SITE PLANS FOR

WALTON OAKS

CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

GENERAL NOTES:

1. ALL CONSTRUCTION TO CONFORM AND COMPLY TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND OTHER GOVERNMENT AGENCIES.
2. NO LOADING/UNLOADING REQUIRED FOR THIS TYPE OF DEVELOPMENT.
3. WASTE WATER DISPOSAL TO BE EXTENDED TO THE SITE AND DISCHARGED TO THE CITY ROCHESTER HILLS WASTEWATER WHICH MUST GET CITY OF ROCHESTER HILLS, OAKLAND COUNTY WATER RESOURCE COMMISSION, GREAT LAKES WATER AUTHORITY AND MICHIGAN EGLE APPROVAL.
4. WATER SUPPLY TO BE CONNECTED TO THE CITY OF ROCHESTER PUBLIC WATER SUPPLY.
5. TRASH DISPOSAL TO BE RESIDENTIAL COLLECTION.
6. A SOIL EROSION AND SEDIMENTATION PERMIT FROM OAKLAND COUNTY DRAIN COMMISSION TO BE REQUIRED.
7. NO STREET LIGHTING PROPOSED. CARRIAGE LIGHTING ON EACH BUILDING ONLY.
8. SIGN DETAILS ARE TO BE PROVIDED TO THE CITY AND APPROVAL GRANTED PRIOR TO THE PLACEMENT OF ANY SIGNS. SEE LANDSCAPE PLANS FOR SIGN DETAILS.
9. CLEAN STONE ENTRANCE DRIVES TO BE CONSTRUCTED AS FIRST PART OF CONSTRUCTION PROVIDE ACESS FOR FIRE DEPARTMENT AND CONSTRUCTION TRAFFIC DURING CONSTRUCTION.
10. ALL SANITARY AND WATERMAIN WILL BE DEDICATED TO THE CITY OF ROCHESTER HILLS WITHIN A 20' EASEMENT.
11. STORM SEWER DETENTION TO BE PROVIDED ON SITE WITH DETENTION PONDS DISCHARGING TO THE WALTON ROAD DITCHLINE REQUIRING A STORM WATER DISCHARGE PERMIT GRANTED BY OAKLAND COUNTY ROAD COMMISSION.
12. ALL REQUIREMENTS BY THE FIRE DEPARTMENT PER THE INTERNATIONAL FIRE CODE WILL BE MET.
13. BUILDINGS ARE NOT TO EXCEED 35' IN HEIGHT AND/OR 2 1/2 STORIES.
14. ALL PROPOSED ROADS ARE TO BE PRIVATE, OWNED AND MAINTAINED BY THE CONDO ASSOCIATION. MASTER DEED MUST PROVIDE MAINTENANCE RESPONSIBILITIES AND A ROAD MAINTENANCE MUST BE PROVIDED AND EXCEPTED BY CITY OF ROCHESTER HILLS ENGINEERING DEPARTMENT.
14. PLOT PLANS WILL BE REQUIRED FOR EACH LOT AND MUST MEET THE 2015 MRC.

LEGAL DESCRIPTION AS SURVEYED (TAX ID #15-07-376-038):

A PART OF THE SOUTHWEST 1/4 OF SECTION 7, T.3N., R.11E, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 7 ; THENCE S88°36'01"W, 66.01 FT. ALONG THE SOUTH LINE OF SAID SECTION 7 AND THE CENTERLINE OF WALTON BOULEVARD TO THE POINT OF BEGINNING: THENCE CONTINUING S88°36'01"W 100.16 FT; THENCE N00°25'40"W, 428.00 FT; THENCE S88°36'01"W, 150.00 FT TO A POINT ON THE EASTERLY LINE OF "BROOKEDALE WEST" AS RECORDED IN L.164 OF PLATS, PAGES 30-32, OAKLAND COUNTY RECORDS; THENCE N00°26'34"W 1023.60 FT (PREVIOUSLY RECORDED AS N00°26'58"W, 1023.53 FT) ALONG SAID LINE; THENCE N88°36'25"E, 250.02 FT. (PREVIOUSLY RECORDED AS N88°36'01"E, 250.00 FT) ALONG A SOUTHERLY PORTION OF SAID "BROOKDALE WEST"; THENCE S00°26'37"E, 1451.57 FT (PREVIOUSLY RECORDED AS S00°26'58"E, 1451.53 FT) TO THE POINT OF BEGINNING. CONTAINING 6.857 ACRES.

SHEET INDEX

BENCHMARKS

1. ARROW ON HYDRANT ELEV. 952.45 (NAVD88) AT SE CORNER OF BELLARMINE DR AND DONEGAL DR.
2. S RIM CATCH BASIN ELEV. 962.49 (NAVD88) NEAR NE SIDE OF SUBJECT PROPERTY IN LOT 39 OF BROOKDALE WEST
3. E ST CB RIM ELEV. 939.86 (NAVD88) ALONG WEST PROPERTY LINE OF SUBJECT PROPERTY @ SE CORNER LOT 29 OF BROOKDALE WEST

SITE INFORMATION:

EXISTING PROPERTY ZONING: R-2
PROPOSED PROPERTY USE: R-2 SINGLE FAMILY
PROPERTY TAX I.D.: #15-07-376-038
SITE AREA DATA:
GROSS SITE AREA = 6.857 ACRES

R-2 SETBACKS:

	REQUIRED	AVERAGE PROVIDED
FRONT	40'	40'
SIDE	15'/15'	15'/15'
BACK	35'	35'
LOT WIDTH	100'	100.45'
LOT SIZE	15,000 SF	15,120 SF

LOT TABLE:

ACCORDING TO LOT SIZE VARIATION SECTION 138-5.200

LOT #	AREA	FRONT SETBACK	SIDE SETBACK	BACK SETBACK	FRONTAGE
1	13,515 SF	40'	15'	35'	126.32'
2	13,512 SF	40'	15'	35'	123.70'
3	13,948 SF	40'	15'	35'	93.00'
4	13,948 SF	40'	15'	35'	93.00'
5	13,948 SF	40'	15'	35'	93.00'
6	13,948 SF	40'	15'	35'	93.00'
7	13,948 SF	40'	15'	35'	93.00'
8	13,948 SF	40'	15'	35'	93.00'
9	17,670 SF	40'	15'	66'	93.00'
10	17,670 SF	40'	15'	40'	93.00'
11	20,270 SF	40'	15'	40'	111.00'
TOTAL	166,325 SF				1105.02'
AVERAGE	15,120 SF	40'	15'	35'	100.45'

LINETYPE LEGEND

SUBJECT BOUNDARY
OFFSITE PROPERTY BOUNDARY
CONTOUR ELEVATION
EXISTING SANITARY SEWER
EXISTING WATERMAIN
EXISTING GAS LINE
EXISTING UTILITY EASEMENT
EXISTING OVERHEAD ELECTRIC
EXISTING CENTERLINE DITCH
EXISTING SECTION LINE
EXISTING BUILDING
EXISTING WALK
EXISTING BUILDING
PROPOSED ROAD CENTERLINE
PROPOSED LOT LINE
PROPOSED BUILDING
PROPOSED DRAIN
PROPOSED EASEMENT
PROPOSED SANITARY
PROPOSED STORM SEWER, CB, MH
PROPOSED WATERMAIN, HYDRANT, GV&W
PROPOSED CONTOUR ELEVATION
PROPOSED ROAD PRIVATE EASEMENT
PROPOSED HOUSE
PROPOSED DRAINAGE DISTRICT
PROPOSED ROAD WITH CURB AND PAVING
PROPOSED DRIVEWAY
PROPOSED CONCRETE WALK
PROPOSED POINT ELEVATION
ELEV. DESC.

Site Plan Review

Reviewed for compliance to the City Ordinance, Building and Fire Codes

Department	Reviewer	Approved
Planning	Chris McLeod 248-841-2572 mcleodc@RochesterHills.org	No
Building	Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org	Yes
Engineering	Jason Boughton 248-841-2490 BoughtonJ@RochesterHills.org	Yes
Traffic	Keith Depp 248-841-2503 DeppK@RochesterHills.org	Yes
Nat. Resources	Matt Einheuser 248-841-2551 EinheuserM@RochesterHills.org	No
Fire	Lt. Walter Murphy 248-841-2712 MurphyW@RochesterHills.org	Yes

City of Rochester Hills
Planning & Economic Development

Conditions and mark-ups noted throughout the plan set must be addressed prior to final approval.

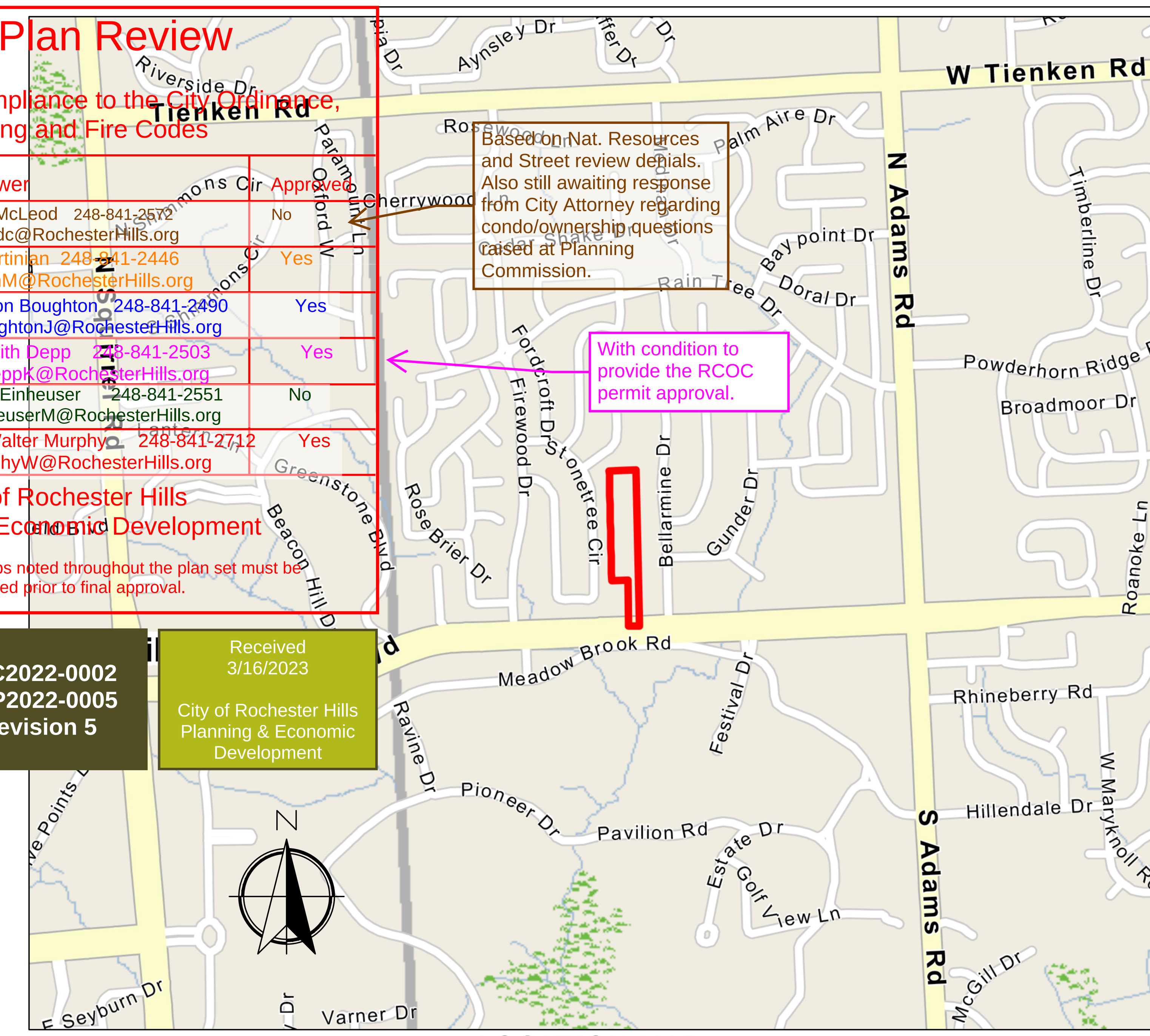
Based on Nat. Resources and Street review denials. Also still awaiting response from City Attorney regarding condo/ownership questions raised at Planning Commission.

With condition to provide the RCOC permit approval.

ROCHESTER HILLS MICHIGAN

JSC2022-0002
PSP2022-0005
Revision 5

Received 3/16/2023
City of Rochester Hills Planning & Economic Development



LOCATION MAP
NO SCALE

Consulting Civil Engineers
"Engineering A Better Michigan"
Powell Engineering & Associates, LLC
4700 Cornerstone Drive, White Lake, Michigan 48383
P: 248.714-9895 info@powellengineeringllc.com

NOTE: AS AN AID TO THE CONTRACTOR VARIOUS UTILITIES AND UNDERGROUND STRUCTURES ARE SHOWN ON THESE PLANS AND PROFILES. ALL INFORMATION CONCERNING ALL UTILITIES SHOWN ON THE PLANS AND PROFILES IS TAKEN FROM FIELD TOPO AND/OR AVAILABLE RECORDS, BUT THE OWNER AND ENGINEER DOES NOT GUARANTEE THEIR LOCATION/ELEVATION, OR THAT ADDITIONAL UNDERGROUND STRUCTURES OR UTILITIES MAY NOT BE ENCOUNTERED. IF THE CONTRACTOR DOES ENCOUNTER A PREVIOUSLY UNIDENTIFIED UTILITY AND/ OR STRUCTURE, OR DETERMINES THAT ONE OF THE UTILITIES / STRUCTURES SHOWN ON THESE PLANS IS INCORRECTLY LOCATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR DIRECTION ON HOW TO PROCEED. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES. NOTIFY "MISS DIG" AT 1-800-482-7171, 72 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.

BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171

TOPOGRAPHY INFO:

ALL TOPOGRAPHIC SURVEY IS SHOWN PER REICHERT SURVEYING JOB #21-001 DATED 2-17-2021

PROPRIETOR/DEVELOPER:

THREE OAKS COMMUNITIES, LLC
CONTACT: MR. BRUCE MICHAEL
P.O. BOX 8307
ANN ARBOR, MI 48107-8307
PHONE: (248)703-4653

ENGINEER SEAL

STATE OF MICHIGAN
MICHAEL C POWELL
ENGINEER
No. 6201027636
LICENSED PROFESSIONAL ENGINEER

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

3 GENERATIONS ROCHESTER WALTON SITE CONDOMINIUM

WALTON BOULEVARD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

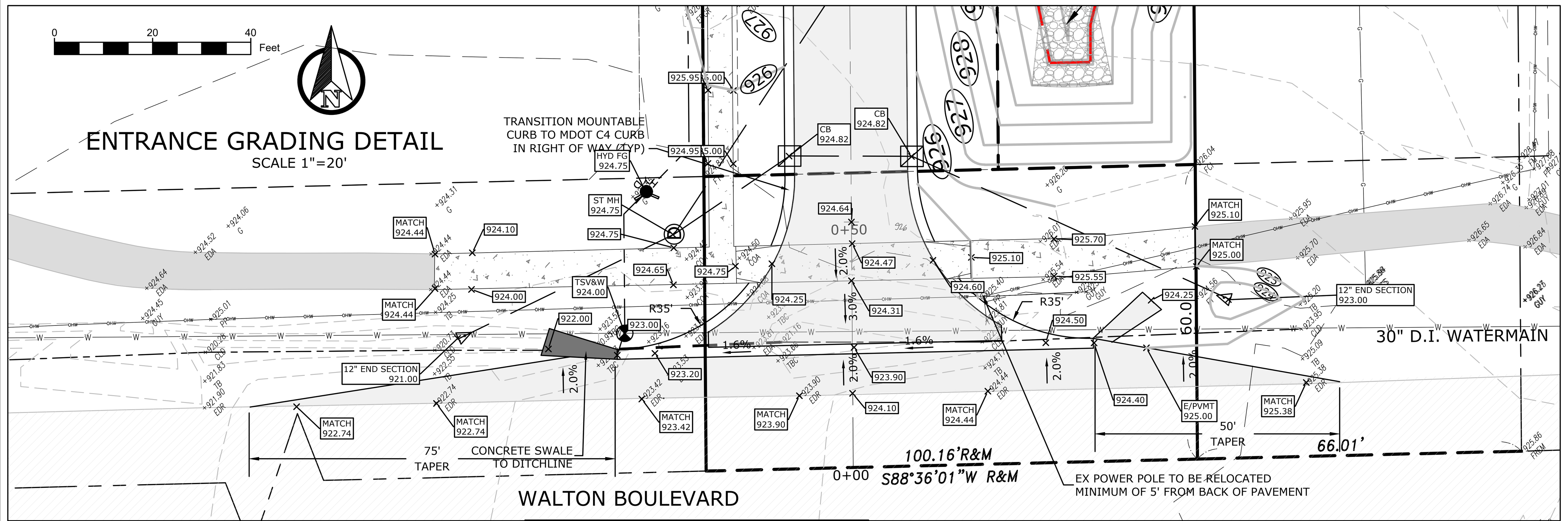
ISSUE DATES

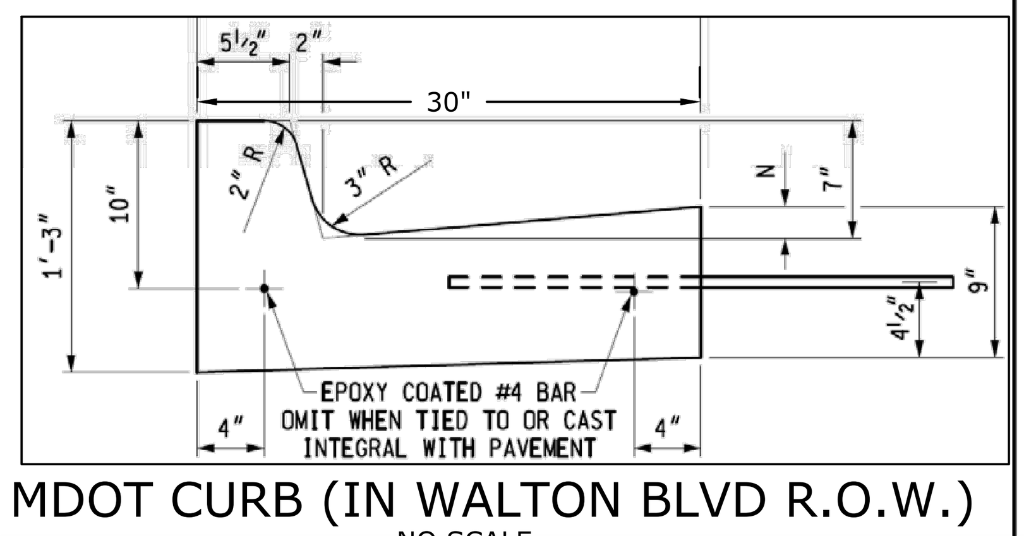
SITE PLAN 7/21/2022
SITE PLAN 9/26/2022
SITE PLAN 1/2/2023

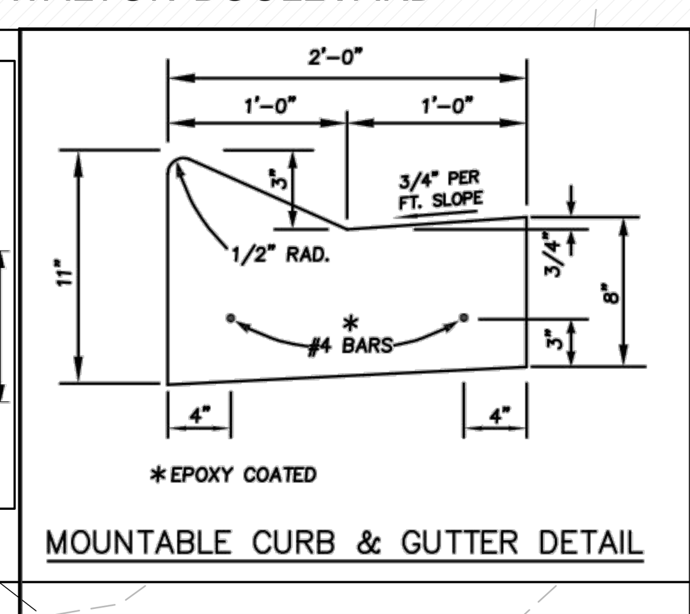
DRAWN	MCS
DESIGNED	MCS
APPROVED	MCP
P.E. JOB No.	21-419
SCALE	1"=50'

S1
SITE PLAN

CITY FILE #22-009 SECTION #7


ENTRANCE GRADING DETAIL
SCALE 1"=20'
TRANSITION MOUNTABLE CURB TO MDOT C4 CURB IN RIGHT OF WAY (TYP)
30" D.I. WATERMAIN
12" END SECTION 921.00
12" END SECTION 923.00
CONCRETE SWALE TO DITCHLINE
75' TAPER
50' TAPER
100.16'R&M
S88°36'01"W R&M
66.01'
EX POWER POLE TO BE RELOCATED MINIMUM OF 5' FROM BACK OF PAVEMENT
WALTON BOULEVARD



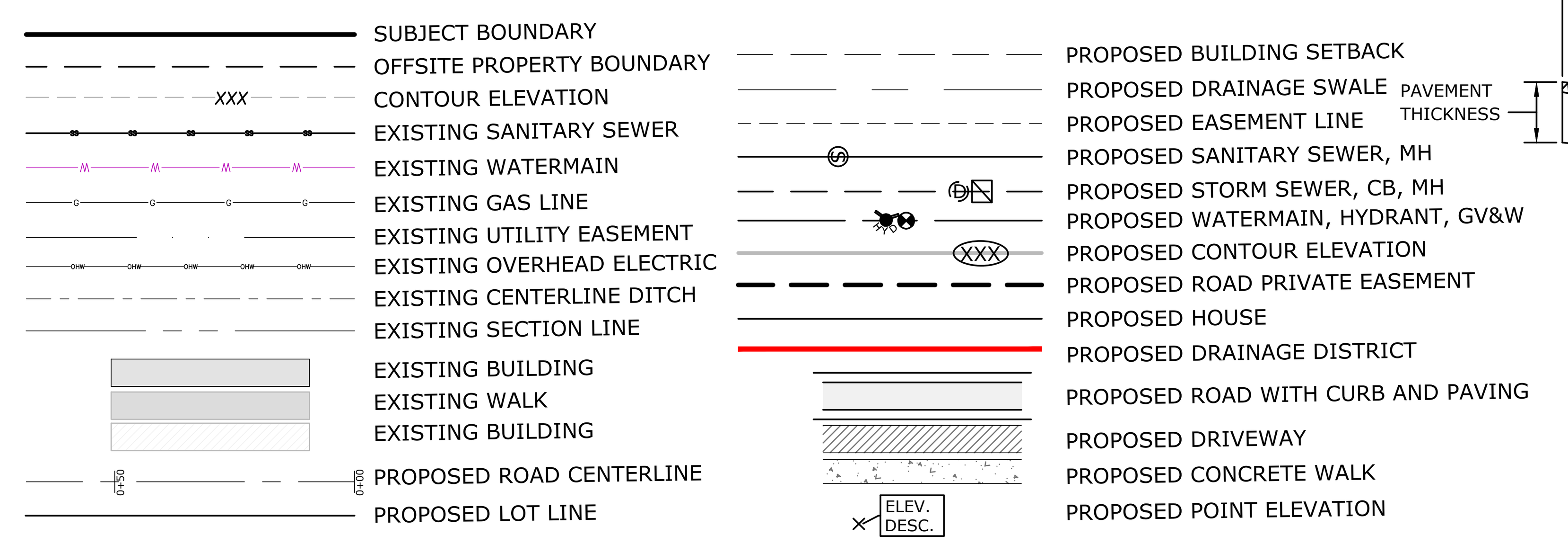


BUILDING DEPARTMENT GENERAL NOTES:

1. ALL CONSTRUCTION TO CONFORM AND COMPLY WITH THE STANDARDS OF THE 2015 MICHIGAN BUILDING CODE, MICHIGAN UNIFORM ENERGY CODE 2009, MICHIGAN MECHANICAL CODE 2015 MICHIGAN ELECTRICAL CODE 2014 AND MICHIGAN PLUMBING CODE 2015.
2. ALL GRADES MUST FALL A MINIMUM OF 6" AT 10' FROM THE PROPOSED BUILDING FOUNDATION.
3. ALL DRIVEWAYS MUST BE BETWEEN 2% AND 10% MAXIMUM SLOPE WITH A SLOPE OF 1%-2% CROSS SLOPE ACROSS SIDEWALKS.
4. ANY BUILDING OVER 200 SQUARE FEET PROPOSED TO BE DEMOLISHED MUST HAVE PERMIT FOR DEMOLITION.
5. THE FOLLOWING DESCRIPTIONS FOR GRADES APPLY:

TC = TOP OF CURB GRADE
G = GUTTER GRADE
ST MH = STORM RIM GRADE
CB = STORM CATCH BASIN RIM GRADE
YB = STORM YARD BASIN RIM GRADE
SAN MH = SANITARY RIM GRADE
NO DESCRIPTION = FINISH GRADE AT LOCATION
SWALE = CENTERLINE DRAINAGE SWALE
STANDPIPE = BAR SCREEN ELEVATION
OVERFLOW = BAR SCREEN ELEVATION
T/WALL = TOP RETAINING WALL
B/WALL = BOTTOM RETAINING WALL
MATCH = MATCH EXISTING GRADE
HYD FG = HYDRANT FINISH GRADE
GV = WATERMAIN GATE VALVE RIM

LINETYPE LEGEND


SUBJECT BOUNDARY
OFFSITE PROPERTY BOUNDARY
CONTOUR ELEVATION
EXISTING SANITARY SEWER
EXISTING WATERMAIN
EXISTING GAS LINE
EXISTING UTILITY EASEMENT
EXISTING OVERHEAD ELECTRIC
EXISTING CENTERLINE DITCH
EXISTING SECTION LINE
EXISTING BUILDING
EXISTING WALK
EXISTING BUILDING
PROPOSED ROAD CENTERLINE
PROPOSED LOT LINE
PROPOSED BUILDING SETBACK
PROPOSED DRAINAGE SWALE
PROPOSED EASEMENT LINE
PROPOSED SANITARY SEWER, MH
PROPOSED STORM SEWER, CB, MH
PROPOSED WATERMAIN, HYDRANT, GV&W
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PROPOSED ROAD PRIVATE EASEMENT
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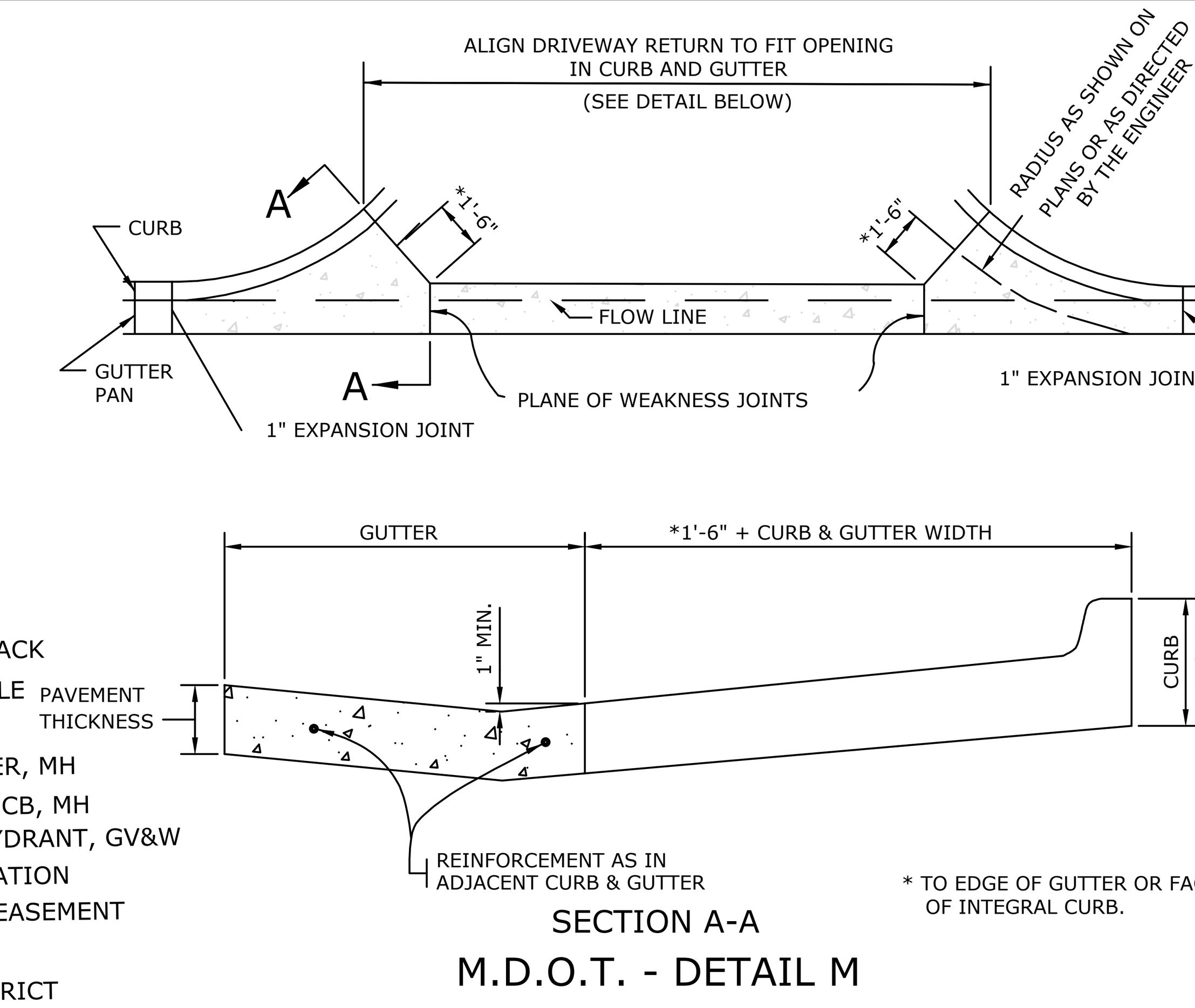
PROPOSED ROAD WITH CURB AND PAVING
PROPOSED DRIVEWAY
PROPOSED CONCRETE WALK
PROPOSED POINT ELEVATION


ALIGN DRIVEWAY RETURN TO FIT OPENING IN CURB AND GUTTER
(SEE DETAIL BELOW)
RADIUS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER
CURB
GUTTER PAN
FLOW LINE
1" EXPANSION JOINT
PLANE OF WEAKNESS JOINTS
GUTTER
*1'-6" + CURB & GUTTER WIDTH
PAVEMENT THICKNESS
1" MIN.
CURB HEIGHT
REINFORCEMENT AS IN ADJACENT CURB & GUTTER
* TO EDGE OF GUTTER OR FACE OF INTEGRAL CURB.
SECTION A-A
M.D.O.T. - DETAIL M


WALTON BLVD.
NOTE: RIGHT OF WAY PERMIT FROM THE CITY OF ROCHESTER HILLS WILL BE REQUIRED FOR INGRESS EGRESS ENTRANCE DRIVE, PROPOSED WALK ALONG FRONTAGE AND WATERMAIN
N00°26'34"W 428.00'
S88°36'01"W R&M 150.00'R&M
13' TEMPORARY GRADING EASEMENT ON 15-07-376-039
3540 WALTON BLVD 15-07-376-039
Provide a 1 foot protective berm on the east edge of drainage district line
Revise Grading, no fall between FG and swale
NOTE: STRUCTURES ON LOTS 9,10 AND 11 ARE REQUIRED TO HAVE ROOF DRAINS TO BE DIRECTED TO THE FRONT OF THE LOT SO THEY DRAIN TO THE ROAD. NO IMPERVIOUS SURFACE TO FLOW OFFSITE TO MAKE SURE THAT ALL FLOW OFFSITE IS AGRICULTURAL AND MUCH LESS THEN HISTORICALLY FLOWED OFFSITE.
N00°26'34"W M 1023.60'M
N00°26'58"W R 1023.53'R
EMERGENCY OVERLAND RIP-RAP OVERFLOW
HIGH WATER ELEV 941.00
2' CONC. RIBBON @ 0.5% MIN
RETAINING WALL (TYP)
MATCHLINE (SEE SHEET S2)
MATCHLINE (SEE SHEET S3)
BSMT FF 929.00 DAYLIGHT BSMT
11
FF 938.50
GAR 936.50
FF 933.50 STANDARD BSMT
10
HOUSE FF 943.00
GAR 941.00
FF 938.50 STANDARD BSMT
9
HOUSE FF 948.00
GAR 946.00
FF 943.00 DAYLIGHT BSMT
8
HOUSE FF 952.50
GAR 949.50
FF 945.50 WALKOUT BSMT
7
HOUSE FF 955.00
GAR 952.00
PEREGRINE STREET
PRIVATE 60' WIDE
N00°25'40"W M N00°26'58"W R 428.00'R&M
S00°26'37"E M 498.57'M
TOTAL EAST LINE
S00°26'58"E R 1451.53'R
S00°26'37"E M 1451.57'M
MATCH GRADE ALONG PROPERTY LINE (TYP)
WHERE RETAINING WALL IS OVER 4' A BUILDING PERMIT WILL BE REQUIRED (TYP)
NOTE: SIDEWALK CANNOT EXCEED 2% SLOPE AT ANY LOCATION EVEN AT DRIVEWAY CROSSINGS- (TYPICAL)
PARCEL #15-07-376-037
LOT 102 #15-07-451-007 11 BELLARMINE DR
LOT 101 #15-07-451-006 37 BELLARMINE DR
LOT 100 #15-07-451-005 61 BELLARMINE DR
LOT 99 #15-07-451-004 85 BELLARMINE DR
LOT 98 #15-07-451-003 101 BELLARMINE DR
LOT 97 #15-07-451-002
139 BELLARMINE DR
30" D.I. WATERMAIN

JSC2022-0002
PSP2022-0005
Revision 5

Received
3/16/2023
City of Rochester Hills Planning & Economic Development

CITY FILE #22-009 SECTION #7

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3 GENERATIONS ROCHESTER GRADING PLAN (SOUTH)

WALTON BOULEVARD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

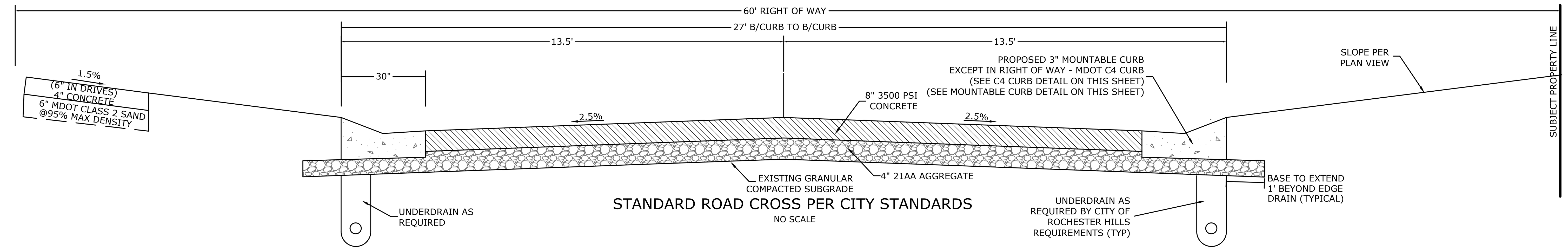
CITY SITE PLAN 7/21/2022
SITE PLAN 9/26/2022
SITE PLAN 1/2/2023

DRAWN	MCS
DESIGNED	MCS
APPROVED	MCP
P.E. JOB No.	21-419
SCALE	1"=30'

S2
SITE PLAN

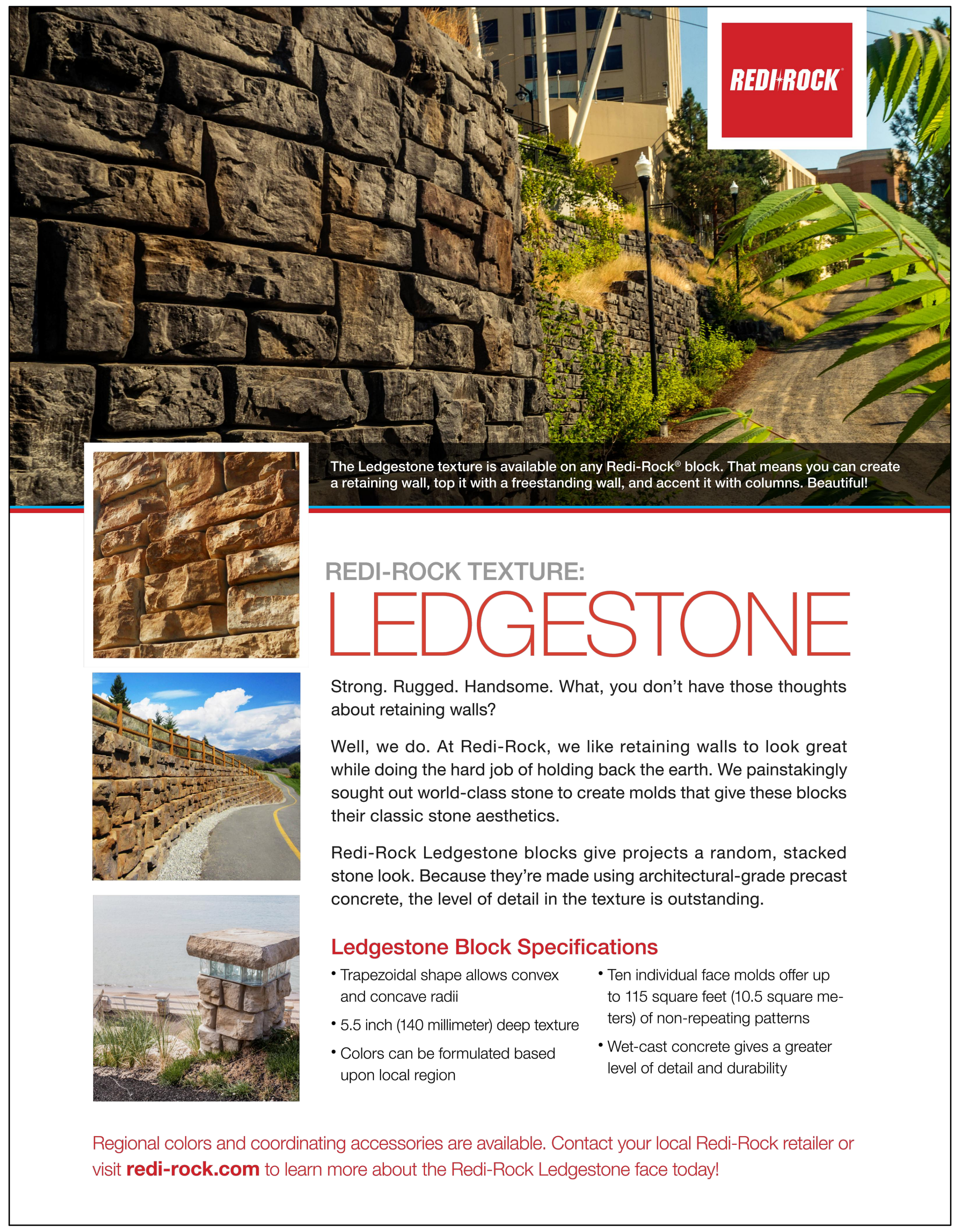
LINETYPE LEGEND

- SUBJECT BOUNDARY
- OFFSITE PROPERTY BOUNDARY
- CONTOUR ELEVATION
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING GAS LINE
- EXISTING UTILITY EASEMENT
- EXISTING OVERHEAD ELECTRIC
- EXISTING CENTERLINE DITCH
- EXISTING SECTION LINE
- EXISTING BUILDING
- EXISTING WALK
- EXISTING BUILDING
- PROPOSED ROAD CENTERLINE
- PROPOSED LOT LINE
- PROPOSED BUILDING SETBACK
- PROPOSED DRAINAGE SWALE
- PROPOSED EASEMENT LINE
- PROPOSED SANITARY SEWER, MH
- PROPOSED STORM SEWER, CB, MH
- PROPOSED WATERMAIN, HYDRANT, GV&W
- PROPOSED CONTOUR ELEVATION
- PROPOSED ROAD PRIVATE EASEMENT
- PROPOSED HOUSE
- PROPOSED DRAINAGE DISTRICT
- PROPOSED ROAD WITH CURB AND PAVING
- PROPOSED DRIVEWAY
- PROPOSED CONCRETE WALK
- PROPOSED POINT ELEVATION (ELEV. DESC.)



60' RIGHT OF WAY
27' B/CURB TO B/CURB
13.5'
13.5'
30"
1.5%
(6" IN DRIVES)
4" CONCRETE
6" MDOT CLASS 2 SAND @95% MAX DENSITY
2.5%
2.5%
8" 3500 PSI CONCRETE
PROPOSED 3" MOUNTABLE CURB EXCEPT IN RIGHT OF WAY - MDOT C4 CURB (SEE C4 CURB DETAIL ON THIS SHEET) (SEE MOUNTABLE CURB DETAIL ON THIS SHEET)
SLOPE PER PLAN VIEW
SUBJECT PROPERTY LINE
EXISTING GRANULAR COMPACTED SUBGRADE
4" 21AA AGGREGATE
BASE TO EXTEND 1' BEYOND EDGE DRAIN (TYPICAL)
UNDERDRAIN AS REQUIRED
UNDERDRAIN AS REQUIRED BY CITY OF ROCHESTER HILLS REQUIREMENTS (TYP)

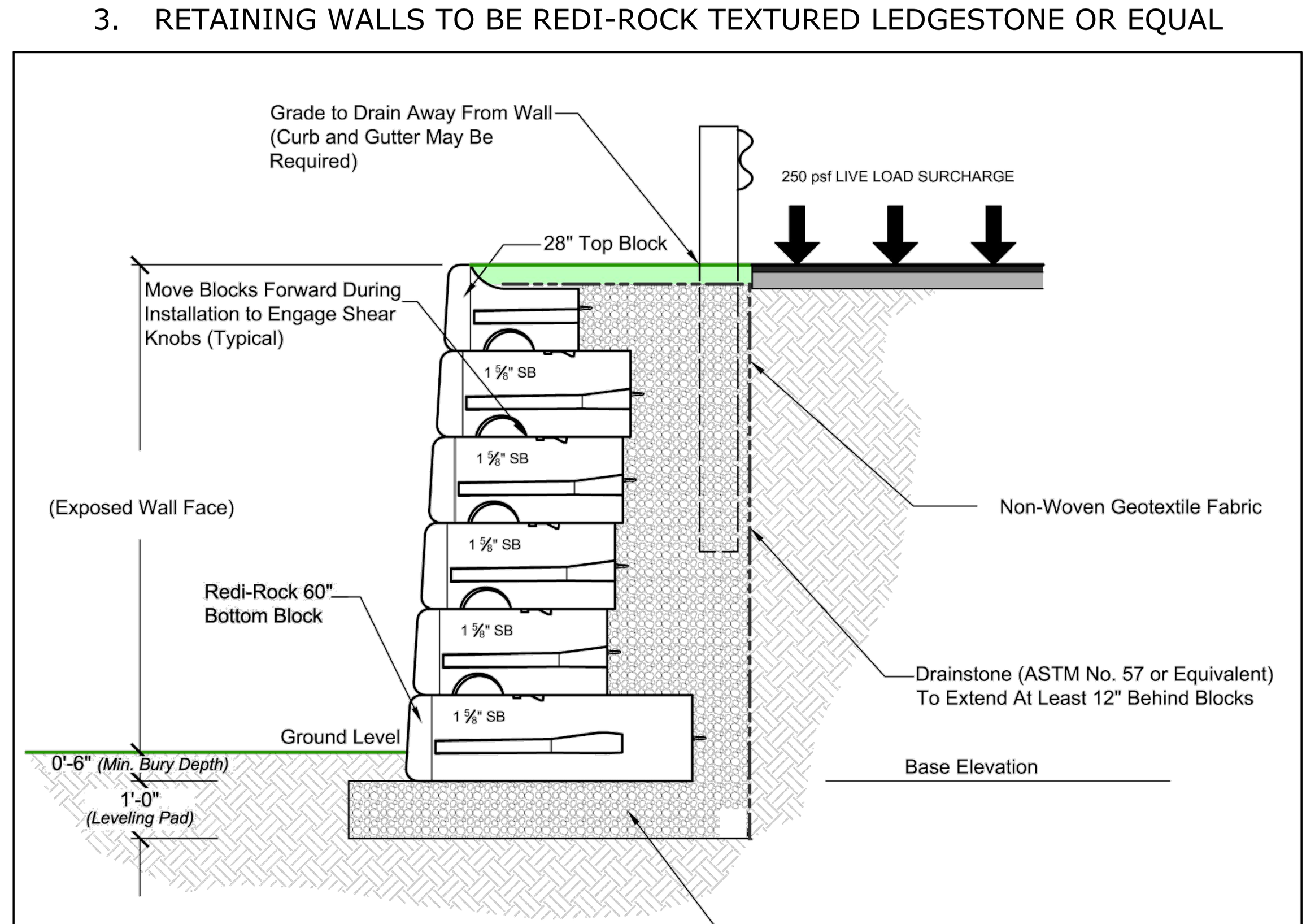
STANDARD ROAD CROSS PER CITY STANDARDS
NO SCALE



REDI-ROCK
The Ledgestone texture is available on any Redi-Rock® block. That means you can create a retaining wall, top it with a freestanding wall, and accent it with columns. Beautiful!
REDI-ROCK TEXTURE:
LEDGESTONE
Strong. Rugged. Handsome. What, you don't have those thoughts about retaining walls?
Well, we do. At Redi-Rock, we like retaining walls to look great while doing the hard job of holding back the earth. We painstakingly sought out world-class stone to create molds that give these blocks their classic stone aesthetics.
Redi-Rock Ledgestone blocks give projects a random, stacked stone look. Because they're made using architectural-grade precast concrete, the level of detail in the texture is outstanding.
Ledgestone Block Specifications
• Trapezoidal shape allows convex and concave radii
• 5.5 inch (140 millimeter) deep texture
• Colors can be formulated based upon local region
• Ten individual face molds offer up to 115 square feet (10.5 square meters) of non-repeating patterns
• Wet-cast concrete gives a greater level of detail and durability
Regional colors and coordinating accessories are available. Contact your local Redi-Rock retailer or visit redi-rock.com to learn more about the Redi-Rock Ledgestone face today!

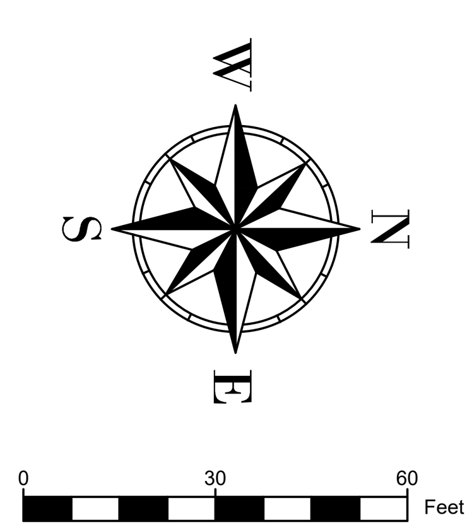
RETAINING WALL NOTES:

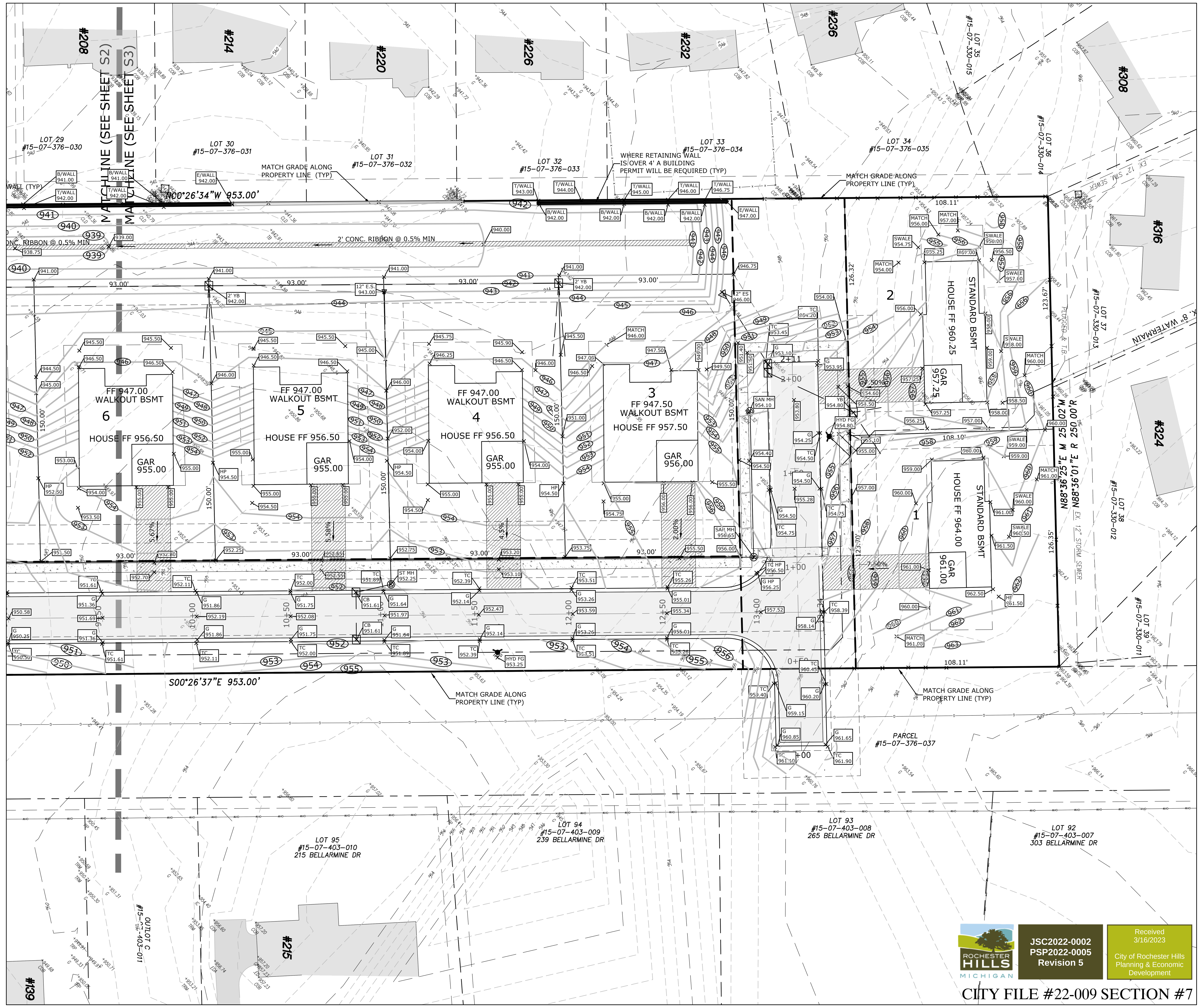
1. ALL RETAINING WALLS OVER 42" IN HEIGHT WILL REQUIRE A 42" HIGH PROTECTIVE FENCING.
2. ALL RETAINING WALLS OVER 48" IN HEIGHT OR GREATER WILL NEED TO BE STRUCTURALLY ENGINEERED.
3. RETAINING WALLS TO BE REDI-ROCK TEXTURED LEDGESTONE OR EQUAL



Grade to Drain Away From Wall (Curb and Gutter May Be Required)
250 psf LIVE LOAD SURCHARGE
28" Top Block
Move Blocks Forward During Installation to Engage Shear Knobs (Typical)
(Exposed Wall Face)
Non-Woven Geotextile Fabric
Redi-Rock 60" Bottom Block
Drainstone (ASTM No. 57 or Equivalent) To Extend At Least 12" Behind Blocks
Ground Level
Base Elevation
0'-6" (Min. Bury Depth)
1'-0" (Leveling Pad)
Crushed Stone Leveling Pad (ASTM No. 57 or Equivalent)

RETAINING WALL DETAIL
NO SCALE





MATCHLINE (SEE SHEET S2)
MATCHLINE (SEE SHEET S3)
LOT 29 #15-07-376-030
LOT 30 #15-07-376-031
LOT 31 #15-07-376-032
LOT 32 #15-07-376-033
LOT 33 #15-07-376-034
LOT 34 #15-07-376-035
MATCH GRADE ALONG PROPERTY LINE (TYP)
WHERE RETAINING WALL IS OVER 4' A BUILDING PERMIT WILL BE REQUIRED (TYP)
N00°26'34"W 953.00'
S00°26'37"E 953.00'
2' CONC. RIBBON @ 0.5% MIN
FF 947.00 WALKOUT BSMT
6
HOUSE FF 956.50
GAR 955.00
FF 947.00 WALKOUT BSMT
5
HOUSE FF 956.50
GAR 955.00
FF 947.00 WALKOUT BSMT
4
HOUSE FF 956.50
GAR 955.00
3
FF 947.50 WALKOUT BSMT
HOUSE FF 957.50
GAR 956.00
2
HOUSE FF 960.25
STANDARD BSMT
GAR 957.25
1
HOUSE FF 964.00
STANDARD BSMT
GAR 961.00
N88°36'23"E 250.00'R
108.11'
108.10'
108.11'
123.67'
126.35'
126.32'
150.00'
93.00'
12" WATERMAIN
EX. 12" STORM SEWER
PARCEL #15-07-376-037
MATCH GRADE ALONG PROPERTY LINE (TYP)
LOT 95 #15-07-403-010 215 BELLARMINE DR
LOT 94 #15-07-403-009 239 BELLARMINE DR
LOT 93 #15-07-403-008 265 BELLARMINE DR
LOT 92 #15-07-403-007 303 BELLARMINE DR
#208
#214
#220
#226
#232
#236
#308
#316
#324
#215
#139

CITY FILE #22-009 SECTION #7

Powell Engineering & Associates, LLC
Consulting Civil Engineers
"Engineering A Better Michigan"
4700 Cornerstone Drive, White Lake, Michigan 48383
P: 248.714-9895 info@powellengineeringllc.com

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BEFORE YOU DIG
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1-800-482-7171

3 GENERATIONS ROCHESTER GRADING PLAN (NORTH)

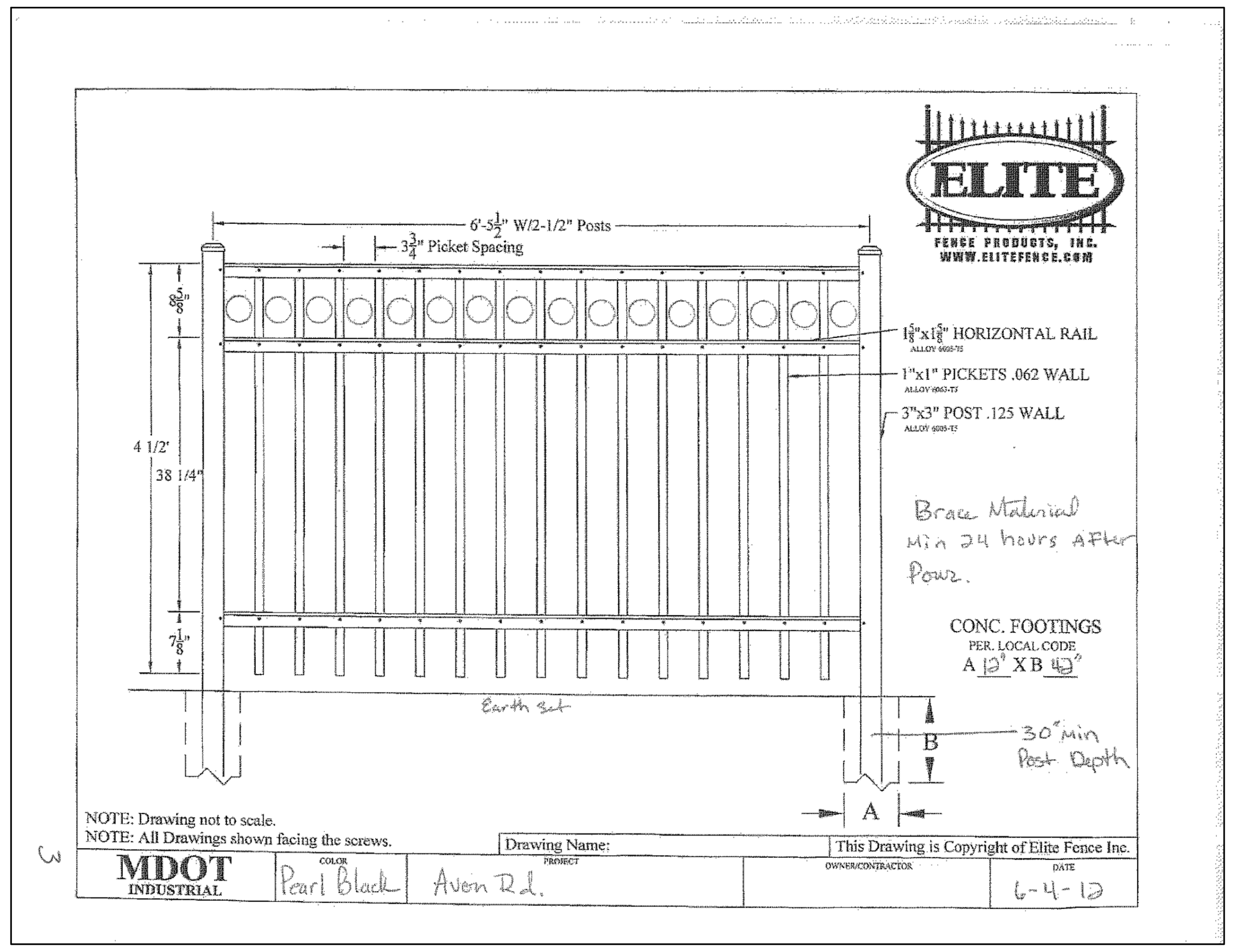
WALTON BOULEVARD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

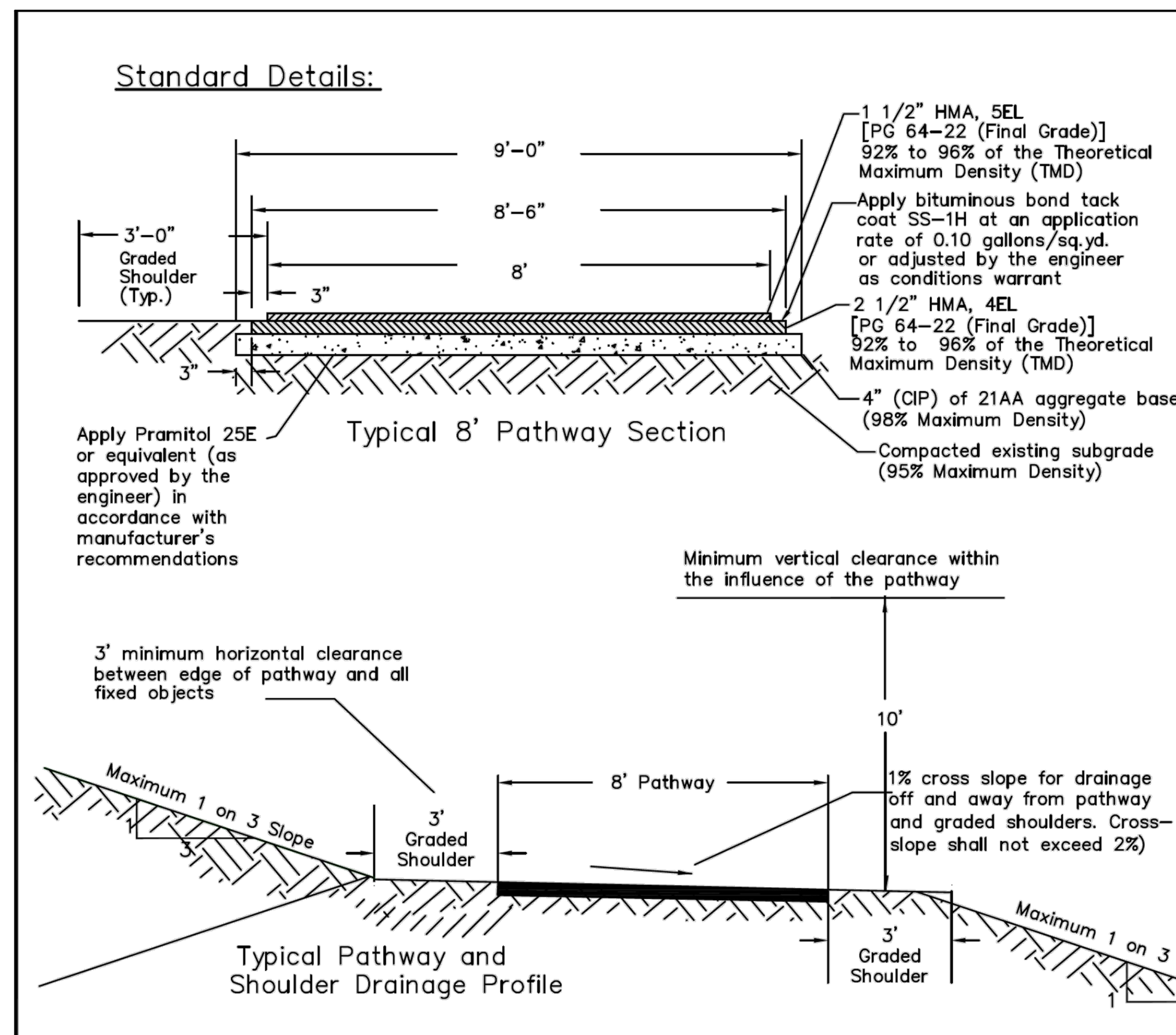
CITY SITE PLAN 7/21/2022
SITE PLAN 9/26/2022
SITE PLAN 1/2/2023

DRAWN	MCS
DESIGNED	MCS
APPROVED	MCP
P.E. JOB No.	21-419
SCALE	1"=30'

S3
SITE PLAN



ELITE
FENCE PRODUCTS, INC.
WWW.ELITEFENCE.COM
6'-3/4" W/2-1/2" Posts
3-3/4" Picket Spacing
1-1/2"x1-1/2" HORIZONTAL RAIL
1"x1" PICKETS .062 WALL
3"x3" POST .125 WALL
4 1/2'
38 1/4"
Brace Material min 24 hours After Pour.
CONC. FOOTINGS
PER. LOCAL CODE
A 12" X B 40"
30" min Post Depth
Earth Set
NOTE: Drawing not to scale.
NOTE: All Drawings shown facing the screws.
Drawing Name:
This Drawing is Copyright of Elite Fence Inc.
MDOT
INDUSTRIAL
Pearl Black
Avon Rd.
6-4-12



Standard Details:
9'-0"
8'-6"
8'
3'-0" Graded Shoulder (Typ.)
1 1/2" HMA, 5EL [PG 64-22 (Final Grade)] 92% to 96% of the Theoretical Maximum Density (TMD)
Apply bituminous bond tack coat SS-1H at an application rate of 0.10 gallons/sq.yd. or adjusted by the engineer as conditions warrant
2 1/2" HMA, 4EL [PG 64-22 (Final Grade)] 92% to 96% of the Theoretical Maximum Density (TMD)
4" (CIP) of 21AA aggregate base (98% Maximum Density)
Compacted existing subgrade (95% Maximum Density)
Apply Pramitol 25E or equivalent (as approved by the engineer) in accordance with manufacturer's recommendations
Typical 8' Pathway Section
Minimum vertical clearance within the influence of the pathway
3' minimum horizontal clearance between edge of pathway and all fixed objects
10'
8' Pathway
1% cross slope for drainage off and away from pathway and graded shoulders. Cross-slope shall not exceed 2%)
Maximum 1 on 3 Slope
3' Graded Shoulder
Typical Pathway and Shoulder Drainage Profile

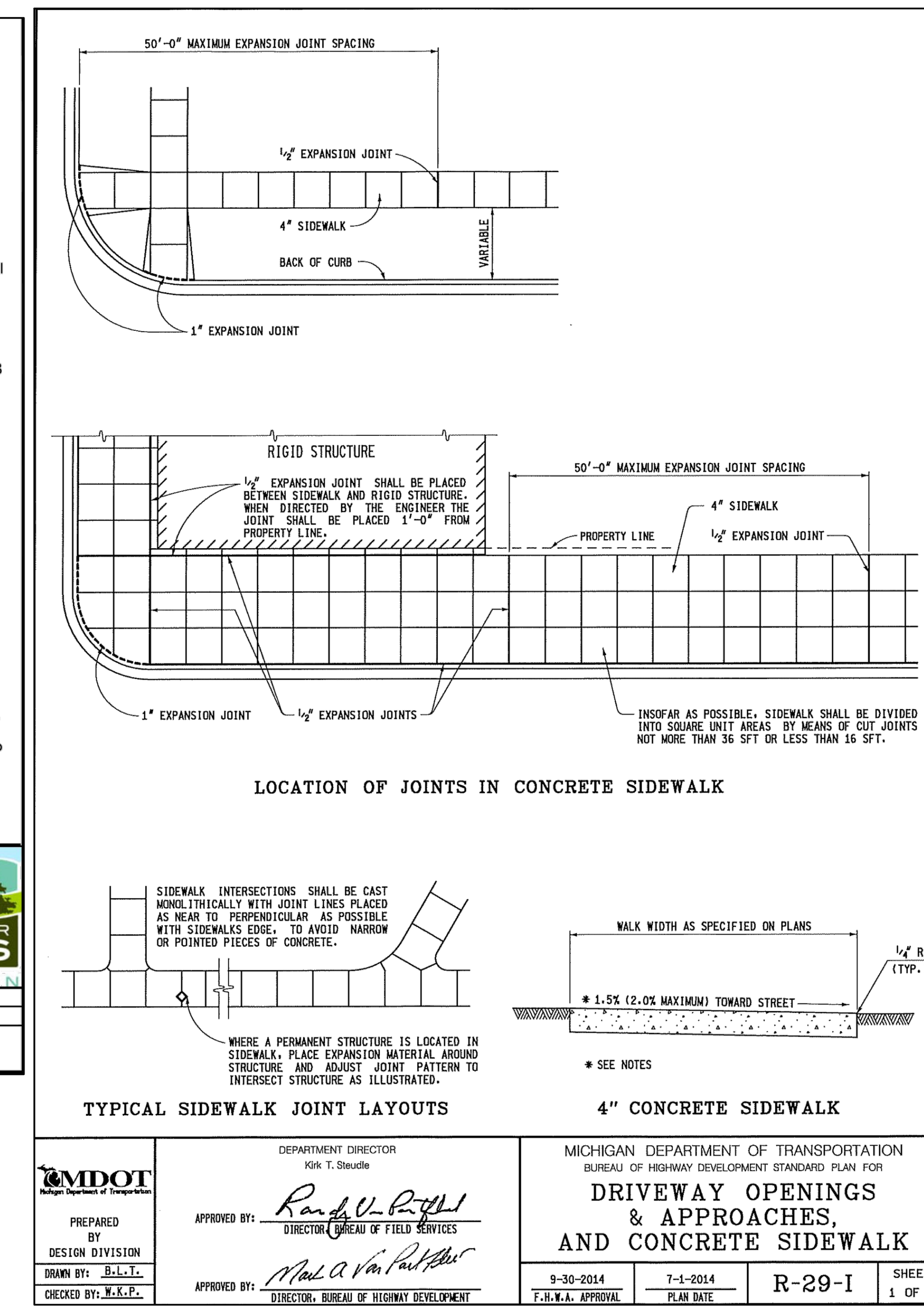
Standard Notes:

1. Maximum grade of 8.33% along pathway (less than 5% is recommended).
2. 1% cross slope (i.e. super elevation) for drainage off and away from pathway and graded shoulders (2% maximum cross-slope).
3. 60' minimum center line radii for pathway horizontal alignment.
4. Provide a minimum of 3' horizontal clearance and 10' vertical clearance from all fixed objects and the edge of pathway surface. Relocation of existing objects (i.e. mail boxes, signs, etc.) shall be considered incidental work items.
5. Pathway ramps shall be constructed in accordance with MDOT standard detail R-28 Series and shall have a minimum clear opening of 8' wide.
6. A clean saw cut joint shall be provided wherever new pavement matches existing pavement (incidental work item).
7. Utility structures shall be adjusted in accordance with the City of Rochester Hills standards and shall match the proposed grade of the pathway.
8. Pathway shall be 6 inch thick HMA or concrete through residential drives and 9 inch thick HMA or 8 inch thick concrete through commercial drives.
9. Pathway asphalt shall be paid for as "Shared Use Path, HMA" when part of public improvement project.
10. Ramps and landings shall be 6 inch thick concrete.
11. ADA detectable warning plates shall be preformed and brick red in color. Acceptable products included ADA Solutions, Inc., Armor-Tile, E.J., or approved equal
12. Irrigation overspray shall not broadcast onto City pathway or sidewalk

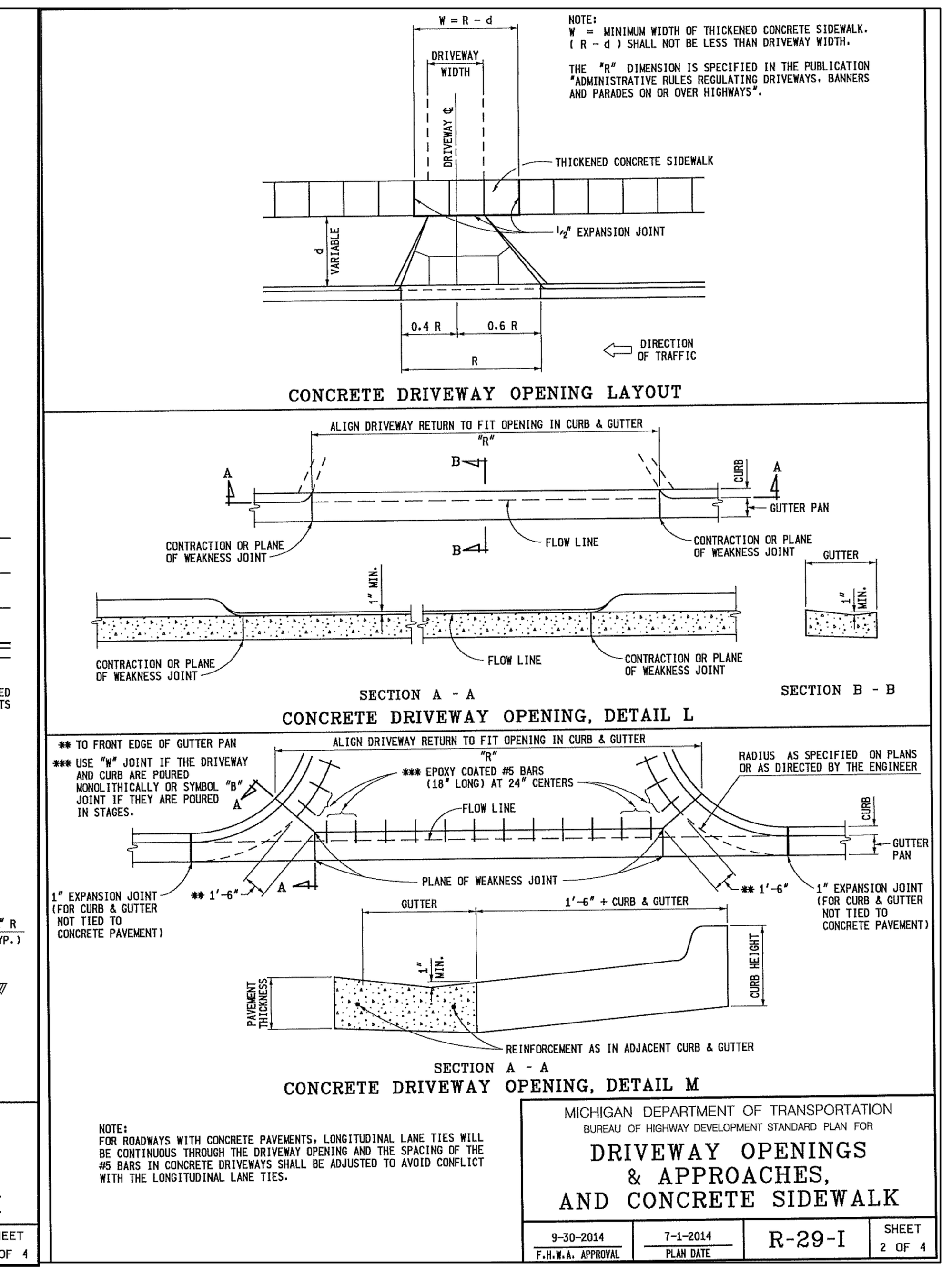
CITY OF ROCHESTER HILLS
STANDARD DETAIL FOR:
Pathway Details:
Hot-Mixed Asphalt Pathway Construction, Extensions and Relocations

DRAWN BY: R.GEORGE	PLAN DATE: 8/28/1996	REVISIONS: 4/12/2012	2/8/2022 2/25/2016	8/22/2018 11/12/2019	01/12/2022 01/25/2022
APPROVED BY: PAUL SHUMEJKO, MBA, M.S., P.E., PTOE CITY TRANSPORTATION ENGINEERING MANAGER			NOT TO SCALE	SHEET 1 OF 1	

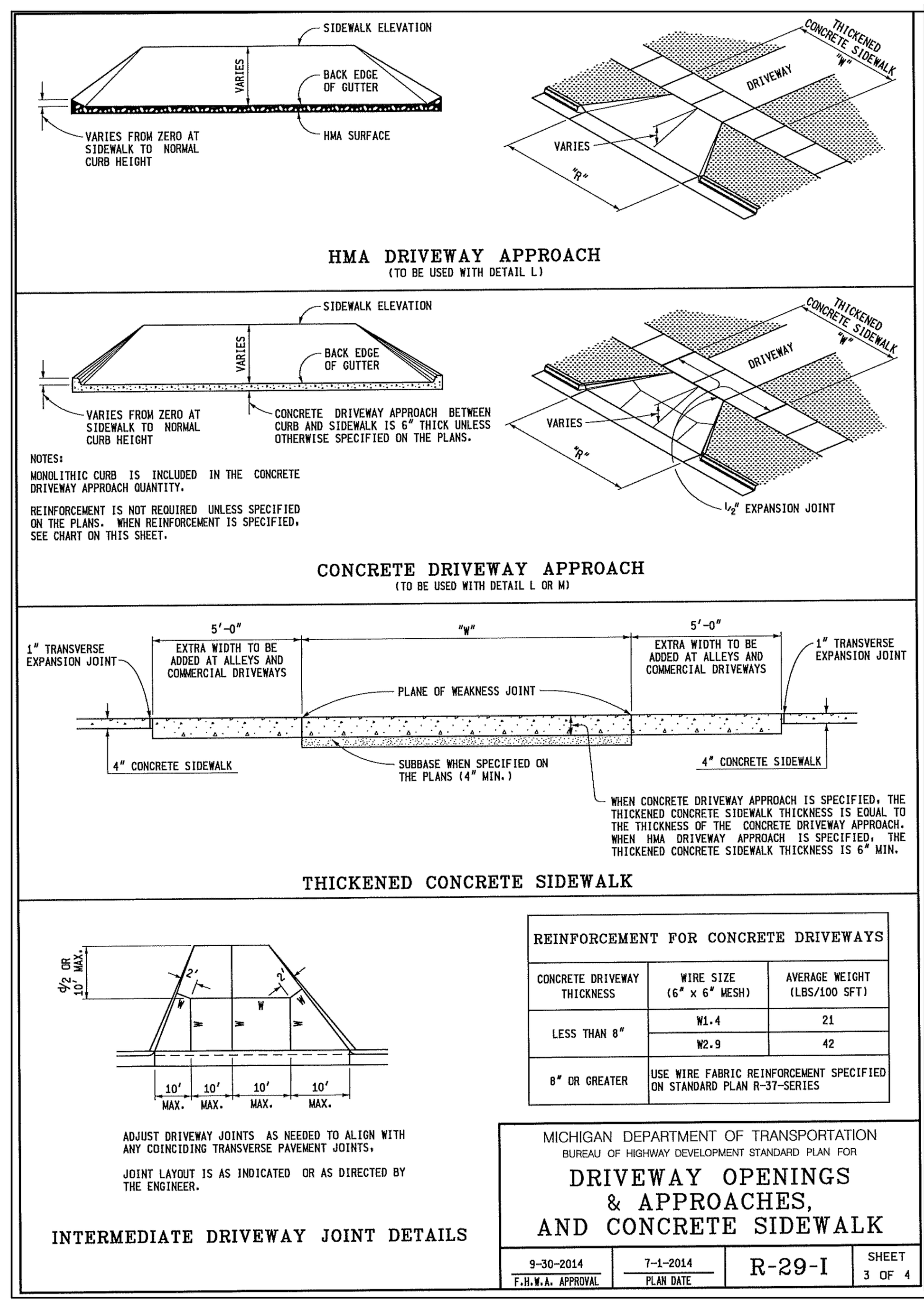
E:\EngIDWG\DETAILS\PATHWAY\Pathway dwgs\27-HMA Pthwy Const-Ext-Reloc-Std Nts & Defts.dwg



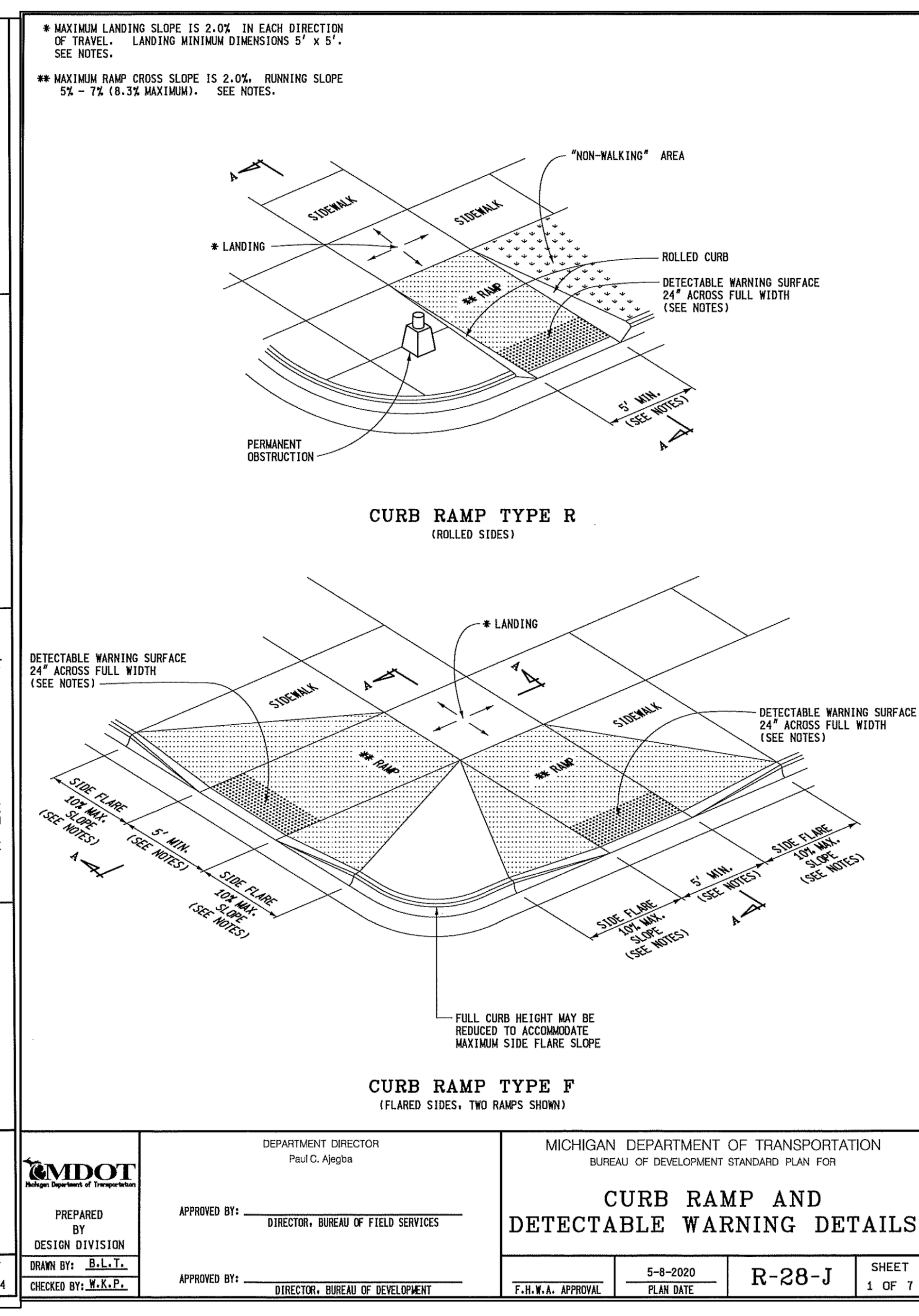
50'-0" MAXIMUM EXPANSION JOINT SPACING
1/2" EXPANSION JOINT
4" SIDEWALK
BACK OF CURB
1" EXPANSION JOINT
RIGID STRUCTURE
PROPERTY LINE
LOCATION OF JOINTS IN CONCRETE SIDEWALK
TYPICAL SIDEWALK JOINT LAYOUTS
4" CONCRETE SIDEWALK
MDOT
PREPARED BY DESIGN DIVISION
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK
9-30-2014
7-1-2014
R-29-I
SHEET 1 OF 4



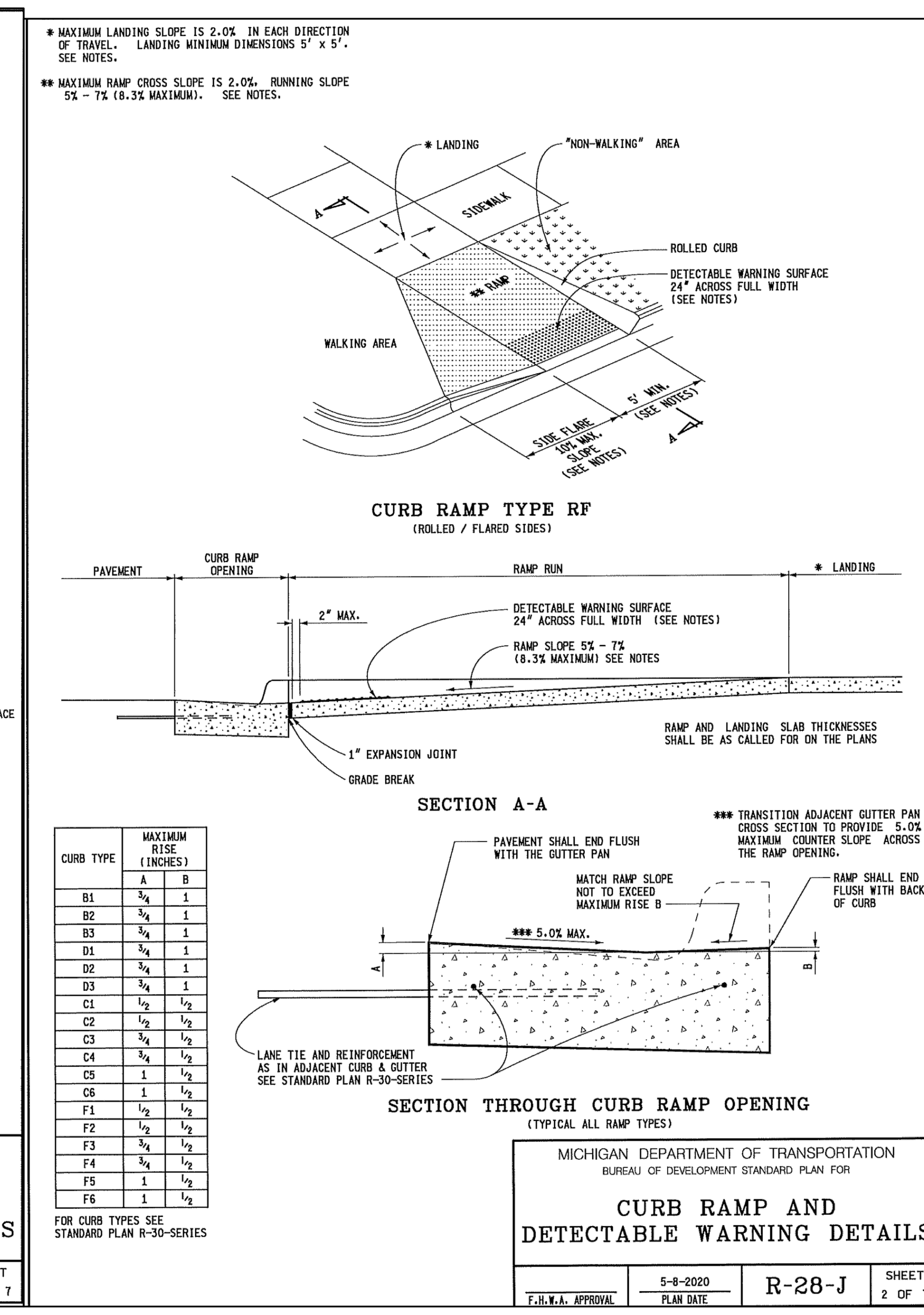
CONCRETE DRIVEWAY OPENING LAYOUT
SECTION A - A
SECTION B - B
CONCRETE DRIVEWAY OPENING, DETAIL L
CONCRETE DRIVEWAY OPENING, DETAIL M
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK
9-30-2014
7-1-2014
R-29-I
SHEET 2 OF 4



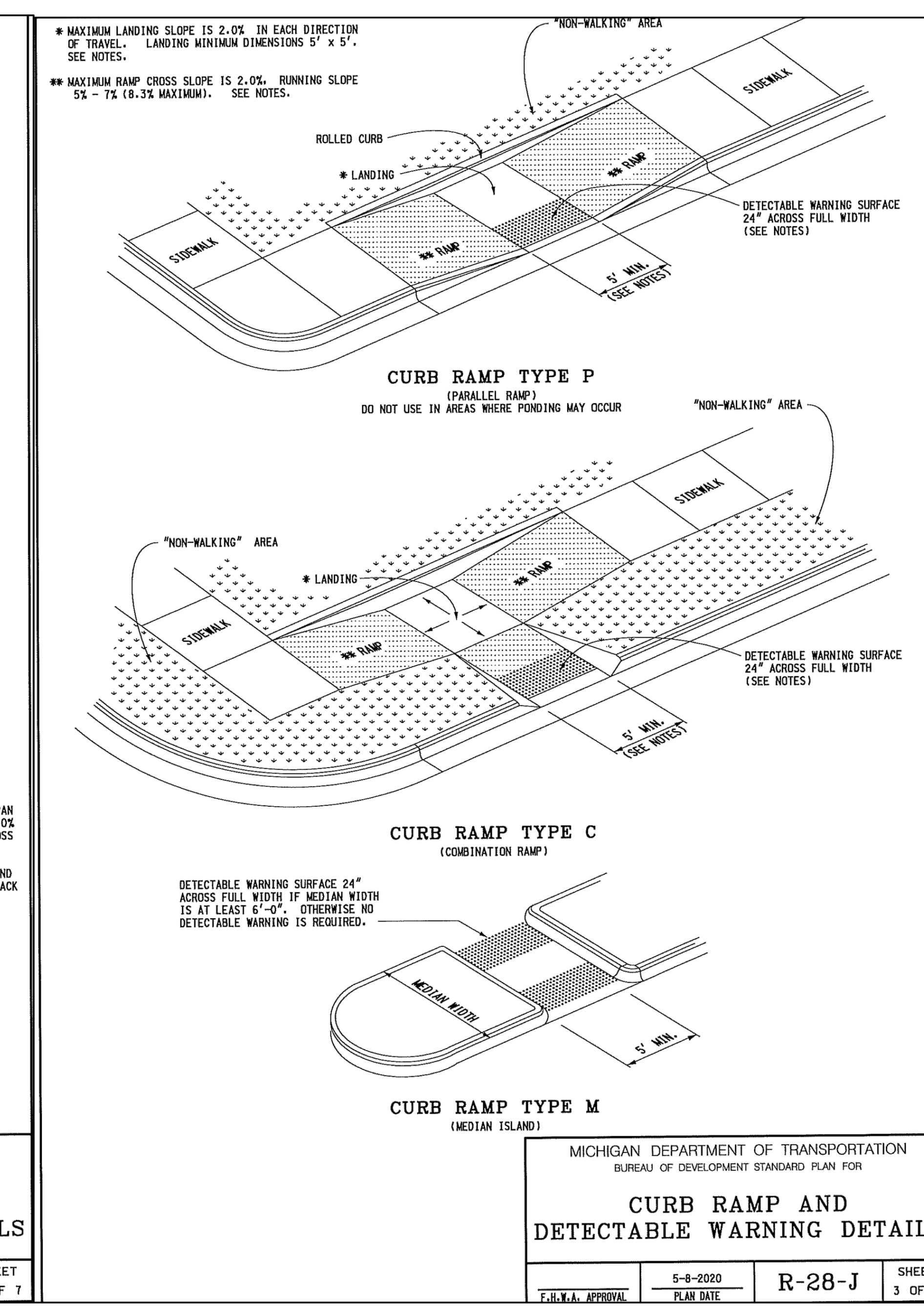
HMA DRIVEWAY APPROACH
(TO BE USED WITH DETAIL L)
CONCRETE DRIVEWAY APPROACH
(TO BE USED WITH DETAIL L OR M)
THICKENED CONCRETE SIDEWALK
REINFORCEMENT FOR CONCRETE DRIVEWAYS
INTERMEDIATE DRIVEWAY JOINT DETAILS
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK
9-30-2014
7-1-2014
R-29-I
SHEET 3 OF 4



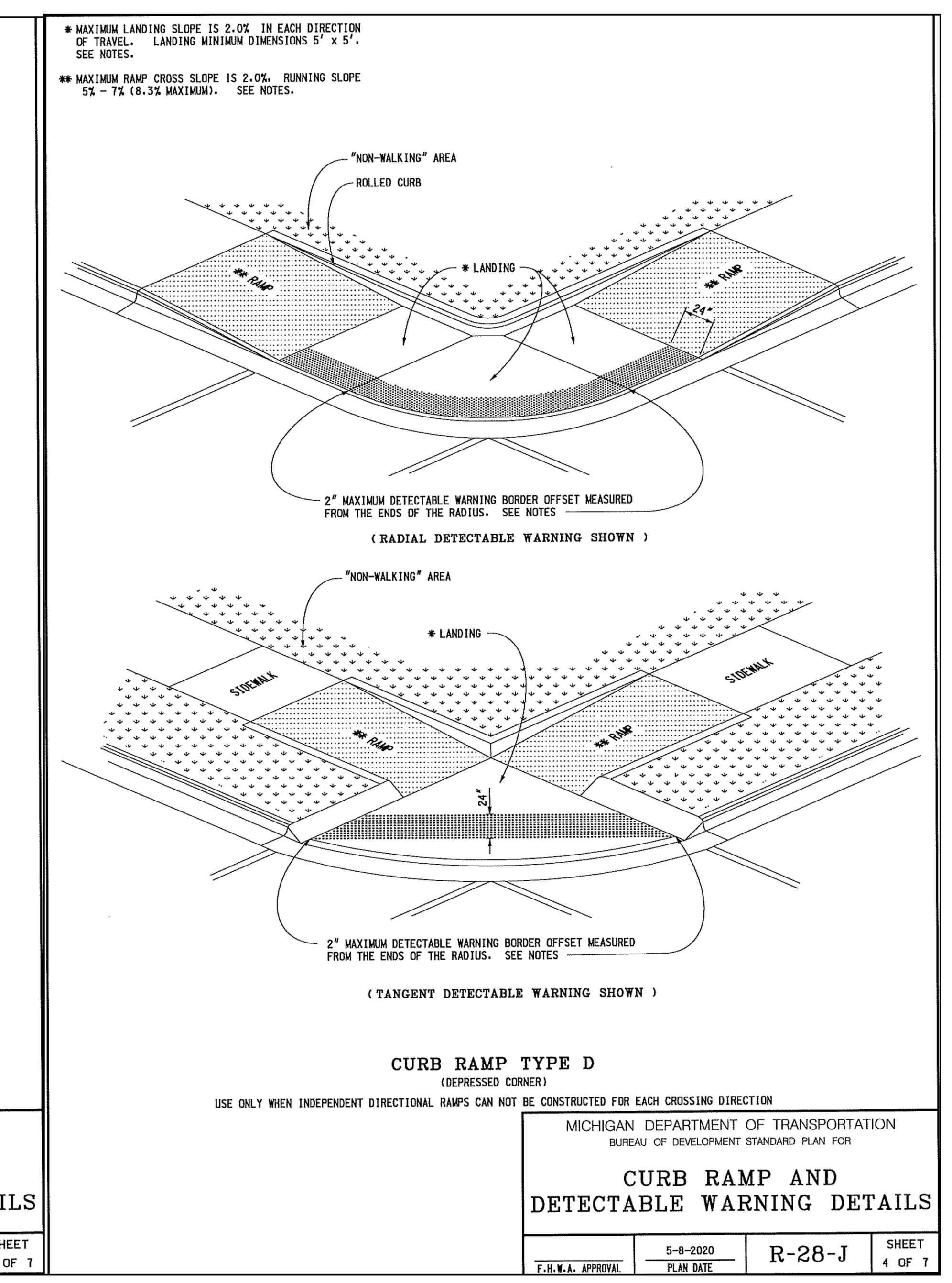
CURB RAMP TYPE R
(ROLLED SIDES)
CURB RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)
MDOT
PREPARED BY DESIGN DIVISION
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
CURB RAMP AND DETECTABLE WARNING DETAILS
5-8-2020
R-28-J
SHEET 1 OF 7



CURB RAMP TYPE RF
(ROLLED / FLARED SIDES)
SECTION A-A
SECTION THROUGH CURB RAMP OPENING
(TYPICAL ALL RAMP TYPES)
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
CURB RAMP AND DETECTABLE WARNING DETAILS
5-8-2020
R-28-J
SHEET 2 OF 7



CURB RAMP TYPE P
(PARALLEL RAMP)
CURB RAMP TYPE C
(COMBINATION RAMP)
CURB RAMP TYPE M
(MEDIAN ISLAND)
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
CURB RAMP AND DETECTABLE WARNING DETAILS
5-8-2020
R-28-J
SHEET 3 OF 7



(RADIAL DETECTABLE WARNING SHOWN)
(TANGENT DETECTABLE WARNING SHOWN)
CURB RAMP TYPE D
(DEPRESSED CORNER)
USE ONLY WHEN INDEPENDENT DIRECTIONAL RAMPS CAN NOT BE CONSTRUCTED FOR EACH CROSSING DIRECTION
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
CURB RAMP AND DETECTABLE WARNING DETAILS
F.H.W.A. APPROVAL
5-8-2020
PLAN DATE
R-28-J
SHEET 4 OF 7

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3 GENERATIONS ROCHESTER DETAILS

WALTON BOULEVARD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

CITY SITE PLAN 7/21/2022
SITE PLAN 9/26/2022
SITE PLAN 1/2/2023

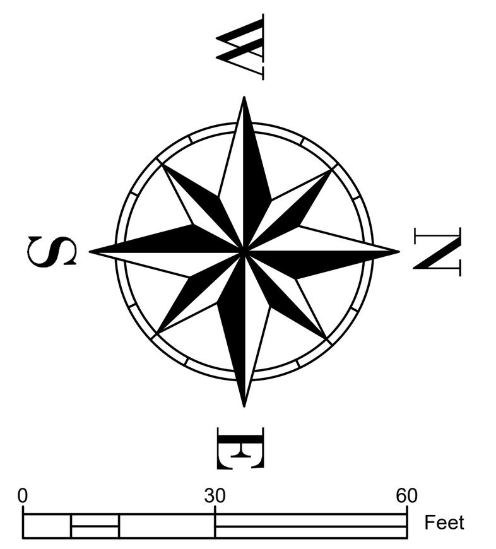
DRAWN	MCS
DESIGNED	MCS
APPROVED	MCP
P.E. JOB No.	21-419
SCALE	1"=30'

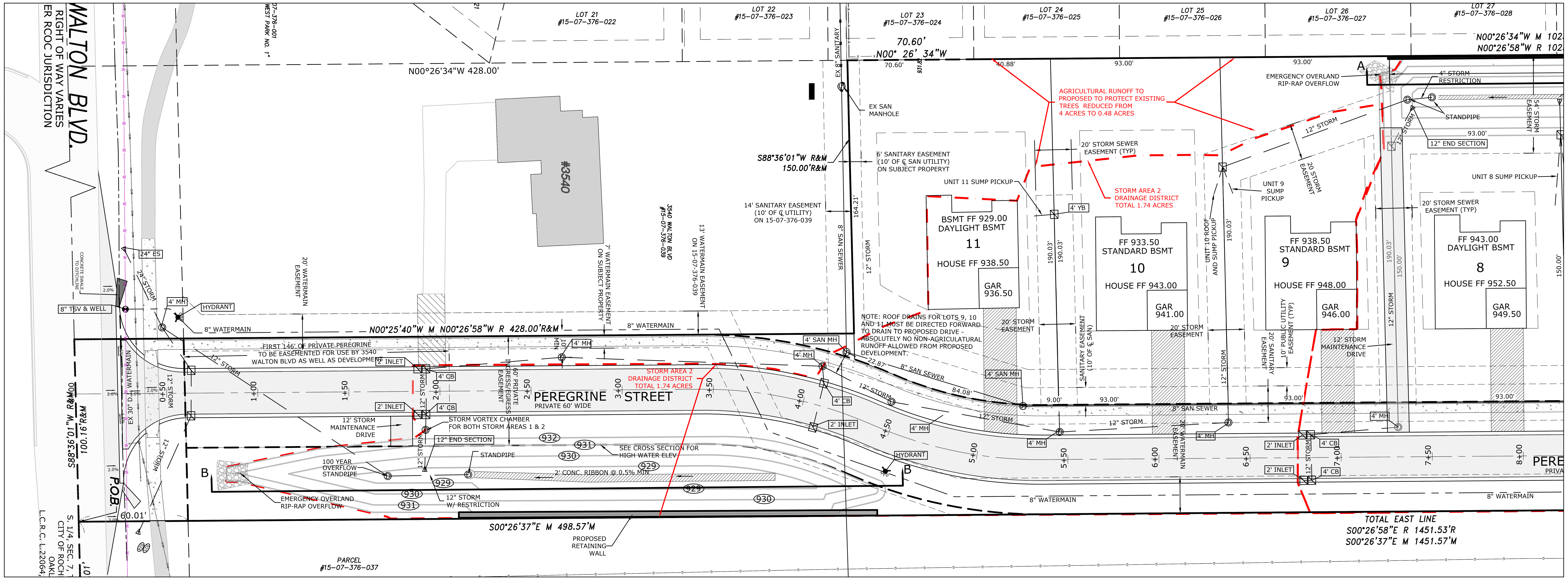
S3A
SITE PLAN

JSC2022-0002
PSP2022-0005
Revision 5

Received
3/16/2023
City of Rochester Hills
Planning & Economic Development

CITY FILE #22-009 SECTION #7





HYDRANT FLOW TEST RESULT

THE HYDRANT WITH AN 8" SUPPLY MAIN SIZE WHICH IS LOCATED AT SHELLBOURNE DRIVE WAS TESTED ON OCTOBER 31, 2022 BY MR. W. RYBACK M. GREENWOOD AND CALCULATIONS BY MR. WAYNE RYBAK FOUND THE FOLLOWING:

1 HYDRANT FLOWING
2 - 2.5" OUTLETS OPEN
0.9 FRICTION LOSS COEFFICIENT
65 PSI STATIC PRESSURE
50 PSI RESIDUAL PRESSURE
25 PSI PITO PRESSURE
1678 GPM RESIDUAL FLOW
3037 FIRE FLOW AT 20 PSI

THE ABOVE PRESSURE MEETS THE REQUIREMENTS FOR THE NEW 8" LOOPED LINE AS DESIGNED.

FIRE DEPARTMENT NOTES:

1. A KNOX KEY SYSTEM SHALL BE INSTALLED IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE THROUGH KNOX COMPANY AT 222.KNOXBOX.COM (IFC 2006 SEC. 1028.2).
2. FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL, AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH THE 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 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (FIRE PREVENTION ORDINANCE CHAPTER 58, SEC 503).
3. CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2006 CHAPTER 14.
4. OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING. OPEN BURNING FOR WARMING AND SAND AND / OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES FIRE PREVENTION ORDINANCE CHAPTER 58, SECTION 307.6.2 & 307.6.2.3) MORTAR PERMIT CAN BE APPLIED FOR ONLINE AT WWW.ROCHESTERHILLS.ORG/FIRE IN THE "FOR YOUR BUSINESS" SECTION.
5. PROVIDE A "NO PARKING FIRE DEPARTMENT CONNECTION" SIGN OVER THE FIRE DEPARTMENT CONNECTION.
6. FDC'S SHALL NOT BE OBSTRUCTED BY LANDSCAPING, PARKING, OR ANY OTHER PERMANENT OR TEMPORARY MATERIALS OR DEVICES.
7. IF THE FIRE DEPARTMENT CONNECTION IS NOT LOCATED ON THE STREET FRONT OF THE BUILDING, A WHITE / CLEAR STROBE LIGHT SHALL BE TIED INTO THE FIRE ALARM SYSTEM AND INSTALLED OVER THE FDC.

STORM WATER CALCULATIONS - STORM AREA 2

DETERMINTATION OF 'C' FACTOR

TOTAL AREA GOING INTO POND (GROSS & NET)	=	1.74 ACRES				
PAVING AREA (WALKS, DRIVES, ROAD)	=	0.37 ACRES	@	0.95	=	0.35
BUILDING AREA	=	0.18 ACRES	@	0.95	=	0.17
LAWN AREA	=	1.2 ACRES	@	0.25	=	0.29
DETENTION AND WETLAND (LOW WATER AREA)	=	0.02 ACRES	@	1.00	=	0.02
TOTAL AREA		1.74 ACRES				0.835

C avg. = TOTAL C / TOTAL ACRES = 0.83 / 1.74 = **0.48**

TIME OF CONCENTRATION IN SWALE
v = K x S^(1/2)
drain swale (ft) = 47 USE K = 1.2
SLOPE = 1%
v = 1.2 x (.01)^(1/2) = 0.12 ft/s
Tt = L/3600*v* = 0.108796 hrs = 6.53 min

TIME OF CONCENTRATION IN PIPE
v = 3 ft/sec average
pipe length (ft) = 796
Tt = L/3600*v* = 0.073704 hrs = 4.42 min
Tc = 6.53 + 4.42 = 10.95 min USE 15 min

100-YEAR INTENSITY CALCULATION
I100 = 30.20p^0.22 / (Tc +9.17) ^ 0.81 = 6.30 in/hr

CHANNEL PROTECTION VOLUME CALCULATION:
V(cpvc) = 4719 x C x A = 3939 cubic feet

CHANNEL PROTECTION CONTROLLED - EXTENDED CALCULATION:
V(ED) = 6897 x C x A = 5758 cubic feet

100 YEAR PEAK INFLOW CALCULATION:
Q100in = C x I100 x A = 5.26 cfs

100 YEAR ALLOWABLE AGRICULTURAL RUNOFF
Q(allow) = 0.2 cfs/acre = 0.35 cfs

VARIABLE RELEASE RATE CALCULATION:
Qvrr = 1.1055 - 0.206 xLN(A)= 1.1055 - 0.206 x LN(2.11) = 0.99 cfs/acre
Q100p = Qvrr x A = 1.72 cfs

STORAGE CURVE FACTOR CALCULATION:
R = 0.206 - 0.15 x LN (Q100P/Q100IN) = 0.37

100-YEAR RUNOFF CALCULATION:
V100R = 18985 x C x A = 15849 CF

100-YEAR STORAGE VOLUME CALCULATION:
V100D = V100R x R = 5917 CF

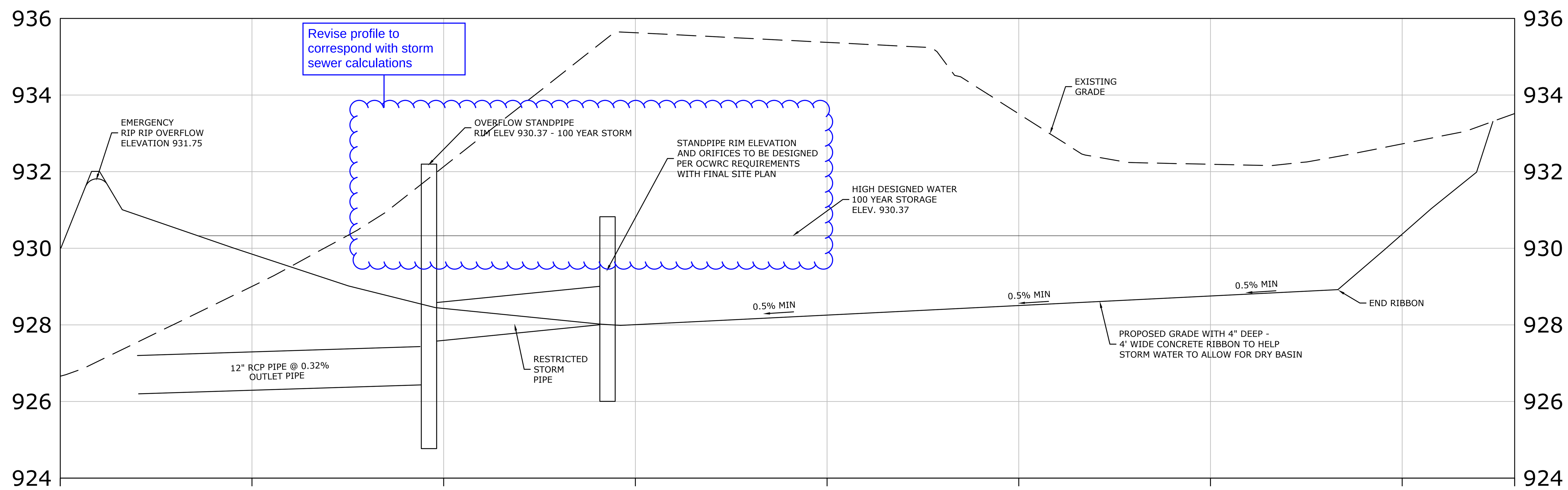
A MECHANICAL CHAMBER WILL BE USED IN PLACE OF A FOREBAY BASIN

DETENTION BASIN 2			
ELEV	AREA (SQ.FT.)	VOLUME (CU.FT.)	ACCUM VOLUME
928	0	0	0
929	2549	425	425
930	6072	4311	4735
931	10118	8095	12830
930.37 - 931.37 (1' FREEBOARD)			

* VOLUME FROM 928 - 929 IS CALCULATED VIA = [(AREA 928+ AREA 929) / 2] * 1/3 = VOLUME OF PYRAMID
REQUIRED STORAGE MUST MEET THE FOLLOWING VOLUMES
V(cpvc) = 3939 CF @ ELEV 929.90
V(ED) = 5758 CF @ ELEV 930.13
V(100D) = 7735 CF @ ELEV 930.37 (THIS IS SUBTRACTING THE VCPVC 4027)

PROVIDED STORAGE 12,830 CF > REQUIRED STORAGE 7735 CF

Provide how the overall storage was calculated



CROSS SECTION B-B
HORIZ: 1"=30' VERT: 1"=3'

NOTE: ALL STORM SEWERS TO MEET THE CITY OF ROCHESTER HILLS ENGINEERING REQUIREMENTS.

NOTE: ALL SANITARY TO MEET THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY WATER RESOURCE COMMISSIONER AND MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY. ENGINEERING REQUIREMENTS.

NOTE: ALL WATERMAIN TO MEET THE CITY OF ROCHESTER HILLS AND MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY. ENGINEERING REQUIREMENTS.

LINETYPE LEGEND

SUBJECT BOUNDARY
OFFSITE PROPERTY BOUNDARY
CONTOUR ELEVATION
EXISTING SANITARY SEWER
EXISTING WATERMAIN
EXISTING GAS LINE
EXISTING UTILITY EASEMENT
EXISTING OVERHEAD ELECTRIC
EXISTING CENTERLINE DITCH
EXISTING SECTION LINE
EXISTING BUILDING
EXISTING WALK
EXISTING BUILDING
PROPOSED ROAD CENTERLINE
PROPOSED LOT LINE
PROPOSED BUILDING SETBACK
PROPOSED DRAINAGE SWALE
PROPOSED EASEMENT LINE
PROPOSED SANITARY SEWER, MH
PROPOSED STORM SEWER, CB, MH
PROPOSED WATERMAIN, HYDRANT, GV&W
PROPOSED CONTOUR ELEVATION
PROPOSED ROAD PRIVATE EASEMENT
PROPOSED HOUSE
PROPOSED DRAINAGE DISTRICT
PROPOSED ROAD WITH CURB AND PAVING
PROPOSED DRIVEWAY
PROPOSED CONCRETE WALK
PROPOSED POINT ELEVATION

SANITARY BASIS OF DESIGN
INITIAL & ULTIMATE DESIGN

ESTIMATED INITIAL AND ULTIMATE LOAD = 11 RESIDENTAIL UNITS
P = POPULATION = 2.44 PEOPLE/REU x 11 REU = 27 PP

INITIAL AVERAGE FLOW = 27 PPx 100 GPDPC = 0.0027 MGD = 0.0042 CFS

PEAKING FACTOR 4.0

INITIAL AND ULTIMATE PEAK DESIGN FLOW = 4.0 x 0.0042 = 0.0168 CFS

CAPACITY OF 8" SANITARY SEWER @ 0.40% = 0.75 CFS

SEWER CAPACITY = 0.75 CFS > 0.0168 CFS DESIGN FLOW

WATERMAIN BASIS OF DESIGN
INITIAL & ULTIMATE DESIGN

ESTIMATED INITIAL AND ULTIMATE LOAD = 11 RESIDENTIAL UNITS
P=POPULATION = 2.44 PEOPLE/REU x 11 REU = 27 PP

INITIAL AVERAGE FLOW = 27 PP x 100 GPDPC = 0.0027 MGD = 0.0042 CFS

PEAKING FACTOR = 2.5

INITIAL AND ULT PEAK DESIGN FLOW = 2.5 x 0.0042 MGD = 0.0105 MGD = 0.0162 CFS

ROCHESTER HILLS MICHIGAN

JSC2022-0002
PSP2022-0005
Revision 5

Received 3/16/2023
City of Rochester Hills Planning & Economic Development

CITY FILE #22-009 SECTION #7

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3 GENERATIONS ROCHESTER UTILITY PLAN (SOUTH)
WALTON BOULEVARD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

CITY SITE PLAN 7/21/2022
SITE PLAN 9/26/2022
SITE PLAN 1/2/2023

DRAWN	MCS
DESIGNED	MCS
APPROVED	MCP
P.E. JOB No.	21-419
SCALE	1"=30'

S4
SITE PLAN

LINETYPE LEGEND

- SUBJECT BOUNDARY
- OFFSITE PROPERTY BOUNDARY
- CONTOUR ELEVATION
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING GAS LINE
- EXISTING UTILITY EASEMENT
- EXISTING OVERHEAD ELECTRIC
- EXISTING CENTERLINE DITCH
- EXISTING SECTION LINE
- EXISTING BUILDING
- EXISTING WALK
- EXISTING BUILDING
- PROPOSED ROAD CENTERLINE
- PROPOSED LOT LINE
- PROPOSED BUILDING SETBACK
- PROPOSED DRAINAGE SWALE
- PROPOSED EASEMENT LINE
- PROPOSED SANITARY SEWER, MH
- PROPOSED STORM SEWER, CB, MH
- PROPOSED WATERMAIN, HYDRANT, GV&W
- PROPOSED CONTOUR ELEVATION
- PROPOSED ROAD PRIVATE EASEMENT
- PROPOSED HOUSE
- PROPOSED DRAINAGE DISTRICT
- PROPOSED ROAD WITH CURB AND PAVING
- PROPOSED DRIVEWAY
- PROPOSED CONCRETE WALK
- PROPOSED POINT ELEVATION

STORM WATER CALCULATIONS - STORM AREA 1

DETERMINTATION OF 'C' FACTOR

TOTAL AREA GOING INTO POND (GROSS & NET)	=	4.32	ACRES				
PAVING AREA (WALKS, DRIVES, ROAD)	=	0.84	ACRES	@	0.95	=	0.80
BUILDING AREA	=	0.46	ACRES	@	0.95	=	0.44
LAWN AREA	=	3.0	ACRES	@	0.25	=	0.74
DETENTION AND WETLAND (LOW WATER AREA)	=	0.05	ACRES	@	1.00	=	0.05
TOTAL AREA		4.32	ACRES				2.028

C avg. = TOTAL C / TOTAL ACRES = 2.03 / 4.32 = **0.47**

TIME OF CONCENTRATION IN SWALE

v = K x S^(1/2)

drain swale (ft) = 211 USE K = 1.2

SLOPE = 1%

v = 1.2 x (.01)^(1/2) = 0.12 ft/s

Tt = L/3600*v* = 0.488426 hrs = 29.31 min

TIME OF CONCENTRATION IN PIPE

v = 3 ft/sec average

pipe length (ft) = 192

Tt = L/3600*v* = 0.017778 hrs = 1.07 min

Tc = 29.31 + 1.07 = 30.37 min USE 20 min

100-YEAR INTENSITY CALCULATION

I100 = 30.20p^0.22 / (Tc +9.17) ^ 0.81 = 5.41 in/hr

CHANNEL PROTECTION VOLUME CALCULATION:

V(cpvc) = 4719 x C x A = 9570 cubic feet

CHANNEL PROTECTION CONTROLLED - EXTENDED CALCULATION:

V(ED) = 6897 x C x A = 13987 cubic feet

100 YEAR PEAK INFLOW CALCULATION:

Q100in = C x I100 x A = 10.98 cfs

100 YEAR ALLOWABLE AGRICULTURAL RUNOFF

Q(allow) = 0.2 cfs/acre = 0.86 cfs

VARIABLE RELEASE RATE CALCULATION:

Qvrr = 1.1055 - 0.206 xLN(A)= 1.1055 - 0.206 x LN(2.11) = 0.80 cfs/acre

Q100p = Qvrr x A = 3.48 cfs

STORAGE CURVE FACTOR CALCULATION:

R = 0.206 - 0.15 x LN (Q100P/Q100IN) = 0.38

100-YEAR RUNOFF CALCULATION:

V100R = 18985 x C x A = 38501 CF

100-YEAR STORAGE VOLUME CALCULATION:

V100D = V100R x R = 14572 CF

THE ALLOWABLE OUTLET FROM THE DOUBLE STANDPIPE WILL TAKE THE STORM WATER RUNOFF THROUGH A MECHANICAL CHAMBER FOR REMOVAL OF THE SEDIMENT AS PART OF THE AREA 2 PRIOR TO ENTERING THE SECOND BASIN.

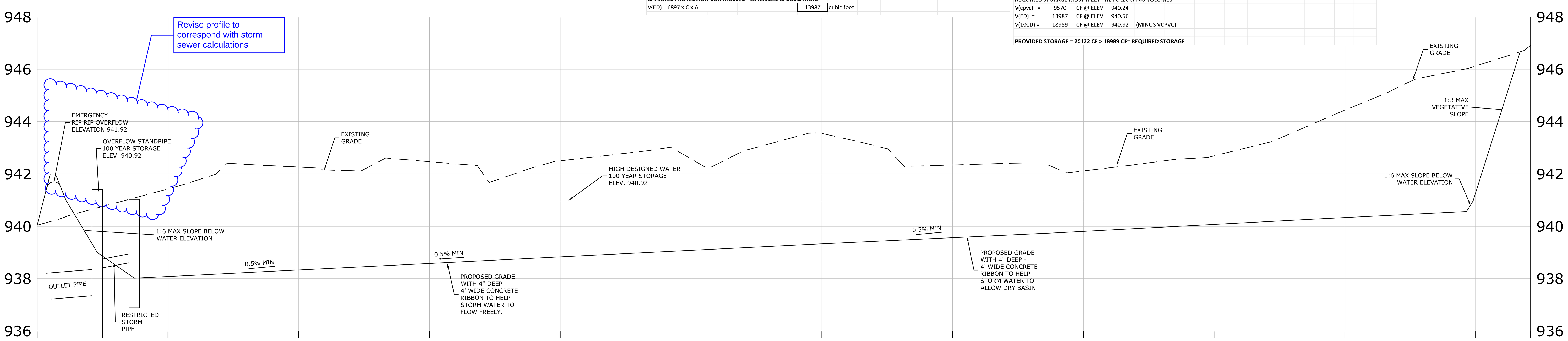
DETENTION BASIN 1			
ELEV	AREA (SQ.FT.)	VOLUME (CU.FT.)	ACCUM VOLUME
938	10		
939	2183	365	365
940	9481	5832	6197
941	18368	13925	20122
940.94 - 941.94 FREEBOARD			

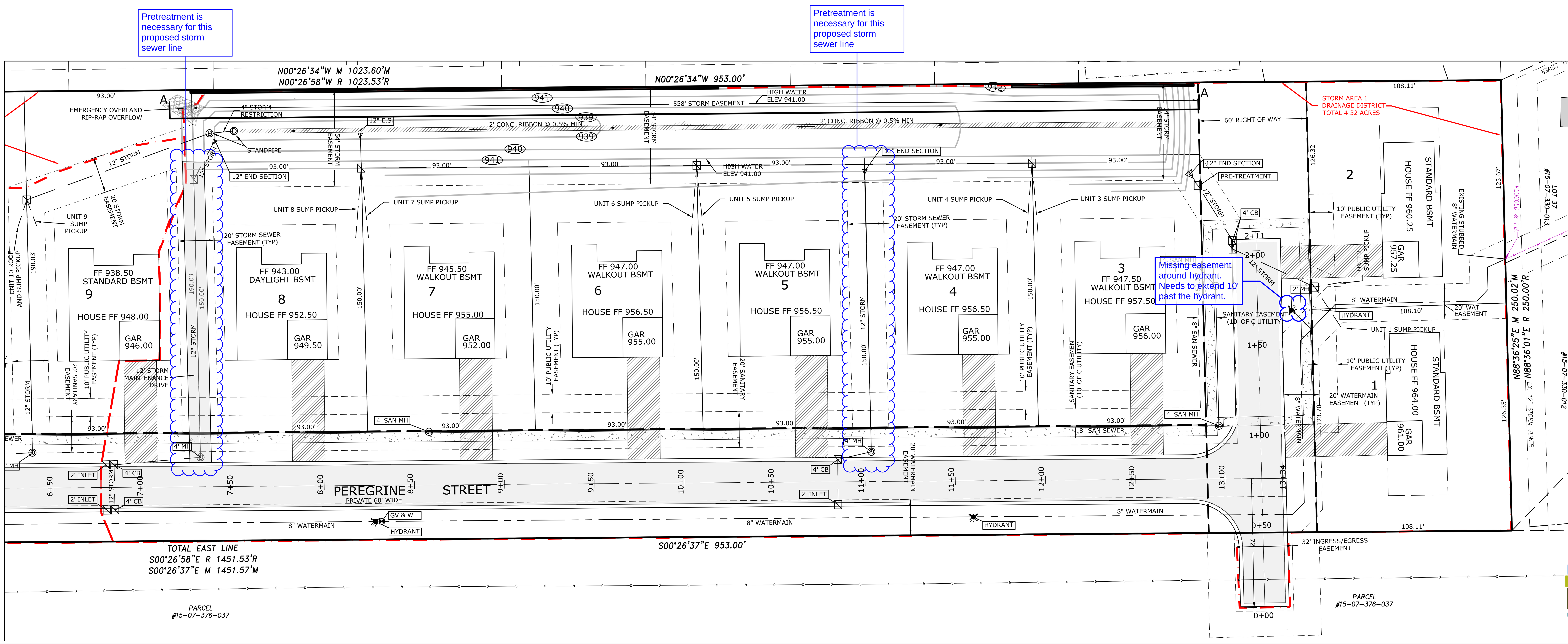
* VOLUME FROM 938 - 939 IS CALCULATED AS [(AREA @ 938 + AREA @ 939)/2]*(1/3) - AREA OF PYRAMID

REQUIRED STORAGE MUST MEET THE FOLLOWING VOLUMES

V(cpvc) =	9570	CF @ ELEV	940.24	
V(ED) =	13987	CF @ ELEV	940.56	
V(100D) =	18989	CF @ ELEV	940.92	(MINUS VCPVC)

PROVIDED STORAGE = 20122 CF > 18989 CF= REQUIRED STORAGE





NOTE: ALL STORM SEWERS TO MEET THE CITY OF ROCHESTER HILLS ENGINEERING REQUIREMENTS.

NOTE: ALL SANITARY TO MEET THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY WATER RESOURCE COMMISSIONER AND MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY. ENGINEERING REQUIREMENTS.

NOTE: ALL WATERMAIN TO MEET THE CITY OF ROCHESTER HILLS AND MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY. ENGINEERING REQUIREMENTS.

Consulting Civil Engineers
"Engineering A Better Michigan"
Powell Engineering & Associates, LLC
4700 Cornerstone Drive, White Lake, Michigan 48383
P: 248.714-9895 info@powellengineeringllc.com

NOTE: AS AN AID TO THE CONTRACTOR VARIOUS UTILITIES AND UNDERGROUND STRUCTURES ARE SHOWN ON THESE PLANS AND PROFILES. ALL INFORMATION CONCERNING ALL UTILITIES SHOWN ON THE PLANS AND PROFILES IS TAKEN FROM FIELD TOPO AND/OR AVAILABLE RECORDS. BUT THE OWNER AND ENGINEER DOES NOT GUARANTEE THEIR LOCATION. ELEVATION, OR THAT ADDITIONAL UNDERGROUND STRUCTURES OR UTILITIES MAY NOT BE ENCOUNTERED. IF THE CONTRACTOR DOES ENCOUNTER A PREVIOUSLY UNIDENTIFIED UTILITY AND OR STRUCTURE, OR DETERMINES THAT ONE OF THE UTILITIES / STRUCTURES SHOWN ON THESE PLANS IS INCORRECTLY LOCATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR DIRECTION ON HOW TO PROCEED. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES. NOTIFY "MISS DIG" AT 1-800-482-7171, 72 HOURS PRIOR TO THE START OF ANY CONSTRUCTION

BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171

3 GENERATIONS ROCHESTER UTILITY PLAN (NORTH)

WALTON BOULEVARD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

CITY SITE PLAN 7/21/2022
SITE PLAN 9/26/2022
SITE PLAN 1/2/2023

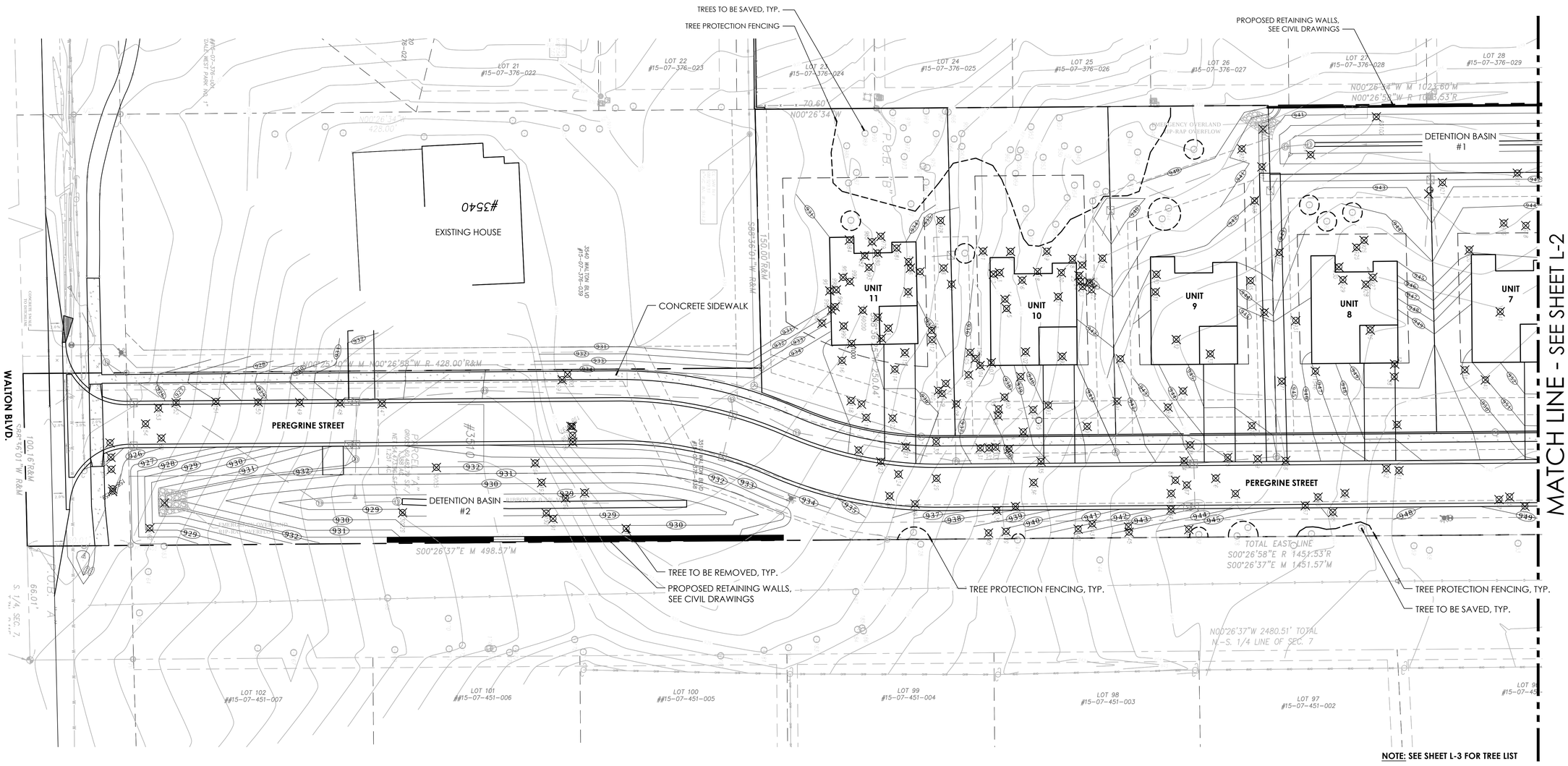
DRAWN	MCS
DESIGNED	MCS
APPROVED	MCP
P.E. JOB No.	21-419
SCALE	1"=30'

S5
SITE PLAN

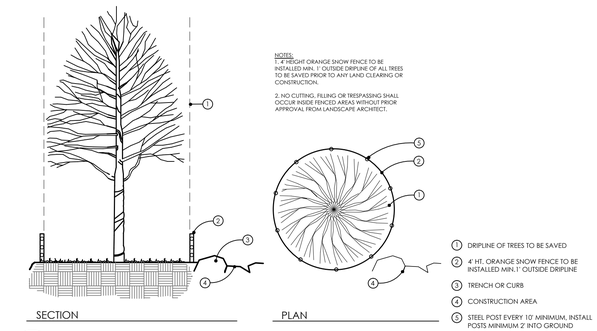
JSC2022-0002
PSP2022-0005
Revision 5

Received 3/16/2023
City of Rochester Hills Planning & Economic Development

CITY FILE #22-009 SECTION #7



NOTE: SEE SHEET L-3 FOR TREE LIST



TREE PROTECTION
NOT TO SCALE

TREE PROTECTION NOTE

No person may conduct any construction or development activity within the drip line of any regulated tree not approved for removal, including but not limited to land clearing, grubbing, trenching, grading, or filling, nor shall any person place solvents, building material, construction equipment, soil deposits, or other harmful materials within the drip line unless authorized by the parks and natural resources department.

During construction or development activity, persons shall not attach any device or wire to any regulated tree not approved for removal.

Replacement and relocated trees must be staked, fertilized, and mulched and shall be guaranteed by the tree removal permit holder to exhibit a normal growth cycle for at least one year following planting

excess tree replacement from planting larger trees will not be allowed to count for mitigation of tree removal at other development project.

Tree Mitigation Calculations

Regulated Trees Surveyed	414
Tree Exemptions	103 (building envelop (80), poor condition (23))
Remaining Regulated Trees	311 (414-103)
Trees Required to be Saved	125 (311 x 40%)
Regulated Trees Saved	137
Percentage of Trees Saved	44.05% (137/311)
Regulated Trees Removed	167
Regulated Trees Required	167 (1 to 1 replacement ratio less 23 in poor condition*)
Specimen Trees Removed	38 (1,045")
Specimen Trees Saved	33
Specimen Trees Credits	33 (1 - 2" tree credit per saved tree)
Specimen Trees Required	456" ((1,045" * 50% = 522" / 2 = 261 2" trees - 33 credits)
Regulated Replacements Required	167
Regulated Replacements Provided	**167**
Specimen Replacements Required	456"
Specimen Replacements Provided	**646"** (75-3" trees & 84-5" trees)**
Trees Paid into City Tree Fund	0

*The trees identified as being in poor condition are in such a state of decline with some showing signs of disease, it is our belief that these trees will be dead within the next two (2) years

**84 evergreens will be reduced from 12' ht. to 8' ht' if the 190" excess is not used on another of the developer's projects where excess mitigation is needed.

Sec. 126-399 (b). - Replacement tree location.

(b)*Relocation or replacement off site.* Where it is not feasible and desirable to relocate or replace trees on site, relocation or replacement may be made at another approved location in the city.

Regulated trees within building envelope still need to be replaced

414 regulate trees - 23 "dying" - 137 saved = 254 removed trees needing replacement of some sort

Confirm numbers add up Trees saved + Trees removed + Specimen trees removed = total regulated

Typical Evergreen replacement is to be 8 ft in height. Being that this is equivalent to a 2" deciduous tree replacement in the ordinance and keeping with this ratio, for specimen trees, Evergreens that are 12' in height will count towards 3" of replacement of the 50% dbh at this specific location.

NOT FOR CONSTRUCTION

0 15 30 60
SCALE: 1" = 30'-0"

NORTH

ROCHESTER HILLS MICHIGAN

JSC2022-0002
PSP2022-0005
Revision 5

Received 3/16/2023
City of Rochester Hills Planning & Economic Development

VVLA vert verde landscape architecture
734.249.3568 Plymouth, MI
james@vertverde.com

Issued For:

08.30.2021	Preliminary PUD Review
04.04.2022	Revision
07.22.2022	Revision
10.04.2022	Revision
11.07.2022	Revision
01.03.2023	Revision
03.15.2023	Revision

Project:

WALTON OAKS

A Planned Unit Development

East Walton Boulevard
Rochester Hills, Michigan

Project Sponsor:

Three Oaks Communities, LLC
P.O. Box 8307
Ann Arbor, MI 48107

Sheet Name:

Tree Removal & Preservation Plan - South

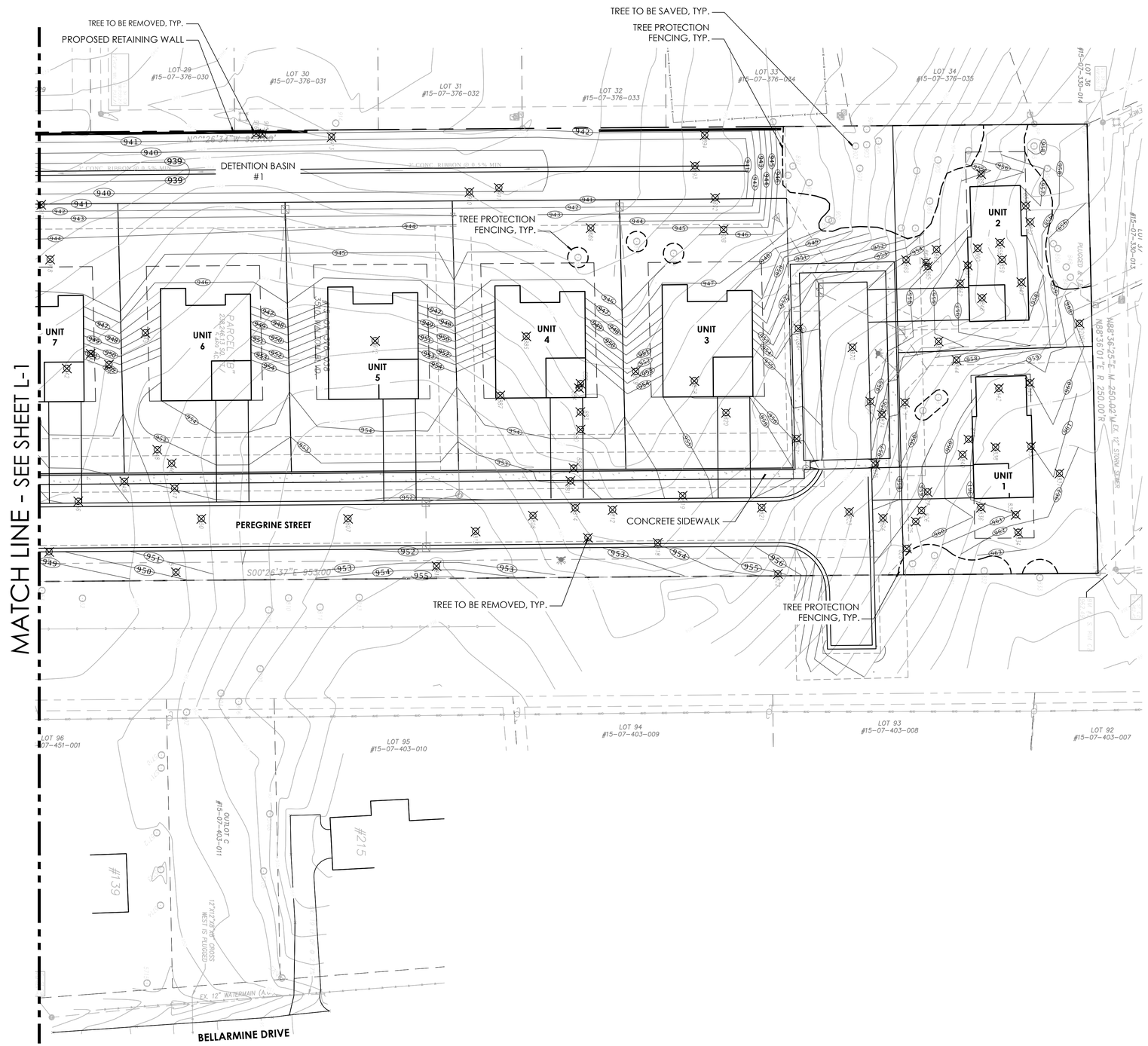
Seal:

STATE OF MICHIGAN JAMES GRAY LANDSCAPE ARCHITECT No. 1528 REGISTERED LANDSCAPE ARCHITECT

Drawn: JG

Project Number: 22.004

Sheet Number: L-1



811 Know what's below Call before you dig
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NOT FOR CONSTRUCTION

ROCHESTER HILLS MICHIGAN

JSC2022-0002
PSP2022-0005
Revision 5

Received 3/16/2023
City of Rochester Hills Planning & Economic Development

0 15 30 60
SCALE: 1" = 30'-0"

NORTH

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03.15.2023	Revision

Project:

WALTON OAKS

A Planned Unit Development

East Walton Boulevard
Rochester Hills, Michigan

Project Sponsor:

Three Oaks Communities, LLC
P.O. Box 8307
Ann Arbor, MI 48107

Sheet Name:

Tree Removal & Preservation Plan - North

Seal:

STATE OF MICHIGAN
JAMES GRAY
LANDSCAPE ARCHITECT
No. 1528
REGISTERED LANDSCAPE ARCHITECT

Drawn:	JG
Checked:	JG
Date:	06.2021
Scale:	1" = 30'-0"

Project Number:
22.004

Sheet Number:
L-1

Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Elevation	Speciman	Remove	Exempt
1	12	Elm	*Ulmus americana*	Good	932.81		X	X
2	15	Black Locust	*Robinia pseudoacacia*	Good	932.56		X	X
3	11	Black Locust	*Robinia pseudoacacia*	Fair	932.74		X	X
4	12	Black Maple	*Acer nigrum*	Good	933.15		X	
5	11	Black Locust	*Robinia pseudoacacia*	Fair	933.06		X	
6	12	Black Locust	*Robinia pseudoacacia*	Poor	933.17		X	X
7	13	Black Locust	*Robinia pseudoacacia*	Fair	933.33		X	
8	7	Hawthorn	*Crataegus*	Fair	934.16		X	
9	15	Black Locust	*Robinia pseudoacacia*	Good	934.52		X	
10	16	Elm	*Ulmus americana*	Good	935.35			
11	36	Black Walnut	*Juglans nigra*	Good	936.56	X	X	X
12	38	Black Walnut	*Juglans nigra*	Good	937.37	X	X	X
13	20	Black Walnut	*Juglans nigra*	Good	937.51	X	X	X
14	11	White Oak	*Quercus alba*	Good	937.20		X	X
15	8	White Oak	*Quercus alba*	Good	937.28		X	X
16	10	Black Walnut	*Juglans nigra*	Fair	938.35		X	X
17	18	Black Walnut	*Juglans nigra*	Fair	937.58	X	X	X
18	27	Black Walnut	*Juglans nigra*	Good	939.13	X	X	X
19	14	Black Maple	*Acer nigrum*	Good	939.25		X	X
20	22	Black Walnut	*Juglans nigra*	Good	940.00	X	X	X
21	10	Elm	*Ulmus americana*	Poor	939.88		X	X
22	11	Elm	*Ulmus americana*	Good	941.35		X	
23	12	Black Walnut	*Juglans nigra*	Fair	941.05		X	
24	14	Black Walnut	*Juglans nigra*	Good	940.78		X	
25	13	Black Walnut	*Juglans nigra*	Good	940.55		X	
26	13	Elm	*Ulmus americana*	Fair	940.98		X	
27	14	Black Walnut	*Juglans nigra*	Good	940.38		X	
28	33	Black Walnut	*Juglans nigra*	Good	939.92	X	X	
29	35	Black Walnut	*Juglans nigra*	Good	941.05	X	X	
30	28	Black Walnut	*Juglans nigra*	Good	942.74	X	X	X
31	16	Black Walnut	*Juglans nigra*	Good	943.44		X	X
32	10	Black Walnut	*Juglans nigra*	Good	944.95		X	X
33	18	Black Cherry	*Prunus serotina*	Dead	945.41	X	X	X
34	12	White Oak	*Quercus alba*	Good	945.25		X	
35	46	Black Walnut	*Juglans nigra*	Good	944.52	X	X	
36	6	Elm	*Ulmus americana*	Poor	945.96		X	X
37	13	Red Oak	*Quercus rubra*	Good	946.40		X	X
38	24	Red Oak	*Quercus rubra*	Good	946.51	X	X	
39	17	Elm	*Ulmus americana*	Good	946.73		X	
40	17	Elm	*Ulmus americana*	Good	947.04		X	
41	9,7	Mulberry	*Morus alba*	Fair	946.12		X	X
42	9	Ash	*Fraxinus*	Poor	947.08		X	X
43	10	Elm	*Ulmus americana*	Poor	947.26		X	X
44	13	Elm	*Ulmus americana*	Dead	948.08		X	X
45	16	Elm	*Ulmus americana*	Good	947.74		X	X
46	7	Ash	*Fraxinus*	Good	950.24		X	
47	6,5	Apple	*Malus ssp.*	Good	950.19		X	
48	8,6	Black Cherry	*Prunus serotina*	Good	949.72		X	
49	13	Scotch Pine	*Pinus sylvestris*	Good	948.90		X	
50	20	Elm	*Ulmus americana*	Good	950.74	X	X	
51	8,5,5	Apple	*Malus ssp.*	Good	949.65		X	
52	9	Apple	*Malus ssp.*	Good	948.35			
53	9	Honeylocust	*Gleditsia triacanthos*	Good	948.06			
54	8	Black Cherry	*Prunus serotina*	Dead	948.39		X	X
55	10	Black Cherry	*Prunus serotina*	Poor	948.28		X	X
56	8	Ash	*Fraxinus*	Good	948.12		X	
57	11,7,5	Apple	*Malus ssp.*	Good	948.44		X	
58	28	Scotch Pine	*Pinus sylvestris*	Good	948.74	X		
59	29	Scotch Pine	*Pinus sylvestris*	Good	948.85	X		
60	14	Red Oak	*Quercus rubra*	Good	946.81			
61	8,7,8	Black Cherry	*Prunus serotina*	Poor	948.13		X	X
62	25	Black Walnut	*Juglans nigra*	Good	947.63	X	X	
63	15	Black Cherry	*Prunus serotina*	Fair	947.33		X	
64	8	Elm	*Ulmus americana*	Good	946.17		X	
65	9	Red Oak	*Quercus rubra*	Good	946.14		X	
66	8	Elm	*Ulmus americana*	Good	945.58		X	
67	10	Elm	*Ulmus americana*	Good	945.42		X	
68	11	Elm	*Ulmus americana*	Good	945.00		X	
69	13	Elm	*Ulmus americana*	Good	944.48		X	
70	9	Elm	*Ulmus americana*	Good	944.65		X	
71	7	Elm	*Ulmus americana*	Good	945.21		X	
72	11	Black Maple	*Acer nigrum*	Good	944.68		X	
73	8	Ash	*Fraxinus*	Fair	943.86		X	
74	9	Black Cherry	*Prunus serotina*	Poor	944.31		X	X
75	8	Elm	*Ulmus americana*	Good	944.34		X	
76	18	Elm	*Ulmus americana*	Good	944.54		X	
77	10	Elm	*Ulmus americana*	Good	944.75		X	
78	13	Elm	*Ulmus americana*	Good	945.70			
79	8	Red Oak	*Quercus rubra*	Good	945.25			
80	19	Scotch Pine	*Pinus sylvestris*	Good	945.67	X		
81	11	Elm	*Ulmus americana*	Good	945.47			
82	12	Blue Spruce	*Picea pungens*	Good	945.22			
83	16	Elm	*Ulmus americana*	Good	945.55		X	
84	22	Black Cherry	*Prunus serotina*	Poor	944.92	X	X	X
85	13	Elm	*Ulmus americana*	Fair	944.71		X	
86	8	Elm	*Ulmus americana*	Good	944.70		X	
87	10	Black Cherry	*Prunus serotina*	Fair	944.68		X	
88	9	Hawthorn	*Cretaegus*	Good	N/F			
89	8	Elm	*Ulmus americana*	Good	943.75		X	
90	7	Black Walnut	*Juglans nigra*	Fair	942.90		X	X
91	9	Elm	*Ulmus americana*	Good	942.09		X	
92	9	Elm	*Ulmus americana*	Good	940.27		X	X
93	18	Elm	*Ulmus americana*	Dead	940.04		X	X
94	16	Black Locust	*Robinia pseudoacacia*	Good	939.29		X	
95	10	Elm	*Ulmus americana*	Fair	940.40		X	
96	7	Black Cherry	*Prunus serotina*	Fair	939.63		X	
97	21	Black Cherry	*Prunus serotina*	Poor	942.41	X	X	X
98	13	Elm	*Ulmus americana*	Good	938.34		X	
99	17	Black Locust	*Robinia pseudoacacia*	Good	938.62		X	
100	10,5	Black Locust	*Robinia pseudoacacia*	Good	937.96		X	
101	12	Black Locust	*Robinia pseudoacacia*	Good	937.82		X	
102	17	Black Locust	*Robinia pseudoacacia*	Good	938.25		X	X
103	11	Black Locust	*Robinia pseudoacacia*	Good	936.60		X	X
104	6	Elm	*Ulmus americana*	Fair	936.09		X	X
105	11	Black Locust	*Robinia pseudoacacia*	Fair	935.43		X	X
106	15	Black Locust	*Robinia pseudoacacia*	Good	936.02		X	X
107	14	Black Locust	*Robinia pseudoacacia*	Poor	936.18		X	X
108	11	Elm	*Ulmus americana*	Good	936.56		X	
109	16	Black Cherry	*Prunus serotina*	Good	935.87		X	
110	13	Black Locust	*Robinia pseudoacacia*	Good	935.65		X	
111	14	Black Locust	*Robinia pseudoacacia*	Good	935.65		X	
112	19	Black Locust	*Robinia pseudoacacia*	Good	934.28		X	
113	7	Ash	*Fraxinus*	Fair	934.12		X	
114	12	Black Walnut	*Juglans nigra*	Good	933.70		X	
115	17	Black Locust	*Robinia pseudoacacia*	Good	933.70		X	
116	11	Black Locust	*Robinia pseudoacacia*	Poor	932.03		X	X
117	8	Black Locust	*Robinia pseudoacacia*	Good	932.89		X	
118	9	Hawthorn	*Cretaegus*	Good	932.64		X	
119	15	Elm	*Ulmus americana*	Good	933.20		X	
120	13	Black Locust	*Robinia pseudoacacia*	Fair	934.06		X	
121	16	Black Locust	*Robinia pseudoacacia*	Good	935.19		X	
122	16	Black Locust	*Robinia pseudoacacia*	Good	933.79		X	
123	10	Elm	*Ulmus americana*	Good	934.74		X	
124	10,6	Apple	*Malus ssp.*	Poor	935.48		X	X
125	14	Black Locust	*Robinia pseudoacacia*	Good	935.61		X	
126	13	Black Cherry	*Prunus serotina*	Fair	937.01		X	
127	9	Elm	*Ulmus americana*	Good	937.02			
128	11	Elm	*Ulmus americana*	Good	937.61			
129	9	Elm	*Ulmus americana*	Good	937.30		X	
130	10	Elm	*Ulmus americana*	Good	936.37		X	

Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Elevation	Speciman	Remove	Exempt
131	11	Elm	*Ulmus americana*	Good	938.34		X	
132	10	Elm	*Ulmus americana*	Good	938.51		X	
133	12	Elm	*Ulmus americana*	Good	938.64		X	
134	8	Elm	*Ulmus americana*	Good	939.74		X	
135	9	Ash	*Fraxinus*	Poor	941.20		X	X
136	9,8,8,8	Black Cherry	*Prunus serotina*	Fair	941.69		X	
137	10	Elm	*Ulmus americana*	Fair	940.67		X	
138	7	Ash	*Fraxinus*	Poor	939.70		X	X
139	10,8	Elm	*Ulmus americana*	Good	940.09		X	
140	6	Elm	*Ulmus americana*	Fair	939.51		X	
141	10	Apple	*Malus ssp.*	Good	940.70			
142	13	Elm	*Ulmus americana*	Good	943.10		X	
143	9	Elm	*Ulmus americana*	Good	943.34		X	
144	12	Elm	*Ulmus americana*	Good	943.76			
145	9	Elm	*Ulmus americana*	Good	944.53			
146	13	Elm	*Ulmus americana*	Good	944.58			
147	24	Sugar Maple	*Acer saccharum*	Good		X	X	
148	20	Sugar Maple	*Acer saccharum*	Good		X	X	
149	14	Sugar Maple	*Acer saccharum*	Good			X	
150	22	Sugar Maple	*Acer saccharum*	Good		X	X	
151	27	Sugar Maple	*Acer saccharum*	Good		X	X	
152	19	Sugar Maple	*Acer saccharum*	Good		X	X	
153	18	Sugar Maple	*Acer saccharum*	Good		X	X	
154	20	Sugar Maple	*Acer saccharum*	Good		X	X	
155	28,8	Norway Spruce	*Picea abies*	Good		X	X	
156	22	Norway Spruce	*Picea abies*	Good		X	X	
157	11	Norway Spruce	*Picea abies*	Good			X	
158	29	Norway Spruce	*Picea abies*	Good		X	X	
159	13	Elm	*Ulmus americana*	Poor			X	X
160	20,12	Silver Maple	*Acer saccharinum*	Good		X	X	
161	24	Silver Maple	*Acer saccharinum*	Good		X	X	
162	23	Sugar Maple	*Acer saccharum*	Good		X	X	
163	8,12	Silver Maple	*Acer saccharinum*	Good				
164	14	Sugar Maple	*Acer saccharum*	Good				
165	28	Silver Maple	*Acer saccharinum*	Good		X		
166	7	Elm	*Ulmus americana*	Good				
167	14	Elm	*Ulmus americana*	Good				
168	24,15	Apple	*Malus ssp.*	Poor		X		X
169	23	Red Maple	*Acer rubrum*	Good		X		
170	19	Silver Maple	*Acer saccharinum*	Good		X		
171	22	Red Maple	*Acer rubrum*	Good		X		
172	7	Red Maple	*Acer rubrum*	Good				
173	10,11	Red Maple	*Acer rubrum*	Good				
174	10	Red Maple	*Acer rubrum*	Good				
175	12	Shellbark Hickory	*Carya laciniosa*	Good				
176	6	Norway Maple	*Acer platanoides*	Good				
177	8	Norway Maple	*Acer platanoides*	Good				
178	8,10,10	Apple	*Malus ssp.*	Good				
179	12	Black Cherry	*Prunus serotina*	Good				
180	6,9	Boxelder	*Acer negundo*	Good				
181	26,24	Boxelder	*Acer negundo*	Poor		X		
182	36	Boxelder	*Acer negundo*	Good		X		
183	52	Boxelder	*Acer negundo*	Good		X		
184	9	Mulberry	*Morus alba*	Fair				
185		DEAD						
186	12	Mulberry	*Morus alba*	Fair				
187	12	Mulberry	*Morus alba*	Good				
188	17,11	Silver Maple	*Acer saccharinum*	Good			X	
189	12	Sugar Maple	*Acer saccharum*	Good			X	
190	11	Sugar Maple	*Acer saccharum*	Good			X	
191	20	Norway Spruce	*Picea abies*	Good		X	X	
192	13	Norway Spruce	*Picea abies*	Good			X	
193	26	Norway Spruce	*Picea abies*	Good		X	X	
194	70	Silver Maple	*Acer saccharinum*	Good		X	X	
195	8	Sugar Maple	*Acer saccharum*	Good			X	
196	9	Sugar Maple	*Acer saccharum*	Good			X	
197	12	Sugar Maple	*Acer saccharum*	Good			X	
198	14	Sugar Maple	*Acer saccharum*	Good			X	
199	28,34	Cottonwood	*Populus deltoides*	Good		X	X	
200	20,30	Cottonwood	*Populus deltoides*	Good		X	X	
801	NoTag							
802	12,12	Black Cherry	*Prunus serotina*	Fair	951.64			
803	NoTag							
804	18	Black Cherry	*Prunus serotina*	Good	952.91	X		
805	17	Norway Maple	*Acer platanoides*	Good	952.85			
806	28,30	Red Oak	*Quercus rubra*	Good	953.83	X		
807	21	Ash	*Fraxinus*	Poor	954.26		X	X
808	7	Black Walnut	*Juglans nigra*	Good	952.78		X	
809	12	Silver Maple	*Acer saccharinum*	Good	953.89			
810	19	Norway Spruce	*Picea abies*	Good	953.66	X		
811	20	Austrian Pine	*Pinus nigra*	Good	954.42	X		
812	16	Cottonwood	*Populus deltoides*	Good	950.38		X	
813	17	White Spruce	*Picea glauca*	Good	954.92			
814	21	Elm	*Ulmus americana*	Good	950.89	X	X	
815	15	Black Walnut	*Juglans nigra*	Good	954.47		X	
816	16,28	Mulberry	*Morus alba*	Good	955.11	X		
817	8,13	Norway Maple	*Acer platanoides*	Fair	951.08		X	
818	15	Black Walnut	*Juglans nigra*	Good	950.82		X	
819	14	Norway Maple	*Acer platanoides*	Good	950.44		X	
820	10	Ash	*Fraxinus*	Poor	950.30		X	X
821	7	Black Walnut	*Juglans nigra*	Good	952.42		X	
822	10	Black Walnut	*Juglans nigra*	Good	954.61		X	
823	22	Black Walnut	*Juglans nigra*	Good	956.83	X	X	
824	9	Black Walnut	*Juglans nigra*	Good	957.94		X	
825	15	Black Walnut	*Juglans nigra*	Good	959.99		X	
826	10	Black Walnut	*Juglans nigra*	Good	959.89		X	
827	9	Black Walnut	*Juglans nigra*	Good	959.71		X	
828	6	Black Walnut	*Juglans nigra*	Good	959.06		X	
829	8	Black Walnut	*Juglans nigra*	Good	960.16			
830	14	Black Walnut	*Juglans nigra*	Good	960.79			
831	9	Black Walnut	*Juglans nigra*	Good	961.84			
832	68	Black Walnut	*Juglans nigra*	Good	963.76	X		
833	17	Black Walnut	*Juglans nigra*	Good	963.60			
834	8	Black Walnut	*Juglans nigra*	Good	962.64		X	X
835	18	Black Walnut	*Juglans nigra*	Good	962.99	X	X	X
836	11	Black Walnut	*Juglans nigra*	Good	962.16		X	X
837	16	Black Walnut	*Juglans nigra*	Good	962.50		X	
838	8	Apple	*Malus ssp.*	Poor	961.38		X	X
839	9	Black Cherry	*Prunus serotina*	Fair	961.81		X	X
840	6,8	Apple	*Malus ssp.*	Poor	960.34		X	
841	Multi	Apple	*Malus ssp.*	Fair	960.57		X	
842	Multi	Apple	*Malus ssp.*	Poor	960.49		X	X
843	Multi	Apple	*Malus ssp.*	Poor	960.54		X	X
844	9	Black Cherry	*Prunus serotina*	Poor	958.15		X	
845	9	Black Cherry	*Prunus serotina*	Good	956.67		X	
846	10	Apple	*Malus ssp.*	Poor	956.36		X	X
847	8,6,10,9	Red Maple	*Acer rubrum*	Poor	958.15		X	X
848	10	Black Walnut	*Juglans nigra*	Good	959.89			
849	7	Norway Maple	*Acer platanoides*	Good	959.87			
850	8	Black Walnut	*Juglans nigra*	Good	959.97			
851	6	Black Walnut	*Juglans nigra*	Good	959.79			
852	7,8,10	Black Cherry	*Prunus serotina*	Good	959.09		X	
853	9	Black Walnut	*Juglans nigra*	Good	958.96		X	X
854	16	Black Walnut	*Juglans nigra*	Good	959.12			
855	7	Mulberry	*Morus alba*	Good	958.24			
856	9	Black Walnut	*Juglans nigra*	Good	954.78			
857	12	Black Walnut	*Juglans nigra*	Good	956.14		X	X
858	13	Black Walnut	*Juglans nigra*	Good	957.67		X	X
859	7	Black Walnut	*Juglans nigra*	Good	957.35		X	X
860	11	Black Walnut	*Juglans nigra*	Good	956.44		X	X

Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Elevation	Speciman	Remove	Exempt
861	8	Black Walnut	*Juglans nigra*	Good	955.46		X	
862	8	Black Walnut	*Juglans nigra*	Good	955.17		X	
863	7,10	Boxelder	*Acer negundo*	Fair	953.79		X	
864	9	Boxelder	*Acer negundo*	Good	953.06		X	
865	9	Boxelder	*Acer negundo*	Good	953.23		X	
866	7	Black Walnut	*Juglans nigra*	Good	951.93		X	
867	12	Black Cherry	*Prunus serotina*	Dead	951.94			
868	6,9	Boxelder	*Acer negundo*	Fair	952.49			
869	8	Boxelder	*Acer negundo*	Poor	953.30			
870	8,8,7,6	Apple	*Malus ssp.*	Fair	954.34		X	
871	12	Ash	*Fraxinus*	Dead	957.01		X	
872	8	Apple	*Malus ssp.*	Poor	958.01			
873	7	Black Cherry	*Prunus serotina*	Good	958.42			
874	6,14	Apple	*Malus ssp.*	Good	956.31		X	
875	10	Ash	*Fraxinus*	Dead	956.29		X	X
876	17	Elm	*Ulmus americana*	Good	956.07		X	
877	10	White Pine	*Pinus strobus*	Good	951.89		X	
878	Multi	Apple	*Malus ssp.*	Fair	948.89		X	X
879	8	Ash	*Fraxinus*	Fair	947.05		X	
880	7	Black Cherry	*Prunus serotina*	Good	948.85		X	
881	Multi	Apple	*Malus ssp.*	Poor	950.36		X	X
882	Multi	Apple	*Malus ssp.*	Poor	951.41		X	X
883	8	Black Cherry	*Prunus serotina*	Poor	948.63		X	
884	7,7	Black Cherry	*Prunus serotina*	Good	947.66		X	X
885	7	Black Cherry	*Prunus serotina*	Good	947.56		X	X
886	10	Ash	*Fraxinus*	Poor	948.48		X	X
887	11	Black Cherry	*Prunus serotina*	Good	951.13		X	X
888	Multi	Apple	*Malus ssp.*	Poor	944.65			
889	15	Ash	*Fraxinus*	Poor	944.23		X	X
890	8,10	Apple	*Malus ssp.*	Poor	N/F			
891	21	Cottonwood	*Populus deltoides*	Good	944.82			
892	22,19	Cottonwood	*Populus deltoides*	Good	945.67		X	
893	41	Cottonwood	*Populus deltoides*	Good	945.27	X	X	
894	50	Cottonwood	*Populus deltoides*	Good	945.62	X	X	
895	13	Boxelder	*Acer negundo*	Fair	947.02			
896	14	Boxelder	*Acer negundo*	Fair	946.50			
897	10	Ash	*Fraxinus*	Poor	946.91			
898	10,13	Boxelder	*Acer negundo*	Fair	947.11			
899	7	Ash	*Fraxinus*	Fair	947.70			
900	Multi	Apple	*Malus ssp.*	Poor	947.91			
901	10,7,9,9	Boxelder	*Acer negundo*	Fair	949.28			
902	15	Black Walnut	*Juglans nigra*	Good	949.39			
903	10	Black Cherry	*Prunus serotina*	Fair	949.35			
904	7	Black Walnut	*Juglans nigra*	Good	949.63			
905	7	Boxelder	*Acer negundo*	Poor	950.17			
906	9	Apple	*Malus ssp.*	Fair	953.22			
907	10	Boxelder	*Acer negundo*	Good	951.94			
908	8	Boxelder	*Acer negundo*	Fair	946.28		X	
909	24	Scotch Pine	*Pinus sylvestris*	Good	945.91	X		
910	8	Black Walnut	*Juglans nigra*	Fair	943.84		X	
911	9	Boxelder	*Acer negundo*	Fair	942.81		X	
912	8,6	Scotch Pine	*Pinus sylvestris*	Good	950.68		X	X
913	18,15	Cottonwood	*Populus deltoides*	Good	942.05			
914	38	Cottonwood	*Populus deltoides*	Good	942.61	X	X	
915	17	Cottonwood	*Populus deltoides*	Good	941.58		X	
916	16	Cottonwood	*Populus deltoides*	Good	941.44		X	
917	7	Ash	*Fraxinus*	Good	942.95		X	
918	17	Elm	*Ulmus americana*	Good	944.25		X	
919	16	Red Oak	*Quercus rubra*	Good	943.80		X	
920	11	Ash	*Fraxinus*	Poor	944.28		X	X
921	18	Elm	*Ulmus americana*	Good	943.27		X	
922	9	Elm	*Ulmus americana*	Fair	943.70		X	
923	13	Elm	*Ulmus americana*	Good	944.53			
924	8	Elm	*Ulmus americana*	Poor	944.23			
925	36	Black Walnut	*Juglans nigra*	Good	945.89	X	X	X
926	9	Elm	*Ulmus americana*	Fair	945.41		X	X
927	13,9	Elm	*Ulmus americana*	Good	946.06		X	X
928	8	Elm	*Ulmus americana*	Good	945.89		X	X
929	7	Elm	*Ulmus americana*	Good	945.71		X	X
930	8	Elm	*Ulmus americana*	Fair	945.30		X	X
931	8	Black Cherry	*Prunus serotina*	Poor	945.46		X	X
932	8	Elm	*Ulmus americana*	Poor	944.04		X	X
933	41	Black Walnut	*Juglans nigra*	Good	943.41	X		
934	8	Elm	*Ulmus americana*	Good	941.75		X	
935	8,8,8	Apple	*Malus ssp.*	Fair	940.24		X	
936	26	Black Walnut	*Juglans nigra*	Good	940.25	X		
937	12	Elm	*Ulmus americana*	Fair	940.91		X	
938	19	Boxelder	*Acer negundo*	Good	941.40		X	
939	21	Elm	*Ulmus americana*	Good	938.97			
940	9	Elm	*Ulmus americana*	Good	938.84			
941	10	Elm	*Ulmus americana*	Good	939.24			
942	20	Black Walnut	*Juglans nigra*	Good	939.35	X		
943	16	Black Walnut	*Juglans nigra*	Good	939.98			
944	9	Elm	*Ulmus americana*	Fair	940.24			
945	7	Black Walnut	*Juglans nigra*	Good	940.53			
946	10	Elm	*Ulmus americana*	Good	939.73			
947	10	White Oak	*Quercus alba*	Good	939.91			
948	12	Red Oak	*Quercus rubra*	Good	939.62			
949	10	Elm	*Ulmus americana*	Fair	938.69			
950	30	Red Oak	*Quercus rubra*	Good	938.85	X		
951	29	Elm	*Ulmus americana*	Good	938.22	X		
952	9	Yellow Birch	*Betula alleghaniensis*	Good	937.73			
953	32	Yellow Birch	*Betula alleghaniensis*	Good	938.31	X		
954	18	Red Oak	*Quercus rubra*	Good	939.45	X		
955	11	Elm	*Ulmus americana*	Fair	938.91			
956	13	Red Oak	*Quercus rubra*	Good	939.17			
957	27	Red Oak	*Quercus rubra*	Good	938.61	X		
958	12	Elm	*Ulmus americana*	Fair	937.76			
959	10	Black Maple	*Acer nigrum*	Good	937.41			
960	15	Black Cherry	*Prunus serotina*	Dead	937.18			
961	16	Black Walnut	*Juglans nigra*	Poor	937.37			
962	15	Black Maple	*Acer nigrum*	Good	936.60			
963	36	White Pine	*Pinus strobus*	Good	935.13	X		
964	29	White Pine	*Pinus strobus*	Good	934.51	X		
965	21	Black Cherry	*Prunus serotina*	Good	935.00	X		
966	11	Black Cherry	*Prunus serotina*	Good	934.04			
967	11	Black Cherry	*Prunus serotina*	Good	933.98			
968	6	Elm	*Ulmus americana*	Good	933.76			
969	17,16	Elm	*Ulmus americana*	Good	933.76			
970	13	Black Locust	*Robinia pseudoacacia*	Good	933.25			
971	22	Black Locust	*Robinia pseudoacacia*	Good	933.42	X		
972	18	Black Cherry	*Prunus serotina*	Poor	933.38	X		
973	12	Elm	*Ulmus americana*	Good	933.47			
974	9	Black Locust	*Robinia pseudoacacia*	Poor	934.10			
975	19	Black Locust	*Robinia pseudoacacia*	Good	934.15			
976	12	Black Locust	*Robinia pseudoacacia*	Dead	933.65			
977	20	Black Locust	*Robinia pseudoacacia*	Poor	933.46	X		
978	21	White Pine	*Pinus strobus*	Dead	934.15	X	X	X
979	11	Elm	*Ulmus americana*	Good	932.10		X	X
980	15	Black Locust	*Robinia pseudoacacia*	Fair	932.26		X	X
981	11	Black Locust	*Robinia pseudoacacia*	Poor	932.68			
982	7	Elm	*Ulmus americana*	Good	931.59		X	X
983	8	Black Locust	*Robinia pseudoacacia*	Poor	932.00		X	X
984	9	Black Locust	*Robinia pseudoacacia*	Poor	931.54		X	X
985	11	Black Walnut	*Juglans nigra*	Good	931.78			
986	20	Black Locust	*Robinia pseudoacacia*	Good	931.98			
987	19,10	Silver Maple	*Acer saccharinum*	Good	931.86	X		
988	11	Black Locust	*Robinia pseudoacacia*	Good	932.13			
989	15	Black Locust	*Robinia pseudoacacia*	Good	932.43			
990	9	Black Locust	*Robinia pseudoacacia*	Fair	932.32			

Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Elevation	Speciman	Remove	Exempt
991	13	Black Locust	*Robinia pseudoacacia*	Good	931.26		X	X
992	10	Black Walnut	*Juglans nigra*	Good	931.32		X	X
993	11	Elm	*Ulmus americana*	Good	931.80		X	X
994	11	Black Locust	*Robinia pseudoacacia*	Poor	931.32		X	X
995	12	Elm	*Ulmus americana*	Good	931.41		X	X
996	11	Black Locust	*Robinia pseudoacacia*	Fair	931.14		X	X
997	15	Black Locust	*Robinia pseudoacacia*	Fair	931.15		X	X
998	7	Black Locust	*Robinia pseudoacacia*	Poor	931.12		X	X
999	13	Black Locust	*Robinia pseudoacacia*	Good	931.71		X	X
1000	11	Black Locust	*Robinia pseudoacacia*	Good	932.12		X	X
5704	15	Norway Maple	*Acer platanoides*	Good	953.01			
5705	14	Norway Maple	*Acer platanoides*	Good	953.21			
5706	12	Norway Maple	*Acer platanoides*	Good	953.85			
5710	16	Silver Maple	*Acer saccharinum*	Good	950.59			
5711	22	Silver Maple	*Acer saccharinum*	Good	950.74	X		
5712	7	Blue Spruce	*Picea pungens*	Good	949.91			
5713	10	Blue Spruce	*Picea pungens*	Good	950.06			
5714	9	Blue Spruce	*Picea pungens*	Good	949.67			
5715	13	Blue Spruce	*Picea pungens*	Good	949.49			
11546	9	Black Walnut	*Juglans nigra*	Good	945.64		X	
60000	9	Black Locust	*Robinia pseudoacacia*	Good	932.01		X	X
77084	9	Black Cherry	*Prunus serotina*	Good	951.32		X	
80100	18	Black Walnut	*Juglans nigra*	Good	942.03	X	X	
82050	6,6,7	Mulberry	*Morus alaba*	Good	961.05		X	

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Issued For:

08.30.2021	Preliminary PUD Review
04.04.2022	Revision
07.22.2022	Revision
10.04.2022	Revision
11.07.2022	Revision
01.03.2023	Revision
03.15.2023	Revision

Project:

WALTON OAKS

A Planned Unit Development

East Walton Boulevard
Rochester Hills, Michigan

Project Sponsor:

Three Oaks Communities, LLC
P.O. Box 8307
Ann Arbor, MI 48107

Sheet Name:

Tree List

Seal:

Drawn: JG
Checked: JG
Date: 06.2021
Scale: No Scale

ROCHESTER HILLS MICHIGAN

JSC2022-0002
PSP2022-0005
Revision 5

Received
3/16/2023
City of Rochester Hills Planning & Economic Development

NOT FOR CONSTRUCTION

Project Number: 22.004

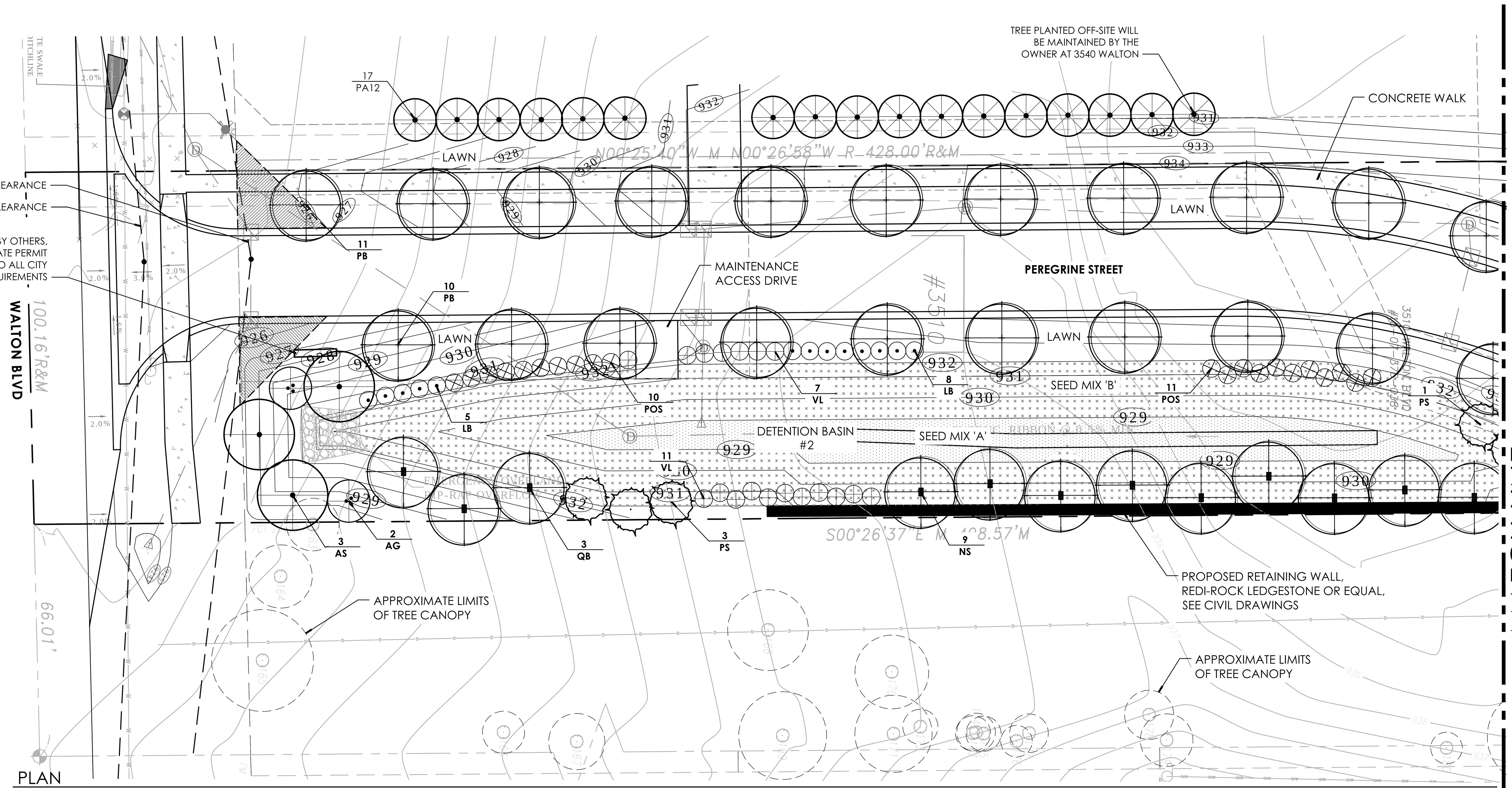
Sheet Number: L-3

Seed Mix 'A'

Stormwater Seed Mix			
Botanical Name	**Common Name**		**PLS Ounces/Acre**
Permanent Grasses/Sedges/Rushes:			
Carex cristatella	Crested Oval Sedge		1.00
Carex frankii	Bristly Cattail Sedge		1.00
Carex lurida	Bottlebrush Sedge		2.00
Carex sparganioides v. cephaloidea	Rough-Clustered Sedge		2.00
Carex vulpinoidea	Brown Fox Sedge		6.00
Eleocharis ovata	Blunt Spike Rush		0.50
Elymus virginicus	Virginia Wild Rye		12.00
Glyceria striata	Fowl Manna Grass		1.25
Juncus effusus	Common Rush		1.00
Juncus torreyi	Torrey's Rush		0.25
Leersia oryzoides	Rice Cut Grass		1.00
Panicum virgatum	Switch Grass		2.00
Scirpus atrovirens	Dark Green Rush		1.00
Scirpus cyperinus	Wool Grass		0.50
Scirpus fluviatilis	River Bulrush		0.25
Scirpus validus	Great Bulrush		6.00
		Total	**45.75**
Temporary Cover:			
Avena sativa	Common Oat		360.00
Lolium multiflorum	Annual Rye		116.00
		Total	476.00
Forbs:			
Alisma spp.	Water Plantain (Various Mix)		4.25
Asclepias incarnata	Swamp Milkweed		1.50
Bidens spp.	Bidens (Various Mix)		2.00
Helenium autumnale	Sneezeweed		3.00
Mimulus ringens	Monkey Flower		1.00
Penthorum sedoides	Ditch Stonecrop		0.50
Polygonum pensylvanicum	Smartweed		4.00
Rudbeckia subtomentosa	Sweet Black-Eyed Susan		1.00
Sagittaria latifolia	Broad-Leaf Arrowhead		1.00
Senna hebecarpa	Wild Senna		1.00
Thalictrum dasycarpum	Purple Meadow Rue		2.00
		Total	21.25

Seed Mix 'B'

Low-Profile Prairie Seed Mix			
Botanical Name	**Common Name**		**PLS Ounces/Acre**
Permanent Grasses:			
Bouteloua curtipendula	Side Oats Grama		10.00
Carex spp.	Prairie Sedge Mix		1.00
Elymus canadensis	Canada Wild Rye		16.00
Koeleria pyramidata	June Grass		2.00
Panicum virgatum	Switch Grass		1.00
Schizachyrium scoparium	Little Bluestem		28.00
Sporobolus heterolepis	Prairie Dropseed		3.00
		Total	**61.00**
Temporary Cover:			
Avena sativa	Common Oat		360.00
Lolium multiflorum	Annual Rye		120.00
		Total	**480.00**
Forbs:			
Amorpha canescens	Lead Plant		1.00
Anemone cylindrica	Thimbleweed		0.50
Aquilegia canadensis	Wild Columbine		0.50
Asclepias tuberosa	Butterfly Milkweed		2.00
Aster ericoides	Heath Aster		0.25
Aster laevis	Smooth Blue Aster		0.75
Aster novae-angliae	New England Aster		0.25
Baptisia lactea	White Wild Indigo		1.00
Chamaecrista fasciculata	Partridge Pea		9.00
Coreopsis lanceolata	Sand Coreopsis		1.50
Coreopsis palmata	Prairie Coreopsis		1.00
Dalea candidum	White Prairie Clover		1.50
Dalea purpurea	Purple Prairie Clover		1.50
Echinacea purpurea	Broad-Leaved Purple Coneflower		3.50
Eryngium yuccifolium	Rattlesnake Master		2.50
Kuhunia eupatoides	False Bone-Set		0.50
Lespedeza capitata	Round-Head Bush Clover		2.00
Liatris aspera	Rough Blazing Star		0.50
Lupinus perennis	Wild Lupine		2.00
Monarda fistulosa	Wild Bergamot		0.50
Parthenium integrifolium	Wild Quinine		1.00
Penstemon digitalis	Foxglove Beard Tongue		0.50
Physostegia virginiana	False Dragonhead		0.25
Pycnanthemum virginianum	Common Mountain Mint		1.00
Ratibida pinnata	Yellow Coneflower		3.00
Rudbeckia hirta	Black-Eyed Susan		2.00
Rudbeckia subtomentosa	Sweet Black-Eyed Susan		1.00
Silphium integrifolium	Rosin Weed		0.50
Silphium terebinthinaceum	Prairie Dock		2.00
Solidago nemoralis	Old-Field Goldenrod		0.25
Solidago rigida	Stiff Goldenrod		1.00
Tradescantia ohiensis	Common Spiderwort		0.75
Vernonia spp.	Ironweed (Various Mix)		1.75
Veronicastrum virginianum	Culver's Root		0.25
		Total	**49.75**



PLAN
SCALE: 1" = 20'-0"

Maintenance Notes

The owner of the property shall be responsible for all maintenance of site landscaping, as follows:

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 material 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 material.

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 this ordinance.

E. If protected trees are damaged, a fine shall be issued on an inch-by-inch basis at a monetary rate as defined by the Forestry Department.

To assist in maintaining plant materials in a healthy condition, all landscaped areas (including lawns) shall be provided with an automatic, underground, or drip irrigation system, subject to the following:

A. The Planning Department may approve an alternative form of irrigation for a particular site, or may waive this requirement upon determining that underground irrigation is not necessary for the type of proposed plant materials.

B. All automatic irrigation systems shall be designed to minimize water usage, and shall be shut off during water emergencies, periods of protracted rainfall, or water rationing periods.

C. The irrigation requirement may be waived by the reviewing authority if the project incorporates landscaping that will contribute points towards LEED certification or an equivalent rating system.

Whenever a landscape planting screen or other plantings are required under this ordinance, such plantings shall be installed according to accepted good planting procedures and in a sound, workmanlike manner. All plant material shall meet current standards of the American Association of Nurserymen and approved by the American National Standards Institute, Inc. (ANSI 260.1, 1996).

A. All plant material shall be true to name in conformance to the current edition of Standardized Plant Names established by the American Joint Committee on Horticultural Nomenclature, or other source accepted by the City.

B. All plant material shall be nursery grown in a northern climate; hardy to the climate of Michigan; appropriate for the soil, climatic and environmental conditions; and resistant to disease and insect attack.

C. A minimum four (4) inches of topsoil shall be provided for all lawn areas, ground covers, and planting beds.

D. Artificial plant material is prohibited and shall not be used to meet the requirements of this Article.

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Tree Mitigation Planting Notes

1. ALL TREES ARE TO BE PROVIDED BY THE DEVELOPER
2. ALL STREET TREES, FRONTAGE TREES, TREES SHOWN IN COMMON AREAS, AND DETENTION BASIN TREES AND SHRUBS SHALL BE PLANTED AS PART OF INITIAL CONSTRUCTION.
3. TREES SHOWN TO BE PLANTED ON INDIVIDUAL LOTS SHALL NOT BE PLANTED UNTIL ALL EXTERIOR WORK ON THE UNIT HAS BEEN COMPLETED.
4. PLANTINGS SHALL BE COMPLETED PRIOR TO CERTIFICATE OF OCCUPANCY AND SHALL MEET ALL BOND REQUIREMENTS
5. SHOULD MITIGATION PLANTING REQUIREMENTS NOT BE COMPLETED, THE BOND WILL BE WITHHELD AND PUT INTO THE CITY'S TREE FUND FOR MITIGATION ELSEWHERE IN THE CITY

ADDITIONAL NOTES:

1. Watering of landscape areas shall only occur between the hours of 12am and 5am
2. Prior to the release of the performance bond, the City of Rochester Hills must inspect all landscape plantings
3. All lawn and landscape areas, including rights of way shall be fully irrigated and compliant with Section 138-12.105
4. Any plant material that is designated to be maintained that dies or in damaged during or as a result of construction shall be replaced in kind with like species and sizes
5. All landscaping required pursuant to the City of Rochester Codes and Ordinances shall be maintained in perpetuity
6. After the one year guarantee period, the HOA will be responsible for all restoration and maintenance of the seeded lawn areas as part of their regular lawn maintenance.

262 previous plan

326 current plan

Rochester Hills

PLANT SCHEDULE

FRONTAGE PLANTINGS

TREES

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	UNIT	TOTAL
2	AG	*Amalanchier x g. 'Autumn Brilliance'*	Autumn Brilliance Serviceberry	6' ht.	as shown	B&B	Minimum 5 stems	$ 325.00	$ 650.00
3	AS	*Acer s. 'Green Mountain'*	Green Mountain Sugar Maple	3" cal.	as shown	B&B	Single straight trunk	$ 450.00	$ 1,350.00

DETENTION BASIN PLANTINGS

TREES

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	UNIT	TOTAL
24	NS	*Nyssa sylvatica*	Blackgum	3" cal.	as shown	B&B	Single straight trunk	$ 450.00	$ 10,800.00
20	PS	*Pinus strobus*	Eastern White Pine	10' ht.	as shown	B&B	Unsheared, branched to ground	$ 400.00	$ 8,000.00
6	QB	*Quercus bicolor*	Swamp White Oak	3" cal.	as shown	B&B	Single straight trunk	$ 450.00	$ 2,700.00

SHRUBS

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	UNIT	TOTAL
35	LB	*Lindera benzoin*	Spicebush	30" ht.	as shown	cont.	Well rooted	$ 50.00	$ 1,750.00
52	POS	*Physocarpus o. 'Summer Wine'*	Summer Wine Ninebark	30" ht.	as shown	cont.	Well rooted	$ 50.00	$ 2,600.00
24	VL	*Viburnum lentago*	Nannyberry Viburnum	30" ht.	as shown	cont.	Well rooted	$ 50.00	$ 1,200.00

TREE MITIGATION PLANTINGS

TREES

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	UNIT	TOTAL
49	AC	*Abies concolor*	Concolor Fir	8' ht.	as shown	B&B	Unsheared, branched to ground	$ 400.00	$ 19,600.00
15	AR	*Acer r. 'October Glory'*	October Glory Red Maple	3" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 6,000.00
10	AS	*Acer s. 'Green Mountain'*	Green Mountain Sugar Maple	3" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 4,000.00
26	LT	*Liriodendron tulipfera*	Tulip Tree	3" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 10,400.00
5	NS	*Nyssa sylvatica*	Blackgum	2" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 2,000.00
19	PA	*Picea abies*	Norway Spruce	8' ht.	as shown	B&B	Unsheared, branched to ground	$ 400.00	$ 7,600.00
20	PD	*Picea glauca 'Densata'*	Black Hills Spruce	8' ht.	as shown	B&B	Unsheared, branched to ground	$ 400.00	$ 8,000.00
18	PM	*Pseudotsuga menziesii*	Douglas Fir	8' ht.	as shown	B&B	Unsheared, branched to ground	$ 400.00	$ 7,200.00
26	PS	*Pinus strobus*	Eastern White Pine	8' ht.	as shown	B&B	Unsheared, branched to ground	$ 400.00	$ 10,400.00
14	QB	*Quercus bicolor*	Swamp White Oak	2" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 5,600.00
16	QC	*Quercus coccinea*	Scarlet Oak	2" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 6,400.00
19	QM	*Quercus macrocarpa*	Burr Oak	3" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 7,600.00
5	TA	*Tilia americana 'Redmond'*	Redmond American Basswood	3" cal.	as shown	B&B	Single straight trunk	$ 400.00	$ 2,000.00
20	AC12	*Abies concolor*	Concolor Fir	12' ht.	as shown	B&B	Unsheared, branched to ground	$ 450.00	$ 9,000.00
29	PA12	*Picea abies*	Norway Spruce	12' ht.	as shown	B&B	Unsheared, branched to ground	$ 450.00	$ 13,050.00
16	PD12	*Picea glauca 'Densata'*	Black Hills Spruce	12' ht.	as shown	B&B	Unsheared, branched to ground	$ 450.00	$ 7,200.00
10	PM12	*Pseudotsuga menziesii*	Douglas Fir	12' ht.	as shown	B&B	Unsheared, branched to ground	$ 450.00	$ 4,500.00
9	PS12	*Pinus strobus*	Eastern White Pine	12' ht.	as shown	B&B	Unsheared, branched to ground	$ 450.00	$ 4,050.00

STREET TREES

TREES

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	UNIT	TOTAL
21	PB	*Platanus x. acerifolia 'Bloodgood'*	Bloodgood London Plane Tree	2.5" cal.	as shown	B&B	Single straight trunk	$ 425.00	$ 8,925.00
23	UAV	*Ulmus americana 'Valley Forge'*	Valley Forge American Elm	2.5" cal.	as shown	B&B	Single straight trunk	$ 425.00	$ 9,775.00

Irrigation estimate	$ 15,000.00
Landscape Cost Estimate	**$ 197,350.00**

Site Landscape Calculations

ROW Frontage - See Sheet L-6

Street Frontage (Walton Blvd.)	100.16 LF
Deciduous Trees Required	3 Trees (100.16' / 35')
Deciduous Trees Provided	3 Trees
Ornamental Trees Required	2 Trees (100.16' / 60')
Ornamental Trees Provided	2 Trees

Street Trees - internal road

Road Length	1,505 LF
Deciduous Trees Required	43 Trees (1,505' / 35')
Deciduous Trees Provided	**44** Trees

NOTE: **See Sheet L-6 for Plant Schedule & Seed Mixes**

Detention Basin Landscape

Basin #1Perimeter	1,198 LF
Deciduous Trees Required	18 (1,198' / 100')*1.5
Deciduous Trees Provided	**18**
Evergreen Trees Required	12 (1,198' / 100')
Evergreen Trees Provided	**12**
Shrubs Required	48 (1,198' / 100')*4
Shrubs Provided	**69**
Basin #2 Perimeter	741 LF
Deciduous Trees Required	12 (741' / 100')*1.5
Deciduous Trees Provided	**12**
Evergreen Trees Required	8 (741' / 100')
Evergreen Trees Provided	**8**
Shrubs Required	30 (741' / 100')*4
Shrubs Provided	**52**

City Planting Note

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. Prior to the release of the performance bond, the City of Rochester Hills Forestry Unit 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. The above requirements are incorporated into the plan.

Final tree locations shall be coordinated with the Office of Planning and the Engineering Department to ensure proper location relative to utility and easement locations.

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734.249.3568 Plymouth, MI
james@vertverde.com

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08.30.2021	Preliminary PUD Review
04.04.2022	Revision
07.22.2022	Revision
10.04.2022	Revision
11.07.2022	Revision
01.03.2023	Revision
03.15.2023	Revision

Project:

WALTON OAKS
A Planned Unit Development
East Walton Boulevard
Rochester Hills, Michigan

Project Sponsor:

Three Oaks Communities, LLC
P.O. Box 8307
Ann Arbor, MI 48107

Sheet Name:

Landscape Plan South

Seal:

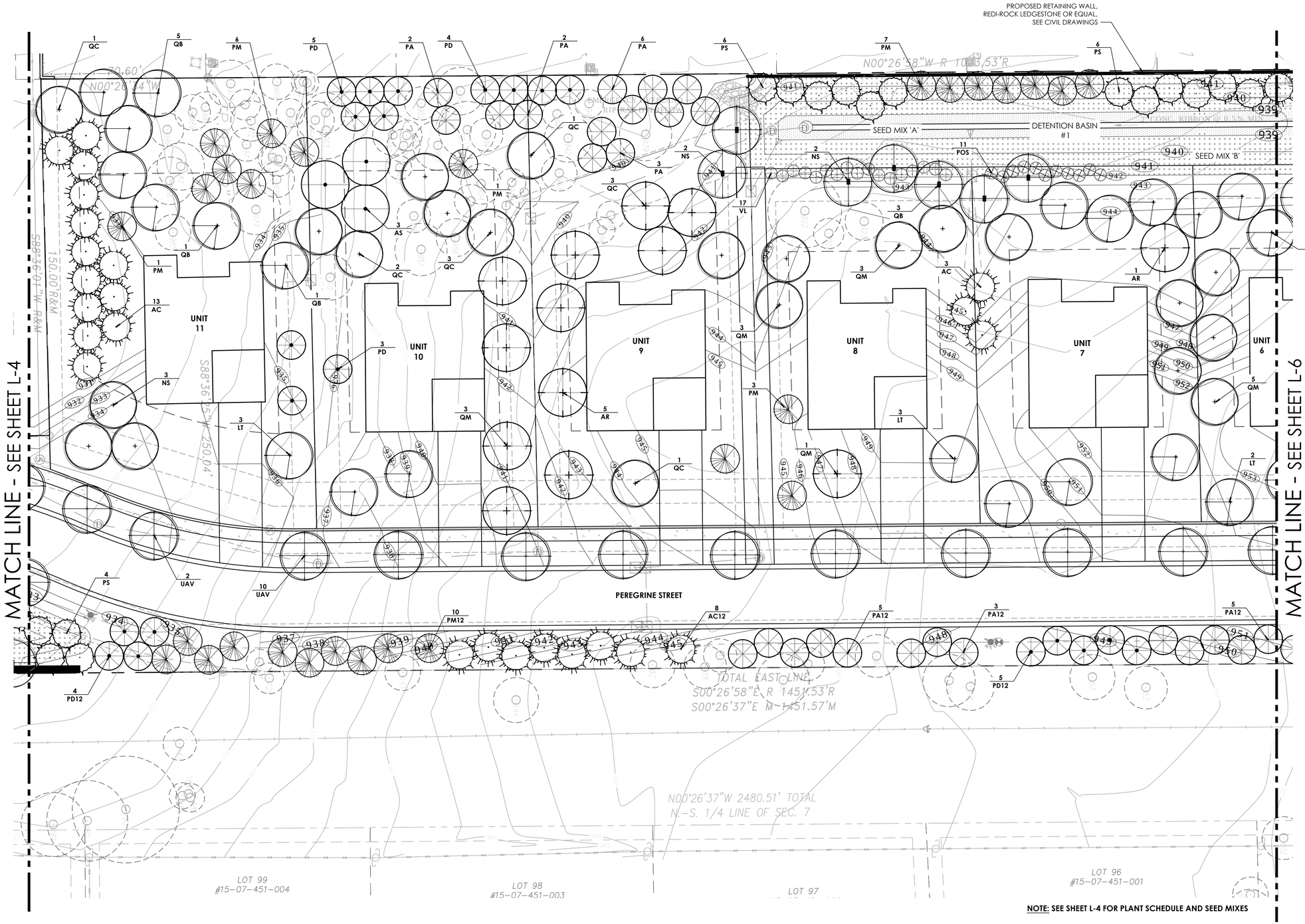
STATE OF MICHIGAN
JAMES GRAY
LANDSCAPE ARCHITECT
No. 1528
REGISTERED LANDSCAPE ARCHITECT

[illegible]

Drawn:	JG
Checked:	JG
Date:	06.2021
Scale:	AS NOTED

Project Number:
22.004

Sheet Number:
L-4



NOTE: SEE SHEET L-4 FOR PLANT SCHEDULE AND SEED MIXES

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10.04.2022	Revision
11.07.2022	Revision
01.03.2023	Revision
03.15.2023	Revision

Project:

WALTON OAKS

A Planned Unit Development

East Walton Boulevard
Rochester Hills, Michigan

Project Sponsor:

Three Oaks Communities, LLC
P.O. Box 8307
Ann Arbor, MI 48107

Sheet Name:

Landscape Plan Central

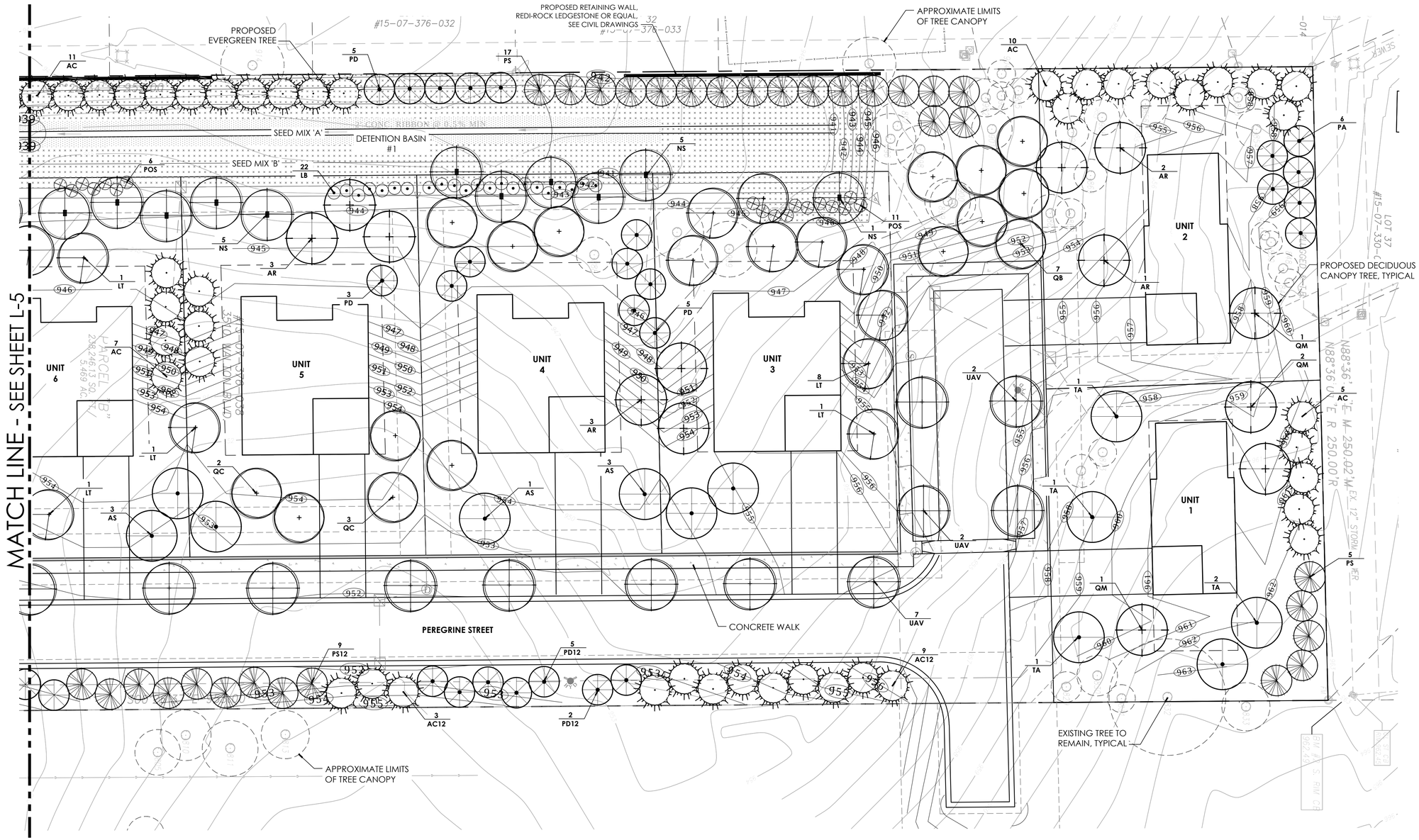
Seal:

STATE OF MICHIGAN JAMES GRAY LANDSCAPE ARCHITECT No. 1528 REGISTERED LANDSCAPE ARCHITECT

Drawn:	JG
Checked:	JG
Date:	06.2021
Scale:	1" = 20'-0"

Project Number: 22.004

Sheet Number: L-5



1. REMOVE SECONDARY LEADERS. DO NOT PRUNE TERMINAL LEADER OR BRANCH TOPS. PRUNE ALL DEAD AND BROKEN BRANCHES.
2. REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER MATERIALS WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
3. STAKE TREES JUST BELOW FIRST BRANCH W/ 2-3" WIDE BELT-LIKE, FABRIC STRAPS ONLY. ARBOR TIE OR APPROVED EQUAL. (CONNECT FROM TREE TO STAKE OPPOSITE FROM EACH OTHER, AND ALLOW FOR SOME 'FLEXING') DO NOT USE WIRE OR ROPE THROUGH A HOSE. REMOVE AFTER ONE YEAR.
4. (2) 2"X2" HARDWOOD STAKES OR EQUIVALENT DRIVEN 6'-8" OUTSIDE OF ROOTBALL. REMOVE AFTER ONE YEAR.
5. COVER PLANTING W/ 3" DOUBLE SHREDDED HARDWOOD BARK MULCH. MINIMUM 6' DIA., LEAVE 3" CIRCLE OF BARE SOIL AROUND THE BASE OF THE TRUNK.
6. REMOVE ALL NON-BIODEGRADABLE MATERIALS FROM THE ROOTBALL. FOLD DOWN ALL BURLAP AND REMOVE WIRE BASKET FROM THE TOP 1/3 OF THE ROOTBALL.
7. PLANT MIX
8. TREE PIT TO BE 3 TIMES WIDTH OF ROOTBALL
9. 4" TOPSOIL SAUCER

NOTE:
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION

DECIDUOUS TREE PLANTING
NOT TO SCALE

1. REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER MATERIALS WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
2. STAKE TREES WITH 2-3" WIDE BELT-LIKE, FABRIC STRAPS ONLY. ARBOR TIE OR APPROVED EQUAL. (CONNECT FROM TREE TO STAKE OPPOSITE FROM EACH OTHER, AND ALLOW FOR SOME 'FLEXING') DO NOT USE WIRE OR ROPE THROUGH A HOSE. REMOVE AFTER ONE YEAR.
3. (3) 2"X2" HARDWOOD STAKES OR EQUIVALENT DRIVEN 6-8' OUTSIDE OF ROOTBALL. REMOVE AFTER ONE YEAR.
4. COVER PLANTING W/ 3" SHREDDED HARDWOOD BARK MULCH. MINIMUM 6' DIAMETER, CONNECT EVERGREEN PLANTINGS WHERE POSSIBLE
5. REMOVE ALL NON-BIODEGRADABLE MATERIALS FROM THE ROOTBALL. FOLD DOWN ALL BURLAP AND REMOVE WIRE BASKET FROM THE TOP 1/3 OF THE ROOTBALL.
6. PLANT MIX
7. TREE PIT TO BE 3 TIMES WIDTH OF ROOTBALL
8. 4" TOPSOIL SAUCER

NOTE:
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION

EVERGREEN TREE PLANTING
NOT TO SCALE

NOTES:
1. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION
2. SET TOP OF ROOTBALL 3" ABOVE FINISH GRADE

1. REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER MATERIALS WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
2. COVER PLANTING W/ 3" DOUBLE SHREDDED HARDWOOD BARK MULCH. MINIMUM 6' DIA., LEAVE 3" CIRCLE OF BARE SOIL AROUND BASE OF THE STEMS.
3. REMOVE ALL NON-BIODEGRADABLE MATERIALS FROM THE ROOTBALL. FOLD DOWN ALL BURLAP AND REMOVE WIRE BASKET FROM THE TOP 1/3 OF THE ROOTBALL.
4. PLANT MIX
5. TREE PIT TO BE THREE TIMES WIDTH OF ROOTBALL
6. 4" TOPSOIL SAUCER

MULTISTEM TREE PLANTING
NOT TO SCALE

NOTES:
1. CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION
2. SET TOP OF ROOTBALL 2" ABOVE FINISH GRADE

1. SEE PLAN FOR SPACING
2. SHRUBS, SEE PLANT SCHEDULE
3. 3" DEPTH DOUBLE SHREDDED HARDWOOD MULCH, TYPICAL
4. REMOVE ALL NON-BIODEGRADALBE TWINE FROM ENTIRE ROOTBALL. REMOVE BURLAP FROM TOP 1/2 OF ROOTBALL.
5. SHOVEL CUT OR METAL EDGE, SEE PLAN
6. EXCAVATE EXISTING SOIL TO 12" DEPTH, REPLACE WITH PLANT MIX
7. SCARIFY TO 4" DEPTH AND RECOMPACT
8. UNDISTURBED SUBGRADE
9. MINIMUM 8" BETWEEN ROOTBALL AND EDGE OF PLANTING PIT

SHRUB PLANTING
NOT TO SCALE

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Project:

WALTON OAKS

A Planned Unit Development

East Walton Boulevard
Rochester Hills, Michigan

Project Sponsor:

Three Oaks Communities, LLC
P.O. Box 8307
Ann Arbor, MI 48107

Sheet Name:

Landscape Plan North

Seal:

STATE OF MICHIGAN
JAMES GRAY
LANDSCAPE ARCHITECT
No. 1528
REGISTERED LANDSCAPE ARCHITECT

Drawn:	JG
Checked:	JG
Date:	06.2021
Scale:	1" = 20'-0"

Project Number:

22.004

Sheet Number:

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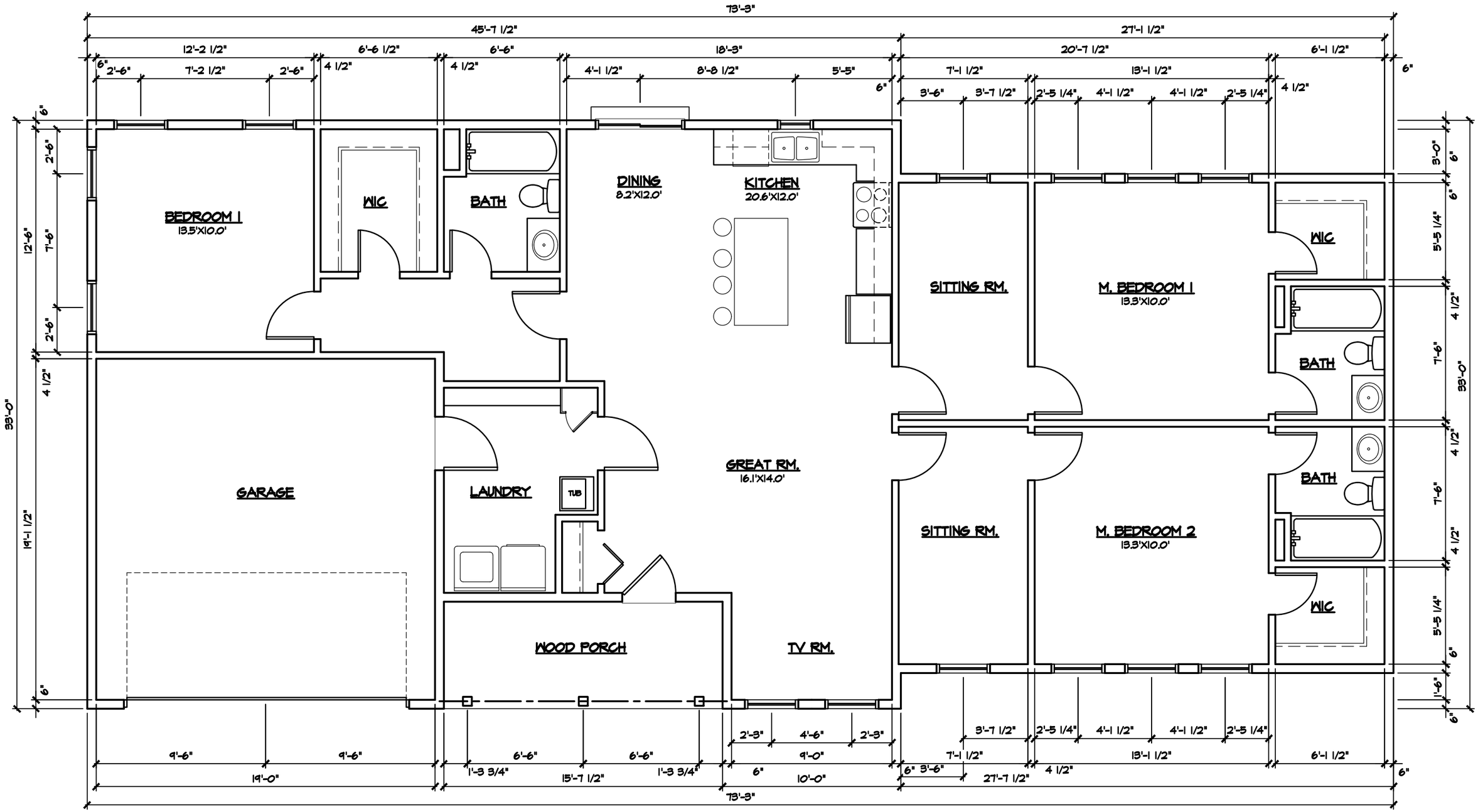

Shallow Walton Communities

Main Floor Plan (3-Bdrms./3-Baths)

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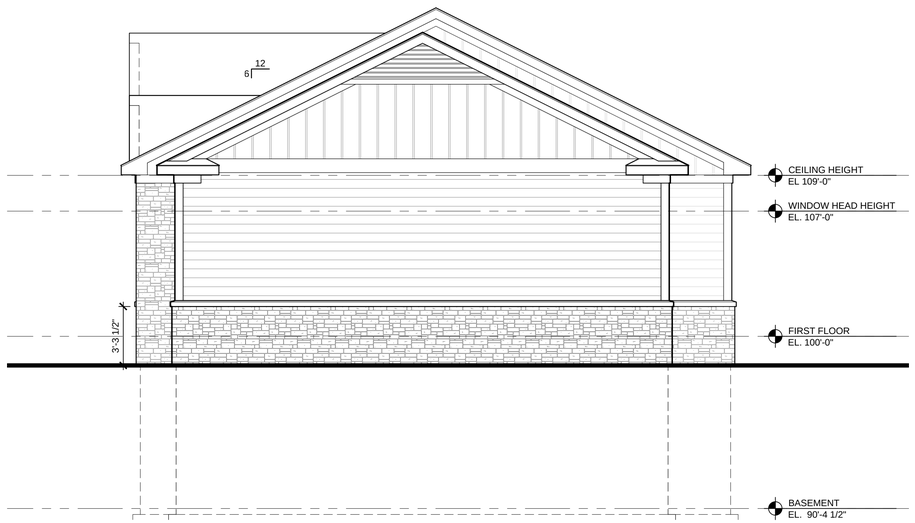
Chelsea, Michigan

07-11-22

SCALE: 3/16" = 1'-0"



CHELSEA SIDE ELEVATION FLAT SITE ELEVATION

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

CHELSEA FRONT ELEVATION BASE ELEVATION

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

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& ASSOCIATES, INC.
4844 Jackson Road #150 • Ann Arbor, MI 48103 • (734) 930-1500

Three Oaks Communities
The Chelsea Shallow - Walton Oaks

Review 12.12.22

Elevations

JBMA Project No.
221156

A2.1