



Job # J20190718.100

August 4, 2023

Mr. Greg Fedner, PE  
Plan Review Section Manager  
City of Columbus  
1250 Fairwood Avenue  
Columbus, Ohio 43206

Re: Trabue Road (FRA-CR27-1077 and FRA-CR27-1089) (3902-E)  
Bridge and roadway improvements  
Stormwater Drainage Manual Type II Variance Request

Dear Mr. Fedner:

On behalf of the Franklin County Engineers Office, Osborn Engineering is submitting the following application for a Type II Variance Request from Section 3.2, "Stormwater Quantity Controls" and Section 3.4.3.1.a, "Underground Storage" for the inclusion of Green Infrastructure in association with Stormwater Quality of the December 2022 City of Columbus Stormwater Drainage Manual, as described in the Preferred Alternative Justification for Variance sections of this request.

The Primary Contact for the project owner is as follows:

Franklin County Engineers Office  
970 Dublin Road  
Columbus, Ohio 43215  
614-525-4825  
[kakers@franklincountyengineer.org](mailto:kakers@franklincountyengineer.org)

### **Project Description**

The project consists of the improvement of two bridges on Trabue Road between Lake Shore Drive and Riverside Drive in the City of Columbus. The western bridge (FRA-CR27-1077) carries Trabue Road over the Scioto River, and the eastern bridge (FRA-CR27-1089) carries Trabue Road over Scioto Pointe Drive. Along with various work to rehabilitate the structures, each bridge will be widened to allow for construction of a shared-use path on the north side and a sidewalk on the south side. The Scioto River bridge will also be widened to allow for a left turn lane to be constructed across the entire structure. The roadway west of the Scioto River bridge and between the bridges will also be widened and the shared use path and sidewalk installed. The project will add approximately 0.6 acres of impervious area within the existing Right of Way of Trabue Road, all of which will discharge either directly or through the storm sewer drainage system into the Scioto River.



The project is expected to be bid and awarded in fall 2023, with construction beginning in spring 2024.

### **Existing Conditions**

The area adjacent to the project within the existing Right of Way consists of paved roadway, with approximate 2:1 slopes to existing ditches or directly into the Scioto River. Private property along the existing Right of Way within the flatter areas is primarily developed, with residences and commercial structures.

### **Acceptable Stormwater Control Methods**

Table 3-2 of the Columbus Stormwater Drainage Manual contains a list of post-construction stormwater controls that are acceptable to be used in the City. These controls were reviewed to determine which ones, if any, could be used as detention on this project. The following table provides an analysis of why each of the allowable Stormwater quantity and quality control was not considered as being practical for this project:

<b>SWDM Section</b>	<b>SCP Type</b>	<b>Reasons SCP is not practical for this project</b>
3.4.1	Wet and Dry Detention Basins	<ul style="list-style-type: none"><li>• Lack of available level area within project limits to construct a basin capable of ponding or holding water.</li></ul>
3.4.2	Parking Lot Storage	<ul style="list-style-type: none"><li>• No available parking lots within Trabue Road right-of-way</li><li>• All private parking lots are located at the high point of the drainage area and would require land acquisition from private ownership</li></ul>
3.4.3	Underground Storage	<ul style="list-style-type: none"><li>• SWDM states that underground storage systems must be associated with a green infrastructure practice.</li><li>• SWDM also states that the use of over-sized storm sewer pipes within the public right-of-way is not permitted.</li></ul>
3.4.4 & 3.4.5	Rooftop Controls	<ul style="list-style-type: none"><li>• No available building to install green or blue roofs within or adjacent to the Trabue Road right-of-way</li></ul>



SWDM Section	SCP Type	Reasons SCP is not practical for this project
3.4.6	Permeable Pavement	<ul style="list-style-type: none"> <li>• SWDM refers to the Ohio Rainwater and Land Development Manual for permeable pavement, which states that “pervious pavement typically is not suitable for areas...such as busy roadways”, and states that pervious pavement is suited for parking lanes on roadways. There are no parking lanes being provided on Trabue Road.</li> <li>• Permeable pavement installed on the asphalt shared use path and/or concrete sidewalk was not considered due to the City of Columbus’ position that they would not maintain a permeable pavement SUP or sidewalk. The Franklin County Engineer’s Office also noted that they do not have the equipment available to perform this maintenance. This correspondence from the City DPS and FCEO has been included in the Appendix.</li> </ul>
3.4.7	Rainwater Harvesting	<ul style="list-style-type: none"> <li>• SWDM refers to the Ohio Rainwater and Land Development Manual for rainwater harvesting. This control captures runoff, typically from roofs, in a storage reservoir. As noted, there are no available building roofs to harvest water from within or adjacent to the Trabue Road right-of-way</li> </ul>
3.4.8	Infiltration Basin (SCP not acceptable for Quantity Control)	<ul style="list-style-type: none"> <li>• Lack of available level area within project limits to construct an infiltration basin.</li> </ul>
3.4.9 3.4.10	Constructed Wetlands Shallow Constructed Wetlands	<ul style="list-style-type: none"> <li>• Lack of available level area within project limits to construct wetlands capable of ponding or holding water.</li> </ul>
3.4.11	Bioretention Facilities	<ul style="list-style-type: none"> <li>• Lack of available level area within project limits to construct a bioretention facility capable of ponding or holding water.</li> </ul>
3.4.12	Sand Filters (SCP not acceptable for Quantity Control)	<ul style="list-style-type: none"> <li>• Lack of available level area within project limits to construct sand filters.</li> </ul>
3.4.13	Vegetated Filter Strips (SCP not acceptable for quantity control)	<ul style="list-style-type: none"> <li>• Typically used as a pre-treatment practice and not generally allowed as a primary water quality control.</li> </ul>



## ***Type II Variance Request from Section 3.2, “Stormwater Quantity Controls” of the December 2022 City of Columbus Stormwater Drainage Manual:***

### **SWDM Requirements Requesting Variance**

- FULL COMPLIANCE ALTERNATIVE:
  - Full compliance to the SWDM is not practical or cost-effective – refer to the following Section of this document.
- MINIMAL IMPACT ALTERNATIVE:
  - Section 3.4.3.1.a Underground Storage – green infrastructure requirement.
  - Section 3.4.3.1.b. Underground Storage – use of oversized sewer in R/W
- PREFERRED ALTERNATIVE:
  - Section 3.2 Stormwater Quantity Control

### **Alternatives**

**Full Compliance Alternative:** As noted in the table in the previous Acceptable Stormwater Control Methods section listing the reasons why the SCP is not practical for this project, the available options to provide stormwater quantity control in full compliance with the Columbus SWDM are very limited. The use of underground storage in accordance with Section 3.4.3 was considered the only feasible option.

However, Section 3.4.3.1 of the SWDM provides conditions on the usage of underground storage, including that the “function of the facility is associated with a green infrastructure practice.” Table 3-2 includes the post-construction stormwater controls that can provide Green Infrastructure, as follows:

- Shallow Constructed Wetland.
- Permeable Pavement.
- Bioretention
- Green Roof
- Rainwater Harvesting

All of these Stormwater Control Practices were previously considered not practical for this project in the above table.

Acquisition of private property to provide a location to install green infrastructure (such as bioretention) was considered. All of the adjacent properties are developed with commercial or residential structures, including parking lots on the commercial sites with minimal grassed land available for green infrastructure. A search of the Franklin County Auditor GIS site found that the adjacent properties where the green infrastructure could be constructed are appraised as follows:

- Parcel 010-24373, southeast corner of Trabue Road and Lake Shore Drive (residence): \$557,400.



- Parcel 070-007625, northwest corner of Trabue Road and Riverside Drive (Domino's Pizza): \$1,164,000.
- Parcel 070-012897, southwest corner of Trabue Road and Riverside Drive (Office Building): \$814,000.

These costs do not include any expenses to prepare the site, such as demolition, grading, construction of the green infrastructure, etc.

Therefore, due to the lack of available practical and cost-effective options, the Franklin County Engineer's Office requests that a variance be granted to provide full compliance to the Columbus SWDM.

**Minimal Impact Alternative:** The minimal impact will provide the stormwater detention that is required to be installed under the SWDM in over-sized storm sewer pipes. For this Alternative, a variance for the following sections of the SWDM would be required:

- Section 3.4.3.1.a Underground Storage – green infrastructure requirement.
- Section 3.4.3.1.b. Underground Storage – use of oversized sewer in R/W

The minimal impact alternative consists of a series of underground storm sewer pipes installed under Trabue Road within the roadway pavement limits. This approach was chosen due to amount of impervious surface that is being installed with this project that cannot be retained before discharging (bridge scuppers, path and walk between the bridges, etc.), and the lack of level areas within the Right of Way where a conventional detention basin can be constructed.

Since most of the new impervious surface would discharge unretained into the River, under this alternative, the stormwater from the existing and proposed catch basins along Trabue Road will be routed into new underground storage systems consisting of various sized detention pipes, stored, and then released through orifices to the Scioto River. Sumps and access points would be installed in the systems in accordance with the 2022 SWDM Section 3.4.3.3. The layout of detention structures is attached to the end of this report and summarized as follows:

- **Storage System No. 1:** West of the Scioto River bridge, the existing catch basins along the north side of the pavement would be connected to a 48-inch diameter underground storage chamber. The stormwater would be stored within this chamber and discharge through a 2-inch diameter orifice to the catch basin on the southwest corner of the bridge.
- **Storage System No. 2:** Between the Scioto River bridge and the Scioto Pointe Drive bridge, all the new catch basins on both sides of the street would be connected to a 72-inch diameter underground storage chamber. The stormwater would be stored within this chamber and discharge through a 2-inch diameter orifice to a 12-inch storm conduit that will discharge to the existing ditch on the south side.
- **Storage System No. 3:** East of the Scioto Pointe Drive bridge, all the existing catch basins on both sides of the street would be disconnected from their existing discharge pipes and reconnected to a 72-inch diameter underground storage chamber. The



stormwater would be stored within this chamber and discharge through a 2-inch diameter orifice to a 12-inch storm conduit that will discharge to the existing ditch on the south side. Under this alternative, the existing storm sewer on the north side of Trabue Road that is carrying the off-site flow from Riverside Drive would be rerouted into the storage chamber and released unretained through a weir at the outlet.

The sizing of the underground storage systems was determined using the critical storm method and the maximum allowable flow rates for the various storms as determined by the Columbus Stormwater Design Manual. These calculations are summarized as follows:

**CRITICAL STORM SUMMARY TABLE**

<b>1 YR PRE-DEVELOPMENT STORM RUNOFF VOLUME</b>	17,377 cf
<b>1 YR POST-DEVELOPMENT STORM RUNOFF VOLUME</b>	20,780 cf
<b>VOLUME INCREASE</b>	19.6%
<b>CRITICAL STORM</b>	2-year

**STORMWATER RUNOFF SUMMARY TABLE**

<b>STORM EVENT</b>	<b>PRE-DEVELOPMENT PEAK FLOW</b>	<b>POST-DEVELOPMENT PEAK FLOW</b>	<b>PROP. ALLOWABLE RELEASE RATE</b>	<b>POST-DEVELOPMENT RELEASE RATE</b>
1-YR	7.2 CFS	8.6 CFS	7.2 CFS	See "Post-Development Release Rate Table"
2-YR	9.8 CFS	11.3 CFS	7.2 CFS*	
5-YR	13.6 CFS	15.3 CFS	13.6 CFS	
10-YR	16.8 CFS	18.5 CFS	16.8 CFS	
25-YR	21.4 CFS	23.1 CFS	16.8 CFS	
50-YR	25.2 CFS	26.9 CFS	16.8 CFS	
100-YR	29.2 CFS	30.9 CFS	16.8 CFS**	

\* = Critical year storm event discharge rate

\*\* = As per Columbus Stormwater Drainage Manual, the peak runoff rate during 100-year storm event shall be released at a rate less than or equal to the peak runoff rate during the 10-year storm. The total maximum storage required for this release rate is 15,495 cubic feet, spread over the three storage systems.

Using the proposed design contained in the attached drawings, the total Post-Development Release Rates from the site during the various storm events, along with the comparison to the allowable rate for that event, is summarized as follows:



**POST-DEVELOPMENT RELEASE RATE SUMMARY TABLE**

STORM EVENT	POST-DEVELOPMENT PEAK FLOWS					ALLOW. RELEASE RATE	
	West of River (unretained)	Underground Storage System Release Rates			East of River (unretained)		Total Flow
		1	2	3			
1-YR	1.7 cfs	0.1 cfs	0.1 cfs	0.2 cfs	1.2 cfs	3.3 cfs	7.2 CFS
2-YR	2.3 cfs	0.1 cfs	0.2 cfs	0.2 cfs	2.0 cfs	4.7 cfs	7.2 CFS
5-YR	3.2 cfs	0.1 cfs	0.2 cfs	0.2 cfs	3.3 cfs	6.9 cfs	13.6 CFS
10-YR	4.0 cfs	0.1 cfs	0.2 cfs	0.2 cfs	4.4 cfs	8.7 cfs	16.8 CFS
25-YR	5.0 cfs	0.2 cfs	0.2 cfs	0.2 cfs	6.1 cfs	11.5 cfs	16.8 CFS
50-YR	5.9 cfs	0.2 cfs	0.2 cfs	0.2 cfs	7.5 cfs	13.4 cfs	16.8 CFS
100-YR	6.9 cfs	0.2 cfs	0.2 cfs	0.2 cfs	9.1 cfs	16.3 cfs	16.8 CFS

The present intent of the project is to design the Shared Use Path between the bridges so that it can withstand vehicular traffic during Phase 1 of the project, and then utilize it as a temporary travel lane during Phase 2. If the permeable asphalt shared use path is constructed using the section shown on the Attachments, vehicular traffic will not be able to use it during phased construction. Therefore, during Phase 2 of the project construction, temporary pavement will need to be installed along the north side of the pavement between the bridges for use by vehicular traffic, and then removed and the permeable asphalt path installed once the path area is no longer needed for temporary traffic.

The estimated cost to install the necessary structures to provide the detention required by the Manual, including the conduits needed to re-route the existing catch basins and storm sewers and replacing pavement outside of the locations that are being replaced or installed as part of this project, is summarized as follows:

**ESTIMATED CONSTRUCTION COST FOR MINIMAL IMPACT ALTERNATIVE**

Item	Quantity	Unit Cost	Total Cost
12" Conduit, Type B	748 ft	\$108/ft	\$80,784.00
12" Conduit, Type C	84 ft	\$78/ft	\$6,552.00
48" Conduit, Type B	125 ft	\$335/ft	\$41,875.00
72" Conduit, Type B	550 ft	\$650/ft	\$357,500.00
Manholes	12 ea	\$3800/ea	\$45,600.00
Pavement Replacement	800 SY	\$100/SY	\$80,000.00
<b>SUBTOTAL, ESTIMATED COST FOR MINIMAL IMPACT ALTERNATIVE =</b>			<b>\$612,311.00</b>
<b>+ 8.70% Contingency =</b>			<b>\$53,271.06</b>
<b>TOTAL =</b>			<b>\$665,582.06</b>

The current construction cost estimate for the project is \$11,038,693.51. The installation of the Minimal Impact Alternative will increase the construction cost estimate by about 6% of the



current cost. As per the FCEO, the project funding has been set by grants and loans from MORPC and OPWC; the FCEO does not have additional funds available to expand the budget.

In summary, the Minimal Impact Alternative is not practical due to the increased maintenance requirements (periodic cleaning of the sump, inspection, maintenance of the outlet orifice, etc.), and significantly increased costs of over \$665,000 to the project, adding approximately 6% of the Estimated Construction Cost.

### **Preferred Alternative Justification for Variance**

Franklin County is requesting that the project deviate from Section 3.2 of the Columbus Stormwater Drainage Manual by not providing stormwater quantity control practices. This variance request is justified by the following reasons:

- As noted above, the Full Compliance Alternative is not feasible due to the lack of available practical, cost-effective options.
- The Minimal Impact Alternative will significantly increase costs and provides operational and maintenance concerns.
- The project funding has been set by grants and loans from MORPC and OPWC and the FCEO does not have additional funds available to expand the budget.
- The Franklin County Engineers Office reached out to the Franklin County Metroparks to determine if there was an opportunity for the Metroparks to provide off-site stormwater capacity within the watershed area. The response from Steven Studenmund, Metropark Planning & Design Manager, was that the Metroparks did not have any additional capacity in their stormwater plan. The email correspondence between the County Engineers office and the County Metroparks is included in the Attachments.
- The Scioto River watershed area upstream of Trabue Road is 1050 square miles; the development area of this project is 5.4 acres (0.008 square miles), which is less than 0.001 percent of the upstream watershed area. The amount of impervious area being added to the watershed is 0.6 acres.
- The widening of the asphalt pavement produced storm water pavement spreads that exceeded the SWDM. Additional catch basins and storm sewer outlets for these structures were provided to reduce this pavement spread to meet SWDM criteria. These improvements were required because of the additional paved surface discharging to the curb or barrier wall and would have been required regardless of whether detention was provided or not.
- The existing storm sewers that the new drainage structures would tie into were checked and have enough capacity to carry the additional discharge created by widening the pavement.





## ***Type II Variance Request from Section 3.4.3.1.a, “Underground Storage” of the December 2022 City of Columbus Stormwater Drainage Manual:***

### **Introduction:**

The Site Data for this project is summarized as follows:

Total area of Project in R/W	7.4 ac
Project Earth Disturbing Activities	3.9 ac
Contractor Earth Disturbing Activities	0.25 ac
NOI Earth Disturbing Activities	4.15 ac

As per Part III.G.2.e.vi of Ohio EPA Permit No. OHC000006, roadway improvement projects by public entities may implement Post-Construction BMPs in compliance with the current version of the ODOT Location and Design Volume Two Drainage Design. For this project, a manufactured system conforming to ODOT Supplemental Specification 895 and 995, with flow being pretreated by a grassed swale, are proposed to be included with the project construction to meet the Stormwater Quality requirements of the Ohio EPA General Permit. The construction plans for this Project will provide plans and details of the Post-Construction BMPs being provided, and a Stormwater Control Practice Maintenance Plan will be prepared and submitted with the plans.

The Columbus Stormwater Drainage Manual additionally requires underground manufactured systems for stormwater quality to meet the requirements of Manual Section 3.4.3, “Underground Storage,” which require that the function of the facility is associated with a green infrastructure practice. A variance is not being requested for the inclusion of stormwater quality treatment, only for the inclusion of Green Infrastructure as required by SWDM Section 3.4.3.1.a.

### **SWDM Requirements Requesting Variance**

- FULL COMPLIANCE ALTERNATIVE:
  - Full compliance to the SWDM is not practical or cost-effective – refer to the following Section of this document.
- MINIMAL IMPACT ALTERNATIVE:
  - Section 3.4.3.1.a Underground Storage – green infrastructure requirement.
- PREFERRED ALTERNATIVE:
  - Section 3.4.3.1.a Underground Storage – green infrastructure requirement.

### **Alternatives**

**Full Compliance Alternative:** As noted in the table in the previous Acceptable Stormwater Control Methods section listing the reasons why the SCP is not practical for this project, the available options to provide stormwater quality control in full compliance with the Columbus SWDM are very limited. The use of a manufactured system designed in accordance with the ODOT Location and Design Manual Volume Two in accordance with Section 3.4.3 was considered the only feasible option.



As noted previously in the Full Compliance Alternative discussion under the Stormwater Quantity variance request, all Stormwater Control Practices noted in Table 3-2 as acceptable Green Infrastructure practices are not feasible or practical for this project.

Therefore, due to the lack of available practical and cost-effective options, the Franklin County Engineer's Office requests a Type II variance from the requirement to provide a fully compliant alternative in accordance with the City of Columbus SWDM.

**Minimal Impact Alternative:** The minimal impact alternative will provide the stormwater quality to meet the Ohio EPA General Permit requirements. However, the requirements of the Columbus SWDM 3.4.3 that the facility must be associated with green infrastructure cannot be met due to the reasons provided in the previous paragraph. For this Alternative, a variance for the following sections of the SWDM would be required:

- Section 3.4.3.1.a Underground Storage – green infrastructure requirement.

The minimal impact alternative consists of the installation of a manufactured system on Scioto Pointe Drive north of the Trabue Road bridge. The manufactured system will conform to ODOT Supplemental Specification 895 and 995, and be sized as follows:

- As per Section 1111.6.1 of the ODOT L&D Manual, redevelopment projects include projects constrained entirely within existing right of way. As per Section 1111.7 of the Manual, a Treatment Percentage (T%) of 20% of the Earth Disturbed Area is used for redevelopment projects.
  - The treatment requirement is Project EDA within the existing right of way multiplied by the Treatment Percentage = 3.93 acres x 0.20 = **0.79 acres**.
- Also, according to Section 1111.7 of the Manual, the area draining to a Post-Construction BMP will earn treatment credit equal to the amount of right of way treated by the BMP. The total drainage area contributing to the Manufactured System is 1.48 acres. Of that area, 0.98 acres is within the existing right-of-way. Therefore, the Treatment Area (0.98 acres) exceeds the Treatment Required (0.79 acres).
- The Water Quality Flow ( $WQ_F$ ) to determine the size of the Manufactured System was calculated according to Section 1111.5 of the Manual, using the formula  $WQ_F = CiA$ , where:
  - C = Coefficient of Runoff = 0.90 (all paved)
  - i = Average Rainfall Intensity. As per Figure 1111-2 of the Manual, for a time of concentration of 10 minutes, the intensity is 1.85 inches/hour.
  - A = Entire Drainage Area draining to the BMP = 1.48 acres.
  - $WQ_F = (0.90) \times (1.85) \times (1.48) = \mathbf{2.46\ cfs}$ .

In addition to the Manufactured System, the project design will also include a grassed swale that will run along the toe of the slope north of Trabue Road. The grassed swale will be designed in accordance with Section 4.1 of the Ohio Rainwater and Land Development Manual. Although the ODOT Location and Design Manual does not require that the stormwater be pretreated before it reaches the facility, the swale will be provided to assist in removing sediment and other



pollutants that may clog or foul the system. Section 3.4.13.2 of the Columbus SWDM allows the use of swales as an acceptable pretreatment practice but does not consider them a Green Infrastructure practice.

### **Preferred Alternative Justification for Variance**

Franklin County is requesting that the project deviate from Section 3.4.3.1.a of the Columbus Stormwater Drainage Manual. The Preferred Alternative is the Minimum Impact Alternative described above, which requests a Type II Variance for deviation from Section 3.4.3.1.a of the Columbus SWDM requiring Green Infrastructure practices be utilized with underground manufactured systems. This variance request is justified by the following reasons:

- As noted above, the Full Compliance Alternative is not feasible due to the lack of available practical, cost-effective options.
- The Minimal Impact Alternative will meet the requirements of the Ohio EPA General Permit for post-construction stormwater quality.
- The project will include a grassed swale that will discharge into the manufactured system. Although the Columbus SWDM does not include grassed swales as an acceptable Green Infrastructure practice, it does include it as a pretreatment practice that will remove sediment and other pollutants from the manufactured system.

### **Conclusion**

**The Franklin County Engineers Office and Osborn Engineer respectfully requests the review and approval of the Preferred Alternate Plan for both the Stormwater Quality and the Stormwater Quantity by the Variance Committee.** Please provide comments at your earliest convenience. If you have any questions or need any further information, please do not hesitate to contact me directly at (330) 535-3132 x14006 or at [dphifer@osborn-eng.com](mailto:dphifer@osborn-eng.com).

Sincerely,

**OSBORN ENGINEERING**

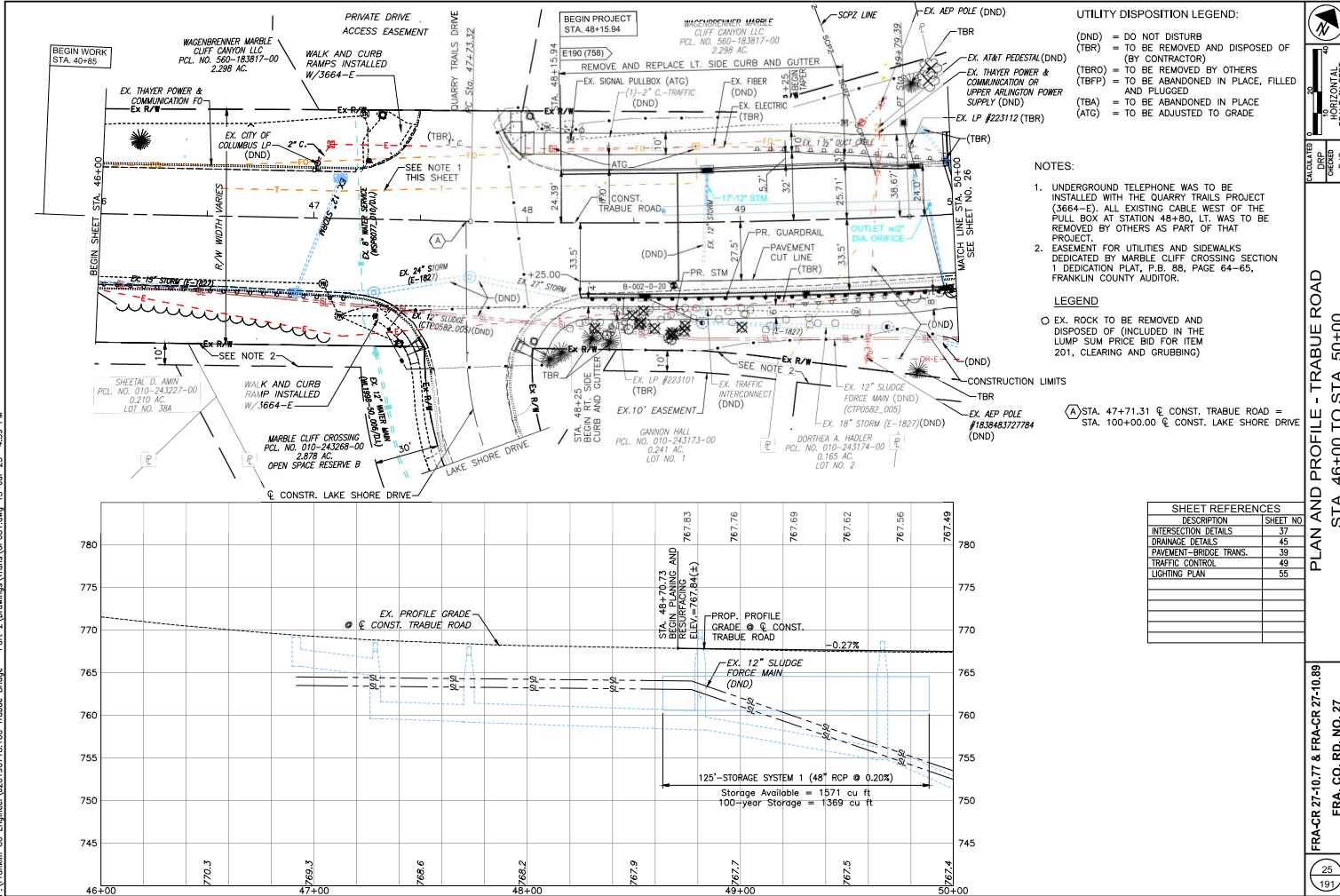
*Donald Phifer*

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Donald R. Phifer, PE  
Senior Roadway and Traffic Engineer



**ATTACHMENT**  
**Conceptual Underground Storage System Plans**



**UTILITY DISPOSITION LEGEND:**

(DND) = DO NOT DISTURB  
 (TBR) = TO BE REMOVED AND DISPOSED OF (BY CONTRACTOR)  
 (TBR0) = TO BE REMOVED BY OTHERS  
 (TBRFP) = TO BE ABANDONED IN PLACE, FILLED AND PLUGGED  
 (TBA) = TO BE ABANDONED IN PLACE  
 (ATG) = TO BE ADJUSTED TO GRADE

**NOTES:**

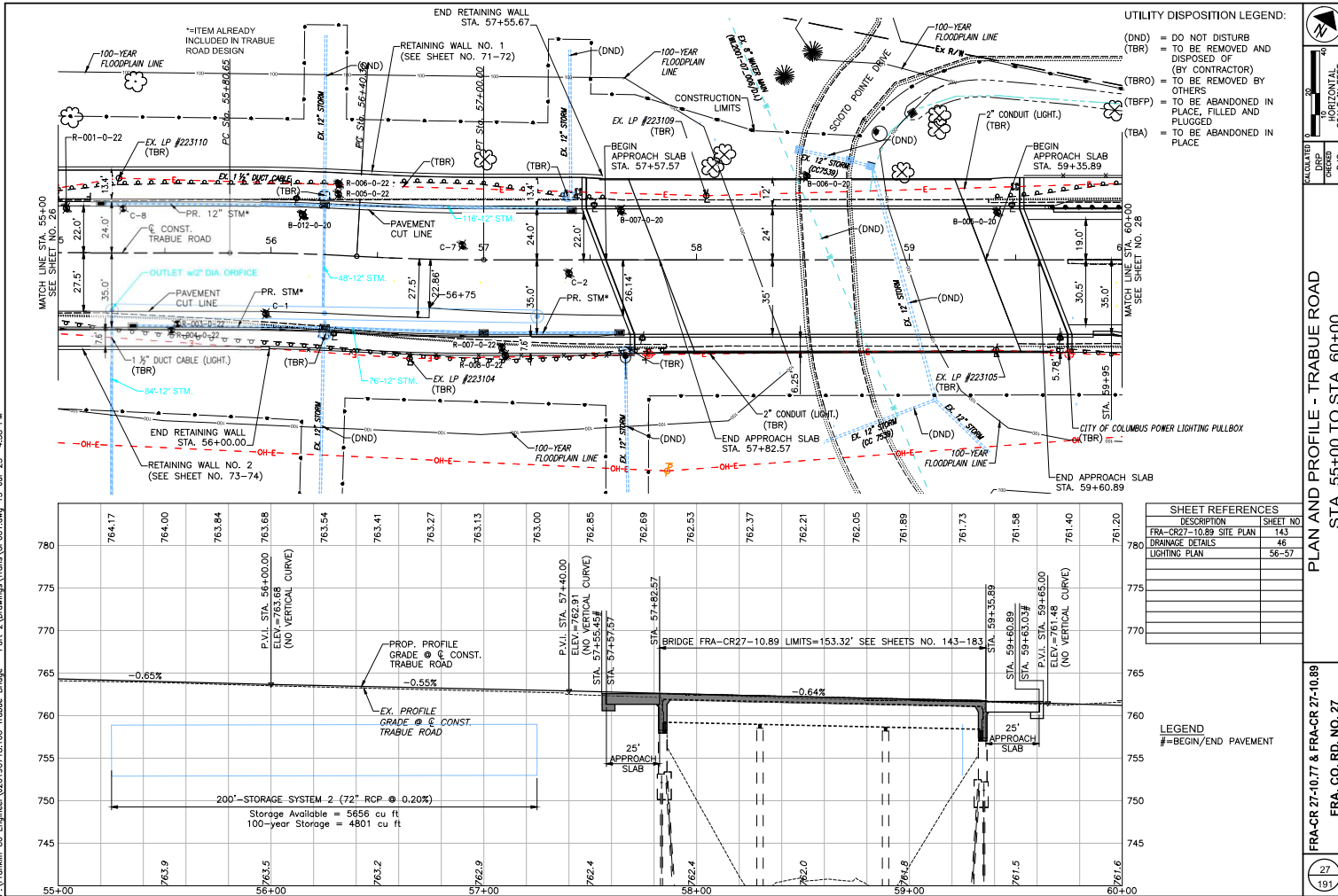
- UNDERGROUND TELEPHONE WAS TO BE INSTALLED WITH THE QUARRY TRAILS PROJECT (3664-E). ALL EXISTING CABLE WEST OF THE PULL BOX AT STATION 48+80. LT. WAS TO BE REMOVED BY OTHERS AS PART OF THAT PROJECT.
- EASEMENT FOR UTILITIES AND SIDEWALKS DEDICATED BY MARBLE CLIFF CROSSING SECTION 1 DEDICATION PLAT, P.B. 88, PAGE 64-65, FRANKLIN COUNTY AUDITOR.

**LEGEND**

○ EX. ROCK TO BE REMOVED AND DISPOSED OF (INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING)

△ STA. 47+71.31 @ CONST. TRABUE ROAD = STA. 100+00.00 @ CONST. LAKE SHORE DRIVE

SHEET REFERENCES	
DESCRIPTION	SHEET NO.
INTERSECTION DETAILS	37
DRAINAGE DETAILS	45
PAVEMENT-BRIDGE TRANS.	39
TRAFFIC CONTROL	49
LIGHTING PLAN	55



**UTILITY DISPOSITION LEGEND:**

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- (TBRF) = TO BE REMOVED BY OTHERS
- (TBF) = TO BE ABANDONED IN PLACE, FILLED AND PLUGGED
- (TBA) = TO BE ABANDONED IN PLACE

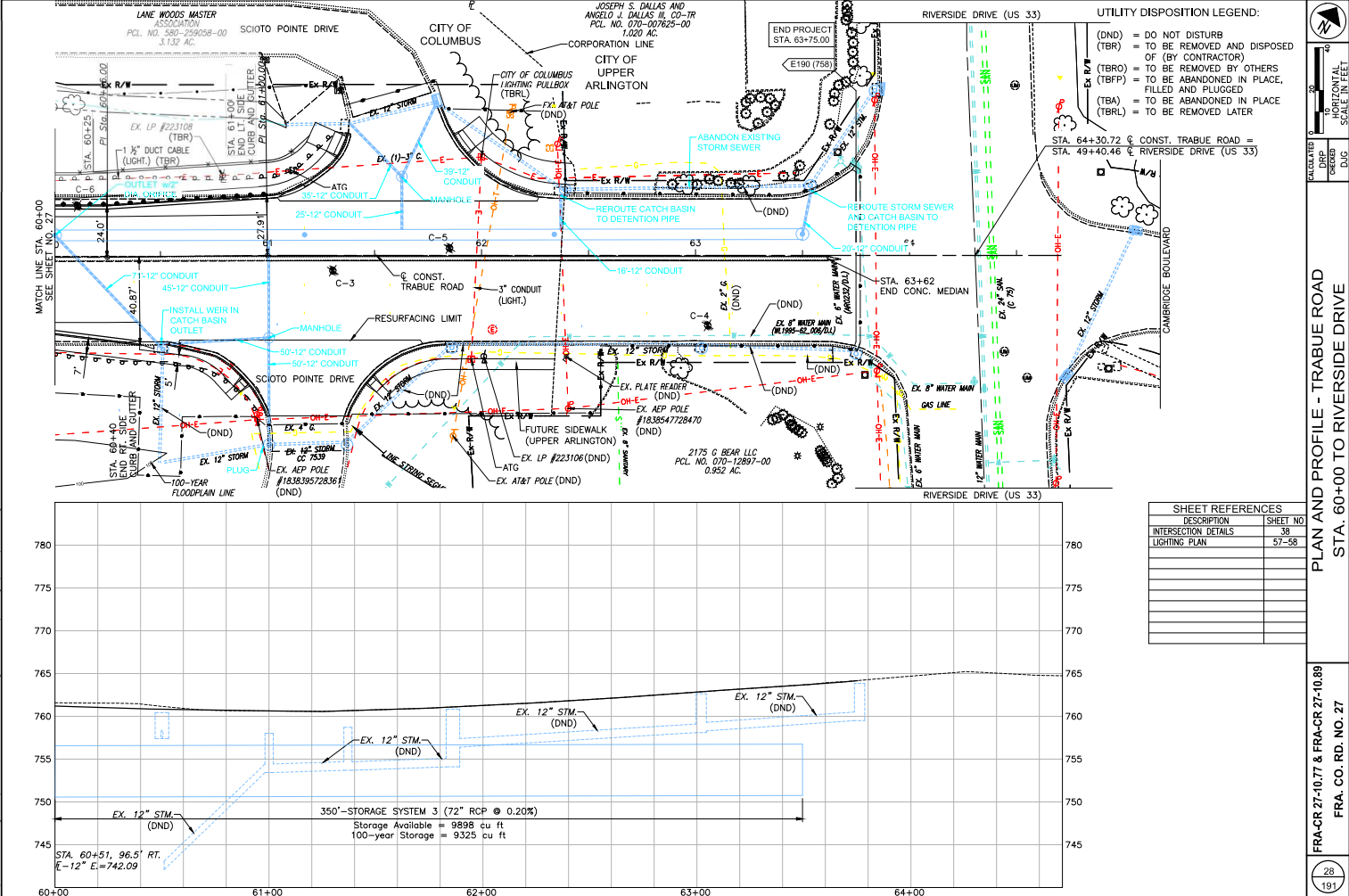
**SHEET REFERENCES**

DESCRIPTION	SHEET NO.
FRA-CR27-10.89 SITE PLAN	143
DRAINAGE DETAILS	46
LIGHTING PLAN	56-57

**LEGEND**  
# = BEGIN/END PAVEMENT

PLAN AND PROFILE - TRABUE ROAD  
 STA. 55+00 TO STA. 60+00  
 FRA-CR 27-10.77 & FRA-CR 27-10.89  
 FRA. CO. RD. NO. 27  
 27  
 191

P:\Franklin Co Engineer\20190718.100 Trabue Bridge - Part 2 Drawings\Trabue\DWG001.dwg 13-Jul-23 4:37 PM



**UTILITY DISPOSITION LEGEND:**

- (DND) = DO NOT DISTURB
- (TBR) = TO BE REMOVED AND DISPOSED OF (BY CONTRACTOR)
- (TBR0) = TO BE REMOVED BY OTHERS
- (TBFP) = TO BE ABANDONED IN PLACE, FILLED AND PLUGGED
- (TBA) = TO BE ABANDONED IN PLACE
- (TBRL) = TO BE REMOVED LATER

**SHEET REFERENCES**

DESCRIPTION	SHEET NO.
INTERSECTION DETAILS	38
LIGHTING PLAN	57-58

PLAN AND PROFILE - TRABUE ROAD  
 STA. 60+00 TO RIVERSIDE DRIVE  
 FRA-CR 27-10.77 & FRA-CR 27-10.89  
 FRA. CO. RD. NO. 27

CALCULATED  
 DRIP  
 CHECKED  
 DUS

HORIZONTAL  
 SCALE IN FEET

28  
 191



## **ATTACHMENT**

**Email correspondence between Agencies**



## Kailen E. Akers,P.E.

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**From:** Elchert, Tiffany M. <TMElchert@columbus.gov>  
**Sent:** Wednesday, June 28, 2023 9:33 AM  
**To:** Kailen E. Akers,P.E.  
**Cc:** David R. Dibling, P.E., S.I.  
**Subject:** RE: Trabue Rd - Permeable Pavement for Sidewalk/SUP

Hi Kailen,

Correct DPS would not maintain a permeable pavement SUP or sidewalk. This would be either the property owners responsibility or DPU's responsibility. DPS has not done them because it is unfair to place that responsibility on the homeowner. Per City code it is the homeowners/adjacent property owner's responsibility to replace sidewalk.

It may be an option for FCEO to suggest an MOU with DPU/DPS for FCEO to maintain the permeable pavement SUP or sidewalk. With this idea, DPU may allow this as a treatment option on your project.

Thanks,

Tiffany M. Elchert, PE  
Project Manager  
DIVISION OF DESIGN AND CONSTRUCTION



DEPARTMENT OF  
PUBLIC SERVICE

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**From:** Kailen E. Akers,P.E. [mailto:kakers@franklincountyengineer.org]  
**Sent:** Tuesday, June 27, 2023 3:43 PM  
**To:** Elchert, Tiffany M. <TMElchert@columbus.gov>  
**Cc:** David R. Dibling, P.E., S.I. <ddibling@franklincountyengineer.org>  
**Subject:** [EXTERNAL] Trabue Rd - Permeable Pavement for Sidewalk/SUP

Hi Tiffany,

From our discussion of the Trabue Road BMPs yesterday – Columbus DPS will not maintain sidewalk or SUP constructed with permeable pavement. Any long-term or regular maintenance of this type of pavement would need to be performed by Franklin County.

Can you please reply to this email, revising or confirming the details above for our records?

Thanks,



**Kailen E. Akers, P.E.**  
**Bridge Design Engineer**  
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**From:** Studenmund, Steven <STUDENMUND@metroparks.net>  
**Sent:** Monday, May 8, 2023 9:14 AM  
**To:** Kailen E. Akers,P.E.  
**Subject:** Quarry Trails Metro Park

Kailen, thanks for the voicemail last week. Unfortunately, we don't have any additional capacity in our stormwater plan. Yes, the majority of our site is in the floodplain and the area out of the floodplain is a former landfill which is capped with 2'-4' of clean fill.

Steve

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**Steve Studenmund**  
Planning & Design Manager  
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