

SITE PLANS FOR SOUTH OAKS SITE CONDOMINIUM

CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN

GENERAL NOTES:

- ALL CONSTRUCTION TO CONFORM AND COMPLY TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND OTHER GOVERNMENT AGENCIES.
- NO LOADING/UNLOADING REQUIRED FOR THIS TYPE OF DEVELOPMENT.
- WASTE WATER DISPOSAL TO BE EXTENDED TO THE SITE AND DISCHARGED TO THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MDEQ AND TOWNSHIP APPROVAL.
- WATER SUPPLY TO BE CONNECTED TO THE CITY OF ROCHESTER HILLS PUBLIC WATER SUPPLY.
- TRASH DISPOSAL TO BE RESIDENTIAL COLLECTION.
- A SOIL EROSION AND SEDIMENTATION PERMIT FROM OAKLAND COUNTY WATER RESOURCES COMMISSION TO BE REQUIRED.
- NO STREET LIGHTING PROPOSED. CARRIAGE LIGHTING ON EACH BUILDING ONLY.
- 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.
- CLEAN STONE ENTRANCE DRIVES TO BE CONSTRUCTED AS FIRST PART OF CONSTRUCTION PROVIDE ACCESS FOR FIRE DEPARTMENT AND CONSTRUCTION TRAFFIC DURING CONSTRUCTION.
- ALL SANITARY AND WATERMAIN WILL BE DEDICATED TO THE CITY OF ROCHESTER HILLS.
- STORM SEWER DETENTION TO BE PROVIDED ON SITE WITH DETENTION PONDS DISCHARGING TO THE WALTON ROAD DITCHLINE.
- ALL REQUIREMENTS BY THE FIRE DEPARTMENT PER THE INTERNATIONAL FIRE CODE WILL BE MET.
- BUILDINGS ARE NOT TO EXCEED 35' IN HEIGHT AND/OR 2 1/2 STORIES.
- PROPOSED ROADS ARE TO BE PRIVATE AT NO POINT WILL THIS STREET BE ALLOWED TO BECOME PUBLIC OR TRANSFER OWNERSHIP TO THE CITY.

LOT TABLE:

ACCORDING TO LOT SIZE VARIATION SECTION 138-5.200

LOT #	AREA	FRONT SETBACK	SIDE SETBACK	BACK SETBACK	FRONTAGE
1	9,425 SF	25'	10'	35'	90'
2	9,470 SF	25'	10'	35'	90'
3	9,515 SF	25'	10'	35'	90'
4	9,560 SF	25'	10'	35'	90'
5	9,605 SF	25'	10'	35'	90'
6	10,547 SF	25'	10'	35'	96.29'
7	10,372 SF	25'	10'	35'	94.51'
8	10,383 SF	25'	10'	35'	94.52'
9	13,473 SF	25'	10'	35'	75'
TOTAL	92,347 SF				810.32'
AVERAGE	10,260 SF	25'	10'	35'	90.03'

SITE INFORMATION:

EXISTING PROPERTY ZONING: R-4
 PROPOSED PROPERTY USE: R-4 LOT SIZE VARIATION
 PROPERTY TAX I.D.: #15-32-376-078
 SITE AREA DATA: SITE AREA = 4.84 ACRES

DEVELOPMENT AREAS
 ROAD R.O.W. AREA= 71,101 SF OR 1.63 ACRES
 TOTAL LOT AREA = 98,551 SF OR 2.26 ACRES
 DETENTION BASIN AREA = 18,028 SF OR 0.42 SF
 EXISTING SITE WETLAND AREA = 19,281 SF
 PROPOSED SITE WETLAND AREA = 9,137 SF
 EXISTING 25' NATURAL FEATURE SETBACK AREA = 67,724 SF
 PROPOSED DISRUPTION 25' WETLAND SETBACK = 22,843 SF
 EXISTING FLOODPLAIN VOLUME REMOVED = 6,773 CF
 PROPOSED MITIGATED FLOODPLAIN VOLUME = 7,590 SF

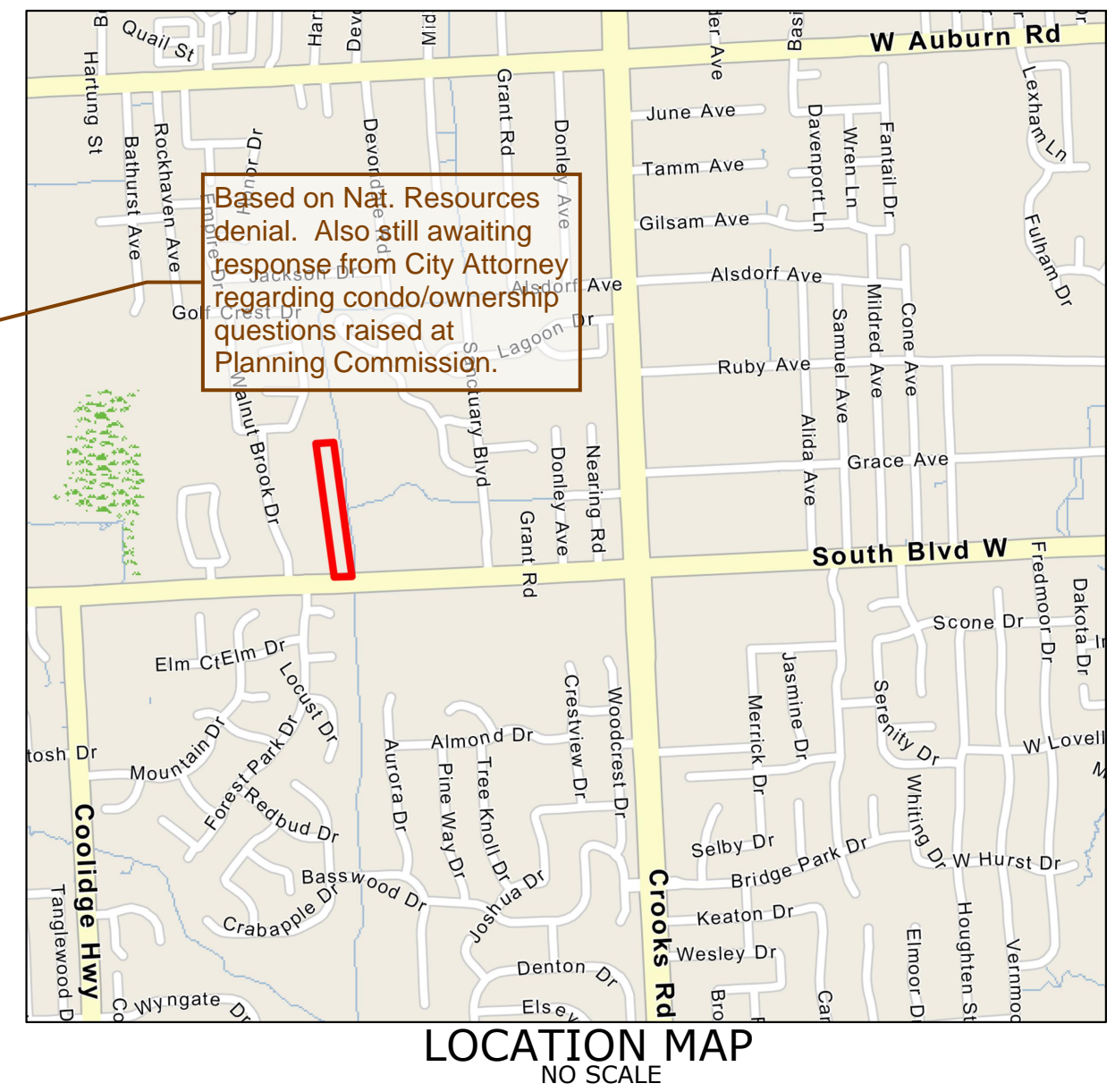
Site Plan Review

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.



LOT CONFIGURATION SCHEDULE:

	REQUIRED	AVG. PROVIDED
LOT SIZE	9600 SF	9855 SF
LOT WIDTH	80 FT	87.2 FT
BUILDING HEIGHT	30 FT	30 FT
FRONT SETBACK	25 FT	25 FT
SIDE SETBACK	20 FT (BOTH)	20 FT (BOTH)
REAR SETBACK	35 FT	35 FT
MIN. FLOOR AREA	912 SF	912 SF
MAX COVERAGE	30%	30%

SHEET INDEX

- S-1 GENERAL & DIMENSIONAL
- S-2 GRADING PLAN (SOUTH)
- S-3 GRADING PLAN (NORTH)
- S-4 UTILITY PLAN (SOUTH)
- S-5 UTILITY PLAN (NORTH)
- S-6 WETLAND PLAN
- 1 of 1 TOPOGRAPHIC SURVEY (by Reichert Surveying)
- L-1 LANDSCAPE PLAN (1 OF 4)
- L-2 LANDSCAPE PLAN (2 OF 4)
- L-3 LANDSCAPE PLAN (3 OF 4)
- L-4 LANDSCAPE PLAN (4 OF 4)

REQUIRED PERMITS:

DESCRIPTION	AGENCIES APPROVAL REQUIRED
OVERALL CONSTRUCTION	CITY OF ROCHESTER HILLS
WETLAND FILLING PERMIT	CITY OF ROCHESTER HILLS MICHIGAN EGLE
PRIVATE DRIVE	CITY OF ROCHESTER HILLS
WATERMAIN (WATER SUPPLY)	CITY OF ROCHESTER HILLS OAKLAND COUNTY WATER RESOURCES COMMISSION MICHIGAN EGLE
SANITARY (PART 41)	CITY OF ROCHESTER HILLS MICHIGAN EGLE
STORM WATER DISCHARGE	CITY OF ROCHESTER HILLS OAKLAND COUNTY WATER RESOURCES COMMISSION
ENTRANCE DRIVE	ROAD COMMISSION FOR OAKLAND COUNTY
SOIL EROSION CONTROL	OAKLAND COUNTY WATER RESOURCES COMMISSION
NPDES	MICHIGAN EGLE

PARKING CALCULATIONS

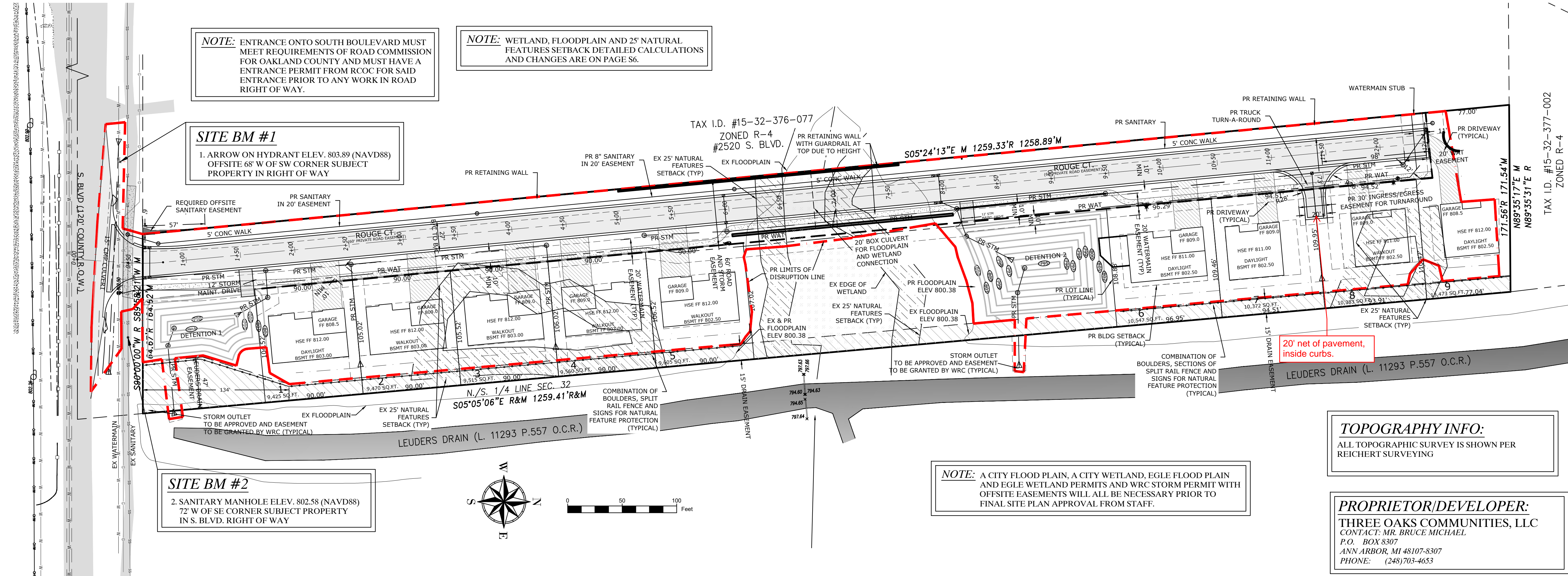
REQUIRED 2 SPACES PER HOME = 18 SPACES
 PROVIDED SPACES:
 LOTS 1 - 6 = 6 SPACES (3 GARAGE, 3 DRIVEWAY)
 LOTS 7 - 9 = 4 SPACES (2 GARAGE, 2 DRIVEWAY)
 48 SPACES
 THEREFORE, OK.

LEGAL DESCRIPTION (TAX I.D. 15-32-376-078):

T3N, R11E, SECTION 32, CITY OF ROCHESTER HILLS, COUNTY OF OAKLAND, STATE OF MICHIGAN AND DESCRIBED AS FOLLOWS: LOT 10, SUPERVISOR'S PLAT OF MESSMORE FARMS SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 66 OF PLATS, PAGE(S) 16, OAKLAND COUNTY RECORDS.

NOTE: ENTRANCE ONTO SOUTH BOULEVARD MUST MEET REQUIREMENTS OF ROAD COMMISSION FOR OAKLAND COUNTY AND MUST HAVE AN ENTRANCE PERMIT FROM RCCC FOR SAID ENTRANCE PRIOR TO ANY WORK IN ROAD RIGHT OF WAY.

NOTE: WETLAND, FLOODPLAIN AND 25' NATURAL FEATURES SETBACK DETAILED CALCULATIONS AND CHANGES ARE ON PAGE S6.

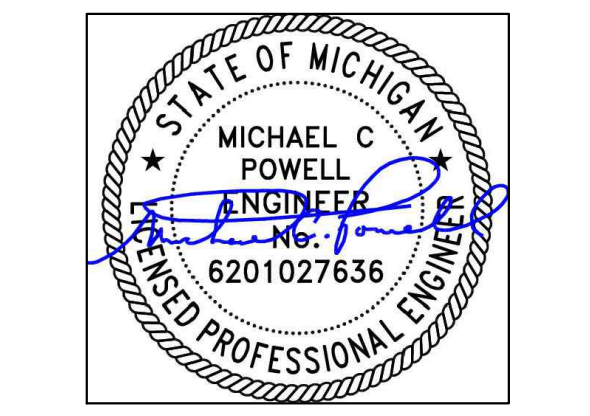


NOTE: A CITY FLOOD PLAN, A CITY WETLAND, EGLE FLOOD PLAN AND EGLE WETLAND PERMITS AND WRC STORM PERMIT WITH OFFSITE EASEMENTS WILL ALL BE NECESSARY PRIOR TO FINAL SITE PLAN APPROVAL FROM STAFF.

TOPOGRAPHY INFO:
 ALL TOPOGRAPHIC SURVEY IS SHOWN PER REICHERT SURVEYING

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



Consulting Civil Engineers
 "Engineering A Better Michigan"

Powell Engineering & Associates, LLC
 4700 Conestoga Drive, White Lake, Michigan 48383
 P: 248.714.5895 info@powellengineeringllc.com

NOTE: AS AN AID TO THE CONTRACTOR, EXISTING 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 FILES FROM AROUND AS SHOWN RECORD, BUT THE OWNER AND CONTRACTOR ARE NOT TO BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION. ADDITIONAL UNDERGROUND STRUCTURES OR UTILITIES MAY BE ENCOUNTERED DURING THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES AND STRUCTURES.

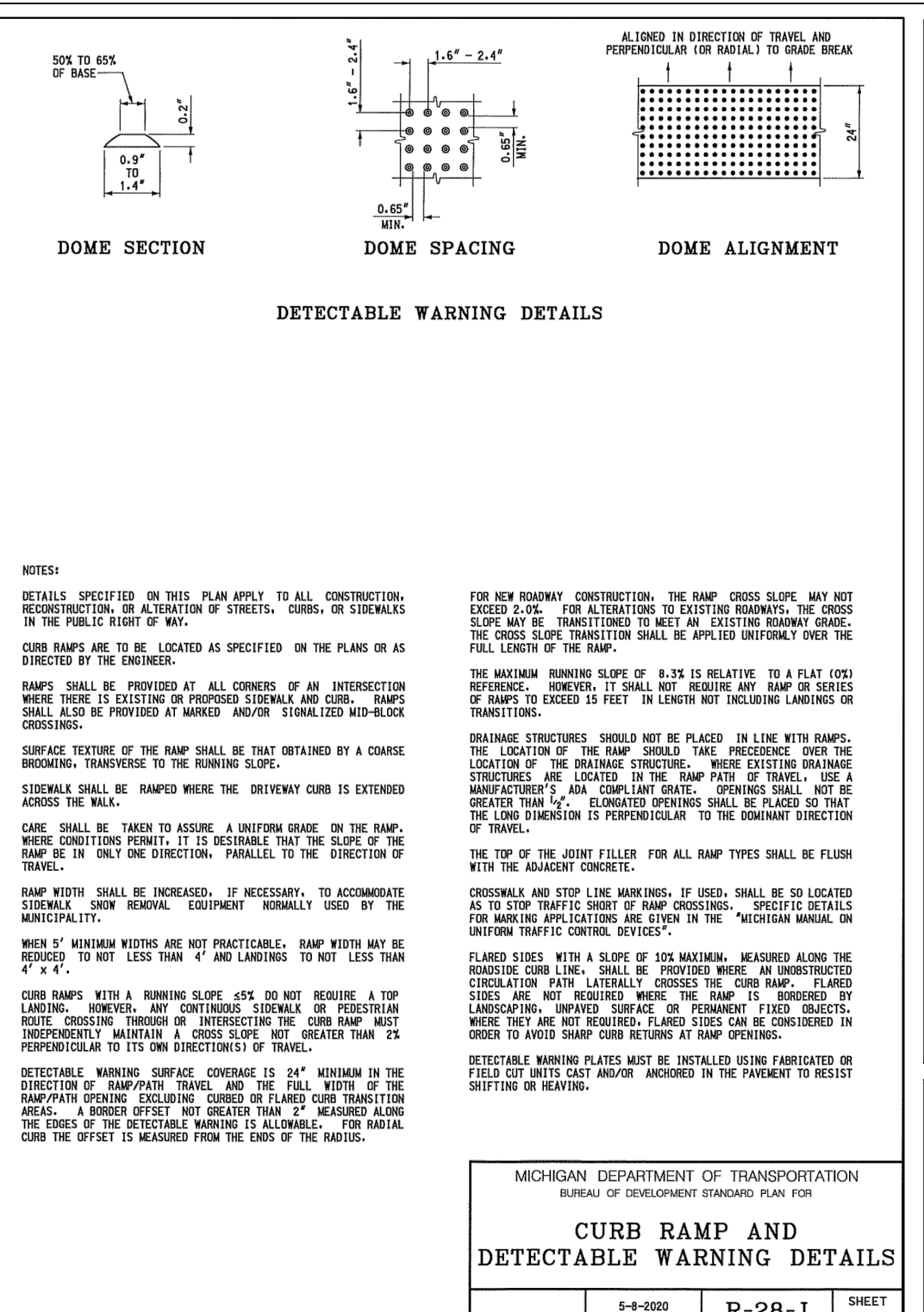
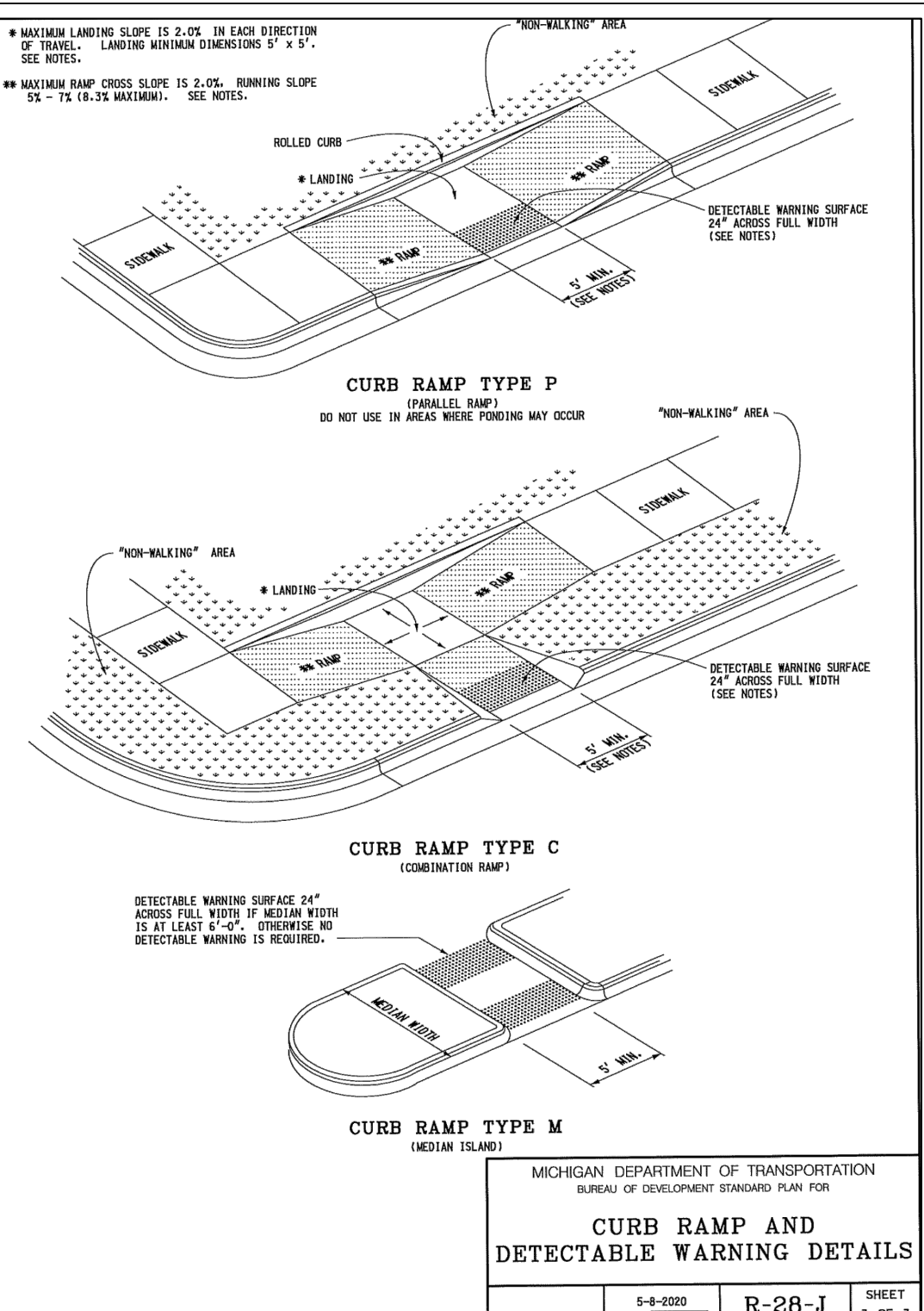
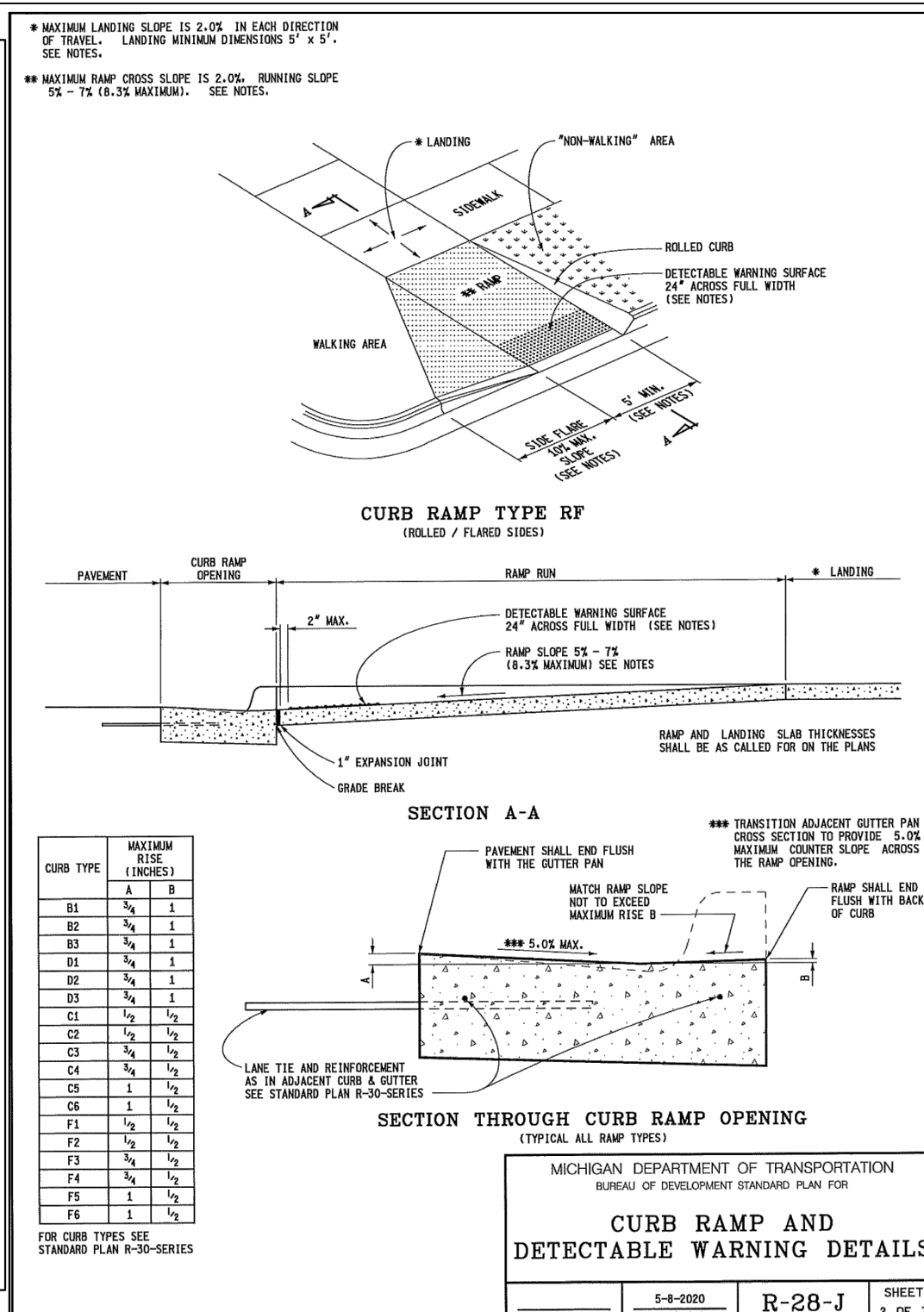
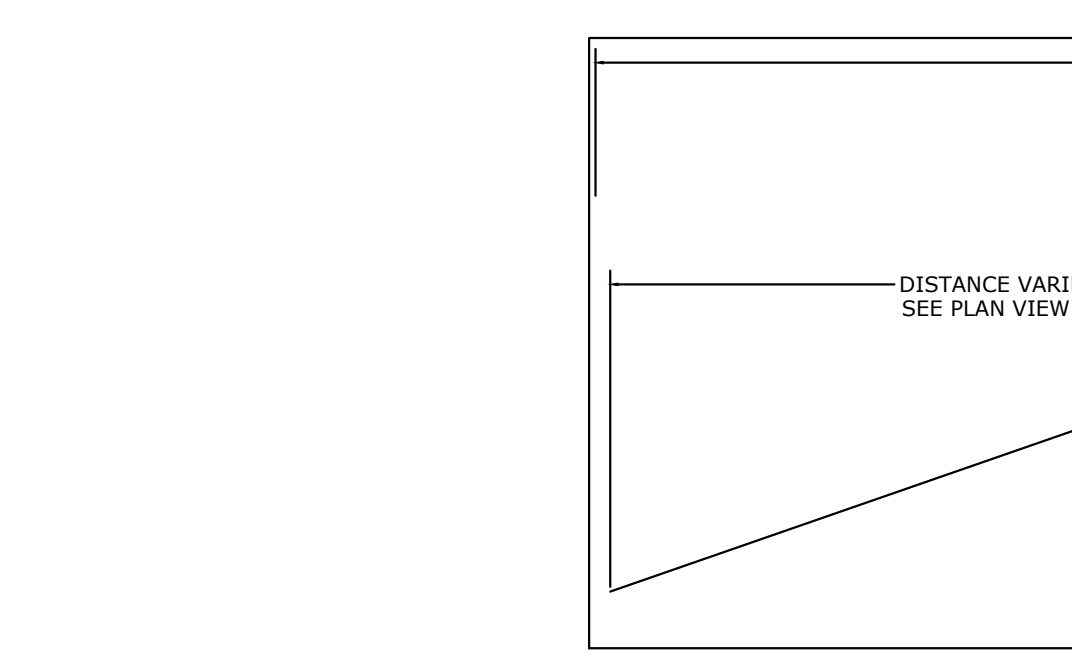
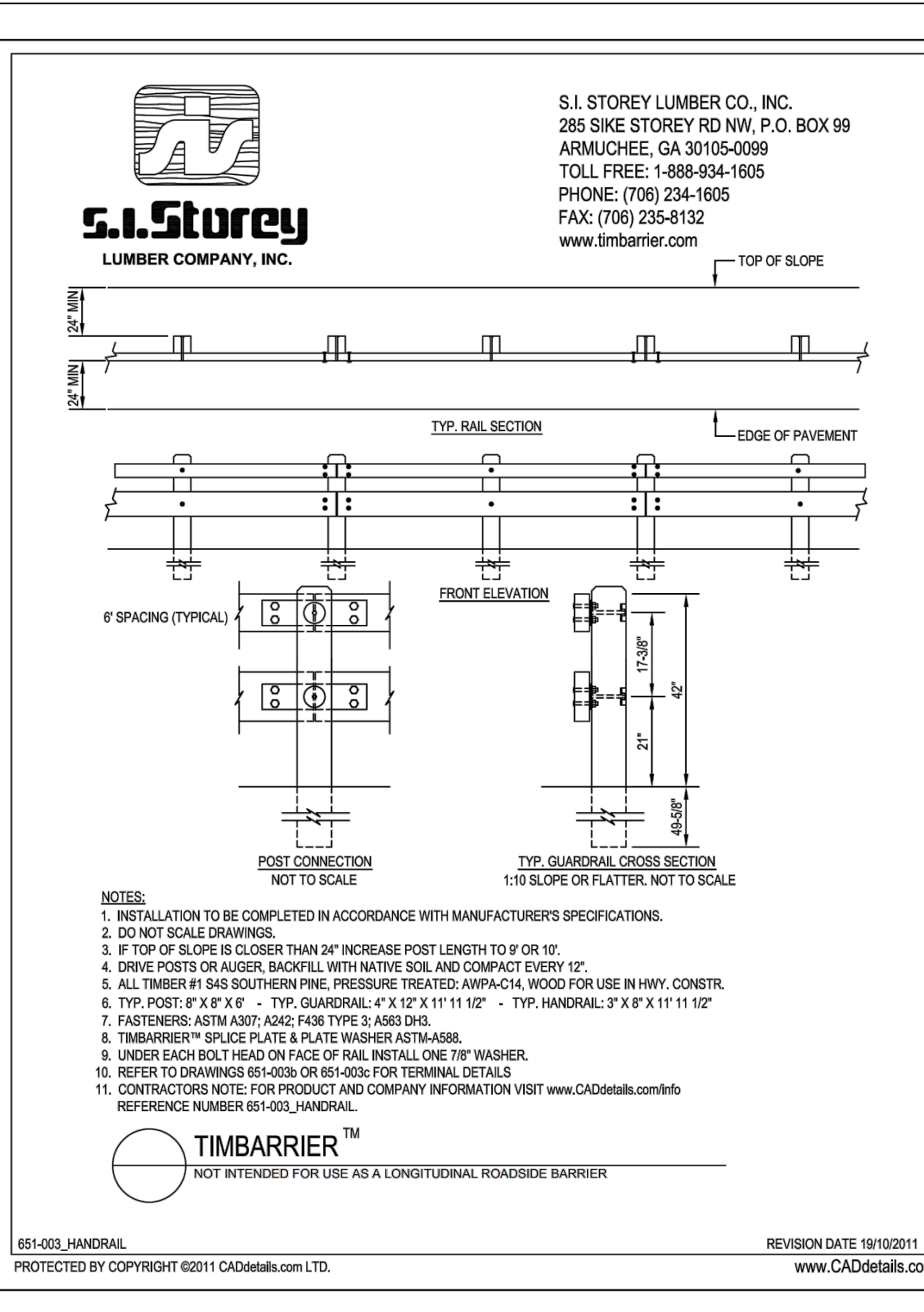
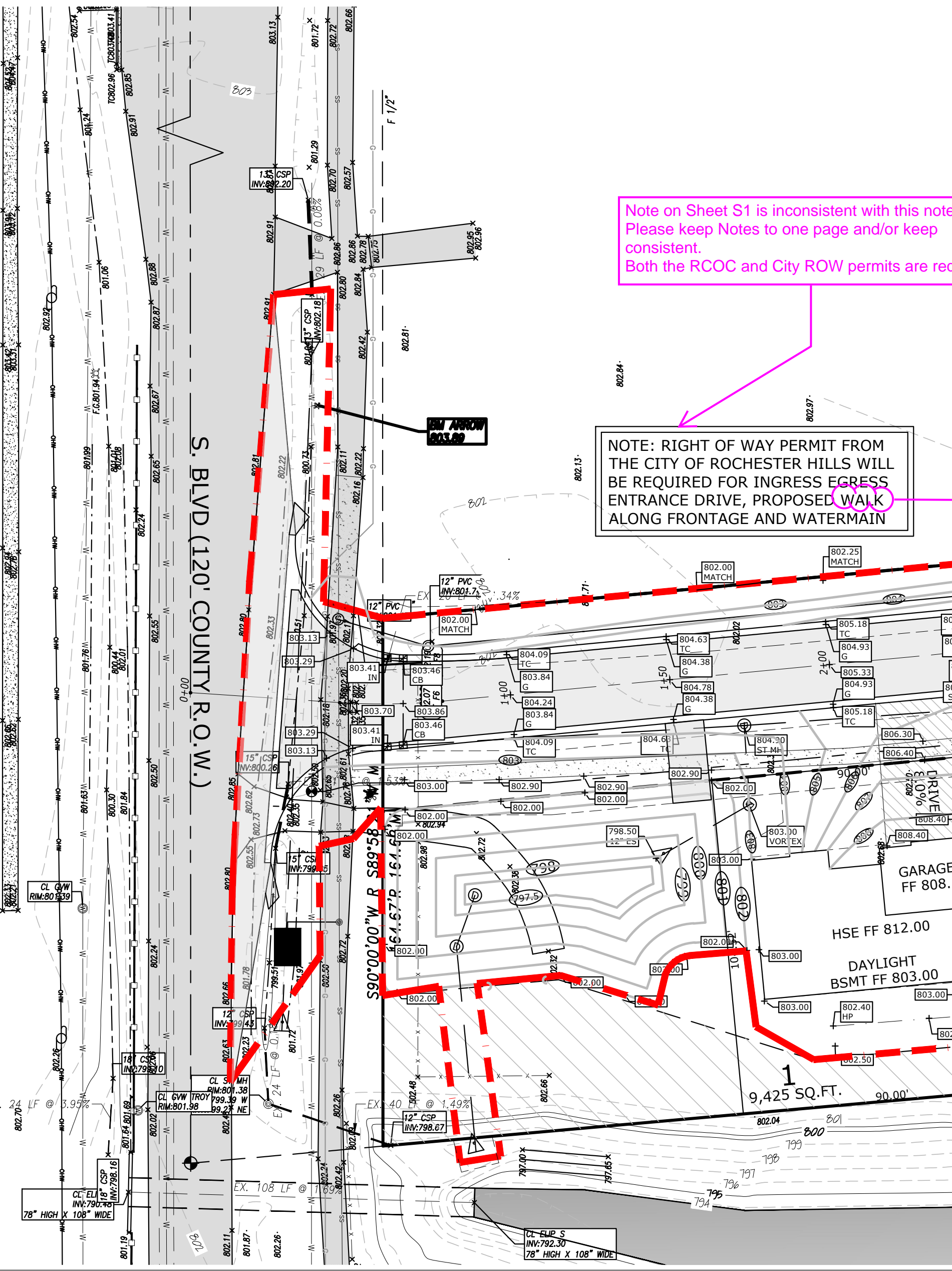
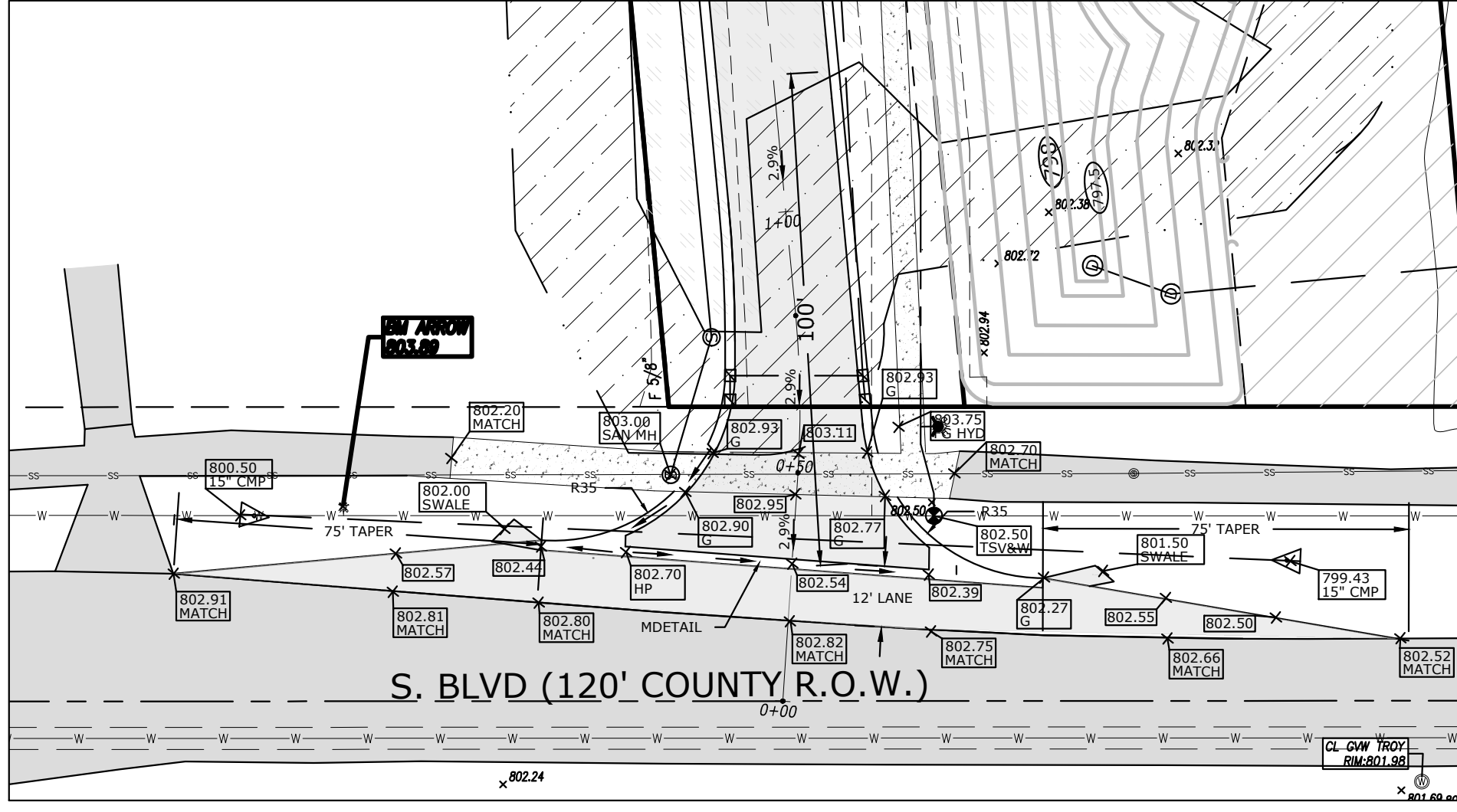
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3 GENERATIONS ROCHESTER SOUTH OAKS DEVELOPMENT
 SOUTH BOULEVARD, CITY OF ROCHESTER HILLS
 THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

SITE PLAN	01/15/2022
CITY SITE PLAN	02/22/2022
CITY SITE PLAN	10/21/2022
CITY SITE PLAN	11/29/2022
CITY SITE PLAN	2/28/2023

DRAWN	MCS
DESIGNED	MCS
APPROVED	MCP
P.E. JOB No.	21-450
SCALE	1"=50'
S1	SITE PLAN



Note from Sheet S1

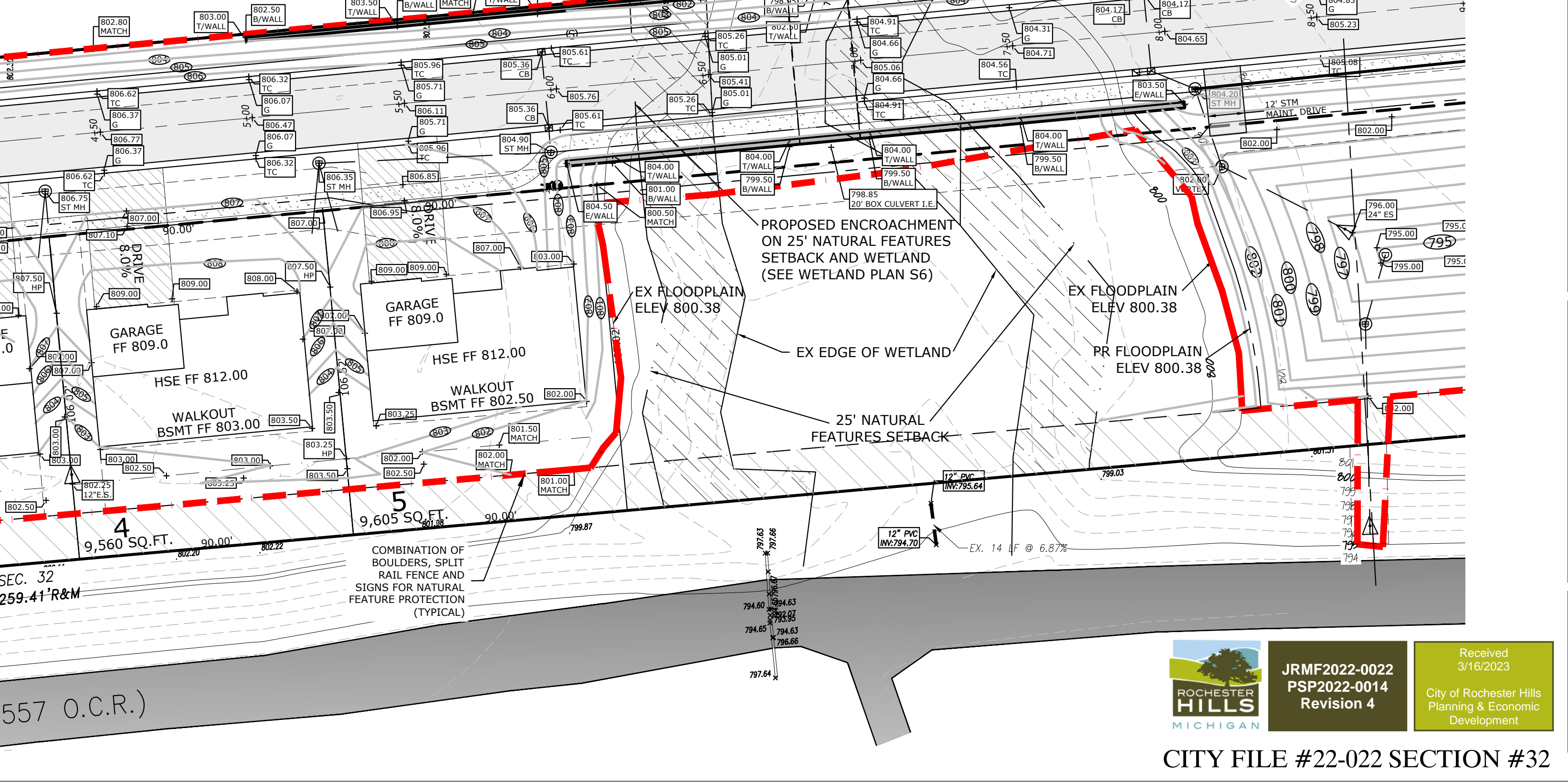
NOTE: ENTRANCE ONTO SOUTH BOULEVARD MUST MEET REQUIREMENTS OF ROAD COMMISSION FOR OAKLAND COUNTY AND MUST HAVE AN ENTRANCE PERMIT FROM ROC FOR SAID ENTRANCE PRIOR TO ANY WORK IN ROAD RIGHT OF WAY.

NOTE: IF ANY DEWATERING IS REQUIRED FOR THE SITE A PLAN MUST BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW.

NOTE: SIDEWALK CANNOT EXCEED 2% SLOPE AT ANY LOCATION EVEN AT DRIVEWAY CROSSINGS (TYPICAL)

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

Pathway



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SOUTH BOULEVARD GRADING PLAN (SOUTH)

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

ISSUE DATES

CITY SITE PLAN	8/15/2022
CITY SITE PLAN	8/22/2022
CITY SITE PLAN	10/21/2022
CITY SITE PLAN	12/12/2022
CITY SITE PLAN	2/28/2023

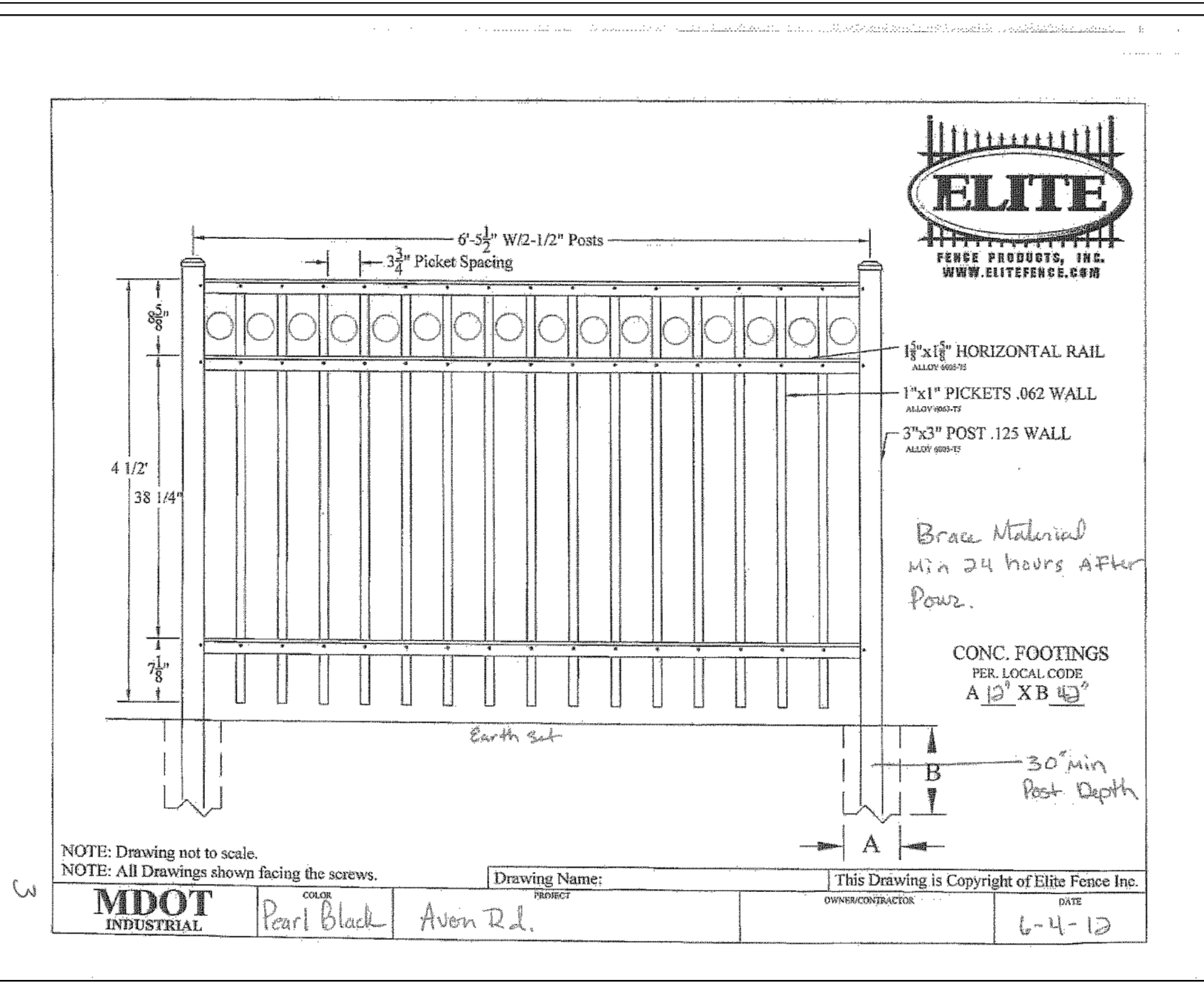
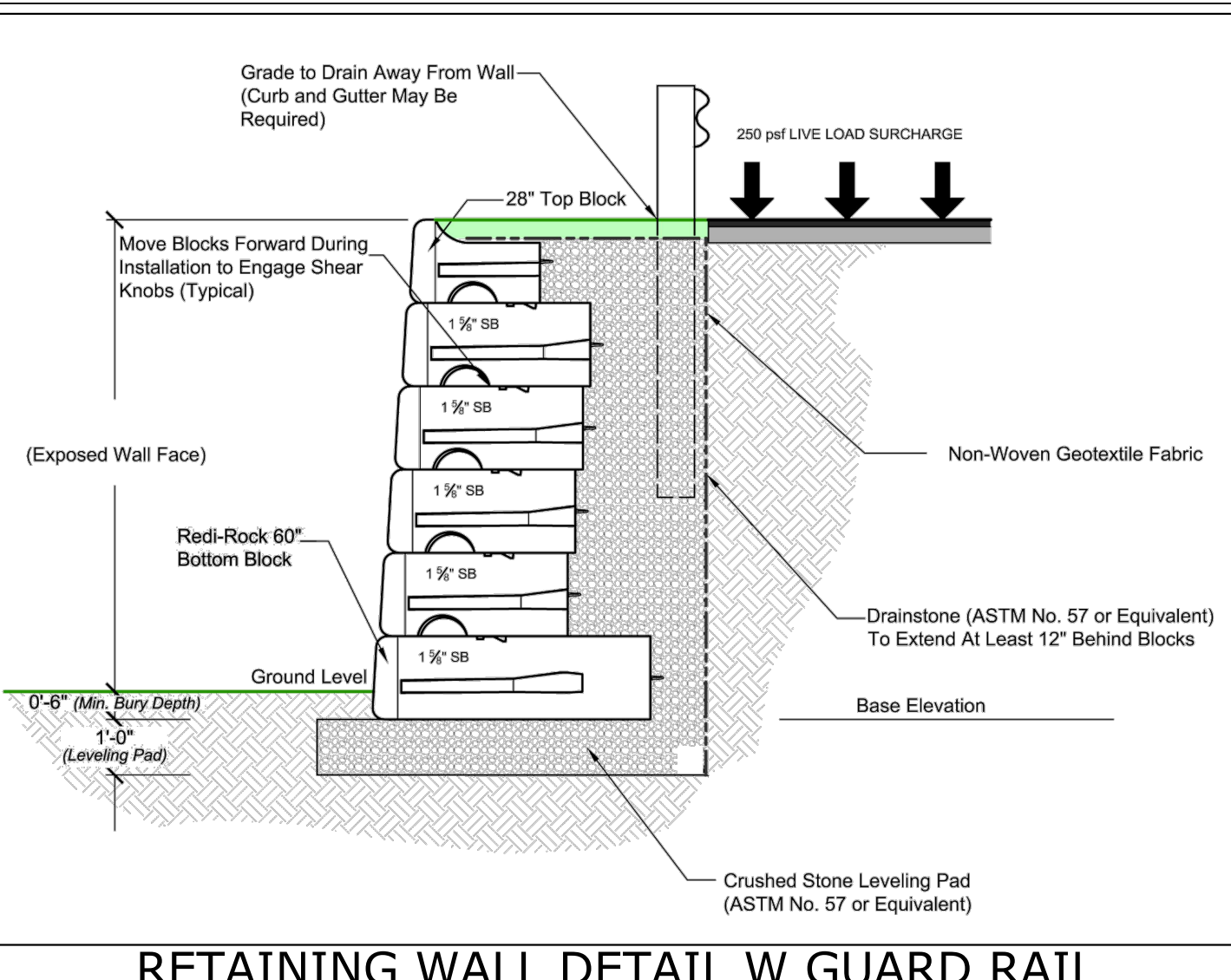
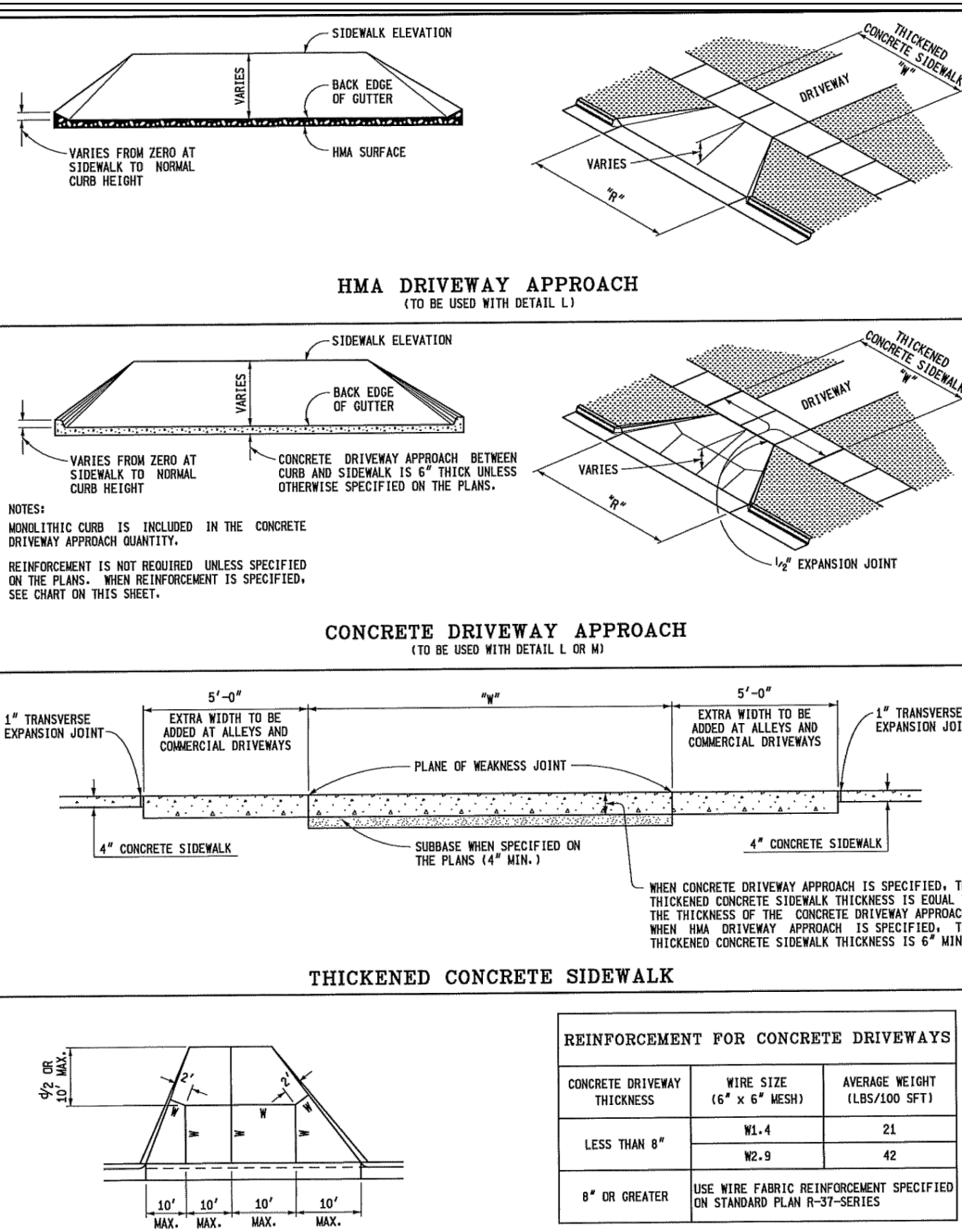
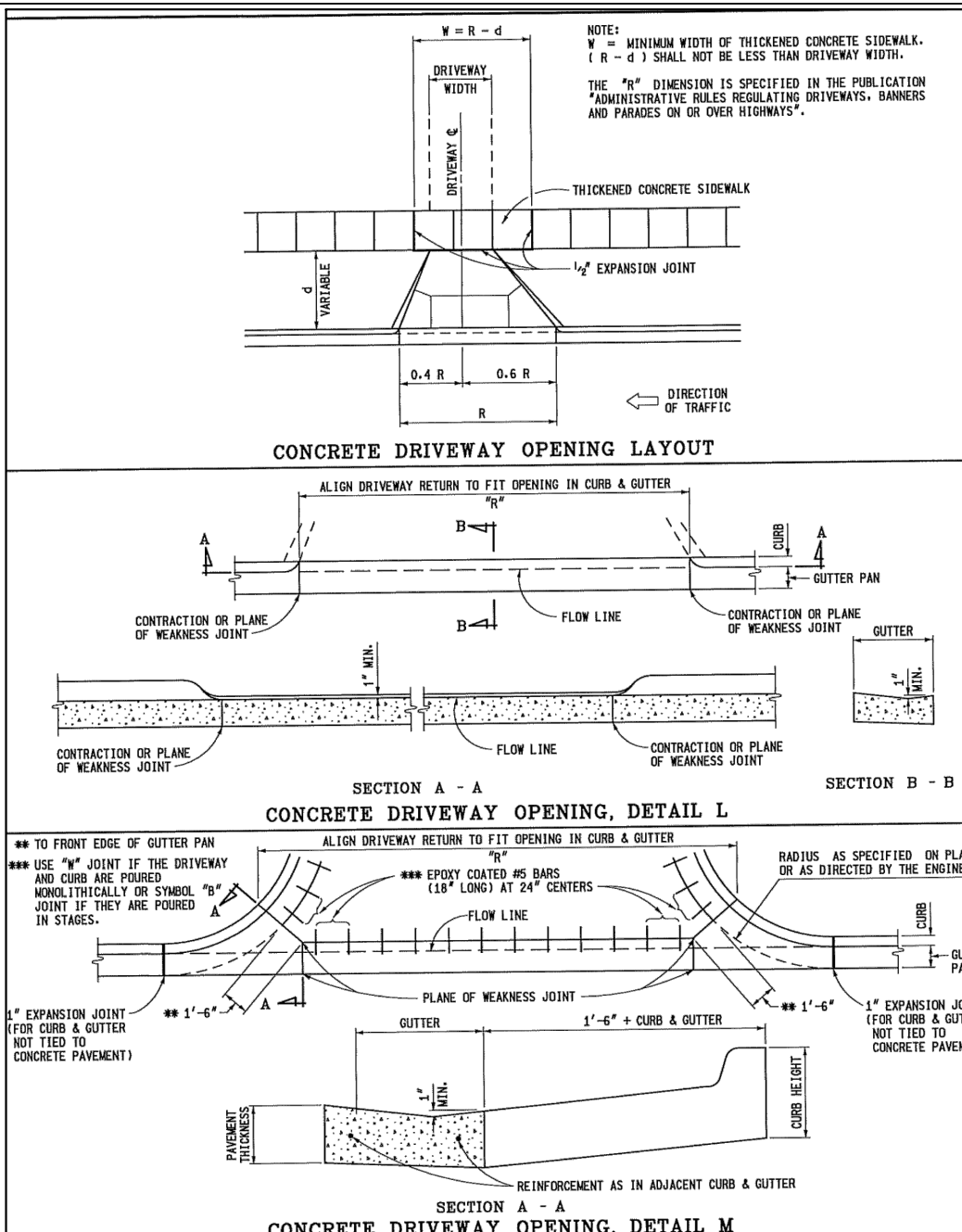
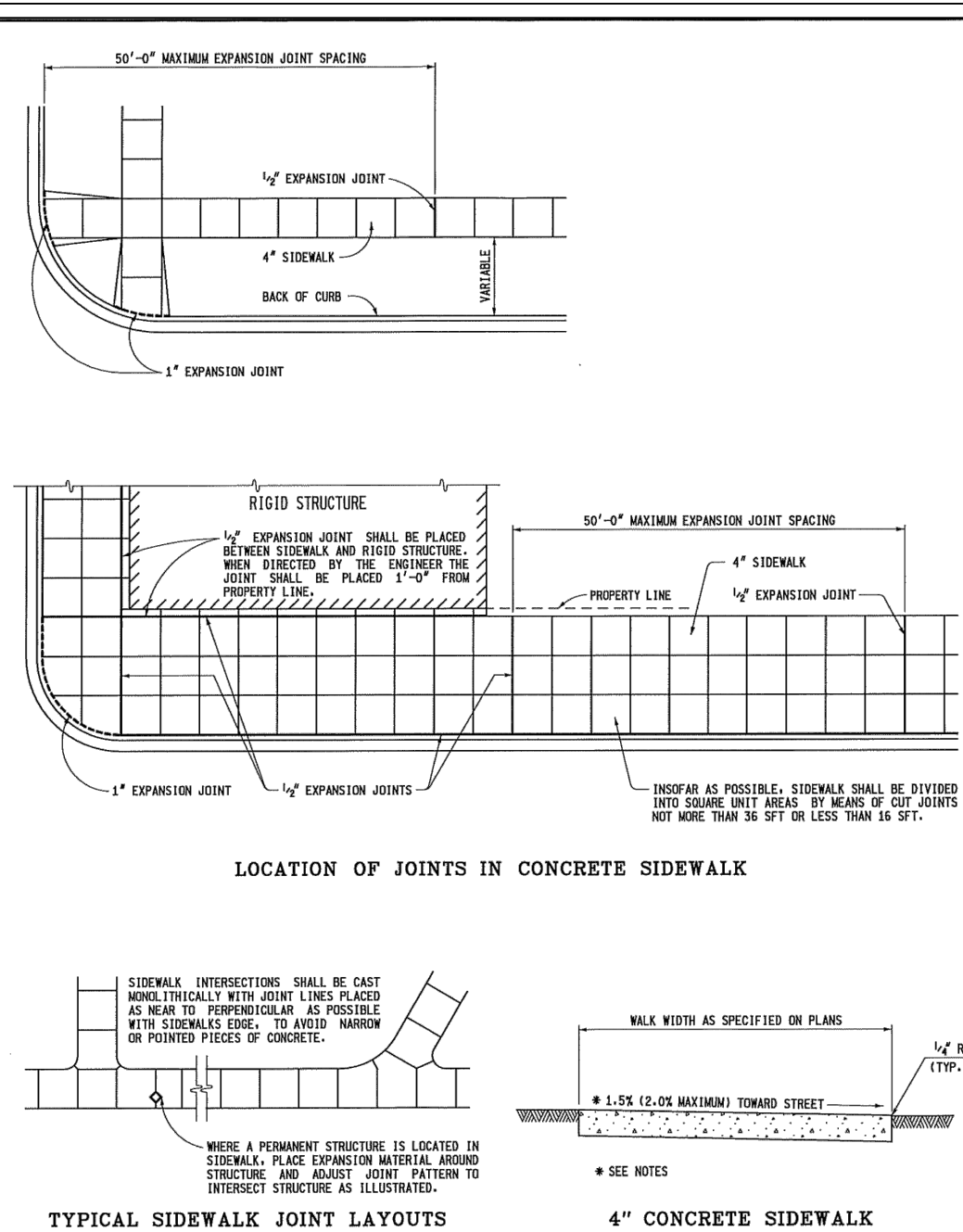
DRAWN MCS
DESIGNED MCS
APPROVED MCP
P.E. JOB NO. 21-450
SCALE 1"=30'
S2 SITE PLAN

ROCHESTER HILLS MICHIGAN

JRMF2022-0022
PSP2022-0014
Revision 4

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

CITY FILE #22-022 SECTION #32

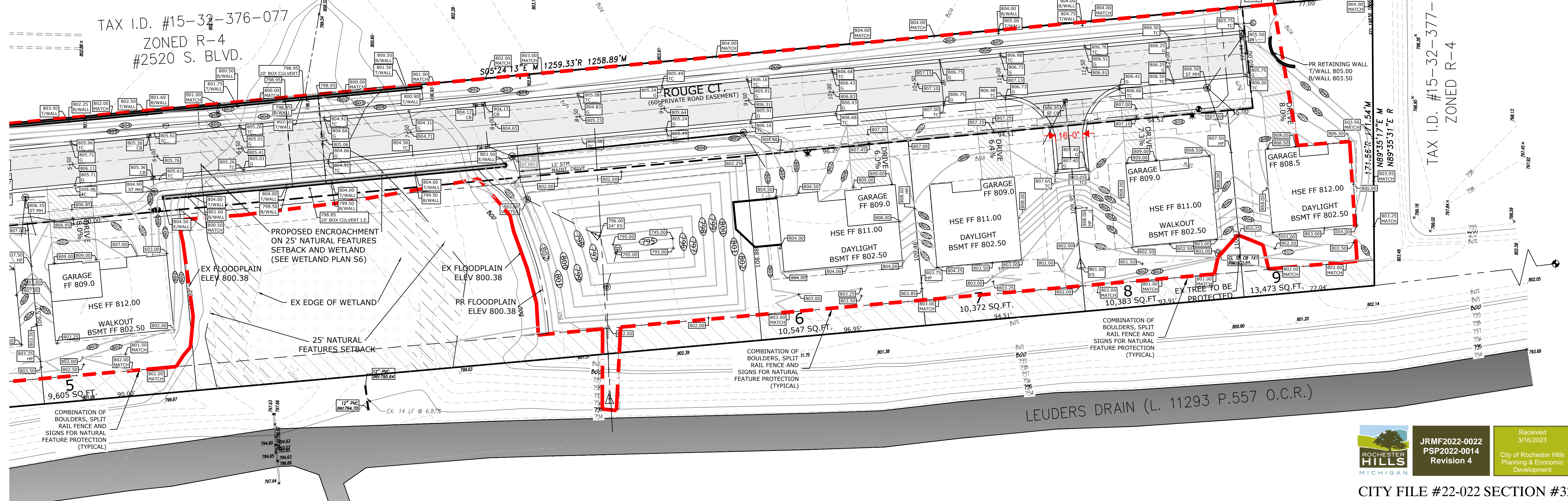
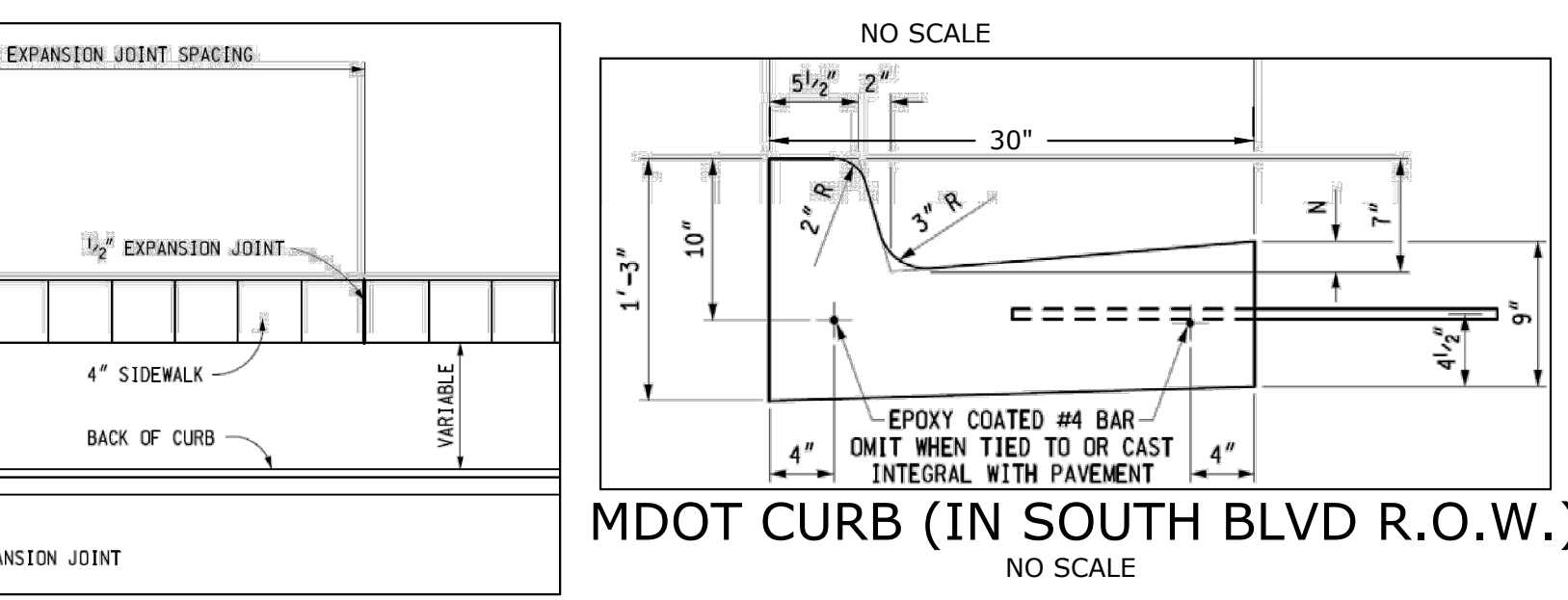
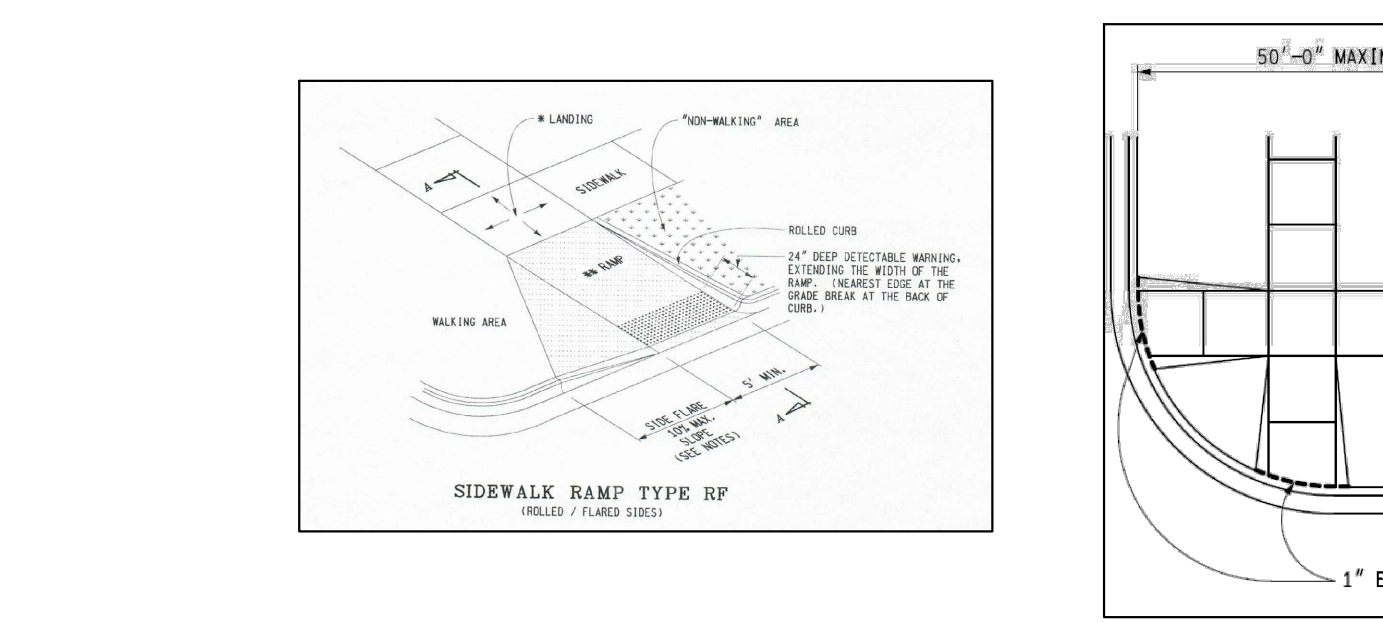
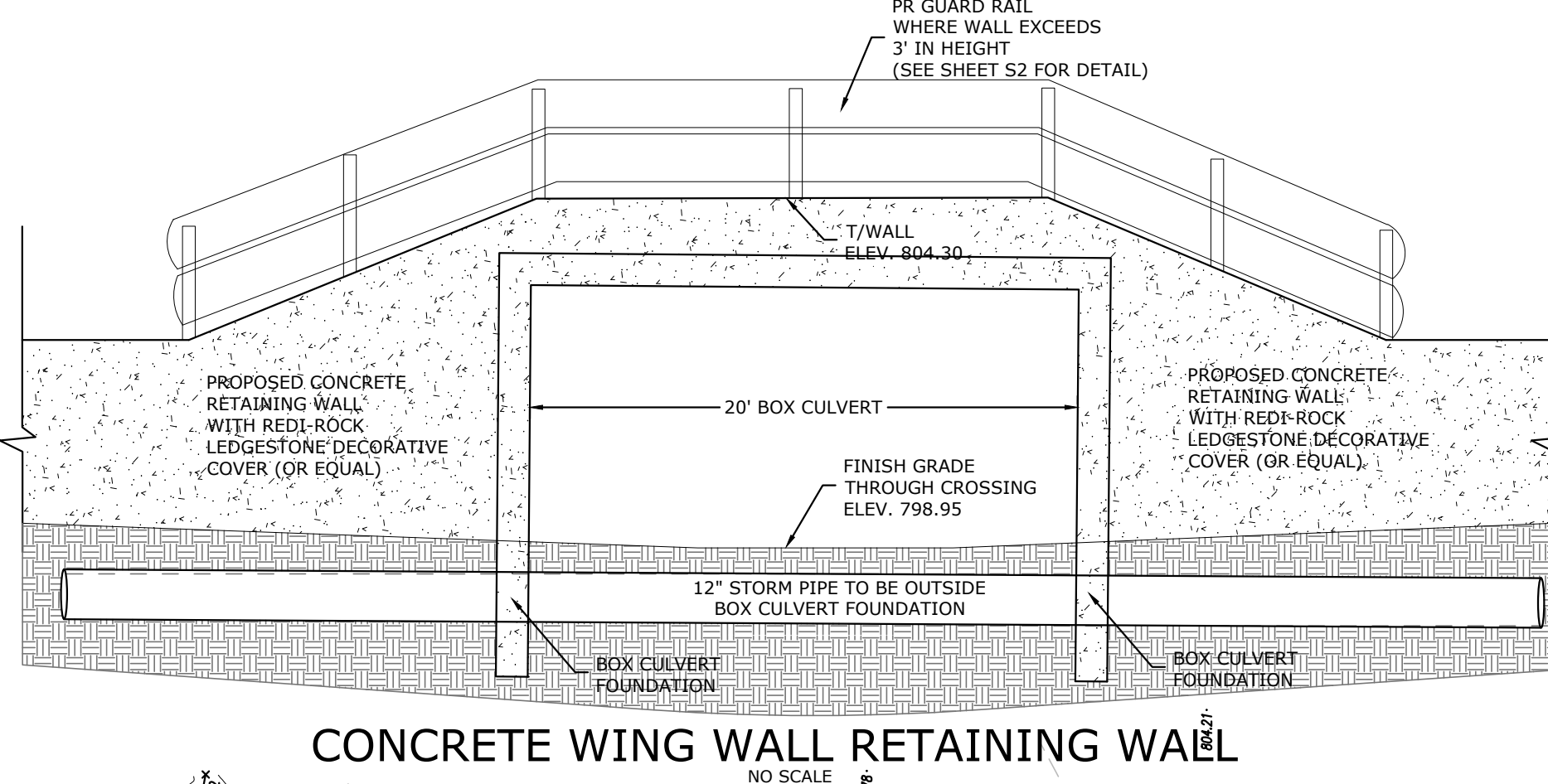
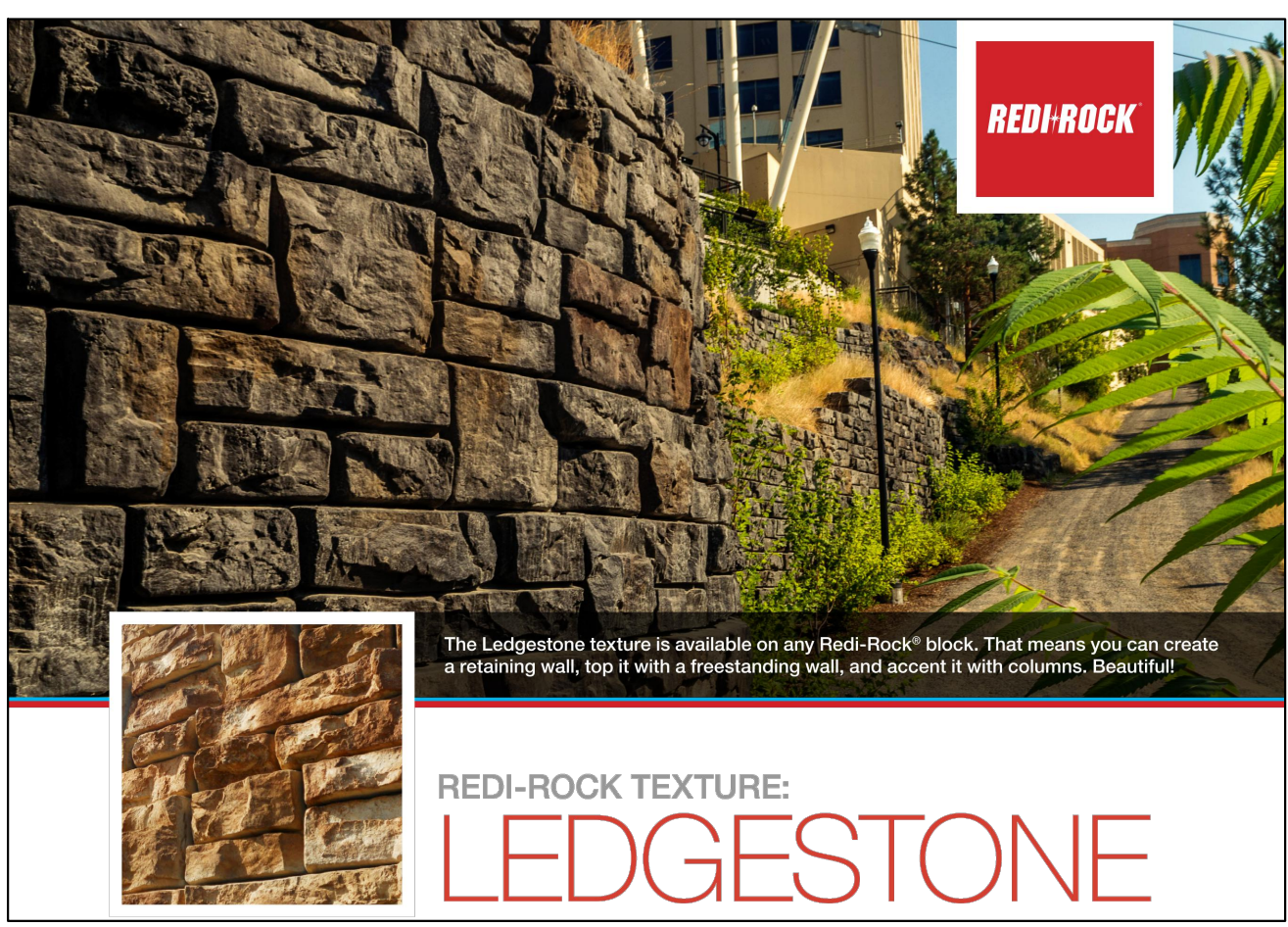


MDOT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY CONSTRUCTION PROGRAMS
DRIVEWAY OPENINGS
& APPROACHES,
AND CONCRETE SIDEWALK
9-30-2014 1-1-2014 R-29-1 SHEET 1 OF 4

MICHIGAN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY CONSTRUCTION PROGRAMS
DRIVEWAY OPENINGS
& APPROACHES,
AND CONCRETE SIDEWALK
9-30-2014 1-1-2014 R-29-1 SHEET 2 OF 4

MICHIGAN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY CONSTRUCTION PROGRAMS
DRIVEWAY OPENINGS
& APPROACHES,
AND CONCRETE SIDEWALK
9-30-2014 1-1-2014 R-29-1 SHEET 3 OF 4

NOTE: Drawing not to scale.
NOTE: All Drawings shown facing the screws.
Drawing Name: Pearl Block Aven Rd.
This Drawing is Copyright of Elite Fence Inc.
DATE: 6-4-13



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SOUTH BOULEVARD GRADING PLAN (NORTH)
WALTON BOULEVARD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

CITY SITE PLAN	8/15/2022
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CITY SITE PLAN	3/3/2023

DRAWN MCS
DESIGNED MCS
APPROVED MCP
P.E. JOB NO. 21-450
SCALE 1"=30'
S3 SITE PLAN

ROCHESTER HILLS MICHIGAN

JRMF2022-0022
PSP2022-0014
Revision 4

Received 3/16/2023
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Planning & Economic
Development

CITY FILE #22-022 SECTION #32

STORM WATER CALCULATIONS - STORM AREA 1

DETERMINATION OF 'C' FACTOR

TOTAL AREA GOING INTO POND (GROSS & NET)	=	1.12 ACRES		
PAVING AREA (WALKS, DRIVES, ROAD)	=	0.29 ACRES	@	0.95 = 0.27
BUILDING AREA	=	0.29 ACRES	@	0.95 = 0.27
LAWN AREA	=	0.5 ACRES	@	0.25 = 0.13
DETENTION AND WETLAND (LOW WATER AREA)	=	0.03 ACRES	@	1.00 = 0.03
TOTAL AREA	=	1.12 ACRES		0.70801
C avg = TOTAL C / TOTAL ACRES =	0.71 / 1.12			0.63

TIME OF CONCENTRATION IN SWALE

$v = K \times S^{1/2}$
 drain swale (ft) = 127 USE K = 1.2
 SLOPE = 1%

$v = 1.2 \times (0.01)^{1/2} = 0.12$ ft/s
 $T_t = L/3600v = 0.2939815$ hrs = 17.64 min

TIME OF CONCENTRATION IN PIPE

$v = 3$ ft/sec average
 pipe length (ft) = 450
 $T_t = L/3600v = 0.0416667$ hrs = 2.50 min

$T_c = 17.64 + 2.50 = 20.14$ min

100-YEAR INTENSITY CALCULATION

$I_{100} = \frac{36.209 \times 0.22}{(T_c + 9.17)^{0.81}} = 5.39$ in/hr

CHANNEL PROTECTION VOLUME CALCULATION:
 $V_{(pvc)} = 4719 \times C \times A = 3341$ cubic feet

CHANNEL PROTECTION CONTROLLED - EXTENDED CALCULATION:
 $V_{(ED)} = 6897 \times C \times A = 4883$ cubic feet

100 YEAR PEAK INFLOW CALCULATION:
 $Q_{100in} = C \times I_{100} \times A = 3.82$ cfs

100 YEAR ALLOWABLE AGRICULTURAL RUNOFF
 $Q_{(allow)} = 0.2$ cfs/acre = 0.22 cfs

VARIABLE RELEASE RATE CALCULATION:
 $Q_{vrr} = 1.1055 - 0.206 \times \ln(A) = 1.1055 - 0.206 \times \ln(1.12) = 1.08$ cfs/acre
 $Q_{100p} = Q_{vrr} \times A = 1.21$ cfs

STORAGE CURVE FACTOR CALCULATION:
 $R = 0.206 - 0.15 \times \ln(Q_{100p}/Q_{100in}) = 0.38$

100-YEAR RUNOFF CALCULATION:
 $V_{100R} = 18985 \times C \times A = 13442$ CF

100-YEAR STORAGE VOLUME CALCULATION:
 $V_{100D} = V_{100R} \times R = 5079$ CF

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

DETENTION BASIN 1				
ELEV	AREA (SQ.FT.)	VOLUME (CU.FT.)	ACCUM VOLUME	
797.5	428	0	0	
798	860	143	143.319	
799	1940	1400	1543	
800	3315	2628	4171	
801	4988	4152	8322	
802	6366	5677	13999	

REQUIRED STORAGE MUST MEET THE FOLLOWING VOLUMES
 $V_{(pvc)} = 3341$ CF @ ELEV 799.68
 $V_{(ED)} = 4883$ CF @ ELEV 800.27
 $V_{(100D)} = 6621$ CF @ ELEV 800.59

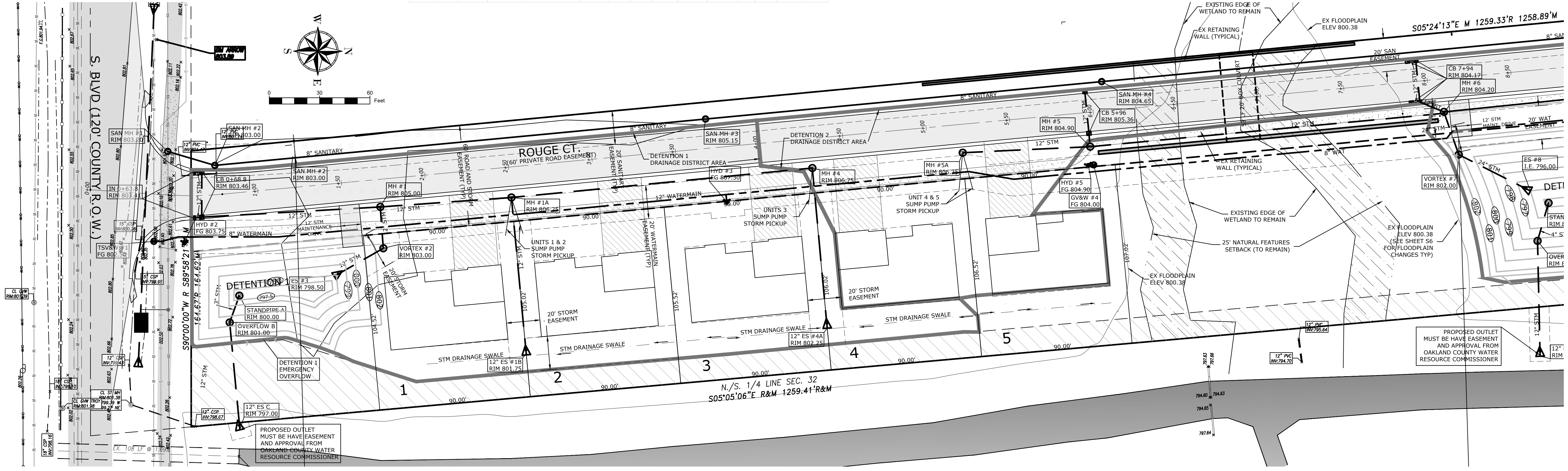
PROVIDED STORAGE = 8322 CF > 6621 CF = REQUIRED STORAGE

NOTE: ALL HOUSE SUMP PUMPS MUST BE PICKED UP TO GO INTO STORM SYSTEM AS SHOWN.

NOTE: ALL STORM SEWERS TO MEET THE CITY OF ROCHESTER HILLS AND OAKLAND COUNTY WATER RESOURCE COMMISSIONER 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.



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

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S4
 SITE PLAN


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CITY FILE #22-022 SECTION #32

STORM WATER CALCULATIONS - STORM AREA 2

DETERMINATION OF 'C' FACTOR

TOTAL AREA GOING INTO POND (GROSS & NET)	=	2.15 ACRES				
PAVING AREA (WALKS, DRIVES, ROAD)	=	0.65 ACRES	@	0.95	=	0.61
BUILDING AREA	=	0.36 ACRES	@	0.95	=	0.35
LAWN AREA	=	1.1 ACRES	@	0.25	=	0.28
DETENTION AND WETLAND (LOW WATER AREA)	=	0.02 ACRES	@	1.00	=	0.02
TOTAL AREA	=	2.15 ACRES				1.26

C avg. = TOTAL C / TOTAL ACRES = 1.26 / 2.15 = **0.59**

TIME OF CONCENTRATION IN SWALE

$v = K \times S^{0.4722}$

drain swale (ft) = 150 USE K = 1.2 SLOPE = 1%
 $v = 1.2 \times (0.01)^{0.4722} = 0.12$ ft/s
 $T_t = L/v = 150 / 0.12 = 1250$ sec = 20.83 min

TIME OF CONCENTRATION IN PIPE

pipe length (ft) = 483
 $T_t = L/v = 483 / 0.12 = 4025$ sec = 67.08 min

100-YEAR INTENSITY CALCULATION

$I(100) = \frac{30.20 \times 0.22}{(T_c + 9.17)^{0.81}} = 5.41$ in/hr

CHANNEL PROTECTION VOLUME CALCULATION:
 $V(cpv) = 4719 \times C \times A = 5948$ cubic feet

CHANNEL PROTECTION CONTROLLED - EXTENDED CALCULATION:
 $V(ED) = 6897 \times C \times A = 8693$ cubic feet

100 YEAR PEAK INFLOW CALCULATION:
 $Q(100) = C \times I(100) \times A = 6.82$ cfs

100 YEAR ALLOWABLE AGRICULTURAL RUNOFF
 $Q(allow) = 0.2$ cfs/acre = 0.43 cfs

VARIABLE RELEASE RATE CALCULATION:
 $Q_{vrr} = 1.1055 - 0.206 \times \ln(A) - 1.1055 - 0.206 \times \ln(2.11) = 0.95$ cfs/acre
 $Q(100) = Q_{vrr} \times A = 2.04$ cfs

STORAGE CURVE FACTOR CALCULATION:
 $R = 0.206 - 0.15 \times \ln(Q(100)/Q(100N)) = 0.39$

100-YEAR RUNOFF CALCULATION:
 $V(100R) = 18985 \times C \times A = 23927$ CF

100-YEAR STORAGE VOLUME CALCULATION:
 $V(1000) = V(100R) \times R = 9263$ 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
796	810	0	0
797	1731	1271	1271
798	2948	2340	3610
799	4462	3705	7315
800	6278	5370	12685
801	8344	7311	19996

REQUIRED STORAGE MUST MEET THE FOLLOWING VOLUMES
 $V(cpv) = 5948$ CF @ ELEV 798.63
 $V(ED) = 8693$ CF @ ELEV 799.45
 $V(1000) = 12008$ CF @ ELEV 799.91

PROVIDED STORAGE = 19,996 CF > 12,008 CF = REQUIRED STORAGE

HYDRANT FLOW TEST RESULT

WATER CADD FLOW DATA ANALYSIS ON SOUTH BLVD EAST OF WALNUT BROOK DRIVE PRIOR TO THE PRV.

>110 PSI STATIC PRESSURE
 4400 GPM MAX DAY DEMAND
 MEETS REQUIRED FIRE FLOW

- FIRE DEPARTMENT NOTES:**
- 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).
 - 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).
 - 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. 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.
 - PROVIDE A "NO PARKING FIRE DEPARTMENT CONNECTION" SIGN OVER THE FIRE DEPARTMENT CONNECTION.
 - FDC'S SHALL NOT BE OBSTRUCTED BY LANDSCAPING, PARKING, OR ANY OTHER PERMANENT OR TEMPORARY MATERIALS OR DEVICES.
 - 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.

NOTE: ALL STORM SEWERS TO MEET THE CITY OF ROCHESTER HILLS AND OAKLAND COUNTY WATER RESOURCE COMMISSIONER 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.

SANITARY BASIS OF DESIGN

INITIAL & ULTIMATE DESIGN

ESTIMATED INITIAL AND ULTIMATE LOAD = 9 RESIDENTIAL UNITS
 P = POPULATION = 2.44 PEOPLE/REU x 9 REU = 22 PP

INITIAL AVERAGE FLOW = 22 PP x 100 GPDPC = 0.0022 MGD = 0.00409 CFS

PEAKING FACTOR 4.0

INITIAL AND ULTIMATE PEAK DESIGN FLOW = 4.0 x 0.00409 = 0.0164 CFS

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

SEWER CAPACITY = 0.75 CFS > 0.0164 CFS DESIGN FLOW

WATERMAIN BASIS OF DESIGN

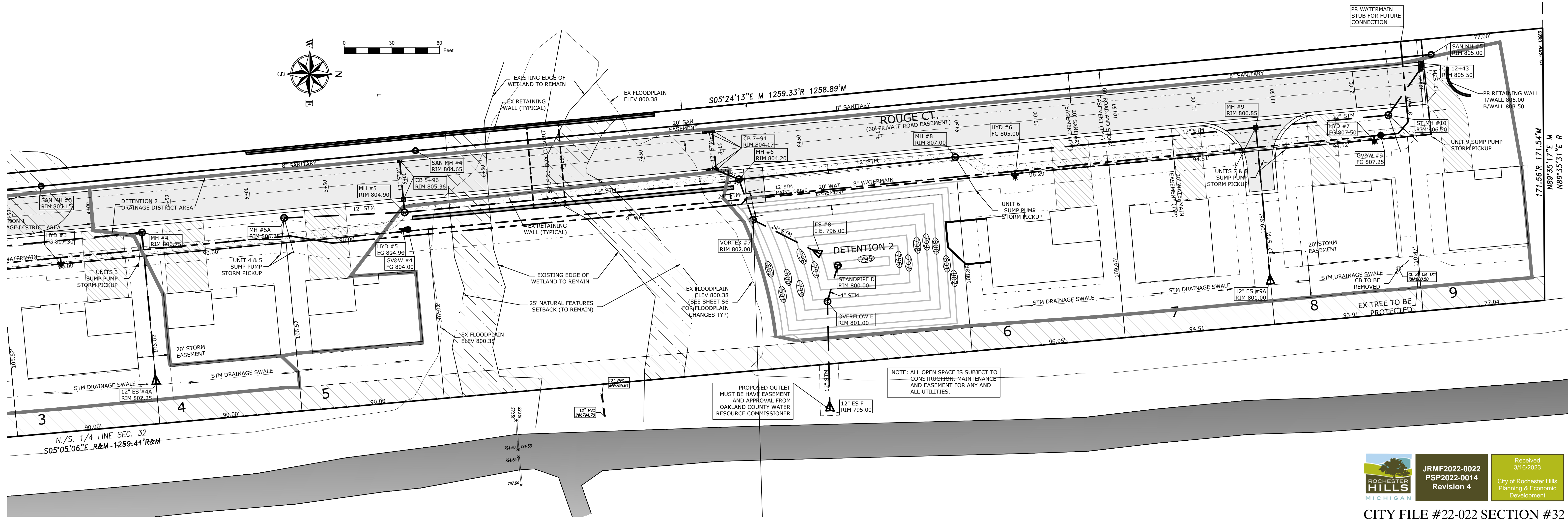
INITIAL & ULTIMATE DESIGN

ESTIMATED INITIAL AND ULTIMATE LOAD = 9 RESIDENTIAL UNITS
 P = POPULATION = 2.44 PEOPLE/REU x 9 REU = 22 PP

INITIAL AVERAGE FLOW = 22 PP x 100 GPDPC = 0.0022 MGD = 0.00409 CFS

PEAKING FACTOR = 2.5

INITIAL AND ULT PEAK DESIGN FLOW = 2.5 x 0.00409 MGD = 0.01125 MGD = 0.0102 CFS



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 THESE PLANS AND PROFILES IS TAKEN FROM FIELD SURVEY AND AVAILABLE RECORDS, BUT THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO UTILITIES AND UNDERGROUND STRUCTURES. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY OF ROCHESTER HILLS AND MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY PRIOR TO THE START OF ANY CONSTRUCTION.

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

SOUTH BOULEVARD UTILITY PLAN (NORTH)

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

ISSUE DATES

CITY SITE PLAN	8/15/2022
CITY SITE PLAN	8/22/2022
CITY SITE PLAN	10/21/2022
CITY SITE PLAN	12/1/2022
CITY SITE PLAN	3/3/2023

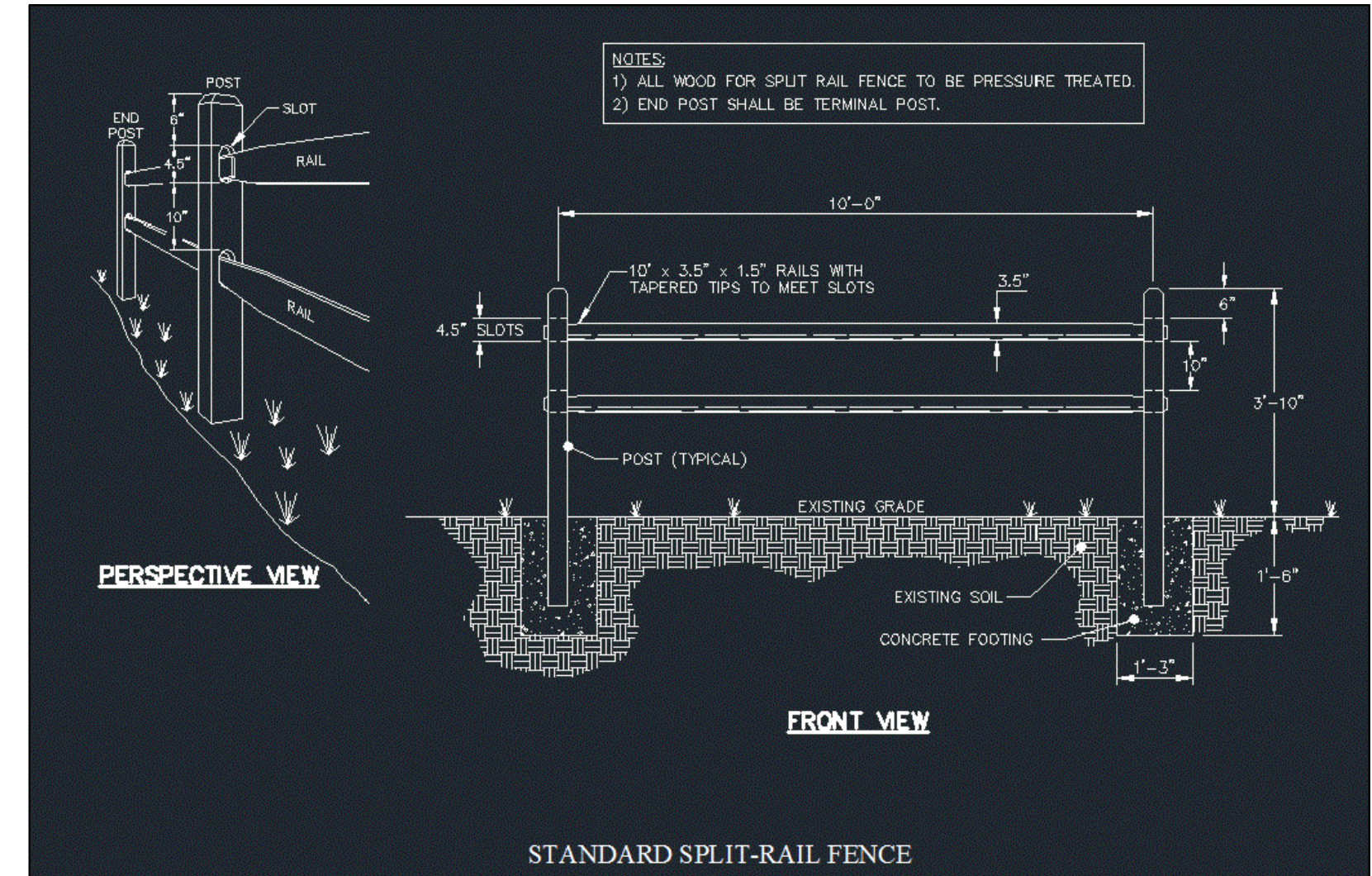
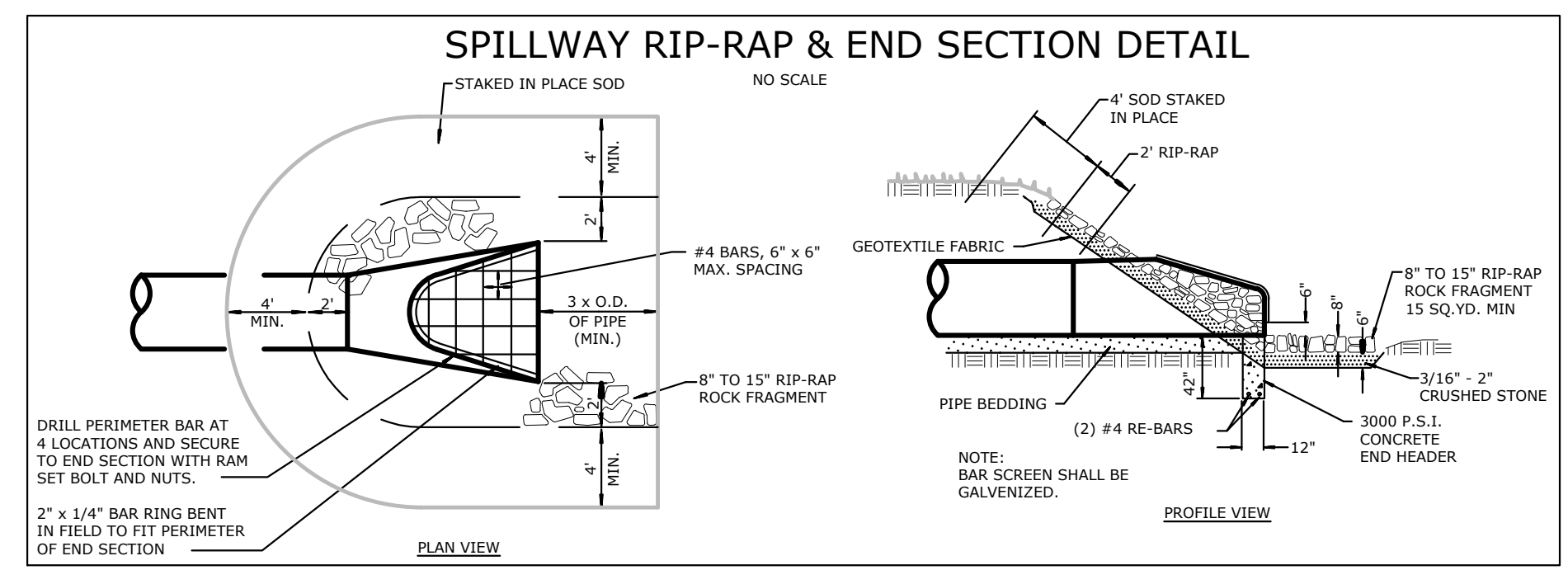
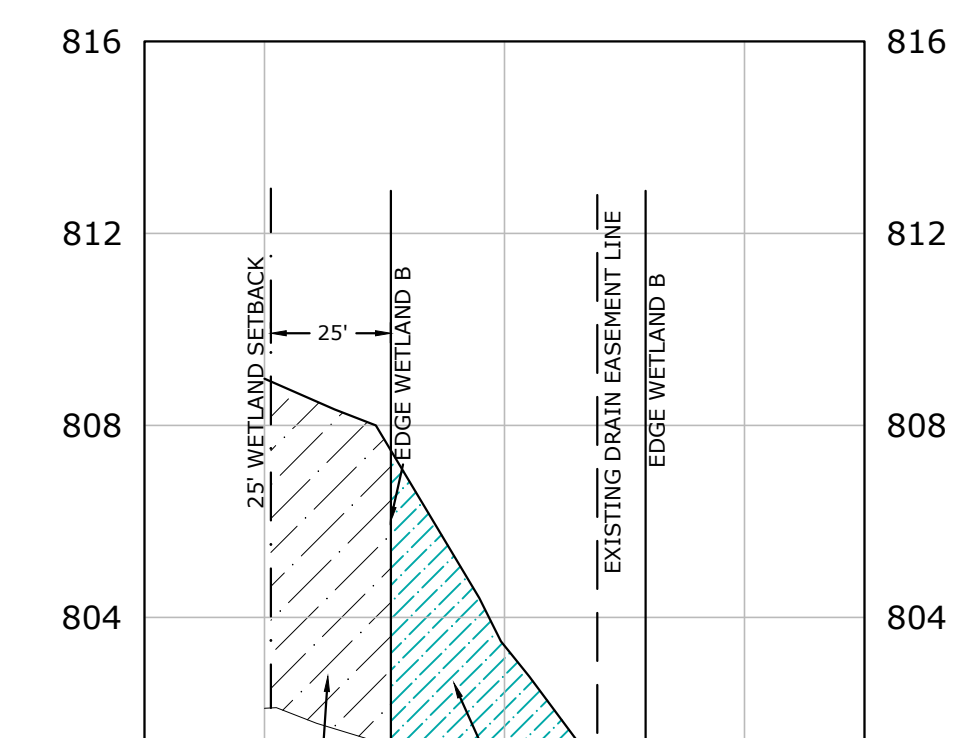
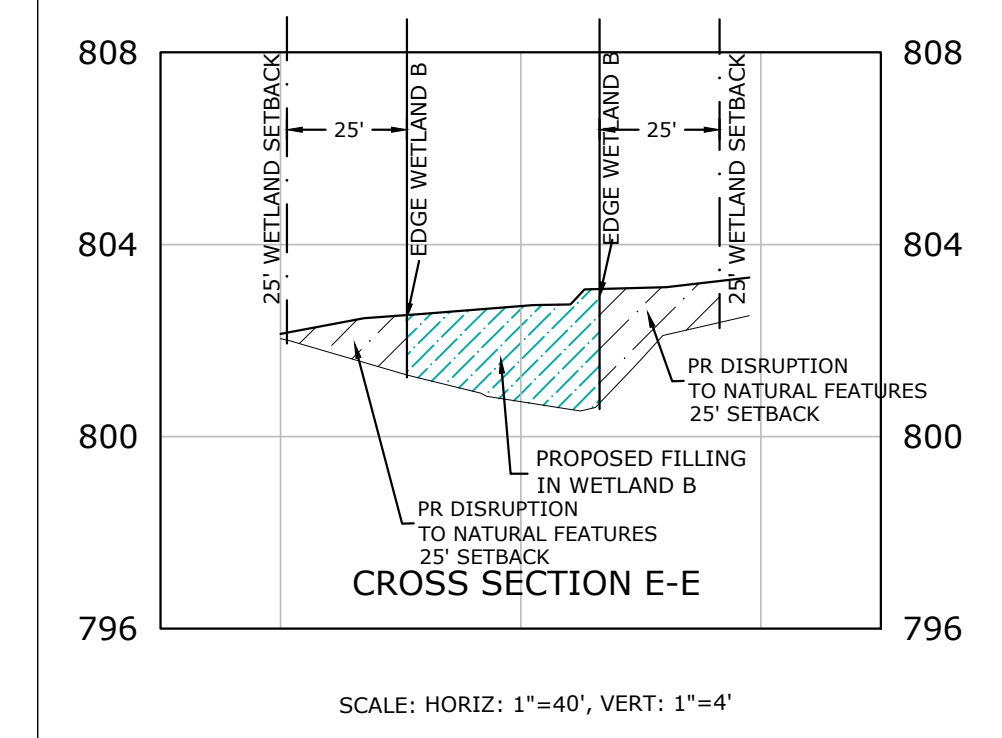
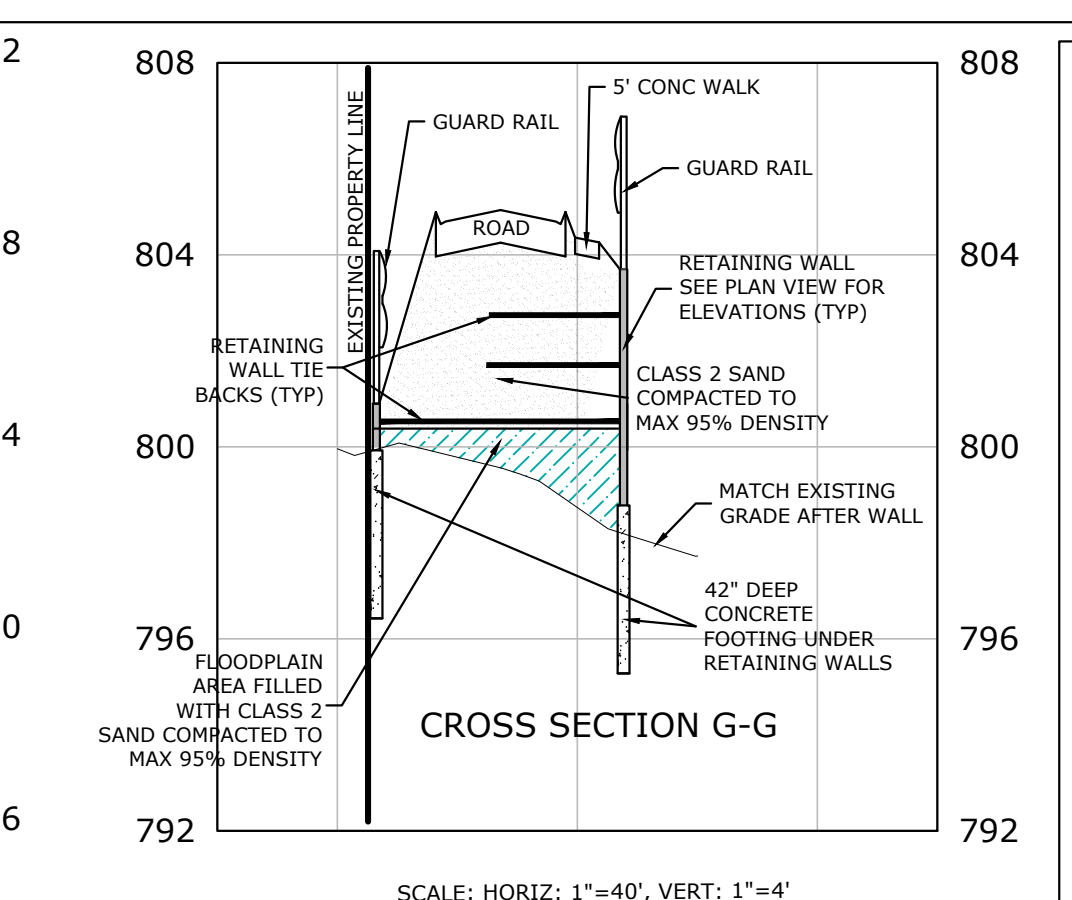
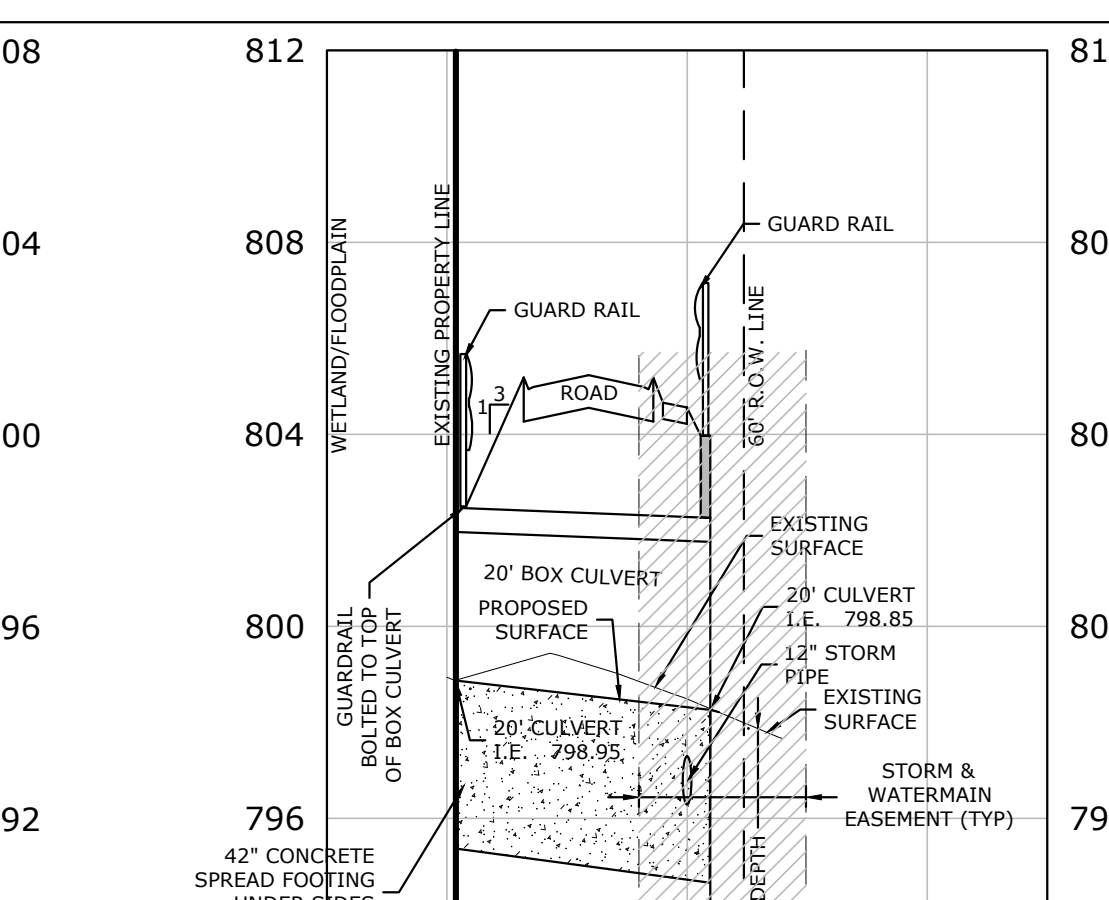
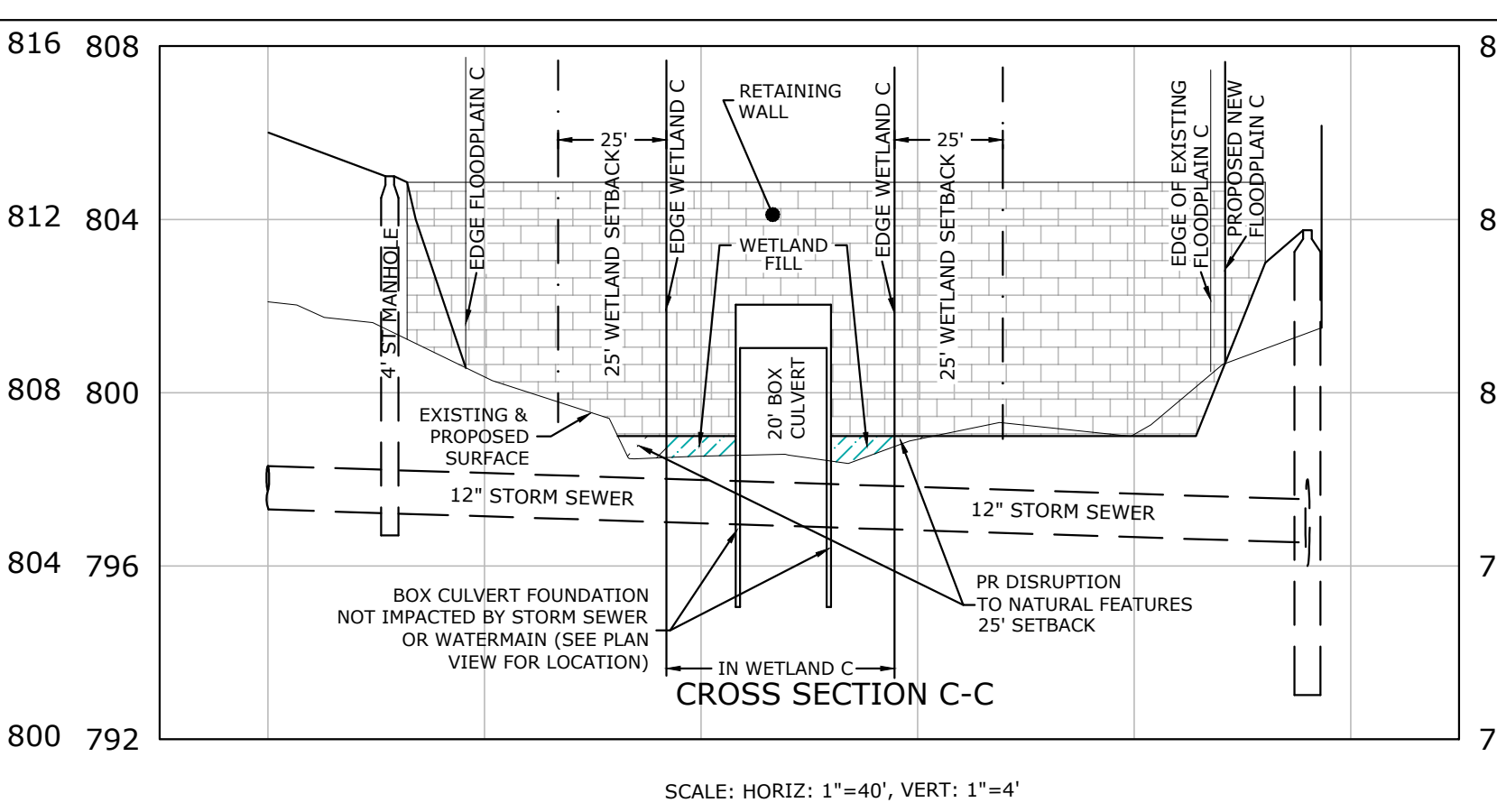
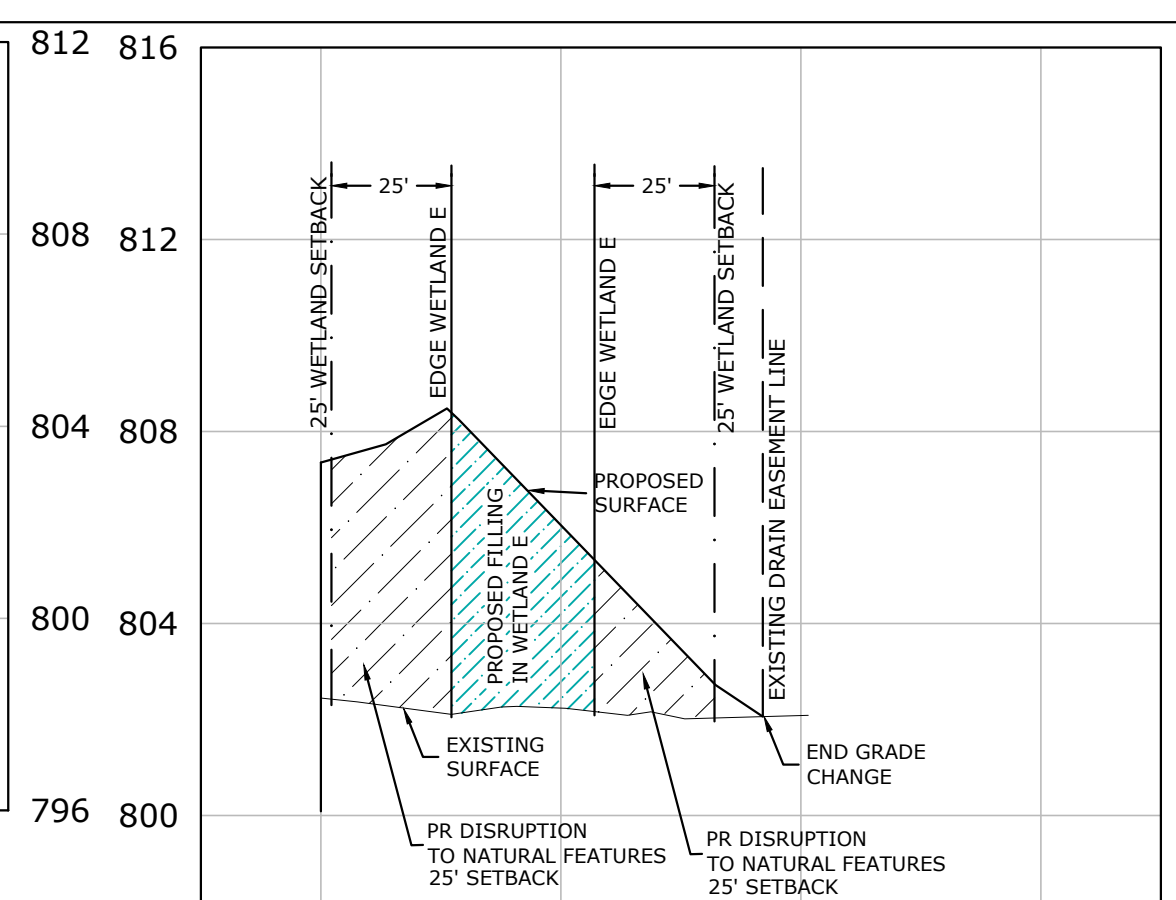
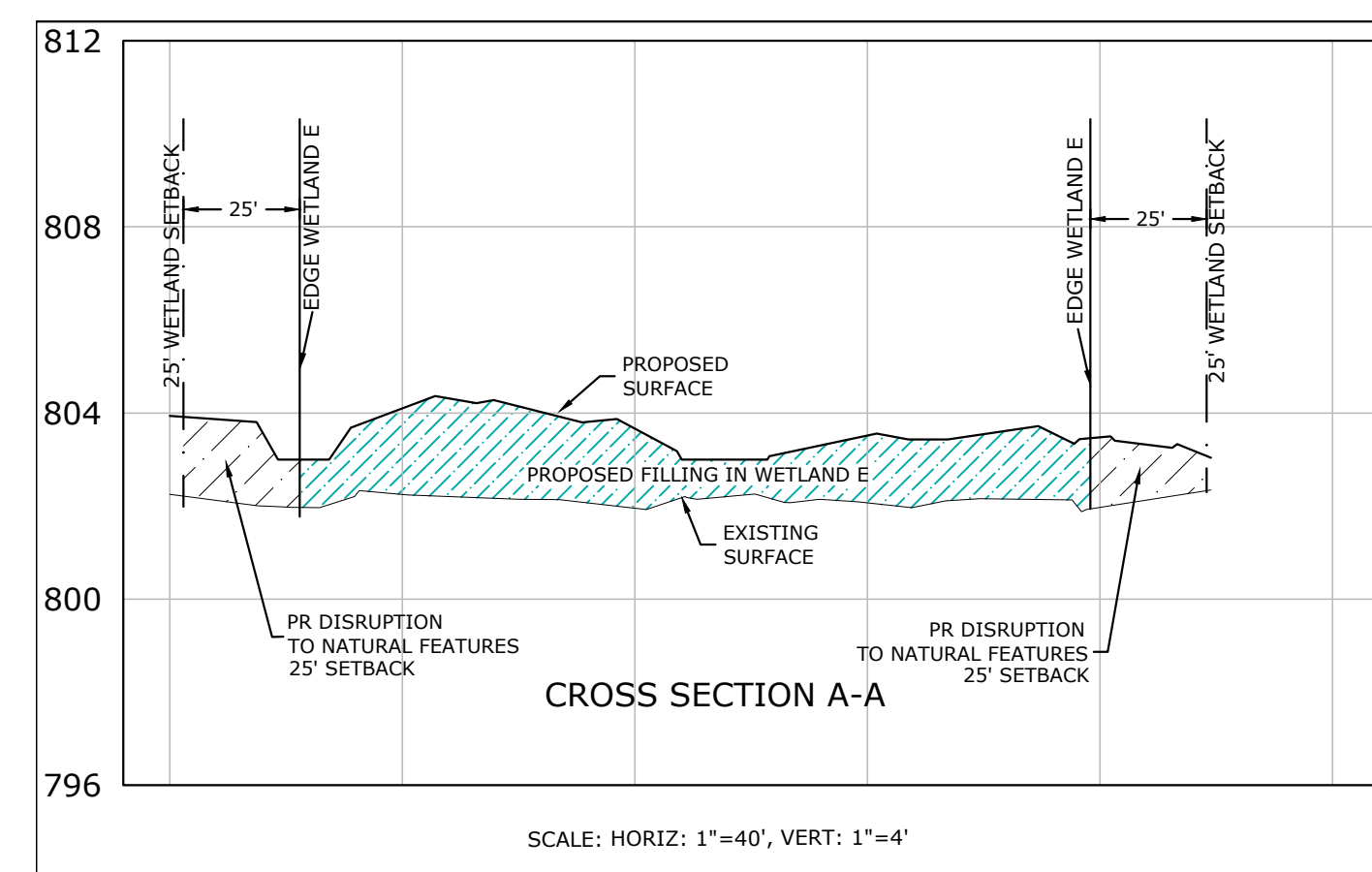
DRAWN MCS
 DESIGNED MCS
 APPROVED MCP
 P.E. JOB No. 21-450
 SCALE 1"=30'
S5
 SITE PLAN

ROCHESTER HILLS MICHIGAN

JRMF2022-0022
 PSP2022-0014
 Revision 4

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

CITY FILE #22-022 SECTION #32



WETLAND DISTURBANCES

WETLAND	AREA OF WETLAND	AREA OF DISRUPTION OF WETLAND	WETLAND FILL VOLUME
WETLAND B	1,860 SQ.FT.	1,536 SQ.FT.	138 CU.YDS.
WETLAND C	11,576 SQ.FT.	4,772 SQ.FT.	98 CU.YDS.
WETLAND E	5,845 SQ.FT.	5,845 SQ.FT.	162 CU.YDS.

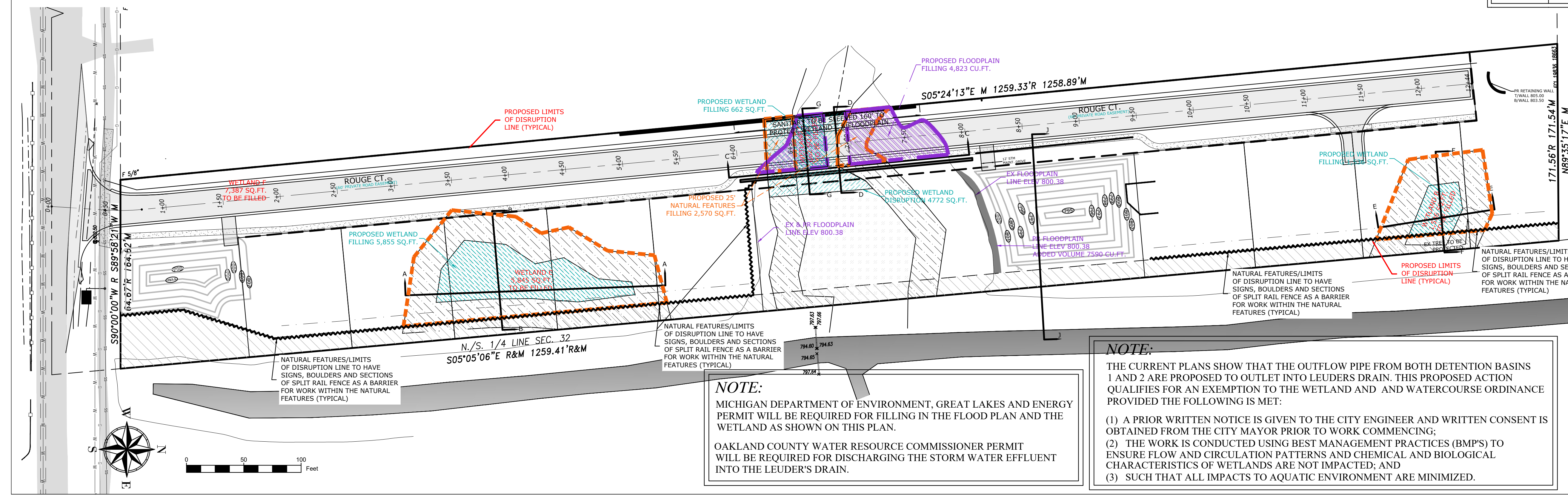
FLOODPLAIN DISTURBANCES

WETLAND	EX VOLUME FLOODPLAIN	FLOODPLAIN VOLUME REMOVED	FLOODPLAIN VOLUME MITIGATED
WETLAND B	NA	NA	NA
WETLAND C	80,995 CF	4,823 SQ.FT.	7590 CU.FT.
WETLAND E	NA	NA	NA

25' NATURAL SETBACK DISTURBANCES

*PROPOSED PLANS REQUEST TO REDUCE THE DISRUPTION OF 25' NATURAL FEATURES SETBACK FROM 25' TO 0' WETLANDS B & E AND ONE SIDE OF WETLAND C

WETLAND	AREA OF 25' SETBACK	AREA OF DISRUPTION OF 25' SETBACK	LINEAR FOOT REDUCTION
WETLAND B	17720 SQ.FT.	4167 SQ.FT.	25'
WETLAND C	9441 SQ.FT.	2,570 SQ.FT.	0' ON SOUTH, 0' ON NORTH, 25' ON WEST
WETLAND E	17720 SQ.FT.	15087 SQ.FT.	25'



UTILITY CROSSING NOTE:
SANITARY SEWER CROSSING OF THE WETLAND C MUST BE SLEEVED TO PROTECT THE WETLAND. ALL OTHER WETLANDS TO BE CROSSED BY THE SANITARY SEWER ARE PROPOSED TO BE FILLED. SEE PLAN FOR LOCATION.

NOTE:
THE CURRENT PLANS SHOW THAT THE OUTFLOW PIPE FROM BOTH DETENTION BASINS 1 AND 2 ARE PROPOSED TO OUTLET INTO LEUDERS DRAIN. THIS PROPOSED ACTION QUALIFIES FOR AN EXEMPTION TO THE WETLAND AND WATERCOURSE ORDINANCE PROVIDED THE FOLLOWING IS MET:

- (1) A PRIOR WRITTEN NOTICE IS GIVEN TO THE CITY ENGINEER AND WRITTEN CONSENT IS OBTAINED FROM THE CITY MAYOR PRIOR TO WORK COMMENCING;
- (2) THE WORK IS CONDUCTED USING BEST MANAGEMENT PRACTICES (BMP'S) TO ENSURE FLOW AND CIRCULATION PATTERNS AND CHEMICAL AND BIOLOGICAL CHARACTERISTICS OF WETLANDS ARE NOT IMPACTED; AND
- (3) SUCH THAT ALL IMPACTS TO AQUATIC ENVIRONMENT ARE MINIMIZED.

NOTE:
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY PERMIT WILL BE REQUIRED FOR FILLING IN THE FLOOD PLAN AND THE WETLAND AS SHOWN ON THIS PLAN.
OAKLAND COUNTY WATER RESOURCE COMMISSIONER PERMIT WILL BE REQUIRED FOR DISCHARGING THE STORM WATER EFFLUENT INTO THE LEUDER'S DRAIN.

NOTE:
ALL WETLANDS WERE FLAGGED BY BARR ENGINEERING COMPANY ON APRIL 21, 2021

Consulting Civil Engineers
"Engineering A Better Michigan"
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4700 Conestoga Drive, White Lake, Michigan 48383
P: 248.714.9895 info@powellengineeringllc.com

BEFORE YOU DIG
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SOUTH BOULEVARD WETLAND PLAN
SOUTH BLVD, CITY OF ROCHESTER HILLS
THREE GENERATIONS ROCHESTER HILLS SITE PLANS

ISSUE DATES

CITY SITE PLAN	8/19/2022
CITY SITE PLAN	10/21/2022
CITY SITE PLAN	12/1/2022
CITY SITE PLAN	2/28/2023

DRAWN: MCS
DESIGNED: MCS
APPROVED: MCP
P.E. JOB No. 21-450
SCALE: AS SHOWN
S6
SITE PLAN

ROCHESTER HILLS MICHIGAN
JRMF2022-0022
PSP2022-0014
Revision 4
Received 3/16/2023
City of Rochester Hills Planning & Economic Development
CITY FILE #22-022 SECTION #32

06.09.2022	Preliminary Review
06.22.2022	Revision per Owner
08.25.2022	Revision per Owner
10.27.2022	Revision per City Comments
12.14.2022	Revision per City Comments
03.15.2023	Revision per City Comments

South Oaks
W. South Boulevard
Rochester Hills, Michigan

South Oaks, LLC
1400 E. Michigan Ave, Suite G
Saline, MI 48176

Tree Removal & Preservation Plan

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

Regulated trees within building
envelope still need to be replaced

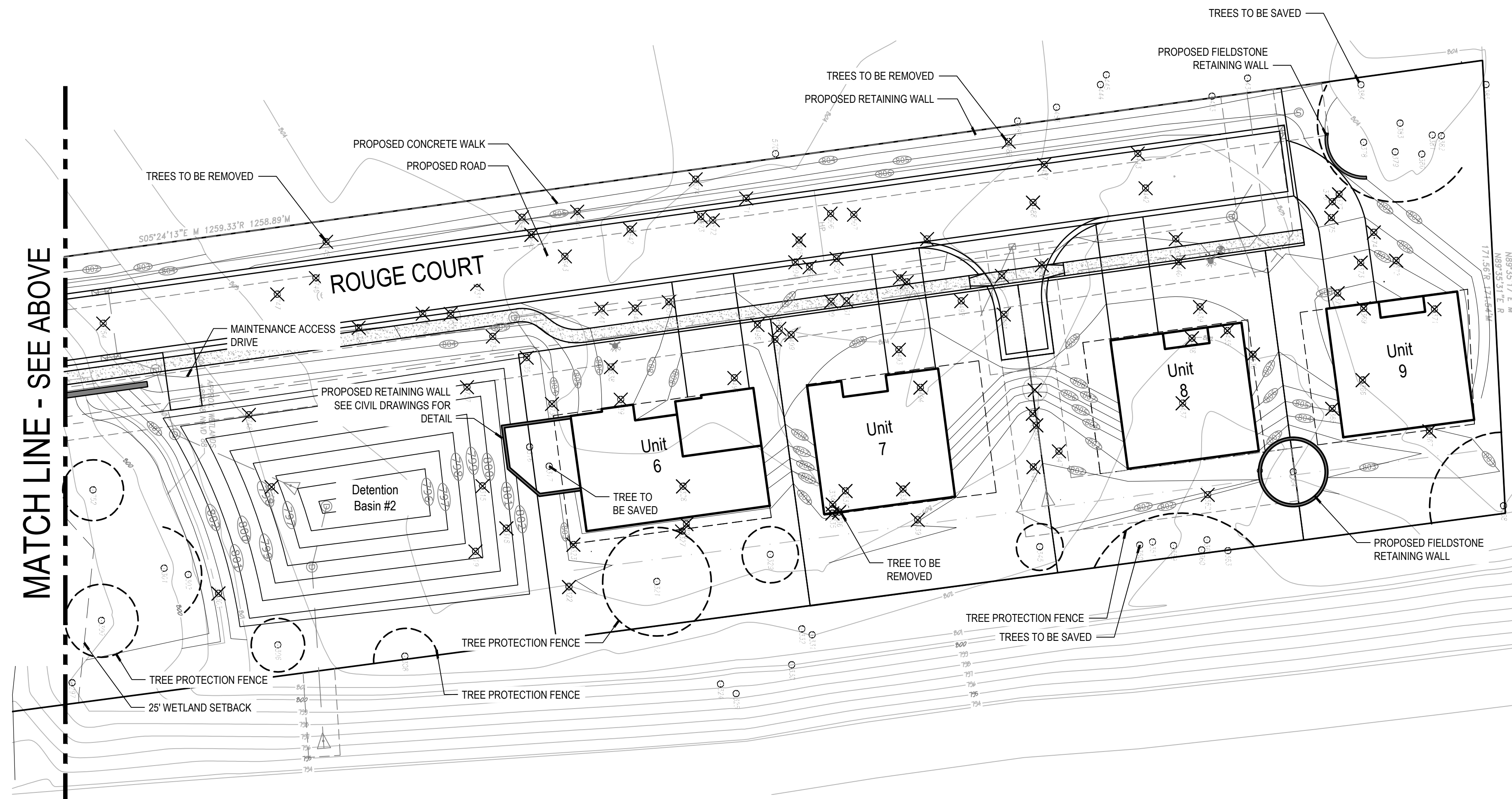
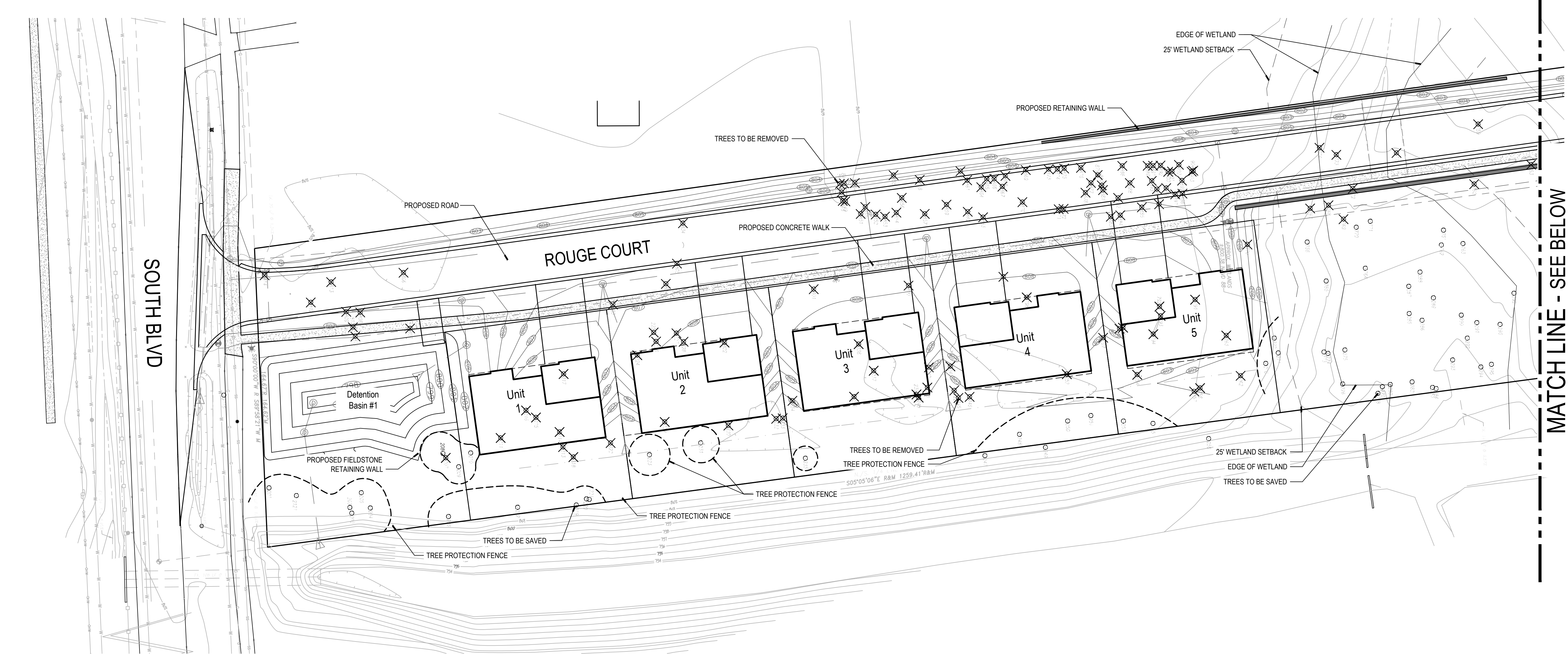
326 regulate trees - 20 "poor/dying"
- 105 saved = 201 removed trees
needing replacement of some sort



Drawn: JG
Checked: JG
Date: 05.2022
Scale: 1" = 30'-0"

22.012

L-1



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.

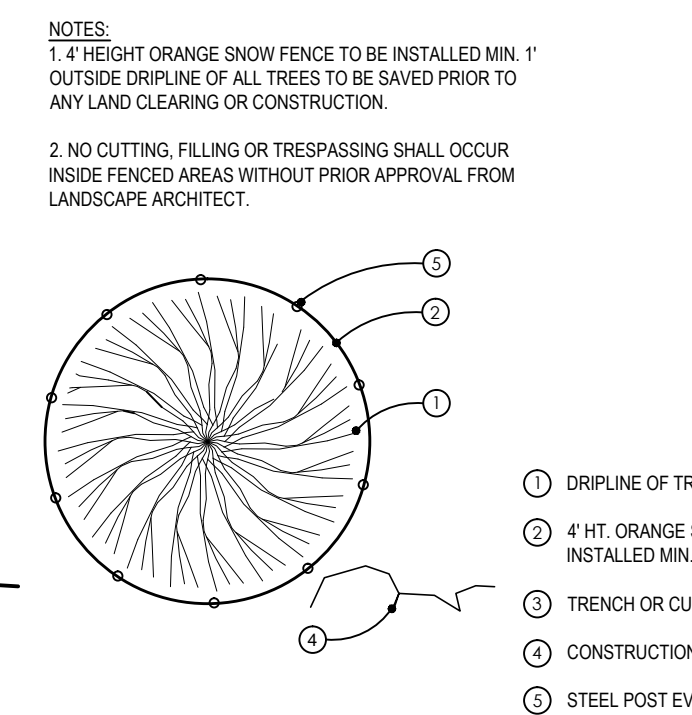
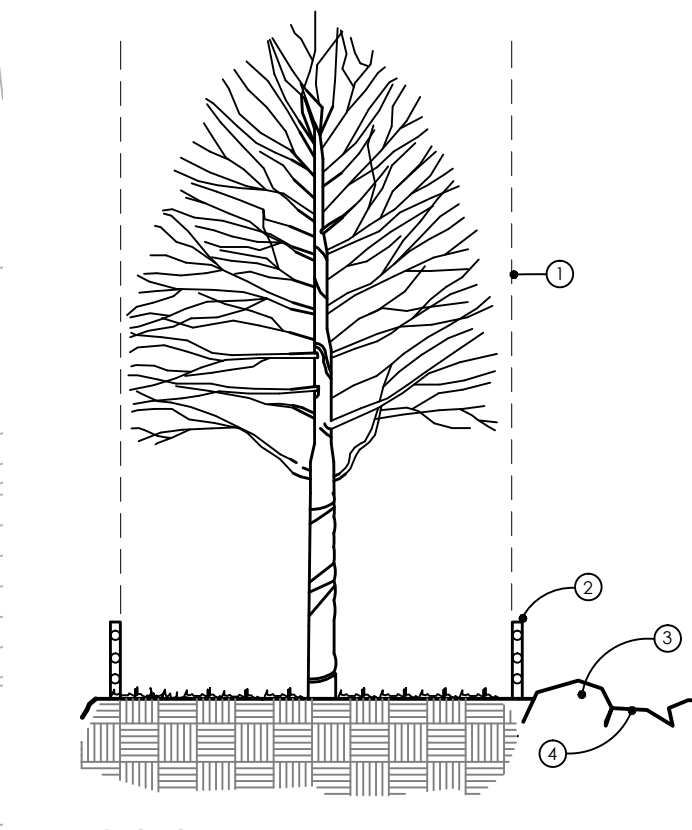
Replacement and relocated trees must be staked, fertilized, and mulched and shall be guaranteed by the tree removal permit holder to exhibit a normal growth cycle for at least one year following planting.

Tree Mitigation Calculations

Regulated Trees Surveyed	326
Tree Exemptions	70 (building envelop (50), poor condition (20))
Remaining Regulated Trees	256 (326-70)
Trees Required to be Saved	103 (256 x 40%)
Regulated Trees Saved	105
Percentage of Trees Saved	41.01% (105/256)
Regulated Trees Removed	138
Regulated Trees Required	118 (1 to 1 replacement ratio less 20 in poor condition*)
Specimen Trees Removed	85 (2,881*)
Specimen Trees Saved	41
Specimen Trees Credits	41 (1 - 2" tree credit per saved tree)
Specimen Trees Required (dbh)	1,360 ((2,881 * 50% = 1,441) / 2 = 721 2" trees - 41 credits)
Regulated Replacements Required	118
Regulated Replacements Provided	118
Specimen Replacements Required	1,360*
Specimen Replacements Provided	339* (13-3" trees, 60-5" trees)
Trees Paid into City Tree Fund	510

*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

SEE SHEET L-2 FOR TREE LIST



- NOTES:
1. 4' HEIGHT ORANGE SNOW FENCE TO BE INSTALLED MIN. 1' OUTSIDE DRIFLINE OF ALL TREES TO BE SAVED PRIOR TO ANY LAND CLEARING OR CONSTRUCTION.
 2. NO CUTTING, FILLING OR TRESPASSING SHALL OCCUR INSIDE FENCED AREAS WITHOUT PRIOR APPROVAL FROM LANDSCAPE ARCHITECT.

- 1 DRIFLINE OF TREES TO BE SAVED
- 2 4' HT. ORANGE SNOW FENCE TO BE INSTALLED MIN. 1' OUTSIDE DRIFLINE
- 3 TRENCH OR CURB
- 4 CONSTRUCTION AREA
- 5 STEEL POST EVERY 10' MINIMUM, INSTALL POSTS MINIMUM 2" INTO GROUND

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

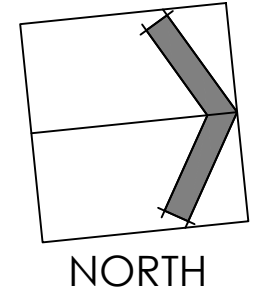
excess tree replacement from planting larger trees will not be allowed to count for mitigation of tree removal at other development project.



JRMF2022-0022
PSP2022-0014
Revision 4

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

SCALE: 1" = 30'-0"



Issued For:

06.09.2022 Preliminary Review
06.22.2022 Revision per Owner
08.25.2022 Revision per Owner
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12.14.2022 Revision per City Comments
03.15.2023 Revision per City Comments

Project:

South Oaks

W. South Boulevard
Rochester Hills, Michigan

Project Sponsor:

South Oaks, LLC
1400 E. Michigan Ave, Suite G
Saline, MI 48176

Sheet Name:

Tree List

Scale:

Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Specimen	Remove	Exempt	Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Landmark	Remove	Exempt	Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Landmark	Remove	Exempt	Tag No.	DBH (in.)	Common Name	Botanical Name	Condition	Landmark	Remove	Exempt
201	12	Apple	Malus spp.	Good				300	28	White Oak	Quercus alba	Good	X			494	24,26	Basswood	Tilia americana	Good	X	X	X	814	6,8	Black Walnut	Juglans nigra	Good		X	
202	10	Ornamental Pear	Pyrus calleryana	Good				301	14	Boxelder	Acer negundo	Poor				495	16	Shagbark Hickory	Carya ovata	Good				834	14	Norway Maple	Acer platanoides	Good	X	X	
203	8	Apple	Malus spp.	Good				302	18	Elm	Ulmus americana	Poor				496	34,30,28	Basswood	Tilia americana	Good	X	X		844	22	Northern Hackberry	Celtis occidentalis	Good			
204	15	Green Spruce	Picea pungens	Good				303	12	Elm	Ulmus americana	Poor		X	X	497	8,5	Red Maple	Acer rubrum	Good				845	16	Northern Hackberry	Celtis occidentalis	Good			
205	10	Green Spruce	Picea pungens	Poor				306	50	White Oak	Quercus alba	Good	X			498	7	Red Maple	Acer rubrum	Good				846	14	Northern Hackberry	Celtis occidentalis	Good	X	X	
206	14,13	Green Spruce	Picea pungens	Good				308	9	White Oak	Quercus alba	Good				499	18	Basswood	Tilia americana	Good	X	X		847	20	Northern Hackberry	Celtis occidentalis	Good			
207	DEAD				X		X	313	22	Silver Maple	Acer saccharinum	Good	X			500	12	Shagbark Hickory	Carya ovata	Good				848	10	Northern Hackberry	Celtis occidentalis	Good	X	X	
208	26	Black Walnut	Juglans nigra	Good	X			314	54	White Oak	Quercus alba	Good	X			501	42	Red Oak	Quercus rubra	Good	X	X		849	16	Northern Hackberry	Celtis occidentalis	Good	X	X	
209	10,15,11,12	Golden Willow	Salix alba	Fair				315	18	White Oak	Quercus alba	Good	X	X		502	22,22,18,20	Basswood	Tilia americana	Good	X	X		850	17	Northern Hackberry	Celtis occidentalis	Good	X	X	
210	14	White Oak	Quercus alba	Good				316	19	White Oak	Quercus alba	Good	X			503	28	Basswood	Tilia americana	Good	X	X		851	18,16,19,18	Cottonwood	Populus deltoides	Good			
211	10	Elm	Ulmus americana	Good		X	X	317	19	White Oak	Quercus alba	Good				504	30	Red Oak	Quercus rubra	Good	X	X		852	22,22	Cottonwood	Populus deltoides	Good	X	X	
212	14	Cottonwood	Populus deltoides	Good				318	11	Black Cherry	Prunus serotina	Poor		X	X	505	10,12	Basswood	Tilia americana	Poor			X	853	10,8	Cottonwood	Populus deltoides	Good	X	X	
213	24	Elm	Ulmus americana	Good	X	X		319	8	Red Oak	Quercus rubra	Good	X	X		506	29,11	Red Oak	Quercus rubra	Good	X	X		854	28,24,12,30	Cottonwood	Populus deltoides	Good	X	X	
214	12	Black Walnut	Juglans nigra	Good	X	X	X	321	20,16,28,28,29	Silver Maple	Acer saccharinum	Good	X			507	13	Basswood	Tilia americana	Good	X	X		855	14	Northern Hackberry	Celtis occidentalis	Good	X	X	
215	7	Elm	Ulmus americana	Good	X	X		322	7	Apple	Malus spp.	Poor	X	X	X	508	18	Basswood	Tilia americana	Good	X	X		856	6,8	Northern Hackberry	Celtis occidentalis	Good	X	X	
216	8	Shagbark Hickory	Carya ovata	Good	X	X		323	9	Red Oak	Quercus rubra	Good	X	X		509	11	Norway Maple	Acer platanoides	Good				857	76	Basswood	Tilia americana	Good	X	X	
217	9	Elm	Ulmus americana	Good	X	X		324	8	Black Cherry	Prunus serotina	Good				510	34,26,28	Basswood	Tilia americana	Good	X	X		858	38	Silver Maple	Acer saccharinum	Good	X	X	
218	19	Boxelder	Acer negundo	Poor	X	X		325	8	Red Oak	Quercus rubra	Good				511	14,7	Basswood	Tilia americana	Poor				859	10	Northern Hackberry	Celtis occidentalis	Good	X	X	
219	10	Boxelder	Acer negundo	Good				326	28	Red Oak	Quercus rubra	Good	X	X	X	512	19	Silver Maple	Acer saccharinum	Good	X	X		860	21	Northern Hackberry	Celtis occidentalis	Good	X	X	
220	7	Black Walnut	Juglans nigra	Good				327	15	Red Oak	Quercus rubra	Fair	X			513	13	Silver Maple	Acer saccharinum	Good				861	18	Northern Hackberry	Celtis occidentalis	Good	X	X	
221	8	Black Walnut	Juglans nigra	Good				328	7	Black Cherry	Prunus serotina	Poor	X	X	X	514	30,24	Elm	Ulmus americana	Good	X	X		862	14	Northern Hackberry	Celtis occidentalis	Fair	X	X	
222	22	Black Walnut	Juglans nigra	Good	X	X		329	14,11	Red Oak	Quercus rubra	Poor				515	21	Basswood	Tilia americana	Good	X	X		863	14	Red Maple	Acer rubrum	Good	X	X	
223	32	Black Willow	Salix nigra	Poor	X			330	8	Red Oak	Quercus rubra	Good				637	18	Shagbark Hickory	Carya ovata	Good	X	X		864	6	Northern Hackberry	Celtis occidentalis	Good	X	X	
224	8	Elm	Ulmus americana	Good	X	X		331	7	Elm	Ulmus americana	Good				638	17	Swamp White Oak	Quercus bicolor	Good				865	6	Northern Hackberry	Celtis occidentalis	Good	X	X	
225	7,7	Elm	Ulmus americana	Good	X	X		332	8	Red Oak	Carya ovata	Good	X			639	8,17	Shagbark Hickory	Carya ovata	Good				866	23	Northern Hackberry	Celtis occidentalis	Good	X	X	
226	8	Elm	Ulmus americana	Good	X	X		334	31	Shagbark Hickory	Carya ovata	Good	X	X		640	16	Norway Maple	Acer platanoides	Good				867	12	Northern Hackberry	Celtis occidentalis	Good	X	X	X
227	8	Elm	Ulmus americana	Good	X	X		335	10	Shagbark Hickory	Carya ovata	Good	X			641	12	Shagbark Hickory	Carya ovata	Good				868	10	Boxelder	Acer negundo	Poor	X	X	
228	9	Elm	Ulmus americana	Good	X	X		336	10	Shagbark Hickory	Carya ovata	Good	X			642	18	Red Maple	Acer rubrum	Good	X	X		869	24	Northern Hackberry	Celtis occidentalis	Good	X	X	
229	10,10	Scotch Pine	Pinus sylvestris	Fair	X	X	X	337	17,16	White Oak	Quercus alba	Good	X			643	28,28,20,10	Basswood	Tilia americana	Good	X	X		870	9	Northern Hackberry	Celtis occidentalis	Good	X	X	X
230	10	Elm	Ulmus americana	Good	X	X		338	13	Basswood	Tilia americana	Good	X	X		644	51	Red Oak	Quercus rubra	Good	X	X		871	10	Northern Hackberry	Celtis occidentalis	Poor	X	X	
231	18	Black Walnut	Juglans nigra	Good				339	29	Basswood	Tilia americana	Good	X	X		645	7	Red Maple	Acer rubrum	Poor	X	X	X	872	22	Northern Hackberry	Celtis occidentalis	Fair	X	X	
232	28	Cottonwood	Populus deltoides	Good	X	X		345	9	Elm	Ulmus americana	Good				646	47	Red Oak	Quercus rubra	Good	X	X		873	15	Northern Hackberry	Celtis occidentalis	Good	X	X	
233	16	Elm	Ulmus americana	Good	X	X		346	14	Red Oak	Quercus rubra	Good	X	X		731	14	Shagbark Hickory	Carya ovata	Good	X	X		874	8	Northern Hackberry	Celtis occidentalis	Good	X	X	
234	9	Elm	Ulmus americana	Good	X	X		347	9	Red Oak	Quercus rubra	Good	X	X		732	19	Shagbark Hickory	Carya ovata	Good	X	X		875	17	Northern Hackberry	Celtis occidentalis	Good	X	X	
235	6	Cottonwood	Populus deltoides	Good				348	11	Norway Maple	Acer platanoides	Good	X	X		733	19	Basswood	Tilia americana	Good	X	X		876	7	Northern Hackberry	Celtis occidentalis	Good	X	X	
236	12	Elm	Ulmus americana	Fair	X	X	X	349	59	Silver Maple	Acer saccharinum	Good	X	X	X	734	19	White Oak	Quercus alba	Good	X	X		877	10	Northern Hackberry	Celtis occidentalis	Good	X	X	
237	11	Elm	Ulmus americana	Poor	X	X		350	10	Elm	Ulmus americana	Good				735	14	Norway Maple	Acer platanoides	Good				878	20	Northern Hackberry	Celtis occidentalis	Good	X	X	
238	38	Red Maple	Acer rubrum	Good	X	X	X	351	7	Elm	Ulmus americana	Good				736	75	Red Oak	Quercus rubra	Good	X	X		879	28	Northern Hackberry	Celtis occidentalis	Good	X	X	
239	14	Cottonwood	Populus deltoides	Good	X	X	X	359	12	Cottonwood	Populus deltoides	Good				737	6	Black Walnut	Juglans nigra	Good	X	X		880	6	Red Maple	Acer rubrum	Good	X	X	
240	19	Red Maple	Acer rubrum	Good	X	X	X	360	12	Cottonwood	Populus deltoides	Good				738	29	Norway Maple	Acer platanoides	Good	X	X		881	16	Northern Hackberry	Celtis occidentalis	Good	X	X	
241	39	Cottonwood	Populus deltoides	Good	X	X	X	361	18	Cottonwood	Populus deltoides	Good			X	745	16	Shagbark Hickory	Carya ovata	Good				882	20	Northern Hackberry	Celtis occidentalis	Good	X	X	
242	9	Elm	Ulmus americana	Good	X	X		362	18	Cottonwood	Populus deltoides	Good				746	8	Norway Maple	Acer platanoides	Good				883	7	Elm	Ulmus americana	Good	X	X	
243	6	Elm	Ulmus americana	Poor	X	X	X	363	10	Cottonwood	Populus deltoides	Good				747	30	Silver Maple	Acer saccharinum	Good	X	X		884	32	Red Maple	Acer rubrum	Good	X	X	
244	9	Red Maple	Acer rubrum	Good	X	X		364	32	White Oak	Quercus alba	Good	X			748	82	Silver Maple	Acer saccharinum	Good	X	X		885	12	Northern Hackberry	Celtis occidentalis	Good	X	X	
245	29	Cottonwood	Populus deltoides	Good	X	X	X	365	26	White Oak	Quercus alba	Good	X	X	X	749	32	Basswood	Tilia americana	Good	X	X		886	9	Northern Hackberry	Celtis occidentalis	Good	X	X	
246	38	Cottonwood	Populus deltoides	Good	X	X	X	366	36	White Oak	Quercus alba	Good	X	X	X	752	32,22,20,24	Silver Maple	Acer saccharinum	Fair	X	X		888	6	Northern Hackberry	Celtis occidentalis	Good	X	X	
247	6,9	Black Walnut	Juglans nigra	Fair	X	X	X	367	28	White Oak	Quercus alba	Poor	X	X	X	753	84	Silver Maple	Acer saccharinum	Good	X	X		889	12	Northern Hackberry	Celtis occidentalis	Good	X	X	
248	8	Elm	Ulmus americana	Good				368	86	White Oak	Quercus alba	Fair				754	32	Red Oak	Quercus rubra	Good	X	X		891	10	Northern Hackberry	Celtis occidentalis	Good	X	X	
249	16	Black Walnut	Juglans nigra	Good				369	59	Red Oak	Quercus rubra	Good	X	X	X	759	14	Northern Hackberry	Celtis occidentalis	Good				892	26	Northern Hackberry	Celtis occidentalis	Good	X	X	
250	9	Boxelder	Acer negundo	Fair				370	13	Norway Maple	Acer platanoides	Good	X	X		760	72	Silver Maple	Acer saccharinum	Fair	X	X		893	12	Northern Hackberry	Celtis occidentalis	Good	X	X	
251	9	Boxelder	Acer negundo	Good				371	22	White Oak	Quercus alba	Good	X	X	X	761	52	Silver Maple	Acer saccharinum	Good	X	X		894	32	Northern Hackberry	Celtis occidentalis	Fair	X	X	
252	19	Elm	Ulmus americana	Good	X	X		372	26	Red Oak	Quercus rubra	Good	X	X	X	762	36	Silver Maple	Acer saccharinum	Good	X	X		895	18	Northern Hackberry	Celtis occidentalis	Good	X	X	
253	10	Elm	Ulmus americana	Good				373	9	Black Cherry	Prunus serotina	Fair	X	X		763	42	Silver Maple	Acer saccharinum	Good	X	X		896	7	Northern Hackberry	Celtis occidentalis	Good	X	X	
254	12	Boxelder	Acer negundo	Poor	X	X		374	62	Red Oak	Quercus rubra	Good	X	X	X	764	18	Red Maple	Acer rubrum	Good	X	X		897	15	Northern Hackberry	Celtis occidentalis	Good	X	X	
255	11	Elm	Ulmus americana	Fair				375	10	Elm	Ulmus americana	Good				765	94	Silver Maple	Acer saccharinum</												

Issued For:

06.09.2022 Preliminary Review
06.22.2022 Revision per Owner
08.25.2022 Revision per Owner
10.27.2022 Revision per City Comments
12.14.2022 Revision per City Comments
03.15.2023 Revision per City Comments

Project:

South Oaks
W. South Boulevard
Rochester Hills, Michigan

Project Sponsor:

South Oaks, LLC
1400 E. Michigan Ave, Suite G
Saline, MI 48176

Sheet Name:

LANDSCAPE PLAN

NOT FOR CONSTRUCTION

Seal:



Drawn: JG
Checked: JG
Date: 05.2022
Scale: 1" = 30'-0"

Project Number:

22.012

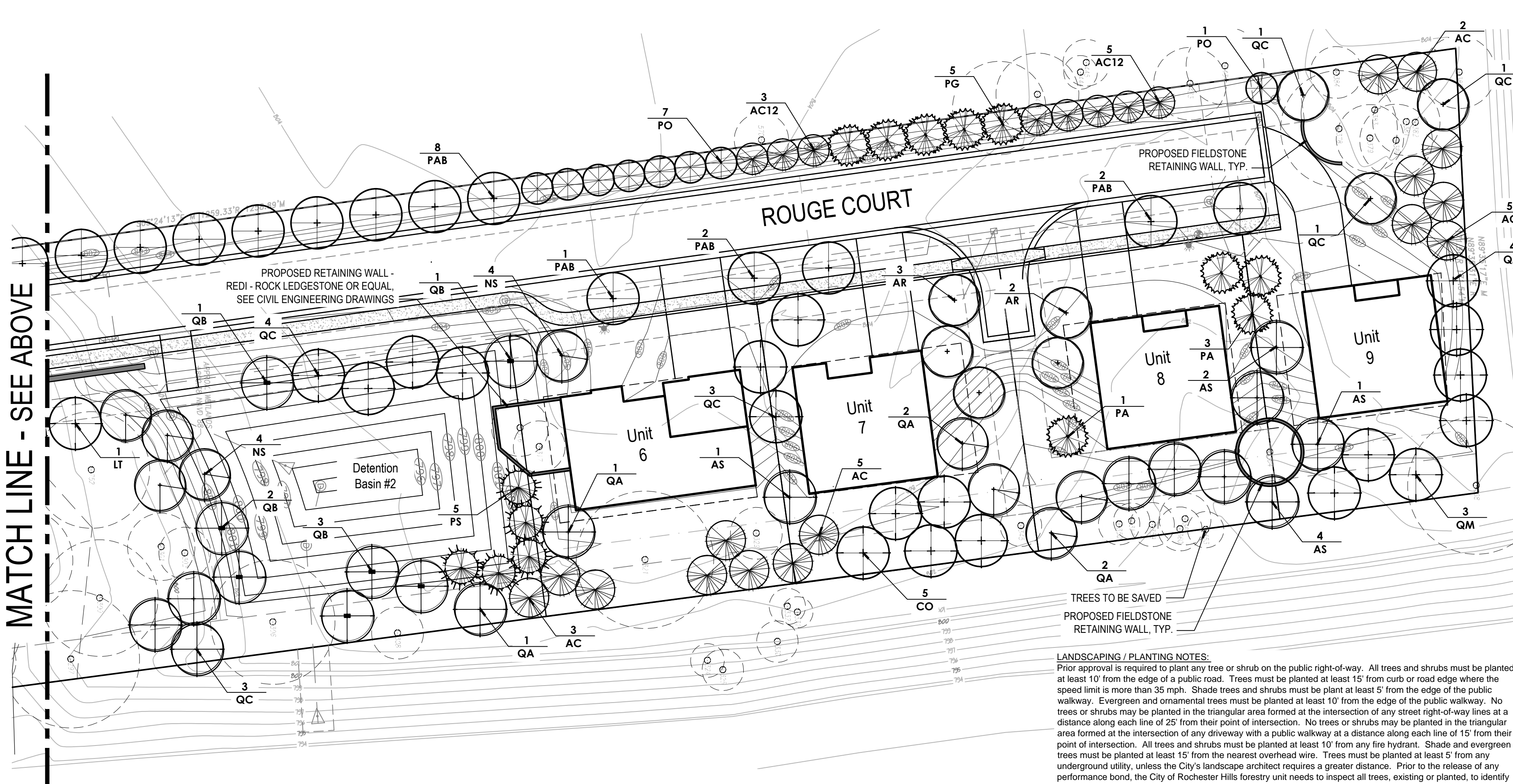
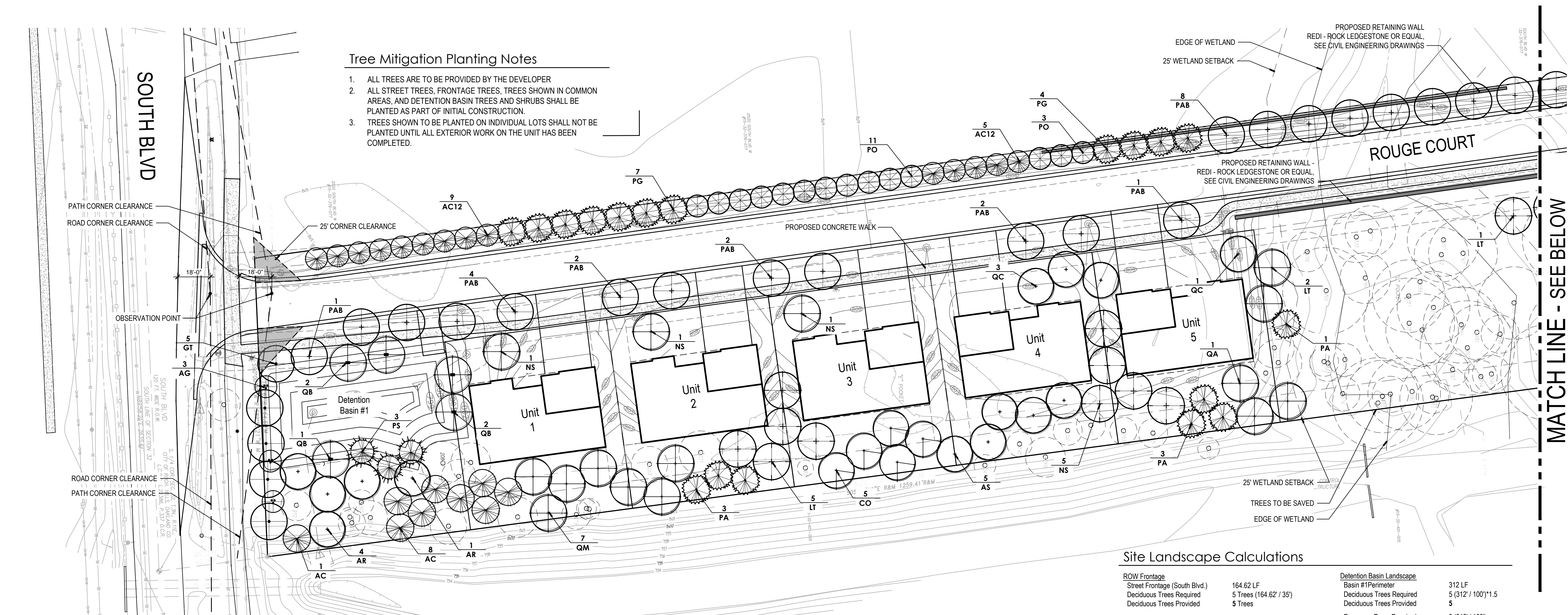
Sheet Number:

L-3

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Tree Mitigation Planting Notes

- ALL TREES ARE TO BE PROVIDED BY THE DEVELOPER
- ALL STREET TREES, FRONTAGE TREES, TREES SHOWN IN COMMON AREAS, AND DETENTION BASIN TREES AND SHRUBS SHALL BE PLANTED AS PART OF INITIAL CONSTRUCTION.
- TREES SHOWN TO BE PLANTED ON INDIVIDUAL LOTS SHALL NOT BE PLANTED UNTIL ALL EXTERIOR WORK ON THE UNIT HAS BEEN COMPLETED.



Site Landscape Calculations

ROW Frontage			
Street Frontage (South Blvd.)	164.62 LF		
Deciduous Trees Required	5 Trees (164.62' / 35')		
Deciduous Trees Provided	5 Trees		
Ornamental Trees Required	3 Trees (164.62' / 60')		
Ornamental Trees Provided	3 Trees		
Street Trees - internal road			
Road Length	1,138 LF		
Deciduous Trees Required	32 Trees (1,138' / 35')		
Deciduous Trees Provided	33 Trees		
NOTE: See Sheet L-4 for Plant Schedule & Detention Basin Shrub Plantings & Seeding Plans			
Detention Basin Landscape			
Basin #1 Perimeter	312 LF		
Deciduous Trees Required	5 (312' / 100')*1.5		
Deciduous Trees Provided	5		
Evergreen Trees Required	3 (312' / 100')		
Evergreen Trees Provided	3		
Shrubs Required	13 (312' / 100')*4		
Shrubs Provided	28		
Basin #2 Perimeter	447 LF		
Deciduous Trees Required	7 (447' / 100')*1.5		
Deciduous Trees Provided	7		
Evergreen Trees Required	5 (447' / 100')		
Evergreen Trees Provided	5		
Shrubs Required	18 (447' / 100')*4		
Shrubs Provided	44		

Maintenance Notes

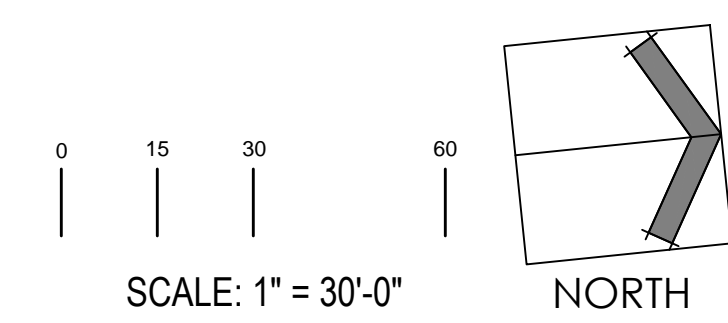
- The owner of the property shall be responsible for all maintenance of site landscaping, as follows:
- Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse.
 - Pruning shall be minimal at the time of installation, only to remove dead or diseased branches. Subsequent pruning shall assure proper maturation of plants to achieve their approved purpose.
 - 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.
 - 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.
 - 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:
- 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.
 - 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.
 - 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).
- 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.
 - 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.
 - A minimum four (4) inches of topsoil shall be provided for all lawn areas, ground covers, and planting beds.
 - Artificial plant material is prohibited and shall not be used to meet the requirements of this Article.

ADDITIONAL NOTES:

- Watering of landscape areas shall only occur between the hours of 12am and 5am
- Prior to the release of the performance bond, the City of Rochester Hills must inspect all landscape plantings
- All lawn and landscape areas, including rights of way shall be fully irrigated and compliant with Section 138-12.105
- Any plant material that is designated to be maintained that dies or is damaged during or as a result of construction shall be replaced in kind with like species and sizes
- 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.
- All landscaping required pursuant to the City of Rochester Codes and Ordinances shall be maintained in perpetuity

LANDSCAPING / PLANTING NOTES:
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 a public road. Trees must be planted at least 15' 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 any fire hydrant. No trees or shrubs may be planted in 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 planted at least 15' from the nearest overhead wire. Trees must be planted at least 5' from any underground utility, unless the City's landscape architect requires a greater distance. Prior to the release of any 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.

ROCHESTER HILLS MICHIGAN
JRMF2022-0022
PSP2022-0014
Revision 4
Received 3/16/2023
City of Rochester Hills
Planning & Economic
Development



06.09.2022	Preliminary Review
06.22.2022	Revision per Owner
08.25.2022	Revision per Owner
10.27.2022	Revision per City Comments
12.14.2022	Revision per City Comments
03.15.2023	Revision per City Comments

South Oaks
W. South Boulevard
Rochester Hills, Michigan

South Oaks, LLC
1400 E. Michigan Ave, Suite G
Saline, MI 48176

Seeding Plan & Details

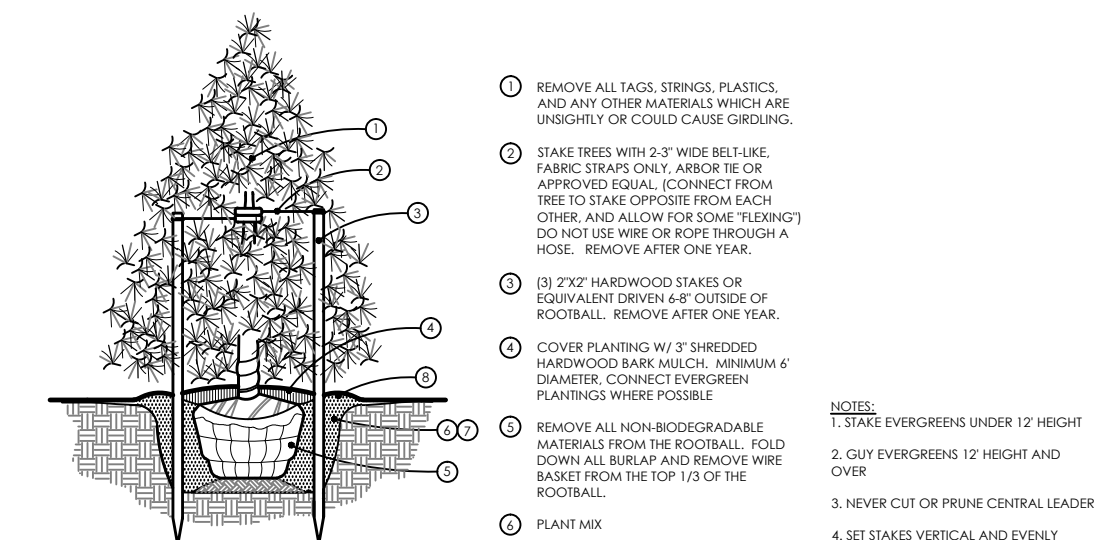
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Date: 05.2022
Scale: 1" = 10'-0"

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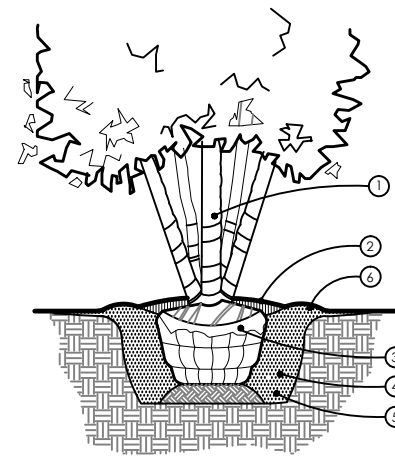
L-4



EVERGREEN TREE PLANTING
NOT TO SCALE

1. REMOVE ALL TAGS, STRIPS, PLASTICS, AND ANY OTHER MATERIALS WHICH ARE OBSTACLES TO SOIL CONTACT WITH ROOTS.
2. STAKE TREES WITH 2-3" WIDE BELT LIKE, HARKEN OR APPROVED EQUAL. CONNECT FROM TREE TO TREE EXCEPT FROM EACH CORNER AND ALLOW FOR SOME TOLERANCE. DO NOT USE WIRE OR ROPE THROUGH CORNERS. REMOVE AFTER ONE YEAR.
3. IF TREE IS NOT ROOTED OR IS NOT STABILIZED, BRACE WITH BRACE OR EQUIVALENT DIVERTOR 4" OUTSIDE OF ROOTBALL. REMOVE AFTER ONE YEAR.
4. COVER PLANTING WITH 2" SHREDED HARDWOOD BARK MULCH. MINIMUM 4" DEPTH. CORRECT FOREVERGREEN PLANTINGS WHERE POSSIBLE.
5. REMOVE ALL NON-BIODEGRADABLE MATERIALS FROM THE ROOTBALL. FOLD MULCH TO THE TOP 1/3 OF THE ROOTBALL.
6. PLANT MARK.
7. TREE FEET TO BE 3 TIMES WIDTH OF ROOTBALL.
8. TOPSOIL SAUCER.

- NOTE:**
1. TREE TO BE PLANTED UNDER 12" HEIGHT.
 2. GUY ENGINERS 12" HEIGHT AND OVER.
 3. NEVER CUT OR PRUNE CENTRAL LEADER.
 4. SET STAKES VERTICAL AND EVENLY SPACED.
 5. PRUNE ONLY TO REMOVE DEAD OR BROKEN BRANCHES.

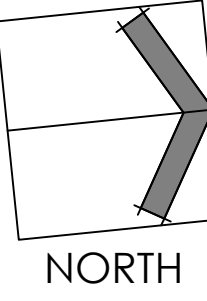


MULTISTEM TREE PLANTING
NOT TO SCALE

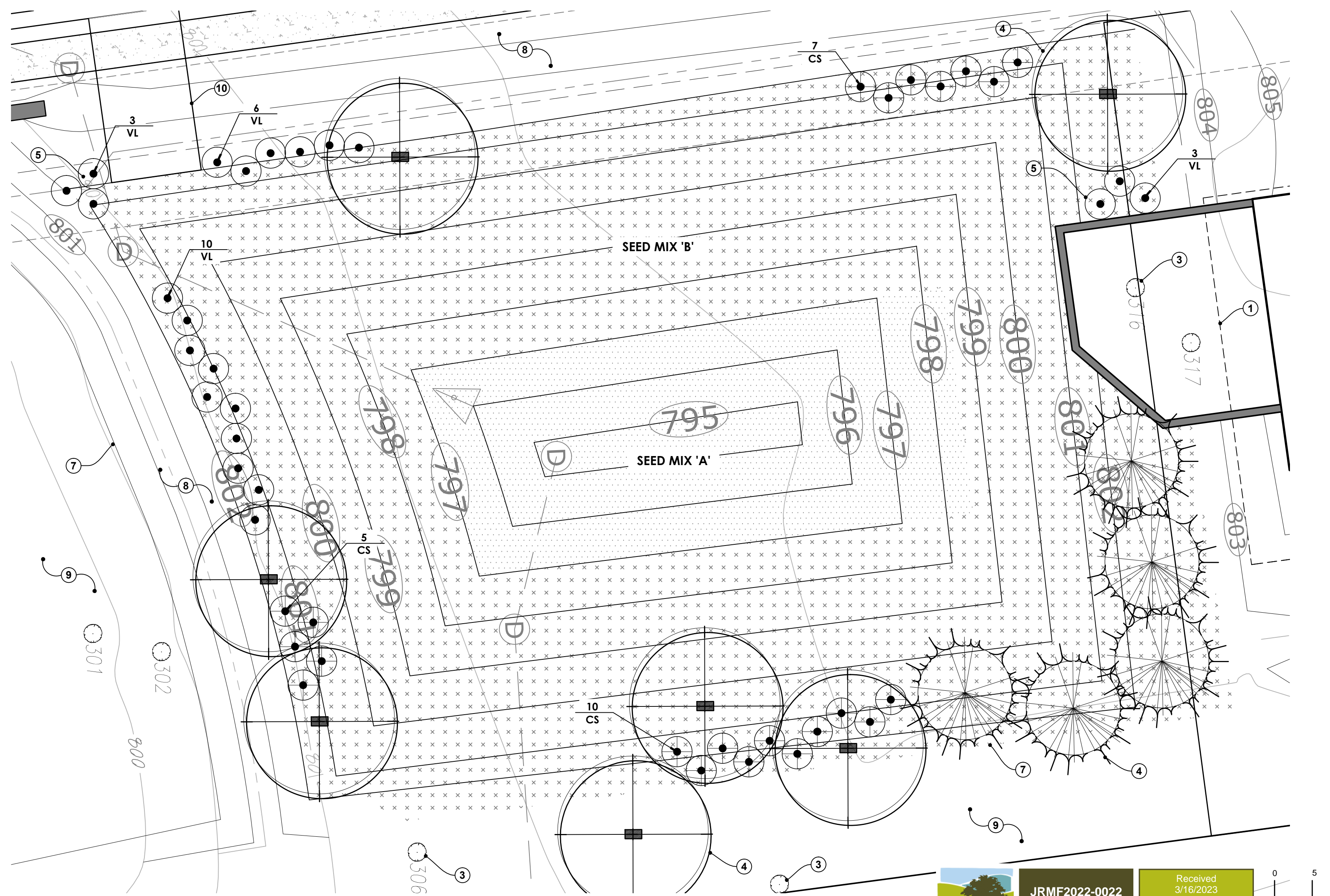
Seed Mix 'B'

Botanical Name	Common Name	PLS	Quince/Acre
Permanent Grasses			
<i>Perennial ryegrass</i>	Sheep Fescue	1.00	10.00
<i>Cynodon dactylon</i>	Bermuda Grass	1.00	10.00
<i>Elymus canadensis</i>	Canada Wild Rye	1.00	10.00
<i>Cynodon dactylon</i>	Bermuda Grass	1.00	10.00
<i>Panicum capillare</i>	Switch Grass	1.00	10.00
<i>Stachytarpheta jamaicensis</i>	Lime Bluestem	1.00	10.00
<i>Stachytarpheta jamaicensis</i>	St. Augustine	1.00	10.00
Total			61.00
Temporary Cover:			
<i>Avena sativa</i>	Common Oat	360.00	360.00
<i>Lolium multiflorum</i>	Annual Rye	100.00	100.00
Total			460.00
Forbs:			
<i>Amorpha canescens</i>	Lead Plant	1.00	1.00
<i>Lespedeza cylindrica</i>	Tennessee	0.50	0.50
<i>Lespedeza bicolor</i>	Wick Columbine	0.50	0.50
<i>Asclepias tuberosa</i>	Butterfly Milkweed	2.00	2.00
<i>Aster erinoides</i>	Heath Aster	0.25	0.25
<i>Aster laevis</i>	Smooth Blue Aster	0.75	0.75
<i>Aster novae-angliae</i>	New England Aster	0.25	0.25
<i>Scilla maritima</i>	White Star Flower	1.00	1.00
<i>Chamaecrista nictitans</i>	Parrot Pea	0.50	0.50
<i>Conoclinium octosetatum</i>	Saint Catherine	1.00	1.00
<i>Conoclinium octosetatum</i>	Prince of Wales	1.00	1.00
<i>Cheila purpurea</i>	White Prairie Clover	1.50	1.50
<i>Echinacea purpurea</i>	Brown-Eyed Susan	1.50	1.50
<i>Eryngium yuccifolium</i>	Rattlesnake Master	2.50	2.50
<i>Coreopsis lanceolata</i>	Flame Flower	0.50	0.50
<i>Liatris scariosa</i>	Knickerbocker Bush Clover	0.50	0.50
<i>Liatris scariosa</i>	Rough Blazing Star	0.50	0.50
<i>Lupinus albus</i>	White Lupine	2.00	2.00
<i>Moronea fatirola</i>	Wild Bergamot	0.50	0.50
<i>Phacelia angustifolia</i>	Wild Cucumber	1.00	1.00
<i>Penstemon digitalis</i>	Far Above Bees Tongue	0.50	0.50
<i>Physocarpus opulifolius</i>	Pink Dogwood	1.00	1.00
<i>Prunella vulgaris</i>	Common Mountain Mint	1.00	1.00
<i>Rubia perigrina</i>	Yellow Confederate	3.00	3.00
<i>Rubia perigrina</i>	Black-Eyed Susan	4.50	4.50
<i>Rudbeckia hirta</i>	Sweet Black-Eyed Susan	1.00	1.00
<i>Solidago canadensis</i>	Goldenrod	0.50	0.50
<i>Solidago canadensis</i>	Prairie Dock	2.00	2.00
<i>Solidago canadensis</i>	Soft Star	0.25	0.25
<i>Solidago canadensis</i>	Sift Goldensrod	1.00	1.00
<i>Tradescantia virginiana</i>	Common Spokenard	0.75	0.75
<i>Viola blanda</i>	Wooded Vianna (M.I.)	1.75	1.75
<i>Vernonia noveboracensis</i>	Culver's Root	0.25	0.25
Total			48.75

- Note Key:**
1. PROPOSED BUILDING FOOTPRINT
 2. EXISTING SIDEWALK ALONG WALTON BLVD
 3. EXISTING TREES TO REMAIN, SEE SHEET L-1
 4. PROPOSED TREES, SEE SHEET L-3
 5. PROPOSED SHRUBS
 6. NO KEY NOTE
 7. LIMITS OF DISTURBANCE, SEE CIVIL ENGINEERING DRAWINGS
 8. SEEDED LAWN OVER MINIMUM 3" DEPTH TOPSOIL TO LIMITS OF DISTURBANCE
 9. UNDISTURBED AREA
 10. BASIN ACCESS ROAD, SEE CIVIL



DETENTION BASIN 1 - SEEDING PLAN
SCALE: 1" = 10'-0"



DETENTION BASIN 2 - SEEDING PLAN
SCALE: 1" = 10'-0"

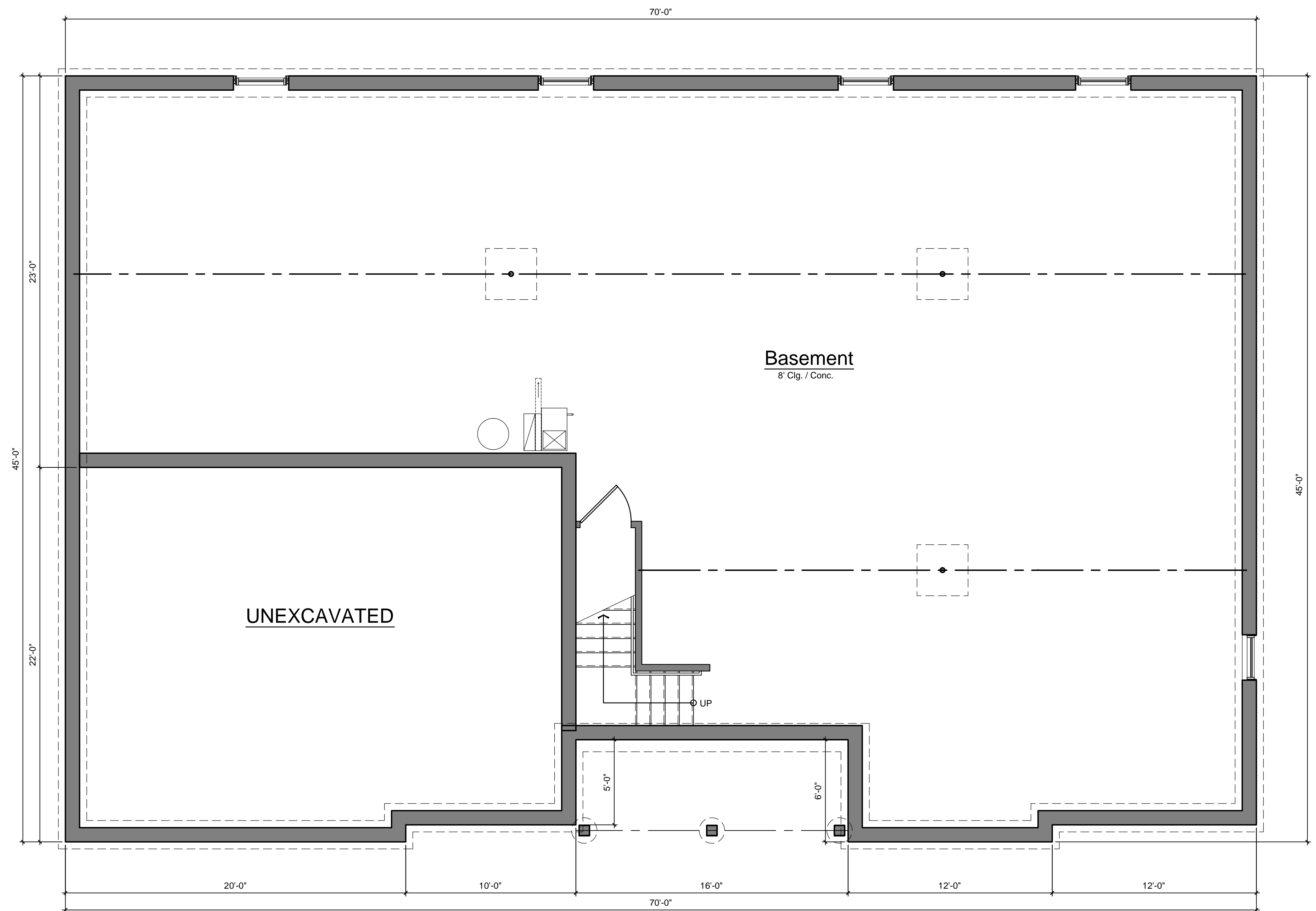
PLANT SCHEDULE

FRONTAGE PLANTINGS										
QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	ROOT	COMMENTS	UNIT	TOTAL	
TREES										
3	AG	<i>Amalanchier x g. 'Autumn Brilliance'</i>	Autumn Brilliance Serviceberry	6' ht.	as shown	B&B	Minimum 5 stems	\$ 325.00	\$	975.00
5	GT	<i>Gleditsia t. 'Sk yline'</i>	Skyline Honeylocust	3" cal.	as shown	B&B	Single straight trunk	\$ 450.00	\$	2,250.00
DETENTION BASIN PLANTINGS										
TREES										
8	PS	<i>Pinus strobus</i>	Eastern White Pine	10' ht.	as shown	B&B	Unsheared, branched to ground	\$ 400.00	\$	3,200.00
12	QB	<i>Quercus bicolor</i>	Swamp White Oak	3" cal.	as shown	B&B	Single straight trunk	\$ 450.00	\$	5,400.00
SHRUBS										
35	CS	<i>Cornus sericea</i>	Red Osier Dogwood	36" ht.	as shown	cont.	Well rooted	\$ 50.00	\$	1,750.00
38	VL	<i>Viburnum lentago</i>	Nannyberry Viburnum	30" ht.	as shown	cont.	Well rooted	\$ 50.00	\$	1,900.00
TREE MITIGATION PLANTINGS										
TREES										
24	AC	<i>Abies concolor</i>	Concolor Fir	8' ht.	as shown	B&B	Unsheared, branched to ground	\$ 400.00	\$	9,600.00
12	AC12	<i>Abies concolor</i>	Concolor Fir	12' ht.	as shown	B&B	Unsheared, branched to ground	\$ 400.00	\$	4,800.00
10	AR	<i>Acer s. 'October Glory'</i>	October Glory Red Maple	2" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	4,000.00
13	AS	<i>Acer s. 'Green Mountain'</i>	Green Mountain Sugar Maple	3" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	5,200.00
10	CO	<i>Celtis occidentalis</i>	Northern Hackberry	2" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	4,000.00
9	LT	<i>Liriodendron tulipifera</i>	Tulip Tree	2" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	3,600.00
16	NS	<i>Nyssa sylvatica</i>	Blackgum	2" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	6,400.00
11	PA	<i>Picea abies</i>	Norway Spruce	8' ht.	as shown	B&B	Unsheared, branched to ground	\$ 400.00	\$	4,400.00
16	PC	<i>Picea abies</i>	White Spruce	12' ht.	as shown	B&B	Unsheared, branched to ground	\$ 450.00	\$	7,200.00
22	PO	<i>Picea omorika</i>	Serbian Spruce	12' ht.	as shown	B&B	Unsheared, branched to ground	\$ 450.00	\$	9,900.00
7	QA	<i>Quercus albar</i>	White Oak	2" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	2,800.00
17	QC	<i>Quercus coccinea</i>	Scarlet Oak	2" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	6,800.00
14	QM	<i>Quercus macrocarpa</i>	Burr Oak	2" cal.	as shown	B&B	Single straight trunk	\$ 400.00	\$	5,600.00
STREET TREES										
TREES										
3	PAB	<i>Platanus x. acerifolia 'Bloodgood'</i>	Bloodgood London Plane Tree	2.5" cal.	as shown	B&B	Single straight trunk	\$ 425.00	\$	1,275.00
								Irrigation estimate	\$	12,000.00
								Landscape Cost Estimate	\$	108,150.00



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1 Basement Floor Plan - Huron - Daylight
 A1.0a SCALE: 1/4" = 1'-0"

Marketing	03.14.23

Basement Floor
 Plan
 Daylight

JBMA Project No.
 221154

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 A1.0a

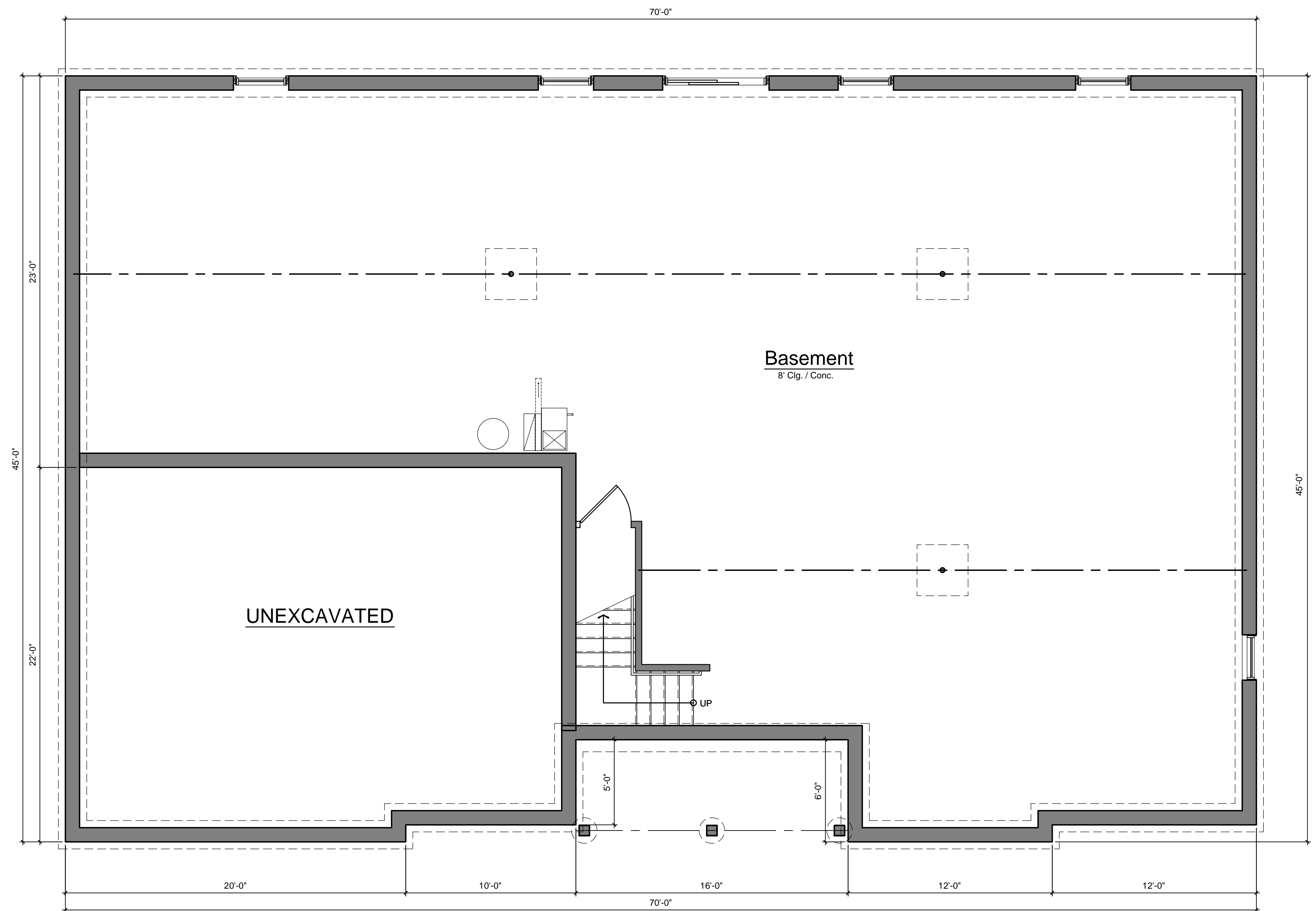


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1 Basement Floor Plan - Huron - Walkout
 A1.0b SCALE: 1/4" = 1'-0"

Marketing	03.14.23

Basement Floor Plan
 Walkout

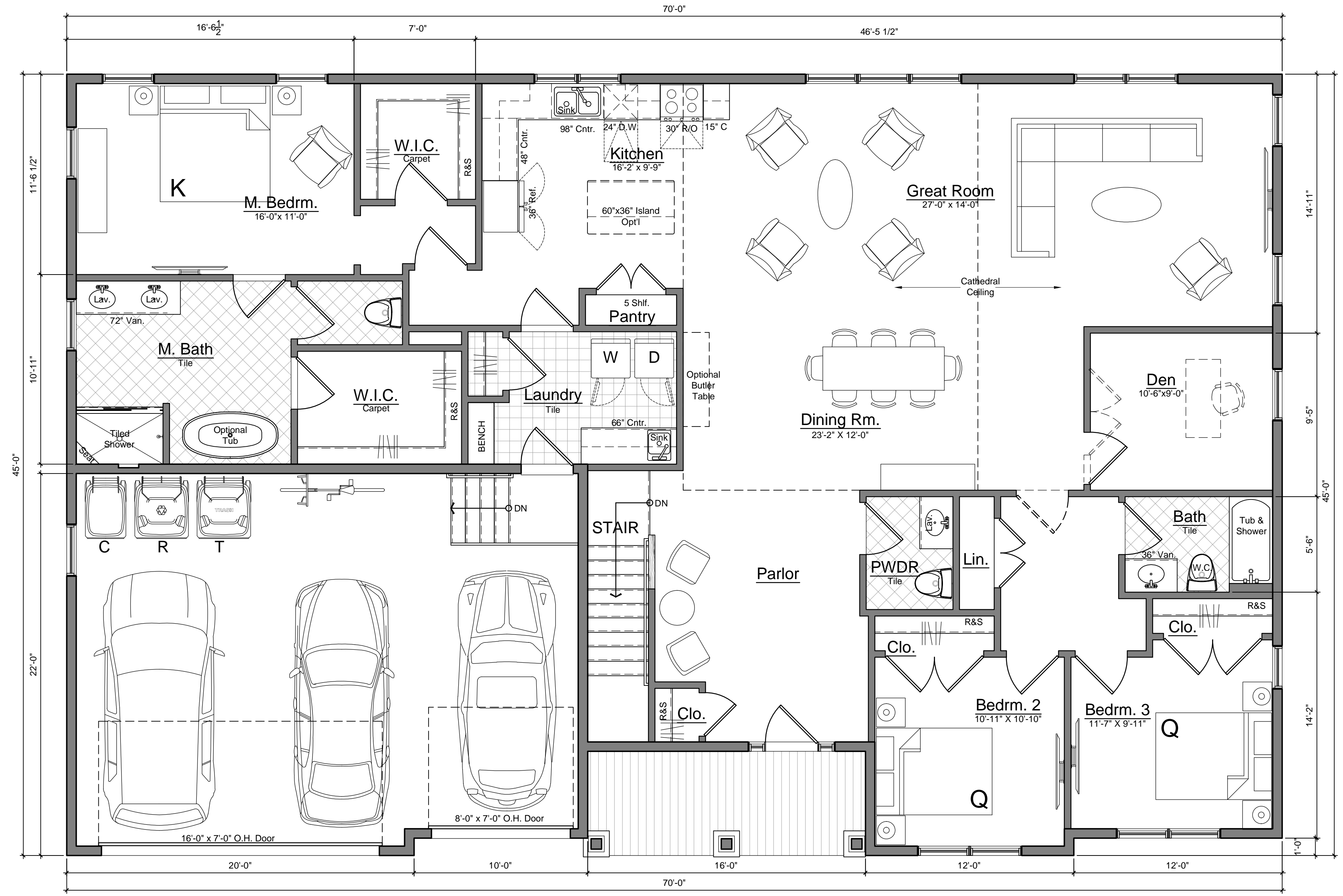
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PRELIMINARY NOT FOR CONSTRUCTION




1 First Floor Plan - Huron 1 Story
 A1.1a SCALE: 1/4" = 1'-0" Living Gross: 2,392 S.F.

Marketing	03.14.23

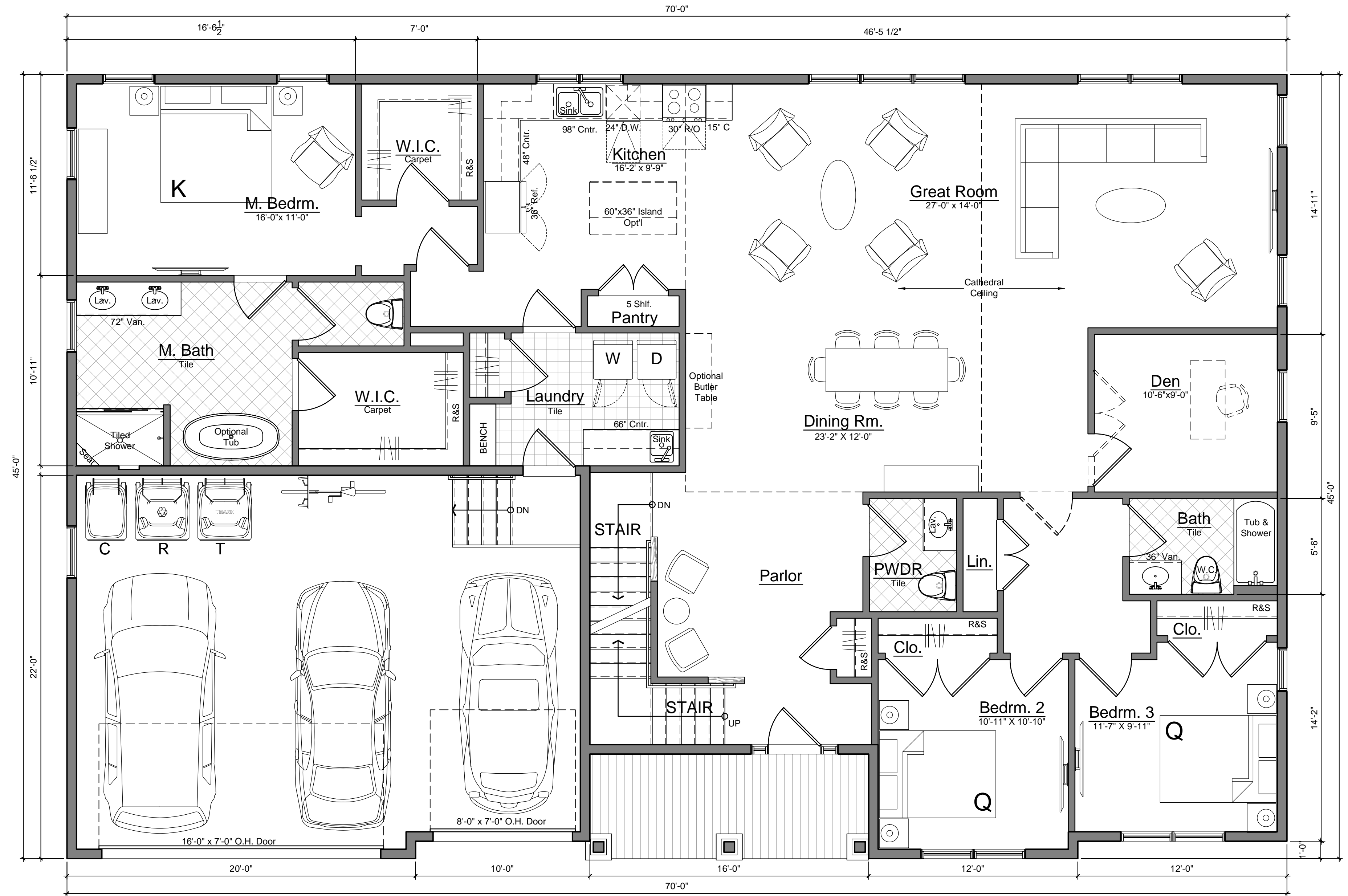
First Floor Plan
 One Story

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PRELIMINARY NOT FOR CONSTRUCTION



1 First Floor Plan - Huron 2 Story
 A1.1b SCALE: 1/4" = 1'-0" Living Gross: 2,392 S.F.

Marketing	03.14.23

First Floor Plan

Two Story

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A1.1b



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