



Request for a Type III Variance

SUSSEX PLACE SECTION 3-1 & 3-2

September 17, 2019

Prepared for:

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City of Columbus
Department of Public Utilities**

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REQUEST FOR A TYPE III VARIANCE

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1.0 PROJECT INTRODUCTION

1.1 PROJECT BACKGROUND

The proposed Sussex Place development is located South of Dyer Road, East of Lazar Road, and West of Interstate I-71. Sections 1 & 2 of Sussex Place have already been constructed, this report will cover the Section 3 Phase 1 & 2 of development. Maronda Homes plans to construct 60 lots on 12.11 acres on Franklin County Parcel ID 570-111408-00.

This Section of the Site is located south of Marsh Run, which flows west to east before ultimately discharging into the Scioto River. During Section 1 of the Sussex Place development the LOMR process was completed to revise the floodplain limits and install a 10'x16' box culvert and bridge to cross Marsh Run. The project included stream modeling and LOMR-F approval from the City, Franklin County, and FEMA. Once the LOMR revision was completed, the site was designed so that no further encroachment to the floodplain would occur.

The original design for Sussex Place Section 3 (4416 Drawer D) was approved on 9/7/2005. This design did not provide any post construction water quality or quantity control, so the design has been updated to meet the design criteria set forth in the August 2012 City of Columbus Stormwater Drainage Manual (SWDM).

1.2 STREAM CORRIDOR PROTECTION ZONE (SCPZ)

A Stream Corridor Protection Zone consists of the stream and the riparian area along the stream. Its purpose is to allow the natural, lateral movement of open water courses, provide sufficient area for flood conveyance, protect water quality and prevent structures from being impacted by natural streambank erosion. The SCPZ for Marsh Run at this location is calculated to have a minimum width of 223', based on a drainage area of 3.01 square miles using the equation provided in Section 1.3.1 of the City of Columbus Stormwater Drainage Manual.

StreamStats Report

Region ID: OH
Workspace ID: OH20190110185843439000
Clicked Point (Latitude, Longitude): 39.90022, -83.03415
Time: 2019-01-10 13:58:57 -0500

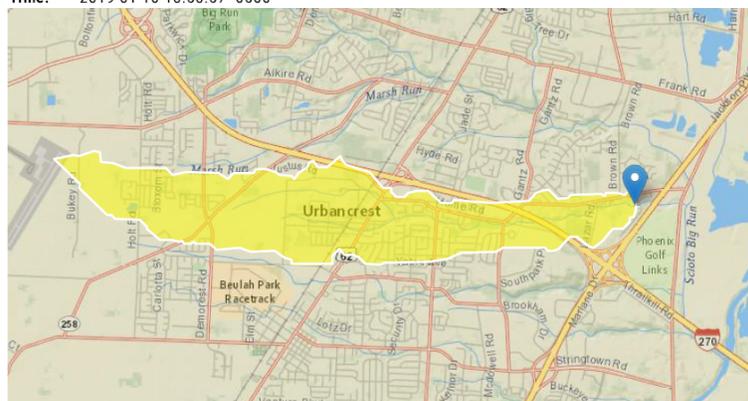


Figure 1: StreamStats Drainage Area



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1.3 TYPE III VARIANCE (STREAM PROTECTION)

Maronda Homes is requesting a variance from Section 1.3.2 and 1.3.3 of the SWDM for the proposed residential development. The SWDM prohibits the removal of any topsoil, sand, gravel, or any other change in topography other than what is caused by natural causes. The variance being requested is specifically for minor grading activities within approximately 0.140 acres of the SCPZ that runs along approximately 372 LF of this section of the development.

The proposed grading activities that encroach in the SCPZ will be outside of the Floodplain. Thus, the impact is solely to the SCPZ and not to the stream itself. Mitigation will be performed to offset this encroachment. Additional equivalent SCPZ will be created onsite, including any compensatory floodplain storage volume. Any area within the SCPZ that is disturbed will be revegetated, and any trees that are removed will be replaced.



2.0 DEVELOPMENT ALTERNATIVES

Per the City of Columbus Stormwater Drainage Manual, a Type III Variance Request requires three site development plans. The first is the Preferred Alternative. This is the scenario that is preferred by the owners, as it allows the maximum number of lots to be constructed. The second is the Minimal Impact Alternative, which will encroach upon the SCPZ, but not to the extent of the preferred alternative. The final scenario is the Full Compliance Alternative. This option is following strict adherence to the SWDM and no disruption of the SCPZ. The exhibits showing these 3 alternatives can be found in Appendix A.

2.1 PREFERRED ALTERNATIVE

Under the Preferred Alternative, a 60-lot single family development will be built on approximately 12.11 acres of land located just south of Marsh Run. The development also includes the construction of a retention basin to provide stormwater peak runoff control, and water quality for the project. This layout maximizes the developable space on the project, while not impacting area within the 100-year Floodplain. The Preferred Alternative however will result in non-permitted grading activities occurring within approximately 0.140 acres across 180 LF of the SCPZ.

The impacts to the SCPZ are necessary for construction of three of the proposed housing lots. The impacts will allow for grading associated with these lots to remove the existing channel that was created to drain the sediment basin created in Section 1 of this development. This would result in a minor loss of storage volume above the 100-year floodplain, but within the SCPZ. This volume would be offset by an increase in available volume in the additional SCPZ area that will be dedicated as part of the proposed mitigation.

2.2 MINIMAL IMPACT ALTERNATIVE

Under the Minimal Impact Alternative, the impacts to the SCPZ have been reduced by eliminating 3 lots from the proposed development. This alternative will limit the non-permitted grading to 0.002 acres across 13 LF of the SCPZ. The loss of the 3 lots under this alternative will result in a financial impact of approximately \$150,000. This includes the immediate loss of revenue associated with the lots, and the unrecoverable development costs. This would reduce the financial viability of the project.

In addition, the empty open space that would be left between lots 125 and 129 would pose a safety risk. Within the SCPZ area that would be preserved, there is an existing channel that was constructed with Section 1 of the development in order to drain the existing sediment basin. This channel is approximately 3-4' deep with side slopes in excess of 3:1. The existing sediment basin will be removed as part of the construction of this Section, so the drainage channel will not be required to drain the basin. The potential buyers of the lots neighboring this channel may be concerned with the steep slopes adjacent to their homes.

2.3 FULL COMPLIANCE / NO-IMPACT ALTERNATIVE

Under the Full Compliance Alternative, there will be no impacts to the SCPZ by eliminating 4 lots from the proposed development. The loss of the 4 lots under this alternative will result in a financial impact of approximately \$200,000. This includes the immediate loss of revenue associated with the lots, and the unrecoverable development costs. This would further reduce the financial viability of the project.

In addition, the empty open space that would be left between lots 124 and 129 would pose a safety risk. Within the SCPZ area that would be preserved, there is an existing channel that was constructed with



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Section 1 of the development in order to drain the existing sediment basin. This channel is approximately 3-4' deep with side slopes in excess of 3:1. The existing sediment basin will be removed as part of the construction of this Section, so the drainage channel will not be required to drain the basin. The potential buyers of the lots neighboring this channel may be concerned with the steep slopes adjacent to their homes.

2.4 COMPARISON OF PROJECT ALTERNATIVES

As summarized in Table 1, the Preferred Alternative option will result in the most impact to the SCPZ by not reducing the total number of lots for the development. The No Impact option will avoid impacting the SCPZ by removing 4 lots from the project. The Minimal Impact gains one additional lot over the No Impact plan by having a minimal encroachment into the SCPZ.

Table 1: Comparison of Project Alternative Impacts

Alternative	SCPZ Impact (ac)	Lots Eliminated	Financial Impact	Total Impact	Total Impact / Lot Price
Plan modification to meet stormwater management regulations	N/A	3	\$195,000	\$195,000	\$3,250
Preferred Plan	0.140	0	\$0	\$195,000	\$3,250
Minimal Impact Plan	0.002	3	\$150,000	\$345,000	\$6,052
No Impact Plan	0.000	4	\$200,000	\$395,000	\$7,053

The financial impact of a loss of lots to the project include the loss of estimated profit (selling the lot and house) and the reduction in the ability to recover the cost of the development infrastructure. In this project the total cost of the project development remains the same and is allocated across less lots in the no impact plan option. Therefore, the cost of the remaining lots go up to cover the development cost on the project. The developer has estimated the value of the lost lots to meet the city's current stormwater management requirements is \$65,000 per lot. The developer has agreed to modify the development plan layout and remove 3 lots from the development to comply with the stormwater regulations at a cost of \$195,000. The developer has estimated the value of the lost lots to meet the city's current stormwater management requirements is \$50,000 per lot. Additional loss of lots due to the SCPZ requirements will increase the price of the remaining lots by \$6,052 to \$7,053. The housing market in this project is not strong enough to absorb this large of a lot cost increase.

The Preferred Alternative layout maximizes the number of lots on the project site, while not impacting any area within the 100-year floodplain. Reducing the proposed impacts to the SCPZ under the Minimal Impacts or No Impact alternatives would reduce the visual aesthetic of the project by breaking the consistency of the development. It also presents a safety concern due to the steep, deep channel that is present. This could negatively impact the marketability of the development, in addition to the loss of revenue from the reduction of sellable lots.



2.5 ADDITIONAL COST CONSIDERATIONS

As stated in Section 1.1 of this report, the original design for Sussex Place Section 3 (4416 Drawer D) had previously been approved. In order to bring the project up to current design standards a large retention basin was designed to meet water quality and release rate standards. The inclusion of the detention basin initially reduced the total number of lots by 3, including the loss of 5 cul-de-sac lots. These cul-de-sac lots are larger and more desirable, thus more profitable for the owners. For this reason, it has been determined necessary for the financial viability of the project that the Preferred Plan is approved. The original and revised Section 3 development layouts can be found on the following page.

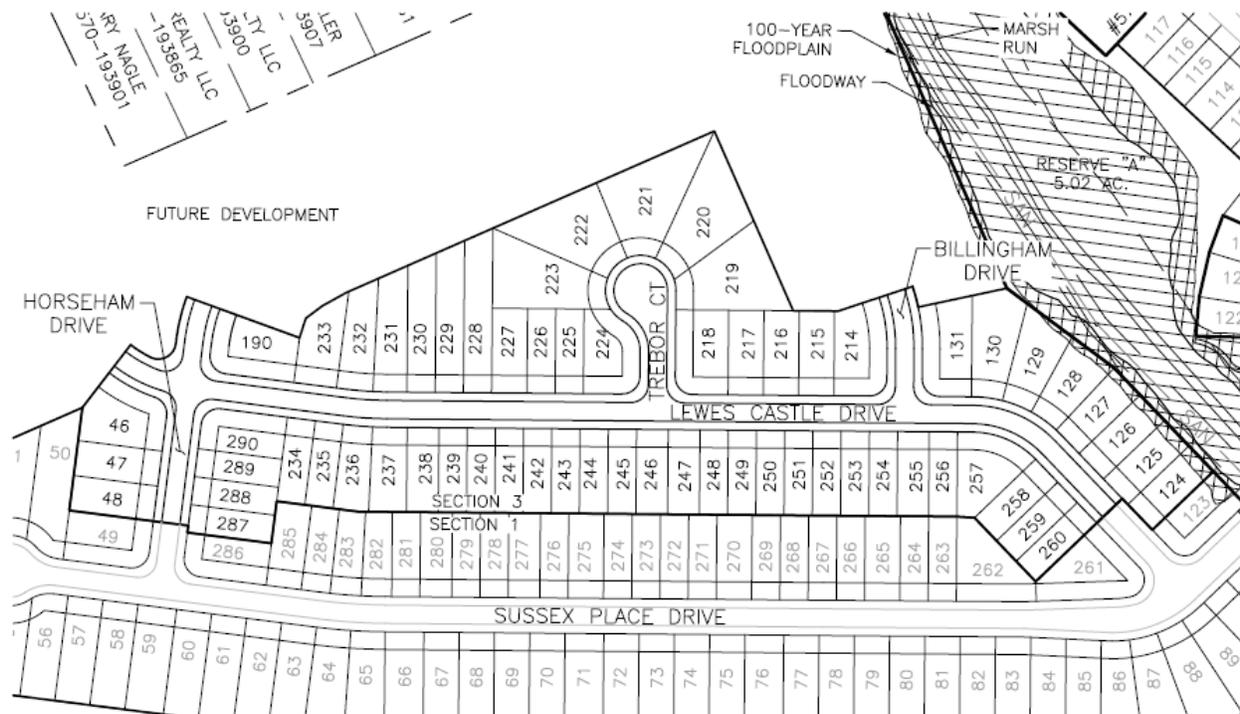


Figure 2: Original Approved Section 3 Development Layout



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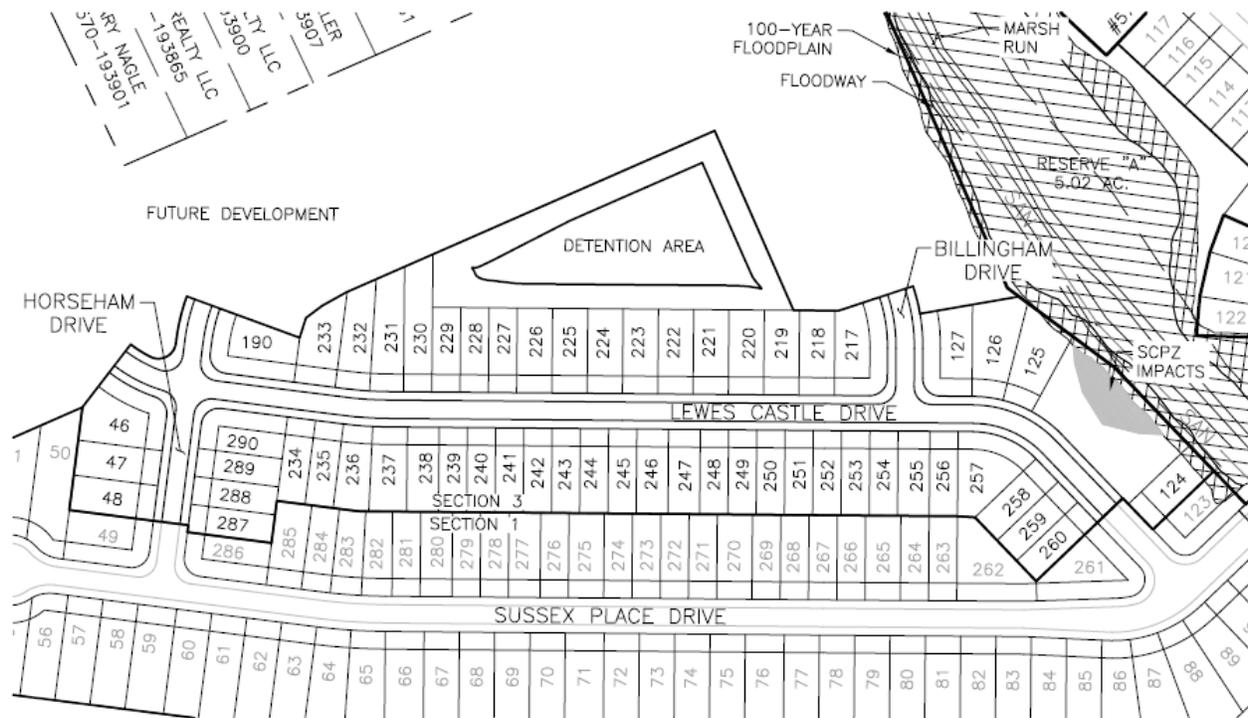


Figure 3: Revised Development Layout w/ Stormwater Considerations



3.0 PROPOSED MITIGATION

As described in the City of Columbus Stormwater Drainage Manual, adequate mitigation must be provided for any impacts within the SCPZ. Because the impacts are only to the SCPZ, and not directly to the stream, mitigation shall be considered sufficient if additional equivalent SCPZ is created. If this additional SCPZ area is created on site, it must be at a minimum of a 1:1 ratio. This mitigation will be considered equivalent if it performs the same function as the disturbed SCPZ.

3.1 MITIGATION PLAN

To provide mitigation due to the 0.140 acre encroachment to the SCPZ, Maronda is proposing to provide SCPZ for 0.240 acres of onsite area North of Marsh Run. This area can be shown on the Stream Corridor Protection Zone – Mitigation Exhibit that can be found in Appendix A. This exceeds the 1:1 onsite mitigation required for the non-permitted permanent impacts. There are no existing trees located in the proposed encroachment area, so no additional trees will be required to be planted in the newly created SCPZ. However, native vegetation shall be planted in this area to prevent invasive species from dominating the area.

Additionally, there currently exists a stream conservation easement for Marsh Run that was created as part of the Sussex Place Section 1 Final Plat, Plat Book 103, Page 37. This easement does not currently cover area up to the 100-year floodplain. To provide additional mitigation, Maronda is proposing to expand the conservation easement to include the entire SCPZ on both the north and south sides of Marsh Run.



4.0 CONCLUSIONS

Maronda Homes respectfully requests approval of the Type III Variance for the Preferred Project Alternative for the Sussex Place Section 3 development. Section 1 of the project included a LOMR-F that officially modified the floodplain limits with approval from FEMA. The modified stream channel is designed to convey the 100-Year flow in Marsh Run.

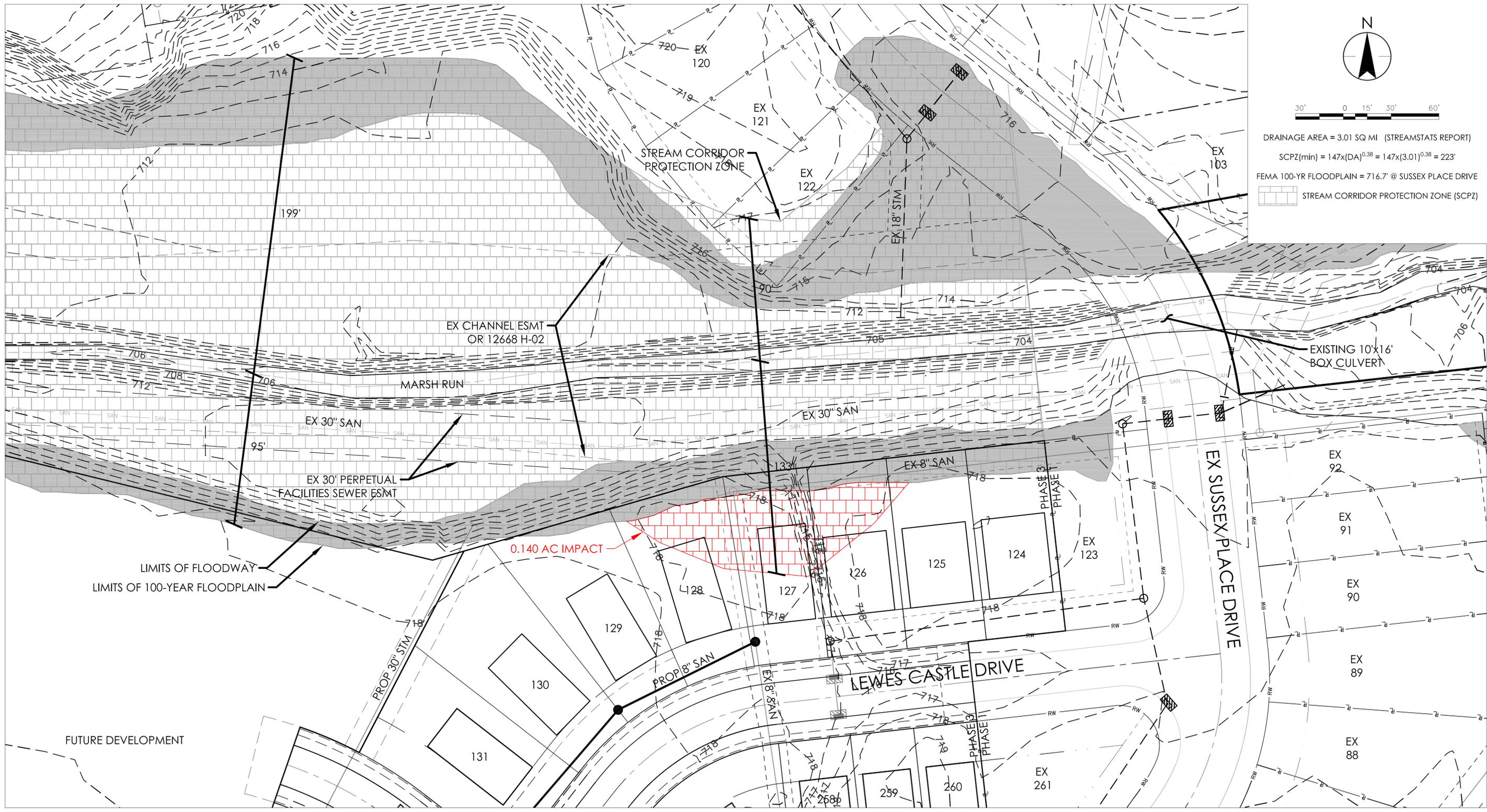
The city's SCPZ regulations are in place to protect streams for conveyance and environmental protection on either side of the stream. Due to the approved Section 1 plans, lots build on the north side of the stream, the SCPZ is moved south and encroaches into 4 lots with no additional benefits to the stream conveyance or environmental protection. Regardless if the City approves or denies the variance Marsh Run conveyance channel will remain as it is constructed.

The mitigation proposed for the Preferred Alternative include the creation of 0.240 acres of new onsite SCPZ that is currently not covered by a conservation easement. The existing stream conservation easement will be expanded to cover the entire proposed and existing SCPZ on the site. This exceeds the required mitigation ratio of 1:1.



APPENDIX A STREAM CORRIDOR PROTECTION ZONE EXHIBITS





DRAINAGE AREA = 3.01 SQ MI (STREAMSTATS REPORT)
 SCPZ(min) = $147 \times (DA)^{0.38} = 147 \times (3.01)^{0.38} = 223'$
 FEMA 100-YR FLOODPLAIN = 716.7' @ SUSSEX PLACE DRIVE
 [Hatched Box] STREAM CORRIDOR PROTECTION ZONE (SCPZ)

C

B

A

Revision	By	Appd	YYYY.MM.DD	Issued	By	Appd	YYYY.MM.DD

Permit/Seal	
Consultant	

Stantec

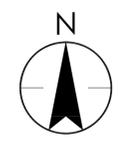
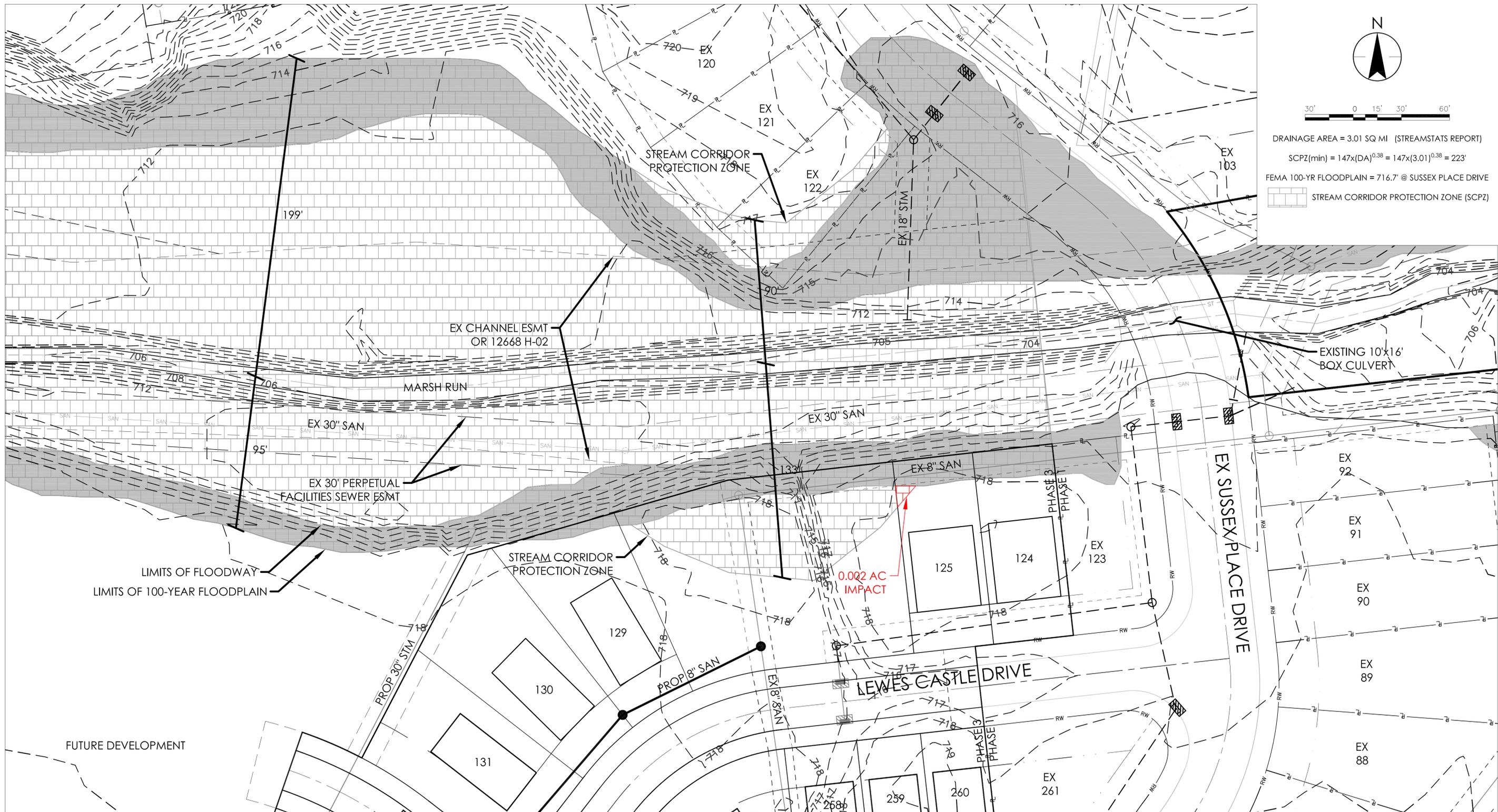
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Client/Project	MARONDA HOMES
	SUSSEX PLACE SECTION 3 PHASE 1 & 2
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File Name:	SCPZ EXHIBIT PREFERRED
Date:	2019.08.12
	ALTERNATIVE
	Dwn. Dsgn. Chkd. YYYY.MM.DD

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	COLUMBUS, OH 43123
File Name:	SCPZ EXHIBIT PREFERRED
Date:	2019.08.12
	ALTERNATIVE
	Dwn. Dsgn. Chkd. YYYY.MM.DD

STREAM CORRIDOR PROTECTION ZONE EXHIBIT - PREFERRED ALTERNATIVE	
Project No.	Scale
173409475	1" = 30'
Revision Sheet	Drawing No.
1 of 4	



DRAINAGE AREA = 3.01 SQ MI (STREAMSTATS REPORT)
 SCPZ(min) = $147 \times (DA)^{0.38} = 147 \times (3.01)^{0.38} = 223'$
 FEMA 100-YR FLOODPLAIN = 716.7' @ SUSSEX PLACE DRIVE
 [Symbol] STREAM CORRIDOR PROTECTION ZONE (SCPZ)

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Client/Project
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SUSSEX PLACE SECTION 3 PHASE 1 & 2

COLUMBUS, OH 43123

File Name: SCPZ EXHIBIT MINIMAL IMPACT
 2019.08.12
 Dwn. Dsgn. Chkd. YYYY-MM-DD

Client/Project
 MARONDA HOMES

SUSSEX PLACE SECTION 3 PHASE 1 & 2

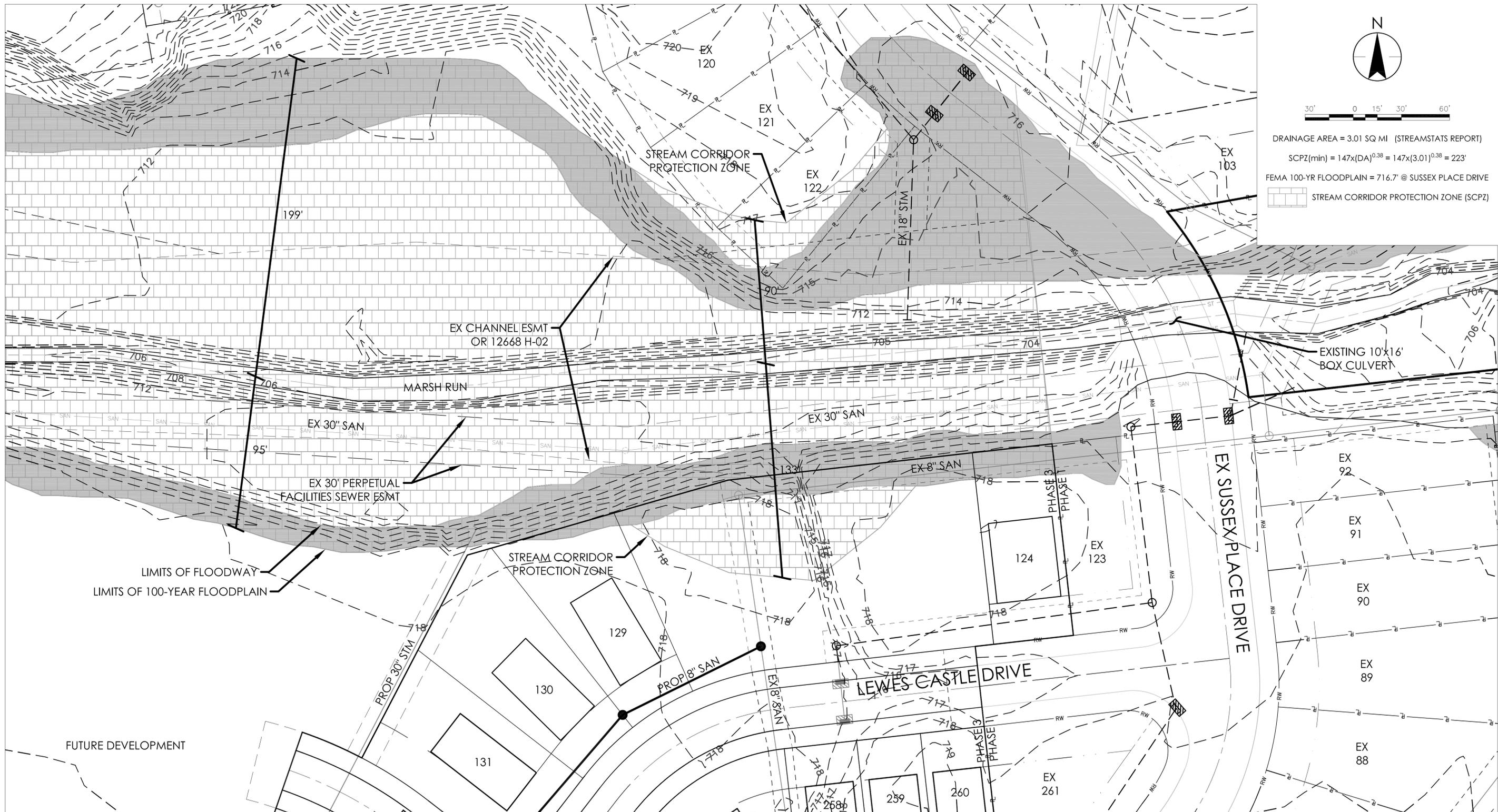
COLUMBUS, OH 43123

File Name: SCPZ EXHIBIT MINIMAL IMPACT
 2019.08.12
 Dwn. Dsgn. Chkd. YYYY-MM-DD

STREAM CORRIDOR PROTECTION ZONE EXHIBIT - MINIMAL IMPACT

Project No. 173409475
 Scale 1" = 30'

Revision Sheet 2 of 4
 Drawing No.



DRAINAGE AREA = 3.01 SQ MI (STREAMSTATS REPORT)
 SCPZ(min) = $147 \times (DA)^{0.38} = 147 \times (3.01)^{0.38} = 223'$
 FEMA 100-YR FLOODPLAIN = 716.7' @ SUSSEX PLACE DRIVE
 [Symbol] STREAM CORRIDOR PROTECTION ZONE (SCPZ)

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Revision	By	Appd	YYYY-MM-DD	Issued	By	Appd	YYYY-MM-DD

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File Name:	SCPZ EXHIBIT FULL COMPLIANCE
	2019.08.12
Dwn.	Dsgn.
Chkd.	YYYY-MM-DD

Client/Project	MARONDA HOMES
	SUSSEX PLACE SECTION 3 PHASE 1 & 2
	COLUMBUS, OH 43123
File Name:	SCPZ EXHIBIT FULL COMPLIANCE
	2019.08.12
Dwn.	Dsgn.
Chkd.	YYYY-MM-DD

STREAM CORRIDOR PROTECTION ZONE EXHIBIT - FULL COMPLIANCE	
Project No.	Scale
173409475	1" = 30'
Revision Sheet	Drawing No.
3 of 4	



DRAINAGE AREA = 3.01 SQ MI (STREAMSTATS REPORT)
 SCPZ(min) = 147X(DA)^{0.38} = 147X(3.01)^{0.38} = 223'
 FEMA 100-YR FLOODPLAIN = 716.7' @ SUSSEX PLACE DRIVE



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Revision		By		Appd		YYYY-MM-DD		Issued		By		Appd		YYYY-MM-DD	
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Project No. 173409475 Revision Sheet 4 of 4								Scale 1" = 60' Drawing No.							

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