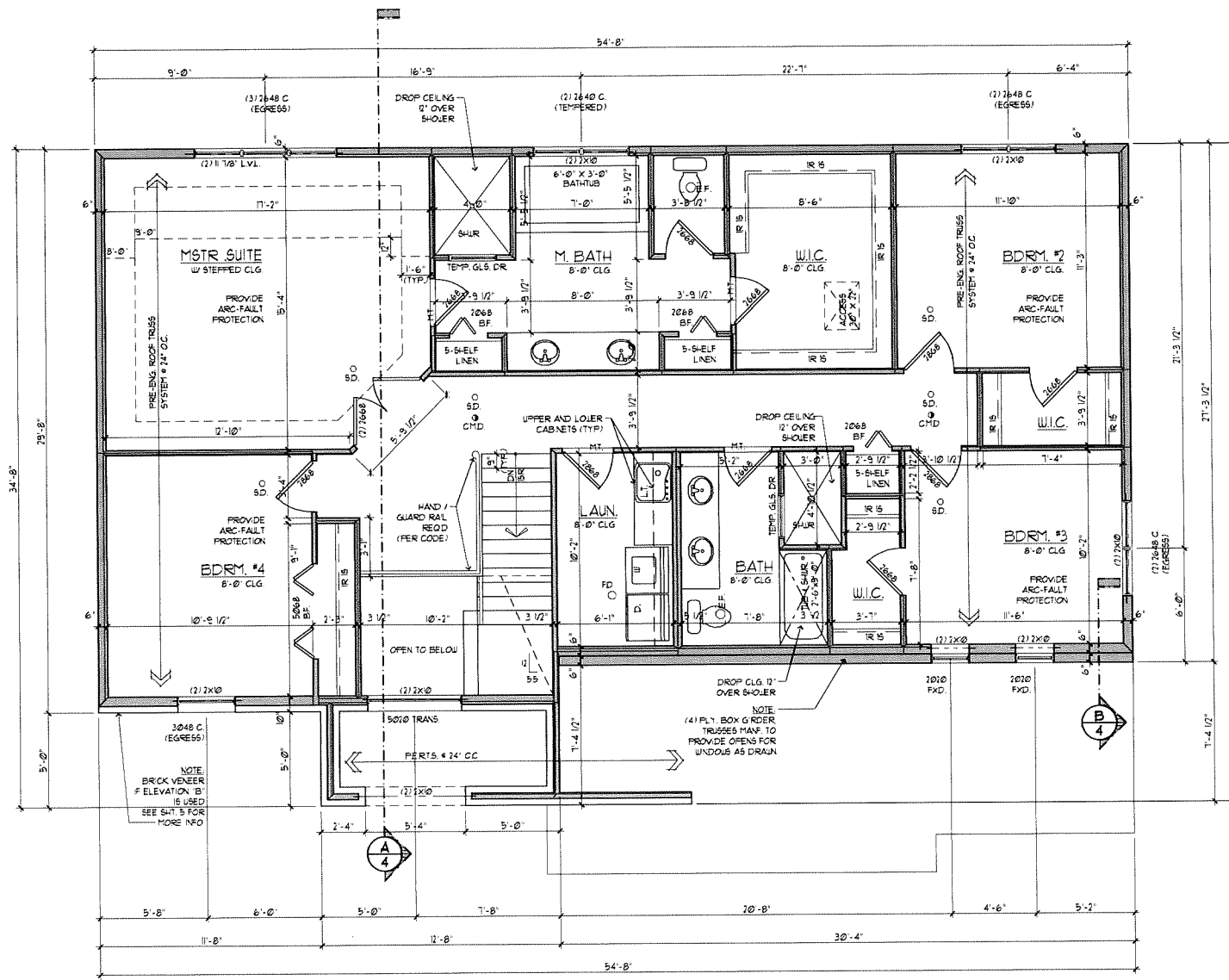
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MICHAELANGELO CONSTRUCTION

2600 GARAGE RIGHT  
SADDELBROOK ORCHARDS  
ROCHESTER HILLS MI

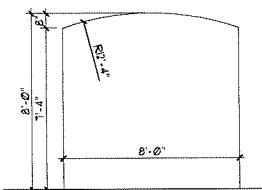
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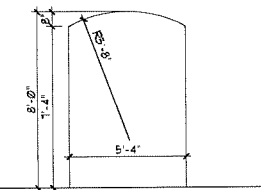


**SECOND FLOOR PLAN**

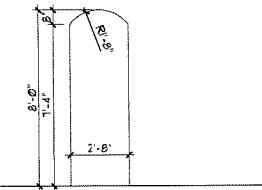
1441 SQ FT SCALE: 1/4" = 1'-0"



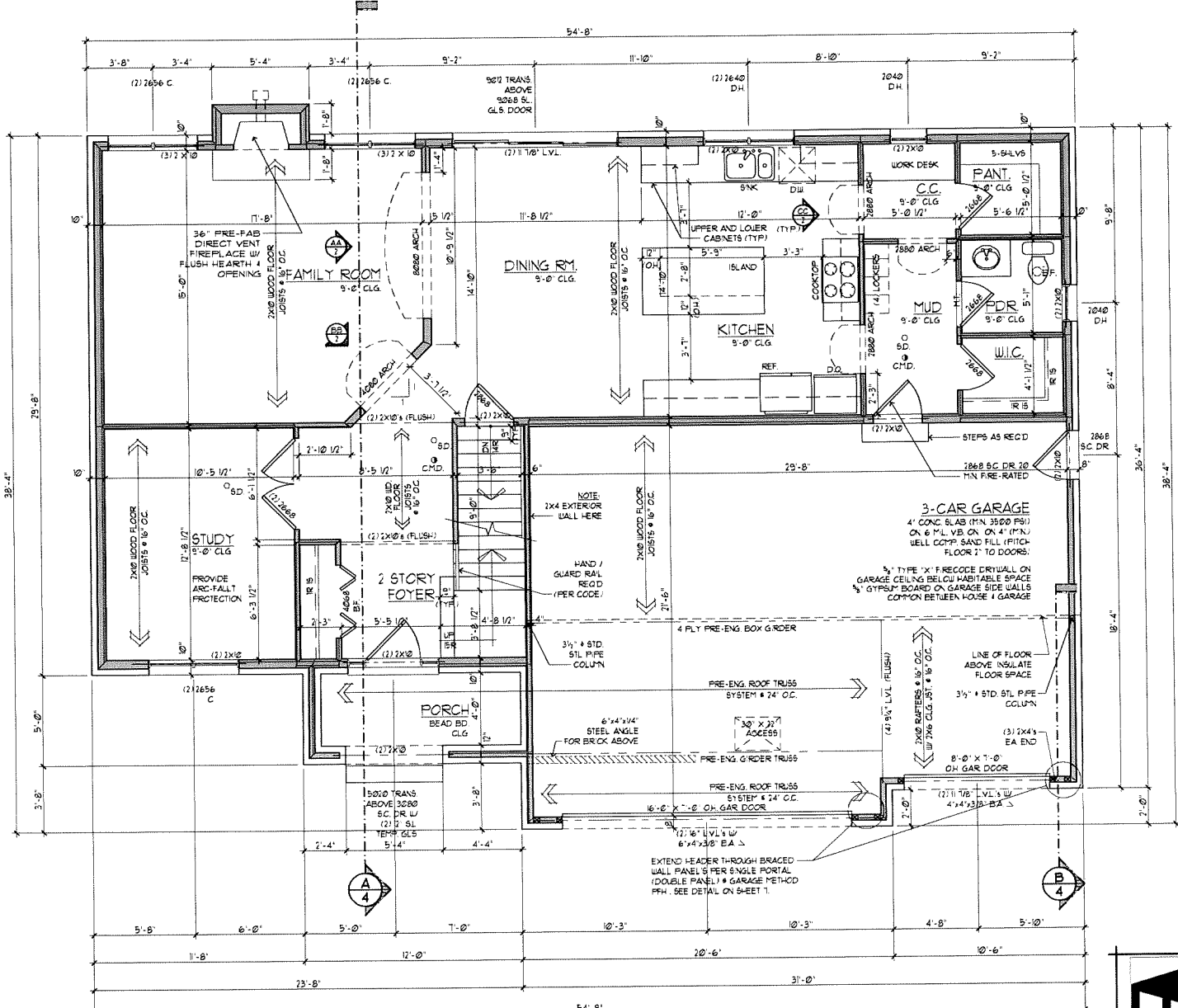
**DETAIL AA** SCALE: 1/4" = 1'-0"



**DETAIL BB** SCALE: 1/4" = 1'-0"



**DETAIL CC** SCALE: 1/4" = 1'-0"



**FIRST FLOOR PLAN**

FIRST FLOOR 102 SQ FT  
SECOND FLOOR 1441 SQ FT  
TOTAL: 2463 SQ FT SCALE: 1/4" = 1'-0"

**GENERAL STRUCTURAL NOTES:**

- REFER ONLY TO NOTES APPLICABLE TO THE PROJECT.
- DESIGN CRITERIA:**
- BUILDING CODES USED FOR DESIGN: 2015 MICHIGAN RESIDENTIAL CODE (MRC)
  - FLOOR LIVE AND DEAD LOADS: 40 PSF LIVE, 5 PSF DEAD FOR WOOD, LINOLEUM AND CARPET FLOORING; 25 PSF DEAD FOR THIN SET CERAMIC FLOORING; 35 PSF DEAD FOR MARBLE / GRANITE FLOORING
  - MINIMUM DEFLECTION CRITERIA: L/480 LIVE AND L/240 TOTAL FOR ROOF COMPONENTS; L/720 LIVE AND L/360 TOTAL FOR FLOOR COMPONENTS WITH RIGID FLOORING (e.g. TILE); L/480 LIVE AND L/240 TOTAL FOR FLOOR COMPONENTS WITH FLEXIBLE FLOORING (e.g. CARPET)
  - ROOF LIVE AND SNOW LOADS: FLAT-ROOF SNOW LOAD: Pg = 20 psf; FLAT-ROOF DEAD: 0 psf
  - WIND LOADS: BASIC WIND SPEED: 50 MPH; WIND IMPORTANCE FACTOR: II; BUILDING CATEGORY: B; WIND EXPOSURE: B
  - DESIGN STRENGTHS:
 

CONCRETE CLASS	STRENGTH AT 28 DAYS (PSI)	LOCATION
A	3000	INTERIOR SLABS & WALLS
B	3000	FOOTINGS & FOUNDATION WALLS
C	3000	AIR-ENTRAINED EXTERIOR SLABS & WALLS

 CONCRETE REINFORCEMENT: ASTM A63/A63M #4 (Fy = 60 KSI); ASTM A85-01  
 STRUCTURAL STEEL: ASTM A307-02; ANCHOR RODS: ALTERNATIVELY - F554-99 GR 36 MAY BE USED  
 MASONRY: NORMAL WEIGHT; Fm = 1500 PSI

**FOUNDATIONS AND EARTHWORK:**

- WATER SHALL NOT BE PERMITTED TO ACCUMULATE IN FOOTING EXCAVATIONS.
- PROVIDE A MINIMUM OF 6 INCHES OF GRANULAR FILL BELOW ALL INTERIOR SLABS-ON-GRADE.
- PROVIDE GRANULAR BACKFILL FOR BASEMENT WALLS. ALL BACKFILL SHALL BE WELL DRAINED.
- THE FOUNDATION DESIGN IS BASED ON A SOIL BEARING CAPACITY OF 2500 PSF. OTHERS SHALL DETERMINE THE ACTUAL BEARING VALUE OF THE SOIL.
- ALL FOOTING EXCAVATIONS SHALL BE INSPECTED, PRIOR TO CONCRETE PLACEMENT.
- WHERE COMPACTION OF FILL IS SPECIFIED, COMPACTION OF FILL MATERIAL SHALL BE A MINIMUM 98% OF MAXIMUM DRY DENSITY.
- BOTTOM OF EXTERIOR BUILDING FOOTINGS ARE TO BE AT LEAST 4 INCHES BELOW FINAL OUTSIDE GRADE REGARDLESS OF ELEVATION SHOWN ON PLAN.
- ALL CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS AND ALL PIERS AND SPREAD FOOTINGS SHALL BE CENTERED UNDER COLUMNS OR PIERS UNLESS NOTED OTHERWISE.
- NO SLABS OR FOUNDATIONS SHALL BE PLACED INTO OR ADJACENT TO SUBGRADE CONTAINING WATER, ICE, FROST OR ORGANIC MATERIAL.
- WHERE FOUNDATION WALLS ARE TO HAVE SOIL PLACED ON BOTH SIDES, PLACE SOIL SIMULTANEOUSLY SO AS TO MAINTAIN A COMMON ELEVATION ON EACH SIDE OF THE WALL.

**CONCRETE:**

- THE REINFORCING STEEL CONTRACTOR SHALL FABRICATE ALL REINFORCEMENT AND FURNISH ALL ACCESSORIES, CHAIRS, SPACER BARS AND SUPPORTS NECESSARY TO SECURE THE REINFORCEMENT UNLESS SHOWN OTHERWISE ON THE PLANS AND/OR DETAILS.
- REINFORCING STEEL SHALL BE ASTM A63 (GRADE 60).
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A653.
- CONCRETE REINFORCEMENT SHALL BE PLACED ACCORDING TO THE CRSI RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS.
- CONCRETE COVERAGE FOR REINFORCEMENT:
 

FOOTINGS	SLAB ON GRADE WALLS EXPOSED TO EARTH	COLUMN TIES
4"	2"	1"
- COMPRESSION LAP SPLICES FOR GRADE 60 BARS SHALL BE 30 BAR DIAMETER MINIMUM.
- TENSION LAP SPLICES SHALL BE AS DETAILED. USE CLASS "B" SPLICES UNO.
- ALL WELDED WIRE FABRIC LAPS SHALL BE 6" AT ENDS AND SIDES.
- BAR LENGTHS SHALL NOT INCLUDE HOOKS OR BENDS.
- CONCRETE AT THE TIME OF PLACEMENT SHALL HAVE A SLUMP OF 4" ± 1" UNLESS A SUPER-PLASTICIZER AGENT IS USED.
- ALL OPENINGS IN CONCRETE WALLS SHALL HAVE (2) 5" x 4'-0" LONG BARS DIAGONALLY AT EACH CORNER.

**MASONRY:**

- GROUT FOR VERTICALLY REINFORCED MASONRY WALLS AND BOND BEAMS SHALL CONSIST OF 1 PART CEMENT, 2 PARTS FINE AGGREGATE, 2 PARTS FEA GRAVEL (FC + 3000 PSI) AT 28 DAYS GROUT SLUMP 9" TO 10". GROUT SOLID ALL CELLS CONTAINING REINFORCING.
- MASONRY WALLS SHALL HAVE HORIZONTAL REINFORCING CONSISTING OF GALVANIZED STANDARD WEIGHT #3 GAUGE CURVED WALL DIA 3/8 TRUSS TIE OR EQUAL REINFORCING LOCATED AT EVERY OTHER COURSE UNO.
- LAP ALL VERTICAL REINFORCING SPLICES 48 BAR DIAMETERS 24" FOR #4 BARS.
- 3/8" TOP #3 BARS AND 3/4" FOR #4 BARS.
- ANCHOR BEAMS AND LINTELS TO WALL.
- MASONRY WALLS SHALL BE LAID UP AND GROUTED IN 4 FOOT LIFTS (LOW LIFT GROUTING PROCEDURE PER ACI 530). IF CLEARINGS ARE PROVIDED AT EACH GROUTED JOINT, WALLS MAY BE GROUTED IN 8 FOOT LIFTS FOLLOWING THE HIGH-LIFT GROUTING PROCEDURE PER ACI 530.1.
- THE PROCEDURE OF ACI 530.1 FOR COLD WEATHER CONSTRUCTION SHALL BE ADHERED TO WHENEVER THE AIR OUTSIDE TEMPERATURE IS BELOW 40 DEGREES F.

**STRUCTURAL STEEL:**

- YIELD STRESS AND TYPE OF STEEL:
 

FOR L/S FLANGE SHAPES: ASTM A992 WITH YIELD STRESS OF 50,000 PSI
FOR S SHAPES, CHANNELS, ANGLES, BARS, PLATES AND RODS: ASTM A36 WITH YIELD STRESS OF 36,000 PSI
FOR RECTANGULAR AND SQUARE TUBULAR SHAPES: ASTM A500 WITH YIELD STRESS OF 46,000 PSI
- BOLTS USE CARBON OR ALLOY STEEL, ASTM A325 3/4" DIA OR LARGER F FREQ REQ BY CONNECTION DESIGN. ANCHOR BOLTS SHALL BE WEDGE STYLE ANCHOR HIT MIX BOLT 3. NUTS, CARBON STEEL MEETING ASTM A563.
- WASHERS: HARDENED STEEL, WASHERS MEETING ASTM F436. ASTM A307 BOLTS MAY BE USED FOR WOOD TO WOOD CONNECTIONS AND STEEL LINTEL TO WOOD CONNECTIONS.
- ANCHOR RODS: ASTM F554, GRADE 36.

**MISCELLANEOUS:**

- PREFABRICATED JOISTS SHALL BE DESIGNED TO SUPPORT THEIR OWN WEIGHT PLUS THE SUPERIMPOSED DEAD AND LIVE LOADS STATED IN THE GENERAL NOTES AND 2000 MRC.
- JOIST SERIES MANUFACTURER SPACING, BRIDGING, BLOCKING AND DETAILING SHALL BE DESIGNED BY THE FLOOR SYSTEM PROVIDER, SUCH THAT IT MEETS THE DESIGN CRITERIA HEREIN AS A MINIMUM. THE CONTRACTOR SHALL SUBMIT TO THE DESIGNER FOR REVIEW, THE DESIGN LAYOUT AND COMPONENT CALCULATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN PRIOR TO USE IN THE STRUCTURE.
- MN LVL PROPERTIES SHALL BE: E = 29 x 10<sup>6</sup> psi; Fy = 285 psi; Fv = 285 psi.
- MN PSL COLUMN PROPERTIES SHALL BE: E = 18 x 10<sup>6</sup> psi; Fy = 2400 psi; TRUS JOIST PARALLEL OR EQUAL.
- WALLS SHALL BE BRACED ACCORDING TO R602.10 OF THE 2006 MRC.
- TRUSSES SHALL BE BRACED IN ACCORDANCE WITH BOB'S OCTOBER 2006 GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING AND BRACING OF METAL PLATE CONNECTED WOOD TRUSSES.
- ALL POINT LOADS SHALL BE CONTINUOUSLY BLOCKED THROUGHOUT THE STRUCTURE TO THE FOUNDATION OR SUPPORT BEAM.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
- THE STRUCTURAL DESIGN IS BASED ON THE BUILDING IN ITS COMPLETED STATE. CONTRACTORS AND THEIR SUBCONTRACTORS SHALL TAKE WHATEVER PRECAUTIONS MADE NECESSARY TO WITHSTAND ALL HORIZONTAL AND VERTICAL LOADINGS THAT MAY BE ENCOUNTERED DURING THE CONSTRUCTION PRIOR TO COMPLETION OF THE BUILDING.
- DO NOT SCALE DRAWINGS.

- S.D. O** BUILDER TO PROVIDE APPROVED SMOKE DETECTORS AS REQ'D ON ALL FLOORS (INTER-CONNECTED) WITH BATTERY BACK-UP.
- CHD** SINGLE STATION CARBON MONOXIDE DETECTOR TO COMPLY WITH 2014 AND INSTALLED PER MANUF. SPECIFICATIONS.
- NOTE:** ALL STAIRWAYS SHALL BE ILLUMINATED WITH MIN. 1 FOOTCANDLE.



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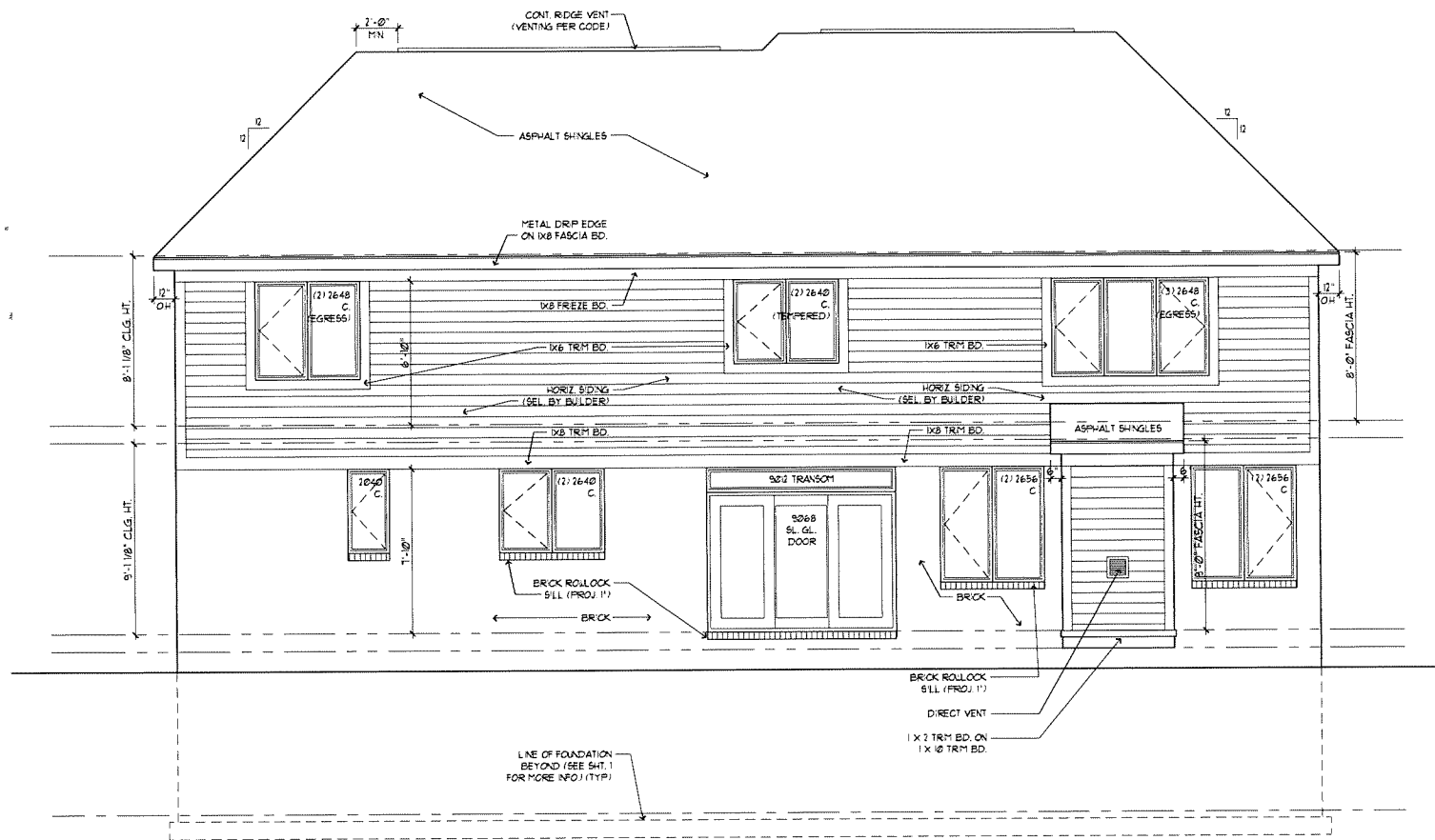
MICHAELANGELO CONSTRUCTION

2600 GARAGE RIGHT  
SADDLEBROOK  
ORCHARD  
ROCHESTER HILLS MI

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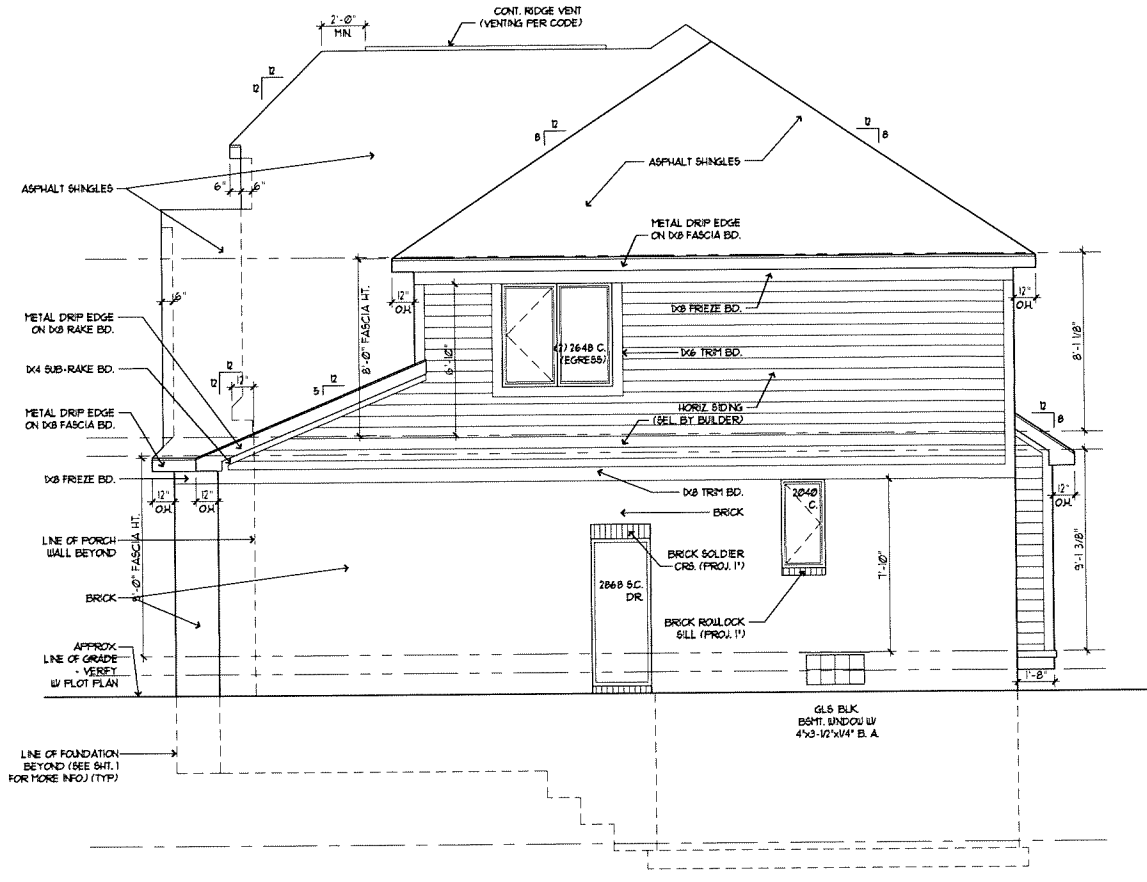
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REAR ELEVATION - "A"

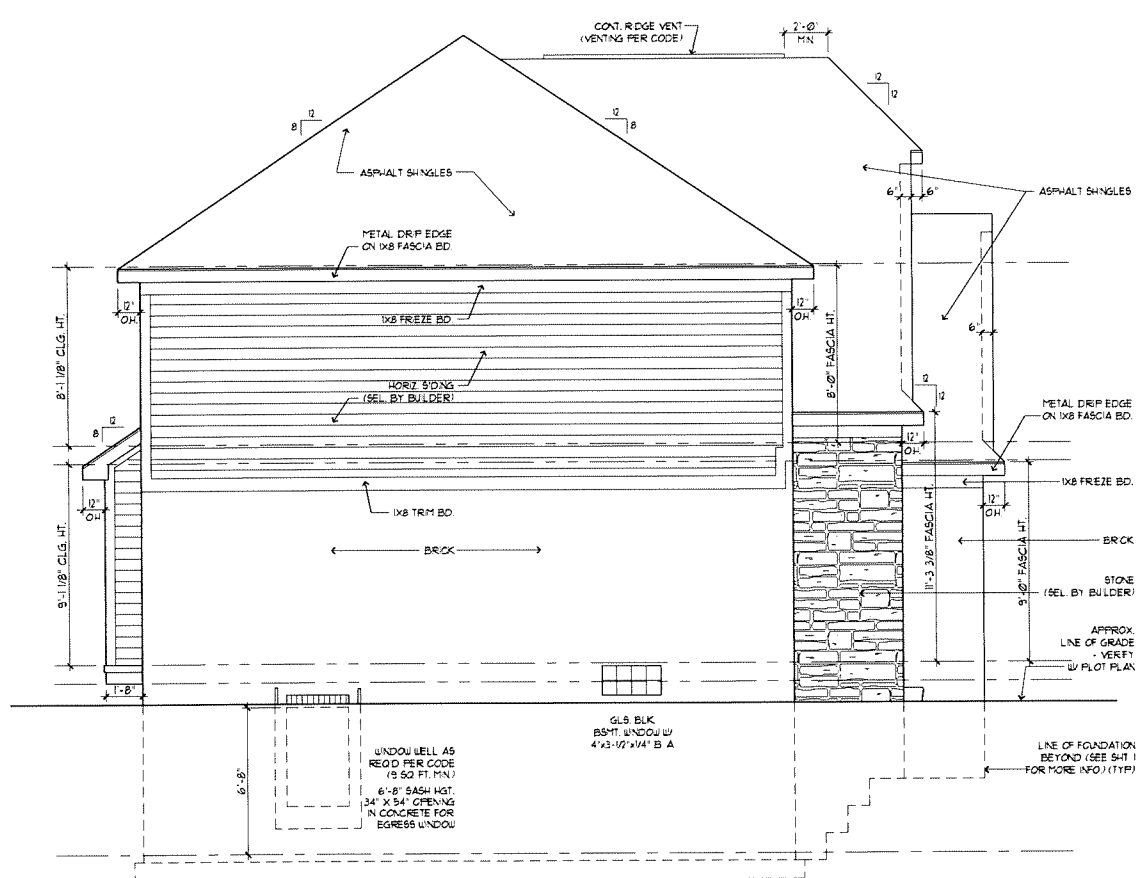
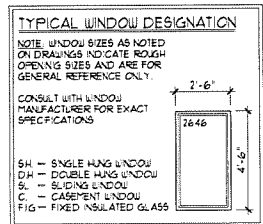
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RIGHT ELEVATION - "A"

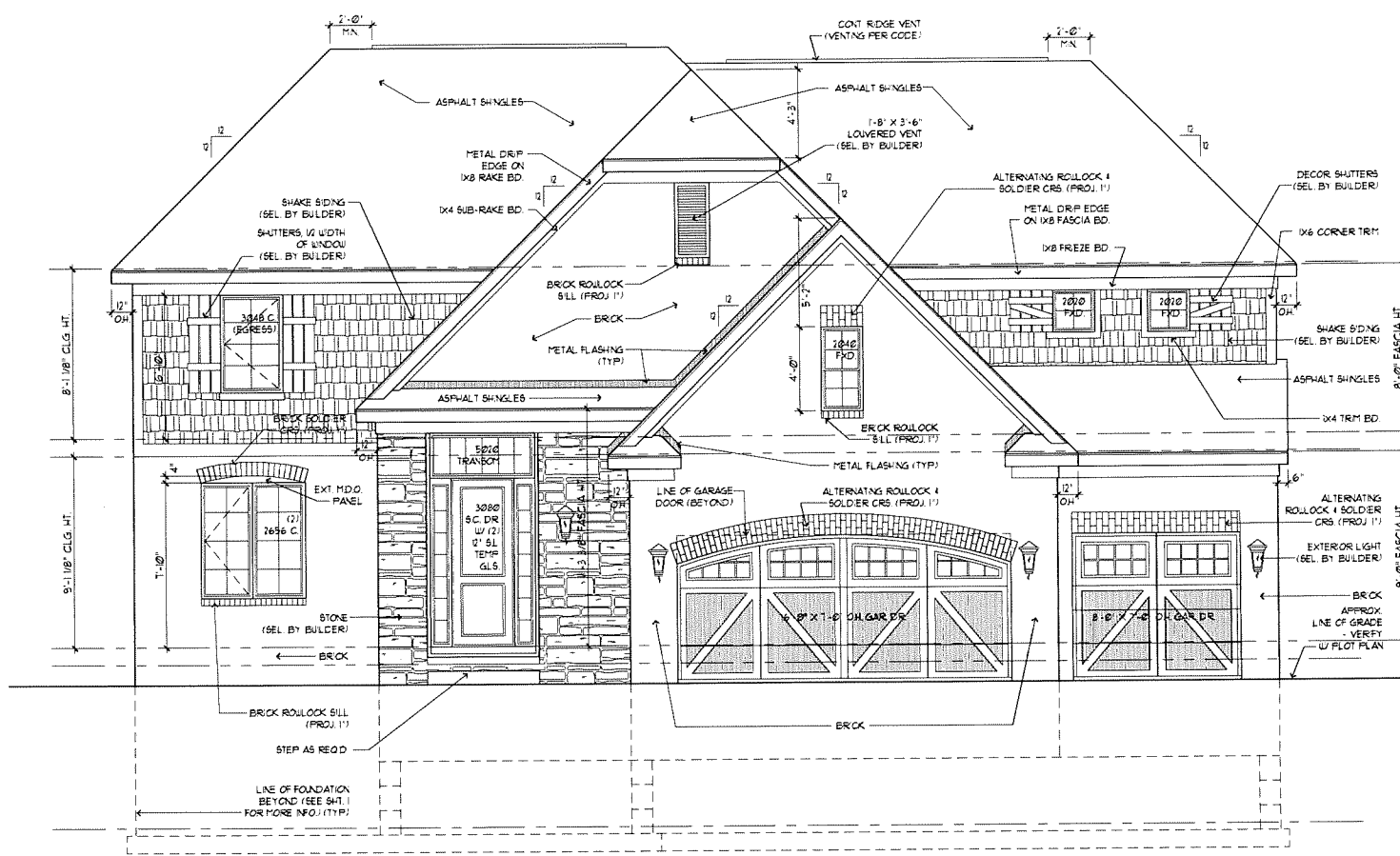
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NOTE: ANY WINDOWS WITH BOTTOM SILL LOWER THAN 1/4" FROM FINISH FLOOR AND EXCEEDING 12" FROM FINAL GRADE MUST BE NON-EGRESS AND/OR OPERABLE.



LEFT ELEVATION - "A"

SCALE: 1/4" = 1'-0"



FRONT ELEVATION - "A"

SCALE: 1/4" = 1'-0"

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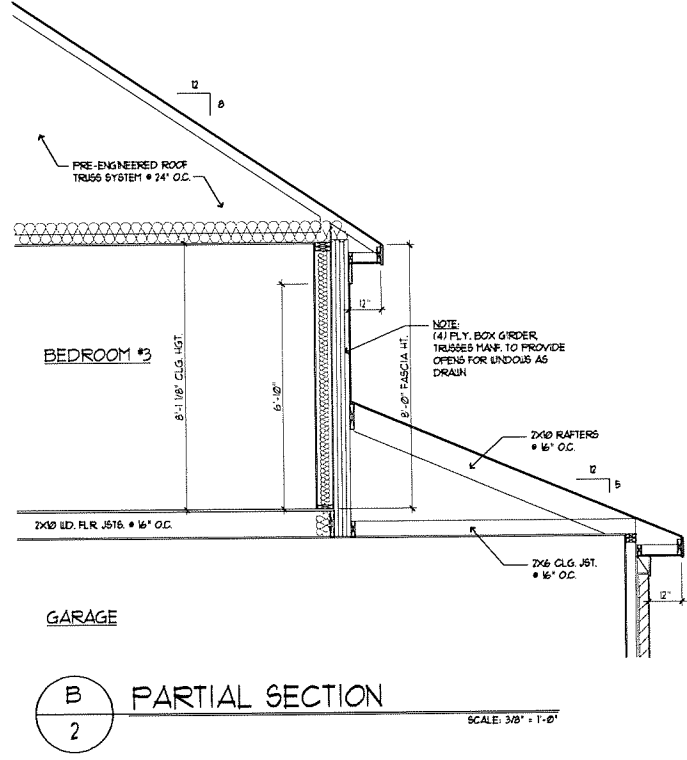
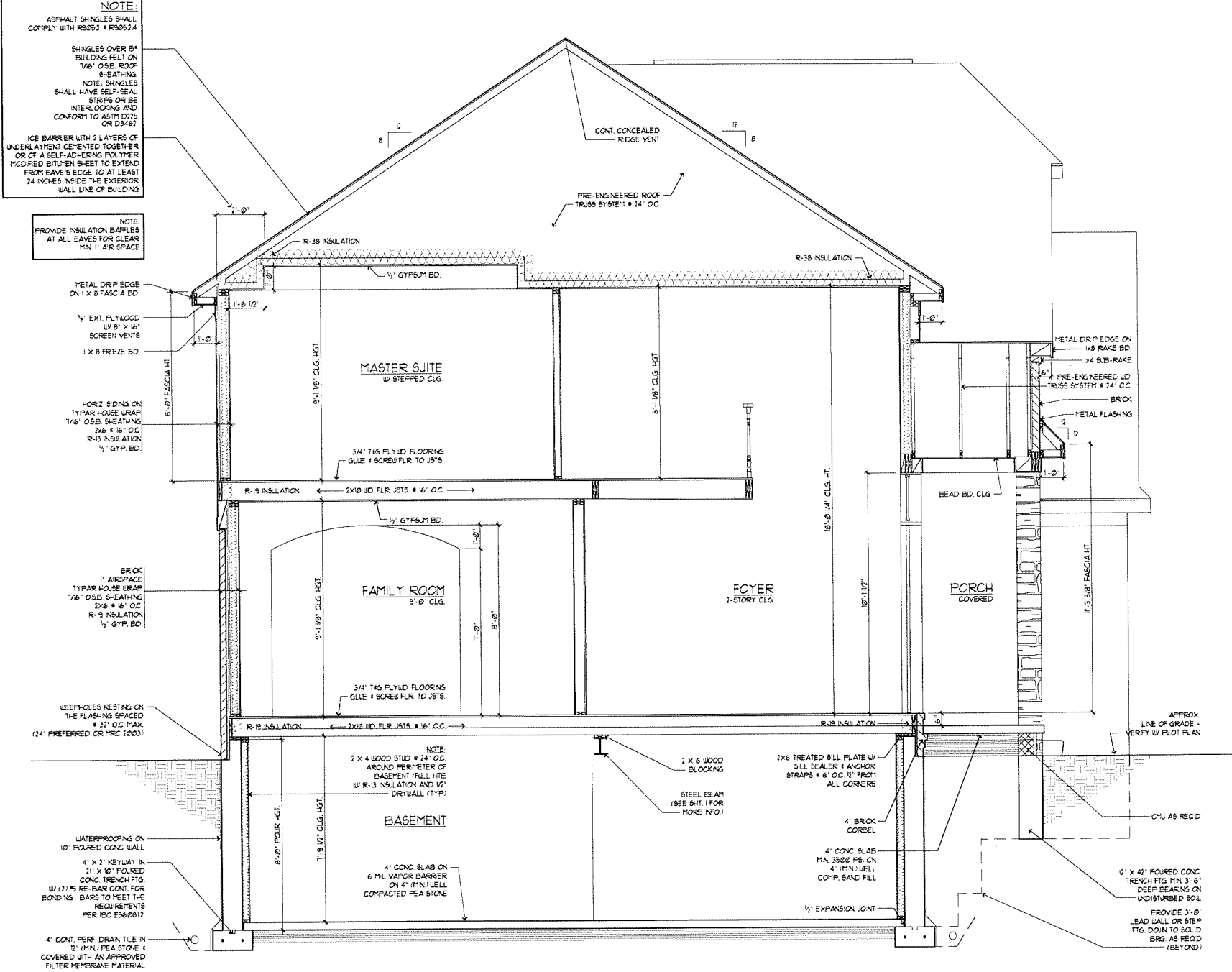
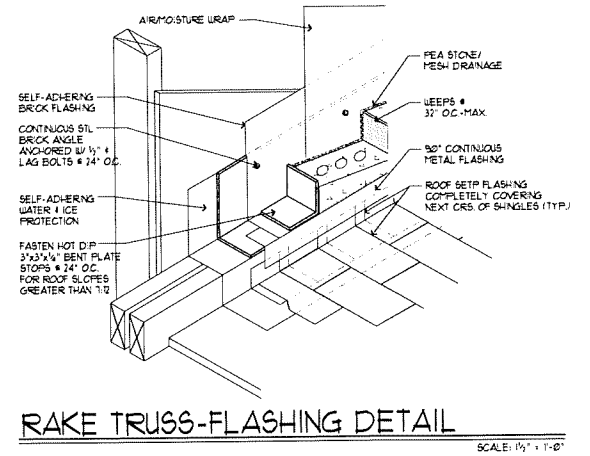
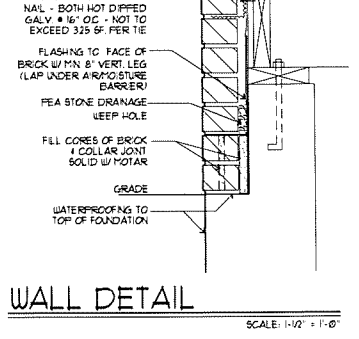
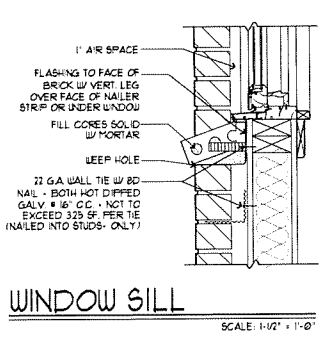
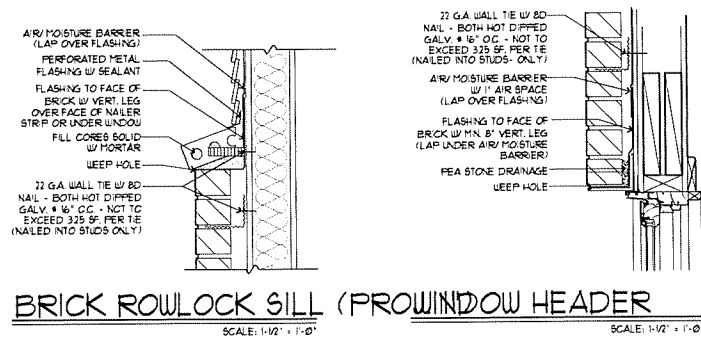
MICHAELANGELO CONSTRUCTION

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 ROCHESTER HILLS MI

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**A BUILDING SECTION**  
SCALE: 3/8" = 1'-0"

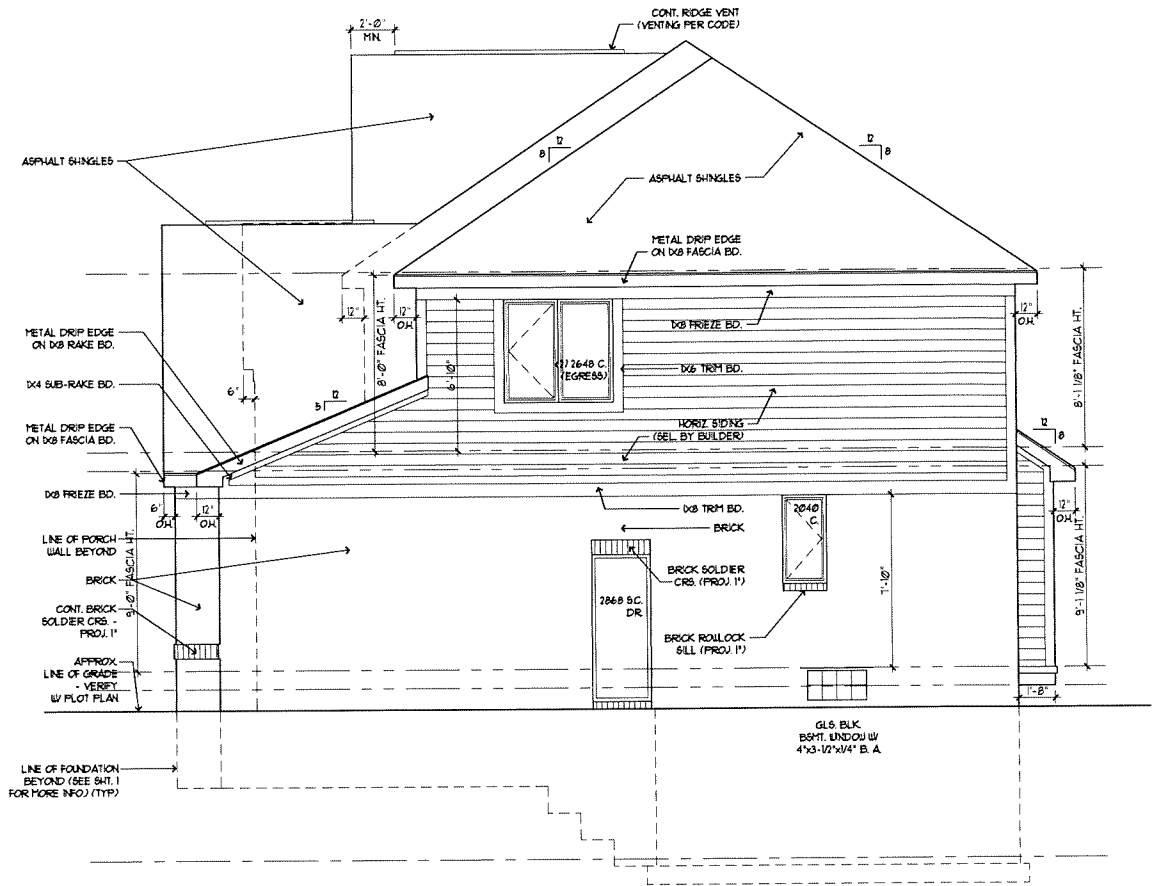
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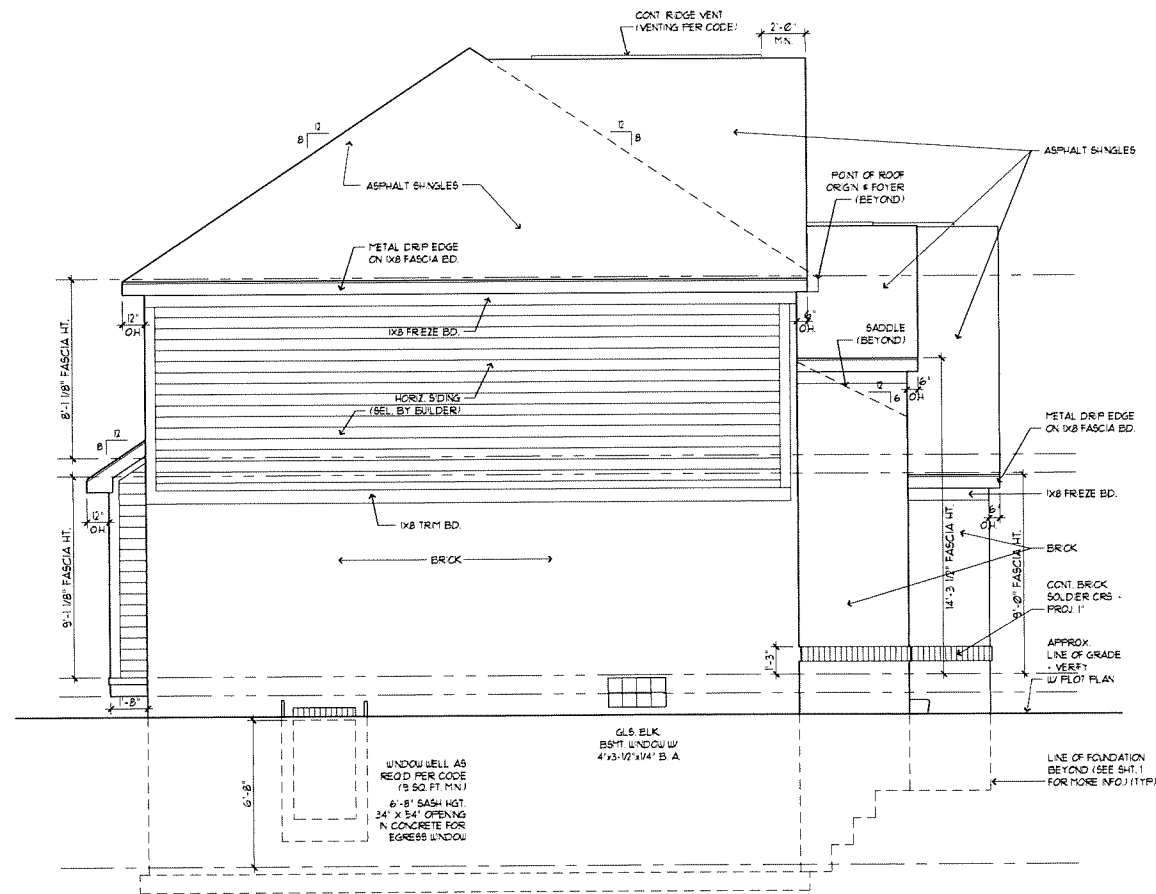
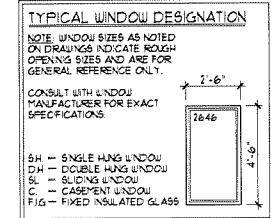




**RIGHT ELEVATION - "B"**

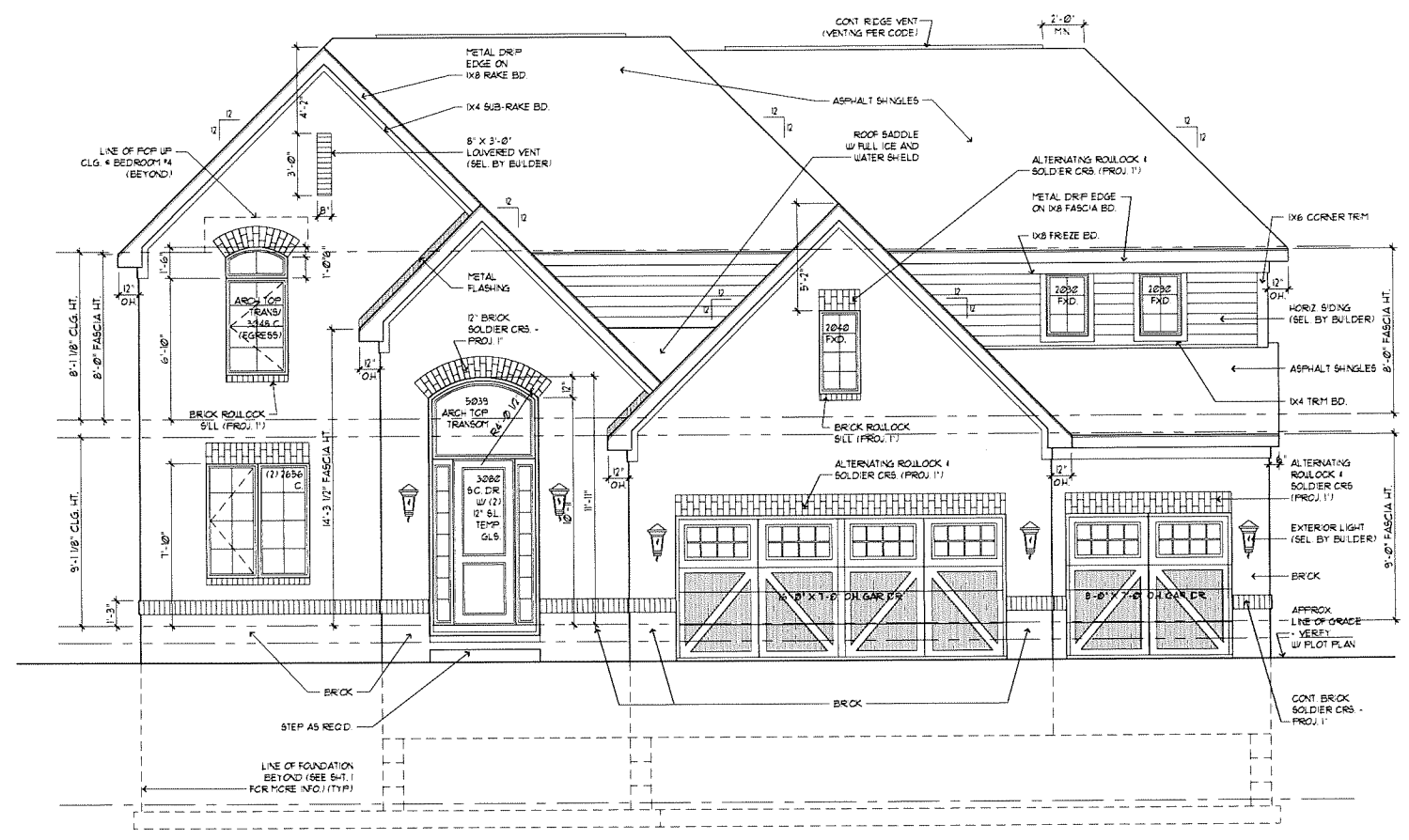
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NOTE: ANY WINDOWS WITH BOTTOM SILL LOWER THAN 1/4" FROM FINISH FLOOR AND EXCEEDING 1/2" FROM FINAL GRADE MUST BE NON-EGRESS AND/OR NON-OPERABLE.



**LEFT ELEVATION - "B"**

SCALE: 1/4" = 1'-0"



**FRONT ELEVATION - "B"**

SCALE: 1/4" = 1'-0"



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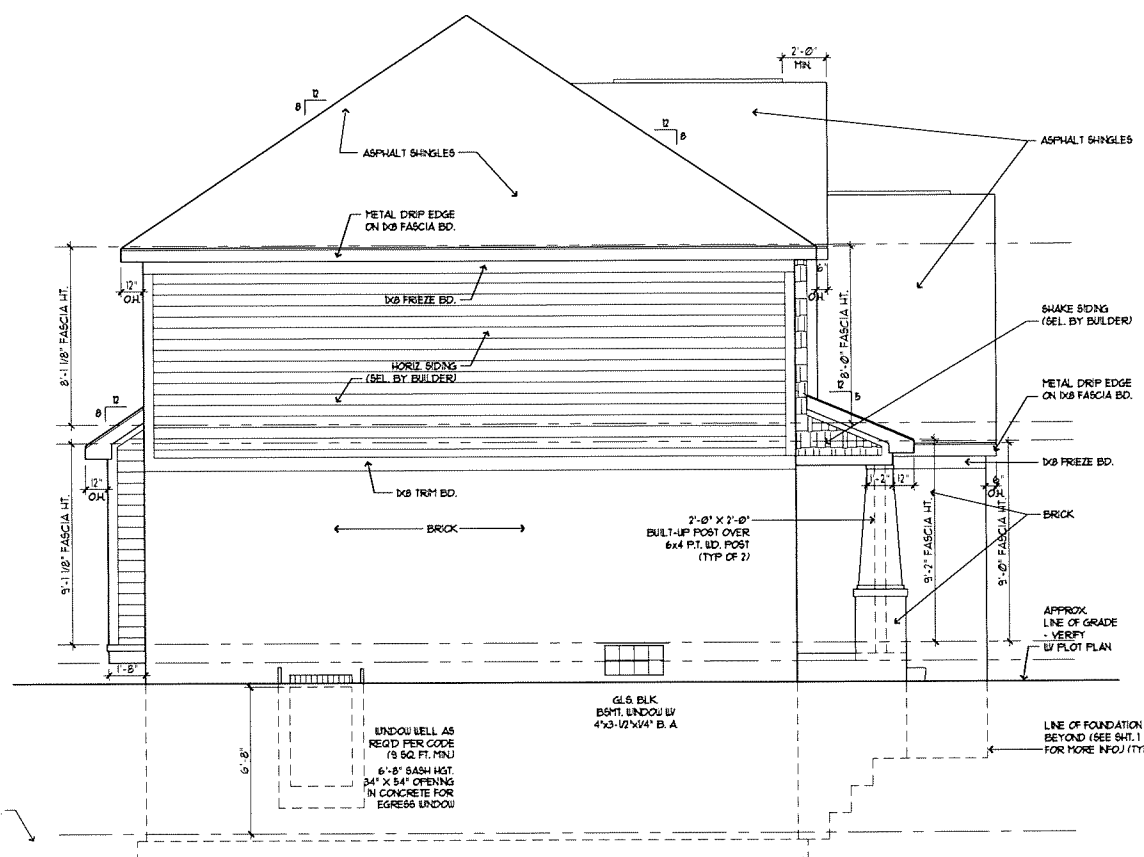
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ORCHARDS  
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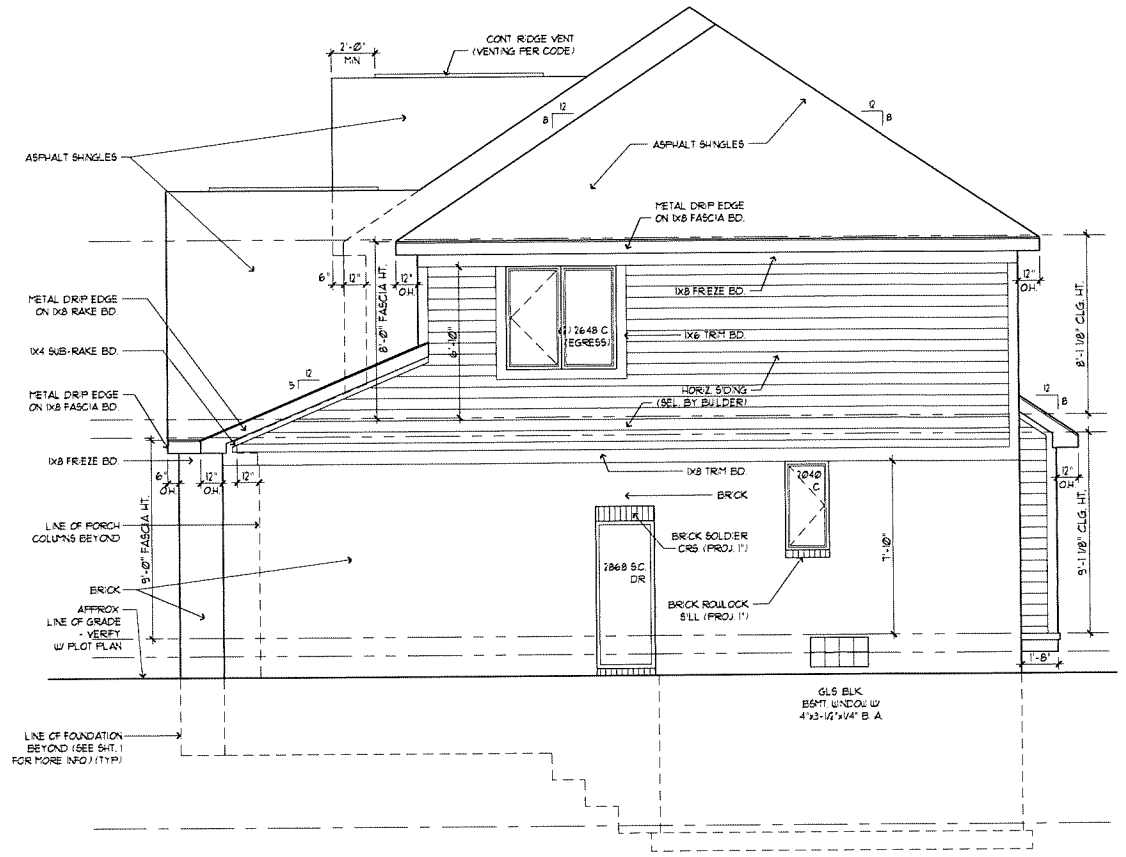
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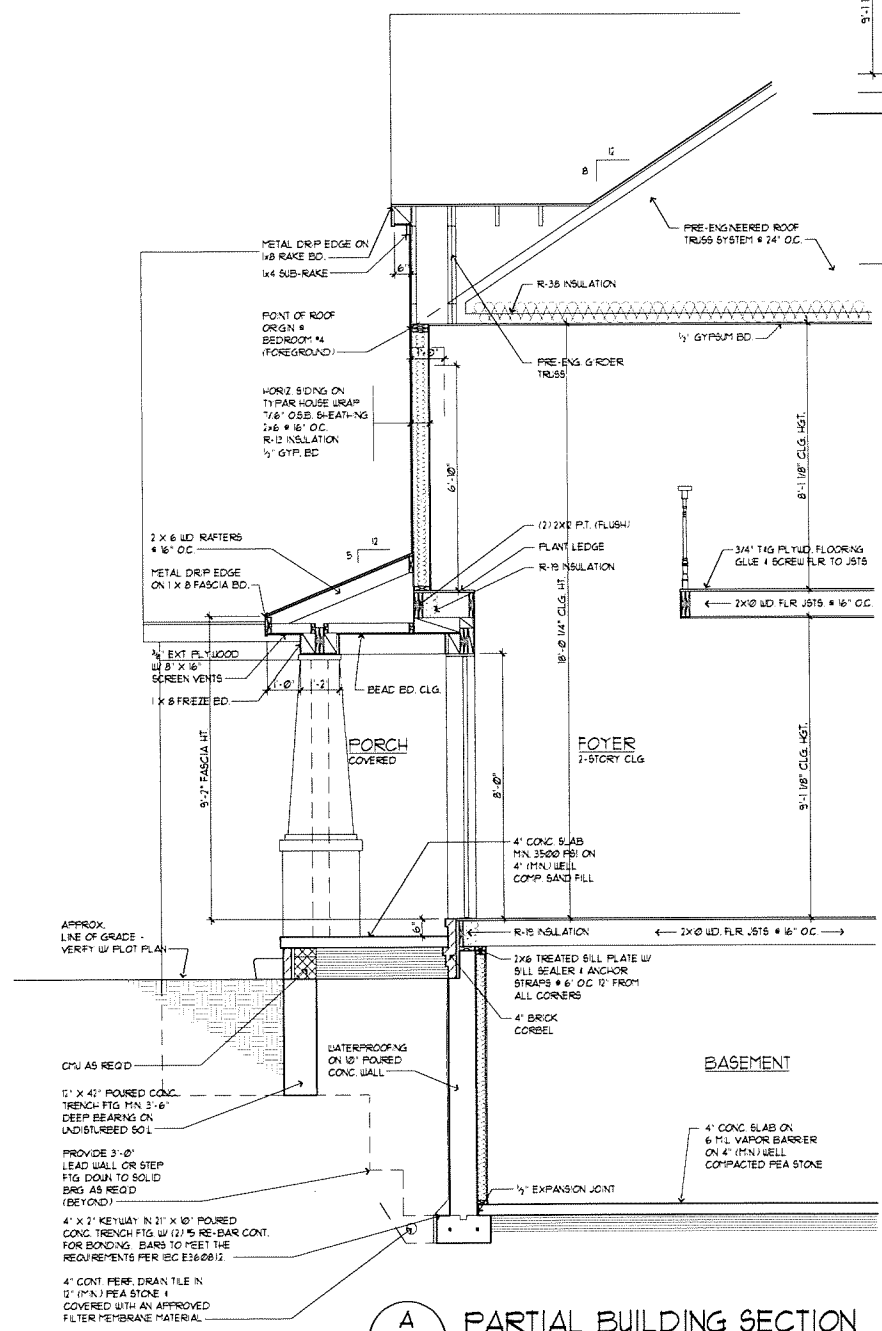
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LEFT ELEVATION - "C"  
SCALE: 1/4" = 1'-0"



RIGHT ELEVATION - "C"  
SCALE: 1/4" = 1'-0"

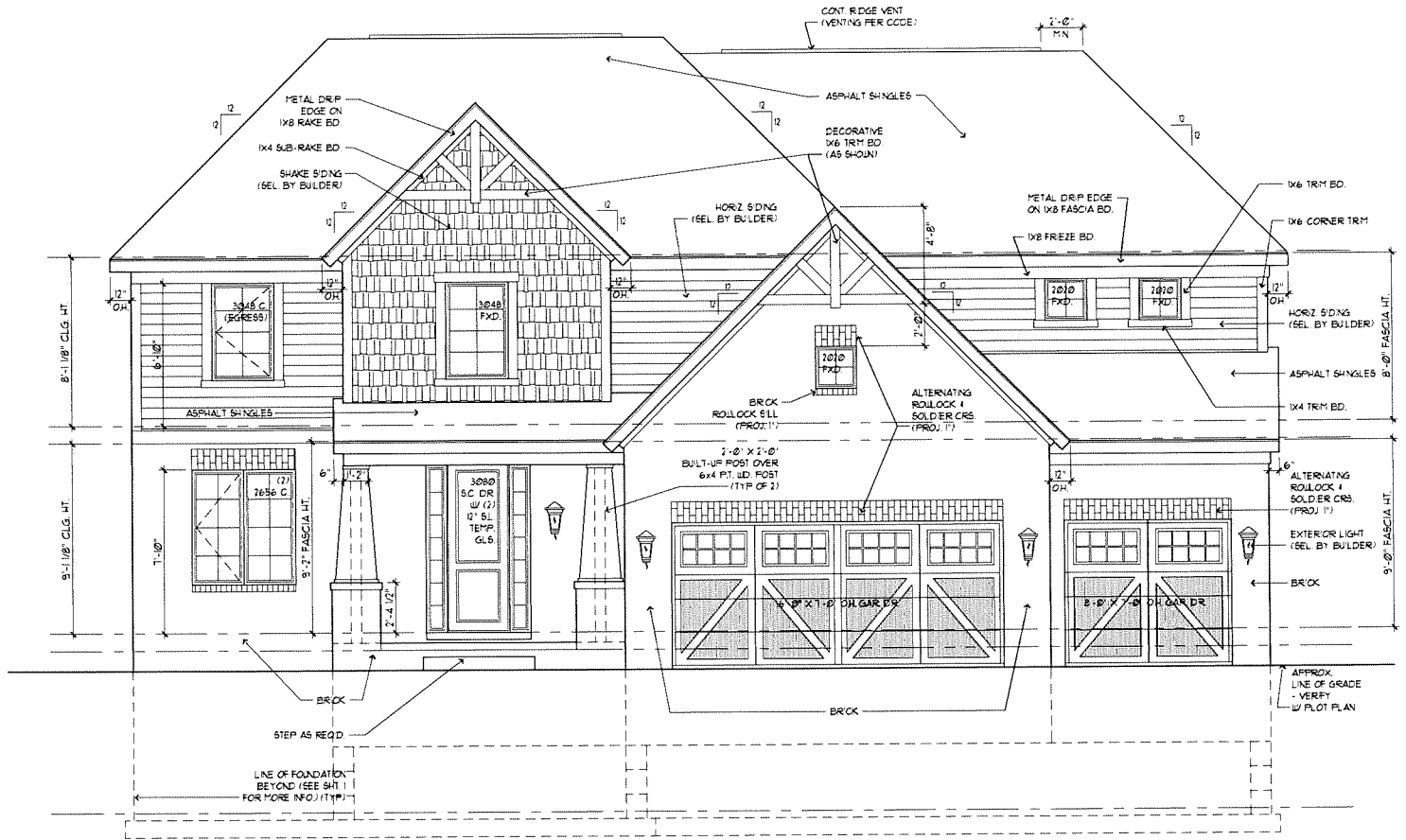


A PARTIAL BUILDING SECTION  
SCALE: 3/8" = 1'-0"

NOTE: ANY WINDOWS WITH BOTTOM SILL LOWER THAN 24" FROM FINISH FLOOR AND EXCEEDING 12" FROM FINISH GRADE MUST BE NON-EGRESS AND/OR NON-OPERABLE.

**TYPICAL WINDOW DESIGNATION**  
NOTE: WINDOW SIZES AS NOTED ON DRAWINGS INDICATE ROUGH OPENING SIZES AND ARE FOR GENERAL REFERENCE ONLY.  
CONSULT WITH WINDOW MANUFACTURER FOR EXACT SPECIFICATIONS.

SH - SINGLE HUNG WINDOW  
DH - DOUBLE HUNG WINDOW  
SL - SLIDING WINDOW  
C - CASSEMENT WINDOW  
FIG - FIXED INSULATED GLASS



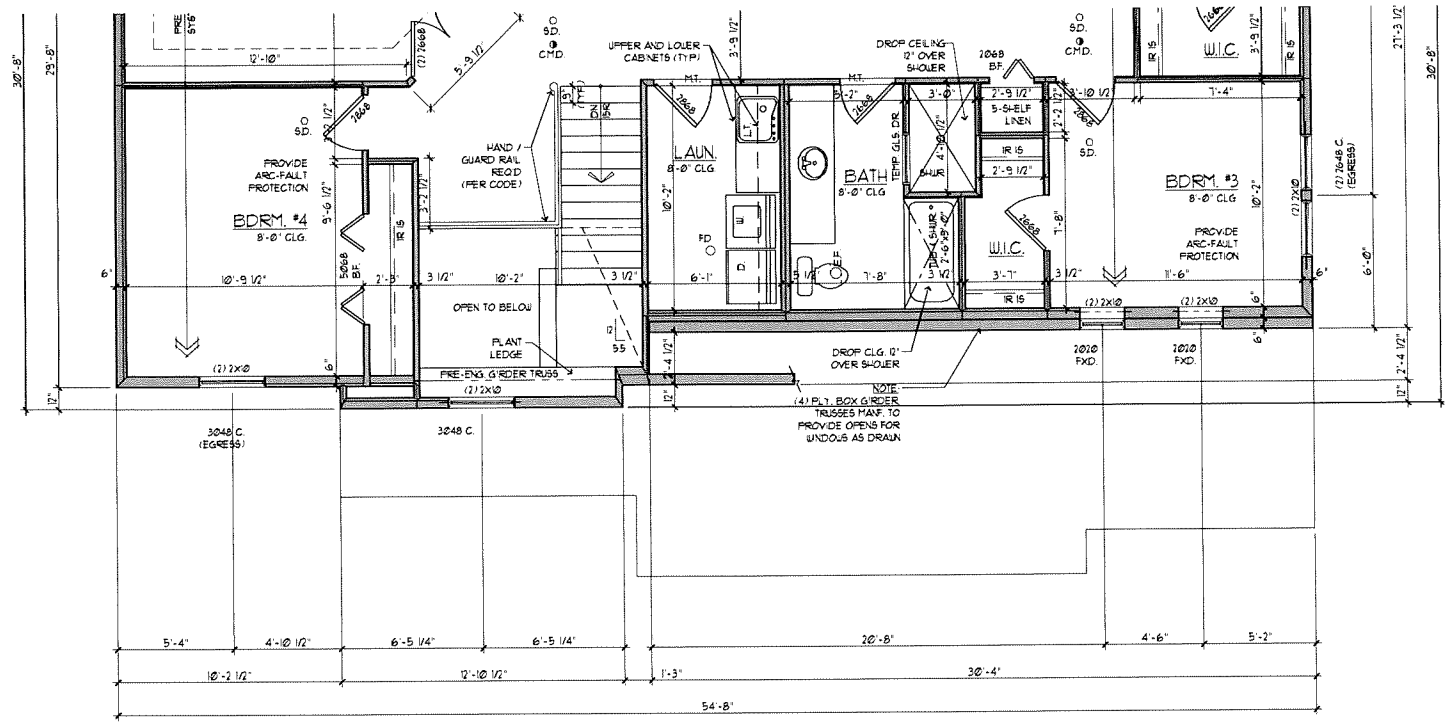
FRONT ELEVATION - "C"  
SCALE: 1/4" = 1'-0"

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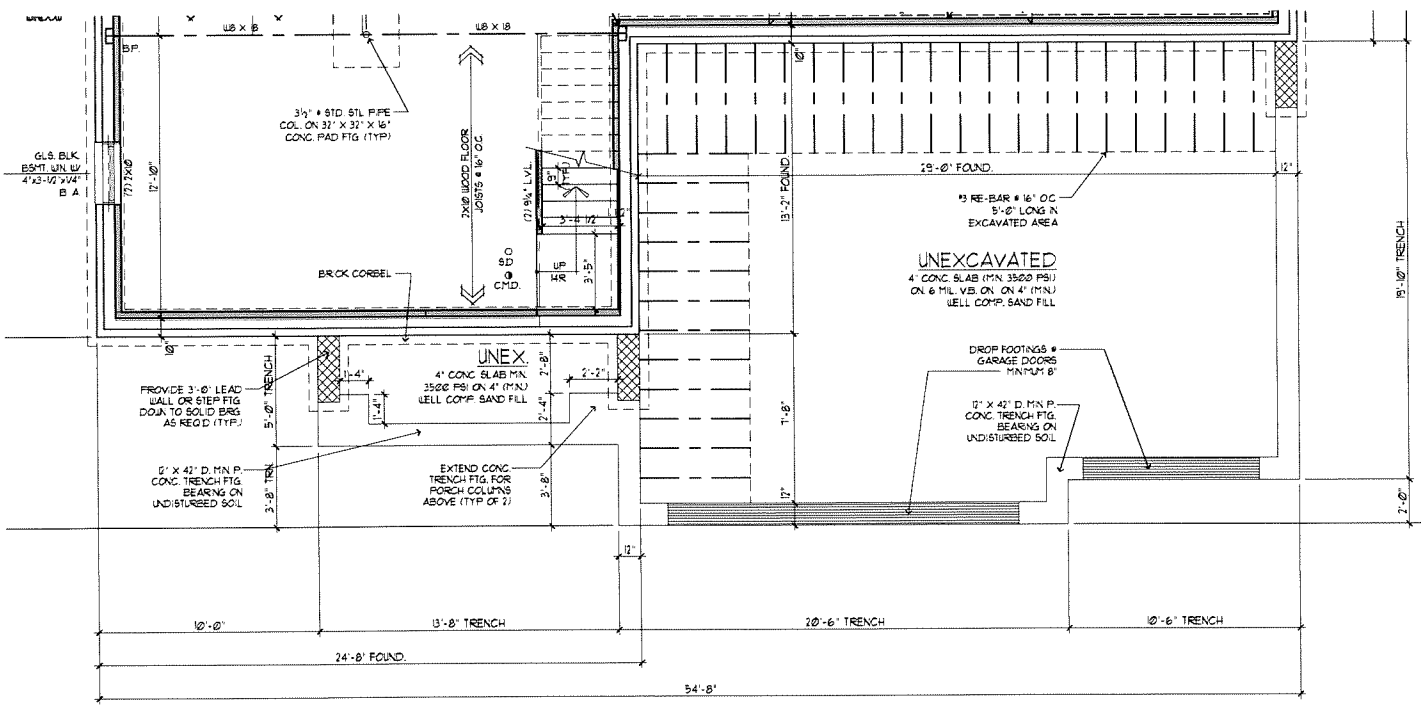
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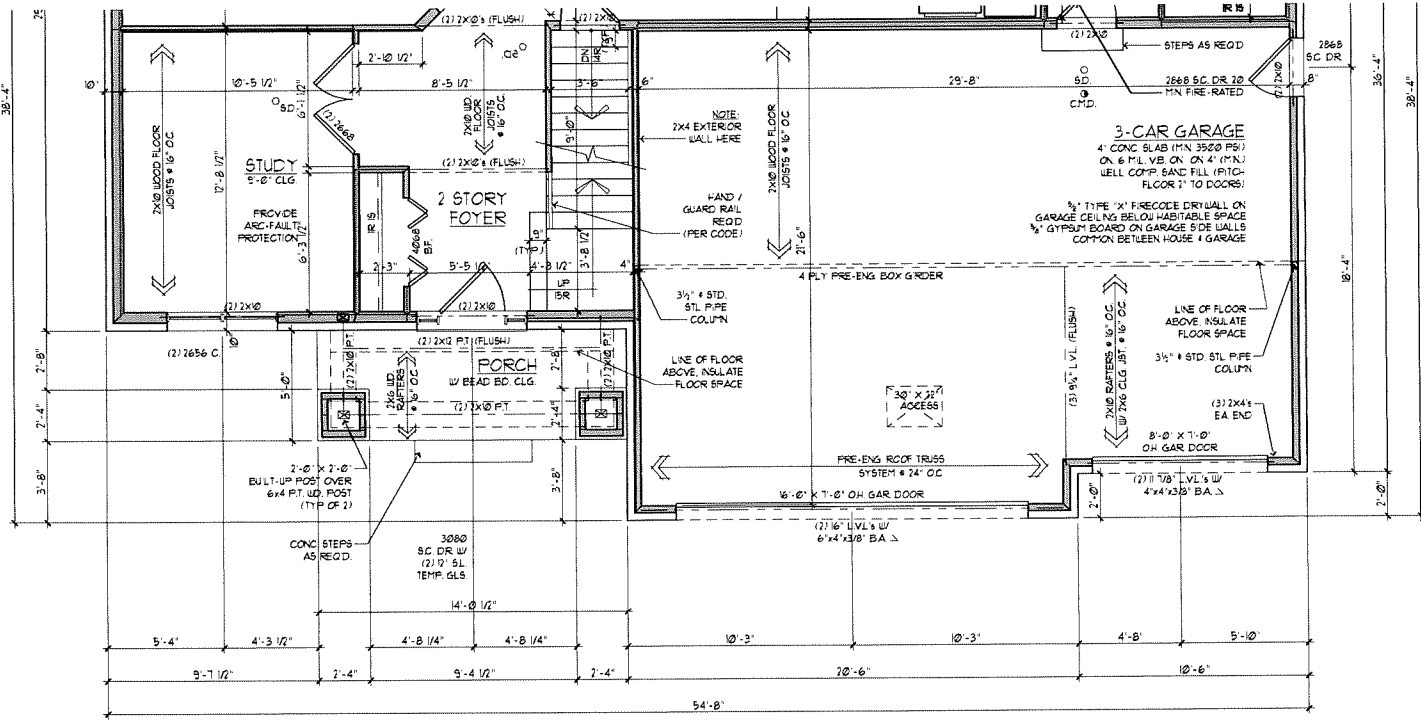


- SD BUILDER TO PROVIDE APPROVED SMOKE DETECTORS AS REQ'D ON ALL FLOORS (WIRING CONNECTED) WITH BATTERY BACK-UP
- CMD SINGLE STATION CARBON MONOXIDE DETECTOR TO COMPLY W/ UL 1834 AND INSTALLED PER MANUF. SPECIFICATIONS
- NOTE: ALL STAIRWAYS SHALL BE ILLUMINATED WITH M.N. (1) FOOTCANDLE

PARTIAL SECOND FLOOR PLAN - "C"  
 1441 SQ FT SCALE: 1/4" = 1'-0"



PARTIAL FOUNDATION PLAN - "C"  
 SCALE: 1/4" = 1'-0"



PARTIAL FIRST FLOOR PLAN - "C"  
 FIRST FLOOR: 1212 SQ FT  
 SECOND FLOOR: 1441 SQ FT  
 TOTAL: 2653 SQ FT  
 SCALE: 1/4" = 1'-0"



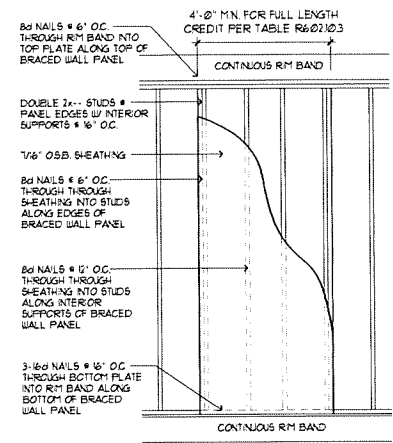
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NOTES:  
 1/2" GYPSUM BOARD TO BE USED ON INSIDE FACE OF WOOD STRUCTURAL PANEL AND FASTENED IN ACCORDANCE W/ TABLE R607.3.3  
 ALL HORIZONTAL PANEL JOINTS TO BE FASTENED TO 2x4 COMMON BLOCKING

SINGLE PORTAL (DOUBLE PANEL) METHOD PFH - PORTAL FRAME W/ HOLD-DOWNS @ GARAGE DETAIL

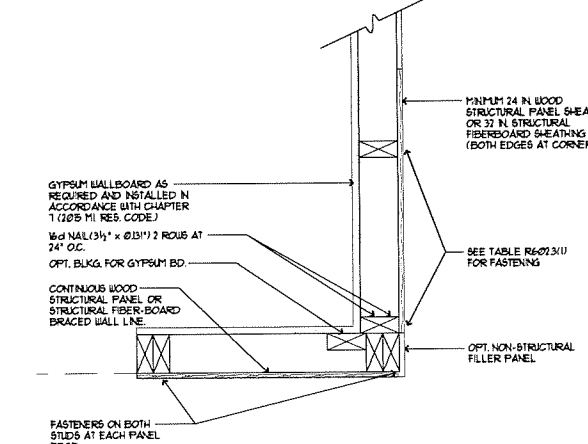
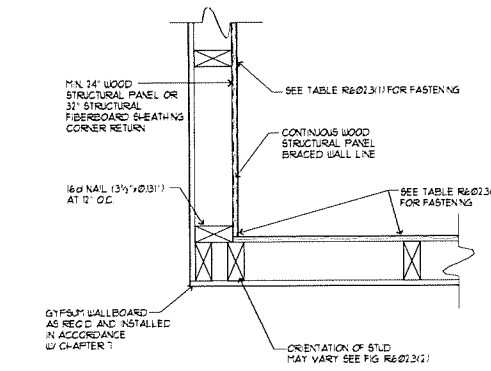
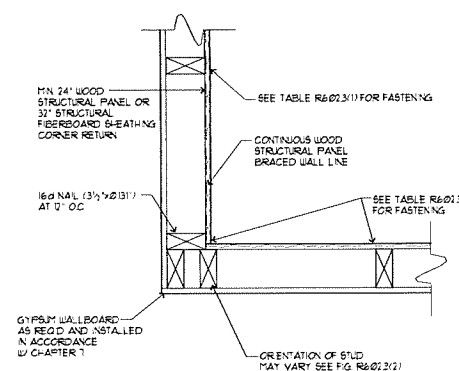
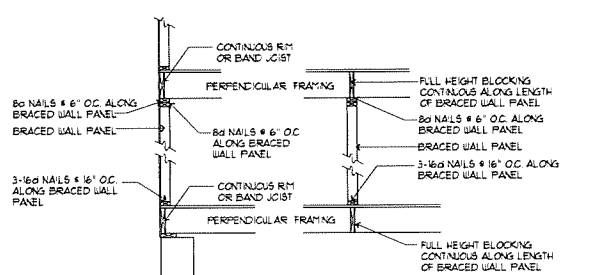
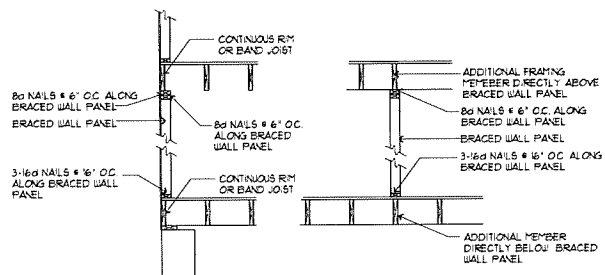
SCALE: 1/4" = 1'-0"

SINGLE PORTAL (DOUBLE PANEL) METHOD PFH PORTAL FRAME W/ HOLD-DOWNS

SCALE: 1/4" = 1'-0"

SINGLE PORTAL (SINGLE PANEL) METHOD CS-PF FRAMING ANCHOR OPTION

SCALE: 1/4" = 1'-0"



BRACED WALL DESIGN

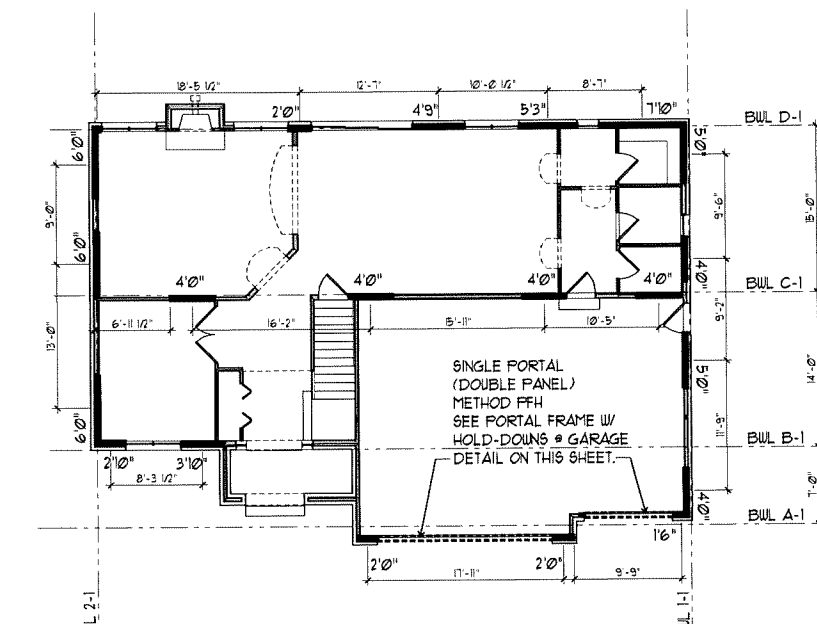
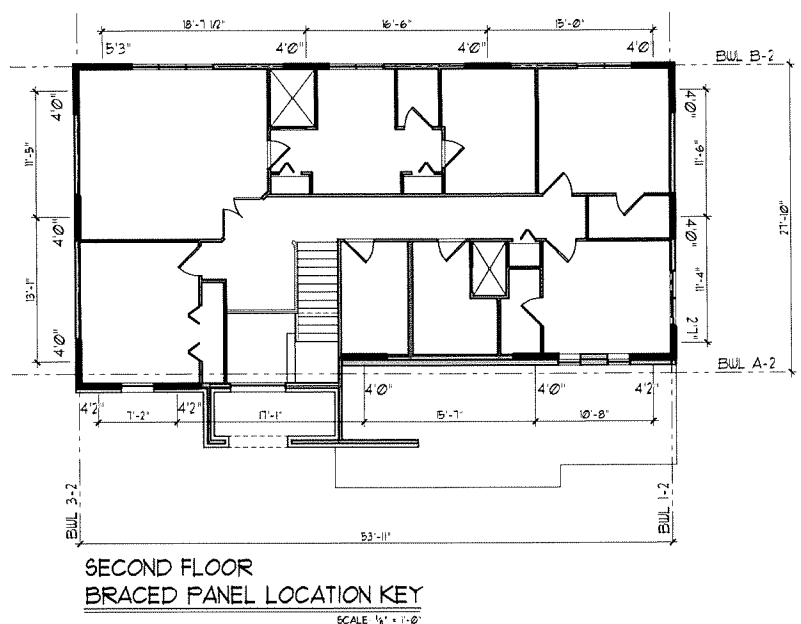
BRACED WALL LINE	FLOORS ABOVE BULL	EAVE-TO-RIDGE HEIGHT (ft.)	BULL SPACING (ft.)	WALL HEIGHT (ft.)	BRACING METHOD	EAVE-TO-RIDGE HEIGHT FACTOR	WIND WALL HEIGHT FACTOR	NUMBER OF BULL FACTOR	HOLD-DOWN DEVICE FACTOR	WIND BRACING AMOUNTS		
										MIN. REQ'D PER TABLE R607.3.2(1) (ft.)	COMBINED ADJUSTMENT FACTORS	ADJUSTED MIN. REQ'D AMOUNT
BULL 1-1	1	10.0	5.0	9.0	USP	-	55	-	-	8.7	55	17.8
BULL 2-1	1	10.0	5.0	9.0	USP	1.03	55	-	-	9.1	55	17.8
BULL A-1	0	6.0	7.0	7.0	USP	1.06	11	1.45	-	14	16.9	4.0
BULL B-1	1	10.0	4.0	9.0	CS	1.03	55	1.45	-	4.7	142	6.67
BULL C-1	1	10.0	5.0	9.0	USP	1.03	55	1.45	-	10.0	142	14.9
BULL D-1	1	6.0	5.0	9.0	CS	1.03	55	1.45	-	5.0	142	7.02
BULL 1-2	0	11.0	7.83	8.0	CS	-	50	-	-	8.08	50	7.28
BULL 2-2	0	11.0	8.0	8.0	USP	1.06	50	-	-	9.59	55	9.5
BULL A-2	0	7.0	7.83	8.0	CS	1.06	50	-	-	4.67	55	4.46
BULL B-2	0	7.0	7.83	8.0	USP	1.06	50	-	-	5.71	55	4.94

NOTES:  
 1. WALL BRACING CALCULATIONS WERE COMPLETED USING THE "WALL BRACING LENGTH CALCULATOR" APPLICATION ON S-M-PHON STRONG THE WEBSITE: WWW.STRONGTIE.COM  
 2. DESIGN FACTORS:  
 SEISMIC DESIGN CATEGORY: A  
 BASIC WIND SPEED: 90mph  
 WIND EXPOSURE CATEGORY: B  
 4. ALL EXTERIOR WALLS TO BE STRUCTURALLY SHEATHED  
 5. SPACE PANELS PER CODE ACROSS LENGTH OF BULLS

BRACED WALL PANEL SCHEDULE

BRACED WALL LINE	BEGINNING BUP		INTERMEDIATE BUP		INTERMEDIATE BUP		ENDING BUP		PROVIDED AMOUNT	ADJUSTED MIN. REQ'D AMOUNT
	BRACING METHOD	EFFECTIVE LENGTH	BRACING METHOD	EFFECTIVE LENGTH	BRACING METHOD	EFFECTIVE LENGTH	BRACING METHOD	EFFECTIVE LENGTH		
BULL 1-1	USP	4.8	USP	5.0	USP	4.0	USP	9.0	10.0	17.8
BULL 2-1	USP	6.0	USP	6.0	-	-	USP	6.0	10.0	17.8
BULL A-1	USP	4.8	USP	4.0	-	-	USP	4.0	10.0	4.0
BULL B-1	CS	3.83	-	-	-	-	CS	2.83	6.67	6.67
BULL C-1	GB	4.0	GB	4.0	GB	4.0	GB	4.0	16.0	14.9
BULL D-1	CS	7.83	CS	5.25	CS	4.75	CS	7.0	19.83	10.9
BULL 1-2	CS	7.58	CS	4.0	-	-	CS	4.0	10.58	7.28
BULL 2-2	USP	4.0	USP	4.0	-	-	USP	4.0	10.0	9.5
BULL A-2	CS	4.6	CS	4.0	CS	4.0	CS	4.6 (X2)	20.48	4.46
BULL B-2	USP	4.0	USP	4.0	USP	4.0	USP	5.25	17.25	4.94

NOTES:  
 1. SEE PANEL LOCATION KEY FOR PANEL SPACING  
 2. WHEN REFERRING TO THE BRACED WALL LOCATION KEY FOR CORRESPONDING PANELS, THE LETTER FOR EACH BRACED WALL LINE (E.G. BULL 1-1) DENOTES THE BEGINNING SIDE OF EACH BRACED WALL LINE  
 3. WHEN DETERMINING EFFECTIVE BRACING LENGTHS FOR PFH METHOD, APPLY A FACTOR OF (15) TO THE ACTUAL PANEL LENGTHS PER R607.3.3.4  
 4. WHEN DETERMINING EFFECTIVE BRACING LENGTHS FOR PFH METHOD, MIN. PANEL WIDTH AND GREATER IS EQUIVALENT TO 4'-0" OF QUALIFIED BRACED WALL LENGTH  
 5. (X2) INDICATES A NUMBER OF BRACED WALL PANELS OF EQUAL EFFECTIVE LENGTH, POSITIONED NEXT TO EACH OTHER. INDICATED EFFECTIVE LENGTH TO BE MULTIPLIED BY THAT FACTOR



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**MICHAELANGELO CONSTRUCTION**

2800 GARAGE RIGHT SADDLEBROOK ORCHARDS ROCHESTER HILLS MI

Review Set: -  
 Permit Set: -  
 Final Set: 10.07.16  
 Revisions: -  
 Drawn By: SHVCP/NSF  
 Checked By: P.S.

Job No: **16-335**

Sheet No: **8 OF 8**

