MONDAY, JULY 20, 2020
MILLINGTON PLANNING COMMISSION – REGULAR MEETING
6:00 PM

1. CALL TO ORDER AND ESTABLISHMENT OF A QUORUM

2. APPROVE MINUTES

    - March 16, 2020
    - May 18, 2020

    Documents:

    PC MINUTES 3-16-20.PDF
    PC MINUTES 5-18-20.PDF

3. REZONING

    - Wendy's – lot on Martha Street – R-2 Residential to B-2 General Commercial

    Documents:

    WENDYS.PDF
    REZONE EXHIBIT-PARTIAL SITE PLAN.PDF

4. SITE PLAN

    - Margaritas – southeast corner of Copper Creek and Creek Mill (across from Holiday Inn)

    Documents:

    MARGARITAS ARCHITECTURAL PLANS.PDF
    MARGARITAS RESTAURANT CIVIL PLANS 07142020.PDF

5. OTHER BUSINESS (As Necessary)

6. ADJOURN

ADA NOTICE

The City of Millington seeks to meet the needs of all individuals with disabilities Should you need accommodations for the above meeting, please call City Hall at (901)873-5701, at least 8 hours in advance of the meeting.

MILLINGTON PLANNING COMMISSION - MINUTES
CITY HALL CHAMBERS – 7930 NELSON
Monday, March 16, 2020

CALL TO ORDER AND ESTABLISHMENT OF A QUORUM
Vice Chairman Brett Morgan called the meeting to order at 6:01 pm, and roll call was taken to establish a quorum.

Present:
Alderman Mike Caruthers
Curt Park
Leanna Dagen
Brett Morgan
JR Aitken

Mayor Jones, Mr. Hurt, and Ms. Barber were absent.

A quorum being present, the following proceedings were held:

SIGN DESIGN APPLICATION
Mattress Clearance Center – 8231 US Highway 51 N
This business is requesting approval of a raceway sign with channel letters with a sign box below. These signs are internally lit and total 25 sq. ft. in area. The business has 22 feet of frontage and is entitled to 34 sf. ft. of sign area, and the sign requested is below the permitted area. This sign is recommended for approval with the condition that the raceway be painted to match the building elevation. Motion to approve by Mr. Park; second by Ms. Dagen; unanimous consent to approve.

NAPA Auto Parts – 7947 US Highway 51 N
Napa has relocated to this new address. The business has 85' of frontage and is entitled to a maximum of 140.25 sq. ft. of sign area. The new pylon sign will be 42 sq. ft. in area, 7' wide and 6' tall, and the sign base will be 25% of that area or 21" wide. The sign will be 20' in height. The building sign will be the NAPA logo and the words auto parts, with a "swoosh" under. This sign will total 91.73 sq. ft., and along with the pylon sign will provide a total of 133.73 sq. ft. of sign area. The building sign will be flush mounted and there will be no raceway. The signs are recommended for approval as submitted. Motion to approve by Mr. Park; second by Mr. Caruthers; unanimous consent to approve.

U Pull It Auto Parts – 7710 Raleigh Millington Road
This business is requesting a sign for the north side of the renovated building. The sign will face the new parking lot. The business is on a corner lot and is entitled to two building signs and a ground sign. They have removed their previous pole sign. As a corner lot and buildings with multiple frontages, they are entitled to the maximum of 200 sq. ft. of sign area. They are requesting a 4' by 12' sign, or 48 sq. ft. in area. The sign will be aluminum with a vinyl overlay and will be unlit. Recommended for approval as submitted. Motion to approve by Mr. Caruthers; second by Ms. Dagen; unanimous consent to approve.

Dynamix Physical Therapy – 8586 US Highway 51 N

Dynamix is planning on replacing the current 18 sq. ft. sign with 56 sq. ft. sign that will be 3.6' by 16'. It is a black sign box with internally lit letters and their logo. Sign is recommended for approval as submitted. Motion to approve by Mr. Park; second by Mr. Caruthers; unanimous consent to approve.

Gordmans – 8221 US Highway 51 N

The business is requesting internally lit individually letters that will be flush mounted to the wall, without a raceway. The sign will be 20' 5/8" wide and 6' tall or 123.75 sq. ft. in area. This business is occupying 85' of building frontage and is entitled to 1.5 times the frontage signage, or 127.5 sq. ft plus 10% if they are less than 100'. This gives them a total of 140 sq. ft. of signage permitted. The requested signage is within the permitted area and is recommended for approval as submitted. Motion to approve by Mr. Caruthers; second by Ms. Dagen; unanimous consent to approve.

BIG CREEK, SHELBY COUNTY NATIONAL DISASER RESILIENCE PROJECT

This application is for two actions, approval of a Site Plan for the Project which will include some public improvements and the second is a Final Plat to provide for the acquisition of a portion of the property at the entrance to this project at Highway 51.

Site Plan

The Site Plan provides for the overall plan for the entire tract and for three specific public improvements.

1. A new public street, Armitage Drive will extend from Highway 51 east about 750' into the property to provide access. A cove will be provided at the east end and access to the site from this point will be park drives rather than public streets. There will be significant modifications to Highway 51 to accommodate this access which will be only right in and out.
2. Public water will be extended under Big Creek to serve this area.
3. Public sewer will be extended from existing lines west of Highway 51 across the Highway to the end of the Cove.
4. The Highway 51 improvements shall be approved by the State of Tennessee.

These improvements will be made by Shelby County as a part of the Resiliency Grant. The Site Plan is Recommended for approval. Motion to approve by Mr. Caruthers; second by Mr. Park; unanimous vote to approve.

Final Plat – Commerce Place

This final plat will provide for the separation of land owned by an individual who is only selling a portion of his property to the County. The action of acquiring this land and building the public street is leaving the owner with two tracts one of which is of a size that requires a subdivision approval. Since all of the improvements necessary for this subdivision, roads, water and sewer are being provided by the County, we only need the plat to convey the balance of the land to the Count and leave the remainder with the owner. The Plat is recommended for approval with the following conditions:

1. The cove shall have a radius of 60'.
2. The street, water and sewer improvements shown on the site Plan are being made by Shelby County as a part of the resiliency grant.

Motion to approve with above conditions by Mr. Park; second by Ms. Dagen; unanimous vote to approve.

REVISED PLAN OF SERVICES – BECKHAM ANNEXATION
At the March 9th BMA meeting, the Board approved the Beckham annexation on the condition that Mr. Beckham's home property also be incorporated into the annexation. This required that the Plan of Services by revised to include this property. It is recommended for approval. Motion to approve by Mr. Caruthers; second by Mr. Park; unanimous vote to approve.

TRAINING – PLANNING LEGAL ISSUES
Mr. Goforth discussed discloser and when commissioners need to determine if they have a conflict of interest on an item and when they should abstain from voting. He also discussed Ex Parte Contact which simply means that a contact is ex parte if all parties are not properly notified of the contact.

OTHER BUSINESS (as Necessary)
None.

There being no further business, the meeting was adjourned at 6:30 pm.
These minutes are approved as of July 20, 2020.

_____
Chuck Hurt, Jr., Chairman

_____
Karen Findley, City Clerk

****There was no Planning Commission held for the month of April, 2020.

MILLINGTON PLANNING COMMISSION - MINUTES
CITY HALL CHAMBERS – 7930 NELSON
Monday, May 18, 2020

CALL TO ORDER AND ESTABLISHMENT OF A QUORUM
Chairman Chuck Hurt called the meeting to order at 6:01 pm, and roll call was taken to establish a quorum.

Present:
Mayor Terry Jones
Alderman Mike Caruthers
Curt Park
Leanna Dagen
Chuck Hurt, Jr.
Brett Morgan

Ms. Barber and Mr. Aitken were absent.

A quorum being present, the following proceedings were held:

SIGN DESIGN APPLICATION
Millington Exxon conversion to BP
The conversion from Exxon to BP requires all the signs and awnings to change. The building sign will be replaced with a smaller 10.3 sq. ft internally lit sign. The pylon sign will have the top and middle signs replaced with the BP logo. No change to the size of the sign. The awnings are being changed to replace the faces with the EXXON name with green with yellow facia that have the BP logo in the middle of the north and south elevations. The applicants have requested to have the north and south facia lighted with a light bar. Staff has no problem with the BP logo being lit, but do not feel that the entire facia should be lit. Also, they are proposing to remove the stone around the awning supports and just painting the supports. Staff does not recommend this. The building and pylon signs are recommended for approval as submitted. The awning changes are recommended for approval with the conditions that only the logo portion may be lit and the stone facing on the awning supports shall not be removed. Motion to approve with conditions by Mr. Park; second by Mr. Caruthers; unanimous consent to approve.

Metro by T-Mobile – 8043 US Highway 51 N
This business has applied for a building and a pylon sign. The application stated the building had 80' of frontage but it appears to be approximately 42' based on Google. That would entitle them to a maximum of 69.3 sq. ft. of signage (42 x 1.5 = 63 + 6.3 = 69.3). They have requested a pylon sign of 39 sq. ft and a building sign of 30 sq. ft. for a total of 69 sq. ft. The pylon sign is internally lit but does not demonstrate the required height not to exceed 20' or show that the base is 25% of the width of the sign, or 24" wide. The building sign is internally lit channel letters and is 2' tall by 15' long. The pylon sign and the building sign are recommended for approval with two conditions:

1. The width of the base of the pylon shall be 25% of the width of the sign and the sign shall not exceed 20'.
2. The raceway of the building sign shall be painted to match the building façade.

Motion to approve by Mr. Caruthers; second by Ms. Dagen; unanimous consent to approve.

SITE PLANS

Millington Liquor Store – 5073 Navy Road

Rezoning of this property was recently approved to allow this business to demolish the existing building and rebuild the liquor store and convenience store with gas pumps. Substantial additional area currently in vegetation is being paved in this plan and two storm basins have been provided to address this issue. One at the northeast and one at the southeast corner. The entire site drains to the southeast to a concrete ditch in the railroad right-of-way. The review engineer has reviewed the stormwater plans and is comfortable with the project. The plan provides for two entrances on Navy Road and one on Boatwright. An area has been reserved along Navy Road to accommodate the Navy Road streetscape project which is moving ahead. The building is predominately brick with a stone base on Navy and Boatwright and a stone base with EFIS on the Railroad side and rear. The site plan for the Millington Liquor Store is recommended for approval with the following conditions:

1. No plans have been submitted for the proposed awning in front of the store. These should be submitted along with the sign applications for the two businesses.
2. Provide a detail on the handicap access.
3. The plans call for expanding the sidewalk to 5' south of the Boatwright drive. This sidewalk should be removed and replaced.

Motion to approve with conditions by Mr. Caruthers; second by Ms. Dagen; unanimous consent to approve.

Olympic Steak and Pizza – 8472 US Highway 51 N

Olympic is proposing to relocate to the Old Applebee's building on Highway 51 at Wilkinsville. They are proposing to expand the building to the south by removing the handicapped parking in that area and relocating the handicapped parking to the front of the business. The addition would add 1,218 sq. ft to the building. Even with this addition, there is more than enough parking with 76 provided and only 28 required. The plan indicates that the entire parking lot will be sealed and restriped. The building elevations are being changed slightly on the Highway 51 frontage and the expansion to the south is being matched to the existing building. The building elevation is being lightened and black awnings are being provided with a new metal canopy over the entrance. The site plan is recommended for approval with the condition that there shall be a separate sign application for the site. This business is entitled to a pylon sign and a building sign. Motion to approve by Mr. Caruthers; second by Mr. Morgan; unanimous consent to approve.

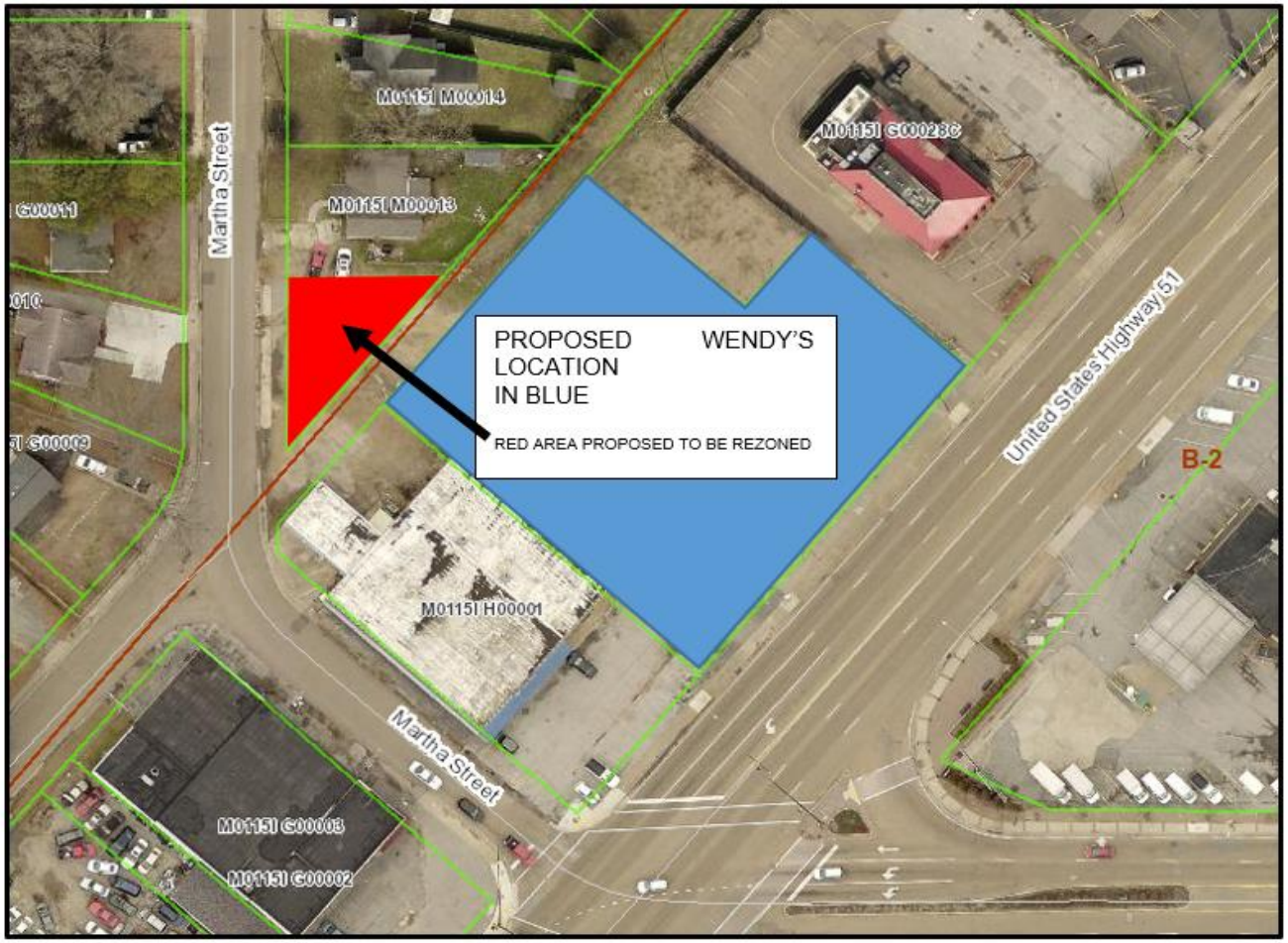
OTHER BUSINESS (as Necessary)

None.

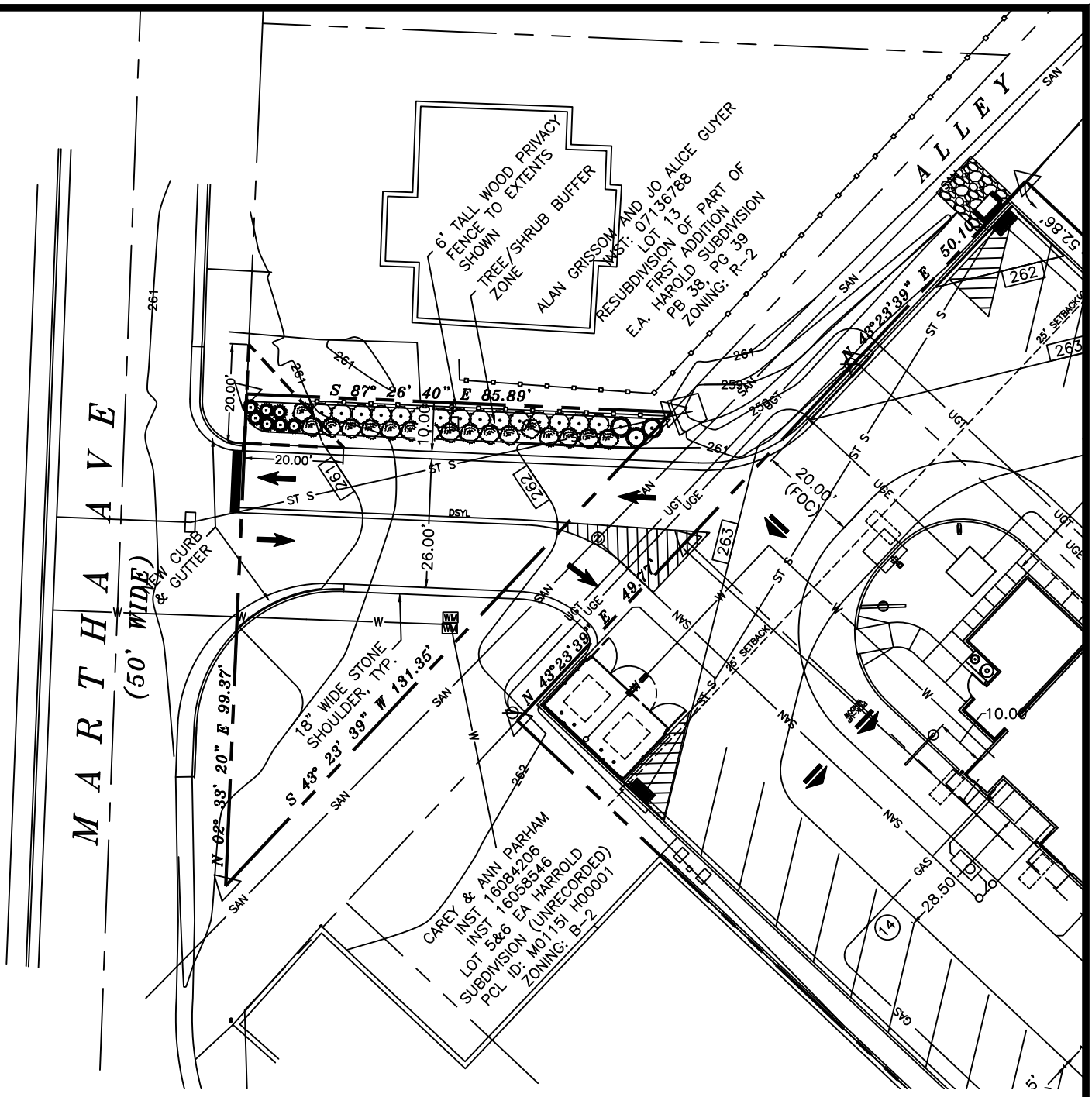
There being no further business, the meeting was adjourned at 6:16 pm.
These minutes are approved as of July 20, 2020.

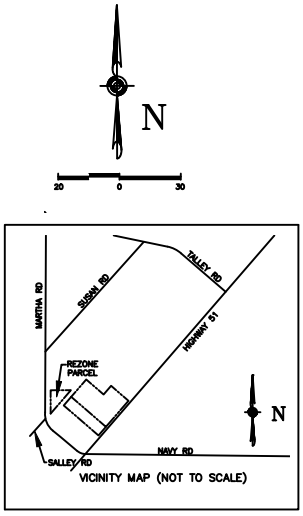
_____
Chuck Hurt, Jr., Chairman

_____
Karen Findley, City Clerk



The applicant is proposing to rezone this property to provide a rear drive to Martha Street from a





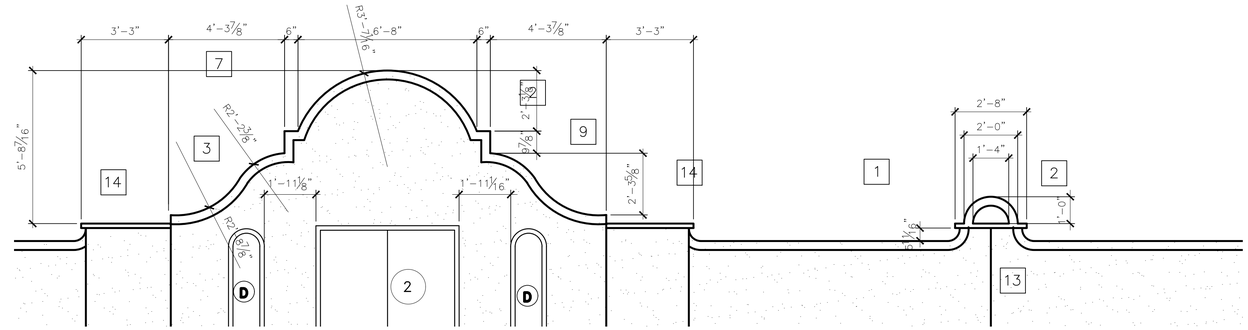
REZONING EXHIBIT
FOR THE PROPOSED
WENDY'S SUBDIVISION ON HIGHWAY 51
–PARTIAL SITE PLAN–

CITY OF MILLINGTON, 1ST CIVIL DISTRICT OF SHELBY COUNTY, TENNESSEE

ZONING DISTRICT: R–2	PARCEL ID: M0115I H00047
NUMBER OF LOS: 1	AREA: 4,267 SQ. FT. 0.10 ACRES

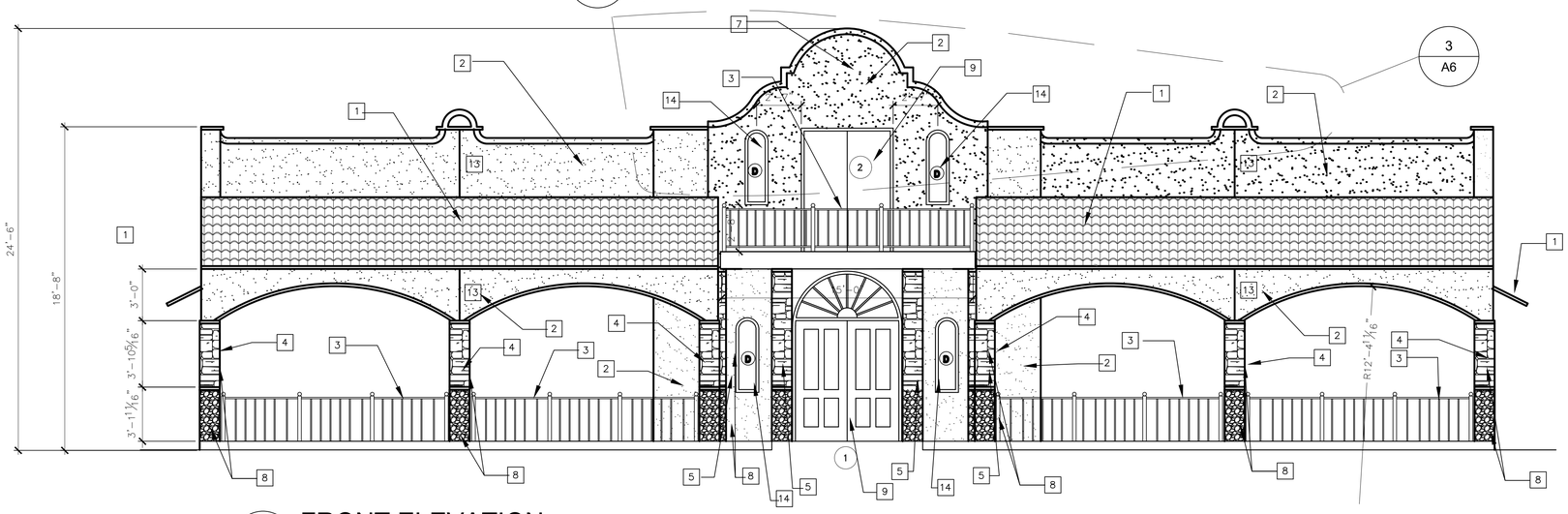
CARLSON CONSULTING ENGINEERS, INC.
7068 LEDGESTONE COMMONS
BARTLETT, TENNESSEE 38133
PH. (901) 384–0404 ∘ FX. (901) 384–0710

SCALE: 1" = 30'	DRAWING FILE: WENDY'S	JOB No. MILLINGTON
DATE: 6/29/2020	DRAWN BY: JSK	SHEET 3 OF 3



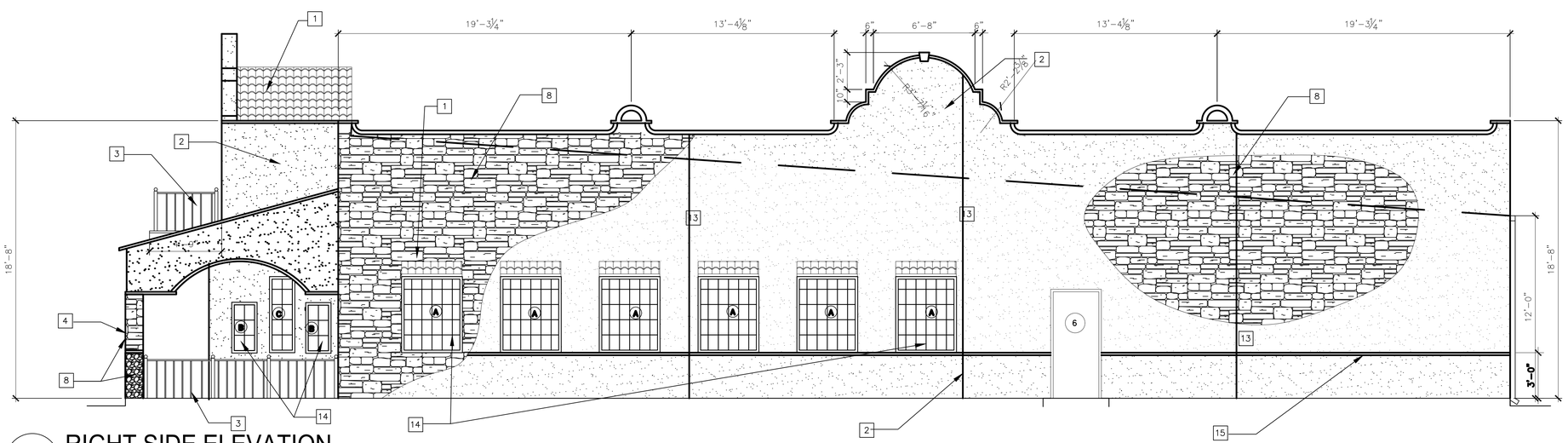
3 / A6 ENLARGED FRONT TOP ELEVATION

3/8"=1'-0"



2 / A6 FRONT ELEVATION

1/4"=1'-0"



1 / A6 RIGHT SIDE ELEVATION

1/4"=1'-0"

KEYED NOTES:

1. CLAY TILE ROOFING SUPPLIED BY OWNER INSTALLED BY CONTRACTOR
2. STUCCO WALL FINISH, COLOR AS SELECTED BY OWNER
3. WROUGHT IRON GUARDRAIL, COLOR AS PER OWNER
4. INSTALL NEW STRUCTURAL COULMN INSIDE WOOD FRAMED COLUMN
5. CONSTRUCT NEW FRAMED COLUMN WITH FIBER CEMENT BOARD FINISH AS SHOWN
6. 6" METAL COPING
7. INSTALL NEW SIGN PROVIDE POWER AS REQUIRED.
8. DRY STACK STONE, STYLE COLOR AS PER OWNER
9. CUSTOM ENTRANCE DOORS AS PER OWNER CONTRACTOR INSTALLED
10. WOOD DESK 2x10@ 16"o.c. 1x8 DECKING FOR LOOKS
11. METAL SIMULATED TILE ROOFING ON WOOD FRAME 24" EXTENSION
12. WALK-IN COOLER/FREEZER
13. CONTROL JOINTS
14. ALUM STOREFRONT W/ 1" INSULATED GLASS
15. PREFAB 4" ACCENT RAIL

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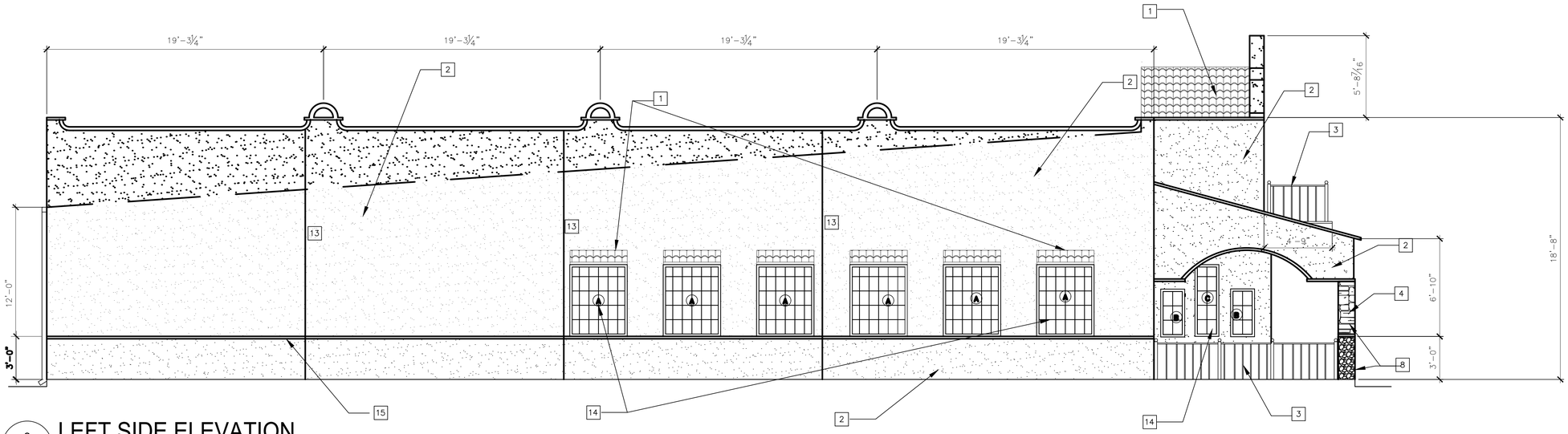
NO.	DATE	REVISION	BY
-	-	-	-

GUY PAYNE & ASSOCIATES ARCHITECTS, P.C.
879 WILLOW TREE CIRCLE, SUITE 114
CORDOVA, TENNESSEE 38018
(901) 756-1878

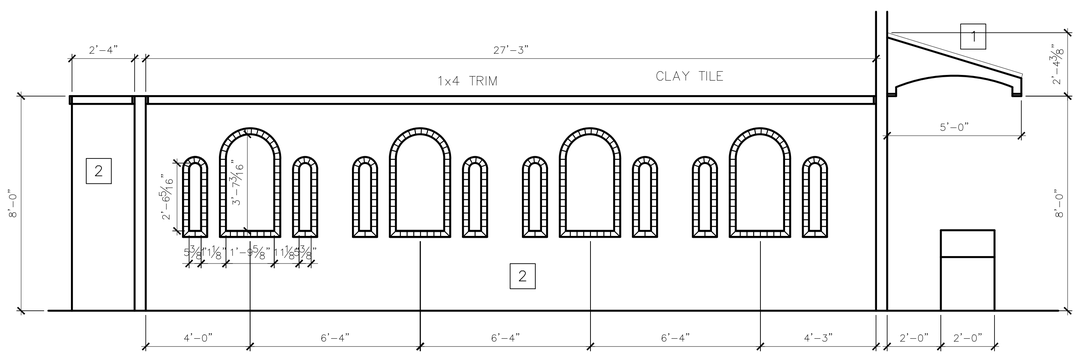
MARGARITAS RESTURANT
COOPER CREEK BLVD
MILLINGTON, TN

A6



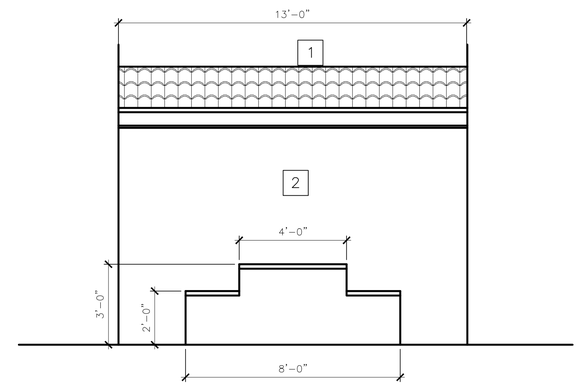
2 / A7 LEFT SIDE ELEVATION

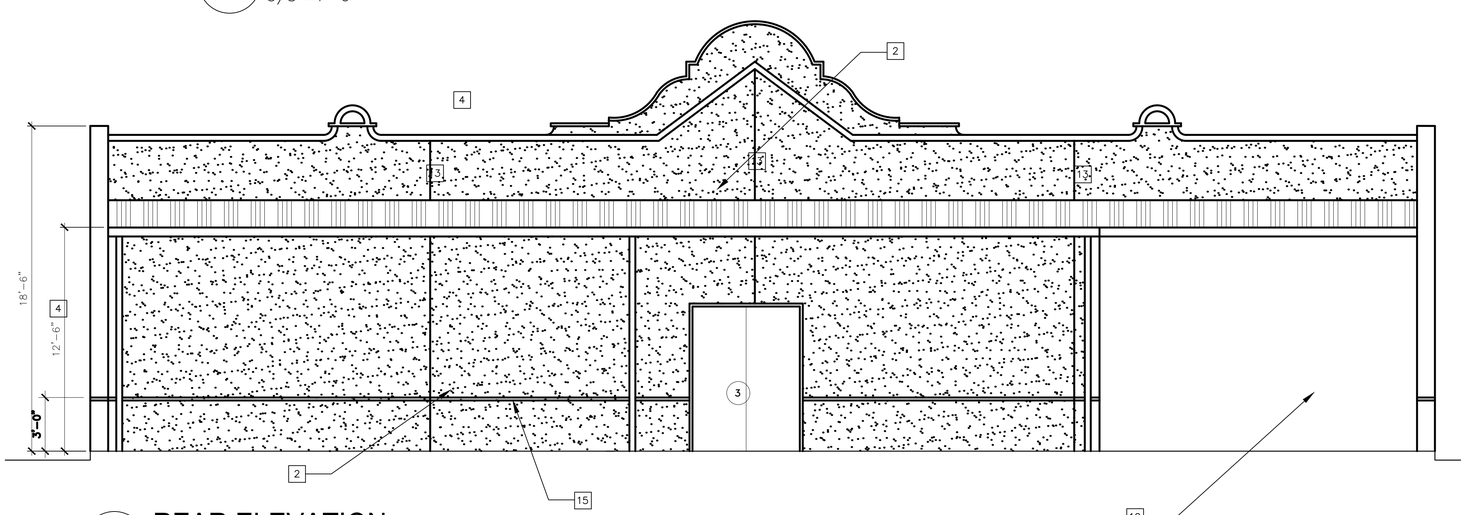
1/4"=1'-0"



3 / A7 BOOTH WALL ELEVATION

3/8"=1'-0"





1 / A7 REAR ELEVATION

1/4"=1'-0"

KEYED NOTES:

1. CLAY TILE ROOFING SUPPLIED BY OWNER INSTALLED BY CONTRACTOR
2. STUCCO WALL FINISH, COLOR AS SELECTED BY OWNER
3. WROUGHT IRON GUARDRAIL, COLOR AS PER OWNER
4. GUTTER AND DOWN SPOUT
5. CONSTRUCT NEW FRAMED COLUMN WITH FIBER CEMENT BOARD FINISH AS SHOWN
6. 6" METAL COPING
7. INSTALL NEW SIGN PROVIDE POWER AS REQUIRED.
8. DRY STACK STONE, STYLE COLOR AS PER OWNER
9. CUSTOM ENTRANCE DOORS AS PER OWNER CONTRACTOR INSTALLED
10. WOOD DESK 2x10@ 16"o.c. 1x8 DECKING FOR LOOKS
11. METAL SIMULATED TILE ROOFING ON WOOD FRAME 24" EXTENSION
12. WALK-IN COOLER/FREEZER
13. CONTROL JOINTS
14. ALUM STOREFRONT W/ 1" INSULATED GLASS
15. PREFAB 4" ACCENT RAIL

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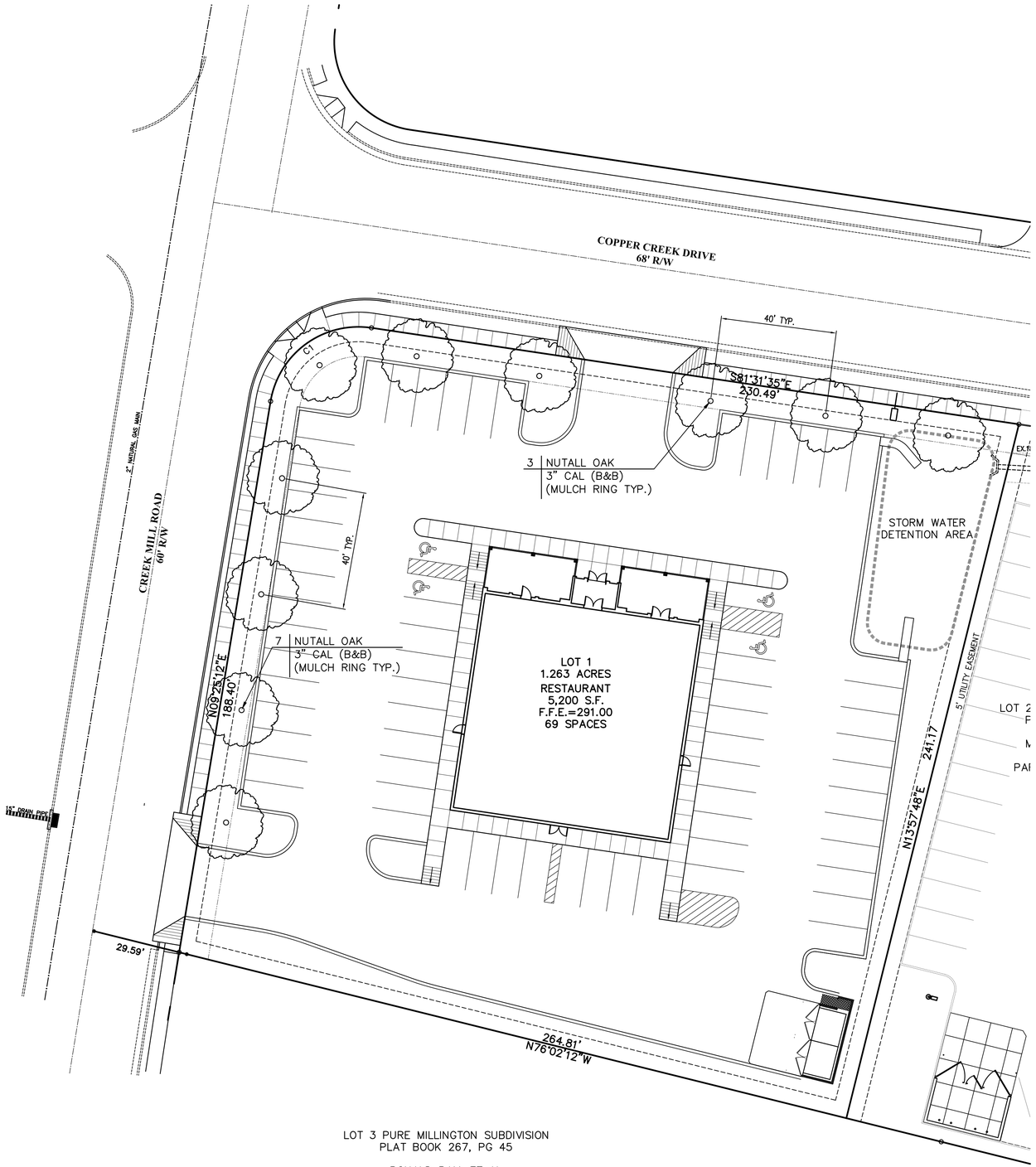
NO.	DATE	REVISION	BY
-	-	-	-

GUY PAYNE & ASSOCIATES ARCHITECTS, P.C.
879 WILLOW TREE CIRCLE, SUITE 114
CORDOVA, TENNESSEE 38018
(901) 756-1878

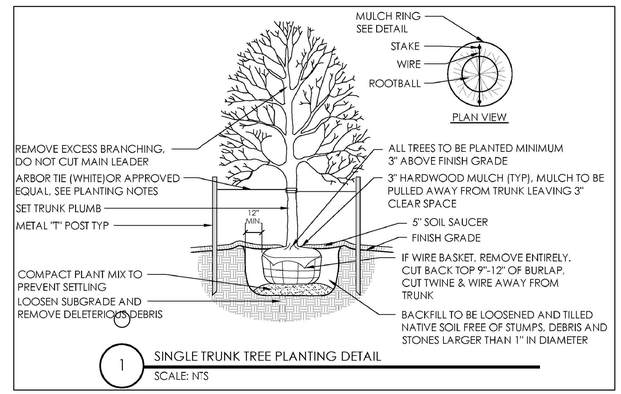
MARGARITAS RESTURANT
COOPER CREEK BLVD
MILLINGTON, TN

A7

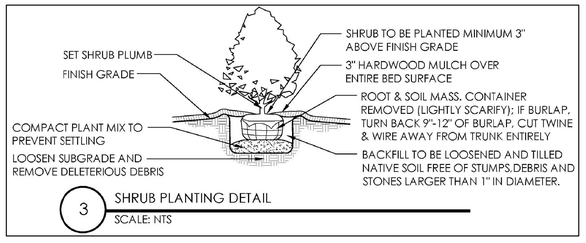


PLANTING NOTES

1. This site and landscape construction project is located in Millington, TN and shall meet all construction and safety guidelines of the City of Millington. All construction including landscaping shall be inspected by City officials. All plant material used in this construction are subject to the approval of the Owner, Owners Representative and City officials.
2. The landscape contractor (LC) shall verify the plant quantities from the Landscape Plan prior to submitting a bid. The landscape architect shall be notified of any discrepancies between the LCs take-off and the quantities shown on the plant schedule. It is the LC's responsibility to find a source of plants prior to submitting a bid and secure them in the event they are selected to provide this installation. Substitution of plants is not allowed.
3. Prior to submitting a bid, the contractor shall acquaint themselves with the existing site conditions.
4. Prior to the installation of plants, the landscape contractor shall notify the appropriate utility companies and identify the location of all utilities, above and below ground and avoid them during construction. In the event of a possible conflict, the contractor shall contact the General Contractor and project coordinator and document such conflicts with a proposed resolution for the conflict for approval before proceeding. Any damage of utilities shall be repaired and restored immediately at the contractor's expense and no additional cost to the owner.
5. Some of the plants included on this Landscape Plan are "Natives" and therefore will be smaller at installation, than the typical "cultered" plants.
6. All plant materials shall conform to the size and quality guidelines of the "American Standard for Nursery Stock", latest edition. (ANSI Z-60.1)
7. Plant material including sod shall be free of weeds, disease, insects, pests, eggs or larvae. Damaged plant material is not acceptable and shall be rejected.
8. If selected to provide this work, the LC shall coordinate the timing of installation with the owner's representative and GC.
9. All plant material shall be balled and burlapped (B&B) or container grown. All plants shall be guaranteed for one calendar year starting when written notice of Substantial Completion is secured after approval by the City Inspector and Owners Representative. The use of bare root ground cover is allowed in areas that will be irrigated with written permission by the Owner's Representative.
10. All new plant material including sod shall be installed and watered-in individually on the day they are first installed. At the installation of trees slowly water the root ball to completely fill the hole.
11. The Landscape Contractor is responsible for supplementing all new planting beds with new "Pro-Mix" soil and tilling this area entrely before plants are installed. All planting areas shall have a 2% slope away from the building and site identification signage to allow positive drainage.
12. New planting beds shall be eradicated of all weeds and their root systems. The Landscape Contractor is responsible for applying "Pre-emergent" herbicide, such as Preen, Casoron or approved equal, per manufacture's specifications. The "Pre-emergent" that is chosen shall not harm the the newly planted material. The "Pre-emergent" shall target all noxious weeds to this region including Nut Grass (Cypernus escuientus and Cypernus rotundus).
13. All new planting beds shall have 2"-3" layer max. of hardwood much (natural brown) installed evenly throughout unless otherwise noted. Use natural brown mulch: no stained or colored mulch permitted. Where mulch is installed around trees, pull back mulch from tree truck leaving 3" clear space.
14. Areas indicated to be sodded shall be disked rough, leveled, and placed snug. After installation, the sod shall be fertilized and then watered for a period long enough to ensure moisture has absorbed through the sod and into the ground.
15. All "green areas" that are not landscaped or sodded shall be seeded to the line of no disturbance. See the grading plan or limits as determined in the field.
16. All plant material purchased in a commercial plant nursery must label (Plant Tag) each plant they sell. Gather two sets of plant tags for all plants installed and provide to the Owners Representative at the installation inspection.
17. Staking of plants as shown in the details is optional. However, in the event the plant shifts to an "unplumb" position during the warranty period, the contractor shall correct its position within 1 calendar week of written notification.
18. The LC shall remove all guy wires and stakes at the conclusion of the guarantee period and prior to final inspection by the GC and Owners Representative before final payment will be made.
19. Terra-Sorb shall be mixed and applied per manufactures' specifications of all proposed landscape.
20. An irrigation system shall be designed and installed per local code; see specifications.



1 SINGLE TRUNK TREE PLANTING DETAIL
SCALE: NTS



3 SHRUB PLANTING DETAIL
SCALE: NTS

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NO.	DATE	REVISION	BY
1			

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879 WILLOW TREE CIRCLE, SUITE 114
CORDOVA, TENNESSEE 38018
(901) 756-1878

MARGARITAS RESTURANT
COOPER CREEK BLVD
MILLINGTON, TN

L1

STANDARD NOTES

GENERAL CONSTRUCTION NOTES

1. 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 BEFORE BEGINNING CONSTRUCTION.
2. VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE CITY CONSTRUCTION INSPECTION OFFICE & ENGINEER OF ANY VARIATIONS PRIOR TO COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.
4. ALL CONSTRUCTION MATERIALS & PROCEDURES SHALL BE PER CITY CNST. STANDARDS AND SPECS., UNLESS NOTED.
5. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES PRIOR TO INITIATING CONSTRUCTION. SEE SPECIFIC NOTES, DRAWINGS, & DETAILS FOR MEASURES REQUIRED.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL REQUIRED BUILDING PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING ANY CONSTRUCTION.
7. ANY EXISTING ASPHALT PAVEMENT, PRIVACY FENCES AND WALLS, CONCRETE CURBS, OR SIDEWALKS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ANY TRENCH STABILIZATION REQUIRED BY OSHA CONSTRUCTION STANDARD FOR EXCAVATIONS, 29 CFR PART 1926, SUBPART P.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION RELATED SURVEYING, INCLUDING ALL LAYOUT AND GRADE STAKING. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR GEOTECHNICAL TESTING.
10. CONTRACTOR SHALL NOTIFY THE CITY CONSTRUCTION INSPECTION OFFICE A MINIMUM OF 24 HOURS PRIOR TO BEGINNING CONSTRUCTION.

EROSION CONTROL NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING ANY CONSTRUCTION OR OTHER ACTIVITY ON THE SITE.
2. ALL NEWLY CUT OR FILL AREAS LACKING ADEQUATE VEGETATION SHALL BE FERTILIZED, MULCHED, SEEDED, AND/OR SODDED TO EFFECTIVELY CONTROL SOIL EROSION.
3. A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SOIL EROSION CONTROL MEASURES AS NOTED ON THE PLANS, AS REQUESTED BY THE OWNER DURING CONSTRUCTION, AND AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SITE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SATISFYING THE REQUIREMENTS OF THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL AS SET FORTH IN THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK. ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONTRACT SO AS TO PREVENT ANY SEDIMENTATION FROM WASHING OFF THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHTS-OF-WAY. STRAW BALE DAMS AND/OR SEDIMENT FENCE SHALL BE INSTALLED AS DIRECTED. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL MAINTENANCE ACTIVITIES FOR THE EROSION CONTROL ELEMENTS AS REQUIRED BY THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL.
5. THE PERMIT SHALL BE POSTED ON-SITE AND A COPY OF THE EROSION CONTROL PLAN MUST BE AVAILABLE ON SITE FOR THE DWPC INSPECTOR ON REQUEST.
6. EROSION AND SEDIMENT CONTROL MEASURE MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN, AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY OR PRIOR TO RAINFALL EVENTS.
7. ALL CONTROL MEASURES SHALL BE CHECKED PER THE SWPPP AND STATE REQUIREMENTS. MAINTENANCE AND REPAIRS SHALL BE MADE AS NECESSARY. DURING PROLONGED RAINFALL, DAILY CHECKING AND REPAIRING MAY BE NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF INSPECTION CHECKS, MAINTENANCE AND REPAIRS.

UTILITY NOTES

1. CONTRACTOR SHALL PROVIDE TVA A MINIMUM OF 48 HOURS ADVANCE NOTICE PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL STATE LAWS AND OSHA REQUIREMENTS CONCERNING CONSTRUCTION ACTIVITIES NEAR ENERGIZED ELECTRIC FACILITIES SO AS TO PROTECT PERSONNEL AND SAID FACILITIES.
2. LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND 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 UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS, WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS. FOR SITE LOCATION OF EXISTING UTILITIES, PLEASE CALL 1-800-351-1111. FOR SEWER LOCATIONS, CALL CITY OF MILLINGTON PUBLIC WORKS DEPT.

TRAFFIC CONTROL NOTES

1. THE CONTRACTOR IS DIRECTED TO AND SHALL CONFORM TO PART 6 OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" FOR THE DESIGNATION OF CONSTRUCTION WARNING SIGNS AND CHANNELIZATION DEVICES. CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL WARNING SIGNS AND SAFETY DEVICES AS REQUIRED FOR THE DURATION OF CONSTRUCTION.
2. CONTRACTOR SHALL COVER ANY EXISTING SIGNS THAT MAY CONFLICT WITH THE TRAFFIC CONTROL PLAN SIGNING.
3. SEE PAGE 6B-3 M.U.T.C.D. FOR HEIGHT AND LATERAL LOCATION OF SIGNS.
4. CONTRACTOR SHALL CONTACT ALL APPROPRIATE AGENCIES BEFORE CLOSING ANY ROADWAY.
5. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
6. NOTHING IN THIS PLAN IS INTENDED TO SUPERSEDE OR RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
7. SIDE STREET AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES. VEHICULAR AND PEDESTRIAN ACCESS TO ALL STRUCTURES AND ADJACENT PROPERTY OWNERS SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
8. THE CONTRACTOR SHALL NOT LEAVE ANY TRENCH EXPOSED DURING NON WORKING HOURS. TRENCHES LEFT EXPOSED DURING WORKING HOURS SHALL BE BOUNDED BY AN INTERCONNECTED PORTABLE BARRIER RAIL WITH VERTICAL PANELS.
9. ALL TRAFFIC CONTROL SIGNAGE WITH THE EXCEPTION OF THOSE MOUNTED ON TYPE III BARRICADES SHALL BE INSTALLED OUTSIDE THE LIMITS OF THE ROADWAY, BUT WITHIN THE RIGHT OF WAY.
10. TWO WAY TRAFFIC SHALL BE MAINTAINED AFTER NORMAL WORKING HOURS (8:00 A.M. – 4:00 P.M. NORMAL WORKING HOURS).
11. ALL BARRELS IN DIRECT CONFLICT OF TWO WAY TRAFFIC SHALL BE MOVED TO THE EDGE OF THE EXISTING ROAD DURING NON-WORKING HOURS AND MOVED BACK BEFORE WORK CONTINUES THE NEXT DAY.
12. ALL SIGNS INDICATING ONE LANE OR FLAGMAN SHALL BE COVERED DURING NON-WORKING HOURS AND MUST BE UNCOVERED BEFORE WORK CONTINUES THE NEXT DAY.
13. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.

GRADING AND DRAINAGE NOTES

1. MINIMUM COMPACTION REQUIREMENTS FOR FILL IN AREAS MAY BE ACHIEVED BY PLACING THE FILL IN 8" THICK LOOSE LIFTS AND COMPACTING TO MINIMUM OF 95 PERCENT OF STANDARD PROCTOR DENSITY WITH MOISTURE CONTENT OF COHESIVE FILL MATERIAL MAINTAINED WITHIN TWO TO THREE (2 – 3) PERCENTAGE POINTS OF OPTIMUM AS DEFINED BY THE STANDARD PROCTOR TEST. COMPACTION REQUIREMENTS FOR LAWN AREAS SHALL BE 85 PERCENT OF STANDARD PROCTOR.
2. GEOTECHNICAL TESTING AND FREQUENCY: TEST PROPOSED MATERIALS TO VERIFY SUITABILITY FOR USE, GRADUATION OF MATERIAL, MOISTURE-DENSITY RELATION BY D698 STANDARD PROCTOR METHOD, ATTERBERG LIMITS, BEARING VALUE, AND PERCENT OF ORGANIC MATERIALS. TEST FREQUENCY WILL BE AT LEAST 1 (ONE) TEST FOR EACH 2500 S.F. OF FILLED AREA. EACH LIFT WILL BE TESTED TO VERIFY COMPACTION MEETS REQUIREMENTS. REPORTS OF TESTING RESULTS WILL BE SENT TO CIVIL ENGINEERING SOLUTIONS, LLC.
3. WHEN FIELD TESTS INDICATE THAT INSTALLED COMPACTED MATERIAL DO NOT MEET REQUIREMENTS, THE CONTRACTOR WILL PROVIDE ADDITIONAL COMPACTION UNTIL SPECIFIED DENSITY IS ACHIEVED, OR REMOVE AND REPLACE DEFECTIVE MATERIAL AS DIRECTED BY SOILS ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
4. SITE PREPARATION: ALL TOPSOIL, VEGETATION, ROOTS, AND ANY SOFT SOILS IN THE BUILDING OR PAVEMENT AREAS WILL BE STRIPPED FROM THE GROUND SURFACE AND EITHER HAULED OFF, OR STOCKPILED AS DIRECTED BY THE ENGINEER FOR LATER USE.
5. PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATE TOP OF FINISHED GRADE UNLESS OTHERWISE NOTED. PROPOSED GRADES SHOWN IN PROFILE ARE TOP OF CURB ELEVATIONS UNLESS NOTED.
6. 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 THE 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 AT LEAST TWO PERCENT IN ALL DIRECTIONS AWAY FROM THE FOUNDATION WALL. THE DRIVEWAY SHALL BE SLOPED DOWN AT TWO PERCENT FOR AT LEAST EIGHT FEET FROM THE STRUCTURE.
7. ALL PROPOSED DRAINAGE PIPES TO BE REINFORCED CONCRETE CLASS III UNLESS OTHERWISE NOTED.
8. PIPE FOUNDATIONS: PIPE FOUNDATIONS ON TRENCH BOTTOM SHALL BE LINED WITH APPROVED FILL. THICKNESS OF THE FILL MAT SHALL BE AT LEAST 4".
9. BACKFILL REQUIREMENTS: ALL TRENCHES EXCAVATED FOR THE INSTALLATION OF DRAINAGE, PRIVATE SANITARY SEWER, WATER OR ANY UTILITY IN PROPOSED PAVED AREAS SHALL BE COMPACTED AS OUTLINED BELOW:
   a. WATER SETTLING, PUDDLING AND/OR JETTING OF BACKFILL MATERIALS AS A COMPACTION METHOD ARE NOT ACCEPTABLE.
   b. BACKFILL UNDER, AROUND AND OVER PIPE: IMMEDIATELY AFTER LAYING PIPE, BACKFILL THE TRENCH WITH APPROVED FILL TO AN ELEVATION OF 12" ABOVE THE TOP OF PIPE, MAKING CERTAIN THAT THE FILL IS COMPACTED AROUND THE HAUNCHES OF THE PIPE. GRADE AT 12" ABOVE PIPE TO BE COMPACTED TO 70% RELATIVE DENSITY (ASTM D4254) FROM 12" ABOVE TOP OF PIPE TO FINISHED GRADE OR PAVEMENT SUBGRADE, BACKFILL WITH A CLEAN SUITABLE FILL MATERIAL IN LOOSE LIFTS OF NOT MORE THAN 8" IN THICKNESS. BACKFILL TO BE COMPACTED TO 95% OF MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM D698). THE MATERIAL'S MOISTURE CONTENT WILL BE MAINTAINED TO WITHIN 2% OF ITS OPTIMUM MOISTURE.
   c. TESTING: IN-PLACE DENSITY TESTS SHOULD BE PERFORMED AT FILL GRADE (12" ABOVE TOP OF PIPE) AND AT EVERY 8" LIFT OF FILL TO FINISHED GRADE FOR EVERY 50 LINEAL FEET OF PIPE.
   d. PRIOR TO PLACEMENT OF BASE MATERIAL, THE AREA TO BE PAVED SHALL BE PROOF-ROLLED. ANY SUBGRADE FAILING THE PROOF-ROLL SHALL BE TESTED, AND IF TEST RESULTS FALL BELOW THE SPECIFIED LEVEL IN AN AREA DISTURBED BY THE CONTRACTOR, THE SUBGRADE IN THAT AREA SHALL BE REWORKED TO ACHIEVE THE DENSITY SPECIFIED. ALL SUCH REWORK SHALL BE CONSIDERED INCIDENTAL TO THE SCOPE OF THE PROJECT AND/OR CONTRACT AND SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

SEWER NOTES

1. THE CONTRACTOR SHALL ENSURE UNINTERRUPTED SEWER SERVICES ON EXISTING SEWER AND SERVICE CONNECTIONS BY PROVIDING AMPLE TEMPORARY WASTEWATER PUMPING AND/OR BYPASSING.
2. SANITARY SEWER SERVICE CONNECTIONS TO BE INSTALLED AS PER CITY STANDARD. ALL SEWER TRENCHES SHALL BE BACKFILLED AS PER CITY STANDARD.
3. THE CITY 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.
4. NO LARGE TREES, SHRUBS, PERMANENT STRUCTURES OR OTHER UTILITIES (EXCEPT FOR CROSSINGS) WILL BE ALLOWED WITHIN THE PUBLIC SANITARY SEWER EASEMENT.
5. SERVICE CONNECTIONS SHALL BE FIELD LOCATED, AND CONTRACTOR SHALL ASSURE THAT ALL EXISTING SERVICE CONNECTIONS EXTENDING TO RIGHT-OF-WAY SHALL BE RECONNECTED TO NEW SEWER LINES.
6. A "S" SHALL BE IMPRESSED INTO THE WET CONCRETE CURB TO MARK THE LOCATION OF THE SEWER SERVICE LINE.

WATER SPECIFICATIONS

1. CONSTRACTOR SHALL PROVIDE WATER SERVICE PER CITY STANDARD SPECIFICATIONS. METERS WILL BE PROVIDED BY CITY. CONTRACTOR SHALL SET METER AND RUN SERVICE TO HOUSE.
2. ALL MATERIALS AND INSTALLATION SHALL CONFORM WITH THE STANDARD SPECIFICATIONS OF THE CITY.
3. ALL WATER MAINS SHALL BE CLASS 200 PVC OR APPROVED EQUAL AS PER CITY SPECIFICATIONS.
4. ALL FITTINGS SHALL BE MECHANICAL JOINT FITTINGS AS PER CITY SPECIFICATIONS.
5. BLOCKING OF FIRE HYDRANTS, TEES AND BENDS REQUIRED AS PER CITY AND STATE SPECIFICATIONS.
6. ALL WATER SADDLES SHALL BE BRASS ONLY.
7. WATER LINES, VALVES, FITTINGS AND HYDRANTS SHALL BE INSTALLED, DISINFECTED, PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH ALL STATE AND CITY REQUIREMENTS.
8. A "W" SHALL BE IMPRESSED INTO THE WET CONCRETE CURB TO MARK THE LOCATION OF THE WATER SERVICE LINE.
9. ALL INSTALLATION SHALL BE ACCORDING TO CITY'S STANDARD SPECIFICATIONS. THE CONTRATOR UNDERSTANDS THAT IT IS HIS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE STANDARD SPECIFICATIONS. KING ENGINERING MUST INSPECT AND APPROVE ALL MATERIAL BEFORE INSTALLATION AND ALL INSTALLATIONS.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

SHELBY MALL SUBDIVISION – LOT 1

MARGARITAS RESTAURANT

DEVELOPER: JOSE FLORES

ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 1 of 1

CIVIL NOTES

LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD

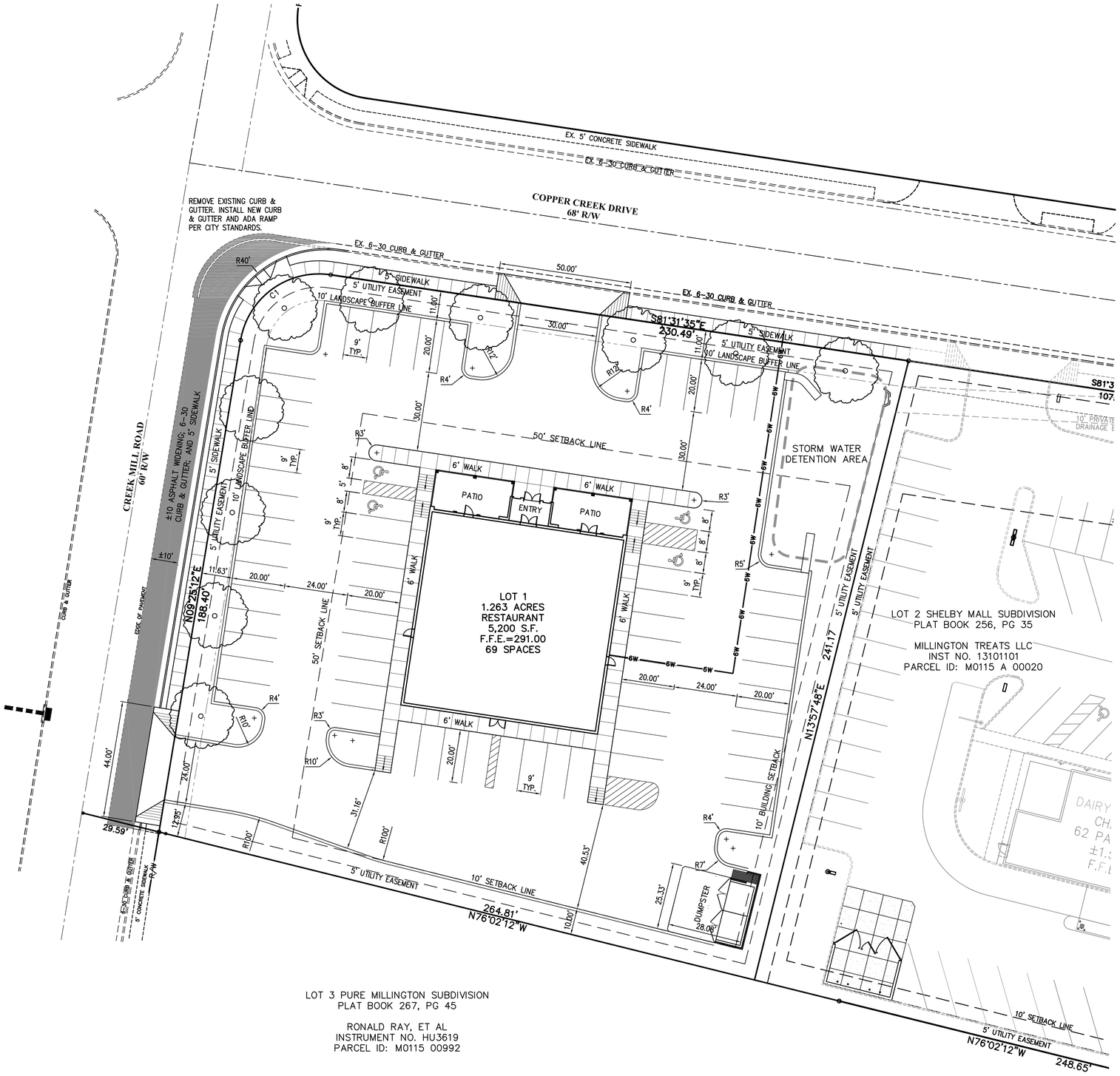
MILLINGTON, TENNESSEE

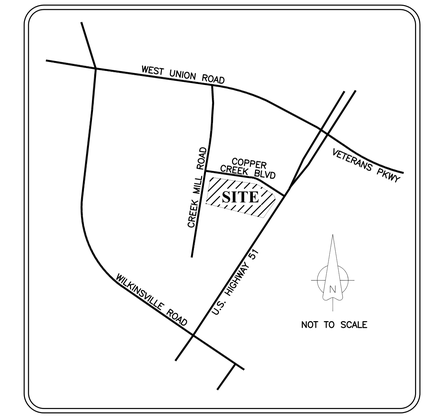
SURVEY JB MORRIS DATE 6/2020 BOOK ____
DRAFTED C.E.S. DATE 7/14/20 SCALE NTS
DESIGN C.E.S. DATE 7/14/20 CHECKED ____ DATE ____
APPROVED

CITY ENGINEER ____ DATE ____

2027/C1-NOTES.dwg

C 1





VICINITY MAP

SITE DATA:

PROJECT INFORMATION
NAME: MARGARITAS RESTAURANT
LOCATION: COPPER CREEK & CREEK MILL ROAD
SHELBY MALL SUBDIVISION – LOT 1

OWNER:
JOSE FLORES
1625 OLD MEMPHIS ROAD
COVINGTON, TN 38019

SITE AREA:	1.26 ACRES
ZONING DISTRICT:	B-2 (GENERAL COMMERCIAL)
PROPOSED USE:	RESTAURANT
BUILDING AREA:	5,200 SQUARE FEET
FLOOR AREA RATIO:	9.47%
BUILDING HEIGHT:	24'-6" FEET
PERVIOUS AREA:	24%
IMPERVIOUS AREA:	76%
BUILDING SETBACKS:	FRONT – 50' SIDE – 10' REAR – 20'

PARKING:	PARKING REQUIRED	26
	PARKING PROVIDED	65
	HANDICAP PROVIDED	4
	TOTAL PARKING PROVIDED	69

NOTES:

1. Referenced Bench Mark: A disk, named Y 261, set in top of the northeast end of the concrete headwall of a triple channel culvert and on the east side of U. S. Highway 51 and on the south side of Shipp Road. Bench Mark elevation is 284.45 (NAVD 1988).
2. Site Bench Mark: A chiseled square on top of and at the southwest end of the concrete headwall of a 36" concrete pipe west of U.S. Highway 51 and 97' south of center of Copper Creek Blvd. Mark elevation is 283.28 (NAVD 88).
3. BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY J. BRANTLEY MORRIS DATED 06/2020.
4. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER F.E.M.A. FLOOD INSURANCE RATE MAP, MAP NUMBER 47157C0160G, DATED FEBRUARY 08, 2013.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY BUILDING DEPARTMENT A MINIMUM 24 HOURS PRIOR TO INITIATION OF ANY CONSTRUCTION.
6. CONTRACTOR SHALL CONFIRM ALL EXISTING CONDITIONS, INCLUDING LOCATION, SIZE AND INVERT ELEVATIONS FOR ALL PIPES.
7. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE 2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN.
8. SEE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION AND DETAILS FOR BUILDING ENTRANCES, SIDEWALKS, AND HANDICAP ACCESS, MECHANICAL AND PLUMBING INFORMATION.
9. SEE DETAIL SHEET AND GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION PERTAINING TO THIS SHEET.
10. DETENTION NOTE
THE AREA DENOTED BY "RESERVED FOR STORMWATER DETENTION" SHALL NOT BE FILLED OR USED FOR ANY OTHER PURPOSE WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE CITY ENGINEER. THE STORMWATER DETENTION SYSTEMS LOCATED IN THESE AREA(S) SHALL BE OWNED AND MAINTAINED BY THE OWNERS OF THIS LOT. SUCH MAINTENANCE SHALL BE PERFORMED SO AS TO INSURE THE SYSTEM OPERATES IN ACCORDANCE WITH THE APPROVED PLANS LOCATED WITH THE CITY OF PIPERTON. SUCH MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, THE REMOVAL OF SEDIMENTATION, FALLEN OBJECTS, DEBRIS AND TRASH, MOWING, OUTLET CLEANING AND THE REPAIR OF DRAINAGE STRUCTURES.

NORTH
20 10 0 20
SCALE: 1"=20'

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

RUSSELL B. NORVELL REGISTERED ENGINEER No. 102281 COMMERCE TENNESSEE U.S.A. STATE OF TENNESSEE

SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 1 of 1

SITE PLAN

LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD

MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK
DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
APPROVED
CITY ENGINEER DATE

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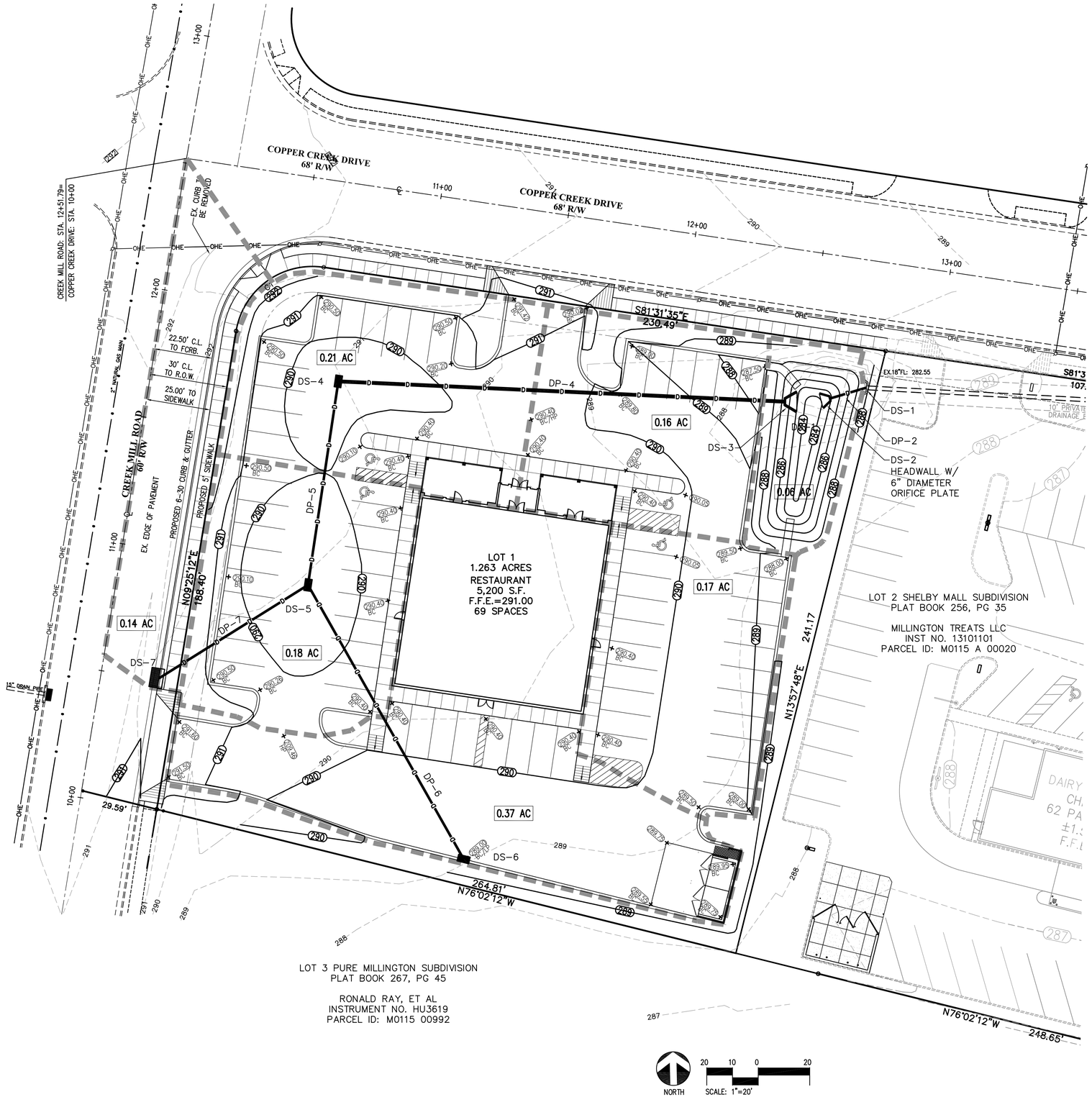
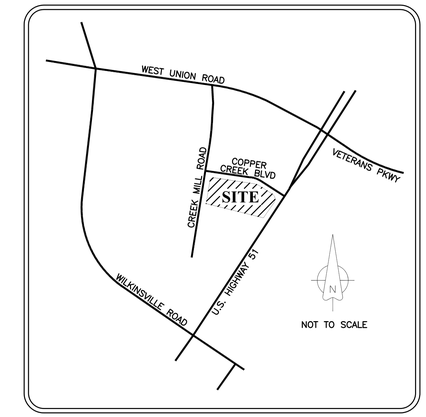


LEGEND:

302	PROPOSED CONTOUR
299	EXISTING CONTOUR
+ 332.40	PROPOSED SPOT ELEVATION (SURFACE UNLESS NOTED)
+ 301.83 TC	PROPOSED SPOT ELEVATION TOP OF CURB
+ 301.83 BC	PROPOSED SPOT ELEVATION BOTTOM OF CURB
+ 301.83 HP	PROPOSED SPOT ELEVATION HIGH POINT
D	PROPOSED PRIVATE DRAINAGE
D	EXISTING DRAINAGE
	DRAINAGE DIVIDE RIDGE LINE
0.21 Ac.	DRAINAGE AREA



VICINITY MAP

NORTH DETENTION BASIN DESIGN INFORMATION

PRE-DEVELOPMENT CONDITIONS

DRAINAGE AREA TO BASIN:
AREA = 1.15 ACRES

C=0.3; Tc = 6 mins.; A = 1.15 AC

Q10 = 1.62 CFS
Q100 = 2.04 CFS

POST-DEVELOPMENT CONDITIONS

AREA TO DETENTION BASIN:
DRAINAGE AREA = 1.15 ACRES

COMPOSITE C = 0.85
TIME OF CONCENTRATION; Tc = 6 mins.

Q10 = 6.86 CFS
Q100 = 8.48 CFS

MODELED DISCHARGE FROM BASIN:
Q25 = 1.68 CFS
Q100 = 1.80 CFS

BASIN OUTLET STRUCTURE:
12 L.F. OF 12" RCP PIPE AT 1.33%
INVERT ELEVATION AT OUTLET = 283.00
4 WIDE FT EARTHERN WEIR AT ELEV=287.00

NOTE: ALL CALCULATIONS BY THE RATIONAL METHOD

POND DESIGN ROUTING INFORMATION

TOTAL AREA THRU BASIN:

ON-SITE TO BASIN = 1.15 AC

10 YR. MAX. WATER SERVICE ELEVATION IN POND = 286.46
10 YR. MAX. DISCHARGE FROM POND = 1.68 CFS

100 YR. MAX. WATER SERVICE ELEVATION IN POND = 286.93
100 YR. MAX. DISCHARGE FROM POND = 1.80 CFS

STAGE-STORAGE DISCHARGE TABLE

STAGE (FT)	ELEVATION (FT)	STORAGE (CU-FT)	DISCHARGE (CFS)
0.00	283.00	0	0
1.00	284.00	88.5	0.82
2.00	285.00	430	1.25
3.00	286.00	1,129	1.59
4.00	287.00	2,257	1.83
5.00	288.00	3,893	29.78

Drainage Pipe Data

Drainage Pipe Code	Downstream Slucture Code	Downstream Invert Elevation	Upstream Structure Code	Upstream Invert Elevation	Grade (%)	Size	Type	Length	Area (Ac)	Q Design (cfs)	Q Capacity (cfs)	Velocity (ft/sec)
DP-2	DS-1	282.80	DS-2	283.00	1.33	12"	HP	15'	1.29	1.68	4.14	5.27
DP-4	DS-3	283.80	DS-4	284.68	0.50	18"	HP	174'	0.90	6.31	8.04	4.55
DP-5	DS-4	284.73	DS-5	285.13	0.50	18"	HP	80'	0.69	4.85	8.04	4.55
DP-6	DS-4	285.63	DS-6	286.25	0.50	12"	HP	123'	0.37	2.67	4.95	4.03
DP-7	DS-5	285.63	DS-6	287.00	2.00	12"	HP	68'	0.14	1.00	5.03	6.41

Drainage Structure Data

Drainage Structure Code	Structure Type	RIM/ Throat Opening	Area (Ac)
DS-1	DMH	288.00	–
DS-2	'D' HW	–	1.15
DS-3	'E' HW	–	–
DS-4	#11	289.40	0.21
DS-5	#11	289.40	0.18
DS-6	#11	289.00	0.37
DS-7	6-72	291.36	0.14

NOTE:
STORM DRAINAGE SYSTEM IS DESIGN FOR 10 YEAR STORM EVENT USING RATIONAL METHOD.

#11 – CITY OF MEMPHIS #11 SURFACE GRATE INLETS (RIM ELEV IS TOP OF CURB)
DMH – DRAIN MANHOLE
'D' HW – STANDARD WING HEADWALL
'E' HW – ENERGY DISSIPATOR HEADWALL

ALL DRAIN PIPES & FITTINGS SHALL BE EITHER:
– REINFORCED CONCRETE PIPE (RCP) OR
– HP (ADS HP PIPE WITH WATER TIGHT JOINTS)

DRAIN STRUCTURES SHALL BE PRE-CAST CONCRETE.

DP: DRAINAGE PIPE DESIGNATOR
DS: DRAINAGE STRUCTURE DESIGNATOR
NOTE: ALL PIPES ARE NUMBER FROM UPSTREAM STRUCTURE (E.G., DP-10 IS THE DOWNSTREAM PIPE OF DS-10)

NOTES:

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4. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER F.E.M.A. FLOOD INSURANCE RATE MAP, MAP NUMBER 47157C0160G, DATED FEBRUARY 08, 2013.
5. SEE ARCHITECTURAL PLANS FOR BUILDING LAYOUT AND ADDITIONAL SITE DETAILS. (I.E, BUILDING DIMENSIONS, ENTRANCES, CANOPY, SIDEWALKS, DUMPSTER ENCLOSURE, SLAB AND FOUNDATION INFO, ETC.).
6. SEE DETAIL SHEET AND GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION PERTAINING TO THIS SHEET.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 1 of 1

GRADING & DRAINAGE PLAN

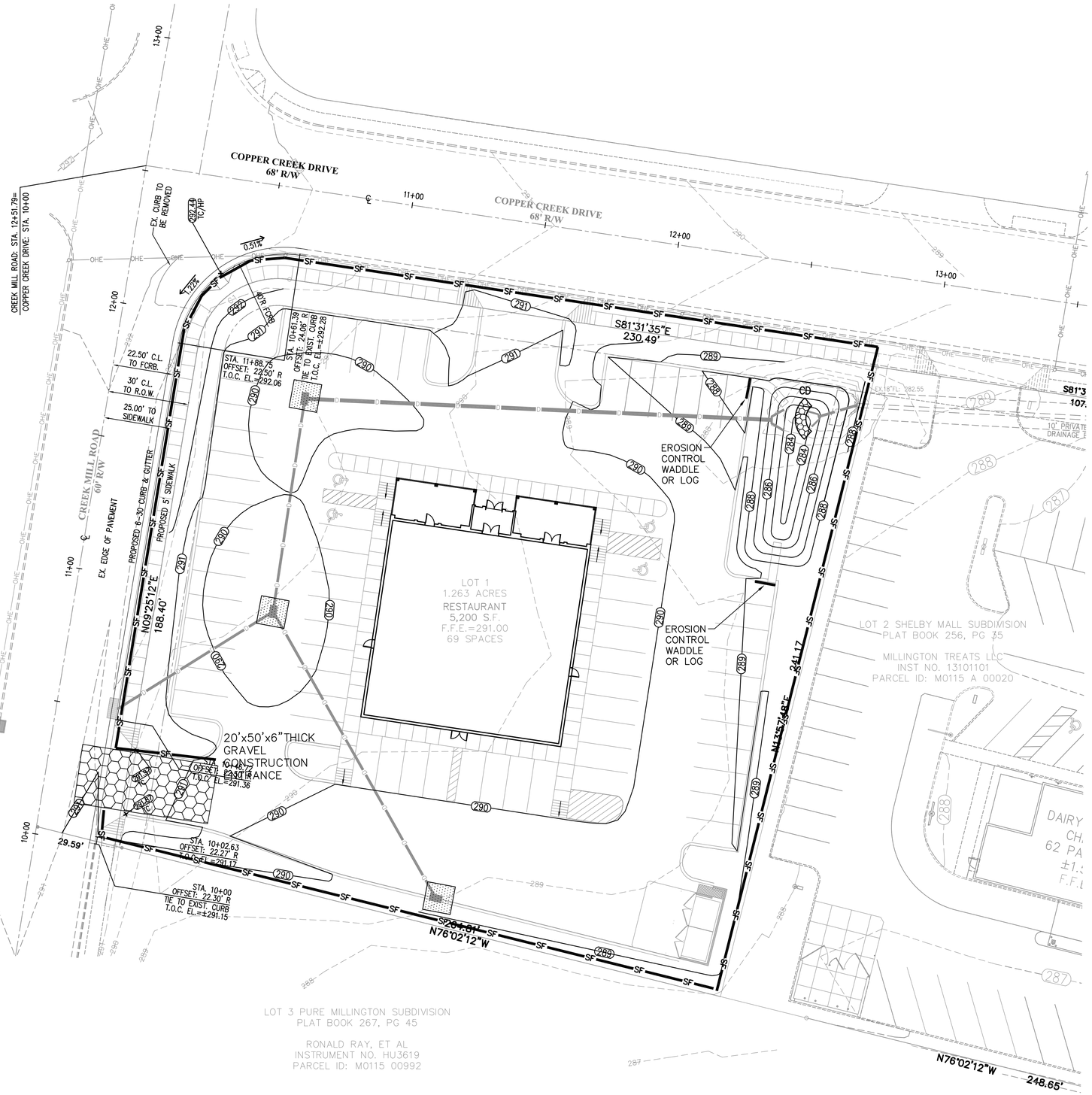
LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD

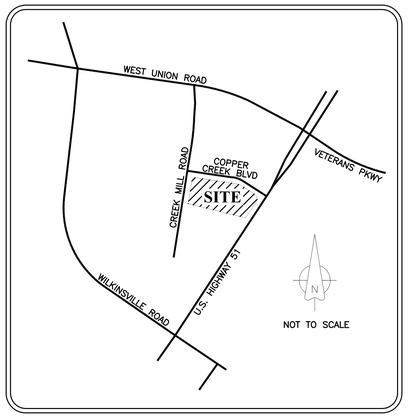
MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK
DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
APPROVED
CITY ENGINEER DATE

2027/C3-GRAD.dwg

C 3





EROSION CONTROL NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING ANY CONSTRUCTION OR OTHER ACTIVITY ON THE SITE.
2. ALL NEWLY CUT OR FILL AREAS LACKING ADEQUATE VEGETATION SHALL BE FERTILIZED, MULCHED, SEEDED, AND/OR SODDED TO EFFECTIVELY CONTROL SOIL EROSION.
3. A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE. INSPECTOR SHALL BE LEVEL I CERTIFIED IN ACCORDANCE WITH TDEC REQUIREMENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SOIL EROSION CONTROL MEASURES AS NOTED ON THE PLANS, AS REQUESTED BY THE OWNER DURING CONSTRUCTION, AND AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SITE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SATISFYING THE REQUIREMENTS OF THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL AS SET FORTH IN THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK. ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONTRACT SO AS TO PREVENT ANY SEDIMENTATION FROM WASHING OFF THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHTS-OF-WAY. SEDIMENT FENCE SHALL BE INSTALLED AS DIRECTED. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL MAINTENANCE ACTIVITIES FOR THE EROSION CONTROL ELEMENTS AS REQUIRED BY THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL.
5. THE PERMIT SHALL BE POSTED ON-SITE AND A COPY OF THE EROSION CONTROL PLAN MUST BE AVAILABLE ON SITE FOR THE DWPC INSPECTOR ON REQUEST.
6. EROSION AND SEDIMENT CONTROL MEASURE MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN, AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY OR PRIOR TO RAINFALL EVENTS.
7. ALL CONTROL MEASURES SHALL BE CHECKED PER THE SWPPP AND STATE REQUIREMENTS. MAINTENANCE AND REPAIRS SHALL BE MADE AS NECESSARY. DURING PROLONGED RAINFALL, DAILY CHECKING AND REPAIRING MAY BE NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF INSPECTION CHECKS, MAINTENANCE AND REPAIRS.

ANTICIPATED CONSTRUCTION SEQUENCE

1. MINOR DEMOLICATION.
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL EROSION CONTROL LOGS/WADDLE; SILT FENCE & INLET PROTECTION.
4. STRIP AND REMOVE TOP SOIL.
5. EARTHWORK OPERATION (GRADING).
6. INSTALL CURBS AND PARKING LOT.
7. INSTALLATION OF LANDSCAPING.
8. PROVIDE NECESSARY EROSION CONTROL SODDING AND SEEDING IN REMAINING AREAS.
9. REMOVE TEMPORARY SEDIMENT CONTROL MEASURES AFTER SITE IS STABILIZED.

TENNESSEE N.P.D.E.S. PERMIT
FOR
STORM WATER DISCHARGE

EFFECTIVE DATE: _____

TRACKING NO.: TNR

LEGEND:

302	PROPOSED CONTOUR
299	EXISTING CONTOUR
SF	SEDIMENTATION FENCING
IP	INLET PROTECTION
	ROCK CONSTRUCTION ENTRANCE
CD	ROCK CHECK DAM

INITIAL PHASE – MEANS EROSION CONTROL MEASURES TO BE INSTALLED INITIALLY AND PRIOR TO BEGINNING OF TOP SOIL REMOVAL AND/OR ANY START OF EARTHWORK OPERATION.

CONSTRUCTION STAGE – MEANS EROSION CONTROL MEASURES THAT SHALL BE INSTALLED DURING OR FOLLOWING MAJOR EARTHWORK GRADING OPERATION AND FINAL STABILIZATION.

REVISIONS

DATE	DESCRIPTIONS	APPROVED

RUSSELL B. NORVELL REGISTERED ENGINEER NO. 102895 STATE OF TENNESSEE

SHELBY MALL SUBDIVISION – LOT 1

MARGARITAS RESTAURANT

DEVELOPER: JOSE FLORES

ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 1 of 2

EROSION CONTROL PLAN

LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD

MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK _____

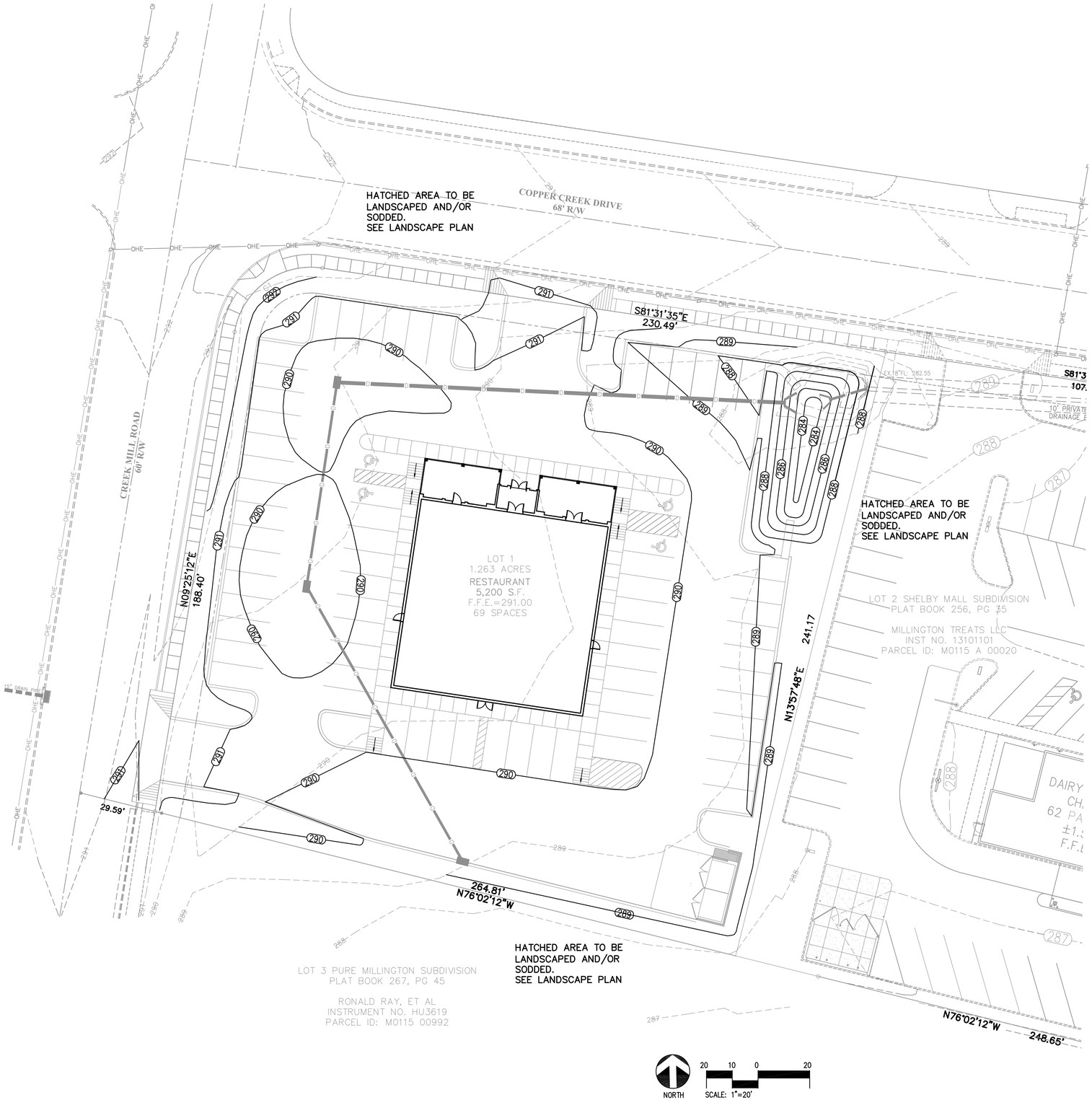
DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'

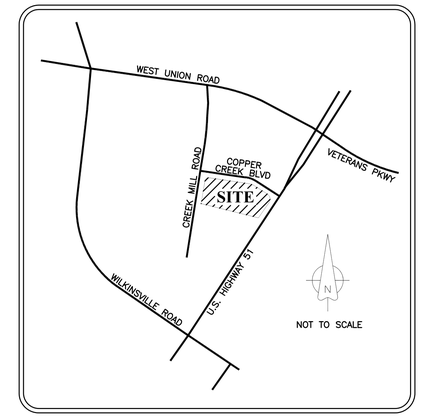
DESIGN C.E.S. DATE 7/14/20 CHECKED _____ DATE _____

APPROVED

CITY ENGINEER _____ DATE _____

2027/C4-EROS.dwg





FINAL STABILIZATION NOTES

1. ALL DISTURBED AREAS SHALL BE STABILIZED BY SEEDING OR WITH SOD, STABLIZING MATERIALS SHALL BE APPLIED AS SOON AS POSSIBLE OR COMPLETION OF FINAL GRADING AND IN NO CASE GREATER THAN 14 DAYS. PRIORTY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT STABILIZATION OVER TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES.
2. AFTER FULL STABILIZATOIN OF AL DISTURBED AREAS THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL ITEMS. FULL STABILIZATION SHALL MEAN COVERAGE OF THE SITE WITH PERMANENT GRASS (A SIGNIFICANT PERCENTAGE OF BERMUDA OR FESCUE DEPENDING UPON THE MIX SPECIFIED AND THE TIME OF YEAR OF APPLICATION) WHICH IS SUSTAINABLE AND GROWING. TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED.
3. CONTRACTOR SHALL PROVIDE THE FOLLOWING DOCUMENTS TO THE ENGINEER:
   - SIGNED COPY OF THE NOTICE OF INTENT PRIOR TO DISTURBANCE
   - EVIDENCE OF CERTIFICATION OF INSPECTOR
   - LOCATION OF NOTICE OF COVERAGE ON SITE
   - COPY OF TDEC ACCEPTANCE OF NOTICE OF TERMINATION TO BE INCLUDED WITH CLOSE OUT DOCUMENTS

TENNESSEE N.P.D.E.S. PERMIT
FOR
STORM WATER DISCHARGE

EFFECTIVE DATE: _____

TRACKING NO.: TNR

FINAL STABILIZATION PHASE – THE EROSION CONTROL MEASURES FOR FINAL STABILIZATION OF ALL DENUTED AREAS OF THE PROJECT; SUCH AS PAVING OR CONCRETE AND AREAS TO BE SEEDED & MULCHED OR HYRDO-SEEDED.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 2 of 2

EROSION CONTROL PLAN

LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD

MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK _____
DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
DESIGN C.E.S. DATE 7/14/20 CHECKED _____ DATE _____
APPROVED

CITY ENGINEER _____ DATE _____

2027/C4-EROS.dwg

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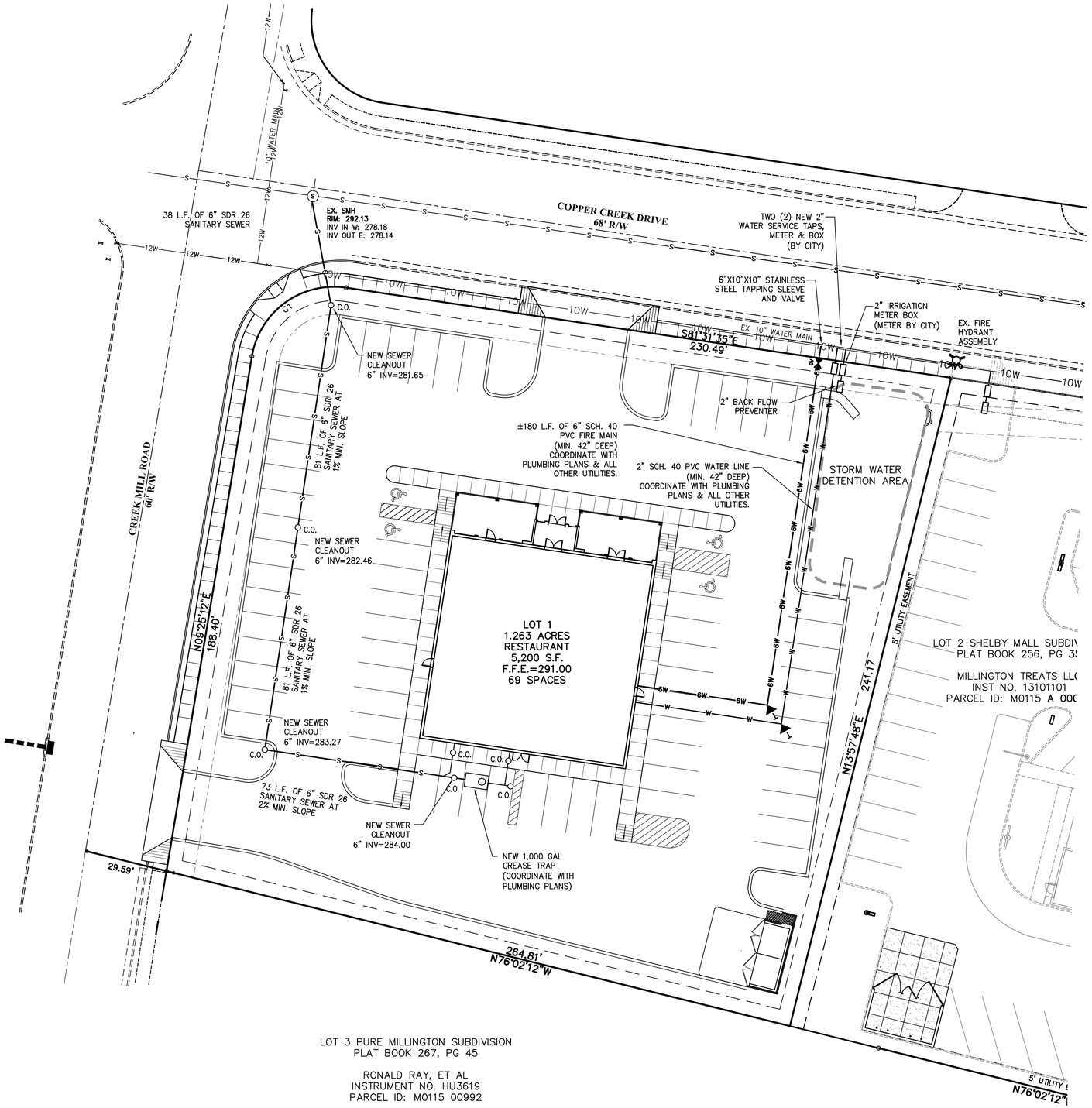
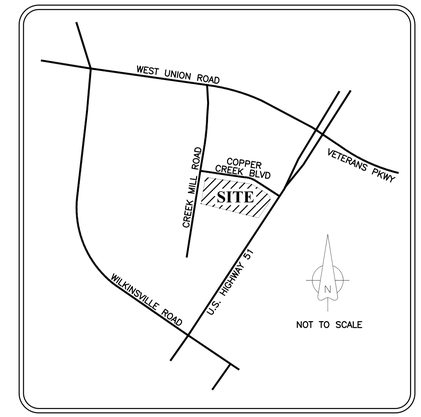


WATER LEGEND

- EXISTING WATER LINE
- PROPOSED WATER
- EXISTING WATER VALVE
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED THRUST BLOCK

SEWER LEGEND

- EXISTING SEWER LINE
- EXISTING SEWER SMH
- PROPOSED SEWER
- SS-9 PROPOSED SEWER STRUCTURE NO. 9
- 6" SERVICE CONNECTION



VICINITY MAP

UTILITY NOTES

1. CONTRACTOR SHALL PROVIDE TVA A MINIMUM OF 48 HOURS ADVANCE NOTICE PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL STATE LAWS AND OSHA REQUIREMENTS CONCERNING CONSTRUCTION ACTIVITIES NEAR ENERGIZED ELECTRIC FACILITIES SO AS TO PROTECT PERSONNEL AND SAID FACILITIES.

2. LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND 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 UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS, WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS. FOR SITE LOCATION OF EXISTING UTILITIES, PLEASE CALL 1-800-351-1111. FOR SEWER LOCATIONS, CALL CITY OF MILLINGTON PUBLIC WORKS DEPT.

2. CONTRACTOR TO CONTACT TENNESSEE ONE CALL 72 HOURS PRIOR TO DIG. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL ALSO ASSUME THE RESPONSIBILITY FOR DAMAGE TO UTILITY LINES, WHERE SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING THE WORK OF THE PROJECT.

3. INSTALL #14 TRACER WIRE W/SEWER PIPE INSTALLATION.

4. ALL SEWER PIPE TO BE SDR26 PVC.

5. INSTALL SEWER PIPING AT A DEPTH OF 4 FT. MINIMUM.

6. ALL SEWER SYSTEM IN ACCORDANCE WITH CITY AND STATE STANDARDS.

7. MAINTAIN 10' SEPARATION BETWEEN THE SEWER & WATER MAIN MAINTAIN 18" VERTICAL SEPARATION @ WATER/SEWER CROSSING

8. SEE DETAIL AND NOTES SHEET FOR ADDITIONAL INFORMATION. LINES, VALVES, FITTINGS AND HYDRANTS SHALL BE INSTALLED, PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.

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 ANY CONSTRUCTION. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION PERIMETERS. FOR SITE LOCATION OF EXISTING UTILITIES INVOLVING CITY UTILITIES, SOUTH CENTRAL BELL, AND/OR TEXAS GAS COMPANY, PLEASE CALL 811.

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 CONSTRUCTION INSPECTION 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 STANDARD CONSTRUCTION SPECIFICATIONS. SANITARY SEWER SERVICE CONNECTIONS TO BE INSTALLED AS PER CITY STANDARD.

8. ALL SEWER MANHOLE LIDS IN OPEN AREAS ARE TO BE CONSTRUCTED 1.5' ABOVE PROPOSED GRADE. IN BACKYARDS, MANHOLE LIDS TO BE 1.5' ABOVE INITIAL GRADE, 0.5' ABOVE FINAL GRADE.

9. ALL SANITARY SEWER, INCLUDING SERVICE CONNECTIONS, WHICH HAS BEEN 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' 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 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 TRESS, 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 SYSTEMS.

13. THE CONTRACTOR SHALL PROVIDE ADEQUATE AND EFFECTIVE EROSION CONTROL AS NECESSARY TO PREVENT ANY SILTATION INTO EXISTING DRAINAGE SYSTEM AN/OR ADJACENT PROPERTIES.

NORTH

20 10 0 20
SCALE: 1"=20'

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

SHELBY MALL SUBDIVISION – LOT 1

MARGARITAS RESTAURANT

DEVELOPER: JOSE FLORES

ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 1 of 1

SEWER & WATER PLAN

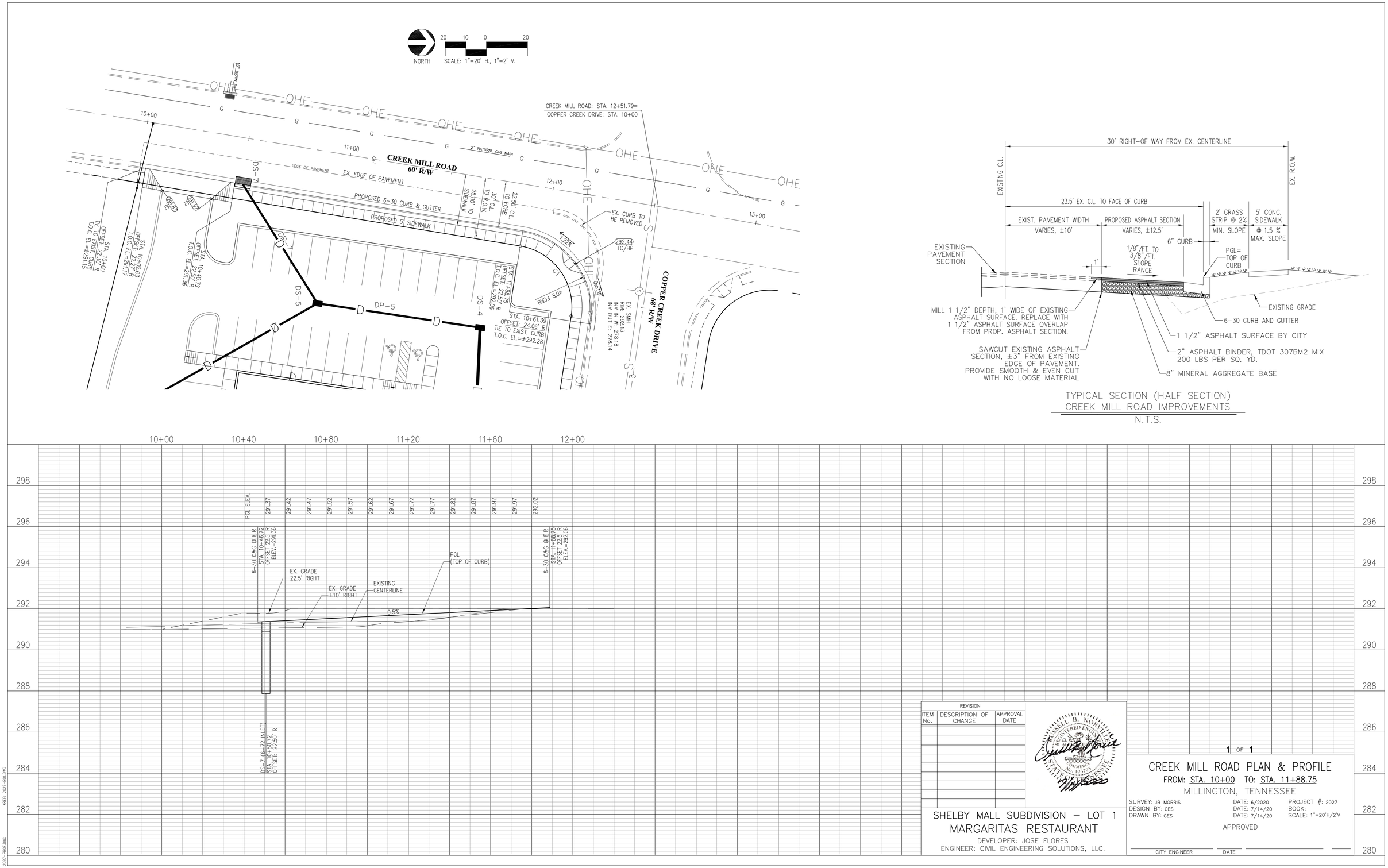
LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD

MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK
DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
APPROVED

CITY ENGINEER DATE

2027/C6-SEWER.dwg



REVISION		
ITEM No.	DESCRIPTION OF CHANGE	APPROVAL DATE

SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

1 OF 1

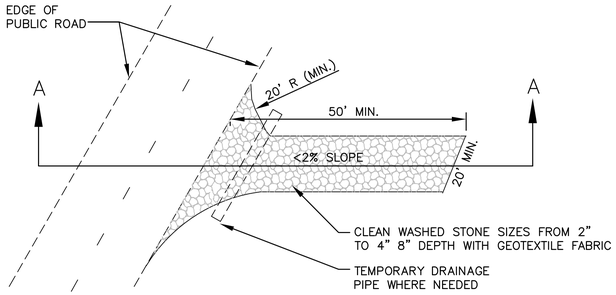
CREEK MILL ROAD PLAN & PROFILE
FROM: STA. 10+00 TO: STA. 11+88.75
MILLINGTON, TENNESSEE

SURVEY: JB MORRIS — DATE: 6/2020 — PROJECT #: 2027
DESIGN BY: CES — DATE: 7/14/20 — BOOK:
DRAWN BY: CES — DATE: 7/14/20 — SCALE: 1"=20'H/2'V

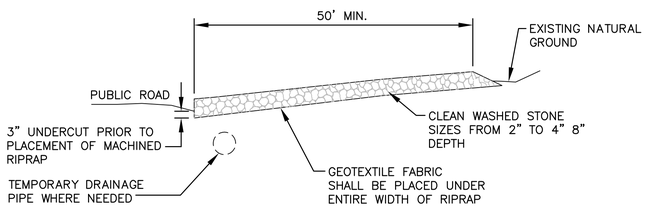
APPROVED

CITY ENGINEER — DATE

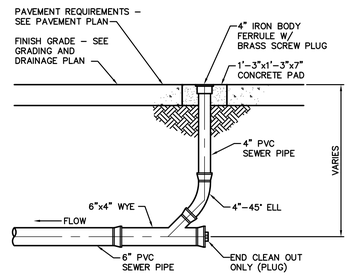
XREF: 2027-B01.DWG
2027-PROF.DWG



PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD



SECTION A–A



6" SEWER CLEAN–OUT

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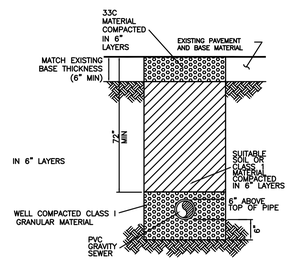
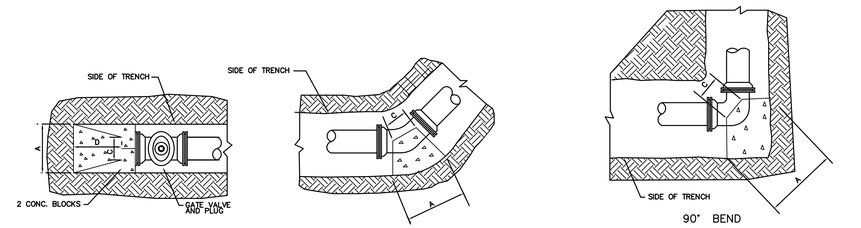


PIPE BEDDING DETAIL FOR SEWER PIPE

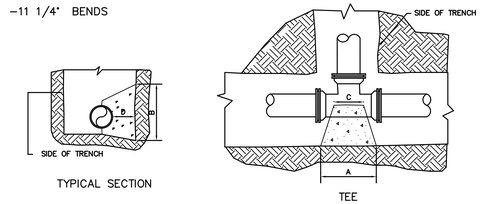
N.T.S



SCHEDULE FOR THRUST BLOCK AREAS

PIPE SIZE (INCHES)	90° BEND (SQ. FT.)	45° BEND (SQ. FT.)	22 1/2° BEND (SQ. FT.)	11 1/4° BEND (SQ. FT.)	TEE & PLUG (SQ. FT.)	DESIGN PRESS (PSI)
4" AND SMALLER	0.5	0.5	0.5	0.5	0.5	100
6"	0.8	0.5	0.5	0.5	1.1	100
8"	1.4	0.8	0.5	0.5	2.0	100
10"	2.2	1.2	0.5	0.5	3.1	100
12"	3.2	1.8	0.9	0.5	4.5	100

NOTE: THRUST BLOCK AREAS COMPUTED ON BASIS OF 2500 POUNDS PER SQ. FT. SOIL RESISTANCE BEARING.



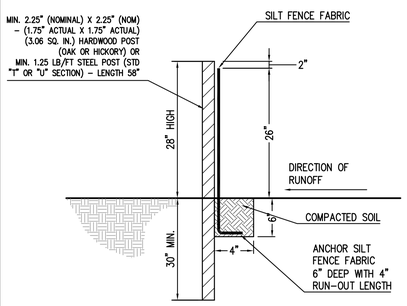
THRUST BLOCK NOTES

1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.
2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. PUT BOARD IN FRONT OF PLUG BEFORE POURING CONCRETE. JOINTS SHALL NOT BE COVERED BY THRUST BLOCK.
3. ROUGH BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS.
4. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED, TO SUIT THE SPECIFIC FITTING ARRANGEMENT.

90° BEND									11 1/4° BEND							
SIZE	2"	4"	6"	8"	10"	12"	16"	18"	SIZE	2"	4"	6"	8"	10"	12"	16"	18"
A	16"	16"	26"	33"	40"	50"	63"	70"	A	9"	9"	11"	13"	16"	18"	26"	30"
B	16"	16"	24"	33"	40"	50"	63"	70"	B	9"	9"	11"	13"	16"	18"	26"	30"
C	9"	9"	12"	12"	15"	16"	20"	22"	C	8"	8"	10"	12"	14"	16"	24"	30"
D	8"	8"	12"	16"	20"	25"	25"	25"	D	4"	4"	5"	6"	8"	9"	14"	16"
45° BEND									PLUG							
SIZE	2"	4"	6"	8"	10"	12"	16"	18"	SIZE	2"	4"	6"	8"	10"	12"	16"	18"
A	12"	12"	18"	24"	31"	37"	47"	52"	A	25"	26"	26"	34"	43"	52"	64"	70"
B	12"	12"	18"	24"	31"	37"	47"	52"	B	26"	26"	26"	34"	43"	52"	64"	70"
C	8"	8"	10"	12"	14"	16"	24"	30"	C	12"	12"	12"	12"	12"	12"	24"	30"
D	6"	6"	9"	12"	13"	18"	18"	18"	D	11"	11"	11"	15"	22"	32"	32"	32"
22 1/2° BEND																	
SIZE	2"	4"	6"	8"	10"	12"	16"	18"									
A	9"	9"	13"	18"	23"	26"	36"	40"									
B	9"	9"	13"	18"	23"	26"	36"	40"									
C	8"	8"	10"	12"	14"	16"	24"	30"									
D	4"	4"	6"	9"	11"	13"	15"	16"									

THRUST BLOCKING DETAILS

N.T.S.



SILT FENCE DETAIL

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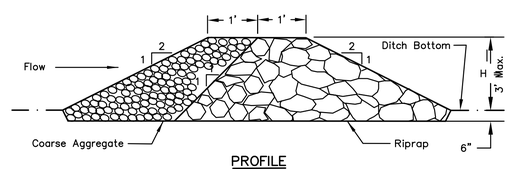

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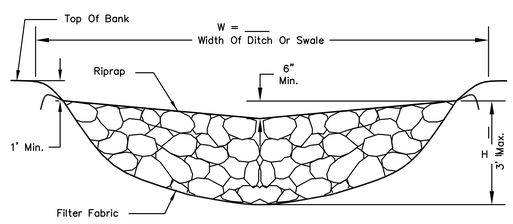

CROSS SECTION
CENTERLINE LOOKING DOWNSTREAM

NOTES:
1. Filter fabric shall meet the requirements of TDOT
2. Coarse aggregate shall meet the TDOT gradations.
3. Riprap shall meet TDOT gradation CLASS 'C'.
4. For added stability, the base of the dam may be keyed 6 inches into the soil.
5. See plans for spacing of dams and H dimensions.

RIP–RAP CHECK DAM

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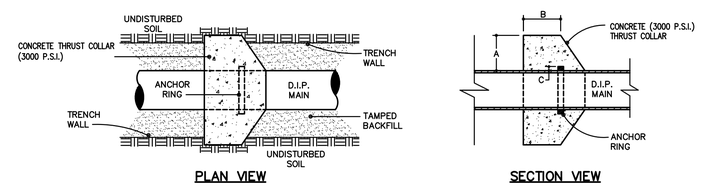
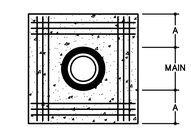


SCHEDULE

PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR RING	RINGS REQUIRED
	A	B	C	
6",8",12"	1'–0"	1'–0"	2"	ONE

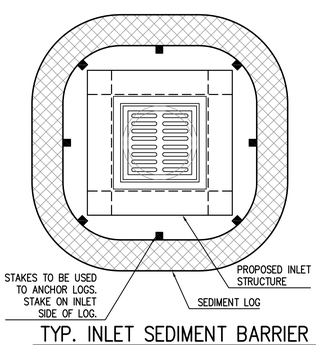


REINFORCING

NOTE:
6" TO 16" MAINS = 12–NO. 7 BARS 20" TO 36" MAINS = 12–NO. 8 BARS BARS PLACED AS SHOWN

THRUST COLLAR

N.T.S.



TYP. INLET SEDIMENT BARRIER

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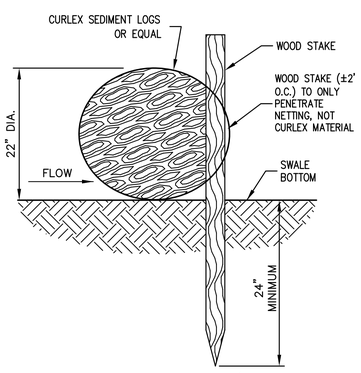


SEDIMENT LOG STAKING (IF NEEDED)

N.T.S

REVISIONS

DATE	DESCRIPTIONS	APPROVED

SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 1 of 3

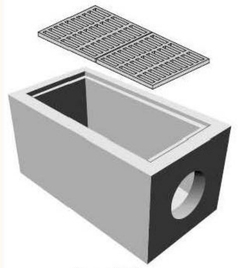
DETAILS
LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK
DRAFTED C.E.S. DATE 7/14/20 SCALE NTS
DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
APPROVED
CITY ENGINEER DATE

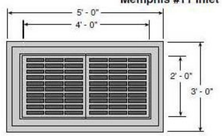
2027/C7–DETAILS.dwg

Precast Drainage Structures

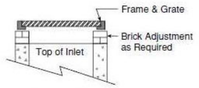
24" x 48" Drainage Inlet
Memphis #11 Inlet



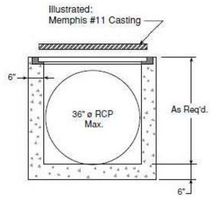
Isometric View



Plan View



Alternate View



Section View

Inlet Size (ft.)	Wall Thick (in.)	Wt./Vert. Ft. (lbs.)	Bottom Thick (in.)	Base Slab (lbs.)
2 x 4	6	1,071	6	1,150

Materials & Features

CONCRETE: 4,000 PSI in 28 days.

REINFORCING STEEL: per ASTM A-615, Grade 60.

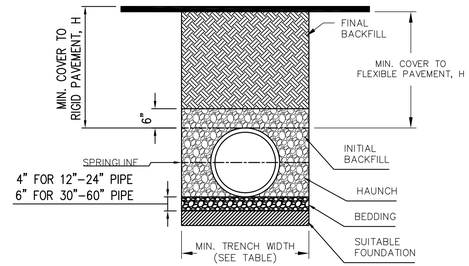
REINFORCING to meet AASHTO HS 20 Loading.

JOINT SEALANT: Ram-Nek gasket material.

FRAME AND GRATE/COVER as required.

-No Scale-
All dimensions subject to allowable specification tolerances.

FORTERRA PIPE AND PRECAST



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

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REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
2	ADDED E-80 INFORMATION	TJR	08/20/07	

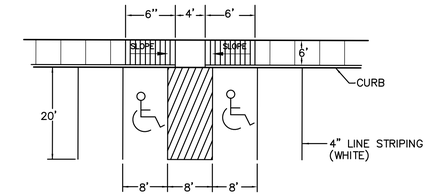
ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

TYPICAL TRENCH DETAIL

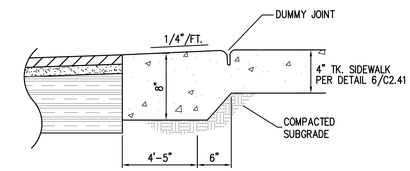
DRAWING NUMBER: STD-101

ADS ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026

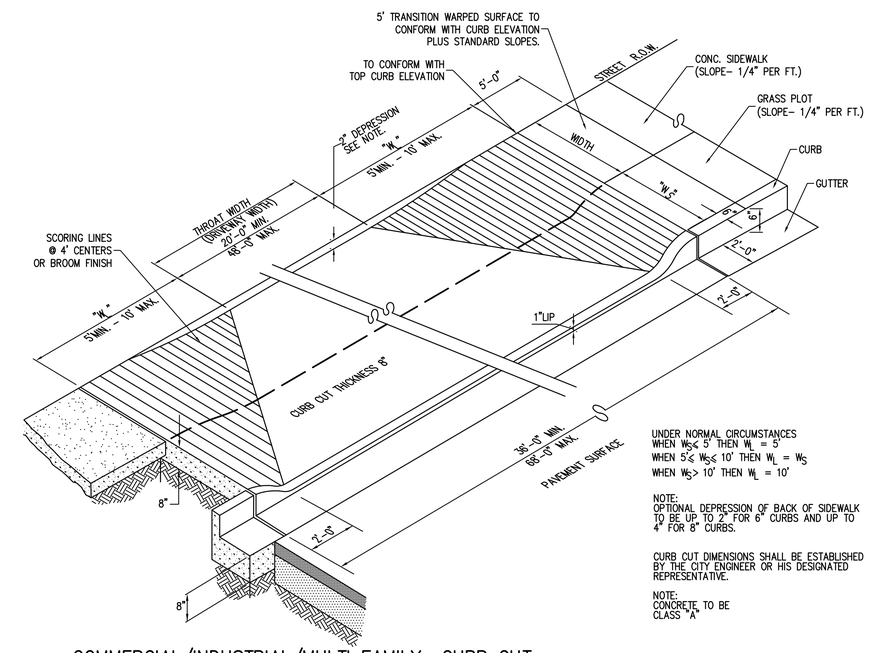
DRAWN BY: CKS
DATE: 10/18/06
DATE #1:
REVISED:
SCALE: NTS
SHEET 1 OF 1



HANDICAP ACCESS @ CURB OPENINGS AND LINE STRIPING
N.T.S.



FLUSH S/W @ HANDICAP PARKING SPACES
N.T.S.



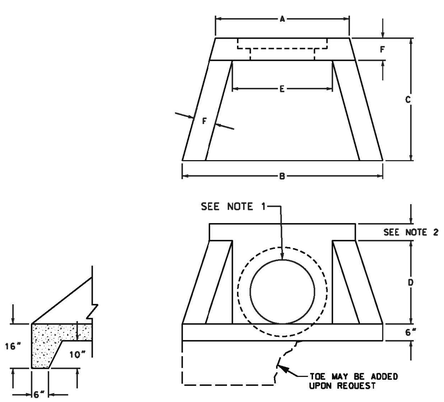
UNDER NORMAL CIRCUMSTANCES
WHEN $W_S \leq 5'$ THEN $W_L = 5'$
WHEN $5' \leq W_S \leq 10'$ THEN $W_L = W_S$
WHEN $W_S > 10'$ THEN $W_L = 10'$

NOTE:
OPTIONAL DEPRESSION OF BACK OF SIDEWALK TO BE UP TO 2" FOR 6" CURBS AND UP TO 4" FOR 8" CURBS.

CURB CUT DIMENSIONS SHALL BE ESTABLISHED BY THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.

NOTE:
CONCRETE TO BE CLASS "A"

COMMERCIAL/INDUSTRIAL/MULTI FAMILY CURB CUT
N.T.S.



TOE DETAIL

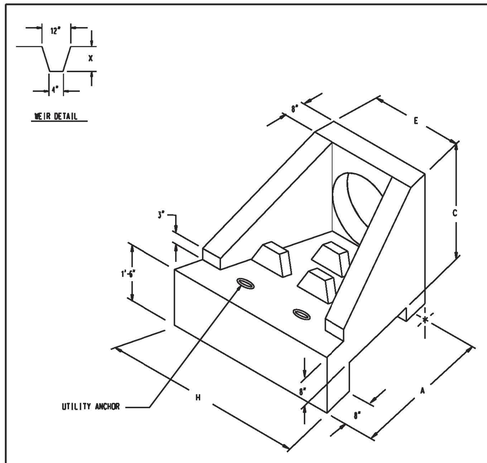
PIPE SIZE	AW 12"-15"-18"	BW 24"	CW 30"-36"-42"	DW 48"-54"-60"
A	32"	48"	80"	97.25"
B	48"	72"	102"	120"
C	30"	44"	54"	56"
D	26"	36"	54"	60"
E	24"	36"	64"	83"
F	6"	8"	8"	8"
MAX. OPENING	26"	32"	55"	78"
WT/LB	1,380	3,100	8,100	11,400

GENERAL NOTES:

1. PIPE OPENING IN FACE OF WALL WILL EQUAL PIPE I.D. FOR 12"-36" DIA. PIPE.
2. 0" FOR AW HEADWALL
   6" FOR BW & CW HEADWALL
   6" TO 27" FOR DW HEADWALL
3. AW & BW REQUIRE NO REINFORCEMENT PER SOCI DESIGN

FORTERRA

PRECAST WINGED HEADWALL DETAIL	SCALE: NTS	PH# 1-800-737-0707	DWG# ET-200
		REV DATE:02/20/14	SHEET# 1 OF 1



DIMENSION						
PIPE DIA.	A	C	E	H	X	WEIGHT
12"	4'-8"	2'-8"	2'-9"	4'-9"	12"	3,037#
15"	4'-8"	2'-8"	2'-9"	4'-9"	13 1/2"	3,037#
18"	4'-6"	2'-11"	3'-8"	5'-3"	15"	3,766#
24"	5'-6"	3'-5"	3'-6"	6'-6"	18"	5,467#

GENERAL NOTES:

1. 2" MIN. CONCRETE COVERAGE.
2. REIF. - #4 REBAR 12" C.C. EA. WAY.
3. HOLE SIZE = PIPE O.D. + 3".
4. 3/4" CHAMFER OR ROUND ON ALL EXPOSED EDGES.

FORTERRA

ENERGY DISSIPATOR BLOCK 12"- 27" PIPE	SCALE: NTS	PH# 1-800-737-0707	DWG# ET-230
		DATE:01/23/12	SHEET# 1 OF 1

REVISIONS

DATE	DESCRIPTIONS	APPROVED

RUSSELL B. NORRIS REGISTERED ENGINEER AND LAND SURVEYOR NO. 19 AGRICULTURE COMMERCE STATE OF TENNESSEE
7/14/2020

SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 2 of 3

DETAILS
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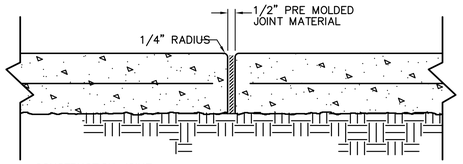
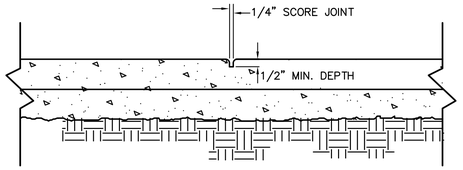
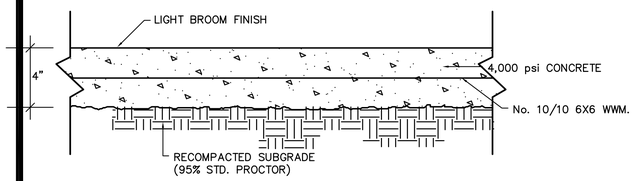


CONSTRUCTION JOINT

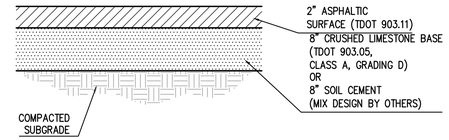




NOTE: INSTALL EXP. JOINT ANY WHERE CONCRETE ABUTS SIGNS, CONCRETE CURB OR BUILDING.

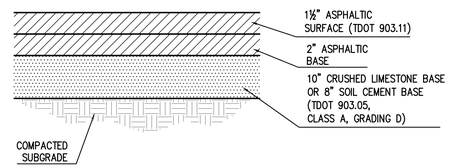
CONCRETE SIDEWALK AT BUILDING

N.T.S.



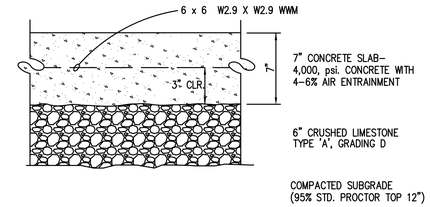
LIGHT DUTY ASPHALTIC PAVEMENT

N.T.S. (PAVEMENT THICKNESS PER OWNER)

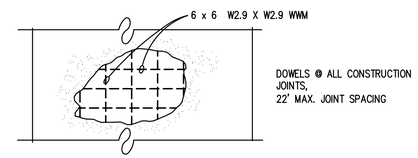


HEAVY DUTY ASPHALTIC PAVEMENT (ON STREET)

N.T.S. (PAVEMENT THICKNESS PER GEOTECHNICAL REPORT OR OWNER)



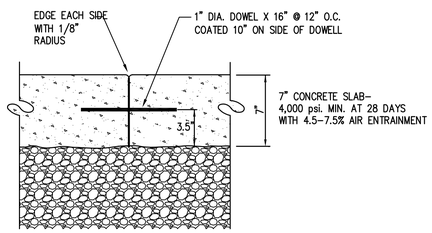
SECTIONAL VIEW



PLAN VIEW

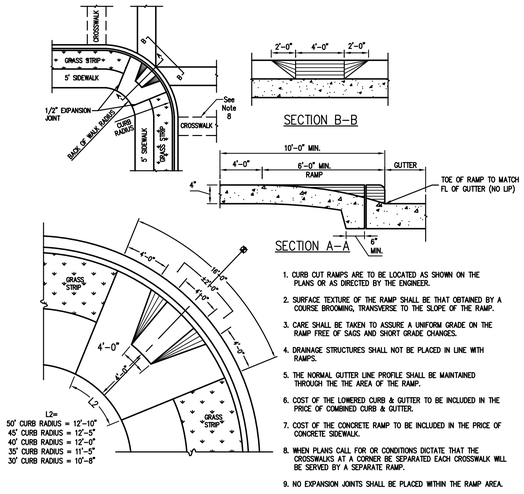
CONCRETE PAVING DETAIL

N.T.S. COORDINATE WITH ARCHITECT'S DETAILS



CONCRETE PAVING – CONSTRUCTION JOINT

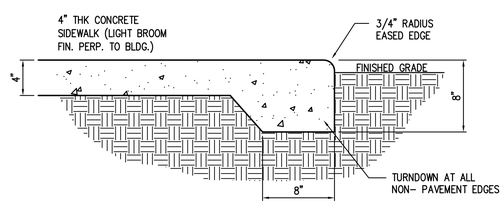
N.T.S.



1. CURB CUT RAMPS ARE TO BE LOCATED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COURSE BROOMING, TRANSVERSE TO THE SLOPE OF THE RAMP.
3. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP FREE OF SAGS AND SHORT GRADE CHANGES.
4. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS.
5. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE THE AREA OF THE RAMP.
6. COST OF THE LOWERED CURB & GUTTER TO BE INCLUDED IN THE PRICE OF COMBINED CURB & GUTTER.
7. COST OF THE CONCRETE RAMP TO BE INCLUDED IN THE PRICE OF CONCRETE SIDEWALK.
8. WHEN PLANS CALL FOR OR CONDITIONS DICTATE THAT THE CROSSWALKS AT A CORNER BE SEPARATED EACH CROSSWALK WILL BE SERVED BY A SEPARATE RAMP.
9. NO EXPANSION JOINTS SHALL BE PLACED WITHIN THE RAMP AREA.

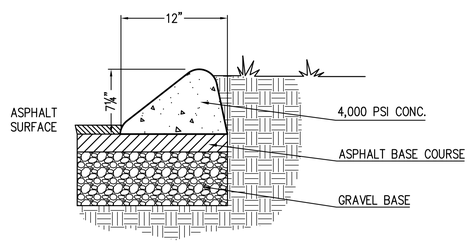
STANDARD HANDICAP RAMP

N.T.S.



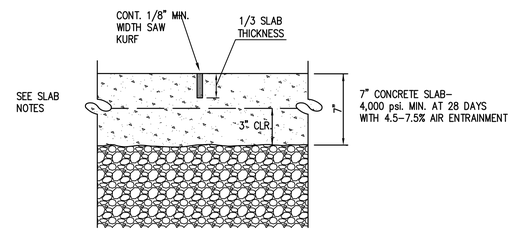
TURN DOWN SIDEWALK

N.T.S. COORDINATE WITH ARCHITECT'S DETAILS



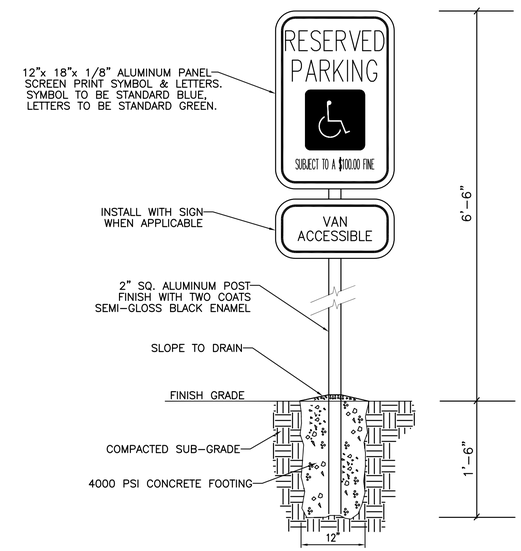
EXTRUDED 6" SLOPING CONCRETE CURB

N.T.S.



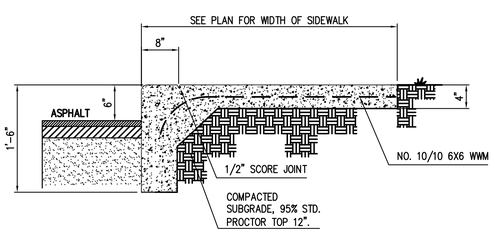
CONCRETE PAVING – SAWN CONTROL JOINT

N.T.S.



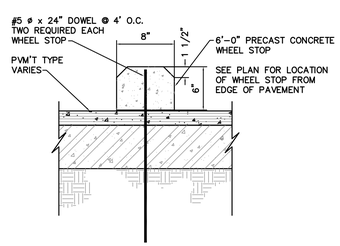
HANDICAP PARKING SIGN

N.T.S.



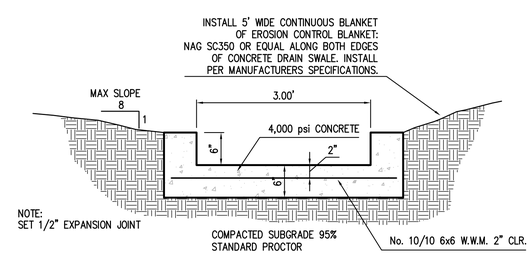
6" TURN DOWN CURB & SIDEWALK AT DRIVES

N.T.S. COORDINATE WITH ARCHITECT'S DETAILS



CONCRETE WHEEL STOP

NTS



CONCRETE DRAINAGE FLUME

N.T.S.

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SHELBY MALL SUBDIVISION – LOT 1

MARGARITAS RESTAURANT

DEVELOPER: JOSE FLORES

ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

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