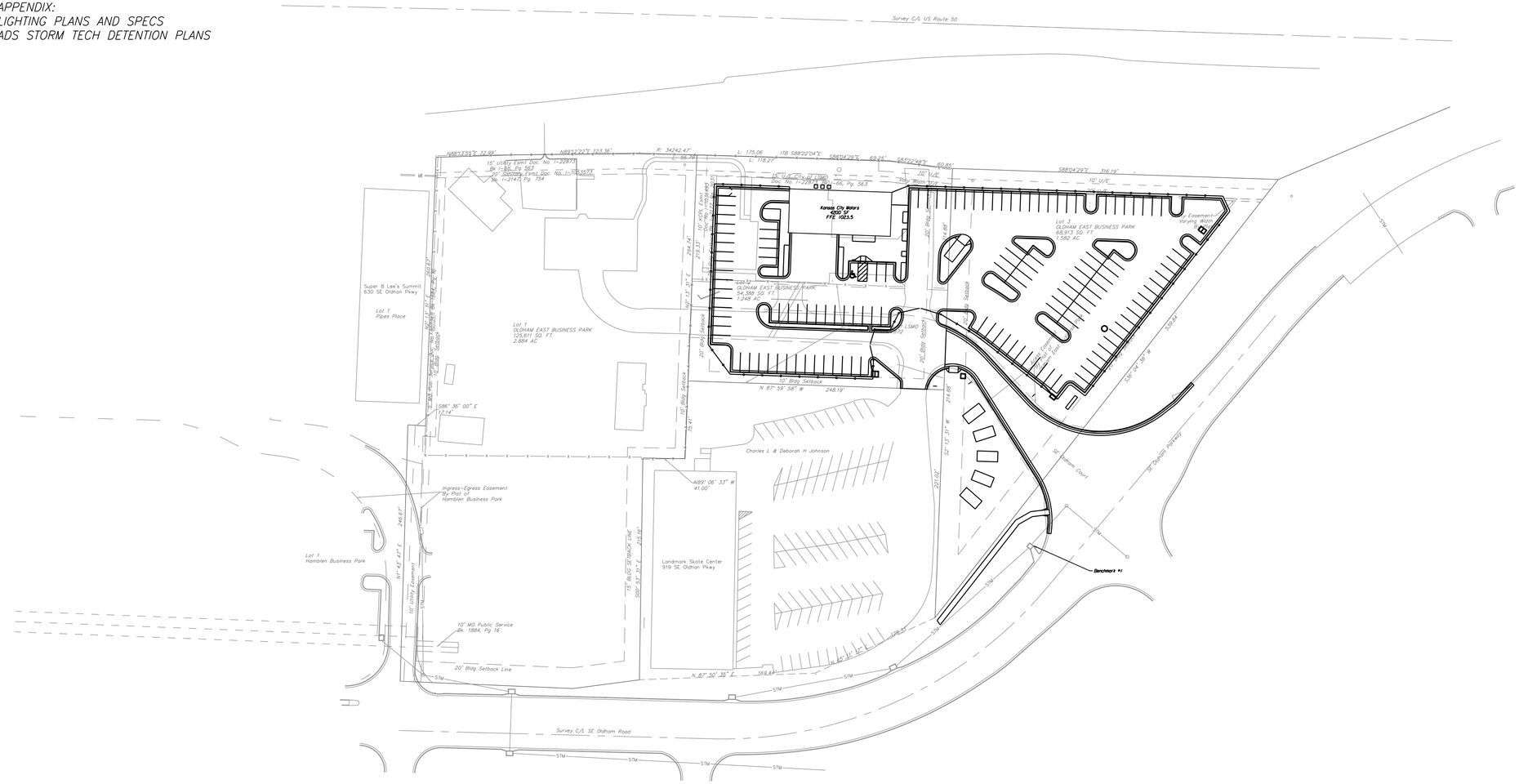
INDEX

KANSAS CITY MOTORS
LOTS 2 AND 3
OLDHAM EAST BUSINESS PARK
LEE'S SUMMIT – JACKSON COUNTY MO
FINAL DEVELOPMENT PLAN



UTILITIES

City of Lee's Summit
Department of Public Works
220 SE Green
Lee's Summit, Mo.
816–969–1800

KCPL
130 SE Hamblen Road
Lee's Summit, Mo.
816–347–4320

Missouri Gas Energy
3025 SE Clover Road
Lee's Summit, Mo.
816–537–4681

AT&T
215 N. Spring
Independence, Mo.
816–325–5610

Time Warner
6550 Winchester Avenue
Kansas City, Mo.
913–643–1901

Missouri One Call
1–800–344–7483

PREPARED FOR

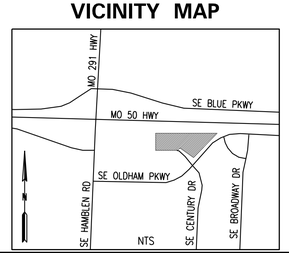
MARVIN McFARLAND

11100 BLUE RIDGE BLVD.
KANSAS CITY, MO 64134
816–965–6300

PROJECT BENCHMARK

#1 SE Corner of Existing Field Inlet
N:995128.08
E:2828733.64
Elev:1013.12

VICINITY MAP



NO.	BY	CK/APP	DATE	REVISION
1	RAM	DKS	6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17

THIS IS NOT A RELEASE AND THE SIGNATURE IS NOT A BLACK INK SEAL. THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PE-2006440
PROFESSIONAL ENGINEER
6/16/17

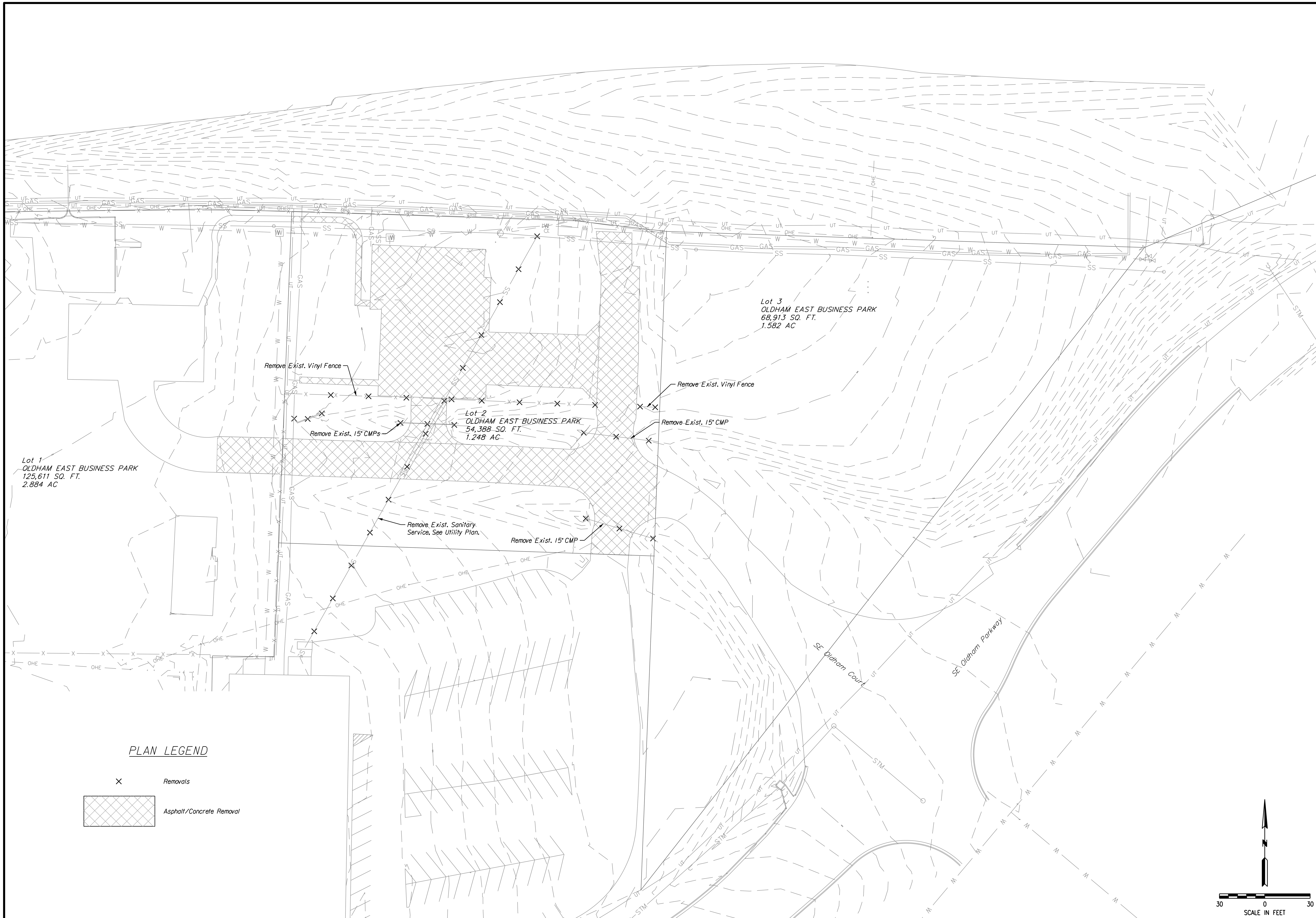
R. KEVIN STERRETT, MO E-26440

Consult engineers Inc planners
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285
CORPORATE LICENSE No. E2010005873

COVER SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01
1 SHEET OF 17
REV.



DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	RKS

IF THIS IS NOT A BLUE INK SEAL AND THE SIGNATURE IS NOT IN BLUE INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

6/16/17

R. KEVIN STERRETT, MO E-26440

Consult Inc engineers planners

11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285 CORPORATE LICENSE No. E2010005873

DEMOLITION PLAN

KANSAS CITY MOTORS

LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO. XXX

DRAWING NO. XXX

DATE June 16, 2017

JOB NO. 16.045.01

2 SHEET OF 17

REV.

GENERAL NOTES:

1. The recorded plat, Oldham East Business Park was used in preparation of this Final Development Plan.
2. Cross Access easements for common driveways and adjoining parking lots will be provided on the Final Plat.
3. There is no visible evidence of abandoned oil or gas wells located within the plat boundary, as identified in "Environmental Impact Study of Abandoned Oil and Gas Wells in Lee's Summit, Missouri", Edward Alton May, Jr., P.E., 1995.
4. Mechanical units shall be totally screened from view in accordance with Article 7 of the UDO.
5. All materials, colors, and architecture of buildings to meet the requirements of section 7.280 of the current UDO.
6. Contractor to locate and relocate any existing utilities that may conflict with construction as necessary.
7. The development shall meet the requirements of the Unified Development Ordinance, Design and Construction Manual, Access Management Code and other ordinance for development including, but not limited to, parking setbacks and spaces, ADA requirements, site lighting,landscaping and screening, utilities, and zoning requirements.
8. Every ADA accessible parking space shall be identified by a sign, mounted on a pole or other structure, located between 36 inches and 60 inches above the ground, measured from the bottom of the sign, and the head of the parking space.
9. All identifying signs shall be 12 inches wide by 18 inches in height and meet the requirement set forth in the Manual on Uniform Traffic Control Devices, as referenced in the Lee's Summit General Code of Ordinances.
10. All Landscaping to meet Article 14 of the UDO.
11. There shall be two way traffic movement.
12. See architectural submittal for all building dimensions, monument signs and lighting details.
13. Parking lot screening to meet UDO.
14. Exterior lighting to conform to UDO requirements (400 watt lamp, 18' maximum pole height and 90° cut-off for light dispersion).
15. All curb to be CG-1 curb, unless otherwise noted.
16. Easements are provided for ingress/egress as shown and per the recorded plat.
17. Parking Spaces shall be 9' x 19' (perimeter w/ curb), 9' x 19' (interior center), and 9'x20' (interior w/ no curb).
18. Watershed: East Fork-Little Blue River (to Prairie Lee Lake)
19. A minor plat will be prepared to combine the two lots into 1 lot. A private easement for the sanitary sewer service for the Landmark Skate Center building will be dedicated on the plat.
20. All dimensions are to back of curb unless otherwise noted.
21. All curb radii within parking lot are 5' unless otherwise noted.
22. Knox padlocks shall be provided on the gates per IFC 506.1. The key box shall be of an approved type listed in accordance with UL 1037, and shall contain keys to gain necessary access as required by the fire code official.

STREETS:
- Improvements to the main entrance off of SE Oldham Parkway shall consist of curb & gutter addition only. No sidewalk is required for the road frontage for this property.

BUILDING LINES:
- Minimum required building line is 20 feet on 50 Hwy frontage, 20 feet on West side of the property, and 10 feet on South side of the property.

PARKING SETBACK LINES:
- Minimum required parking setback line is 20 feet on 50 Hwy frontage, 20 feet on West side of the property, and 10 feet on South side of the property.

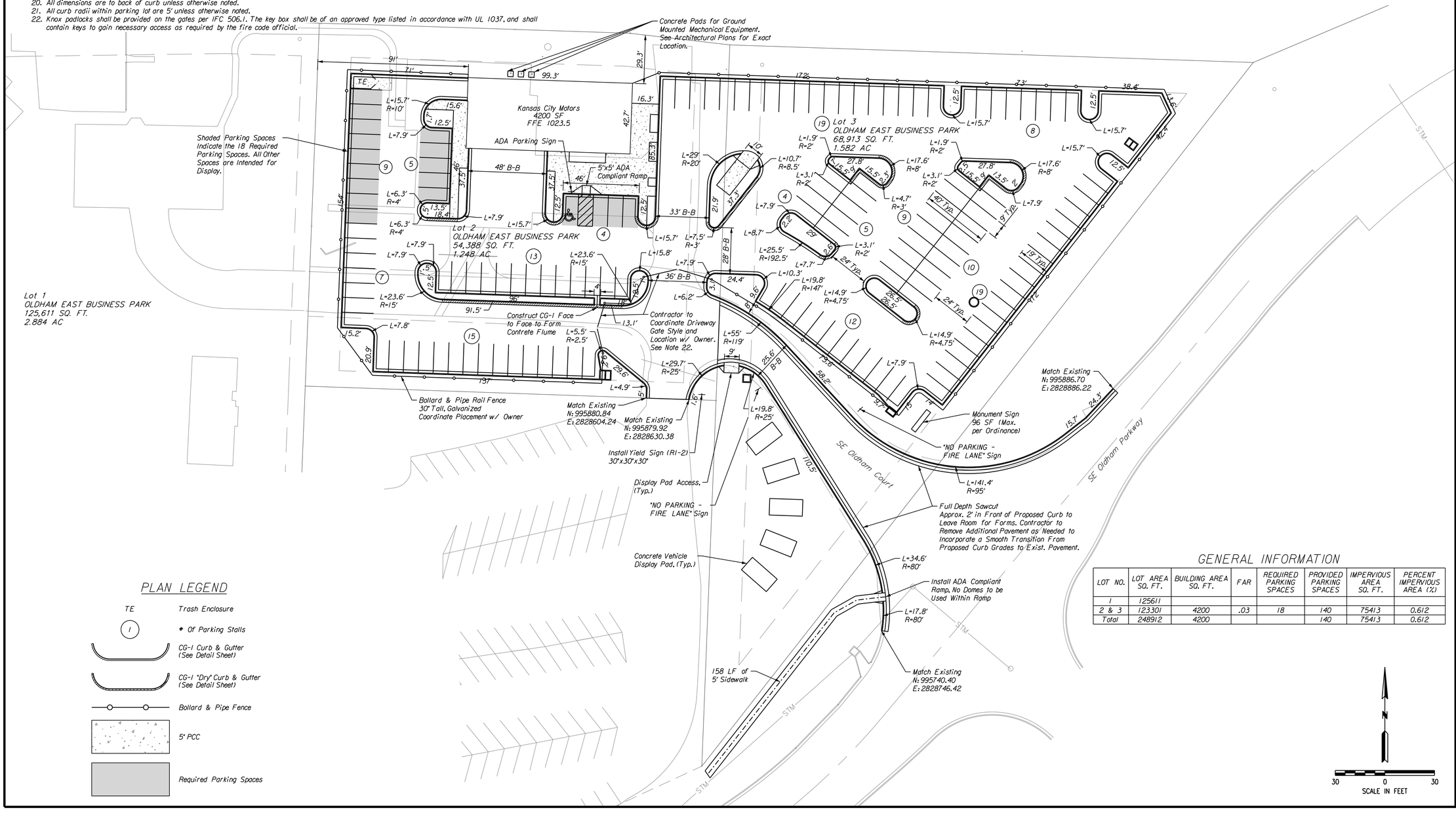
SIDEWALKS:
- Interior sidewalks are 5' as shown. Sidewalks to be 5" PCC on 4" of compacted gravel.

PROJECT DATA:
The site is Zoned CS
Project Area - 2.83 acres
Number of Lots - 2
Density = 1.90 lots/acre

PHASING:
- The project infrastructure as shown shall be completed in 1 phase.

PARKING:
- Parking Spaces Required/Provided - 18/18
  Garage - 3/bay x 4 bays = 12
  Sales Area - 2/1000sf - 2.1 x 2 = 4.2 (5)
  Outside Display Area - 1/2500sf, 6 display pods at 200sf each - 1200sf = 0.48 (1)
  ADA Spaces Required/Provided - 1/1

SITE ADDRESS:
704 SE Oldham Court, Lee's Summit, MO 64081



PLAN LEGEND

- TE — Trash Enclosure
- (1) — # Of Parking Stalls
- CG-1 Curb & Gutter (See Detail Sheet)
- CG-1 "Dry" Curb & Gutter (See Detail Sheet)
- Ballard & Pipe Fence
- 5" PCC
- Required Parking Spaces

GENERAL INFORMATION

LOT NO.	LOT AREA SQ. FT.	BUILDING AREA SQ. FT.	FAR	REQUIRED PARKING SPACES	PROVIDED PARKING SPACES	IMPERVIOUS AREA SQ. FT.	PERCENT IMPERVIOUS AREA (%)
1	125611						
2 & 3	123301	4200	.03	18	140	75413	0.612
Total	248912	4200			140	75413	0.612

SCALE IN FEET: 30 0 30

NO.	BY	CK/APP	DATE	REVISION
1	RAM	DKS	6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17

THIS IS NOT A RELEASE MAP THE SIGNATURE IS NOT IN BLUE INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI — R. KEVIN STERRETT — NUMBER PE-26440 — PROFESSIONAL ENGINEER
6/16/17

Consult engineers Inc planners
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285
CORPORATE LICENSE No. E2010005873

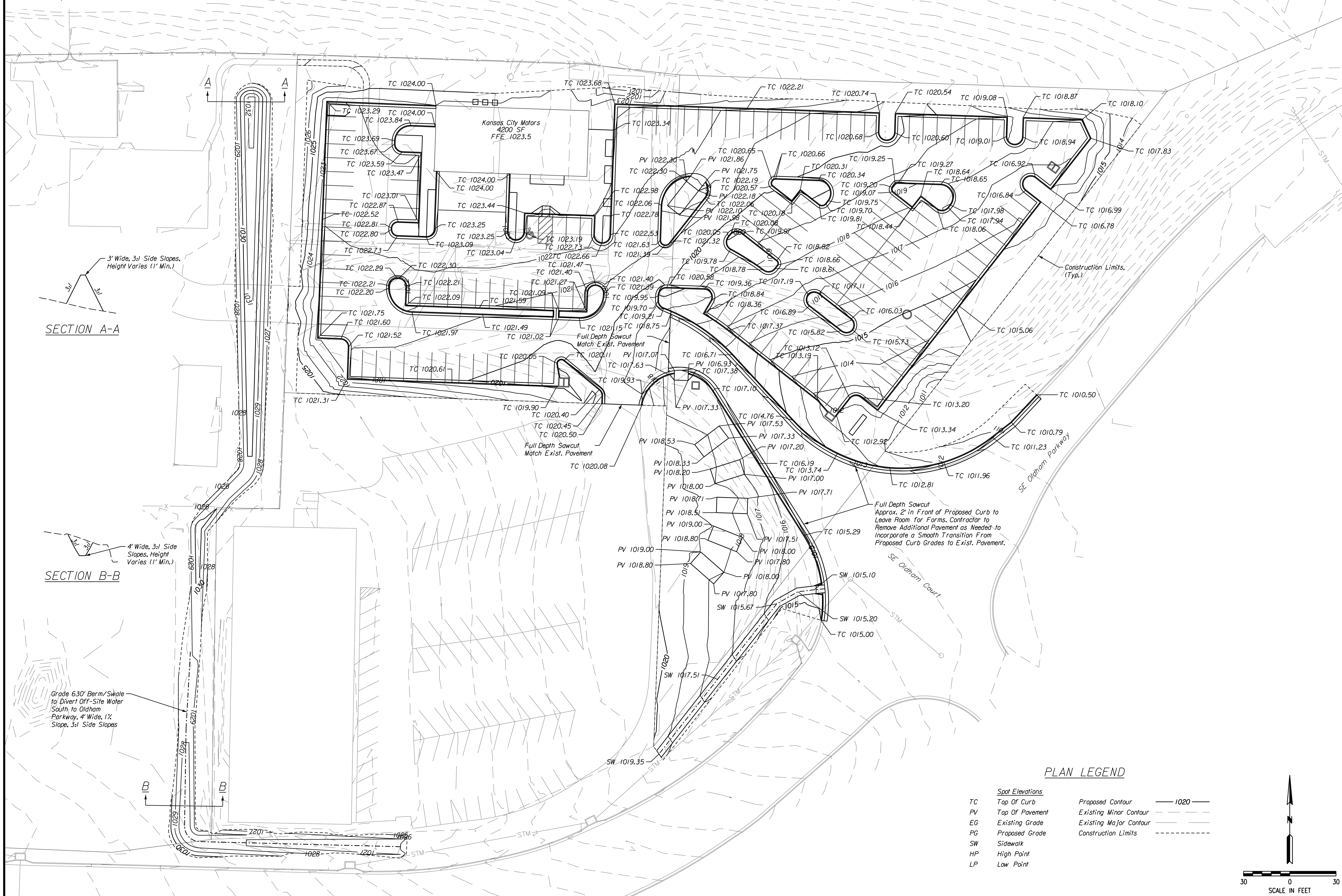
DIMENSION PLAN

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO.: XXX
DRAWING NO.: XXX
DATE: June 16, 2017
JOB NO.: 16.045.01
SHEET OF: 3 17
REV.

GENERAL NOTES:

1. See detail sheet for pavement section and details.
2. All slopes to be 3:1 max.



PLAN LEGEND

Spot Elevations

TC	Top Of Curb	Proposed Contour	1020
PV	Top Of Pavement	Existing Minor Contour	
EG	Existing Grade	Existing Major Contour	
PG	Proposed Grade	Construction Limits	
SW	Sidewalk		
HP	High Point		
LP	Low Point		

DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	RKS

IF THIS IS NOT A BLUE INK SEAL AND THE SIGNATURE IS NOT IN BLUE INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

R. KEVIN STERRETT, MO E-26440
6/16/17

Consult Inc engineers planners
CORPORATE LICENSE No. E2010005873
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285

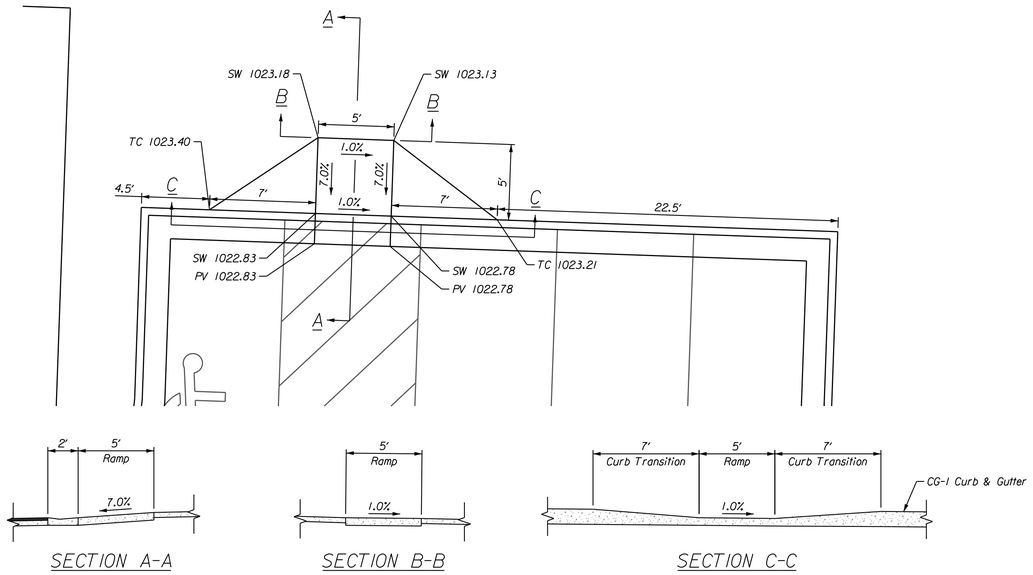
GRADING PLAN

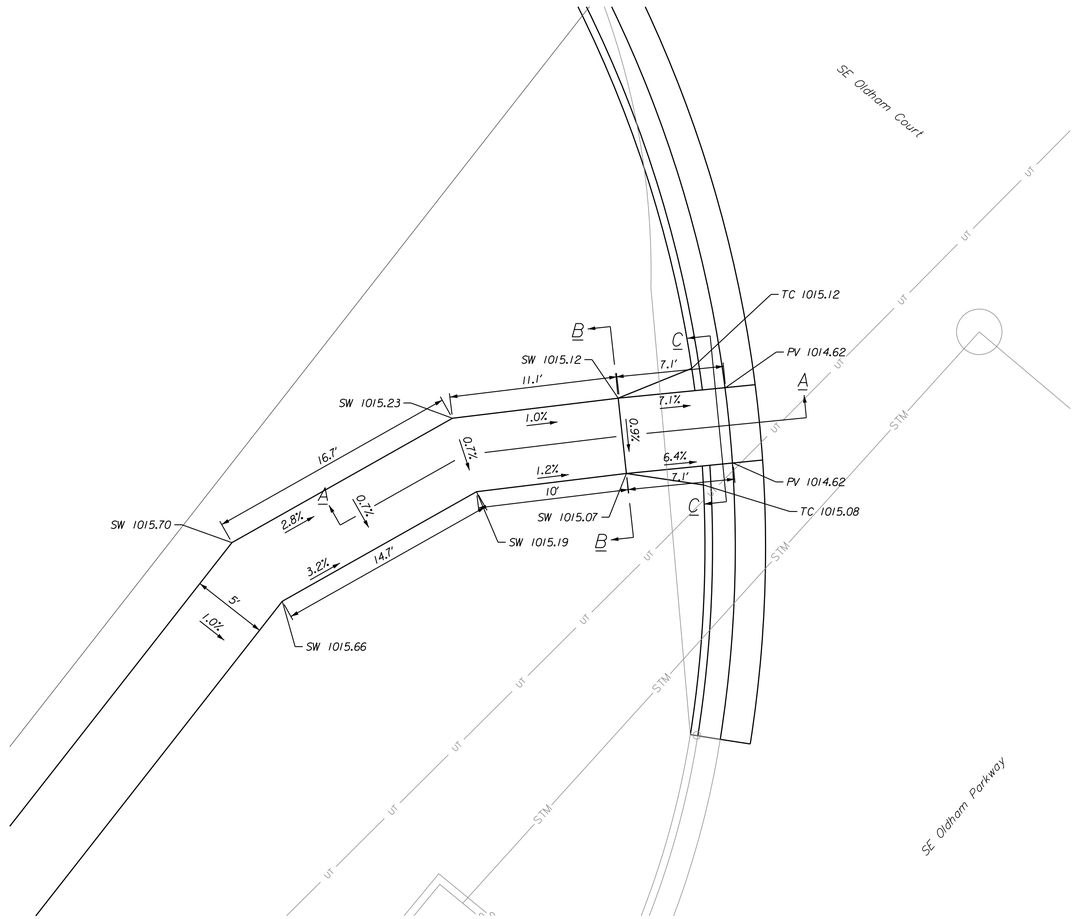
KANSAS CITY MOTORS

LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO. XXX
DRAWING NO. XXX
DATE June 16, 2017
JOB NO. 16.045.01

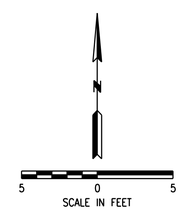
REV.





PLAN LEGEND

	Spot Elevations
TC	Top Of Curb
PV	Top Of Pavement
EG	Existing Grade
PG	Proposed Grade
SW	Sidewalk
HP	High Point
LP	Low Point



NO.	DATE	REVISION	BY	CK/APP
1	6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	RAM	DKS

THIS IS NOT A RELEASE AND THE SIGNATURE IS NOT A SEAL AND THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PROFESSIONAL ENGINEER
6/16/17

R. KEVIN STERRETT, MO E-26440

Consult engineers Inc planners
CORPORATE LICENSE No. E2010005873
1010 Haskell St., Ste 210, Kansas City, KS 66109 816-759-2285

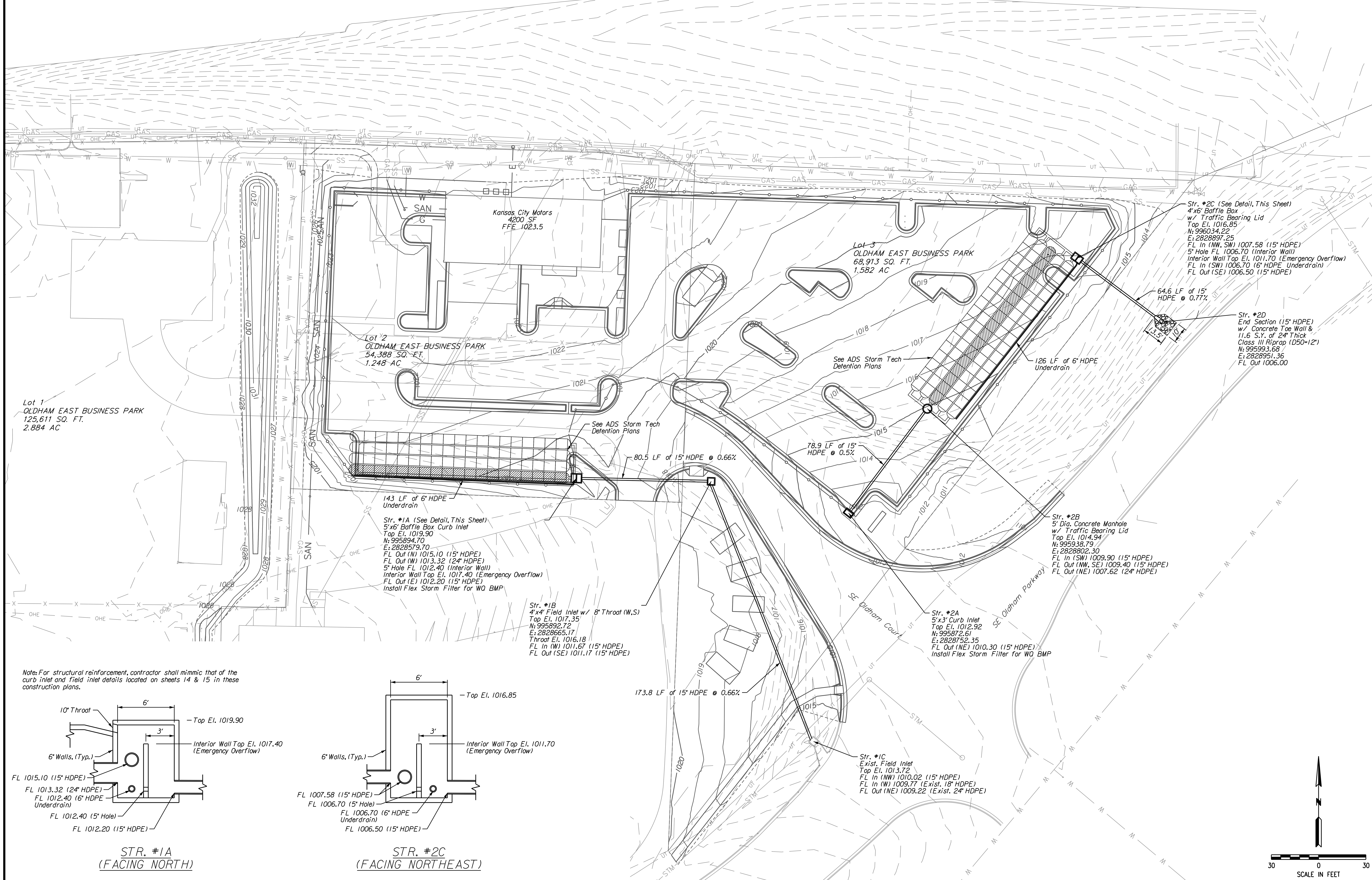
ADA RAMP DETAIL

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01

GENERAL NOTES:

1. All storm sewer pipe to be HDPE w/ smooth interior.



Kansas City Motors
4200 SF
FFE 1023.5
Lot 3
OLDHAM EAST BUSINESS PARK
68,913 SQ. FT.
1.582 AC
Lot 2
OLDHAM EAST BUSINESS PARK
54,388 SQ. FT.
1.248 AC
Lot 1
OLDHAM EAST BUSINESS PARK
125,611 SQ. FT.
2.884 AC
See ADS Storm Tech Detention Plans
See ADS Storm Tech Detention Plans
80.5 LF of 15" HDPE @ 0.66%
143 LF of 6" HDPE Underdrain
78.9 LF of 15" HDPE @ 0.5%
126 LF of 6" HDPE Underdrain
64.6 LF of 15" HDPE @ 0.77%
173.8 LF of 15" HDPE @ 0.66%
Str. #2C (See Detail, This Sheet)
4'x6' Baffle Box
w/ Traffic Bearing Lid
Top El. 1016.85
N: 996034.22
E: 2828897.25
FL In (NW, SW) 1007.58 (15" HDPE)
5" Hole FL 1006.70 (Interior Wall)
Interior Wall Top El. 1011.70 (Emergency Overflow)
FL In (SW) 1006.70 (6" HDPE Underdrain)
FL Out (SE) 1006.50 (15" HDPE)
Str. #2D
End Section (15" HDPE)
w/ Concrete Toe Wall &
11.6 S.Y. of 24" Thick
Class III Riprap (D50=12")
N: 995993.68
E: 2828951.36
FL Out 1006.00
Str. #2B
5' Dia. Concrete Manhole
w/ Traffic Bearing Lid
Top El. 1014.94
N: 995938.79
E: 2828802.30
FL In (SW) 1009.90 (15" HDPE)
FL Out (NW, SE) 1009.40 (15" HDPE)
FL Out (NE) 1007.62 (24" HDPE)
Str. #1A (See Detail, This Sheet)
5'x6' Baffle Box Curb Inlet
Top El. 1019.90
N: 995894.70
E: 2828579.70
FL Out (N) 1015.10 (15" HDPE)
FL Out (W) 1013.32 (24" HDPE)
5" Hole FL 1012.40 (Interior Wall)
Interior Wall Top El. 1017.40 (Emergency Overflow)
FL Out (E) 1012.20 (15" HDPE)
Install Flex Storm Filter for WQ BMP
Str. #1B
4'x4' Field Inlet w/ 8" Throat (W,S)
Top El. 1017.35
N: 995892.72
E: 2828665.17
Throat El. 1016.18
FL In (W) 1011.67 (15" HDPE)
FL Out (SE) 1011.17 (15" HDPE)
Str. #2A
5'x3' Curb Inlet
Top El. 1012.92
N: 995872.61
E: 2828752.35
FL Out (NE) 1010.30 (15" HDPE)
Install Flex Storm Filter for WQ BMP
Str. #1C
Exist. Field Inlet
Top El. 1013.72
FL In (NW) 1010.02 (15" HDPE)
FL In (W) 1009.77 (Exist. 18" HDPE)
FL Out (NE) 1009.22 (Exist. 24" HDPE)
SE Oldham Court
SE Oldham Parkway
Note: For structural reinforcement, contractor shall mimmic that of the curb inlet and field inlet details located on sheets 14 & 15 in these construction plans.
10" Throat
6'
3'
Top El. 1019.90
Interior Wall Top El. 1017.40 (Emergency Overflow)
6" Walls, (Typ.)
FL 1015.10 (15" HDPE)
FL 1013.32 (24" HDPE)
FL 1012.40 (6" HDPE Underdrain)
FL 1012.40 (5" Hole)
FL 1012.20 (15" HDPE)
STR. #1A
(FACING NORTH)
6'
3'
Top El. 1016.85
Interior Wall Top El. 1011.70 (Emergency Overflow)
6" Walls, (Typ.)
FL 1007.58 (15" HDPE)
FL 1006.70 (5" Hole)
FL 1006.70 (6" HDPE Underdrain)
FL 1006.50 (15" HDPE)
STR. #2C
(FACING NORTHEAST)
30 0 30
SCALE IN FEET

DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	RKS

IF THIS IS NOT A BLUE INK SEAL AND THE SIGNATURE IS NOT IN BLUE INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES.

6/16/17

R. KEVIN STERRETT, MO E-26440

H&G Consult Inc engineers planners

11010 Haskell St., Ste 210 Kansas City, KS 66109 816-759-2285 CORPORATE LICENSE No. E2010005873

STORM SEWER PLAN

KANSAS CITY MOTORS

LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO. XXX

DRAWING NO. XXX

DATE June 16, 2017

JOB NO. 16.045.01

REV.

DRAINAGE SUMMARY:

After analyzing the upstream drainage area (Area 1 - 0.976 acres, Area 2 - 0.903 acres, with an AASHTO soil rating (A rating) and the slope of the finish grade (3%), it is determined that by providing an orifice release size of five inches, the post developed rate of discharge for both areas (3.78 cfs) is less than the pre-developed drainage flow (4.08 cfs). The detention ponds would be capable of detaining 0.541 acre-feet with a bottom elevation of 1012.48 in Area 1 detention and a bottom elevation of 1006.78 in Area 2 detention. The detention areas would have a maximum 100 year storm even elevation of 1017.90 in Area 1 detention and 1012.20 in Area 2 detention. This elevation would occur at maximum volume. For more information, see Storm Water Drainage Analysis that was submitted along with these construction plans.

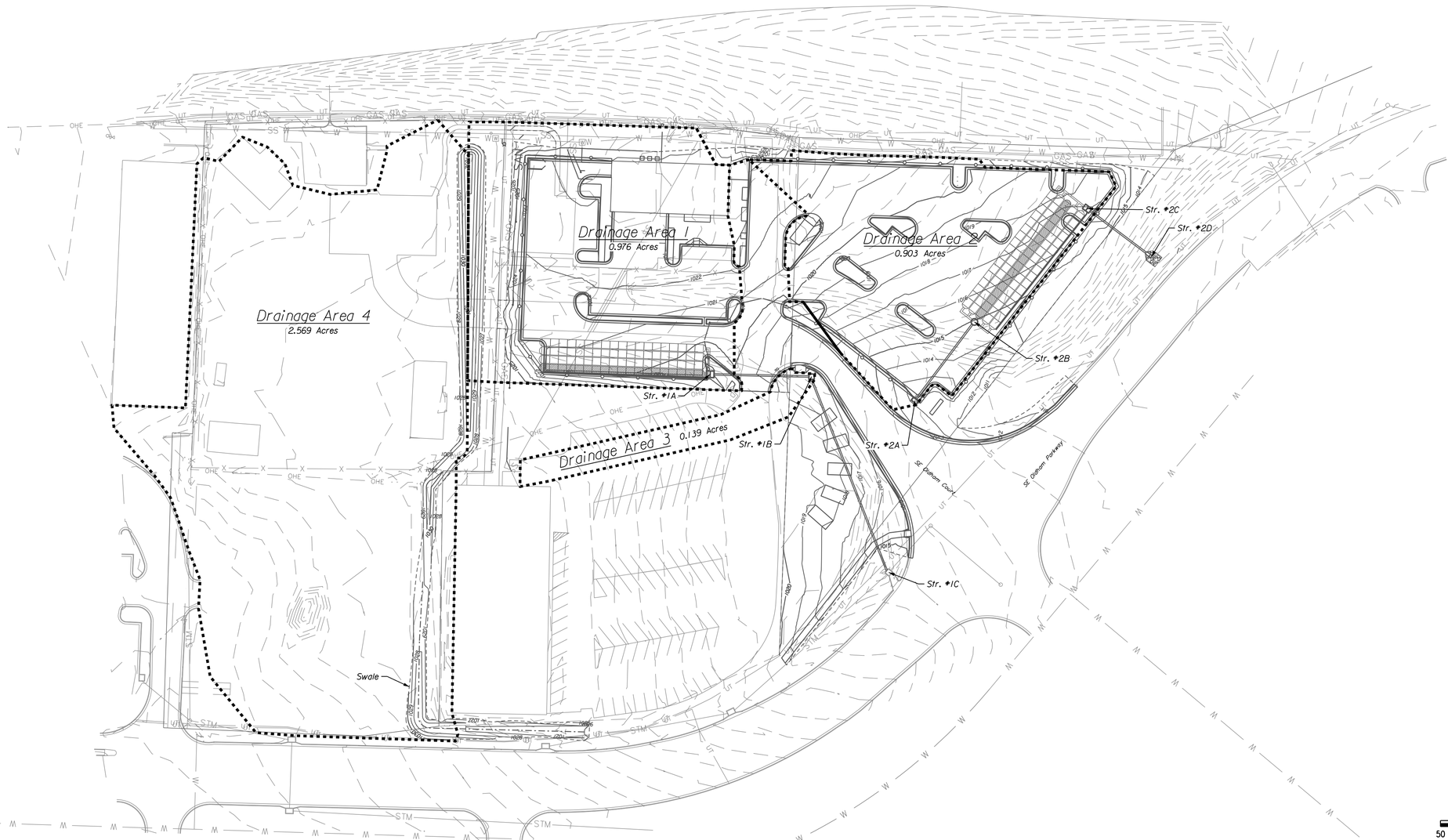
Grade berm/swale to divert off-site water South to Oldham Parkway. After anyalyzing the upstream drainage area (Area 4 - 2.569 Acres) it is determined that by providing a 4' wide swale with 3:1 side slopes at a maximum flow depth of 0.8', the swale can carry the 100 year flow of 11.6 cfs.

STORM SEWER CALCULATIONS

Storm Line	Sewer Location		Tributary Area (AC.)			Composite Runoff Coefficient	100-Year Design (k=1.25)		Pipe Design					
	From Structure No.	To Structure No.	Area Designation Acres		Total		Intensity (in/hr) i(100)	Runoff (cfs) Q(100)	Pipe Size (in)	Pipe Slope (%)	Pipe Type	Rough. Coeff. (Mannings)	Full Velocity (fps)	Full Flow (cfs)
Line 1	1A	1B	1	0.976	0.976	0.30	10.32	3.78	15	0.66	HDPE	0.012	4.63	5.68
	1B	1C	3	0.139	1.115	0.30	10.32	4.32	15	0.66	HDPE	0.012	4.63	5.68
Line 2	2A	2B	2	0.903	0.903	0.30	10.32	3.49	15	0.50	HDPE	0.012	4.03	4.95
	2C	2D	2	0.000	0.903	0.30	10.32	3.49	15	0.77	HDPE	0.012	5.00	6.14

SWALE CALCULATIONS

Swale Width	100-Year Flow (cfs)	Avg. Slope	Depth (ft)	Velocity (fps)	Area (S.F.)	Hyd. Radius (ft)	Shear Stress (psf)
4	11.6	1.0%	0.8	3.5	3.4	0.6	0.5



50 0 50
SCALE IN FEET

NO.	REVISION	DATE	BY	CK/APP
1	REVISED PER APPLICANT LETTER DATED 6/8/17	6/16/17	RAM	DKS

THIS IS NOT A RELEASE NOR SEAL AND THE SIGNATURE IS NOT IN BLUE INK. THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PE-26440
PROFESSIONAL ENGINEER
6/16/17

R. KEVIN STERRETT, MO E-26440

Consult engineers Inc planners
11010 Hasketl St., Ste 210 Kansas City, KS 66109 816-759-2285 CORPORATE LICENSE No. E2010005873

DRAINAGE AREA MAP

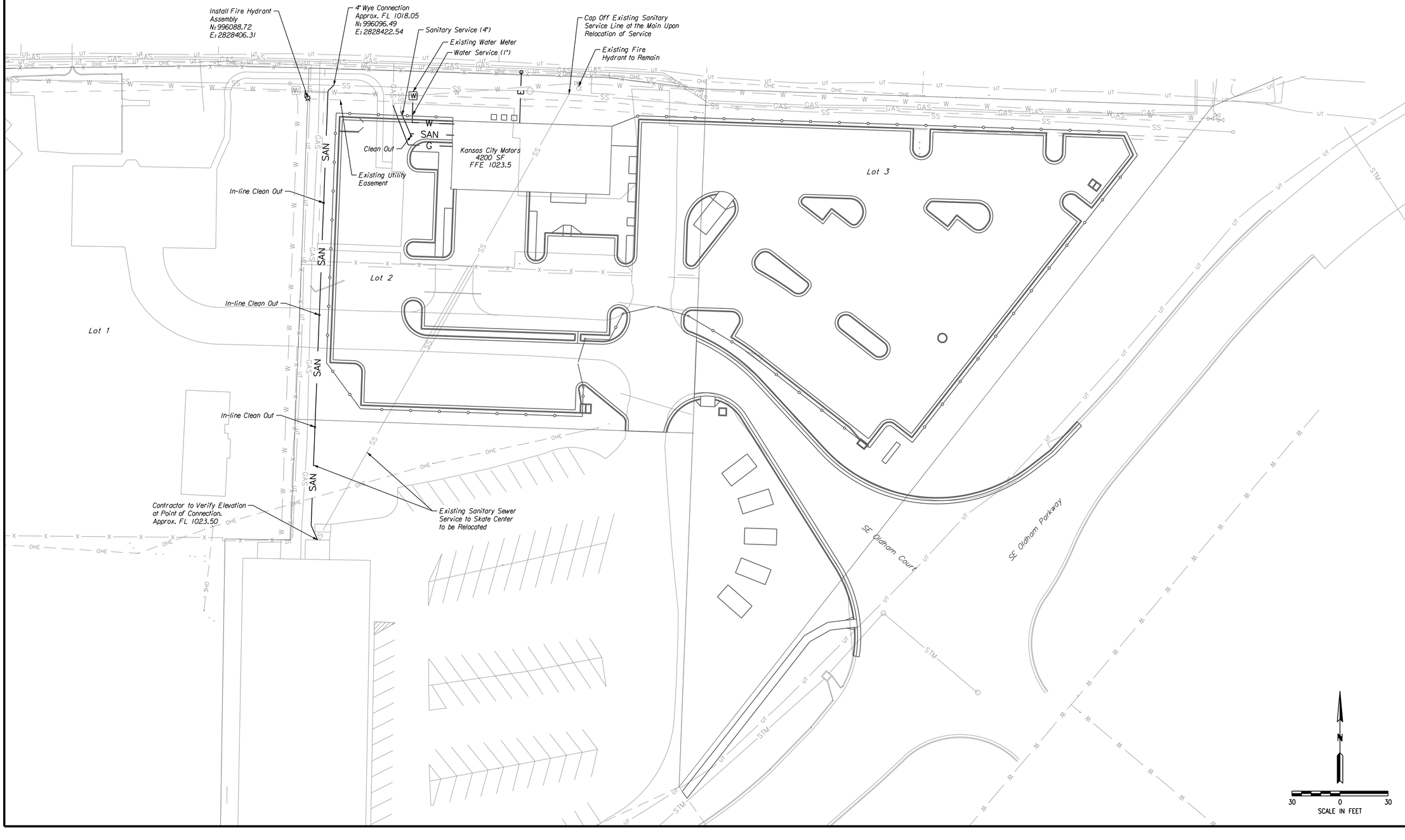
KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF. NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01
SHEET OF
7 17

REV.

GENERAL NOTES:

1. All utility installation to be in accordance to Lee's Summit "DESIGN AND CONSTRUCTION MANUAL" per Ordinance 5813. See manual for specifications and standard details.
2. Reuse existing sanitary, gas, and water services as shown.
3. Water service line to be 1" K Copper. Use existing meter if possible.
4. Sanitary sewer service to be 4" Schedule 40 or DR-26 PVC at 2% minimum slope.
5. Contractor to contact the Water Utilities Department, Operations Division, at (816) 969-7606 to schedule water main taps and cut-ins, 48 hours in advance.
6. Gas service line to be sized per MEP plans.
7. Contractor to coordinate electrical service with KCP&L.



NO.	REVISION	DATE	BY	CK/APP
1	REVISED PER APPLICANT LETTER DATED 6/8/17	6/16/17	RAM	DKS

THIS IS NOT A RELEASE NOR SEAL AND THE SIGNATURE IS NOT A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PROFESSIONAL ENGINEER
6/16/17

R. KEVIN STERRETT, MO E-26440

Consult Inc engineers pc planners
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285 CORPORATE LICENSE No. E2010005873

UTILITY PLAN

KANSAS CITY MOTORS

LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO.
XXX

DRAWING NO.
XXX

DATE
June 16, 2017

JOB NO.
16.045.01

SHEET 8 OF 17

REV.

NOTES:

- Building Parking Lot and Landscaping information on each lot are for graphical purpose and do not represent the detailed final development plan information. All Landscaping to meet Article 14 of the UDO.
- All portions of the site not covered with paving or buildings shall be landscaped. Open areas not covered with other materials shall be covered with sod. Ground cover shall be utilized on all slopes in excess of 3:1 slope.

LANDSCAPE SCHEDULE:

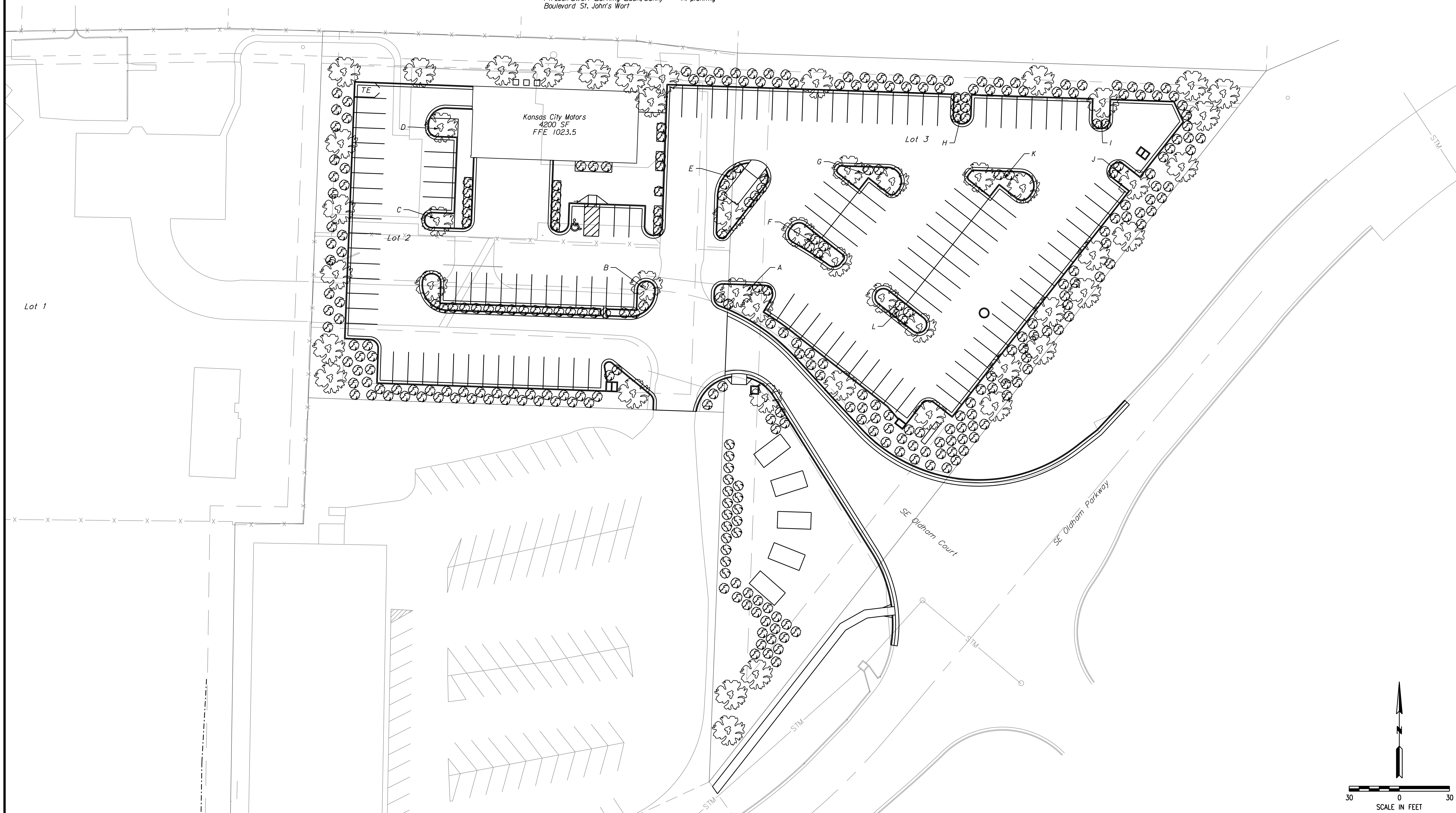
SPECIES	CALIPER/HEIGHT
Sterling Silver Linden, State Street Miyabe Maple, Emerald Sunshine Elm	3"
Tam Juniper, Gold Lace Juniper, Fireball Dwarf Burning Bush, Sunny Boulevard St. John's Wort	24" (Minimum height) At planting

Worksheet for Tree and Shrub Requirements:

A - Size of development site	= 123,301 SF
B - Length of street frontage of development site	= 1,105 LF
C - Trees required on street frontage = 1/30 LF	= 37 Trees
D - Trees provided	= 37 Trees
E - Parking lot area	= 59,792 SF
F - Green space required in parking lot (E x 5%)	= 2,990 SF
G - Green space provided	= 4,127 SF
H - Shrubs required along frontage (Parking lot screen) 1,105 LF at 12/40 LF	= 332 Shrubs
J - Quantity of additional trees required 1 tree per 5000 SF of open area (117,851/5000)	= 24 Trees
K - Additional Trees Provided	= 24 Trees
L - Quantity of additional shrubs required 2 shrubs per 5000 SF of open area (117,851/5000)	= 48 Shrubs
M - Additional Shrubs Provided	= 48 Shrubs

Interior Landscape

Area	SF
A	542
B	727
C	142
D	181
E	527
F	368
G	383
H	164
I	164
J	164
K	442
L	323
TOTAL	4,127



DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	RKS

IF THIS IS NOT A BLUE INK SEAL AND THE SIGNATURE IS NOT IN BLUE INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

6/16/17

R. KEVIN STERRETT, MO E-26440

HG Consult Inc engineers planners
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285 CORPORATE LICENSE No. E2010005873

LANDSCAPE PLAN

KANSAS CITY MOTORS

LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO. XXX

DRAWING NO. XXX

DATE June 16, 2017

JOB NO. 16.045.01

9 SHEET OF 17

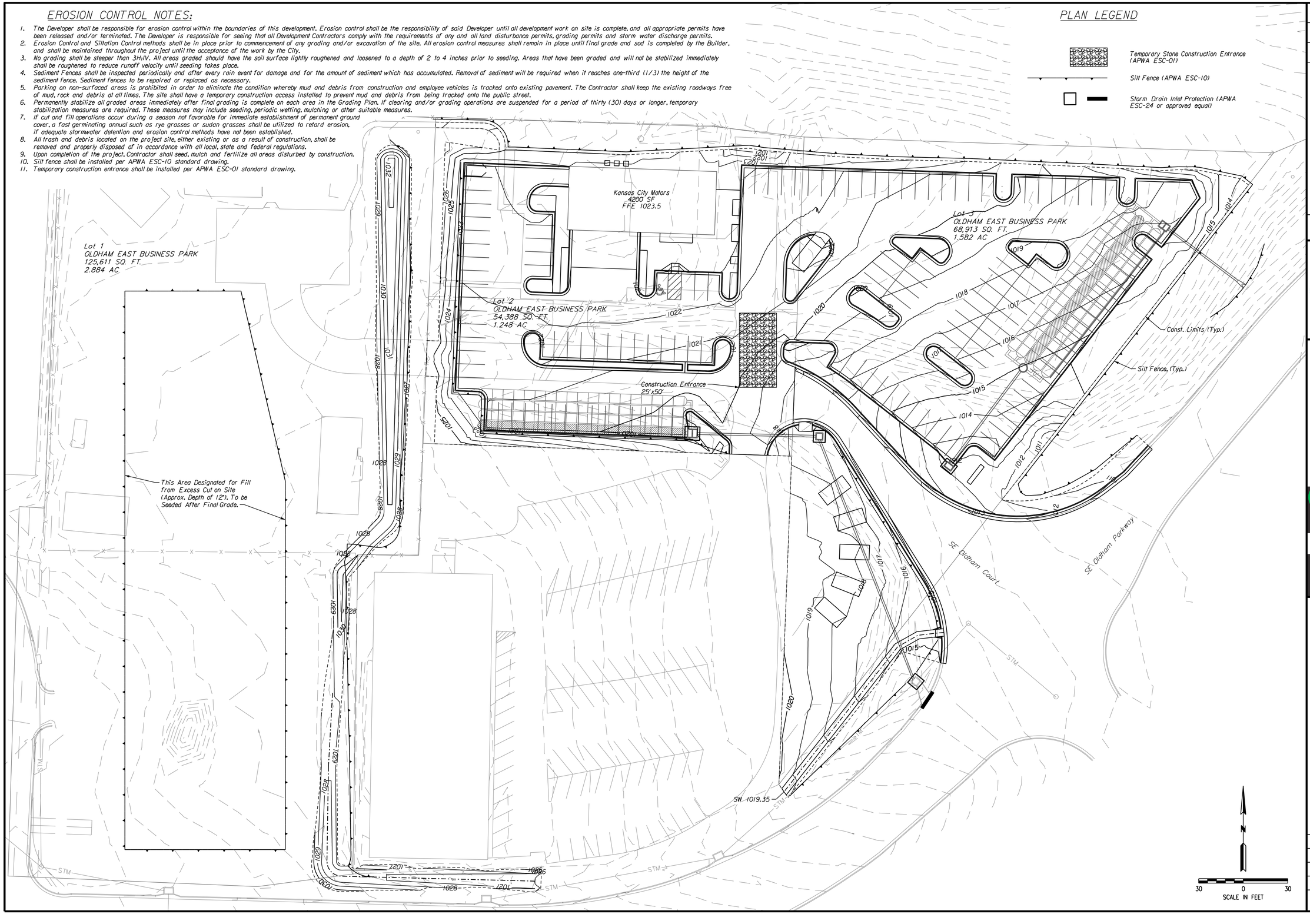
REV.

EROSION CONTROL NOTES:

1. The Developer shall be responsible for erosion control within the boundaries of this development. Erosion control shall be the responsibility of said Developer until all development work on site is complete, and all appropriate permits have been released and/or terminated. The Developer is responsible for seeing that all Development Contractors comply with the requirements of any and all land disturbance permits, grading permits and storm water discharge permits.
2. Erosion Control and Siltation Control methods shall be in place prior to commencement of any grading and/or excavation of the site. All erosion control measures shall remain in place until final grade and sod is completed by the Builder, and shall be maintained throughout the project until the acceptance of the work by the City.
3. No grading shall be steeper than 3H:1V. All areas graded should have the soil surface lightly roughened and loosened to a depth of 2 to 4 inches prior to seeding. Areas that have been graded and will not be stabilized immediately shall be roughened to reduce runoff velocity until seeding takes place.
4. Sediment Fences shall be inspected periodically and after every rain event for damage and for the amount of sediment which has accumulated. Removal of sediment will be required when it reaches one-third (1/3) the height of the sediment fence. Sediment fences to be repaired or replaced as necessary.
5. Parking on non-surfaced areas is prohibited in order to eliminate the condition whereby mud and debris from construction and employee vehicles is tracked onto existing pavement. The Contractor shall keep the existing roadways free of mud, rock and debris at all times. The site shall have a temporary construction access installed to prevent mud and debris from being tracked onto the public street.
6. Permanently stabilize all graded areas immediately after final grading is complete on each area in the Grading Plan. If clearing and/or grading operations are suspended for a period of thirty (30) days or longer, temporary stabilization measures are required. These measures may include seeding, periodic wetting, mulching or other suitable measures.
7. If cut and fill operations occur during a season not favorable for immediate establishment of permanent ground cover, a fast germinating annual such as rye grasses or sudan grasses shall be utilized to retard erosion, if adequate stormwater detention and erosion control methods have not been established.
8. All trash and debris located on the project site, either existing or as a result of construction, shall be removed and properly disposed of in accordance with all local, state and federal regulations.
9. Upon completion of the project, Contractor shall seed, mulch and fertilize all areas disturbed by construction.
10. Silt fence shall be installed per APWA ESC-10 standard drawing.
11. Temporary construction entrance shall be installed per APWA ESC-01 standard drawing.

PLAN LEGEND

- Temporary Stone Construction Entrance (APWA ESC-01)
- Silt Fence (APWA ESC-10)
- Storm Drain Inlet Protection (APWA ESC-24 or approved equal)



DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	DKS

THIS IS NOT A RELEASE FOR CONSTRUCTION. THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI — R. KEVIN STERRETT — NUMBER 2006440 — PROFESSIONAL ENGINEER

6/16/17

R. KEVIN STERRETT, MO E-26440

Consult engineers inc planners
CORPORATE LICENSE No. E2010005873
1010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285

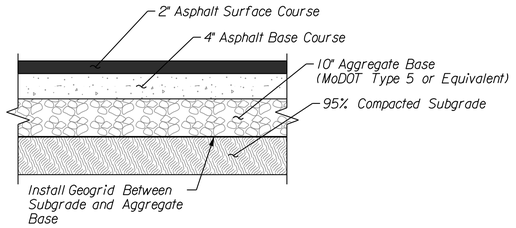
EROSION CONTROL PLAN

KANSAS CITY MOTORS

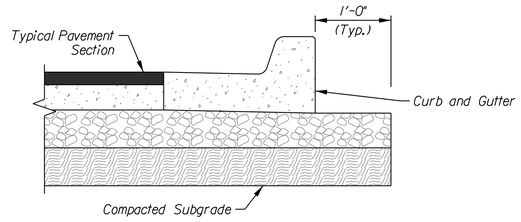
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01
SHEET OF
10 17

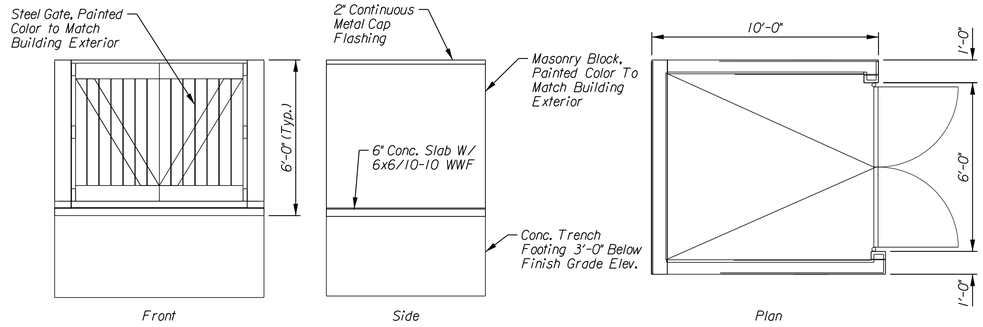
REV.



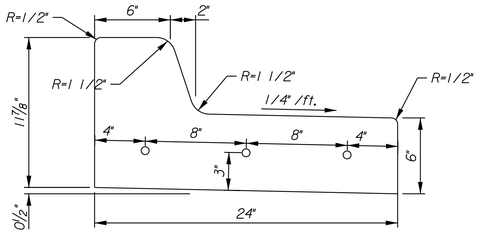
PAVEMENT SECTION
N.T.S.



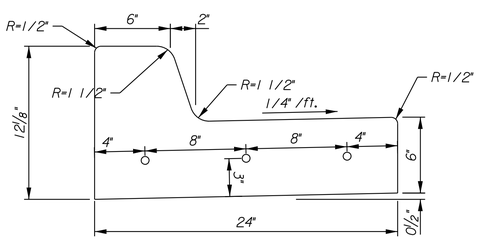
PAVING DETAIL
N.T.S.



MASONRY TRASH ENCLOSURE
N.T.S.

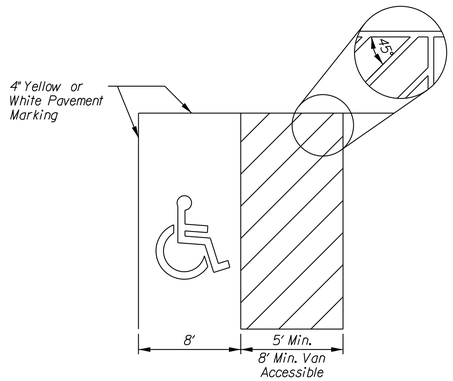


"DRY" STRAIGHT BACK CURB & GUTTER
(TYPE "DRY" CG-1)
N.T.S.

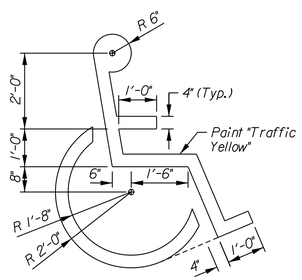


STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)
N.T.S.

CURB & GUTTER NOTES:
1. 3/4" Expansion joints with 2' epoxy-coated dowels shall be placed at radius points and at 150' intervals. These dowels shall be greased and wrapped on one end with expansion tubes.
2. 2" deep contraction joints shall be installed at approximately 10' intervals. These joints shall pass across the entire curb sections.
3. Fix dowels with bar chairs or equal.
4. Depth of curb shall be minimum of 8" through the handicap access ramp.

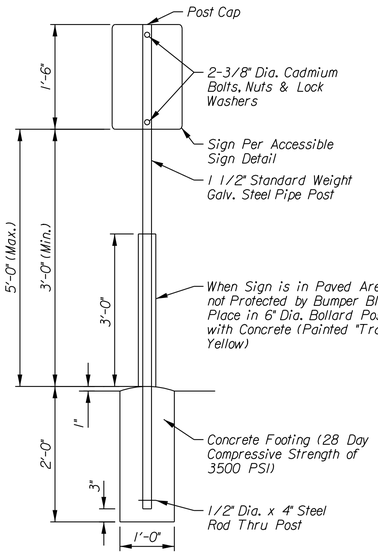


ACCESSIBLE STRIPING DETAIL
N.T.S.



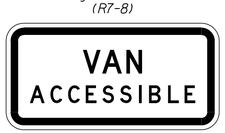
ACCESSIBLE PARKING SYMBOL
N.T.S.

NOTE: Symbol to be centered in parking space and oriented as illustrated on plans.



SIGN BASE
N.T.S.

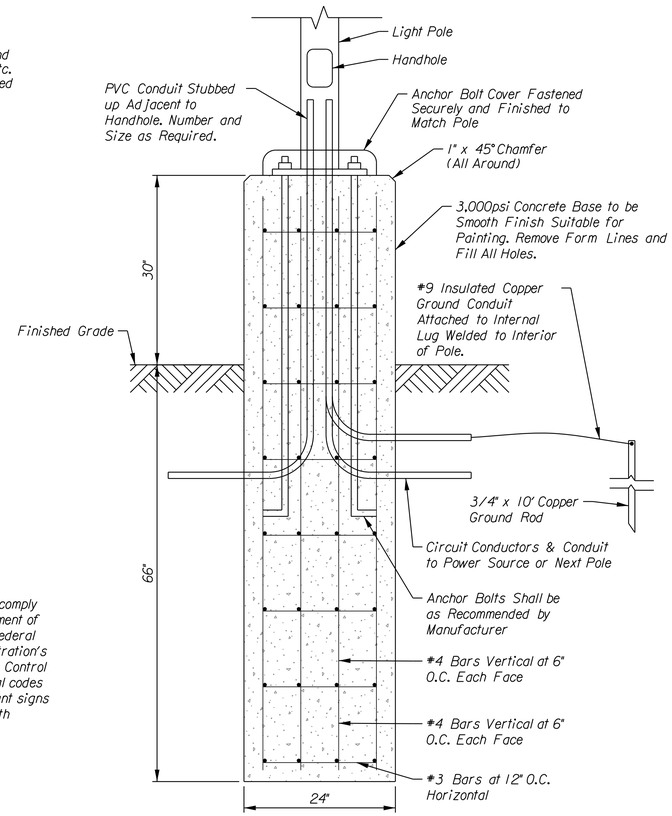
Colors
Legend and Border - Green
White Symbol on Blue Background
Background - White
(R7-8)



6"x12"

ACCESSIBLE SIGN DETAIL
N.T.S.

1. All signs should comply with U.S. Department of Transportation Federal Highway Administration's "Uniform Traffic Control Devices", and local codes as specified. Mount signs in accordance with manufacturer's instructions.



LIGHT POLE BASE DETAIL
N.T.S.

DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	DKS

THIS IS NOT A RELEASE FOR CONSTRUCTION. THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PE-26440
PROFESSIONAL ENGINEER
6/16/17

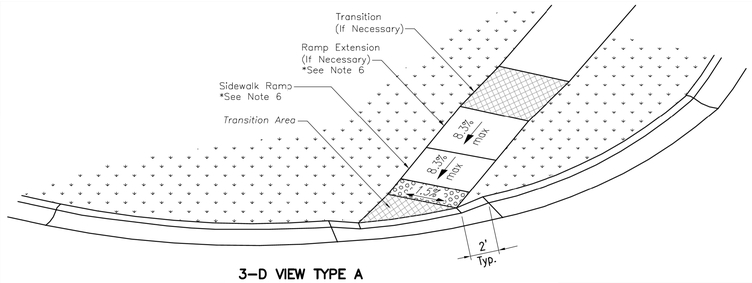
R. KEVIN STERRETT, MO E-26440

Consult engineers Inc planners
CORPORATE LICENSE No. E2010005873
1010 Haskell St., Ste 210 Kansas City, KS 66109 816-759-2285

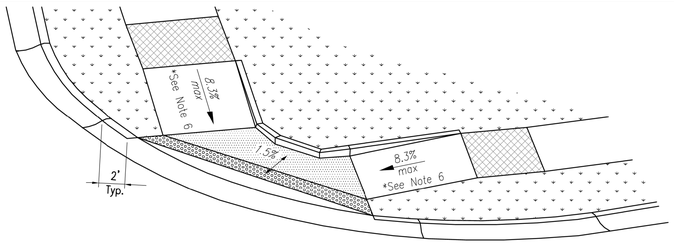
DETAIL SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF. NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01
SHEET 11 OF 17
REV.



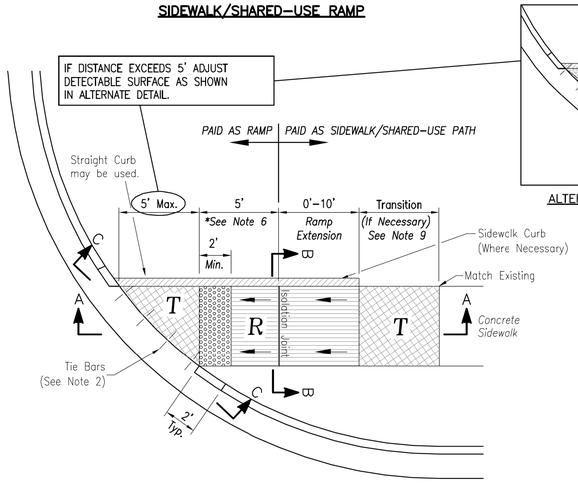
3-D VIEW TYPE A
SIDEWALK/SHARED-USE RAMP

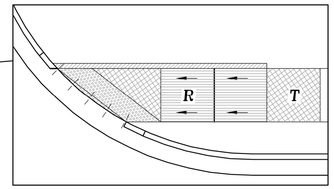


3-D VIEW TYPE B
SIDEWALK/SHARED-USE RAMP

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION



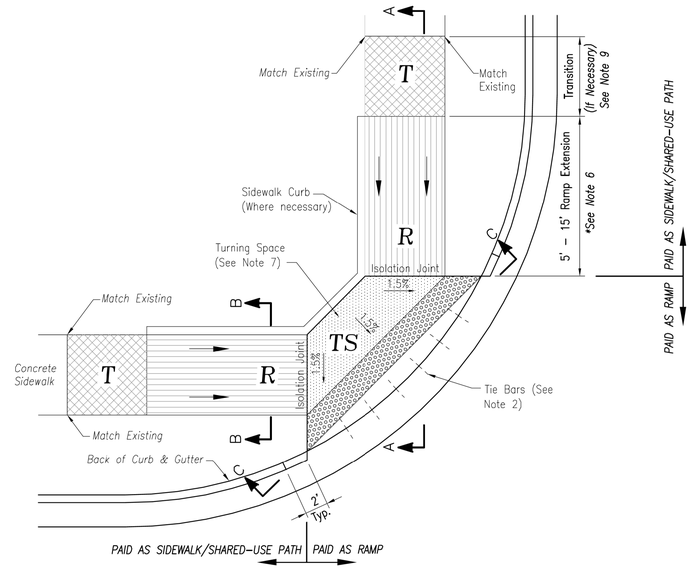


ALTERNATE DETECTABLE SURFACE LAYOUT

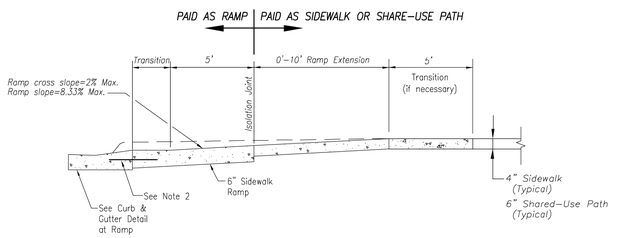
TYPE A SIDEWALK/SHARED-USE RAMP
Not to Scale

SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

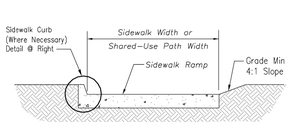
1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



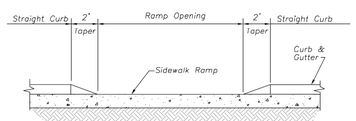
TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale



SECTION A-A

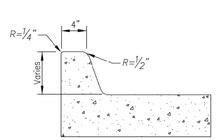


SECTION B-B

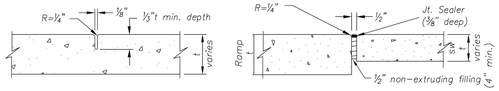


SECTION C-C

TYPE A & B SIDEWALK RAMP
Not to Scale

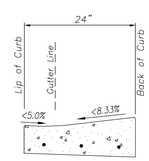


SIDEWALK CURB DETAIL
Not to Scale



CONTRACTION JOINT ISOLATION JOINT

JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

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

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-3A

NO.	REVISION	DATE	BY	CK/APP
1	REVISED PER APPLICANT LETTER DATED 6/8/17	6/16/17	RAM	DKS

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PE-2006440
PROFESSIONAL ENGINEER
6/16/17

R. KEVIN STERRETT, MO E-26440

Consult Inc engineers planners
CORPORATE LICENSE No. E2010005873
1010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285

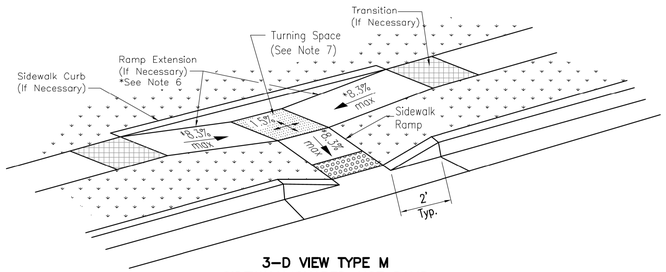
DETAIL SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

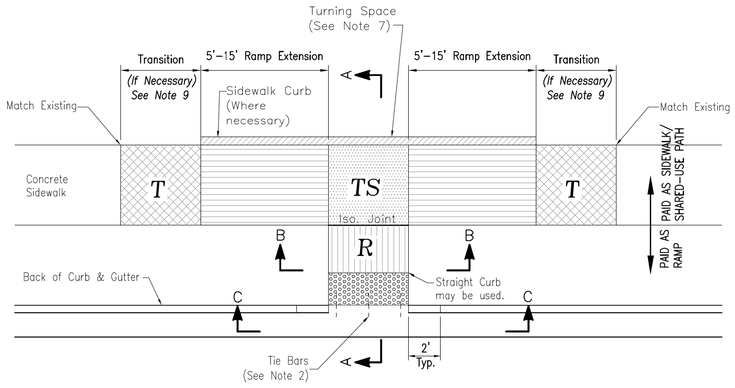
X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01

12 SHEET OF 17

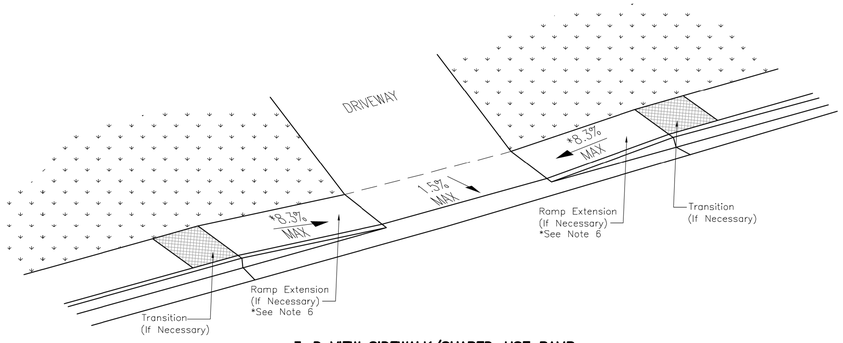
REV.



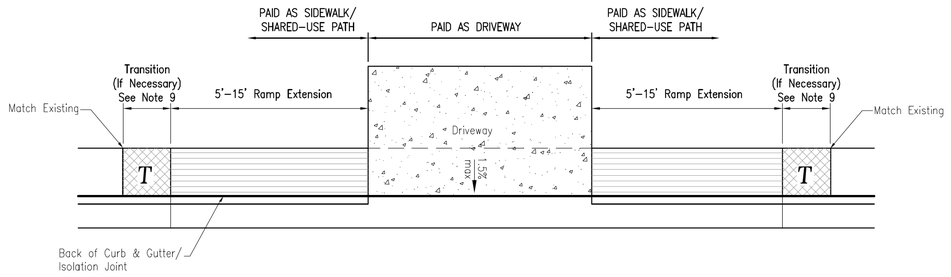
3-D VIEW TYPE M
SIDEWALK/SHARED-USE RAMP



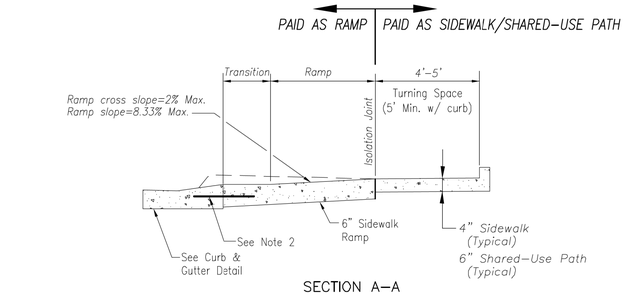
TYPE M SIDEWALK/SHARED-USE RAMP
Not to Scale



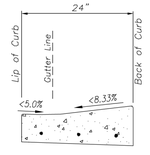
3-D VIEW SIDEWALK/SHARED-USE RAMP
AT DRIVEWAY



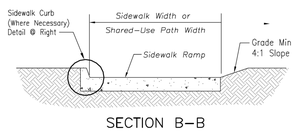
SIDEWALK/SHARED USE RAMP
AT DRIVEWAY WITH ADJOINING CURB



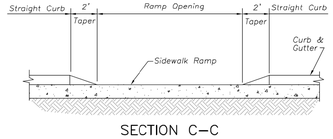
SECTION A-A



CURB & GUTTER DETAIL AT RAMP
Not to Scale

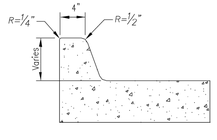


SECTION B-B



SECTION C-C

TYPE M SIDEWALK RAMP
Not to Scale



SIDEWALK CURB DETAIL
Not to Scale

LEGEND

- R — SIDEWALK RAMP
- TS — TURNING SPACE
- DETECTABLE WARNING SURFACE
- T — TRANSITION

SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

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

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-3B

DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	DKS

THIS IS NOT A RELEASE MAP THE SIGNATURE IS NOT IN BLACK INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PROFESSIONAL ENGINEER
6/16/17

R. KEVIN STERRETT, MO E-26440

Consult Inc engineers planners
CORPORATE LICENSE No. E2010005873
1010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285

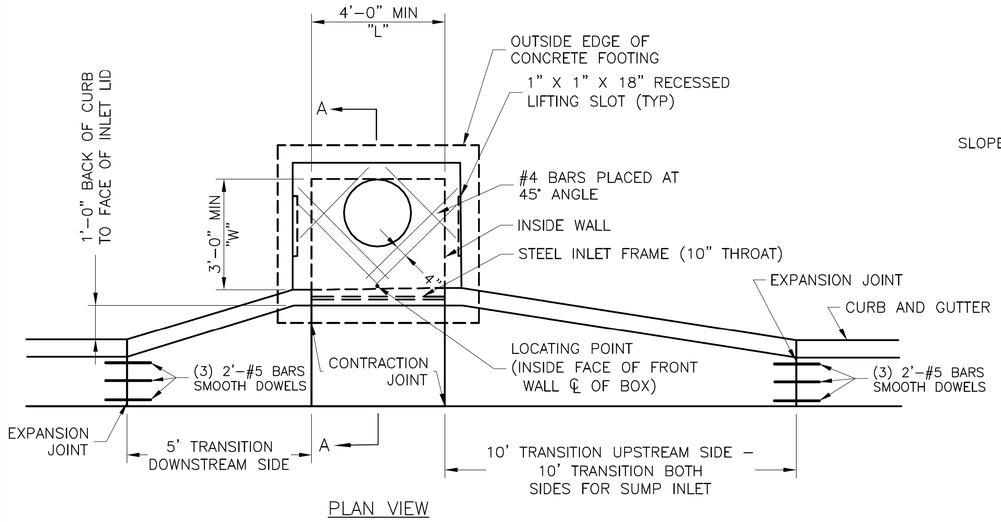
DETAIL SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

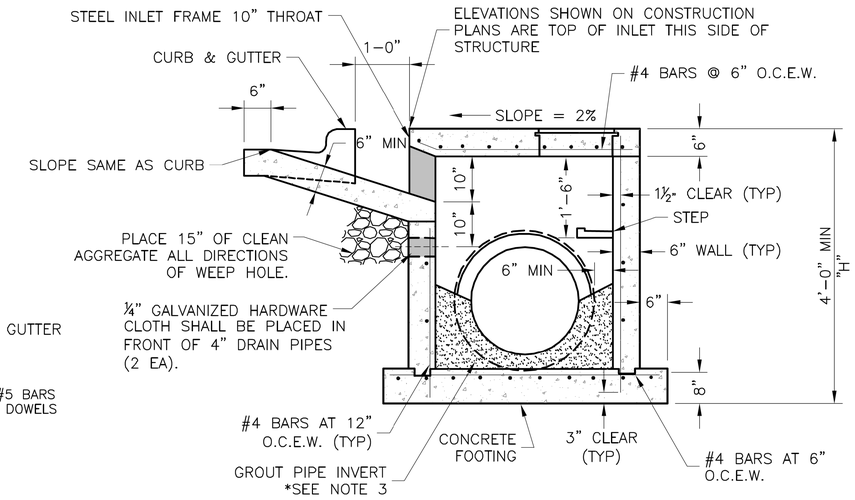
X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01

13 SHEET OF 17

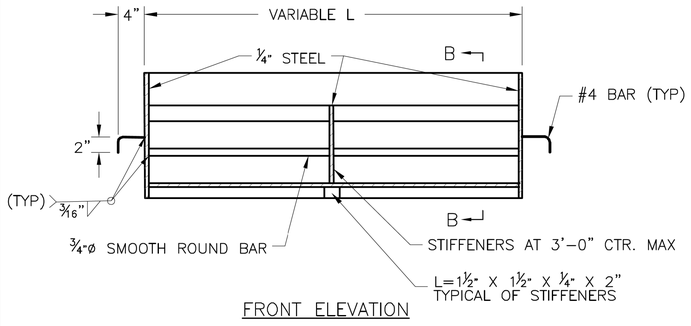
REV.



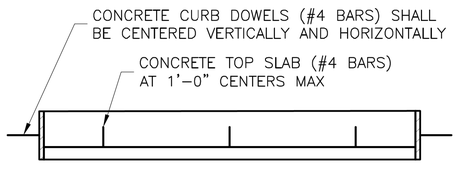
PLAN VIEW



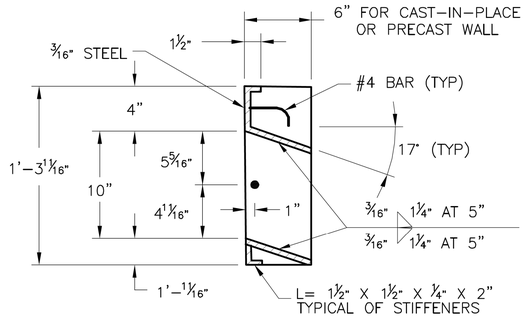
SECTION A-A



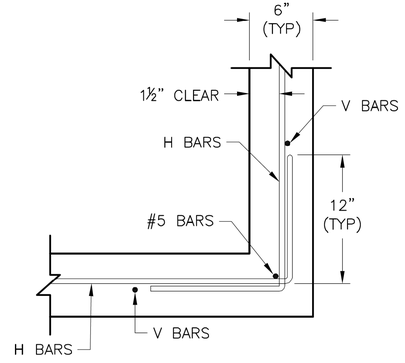
FRONT ELEVATION



PLAN VIEW



SECTION B-B



WALL CORNER DETAIL

STEEL FRAME NOTES:

1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM-PRIME #37H-78 PRIMER (GRAY) OR EQUAL.

GENERAL NOTES:

1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ½" TOOLED EDGE.
7. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON-SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

NO.	REVISION	DATE	BY	CK/APP
1	REVISED PER APPLICANT LETTER DATED 6/8/17	6/16/17	RAM	RKS

6/16/17 THIS IS NOT A RELEASE AND THE SIGNATURE IS NOT IN BLACK INK. THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER E-26440
PROFESSIONAL ENGINEER
6/16/17

R. KEVIN STERRETT, MO E-26440

LS LEE'S SUMMIT MISSOURI

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

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: CURB INLET DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-1

Consult Inc engineers planners
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285
CORPORATE LICENSE No. E2010005873

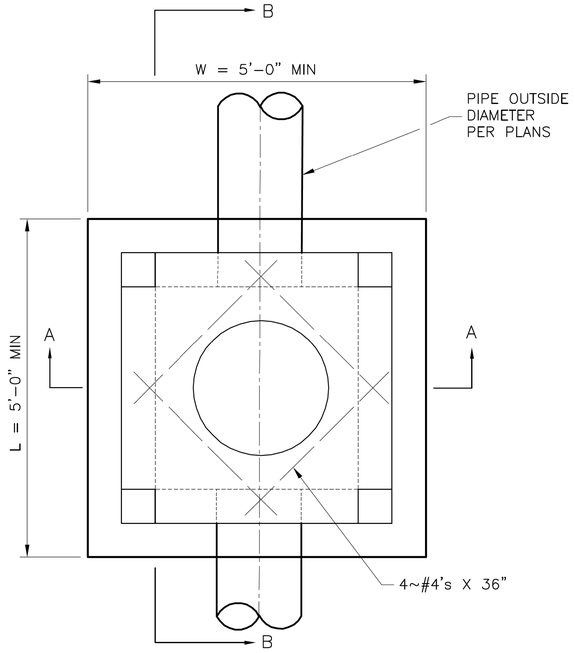
DETAIL SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

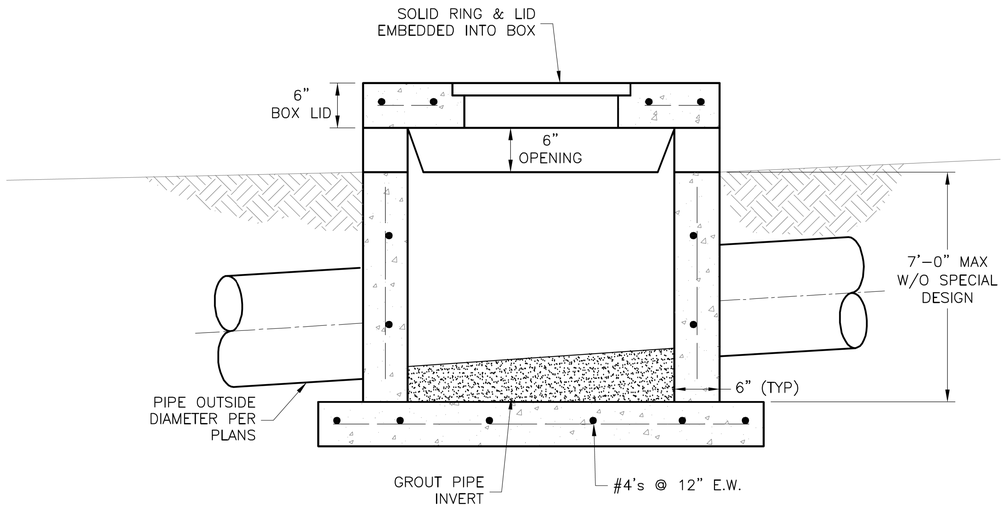
X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01

14 SHEET OF 17

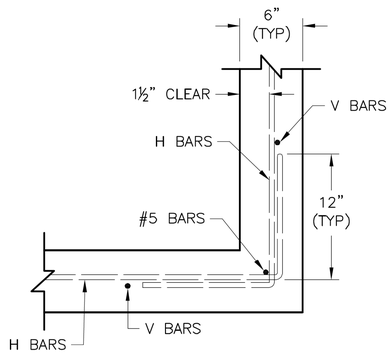
REV.



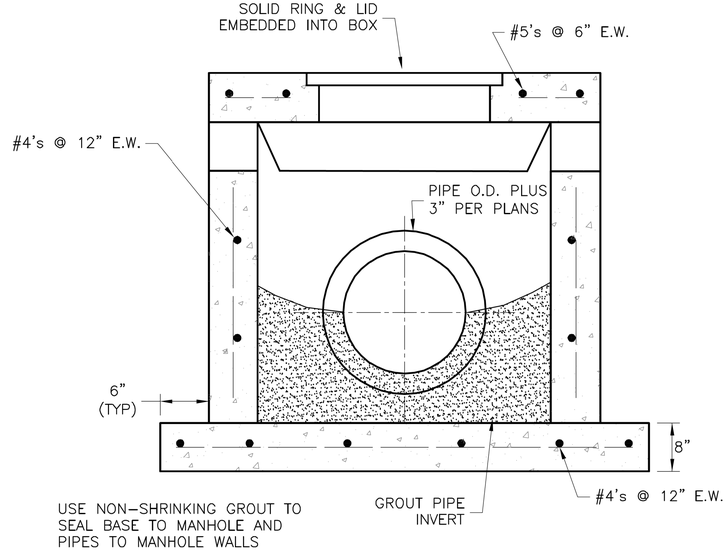
PLAN VIEW



SECTION B–B



WALL CORNER DETAIL



SECTION A–A

GENERAL NOTES:

1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
5. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H–BAR OVER A CAST–IN–PLACE PIPE AND 2 H–BARS OVER A PRECAST BOXOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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

Project:
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name:
FIELD INLET DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-2

DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	RKS

IF THIS IS NOT A BLUE INK SEAL AND THE SIGNATURE IS NOT IN BLUE INK, THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

RICHARD KEVIN STERRETT
E-26440
6/16/17
R. KEVIN STERRETT, MO E-26440

H'68 Consult Inc
engineers
planners
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285 CORPORATE LICENSE No. E2010005873

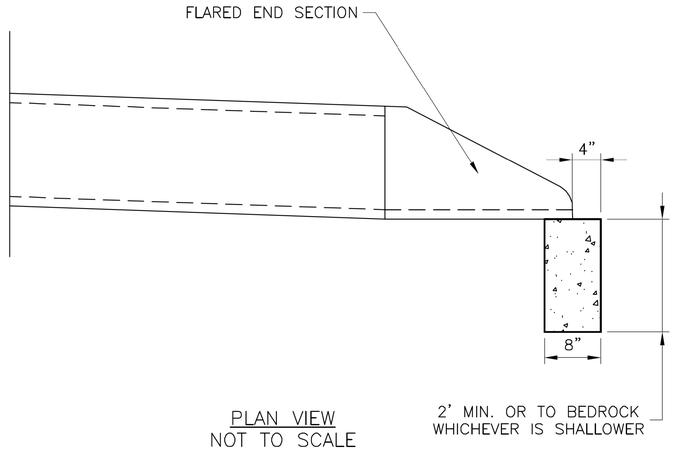
DETAIL SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

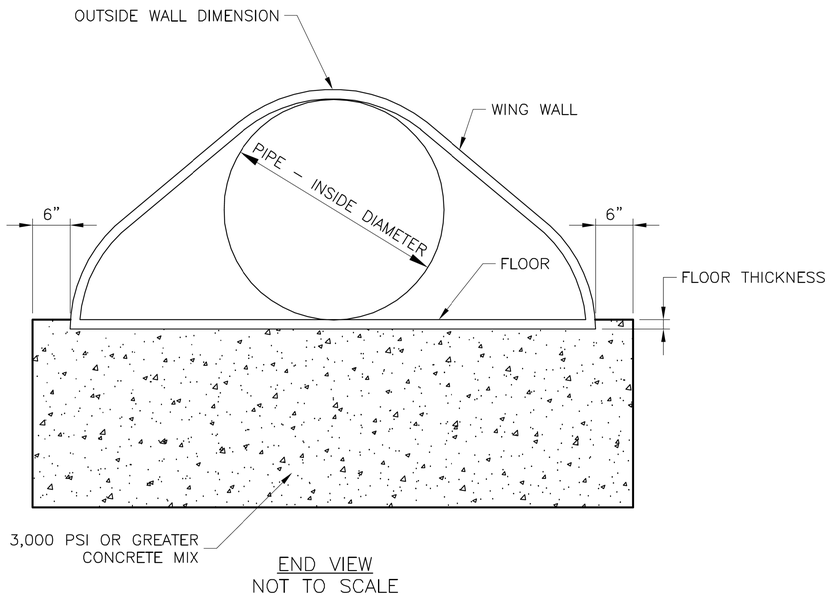
X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01

15 SHEET OF 17

REV.

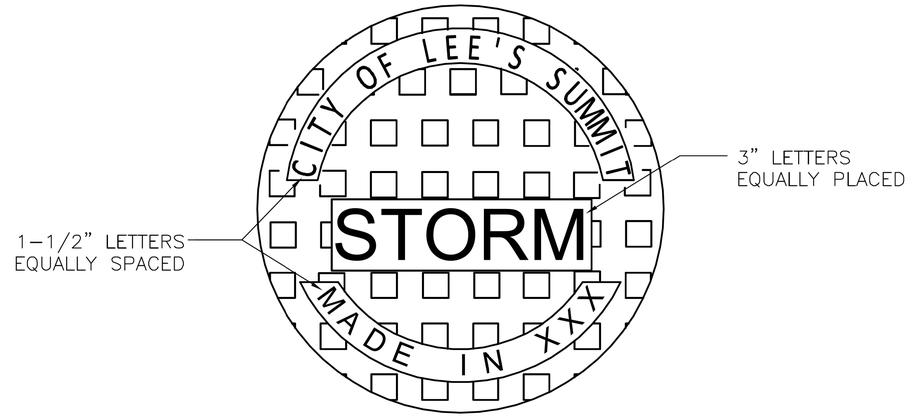


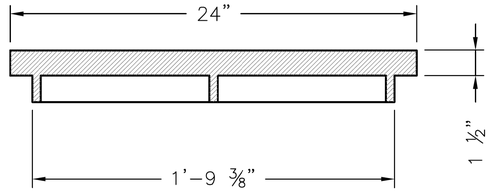
PLAN VIEW
NOT TO SCALE



END VIEW
NOT TO SCALE

LS	**LEE'S SUMMIT** MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063 FLARED END SECTION SUPPORT DETAIL	Date: 04/17 Drawn By: MJF Checked By: DL STM-5





STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

LS	**LEE'S SUMMIT** MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063 STORM MANHOLE COVER DETAIL	Date: 04/17 Drawn By: MJF Checked By: DL STM-6

DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	DKS

THIS IS NOT A BLUE INK SEAL AND THE SIGNATURE IS NOT IN BLUE INK. THE PLAN IS A COPY AND MAY CONTAIN UNAUTHORIZED ALTERATIONS. THE CERTIFICATION CONTAINED ON THIS DOCUMENT SHALL NOT APPLY TO ANY COPIES

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PE-26440
PROFESSIONAL ENGINEER
6/16/17

R. KEVIN STERRETT, MO E-26440

Consult inc
engineers
planners
CORPORATE LICENSE No. E2010005873
11010 Haskell St. Ste 210 Kansas City, KS 66109 816-759-2285

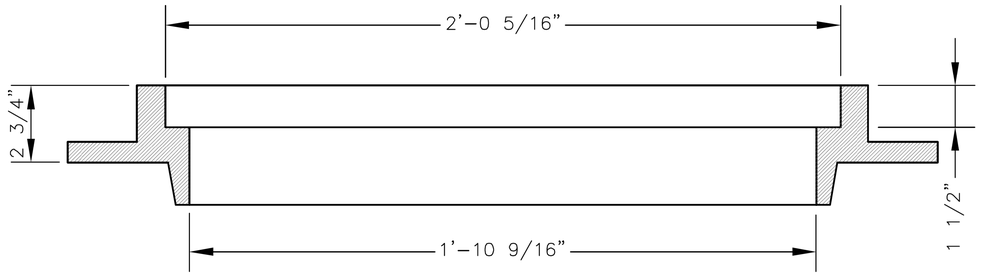
DETAIL SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

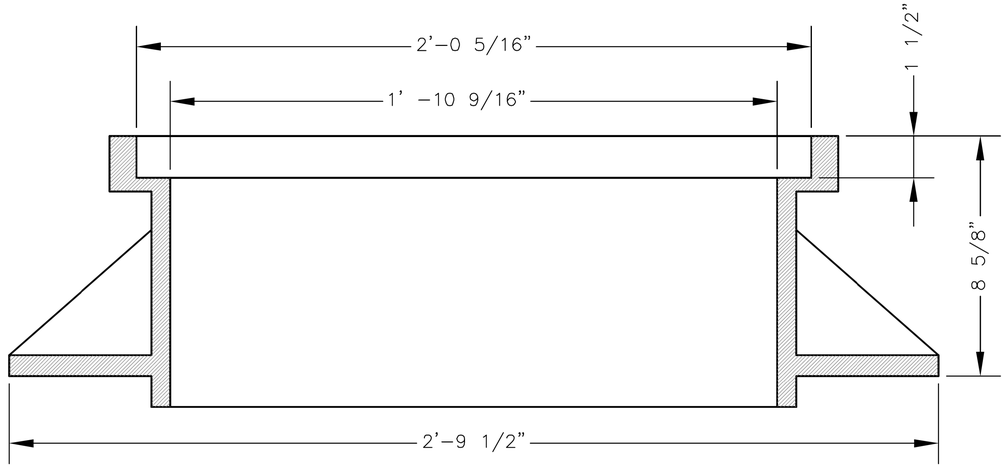
X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01

16 SHEET OF 17

REV.



SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB



STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

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

STORM MANHOLE FRAME DETAIL

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

STM-7

DATE	REVISION	NO.	BY	CK/APP
6/16/17	REVISED PER APPLICANT LETTER DATED 6/8/17	1	RAM	DKS

STATE OF MISSOURI
R. KEVIN STERRETT
NUMBER PROFESSIONAL ENGINEER
6/16/17
R. KEVIN STERRETT, MO E-26440

Consult engineers Inc planners
1010 Haskell St., Ste 210 Kansas City, KS 66109 816-759-2285
CORPORATE LICENSE No. E2010005873

DETAIL SHEET

KANSAS CITY MOTORS
LEE'S SUMMIT - JACKSON COUNTY - MISSOURI

X-REF NO.
XXX
DRAWING NO.
XXX
DATE
June 16, 2017
JOB NO.
16.045.01

17 SHEET OF 17

REV.

Scale: 1 inch= 40 Ft.

Page 1 of 2

KC Motors

Layout 1

Calculated By: Kevin Hooey	
Requested By:	
Date:1/3/2017	
Scale: N/A	

Calc. Info		
	Light Loss Factor	0.91
	Calculation plane	0'-00"
	Reflectances	50/20
	Mounting height	25'/11.66'/10.66'

mercerzimmerman

Calculation Summary						
Label	**Units**	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
Area_Surface	Fc	4.18	14.2	0.4	10.45	35.50
Under Canopy_Surface	Fc	53.45	82.2	30.1	1.78	2.73

LPD Area Summary			
Label	**Area**	**Total Watts**	**LPD**
LPDArea_1	123637	5925.5	0.048

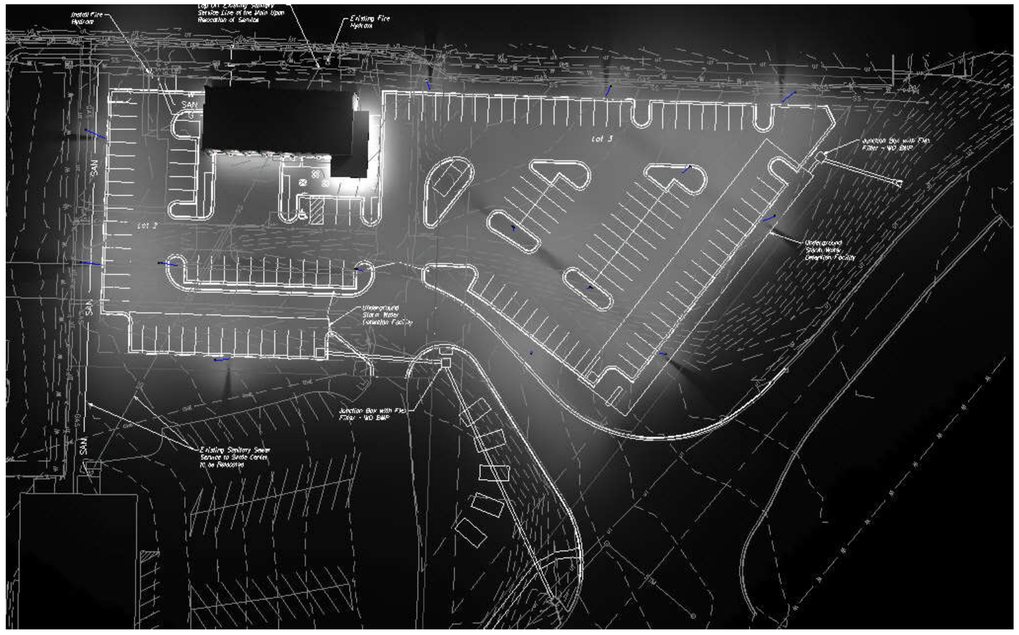
Luminaire Schedule						
Symbol	**Qty**	**Label**	**Description**	**Lum. Watts**	**Lum. Lumens**	**LLF**
	5	A2	VLL-V-SQ-W-80PLED-NW-1050-(2@180)	266	24767	0.910
	9	C	VLL-III-W-80PLED-NW-1050	266	20869	0.910
	9	E	TT-C5-LED-E1-CQ	77	9748	0.910
	7	WP	XTOR3B	25.5	2751	0.910

DISCLAIMER:

These calculations have been performed according to IES standards and good practice. There may be differences between measured values and the results presented herin, based on the extent in which field conditions deviate from the input data. These conditions include room dimensions, luminaire position, surface reflectances, architectural elements and furniture, temperature, voltage, measurement techniques and equipment tolerances. All attached drawings and images are for photometric reference only they are not made for construction.

AREA INFORMATION:

Area label :
Wall height: 0'-00"
Mounting height: 25'/11.66'/10.66'
Reflectences : Walls 50%, Floor 20%



ValuLume

TopTier

CrossTour

mercerzimmerman

Revisions			
#	Date	Comments	

Calculated By: Kevin Hooey
Requested By:
Date:1/3/2017
Scale: N/A

KC Motors

Layout 1

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	GARRETT KLINGLER 816-401-7559 GARRETT.KLINGLER@ADS-PIPE.COM
ADS SALES REP:	JOHN WHITWOOD 816-805-5570 JOHN.WHITWOOD@ADS-PIPE.COM
PROJECT NO:	181081

ADVANCED DRAINAGE SYSTEMS, INC.

KANSAS CITY MOTORS

LEE'S SUMMIT, MO

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT: WEST

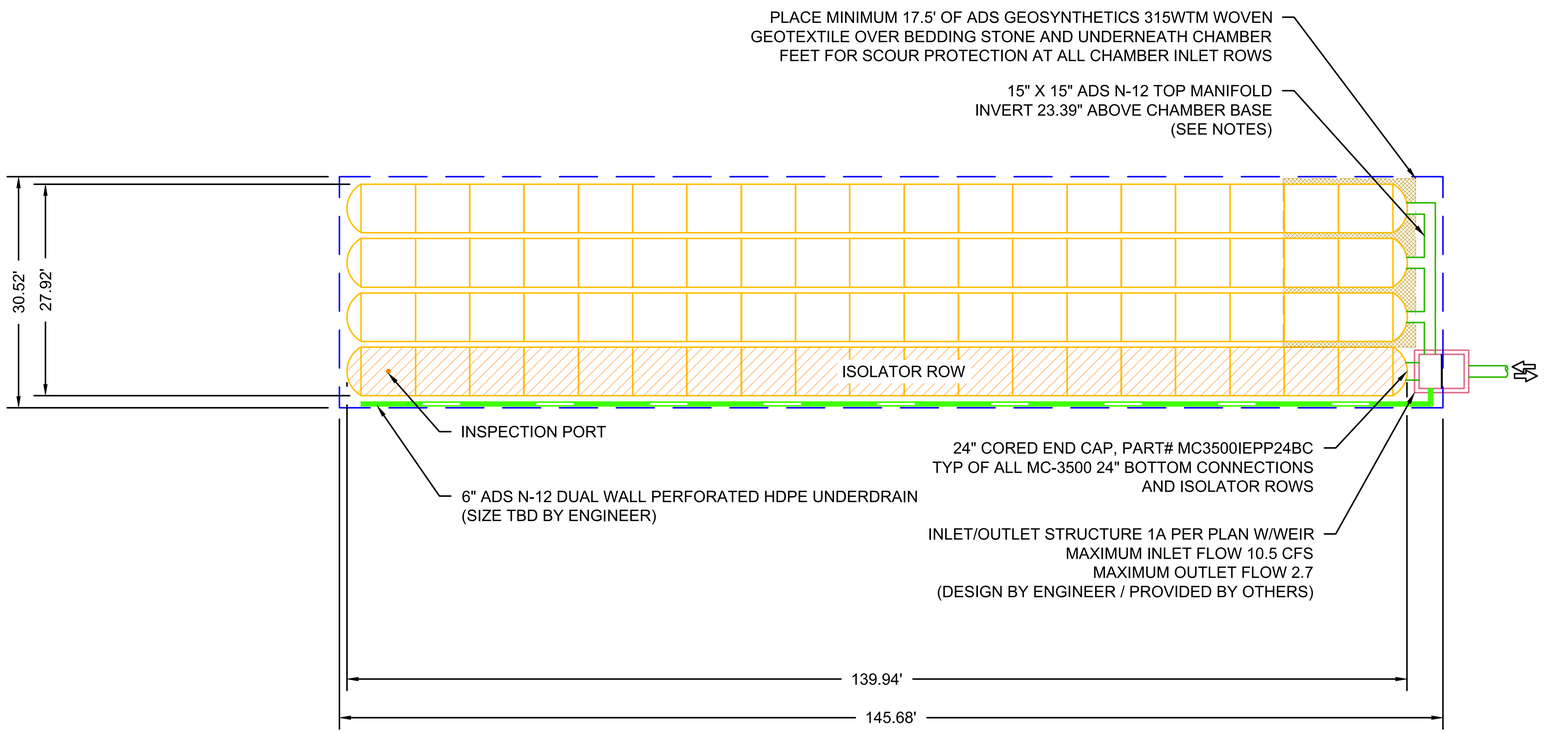
76	STORMTECH MC-3500 CHAMBERS
8	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
14,865	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
4,445	SYSTEM AREA (ft²)
354	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: WEST

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	1024.90
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	1019.40
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	1018.90
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	1018.90
MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT):	1018.90
TOP OF STONE:	1017.90
TOP OF MC-3500 CHAMBER:	1016.90
15" TOP MANIFOLD INVERT:	1015.10
24" ISOLATOR ROW INVERT:	1013.32
BOTTOM OF MC-3500 CHAMBER:	1013.15
UNDERDRAIN INVERT:	1012.40
BOTTOM OF STONE:	1012.40

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.



KANSAS CITY MOTORS
LEE'S SUMMIT, MO

DATE: 03-16-17 | DRAWN: AMD | PROJECT #: 181081 | CHECKED: GFI

REV	DWN	CKD	DESCRIPTION

StormTech®
Detention•Retention•Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

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

0 20' 40'

PROPOSED LAYOUT: EAST

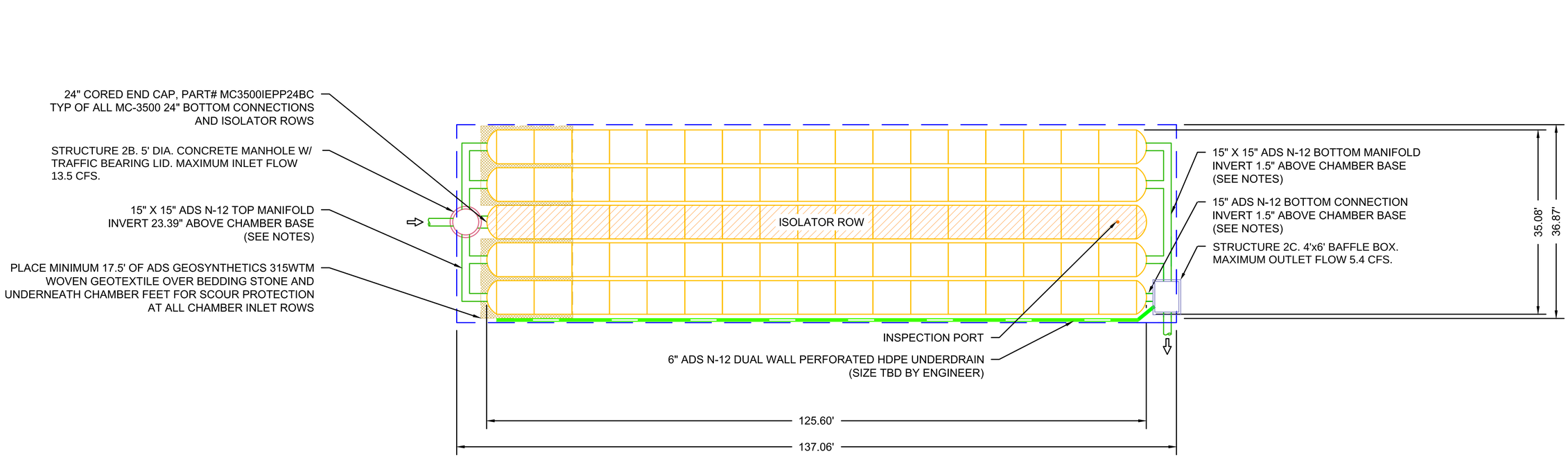
85	STORMTECH MC-3500 CHAMBERS
10	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
17,060	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
5,165	SYSTEM AREA (ft²)
349	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: EAST

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	1019.20
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	1013.70
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	1013.20
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	1013.20
MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT):	1013.20
TOP OF STONE:	1012.20
TOP OF MC-3500 CHAMBER:	1011.20
15" TOP MANIFOLD INVERT:	1009.40
24" ISOLATOR ROW INVERT:	1007.62
15" BOTTOM CONNECTION INVERT:	1007.58
15" BOTTOM MANIFOLD INVERT:	1007.58
BOTTOM OF MC-3500 CHAMBER:	1007.45
UNDERDRAIN INVERT:	1006.70
BOTTOM OF STONE:	1006.70

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.



KANSAS CITY MOTORS
LEE'S SUMMIT, MO

DATE: 03-16-17 | DRAWN: AMD | CHECKED: GFI | PROJECT #: 181081

REV	DWN	CKD	DESCRIPTION

StormTech®
Detention•Retention•Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

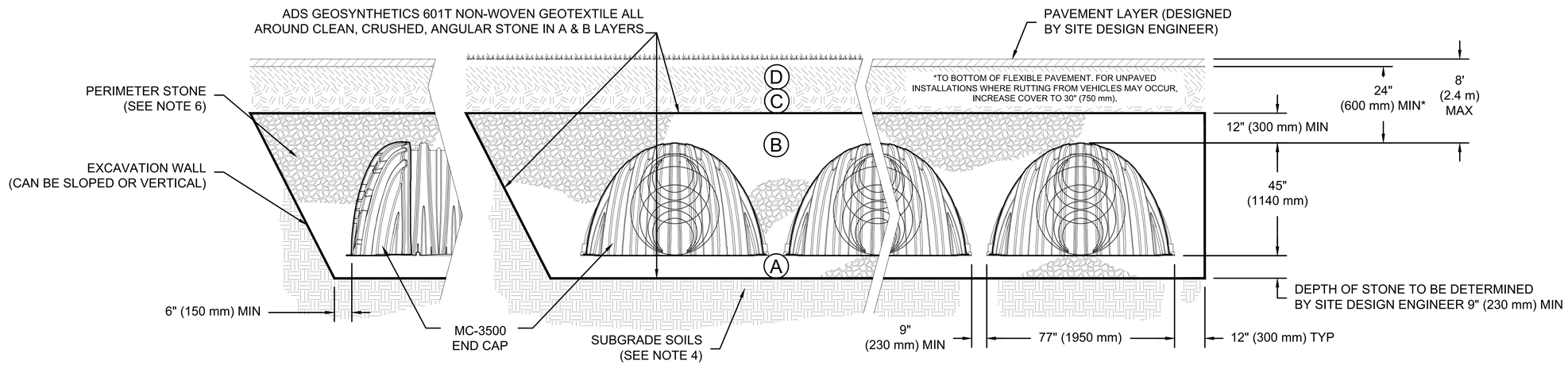
ADS®
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026

0 20' 40'

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2] [3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

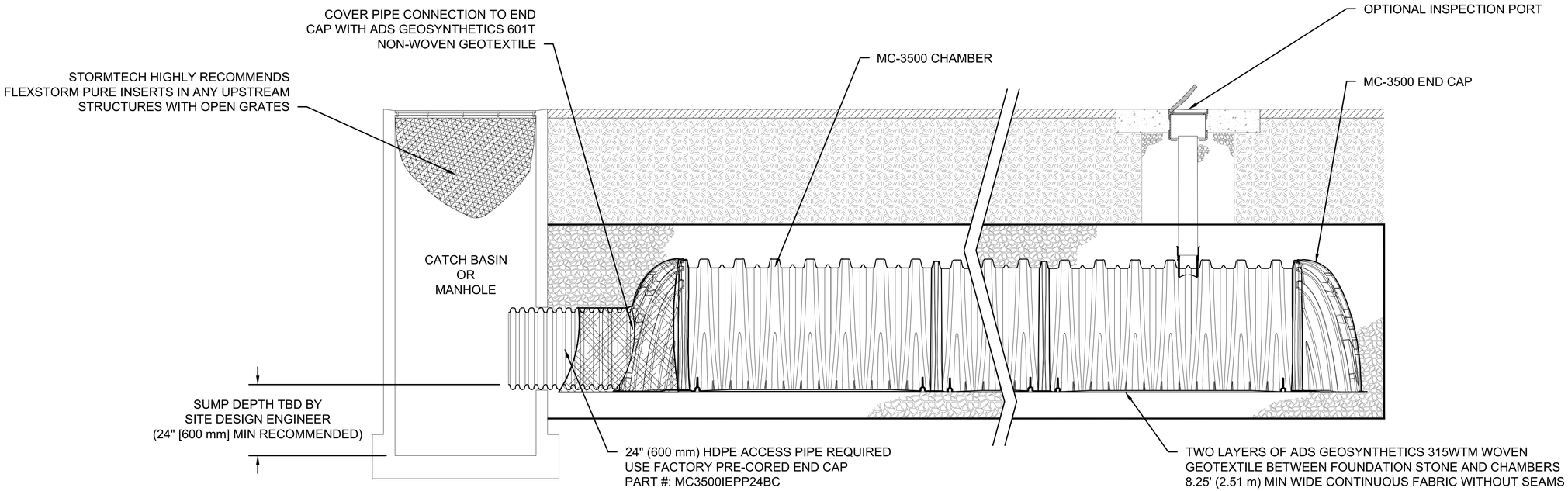
1. MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

KANSAS CITY MOTORS
LEE'S SUMMIT, MO
DATE: 03-16-17
PROJECT #: 181081
DRAWN: AMD
CHECKED: GFI

REV | DWN | CKD | DESCRIPTION

StormTech®
Detention • Retention • Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

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



MC-3500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

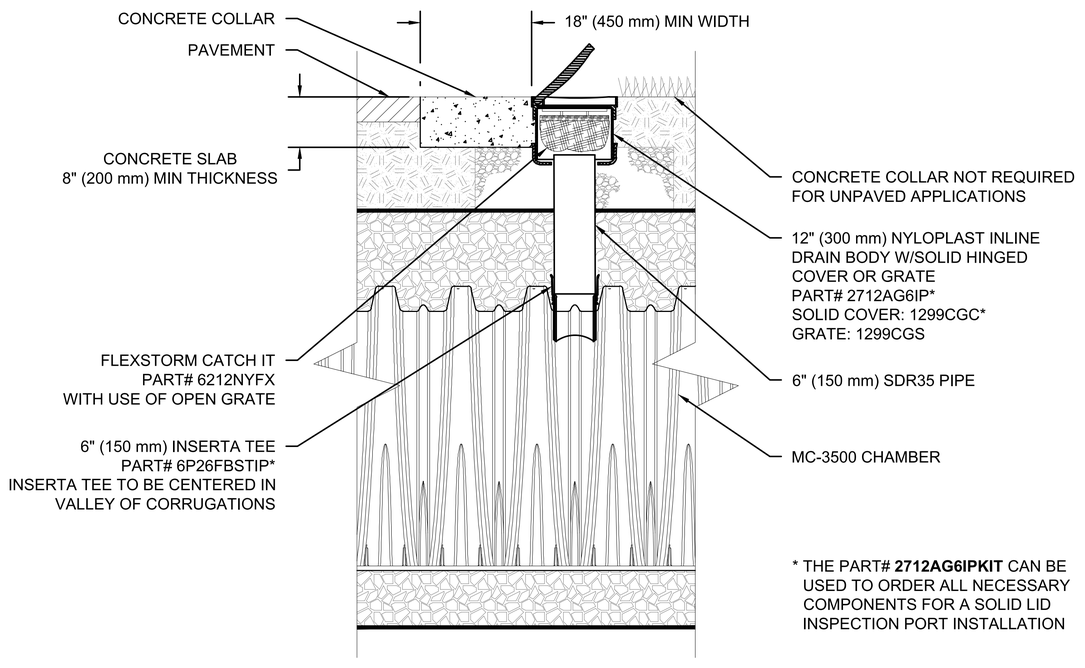
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



* THE PART# **2712AG6IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

MC-3500 6" INSPECTION PORT DETAIL
NTS

KANSAS CITY MOTORS
LEE'S SUMMIT, MO

DATE: 03-16-17 | DRAWN: AMD | CHECKED: GFI
PROJECT #: 181081

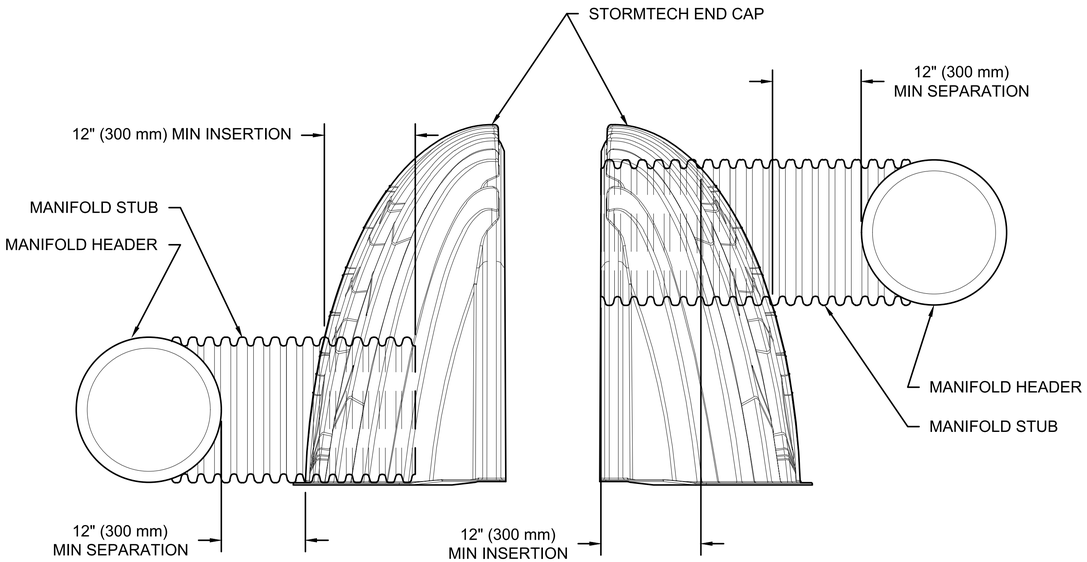
REV	DWN	CKD	DESCRIPTION

StormTech®
Detention • Retention • Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

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

MC-SERIES END CAP INSERTION DETAIL

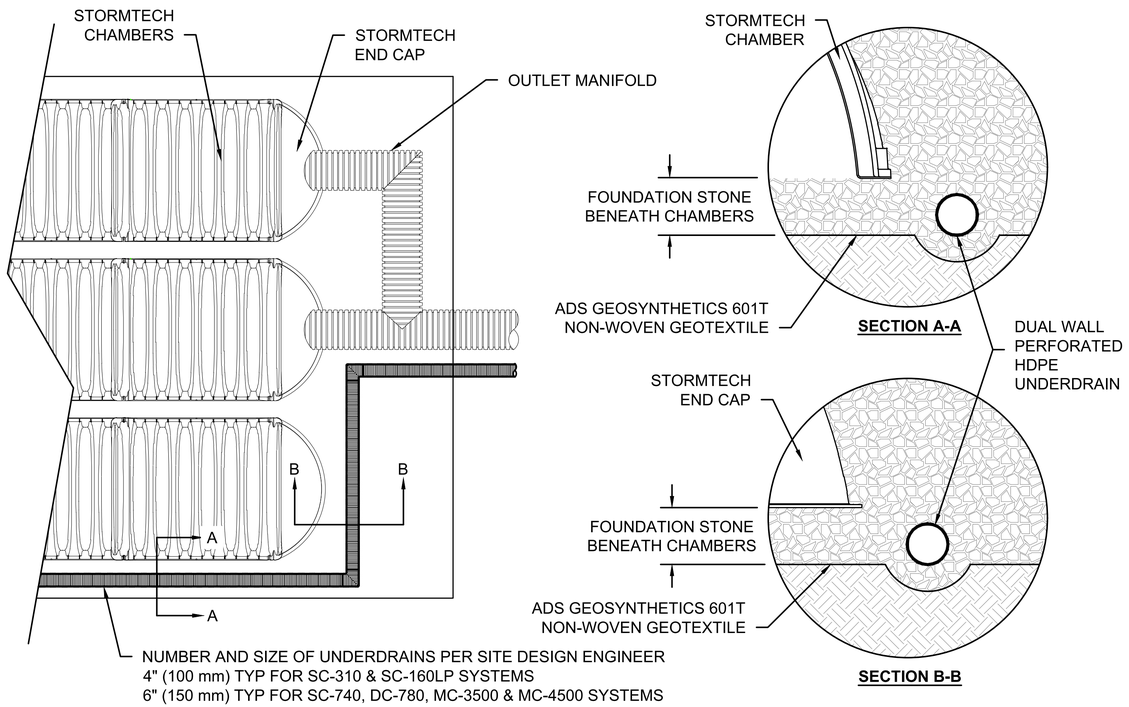
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL
FOR A PROPER FIT IN END CAP OPENING.

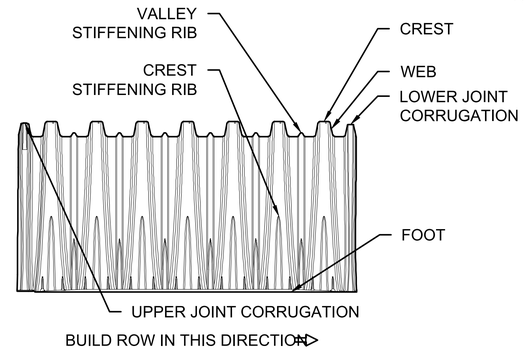
UNDERDRAIN DETAIL

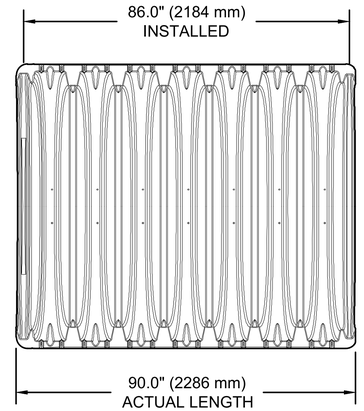
NTS

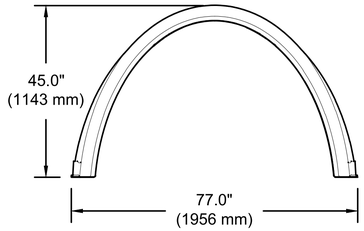


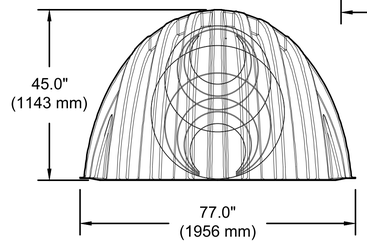
MC-3500 TECHNICAL SPECIFICATION

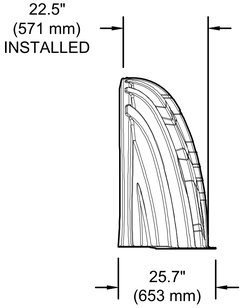
NTS











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 22.5"	(1956 mm X 1143 mm X 571 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m³)
WEIGHT	50.0 lbs.	(22.7 kg)

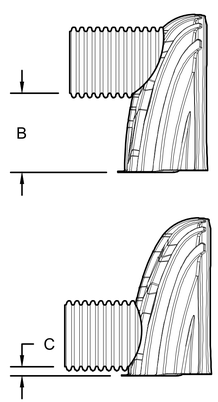
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS,
12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP30BC	30" (750 mm)	---	

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS.
CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm)
THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.



KANSAS CITY MOTORS
LEE'S SUMMIT, MO

DATE: 03-16-17 | DRAWN: AMD | CHECKED: GFI
PROJECT #: 181081

REV	DWN	CKD	DESCRIPTION

StormTech®
Detention•Retention•Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

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