

PANERA BREAD BAKERY - CAFE

OAKVIEW - LOT 2

FINAL DEVELOPMENT PLANS

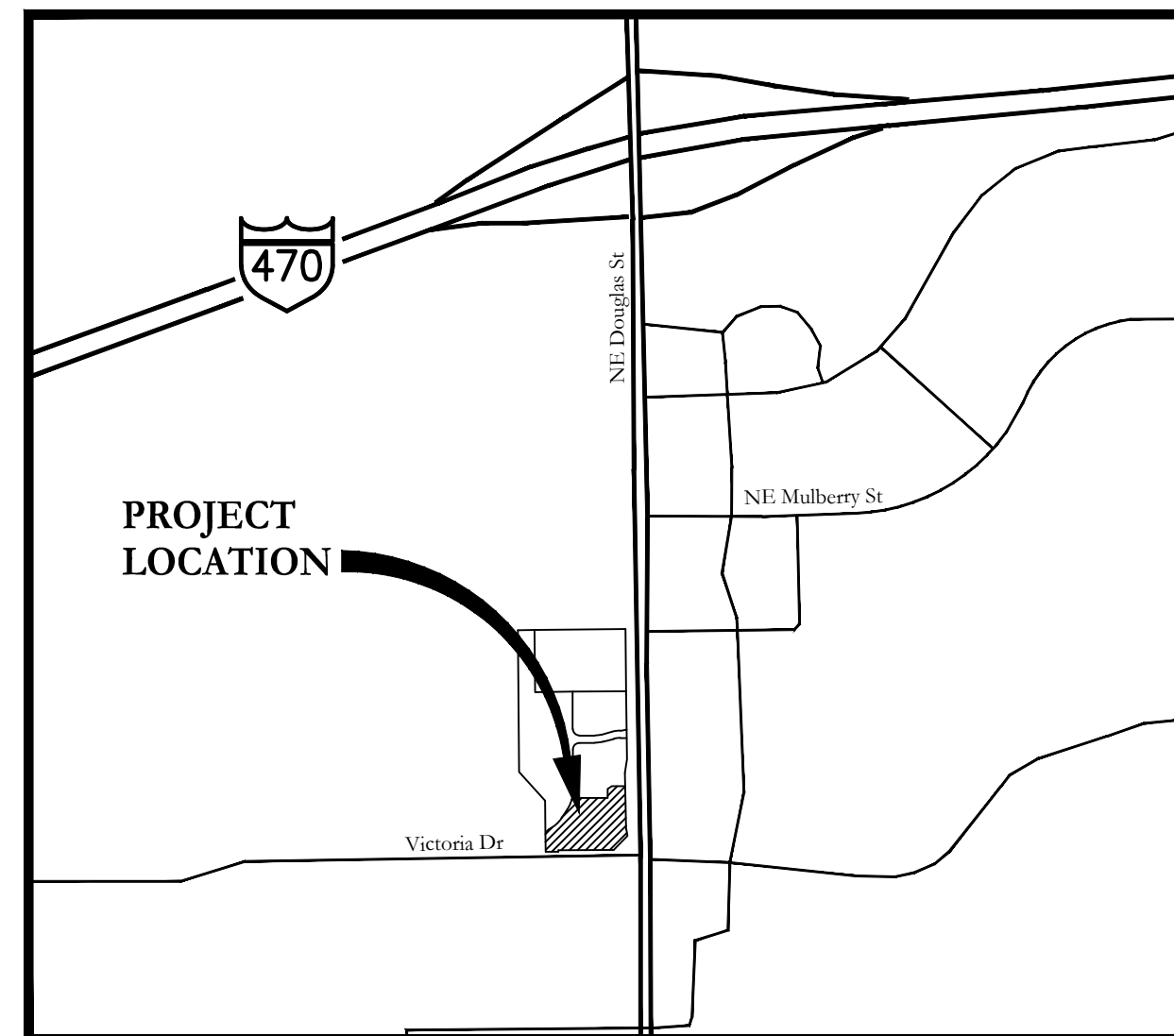
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
NE 1/4 OF SEC. 31-48-31

LEGAL DESCRIPTION

LOT 2 OF THE FINAL PLAT OF OAKVIEW - LOTS 1-5, A REPLAT OF LOT 2, "MINOR PLAT, POLYTAINERS ADDITION, LOTS 1 AND 2", AND PART OF NE DOUGLAS STREET, ALL IN THE NE $\frac{1}{4}$ OF SEC. 31-48-31, A SUBDIVISION IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI.

BENCHMARK & HORIZONTAL CONTROL

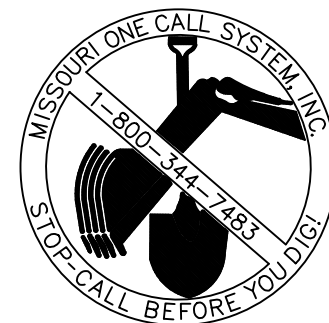
REFERENCE SHEET 4 FOR VERTICAL AND HORIZONTAL CONTROL POINTS LOCATED IN THE PRIVATE DRIVE WEST OF THE SITE.



LOCATION MAP
NOT TO SCALE

UTILITIES AND PUBLIC AGENCIES

CITY OF LEE'S SUMMIT PUBLIC WORKS	Dena Mezger	(816) 969-1800
CITY OF LEE'S SUMMIT WATER UTILITIES	Mark Schaufler	(816) 969-1900
ELECTRIC EVERGY	Ron Dejarnette	(816) 347-4316
GAS SPIRE	Brent Jones	(816) 399-9633
TELEPHONE AT&T	Marty Loper Mark Manion	(816) 275-1550 (816) 325-6516
CABLE COMCAST	Barbara Brown	(816) 795-2255



CONTACTS

ENGINEERING

Engineering Alternate Ronald L. Cowger, PE	781-4200
Engineering Primary Art Akin, PE	781-4200

DEVELOPER

STAR DEVELOPMENT, INC.
TIM HARRIS, PRESIDENT
244 W. MILL STREET, SUITE 101
LIBERTY, MISSOURI, 64068
(816) 781-3322

AGC Engineers, INC.

405 S. Leonard St., Suite D
Liberty, Missouri 64068
www.agcengineers.com
816.781.4200 ■
fax 792.3666

STATUS

- ☒ FOR PERMIT
☐ FOR CONSTRUCTION
☐ PLANS CONFORMING TO
CONSTRUCTION RECORDS

DATE:

5-21-20

BY	REVISION	DATE
AA/ACA	FOR REVIEW	5-21-20

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER
2	GENERAL NOTES & LEGEND
3	EXISTING CONDITIONS
4	SITE PLAN
5	GRADING & EROSION CONTROL PLAN
6	GRADING PLAN - CUT & FILL
7	UTILITY PLAN
8	SPOT ELEVATION PLAN
9	SPOT ELEVATION PLAN
10	DRAINAGE AREA MAP & CALCULATIONS
11	STORM PLAN & PROFILES
12	DETAILS
13	DETAILS
14	DETAILS
15	DETAILS
16	DETAILS
L100	LANDSCAPE PLAN

SEE ADDITIONAL PLANS & SPECIFICATIONS PREPARED BY
SCHARHAG ARCHITECTS.

McLAUGHLIN MUELLER, INC. HAS SOLE RESPONSIBILITY
FOR SHEET 3 AND VSR DESIGN HAS SOLE RESPONSIBILITY
FOR SHEET L100.

ENGINEER'S CERTIFICATION:

I hereby certify that this project has been designed, and these plans prepared, to meet or exceed the design criteria of City of Lee's Summit, Missouri, in current usage, except as indicated below.

- Exceptions:
- 20' parking setback along Victoria (less than 3.8' encroachment) and along Douglas (less than 1.2' encroachment)
 -
 -

I have not been retained to coordinate as-built drawings for this project.



Art Akin, PE
AGC Engineers, Inc.

Date

GENERAL PROJECT NOTES:

1. The Contractor shall, at a minimum, have the following document(s) at the job site at all times:
Signed approved plans,
Contract Documents and Project Specifications,
Standard Specifications (Kansas City Metro Chapter-APWA)
Storm Water Pollution Plan (SWPPP)
All required permits
2. The Contractor shall reference the City of Lee's Summit Design Criteria, Standard Specifications, Standard Details, Approved Products Lists found at the following website
https://cityofls.net/development-services/design/design-criteria/design-construction -manual-infrastructure
3. This Project shall be constructed in accordance with these Plans, City of Lee's Summit criteria and specifications (listed above), and their absence the Kansas City Metro Chapter of American Public Works Association (most current version) "APWA".
4. All work required to complete the project and that is not specifically itemized in the Contractor's proposal shall be considered subsidiary to other work itemized in the proposal.
5. All materials and workmanship associated with this project shall be subject to inspection by the City of Lee's Summit and the Owner. The City and/or Owner reserves the right to accept or reject any such materials and workmanship that does not conform to the Standards and Technical Specifications.
6. RESERVED
7. The Contractor shall notify the Engineer immediately of any discrepancies in the Plans.
8. By use of these Plans the Contractor agrees that he shall be solely responsible for the safety and protection of the construction workers and the public.
9. Contractor is to obtain the necessary permits for all construction activities.
10. Contractor shall be responsible for determining the exact locations of all underground utilities or appurtenances prior to commencing construction. Existing underground utilities shown on the drawings are for reference only, and their accuracy and completeness are not guaranteed. Contractor shall be responsible for repair or replacement of all underground utilities damaged during construction.
11. RESERVED
12. It shall be the responsibility of the Contractor to control erosion and siltation during all phases of construction.
13. Any sidewalk, curb & gutter or pavement disturbed, damaged or destroyed during construction shall be replaced by Contractor at no additional cost to Owner.
14. Modified curb shall be used at all locations where pavement drains away from curb.

GRADING NOTES:

1. Erosion protection shall be in place prior to any land disturbance.
2. Contours shown are to finished grade.
3. The construction area shall be cleared, grubbed, and stripped of topsoil and organic matter from all areas. Excess topsoil shall be stockpiled separately from compactable material. Stripping existing topsoil and organic matter shall be to a minimum depth of six (6) inches.
4. Areas to receive fill shall be striped of top soil and other organic material, scarified, and the top eight (8) inch depth compacted to 98% standard proctor density prior to the placement of any fill material. Any unsuitable areas shall be undercut and replaced with suitable material before any fill material can be placed.
5. Fill material shall be made in lifts not to exceed nine (9) inches depth compacted to 98% standard proctor density (per ASTM D-698) with a moisture content -3% and +2% optimum moisture. Contractor shall provide (at his/her sole cost) an independent geotechnical report certifying compaction at a sample interval of one (1) sample per 5000 square feet per lift or more frequent if required/recommended by the geotechnical firm. Geotechnical firm shall be approved by Owner prior to beginning fill operations. Fill material may include rock from on-site excavation if carefully placed so that large stones are well disturbed and voids are completely filled with smaller stones, earth, sand or gravel to furnish a solid embankment. No rock larger than three (3) inches in any dimension nor any shale shall be placed in the top 12 inches of embankment.
6. In all areas of excavation, if unsuitable soil conditions are encountered, a qualified Geotechnical engineer shall recommend to the Owner on the methods of undercutting and replacement of property compacted, approved fill material.
7. All slopes are to be 3:1 or flatter unless otherwise indicated.
8. All slopes and areas disturbed by construction shall be graded smooth and a minimum four (4) inches of topsoil applied. If adequate topsoil is not available on-site, the Contractor shall provide topsoil, approved by the Owner, as needed. Any areas disturbed for any reason shall be corrected by the Contractor at no additional cost to the Owner prior to final acceptance of the project.
9. All disturbed areas shall be seeded, fertilized and mulched or sodded in accordance with the standards and specifications adopted by the reviewing governing agency and good engineering practices.

EROSION CONTROL NOTES:

1. Control of sediment is a very dynamic (ever changing) process. These plans are provided as a basis of anticipated erosion control measures. The Contractor shall modified add or delete with the Owner's permission the erosion control measure shown to prevent the migration of sediment off of the Owner's property and/or into jurisdictional waters/waterways.
2. Any sediment deposited on public streets shall be removed immediately by Contractor at his sole expense.
3. Stockpile excavation materials away from existing channels and grade to drain to adequate erosion control measures.
4. Remove silt build up in temporary sediment basins (if applicable), inlet protection devices and/or silt fence until site is completely stabilized. Verify grade prior to final seeding, lining or rip-rap installation.
5. All disturbed areas shall be seeded, fertilized and mulched, or sodded, in accordance with the Kansas City Metro Chapter of American Public Works Association. Seeding/Sodding shall be completed within 14 days after completing the work, in any area. If this is outside of the recommended seeding period, erosion control measures or other similarly effective measure shall remain and be maintained by Contractor until such time that the areas can be seeded and a stand of grass established per Missouri DNR or MoDOT Section 805.4 standards.
6. When sediment deposits reach approximately one-half the height of the BMP, the sediment shall be removed or a second BMP shall be installed. All costs associated with this work, including related incidents, shall be the Contractor's responsibility and shall be included in the bid for the proposed work.
7. Contractor shall perform BMP inspection once a week and after each rainfall event, and provide Owner a copy of report within 48 hrs. Faulty or inadequate erosion control measures shall be remediated or modified the same day of inspection so as to minimize the risk of sediment discharge from the Owner's property or jurisdictional waters/waterways.
8. Contractor shall protect and maintain erosion control measures until a complete stand of grass as defined by Missouri DNR has been established.
9. Concrete Washout Areas will be determined onsite by the Job Superintendent.
10. At a minimum the following permits/approvals shall be posted on site or as required by the permit terms and conditions:
City of Lee's Summit Land Disturbance Permit.
11. Permanent fertilizing, seeding (Type "A") and mulch shall be in accordance with Kansas City Metro Chapter of American Public Works Association. Final acceptance per MoDOT Sections 805.4
12. The Contractor shall install Erosion Control Blanket (ECB) on all slopes with 3:1 slope or greater. ECB shall be Landlok CS2 or approved equal.
13. Provide temporary silt fencing at all pipe entrances until all site seeding and sodding has been established. Maintain as necessary.
14. Immediately remove sediments or other materials tracked onto public roadways.
15. Provide and maintain stabilized roadway construction entrance (or entrances as may be required).
16. Coordinate site grading with existing and proposed utilities.
17. Stock pile waste excavation materials away from existing channels and grade to drain.
18. Remove silt build up in basin and verify grade prior to final seeding, lining or rip-rap installation and clean up.
19. All disturbed areas shall be seeded, fertilized and mulched, or sodded, in accordance with the Standards and Specifications adopted by the City of Lee's Summit, MoDOT, MoDNR or other governing agency and good engineering practices.
20. Silt fences, whether straw bales or filter fabric, require maintenance to preserve their effectiveness. All silt fences shall be inspected immediately after each heavy rainstorm and at least daily during prolonged rainfall. Any required repairs shall be made immediately. When sediment deposits reach approximately one-half the height of the silt fence, the sediment shall be removed or a second silt fence shall be installed. All costs associated with this work, including related incidentals, shall be the contractor's responsibility and shall be included in the bid for the proposed work.

WATER NOTES:

1. Reference MEP Plans to confirm fire protection main size, domestic water and meter sizes. If a discrepancy exists between the Plans contact the Engineer prior to ordering material.
2. Domestic water shall be 2-inch "k" copper conforming to the latest federal specifications.
3. Minimum cover for water lines shall be 42 inches.
4. Install fittings as required. maximum pipe deflection per manufacturers recommendations.
5. Install 2 " water meter at property line (on private property side).
6. All water service installation, including back-flow devices, are subject to field verification and approval by City inspector.
7. Install 6" Fire Protection Line including outside vault with Double Check Detector assembly Backflow Protection Device and shut off valves for assembly removal.

REFERENCE DOCUMENTS & DRAWINGS:

Contractor shall reference the following documents prior to beginning Work

1. SWPPP and Missouri DNR Land Disturbance Permit

2. Architectural Plans (including but not limited to MEP and Structural Plans)

3. Standard drawings and work details supplied by Panera

4. Landlord work order list from Star Development Corp

STORM NOTES:

1. All HDPE pipe shall be Soil-Tight
2. All High Density Polyethylene (HDPE) pipe shall conform to AASHTO M294 Type S. Acceptable pipe must come from a Plastic Pipe Institute (PPI) certified manufacturer and have passed the PPI 3rd Party Certification testing. Each individual section of pipe shall be marked in accordance with AASHTO M294 and shall be affixed with the PPI Certification label. HDPE pipe shall be joined with water tight joints meeting the requirements of AASHTO M294 Paragraph 7.9.3.
3. Pipe lengths are from inside face to inside face.
4. End sections for HDPE pipe shall be metal with concrete toe wall unless noted otherwise.

ELECTRIC:

1. Contractor to coordinate with Evergy Electric for electrical service.
2. Contractor to coordinate with Evergy Electric for location of transformer pad and transformer if required.

GAS:

1. Contractor to coordinate with Spire for gas service, and location of meter.

TELEPHONE:

1. Site contractor to install PVC conduit(s) for use by telephone company. Site contractor to coordinate with telephone company for installation of service and location of proposed pedestals, etc. Telephone conduit shall have a minimum cover of 30". Site contractor shall coordinate location with telephone company representative and locate PVC crossings as necessary. See building plans for entrance locations.

SANITARY NOTES:

1. All sanitary stub lines shall be laid on 2.00% grade unless approved otherwise.
2. The Contractor shall install and properly maintain a mechanical plug at all connection points with existing lines until such time that the new line is tested and approved.
3. Where sanitary sewer lines are to be installed over and across water lines, a minimum of 24 inches of clearance shall be provided. Where clearance is not provided, construct sanitary sewer line of ductile iron pipe for a distance of at least 10 feet in each direction from crossing, with no joint within 6 feet of crossing.
4. Performance testing in accordance with APWA Section 2508. Witness and acceptance by City is required before placing in service.
5. All service lines shall be schedule 40 PVC.
6. All pre-cast manholes shall meet or exceed standards and specifications as set forth in ASTM C-478.
7. All PVC pipe shall meet or exceed standards and specifications as set forth in ASTM D-3034.
8. All proposed and existing street crossings shall be tamped granular backfill (Type 3) from the bottom of the trench to a point that is 15" below the finished grade of the street. All existing street crossings shall be filled with flowable fill per detail STR-011.
9. Mandrel testing is required and shall be performed in accordance with APWA 2508.5, at a minimum of 30 days after installation.
10. All inspection of sanitary sewer construction shall be performed by the City of Lone Jack.
12. Areas with less than three (3) feet of depth from existing grade to proposed top of pipe shall be filled to an elevation of three (3) feet above the proposed top of pipe, compacted to 95% density +/-2% prior to trenching or laying of any pipe.
13. Sanitary sewer piping material shall be as follows:

0 to 15' depth; SDR-35 PVC

15' to 22' depth; SDR-26 PVC

22' to 30' depth; SDR-21 PVC

greater than 30' depth; D.I.P.

6" service laterals; SDR-35 PVC at 2.0% minimum.
14. All manholes, catch basins, utility valves, and meter pits shall be adjusted or rebuilt to grade as required.
15. Service lines shall be extended a minimum of 1 foot past the house side of all utility easements.
16. Insert Tee's or Saddles for service lines are not allowed except in special cases with prior City approval and City observation of installation.

LEGEND

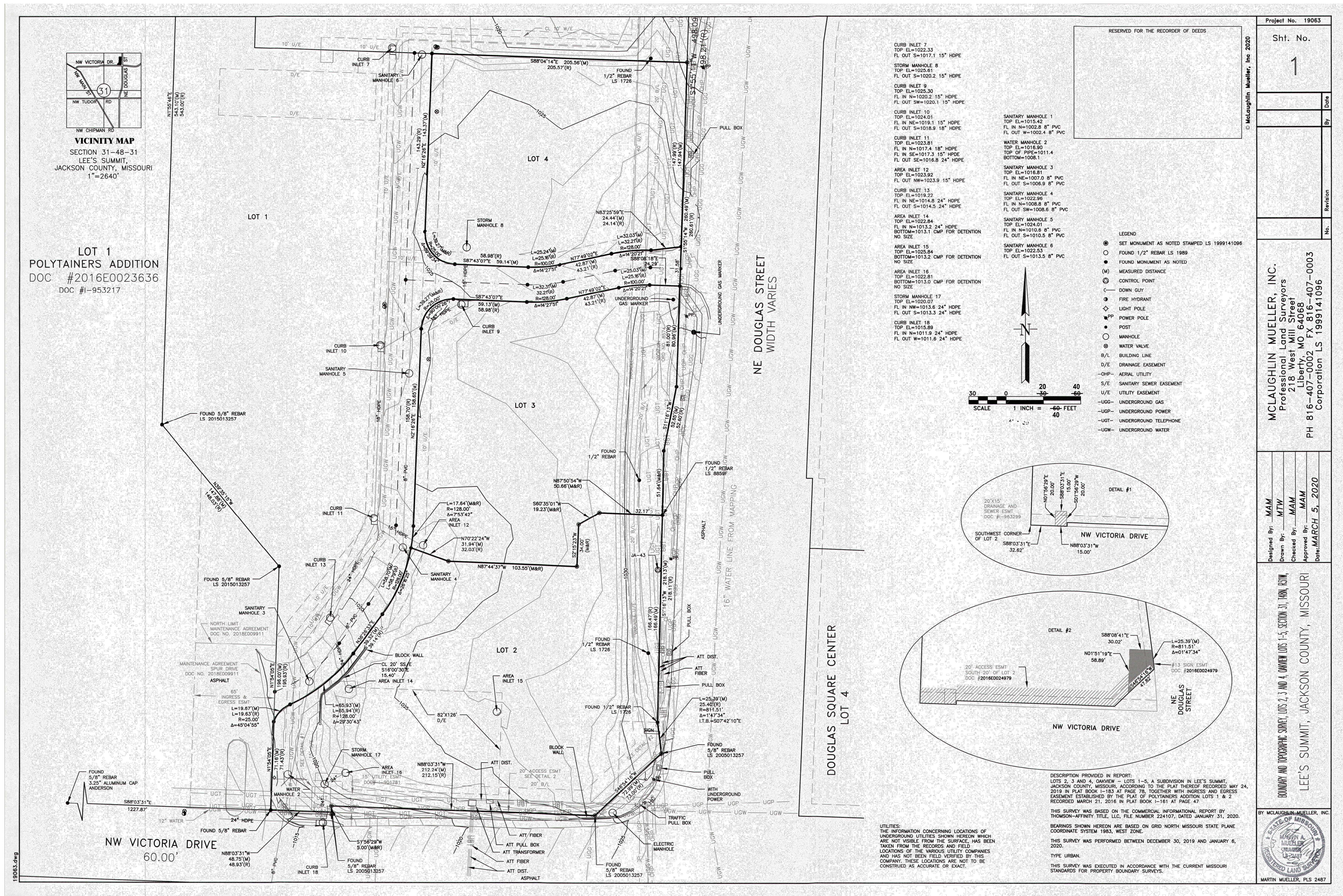
EXISTING

- SET MONUMENT AS NOTED STAMPED LS 1999141096
- FOUND 1/2" REBAR LS 1989
- FOUND MONUMENT AS NOTED
- (M) MEASURED DISTANCE
- ⊙ CONTROL POINT
- DOWN GUY
- FIRE HYDRANT
- ⬢ LIGHT POLE
- ⚡PP POWER POLE
- POST
- MANHOLE
- ⊗ WATER VALVE
- B/L BUILDING LINE
- D/E DRAINAGE EASEMENT
- OHP— AERIAL UTILITY
- S/E SANITARY SEWER EASEMENT
- U/E UTILITY EASEMENT
- UGG— UNDERGROUND GAS
- UGP— UNDERGROUND POWER
- UGT— UNDERGROUND TELEPHONE
- UCW— UNDERGROUND WATER

PROPOSED

- SANITARY STRUCTURE
- SAN — SANITARY SEWER
- ▭ STORM STRUCTURE
- ===== STORM SEWER
- W — WATERLINE
- WM ● WATER METER
- WATER VALVE
- G — GAS LINE
- CO ◦ CLEANOUT
- ⑬ PARKING COUNT
- 780 — CONTOUR
- LIGHT POLE (SITE PARKING)
- D/E DRAINAGE EASEMENT
- GM GAS METER
- WM WATER METER
- E/E ELECTRIC EASEMENT
- U/E UTILITY EASEMENT
- B/L BUILDING LINE
- MH SETBACK MANHOLE
- R RADIUS OR RAMP (as it relates to sidewalks)
- L LANDING (as it relates to sidewalks)
- S/W or SW SIDEWALK
- AC AIR CONDITIONER
- MEP MECHANICAL, ELECTRICAL & PLUMBING
- WSD WATER SERVICES DEPARTMENT
- D.S. DOWN SPOUT
- TC TOP OF CURB
- G GROUND
- P PAVEMENT
- LP LOW POINT
- HP HIGH POINT

BY	REVISION	DATE	<div><div></div><div>AGC Engineers, INC.</div></div>	<div>405 S. Leonard St., Suite D Liberty, Missouri 64068</div> <div>816.781.4200 ■ fax 792.3666</div> <div>www.agcengineers.com</div>	<div><div><div>STATE OF MISSOURI</div><div>RONALD L. COWDER</div><div>REGISTERED PROFESSIONAL ENGINEER</div><div>PE-29705</div><div>5-21-20</div></div></div>	PANERA BREAD BAKERY - CAFE	
						LEE'S SUMMIT, JACKSON COUNTY, MISSOURI	
						FINAL DEVELOPMENT PLANS	
						GENERAL NOTES & LEGEND	
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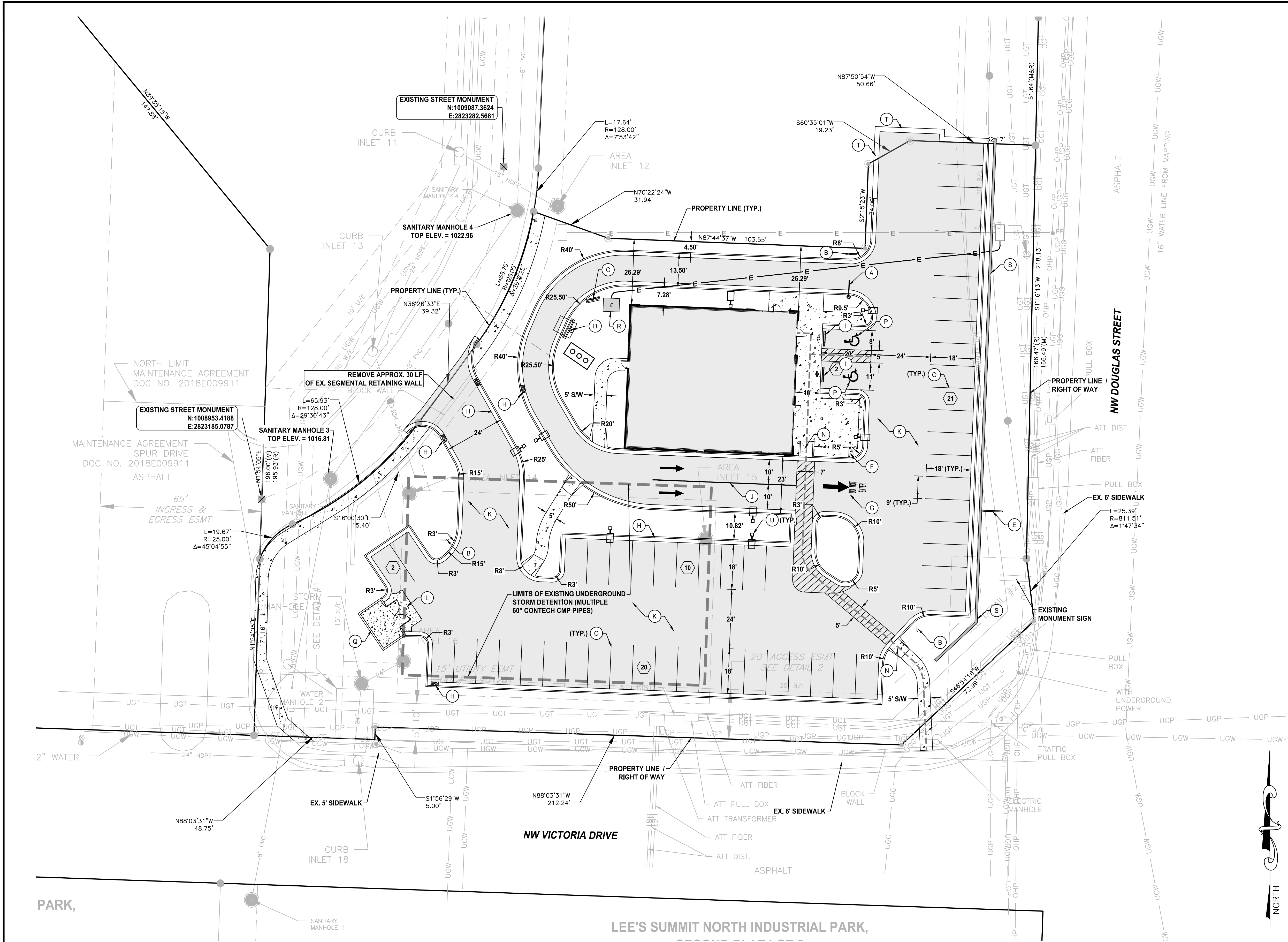
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PANERA BREAD BAKERY - CAFE
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

FINAL DEVELOPMENT PLANS
EXISTING CONDITIONS

3



SITE DATA:

- ZONING:** CP-2
- LOT SIZE:** 1.32 ACRES
- BUILDING:** 1 STORY BUILDING, 3,860 SF FOOTPRINT AREA
- PARKING SUMMARY:** REQUIRED: 14 STALLS PER 1,000 SF - 54 STALLS
PROVIDED: 53 STALLS + 2 ADA STALLS - TOTAL 55 STALLS
- PERCENT IMPERVIOUS:** 63%
- FLOOR AREA RATIO (FAR):** 0.07
- THERE IS NO FEMA DESIGNATED 1% FLOODPLAIN ON THIS PROPERTY.**

LEGEND:

- ADA PEDESTRIAN ROUTE
- ⬡ PARKING STALL COUNTS

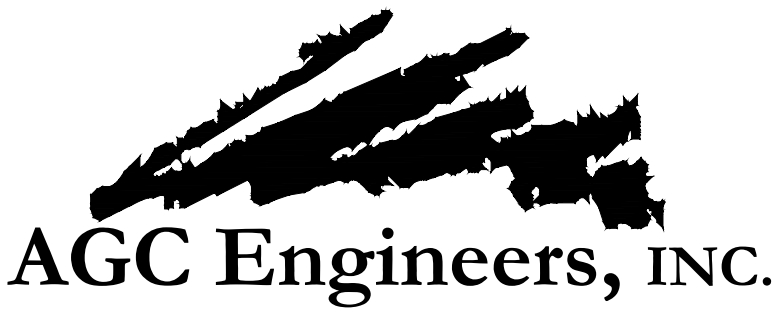
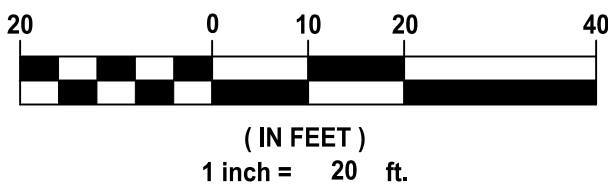
KEY LEGEND

- A CLEARANCE BAR (SEE NOTE 1)
- B DIRECTIONAL SIGNAGE (SEE NOTE 1)
- C PREVIEW BOARD (SEE NOTE 1)
- D MENU SIGN (SEE NOTE 1)
- E MONUMENT SIGN (SEE NOTE 1)
- F "THANK YOU / DO NOT ENTER" SIGN (SEE NOTE 1)
- G PAVEMENT MARKING "DO NOT ENTER" 12" BLOCK LETTERING (YELLOW)
- H CURB INLET - 2'X3' NYLOPLAST
- I CONCRETE WHEEL STOP
- J DRIVE THRU STRIPING - 4" YELLOW
- K ASPHALT PAVEMENT
- L HEAVY DUTY CONCRETE
- M CG-1 CURB & GUTTER (RE: SPOT ELEVATION PLANS)
- N ADA RAMP
- O PARKING STRIPING - 4" YELLOW
- P STRIPING - (RE: ADA ACCESSIBLE STRIPING LAYOUT)
- Q TRASH ENCLOSURE (RE: ARCH)
- R ELECTRICAL TRANSFORMER
- S SEGMENTAL BLOCK WALL
- T 6" TEMPORARY ASPHALT CURB
- U LIGHT POLE (RE: MEP)

NOTE:

- ALL SIGNAGE IS TO BE PROVIDED BY PANERA WITH THEIR TENANT FINISH.

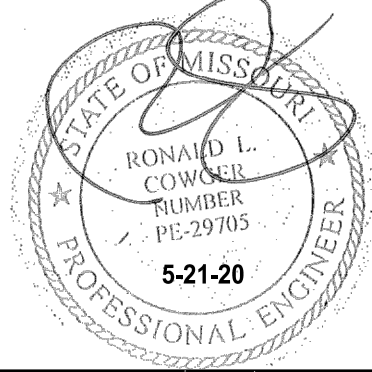
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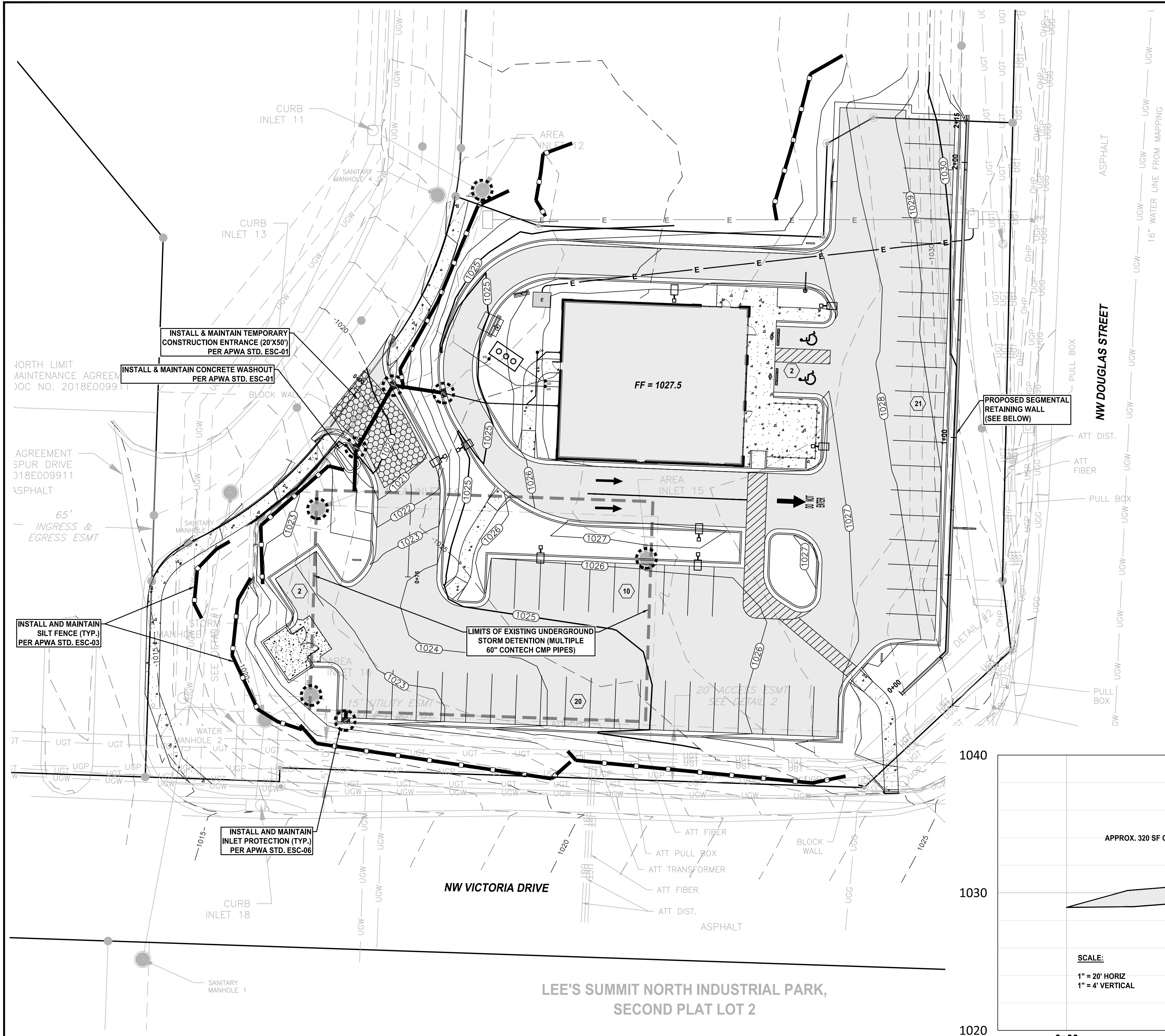
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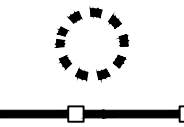
PANERA BREAD BAKERY - CAFE
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

FINAL DEVELOPMENT PLANS
SITE PLAN



LEGEND:

EROSION CONTROL



INLET PROTECTION PER APWA STD. DWG ESC-06
SILT FENCE PER APWA STD. DWG ESC-03

NOTES:

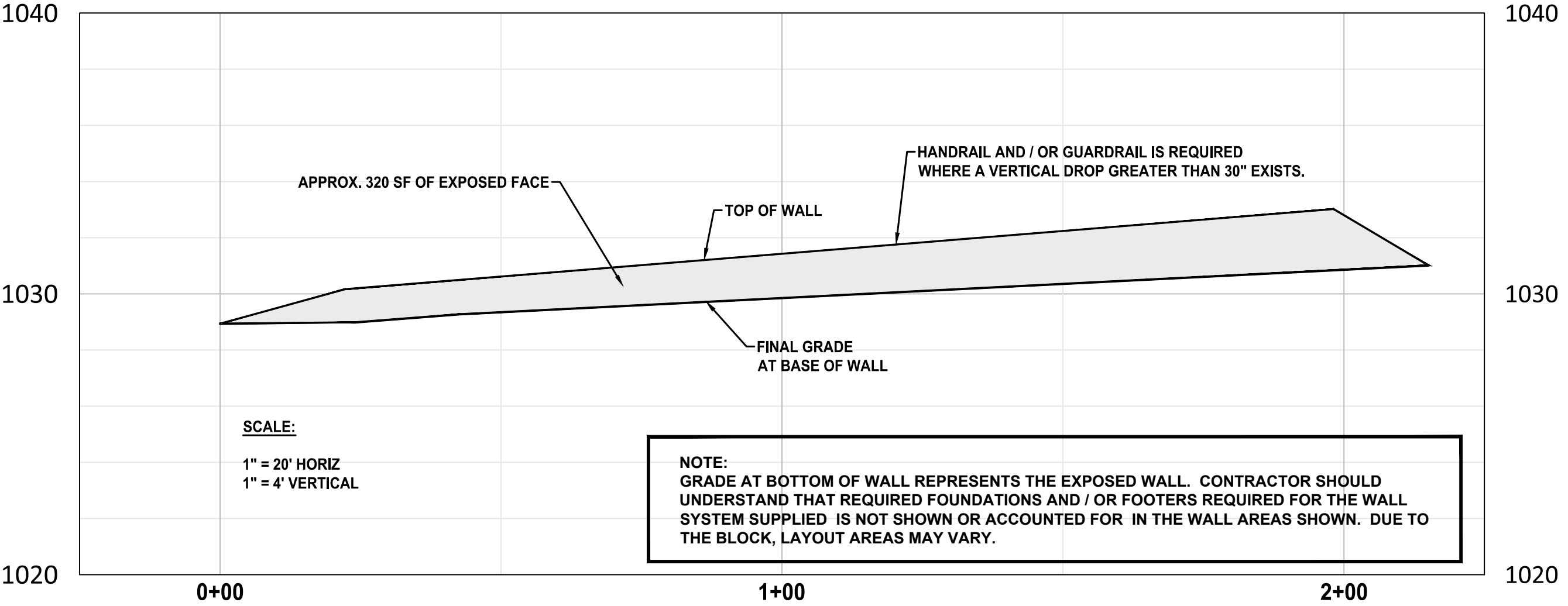
1. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AND PERIMETER SILT FENCE BEFORE GRADING.
2. REMOVE TEMPORARY BMPs AFTER PAVING IS COMPLETED AND PERMANENT GRASS IS ESTABLISHED.
3. DISTURBED AREA = 1.05 AC

RETAINING WALL NOTES:

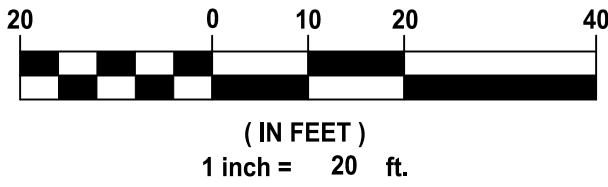
1. CONTRACTOR SHALL BE RESPONSIBLE FOR WALL DESIGN DEPENDING ON THE WALL SYSTEM PROPOSED. COST OF SEALED ENGINEERING DESIGN, CALCULATIONS AND DETAILS SHALL BE INCLUDED IN BASE BID. BASE BID SHALL INCLUDE ALL APPURTENANCES FOR A COMPLETE INSTALLATION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - ENGINEERING
 - CONSTRUCTION LAYOUT
 - EXCAVATION
 - LEVELING PAD / FOOTER
 - GRAVEL, BACKFILL AND GEOGRID (AS REQUIRED)
 - PIN OR OTHER ANCHORING SYSTEMS
 - CAP BLOCKS
 - CLEAN-UP AND BLOCK CLEANING (AS REQUIRED)


2. GRADE AT BOTTOM OF WALL REPRESENTS THE FINAL GRADE AT BASE OF WALL. CONTRACTOR SHOULD UNDERSTAND THAT REQUIRED FOUNDATIONS AND / OR FOOTERS REQUIRED TO THE WALL SYSTEM SUPPLIED IS NOT SHOWN OR ACCOUNTED FOR IN THE AREAS SHOWN. DUE TO THE BLOCK, LAYOUT AREAS MAY VARY.
3. HANDRAIL AND / OR GUARDRAIL IS REQUIRED WHERE A VERTICAL DROP GREATER THAN 30" EXISTS.
4. WALL LOCATIONS ARE SHOWN TO EXPOSED FRONT FACE.

RETAINING WALL



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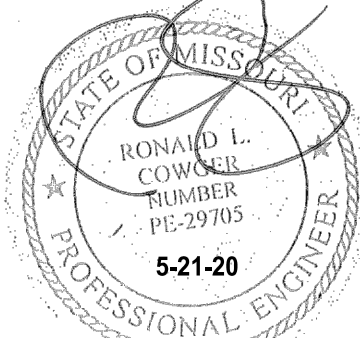


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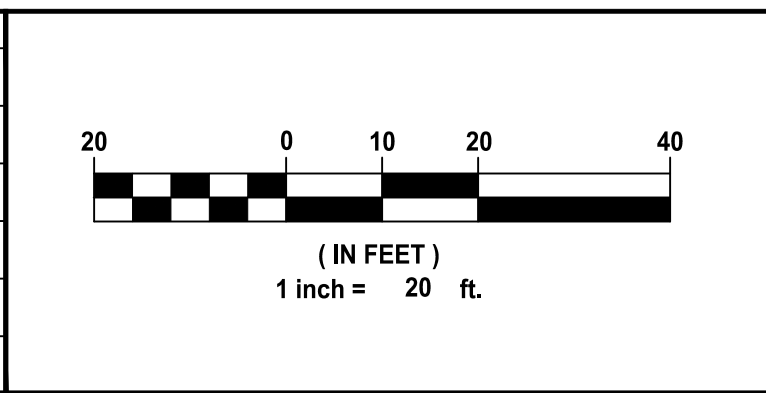


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FINAL DEVELOPMENT PLANS GRADING & EROSION CONTROL PLAN	5
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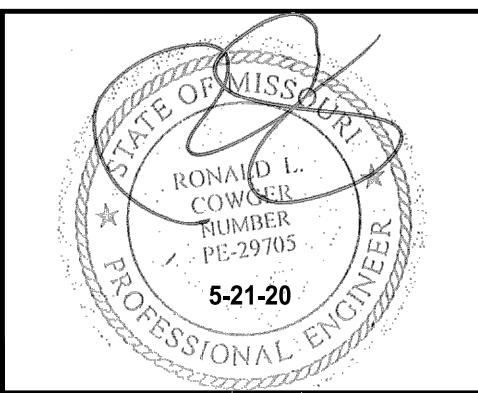


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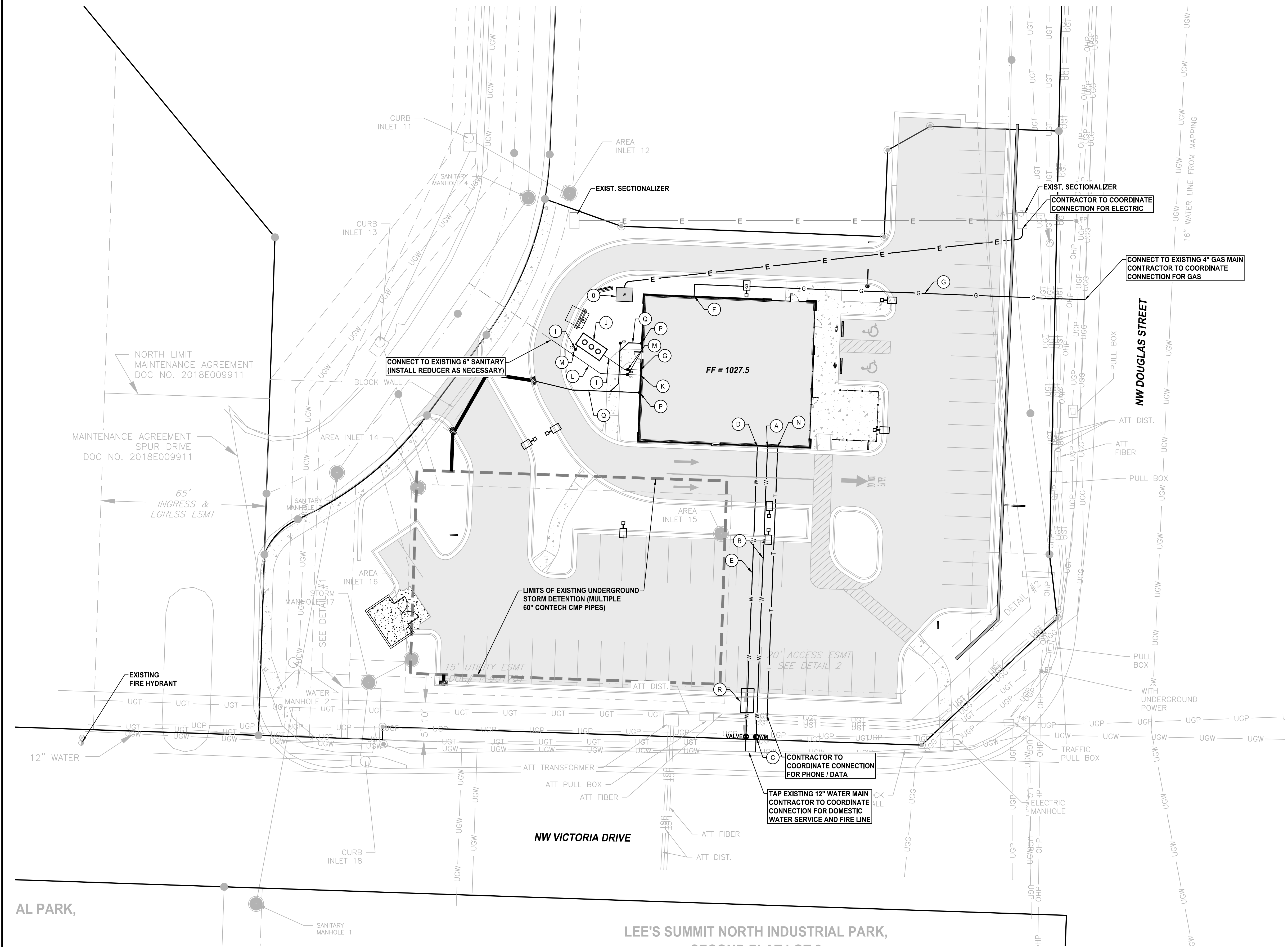
PANERA BREAD BAKERY - CAFE LEE'S SUMMIT, JACKSON COUNTY, MISSOURI	
FINAL DEVELOPMENT PLANS GRADING PLAN - CUT & FILL	6

NOTE:

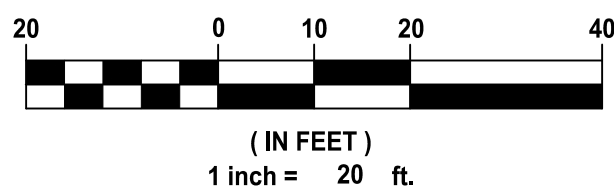
CONTRACTOR SHALL COORDINATE WITH STAR DEVELOPMENT CORP. PRIOR TO BEGINNING UNDERGROUND UTILITIES TO VERIFY SPECIFIC TENANT REQUIREMENTS SUCH AS DOMESTIC WATER, METER AND FIRE LINE SIZES, CONDUITS TO / FROM MESSAGE BOARDS, AND GROUND LOOP DETECTION SYSTEMS

KEY LEGEND

- (A) DOMESTIC WATER ENTRY (RE: MEP)
- (B) 2" DOMESTIC WATER LINE (CONFIRM WITH MEP PRIOR TO INSTALLATION)
- (C) 2" WATER METER AND METER PIT
- (D) FIRE LINE ENTRY (RE: MEP)
- (E) 6" FIRE LINE
- (F) GAS ENTRY (RE: MEP)
- (G) 1" GAS LINE (RE: MEP FOR GAS SIZE AND MATERIAL)
- (H) GREASE WASTE ENTRY (RE: MEP)
- (I) 4" GREASE WASTE LINE
- (J) 1500 GALLON GREASE INTERCEPTOR (RE: MEP)
- (K) SANITARY SEWER ENTRY (RE: MEP)
- (L) 4" SANITARY SEWER LINE (2% MIN. SLOPE)
- (M) CLEANOUT
- (N) PHONE / DATA SERVICE ENTRY (RE: ARCH)
- (O) ELECTRICAL TRANSFORMER (RE: MEP)
- (P) DOWNSPOUT (RE: ARCH) (SEE CONNECTION SHOE DETAIL)
- (Q) 6" PVC DOWNSPOUT STORM LINE (MIN. 4% SLOPE)
- (R) BACKFLOW PREVENTER (RE: CITY DETAIL)



BY	REVISION	DATE
RC/ACA	FOR REVIEW	5-21-20

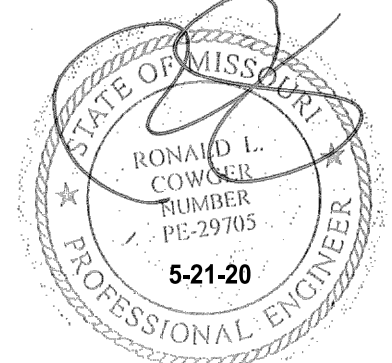


AGC Engineers, INC.

405 S. Leonard St., Suite D
Liberty, Missouri 64068

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PANERA BREAD BAKERY - CAFE
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

FINAL DEVELOPMENT PLANS
UTILITY PLAN

LEGEND

EXISTING

EXISTING GROUND ELEVATION

GROUND ELEVATION

PAVEMENT ELEVATION

TOP OF CURB ELEVATION

TOP OF WALL ELEVATION

LOW POINT

HIGH POINT

PROPOSED

SIDEWALK ELEVATION

SIDEWALK/TOP OF CURB

SIDEWALK/TOP OF PAVEMENT

CG-1 CURB AND GUTTER

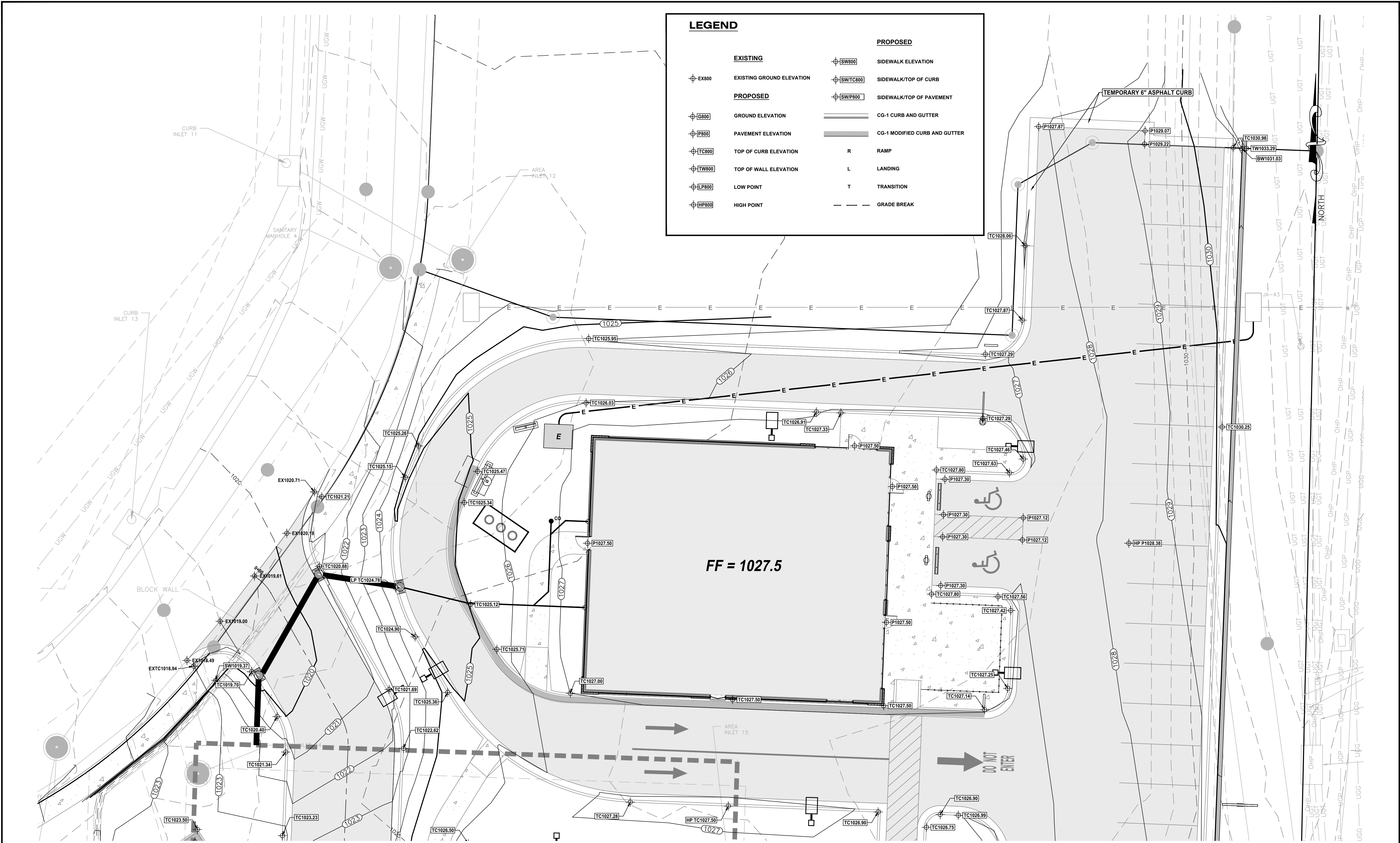
CG-1 MODIFIED CURB AND GUTTER

RAMP

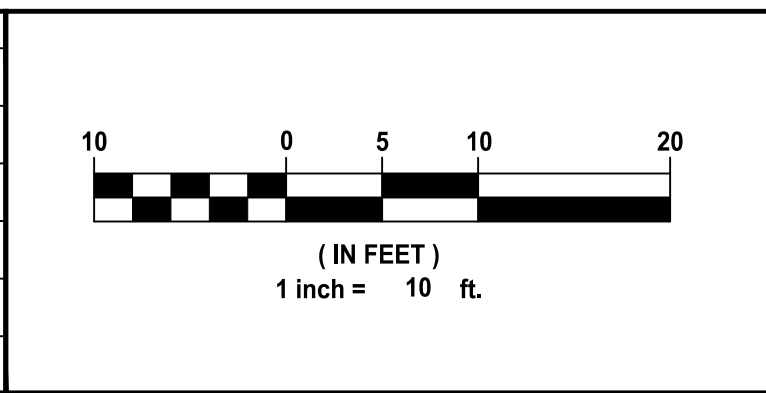
LANDING

TRANSITION

GRADE BREAK



BY	REVISION	DATE
RC/ACA	FOR REVIEW	5-21-20



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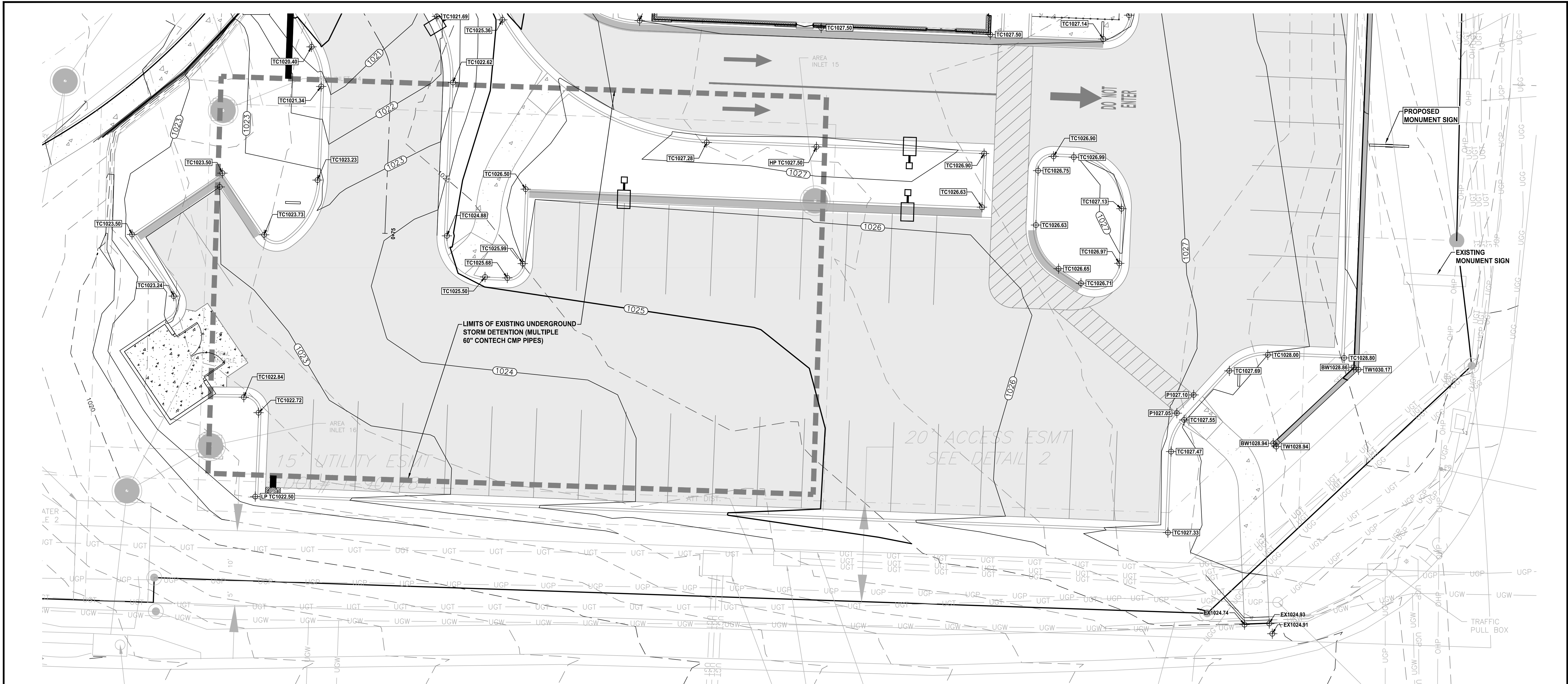
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FINAL DEVELOPMENT PLANS
SPOT ELEVATION PLAN

8



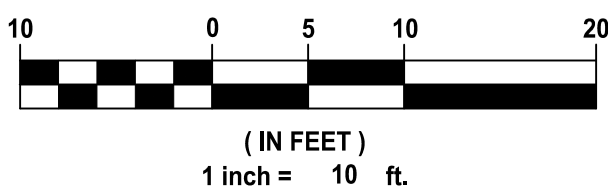
LEGEND


EXISTING
⊕ EX800 EXISTING GROUND ELEVATION
PROPOSED
⊕ G800 GROUND ELEVATION
⊕ P800 PAVEMENT ELEVATION
⊕ TC800 TOP OF CURB ELEVATION
⊕ TW800 TOP OF WALL ELEVATION
⊕ LP800 LOW POINT
⊕ HP800 HIGH POINT

PROPOSED
⊕ SW800 SIDEWALK ELEVATION
⊕ SW/TC800 SIDEWALK/TOP OF CURB
⊕ SW/P800 SIDEWALK/TOP OF PAVEMENT
CG-1 CURB AND GUTTER
CG-1 MODIFIED CURB AND GUTTER
R RAMP
L LANDING
T TRANSITION
— — — GRADE BREAK



BY	REVISION	DATE
RC/ACA	FOR REVIEW	5-21-20

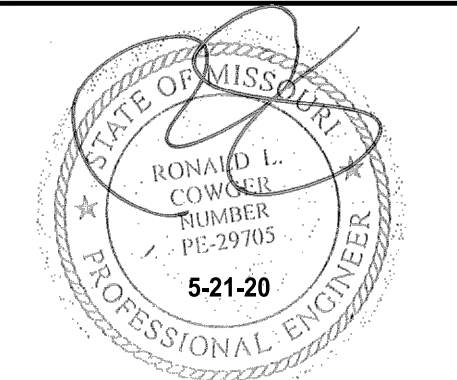


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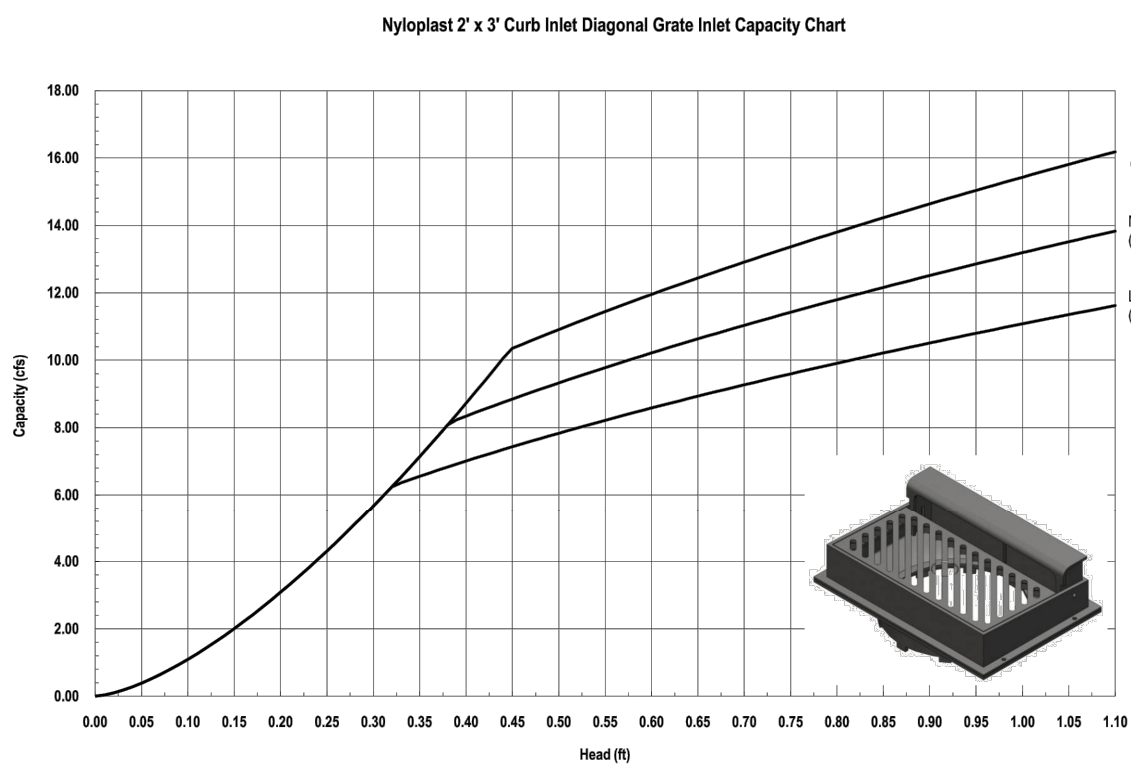
FINAL DEVELOPMENT PLANS SPOT ELEVATION PLAN	9
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CURB INLET DESIGN TABLE																										

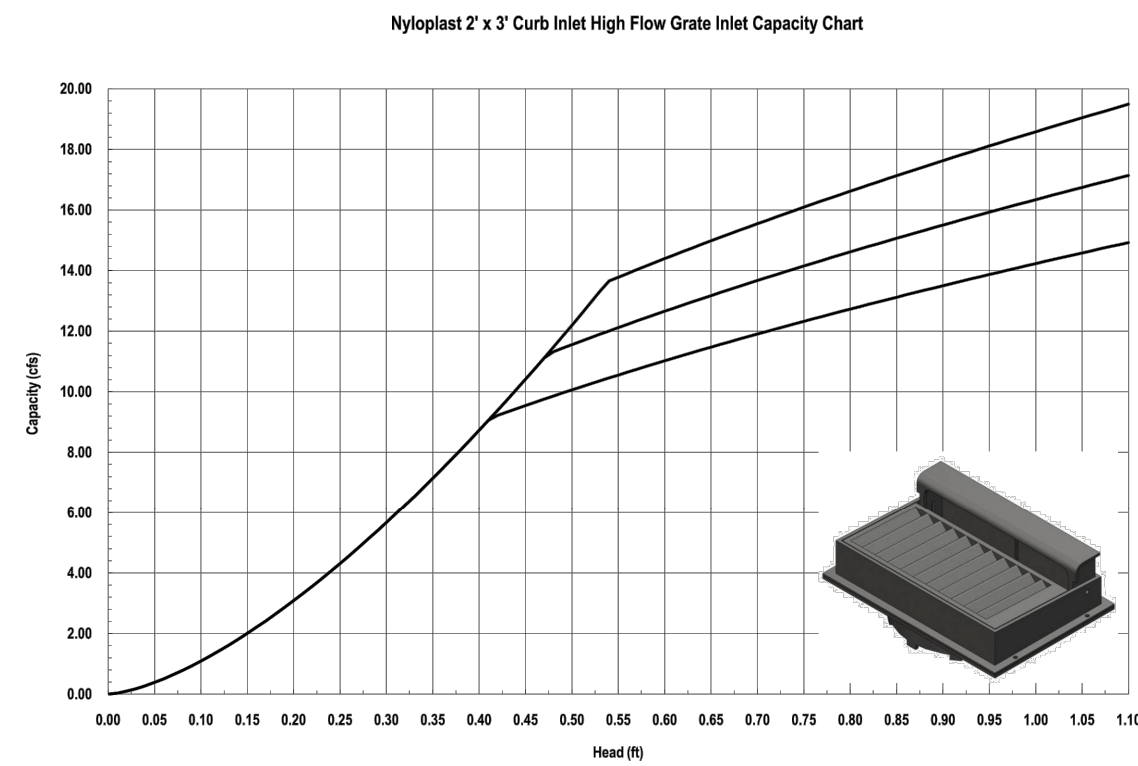
Return Frequency 100 yr															Gutter Capacity										Inlet Capacity																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Inlet Struct. #	Overland Flow (Ti)					Gutter Flow (Ti)					Inlet Time					Area					Q	Box of Curb & Bank of Curb										Attainable Gutter Spread										Blaze Cross Slope										Max. Gutter Depth										Max. Gutter Area										Gutter Cap.										Gutter Bypass (positive # = negative)										Slope										100% Capcits										50% Capcits										(cfs)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	L	S	C	T	n	L	S	C	T	n	Ti	Tt	Tc	K	I	Label	Inlet	Inlet	Box Type 1 (a = Cb1 v2 = C02)	Box Type 1 (a = Cb1 v2 = C02)		Attainable Gutter Spread	Blaze Cross Slope	Max. Gutter Depth	Max. Gutter Area	Gutter Cap.	Gutter Bypass (positive # = negative)	Slope	Width	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits	Capcits

PIPE DESIGN TABLE																									
Return Frequency 10 yr										Pipe Capacity															
Line	Inlet Struct. #	Inlet Type	Inlet	Pipe	K	C	I	A	A	Pipe	Pipe	Pipe	Pipe	Pipe	Full Pipe	Full Pipe Velocity	Grav. Flow Pipe Velocity	Pressure Flow Pipe Velocity	Pressure Flow Pipe Velocity	Grav. Pipe Flow Depth	Minor Head Loss Coefficient	Grav. v'/2g	Pressure v'/2g	Length to downstream Infrct.	Pressure Slope S _f
			(min)	(min)			(in/hr)	(in)	Total (ac)	Pipe (cfs)	Mannings (in)	slope	Capacity (cfs)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	"K"	(in)	(in)	(ft)	%
1	13	CI	5.00	5.00	1.00	0.90	7.35	0.38	0.38	2.5	15	0.012	20.31	31.6	25.8	15.4	2.1	0.24	1.00	3.67	0.07	19	0.13%		
	12	CI	5.00	5.02	1.00	0.90	7.35	0.04	0.42	2.8	15	0.012	2.83	11.8	9.6	7.9	2.3	0.41	0.50	0.48	0.04	27	0.16%		
	11	CI	5.00	5.08	1.00	0.90	7.33	0.04	0.46	3.0	15	0.012	1.00	7.0	5.7	5.5	2.5	0.56	0.50	0.23	0.05	17	0.19%		
	Insert Tee to CMP Detention																								
2	21	CI	5.00	5.00	1.00	0.90	7.35	0.48	0.48	3.2	15	0.012	1.00	7.0	5.7	5.6	2.6	0.59	1.00	0.48	0.10	5	0.30%		
	Insert Tee to CMP Detention																								
ROOF DRAIN			5.00	5.00	1.00	0.90	7.35	0.09	0.09	0.6	6	0.012	4.00	1.2	6.2	6.1	2.9	0.24	1.00	0.58	0.13	57	0.89%		

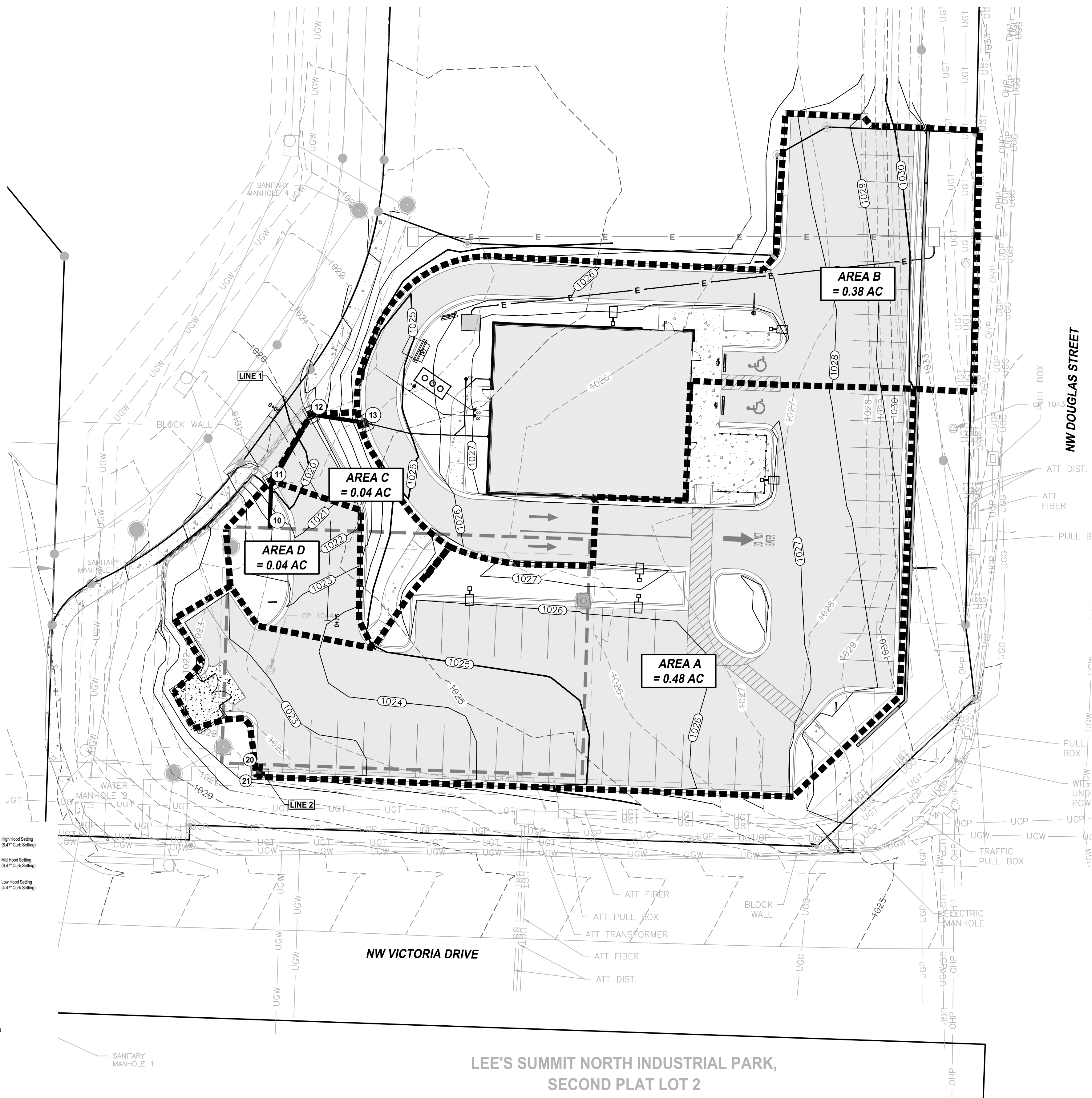
Return Frequency 100 yr															Pipe Capacity									
Line	Inlet Struct. #	Inlet Type	Tc for pipe calculations												Pipe Capacity									
			K	C	I	A	A	Pipe	Pipe	Pipe	dia	Manning's	slope	Capacity	Full Pipe Velocity	Full Pipe Velocity	Grav. Flow Pipe Velocity	Pressure Flow Pipe Velocity	Grav. Flow Pipe Velocity	Minor Head Loss Coefficient	Grav. Flow V/2g	Pressure V/2g	Length to downstream street	Pressure Slope of Friction
			Tc (min)			(in/hr)	Pipe (in)	Pipe (ac)	Pipe (ac)	Pipe (in)	"n"	(%)	(%)	(ft/s)	(ft/s)	(ft/s)	(ft/s)	feet	ft/s	ft/s	feet	(ft)	%	
1	13	CI	5.00	5.00	1.25	0.90	10.32	0.38	0.38	4.4	15	0.012	20.31	31.6	25.8	18.0	3.6	0.31	1.0	5.1	0.20	19	0.39%	
	12	CI	5.00	5.02	1.25	0.90	10.31	0.04	0.42	4.9	15	0.012	2.83	11.8	9.6	9.1	4.0	0.55	0.5	0.6	0.12	27	0.48%	
	11	CI	5.00	5.08	1.25	0.90	10.29	0.04	0.46	5.3	15	0.012	1.00	7.0	5.7	6.3	4.3	0.81	0.5	0.3	0.15	17	0.57%	
Insert Tee to CMP Detention																								
2	21	CI	5.00	5.00	1.25	0.90	10.32	0.48	0.48	5.6	15	0.012	1.00	7.0	5.7	6.3	4.5	0.84	1.0	0.6	0.32	5	0.63%	
Insert Tee to CMP Detention																								
ROOF DRAIN			5.00	5.00	1.25	0.90	10.32	0.09	0.09	1.0	6	0.012	4.00	1.2	6.2	6.9	5.2	0.35	1.0	0.7	0.41	57	2.75%	

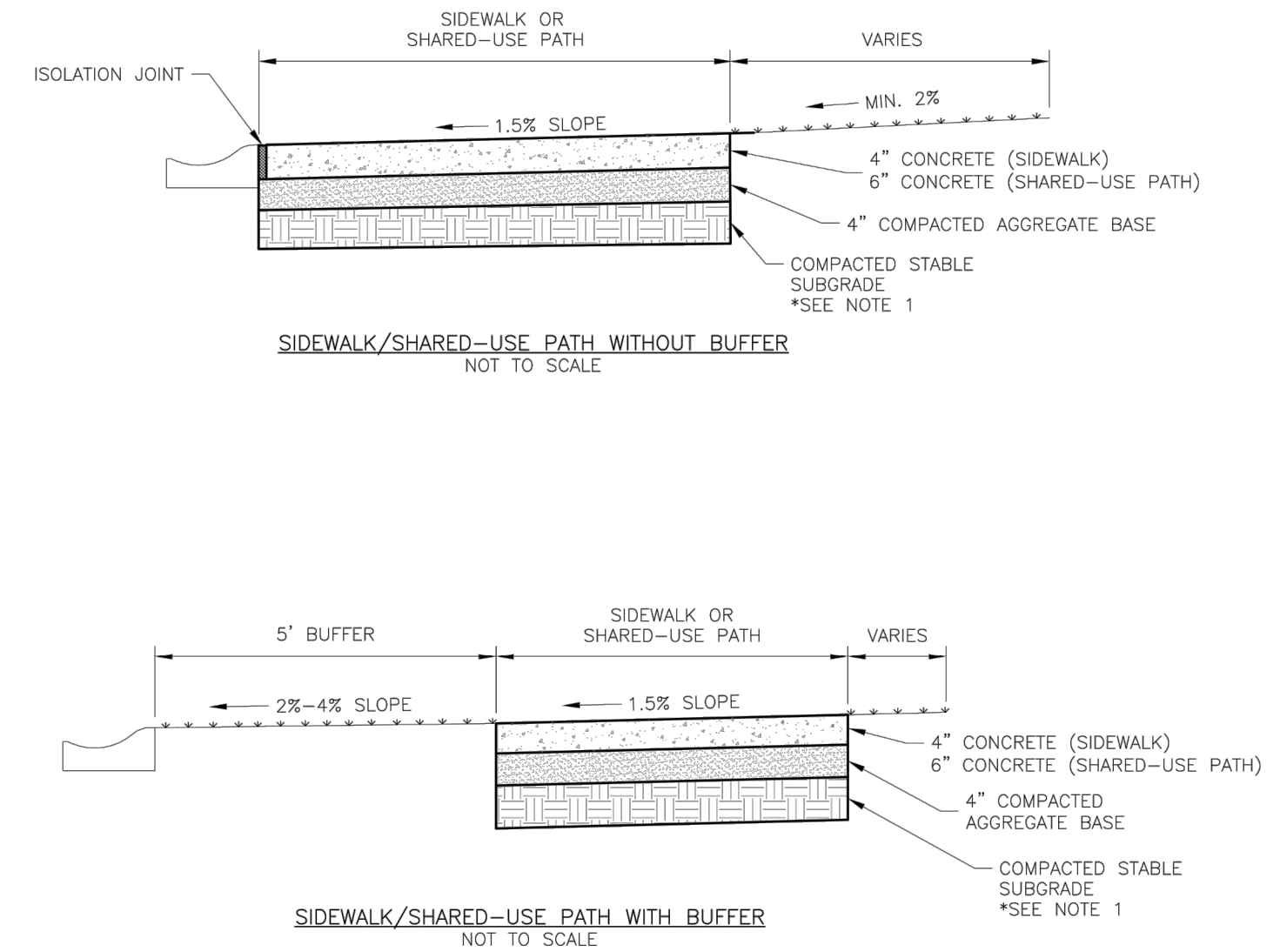
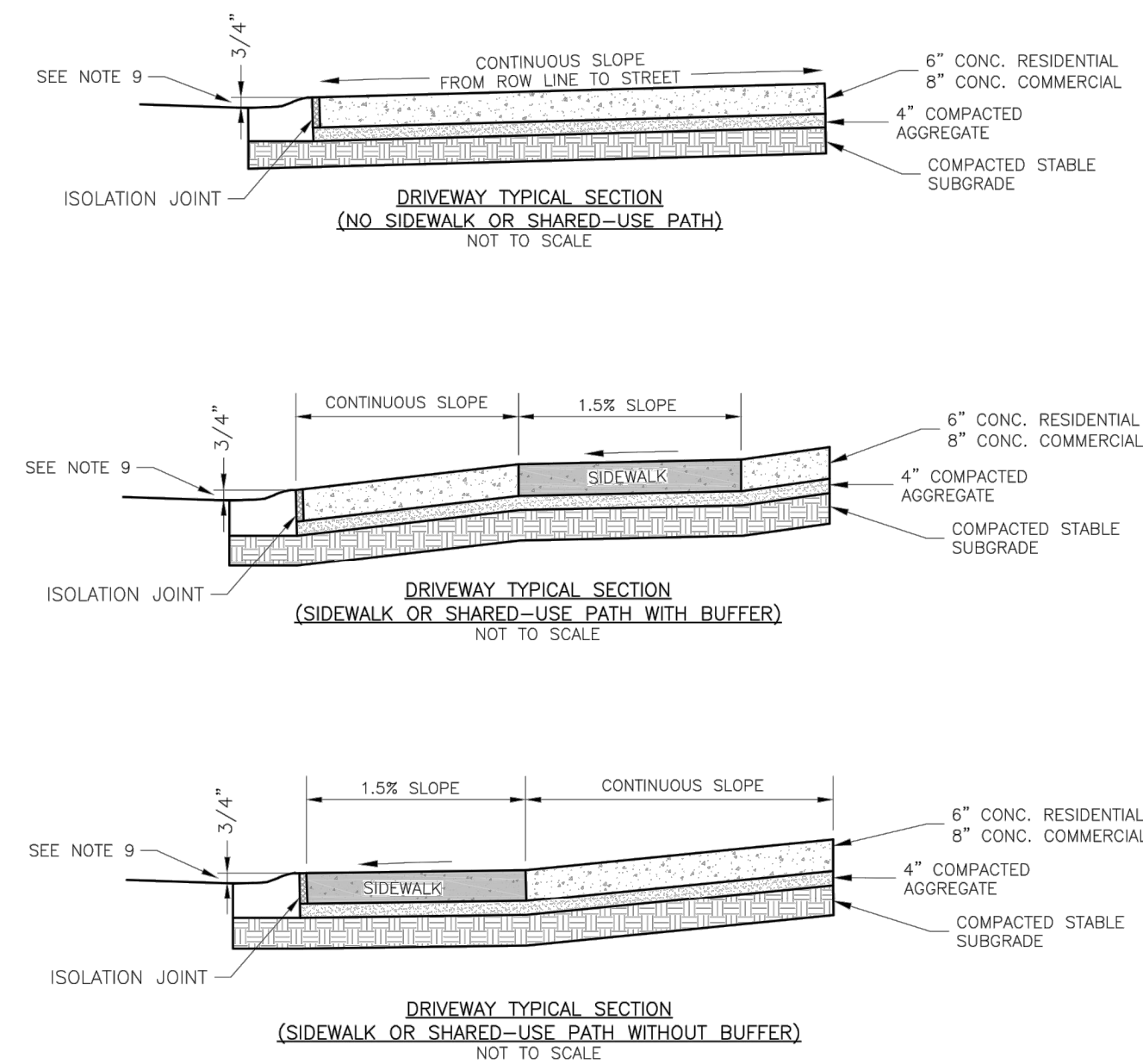
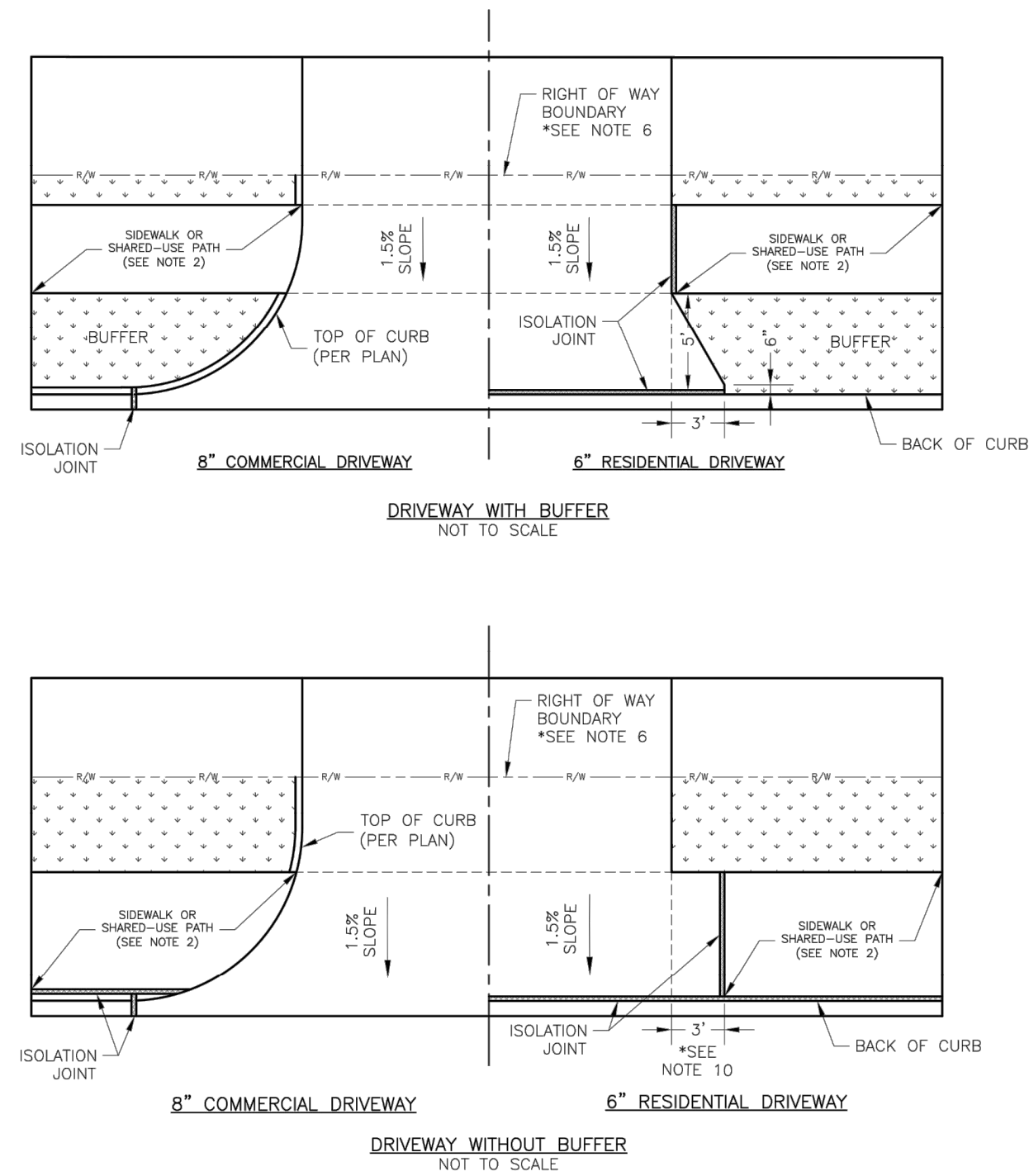


Nyloplast
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GENERAL NOTES:

1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. 4" MINIMUM 4K CONCRETE MIN SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64068

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
DRIVEWAY DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Project:

GEN-1

LS

LEE'S SUMMIT
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SIDEWALK/SHARED-USE PATH DETAIL

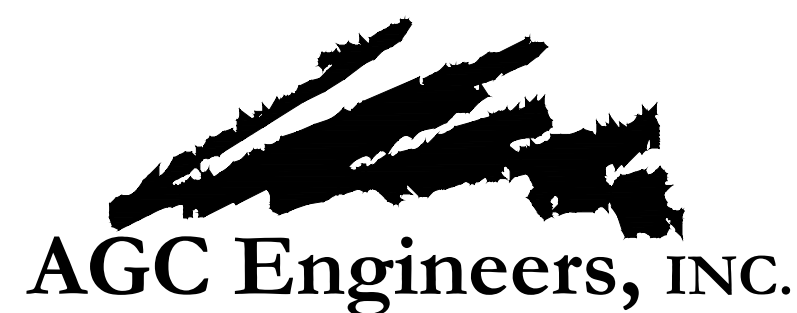
Date: 04/17

Drawn By: MJF

Checked By: D

GEN-2

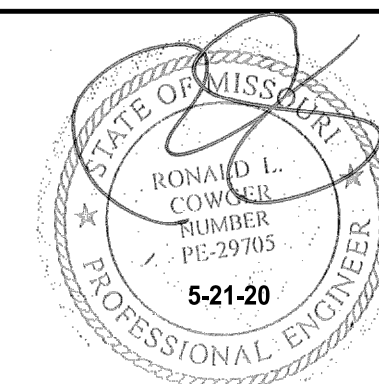
BY	REVISION	DATE
RC/ACA	FOR REVIEW	5-21-20



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Liberty, Missouri 64068

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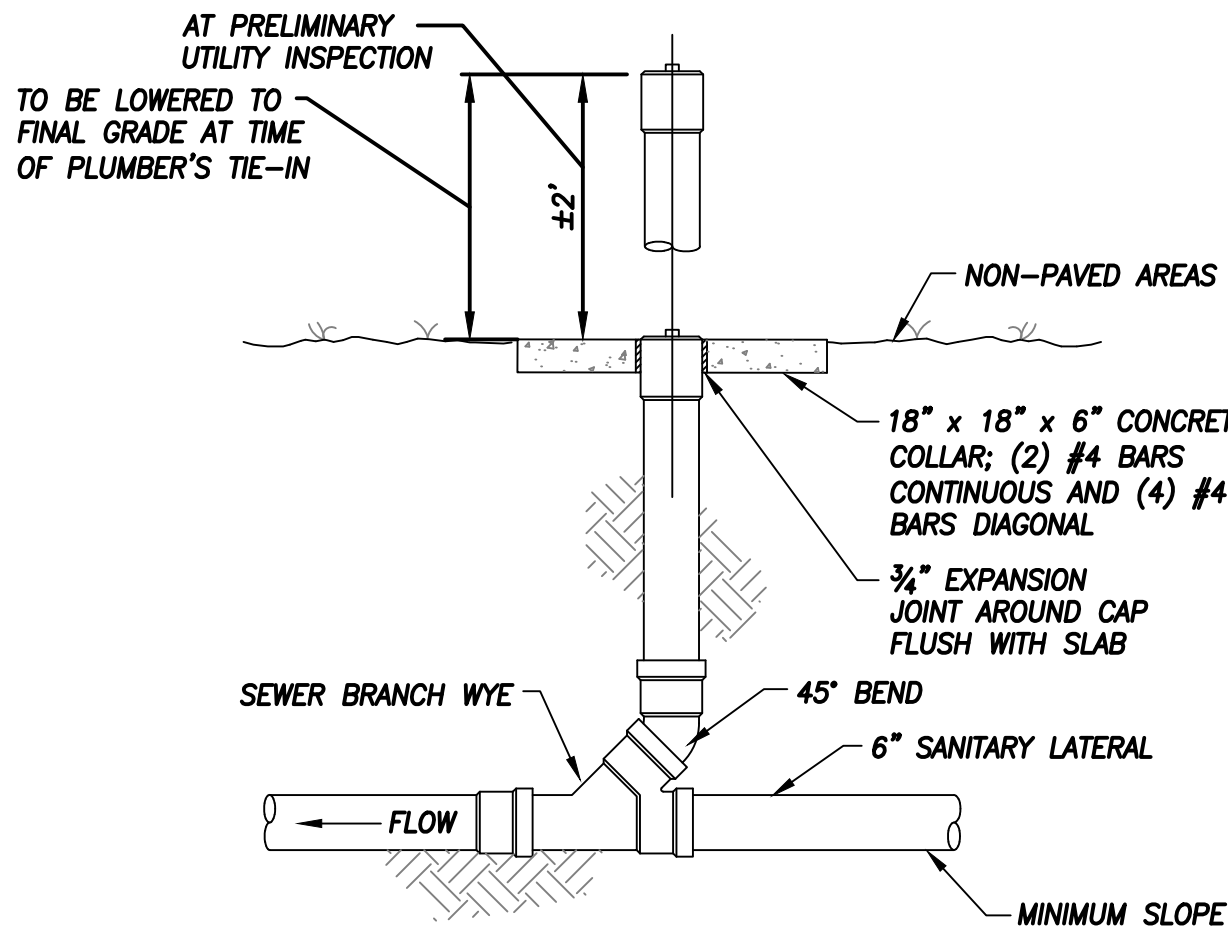
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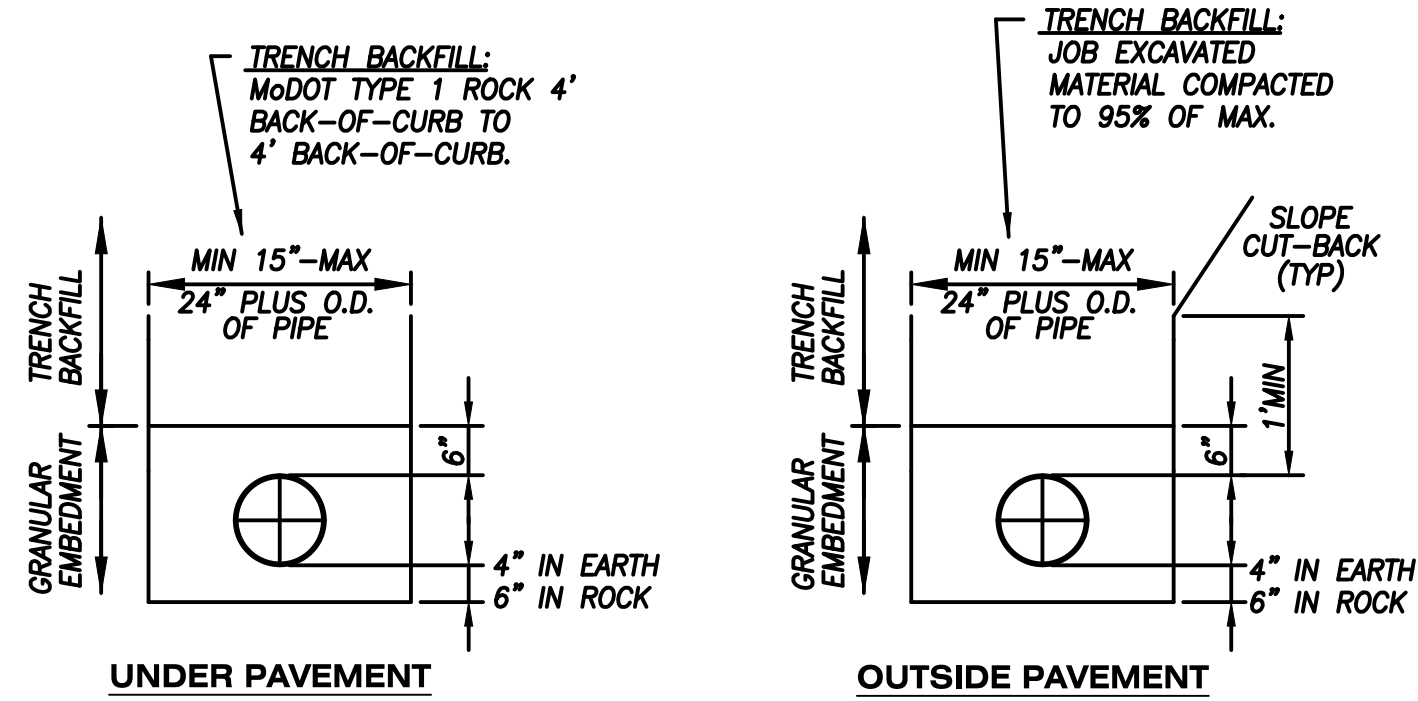
PANERA BREAD BAKERY - CAFE
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

FINAL DEVELOPMENT PLANS DETAILS

13

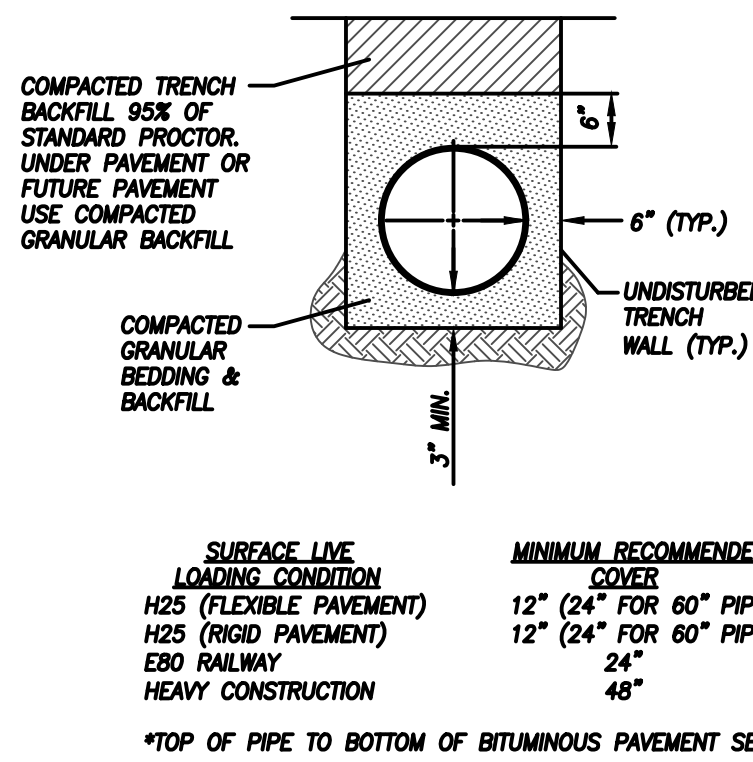


CLEAN-OUT DETAIL
NOT TO SCALE



EMBEDMENT AND BACKFILL FOR
SANITARY SEWERS

NOT TO SCALE

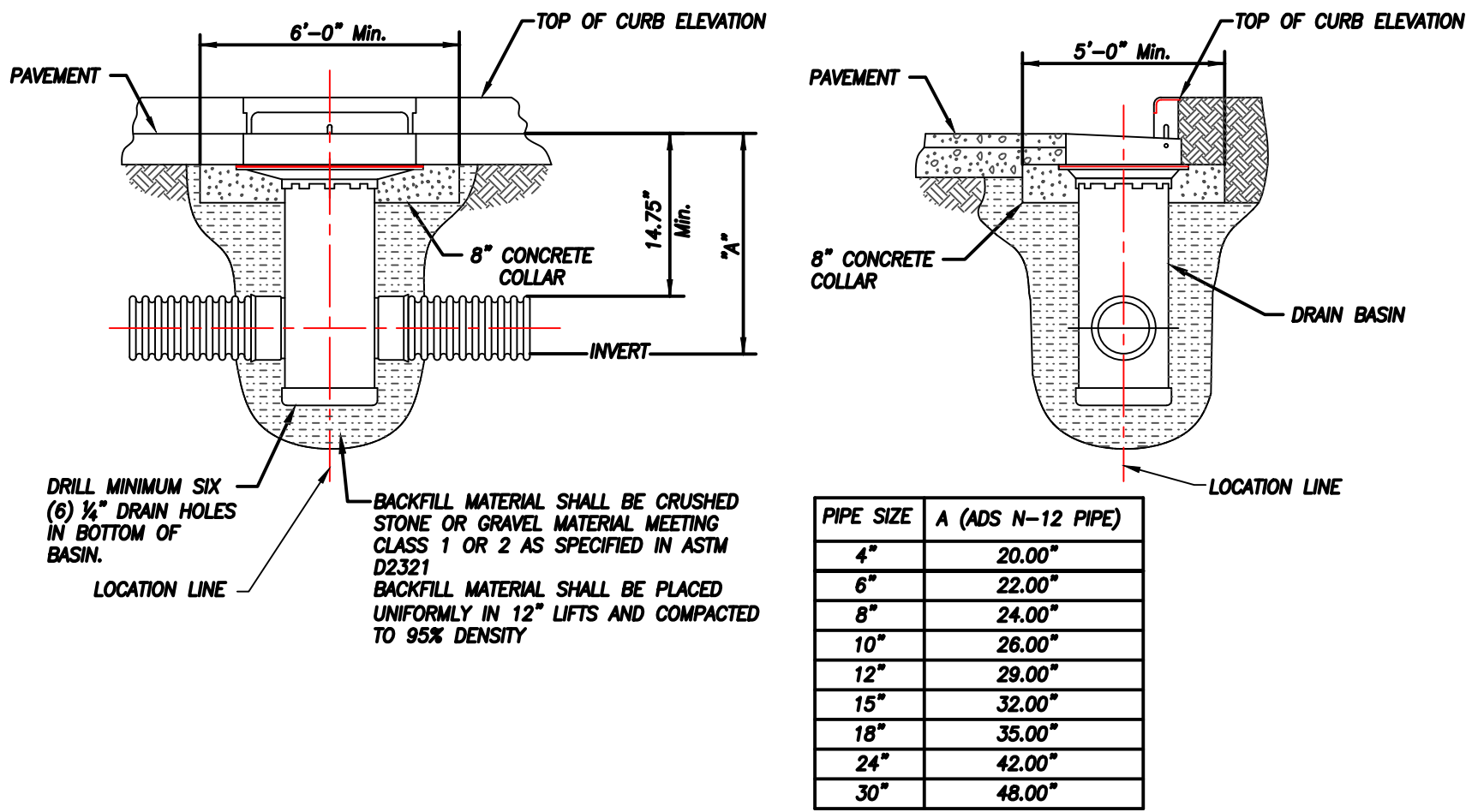


1. **FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING WOVEN GEOTEXTILE FABRIC.
2. **BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4"; FOR 4"-24" DIA. HDPE; 6" FOR 30"-60" DIA. HDPE.
3. **HAUNCHING AND INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
4. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL DIA.	MIN. RECOMMENDED TRENCH WIDTH
4	21
6	23
8	25
10	28
12	31
15	34
18	39
24	48
30	66
36	78
42	83
48	89
60	102
5. **MINIMUM COVER:** MINIMUM RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF THE PIPE TO THE GROUND SURFACE.

HDPE (HIGH DENSITY POLYETHYLENE)
PIPE INSTALLATION DETAIL

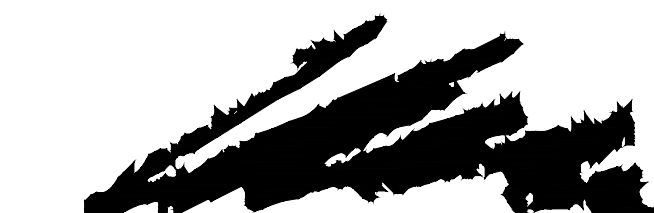
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NYLOPLAST DRAIN BASIN - TYPICAL INSTALLATION

NOT TO SCALE

BY	REVISION	DATE
RCI/ACA	FOR REVIEW	5-21-20

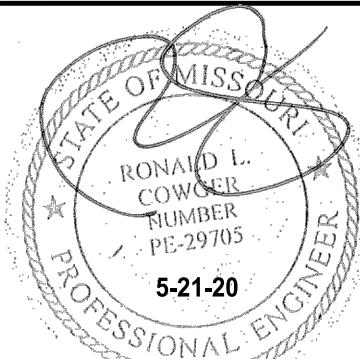


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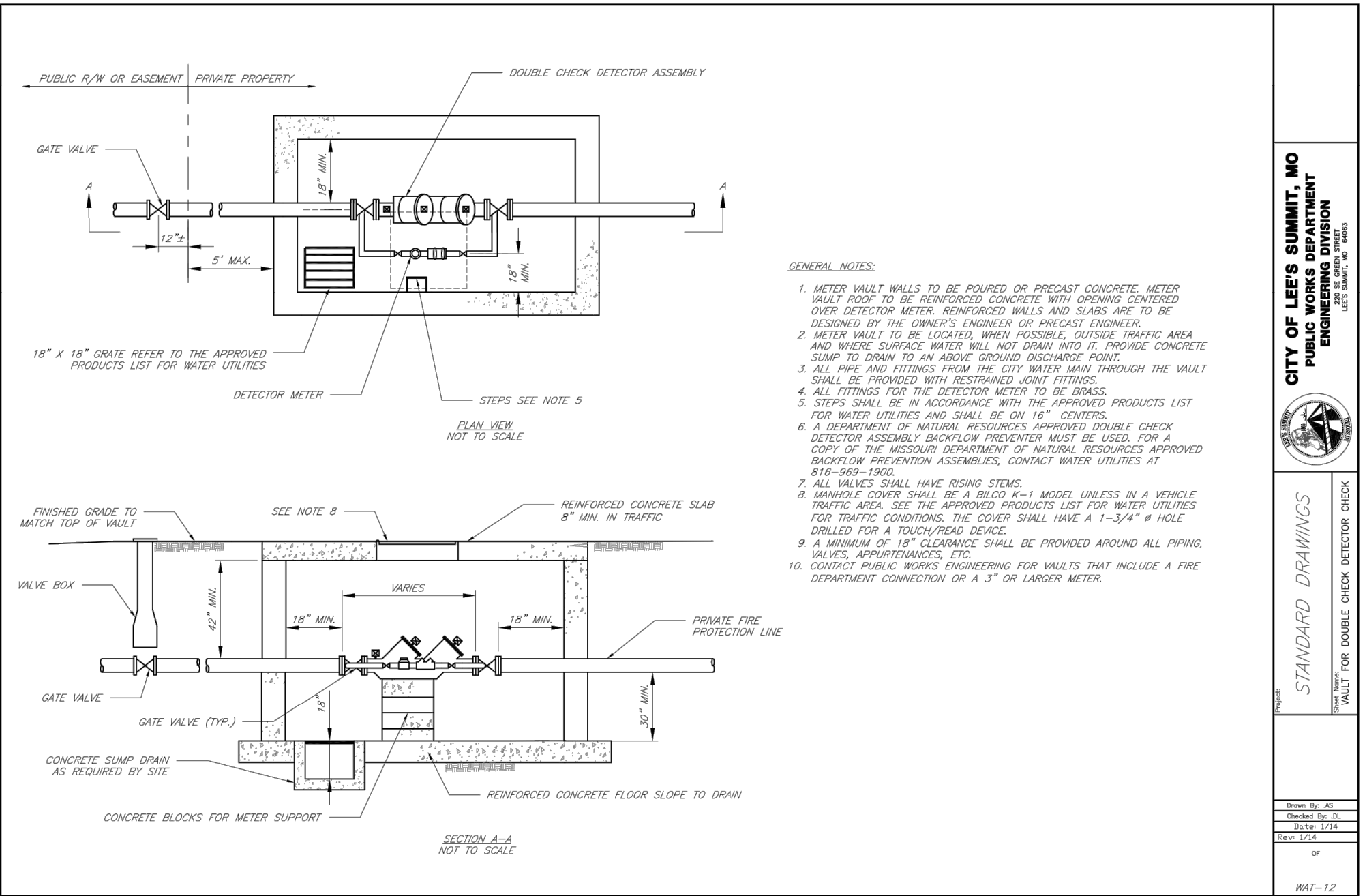
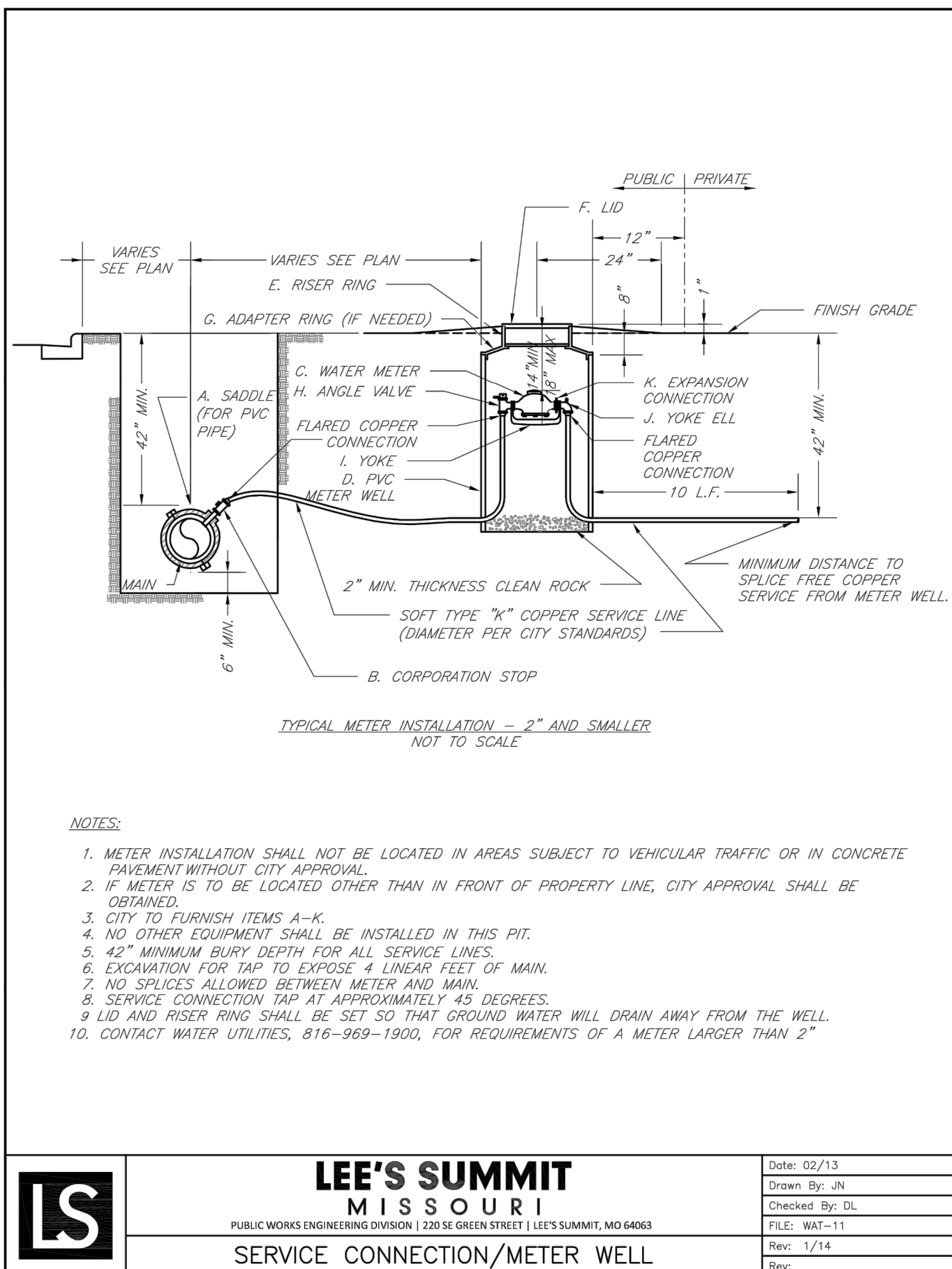
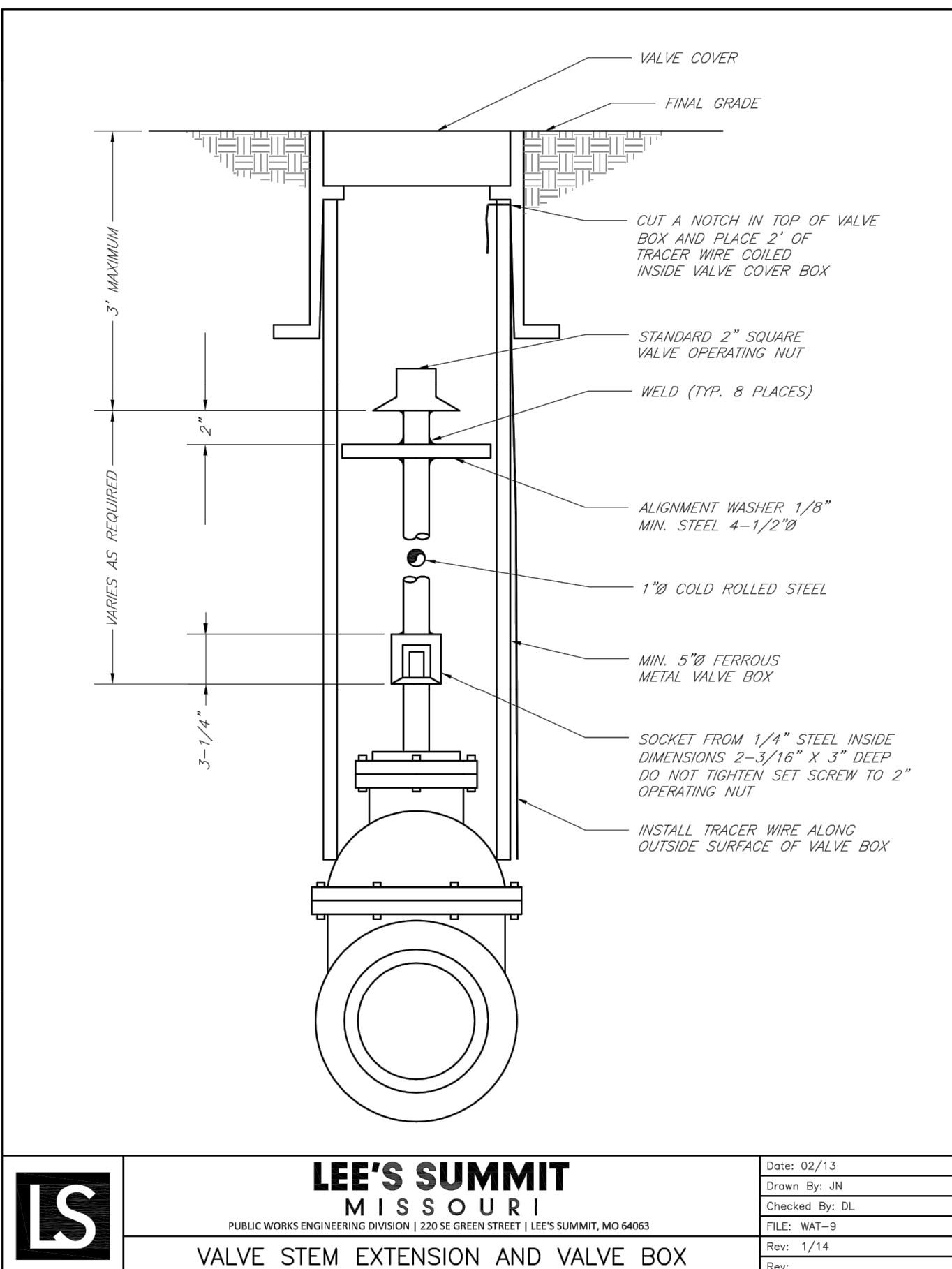
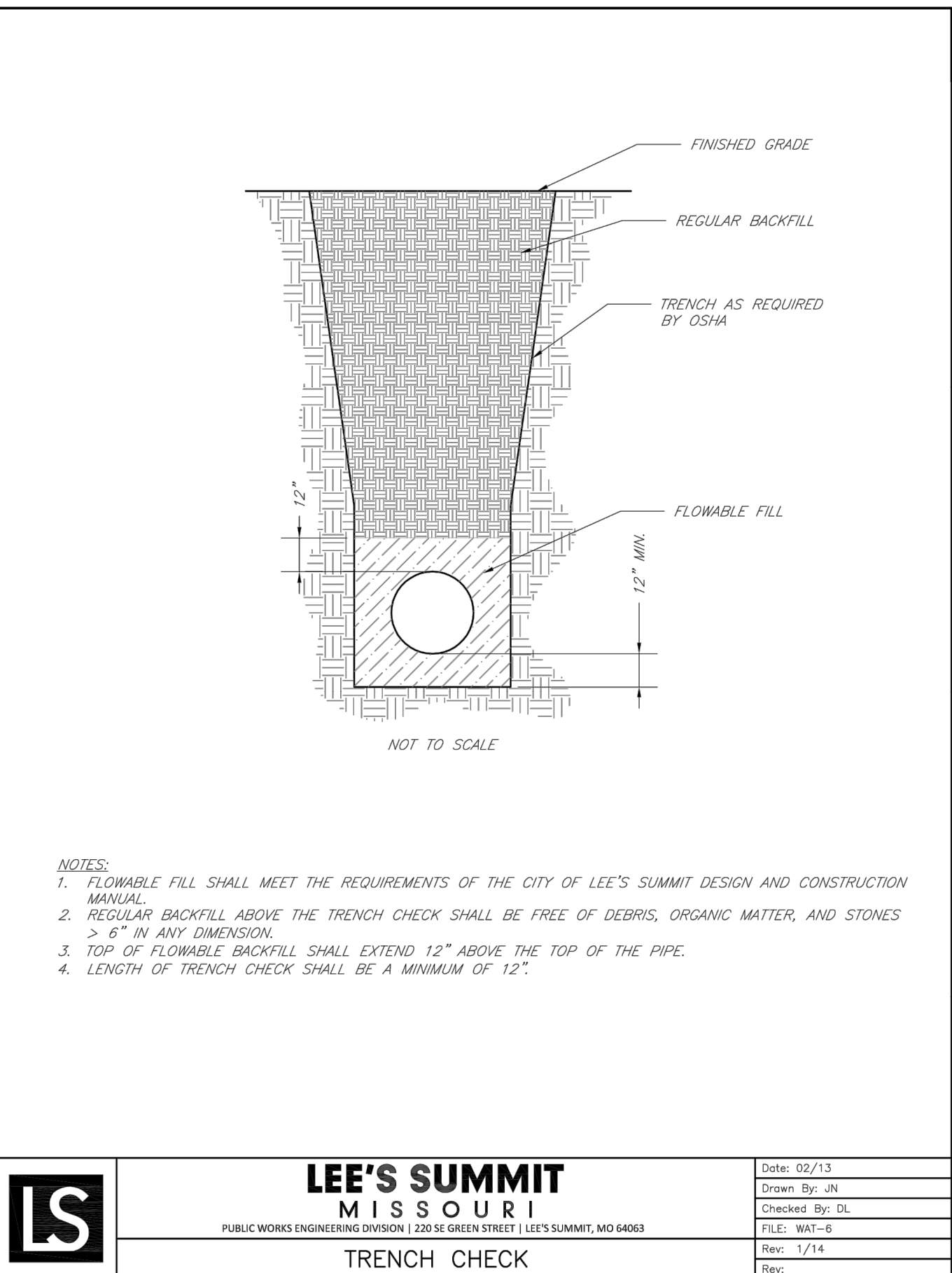
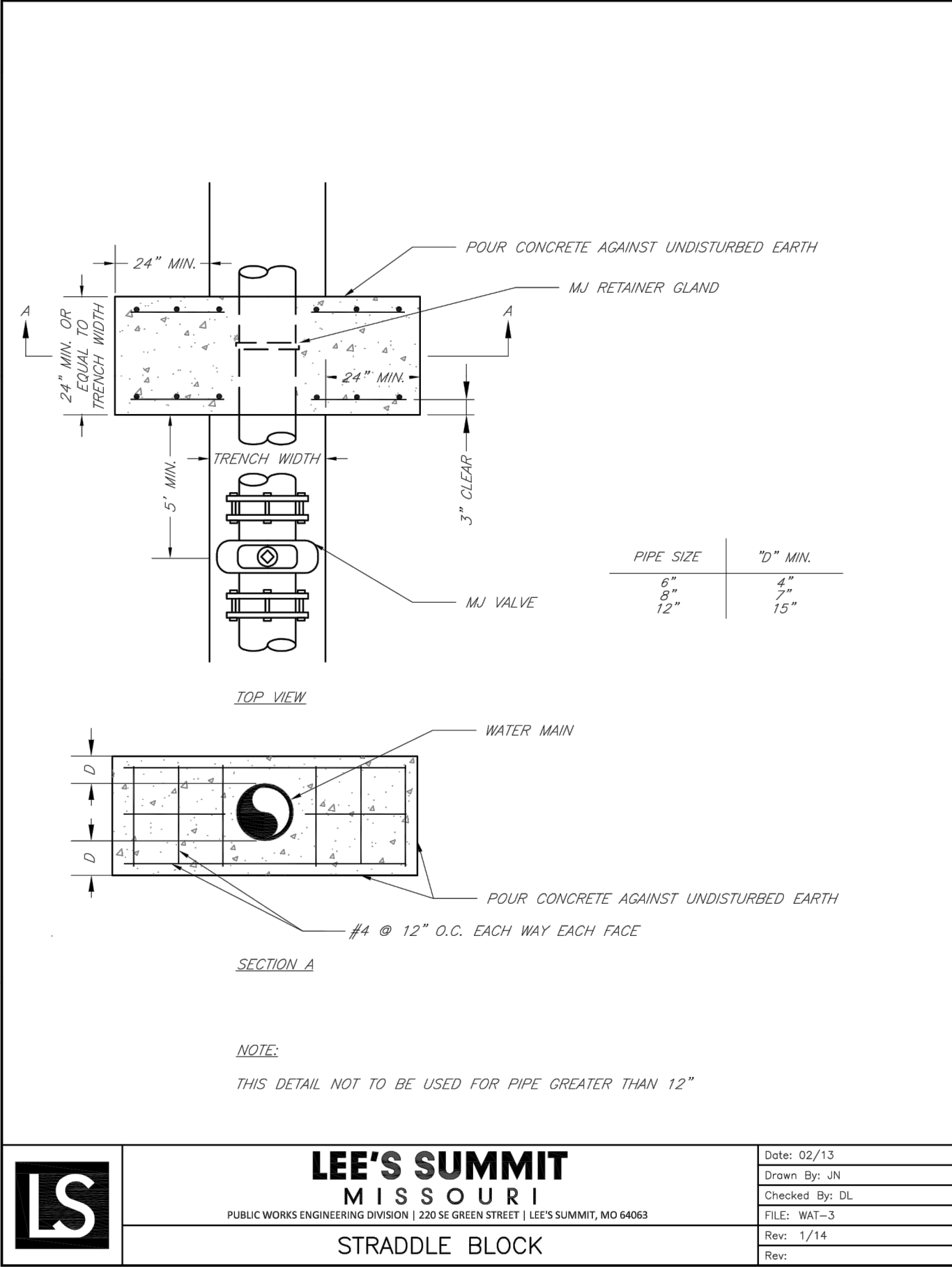
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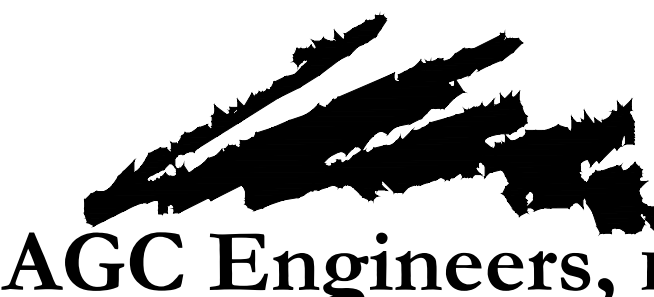


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BY	REVISION	DATE
RC/ACA	FOR REVIEW	5-21-20

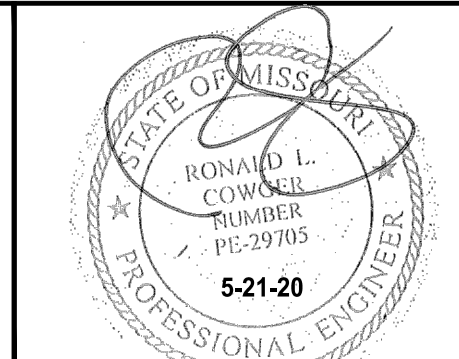


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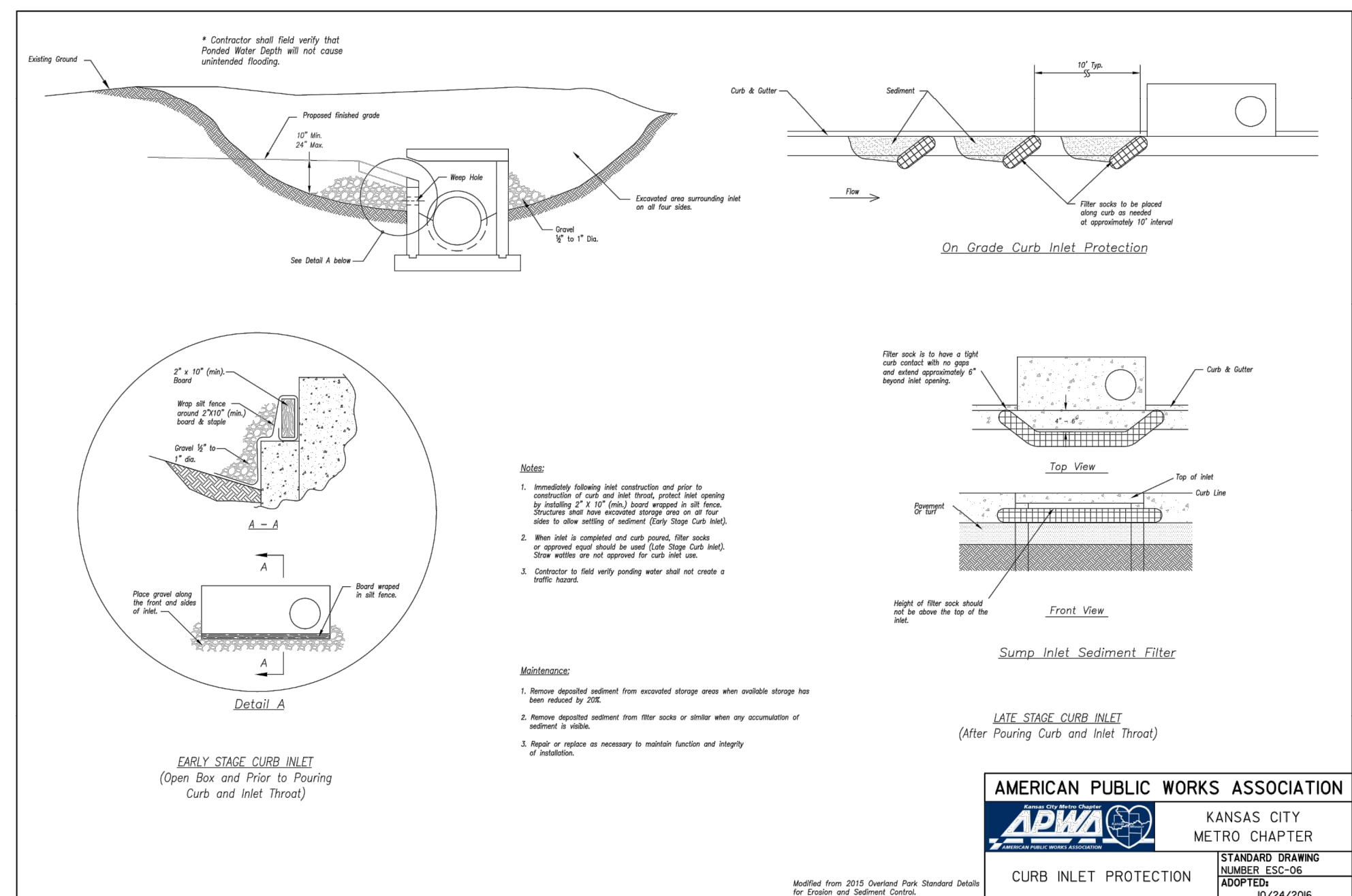
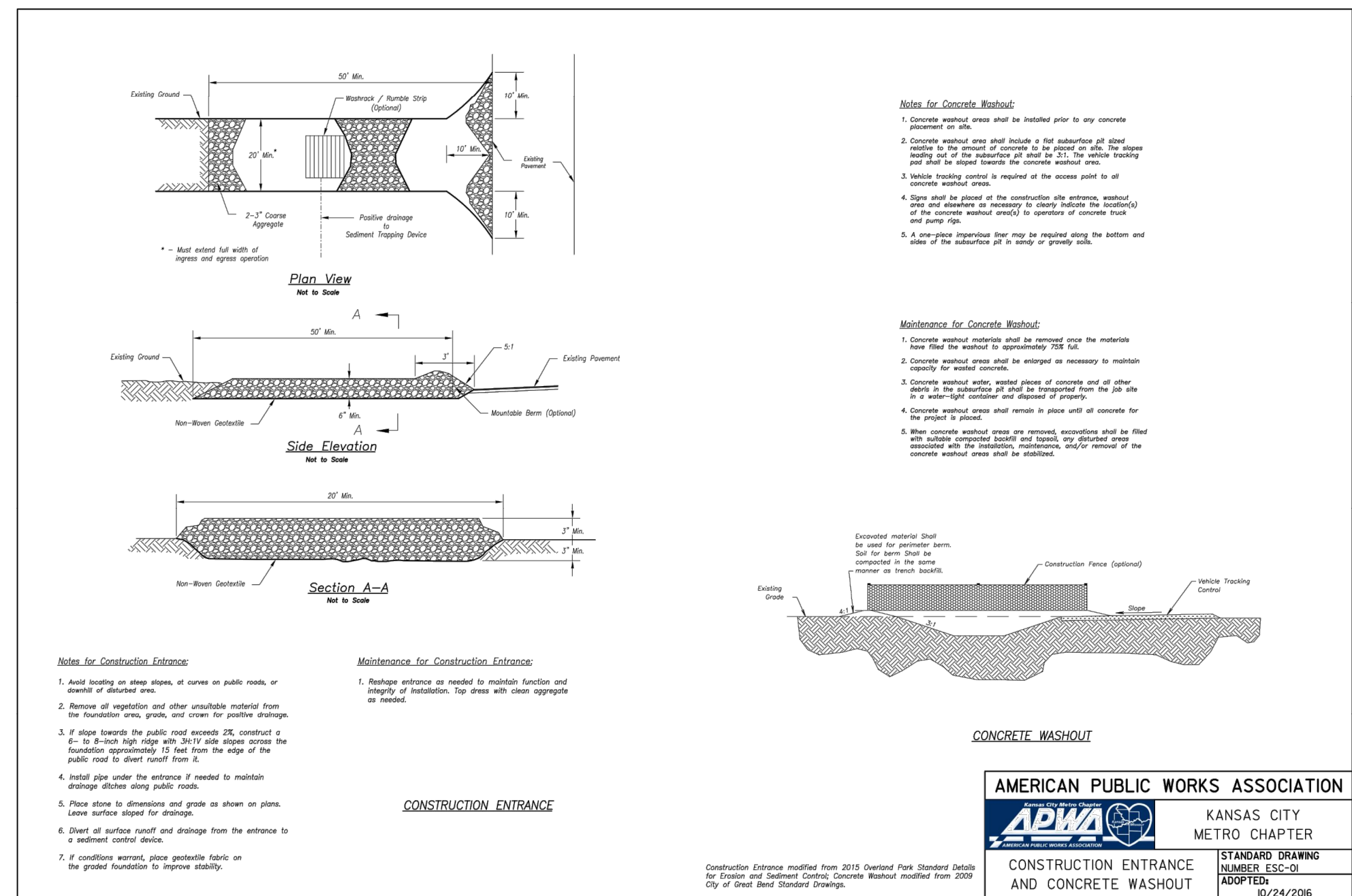
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DETAILS

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