



STANDARDS & GUIDELINES

September 30, 2016

City of Memphis
Engineering Division
Land Development



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I Introduction & General Background

The City of Memphis, Engineering Division (City Engineering) welcomes the opportunity to serve the citizens of our community. This document serves as a means to communicate our process related to land development, and the role that City Engineering plays in that process.

The Land Development Office (LDO) is a department under City Engineering that specifically works with the Memphis and Shelby County Office of Planning & Development (OPD) to ensure that all developments adhere to City standards and meet the requirements set forth for public improvements.

Contact information for the LDO is as follows:

Title:	Land Development Coordinator
Address:	125 North Main Street, Suite 644 Memphis, TN 38103
Phone:	901.576.6704

Disclaimer: This document is provided as a general guideline for the plan submittal process. Information contained herein is for the designer's aid. The intent of this document is to provide information and guidance only. The engineer is ultimately responsible for the accuracy and completeness of the design submittal. Standard City of Memphis Construction Specifications, the Unified Development Code (UDC), and the City of Memphis Storm Water Management Manual all provide exhaustive information pertaining to design requirements.



II Development Applications

A. When is it necessary to submit plans to Land Development?

Plans must be submitted to the Division of Engineering, Land Development Office (LDO) for review of:

- Any work within or upon City of Memphis property or street right-of-way (ROW), or within a City easement (drainage, sewer, etc.)
- Any work that directly affects traffic within the City's ROW
- Any work that may cause an increase of stormwater runoff to City stormwater facilities or downstream properties (refer to Memphis and Shelby County Storm Water Management Manual (SWMM)).

Stormwater runoff from projects larger than one acre, or within a drainage basin deemed a "Sensitive Drainage Basin" by the City, or in the Fletcher Creek Overlay District must be addressed with stormwater detention facilities, unless a request for a stormwater detention waiver has been filed and approved by City Engineering (SWMM Volume 1, Section 6.6). This issue is discussed in further detail in this document.

Projects that must go through the Land Development Plans Review process should fall into one of the following categories.

- Memorandum of Conformance (MOC)
- Administrative Site Plan Review (ASPR)
- Street Cut Permit (SCP)
- Standard Improvement Contract (SIC)
- Plat Re-Recording
- Easement Plat
- Encroachment Agreement
- ROW Dedication
- Street & Alley Closure
- Underground Fiber/Cable Plans
- Monitoring Well

All submittals must be accompanied by a completed Land Development Transmittal Form (see Section 4 for Standard Form).

A Street Cut Permit is filed for work within City ROW/easements, not exceeding construction cost of \$25,000. Click [here](#) for the Street Cut Permit procedures. For projects exceeding \$25,000, a Standard Improvements Contract must be executed between the owner/developer and the City, and approved by City Council.

Curb Cut Permit applications (for work involving only a new commercial drive connection) should be submitted directly to City of Memphis Traffic Engineering (901.576.6710).

Sidewalk Permits (for work involving only minor sidewalk repair/pour) and Residential Driveway Permits can be obtained from the City of Memphis, Construction Inspections Office at 901.636.2462.



B. How do I get an MOC?

MOC's are issued by OPD upon submittal of the Final Plat. Please call 901.576.6601 with questions.

C. How do I get an ASPR?

Plans for developments considered by the applicant as a "use by right" (i.e., already properly zoned, platted, etc.) should be submitted to the Memphis/Shelby County Office of Construction Code Enforcement (OCCE). OCCE will coordinate with LDO as needed to determine whether plans will be reviewed by City Engineering. Please call 901.222.8300 with questions.

D. What fees are required for plans review?

- The City has established a process for review that ensures all applicants are treated equitably. The base fee for Civil Engineering Plans (site construction drawings) review or Final Plat/Plan review (when a stand-alone plat is submitted) is \$525 for the first 3 reviews and \$250 for each additional review. When a Final Plat is submitted in conjunction with plans, no additional fee is required for review of the plat.
- The review fee for Street and Alley Closure plats, Easement Plats, Encroachment Plats, and Plat Re-records is \$250.
- Street Cut Permit fees for work within the public ROW are calculated by Land Development near completion of the plans review process.
- Curb Cut Permit fees will be calculated by Traffic Engineering on a case by case basis.
- Sidewalk Permit and Residential Driveway Permit fees are set by City Inspections.
- For review of Fiber Optic Permits, typically a \$750 base review is required for projects less than 1 mile in length. Additionally, a fee of \$1 per foot is assessed by City Inspections prior to construction to cover the permit fee for such projects. For Fiber Optic projects over 1 mile in length, fees for review, permit, and construction inspection are assessed on a case-by-case basis.

For more detailed information regarding fees for review, refer to City of Memphis Ordinances, available at: (https://www.municode.com/library/tn/memphis/codes/code_of_ordinances?nodetid=TIT2AD_CH2-22DIEN)

E. What will be required at the end of construction to close out the project and get bonds released?

Prior to release of Developer's bonds:

- (1) the City must conduct final inspection and provide report, AND
- (2) the owner/developer must have public infrastructure and/or detention facilities surveyed for as-built conditions. The consultant will submit revised/corrected mylars. Bonds can be released when the final inspection is approved and revised mylars are signed by the City Engineer. Additional information regarding Record Drawings is provided in Section III.C.13.



III Submittal Requirements

A. Items to be submitted

All plans that are submitted to Land Development must contain:

- Transmittal Form (Click [here](#) for City of Memphis Standard Transmittal Form)
- CD or thumb drive with all plans being submitted in pdf format for original and subsequent submittals.
- Plans – 5 sets of 24”x36” sheets with City Title Block (see Section 5); additional sets may be requested based on complexity of the project.
- Final Plat/Plan or Site Plan – Plats to be recorded are to be submitted on 20”x24” sheets, and Site Plans on 24”x36”.
- Plans Review Fees (see Section II.D)

B. Plans to be submitted

1. As applicable, please include the following sheets with your submittal:

Table 1 – Plans Requiring City Engineer Signature

Sheets must be on City Title Block and include signature line for City Engineer(s)	Sheets not signed by City Engineer
<ul style="list-style-type: none"> a. Site Plan or Final Plat (Site Plan will not be signed by City Engineer if accompanied by Final Plat) b. Grading & Drainage (including detention and off-street drainage) c. Erosion Prevention & Sediment Control Plan (EPSC) d. Post Construction Runoff Control Plan (PCRC) e. Sewer Plan – both public and private f. Plan & Profile (individual sheets for Roadway, Sewer, Drainage) – required if any public improvements are affected unless it’s a rural or industrial section of roadway g. Traffic Control for work zones h. Signage & Striping (permanent)* i. Signalization* j. Details –City of Memphis Standards (see Section 4) or custom details for public infrastructure 	<ul style="list-style-type: none"> a. Title Sheet with Index - required for all projects b. Existing Conditions c. General Notes sheet d. Site Layout Plan e. Details – not per City standard and for private infrastructure f. Demolition Plans <p>*City Traffic Engineer signs these sheets.</p>

2. All plan sets submitted under MOC’s must include a Final Plat. Requirements for submittal of a plat to OPD for approval are found in the Memphis and Shelby County Unified Development Code. This document can be found at: <http://www.shelbycountyttn.gov/DocumentCenter/View/22306>
3. Please see Table 2 below to determine which plans you are required to submit. All sheets must be 24”x36”, signed and sealed by a TN Licensed Professional Engineer, with City of Memphis Title Block and signature lines for City Engineers as applicable (Click [here](#) for City of Memphis Title Block sample). Watermarks or stamps for “PRELIMINARY” or “NOT FOR CONSTRUCTION” are acceptable during review.



Table 2 – Plan Sheet Submittal Matrix

Plan Sheet Name	Sheet required if one of the conditions in the 3 columns below are proposed for your project:		
a. Site Plan	Required for all submittals		
b. Plan & Profile (P&P)	<i>If only sidewalk improvements, no P&P required.</i>		
i. Roadway (P&P) – show both storm and sewer	Min of 100’ of contiguous curb & gutter and drive openings (new or replacement)	Lane widening, new median or median improvements	Milling / overlay
ii. Drainage (P&P)	Improvements within the public ROW; drainage profiles may be placed on roadway P&P	Private drainage - P&P not required, but G&D Plan must be submitted.	
iii. Off-Street Drainage (P&P)	Improvements outside ROW that are in public drainage easements or are public infrastructure		
iv. Sewer (P&P)	Improvements within the public ROW or public sewer easement; sewer profiles may be placed on roadway P&P	Private sewer - P&P not required, but Sewer Plan must be submitted.	
v. Off-street Sewer (P&P)	Improvements outside ROW that are public or that affect public sewer easements or infrastructure		
c. Grading & Drainage (G&D) Plan <i>(Criteria for Stormwater Detention)</i>	Improvements include stormwater detention due to size of graded/disturbed area <i>Generally, detention is required for projects greater than or equal to 1 acre. Provide stormwater detention or request waiver for detention via letter as applicable per SWMM 6.6.6</i>	Project is in a Sensitive Drainage Basin* <u>QR</u> in Fletcher Creek Overlay District <i>Provide stormwater detention or request waiver for detention via letter as applicable per SWMM 6.6.6</i>	If drainage connects to, or flows directly to public drainage system or ROW, or as required by LDO**
d. Erosion Control Plan (ECP)	See information below regarding this subject*		
e. Post Construction Runoff Control Plan (PCRCP)	See information below regarding this subject*		
f. Sewer Plan	Improvements include New public sewer	Improvements tying to City sewer	Improvements tying to existing private sewer
g. Traffic Control Plan (TCP)	Improvements within or affecting traffic within the public ROW		
h. Signage & Striping	As requested/required by City Traffic Engineer		
i. Signalization	As requested/required by City Traffic Engineer		
j. Details – City of Memphis Standards (see Section 4)	Project has public infrastructure requiring construction details <i>For City of Memphis Standards, see Section III.C.8. All City standard details and/or public structure details are reviewed and signed/approved by the City.</i>	Project has private infrastructure requiring construction details <i>All private infrastructure details must be on a separate sheet, and are NOT reviewed/signed by the City.</i>	

* See below respective sections for details.

** For further guidance, refer to SWMM Vol. 1, Section 3.2 and 3.3.3, UDC, and City Ordinances.



Sensitive Drainage Basins

The fourteen (14) Sensitive Drainage Basins are identified by City Engineering and listed below. Please contact 901.576.6704 to determine the Basin in which your project is located.

- Arlington Bayou (2-KA)
- Black Bayou (5-C)
- Black Bayou (5-D)
- Cherry Bayou (6-A)
- Fletcher (12-A)
- Harrison (3-H)
- Lenox Bayou (2-L)
- Lick Creek (2-K)
- Overton Bayou (2-M)
- Ridgeway (9-C)
- Royster Bayou (2-M)
- Sophia (1-J)
- South Cypress Creek (11-I)
- Young (12-C)

*** Erosion Control Plan (ECP)**

Erosion Control Plan submittal requirements:

- The City of Memphis/Shelby County Storm Water Management Manual (SWMM) states that an Erosion Control Plan (ECP) shall be submitted for approval. The plan must meet all the requirements of the State of Tennessee Construction General Permit (CGP) and be in conformance with the SWMM. Since a minimum limit of earth disturbance is not established as a submittal requirement, the Office of Land Development (LDO) typically decides if an ECP submittal is necessary.
- All development plans submitted to LDO that propose earth disturbance of 1 acre or more will need to include an ECP.
- Commercial developments that have curb cuts, sidewalks or infrastructure proposed to connect to public drainage or sewer are frequently less than 1 acre. If these developments lie within a Sensitive Drainage Basin, stormwater detention review is required by LDO. The requirement for stormwater detention may be waived subsequent to request thereof.
- Neither an ECP, nor a PCRCP are required if the project meets the following: (1) less than 1 acre in area and (2) not in Fletcher Creek Overlay District and (3) not in a Sensitive Drainage Basin, and (4) the requirement for detention is waived.
- If the project requires stormwater detention, both an ECP and PCRCP are required.
- When an ECP is not required, a general note must be added to an appropriate sheet in the plan set or other documentation (e.g. G&D plan, site plan, fiber optic letter, etc.) as determined by LDO. The general note is to inform the contractor of their responsibility to implement Best Management Practices (BMPs) to prevent improper disposal/illegal discharges of construction debris into the City's MS4. Per City ordinance #4538 sec. 33-207, it is illegal to discharge construction material, silt, sediment, gravel, etc. into the Municipal Separate Storm Sewer System (MS4).



* **Post Construction Runoff Control Plans (PCRCP)**

PCRCP submittal requirements:

- A PCRCP is required for all new and significant redevelopments within the City limits except for (1) residential projects without detention and (2) for linear projects. If your project does not meet one of these exceptions, then a PCRCP is required even if there are no stormwater facilities on-site. (Every property within the City limits is required to pay a stormwater fee for maintenance of the City's public storm drain system. In addition to requiring measures for protecting City streams and waterways, the PCRCP gives record of the development for the purpose of assessing fees.)
- For a project with less than 1 acre of disturbance, if
- (1) Land Development requires an ECP submittal, and (2) the ECP will be signed by the City Engineer, then a PCRCP will be required.

Erosion Control for Roadway Projects:

- If there will be 1 acre or more of earth disturbance from a roadway project, then a CGP is required and an ECP is also required. If Tennessee Department of Environment and Conservation (TDEC) does not require a project to have a CGP (projects with earth disturbance <1ac), then TDEC does not require an ECP.
- All projects, including linear projects, require a CGP and an ECP should be phased as required by the latest CGP requirements.
- The City of Memphis Stormwater Program will not require review for roadway linear projects that collectively total less than 1 acre of earth disturbance, but instead will have a general note that must be added to an appropriate sheet in the plan set or other documentation (e.g. G&D plan, site plan, fiber optic letter, etc.) as determined by LDO. The general note is to inform the contractor of their responsibility to implement Best Management Practices (BMPs) to prevent improper disposal/illegal discharges of construction debris into the City's MS4. Per City ordinance #4538 sec. 33-207, it is illegal to discharge construction material, silt, sediment, gravel, etc. into the MS4.

C. Guidelines and Checklists for Plans

The City reviews hundreds of projects annually which are completed by consultants from all over the country. Therefore, it is essential to have conformity between various plan sets and compliance with City Standards and Policies. For further information, reference City of Memphis Design and Policy Review Manual (click [here](#)). Plans review can be conducted more expeditiously if basic project information is presented in a clear, concise, and standard format.

- The designer must explicitly define existing and proposed property lines, right-of-ways, facilities, infrastructure, etc., within the project by using standard notes and easily distinguishable graphical representations of such.
- All sheets must be 24"x36" with City of Memphis Title Block and signature lines for City Engineers as applicable (See CoM Title Block.jpg for reference).



- A legend depicting line types & symbology for each design discipline is necessary. For example, for Grading and Drainage plans, a legend shall be provided for existing topography, existing drainage pipes, existing drainage structures, proposed topography, proposed drainage pipes, proposed drainage structures, drainage sub-basin ridgelines, property lines, areas reserved for storm water detention, etc.

Table 2 in III.B.3 can be a resource to determine which sheets are required for each development project. Basic information needed on each sheet within the plan set follows, including checklists for each:

1. Final Plat

A Final Plat is reviewed by LDO at the direction of the Office of Planning Development. Refer to Item B.4. above for items required by LDO for the Final Plat. Aside from all other OPD requirements, the Final Plat should include the following:

a. City Benchmark note (example)

CITY OF MEMPHIS BENCHMARK #642 - POPLAR AND MANASSAS: CITY MONUMENT IS LOCATED ON SE CORNER, ON THE BACK OF SIDEWALK, AT THE END OF RADIUS ON POPLAR. ELEV. 268.70

A file containing the current City benchmarks can be requested from the LDO.

b. Note concerning work within right-of-way

PLEASE BE ADVISED THAT A BUILDING PERMIT ISSUED BY THE MEMPHIS/SHELBY COUNTY OFFICE OF CONSTRUCTION CODE ENFORCEMENT DOES NOT ALLOW FOR ALTERATIONS AND/OR IMPROVEMENTS TO ANY RIGHT-OF-WAY (ROW) MAINTAINED BY THE CITY OF MEMPHIS. ALTERATIONS AND/OR IMPROVEMENTS TO THE CITY OF MEMPHIS ROW INCLUDE BUT ARE NOT LIMITED TO WORK PERFORMED ON SIDEWALKS, CURB AND GUTTER, DRIVE APRONS AND UTILITY TIE-INS. ROW PERMITS MUST BE OBTAINED FROM THE MEMPHIS CITY ENGINEER'S OFFICE AT (901) 636-6700.

c. FEMA Note (example only)

THE SUBJECT PROPERTY (IS/IS NOT) LOCATED IN A SPECIAL FLOOD HAZARD AREA ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS PER FLOOD LINES ESTABLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 47157C ____ F, DATED SEPTEMBER 26, 2007. THE NEAREST BFE IS ____ LOCATED ____.

d. Sanitary Sewer Notes

- NO TREES, SHRUBS, PERMANENT STRUCTURES, OR OTHER UTILITIES (EXCEPT FOR CROSSINGS) WILL BE ALLOWED WITHIN SANITARY SEWER EASEMENT. NO OTHER UTILITIES OR SERVICES MAY OCCUPY SANITARY SEWER EASEMENTS IN PRIVATE DRIVES AND YARDS EXCEPT FOR CROSSINGS.
- THE CITY OF MEMPHIS SHALL HAVE INGRESS/EGRESS RIGHTS TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC SEWER LINES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID PRIVATE DRIVES AND YARDS.



e. Stormwater Detention Note

This “*Detention Note*” is to be shown on Final Plat and Grading and Drainage Plan on any project requiring stormwater detention:

THE AREAS DENOTED BY “RESERVED FOR STORM WATER DETENTION” SHALL NOT BE USED AS A BUILDING SITE OR FILLED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE CITY ENGINEER. THE STORM WATER DETENTION SYSTEMS LOCATED IN THESE AREAS, EXCEPT FOR THOSE PARTS LOCATED IN A PUBLIC DRAINAGE EASEMENT, SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER AND/OR PROPERTY OWNERS’ ASSOCIATION. SUCH MAINTENANCE SHALL BE PERFORMED SO AS TO ENSURE THAT THE SYSTEM OPERATES IN ACCORDANCE WITH THE APPROVED PLAN ON FILE IN THE CITY ENGINEER’S OFFICE. SUCH MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO REMOVAL OF SEDIMENTATION, FALLEN OBJECTS, DEBRIS AND TRASH, MOWING, OUTLET CLEANING, AND REPAIR OF DRAINAGE STRUCTURES.

f. Other OPD Requirements (Including Conditions of Approval)

g. Engineers Certificate on the Plat signed at each submittal

<p><u>ENGINEER’S CERTIFICATE</u></p> <p>IT IS HEREBY CERTIFIED THAT THIS PLAT IS TRUE AND CORRECT, IS IN CONFORMANCE WITH THE DESIGN REQUIREMENTS OF THE ZONING ORDINANCE, THE SUBDIVISION REGULATIONS AND THE SPECIFIC CONDITIONS IMPOSED ON THIS DEVELOPMENT, AND TAKES INTO ACCOUNT ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING LAWS AND REGULATION.</p> <p>BY _____ (SEAL) DATE _____</p> <p>TENNESSEE CERTIFICATE NO. _____</p>

h. All dates (seal and title block) updated on each submittal

2. Site Plan

In the absence of a Final Plat, a Site Plan is required to be reviewed and signed by the City Engineer. The Site Plan shows basic information regarding the proposed development and the layout thereof. Click [here](#) for Site Plan Checklist.

3. Plan & Profile

This sheet will have the roadway plan and profile, typical section, notes, etc., associated with a typical roadway plan as used in standard engineering practice, as well as any and all public infrastructure (i.e., drainage and sewer, and any other utilities to be shown). Provide drainage tables for structures and pipes, shown in the plan view as well as City of Memphis General Notes. Sanitary Sewer information, if applicable, is required as well. Click [here](#) for Street Plan and Profile Sheet Checklist.

When public drainage and/or sewer lines are proposed in areas outside the limits of a street’s right-of-way, an Off-Street Plan and Profile is required. Click [here](#) for Off-Street Drainage Checklist. Click [here](#) Off-Street Sanitary Sewer Checklist.

When public sanitary sewer main trunks or laterals are proposed to be constructed or extended, a Sanitary Sewer Outfall or Extension Plan and Profile is required. Click [here](#) for Outfall or Sewer Extension Plan & Profile Sheet Checklist.



4. Grading & Drainage Plan

The Grading and Drainage (G&D) Plan must show all existing and proposed stormwater pipes, structures, facilities (above ground and below), and pertinent topographical features. The designer's plan should completely analyze the impact of the proposed development on existing adjacent and/or downstream properties and public or private drainage infrastructure. The proper performance on the on-site stormwater runoff management facilities is critical for the protection of the new development and those existing, both nearby and downstream.

The designer should utilize the City of Memphis/Shelby County Stormwater Management Manual (SWMM) for design guidance. The SWMM is available online at:

http://www.memphistn.gov/Portals/0/pdf_forms/001-Volume1_PolicyManual.pdf

http://www.memphistn.gov/Portals/0/pdf_forms/002-Volume2_DrainageManual.pdf

http://www.memphistn.gov/Portals/0/pdf_forms/003-Volume3_BestManagementPracticesManual.pdf

The designer should either provide detention or submit a detention waiver request based upon SWMM Vol 1, Section 6.6.6.

Click [here](#) for Grading & Drainage Plan Checklist. Also, click [here](#) Grading & Drainage General Notes that must be shown, verbatim on every G&D sheet and any P&P sheets, if applicable.

The following items contain further information regarding review of drainage:

- i. The minimum required detention data to be shown on the G&D sheet follows:

Predevelopment data:

Site Drainage Area (D.A.) = _____

C or CN = _____

Tc = _____

Q10* pre (10-year Design flow) = Allowable Discharge = _____

Post-development data (one listing each for Q to pond, and for Q bypass as applicable):

D.A. = _____

C or CN = _____

Tc = _____

Q10* post = _____

Detention Discharge:

Q10* Routed (pond) + Q10 (bypass, if applicable) = _____ < or = Q10
predevelopment

Table for pond performance showing Stage - Storage - Discharge

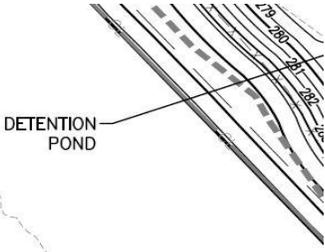
* Q-25 is required in the Fletcher Creek District.

The format above may be modified to fit specific development needs or applicability and is given as only a guide for minimum required project detention data. An example is provided below.



DETENTION POND		
Elevation	Total Storage	Total Discharge
277	-	0.00
278	278	0.96
279	1,926	1.55
280	4,976	1.98
281	8,914	3.28
282	13,795	6.58
283	19,677	33.07
284	26,617	36.79

Outlet Str. 7" Orifice (2-yr) @ Elev=277.05
 Outlet Str. 12.5" Orifice (10-yr) @ Elev=280.55
 Outlet Str. Weir (100-yr) @ Elev=282.05



STORM EVENT (yr)	PRE-DEVELOPMENT		POST DEVELOPMENT				
	Site Area (acres) =	5.72	AREA TO POND =	3.29	BYPASS AREA =	2.43	
	CN =	84	CN =	98	CN =	82	
	T _c =	30.8	T _c =	7.4	T _c =	26.5	
	DISCHARGE (cfs)		POND DISCHARGE (cfs)	BYPASS DISCHARGE (cfs)	TOTAL DISCHARGE (ft)	WSE	FREEBOARD
2	4.20		2.16	1.77	3.94	280.49	3.51
5	8.60		4.79	3.81	8.60	281.38	2.62
10	12.62		6.68	5.72	12.37	282.02	1.98
100	28.90		30.30	13.54	42.10	282.70	1.30

Outlet Structure Details must be provided, including trash rack detail for outlet.

Concerning underground detention, the SWMM discourages underground detention and placement of detention within parking areas. In practice, both are allowed, with the designer submitting plans depicting such in the plan review process. The underground detention must be accessible by a person for inspection/cleaning, so designer must provide adequate number and location of access points. Any area reserved for detention will be depicted on the plan and plat which will include the note, verbatim, in III.c.1.e. Since the area is reserved for detention, a parking lot may be most practical for placement of underground detention avoiding any landscape islands with trees. During review, LDO will review how the 100-year storm is handled.

- ii. Drainage structure and pipe tables providing basic minimum data should be used for public drainage. Click [here](#) for Drain Pipe Data table. Click [here](#) for Drain Structure Data table.
- iii. For the purpose of assessing impact to the downstream system, the designer should include the structures and pipes 2 segments down from where the project's drainage system connects to the public system.
- iv. Any new drainage pipe or structure must be wholly public or private. There are three options to achieve this.

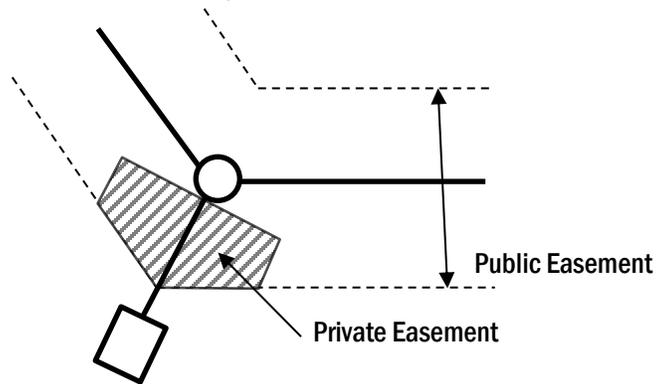
Option 1: Provide a private easement (width based on the private pipe diameter & SWMM Volume 1, Table 6-2); the private easement would be superimposed over the public easement, beginning at the point where the private pipe enters the outside wall of the public structure, and end where the pipe exits the public easement. This easement would be recorded via the project's Final Plat or by separate Easement Plat, whichever is feasible. See Example 1.

Option 2: In rare situations, it may be feasible to provide a public drainage easement to include pipe and/or structure. This option is only with the approval of the City Engineer. See Example 2.

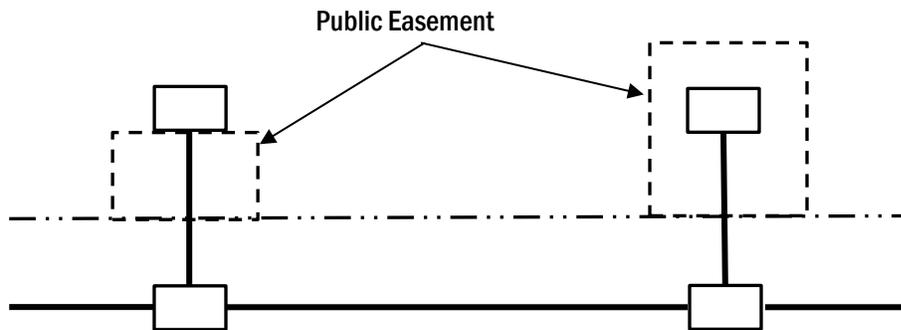


Option 3: Provide a structure placed immediately adjacent to the public ROW line (or public drainage easement line), and wholly inside or outside of the ROW (or easement). See Example 3.

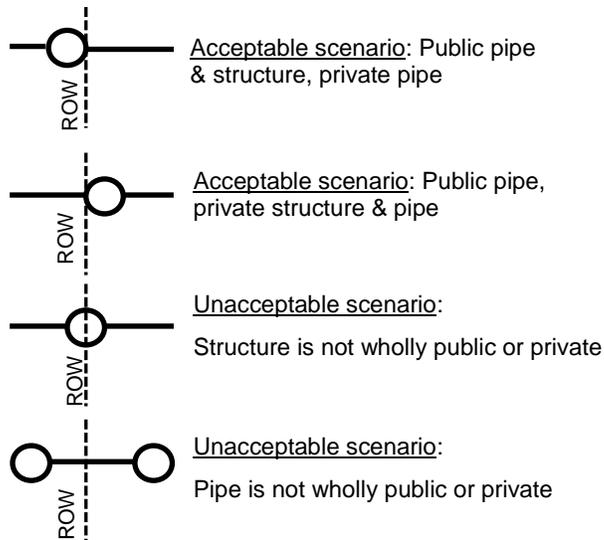
Example 1:



Example 2:



Example 3:





5. Erosion Control Plan (ECP)

ECP's are necessary to protect adjacent downstream properties, and the City's rivers and streams, from pollution and sediment transport during the construction phase of the project. The designer should utilize the more stringent standards of the SWMM and the most recent edition of the TDEC EPSC Handbook. The TDEC EPSC Handbook is available online at:

<http://tnepsc.org/handbook.asp>

Click [here](#) for Erosion Control Plan Checklist.

6. Post Construction Runoff Control Plan (PCRCP)

Similar to ECP's, PCRCP's are necessary to protect adjacent downstream properties, and the City's rivers and streams, from pollution and sediment transport throughout the life of the new development and to provide the property owner with specifics on maintenance of detention systems to ensure the design function throughout the life of the development. The designer should utilize the City of Memphis/Shelby County Stormwater Management Manual (SWMM) and the PCRC Technical Standards Guidance Document for design guidance. The PCRC Technical Standards Document is available online at:

http://www.memphistn.gov/Portals/0/pdf_forms/PCRCVersion2.pdf

Click [here](#) for Post Construction Runoff Control Plan Checklist.

7. Sewer Plan

Sewer Plans are required for both public and private sanitary sewer systems.

Click [here](#) for Sewer Plan Checklist. Click [here](#) Sewer Plan Notes.

8. Public Infrastructure Details

City of Memphis Standards (see Section 4) or details of public infrastructure, designed by the consultant, requiring structural review. Typical details can be found at:

<http://www.memphistn.gov/Government/EngineeringDivision/CivilStandards.aspx>

9. Private Infrastructure Details

Include necessary details of private infrastructure.

10. Traffic Control

Temporary Work Zone Traffic Control is necessary for the safety of pedestrians, motorists, and construction workers. A Temporary Traffic Control Plan (TCP) is needed for all work that will be performed in the City ROW. This includes work performed in the actual roadway and



Please return only bond copies of the original mylars for each discipline with the as-built revisions for initial review. Return the revised original mylars and 1 bond set with an As-built Certification Letter when notified by the LDO that the review is complete.

Submit one bond copy for each discipline to review and one for the LDO to keep as a clean copy. For example, if you have drainage and sewer as-builts, you will submit send three copies. If you have only one or the other, then send only two copies. LDO will review the asbuilts, and if there are no comments, will notify that you can transfer the information to the mylars and submit.

14. Easement Plats

From time to time, it is necessary to record easements (or enter into agreements with the City requiring an easement) that are not shown upon or associated with a Final Plat. Examples of these could be Pedestrian Easements, Street and Alley Closures, Drainage or Sewer Easements or Easement Abandonments, Traffic Signal Easements, and “easement” plats for Encroachment Agreements. LDO requires hard copies of these plats for review.

Click [here](#) for Easement Plats Checklist.

Each easement, encroachment, or Street and Alley Closures (SAC) will be treated as a separate “case.” LDO will need a “packet” submitted for each.

There is a \$250 review fee required. The plat is routed through an official review by LDO. If you submit more than one “packet”, the \$250 will cover all.

The packet should include three 8.5” x 11” or 8.5” x 14” paper copies of the sealed/signed plat, along with 3 copies of the deed for the property and a separate page with only the contact information for the owner, developer, and the engineer/surveyor. Mylar prints will be required for final submittal, but should not be sent until requested, which is typically after the initial review. Please make sure the bond copies are signed/sealed for review. Encroachments require an Encroachment Agreement will have to be coordinated with Real Estate Department.

Traffic Signal Easements (easements for traffic signal locations) will require three separate documents. LDO will need a “packet” for each – one for the pedestrian easement, one for the traffic signal easement, and one for the ROW dedication.

For Street and Alley Closures (SAC), if there are utilities or utility easements within the street or alley in question, then letters of release from City Engineering, MLGW, AT&T, and Comcast are necessary for Street and Alley Closures. This applies to Utility Easement Abandonments as well.

For Roadway and/or Wayfinding Sign Encroachments (not standard business signs, etc.) in public right-of-way. Examples of plats and legal descriptions are available upon request.



Further guidance is below. These apply to Street and Alley Closures (SAC), easements and encroachments:

- Provide copies of the deed(s) for the property or properties along and adjacent to the easement (prints from the Register's site are fine)*
- A written description of the easement must be on the plat or on an 8.5" x 11" sheet
- For Encroachments, if applicable, provide graphics of the items of encroachment such as photos, architectural design or elevations
- For Street and Alley Closures, and/or Easement Abandonments, letters of release from City Engineering, MLGW, AT&T, and Comcast will need to be provided
- Adjust linetypes for property lines and distinguish from the easement
- Instruments listed in the title block should be graphically noted/represented
- Text should be large enough to be easily read (0.12" height if possible, 0.10" minimum)
- Provide an outline of existing buildings and drives, if available
- Black and white only - no colored lines
- Examples for title block**, layout, etc. can be provided upon request by designer
- The final submittal of the plat (subsequent to review) should be printed on mylar, 8.5" x 11" or 8.5" x 14", with original seal/signature
- Seal should be original and standard size

* If the subject is an encroachment contained wholly within City ROW, the limits of the ROW must be noted. Include the deed of the adjacent property (if available) from the Register's website.

** The title block has to be nearly exactly like the example and the area of the encroachment/easement/ROW/abandonment should be noted.

Helpful information on SAC's

- For SAC's not associated with projects that include full CD's, and where the closure is a bit complex (e.g., involving installing new infrastructure such as sidewalk, and curb and gutter) a note should be added to the 8.5" x 11" SAC plat stating that "The City of Memphis Office of Construction Inspections must be contacted prior to construction for required permitting and inspection." Their contact information should be included. The satisfactory completion of the SAC conditions (post-construction) would be found in City Inspections' reports. Otherwise, if there are other conditions that must be met - outside of the inspector's purview - then LDO would be responsible for verification of proper closure according to approved conditions.
- For SAC's associated with projects that include full CD's, no additional annotation is required assuming that the construction of infrastructure/appurtenances associated with the closure would be shown in the CD's and permitted under the Street Cut Permit or contract for the project. Also, no additional annotation is required for SAC's deemed as "paper roads" where no paving or roadway surface treatment exists. The satisfactory completion of the SAC conditions would be determined by the LDO.



For additional information, please contact:

**Land Development Coordinator
125 North Main Street, Suite 644
Memphis, TN 38103
901.576.6704**



APPENDIX



Land Development Transmittal Form

PROJECT TITLE:

SUBMITTAL/REVIEW NUMBER:

ASSESSOR'S PARCEL NUMBERS (LIST ALL):

LOCATION:

ENGINEERING FIRM NAME:

ENGINEER'S PHONE:

ENGINEER'S NAME:

ENGINEER'S EMAIL:

PRIMARY POINT OF CONTACT (POC):

POC's EMAIL:

POC's PHONE:

PROJECT TYPE:

MOC

ASPR

Street Cut Permit

Easement Plats

Encroachment Agreement

ROW Dedication

Street & Alley Closure

UG Fiber/Cable Plans

Monitoring Wells

INCLUDED ITEMS:

Fees

CD or thumb drive with all plans being submitted in pdf format

5 sets of 24x36 sheets in City Title Block of Construction Plans

Completed Plans Checklists

ENGINEER'S SIGNATURE:

DATE:

Site Plan

TITLE BLOCK & GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

SITE PLAN - GENERAL			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Zoning and Land Use
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Building Footprints
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines, Interior Lot Lines and Setbacks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Area of Property
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Number of Units Proposed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development/Property Owner Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plat Book and Page Number of Recorded Plats of Adjacent Properties
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dimension to Property Line from Side Street
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	List of Approved Conditions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Easements (All On 1 Lot) with Size, Ties, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Size and Location of All Existing Curb Cuts, Sidewalks and Curb Ramps
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Provide ADA Compliant Cross Slopes for Pedestrian Path Across Curb Cuts
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Curb Cuts to Remain
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Curb Cuts to Be Replaced
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed Curb Cuts, Sidewalks, and Gutter
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curb Cut Detail
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Above Ground Utilities and Storm Drainage Inlets
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Ingress-Egress Easements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Pedestrian Easements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Traffic Signal Easements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Label Existing ROW and Dedication
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Street Improvements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Sidewalks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Curb and Gutter
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Medians and Median Openings
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dimensioned Parking Layout & No. of Queueing Spaces
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Underground Traffic Signal Conduits & Pullboxes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gate Setback from ROW & Required Turn-Around for Forward Exit

FOR PROPOSED SCHOOLS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circulation for AM Drop Off and PM Pick up
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Number of Expected Students
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grades Served
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Number of Walkers Expected
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signing Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	School Associated Traffic Control Changes

Traffic Impact Policy

The Developer’s Engineer shall submit a Trip Generation Report that documents the proposed land use, project, scope, and anticipated traffic demand associated with the proposed development. A detailed Traffic Impact Study will be required when the accepted Trip Generation Report indicates that the number of projected trips meets or exceeds the criteria listed in Section 210 – Traffic Impact Policy for Land Development of the City of Memphis Division of Engineering Design and Policy Review Manual.

Note: The Traffic Impact Policy for Land Development is found on the City’s website in the Engineering section under City of Memphis Division of Engineering Design and Policy Review Manual.

Street Plan and Profile

TITLE BLOCK & GENERAL REQUIREMENTS

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sewer Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineering Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, Address)

DRAINAGE STRUCTURES

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Types of Structure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FL of Throats, No. Openings, etc. for 3x3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Station and Offset
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flowline Elevations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Top Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Area to Inlet
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flow to Inlet - Including any Previous Bypass
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intercepted Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	By-Pass Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Width of Spread of Flow in Street, Losses at Bad Junctions and HGL Inside Pipe at Upstream End (Upon Request)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Public Structures Clearly Noted

TYPICAL SECTION

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dimensions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Base Material & Thickness
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pavement Material & Thickness
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sidewalk
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curb & Gutter
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed Grade Line
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pavement X-Slopes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sidewalk & Grass X-Slopes

DRAINAGE PIPE DATA

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Slope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Capacity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flowline Elevations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Velocity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Area in Pipe
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radial Pipe Radius
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Public Pipes Clearly Noted

PLAN VIEW

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intersection Equation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intersection Angle
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Centerline Stationing
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Centerline Curve Data
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P.C. Sta. & P.T. Sta.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Water Table
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curb Radius
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	E.R. Sta. & Elev.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slope & Direction Around E.R.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T.C. Elev. & Sta. When Tying to Ex. Curbs
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R.O.W Widths on All Streets
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curb to Curb Widths on All Streets
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Handicap Ramps at All Intersections
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	City Benchmark
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Objects in 'Clear Zone'
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian Easements

GENERAL

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water Table Design Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DMH at End of Radial Pipes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Sta. & Offset if not on Centerline
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DMH Flowlines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DMH Diameter
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip - Rap Grade
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip - Rap Dimensions and Thickness
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Headwall Exit Velocity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ditching at Headwall

PROFILE

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grades (Max 2% from E.R. to Intersecting Road EOP; End V.C. Behind ER)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P.V.I. Sta. & Elev.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P.V.C. & P.V.T. Sta. & Elev.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Length of Vertical Curve
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	K Values
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	P.G.L. Elev. At 25' Stations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 Point Profile
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale

Development: _____

Engineer: _____

Date: ___/___/___

SANITARY SEWER			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manhole size (if not 4 ft.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Sta. & Offset (both plan and profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Flowlines with size and direction (profile only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Size (both plan and profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length (profile only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Slope (profile only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clearance with Drainage (1.5' outside pipe)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clearance with Water (10' separation)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Minimum Cover
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off-street Sewer Profiles: stationed from downstream
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Extend to Upstream Property or Phase line with manhole and stubout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Delegation Stamp ("Health Stamp")
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ductile Iron as req'd (profile only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Data on Sheet Matches Sewer Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Private Sewers Clearly Marked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5' Minimum From Face of Curb

Modifications/Improvements to Existing Streets			
Typical Section			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dim. Existing and Proposed; Match Existing Section; (Saw cut and Remove Existing Pavement and Base and Dimensions to be Removed and Added if Required)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show and Label Existing E.O.P.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing E.O.P., Centerline, and P.G.L. Elev. At 25' Stations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maintain $1.5\% \leq (\text{Cross Slope, } S_x) \leq 3.0\%$

Off-Street Drainage Plan and Profile

TITLE BLOCK & GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, Address)

PIPE DATA TABLE			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Material
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Sizes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design Flow Q-10, Q-25, or Q-100
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Capacity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gross Drainage Area Tributary to Pipe
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Full Pipe Velocity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Public Clearly Marked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flowline Elevations

PLAN VIEW			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard City of Memphis Plan Sheet Layout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Graphic and Detail Scales
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Interior Lot Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FEMA 100 year flood elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Map and Parcel Number
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Minimum Lot Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	City of Memphis Benchmark
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Contours (2' Maximum) On-Site and Off-Site As Needed to Determine Effects on Subject Property
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed Contours (2' Maximum)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ridge Lines Delineating Basins
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sub-Basin Drainage Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Area of Off-Site Basins Draining to Development
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development Property Owner Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjacent Improvements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip-Rap Grade
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip-Rap Dimensions and Thickness
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Notes

STRUCTURE DATA TABLE			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type of Structure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location - Station and Offset
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Area Assigned to Structure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sub-basin Design Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intercepted Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	By-pass Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Top Elevations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inlet Throat Elevations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Public Clearly Marked

DITCH DATA			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Typical Cross Section
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flow Depth
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Capacity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Velocity

PROFILE			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manhole Size (In Structure Table)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DMH Stations (Both Plan & Profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DMH Flowlines w/ Size & Direction (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DMH Rim Elevation (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Size (Both Plan & Profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Slope (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Station Line from Existing Tie-In to Upstream
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Data on Sheet Matches G&D Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Ingress/Egress Note
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Special Pipe Notes Where Needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Details & Sections As Needed

Off-Street Sanitary Sewer

TITLE BLOCK & GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sewer Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street/Intersection, etc.)

GENERAL			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BM or TBM Description & Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity Map
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FEMA 100-yr Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Delegation Stamp ("Health Stamp")
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines & Interior Lot Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development/Property Owner Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Easements Width (Usually 15' But Varies w/ Conditions)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temporary Construction Easements Width (Usually 20' But Varies w/ Conditions)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Sewer Data for Tie-In Points
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Private Sewers Clearly Marked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upstream Service Provided (Show Q _c /Q _d /A)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flow Direction Arrows
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clearance CL Sewer to Face of Curb (5' MIN)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Offstreet Sewer Angles
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Manhole Ties to Existing Manholes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Utilities affecting installation (gas lines, etc.)

PLAN AND PROFILE			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manhole Size (if not 4' diameter)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Stations (Both Plan & Profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Flowlines w/ Size & Direction (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Rim Elevation (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.1' Drop Across Manholes
			<u>Manhole Rim Elevations:</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.0' above 100 Year Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.5' Above Grade in Open Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.5' Above Grade in Back Yards
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sealed Lids & Vent Stacks Required if Rim Cannot Be Constructed 1.0' Above 100-yr Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spacing (8"-21" = 400' MAX)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Size (Both Plan & Profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Slope (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Station Line from Existing Tie-In to Upstream
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop Construction Required if Drop > 2.0'
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ductile Iron As Required (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop Construction As Required (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Data on Sheet Matches Sewer Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Private Sewer Clearly Marked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ridgelines Not To Be Crossed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Offset from Ditches & Streams
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip-Rap Protection for Ditch Crossings
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Ingress/Egress Note
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sewer Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Erosion Control Details & Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Special Pipe Notes Where Needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Q _c /Q _d /A Shown at All Downstream Tie-Ins
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Details & Sections As Needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Railroad Milepost Tie
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TVA or MLGW Tower Tie
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Easement Plat Number References
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Service Connection Stations

Outfall or Sewer Extension Plan & Profile Sheet

TITLE BLOCK & GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sewer Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street/Intersection, etc.)

GENERAL			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BM or TBM Description & Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity Map
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FEMA 100-yr Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Delegation Stamp ("Health Stamp")
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines & Interior Lot Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development/Property Owner Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Easements Width (Usually 15' But Varies w/ Conditions)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temporary Construction Easements Width (Usually 20' But Varies w/ Conditions)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Sewer Data for Tie-In Points
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Private Sewers Clearly Marked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upstream Service Provided (Show Q _c /Q _d /A)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flow Direction Arrows
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clearance CL Sewer to Face of Curb (5' MIN)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Offstreet Sewer Angles
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Manhole Ties to Existing Manholes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Utilities affecting installation (gas lines, etc.)

PLAN AND PROFILE			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manhole Size (if not 4' diameter)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Sta. & Offset (Both Plan & Profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Flowlines w/ Size & Direction (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMH Rim Elevation (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.1' Drop Across Manholes
			<u>Manhole Rim Elevations:</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.0' above 100 Year Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.5' Above Grade in Open Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.5' Above Grade in Back Yards
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sealed Lids & Vent Stacks Required if Rim Cannot Be Constructed 1.0' Above 100-yr Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spacing (8"-21" = 400' MAX)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Size (Both Plan & Profile)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Slope (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Station Line from Existing Tie-In to Upstream
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop Construction Required if Drop > 2.0'
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Delegation Stamp ("health stamp")
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ductile Iron As Required (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop Construction As Required (Profile Only)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Data on Sheet Matches Sewer Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All Private Sewer Clearly Marked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ridgelines Not To Be Crossed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Offset from Ditches & Streams
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip-Rap Protection for Ditch Crossings
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Ingress/Egress Note
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sewer Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Erosion Control Details & Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Special Pipe Notes Where Needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Q _c /Q _d /A Shown at All Downstream Tie-Ins
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Details & Sections As Needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Railroad Milepost Tie
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TVA or MLGW Tower Tie
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Easement Plat Number References
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Service Connection Stations

Grading & Drainage Plan

TITLE BLOCK & GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, Address)

PIPE DATA TABLE			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	List Pipe Material
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Sizes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design Flow (Q-10, Q-25, or Q-100)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Capacity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gross Drainage Area Tributary to Pipe
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Full Pipe Velocity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Public Clearly Marked

GENERAL			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard City of Memphis Plan Sheet Layout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Graphic and Detail Scales
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Interior Lot Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FEMA Note and Nearest BFE
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Footprints of Existing and Proposed Buildings on Property
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Paving on Property
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Impervious Area on Property
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Minimum Lot Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Delineate Stream Buffers per Section 5.16, Volume 1 of SWMM and UDC 6.4
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Legend
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	City of Memphis Benchmark
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names and R.O.W Width
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Contours (Preferred, No Greater Than 2 Feet)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed Contours (Intervals no greater than 2 feet)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ridge Lines Delineating Basins
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sub-Basin Drainage Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipes and Structures Wholly Public or Private
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stream Buffers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Easements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Area of off-site Basins Draining to Development
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development/Property Owner Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Contours (100 feet off-site)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjacent Improvements and Topography As Needed to Determine Effects on Subject Property
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip-Rap Grade
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip-Rap Dimensions and Thickness
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	COM General Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity Map
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Storm Water Management Structures & Pipes. Must include the location, size, and capacity of the next two (2) structures immediately downstream in every direction that will receive runoff. Must include size, type, slope, and invert elevation of the structures/pipes in tables.

DETENTION DATA			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Design Method Utilized (Rational or NRCS)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stage-Storage-Discharge Relationship
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Site Drainage Area In Acres
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design Flow (Q-10) or Fletcher Creek Basin (Q-25)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C (Runoff Coefficient) or Pre and Post CN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tc (Time of Concentration) - Pre and Post
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Allowable Discharge
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controlling Downstream Structure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outlet Structure Details
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed Pond Grading
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bypass Area and Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pond Area and Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total Post-Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hydraulic and Hydrologic Calculations (Provided Under Separate Report)

STRUCTURE DATA TABLE			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type of Structure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Area
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sub-basin Design Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intercepted Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	By-pass Flow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flowline Elevations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Top Elevations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inlet Throat Elevations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Asbuilt Columns
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Identification of Public Structures

Grading & Drainage Plan

MAJOR DRAINAGEWAY DATA			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HEC-2 Analysis/HEC-RAS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Easements (see Table 6-1 in SWMM)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Access to Drainageway
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"Trash and Deadwood" Note
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Improvement Cross-Section and Details
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location and Geometry of Improvements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Q-100 for Major Systems

DITCH DATA			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Typical Cross Section
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flow Depth
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Capacity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Velocity

NOTE 1: SENSITIVE DRAINAGE BASINS	
Arlington Bayou (2-KA)	Black Bayou (5-C)
Black Bayou (5-D)	Cherry Bayou (6-A)
Fletcher (12-A)*	Harrison (3-H)
Lenox Bayou (2-L)	Lick Creek (2-K)
Overton Bayou (2-M)	Ridgeway (9-C)
Royster Bayou (2-M)	Sophia (1-J)
South Cypress Creek (11-I)	Young (12-C)*

* - Basins which make up the Fletcher Creek District (FCD)

MINIMUM FINISHED FLOOR ELEVATIONS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	In Low Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Along Overflow Routes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 Foot Above Grade or as Required**
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On Plat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On Grading and Drainage

**See UDC 8.8 & 8.9.

PERMIT DATA			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NPDES Permit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ARAP Permit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Copy of State Approved Permit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tennessee General Storm Water Permit Certification Form Certifying that a Notice of Intent (NOI) has been submitted to Tennessee Department of Environment and Conservation (TDEC) for a permit for construction site runoff. Include the permit number or intent to submit the number at a later date or that a permit is not required.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floodplain Alteration Permit

GENERAL GRADING NOTES

1. A MINIMUM OF 24-HOURS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY OF MEMPHIS CONSTRUCTION INSPECTION OFFICE AT (901) 636-2462.
2. ALL NEWLY CUT OR FILLED AREAS, LACKING ADEQUATE VEGETATION, SHALL BE SEEDED, MULCHED, FERTILIZED AND/OR SODDED AS REQUIRED TO EFFECTIVELY CONTROL SOIL EROSION.
3. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY ALL OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY COMPANIES WHICH MAINTAIN A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE INITIATION OF ANY CONSTRUCTION ON THE PROJECT OR IN THE STREETS BORDERING THE PROJECT. THE CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION PERIMETERS, WHETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING THE WORK ON THE PROJECT. FOR SITE LOCATION OF EXISTING UTILITIES INVOLVING MLG&W, SOUTH CENTRAL BELL, AND/OR TEXAS GAS COMPANY, CALL 1-800-351-1111. FOR SEWER LOCATIONS CALL 529-8025.
4. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.
5. ALL FILL SOILS SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D-698) WITHIN 3% OF OPTIMUM MOISTURE CONTENT IN LIFTS NOT TO EXCEED SIX (6) INCHES OF COMPACTED THICKNESS.
6. ALL CONSTRUCTION MATERIALS AND PROCEDURES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE CITY OF MEMPHIS STANDARD CONSTRUCTION SPECIFICATIONS.
7. PROPERTY LINES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. GRADING, CLEARING AND THE ERECTION OR REMOVAL OF FENCES ALONG PROPERTY LINES SHALL BE FULLY COORDINATED WITH ADJACENT PROPERTY OWNERS.
8. VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE CITY OF MEMPHIS CONSTRUCTION INSPECTION OFFICE ENGINEER OF ANY VARIATIONS PRIOR TO COMMENCEMENT OF WORK.
9. ALL GRADING WORK SHALL BE PERFORMED IN SUCH A MANNER THAT ADJACENT PROPERTIES ARE NOT DAMAGED OR ADVERSELY AFFECTED.
10. LOT DRAINAGE: FINISH GRADE SHALL BE SLOPED AWAY FROM THE FOUNDATION FOR DRAINAGE. THE FINISH GRADE MUST BEGIN AT LEAST 12-INCHES BELOW THE TOP OF THE FOUNDATION WALL OR GRADE OF THE CONCRETE SLAB AT THE INTERIOR IN THE CASE OF AN INTEGRAL SLAB AND FOUNDATION. THE MINIMUM GRADE AWAY FROM THE FOUNDATION SHALL BE TWO PERCENT (2%) IN ALL DIRECTIONS. THE DRIVEWAY SHALL BE SLOPED DOWN AT TWO PERCENT (2%) FOR AT LEAST EIGHT FEET FROM THE STRUCTURE.

Erosion Control Plan Review Checklist

TITLE BLOCK & GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If project is more than 50 acres, is phasing planned?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed construction schedule if greater than 12 months.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Legend or individually labeled EPSC measures

GENERAL			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard City of Memphis Plan Sheet Layout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Numbers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Streets Identified By Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engineering Firm and Developer Information
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A Scale No Less Than 1" = 100'.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity Map and Parcel Number.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Top of bank labeled
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indicate drainage basin, per City of Memphis drainage basin map (that includes Shelby County). If the basin is known for frequent flooding (i.e., Fletcher Creek), or is in a Sensitive Basin, additional requirements may apply.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	At least one benchmark located, with the proper elevation indicated (NGVD to be used exclusively).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and proposed buildings and pavement on property.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and proposed impervious area on property.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and proposed storm water management structures on and in the immediate vicinity of the property.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and proposed site contours at an interval no greater than two (2) feet.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floodplain and floodway boundaries, stream buffer zones, and the floodplain elevations. (Stream buffers should begin from top of bank.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ridge lines delineating basins. Sub-basin drainage areas.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Delineation of wetlands or other environmentally sensitive areas.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Provide adequate access from public right of way to storm water areas.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indicate the acreage of each off-site contributing drainage area.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indicate limits of disturbance
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total Disturbed Acreage
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Appropriate number of erosion control plan sheets per amount of disturbed acreage as required by the NPDES permit for storm water discharges associated with construction activity.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temporary erosion and sediment control measures to be implemented during construction to protect storm water inlets and adjacent properties that will receive runoff from disturbed areas.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If a stream is within or adjacent to the site, have the appropriate EPSC designs and buffers been applied per the NPDES permit for storm water discharges associated with construction activity?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detail drawings of swales, ditches, inlets, head walls, detention pond outlet structures and overflows, erosion control measures, etc. Erosion control measures should meet the minimum standards of the more stringent resource; i.e. TDEC EPSC Handbook (most recent edition), City of Memphis/ Shelby County SWMM Vol. 3.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Final stabilization measures proposed for all disturbed areas on the property. Areas with slopes greater than 3:1 must be stabilized by methods approved by the city or county engineer.

Erosion Control Plan Review Checklist

SEDIMENT BASIN DATA TABLE & DETAILS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design storm of principal spillway (Minimum 2 yr/ 24 hr storm event. If discharging to an impaired or exceptional TN stream, design storm should be a minimum of 5yr/24hr storm event.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design storm of emergency spillway (25yr/ 24hr storm event)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sediment basin stage-storage-discharge relationship data
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface area in acres
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Elevation of emergency spillway. (If > or = to 20 ft., dam must comply with Safe Dams Act)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Embankment should have 1ft. minimum freeboard above max design flood elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Height and slope of embankment
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stage and storage of forebay, if a forebay is included in basin design. (Should be 25% of dry storage volume and floor elevation should be > or = to the permanent pool elevation.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Baffles in forebay to increase residence time (if done, not required)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Forebay berm top and bottom elevation (top elevation should crest with the top of the dry storage and floor elevation should be > or = to the permanent pool elevation.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sediment basin detail drawing
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outlet structure detail. (Should never have an open bottom outlet.) Detail of skimmer, if used.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outlet protection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Anchoring detail for riser pipe, if used.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If at maximum water storage elevation, the capacity is 30 ac-ft (48,400cy) or more, then dam must comply with Safe Dams Act.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Principal spillway with trash rack
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Resting pier, if skimmer is used.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equivalent controls approved by TDEC. Give description., if applicable.

PERMIT DATA			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tennessee General Storm Water Permit Certification Form Certifying that a Notice of Intent (NOI) has been submitted to Tennessee Department of Environment and Conservation (TDEC) for a permit for construction site runoff. Include the permit number or intent to submit the number at a later date or that a permit is not required.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NPDES Permit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ARAP Permit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Copy of State Approved Permit

PCRC PLAN DETERMINATION			
Yes	No	N/A	New Developments and Significant Redevelopments
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is this a linear project? (If yes, then a PCRC plan is not required.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is this a residential project that will not have post-construction storm water detention? (If yes, then a PCRC plan is not required.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a PCRC plan required? If neither of the latter two expectations are met, then a PCRC is required.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a PCRC plan submitted with this plan set?

Post Construction Runoff Control Plan Review Checklist

TITLE BLOCK & GENERAL INFORMATION			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

GENERAL			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard City of Memphis Plan Sheet Layout
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Numbers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Streets Identified By Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engineering Firm and Developer Information
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A Scale No Less Than 1" = 100'.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity Map and Parcel Number.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Top of bank labeled
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indicate drainage basin, per City of Memphis drainage basin map (that includes Shelby County). If the basin is known for frequent flooding (i.e., Fletcher Creek), or is in a Sensitive Basin, additional requirements may apply.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	At least one benchmark located, with the proper elevation indicated (NGVD to be used exclusively).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity map based on USGS quad map with site location clearly shown and flow path to named water of the state
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grading and Drainage Plan with arrows showing storm water flow direction across the site and BMP locations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Buildings and pavement on property.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Storm water management structures on and in the immediate vicinity of the property
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Schematics of BMPs located on the site, including outlet structure details indicating design storm event
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and proposed site contours at an interval no greater than two (2) feet.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floodplain and floodway boundaries, stream buffer zones, and the floodplain elevations. (Stream buffers should begin from top of bank.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ridge lines delineating basins. Sub-basin drainage areas.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Delineation of wetlands or other environmentally sensitive areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Certify compliance with all required state or federal storm water permits, if applicable.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total drainage area entering storm water detention (acres) [this number includes any off-site drainage area that is received]
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total onsite drainage area entering a water quality BMP
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State if the discharge from the site goes into another detention structure further downstream, if located within a larger development
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Submit an Inspection and Maintenance Agreement if a structural BMP will be on-site (Available in the SWMM Vol. 1 section 7.0 page 172)

Storm Water Information Table			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intended Use (e.g. single family residential, office park, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Parcel ID(s)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total Site Area (in acres)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Impervious Area (in square feet)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Expected Hot Spots (e.g. power washing, trash/food waste dumpster operation, commercial fuel dispensing, and food grease storage/disposal, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural BMPs (e.g. detention/retention ponds, swales, water quality units, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	O&M requirements for structural BMPs (Inspection and maintainance of the system to ensure proper functioning as designed)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-structural BMPs (street sweeping, employee-training, and material/chemical/waste handling practices)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Entity responsible for BMP implementation (contact name, address, and phone number) If the organization that will be responsible is yet to be organized, list the name, address and phone number of the person or entity with interim responsibility.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Where and how the trash, sediment, oil and other vehicle fluids and other pollutants removed from the storm water system will be disposed. This should include any parameters listed in the TDEC 303(d) list for the water bodies into which the development discharges and for which the development could be a reasonable source.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Basin Name (Wolf, Loosahatchie, Nonconnah, and Mississippi)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sub-basin (as is currently used on Grading & Drainage Plans)

Sanitary Sewer Plan

TITLE BLOCK & GENERAL REQUIREMENTS

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sewer Basin Identification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Prof. Eng. Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

GENERAL

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BM or TBM Description & Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity Map
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FEMA 100-yr Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Delegation Stamp ("Health Stamp")
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines & Interior Lot Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development/Property Owner Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Perm. Easements (All On 1 Lot) with Size, Ties, etc. (15' Typ.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temp. Construction Easements - Typical Width 20'
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Sewer Data for All Tie-In Points
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Private Sewers Clearly Marked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Private Sewer Certificate
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upstream Service Provided (Show Q _c / Q _d / A)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flow Direction Arrows
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clearance CL Sewer to Face of Curb (5' MIN)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off-street Sewer Profile Reference
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off-street Sewer Angles
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Manhole Ties to Existing Manholes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Typical Line Location 7' north or west of CL Street
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Utilities Affecting Installation (Gas/Water Lines, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ridgelines Not To Be Crossed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Offset from Ditches & Streams
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rip-Rap Protection for Ditch Crossings
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Min. Floor Elevations for Lots in "Holes"
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Ingress/Egress Note
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Erosion Control Details & Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Special Pipe Notes Where Needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Q _c / Q _d / A Shown At All Downstream Tie-Ins
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sewer Extended Upstream with Manhole & Stub
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No CADD Partial Wording

MANHOLES

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manhole Size (If Not 4' Diameter Manhole)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flowline Elevations w/ Pipe Size & Direction
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manhole Top Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop Construction Required if Drop > 2'
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maximum 3 House Connections Into Manhole
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.1' Drop Across Manholes
			<u>Manhole Rim Elevations</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.0' above 100 Year Flood Elevation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.5' Above Grade in Open Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.5' Above Grade in Back Yards
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manhole Spacing (8"-21" Pipe=400' Maximum Spacing)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sealed Lids & Vent Stacks Required if Rim Cannot Be Constructed 1.0' Above 100-yr Flood Elevation

PIPE DATA

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Length
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Slope in Percent
			<u>Ductile Iron Requirements (Class 50 Minimum)</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Less Than 1.5' Clearance with Drainage
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Less Than 4.0' of Cover
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill Ground
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop Construction
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ditch Crossings
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No House Connections in Lines Over 10"
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Match Pipe Tops in Manholes EXCEPT 8" into 12" +
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off-street House Connections Dimensioned
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No 8" Pipe Flatter than 0.5% Slope
			<u>SST-16 Cleanout</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cleanout Location Per Standards
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detail Included

SIPHON DATA

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Typical Cross Section
			<u>Calculations Showing</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loading
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Barrel Sizes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Capacity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Velocity

Sewer Plan Notes

The following two text blocks and typical construction notes must appear, exactly as written, on any sanitary sewer plans submitted to the city. Any additional notes added must be added after the typical construction notes. Typical construction notes No. 10 & 11 must also be shown on the plat for a project.

APPROVED FOR CONSTRUCTION

THE DOCUMENT BEARING THIS STAMP HAS BEEN RECEIVED AND REVIEWED BY THE CITY OF MEMPHIS DIVISION OF ENGINEERING UNDER AUTHORITY DELEGATED BY THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION DIVISION OF WATER POLLUTION CONTROL. IT IS HEREBY APPROVED FOR CONSTRUCTION BY THE CITY ENGINEER AS EVIDENCED BY HIS SIGNATURE IN THE TITLE BLOCK BELOW.

APPROVAL EXPIRES 1 YEAR FROM APPROVAL DATE BELOW. THIS APPROVAL SHALL NOT BE CONSTRUED AS CREATING A PRESUMPTION OF CORRECT OPERATION OR AS WARRANTING BY THE CITY ENGINEER THAT THE APPROVED FACILITIES WILL REACH THE DESIRED GOALS.

PRIVATE SEWER CERTIFICATE

THE ENGINEER WHOSE SEAL AND SIGNATURE APPEAR BELOW HEREBY ACCEPTS THE RESPONSIBILITY FOR THE DESIGN OF THE PRIVATE SANITARY SEWER SYSTEM SHOWN HEREON. THE PRIVATE SANITARY SYSTEM DESIGN FOR SEWERS LESS THAN 8" MUST BE SUBMITTED, APPROVED AND INSPECTED BY THE PLUMBING INSPECTOR'S OFFICE AT THE MEMPHIS AND SHELBY COUNTY OFFICE OF CODE ENFORCEMENT. FOR SEWERS 8" AND LARGER, THE ENGINEER OF RECORD WILL PROVIDE THE MEMPHIS AND SHELBY COUNTY OFFICE OF CODE ENFORCEMENT A LETTER CERTIFYING THAT ALL PRIVATE SEWERS 8" AND LARGER HAVE BEEN INSTALLED AND TESTED IN ACCORDANCE WITH APPLICABLE LOCAL STANDARDS, OR WHERE NO LOCAL STANDARDS EXIST, THE STANDARDS OF THE STATE OF TENNESSEE. NO PRIVATE SANITARY SEWER IS TO BE USED EXCEPT FOR TESTING UNTIL THIS SYSTEM HAS BEEN APPROVED AND/OR THIS CERTIFICATION HAS BEEN ACCEPTED BY CODE ENFORCEMENT.

TYPICAL CONSTRUCTION NOTES

1. LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND ARE NOT NECESSARILY ALL OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND/OR UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION PERIMETERS. FOR SITE LOCATIONS OF EXISTING UTILITIES INVOLVING M.L.G.&W., SOUTH CENTRAL BELL, AND/OR TEXAS GAS COMPANY, PLEASE CALL 1-800-351-1111. FOR SEWER SERVICE LOCATIONS, CALL 901-636-8025.
2. CONTRACTOR SHALL ENSURE UNINTERRUPTED SEWER SERVICE ON EXISTING SEWER AND SERVICE CONNECTIONS BY PROVIDING AMPLE TEMPORARY WASTEWATER PUMPING AND/OR BYPASSING.
3. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.
4. CONTRACTOR SHALL NOTIFY THE CITY OF MEMPHIS CONSTRUCTION INSPECTION OFFICE AT **636-2462** A MINIMUM OF 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION.
5. ALL AREAS IN CUT OR FILL WHERE VEGETATION HAS BEEN REMOVED SHALL BE SEEDED, MULCHED, FERTILIZED, AND/OR SODDED AS REQUIRED TO PREVENT EROSION.
6. THE CONTRACTOR SHALL VERIFY EXISTING DATA AND REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ENGINEER.
7. ALL SANITARY SEWER TO BE CONSTRUCTED AS PER CITY OF MEMPHIS STANDARD CONSTRUCTION SPECIFICATIONS. SANITARY SEWER SERVICE CONNECTIONS TO BE INSTALLED AS PER CITY OF MEMPHIS STANDARD SST-16.
8. ALL SEWER MANHOLE LIDS IN OPEN AREAS ARE TO BE CONSTRUCTED 1.5' ABOVE PROPOSED GRADE. IN BACKYARDS, MANHOLE LIDS ARE TO BE 1.5' ABOVE INITIAL GRADE, 0.5' ABOVE FINAL GRADE.
9. ALL SANITARY SEWER, INCLUDING SERVICE CONNECTIONS, WHICH HAS LESS THAN 1.5' CLEARANCE (OUTSIDE OF PIPES) WITH DRAINAGE OR IN FILLED AREAS SHALL BE CLASS 50 D.I.P. OR CONCRETE ENCASED, 10' MINIMUM BOTH SIDES OF CROSSING. ALL DUCTILE IRON PIPE (D.I.P.) SHALL BE POLYETHYLENE LINED OR SHALL BE TREATED WITH PROTECTO 401 OR APPROVED EQUIVALENT.
10. THE CITY OF MEMPHIS SHALL HAVE INGRESS/EGRESS RIGHTS TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC SEWER LINES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID PRIVATE DRIVES AND YARDS.
11. NO TREES, SHRUBS, PERMANENT STRUCTURES, OR OTHER UTILITIES (EXCEPT FOR CROSSINGS) WILL BE ALLOWED WITHIN SANITARY SEWER EASEMENT. NO OTHER UTILITIES OR SERVICES MAY OCCUPY SANITARY SEWER EASEMENTS IN PRIVATE DRIVES AND YARDS EXCEPT FOR CROSSINGS.
12. ALL SANITARY SEWER MANHOLES IN REVERSE CROWN STREETS, ALLEYS, OR DRIVES (PUBLIC OR PRIVATE) SHALL BE PROVIDED WITH GASKETS AND PLUGS FOR PICK HOLES TO PREVENT DRAINAGE INFLOW INTO SEWER SYSTEM.
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE AND EFFECTIVE EROSION CONTROL AS NECESSARY TO PREVENT ANY SILTATION INTO EXISTING DRAINAGE SYSTEM AND/OR ADJACENT PROPERTIES.

Development: _____

Engineer: _____

Date: ____/____/____

Traffic Control

TITLE BLOCK & GENERAL REQUIREMENTS

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

TRAFFIC CONTROL PLAN

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names of All Affected Roadways
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Duration of Traffic Control (Days, Weeks, Etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design Speed Limit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Striping and Lane Dimensions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Roadway Edge of Pavement
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Images, Codes and Sizes of Traffic Control Signs
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed Location of All Traffic Control Signs
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Channelization Devices (Drums, Cones, Etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other Traffic Control (Barricades, Arrow Boards, Temp. Striping, Etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clearly Identified Work Area (Hatched)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-TCP Linework Not on Plans (Contours, Underground Utilities, Owner Info, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian Access & Signage, Etc. - No Mid-Block Crosswalks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Traffic Control Notes (See Attached)

TRAFFIC CONTROL PLAN NOTES
For
Land Development Projects

Notes regarding Traffic Control should be placed on each page of the Traffic Control Plans. The numbering for the notes to be shown on the plan should remain as depicted below, even if some notes (per the following guidance) are eliminated. For instance, if notes #31 through #33 are not needed on the TCP, the numbering of the remaining notes would skip from #30 to #34.

Attached are the standard City of Memphis Traffic Control Plan Notes. Follow the following guidance on which notes should be used. A Temporary Traffic Control Plan (TCP) is needed for all work that will be performed in the City ROW. This includes work performed in the actual roadway and the sidewalk.

1. Typical notes that should be on TCPs are notes # 1 thru 9, 10 (with curb & gutter) OR 11 (without curb & gutter), 12, 21, 25 (with curb & gutter) OR 24 (without curb & gutter), 28, 35, 36 and 41. Other notes may be required based on the scope of the project.
2. On note # 10, if the drums will stay on the street overnight, please change to Type "A" warning lights.
3. If NO lane/road closure or construction activities will occur at nighttime, please include note # 34. The developer/contractor cannot change to nighttime closures or activities without prior approval of a revised Traffic Control Plan by City Engineering.
4. Notes #31 thru 33 are for flagger design.
5. **The minimum lane width allowed for temporary traffic control is 10'. The City may consider a lane width less than 10' if the existing lanes are less than 10'.**
6. Any time work is going to be performed that would involve the closure of a sidewalk, a pedestrian traffic control plan is required. Provide the traffic control design for pedestrians on the same plan, and include note # 40. **Note that the City does not allow temporary mid-block crosswalks.**
7. If no sidewalk will be closed, please include note # 39.
8. If any MATA route is within the traffic control area, please include note # 43.
9. **The City does not allow half-road closures, i.e., the road is reduced to one-way traffic.**

TRAFFIC CONTROL PLAN NOTES:
FOR LAND DEVELOPMENT PROJECTS
(REV. 08-17-16)

1. SEE SECTION 6F.03, SIGN PLACEMENT, OF THE STATE OF TENNESSEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR INFORMATION ON PLACEMENT AND MOUNTING OF SIGNS.
2. SIGNS SHOWN ON THIS PLAN ARE TO WARN TRAFFIC ABOUT THE CONSTRUCTION. OTHER TRAFFIC CONTROL DEVICES MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
3. NOTHING IN THIS PLAN IS INTENDED TO SUPERSEDE OR RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING THE APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT STATE OF TENNESSEE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
4. CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE CITY OF MEMPHIS CONSTRUCTION INSPECTION DEPARTMENT (636-2462) AND TRAFFIC ENGINEERING DEPARTMENT (576-6710) A MINIMUM OF 24 HOURS PRIOR TO COMMENCING CONSTRUCTION OR IMPLEMENTING A TRAFFIC CONTROL PLAN. ALL TRAFFIC CONTROL DEVICES MUST BE IN PLACE BEFORE CONSTRUCTION ACTIVITY BEGINS.
5. SIZES OF ALL SIGNS SHALL COMPLY WITH STATE OF TENNESSEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
6. ALL TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL MEET THE STANDARD PRESCRIBED IN THE STATE OF TENNESSEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL COMPLY WITH THE STATE OF TENNESSEE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 712 TEMPORARY TRAFFIC CONTROL.
7. ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
8. SIDE STREET, DRIVEWAY ACCESS, AND SAFE PEDESTRIAN WAYS SHALL BE MAINTAINED AT ALL TIMES.
9. THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THE RIGHT-OF-WAY OR WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHICHEVER IS LESS, WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THE RIGHT-OF-WAY OR WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE WHICHEVER IS LESS, AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE.
10. CONTRACTOR SHALL USE PLASTIC DRUMS WITH TYPE "C" WARNING LIGHTS TO SEPARATE TRAFFIC FROM THE CONSTRUCTION AREA.
11. DRUMS WITH TYPE "C" WARNING LIGHTS SHALL DELINEATE THE EDGE OF PAVEMENT THROUGH THE ENTIRE CONSTRUCTION AREA.
12. CONTRACTOR SHALL COVER ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SIGNS OR DEVICES DURING CONSTRUCTION AND THEY SHALL REMAIN COVERED DURING CONSTRUCTION AND UNTIL SUCH TIME THAT NO CONFLICT EXISTS.
13. CONTRACTOR SHALL INSTALL TEMPORARY NO PARKING SIGNS AS REQUIRED WITHIN THE TRAFFIC CONTROL AREA.
14. TWO-WAY TRAFFIC SHALL BE MAINTAINED ON _____ AT ALL TIMES.

15. DURING CONSTRUCTION, A MINIMUM OF ONE _____ FOOT LANE OF TRAFFIC SHALL REMAIN OPEN TO BOTH DIRECTIONS OF TRAFFIC AT ALL TIMES.
16. CONTRACTOR SHALL BE REQUIRED TO MAINTAIN AT LEAST ONE _____ FOOT LANE OF TRAFFIC FOR EACH DIRECTION ON _____ AT ALL TIMES AND SHALL MAINTAIN A TEMPORARY CENTER LINE OR CONES THROUGH THE CONSTRUCTION AREA.
17. ONE/TWO _____ FOOT LANES OF TRAFFIC SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES.
18. WORK WITHIN THE ROADWAY DURING DIFFERENT PHASES OF CONSTRUCTION SHALL NOT BE ACTIVE AT THE SAME TIME.
19. ONLY ONE PHASE OF THE TRAFFIC CONTROL PLAN SHALL BE ACTIVE AT ANY ONE TIME.
20. ONLY ONE CONSTRUCTION SITE ON _____ SHALL BE ACTIVE AT ANY ONE TIME.
21. ALL TEMPORARY OR PERMANENT TRAVELED SURFACE SHALL BE INSPECTED DAILY BY THE CONTRACTOR (INCLUDING WEEKENDS) AND NECESSARY PATCHING OR RE-FINISHING PERFORMED.
22. MARKINGS SHALL BE MAINTAINED IN LONG-TERM STATIONARY WORK AREAS AND SHALL MATCH AND MEET THE MARKINGS IN PLACE AT BOTH ENDS OF THE WORK AREA.
23. CENTERLINE/LANE LINES SHOULD BE PLACED, REPLACED, OR DELINEATED WHERE APPROPRIATE BEFORE THE ROADWAY IS OPENED TO TRAFFIC.
24. CHANNELIZING DEVICES SHALL BE REMOVED TO THE EDGE OF PAVEMENT AT THE END OF EACH WORK DAY. NO CLOSURE SHALL BE IN EFFECT FROM 4:00 P.M. UNTIL 9:00 A.M. TWO 12 FOOT LANES SHALL BE OPEN DURING THIS PERIOD WITH AT LEAST A 4 INCH THICK COMPACTED GRAVEL SURFACE.
25. WORK WITHIN THE ROADWAY SHALL BE CONDUCTED BETWEEN 9:00 A.M. AND 4:00 P.M. AND THE ROADWAY SHALL BE COMPLETELY OPEN TO TRAFFIC AT ALL OTHER TIMES AND ALL INAPPROPRIATE SIGNS SHALL BE COVERED OR REMOVED.
26. CONTRACTOR SHALL CONTACT ALL APPROPRIATE AGENCIES BEFORE CLOSING ANY ROADWAYS.
27. CONTRACTOR SHALL CONTACT THE DIVISION OF ENGINEERING AT 576-6710 TO ARRANGE FOR THE BAGGING/REMOVAL OF PARKING METERS.
28. CONTRACTOR SHALL CONTACT THE CITY OF MEMPHIS SIGNAL SHOP AT 528-2844 FOR LOCATION OF SIGNAL CONDUIT AND WIRES.
29. THE APPROPRIATE TRAFFIC CONTROL SHALL BE INSTALLED AT THE INCEPTION OF EACH STAGE OF CONSTRUCTION AND SHALL BE PROPERLY MAINTAINED AND/OR OPERATED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER.
30. OBLITERATED MARKINGS SHALL BE UNIDENTIFIABLE AS PAVEMENT MARKINGS UNDER DAY OR NIGHT, WET OR DRY CONDITIONS. OVERLAYING EXISTING STRIPES WITH BLACK PAINT OR ASPHALT DOES NOT MEET THE REQUIREMENTS OF COVERING, REMOVAL, OR OBLITERATION; HOWEVER, THE USE OF REMOVABLE, NONREFLECTIVE, PREFORMED TAPE IS PERMITTED WHERE MARKINGS NEED TO BE COVERED TEMPORARILY.
31. AT NO TIME SHALL ONE LANE SECTION BE LEFT OPEN UNATTENDED. WHERE TWO FLAGGERS ARE REQUIRED AND IN CIRCUMSTANCES WHERE ONLY ONE LANE OF TRAFFIC IS OPEN AND

THERE IS NO CLEAR LINE OF SIGHT FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, THE CONTRACTOR SHALL PROVIDE RADIO COMMUNICATION OR OTHER APPROPRIATE MEANS OF ESTABLISHING CONTROL OF TRAFFIC.

32. ANYTIME FLAGGER IS NOT PRESENT TO CONTROL TRAFFIC, TWO TRAFFIC LANES MUST BE OPEN TO MAINTAIN TWO-WAY TRAFFIC AND ALL INAPPROPRIATE SIGNS SHALL BE COVERED OR REMOVED.

33. ALL FLAGGERS SHALL BE EQUIPPED WITH A **STOP/SLOW** PADDLE.

34. IF CONSTRUCTION ACTIVITIES REQUIRE OVER-NIGHT CLOSURE OF ANY PORTION OF THE ROADWAY, A REVISED TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER ' S OFFICE.

35. EXISTING STRIPING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING CONSTRUCTION. WHEN CONSTRUCTION IS COMPLETE THE EXISTING STRIPING SHALL BE RETURNED TO ITS ORIGINAL STATE.

36. ALL TRAFFIC CONTROL SIGNS SHALL MEET THE MINIMUM RETROREFLECTIVITY LEVELS SPECIFIED IN THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

37. ALL TEMPORARY STRIPING SHALL BE PREFORMED TAPE.

38. THE CONTRACTOR MUST REIMBURSE THE CITY OF MEMPHIS FOR LOST REVENUE ASSOCIATED WITH PARKING METER SPACES BLOCKED/REMOVED FOR CONSTRUCTION.

39. THE CONTRACTOR IS PROHIBITED FROM CLOSING THE EXISTING SIDEWALK AT ANYTIME DURING THIS PROJECT. IF A SIDEWALK CLOSURE IS NEEDED, A REVISED TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER ' S OFFICE.

40. THE DEVELOPER SHALL PROVIDE A TRAFFIC CONTROL PLAN TO THE CITY ENGINEER THAT SHOWS THE PHASING FOR EACH STREET FRONTAGE DURING DEMOLITION OR CONSTRUCTION OF CURB GUTTER AND SIDEWALK. UPON COMPLETION OF SIDEWALK, CURB AND GUTTER IMPROVEMENTS, A MINIMUM 5 FEET WIDE PEDESTRIAN PATHWAY SHALL BE PROVIDED THROUGHOUT THE REMAINDER OF THE PROJECT.

41. ANY CLOSURE OF THE RIGHT OF WAY SHALL BE TIME LIMITED TO THE ACTIVE DEMOLITION OR CONSTRUCTION. CONTINUOUS UNWARRANTED CLOSURE OF THE RIGHT OF WAY SHALL NOT BE ALLOWED FOR THE DURATION OF THE PROJECT. THE DEVELOPER SHALL PROVIDE ON THE TRAFFIC CONTROL PLAN, THE TIME NEEDED PER PHASE TO COMPLETE THAT PORTION OF THE WORK. TIME LIMITS WILL BEGIN ON THE DAY OF CLOSURE AND WILL BE MONITORED BY THE ENGINEERING CONSTRUCTION INSPECTORS (636-2462) ON THE JOB.

42. THE CONTRACTOR WILL MAINTAIN ACCESS FOR CITY OF MEMPHIS SIGNAL CREWS TO PERFORM MAINTENANCE ON THE SIGNAL POLES IN AFFECTED AREA.

43. THE CONTRACTOR SHALL NOTIFY MEMPHIS AREA TRANSIT AUTHORITY (MATA) AT 722-7100 A MINIMUM OF 48 HOURS PRIOR TO IMPLEMENTING A TRAFFIC CONTROL PLAN.

Development: _____

Engineer: _____

Date: ____/____/____

Signing and Striping

TITLE BLOCK & GENERAL REQUIREMENTS

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

SIGNING AND STRIPING PLAN

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Striping (Include Lane Widths and Line Types)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Signs
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Parking Signs on Adjacent Sections of Street
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Size Legend (Include Sign Designations and Size of Signs)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Regulatory Speed Limit
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	City Traffic Engineer in Signature Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Include Note - "All Striping Shall be Thermoplastic. Follow City of Memphis Standard Pavement Marking."
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale

Development: _____

Engineer: _____

Date: ___/___/___

School Zone Flasher Signal

TITLE BLOCK & GENERAL REQUIREMENTS

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

FLASHERS

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale (1" = 40')
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sign Legend
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing & Proposed Signs
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Solar Flasher Details
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flasher Notes

Traffic Signal Plan

TITLE BLOCK & GENERAL REQUIREMENTS

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Title Block
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Sheet Size
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name w/ Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State of TN Professional Engineer Stamp and Signature
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (Usually 1 of 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development Location (i.e., Reference to Nearest Street, Intersection, etc.)

SIGNAL PLAN - GENERAL

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ROW and Property Lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development/Property Owner Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dimension to Property Line from Side Street
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Above Ground Utilities and Storm Drainage Inlets
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Ingress-Egress Easements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Pedestrian Easements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Traffic Signal Easements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Label Existing ROW and Dedication
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Street Improvements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Sidewalks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Curb and Gutter
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Medians and Median Openings
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Underground Traffic Signal Conduits & Pull Boxes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type of Detection (Video Req'd for New Signals)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Left Turn Operation (PT, PM, PTPM?)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Protected Left Turn Phase Justified thru Traffic Analysis?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Phasing
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal Head and Detection ID Figure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal Head Display Types
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian Signal Display Type (12", Countdown)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Phasing Diagram (Match Sequence Chart?)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sequence Chart (Match Phasing Diagram?)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Push Button Orientation (Match Phasing & Sequence?)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Emergency Vehicle Pre-emption
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Transit Pre-emption
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wiring Diagram
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Removal Diagram
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plan Details
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attachment Height (For Span Mount Signal)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conduit Runs to Cabinet (Size, No. of Pipes, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pole Diameter & Height (City Standard)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conduit Stubs in Poles (2 - 3" PVC, Typical)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mast Arm Length

SIGNAL LAYOUT

Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Advance Detection Needed?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detection Zones Labeled from Inside to Outside (i.e., 2-1 for inside EB thru lane; 2-3 for outside EB thru lane)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Striping Shown and Dimensioned
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crosswalk Type (Traditional or High Vis.) and Width
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal Cabinet Location (ROW or Easement)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal Cabinet Base Mounted
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pole Locations (ROW or Easement)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal Heads (No. of Heads, Locations & Dimensions) (2 min. for through movement)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pull Box Locations (1 per corner; req'd for mast arm)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ADA Ramps and Accessibility throughout Intersection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Push Button Locations (ADA Accessible)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signage (Lane Control; Street Name; Ped. Signs, etc.)

Will this signal need to be interconnected to the City of Memphis, Traffic Signal System? If so, all Traffic Signal interconnect details must be shown on the plan. A separate traffic signal interconnect plan may be required if this signal is to be connected to an existing signal that is not currently a part of the City of Memphis, Traffic Signal System.

Easement Plat Checklist

TITLE BLOCK & GENERAL REQUIREMENTS			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Plat Title Block with City project number
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard Plat Sheet Size (either Letter or Legal size)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Name with Phase or Section Designator
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	State Reference Number (e.g. 94-SSC-103)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number Corresponding to the Plan & Profile of the Proposed Development Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Owner's Name, Verified with County Assessor's website. (Assessor Info. and Most Current Deed Included?)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage and/or Sewer District, where applicable
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper Signature Lines (No County Engineer)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plat Number (1 of X)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Number (1 of X Unless Only 1)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Space in Upper Right Corner for File Stamp Block

GENERAL			
Complete	Incomplete	N/A	Description
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key Map (Unless 1 or 2 Plats)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjacent Plat Numbers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CIP Number if City Participation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North Arrow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Names
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Lines & Cross Street Ties
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adjoining Development/Property Owner Names with Instrument Numbers (Supply Copies)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bearings/Angles & Distances on Easement Centerline/Perimeter (Be Consistent on all Plats If Possible)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Widths of All Existing/Proposed/Temporary Easements & Rights of Way
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Street Center Line
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bearing & Distance or Curve Info. for All Property Boundaries
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing and Proposed Right-of-Way widths for all streets shown on the plat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Line and Curve Tables
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detail Drawings as Needed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Building Faces
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	House Numbers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Features (Fences, Trees, etc.), esp. within ROW Acquisition and Easement Areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Instrument Number
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ward, Block and Parcel ID
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plat Book and Page No., if applicable
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Designate the Following with Unique Hatch:</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right-of-Way Acquisition
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right-of-Way in Use
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Public or Private Drainage Easement
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temporary Construction Easement
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sewer Easement
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any Other Type of Easement or Acquisition
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Point of Commencement (At Street Intersection) Shown & Labeled
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Point of Beginning Shown & Labeled
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Legal Descriptions for all Areas (except Temporary Construction Easements)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Closure Reports for All Areas, including Temporary Construction Easements. Closure Report should match Legal Description and Begin at P.O.B.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Area of Permanent & Temporary Showing Encumbered Area (If Any) to Nearest Whole Foot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Tied to Centerline of Street
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	One Plat for Each Property; Each Plat may have Multiple Sheets (R.O.W., Drainage Esmt, etc.) as required to provide clarity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All of Parcel on One Sheet
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Text Legible; 0.12" Text Height; Not Overlapping
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage Easements Match the Grading & Drainage Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detention Area Denoted, with Detention Note