

# CONSTRUCTION PLANS FOR WATER, SANITARY SEWER AND DRAINAGE FACILITIES & PAVING AND APPURTENANCES TO SERVE

## REDBIRD MEADOWS PHASE 1A DEV. NO. 2006

### MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215 CITY OF MONTGOMERY, TEXAS

**JOB. NO. 2980-0101**

**DATE: MARCH 2024**

NOTES

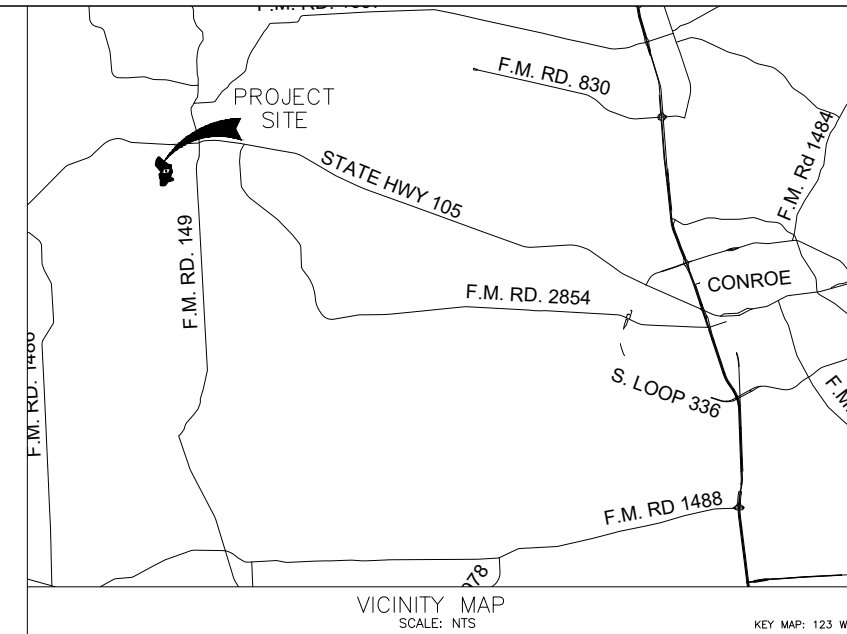
1. ALL STORM SEWER, OVERFLOW SWALES, OUTFALL DITCHES, CHANNELS AND BOX CULVERTS SHALL BE MAINTAINED BY MONTGOMERY COUNTY M.U.D. NO. 215.
2. THE MASTER DRAINAGE FOR THE REDBIRD DEVELOPMENT IS BEING DESIGNED BY LJA TO MEET OR EXCEED MINIMUM REQUIREMENTS OF CITY OF MONTGOMERY, TEXAS, AND MONTGOMERY COUNTY, TEXAS. ALL STORM SEWERS, NATURAL DRAINAGE COURSES, OR IMPROVED DRAINAGE CHANNELS HAVE ADEQUATE CAPACITY FOR THE FLOWS INDICATED IN THE DRAINAGE ANALYSIS. THE DRAINAGE DATA PRESENTED IN THESE PLANS CONFORMS TO THE LJA MASTER DRAINAGE PLAN AND ALL APPLICABLE CITY OF MONTGOMERY DRAINAGE REQUIREMENTS.

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK	
CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR	DATE

MONTGOMERY COUNTY FIRE MARSHALL	
Approved: _____ <span style="font-size: x-small;">Fire Marshall</span>	
Date: _____	

APPROVED FOR CONSTRUCTION

BY \_\_\_\_\_ DATE \_\_\_\_\_



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**ENGINEER:  
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FRN - F-1386

REDBIRD DEVELOPMENT, LLC

GENERAL NOTES:

- 1. MATERIALS, CONSTRUCTION AND TESTING TO BE IN ACCORDANCE WITH THE CITY OF MONTGOMERY ORDINANCES AND SPECIFICATIONS, LATEST PRINTING AND AMENDMENTS THERETO.
2. CONTRACTOR SHALL OBTAIN ALL DEVELOPMENT AND CONSTRUCTION PERMITS REQUIRED BY THE CITY OF MONTGOMERY AT CONTRACTORS EXPENSE PRIOR TO COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES OR RAILROADS AFFECTED BY HIS OPERATIONS AND THE CITY OF MONTGOMERY DEPARTMENT OF PUBLIC WORKS, 48 HOURS PRIOR TO COMMENCEMENT OF WORK IN STREET RIGHTS-OF-WAY OR EASEMENTS.
4. ALL EXISTING UNDERGROUND UTILITIES ARE NOT GUARANTEED TO BE COMPLETED OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE.
5. THE LOCATION OF ENTERPRISE PIPELINES, ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL REQUEST THE EXACT LOCATION OF THESE FACILITIES BY CALLING THE UTILITY COMPANIES, AT LEAST 48 HOURS BEFORE COMMENCING WORK.
6. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH OCCURS DUE TO FAILURE TO REQUEST THE LOCATION AND PRESERVATION OF THESE UNDERGROUND FACILITIES. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
7. CONSTRUCTION SHALL COMPLY WITH THE LATEST REVISIONS OF OSHA REGULATIONS AND STATE OF TEXAS LAW CONCERNING TRENCHING AND SHORING.
8. DETAILS PREPARED BY THE ENGINEER DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK.
9. CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.
10. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE CITY OF MONTGOMERY SATISFACTORY CONDITION.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION BOTH DAY AND NIGHT IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
12. EXISTING PAVEMENTS, CURBS, SIDEWALKS AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF MONTGOMERY STANDARDS.
13. EXISTING ROADS AND/OR RIGHT-OF-WAYS DISTURBED DURING CONSTRUCTION SHALL BE AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING THE WORK, UPON COMPLETION OF THE PROJECT.
14. ALL TRENCHES, INCLUDING TRENCHES FOR LEADS AND STUBS UNDER PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL CURBS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND AS PER SPECIFICATION TO A POINT IMMEDIATELY BELOW THE SUBGRADE.
15. INCLUDE PRICE OF ALL BEDDING AND BACKFILL OF TYPE REQUIRED, IN PRICE BID PER LINEAR FOOT OF PIPE.
16. CONTRACTOR TO REMOVE EXISTING PLUGS AND CONNECT TO EXISTING UTILITY LINES AS INDICATED ON PLANS.
17. UNLESS OTHERWISE NOTED ON PLANS, WHERE MANHOLES ARE LOCATED WITHIN THE UTILITY EASEMENTS, THE CONTRACTOR SHALL SET RIM ELEVATIONS TWO INCHES ABOVE FINISHED GROUND ELEVATIONS.
18. WHEN TRENCH CONDITION REQUIRES THE USE OF WELL POINTS, THIS IS TO BE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING THE MUD AND/OR DIRT DEPOSITED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY DAILY. ALL EQUIPMENT AND DEBRIS FROM CONSTRUCTION TO BE MOVED AT END OF PROJECT.
20. CONTRACTOR SHALL CONTACT THE FOLLOWING A MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
21. ALL AREAS DISTURBED ALONG SIDE AND BACK-OF-LOT EASEMENTS OR OTHER UNNECESSARY DISTURBANCES AS A RESULT OF CONSTRUCTION WORK SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SEEDING SPECIFICATIONS (NO SEPARATE PAY).
22. ALL STATIONS ARE CENTERLINE OF STREET RIGHT-OF-WAY UNLESS OTHERWISE NOTED.
23. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
24. MATERIAL USED FOR COMPACTED FILL SHALL HAVE A PLASTIC INDEX (P.I.) BETWEEN 10 AND 20.
25. WHEN THE OWNER DETERMINES THAT THE CONTRACTOR IS WORKING IN OR ADJACENT TO DEVELOPED AREAS, NO CONSTRUCTION SHALL COMMENCE PRIOR TO SUNRISE ON WEEK DAYS AND 7:30 A.M. ON WEEKENDS AND/OR HOLIDAYS, AND SHALL CONCLUDE PRIOR TO SUNDOWN UNLESS ARRANGEMENTS TO THE CONTRARY HAVE BEEN COORDINATED AND APPROVED WITH THE OWNER.
26. IN THE CASE OF ONGOING PROJECTS ADJACENT TO OR NEAR THE PROPOSED PROJECT, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONSTRUCTION WITH OTHER CONTRACTORS.

SPECIAL TRENCH BACKFILL NOTES:

- 1. ALL TRENCH BACKFILL FOR UTILITIES SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY PER ASTM D-698. MOISTURE CONTENT SHALL BE WITHIN -3% TO +3% OF OPTIMUM.
2. DENSITIES SHALL BE TAKEN AT APPROXIMATE 100-FOOT INTERVALS FOR EACH LIFT, OR AS RECOMMENDED BY THE TESTING LAB, OR AS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE TESTING LAB SHALL BE PAID BY THE OWNER EXCEPT RETESTS REQUIRED DUE TO THE FAILURE OF THE FIRST TEST SHALL BE PAID BY THE CONTRACTOR.
4. LIFTS SHALL BE 8-INCH MAXIMUM, MEASURED LOOSE.
5. ALL TRENCH BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO THE PIPE.

SANITARY SEWER CONSTRUCTION NOTES:

- 1. SANITARY SEWERS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST CITY SPECIFICATIONS FOR SEWER CONSTRUCTION, AND TESTED AS SPECIFIED IN THE CITY TEST PROCEDURE FOR EITHER LIQUID OR AIR, INCLUDING ALL AMENDMENTS AND REVISIONS THERETO.
2. ALL SANITARY SEWER MANHOLES SHALL BE STANDARD CITY OF MONTGOMERY PRE-CAST USING RAM-NECK OR CAST IN PLACE CONCRETE IN ACCORDANCE WITH ASTM C-478. NO BRICK MANHOLES ALLOWED.
3. MANHOLE CONCRETE BOTTOM FOUNDATION SHALL BE 12" REINFORCED WITH #5 BARS AT 12" ON CENTERS, EACH WAY WITH A MINIMUM OF 6" EXTRA SLAB LENGTH AROUND THE MANHOLE, IF POURED IN PLACE.
4. SANITARY SEWER PIPE SHALL BE PVC SDR 26 OR PVC SDR 35 (WITH APPROVAL), IN ACCORDANCE WITH ASTM SPECIFICATIONS D-3034, FOR 4" THROUGH 15" AND ASTM F-879 FOR 18" THROUGH 27".
5. SEWER LINES SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE STREET FROM WHERE WATER IS LOCATED.
6. NO SEWER PIPE SHALL BE LAID ON AN UNSTABLE FOUNDATION.
7. WINDY AND UNSTABLE GROUND LEVEL AROUND MANHOLE LIES BELOW THE 100 YEAR FLOODPLAIN ELEVATION.
8. A DEFLECTION TEST SHALL BE REQUIRED AFTER THE BACKFILL HAS BEEN IN PLACE A MINIMUM OF 30 DAYS.
9. INFILTRATION/EXFILTRATION NOT TO EXCEED 200 GALLONS PER INCH DIAMETER PER MILE OF PIPE FOR 24 HOURS UNDER A MINIMUM OF 2 FEET OF HEAD.
10. WHERE A SEWER LINE HAS LESS THAN (2) FEET OF COVER, PROVIDE CEMENT STABILIZED SAND BACKFILL MATERIAL.
11. CONTRACTOR SHALL KEEP RECORD OF LOCATION OF ALL STACKS, STUBS, SEWER LEADS, ETC.
12. IF SANITARY SERVICE LEADS ARE INSTALLED DURING CONSTRUCTION OF MAIN LINE, ALL LEADS TO HAVE A MINIMUM SLOPE OF 0.70% OR GREATER.
13. THE INSTALLATION OF ALL SANITARY SEWER LINES SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE PROPERTY TO BE SERVED.
14. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
15. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER CITY OF MONTGOMERY AND TCEQ REGULATIONS.
16. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
17. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH.
18. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
19. ALL WATER LINES TO HAVE 4" MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEAR TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS.
20. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAP (OR OTHERWISE EFFECTIVELY COVER) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
21. UNLESS OTHERWISE NOTED, ALL WATER LINES 12" AND SMALLER SHALL HAVE A MINIMUM OF 4' OF COVER, AND WATER LINES 16" AND LARGER SHALL HAVE A MINIMUM OF 5' OF COVER.
22. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL UNDERGROUND TEES, BENDS AND LATERALS.
23. ALL ABOVE GROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE FLANGED.
24. ALL FLANGES BELOW GRADE SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.

WATER LINE CONSTRUCTION NOTES:

- 1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF MONTGOMERY RULES AND REGULATIONS, STANDARD SPECIFICATIONS, AND CONSTRUCTION DETAILS.
2. 4" THROUGH 12" WATER LINES SHALL BE P.V.C. CLASS 150, DR-18, AWWA C-900 AND 1" THROUGH 3" WATER LINES SHALL BE PVC SCHEDULE 40.
3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT.
4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
5. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER CITY OF MONTGOMERY AND TCEQ REGULATIONS.
6. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
7. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH.
8. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
9. 4" THROUGH 12" FITTINGS SHALL BE DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.10, OR PUSH ON FITTINGS PER ANSI A21.11, PRESSURE RATED AT 150 PSIG.
10. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST CITY OF MONTGOMERY STANDARD CONSTRUCTION SPECIFICATIONS.
11. ALL WATER LINES TO HAVE 4" MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEAR TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS.
12. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAP (OR OTHERWISE EFFECTIVELY COVER) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
13. UNLESS OTHERWISE NOTED, ALL WATER LINES 12" AND SMALLER SHALL HAVE A MINIMUM OF 4' OF COVER, AND WATER LINES 16" AND LARGER SHALL HAVE A MINIMUM OF 5' OF COVER.
14. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL UNDERGROUND TEES, BENDS AND LATERALS.
15. ALL ABOVE GROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE FLANGED.
16. ALL FLANGES BELOW GRADE SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.

WATER LINE CONSTRUCTION NOTES CONT'D:

- 17. ALL WATER VALVES SHALL OPEN CLOCKWISE. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
18. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
19. ALL FLANGES BELOW GRADE SHALL BE INSULATED.
20. ALL WATERLINES SHALL BE ENCASED IN BANK SAND TO AT LEAST 12" ABOVE THE PIPE.
21. MAINTAIN MINIMUM 9-FOOT HORIZONTAL CLEARANCE BETWEEN OUTSIDE OF SANITARY SEWER MANHOLE AND WATERLINE.
22. WATER LINES PARALLEL TO SANITARY LINES SHALL BE INSTALLED WITH AT LEAST A 9-FOOT CLEARANCE AND IN SEPARATE TRENCHES.
23. CENTER OF FIRE HYDRANT TO BE LOCATED 3'-0" FROM BACK OF CURB WITH CENTER LINE OF STEAMER NOZZLE 22-INCHES ABOVE FINISHED GRADE.
24. WATERLINE SHALL BE CONSTRUCTED SUCH THAT ALL CROSSES AND TEES WILL NOT BE LOCATED UNDER PROPOSED OR FUTURE PAVING.
25. UTILITY CONTRACTOR TO TURN FIRE HYDRANTS AND MAKE ALL FINAL ADJUSTMENTS AFTER COMPLETION OF PAVING, NO SEPARATE PAY.

DRY UTILITY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

- 1. LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE LLC, WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY.
2. CENTERPOINT SIGNATURES ON THESE PLANS ONLY INDICATES THAT ITS FACILITIES ARE SHOWN IN APPROXIMATE LOCATION.
3. WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037, 9:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
4. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
5. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPELINE.

WARNING: HIGHLY VOLATILE LIQUID

- 1. UNDERGROUND HIGHLY VOLATILE LIQUID FACILITIES EXIST IN THE AREA OF THIS PROJECT. DO NOT BEGIN CONSTRUCTION UNTIL THESE FACILITIES HAVE BEEN LOCATED AND STAKED. TO HAVE THESE FACILITIES LOCATED PLEASE CONTACT ENTERPRISE PRODUCTS OPERATING LLC, (713)-381-5585.

WARNING: UNDERGROUND ELECTRICAL FACILITIES

- 1. UNDERGROUND ELECTRICAL FACILITIES EXIST IN THE AREA OF THIS PROJECT. DO NOT BEGIN CONSTRUCTION UNTIL THESE FACILITIES HAVE BEEN LOCATED AND STAKED. TO HAVE THESE UNDERGROUND FACILITIES STAKED CALL THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567, OR TOLL FREE AT 1-800-669-8344, AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION.

TRAFFIC NOTES:

- 1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS MUTCD, MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
2. LANE CLOSURE PERMITS ARE TO BE OBTAINED WHEN REQUIRED. THE REQUEST MUST BE MADE AT LEAST THREE DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT.
3. CONTRACTOR SHALL COVER EXCAVATIONS WITH STEEL PLATES, ANCHORED PROPERLY, DURING NON-WORKING HOURS AND OPEN LANES FOR TRAFFIC FLOWS.
4. IF THE CONTRACTOR DESIRES TO BLOCK A LANE FOR WHICH NO "TRAFFIC CONTROL PLANS" WERE SUBMITTED, (S)HE SHALL SUBMIT REPRODUCIBLE MYLARS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS TO THE PLAN REVIEW SECTION OF THE ENTITY HAVING JURISDICTION OVER THE ROAD BEING WORKED ON, WITH THE ENTIRE APPROVED SET OF DRAWINGS FOR APPROVAL TEN WORKING DAYS PRIOR TO CONSTRUCTION.
5. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO SUBMIT AN ALTERNATE SET OF REPRODUCIBLE MYLARS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS WITH THE ENTIRE APPROVED SET OF DRAWINGS TO THE PLAN REVIEW SECTION OF THE ENTITY HAVING JURISDICTION OVER THE ROAD BEING WORKED ON, FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.
6. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" AND LANE/SIDEWALK CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITE ALL TIMES. ALL REQUESTS FOR LANE/SIDEWALK CLOSURES MUST BE MADE AT LEAST THREE DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT.

MONTGOMERY COUNTY FIRE MARSHALL NOTES:

- 1. FIRE LANE MARKINGS WILL BE REVIEWED DURING FINAL INSPECTION.
2. NFPA 704 PLACARD SHALL BE PLACED ON THE BUILDING STREETSIDE.
3. PROVIDE FIRE EXTINGUISHERS PER IFC SECTION 906.
4. EXIT DOORS SHALL BE READILY OPERABLE FROM THE EGRESS SIDE WITHOUT THE USE OF KEY OR SPECIAL KNOWLEDGE OR EFFORT. DOOR HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING DEVICES ON DOORS SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE.
5. EXIT SIGNS AND EMERGENCY LIGHTING NEEDED IN PROPER LOCATIONS WITH BACK UP POWER.
6. KNOX EQUIPMENT
- ALL LOCKED ACCESS GATES ARE REQUIRED TO COMPLY WITH THE MONTGOMERY COUNTY ACCESS GATE ACCESS PROGRAM.

CITY OF MONTGOMERY GENERAL NOTES:

- GENERAL CONSTRUCTION NOTES:
1. CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY CITY ENGINEER, KATHERINE VU AT (713)789-1900 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
2. CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY DIRECTOR OF PUBLIC WORKS, MIKE MUCKLERORY AT (936) 997-6434 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION TO SET UP AN INSPECTION TO VERIFY CITY'S FACILITIES.
3. CONTRACTOR TO CONTACT CITY OF MONTGOMERY UTILITY OPERATOR, PHILIP WRIGHT OF HAYS UTILITY NORTH CORPORATION AT (936)588-1166 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION TO SET UP AN INSPECTION TO VERIFY CITY'S FACILITIES.
4. THE CITY UTILITY OPERATOR AND PUBLIC WORKS FOREMAN SHALL BE NOTIFIED 24 HOURS IN ADVANCE TO WITNESS AND INSPECT ANY SANITARY SEWER LINE CONNECTION. NO SANITARY SEWER LINES SHALL BE BACKFILLED BEFORE THE CITY'S UTILITY OPERATOR OR PUBLIC WORKS FOREMAN HAS INSPECTED THE CONNECTION.
5. ALL TAPS TO THE CITY'S WATER AND SANITARY SEWER SYSTEM SHALL BE MADE BY THE CITY'S OPERATOR AT THE OWNER'S EXPENSE.
6. CONTRACTOR SHALL CONTACT THE CITY'S UTILITY OPERATOR OR PUBLIC WORKS FOREMAN TO OPERATE ANY VALVES. AT NO TIME IS THE CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE TO OPERATE ANY PART OF THE CITY OF MONTGOMERY WATER SYSTEM.
7. THE OWNER OR CONTRACTOR SHALL INSTALL AND TEST APPROPRIATE BACKFLOW PREVENTION, PER THE CITY OF MONTGOMERY RULES & REGULATIONS.

MANHOLES:

- 1. CONSTRUCT MANHOLES A MAXIMUM OF FOUR HUNDRED (400) FEET APART.
2. ALL CHANGES OF DIRECTION IN THE SANITARY SEWER LINE SHALL TAKE PLACE AT A MANHOLE.
3. USE PRE-CAST CONCRETE MANHOLE, NO BRICK MANHOLES SHALL BE ALLOWED.
4. PROVIDE MANHOLES IN ACCORDANCE WITH CITY OF MONTGOMERY STANDARD DETAILS.
SERVICE LEAD:
1. FOR DEVELOPMENTS WITH MORE THAN 5,000 GALLONS-PER-DAY FLOW IN SINGLE SERVICE, CONNECT THE SERVICE DIRECTLY TO A PROPOSED OR EXISTING MANHOLE.
2. FOR SINGLE RESIDENTIAL SERVICE, PROVIDE A SERVICE LEAD WITH A MINIMUM 4-INCH DIAMETER AND A MINIMUM SLOPE OF 1%.
3. DOUBLE SERVICE LEADS ARE ONLY ALLOWED WITH AN APPROVED VARIANCE BY THE CITY COUNCIL.
4. IF THE LENGTH OF THE SERVICE LEAD EXCEEDS 100-FEET OR THE WIDTH OF THE PUBLIC RIGHT-OF-WAY BY MORE THAN 20-FEET, THE MINIMUM DIAMETER SHALL BE 8-INCHES.
LINE DEPTH:
1. CONSTRUCT SEWER PIPE WITH THE TOP OF PIPE A MINIMUM OF 3 FEET BELOW NATURAL GROUND.
2. SEWERS LAID IN STREET RIGHT-OF-WAYS WITH CURB AND GUTTER PAVED STREETS SHALL HAVE A MINIMUM COVER OF 4- FEET FROM THE TOP OF PIPE TO TOP OF CURB.
3. SEWERS LAID IN STREET RIGHT-OF-WAYS WITH OPEN DITCHES SHALL HAVE A MINIMUM COVER OF 6- FEET FROM THE AVERAGE GROUND LINE AT THE ADJACENT STREET RIGHT-OF-WAY TO THE TOP OF PIPE.
LIFT STATIONS:
1. COMPLY WITH THE REQUIREMENTS SET FORTH BY THE TCEQ.
2. USE A PEAKING FACTOR OF 4 IN THE DESIGN CALCULATIONS.
3. PROVIDE THE CITY OF MONTGOMERY WITH A COPY OF THE ENGINEERING DESIGN REPORT SATISFYING TCEQ CRITERIA.
4. THE CITY OF MONTGOMERY SHALL APPROVE THE BRAND OF PUMP USED IN THE LIFT STATION.
5. CONSTRUCT ALL LIFT STATIONS OF CONCRETE, NO FIBERGLASS LIFT STATIONS SHALL BE ALLOWED.
PIPE MATERIALS:
1. THE FOLLOWING TYPES OF SANITARY SEWER PIPE MATERIALS ARE NOT ALLOWED:
(A) PLASTIC "TRUSS" PIPE.
(B) CLAY PIPE.

BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88.
MONUMENT DESIGNATION ELEV. 190.963
BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,502,367.4350 Y = 255,445.6670
100YR. W.S.E.= 299.04' OUTFALL #1000
100YR. W.S.E.= 305.61' AT OUTFALL #1001
100YR. W.S.E.= 279.14' AT OUTFALL #1002
100YR. W.S.E.= 279.68' AT OUTFALL #1003
100YR. W.S.E.= 297.86' AT OUTFALL #1004
100YR. W.S.E.= 297.42' AT OUTFALL #1005
FIRM PANEL NO.48339C0200G & 48339C0350G
EFFECTIVE DATE: AUGUST 18, 2014
THIS AREA LIES IN ZONE "X".

NOTES:

- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3'-6" ABOVE NATURAL GROUND.
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9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
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Table with 3 columns: DATE, REVISION, BY. Multiple empty rows for tracking changes.

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK
CITY OF MONTGOMERY, CITY ENGINEER DATE
SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

GENERAL NOTES

LJA Engineering, Inc.
3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042
Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386

LJA PROJECT NO.: 2980-0101
DRAWN: T.G.M/D.D. DESIGN: S.G.M/B. DATE: FEB.2024

SCALE: N.T.S. SHEET NO. 2 OF 47

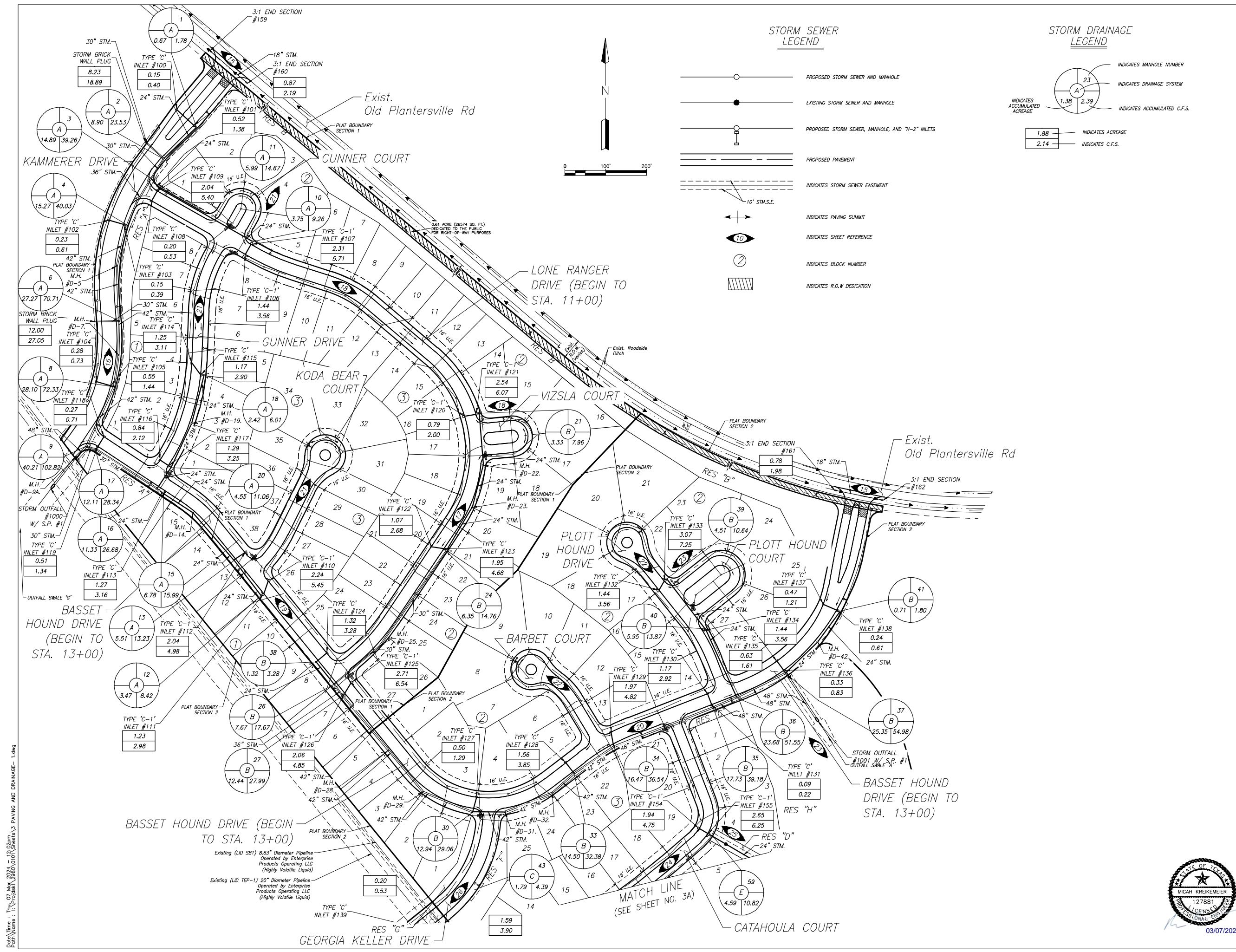


03/07/2024

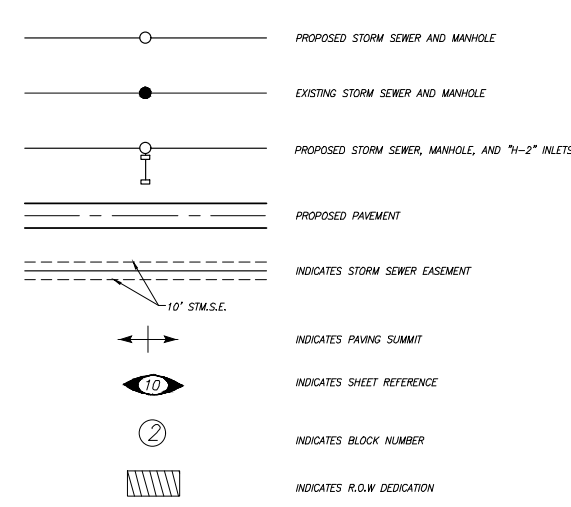
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REDBIRD MEADOWS PHASE 1A - 2980-0101

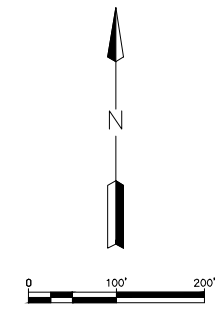
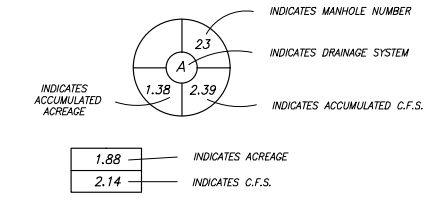




**STORM SEWER LEGEND**



**STORM DRAINAGE LEGEND**



**BENCHMARK:**  
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 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
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CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

**DRAINAGE LAYOUT**

**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB.2024

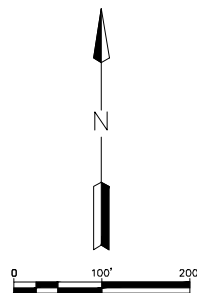
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03/07/2024

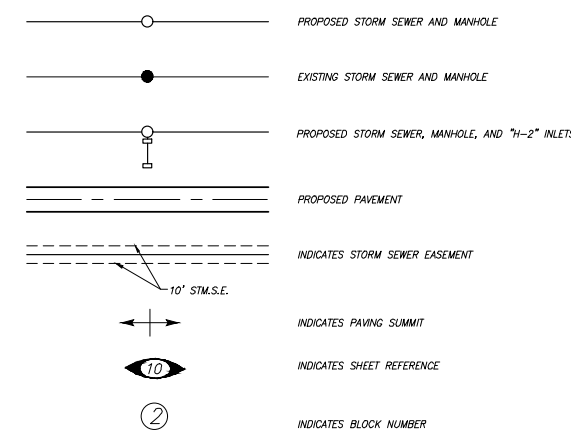
SHEET NO. 3 OF 47

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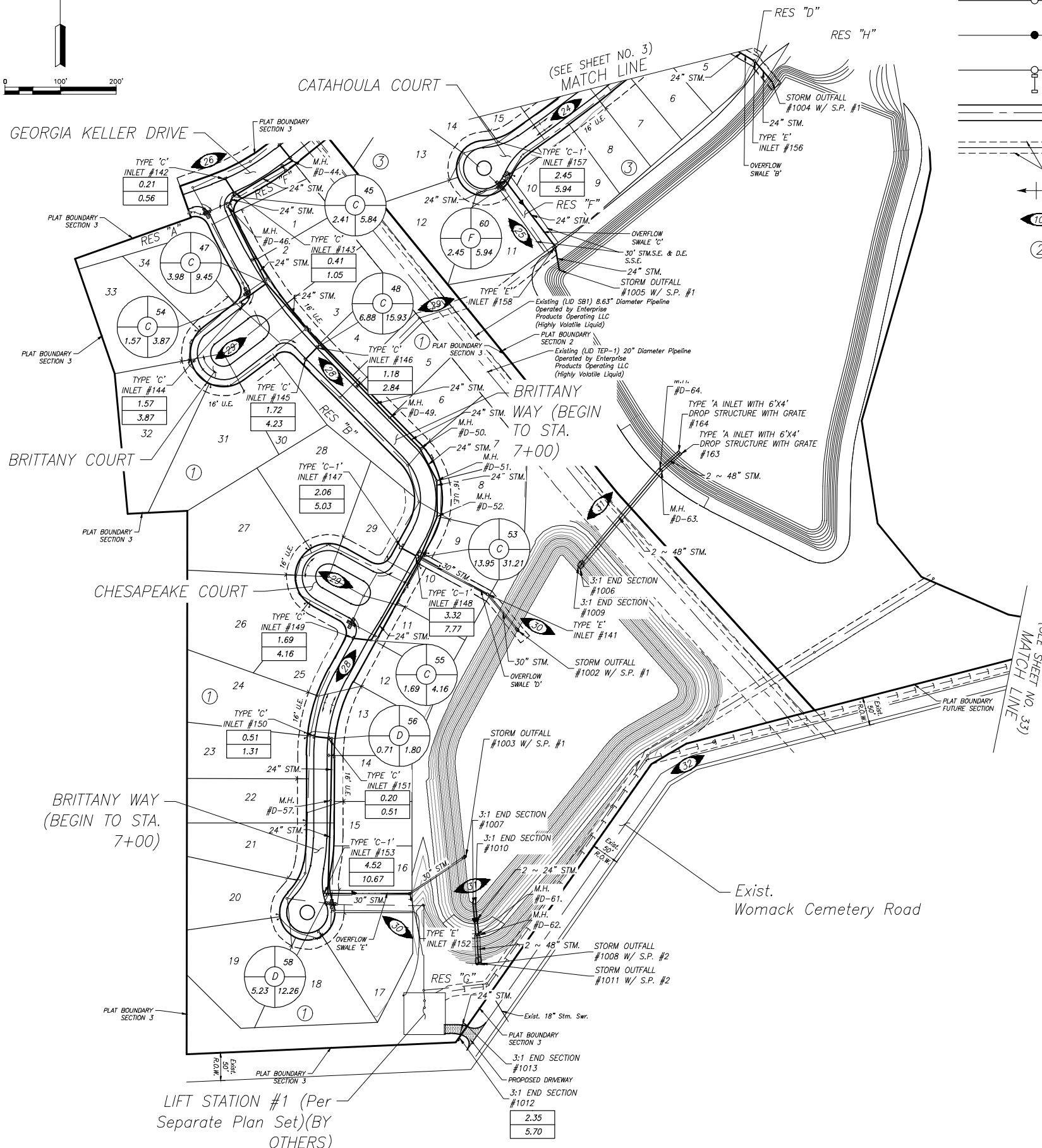
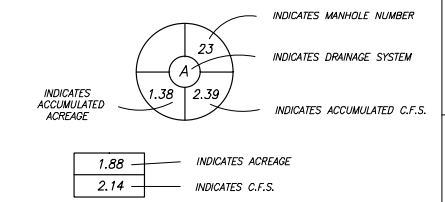
REDBIRD MEADOWS PHASE 1A - 2980-0101



**STORM SEWER LEGEND**



**STORM DRAINAGE LEGEND**



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
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 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

DRAINAGE LAYOUT CONT'D

**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024

SCALE: 1" = 100'

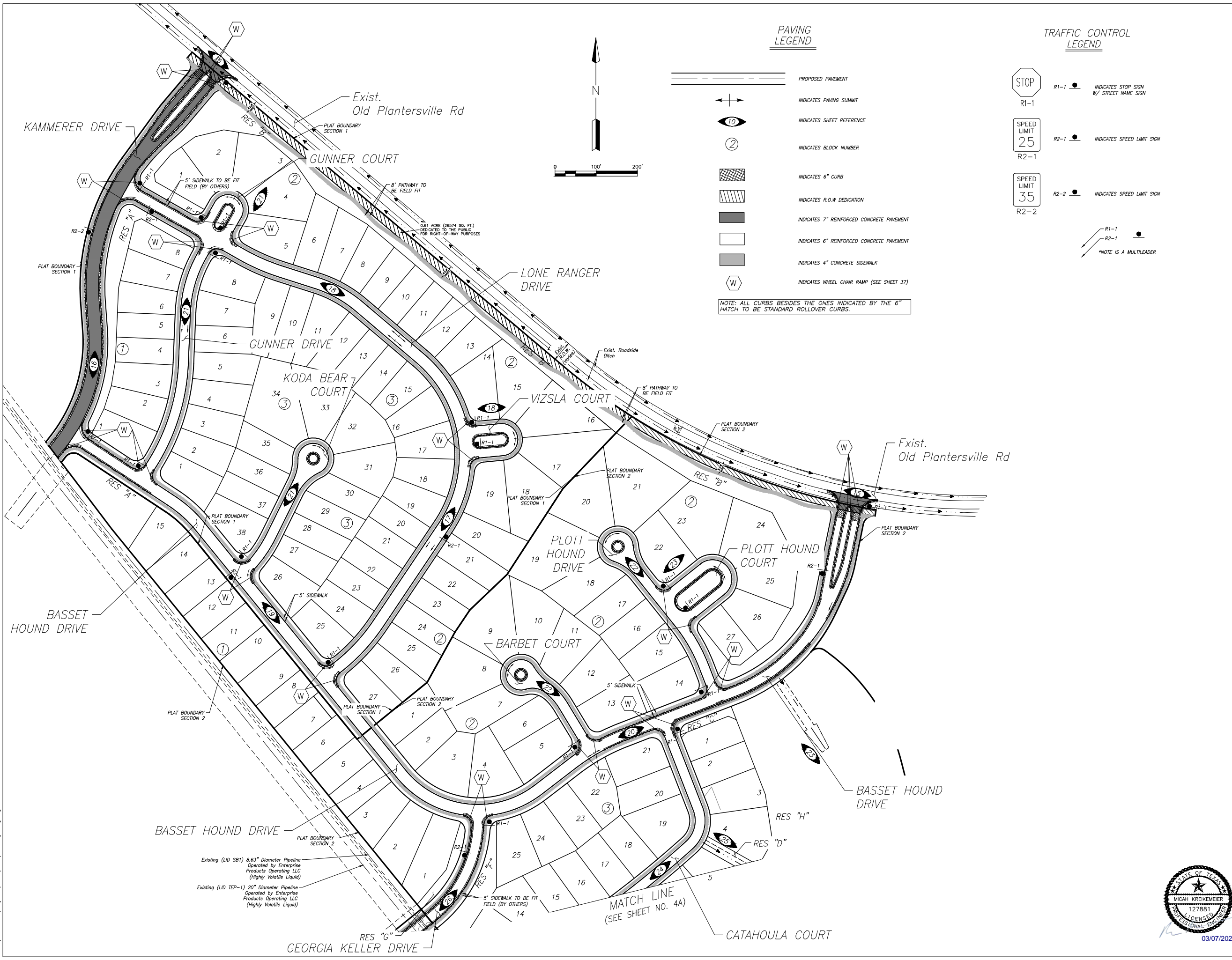
03/07/2024

SHEET NO. 3A OF 47



Date/Time : Thu, 07 Mar 2024 - 12:04pm  
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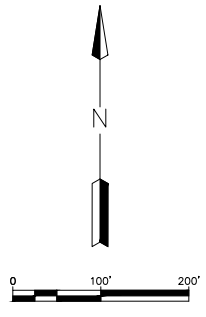
**PAVING LEGEND**

- PROPOSED PAVEMENT
- INDICATES PAVING SUMMIT
- INDICATES SHEET REFERENCE
- INDICATES BLOCK NUMBER
- INDICATES 6" CURB
- INDICATES R.O.W DEDICATION
- INDICATES 7" REINFORCED CONCRETE PAVEMENT
- INDICATES 6" REINFORCED CONCRETE PAVEMENT
- INDICATES 4" CONCRETE SIDEWALK
- INDICATES WHEEL CHAIR RAMP (SEE SHEET 37)

NOTE: ALL CURBS BESIDES THE ONES INDICATED BY THE 6" HATCH TO BE STANDARD ROLLOVER CURBS.

**TRAFFIC CONTROL LEGEND**

- R1-1 INDICATES STOP SIGN W/ STREET NAME SIGN
- R2-1 INDICATES SPEED LIMIT SIGN
- R2-2 INDICATES SPEED LIMIT SIGN
- \*NOTE IS A MULTILEADER



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
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 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
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 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

**PAVING AND SIDEWALK LAYOUT**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

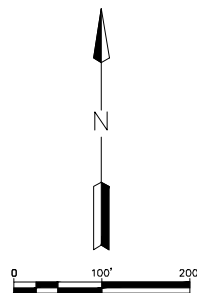
LJA PROJECT NO.: 2980-0101



DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB. 2024  
 SCALE: 1" = 100'  
 SHEET NO. 4 OF 47

Date/Time : Wed, 06 Mar 2024 3:47pm  
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REDBIRD MEADOWS PHASE 1A - 2980-0101



**STORM SEWER LEGEND**

- PROPOSED PAVEMENT
- INDICATES PAVING SUMMIT
- INDICATES SHEET REFERENCE
- INDICATES BLOCK NUMBER
- INDICATES 6" CURB
- INDICATES 6" REINFORCED CONCRETE PAVEMENT
- INDICATES 7" REINFORCED CONCRETE PAVEMENT
- INDICATES 5" WIDE, 4" CONCRETE SIDEWALK
- INDICATES 6" ASPHALT
- INDICATES WHEEL CHAIR RAMP (SEE SHEET 37)

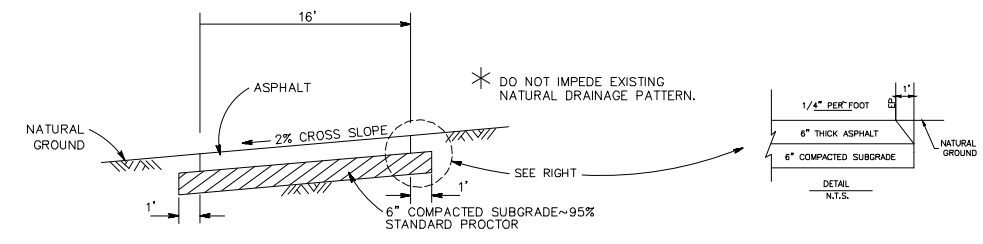
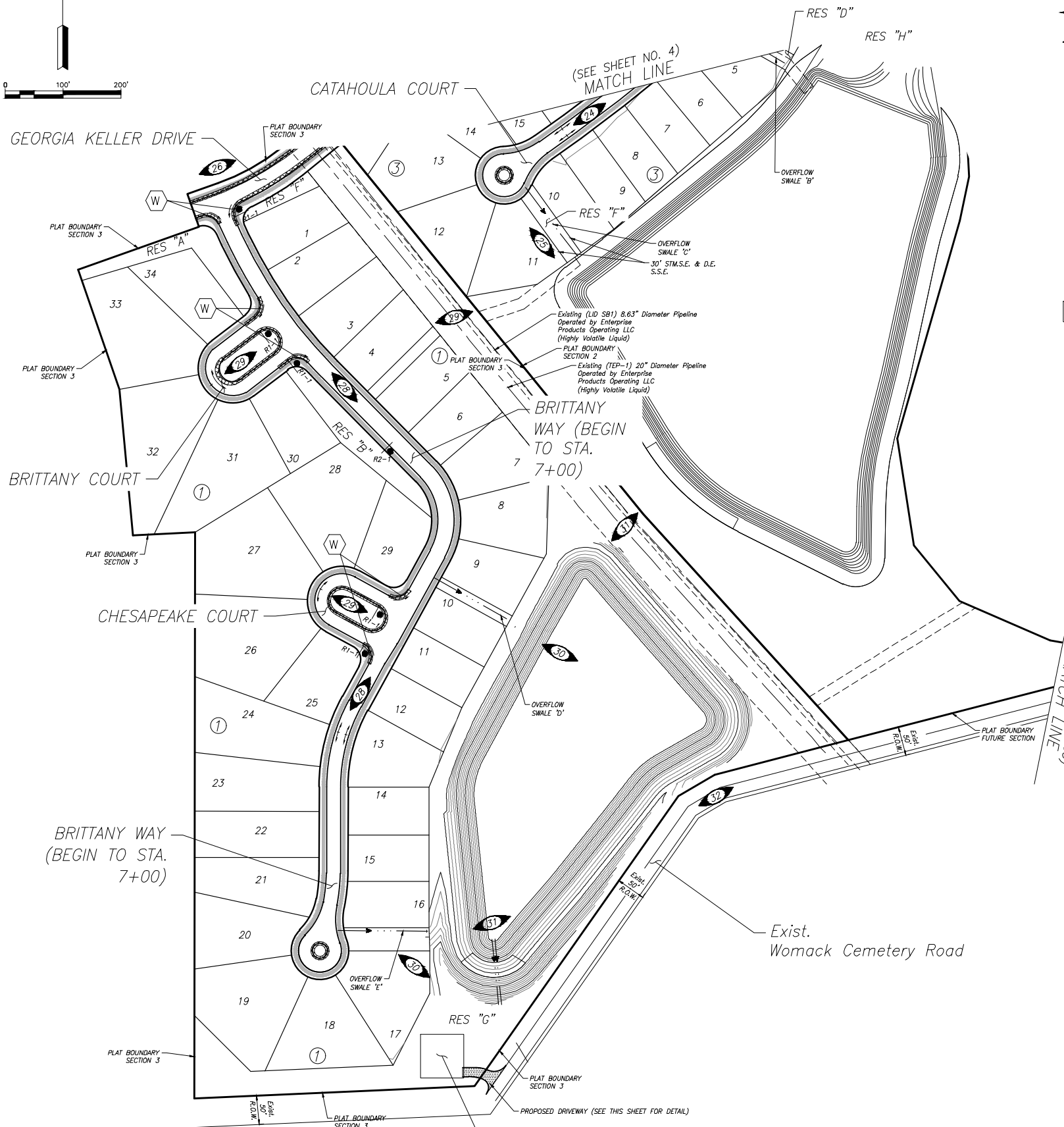
NOTE: ALL CURBS BESIDES THE ONES INDICATED BY THE 6" HATCH TO BE STANDARD ROLLOVER CURBS.

**STORM DRAINAGE LEGEND**

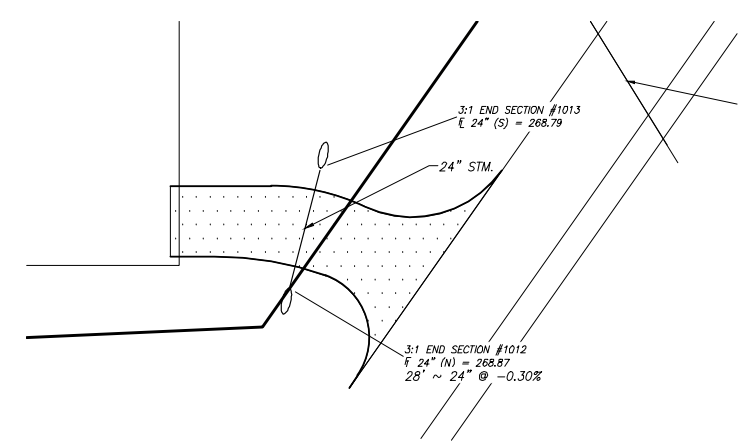
- INDICATES MANHOLE NUMBER
- INDICATES DRAINAGE SYSTEM
- INDICATES ACCUMULATED ACREAGE
- INDICATES ACCUMULATED C.F.S.
- INDICATES ACREAGE
- INDICATES C.F.S.

**TRAFFIC CONTROL LEGEND**

- R1-1 INDICATES STOP SIGN W/ STREET NAME SIGN
- R2-1 INDICATES SPEED LIMIT SIGN
- R1-1 R2-1 INDICATES MULTILEADER



TYP. SECTION PROP. DRIVEWAY



PROP. DRIVEWAY PLAN VIEW DETAIL  
SCALE: 1"=20'

**BENCHMARK:**  
ALL ELEVATIONS SET TO NGS. NAVD 88.  
MONUMENT DESIGNATION ELEV. 190.963  
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CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

**PAVING AND SIDEWALK LAYOUT CONT'D**

**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Phone 713.953.5200  
Suite 600 Fax 713.953.5026  
Houston, Texas 77042 FRN - F-1386



LJA PROJECT NO.: 2980-0101  
DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024  
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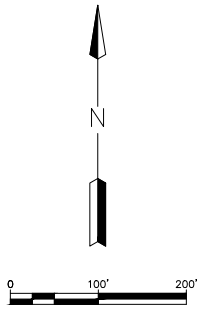
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REDBIRD MEADOWS PHASE 1A - 2980-0101





**BENCHMARK:**  
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 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".



**TRAFFIC CONTROL LEGEND**  
 ○ INDICATES STREET LIGHT LOCATION (APPROXIMATE 300' INTERVALS)

- NOTES:**
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 CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215  
 REDBIRD MEADOWS PHASE 1A

**STREET LIGHTS LAYOUT**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386  
 LJA PROJECT NO.: 2980-0101

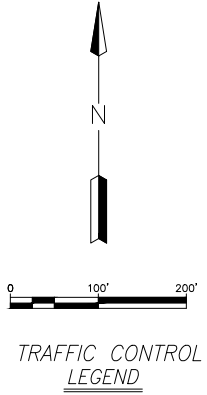
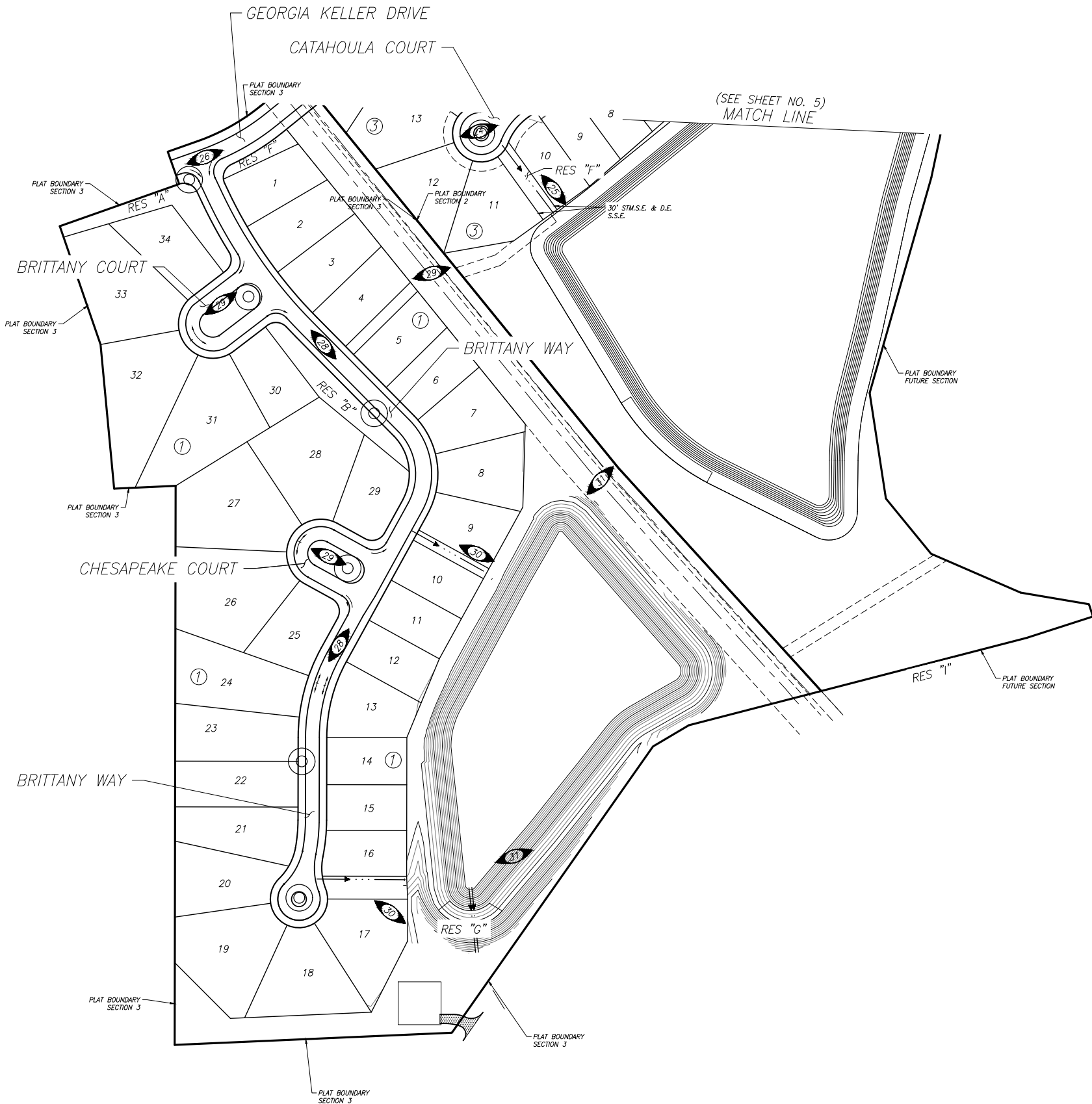


DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: 1" = 100'  
 SHEET NO. 5 OF 47

Date/Time : Wed, 06 Mar 2024 3:47pm  
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REBIRD MEADOWS PHASE 1A - 2980-0101

Date/Time : Wed, 06 Mar 2024 3:48pm  
 Path Name : I:\Project\2980\0101\Sheets\STREET LIGHTS 3.dwg



INDICATES STREET LIGHT LOCATION  
 (APPROXIMATE 300' INTERVALS)

TRAFFIC CONTROL  
 LEGEND

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
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  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB

DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

\_\_\_\_\_  
 CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

\_\_\_\_\_  
 DATE

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

STREET LIGHT  
 LAYOUT

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

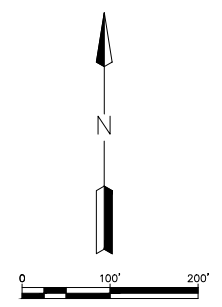
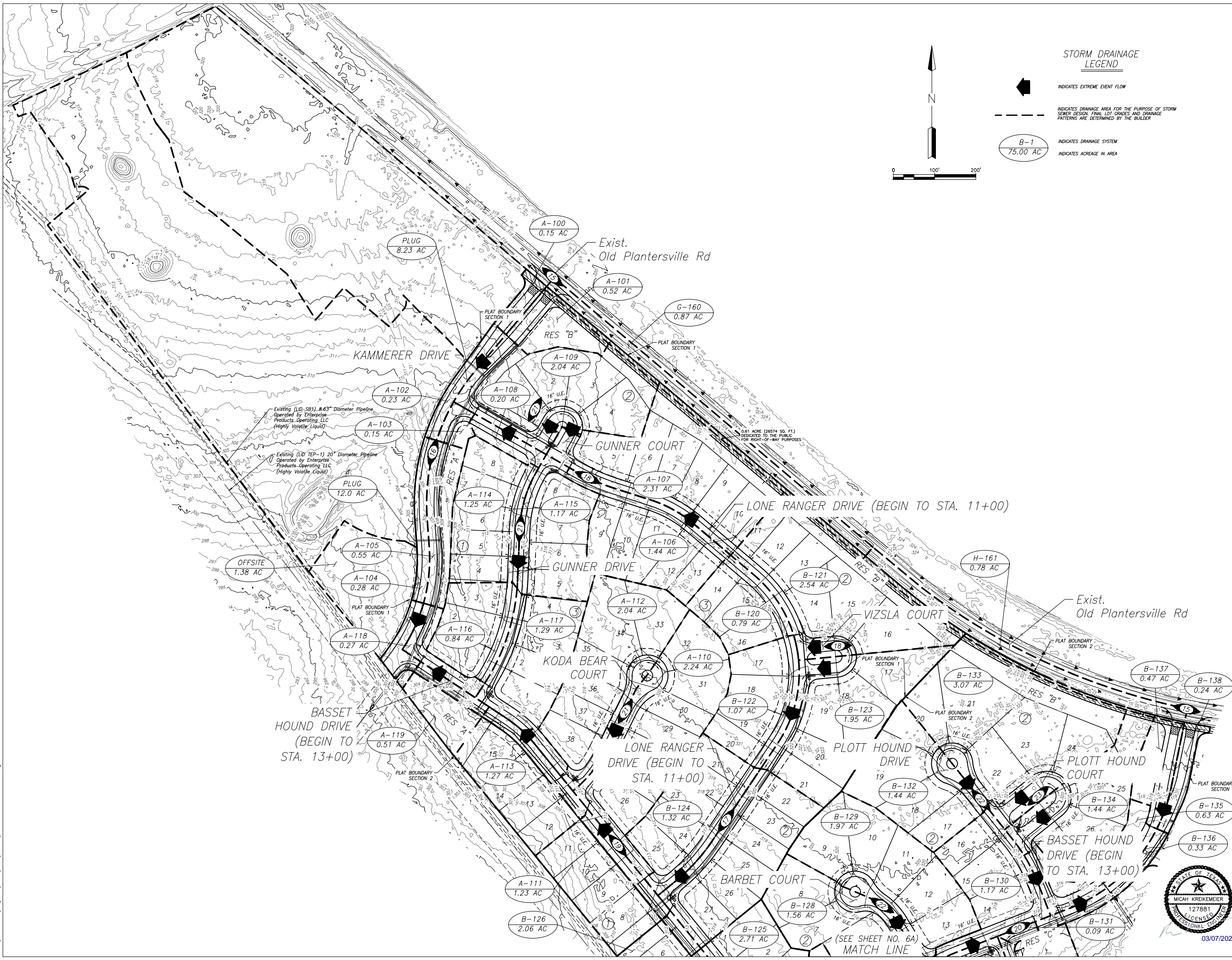


LJA PROJECT NO.: 2980-0101  
 DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB.2024

SCALE: 1" = 100'

REDBIRD MEADOWS PHASE 1A - 2980-0101





**STORM DRAINAGE LEGEND**

- INDICATES EXTREME EVENT FLOW
- INDICATES DRAINAGE AREA FOR THE PURPOSE OF STORM SEWER DESIGN. FINAL LOT GRADES AND DRAINAGE PATTERNS ARE DETERMINED BY THE BUILDER
- INDICATES DRAINAGE SYSTEM
- INDICATES ACREAGE IN AREA

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OUTFALL #1000  
 100YR. W.S.E. = 305.61' AT OUTFALL #1001  
 100YR. W.S.E. = 279.14' AT OUTFALL #1002  
 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE

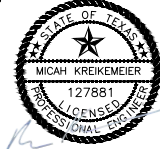
CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

**DRAINAGE AREA MAP**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101



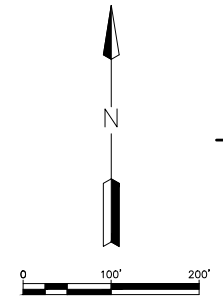
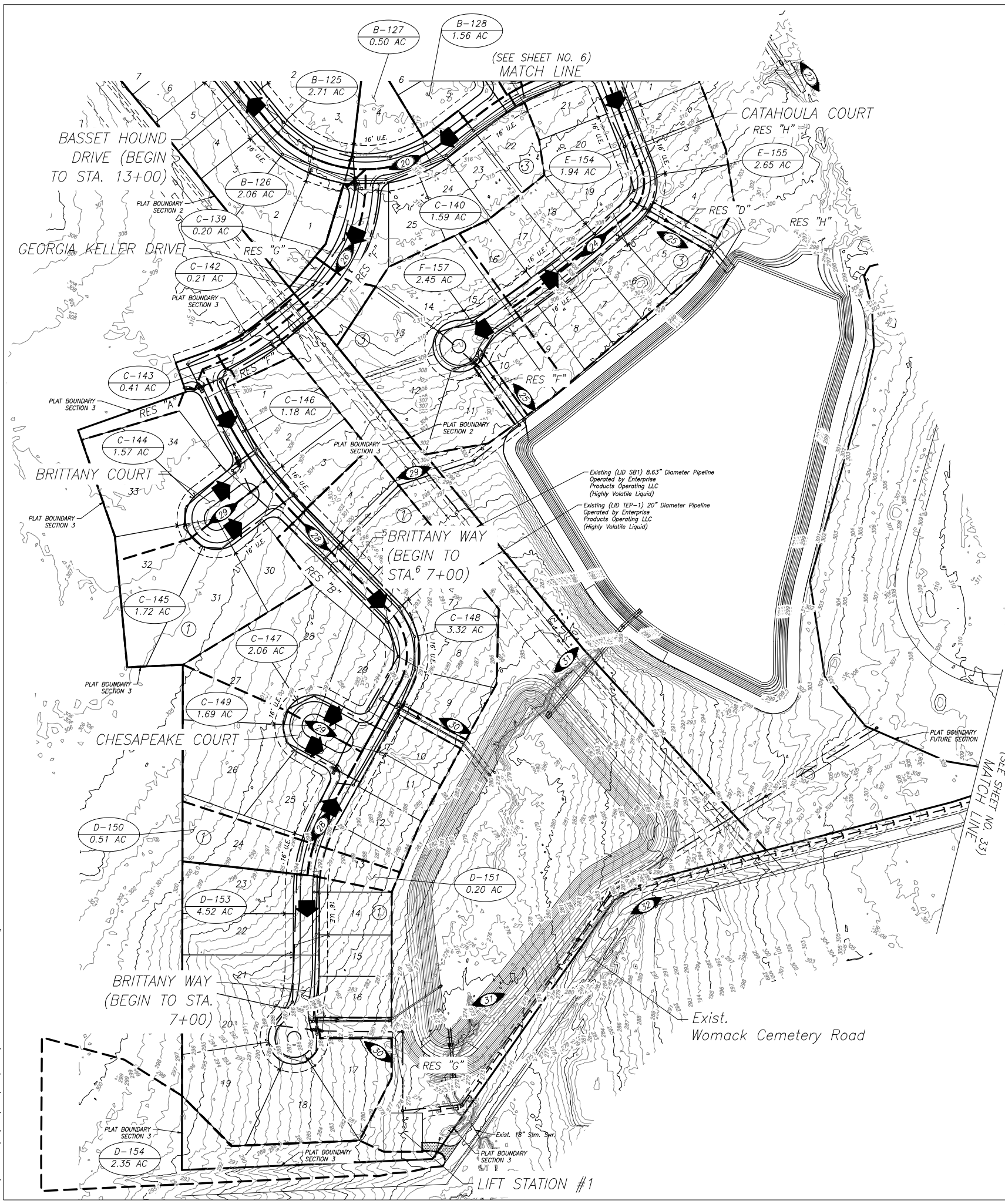
DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB. 2024  
 SCALE: 1" = 100'

Date/Time : Wed, 06 Mar 2024 3:48pm  
 Path Name : I:\Projects\2980\0101\Sheets\4 DRAINAGE AREA MAP.dwg

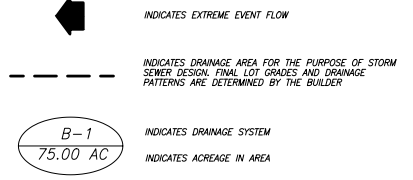
REDBIRD MEADOWS PHASE 1A - 2980-0101



Date: Thu, 07 Mar 2024 - 2:49pm  
 Path: I:\Projects\2980\0101\Sheets\4A\_DRAINAGE AREA MAP CONT'D.dwg



**STORM DRAINAGE LEGEND**



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OUTFALL #1000  
 100YR. W.S.E. = 305.61' AT OUTFALL #1001  
 100YR. W.S.E. = 279.14' AT OUTFALL #1002  
 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
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  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

**DRAINAGE AREA MAP CONT'D**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101



DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB. 2024  
 SCALE: 1" = 100'

REDBIRD MEADOWS PHASE 1A - 2980-0101



REDBIRD MEADOWS PHASE 1A  
 JOB NO.: 2980-0101  
 DATE/CREA 10/16/2022  
 BY: T.C.M.  
 DATE REVISED:

Storm Frequency C.O.M. 5 yr.  
 b= 54.69  
 d= 8.34  
 e= 0.7051

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
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 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO. 48339C02000 & 48339C03500  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

**5 YEAR FREQUENCY SYSTEM A**

Area	MANHOLES INLETS from	MANHOLES INLETS to	Area ac.	Total Area ac.	ic min.	Frequency Factor	C	Intensity in./hr.	Q c.f.s.	Additional Q c.f.s.	Total Q c.f.s.	Q Pass c.f.s.	Reach ft.	LINE size in.	slope %	n	DESIGN Q c.f.s.	V f.p.s.	Actual V f.p.s.	Friction Loss ft.	Minor Loss ft.	FLOWLINES		Line Size ft.	HYDR. GRAD.		TC&G	
																						upstrm. elev.	dnstrm. elev.		upstrm. elev.	dnstrm. elev.		
A-100	100	101	0.15	0.15	22.15	1.00	0.55	4.86	0.40	0.00	0.40	0.00	26	24	0.36%	0.013	13.49	4.3	0.1	0.20	0.00	311.25	311.15	2.0	313.35	313.15	0.25	315.76
A-101	101	1	0.52	0.67	22.38	1.00	0.55	4.83	1.36	0.00	1.78	0.00	9	24	1.25%	0.013	25.26	8.1	0.6	0.10	0.00	311.15	311.06	2.0	313.15	313.05	1.25	315.76
A-102	102	2	0.60	0.67	22.39	1.00	0.55	4.83	0.06	0.00	1.78	0.00	110	24	1.25%	0.013	25.30	8.1	0.6	0.36	0.32	308.20	308.83	2.0	310.70	308.93	1.25	315.76
A-103	103	3	0.00	8.90	22.82	1.00	0.55	4.81	0.00	0.00	23.53	0.00	30	30	0.81%	0.013	38.62	7.5	4.8	0.47	0.00	309.00	304.53	2.5	307.50	307.93	0.25	312.32
A-104	104	4	0.00	14.89	22.89	1.00	0.55	4.78	0.00	0.00	39.13	0.00	61	38	0.85%	0.013	61.58	8.7	5.5	0.52	0.00	306.40	302.88	3.0	305.85	305.38	0.85	308.52
A-105	105	5	0.00	15.27	23.01	1.00	0.55	4.77	0.00	0.00	40.03	0.00	103	42	0.80%	0.013	78.25	8.1	4.2	0.62	0.00	302.35	301.73	2.5	305.85	305.23	0.60	307.84
A-106	106	6	0.00	15.27	23.32	1.00	0.55	4.74	0.00	0.00	39.84	0.00	135	42	0.80%	0.013	77.98	8.1	4.1	0.62	0.00	301.73	300.92	2.5	305.23	304.47	0.60	307.46
A-107	107	7	0.00	27.27	23.49	1.00	0.55	4.71	0.00	0.00	70.71	0.00	83	42	0.80%	0.013	78.09	8.1	7.3	0.50	0.00	300.92	300.42	3.5	304.42	303.92	0.60	307.00
A-108	108	8	0.00	27.27	23.66	1.00	0.55	4.70	0.00	0.00	70.44	0.00	78	42	0.80%	0.013	78.10	8.1	7.3	0.47	0.00	300.42	299.95	3.5	303.92	303.45	0.60	306.71
A-109	109	9	0.00	28.16	23.82	1.00	0.55	4.68	0.00	0.00	72.33	0.00	152	48	0.80%	0.013	111.15	8.8	5.8	0.96	0.00	298.95	297.98	4.0	302.95	301.98	0.50	306.44
A-110	110	9A	0.00	40.21	24.13	1.00	0.55	4.55	0.00	0.00	102.82	0.00	35	48	0.60%	0.013	111.27	8.0	8.2	0.21	0.00	297.98	297.77	4.0	301.98	301.77	0.60	304.44
A-111	111	9A	0.00	40.21	24.20	1.00	0.55	4.54	0.00	0.00	102.67	0.00	99	48	0.58%	0.013	109.26	8.7	8.2	0.57	0.00	297.77	297.20	4.0	301.77	301.20	0.58	304.13
STM	PLUG	2	8.23	8.23	29.46	1.00	0.55	4.17	18.89	0.00	18.89	0.00	65	30	0.60%	0.013	31.98	6.5	3.8	0.39	0.00	305.39	305.00	2.5	307.89	307.50	0.60	312.18
A-102	102	103	0.23	0.23	22.72	1.00	0.55	4.80	0.61	0.00	0.61	0.00	38	24	0.55%	0.013	16.78	5.3	0.2	0.20	0.00	303.30	303.13	2.0	306.15	305.95	0.55	307.84
A-103	103	4	0.15	0.38	22.83	1.00	0.55	4.78	0.36	0.00	0.36	0.00	8	24	1.25%	0.013	25.25	8.1	0.3	0.10	0.00	303.13	303.03	2.0	305.95	305.85	1.25	307.84
STM	PLUG	8	12.00	12.00	30.49	1.00	0.55	4.10	27.05	0.00	27.05	0.00	60	30	0.60%	0.013	31.88	6.5	5.5	0.36	0.00	301.98	301.22	2.5	304.78	304.42	0.55	306.87
A-104	104	105	0.28	0.28	22.99	1.00	0.55	4.77	0.73	0.00	0.73	0.00	36	24	0.58%	0.013	16.85	5.4	0.2	0.20	0.00	301.57	301.37	2.0	303.57	303.37	0.56	306.44
A-105	105	8	0.35	0.83	23.10	1.00	0.55	4.76	1.44	0.00	1.44	0.00	8	24	1.25%	0.013	25.29	8.1	0.7	0.10	0.00	301.37	301.27	2.0	303.37	303.27	1.25	306.44
A-106	106	107	1.44	1.44	25.65	1.00	0.55	4.50	3.56	0.00	3.56	0.00	28	24	0.71%	0.013	19.12	6.1	1.1	0.20	0.00	313.50	312.30	2.0	314.65	314.30	0.71	316.18
A-107	107	10	2.31	3.75	25.74	1.00	0.55	4.49	5.71	0.00	5.71	0.00	9	24	1.25%	0.013	25.26	8.1	2.9	0.10	0.00	312.30	312.20	2.0	314.30	314.20	1.25	316.18
A-108	108	11	0.60	3.75	25.75	1.00	0.55	4.49	0.00	0.00	5.75	0.00	254	24	2.07%	0.013	52.54	10.4	2.9	5.44	0.00	316.50	305.03	2.0	312.62	307.38	2.06	318.95
A-109	109	5	0.00	5.98	28.18	1.00	0.55	4.45	0.00	0.00	14.67	0.00	3	24	1.90%	0.013	27.95	8.8	4.7	0.46	0.00	309.02	304.56	2.0	307.38	306.92	1.49	310.42
A-109	109	109	0.20	0.20	22.53	1.00	0.55	4.82	0.53	0.00	0.53	0.00	28	24	0.71%	0.013	19.12	6.1	0.2	0.20	0.00	305.30	305.10	2.0	307.88	307.48	0.71	309.88
A-109	109	11	2.04	2.24	22.81	1.00	0.55	4.81	5.40	0.00	5.40	0.00	8	24	1.25%	0.013	25.29	8.1	1.9	0.10	0.00	305.10	305.00	2.0	307.48	307.38	1.24	309.88
A-110	110	111	2.34	2.24	28.53	1.00	0.55	4.42	5.45	0.00	5.45	0.00	36	24	0.58%	0.013	16.97	5.4	1.7	0.20	0.00	308.54	308.34	2.0	308.54	308.34	0.58	311.05
A-111	111	12	1.23	3.47	26.64	1.00	0.55	4.41	2.98	0.00	8.42	0.00	8	24	1.25%	0.013	25.29	8.1	2.7	0.10	0.00	306.34	306.24	2.0	308.34	308.24	1.25	311.05
A-112	112	13	0.00	3.47	26.65	1.00	0.55	4.41	0.00	0.00	8.42	0.00	110	24	1.25%	0.013	25.29	8.1	2.7	0.28	0.00	306.23	305.95	2.0	308.23	307.95	0.25	311.12
A-113	113	14	0.00	5.51	27.16	1.00	0.55	4.37	0.00	0.00	13.23	0.00	153	24	0.35%	0.013	13.44	4.3	4.2	0.54	0.00	305.95	305.41	2.0	307.95	307.41	0.35	310.80
A-114	114	15	0.00	5.51	27.75	1.00	0.55	4.31	0.00	0.00	13.08	0.00	86	24	0.35%	0.013	13.38	4.3	4.2	0.30	0.00	303.41	305.11	2.0	307.41	307.11	0.35	310.30
A-115	115	16	0.00	6.78	28.09	1.00	0.55	4.29	0.00	0.00	15.99	0.00	20	24	0.55%	0.013	16.75	5.3	5.1	0.11	0.00	305.11	305.00	2.0	307.11	307.00	0.55	308.91
A-116	116	17	0.00	11.31	28.15	1.00	0.55	4.28	0.00	0.00	26.68	0.00	178	30	1.23%	0.013	45.51	9.3	5.4	2.18	0.00	302.64	300.45	2.5	305.14	302.95	1.33	309.54
A-117	117	8	0.00	12.11	28.47	1.00	0.55	4.26	0.00	0.00	28.34	0.00	25	30	1.17%	0.013	44.35	9.0	5.8	0.28	0.00	299.77	299.48	2.5	302.27	301.98	1.17	305.73
A-112	112	13	2.04	2.04	26.34	1.00	0.55	4.44	4.98	0.00	4.98	0.00	34	24	0.59%	0.013	17.40	5.5	1.6	0.20	0.00	306.29	306.09	2.0	308.29	308.09	0.59	310.80
A-113	113	15	1.27	1.27	25.43	1.00	0.55	4.52	3.16	0.00	3.16	0.00	8	24	1.25%	0.013	25.29	8.1	1.6	0.10	0.00	305.40	305.30	2.0	307.40	307.30	1.25	309.81
A-114	114	16	1.25	1.25	25.40	1.00	0.55	4.52	3.11	0.00	3.11	0.00	38	24	0.55%	0.013	16.79	5.3	1.0	0.20	0.00	308.48	308.28	2.0	310.70	310.50	0.55	312.84
A-115	115	18	1.17	2.42	25.51	1.00	0.55	4.51	2.90	0.00	6.01	0.00	8	24	1.25%	0.013	25.29	8.1	1.9	0.10	0.00	308.50	308.40	2.0	310.50	310.40	1.75	312.87
A-116	116	19	0.00	2.42	26.53	1.00	0.55	4.51	0.00	0.00	6.01	0.00	122	24	0.92%	0.013	12.46	4.0	1.9	0.37	0.00	308.12	307.75	2.0	310.12	309.75	0.37	312.82
A-117	117	20	0.00	2.42	26.64	1.00	0.55	4.47	0.00	0.00	5.94	0.00	119	24	0.30%	0.013	12.45	4.0	1.9	0.3								

5 YEAR FREQUENCY  
 SYSTEM C

Area	MANHOLES/ INLETS from	MANHOLES/ INLETS to	Area ac.	Total Area ac.	tc min.	Frequency Factor f	C	Intensity I in./hr.	Q c.f.s.	Additional Q c.f.s.	Total Q c.f.s.	Q Pass c.f.s.	Reach ft.	LINE			DESIGN			Actual V f.p.s.	Friction Loss ft.	Minor Loss ft.	FLOWLINES		Line Size ft.	HYDR. GRAD.			TC/NG
														size in.	slope %	n	Q c.f.s.	V f.p.s.	upstrm. elev.				dnstrm. elev.	upstrm. elev.		dnstrm. elev.	slope %		
C-139	139	140	0.20	0.20	22.53	1.00	0.55	4.82	0.53	0.00	0.53	0.00	28	24	0.71%	0.013	19.12	6.1	0.2	0.20	0.00	307.58	307.48	2.0	309.68	309.48	0.71	312.18	
C-140	140	43	1.98	1.79	22.61	1.00	0.55	4.81	4.21	0.00	4.73	0.00	8	24	1.25%	0.013	24.98	8.0	1.5	0.10	0.00	307.20	307.10	2.0	309.20	309.10	1.25	312.18	
-	43	44	0.00	1.79	22.63	1.00	0.55	4.81	0.00	0.00	4.73	0.00	172	24	0.50%	0.013	16.00	5.1	1.5	0.86	0.00	307.10	306.24	2.0	308.10	306.24	0.50	312.18	
-	44	45	0.00	1.79	23.19	1.00	0.55	4.75	0.00	0.00	4.67	0.00	125	24	0.50%	0.013	16.06	5.1	1.5	0.83	0.00	305.25	304.62	2.0	307.25	306.62	0.50	309.64	
21	45	46	0.00	2.41	23.60	1.00	0.55	4.70	0.00	0.00	6.23	0.00	22	24	0.42%	0.013	14.58	4.6	2.0	0.09	0.00	303.70	303.61	2.0	305.70	305.61	0.42	308.53	
-	46	47	0.00	2.41	23.67	1.00	0.55	4.70	0.00	0.00	6.23	0.00	154	24	1.03%	0.013	22.91	7.3	2.0	1.87	0.00	303.59	302.01	2.0	305.59	304.01	1.03	307.94	
-	47	48	0.00	3.95	24.03	1.00	0.55	4.68	0.00	0.00	10.20	0.00	147	24	1.50%	0.013	27.68	8.8	3.2	2.19	0.00	300.80	299.60	2.0	302.80	300.60	1.50	306.32	
-	48	49	0.00	6.88	24.30	1.00	0.55	4.63	0.00	0.00	17.53	0.00	182	24	1.50%	0.013	27.68	8.8	5.8	2.74	0.00	297.44	294.72	2.0	299.44	296.72	1.50	302.74	
-	49	50	0.00	6.88	24.65	1.00	0.55	4.60	0.00	0.00	17.40	0.00	76	24	1.50%	0.013	27.74	8.8	6.5	1.16	0.00	292.72	291.55	2.0	294.72	293.55	1.50	297.75	
-	50	51	0.00	6.88	24.80	1.00	0.55	4.58	0.00	0.00	17.34	0.00	65	24	1.50%	0.013	27.72	8.8	5.5	0.97	0.00	291.55	290.57	2.0	293.55	292.57	1.50	294.36	
-	51	52	0.00	6.85	24.92	1.00	0.55	4.57	0.00	0.00	17.30	0.00	84	24	1.50%	0.013	27.71	8.8	5.5	0.95	0.00	290.57	289.61	2.0	292.57	291.61	1.50	294.36	
-	52	53	0.00	6.85	25.04	1.00	0.55	4.56	0.00	0.00	17.28	0.00	81	24	1.50%	0.013	27.70	8.8	5.5	1.21	0.00	289.61	288.39	2.0	291.61	290.39	1.50	293.25	
-	53	141	0.00	13.95	25.19	1.00	0.55	4.54	0.00	0.00	34.87	0.00	138	30	0.70%	0.013	34.26	7.0	7.1	1.00	0.00	281.87	280.56	2.5	284.40	283.40	0.70	292.74	
C-141	141	1002	0.00	13.95	25.53	1.00	0.55	4.54	0.00	0.00	34.63	0.00	75	30	0.71%	0.013	34.48	7.0	7.1	0.53	0.00	272.85	272.12	2.5	275.15	274.62	0.71	290.25	
C-142	142	143	0.21	0.21	22.60	1.00	0.55	4.81	0.56	0.00	0.56	0.00	29	24	0.71%	0.013	19.06	6.1	0.2	0.20	0.00	304.00	303.80	2.0	306.00	305.80	0.71	309.64	
C-143	143	45	0.41	0.62	22.67	1.00	0.55	4.80	1.08	0.00	1.64	0.00	8	24	1.25%	0.013	25.28	8.1	0.5	0.10	0.00	303.80	303.70	2.0	305.80	305.70	1.25	309.64	
C-144	144	54	1.57	1.57	25.83	1.00	0.55	4.49	3.87	0.00	3.87	0.00	8	24	1.25%	0.013	25.29	8.1	1.2	0.10	0.00	301.36	301.26	2.0	303.36	303.26	1.25	305.80	
-	54	47	0.00	1.57	25.94	1.00	0.55	4.48	0.00	0.00	3.87	0.00	57	24	0.17%	0.013	9.46	3.0	1.2	0.10	0.00	300.90	300.80	2.0	302.90	302.80	0.17	305.80	
C-145	145	146	1.72	1.72	26.00	1.00	0.55	4.47	4.23	0.00	4.23	0.00	28	24	0.71%	0.013	19.12	6.1	1.3	0.20	0.00	298.24	298.04	2.0	300.24	300.04	0.71	302.74	
C-146	146	48	1.18	2.90	26.08	1.00	0.55	4.46	2.90	0.00	7.12	0.00	8	24	1.21%	0.013	24.87	7.9	2.3	0.10	0.00	299.04	297.94	2.0	300.04	299.94	1.21	302.74	
C-147	147	148	2.06	2.06	26.36	1.00	0.55	4.44	5.03	0.00	5.03	0.00	28	24	0.71%	0.013	19.07	6.1	1.6	0.20	0.00	289.24	289.04	2.0	290.24	290.04	0.71	292.74	
C-148	148	53	3.32	5.38	26.43	1.00	0.55	4.43	8.09	0.00	13.11	0.00	8	24	1.26%	0.013	35.29	8.1	4.2	0.10	0.00	288.04	287.94	2.0	290.04	289.94	1.26	292.74	
C-149	149	55	1.89	1.69	25.87	1.00	0.55	4.47	4.16	0.00	4.16	0.00	31	24	1.00%	0.013	22.58	7.2	1.3	0.31	0.00	288.80	288.49	2.0	290.81	290.50	0.99	293.30	
-	55	53	0.00	1.69	25.04	1.00	0.55	4.47	0.00	0.00	4.15	0.00	172	24	0.30%	0.013	12.44	4.0	1.3	0.52	0.00	288.50	287.98	2.0	290.50	289.98	0.30	293.30	

5 YEAR FREQUENCY  
 SYSTEM D

Area	MANHOLES/ INLETS from	MANHOLES/ INLETS to	Area ac.	Total Area ac.	tc min.	Frequency Factor f	C	Intensity I in./hr.	Q c.f.s.	Additional Q c.f.s.	Total Q c.f.s.	Q Pass c.f.s.	Reach ft.	LINE			DESIGN			Actual V f.p.s.	Friction Loss ft.	Minor Loss ft.	FLOWLINES		Line Size ft.	HYDR. GRAD.			TC/NG
														size in.	slope %	n	Q c.f.s.	V f.p.s.	upstrm. elev.				dnstrm. elev.	upstrm. elev.		dnstrm. elev.	slope %		
D-150	150	151	0.51	0.51	23.88	1.00	0.55	4.87	1.31	0.00	1.31	0.00	24	24	0.83%	0.013	20.85	6.6	0.4	0.20	0.00	288.74	288.54	2.0	290.74	290.54	0.83	293.24	
D-151	151	56	0.20	0.71	23.94	1.00	0.55	4.67	0.51	0.00	1.82	0.00	7	24	1.40%	0.013	26.78	8.5	0.6	0.10	0.00	288.34	288.44	2.0	290.54	290.44	1.40	293.24	
-	56	57	0.00	0.71	23.96	1.00	0.55	4.67	0.00	0.00	1.82	0.00	112	24	1.50%	0.013	27.67	8.8	0.6	1.65	0.00	288.44	286.77	2.0	290.44	288.77	1.50	293.24	
-	57	58	0.00	0.71	24.17	1.00	0.55	4.65	0.00	0.00	1.81	0.00	189	24	1.50%	0.013	27.72	8.8	0.6	2.53	0.00	285.30	282.76	2.0	287.30	284.76	1.50	290.73	
-	58	152	0.00	3.06	24.49	1.00	0.55	4.61	0.00	0.00	7.76	0.00	147	30	0.90%	0.013	29.10	5.9	1.6	0.74	0.00	277.60	277.06	2.5	280.30	279.56	0.90	286.25	
D-152	152	1003	0.00	3.06	24.50	1.00	0.55	4.57	0.00	0.00	7.70	0.00	122	30	0.51%	0.013	29.24	6.0	1.6	0.62	0.00	273.25	272.63	2.5	275.75	275.13	0.51	283.01	
D-153	153	58	4.52	4.52	28.04	1.00	0.55	4.29	16.67	0.00	10.67	0.00	8	24	1.27%	0.013	25.45	8.1	3.4	0.10	0.00	281.75	281.65	2.0	283.75	283.65	1.27	286.25	
D-154	1012	1013	2.35	2.35	26.62	1.00	0.55	4.41	5.70	0.00	5.70	0.00	28	24	0.30%	0.013	12.46	4.0	1.8	0.08	0.00	288.87	288.79	2.0	270.87	270.79	0.30	273.00	

5 YEAR FREQUENCY  
 SYSTEM E

Area	MANHOLES/ INLETS from	MANHOLES/ INLETS to	Area ac.	Total Area ac.	tc min.	Frequency Factor f	C	Intensity I in./hr.	Q c.f.s.	Additional Q c.f.s.	Total Q c.f.s.	Q Pass c.f.s.	Reach ft.	LINE			DESIGN			Actual V f.p.s.	Friction Loss ft.	Minor Loss ft.	FLOWLINES		Line Size ft.	HYDR. GRAD.			TC/NG
														size in.	slope %	n	Q c.f.s.	V f.p.s.	upstrm. elev.				dnstrm. elev.	upstrm. elev.		dnstrm. elev.	slope %		
E-154	154	155	1.94	1.94	26.24	1.00	0.55	4.45	4.75	0.00	4.75	0.00	24	24	0.82%	0.013	20.55	6.5	1.5	0.20	0.00	304.36	304.16	2.0	306.36	306.16	0.82	308.66	
E-155	155	59	2.85	4.59	26.30	1.00	0.55	4.44	8.47	0.00	11.21	0.00	15	24	0.67%	0.013	18.47	5.9	3.8	0.10	0.00	304.16	304.06	2.0	306.16	306.06	0.67	308.66	
-	59	156	0.00	4.59	26.34	1.00	0.55	4.44	0.00	0.00	11.20	0.00	135	24	1.00%	0.013	22.65	7.2	3.6	1.34	0.00	297.71	296.36	2.0	299.71	298.36	1.00	308.66	
-	156	1004	0.00	4.59	26.85																								



100 YEAR FREQUENCY  
 SYSTEM A

Area	MANHOLE#	INLET#	MANHOLE#	Area	Total Area	to	Frequency	C	Intensity	D	Additional Q	Total Q	Q P&A	Reach	LINE		DESIGN		Actual V	Friction Loss	Minor Loss	FLOWLINES		HYDR GRAD		TCRG	
															in	slope	Q	V				upstrm. elev.	downstr. elev.	upstrm. elev.	downstr. elev.		
A-100	120	151	151	0.15	0.15	12.76	1.00	0.50	7.20	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	211.25	211.25	211.25	211.25	0.00	0.00

100 YEAR FREQUENCY  
 SYSTEM B

Area	MANHOLE#	INLET#	MANHOLE#	Area	Total Area	to	Frequency	C	Intensity	D	Additional Q	Total Q	Q P&A	Reach	LINE		DESIGN		Actual V	Friction Loss	Minor Loss	FLOWLINES		HYDR GRAD		TCRG	
															in	slope	Q	V				upstrm. elev.	downstr. elev.	upstrm. elev.	downstr. elev.		
B-100	120	151	151	0.15	0.15	12.76	1.00	0.50	7.20	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	211.25	211.25	211.25	211.25	0.00	0.00

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E.= 299.04' AT OUTFALL #1000  
 100YR. W.S.E.= 305.61' AT OUTFALL #1001  
 100YR. W.S.E.= 279.14' AT OUTFALL #1002  
 100YR. W.S.E.= 279.68' AT OUTFALL #1003  
 100YR. W.S.E.= 297.86' AT OUTFALL #1004  
 100YR. W.S.E.= 297.42' AT OUTFALL #1005  
 FIRM PANEL NO.48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB

DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

100 YEAR STORM  
 CALCULATIONS

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S  
 Suite 600  
 Houston, Texas 77042  
 Phone 713.953.5200  
 Fax 713.953.5026  
 FRN - F-1386  
 LJA PROJECT NO.: 2980-0101  
 DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB.2024  
 SCALE: N.T.S.



REDBIRD MEADOWS PHASE 1A  
 JOB NO.: 2980-0101  
 DATE CREA: 10/10/2022  
 BY: T.C.M.  
 DATE REVISED:

Storm Frequency: C.O.M. 100 yr.  
 b= 56.88  
 d= 4.48  
 a= 0.5857

100 YEAR FREQUENCY  
 SYSTEM C

Area	MANHOLES INLETS from	MANHOLES INLETS to	Area ac.	Total Area ac.	tc min.	Frequency Factor f	C	Intensity I in./hr.	Q c.f.s.	Additional Q c.f.s.	Total Q c.f.s.	Q Pass c.f.s.	Reach ft.	LINE			DESIGN		Actual V f.p.s.	Friction Loss ft.	Minor Loss ft.	FLOWLINES		Line Size ft.	HYDR. GRAD.			TC/NG
														size in.	slope %	n	Q c.f.s.	V f.p.s.				upstrm. elev.	dnstrm. elev.		upstrm. elev.	dnstrm. elev.	slope %	
C-130	138	140	0.20	0.20	22.53	1.00	0.55	8.23	0.90	0.00	0.90	0.00	26	24	0.71%	0.013	19.12	6.1	0.3	0.20	0.00	307.68	307.48	2.0	309.68	309.48	0.71	312.18
C-140	140	43	1.59	1.79	22.64	1.00	0.55	8.21	7.18	0.00	8.08	0.00	8	24	1.22%	0.013	24.98	5.0	2.6	0.10	0.00	307.20	307.10	2.0	308.20	308.10	1.22	312.18
-	43	44	0.00	1.79	22.63	1.00	0.55	8.21	0.00	0.00	8.08	0.00	172	24	0.50%	0.013	56.00	5.1	2.6	0.66	0.00	307.10	308.24	2.0	306.10	308.24	0.50	312.18
-	44	45	0.00	1.79	23.16	1.00	0.55	8.11	0.00	0.00	7.38	0.00	125	24	0.50%	0.013	46.08	5.1	2.5	0.63	0.00	305.25	304.85	2.0	307.25	308.65	0.50	309.64
-	45	46	0.00	2.41	23.80	1.00	0.55	8.04	0.00	0.00	10.66	0.00	22	24	0.42%	0.013	14.58	4.6	3.4	0.09	0.00	303.70	303.61	2.0	305.70	305.61	0.42	308.53
-	46	47	0.00	2.41	23.67	1.00	0.55	8.03	0.00	0.00	10.84	0.00	154	24	1.03%	0.013	22.91	7.3	3.4	1.57	0.00	303.58	302.01	2.0	305.58	304.01	1.03	307.94
-	47	48	0.00	3.98	24.03	1.00	0.55	7.97	0.00	0.00	17.45	0.00	147	24	1.50%	0.013	27.65	8.8	5.6	2.19	0.00	300.80	298.60	2.0	302.80	300.60	1.50	306.32
-	48	49	0.00	6.88	24.30	1.00	0.55	7.92	0.00	0.00	29.59	0.00	182	24	1.50%	0.013	27.68	8.8	9.5	3.18	0.00	297.44	294.72	2.0	299.90	296.72	1.75	302.74
-	49	50	0.00	6.88	24.85	1.00	0.55	7.87	0.00	0.00	29.76	0.00	78	24	1.50%	0.013	27.71	8.8	9.5	1.34	0.00	292.72	291.55	2.0	295.32	293.98	1.72	297.75
-	50	51	0.00	6.88	24.80	1.00	0.55	7.85	0.00	0.00	29.69	0.00	65	24	1.50%	0.013	27.72	8.8	9.5	1.12	0.00	291.65	290.57	2.0	293.98	292.86	1.71	294.36
-	51	52	0.00	6.88	24.92	1.00	0.55	7.83	0.00	0.00	29.62	0.00	64	24	1.50%	0.013	27.71	8.8	9.4	1.09	0.00	290.57	289.61	2.0	292.86	291.77	1.70	294.36
-	52	53	0.00	6.88	25.04	1.00	0.55	7.81	0.00	0.00	29.55	0.00	81	24	1.50%	0.013	27.70	8.8	9.4	1.38	0.00	289.61	288.39	2.0	291.77	290.39	1.70	293.25
-	53	141	0.00	13.86	25.19	1.00	0.55	7.78	0.00	0.00	59.73	0.00	138	30	0.70%	0.013	34.26	7.0	12.2	2.93	0.00	281.87	280.90	2.5	286.33	283.40	2.11	292.74
C-141	141	1002	0.00	13.96	25.53	1.00	0.55	7.73	0.00	0.00	59.34	0.00	75	30	0.71%	0.013	34.48	7.0	12.1	1.56	0.00	272.65	272.12	2.5	278.18	274.62	2.08	290.25
C-142	142	143	0.21	0.21	22.80	1.00	0.55	8.21	0.95	0.00	0.95	0.00	28	24	0.71%	0.013	19.06	6.1	0.3	0.20	0.00	304.00	303.80	2.0	306.00	305.80	0.71	309.64
C-143	143	45	0.41	0.62	22.87	1.00	0.55	8.20	1.85	0.00	2.36	0.00	8	24	1.25%	0.013	25.25	8.1	8.9	0.10	0.00	303.80	303.70	2.0	305.80	305.70	1.25	309.64
C-144	144	54	1.57	1.57	25.83	1.00	0.55	7.69	6.64	0.00	6.64	0.00	8	24	1.25%	0.013	25.29	8.1	2.1	0.10	0.00	301.30	301.20	2.0	303.30	303.20	1.25	305.80
-	54	47	0.00	1.57	25.84	1.00	0.55	7.69	0.00	0.00	6.64	0.00	57	24	0.17%	0.013	9.46	3.0	2.1	0.10	0.00	300.90	300.80	2.0	302.90	302.80	0.17	305.80
C-145	145	146	1.72	1.72	26.00	1.00	0.55	7.66	7.25	0.00	7.25	0.00	28	24	0.71%	0.013	19.12	6.1	2.3	0.20	0.00	298.24	298.04	2.0	300.24	300.04	0.71	302.74
C-146	146	48	1.18	2.90	26.08	1.00	0.55	7.65	4.97	0.00	12.20	0.00	8	24	1.21%	0.013	24.87	7.9	3.9	0.10	0.00	298.04	297.94	2.0	300.04	299.94	1.21	302.74
C-147	147	148	2.06	2.06	26.36	1.00	0.55	7.61	8.62	0.00	8.62	0.00	28	24	0.71%	0.013	19.07	6.1	2.7	0.20	0.00	288.24	288.04	2.0	290.24	290.04	0.71	292.74
C-148	148	53	3.32	5.38	26.43	1.00	0.55	7.60	13.58	0.00	22.49	0.00	8	24	1.25%	0.013	25.25	8.1	7.2	0.10	0.00	288.04	287.94	2.0	290.04	289.94	1.25	292.74
C-149	149	55	1.69	1.69	25.97	1.00	0.55	7.67	7.13	0.00	7.13	0.00	31	24	1.00%	0.013	22.58	7.2	2.3	0.31	0.00	288.80	288.48	2.0	290.81	290.50	0.99	293.30
-	55	53	0.00	1.69	26.04	1.00	0.55	7.66	0.00	0.00	7.12	0.00	172	24	0.30%	0.013	12.44	4.0	2.3	0.52	0.00	288.50	287.98	2.0	290.50	289.98	0.30	293.30

100 YEAR FREQUENCY  
 SYSTEM D

Area	MANHOLES INLETS from	MANHOLES INLETS to	Area ac.	Total Area ac.	tc min.	Frequency Factor f	C	Intensity I in./hr.	Q c.f.s.	Additional Q c.f.s.	Total Q c.f.s.	Q Pass c.f.s.	Reach ft.	LINE			DESIGN		Actual V f.p.s.	Friction Loss ft.	Minor Loss ft.	FLOWLINES		Line Size ft.	HYDR. GRAD.			TC/NG
														size in.	slope %	n	Q c.f.s.	V f.p.s.				upstrm. elev.	dnstrm. elev.		upstrm. elev.	dnstrm. elev.	slope %	
D-150	150	151	0.51	0.51	23.88	1.00	0.55	7.99	2.24	0.00	2.24	0.00	24	24	0.83%	0.013	20.65	6.6	0.7	0.20	0.00	288.74	288.54	2.0	290.74	290.54	0.83	293.24
D-151	151	56	0.20	0.71	23.94	1.00	0.55	7.98	0.88	0.00	3.12	0.00	7	24	1.40%	0.013	26.76	9.5	1.0	0.10	0.00	288.54	288.44	2.0	290.44	290.44	1.40	293.24
-	56	57	0.00	0.71	23.96	1.00	0.55	7.95	0.00	0.00	3.12	0.00	112	24	1.50%	0.013	27.67	9.8	1.0	1.68	0.00	288.44	286.77	2.0	290.54	288.77	1.50	293.24
-	57	58	0.00	0.71	24.17	1.00	0.55	7.85	0.00	0.00	3.10	0.00	169	24	1.50%	0.013	27.73	9.8	1.0	2.53	0.20	285.30	282.76	2.0	287.30	284.76	1.50	290.73
-	58	152	0.00	5.23	24.49	1.00	0.55	7.90	0.00	0.00	22.71	0.00	147	30	0.50%	0.013	29.19	5.9	4.6	0.74	0.00	277.80	277.96	2.5	290.30	279.56	0.50	288.25
D-152	152	1003	0.00	5.23	24.90	1.00	0.55	7.83	0.00	0.00	22.52	0.00	122	30	0.51%	0.013	28.24	6.0	4.6	0.62	0.00	273.25	272.63	2.5	278.75	275.13	0.51	283.01
D-153	153	58	4.32	4.32	28.04	1.00	0.55	7.38	18.34	0.00	18.34	0.00	8	24	1.27%	0.013	25.45	8.1	5.8	0.10	0.00	281.75	281.65	2.0	283.75	283.65	1.27	288.25
D-154	1012	1013	2.35	2.35	26.62	1.00	0.55	7.97	9.79	0.00	9.79	0.00	28	24	0.30%	0.013	12.46	4.0	3.1	0.08	0.00	268.87	268.79	2.0	270.87	270.79	0.30	273.00

100 YEAR FREQUENCY  
 SYSTEM E

Area	MANHOLES INLETS from	MANHOLES INLETS to	Area ac.	Total Area ac.	tc min.	Frequency Factor f	C	Intensity I in./hr.	Q c.f.s.	Additional Q c.f.s.	Total Q c.f.s.	Q Pass c.f.s.	Reach ft.	LINE			DESIGN		Actual V f.p.s.	Friction Loss ft.	Minor Loss ft.	FLOWLINES		Line Size ft.	HYDR. GRAD.			TC/NG
														size in.	slope %	n	Q c.f.s.	V f.p.s.				upstrm. elev.	dnstrm. elev.		upstrm. elev.	dnstrm. elev.	slope %	
E-154	154	155	1.94	1.94	26.24	1.00	0.55	7.63	0.14	0.00	8.14	0.00	24	24	0.82%	0.013	20.55	6.3	2.6	0.20	0.00	304.36	304.16	2.0	306.36	306.17	0.82	308.66
E-155	155	59	2.65	4.59	26.30	1.00	0.55	7.62	11.71	0.00	19.24	0.00	15	24	0.67%	0.013	18.47	5.9	6.1	0.11	0.00	304.16	304.06	2.0	306.17	306.06	0.72	308.66
-	59	156	0.00	4.59	26.34	1.00	0.55	7.61	0.00	0.00	19.22	0.00	135	24	1.06%	0.013	22.65	7.2	6.1	1.34	0.00	297.71	286.36	2.0	296.71	288.36	1.06	308.66
-	156	1004	0.00	4.59	26.85	1.00	0.55	7.57	0.00	0.00	19.11	0.00	50	24	1.00%	0.013	22.62	7.2	6.1	0.50	0.00	296.35	295.85	2.0				



Exist. Old Plantersville Rd

KAMMERER DRIVE

BASSET HOUND DRIVE (BEGIN TO STA. 13+00)

BASSET HOUND DRIVE (BEGIN TO STA. 13+00)

LONE RANGER DRIVE (BEGIN TO STA. 11+00)

Exist. Old Plantersville Rd

BASSET HOUND DRIVE (BEGIN TO STA. 13+00)

**FILTER DAM NOTES:**

**A. TYPES OF FILTER DAMS**

- 1. TYPE 1 (NON-REINFORCED)
  - A. HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP FILTER DAM
  - B. TOP WIDTH - 2 FEET (MINIMUM)
  - C. SLOPES - 2:1 (MAXIMUM)
- 2. TYPE 2 (REINFORCED)
  - A. HEIGHT - 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
  - B. TOP WIDTH - 2 FEET (MINIMUM)
  - C. SLOPES - 2:1 (MAXIMUM)
- 3. TYPE 3 (REINFORCED)
  - A. HEIGHT - 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
  - B. TOP WIDTH - 2 FEET (MINIMUM)
  - C. SLOPES - 3:1 (MAXIMUM)
- 4. TYPE 4 (GABION)
  - A. HEIGHT - 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
  - B. TOP WIDTH - 2 FEET (MINIMUM)
- 5. TYPE 5 (AS SHOWN ON THE PLANS)

**B. CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.**

- 1. TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGON OPENINGS.
- 2. GRANULAR FILL:
  - A. PLACE ON MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
  - B. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4 AND 4-8 INCHES FOR 4-8 INCHES FOR ROCK
- 3. WIRE MESH: FOLD AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
- 4. IN STREAMS: SECURES OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
- 5. SEE SPECIFICATION SECTION NO. 02364 - FILTER DAMS.
- 6. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT THAN CENTER OF DEPRESSED AREA AT SLOPE.

CONTRACTOR SHALL INSTALL INLET PROTECTION BARRIERS PER DETAIL (TYP. ALL PROPOSED INLETS)

**CONSTRUCTION SPECIFICATIONS FOR SILT BARRIER FENCE**

**A. MATERIALS:**

1. SYNTHETIC FILTER FABRIC SHALL BE A PEROUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENT (PER ASTM METHODS):

PHYSICAL PROPERTY	REQUIREMENTS
FILTER EFFICIENCY	75% (MIN.)
TENSILE STRENGTH @ 20%	EXT. STRENGTH = 50 LBS./LIN. IN.(MIN.)
MAX ELONGATION	STD. STRENGTH = 30 LBS./LIN. IN.(MIN.)
FLOW RATE	0.3 GAL./SQ. FT./MIN. (MIN.)

**B. INSTALLATION:**

- 1. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 15" AND A MAXIMUM OF 18" ABOVE FINAL GRADE.
- 2. STANDARD STRENGTH SYNTHETIC FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS (AND THUS IMPROVE THE BARRIER'S STRENGTH AND EFFICIENCY).
- 3. STAKES FOR THE SILT FENCE SHALL BE 2" x 2" WOOD WITH A MINIMUM LENGTH OF 3 FEET.
- 4. THE STAKES SHALL BE SPACED A MAXIMUM OF 3' APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (18" MIN.)
- 5. A TRENCH SHALL BE EXCAVATED APPROX. 4" WIDE AND 4" DEEP ALONG THE LINE OF STAKES AND UPSLOPE FROM THE BARRIER.
- 6. THE SILT FENCE SHALL BE STAPLED TO THE STAKES, WITH 8" (MIN.) OF FABRIC EXTENDED INTO THE TRENCH. HEAVY DUTY WIRE STAPLES AT LEAST ONE-HALF INCH LONG SHALL BE USED. THE FENCE SHALL NOT BE STAPLED TO EXISTING TREES.
- 7. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FENCE MATERIAL.
- 8. IF A SILT FENCE IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, THE BARRIER SHALL BE OF SUFFICIENT LENGTH TO ELIMINATE END FLOW, AND THE PLAN CONFIGURATION SHALL RESEMBLE AN ARC OR HORSESHOE WITH THE ENDS ORIENTED UPSLOPE.
- 9. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

**C. MAINTENANCE:**

- 1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 2. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE SILT FENCE IS STILL NECESSARY, IT SHALL BE REPLACED IMMEDIATELY.
- 3. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH APPROX. 1/3 THE HEIGHT OF THE FENCE.
- 4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
- 5. THERE SHOULD BE NO GAPS OR SAGS IN THE SILT FENCE.

**GENERAL NOTES TO CONTRACTOR**

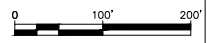
- 1. LOCATE FUEL/MATERIAL STORAGE AREAS AWAY FROM STORM WATER CONVEYANCE SYSTEMS. USE A LINER UNDER ABOVE GROUND STORAGE TANKS. USE SILT FENCING, HAY BALES, OR BERMS AROUND FUEL STORAGE AREAS. (NO SEPARATE PAY)
- 2. CONTRACTOR WILL ADVISE OWNER IMMEDIATELY, VERBALLY, AND IN WRITING, OF ANY FUEL SPILLS ONTO THE PROJECT/CONSTRUCTION AREA AND THE ACTIONS TAKEN TO REMEDY THE PROBLEM.
- 3. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL ENVIRONMENTAL LAWS.
- 4. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF FUELS, MATERIALS, AND EXCAVATIONS IN A LEGALLY APPROVED MANNER.
- 5. CONTRACTOR IS TO INSPECT ALL STRUCTURAL CONTROLS SPECIFIED HEREIN, AT A MINIMUM, ONCE EVERY 7 CALENDAR DAYS OR WITHIN 24 HOURS AFTER ANY STORM EVENT THAT MEETS OR EXCEEDS 0.5 INCHES/24 HOUR PERIOD.
- 6. CONTRACTOR WILL PROVIDE PROTECTED STORAGE AREAS FOR CHEMICALS, PAINTS SOLVENTS, FERTILIZERS, AND OTHER POTENTIALLY TOXIC MATERIALS.
- 7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATELY MAINTAINED SANITARY FACILITIES.
- 8. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, IDENTIFICATION, AND REMOVAL OF ALL DEBRIS FOR DESIGNATED CONCRETE WASH-OUT SITE.
- 9. ALL UNSATISFACTORY AND/OR WASTE MATERIALS INCLUDING VEGETATION, ROOTS, CONCRETE AND DEBRIS SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR.
- 10. CONTRACTOR IS RESPONSIBLE FOR CLEANING MUD AND/OR DIRT TRACKED ONTO EXISTING STREETS BY HIS WORKMAN'S, SUPPLIER OR SUBCONTRACTORS VEHICLES. STREET MUST BE CLEANED WITHIN 24 HOURS OF WHEN THE TRACKING OCCURS.
- 11. ALL DISTURBED AREAS, BOTH ON-SITE AND OFF, NOT COVERED BY PAVEMENT OR PERMANENT STRUCTURES SHALL BE SEEDED.
- 12. 16" WIDE STRIP OF SOD SHALL BE INSTALLED BEHIND THE ENTIRE LENGTH OF CURB BY PAVING CONTRACTOR. SEEDING WILL BE INSTALLED BETWEEN SOD AND STREET R.O.W.
- 13. EACH SUBSEQUENT CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER MAINTENANCE OF EXISTING STRUCTURAL CONTROLS DURING THE DURATION OF HIS CONSTRUCTION ACTIVITIES. ANY DAMAGE TO STRUCTURAL CONTROL CAUSED BY THE CONTRACTOR SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT NO COST TO OWNER.

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670

100YR. W.S.E. = 299.04' AT FALL #1000  
 100YR. W.S.E. = 305.61' AT FALL #1001  
 100YR. W.S.E. = 279.14' AT FALL #1002  
 100YR. W.S.E. = 279.68' AT FALL #1003  
 100YR. W.S.E. = 297.86' AT FALL #1004  
 100YR. W.S.E. = 297.42' AT FALL #1005

FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



03/07/2024

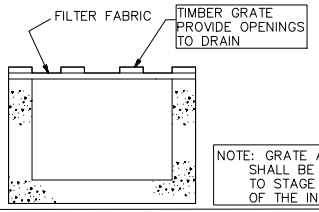
**LEGEND**

- ⊖-XX = FABRIC FENCE
- ▨ = STABILIZED CONSTRUCTION EXIT
- CTW = CONCRETE TRUCK WASHOUT AREA (OWNER WILL PROVIDE LOCATION)

**LEGEND**

- FF = FILTER FABRIC
  - RFB = REINFORCED FABRIC FENCE
  - ① INDICATES LOCATION OF POLLUTION CONTROL MEASURE
- | ITEM | APPROX. QNTY. |
|------|---------------|
| ①    | 20' RFB       |
| ②    | 20' RFB       |

1. CONTRACTOR SHALL ALSO INSTALL & MAINTAIN SILT BARRIER FOR INLETS AS DETAILED ON DRAINAGE DETAILS.



NOTE: GRATE AND FILTER FABRIC SHALL BE REMOVED PRIOR TO STAGE 2 CONSTRUCTION OF THE INLET

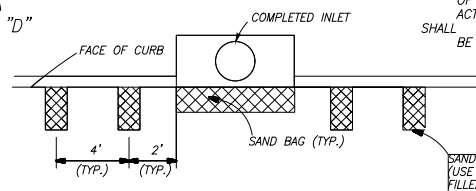
INLET PROTECTION BARRIER (STAGE 1)  
(BY UTILITY CONTRACTOR)  
(NO SEPARATE PAY)

Existing 8.63" Diameter Pipeline Operated by Enterprise Products Operating LLC (Highly Volatile Liquid)

Existing 20" Diameter Pipeline Operated by Enterprise Products Operating LLC (Highly Volatile Liquid)

MATCH LINE (SEE SHEET NO. 8A)

IMMEDIATELY AFTER COMPLETION OF THE SECOND STAGE INLET THE UTILITY CONTRACTOR WILL PLACE 2 SAND BAGS ON EACH SIDE OF THE INLET, PERPENDICULAR TO THE CURB, AND ADJACENT TO INLET, AS SHOWN BELOW



INLET PROTECTION BARRIER (STAGE 2)  
(BY UTILITY CONTRACTOR)

SAND BAG (TYP.)  
(USE 50 LB. COFFEE BAGS FILLED WITH SITE SOIL. FOLD ENDS AND ROLL-STITCH)



**STORM WATER POLLUTION PREVENTION PLAN**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Suite 600  
 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026  
 FRN - F-1386

LJA PROJECT NO.: 2980-0101

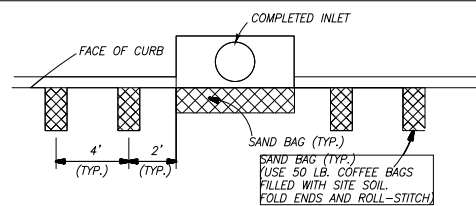
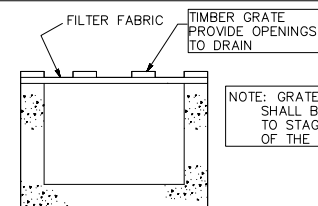
DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024

SCALE: 1" = 100'

Date/Time : Wed, 06 Mar 2024 11:35:10pm Path : I:\Projects\2980\0101\Sheets\16 swppp.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101



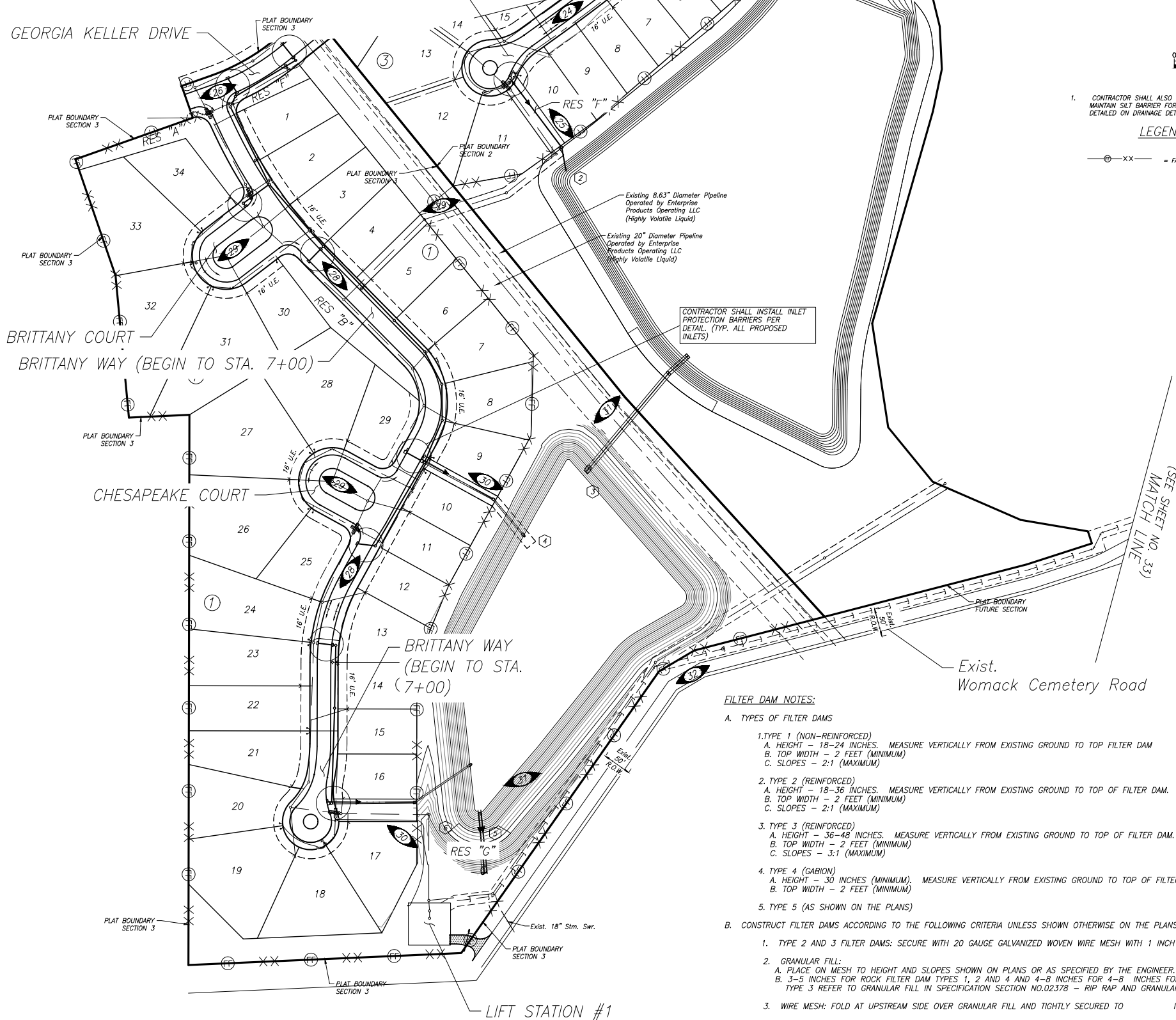


IMMEDIATELY AFTER COMPLETION OF THE SECOND STAGE INLET THE UTILITY CONTRACTOR WILL PLACE 2 SAND BAGS ON EACH SIDE OF THE INLET, PERPENDICULAR TO THE CURB, AND ADJACENT TO INLET, AS SHOWN BELOW

A CONTINUOUS SILT BARRIER FENCE SHALL BE CONSTRUCTED AROUND ALL FIRST STAGE INLETS BY THE UTILITY CONTRACTOR, AND MAINTAINED BY THE PAVING CONTRACTOR.

INLET PROTECTION BARRIER (STAGE 1)  
(BY UTILITY CONTRACTOR)  
(NO SEPARATE PAY)

INLET PROTECTION BARRIER (STAGE 2)  
(BY UTILITY CONTRACTOR)

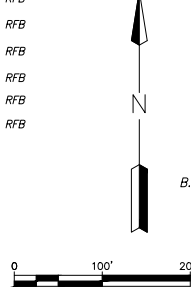


**LEGEND**

FF = FILTER FABRIC  
RFB = REINFORCED FABRIC FENCE

① INDICATES LOCATION OF POLLUTION CONTROL MEASURE

ITEM	QNTY.
①	20' RFB
②	20' RFB
③	20' RFB
④	20' RFB
⑤	20' RFB
⑥	20' RFB



1. CONTRACTOR SHALL ALSO INSTALL & MAINTAIN SILT BARRIER FOR INLETS AS DETAILED ON DRAINAGE DETAILS.

**LEGEND**

⊕ XX = FABRIC FENCE

**CONSTRUCTION SPECIFICATIONS FOR SILT BARRIER FENCE**

- A. MATERIALS:**
- SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENT (PER ASTM METHODS):
 

PHYSICAL PROPERTY	REQUIREMENTS
FILTER EFFICIENCY	75% (MIN.)
TENSILE STRENGTH @ 20%	EXT. STRENGTH = 50 LBS./LIN. IN.(MIN.)
MAX ELONGATION	STD. STRENGTH = 30 LBS./LIN. IN.(MIN.)
FLOW RATE	0.3 GAL./SQ. FT./MIN. (MIN.)
  - SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0° TO 120°.
- B. INSTALLATION:**
- THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 18" AND A MAXIMUM OF 36" ABOVE NATURAL GROUND.
  - STANDARD STRENGTH SYNTHETIC FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS (AND THUS IMPROVE THE BARRIER'S STRENGTH AND EFFICIENCY).
  - STAKES FOR THE SILT FENCE SHALL BE 2" x 2" WOOD WITH A MINIMUM LENGTH OF 3 FEET.
  - THE STAKES SHALL BE SPACED A MAXIMUM OF 3' APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (8" MIN.).
  - A TRENCH SHALL BE EXCAVATED APPROX. 4" WIDE AND 4" DEEP ALONG THE LINE OF STAKES AND UPSLOPE FROM THE BARRIER.
  - THE SILT FENCE SHALL BE STAPLED TO THE STAKES, WITH 8" (MIN.) OF FABRIC EXTENDED INTO THE TRENCH. HEAVY DUTY WIRE STAPLES AT LEAST ONE-HALF INCH LONG SHALL BE USED. THE FENCE SHALL NOT BE STAPLED TO EXISTING TREES.
  - THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FENCE MATERIAL.
  - IF A SILT FENCE IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, THE BARRIER SHALL BE OF SUFFICIENT LENGTH TO ELIMINATE END FLOW, AND THE PLAN CONFIGURATION SHALL RESEMBLE AN ARC OR HORSESHOE WITH THE ENDS ORIENTED UPSLOPE.
  - SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- C. MAINTENANCE:**
- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
  - SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE SILT FENCE IS STILL NECESSARY, IT SHALL BE REPLACED IMMEDIATELY.
  - SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH APPROX. 1/3 THE HEIGHT OF THE FENCE.
  - ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
  - HERE SHOULD BE NO GAPS OR SAGS IN THE SILT FENCE.

**GENERAL NOTES TO CONTRACTOR**

- LOCATE FUEL/MATERIAL STORAGE AREAS AWAY FROM STORM WATER CONVEYANCE SYSTEMS. USE A LINER UNDER ABOVE GROUND STORAGE TANKS. USE SILT FENCING, HAY BALES, OR BERMS AROUND FUEL STORAGE AREAS. (NO SEPARATE PAY)
- CONTRACTOR WILL ADVISE OWNER IMMEDIATELY, VERBALLY, AND IN WRITING, OF ANY FUEL SPILLS ONTO THE PROJECT/CONSTRUCTION AREA AND THE ACTIONS TAKEN TO REMEDY THE PROBLEM.
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL ENVIRONMENTAL LAWS.
- CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF FUELS, MATERIALS, AND EXCAVATIONS IN A LEGALLY APPROVED MANNER.
- CONTRACTOR IS TO INSPECT ALL STRUCTURAL CONTROLS SPECIFIED HEREIN, AT A MINIMUM, ONCE EVERY 7 CALENDAR DAYS OR WITHIN 24 HOURS AFTER ANY STORM EVENT THAT MEETS OR EXCEEDS 0.5 INCHES/24 HOUR PERIOD.
- CONTRACTOR WILL PROVIDE PROTECTED STORAGE AREAS FOR CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER POTENTIALLY TOXIC MATERIALS.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATELY MAINTAINED SANITARY FACILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, IDENTIFICATION, AND REMOVAL OF ALL DEBRIS FOR DESIGNATED CONCRETE WASH-OUT SITE.
- ALL UNSATISFACTORY AND/OR WASTE MATERIALS INCLUDING VEGETATION, ROOTS, CONCRETE AND DEBRIS SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING MUD AND/OR DIRT TRACKED ONTO EXISTING STREETS BY HIS WORKMAN'S, SUPPLIER OR SUBCONTRACTORS VEHICLES. STREET MUST BE CLEANED WITHIN 24 HOURS OF WHEN THE TRACKING OCCURS.
- ALL DISTURBED AREAS, BOTH ON-SITE AND OFF, NOT COVERED BY PAVEMENT OR PERMANENT STRUCTURES SHALL BE SEEDED.
- 16" WIDE STRIP OF SOD SHALL BE INSTALLED BEHIND THE ENTIRE LENGTH OF CURB BY PAVING CONTRACTOR. SEEDING WILL BE INSTALLED BETWEEN SOD AND STREET R.O.W.
- EACH SUBSEQUENT CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER MAINTENANCE OF EXISTING STRUCTURAL CONTROLS DURING THE DURATION OF HIS CONSTRUCTION ACTIVITIES. ANY DAMAGE TO STRUCTURAL CONTROL CAUSED BY THE CONTRACTOR SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT NO COST TO OWNER.

**FILTER DAM NOTES:**

- A. TYPES OF FILTER DAMS**
- TYPE 1 (NON-REINFORCED)
    - HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP FILTER DAM
    - TOP WIDTH - 2 FEET (MINIMUM)
    - SLOPES - 2:1 (MAXIMUM)
  - TYPE 2 (REINFORCED)
    - HEIGHT - 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
    - TOP WIDTH - 2 FEET (MINIMUM)
    - SLOPES - 2:1 (MAXIMUM)
  - TYPE 3 (REINFORCED)
    - HEIGHT - 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
    - TOP WIDTH - 2 FEET (MINIMUM)
    - SLOPES - 3:1 (MAXIMUM)
  - TYPE 4 (GABION)
    - HEIGHT - 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
    - TOP WIDTH - 2 FEET (MINIMUM)
  - TYPE 5 (AS SHOWN ON THE PLANS)
- B. CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.**
- TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGON OPENINGS.
  - GRANULAR FILL:
    - PLACE ON MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
    - 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4 AND 4-8 INCHES FOR 4-8 INCHES FOR ROCK FILTER DAM TYPE 3 REFER TO GRANULAR FILL IN SPECIFICATION SECTION NO.02378 - RIP RAP AND GRANULAR FILL.
  - WIRE MESH: FOLD AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
  - IN STREAMS: SECURES OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
  - SEE SPECIFICATION SECTION NO. 02364 - FILTER DAMS.
  - EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT THAN CENTER OF DEPRESSED AREA AT SLOPE.

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FIRM PANEL NO.48339C0200G & 48339C0350G  
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CITY OF MONTGOMERY  
MUNICIPAL UTILITY  
DISTRICT NO. 215

REDBIRD MEADOWS  
PHASE 1A

**STORM WATER POLLUTION PREVENTION PLAN CONT'D**

**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Phone 713.953.5200  
Suite 600 Fax 713.953.5026  
Houston, Texas 77042 FRN - F-1386

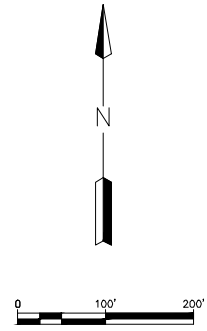
LJA PROJECT NO.: 2980-0101











DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB.2024  
SCALE: 1" = 100'



# AREA TO BE CLEARED



-  INDICATES LOTS TO BE CLEARED (5.8 AC)
-  INDICATES PROP. POND AREA TO BE CLEARED (5.23 AC)
-  INDICATES R.O.W TO BE CLEARED (0.911 AC)
-  INDICATES WET UTILITY EASEMENTS TO BE CLEARED (3.42 AC)
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-  INDICATES PROP. LIFT STATION TO BE CLEARED (0.13 AC)
-  INDICATES EXISTING STRUCTURES TO BE DEMOLISHED
-  INDICATES FUTURE R.O.W TO BE CLEARED (PHASE 1) (0.61 A.C)



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CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

CLEARING PLAN

**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024

SCALE: 1" = 100'



Date/Time : Wed, 06 Mar 2024 - 4:48pm  
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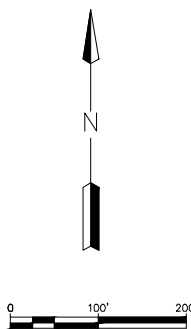
REDBIRD MEADOWS PHASE 1A - 2980-0101

Date/Time : Wed, 06 Mar 2024 - 4:49pm  
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MATCH LINE  
(SEE SHEET 9)

(SEE SHEET NO. 9)  
MATCH LINE



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 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

CLEARING PLAN CONT'D

**LJA Engineering, Inc.**   
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB.2024

SCALE: 1" = 100'



03/07/2024

REDBIRD MEADOWS PHASE 1A - 2980-0101

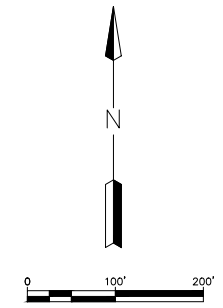


Date/Time : Wed, 06 Mar 2024, 3:53pm  
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**LEGEND**

● INDICATES TREE POSITION



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REDBIRD MEADOWS  
 PHASE 1A

**LANDSCAPE PLAN**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

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SCALE: 1" = 100'



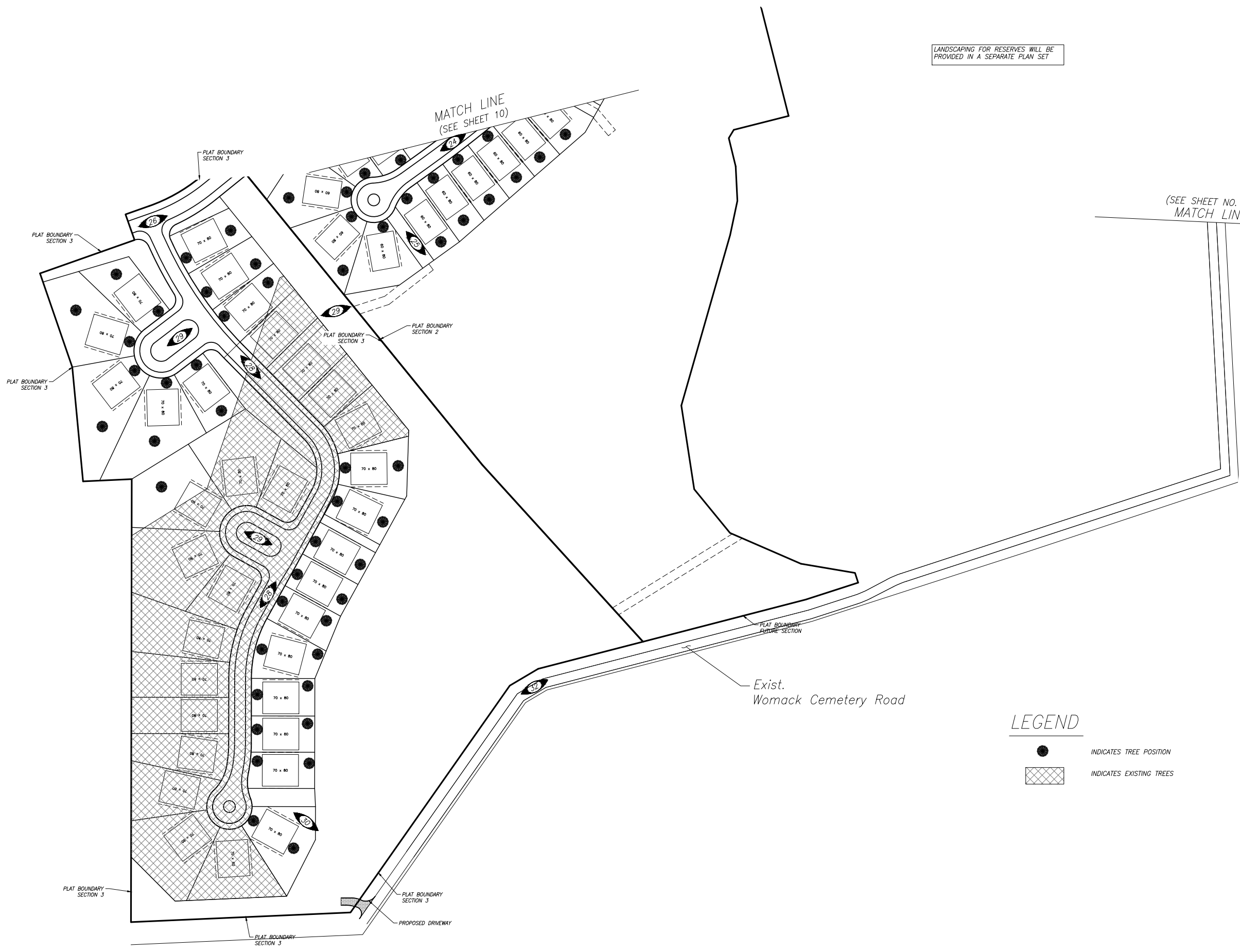
03/07/2024

LANDSCAPING FOR RESERVES WILL BE PROVIDED IN A SEPARATE PLAN SET

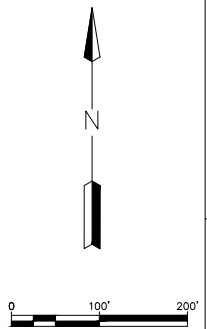
MATCH LINE  
 (SEE SHEET 10A.)

REDBIRD MEADOWS PHASE 1A - 2980-0101

Date: Time : Wed, 06 Mar 2024 3:53pm  
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REDBIRD MEADOWS PHASE 1A

LANDSCAPE PLAN CONT'D

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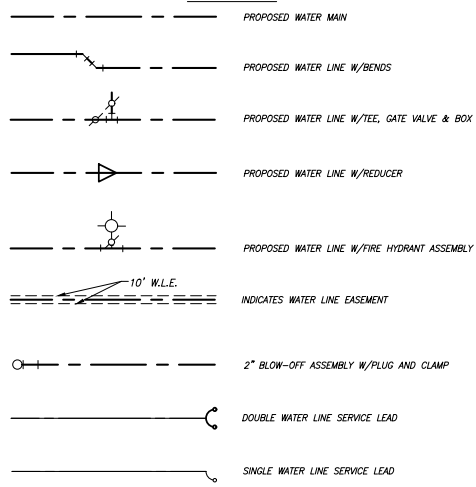
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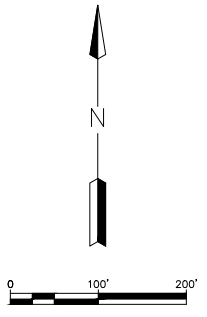
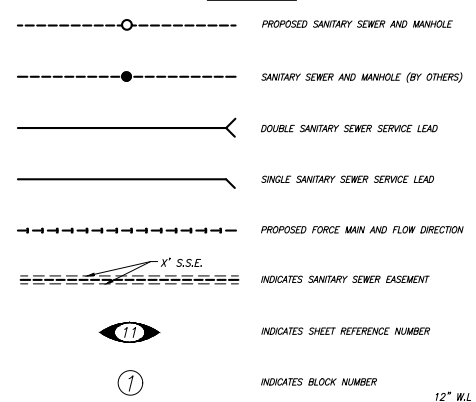


CONTRACTOR SHALL REMOVE 12" PLUG & CLAMP & 2" BLOW-OFF VALVE W/BOX (BY OTHERS) AND CONNECT PROP. 12" WATERLINE

**WATERLINE LEGEND**



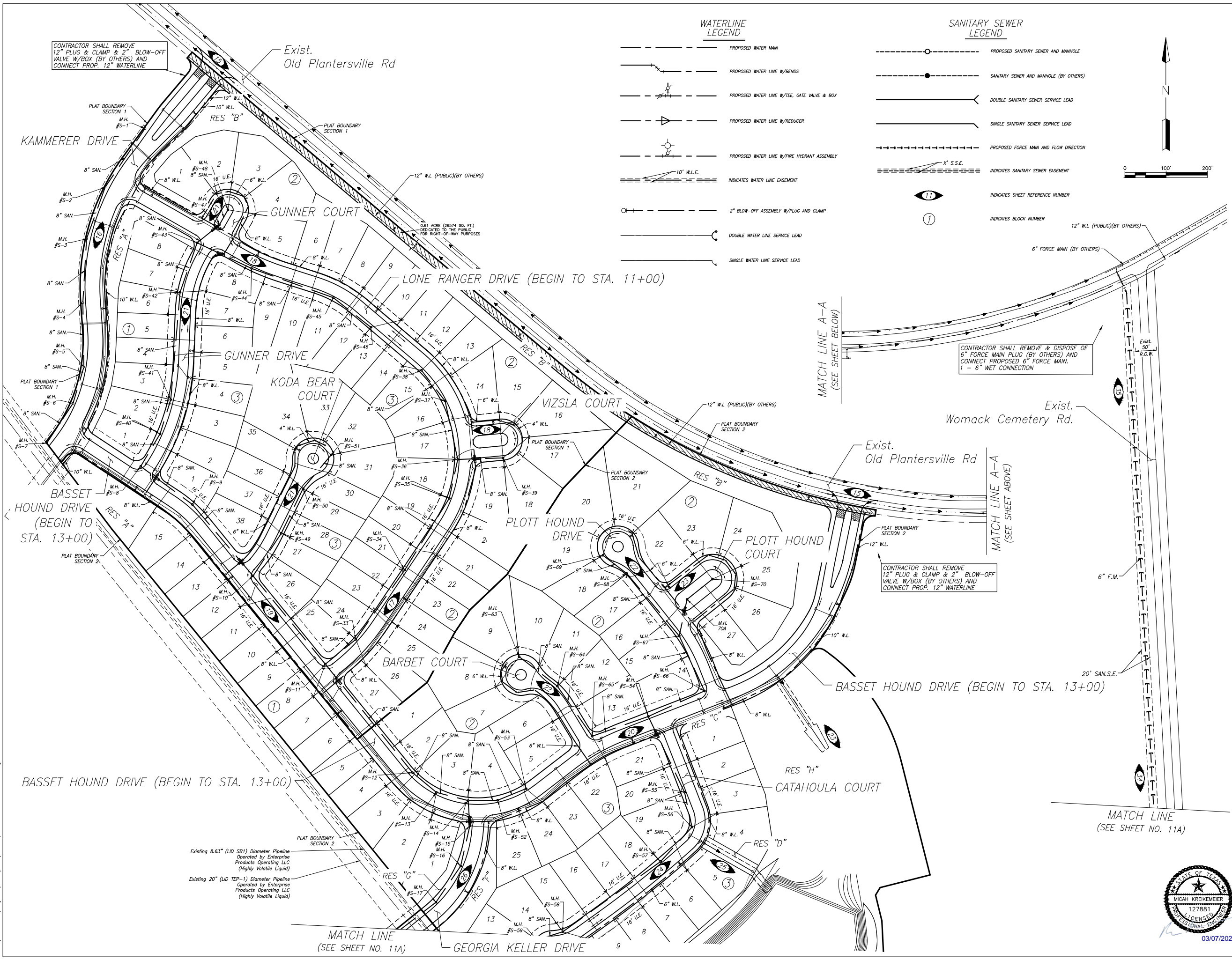
**SANITARY SEWER LEGEND**



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  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

**WATER AND SANITARY LAYOUT**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024

SCALE: 1" = 100'

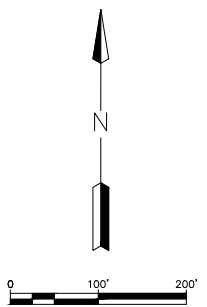
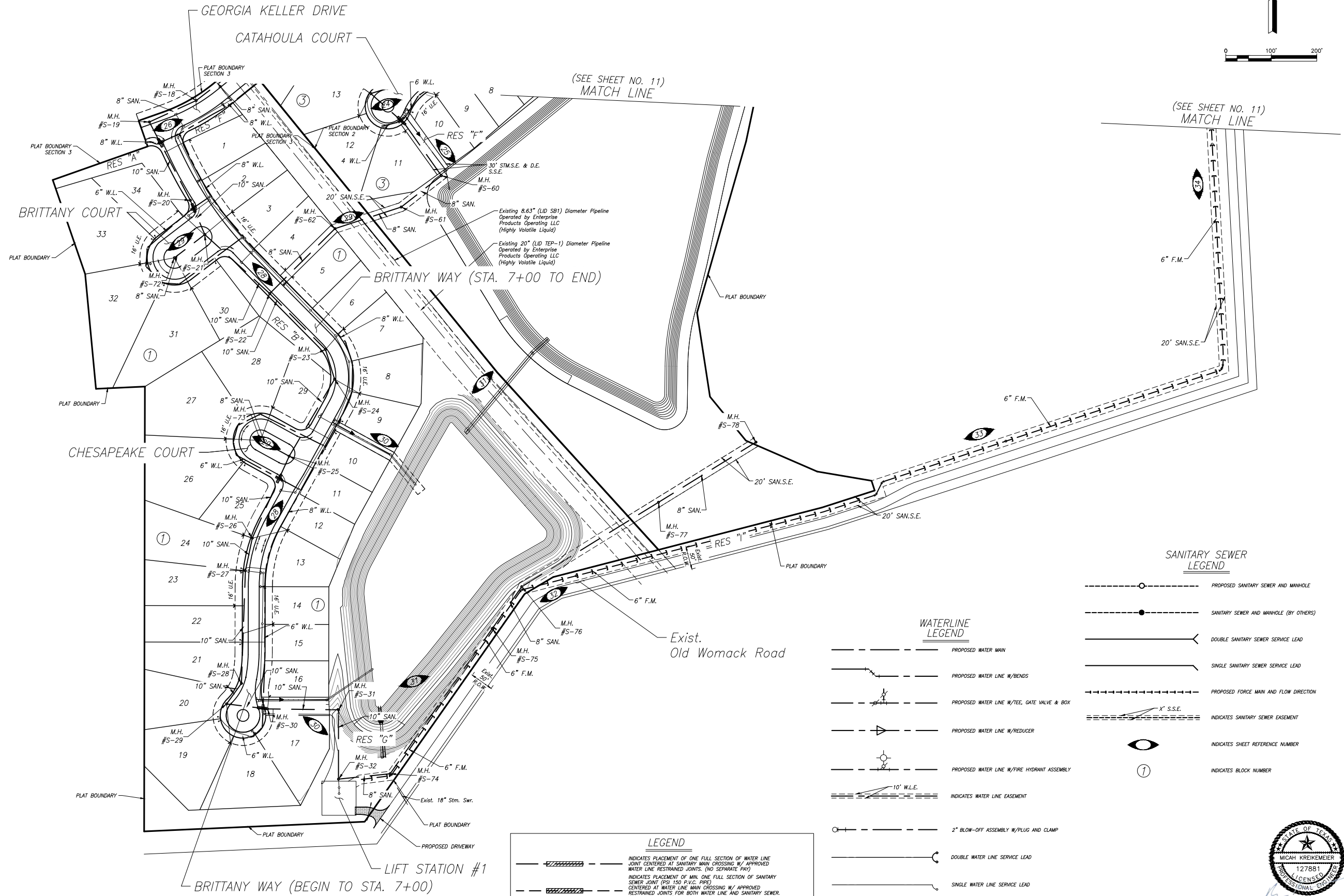


03/07/2024

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REDBIRD MEADOWS PHASE 1A - 2980-0101

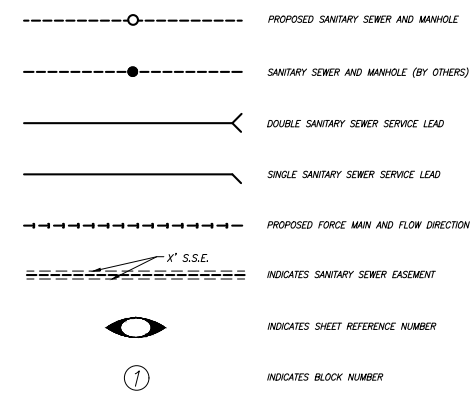
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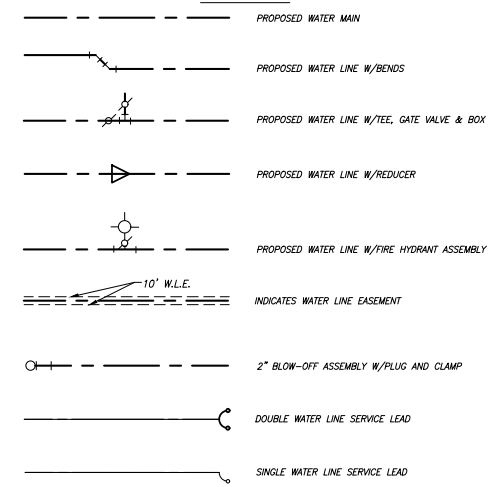
**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
 100YR. W.S.E. = 279.14' AT OFFFALL #1002  
 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
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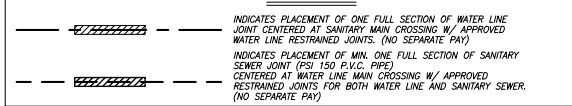
**SANITARY SEWER LEGEND**



**WATERLINE LEGEND**



**LEGEND**



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK  
 CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR \_\_\_\_\_ DATE \_\_\_\_\_

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215  
 REDBIRD MEADOWS PHASE 1A

**WATER AND SANITARY LAYOUT CONT'D**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB. 2024

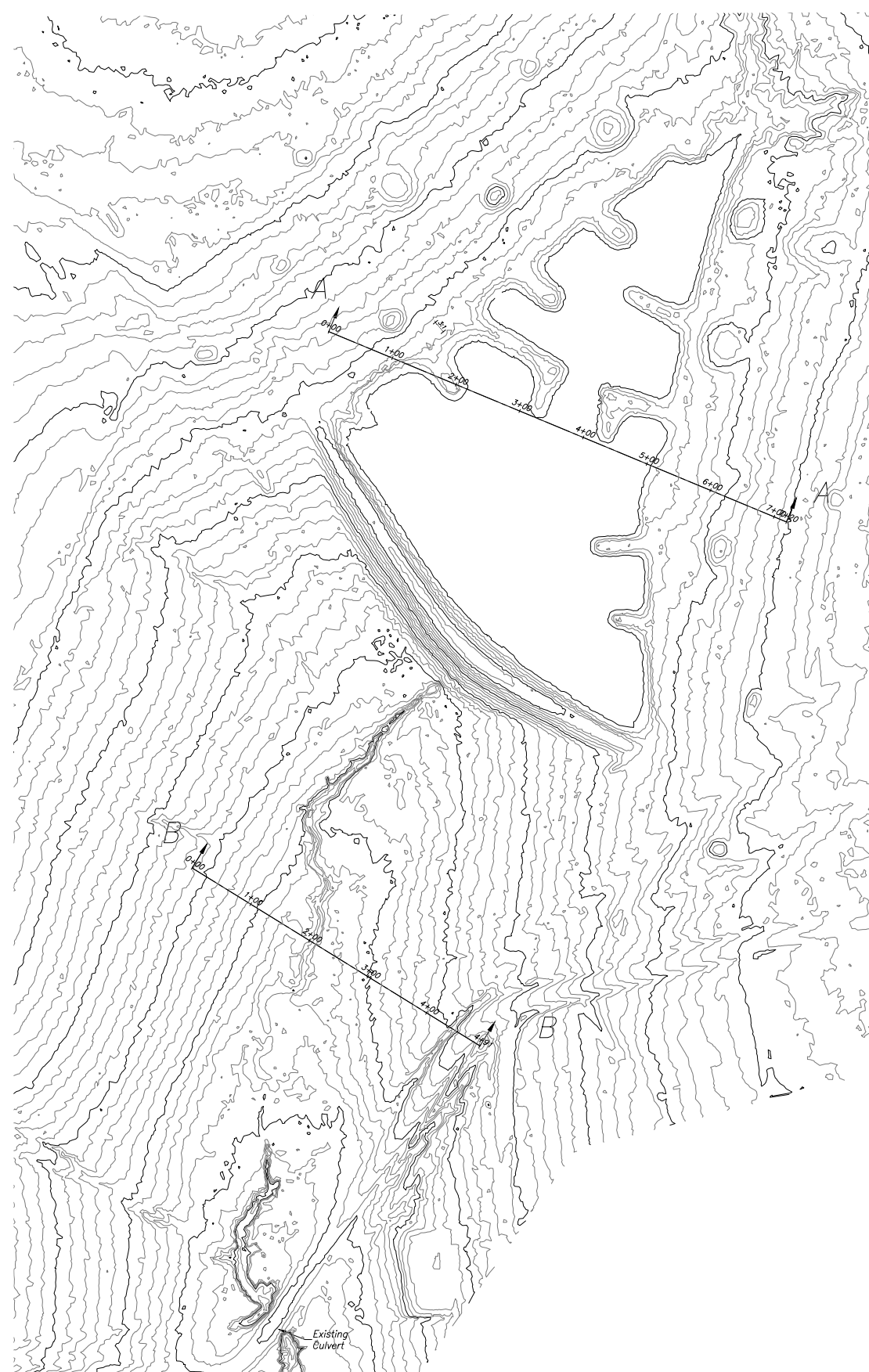
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03/07/2024

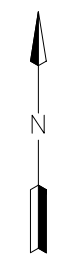
REBIRD MEADOWS PHASE 1A - 2980-0101





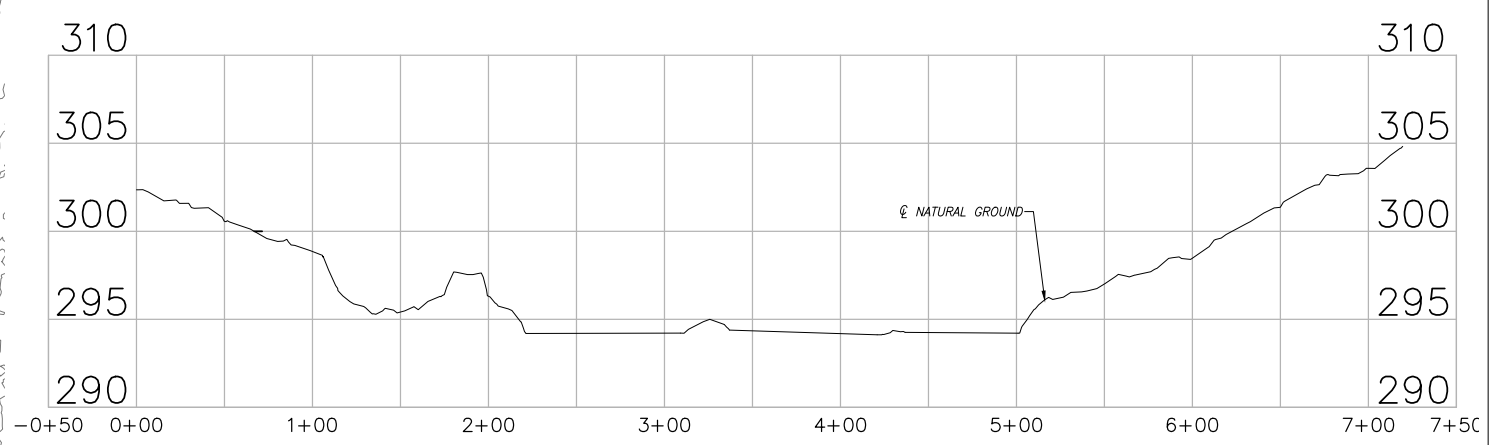
POND B.1 & B.2  
SCALE: 1"=100'

Date/Time : Wed, 06 Mar 2024 3:55pm  
Path Name : I:\Project\2980\0101\Sheets EXISTING TOPO.dwg

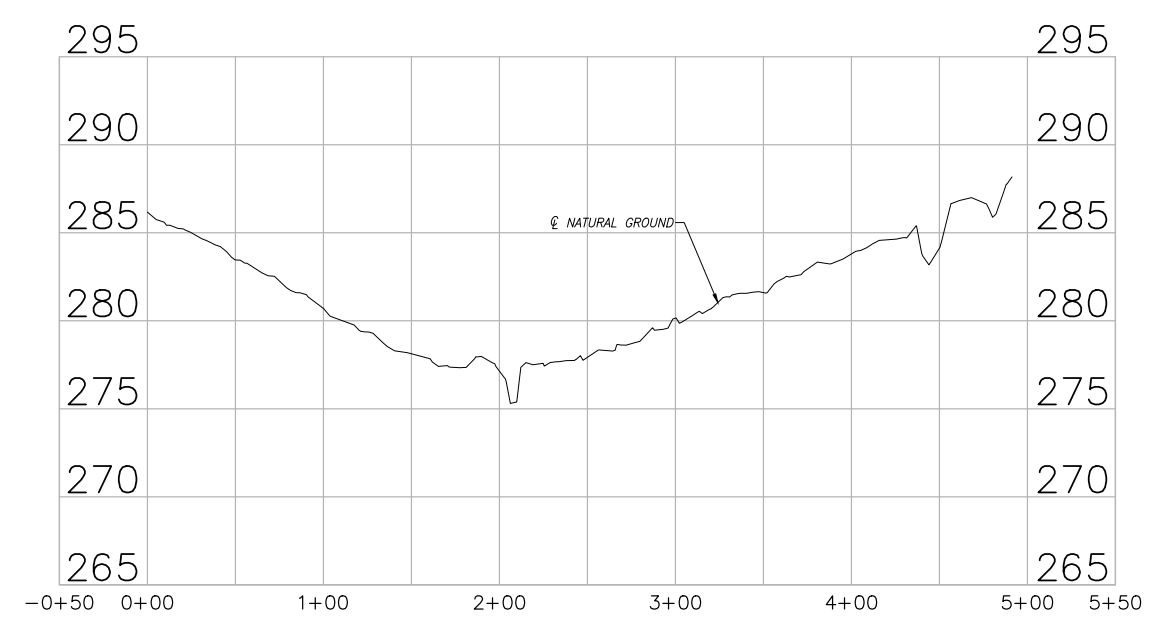
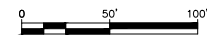


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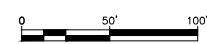
NOTES:  
1) EMERGENCY OVERFLOW SIZED TO CONVEY THE FULL 100-YEAR INFLOW RATE WITH WSE AT OR BELOW THE DETENTION BASIN TOP BANK. Q=CLH(2)  
2) ABOVE 100YR. WSE (283.93') USED AS EMERGENCY OVERFLOW



EXISTING CROSS SECTION  
A-A  
SCALE: 1"=50'



EXISTING CROSS SECTION  
B-B  
SCALE: 1"=50'



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

EXISTING TOPOGRAPHY

**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Phone 713.953.5200  
Suite 600 Fax 713.953.5026  
Houston, Texas 77042 FRN - F-1386

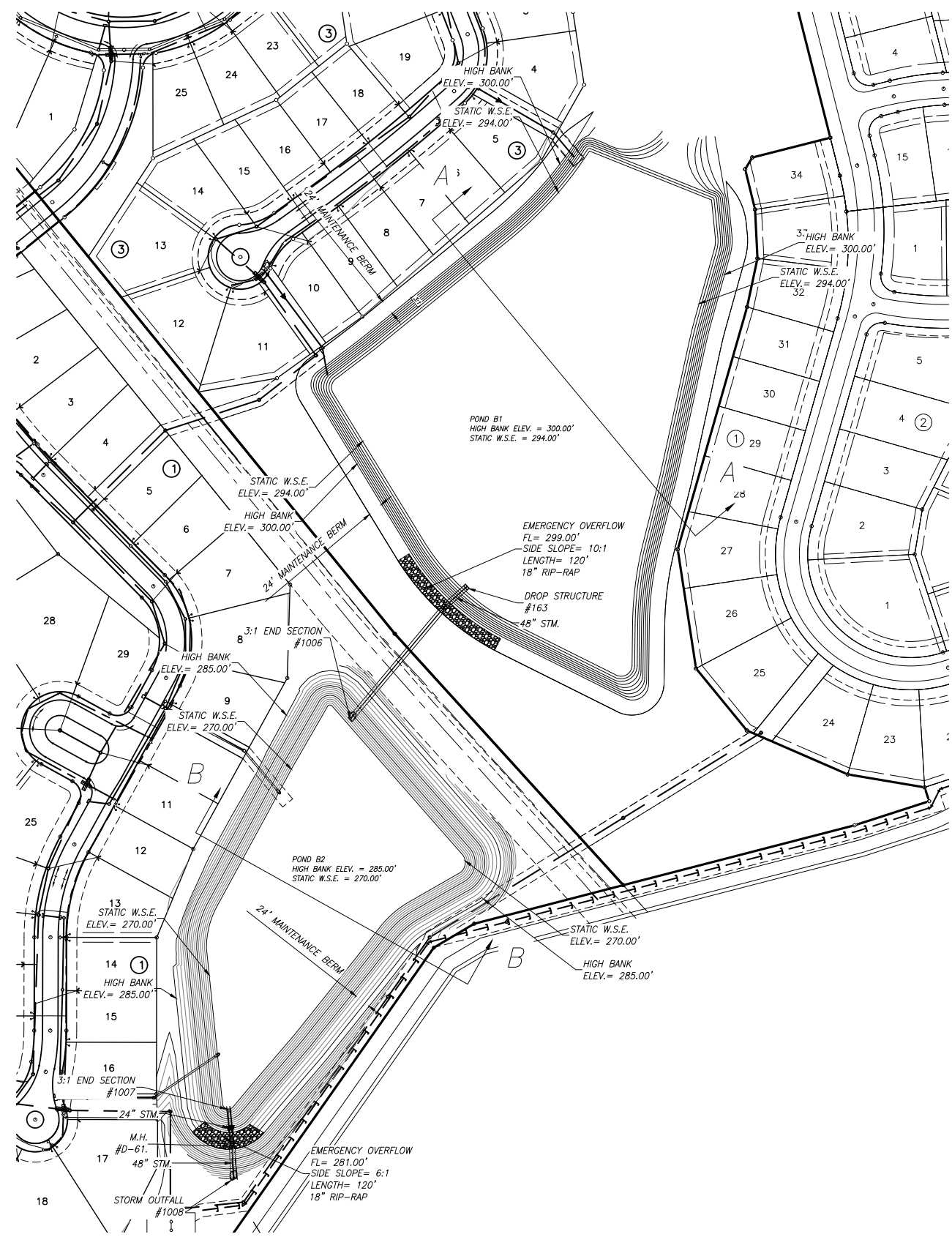
LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB.2024  
SCALE: 1" = 100' 2980-0101

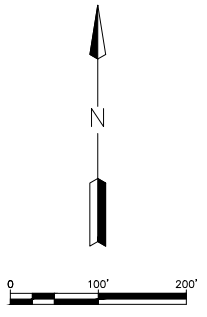


REDBIRD MEADOWS PHASE 1A - 2980-0101

Date: Wed, 06 Mar 2024 3:56pm Path: I:\Projects\2980\0101\Sheets\B OVERALL LAYOUT PONDS B1 & B2.dwg

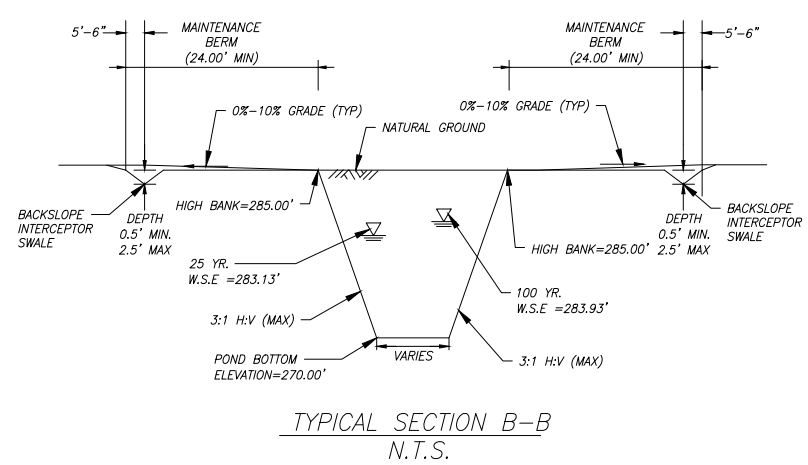
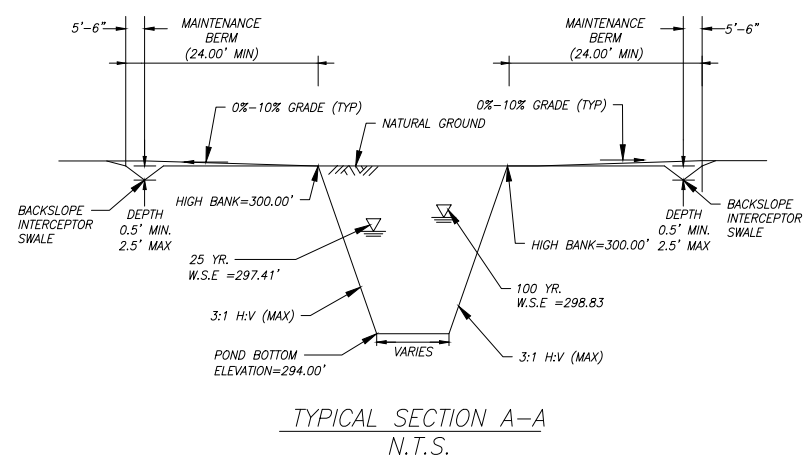


POND A.1  
SCALE: 1"=100'



**BENCHMARK:**  
ALL ELEVATIONS SET TO NGS. NAVD 88.  
MONUMENT DESIGNATION ELEV. 190.963  
BRASS DISC SET IN CONCRETE LOCATED BY  
COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
100YR. W.S.E. = 299.04' AT OUTFALL #1000  
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FIRM PANEL NO. 48339C0200G & 48339C0350G  
EFFECTIVE DATE: AUGUST 18, 2014  
THIS AREA LIES IN ZONE "X".

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CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK  
\_\_\_\_\_  
CITY OF MONTGOMERY, CITY ENGINEER  
SIGNATURE VALID FOR ONE (1) YEAR

DATE \_\_\_\_\_

CITY OF MONTGOMERY  
MUNICIPAL UTILITY  
DISTRICT NO. 215

REDBIRD MEADOWS  
PHASE 1A

OVERALL LAYOUT  
PONDS B1 & B2

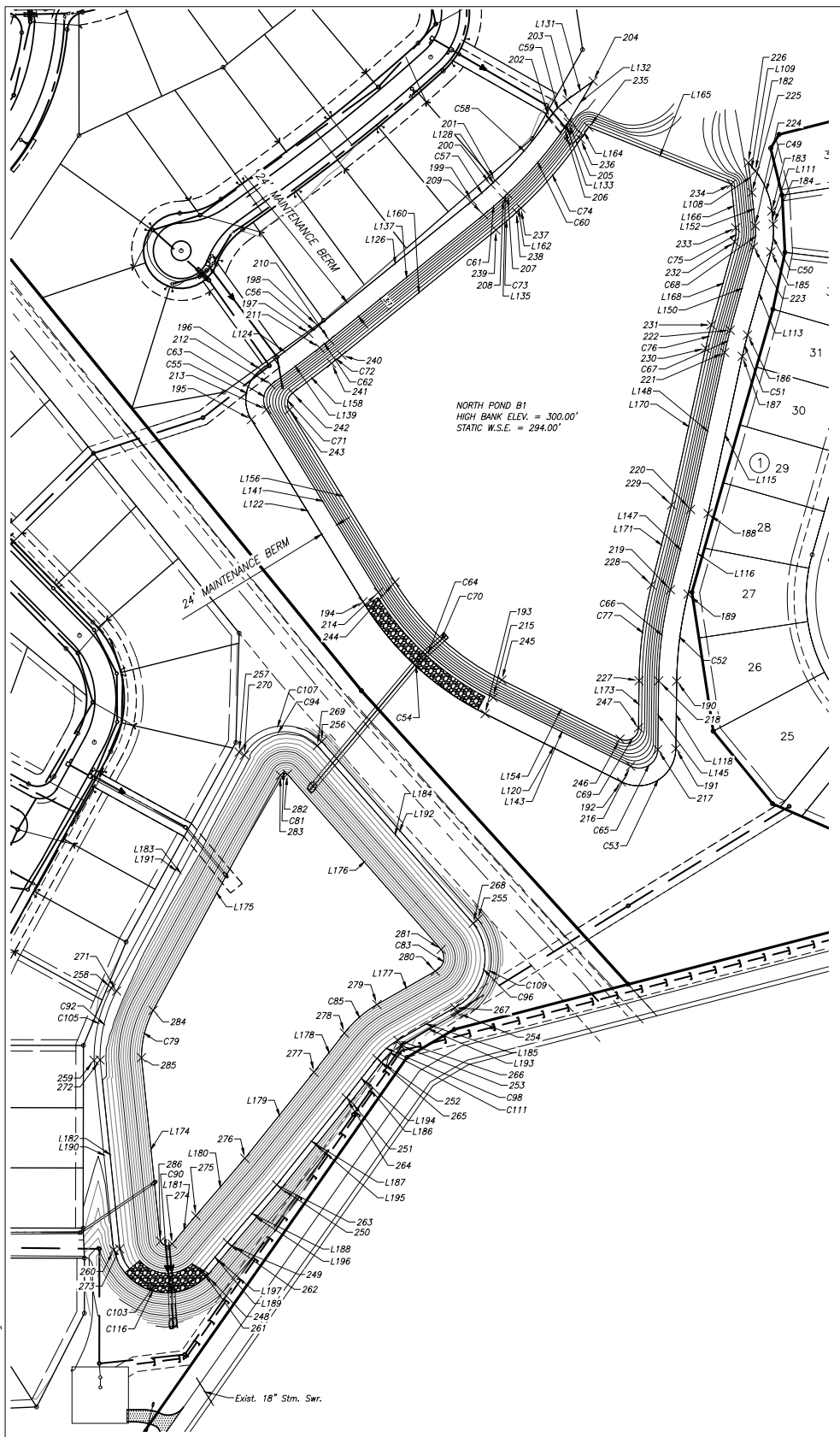
**LJA Engineering, Inc.**  
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Suite 600 Fax 713.953.5026  
Houston, Texas 77042 FRN - F-1386  
LJA PROJECT NO.: 2980-0101



DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB. 2024  
SCALE: 1" = 100'

REDBIRD MEADOWS PHASE 1A - 2980-0101





POND B.1 & B.2  
SCALE: 1"=100'

Point #	Northing	Easting
286	10129717.2680	3751943.3509
285	10129961.3328	3751918.1184
284	10130024.1953	3751933.5687
283	10130336.6147	3752102.8868
282	10130338.1312	3752112.2020
281	10130105.2217	3752316.5789
280	10130076.3086	3752308.8652
279	10130031.9486	3752231.3007
278	10129994.0187	3752187.9886
277	10129942.0177	3752147.3244
276	10129827.4391	3752055.6671
275	10129751.2608	3751990.3886
274	10129713.6913	3751958.9113
273	10129707.1461	3751889.1042
272	10129958.3062	3751863.1382
271	10130050.0357	3751885.0151
270	10130363.6694	3752054.9913
269	10130376.1297	3752152.0313
268	10130140.0430	3752359.1960
267	10130027.7671	3752334.7747
266	10129984.4213	3752258.9835

Point #	Northing	Easting
265	10129960.0800	3752231.2686
264	10129907.8980	3752190.4631
263	10129792.3565	3752098.0354
262	10129715.7046	3752032.3510
261	10129676.6122	3751999.5978
260	10129705.8865	3751881.1918
259	10129957.8325	3751855.1445
258	10130053.7990	3751877.9553
257	10130367.5603	3752048.0007
256	10130381.5665	3752157.9038
255	10130145.1638	3752365.3459
254	10130020.7371	3752338.5969
253	10129977.5128	3752263.0181
252	10129955.1422	3752237.5630
251	10129904.3203	3752196.7378
250	10129787.2536	3752104.1981
249	10129710.5328	3752038.4546
248	10129671.3023	3752005.5857
247	10130399.8808	3752579.0400
246	10130384.8718	3752554.4481
245	10130463.3165	3752397.3136

Point #	Northing	Easting
244	10130593.5893	3752255.2188
243	10130822.5726	3752114.8977
242	10130844.9859	3752119.1011
241	10130884.3105	3752170.8034
240	10130895.1271	3752184.5646
239	10131061.5713	3752389.5206
238	10131085.2030	3752416.7460
237	10131090.6954	3752422.6697
236	10131182.3726	3752501.9126
235	10131198.4485	3752512.9672
234	10131122.6107	3752702.4768
233	10131064.3999	3752708.3334
232	10131045.9471	3752706.7422
231	10130935.4238	3752675.8795
230	10130904.3203	3752668.1635
229	10130696.1138	3752622.9077
228	10130589.7425	3752596.2457
227	10130462.5252	3752579.7809
226	10131151.3459	3752725.0927
225	10131111.4747	3752729.7285
224	10131067.0026	3752734.2028

Point #	Northing	Easting
223	10131038.9543	3752731.7842
222	10130928.4310	3752700.9215
221	10130898.7979	3752693.5702
220	10130690.1904	3752648.2273
219	10130583.4211	3752621.4656
218	10130462.2178	3752605.7790
217	10130370.8521	3752604.6986
216	10130348.7801	3752568.5339
215	10130440.0542	3752385.7006
214	10130580.0043	3752233.0502
213	10130822.8657	3752084.2246
212	10130855.8265	3752090.4060
211	10130905.0047	3752155.0634
210	10130915.3101	3752168.1741
209	10131081.7542	3752373.1300
208	10131104.2689	3752399.0685
207	10131109.7612	3752404.9922
206	10131197.1046	3752480.4891
205	10131204.5348	3752485.5985
204	10131259.4773	3752518.7241
203	10131234.5614	3752484.1995

Line #	Length	Direction
L197	51.18	S39° 57' 27.53"W
L196	101.04	S40° 35' 37.96"W
L195	148.14	S38° 39' 29.28"W
L194	66.27	S38° 01' 29.70"W
L193	87.07	S60° 14' 03.42"W
L192	314.51	S41° 16' 00.39"E
L191	356.88	N28° 27' 20.95"E
L190	253.29	N05° 54' 09.03"W
L189	51.00	S39° 57' 27.53"W
L188	100.95	S40° 35' 37.96"W
L187	147.96	S38° 39' 29.28"W
L186	66.24	S38° 01' 29.70"W
L185	87.31	S60° 14' 03.42"W
L184	314.09	S41° 16' 00.39"E
L183	356.73	N28° 27' 20.95"E
L182	252.50	N05° 54' 09.03"W
L181	49.01	S39° 57' 27.53"W
L180	100.32	S40° 35' 37.96"W
L179	146.73	S38° 39' 29.28"W
L178	66.01	S38° 01' 29.70"W
L177	89.35	S60° 14' 03.42"W

Line #	Length	Direction
L176	309.87	S41° 16' 00.39"E
L175	355.35	N28° 27' 20.95"E
L174	245.37	N05° 54' 09.03"W
L173	44.70	N05° 44' 42.62"W
L172	114.75	N15° 36' 06.94"E
L171	213.48	N12° 15' 47.02"E
L170	110.07	N14° 04' 16.67"E
L169	91.37	N00° 40' 39.15"E
L168	204.35	S63° 28' 14.56"E
L167	284.83	S31° 29' 59.96"E
L166	81.23	S52° 44' 36.71"W
L165	264.03	S50° 55' 12.15"W
L164	8.08	S47° 09' 49.58"W
L163	9.02	S34° 30' 52.08"W
L162	64.16	S31° 05' 10.94"W
L161	42.58	N54° 10' 57.20"E
L160	8.08	N47° 09' 49.58"E
L159	264.03	N50° 55' 12.15"E
L158	80.33	N52° 44' 36.71"E
L157	283.93	N31° 29' 59.96"W
L156	202.75	N63° 28' 14.56"W

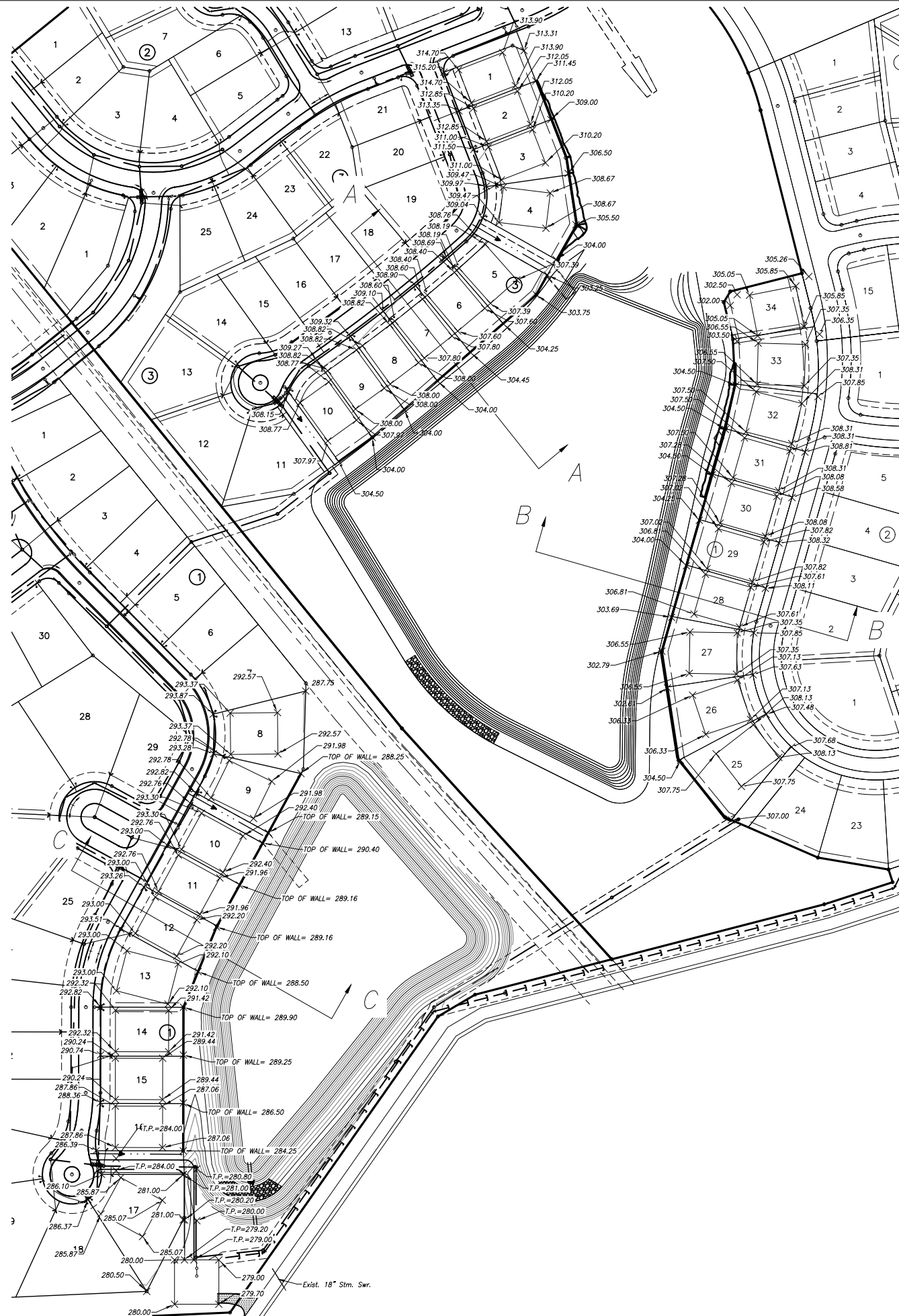
Line #	Length	Direction
L118	89.78	S00° 40' 39.15"W
L116	110.45	S14° 04' 16.67"W
L115	213.86	S12° 15' 47.02"W
L113	114.75	S15° 36' 06.94"W
L111	17.48	S05° 44' 42.62"E
L109	14.79	S39° 06' 55.29"E
L108	40.14	N06° 37' 54.91"W
L173	62.65	S00° 40' 39.15"W
L171	109.66	S14° 04' 16.67"W
L170	213.07	S12° 15' 47.02"W
L168	114.75	S15° 36' 06.94"W
L166	58.50	S05° 44' 42.62"E
L165	204.12	S68° 11' 23.07"E
L164	19.51	N34° 30' 52.08"E
L162	8.08	N47° 09' 49.58"E
L160	264.03	N50° 55' 12.15"E
L158	64.96	N52° 44' 36.71"E
L156	268.56	N31° 29' 59.96"W
L154	175.63	N63° 28' 14.56"W

Point #	Northing	Easting
202	10131210.2291	3752460.3870
201	10131127.3604	3752388.6745
200	10131121.8681	3752382.7507
199	10131100.3846	3752358.0003
198	10130933.9405	3752153.0444
197	10130924.1071	3752140.5342
196	10130875.4764	3752076.5965
195	10130809.5548	3752064.2337
194	10130567.4643	3752212.5868
193	10130418.5812	3752374.9808
192	10130328.0199	3752556.3865
191	10130372.1639	3752628.7158
190	10130461.9340	3752629.7774
189	10130577.5860	3752644.7454
188	10130684.7227	3752671.5993
187	10130893.7002	3752717.0226
186	10130921.9762	3752724.0372
185	10131032.4995	3752754.8999
184	10131069.4051	3752758.0822
183	10131086.7935	3752756.3328
182	10131139.8715	3752734.4228

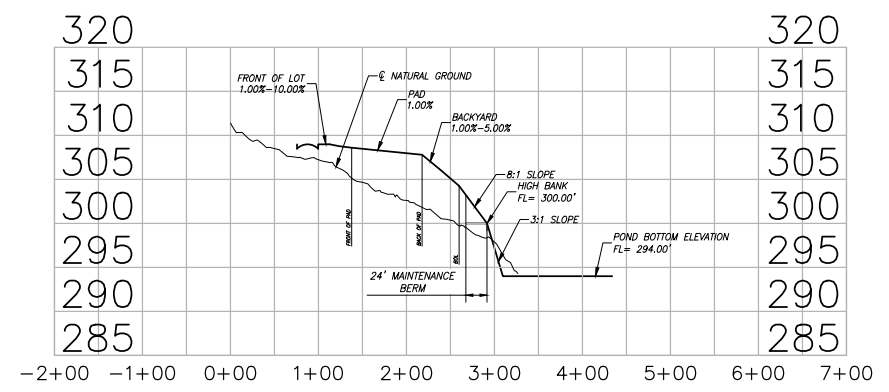
Curve #	Length	Radius	Delta	Chord Bearing	Chord Length
C116	158.73	72.81	124°54'22.77"	N 74° 27' 46.47" W	129.11
C111	34.08	93.12	020°58'07.52"	S 48° 41' 24.63" W	33.89
C109	145.38	82.46	101°00'40.44"	S 12° 07' 57.66" W	127.27
C107	128.35	69.33	106°03'53.89"	N 82° 44' 14.17" E	110.79
C105	99.67	199.66	028°36'09.56"	N 13° 22' 14.99" E	98.64
C103	140.66	64.81	124°21'09.34"	N 74° 33' 08.60" W	114.63
C98	37.09	101.12	021°01'07.84"	S 48° 42' 28.50" W	36.89
C96	131.24	74.46	100°59'08.07"	S 12° 16' 16.97" W	114.90
C94	113.25	61.33	105°47'55.01"	N 82° 40' 58.99" E	97.84
C92	95.28	191.66	028°29'01.30"	N 13° 24' 50.84" E	94.30
C90	18.65	9.81	108°55'37.49"	N 77° 03' 18.27" W	15.97
C85	57.90	156.12	021°15'04.47"	S 48° 47' 24.84" W	57.57
C83	34.13	19.46	100°29'30.89"	S 14° 56' 16.77" W	29.92
C81	10.65	6.33	096°19'42.30"	N 80° 45' 11.41" E	9.44
C79	65.35	136.66	027°24'01.68"	N 13° 48' 30.09" E	64.73
C68	28.32	76.00	021°20'49.56"	N 04° 55' 42.16" E	28.15
C67	30.54	524.00	003°20'19.93"	N 13° 55' 56.98" E	30.53
C66	122.49	524.00	013°23'37.53"	N 07° 22' 27.91" E	122.21
C65	50.55	25.00	115°51'06.29"	N 58° 36' 12.29" E	42.37
C64	209.81	376.00	031°58'14.61"	S 47° 29' 07.26" E	207.09

Curve #	Length	Radius	Delta	Chord Bearing	Chord Length
C63	36.76	25.00	084°14'36.67"	S 10° 37' 18.38" W	33.54
C62	16.68	524.00	001°49'24.56"	S 51° 49' 54.43" W	16.68
C61	34.35	524.00	003°45'22.57"	S 49° 02' 30.87" W	34.35
C60	115.68	524.00	012°38'57.51"	S 40° 50' 20.83" W	115.45
C59	34.21	100.00	019°36'07.59"	N 44° 22' 53.40" E	34.05
C58	109.81	500.00	012°34'59.98"	N 40° 52' 19.59" E	109.59
C57	32.78	500.00	003°45'22.57"	N 49° 02' 30.87" E	32.77
C56	15.91	500.00	001°49'24.56"	N 51° 49' 54.43" E	15.91
C55	73.52	50.00	084°14'36.67"	N 10° 37' 18.38" E	67.07
C54	223.20	400.00	031°58'14.61"	N 47° 29' 07.26" W	220.31
C53	101.10	50.00	115°51'06.29"	S 58° 36' 12.29" W	84.74
C52	116.88	500.00	013°23'37.53"	S 07° 22' 27.91" W	116.62
C51	29.14	500.00	003°20'19.93"	S 13° 55' 56.98" W	29.13
C50	37.26	100.00	021°20'49.56"	S 04° 55' 42.16" W	37.04
C49	58.24	100.00	033°22'12.67"	S 22° 25' 48.96" E	57.42
C77	128.57	550.00	013°23'37.53"	S 07° 22' 27.91" W	128.28
C76	32.05	550.00	003°20'19.93"	S 13° 55' 56.98" W	32.05
C75	18.63	50.00	021°20'49.56"	S 04° 55' 42.16" W	18.52
C74	121.42	550.00	012°38'57.51"	N 40° 50' 20.83" E	121.18
C73	36.06	550.00	003°45'22.57"	N 49° 02' 30.87" E	36.05

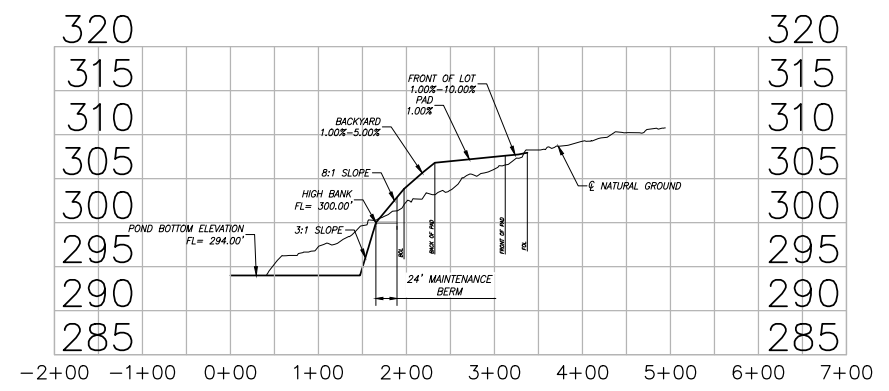
Curve #	Length	Radius	Delta	Chord Bearing	Chord Length
C72	17.50	550.00	001°49'24.56"	N 51° 49' 54.43" E	17.50
C71	25.00	17.00	084°14'36.67"	N 10° 37' 18.38" E	22.80
C70	195.30	350.00	031°58'14.61"	N 47° 29' 07.26" W	192.77
C69	34.37	17.00	115°51'06.29"		



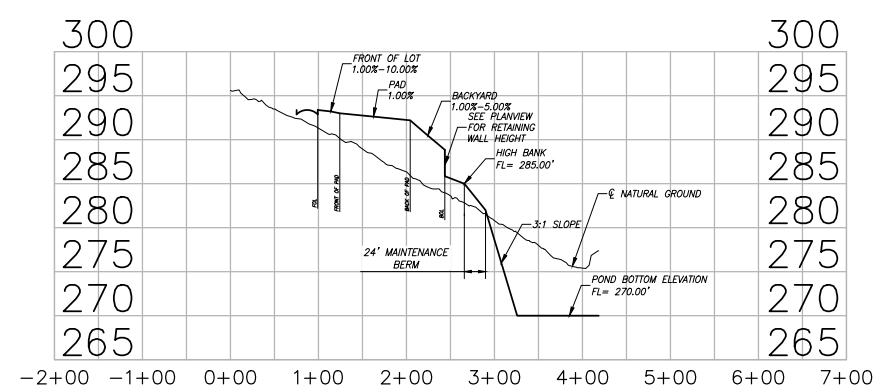
GRADING CROSS SECTIONS  
SCALE: 1"=100'



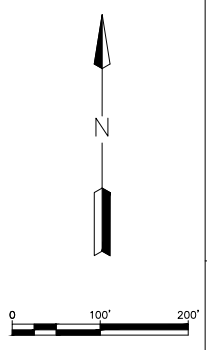
CROSS SECTION A-A  
SCALE: 1"=100'



CROSS SECTION B-B  
SCALE: 1"=100'



CROSS SECTION C-C  
SCALE: 1"=100'



**BENCHMARK:**  
ALL ELEVATIONS SET TO NGS. NAVD 88.  
MONUMENT DESIGNATION ELEV. 190.963  
BRASS DISC SET IN CONCRETE LOCATED BY  
COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
100YR. W.S.E. = 299.04' AT OFFFALL #1000  
100YR. W.S.E. = 305.61' AT OFFFALL #1001  
100YR. W.S.E. = 279.14' AT OFFFALL #1002  
100YR. W.S.E. = 279.68' AT OFFFALL #1003  
100YR. W.S.E. = 297.86' AT OFFFALL #1004  
100YR. W.S.E. = 297.42' AT OFFFALL #1005  
FIRM PANEL NO. 48339C0200G & 48339C0350G  
EFFECTIVE DATE: AUGUST 18, 2014  
THIS AREA LIES IN ZONE "X".

- NOTES:**
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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
MUNICIPAL UTILITY  
DISTRICT NO. 215

REDBIRD MEADOWS  
PHASE 1A

GRADING LAYOUT  
PONDS B1 & B2



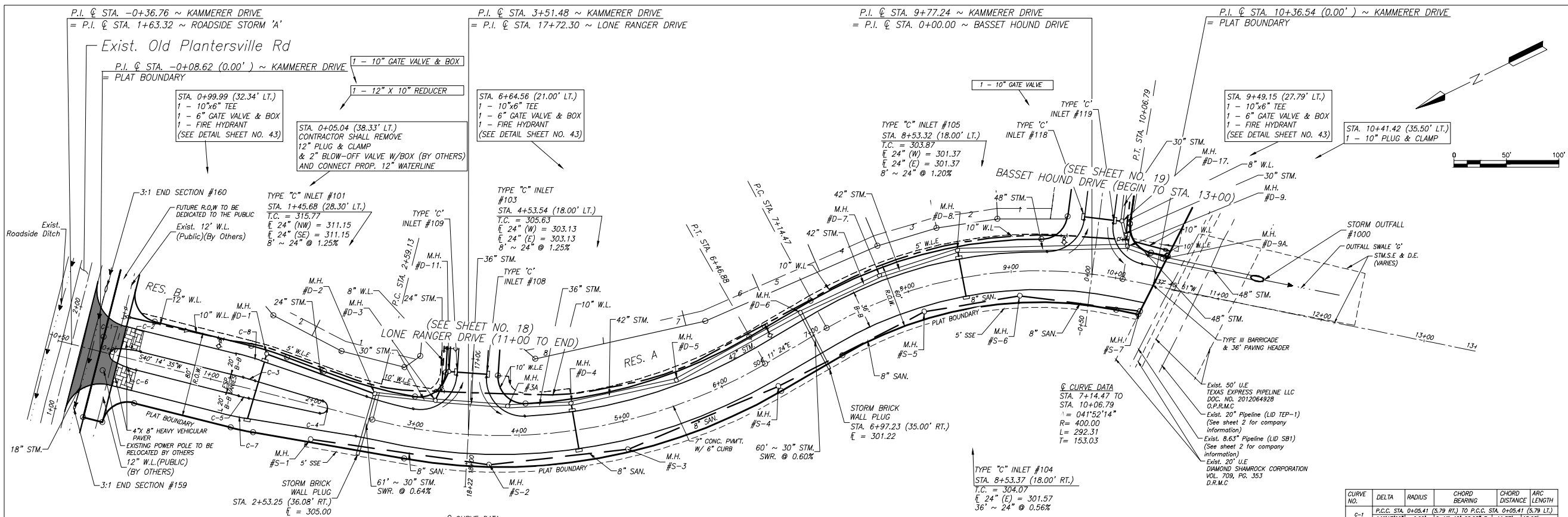
**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Phone 713.953.5200  
Suite 600 Fax 713.953.5026  
Houston, Texas 77042 FRN - F-1386  
LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB.2024  
SCALE: 1" = 50' HOR.  
1" = 5' VERT.

Date/Time : Wed, 06 Mar 2024 11:35:58am  
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REDBIRD MEADOWS PHASE 1A - 2980-0101





**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670

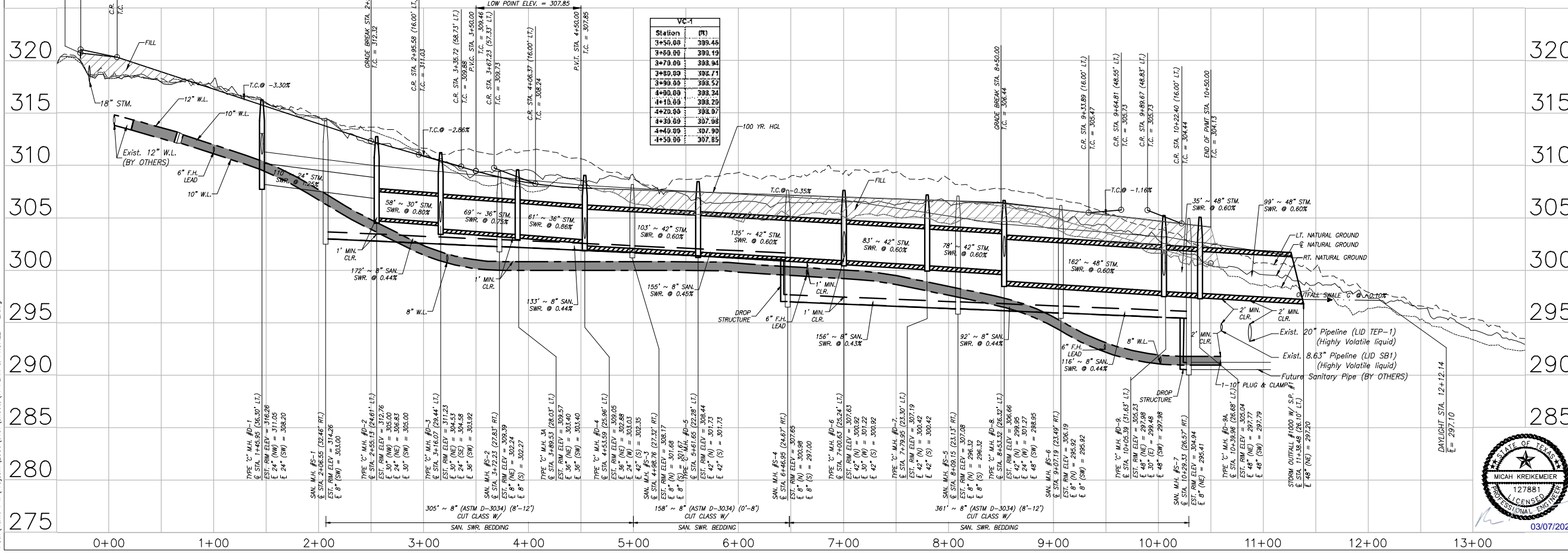
100YR. W.S.E. = 299.04' AT OUTFALL #1000  
 100YR. W.S.E. = 305.61' AT OUTFALL #1001  
 100YR. W.S.E. = 279.14' AT OUTFALL #1002  
 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005

FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
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**OUTFALL SWALE 'G'**  
 MoCo - 100 YEAR FREQUENCY

Station	Side	Slope	Drainage Area	Total Area	"C" CF	"CF"	Tc	Q Add.	Q Total	Ditch Section	FS	BS	Design Velocity	Ditch Lining		
10+00	Left	0.3%	40.18	40.18	0.55	1.25	34.16	8.97	184.20	5	3	0.04	3.30	206.38	2.98	gr. s.s.



**CURVE DATA**

CURVE NO.	DELTA	RADIUS	CHORD BEARING	CHORD DISTANCE	ARC LENGTH
C-1	P.C.C. STA. 0+05.41 (5.79 RT.) TO P.C.C. STA. 0+05.41 (5.79 LT.)	149'17.00"	S 49° 45' 25.23" E	11.57'	16.63'
C-2	P.C.C. STA. 0+29.25 (9.00 LT.) TO P.T. STA. 1+29.83 (9.00 LT.)	015'21.30"	S 32° 33' 48.47" W	24.05'	24.13'
C-3	P.C. STA. 1+29.83 (9.00 LT.) TO P.T. STA. 1+41.80 (8.73 LT.)	002'33.00"	S 41° 31' 04.81" W	11.97'	11.97'
C-4	P.C. STA. 2+08.18 (5.77 LT.) TO P.C.C. STA. 2+09.14 (6.22 RT.)	175'20.20"	N 49° 34' 04.19" W	11.99'	18.36'
C-5	P.C. STA. 1+39.88 (8.81 RT.) TO P.T. STA. 1+29.83 (9.00 RT.)	002'08.30"	N 39° 10' 19.38" E	10.06'	10.06'
C-6	P.C. STA. 0+29.25 (9.00 RT.) TO P.C.C. STA. 0+05.41 (5.79 RT.)	015'21.30"	N 47° 05' 30.78" E	24.05'	24.13'
C-7	P.C. STA. 1+17.56 (29.00 RT.) TO P.T. STA. 1+40.16 (28.11 RT.)	004'51.50"	S 37° 48' 41.74" W	24.52'	24.53'
C-8	P.C. STA. 1+17.26 (28.41 LT.) TO P.T. STA. 1+41.77 (28.62 LT.)	004'51.50"	N 42° 05' 19.96" E	24.52'	24.53'

**CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK**

DATE	REVISION	BY

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

KAMMERER DRIVE

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

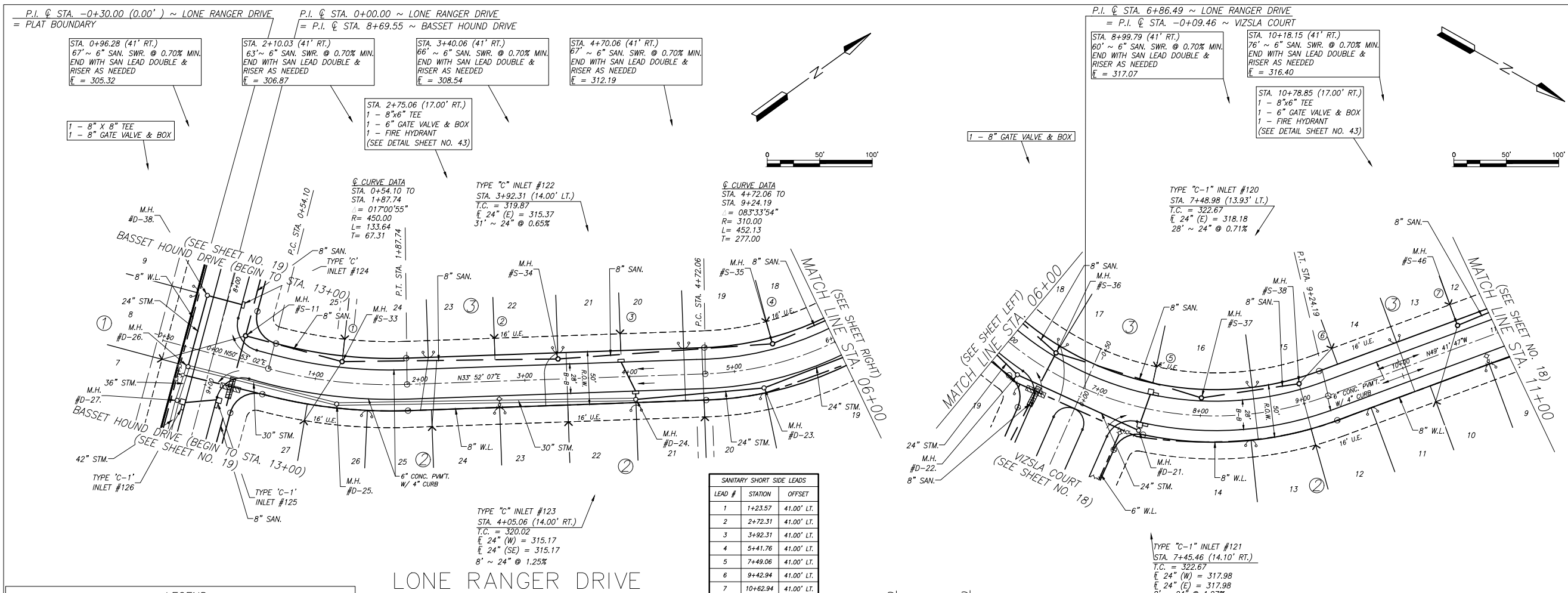
LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024

SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

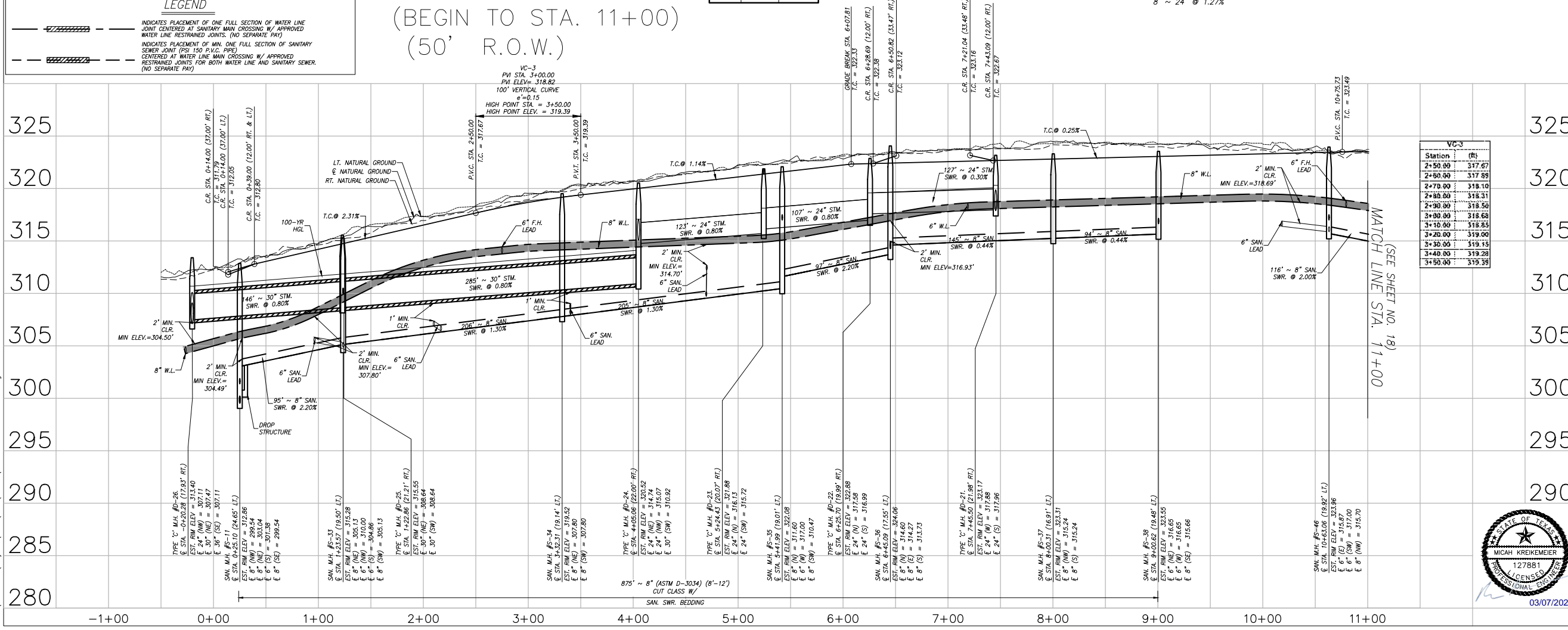
03/07/2024

SHEET NO. 16 OF 47



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT FALL #1000  
 100YR. W.S.E. = 305.61' AT FALL #1001  
 100YR. W.S.E. = 279.14' AT FALL #1002  
 100YR. W.S.E. = 279.68' AT FALL #1003  
 100YR. W.S.E. = 297.86' AT FALL #1004  
 100YR. W.S.E. = 297.42' AT FALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

LONE RANGER DRIVE (BEGIN TO STA. 11+00)

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386

LJA PROJECT NO.: 2980-0101  
 DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: 1" = 50' HOR. 1" = 5' VERT.

03/07/2024

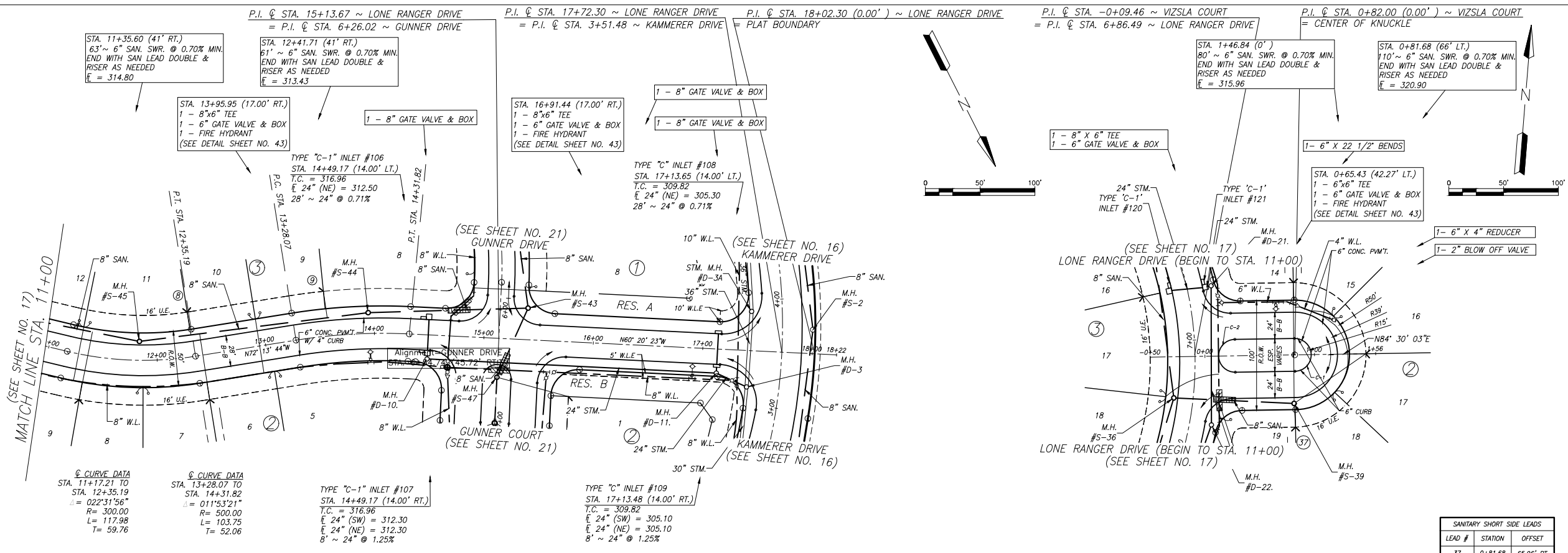
SHEET NO. 17 OF 47

Date/Time : Thu, 07 Mar 2024, 12:49pm Path Name : I:\Projects\2980\0101\Sheets\12\_Plan & Profile - 3.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101



Date: Thu, 07 Mar 2024 - 12:29pm  
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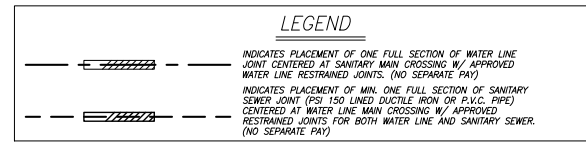
**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
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 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
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 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

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**SANITARY SHORT SIDE LEADS**

LEAD #	STATION	OFFSET
8	12+33.87	41.00' LT.
9	13+57.42	41.00' LT.

LONE RANGER DRIVE (STA 11+00 TO END) (50' R.O.W.)



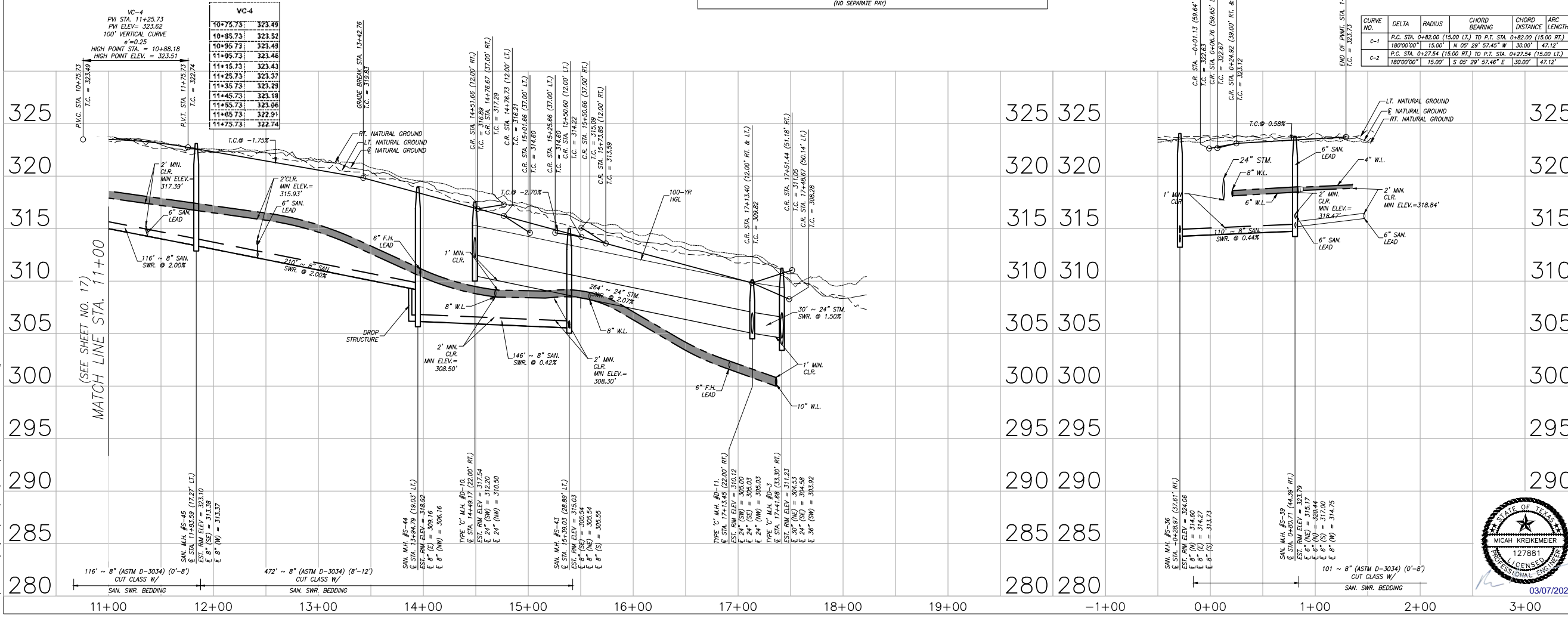
VIZSLA COURT (100' R.O.W.)

**SANITARY SHORT SIDE LEADS**

LEAD #	STATION	OFFSET
37	0+81.68	65.96' RT.

**CURVE DATA**

CURVE NO.	DELTA	RADIUS	CHORD BEARING	CHORD DISTANCE	ARC LENGTH
C-1	180°00'00"	15.00'	N 05° 29' 57.46" E	30.00'	47.12'
C-2	180°00'00"	15.00'	S 05° 29' 57.46" E	30.00'	47.12'



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

LONE RANGER DRIVE  
 (STA 11+00 TO END)  
 &  
 VIZSLA COURT

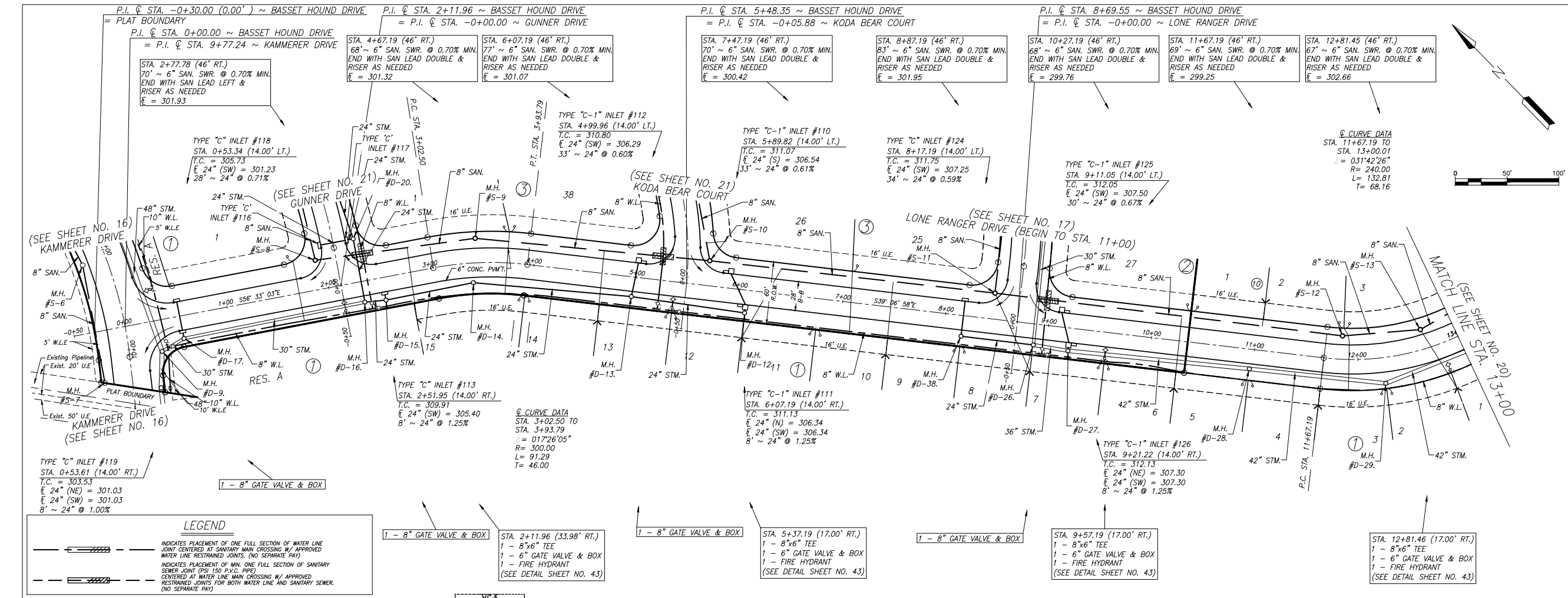


**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Suite 600  
 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026  
 FRN - F-1386

LJA PROJECT NO.: 2980-0101  
 DATE: FEB. 2024

SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

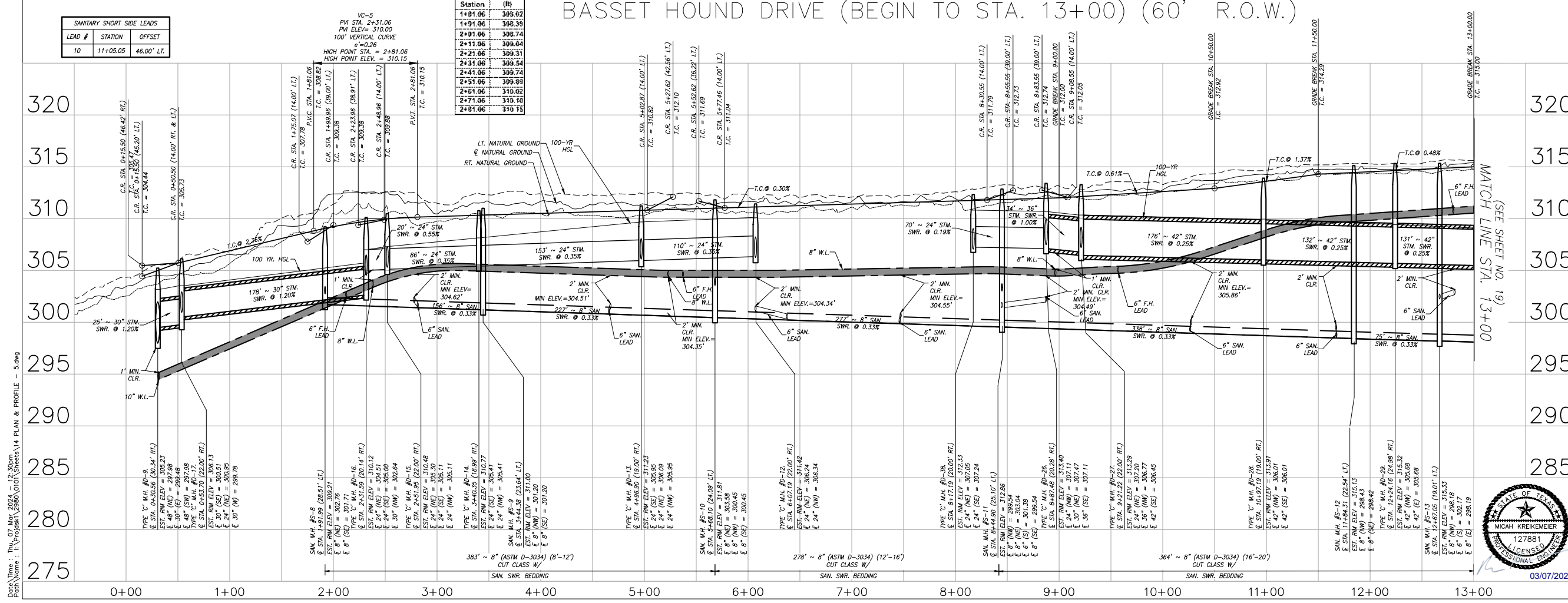
SHEET NO. 18 OF 47



**BENCHMARK:**  
 ALL ELEVATIONS SET TO N.G.S. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OUTFALL #1000  
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 100YR. W.S.E. = 279.14' AT OUTFALL #1002  
 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005

FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

**BASSET HOUND DRIVE (BEGIN TO STA. 13+00)**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB. 2024

SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

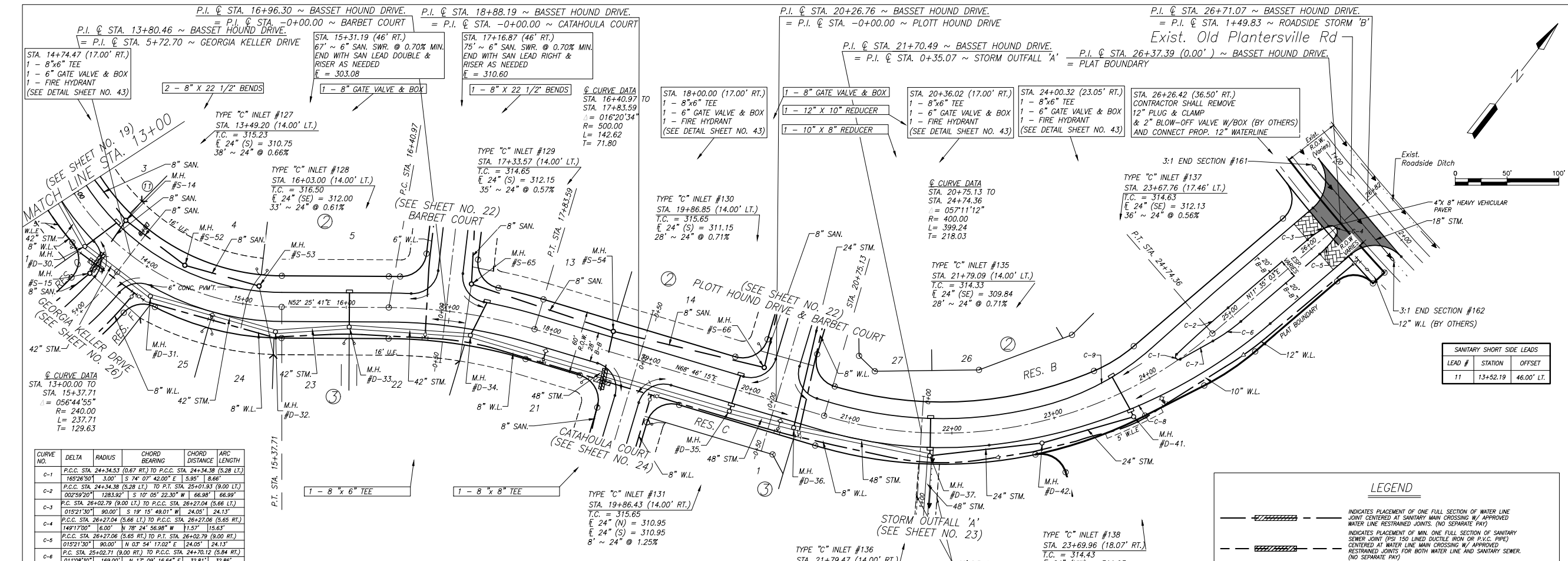
03/07/2024

SHEET NO. 19 OF 47

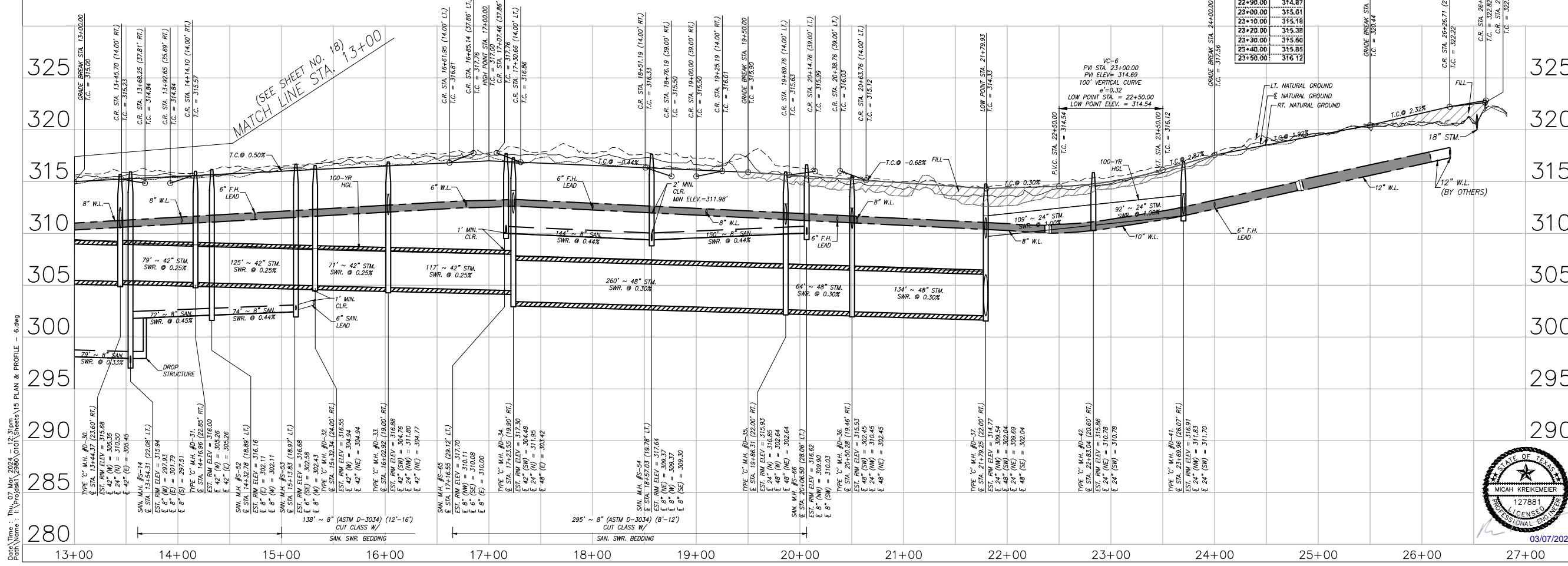
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REDBIRD MEADOWS PHASE 1A - 2980-0101





**BASSET HOUND DRIVE (13+00 TO END) (60' R.O.W.)**



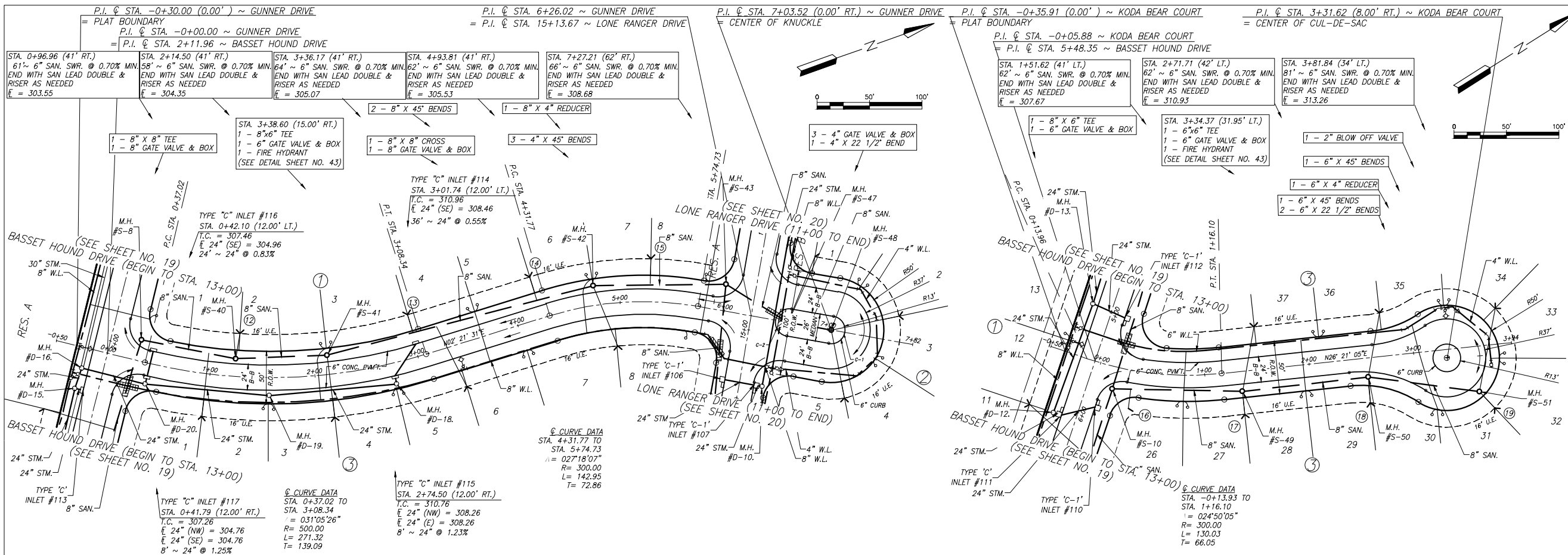
**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,502,367.4350 Y = 255,445.6670

100YR. W.S.E. = 299.04' OUTFALL #1000  
 100YR. W.S.E. = 305.61' AT OUTFALL #1001  
 100YR. W.S.E. = 279.14' AT OUTFALL #1002  
 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005

FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

**NOTES:**

- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
- 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
- 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
- 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
- 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
- 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
- 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
- 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
- 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
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 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

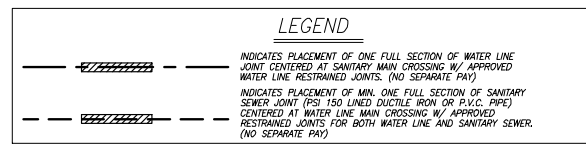
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LEAD #	STATION	OFFSET
12	1+25.91	41.01' LT.
13	3+01.90	41.00' LT.
14	4+24.30	41.00' LT.
15	5+28.48	41.00' LT.
16	6+76.02	66.00' LT.
20	7+64.83	24.42' LT.

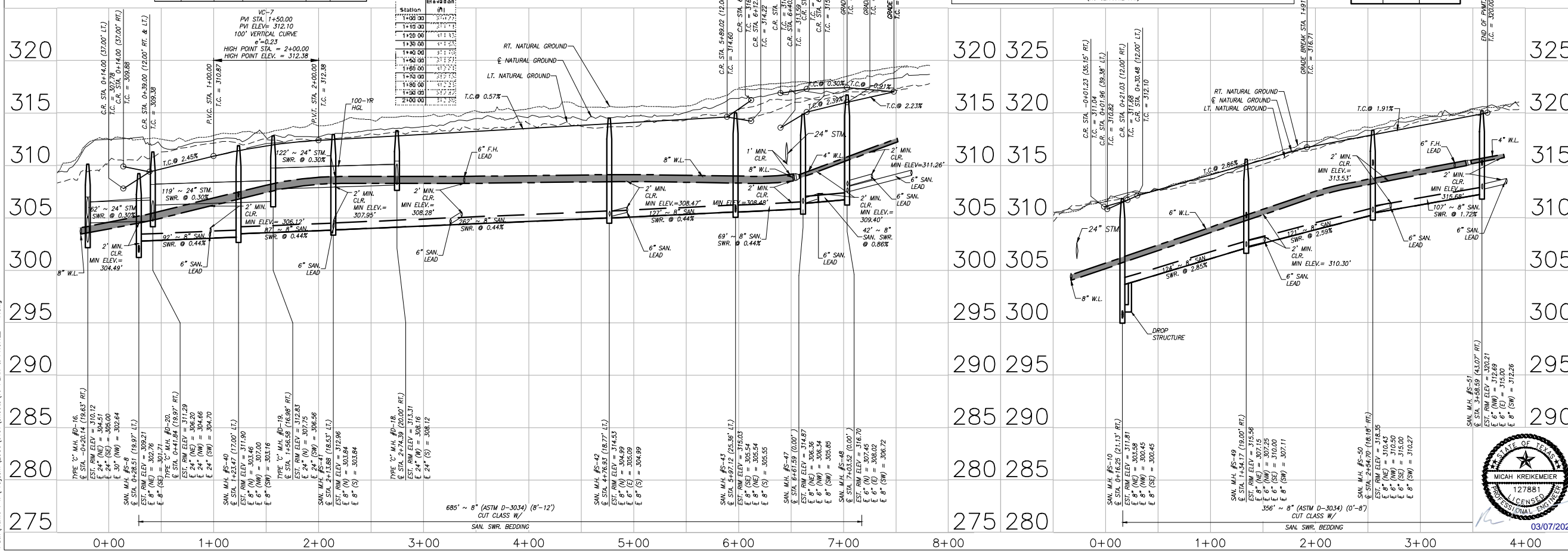
CURVE NO.	DELTA	RADIUS	CHORD BEARING	CHORD DISTANCE	ARC LENGTH
C-1	P.C. STA. 7+03.52 (13.00' RT.) TO P.T. STA. 7+03.52 (13.00' LT.)	1800000'	N 60° 20' 22.77" W 26.00'	40.84'	40.84'
C-2	P.C. STA. 6+61.02 (13.00' LT.) TO P.T. STA. 6+61.02 (13.00' RT.)	1800000'	S 60° 20' 24.38" E 26.00'	40.84'	40.84'

**GUNNER DRIVE & GUNNER COURT (50' R.O.W.)**

**KODA BEAR COURT (50' R.O.W.)**



SANITARY SHORT SIDE LEADS		
LEAD #	STATION	OFFSET
16	0+33.26	36.30' RT.
17	1+34.17	41.00' RT.
18	2+54.17	42.72' RT.
19	3+71.42	60.27' RT.



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

**GUNNER DRIVE & GUNNER COURT & KODA BEAR COURT**

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386  
 LJA PROJECT NO.: 2980-0101  
 DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

**MICHAEL KREIKEMEIER**  
 127881  
 LICENSED PROFESSIONAL ENGINEER

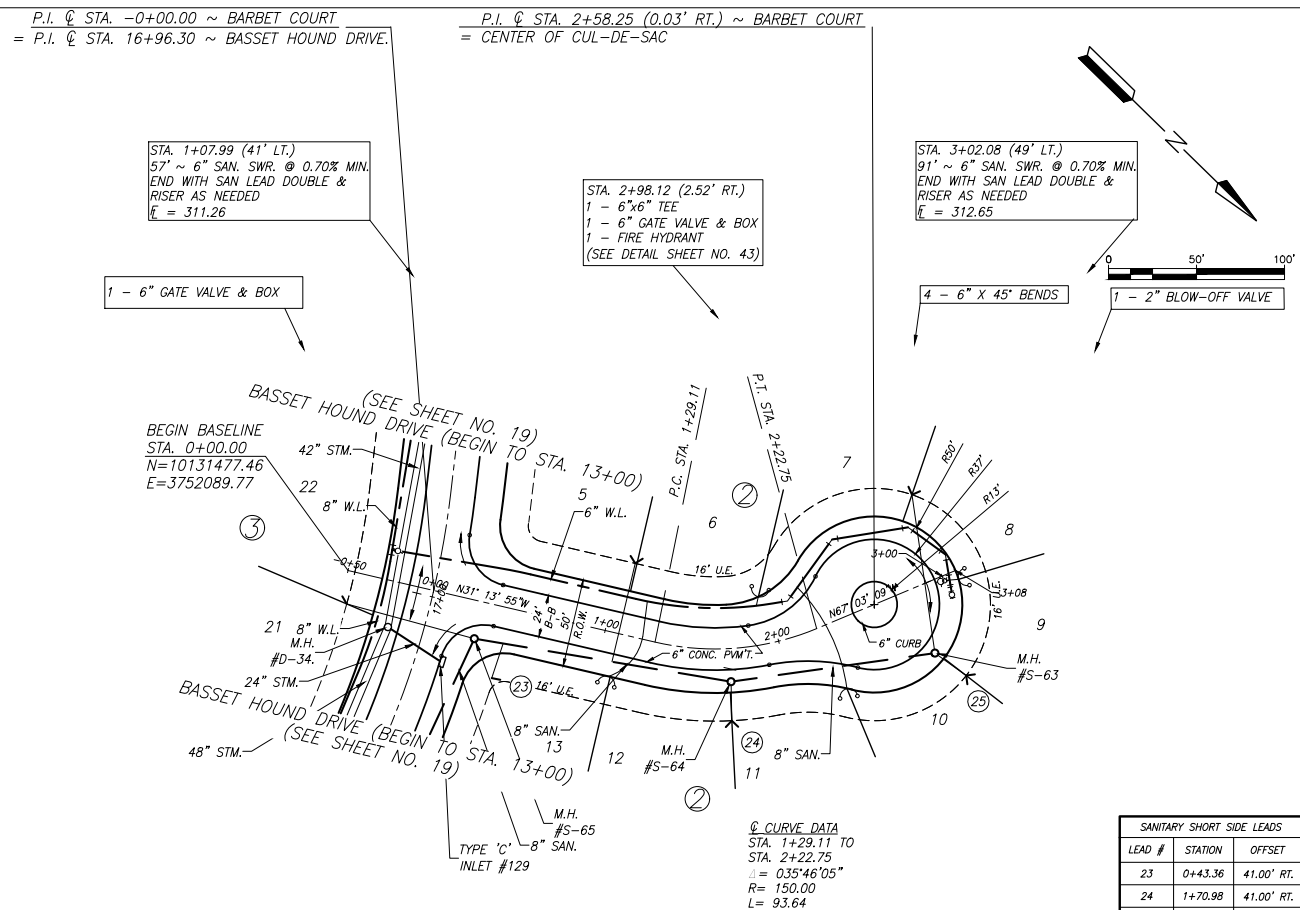
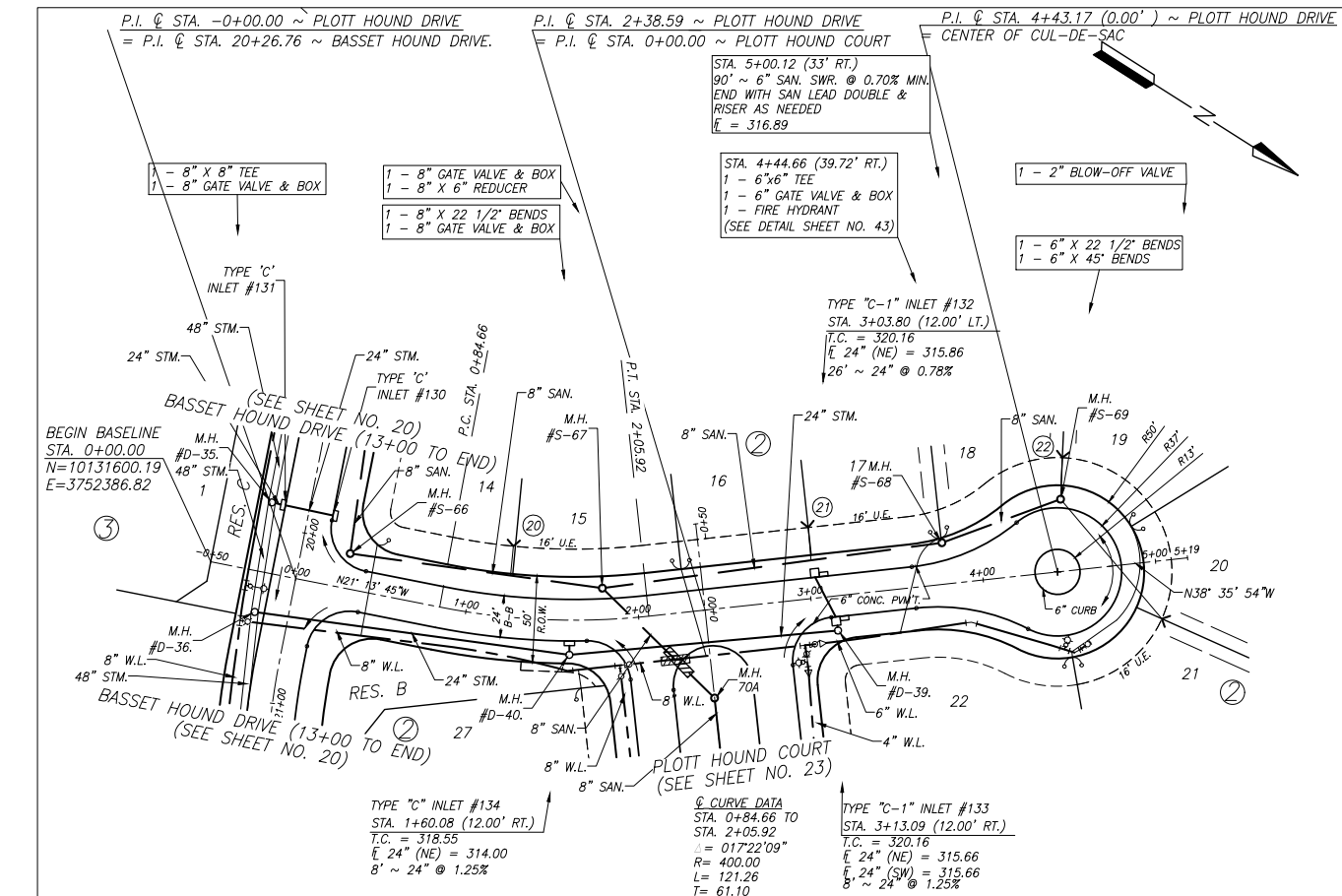
03/07/2024

SHEET NO. 21 OF 47

Date/Time : Thu, 07 Mar 2024 - 2:58pm  
 Path Name : I:\Projects\2980\0101\Sheets\16 PLAN & PROFILE - 7.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101





**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670

100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
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 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
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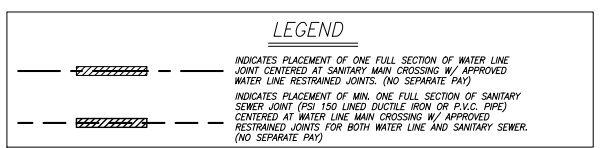
FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

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  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB

SANITARY SHORT SIDE LEADS		
LEAD #	STATION	OFFSET
23	0+43.36	41.00' RT.
24	1+70.98	41.00' RT.
25	2+90.86	57.40' RT.

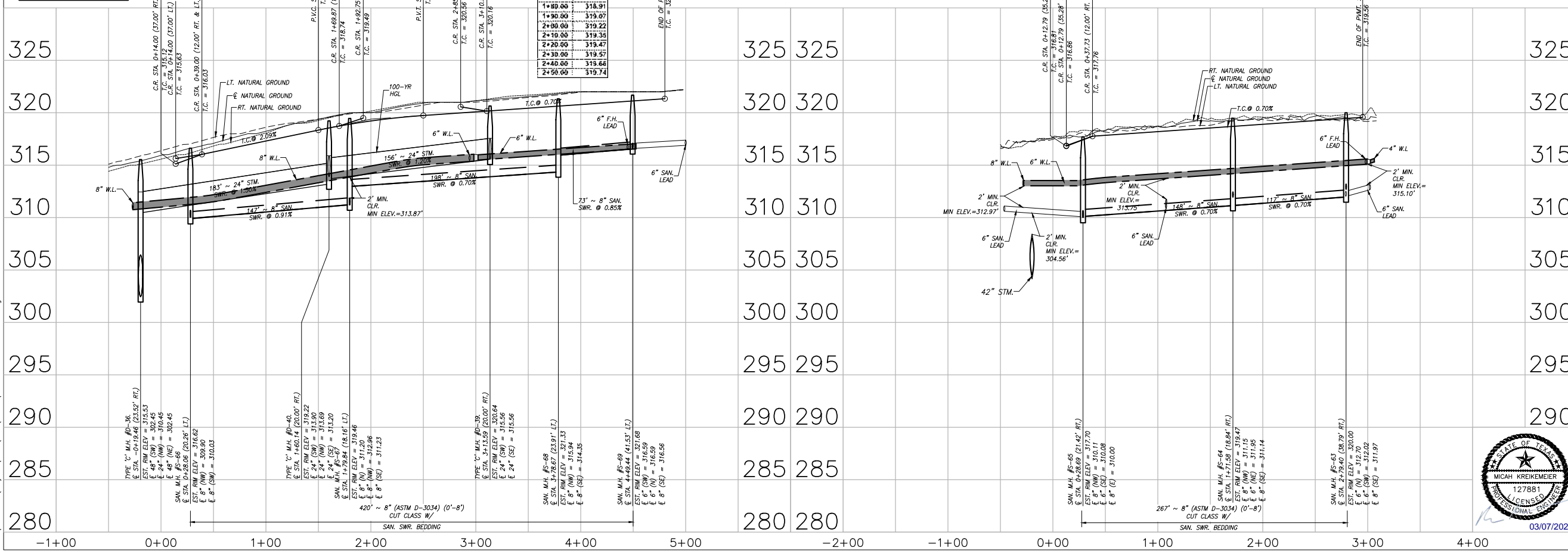
**PLOTT HOUND DRIVE (50' R.O.W.)**

**BARBET COURT (50' R.O.W.)**



SANITARY SHORT SIDE LEADS		
LEAD #	STATION	OFFSET
20	1+23.60	41.00' LT.
21	3+02.90	41.00' LT.
22	4+53.03	65.26' LT.

VC-8	
Station	(ft)
1+50.00	318.35
1+60.00	318.55
1+70.00	318.74
1+80.00	318.91
1+90.00	319.07
2+00.00	319.22
2+10.00	319.35
2+20.00	319.47
2+30.00	319.57
2+40.00	319.66
2+50.00	319.74



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

PLOTT HOUND DRIVE & BARBET COURT

**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DATE: FEB. 2024

SCALE: 1" = 50' HOR. 1" = 5' VERT.

SHEET NO. 22 OF 47

Date/Time : Thu, 07 Mar 2024 - 12:35pm Path Name : I:\Projects\2980\0101\Sheets\17 PLAN & PROFILE - B.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101





P.I. @ STA. -0+00.00 ~ CATAHOULA COURT  
 = P.I. @ STA. 18+88.19 ~ BASSET HOUND DRIVE.

STA. 1+20.00 (41' LT.)  
 61' ~ 6" SAN. SWR. @ 0.70% MIN.  
 END WITH SAN LEAD DOUBLE &  
 RISER AS NEEDED  
 E = 306.71

STA. 2+50.82 (41' LT.)  
 68' ~ 6" SAN. SWR. @ 0.70% MIN.  
 END WITH SAN LEAD DOUBLE &  
 RISER AS NEEDED  
 E = 302.00

STA. 3+75.72 (14.98' LT.)  
 1 - 8"x6" TEE  
 1 - 6" GATE VALVE & BOX  
 1 - FIRE HYDRANT  
 (SEE DETAIL SHEET NO. 43)

STA. 3+73.08 (41' LT.)  
 66' ~ 6" SAN. SWR. @ 0.70% MIN.  
 END WITH SAN LEAD DOUBLE &  
 RISER AS NEEDED  
 E = 300.83

P.I. @ STA. 7+35.92 ~ CATAHOULA COURT  
 = P.I. @ STA. 0+00.00 ~ STORM OUTFALL 'C'

P.I. @ STA. 7+49.46 (0.00' RT.) ~ CATAHOULA COURT  
 = CENTER OF CUL-DE-SAC

STA. 6+49.78 (41' LT.)  
 83' ~ 6" SAN. SWR. @ 0.70% MIN.  
 END WITH SAN LEAD DOUBLE &  
 RISER AS NEEDED  
 E = 299.85

STA. 7+20.57 (29.45' LT.)  
 1 - 6"x6" TEE  
 1 - 6" GATE VALVE & BOX  
 1 - FIRE HYDRANT  
 (SEE DETAIL SHEET NO. 43)

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
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 100YR. W.S.E. = 305.61' AT OUTFALL #1001  
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 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
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 FIRM PANEL NO. 48339C0200G & 48339C0350G  
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1 - 8" GATE VALVE & BOX

**③ CURVE DATA**  
 STA. 2+32.58 TO  
 STA. 3+29.15  
 Δ = 069°10'05"  
 R = 80.00  
 L = 96.58  
 T = 55.16

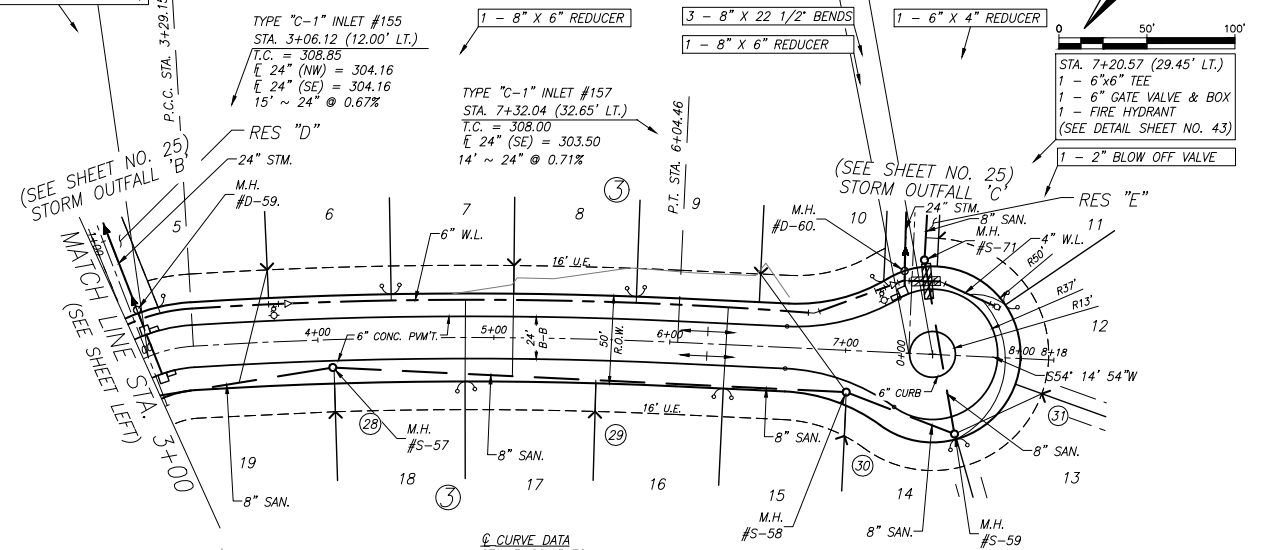
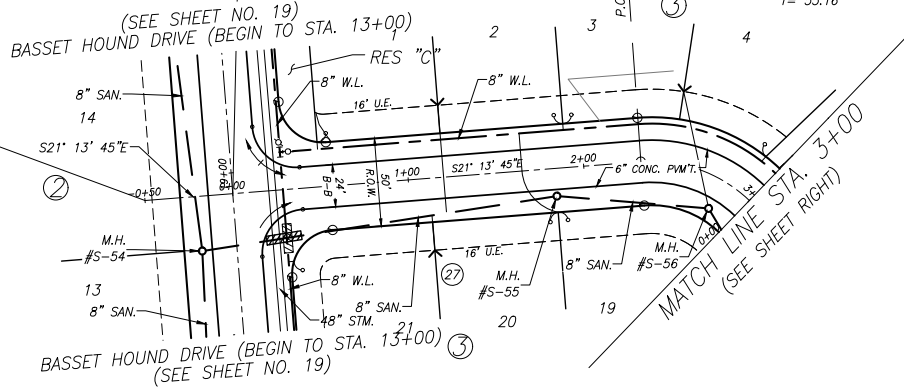
BEGIN BASELINE  
 STA. 0+00.00  
 N = 10131643.23  
 E = 3752221.44

LEAD #	STATION	OFFSET
27	1+11.96	41.00' RT.
28	4+08.69	41.00' RT.
29	5+58.70	41.00' RT.
30	7+01.58	48.66' RT.
31	8+12.54	19.40' RT.

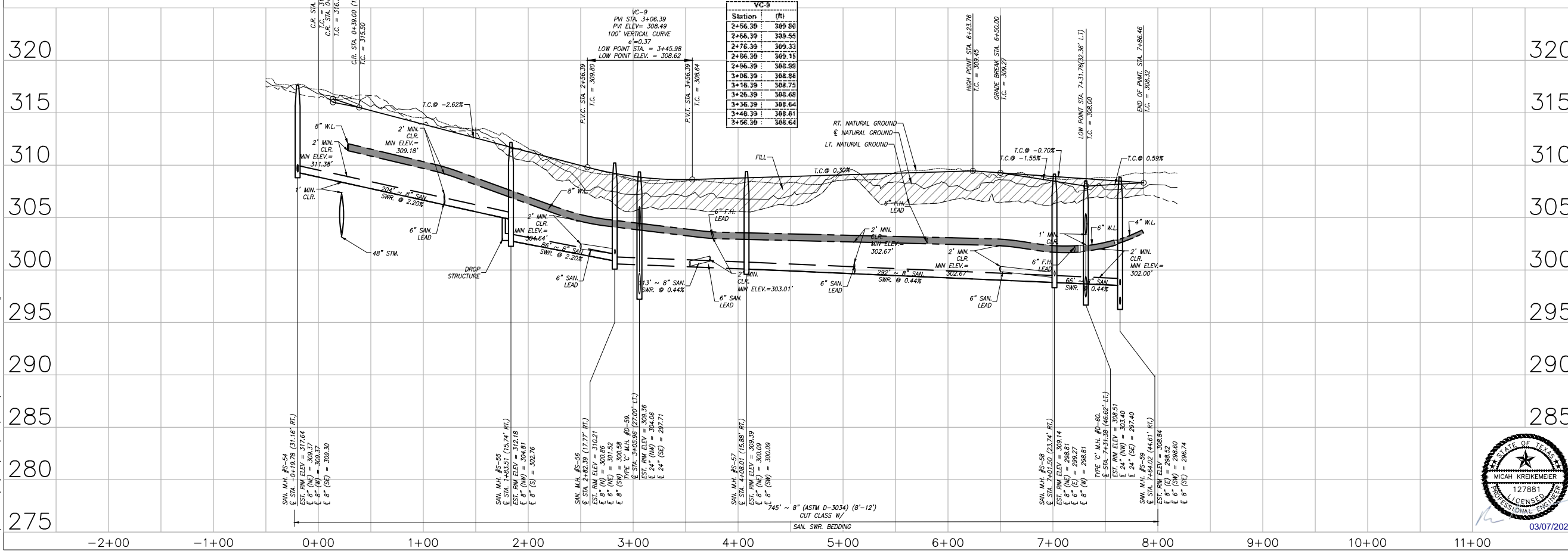
**LEGEND**

INDICATES PLACEMENT OF ONE FULL SECTION OF WATER LINE JOINT CENTERED AT SANITARY MAIN CROSSING W/ APPROVED WATER LINE RESTRAINED JOINTS. (NO SEPARATE PAY)

INDICATES PLACEMENT OF MIN. ONE FULL SECTION OF SANITARY SEWER JOINT (PSI 150 LINED DUCTILE IRON OR P.V.C. PIPE) CENTERED AT WATER LINE MAIN CROSSING W/ APPROVED RESTRAINED JOINTS FOR BOTH WATER LINE AND SANITARY SEWER. (NO SEPARATE PAY)



CATAHOULA COURT (50' R.O.W.)



Station (RT)	Elevation
2+56.39	309.80
2+66.39	309.55
2+76.39	309.33
2+86.39	309.15
2+96.39	308.98
3+06.39	308.86
3+16.39	308.75
3+26.39	308.68
3+36.39	308.64
3+46.39	308.61
3+56.39	308.64

DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

CATAHOULA COURT

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Suite 600  
 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026  
 FRN - F-1386

LJA PROJECT NO.: 2980-0101



DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: 1" = 50' HOR. 1" = 5' VERT.  
 SHEET NO. 24 OF 47

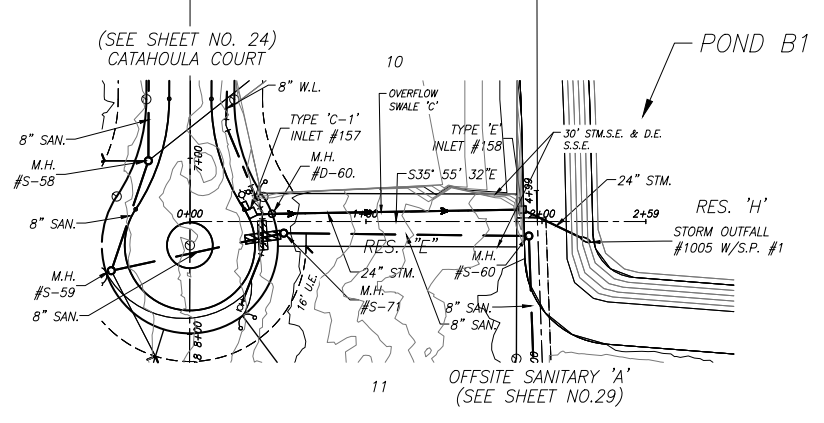
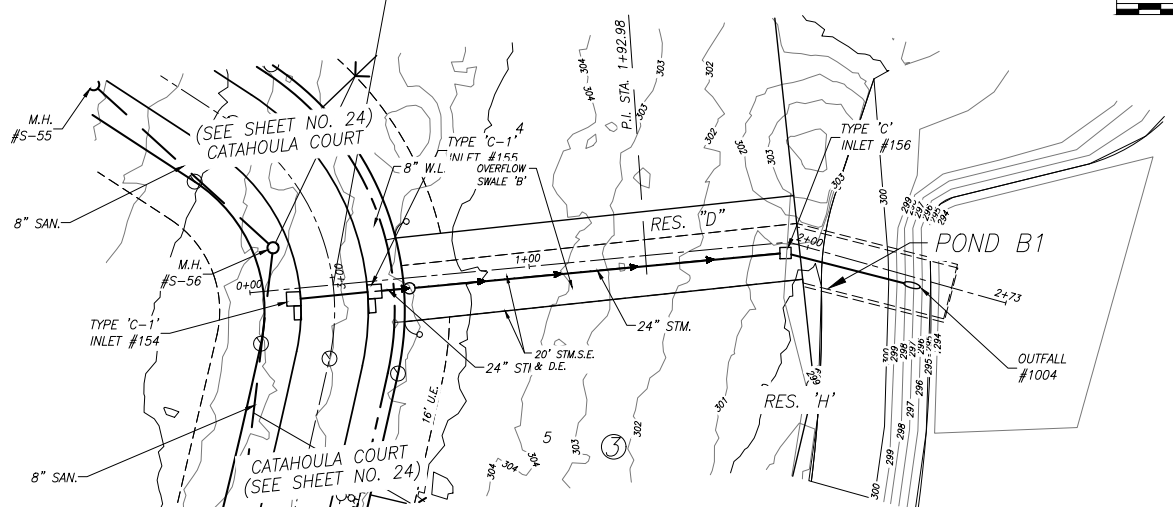
Date/Time : Thu, 07 Mar 2024 - 12:34pm Path : I:\Projects\2980\0101\Sheets\19 PLAN & PROFILE - 10.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101

P.I. @ STA. 0+29.81 ~ STORM OUTFALL 'B'  
 = P.I. @ STA. 3+02.71 ~ CATAHOULA COURT

P.I. @ STA. 0+00.00 ~ STORM OUTFALL 'C'  
 = P.I. @ STA. 7+35.92 ~ CATAHOULA COURT

P.I. @ STA. 1+97.40 ~ STORM OUTFALL 'C'  
 = P.I. @ STA. 4+80.99 ~ OFFSITE SANITARY 'A'



Project: Red Bird Phase 1A  
 Job No.: 2980-0101  
 System: OVERFLOW SWALE 'B'  
 By: T.C.M. Date:  
 Checked By: Date:

Design Storm = 100 yr  
 b = 1.00  
 d = 4.41  
 e = 0.4981

Project: Red Bird Phase 1A  
 Job No.: 2980-0101  
 System: OVERFLOW SWALE 'C'  
 By: T.C.M. Date:  
 Checked By: Date:

Design Storm = 100 yr  
 b = 1.00  
 d = 4.41  
 e = 0.4981

Overflow Swale "OVERFLOW SWALE 'B'"  
 MoCo - 100 YEAR FREQUENCY

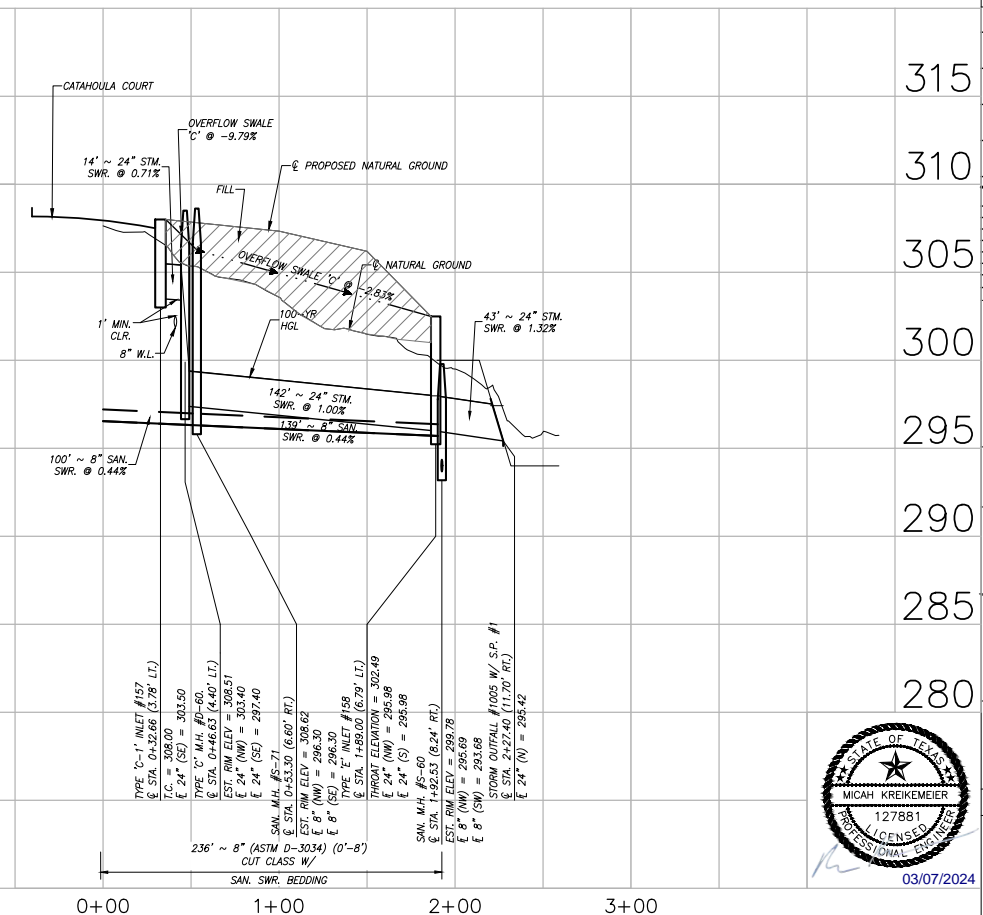
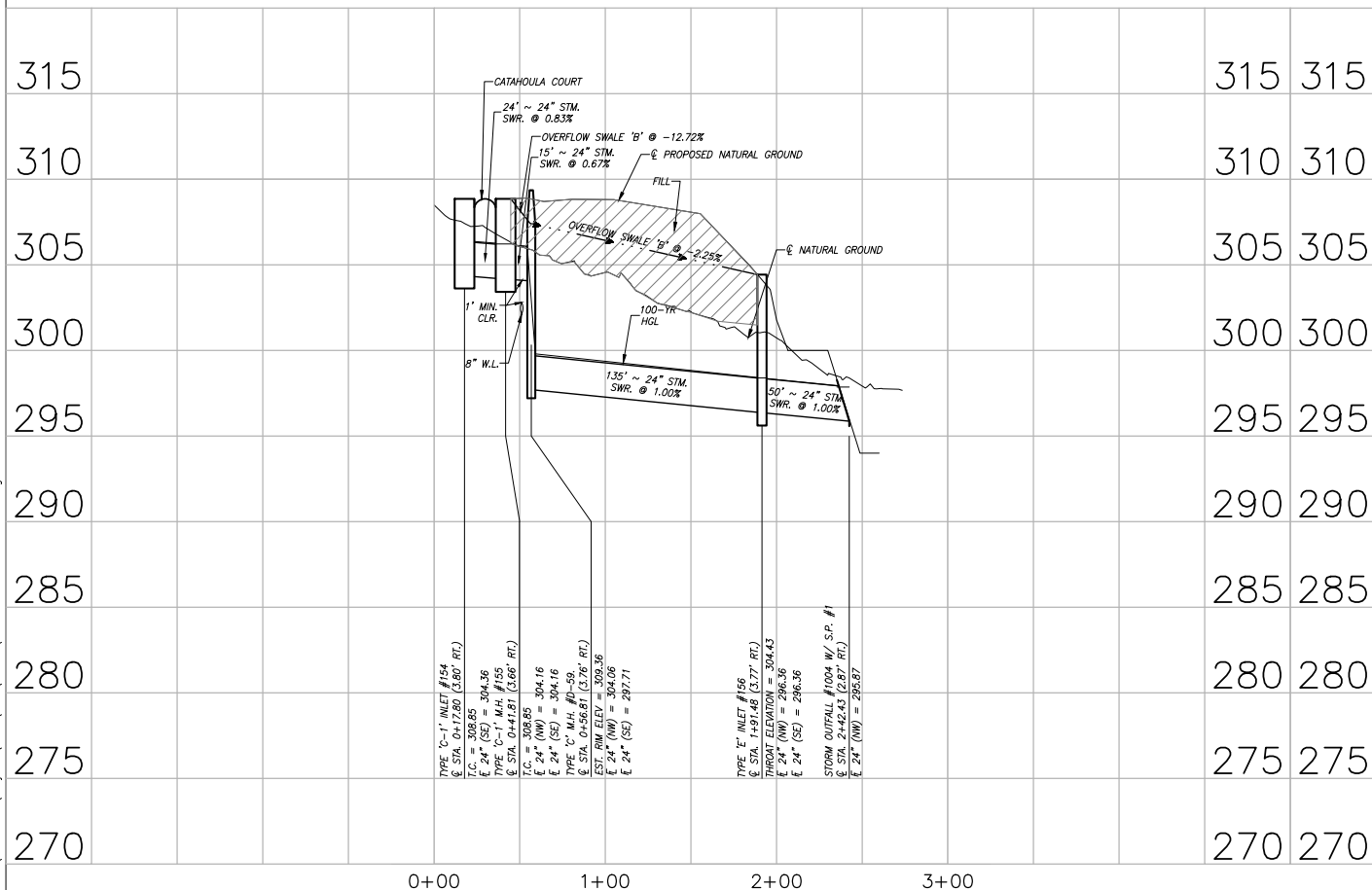
x	y	Side	Slope	Drainage Area	"C"	"CF"	Tc	Q 100 YR	Q 5 YR	Q DELTA	Ditch Section	Design Velocity	Ditch Lining
(ft)	(ft)		(%)	(sq ft)	(ft)	(ft)	(min)	(cfs)	(cfs)	(cfs)	FS BW BS "n" "d"	(c.f.s.) (fps)	
0+11.81	1+31.48	Overflow	2.2%	4.83	4.95	3.55	1.25	28.08	7.37	23.27	10.82	12.49	3 3 3 0.04 2.00 130.32 0.61 grass

Overflow Swale "OVERFLOW SWALE 'C'"  
 MoCo - 100 YEAR FREQUENCY

x	y	Side	Slope	Drainage Area	"C"	"CF"	Tc	Q 100 YR	Q 5 YR	Q DELTA	Ditch Section	Design Velocity	Ditch Lining
(ft)	(ft)		(%)	(sq ft)	(ft)	(ft)	(min)	(cfs)	(cfs)	(cfs)	FS BW BS "n" "d"	(c.f.s.) (fps)	
0+32.66	1+99.00	Overflow	2.8%	2.45	2.45	3.95	1.25	26.71	7.59	12.73	10.94	6.83	3 3 3 0 3 0.04 2.99 105.30 0.43 grass

STORM OUTFALL 'B'

STORM OUTFALL 'C'



**BENCHMARK:**  
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CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

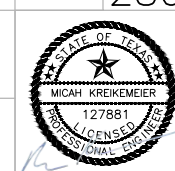
CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

STORM OUTFALL 'B'  
 &  
 STORM OUTFALL 'C'

LJA Engineering, Inc. 127881  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386  
 LJA PROJECT NO.: 2980-0101  
 DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: 1" = 50' HOR.  
 1" = 5' VERT.



Date/Time: Thu, 07 Mar 2024 - 12:35pm  
 Path: I:\Projects\2980\0101\Sheets\20 PLAN & PROFILE - 11.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101

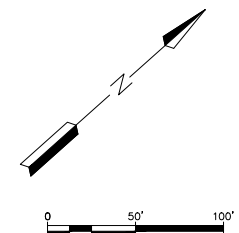


P.I. @ STA. -0+07.58 (0.00') ~ GEORGIA KELLER DRIVE  
= PLAT BOUNDARY

P.I. @ STA. 0+37.61 ~ GEORGIA KELLER DRIVE  
= P.I. @ STA. 0+00.45 ~ BRITANNY WAY

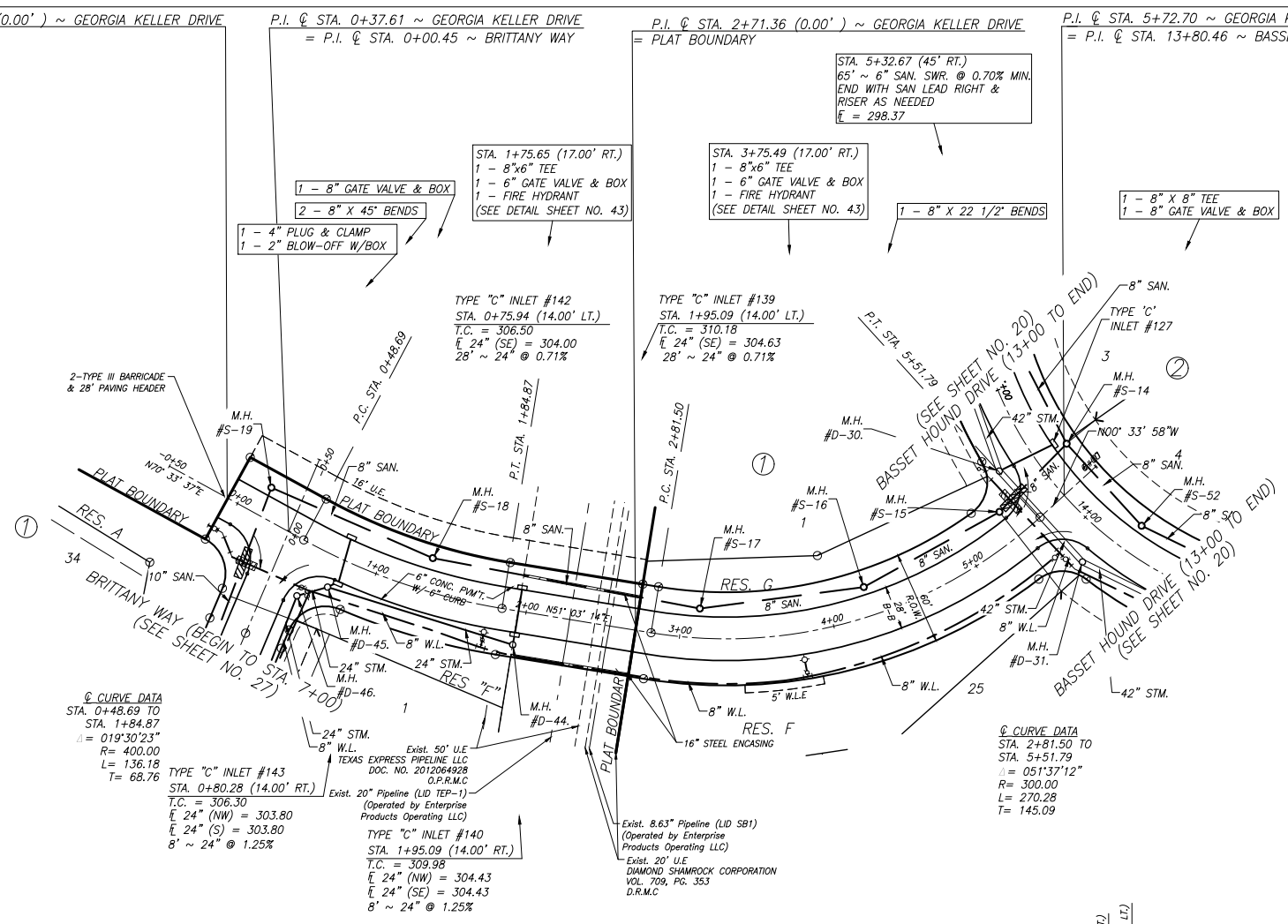
P.I. @ STA. 2+71.36 (0.00') ~ GEORGIA KELLER DRIVE  
= PLAT BOUNDARY

P.I. @ STA. 5+72.70 ~ GEORGIA KELLER DRIVE  
= P.I. @ STA. 13+80.46 ~ BASSET HOUND DRIVE.



**BENCHMARK:**  
ALL ELEVATIONS SET TO NGS. NAVD 88.  
MONUMENT DESIGNATION ELEV. 190.963  
BRASS DISC SET IN CONCRETE LOCATED BY  
COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
100YR. W.S.E. = 299.04' AT FALL #1000  
100YR. W.S.E. = 305.61' AT FALL #1001  
100YR. W.S.E. = 279.14' AT FALL #1002  
100YR. W.S.E. = 279.68' AT FALL #1003  
100YR. W.S.E. = 297.86' AT FALL #1004  
100YR. W.S.E. = 297.42' AT FALL #1005  
FIRM PANEL NO. 48339C0200G & 48339C0350G  
EFFECTIVE DATE: AUGUST 18, 2014  
THIS AREA LIES IN ZONE "X".

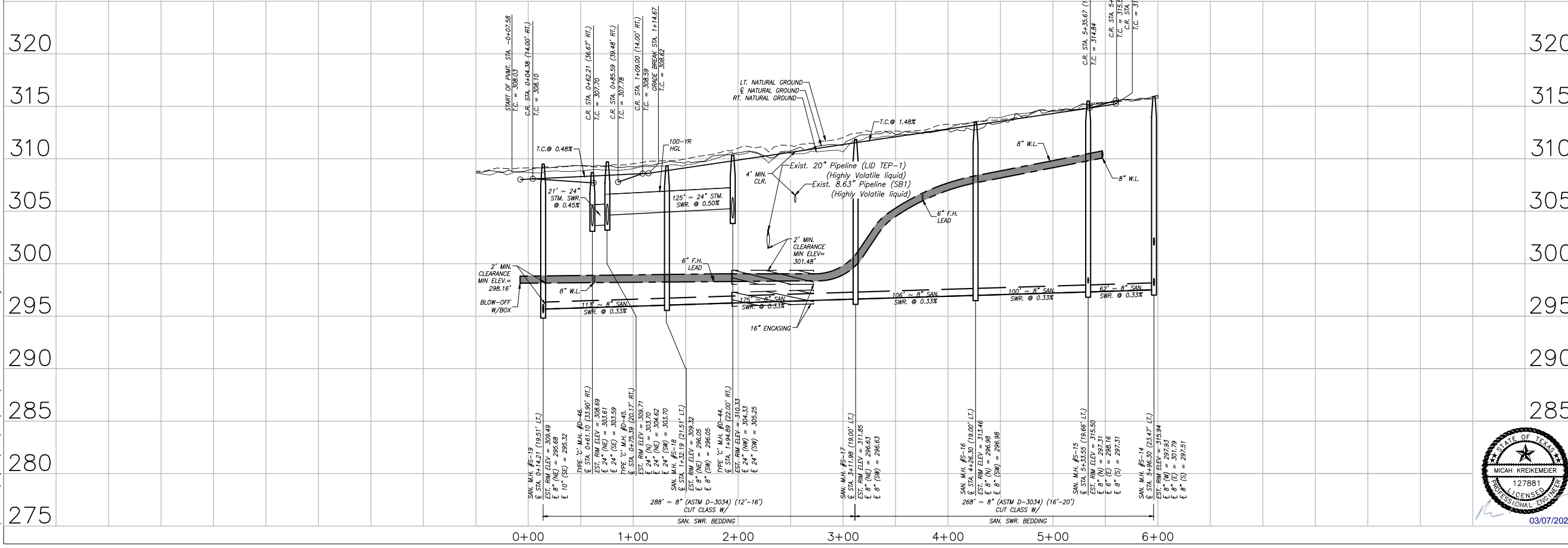
- NOTES:**
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  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
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  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



**LEGEND**

- INDICATES PLACEMENT OF ONE FULL SECTION OF WATER LINE JOINT CENTERED AT SANITARY MAIN CROSSING W/ APPROVED WATER LINE RESTRAINED JOINTS. (NO SEPARATE PAY)
- INDICATES PLACEMENT OF MIN. ONE FULL SECTION OF SANITARY SEWER JOINT (FSI 150 LINED DUCTILE IRON OR P.V.C. PIPE) CENTERED AT WATER LINE MAIN CROSSING W/ APPROVED RESTRAINED JOINTS FOR BOTH WATER LINE AND SANITARY SEWER. (NO SEPARATE PAY)

GEORGIA KELLER DRIVE (60' R.O.W.)



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

GEORGIA KELLER DRIVE

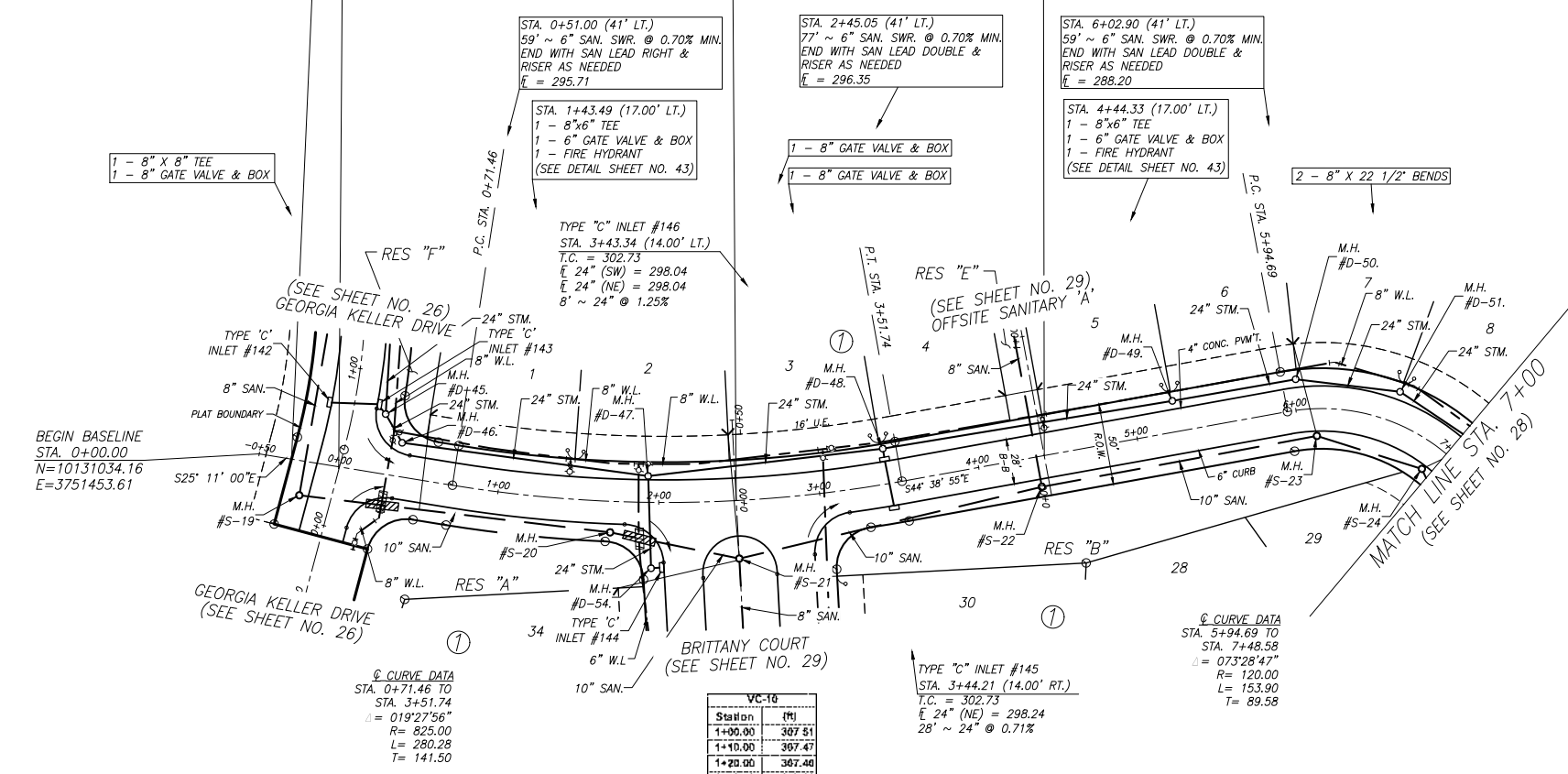


**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042  
Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386  
LJA PROJECT NO.: 2980-0101  
DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB. 2024  
SCALE: 1" = 50' HOR. 1" = 5' VERT.  
SHEET NO. 26 OF 47

Date/Time : Thu, 07 Mar 2024 - 12:36pm  
Path : I:\Projects\2980\0101\Sheets\21 PLAN & PROFILE - 12.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101

P.I. @ STA. -0+29.70 (0.00') ~ BRITANNY WAY = PLAT BOUNDARY  
 P.I. @ STA. -0+00.06 ~ BRITANNY WAY = P.I. @ STA. 0+37.60 ~ GEORGIA KELLER DRIVE  
 P.I. @ STA. 2+48.09 ~ BRITANNY WAY = P.I. @ STA. 0+00.00 ~ BRITANNY COURT  
 P.I. @ STA. 4+41.35 ~ BRITANNY WAY = P.I. @ STA. 0+25.00 ~ OFFSITE SANITARY 'A'



VC-10

Station (ft)	Elevation (ft)
1+00.00	307.51
1+10.00	307.47
1+20.00	307.40
1+30.00	307.33
1+40.00	307.22
1+50.00	307.69
1+60.00	306.95
1+70.00	306.78
1+80.00	306.56
1+90.00	306.39
2+00.00	306.16

VC-10  
 PVI STA. 1+50.00  
 PVI ELEV. = 307.35  
 100' VERTICAL CURVE  
 e = -0.26  
 HIGH POINT STA. = 1+00.00  
 HIGH POINT ELEV. = 307.51

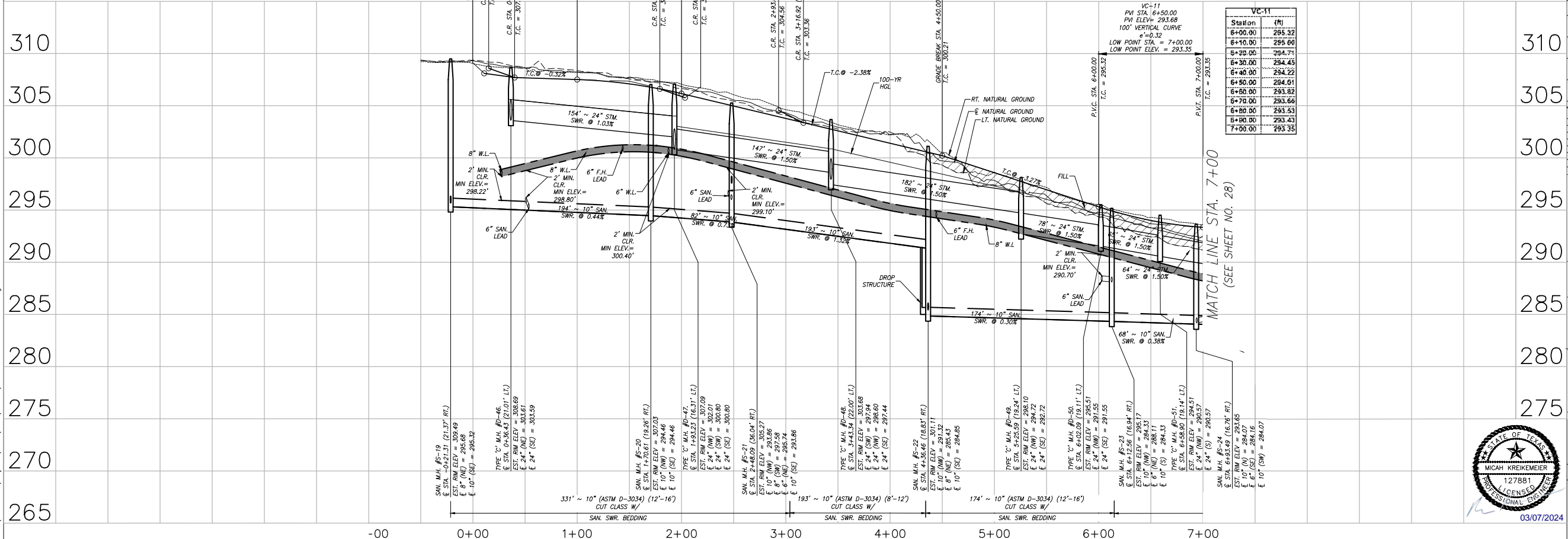
© CURVE DATA  
 STA. 5+94.69 TO STA. 7+48.58  
 Δ = 073°28'47"  
 R = 120.00  
 L = 153.90  
 T = 89.58

BRITANNY WAY (BEGIN TO STA. 7+00) (50' R.O.W.)

**LEGEND**

INDICATES PLACEMENT OF ONE FULL SECTION OF WATER LINE JOINT CENTERED AT SANITARY MAN CROSSING W/ APPROVED WATER LINE RESTRAINED JOINTS. (NO SEPARATE PAY)

INDICATES PLACEMENT OF MIN. ONE FULL SECTION OF SANITARY SEWER JOINT (P50 LINED DUCTILE IRON OR P.V.C. PIPE) CENTERED AT WATER LINE MAIN CROSSING W/ APPROVED RESTRAINED JOINTS FOR BOTH WATER LINE AND SANITARY SEWER. (NO SEPARATE PAY)



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
 100YR. W.S.E. = 279.14' AT OFFFALL #1002  
 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
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  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

BRITANNY WAY (BEGIN TO STA. 7+00)

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386  
 LJA PROJECT NO.: 2980-0101



DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

Date/Time : Thu, 07 Mar 2024 - 12:36pm Path Name : I:\Projects\2980\0101\Sheets\22\_Plan & Profile - 13.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101



P.I. @ STA. 7+95.74 ~ BRITANNY WAY  
= P.I. @ STA. 0+20.83 ~ STORM OUTFALL 'D'

P.I. @ STA. 8+99.21 ~ BRITANNY WAY  
= P.I. @ STA. -0+00.00 ~ CHESAPEAKE COURT

P.I. @ STA. 14+55.70 ~ BRITANNY WAY  
= P.I. @ STA. 0+07.82 ~ STORM OUTFALL 'E'

P.I. @ STA. 14+79.45 (0.00' RT.) ~ BRITANNY WAY  
= CENTER OF CUL-DE-SAC

STA. 7+14.88 (41' LT.)  
62' ~ 6" SAN. SWR. @ 0.70% MIN.  
END WITH SAN LEAD DOUBLE &  
RISER AS NEEDED  
E = 284.63

STA. 7+80.65 (17.00' LT.)  
1 - 8"x6" TEE  
1 - 6" GATE VALVE & BOX  
1 - FIRE HYDRANT  
(SEE DETAIL SHEET NO. 43)

STA. 8+80.71 (41' LT.)  
76' ~ 6" SAN. SWR. @ 0.70% MIN.  
END WITH SAN LEAD DOUBLE &  
RISER AS NEEDED  
E = 284.09

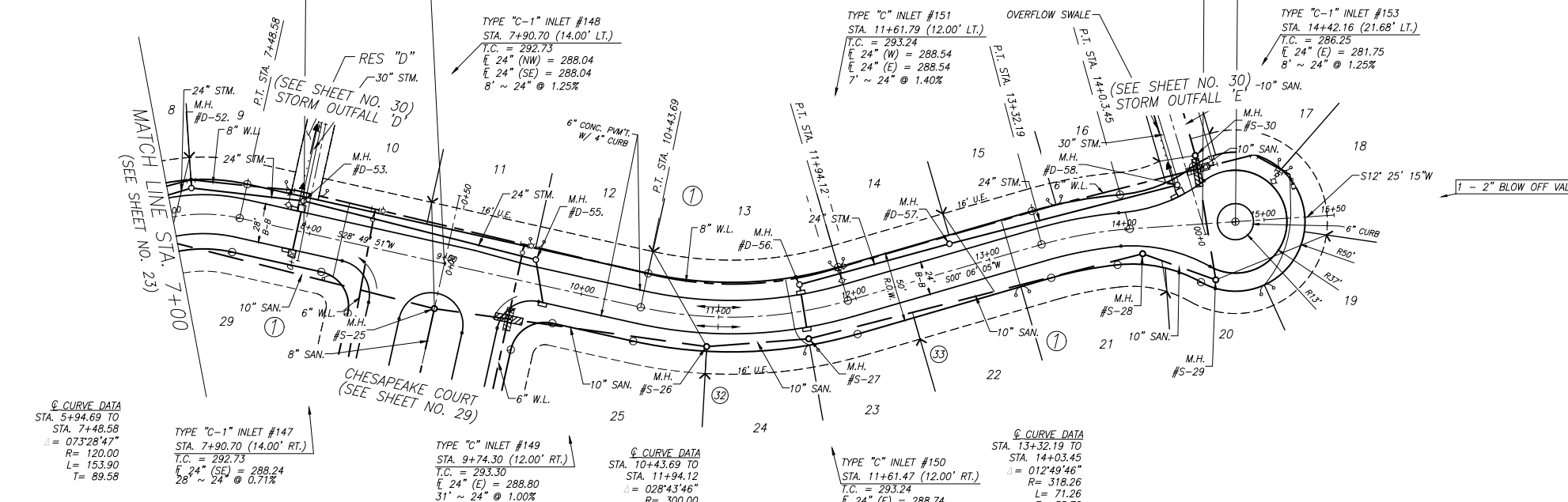
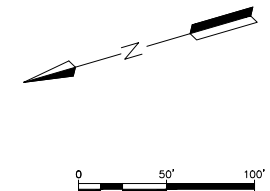
STA. 10+43.73 (41' LT.)  
78' ~ 6" SAN. SWR. @ 0.70% MIN.  
END WITH SAN LEAD DOUBLE &  
RISER AS NEEDED  
E = 284.57

STA. 11+94.11 (15.00' LT.)  
1 - 8"x6" TEE  
1 - 6" GATE VALVE & BOX  
1 - FIRE HYDRANT  
(SEE DETAIL SHEET NO. 43)

STA. 12+76.91 (41' LT.)  
67' ~ 6" SAN. SWR. @ 0.70% MIN.  
END WITH SAN LEAD DOUBLE &  
RISER AS NEEDED  
E = 281.59

STA. 15+08.71 (27.12' LT.)  
1 - 8"x6" TEE  
1 - 6" GATE VALVE & BOX  
1 - FIRE HYDRANT  
(SEE DETAIL SHEET NO. 43)

STA. 15+43.97 (14' RT.)  
8" SAN. SWR. @ 0.70% MIN.  
END WITH SAN LEAD DOUBLE &  
RISER AS NEEDED  
E = 278.54



TYPE "C-1" INLET #147  
STA. 7+90.70 (14.00' RT.)  
T.C. = 292.73  
E 24" (SE) = 288.24  
28" ~ 24" @ 0.71%

TYPE "C" INLET #149  
STA. 9+74.30 (12.00' RT.)  
T.C. = 293.30  
E 24" (E) = 288.80  
31" ~ 24" @ 1.00%

TYPE "C" INLET #150  
STA. 11+61.47 (12.00' RT.)  
T.C. = 293.24  
E 24" (E) = 288.74  
24" ~ 24" @ 0.83%

TYPE "C" INLET #151  
STA. 11+61.79 (12.00' LT.)  
T.C. = 293.24  
E 24" (W) = 288.54  
E 24" (E) = 288.54  
7" ~ 24" @ 1.40%

TYPE "C-1" INLET #153  
STA. 14+42.16 (21.68' LT.)  
T.C. = 286.25  
E 24" (E) = 281.75  
8" ~ 24" @ 1.25%

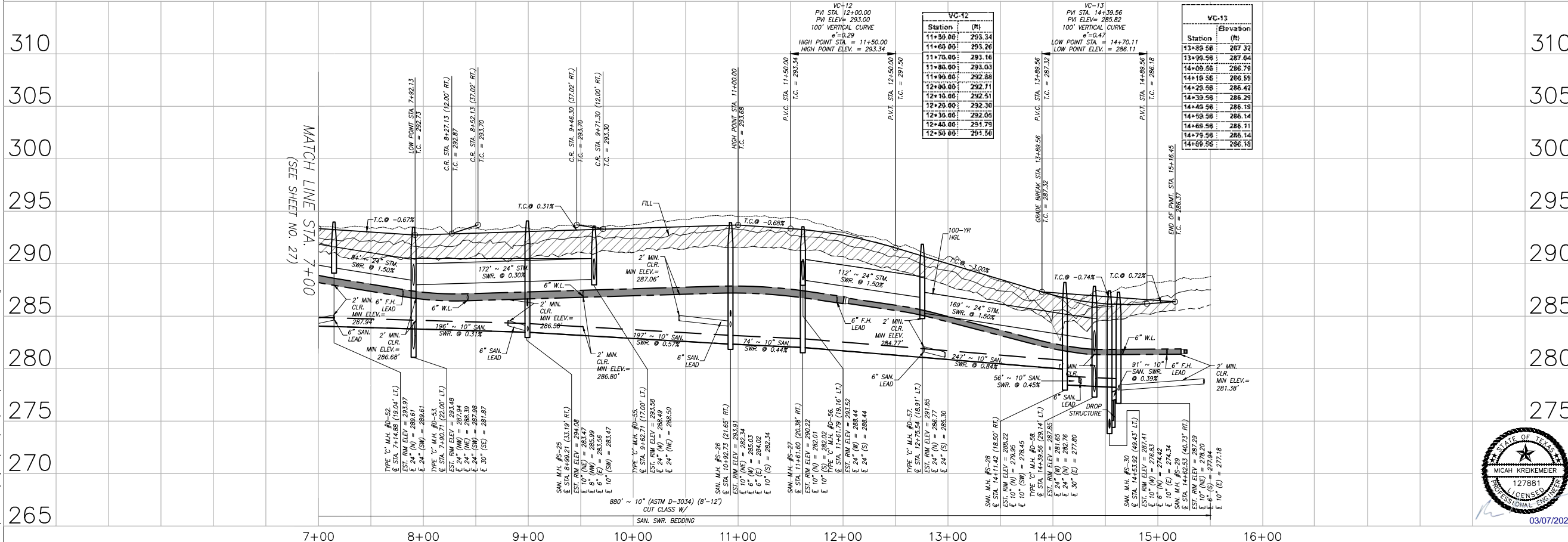
**LEGEND**

INDICATES PLACEMENT OF ONE FULL SECTION OF WATER LINE JOINT CENTERED AT SANITARY MAIN CROSSING W/ APPROVED WATER LINE RESTRAINED JOINTS. (NO SEPARATE PAY)

INDICATES PLACEMENT OF MIN. ONE FULL SECTION OF SANITARY SEWER JOINT (PST 150 LINED DUCTILE IRON OR P.V.C. PIPE) CENTERED AT WATER LINE MAIN CROSSING W/ APPROVED RESTRAINED JOINTS FOR BOTH WATER LINE AND SANITARY SEWER. (NO SEPARATE PAY)

BRITANNY WAY (STA. 7+00 TO END) (50' R.O.W.)

SANITARY SHORT SIDE LEADS		
LEAD #	STATION	OFFSET
32	10+92.72	41.00' RT.
33	12+36.19	41.00' RT.
34	14+26.93	46.75' RT.



**BENCHMARK:**  
ALL ELEVATIONS SET TO NGS. NAVD 88.  
MONUMENT DESIGNATION ELEV. 190.963  
BRASS DISC SET IN CONCRETE LOCATED BY  
COORDINATES X = 3,502,367.4350 Y = 255,445.6670

100YR. W.S.E. = 299.04' AT OUTFALL #1000  
100YR. W.S.E. = 305.61' AT OUTFALL #1001  
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100YR. W.S.E. = 279.68' AT OUTFALL #1003  
100YR. W.S.E. = 297.86' AT OUTFALL #1004  
100YR. W.S.E. = 297.42' AT OUTFALL #1005

FIRM PANEL NO. 48339C0200G & 48339C0350G  
EFFECTIVE DATE: AUGUST 18, 2014  
THIS AREA LIES IN ZONE "X".

- NOTES:**
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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
MUNICIPAL UTILITY  
DISTRICT NO. 215

REDBIRD MEADOWS  
PHASE 1A

BRITANNY WAY (STA.  
7+00 TO END)  
(STA. 7+00 TO END)



**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Phone 713.953.5200  
Suite 600 Fax 713.953.5026  
Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

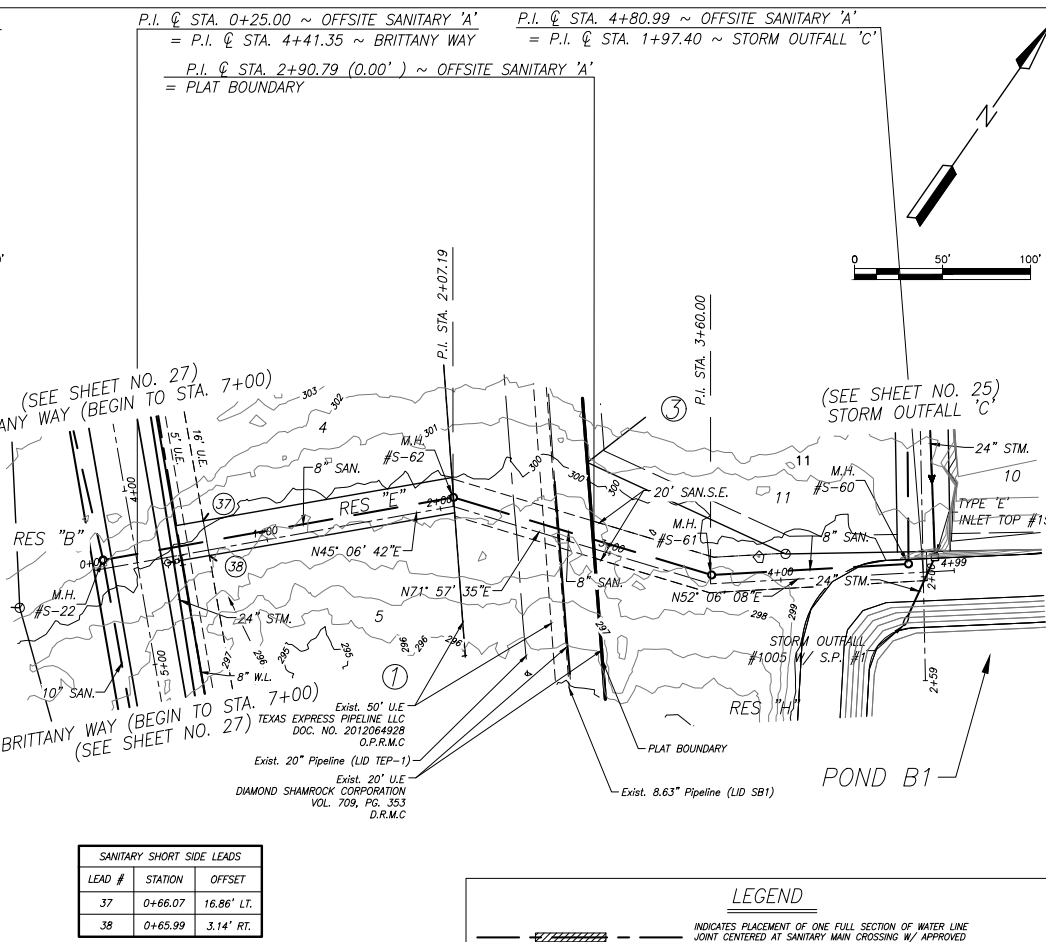
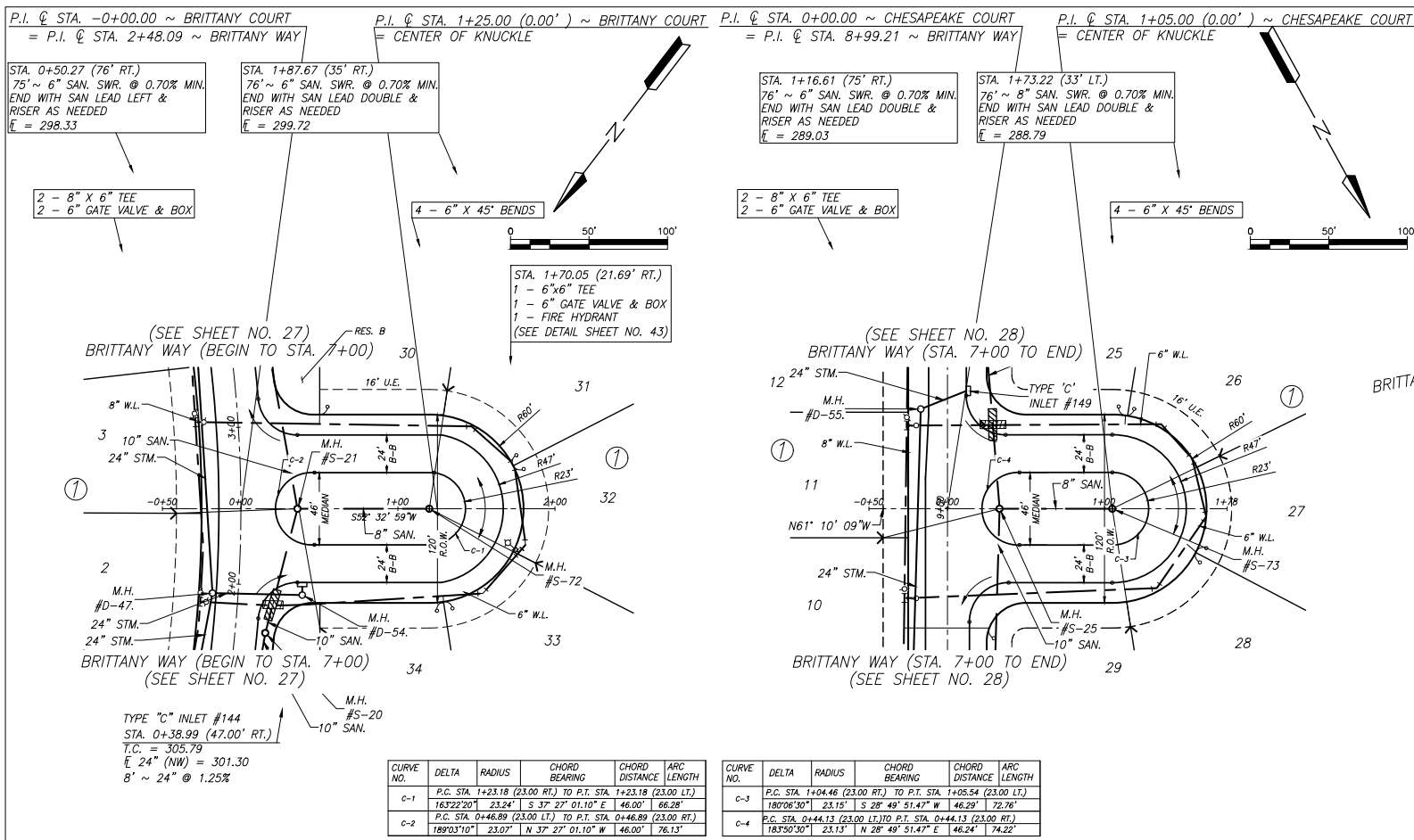
DRAWN: T.C.M/D.D. DESIGN: S.G.M/B. DATE: FEB. 2024

SCALE: 1" = 50' HOR.  
1" = 5' VERT.

SHEET NO. 28 OF 47

Date/Time : Thu, 07 Mar 2024 - 12:37pm  
Path Name : I:\Projects\2980\0101\Sheets\23\_Plan & Profile - 14.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101



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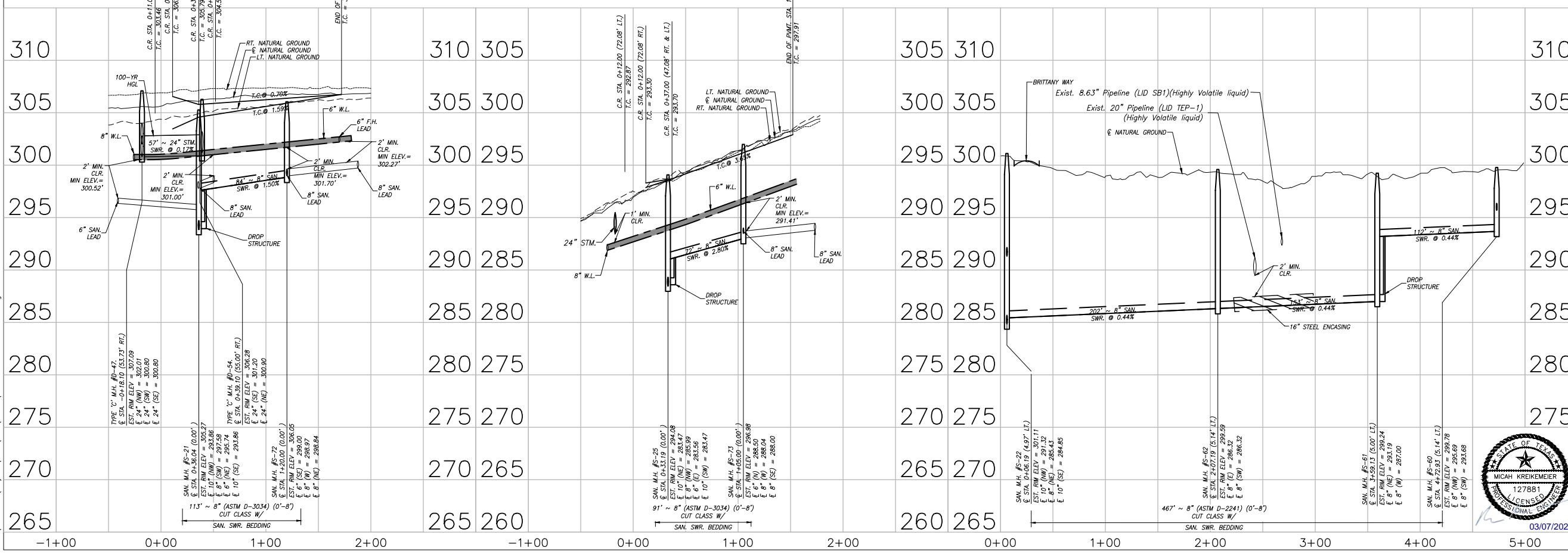
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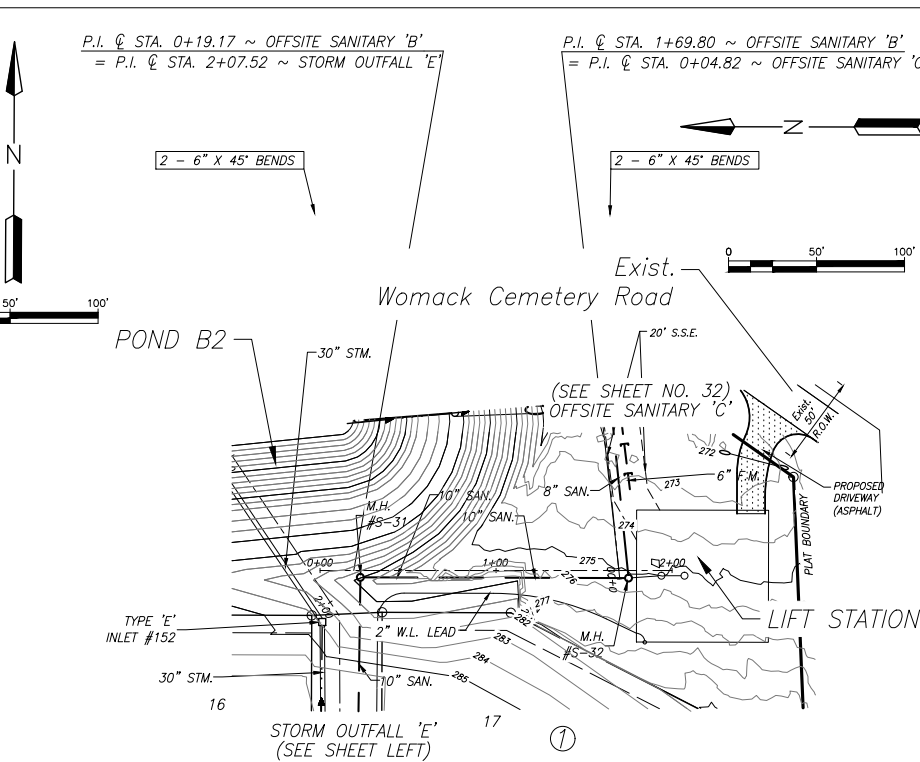
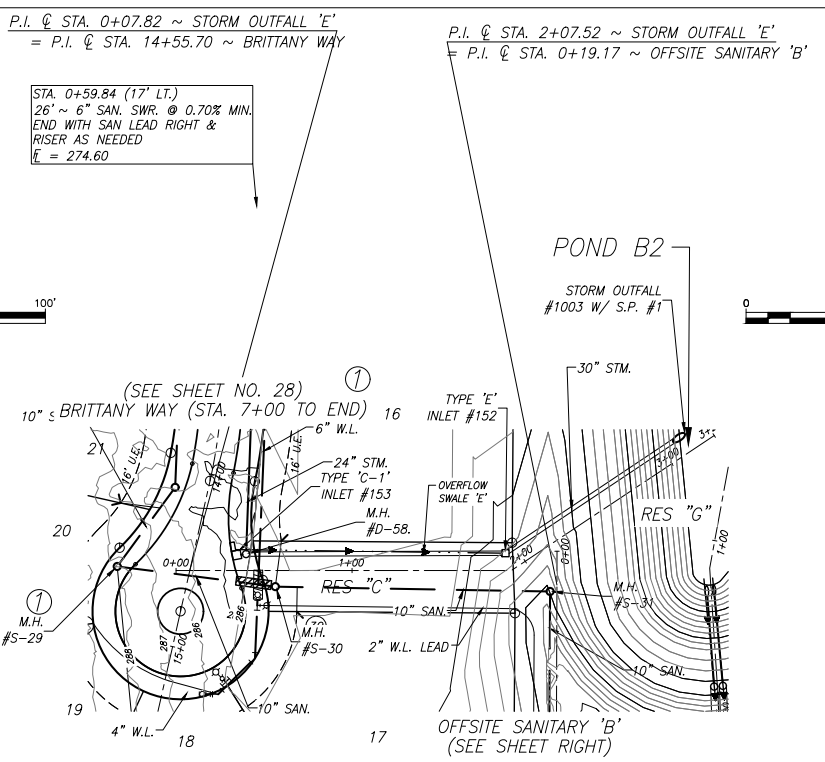
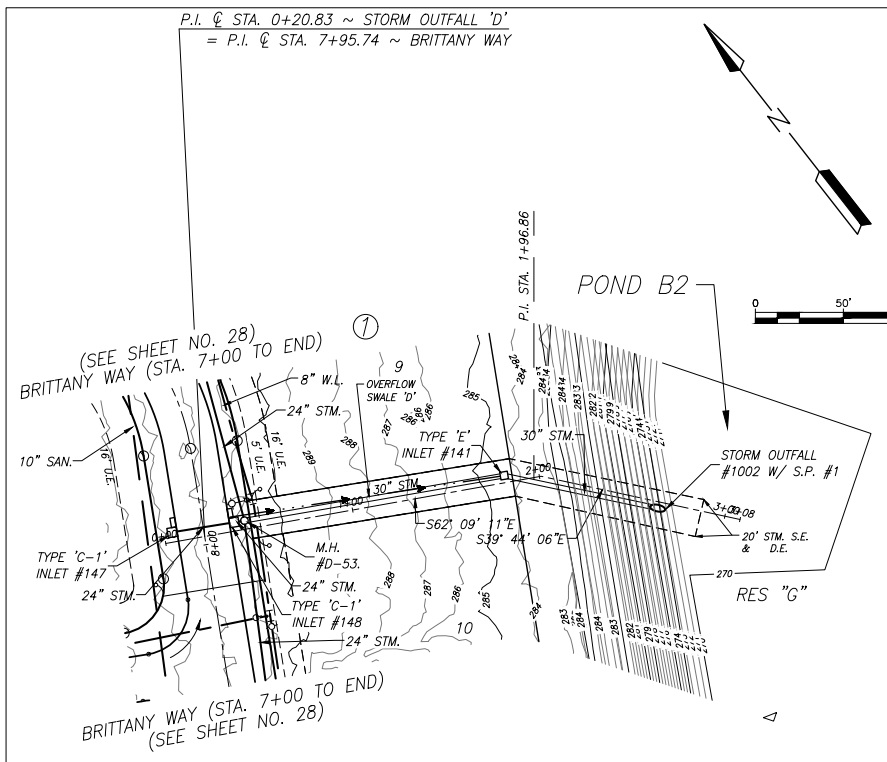
BRITANNY COURT (120' R.O.W.)

CHESAPEAKE COURT (120' R.O.W.)

OFFSITE SANITARY 'A'







**BENCHMARK:**  
ALL ELEVATIONS SET TO NGS. NAVD 88.  
MONUMENT DESIGNATION ELEV. 190.963  
BRASS DISC SET IN CONCRETE LOCATED BY  
COORDINATES X = 3,502,367.4350 Y = 255,445.6670

100YR. W.S.E. = 299.04' OUTFALL #1000  
100YR. W.S.E. = 305.61' AT OUTFALL #1001  
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FIRM PANEL NO. 48339C0200G & 48339C0350G  
EFFECTIVE DATE: AUGUST 18, 2014  
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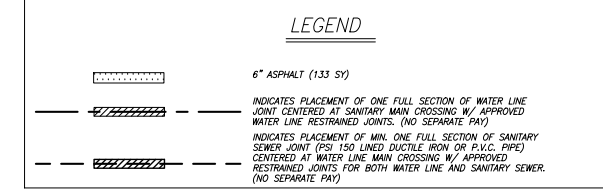
**SANITARY SHORT SIDE LEADS**

LEAD #	STATION	OFFSET
39	0+68.58	23.34' RT.

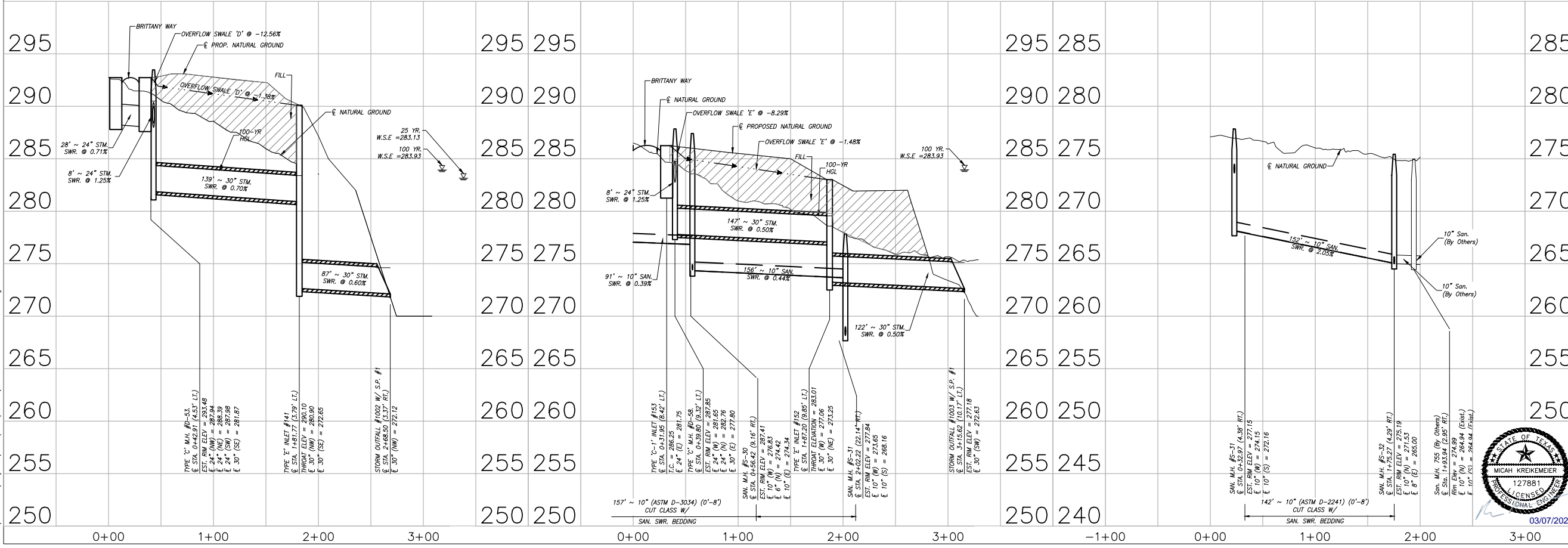
**STORM OUTFALL 'E'**

**STORM OUTFALL 'D'**

Station	Elevation	Notes											
0+00	295	BRITANNY WAY											
0+00	295	OVERFLOW SWALE 'D' @ -12.56%											
0+00	290	PROP. NATURAL GROUND											
0+00	285	28" ~ 24" STM. SWR @ 0.71%											
0+00	280	8" ~ 24" STM. SWR @ 1.25%											
0+00	275	130" ~ 30" STM. SWR @ 0.70%											
0+00	270	87" ~ 30" STM. SWR @ 0.60%											
0+00	265	260	265	260	255	255	250	250					
1+00	295	295	290	285	280	275	270	265	260	255	255	250	250
2+00	295	295	290	285	280	275	270	265	260	255	255	250	250
3+00	295	295	290	285	280	275	270	265	260	255	255	250	250



**OFFSITE SANITARY 'B'**



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
MUNICIPAL UTILITY  
DISTRICT NO. 215

REDBIRD MEADOWS  
PHASE 1A

STORM OUTFALL 'D'/  
STORM OUTFALL 'E'/  
OFFSITE SANITARY 'B'

**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Suite 600  
Houston, Texas 77042

Phone 713.953.5200  
Fax 713.953.5026  
FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024

SCALE: 1" = 50' HOR.  
1" = 5' VERT.

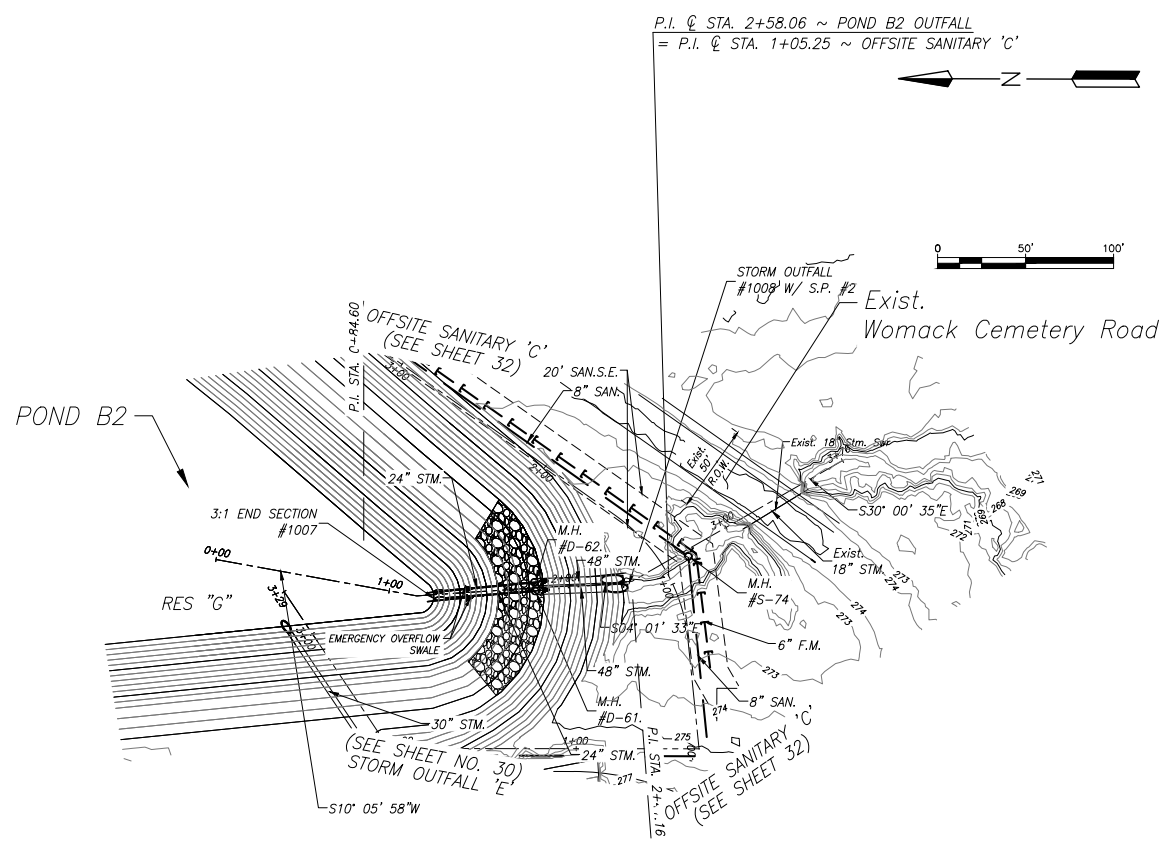
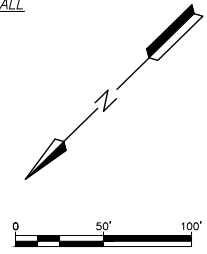
SHEET NO. 30 OF 47

Date/Time : Thu, 07 Mar 2024 - 12:39pm  
Path : I:\Projects\2980\0101\Sheets\25 PLAN & PROFILE - 16.dwg

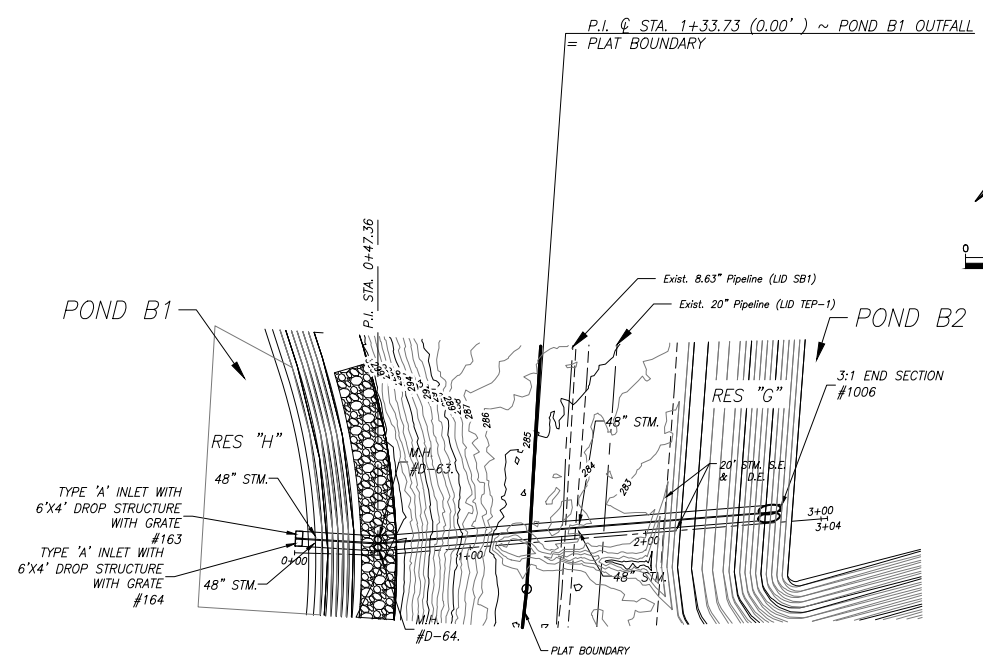
REDBIRD MEADOWS PHASE 1A - 2980-0101

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
 100YR. W.S.E. = 279.14' AT OFFFALL #1002  
 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO.48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

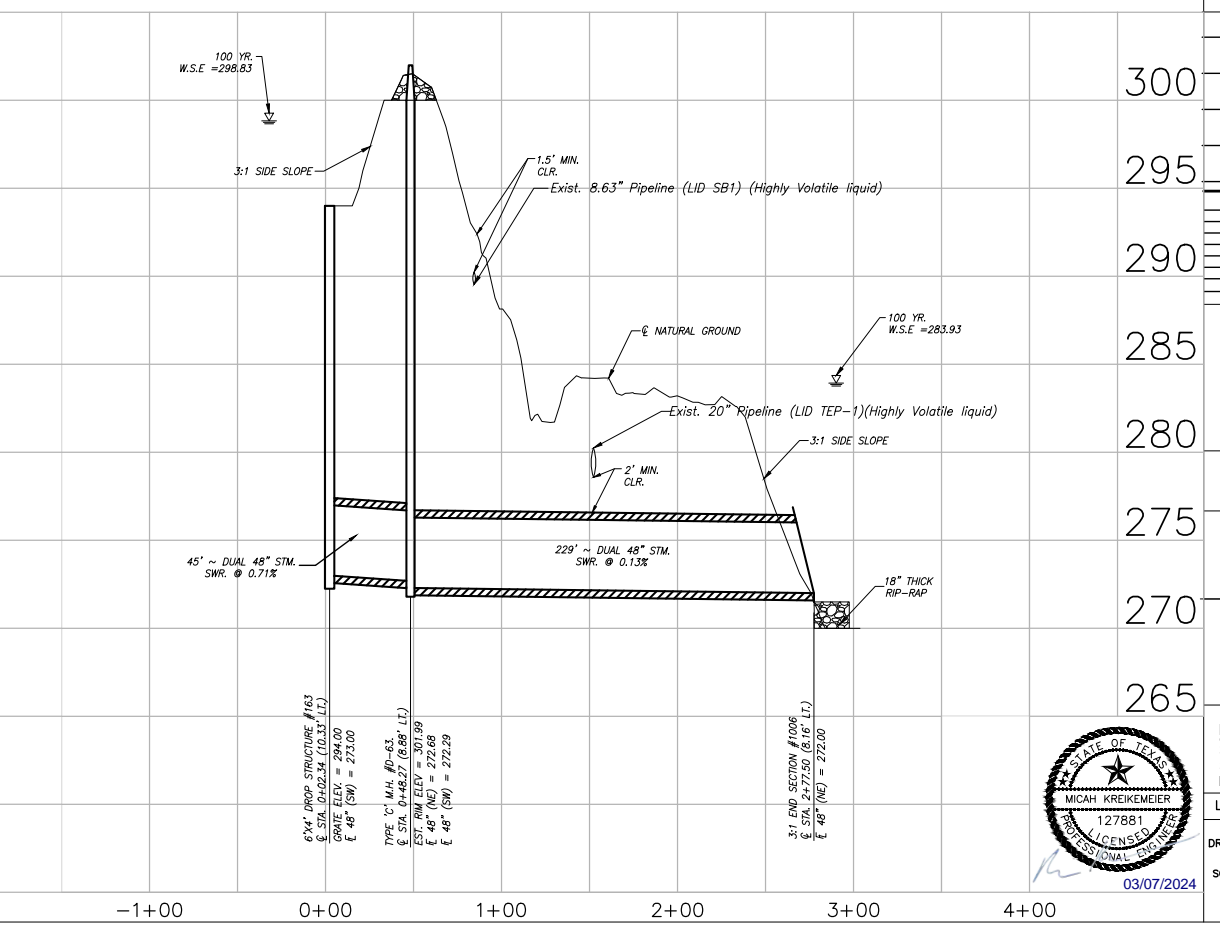
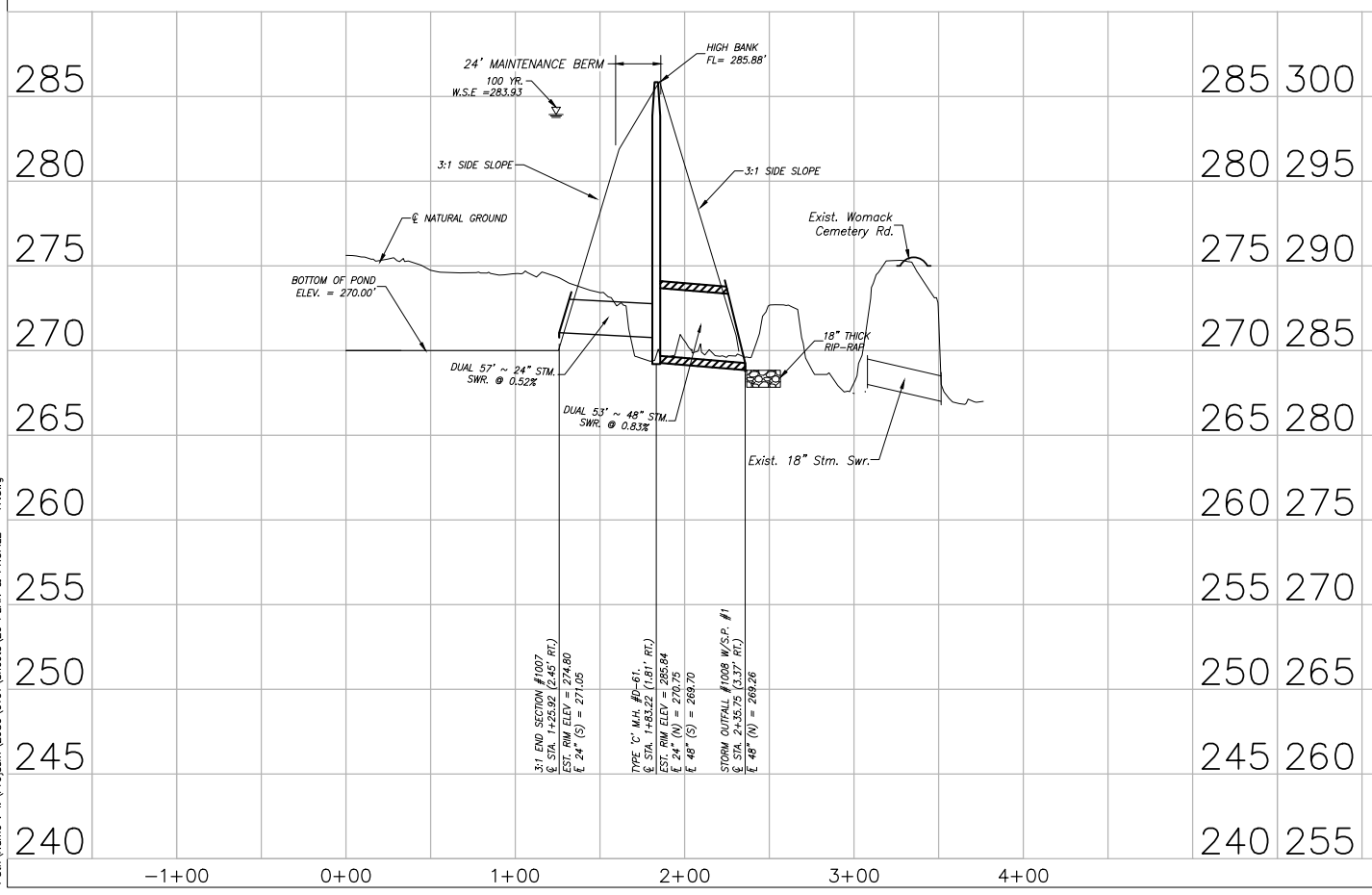
- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



POND B2 OUTFALL



POND B1 OUTFALL



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

POND B2 OUTFALL & POND B1 OUTFALL

**LJA Engineering, Inc.**

3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB.2024

SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

SHEET NO. 31 OF 47

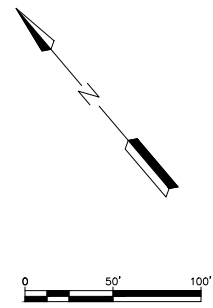
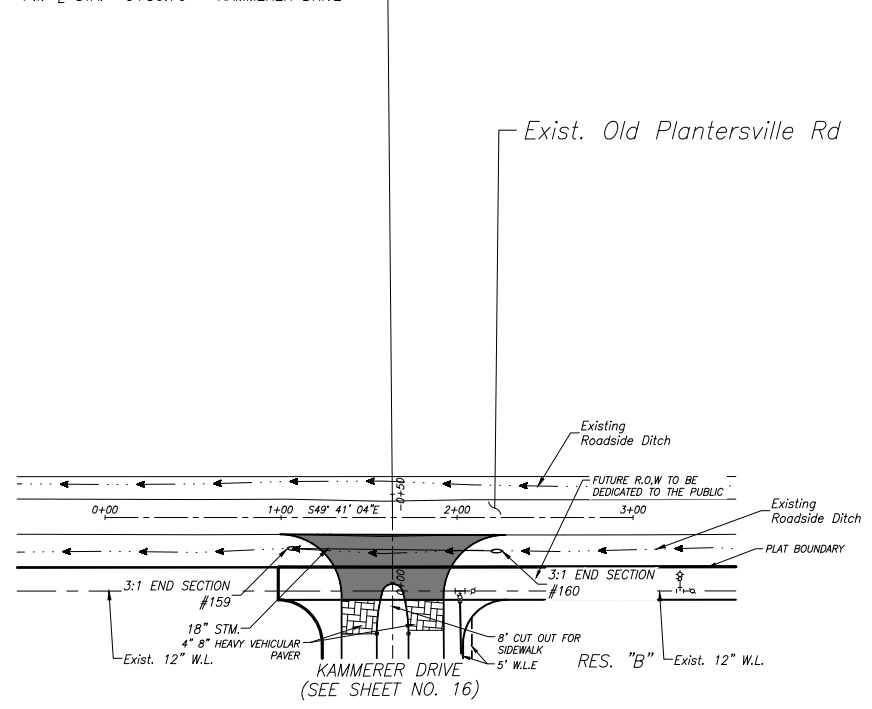


Date/Time : Thu, 07 Mar 2024 - 12:40pm  
 Path Name : I:\Projects\2980\0101\Sheets\26 PLAN & PROFILE - 17.dwg

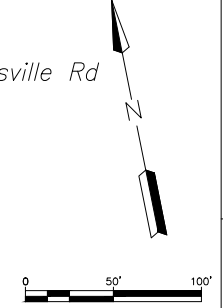
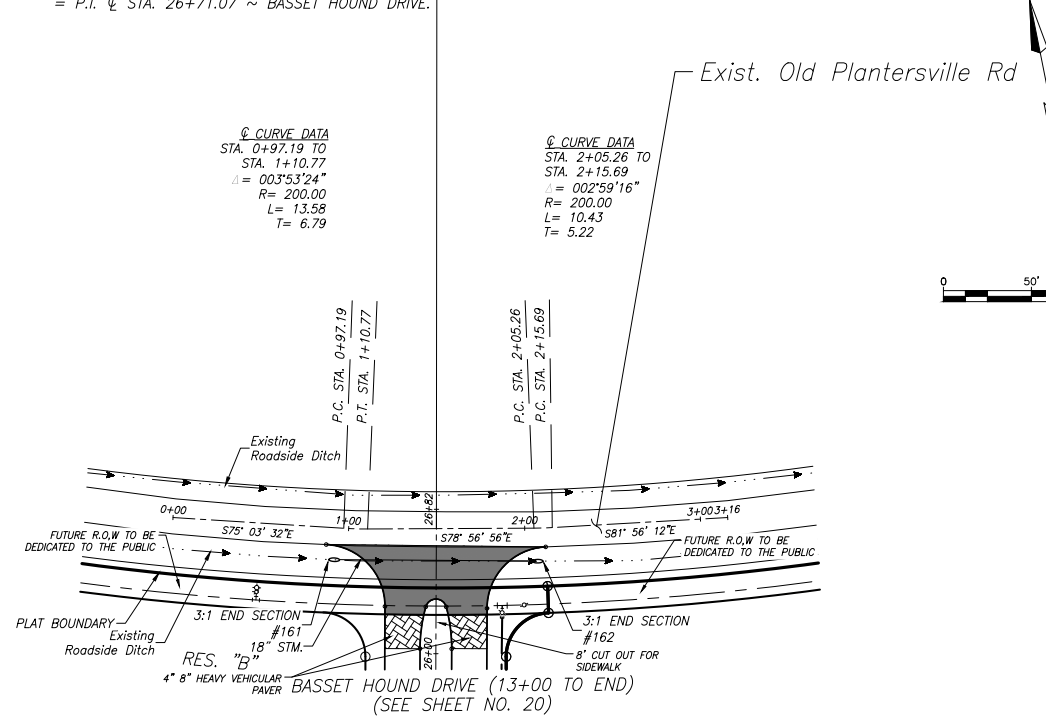
REDBIRD MEADOWS PHASE 1A - 2980-0101



P.I. @ STA. 1+63.32 ~ ROADSIDE STORM 'A'  
 = P.I. @ STA. -0+36.76 ~ KAMMERER DRIVE



P.I. @ STA. 1+49.83 ~ ROADSIDE STORM 'B'  
 = P.I. @ STA. 26+71.07 ~ BASSET HOUND DRIVE.



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
 100YR. W.S.E. = 279.14' AT OFFFALL #1002  
 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB

**LEGEND**

INDICATES 7" REINFORCED CONCRETE PAVEMENT

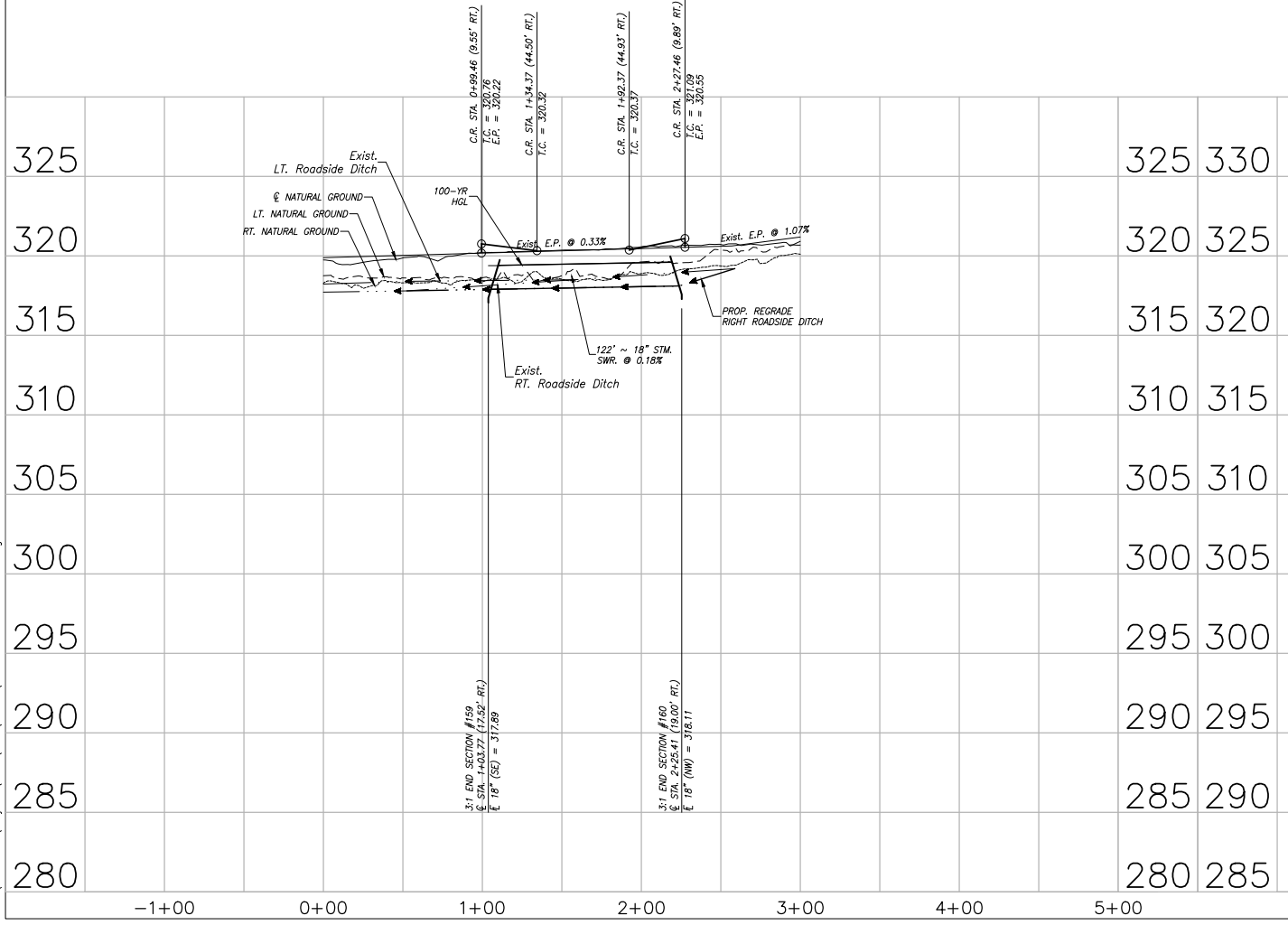
CONTRACTOR SHALL REGRADE EXISTING ROADSIDE DITCH TO ITS ORIGINAL CONDITION OR BETTER TO ENSURE PROPER DRAINAGE.

**LEGEND**

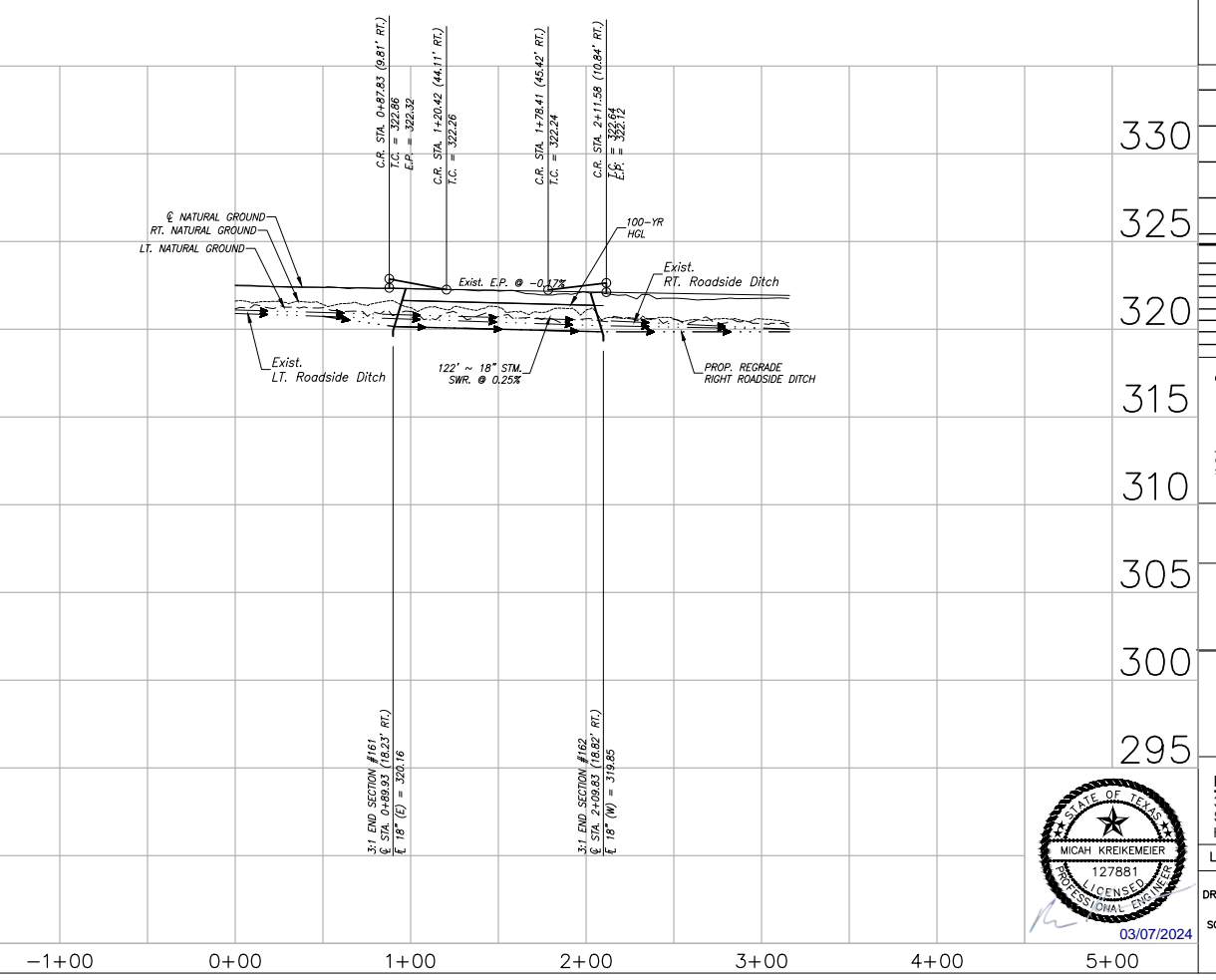
INDICATES 7" REINFORCED CONCRETE PAVEMENT

CONTRACTOR SHALL REGRADE EXISTING ROADSIDE DITCH TO ITS ORIGINAL CONDITION OR BETTER TO ENSURE PROPER DRAINAGE.

ROADSIDE STORM 'A'



ROADSIDE STORM 'B'



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

ROADSIDE STORM 'A' & ROADSIDE STORM 'B'



**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB.2024  
 SCALE: 1" = 50' HOR. 1" = 5' VERT.  
 SHEET NO. 15 OF 47

Date/Time : Wed, 06 Mar 2024 - 3:59pm Path : I:\Projects\2980\0101\Sheets\10 PLAN & PROFILE - 1.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101

P.I. @ STA. 0+04.82 ~ OFFSITE SANITARY 'C'  
 = P.I. @ STA. 1+69.80 ~ OFFSITE SANITARY 'B'

P.I. @ STA. 8+89.04 (-0.02' LT.) ~ OFFSITE SANITARY 'C'  
 = PLAT BOUNDARY

P.I. @ STA. 12+02.50 (0.00' ) ~ OFFSITE SANITARY 'C'  
 = PLAT BOUNDARY

Q CURVE DATA  
 STA. 0+67.18 TO  
 STA. 1+51.25  
 Δ = 048°55'03"  
 R = 98.47  
 L = 84.07  
 T = 44.79

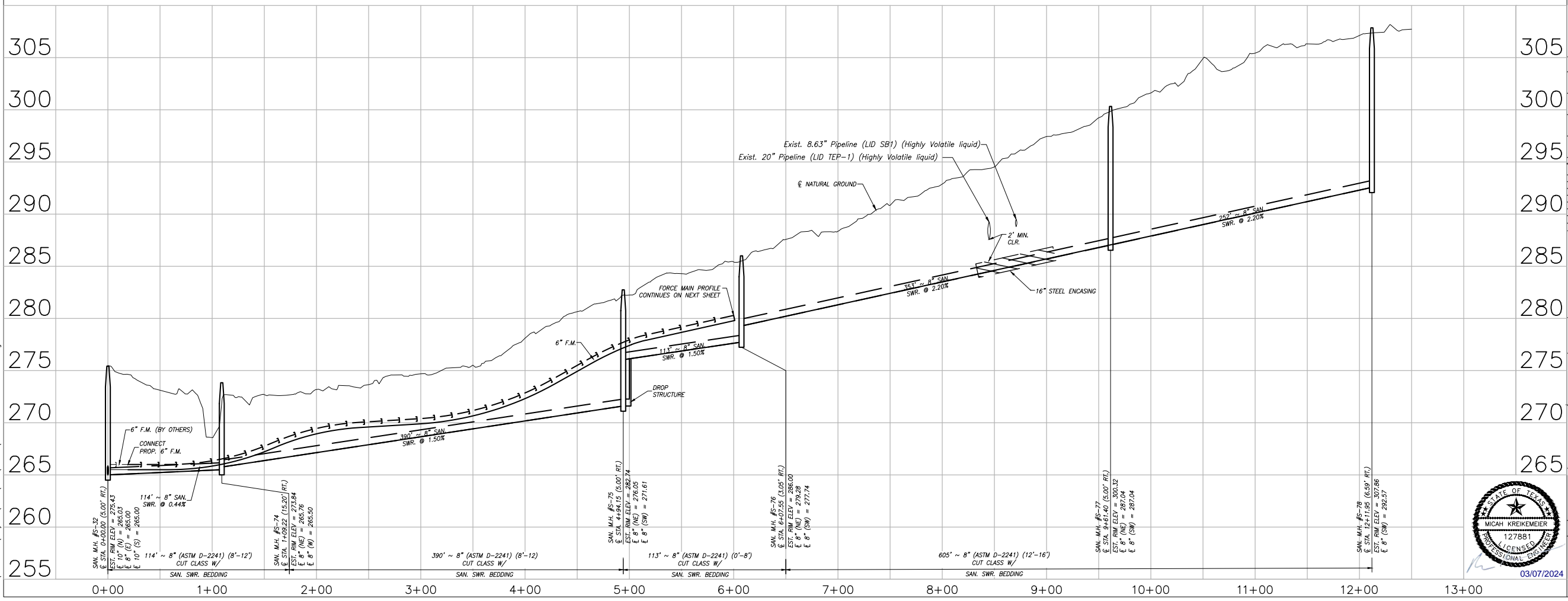
Q CURVE DATA  
 STA. 11+94.78 TO  
 STA. 12+29.12  
 Δ = 019°58'46"  
 R = 98.47  
 L = 34.34  
 T = 17.34

CONTRACTOR SHALL REMOVE 6" AND DISPOSE  
 OF 6" SANITARY PLUG (BY OTHERS) AND  
 CONNECT PROP. 6" FORCE MAIN

OFFSITE SANITARY C

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
 100YR. W.S.E. = 279.14' AT OFFFALL #1002  
 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
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  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

OFFSITE SANITARY 'C'  
 (BEGIN TO END)

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386



LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024

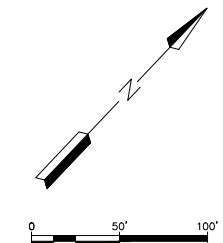
SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

Date: Wed, 06 Mar 2024, 4:16pm  
 Path: I:\Projects\2980\0101\Sheets\27 PLAN & PROFILE - 18.dwg

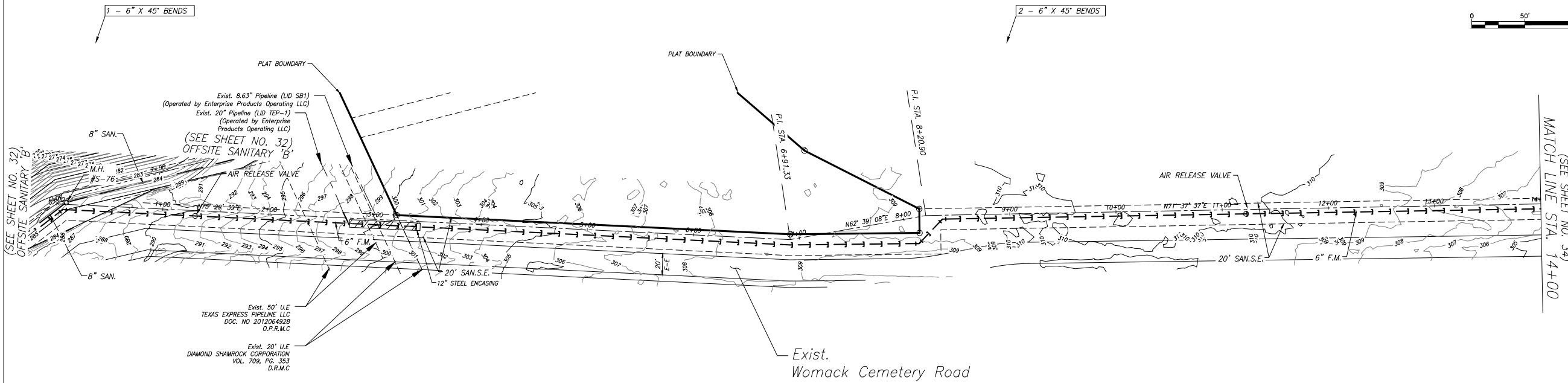
REDBIRD MEADOWS PHASE 1A - 2980-0101



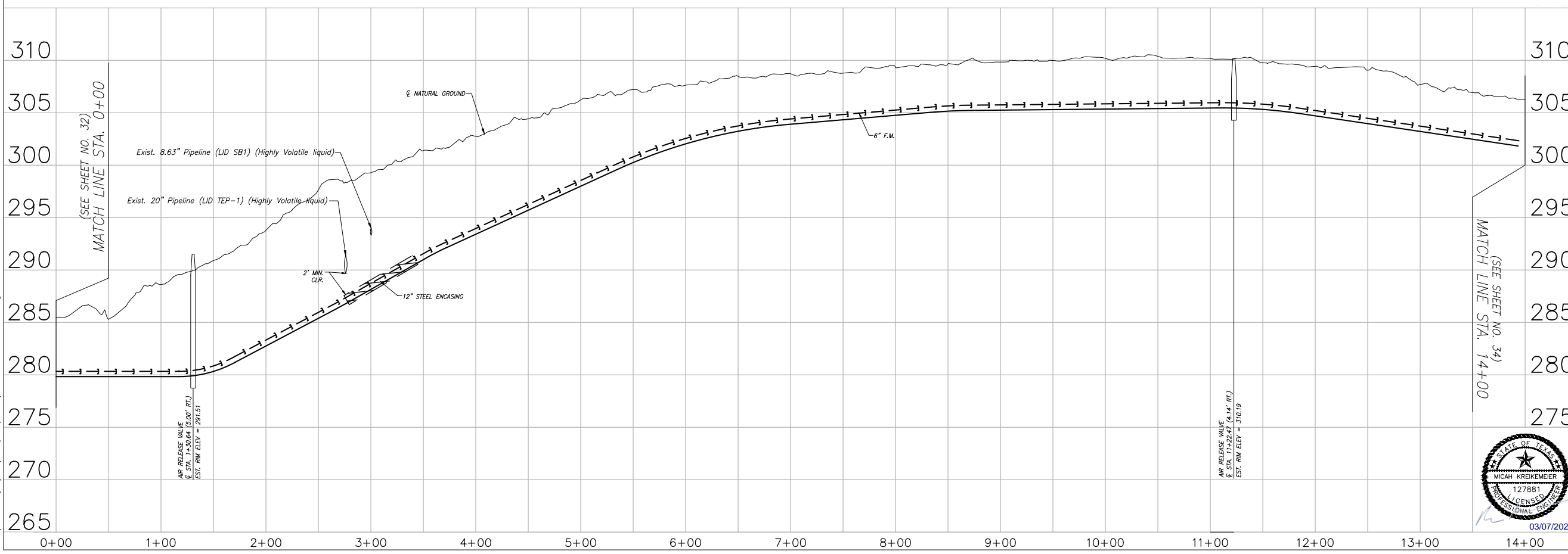
**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
 100YR. W.S.E. = 279.14' AT OFFFALL #1002  
 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".



- NOTES:**
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  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



OFFSITE SANITARY 'D' (BEGIN TO STA 14+00)



DATE	REVISION	BY

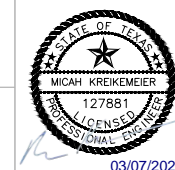
CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

OFFSITE SANITARY 'D'  
 (BEGIN TO STA 14+00)



**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

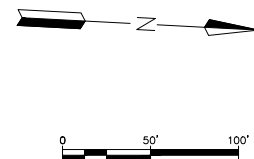
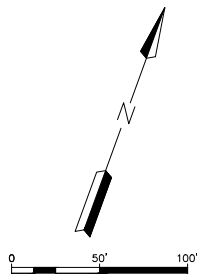
DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024

SCALE: 1" = 50' HOR.  
 1" = 5' VERT.

SHEET NO. 33 OF 47

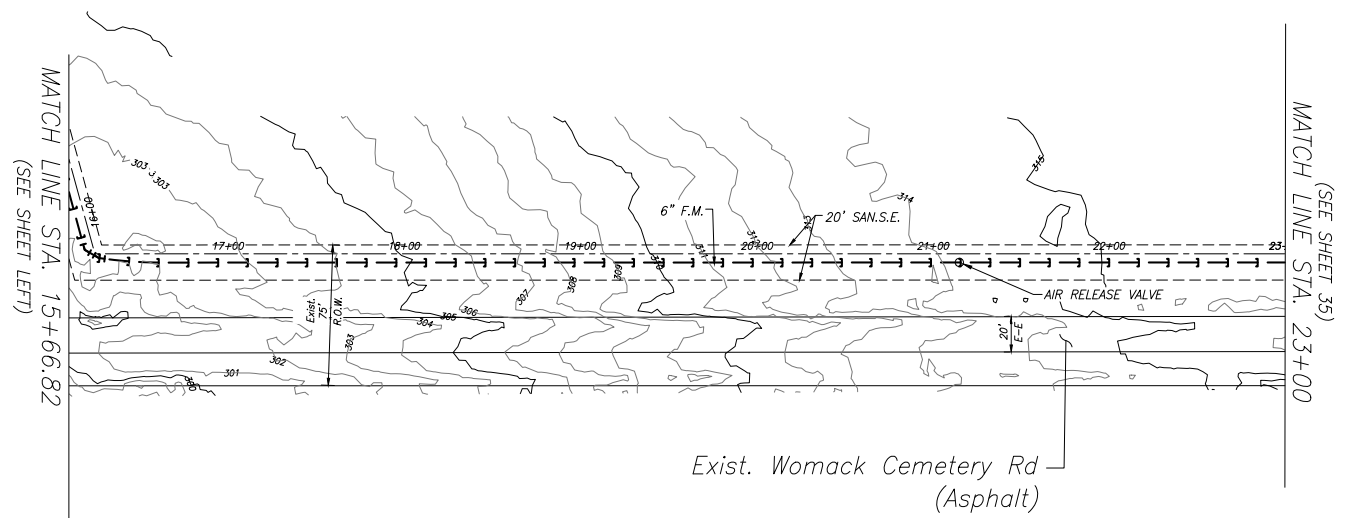
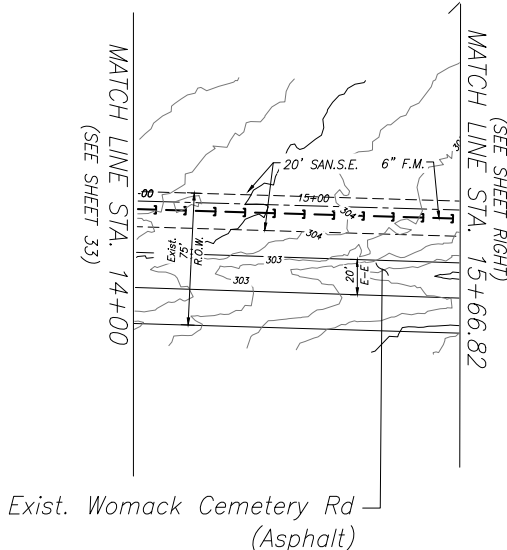
Date: Time: Wed, 06 Mar 2024 4:17pm Path: i:\Projects\2980\0101\Sheets\28 PLAN & PROFILE - 19.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101



**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' OUTFALL #1000  
 100YR. W.S.E. = 305.61' AT OUTFALL #1001  
 100YR. W.S.E. = 279.14' AT OUTFALL #1002  
 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO.48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

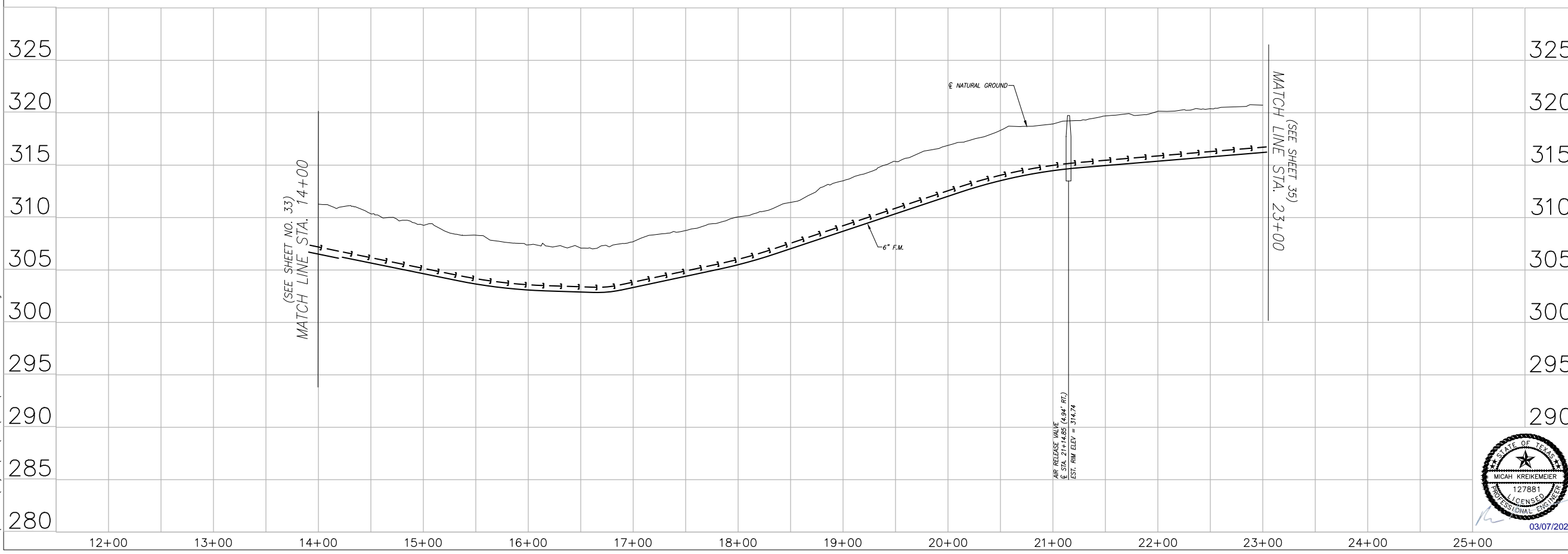
- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
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  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



1 - 6" X 45° BENDS  
 1 - 6" X 22° BENDS

OFFSITE SANITARY E (STA. 14+00 TO 23+00)

ALL MANHOLE RIM ELEVATIONS NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK  
 CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215  
 REDBIRD MEADOWS  
 PHASE 1A

OFFSITE SANITARY E  
 (STA. 14+00 TO  
 23+00)

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB.2024

SCALE: 1" = 50' HOR.  
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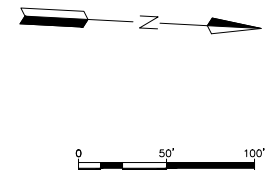


Date/Time : Wed, 06 Mar 2024 4:18pm  
 Path Name : I:\Projects\2980\0101\Sheets\29 PLAN & PROFILE - 20.dwg

REDBIRD MEADOWS PHASE 1A - 2980-0101

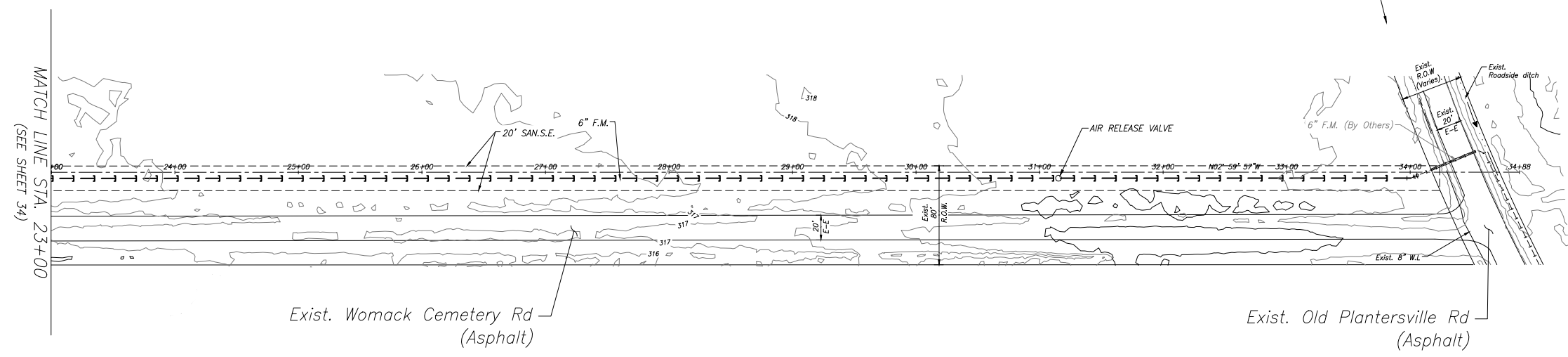


**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OUTFALL #1000  
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 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".



1 - 6" x 22.5" F.M. BEND

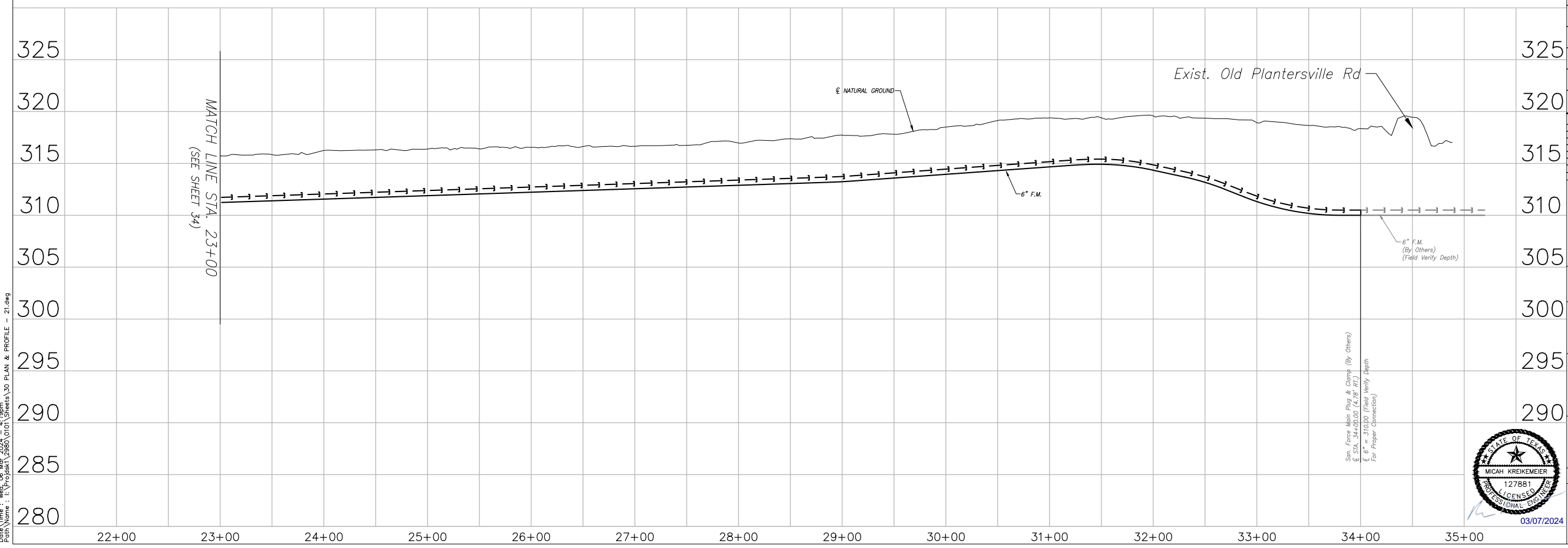
CONTRACTOR SHALL REMOVE & DISPOSE OF  
 6" FORCE MAIN PLUG (BY OTHERS) AND  
 CONNECT PROPOSED 6" FORCE MAIN.



- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
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OFFSITE SANITARY F (STA 23+00 TO END)

ALL MANHOLE RIM ELEVATIONS NEED TO  
 BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6"  
 ABOVE NATURAL GROUND



DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

OFFSITE SANITARY F  
 (STA 23+00 TO END)

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G./M.B. DATE: FEB.2024

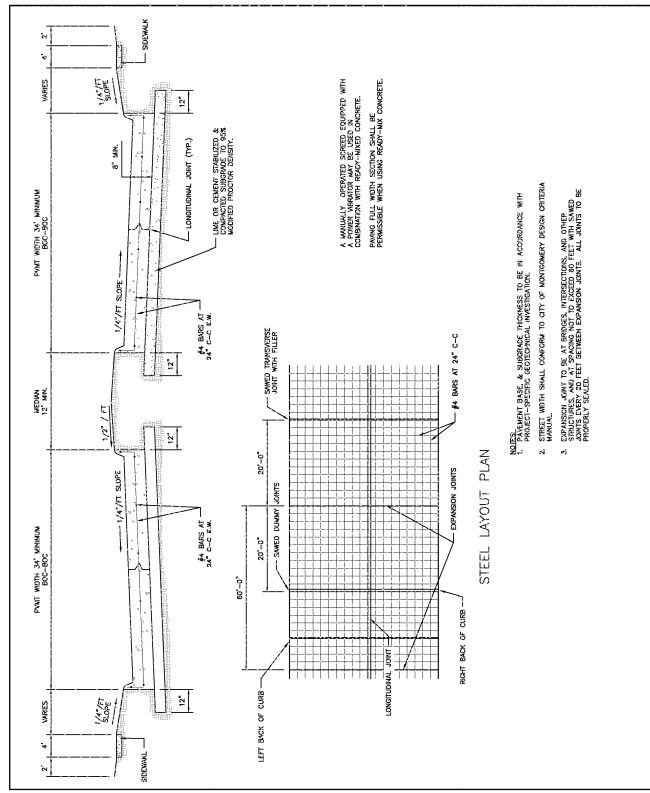
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 1" = 5' VERT.



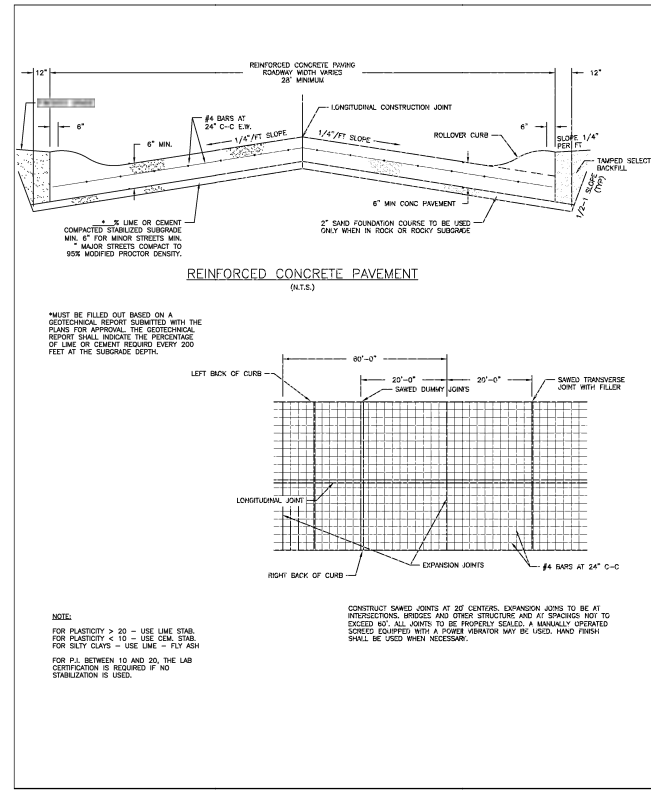
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REDBIRD MEADOWS PHASE 1A - 2980-0101

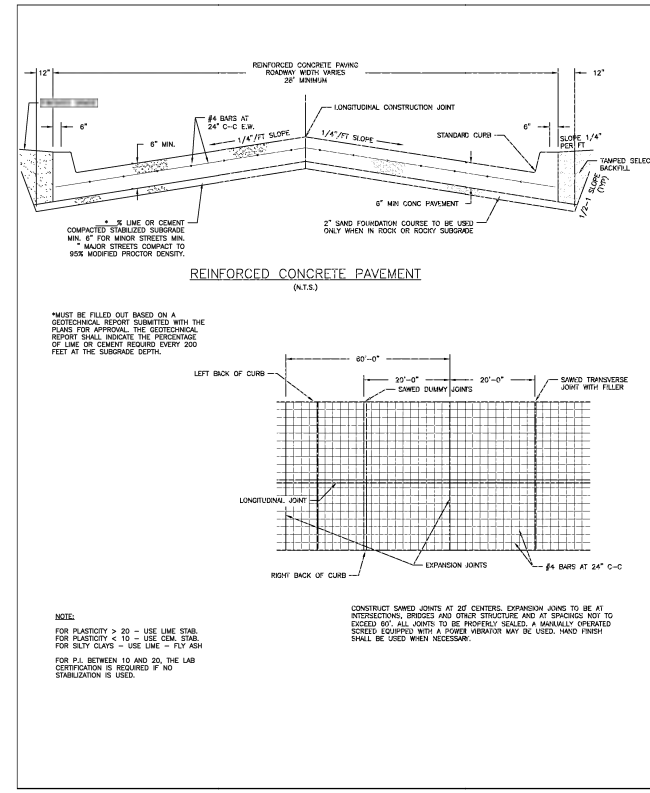
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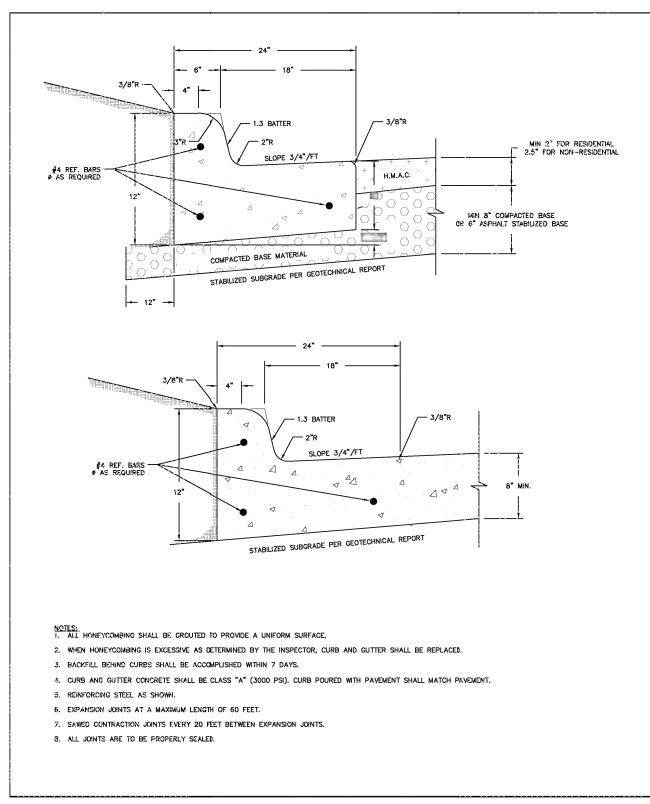
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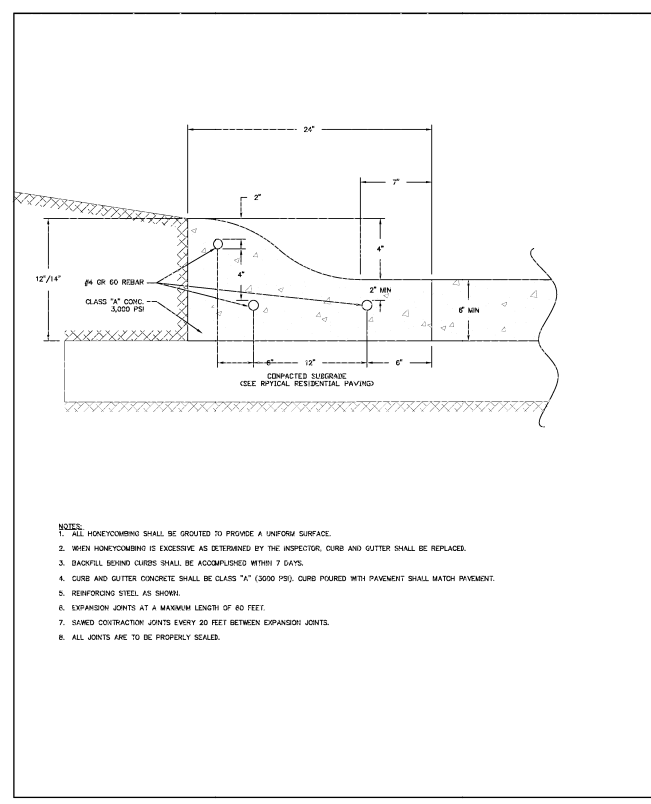
REVISIONS 10-2013 REVISED NOTES	CITY OF MONTGOMERY TYPICAL RESIDENTIAL CONCRETE PAVING WITH ROLLOVER CURB	PAVING P-2
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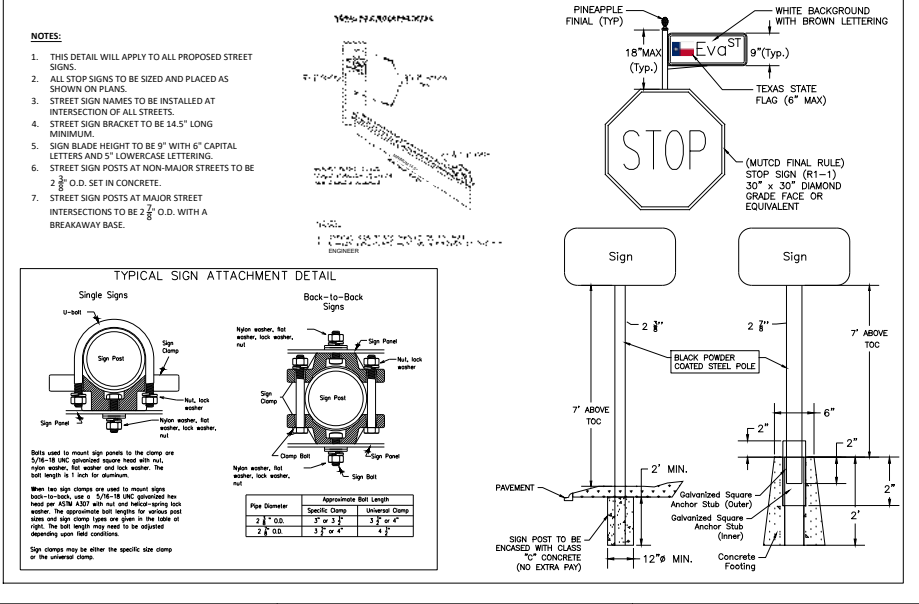
REVISIONS 10-2013 REVISED NOTES	CITY OF MONTGOMERY TYPICAL NON-RESIDENTIAL CONCRETE PAVING WITH STANDARD CURB	PAVING P-3
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REVISIONS 10-2013 REVISED NOTES	CITY OF MONTGOMERY STANDARD CURB & GUTTER	PAVING P-4
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REVISIONS 10-2013 REVISED NOTES	CITY OF MONTGOMERY ROLLOVER CURB & GUTTER	PAVING P-5
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CITY OF MONTGOMERY STANDARD STREET SIGN	PAVING P-6
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**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
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 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO. 48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
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 CITY OF MONTGOMERY, CITY ENGINEER  
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CITY OF MONTGOMERY  
 MUNICIPAL UTILITY DISTRICT NO. 215  
 REDBIRD MEADOWS PHASE 1A

PAVING DETAILS

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386  
 LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: N.T.S.

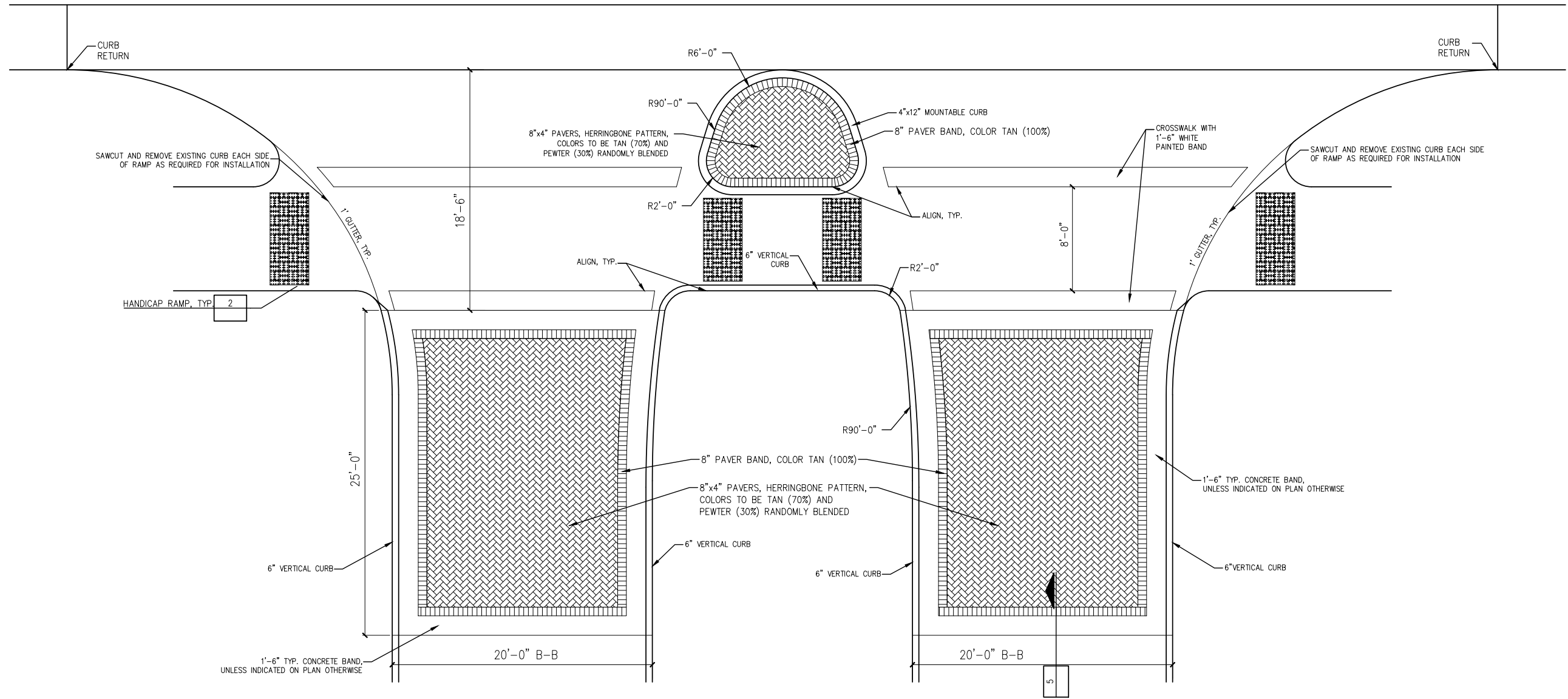


03/20/2024

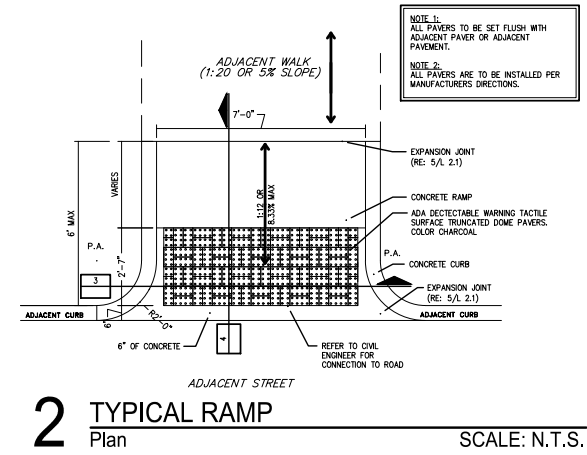
REDBIRD MEADOWS PHASE 1A - 2980-0101



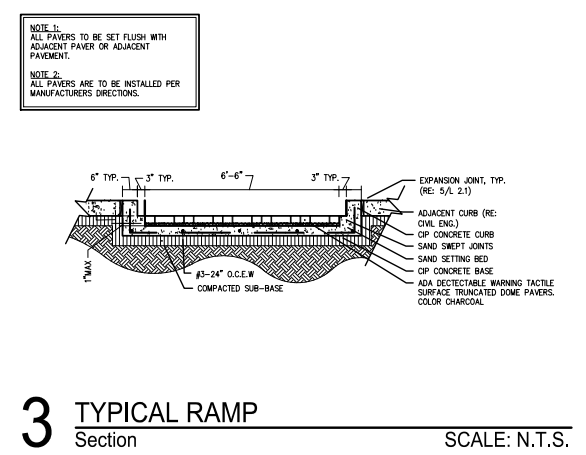
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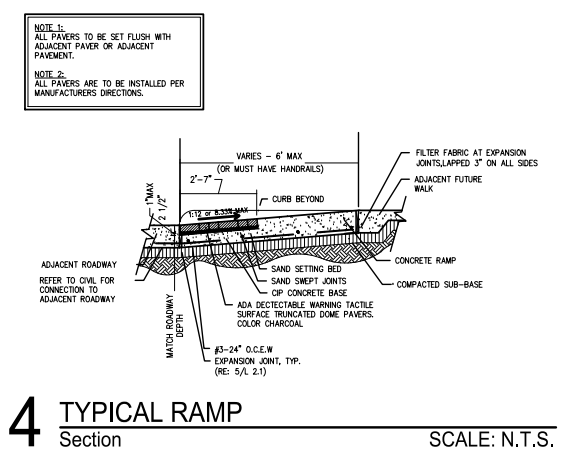
**2 ENTRANCE DETAIL PLAN**  
N.T.S.



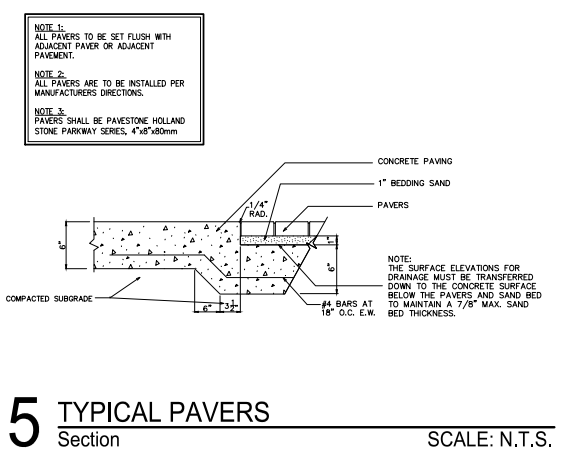
**2 TYPICAL RAMP**  
Plan SCALE: N.T.S.



**3 TYPICAL RAMP**  
Section SCALE: N.T.S.



**4 TYPICAL RAMP**  
Section SCALE: N.T.S.



**5 TYPICAL PAVERS**  
Section SCALE: N.T.S.

**NOTE 1:** ALL PAVERS TO BE SET FLUSH WITH ADJACENT PAVEMENT.  
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**NOTE 3:** PAVERS SHALL BE PAVESTONE HOLLAND STONE PARKWAY SERIES, 4"x8"x50mm

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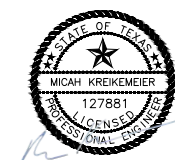
CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK  
CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

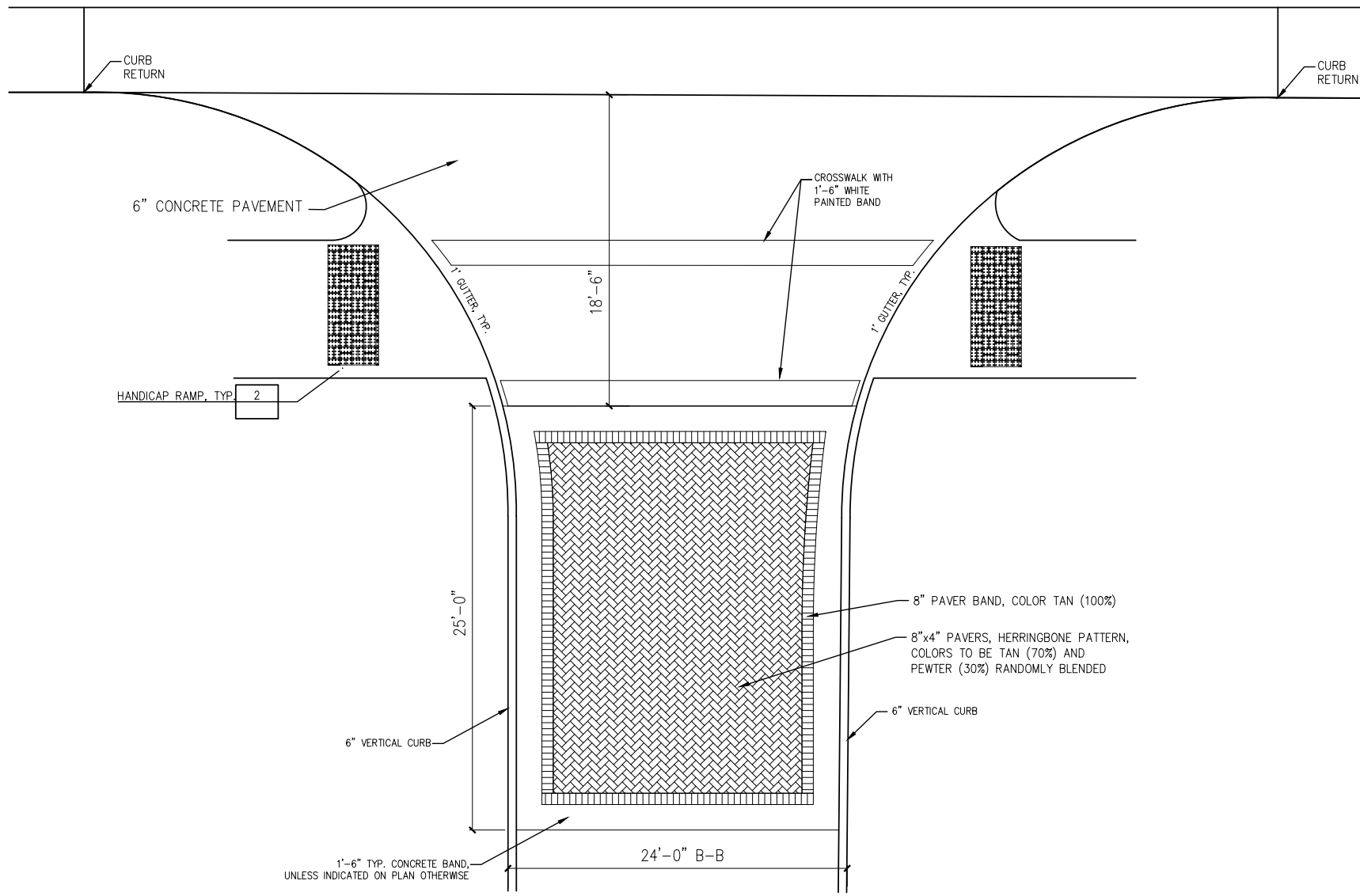
PAVING DETAILS II

**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042  
Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386  
LJA PROJECT NO.: 2980-0101



DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024  
SCALE: N.T.S.

REDBIRD MEADOWS PHASE 1A - 2980-0101

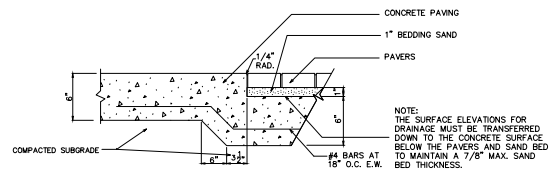


**1** ENTRANCE DETAIL  
PLAN N.T.S.

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NOTE 3:  
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**2** TYPICAL PAVERS  
Section SCALE: N.T.S.

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REDBIRD MEADOWS PHASE 1A

PAVING DETAILS III

**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Phone 713.953.5200  
Suite 600 Fax 713.953.5026  
Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

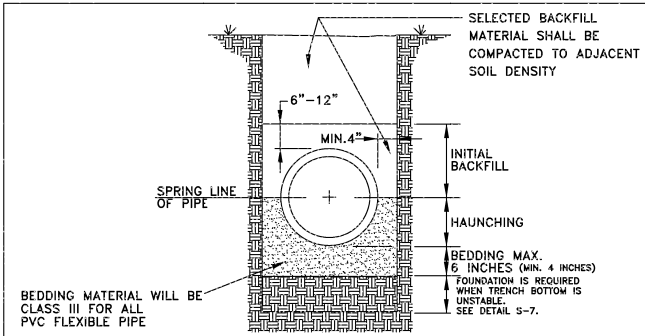
DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024

SCALE: N.T.S.



03/07/2024





**BEDDING DETAIL**  
NOTE: BACKFILL AND BEDDING MUST MEET ALL MINIMUM ASPECTS OF ASTM D-2321

Foundation  
A foundation is required when the trench bottom is unstable. Any foundation that will support a rigid pipe without causing loss of grade or flexural breaking will be more than adequate for PVC pipes.

Bedding  
The bedding directly underneath the pipe is required only to bring the trench bottom up to grade. It should not be so thick or soft that the pipe will settle and lose grade. The purpose of the bedding is to provide a firm, stable and uniform support of the pipe. A layer of material sufficient to establish line, grade, and support should be placed. Bell holes should be excavated to insure uniform bearing.

Haunching  
The haunching area is the most important in terms of limiting the deflection of a flexible pipe. This is the area that should be compacted to the required or specified density.

ASTM D-2321  
DESCRIPTION OF EMBEDMENT MATERIALS  
Class I  
Angular, 1/4" to 1-1/2" graded stone, including a number of fill materials that have regional significance, such as coral, slag, cinders, crushed stone and crushed shells.

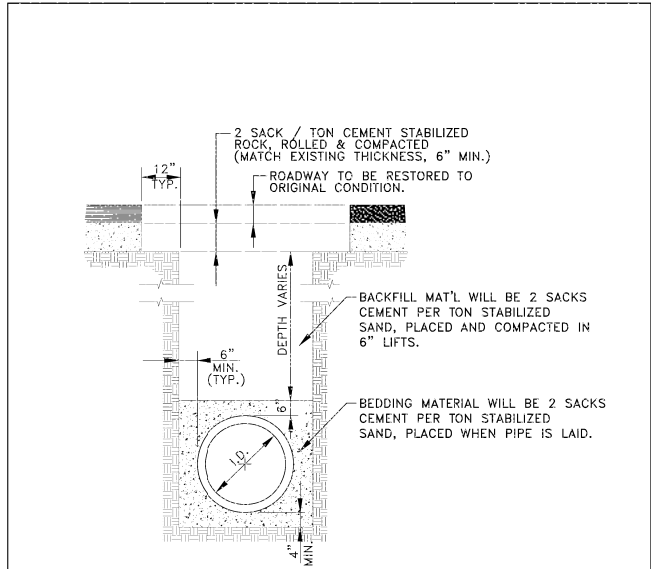
Class II  
Coarse sands and gravels with maximum particle size of 1-1/2", including variously graded sands, and gravels containing small percentages of fines, generally granular and noncohesive, either wet or dry. Soil types GW, GP, SW, and SP are included in this class.

Class III  
Fine sand and clayey gravels, including fine sands and sand-clay mixtures, and gravel clay mixtures. Soil types GM, GC, SM and SC are included in this class.

Class IV  
Silt, silty clays, and clays, including inorganic clays and silts of medium to high plasticity and liquid limits. Soil types MH, ML, CH, and CL are included in this class.

Class V  
This class includes the organic soils OL, OH, and PT as well as soils containing frozen earth, debris, rocks larger than 1-1/2" in diameter, and other foreign materials. These materials are not recommended for bedding, haunching, or initial backfill.

REVISIONS	CITY OF MONTGOMERY TYPICAL SANITARY SEWER BEDDING AND TRENCH DETAIL	SEWER S-1
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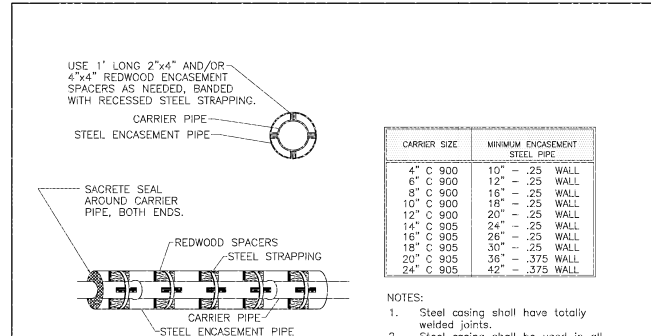
**TRENCH DETAIL**  
NOTE: BACKFILL AND BEDDING MUST MEET ALL MINIMUM ASPECTS OF ASTM D-2321

ROADWAY TO BE RESTORED TO ORIGINAL CONDITION.

BACKFILL MAT'L WILL BE 2 SACKS CEMENT PER TON STABILIZED SAND, PLACED AND COMPACTED IN 6" LIFTS.

BEDDING MATERIAL WILL BE 2 SACKS CEMENT PER TON STABILIZED SAND, PLACED WHEN PIPE IS LAID.

REVISIONS	CITY OF MONTGOMERY TYPICAL ROADWAY TRENCH BEDDING AND BACKFILL DETAIL	SEWER S-2
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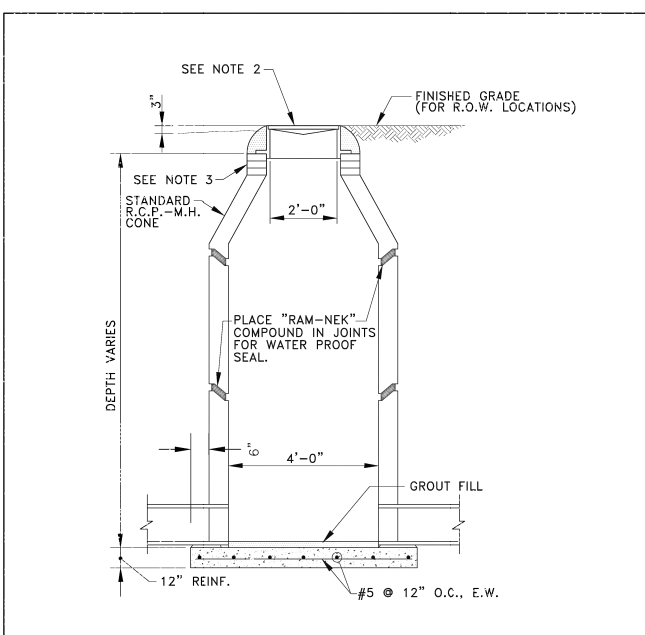
**STANDARD BORED CROSSING WITH STEEL CASING FOR SEWER LINES (OR WATERLINES)**

NOTE: LOCATE REDWOOD SPACERS ON EITHER SIDE OF CARRIER PIPE BELLS, THEN ONE SET CENTERED ON EACH JOINT.

CARRIER SIZE	MINIMUM ENGAGEMENT STEEL PIPE
4" C 900	10" - .25" WALL
6" C 900	12" - .25" WALL
8" C 900	16" - .25" WALL
10" C 900	18" - .25" WALL
12" C 900	20" - .25" WALL
14" C 905	24" - .25" WALL
16" C 905	26" - .25" WALL
18" C 905	30" - .25" WALL
20" C 905	36" - .375" WALL
24" C 905	42" - .375" WALL

NOTE: 1. Steel casing shall have totally welded joints.  
2. Steel casing shall be used in all bores.  
3. Contractor to obtain permits prior to any construction of these crossings.

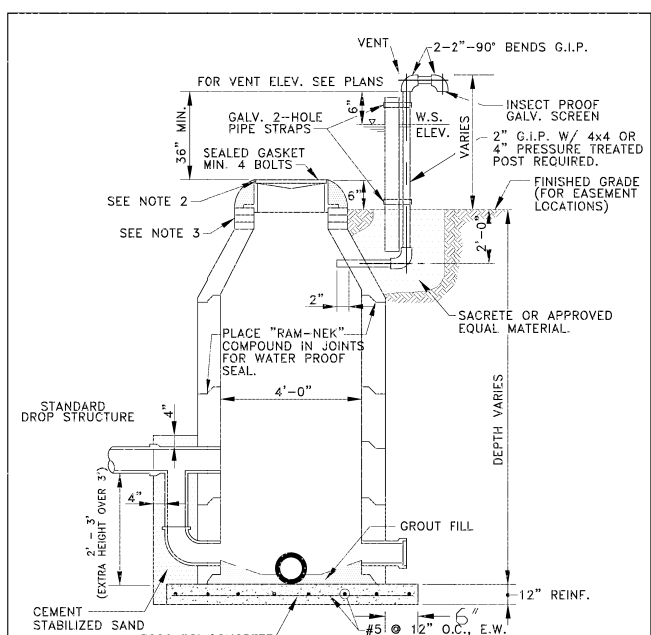
REVISIONS	CITY OF MONTGOMERY STANDARD BORED CROSSING WITH STEEL CASING FOR SEWER LINES (OR WATERLINES)	SEWER S-3
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**STANDARD PRECAST MANHOLE**

NOTE:  
1. All R.C.P. Manholes shall be in accordance A.S.T.M. C-478.  
2. Vulcan Foundry V-1418-2 Frame and Cover (or equal) with the City of Montgomery logo embedded in lid.  
3. For adjustment of Manhole Lid use standard concrete rings. No brick adjustment allowed.  
4. Precast bottom section of manhole to be securely attached to reinforced concrete slab with waterproof sealer.

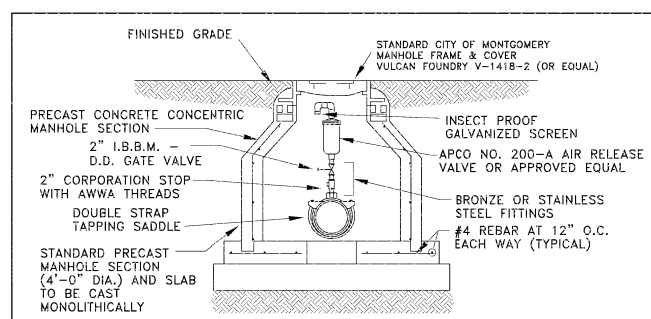
REVISIONS	CITY OF MONTGOMERY STANDARD PRECAST MANHOLE	SEWER S-4
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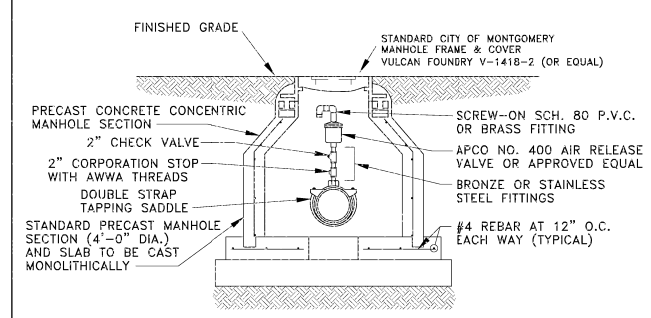
**STANDARD PRECAST MANHOLE W/ DROP CONNECTION & VENT**

NOTE:  
1. All R.C.P. Manholes shall be in accordance with A.S.T.M. C-478.  
2. Vulcan Foundry V-2418-2 watertight manhole ring & cover (or equal) with the City of Montgomery logo embedded in lid.  
3. For adjustment of Manhole Lid use standard concrete rings. No brick adjustment allowed.  
4. Precast bottom section of manhole to be securely attached to reinforced concrete slab with waterproof sealer.

REVISIONS	CITY OF MONTGOMERY STANDARD PRECAST MANHOLE W/ DROP CONNECTION & VENT	SEWER S-5
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**MANUAL AIR RELEASE VALVE**



**AUTOMATIC AIR RELEASE VALVE**

REVISIONS	CITY OF MONTGOMERY AIR RELEASE VALVES	SEWER S-6
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DATE

CITY OF MONTGOMERY  
MUNICIPAL UTILITY  
DISTRICT NO. 215

REDBIRD MEADOWS  
PHASE 1A

**SANITARY DETAILS I**

**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Suite 600  
Houston, Texas 77042  
Phone 713.953.5200 Fax 713.953.5026  
FRN - F-1386

LJA PROJECT NO.: 2980-0101

DRAWN: T.C.M./D.D. DESIGN: S.G./M.B. DATE: FEB. 2024  
SCALE: N.T.S.



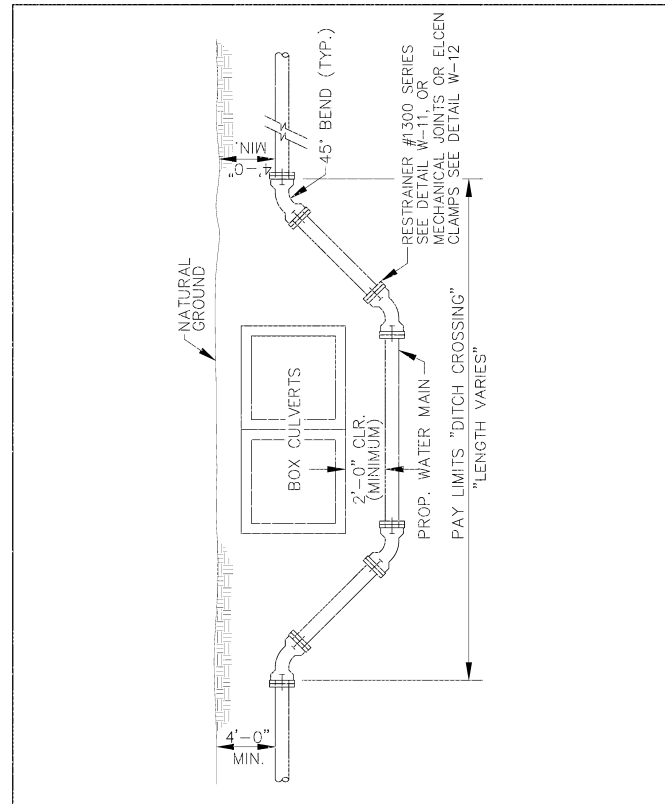
03/07/2024



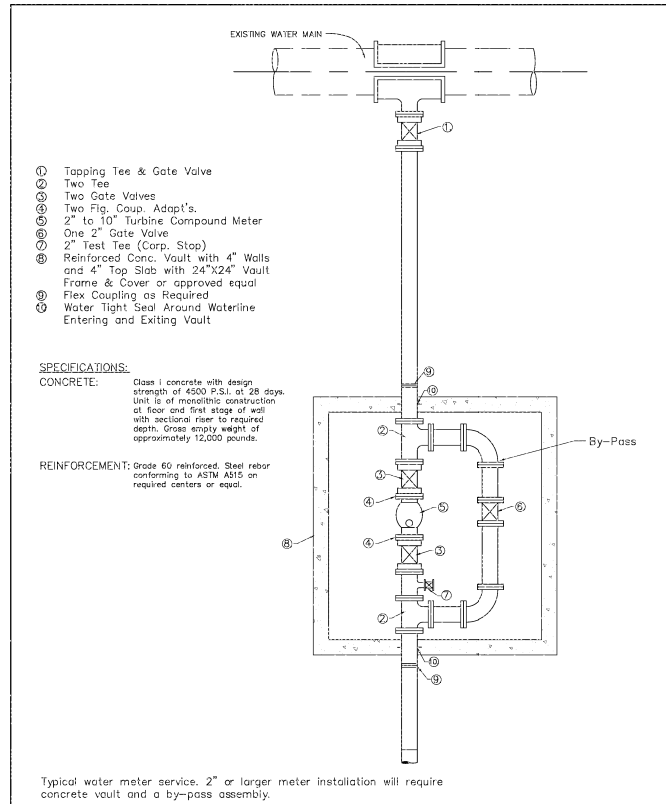




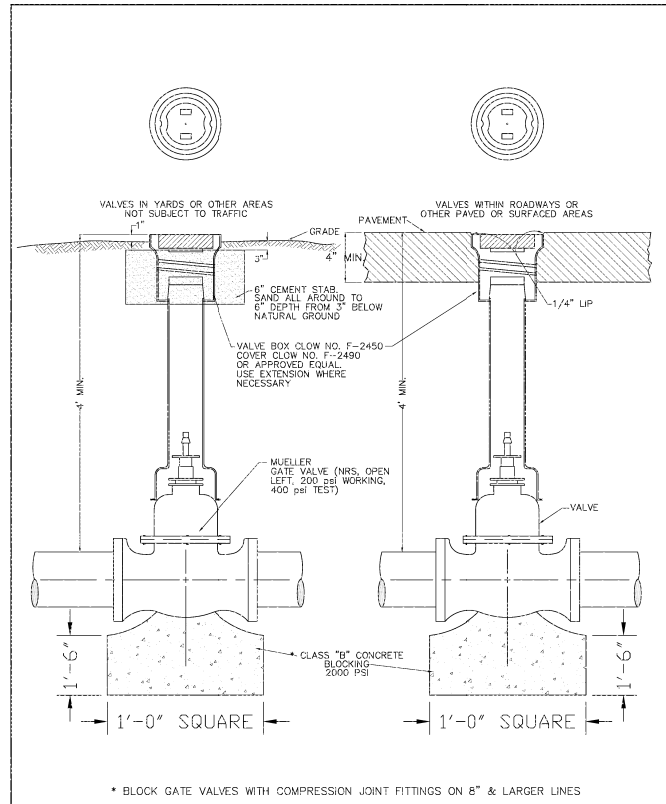
Date/Time : Wed, 06 Mar 2024 4:20pm  
 Path Name : I:\Projects\2980\0101\Sheets\34 WATER DETAILS.rdw



REVISIONS	CITY OF MONTGOMERY CULVERT CROSSING DETAIL FOR WATERLINE	WATER
		W-7



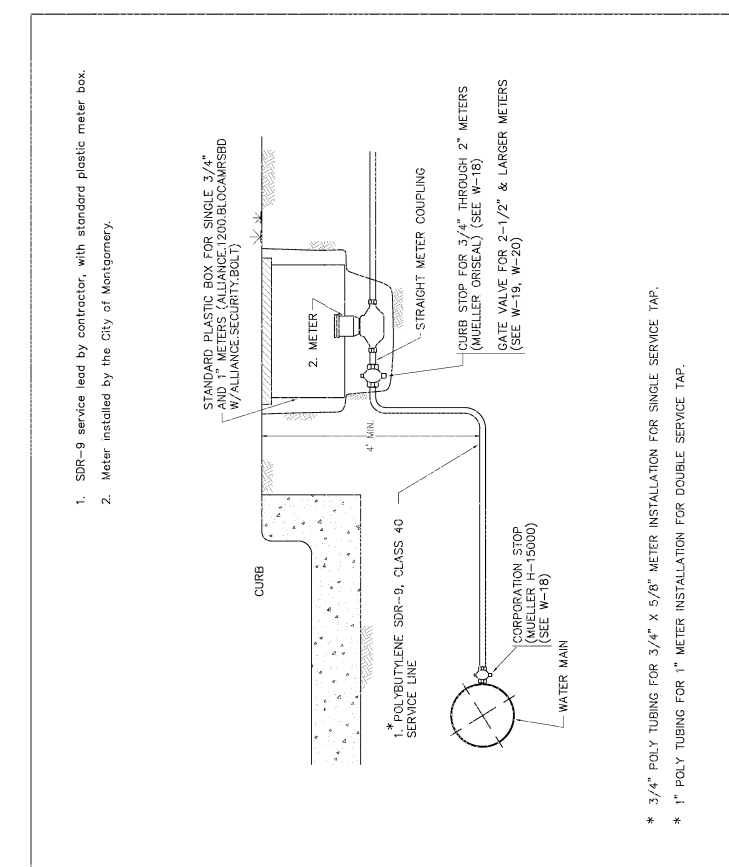
REVISIONS	CITY OF MONTGOMERY 2" & LARGER WATER SERVICE CONNECTION	WATER
		W-9



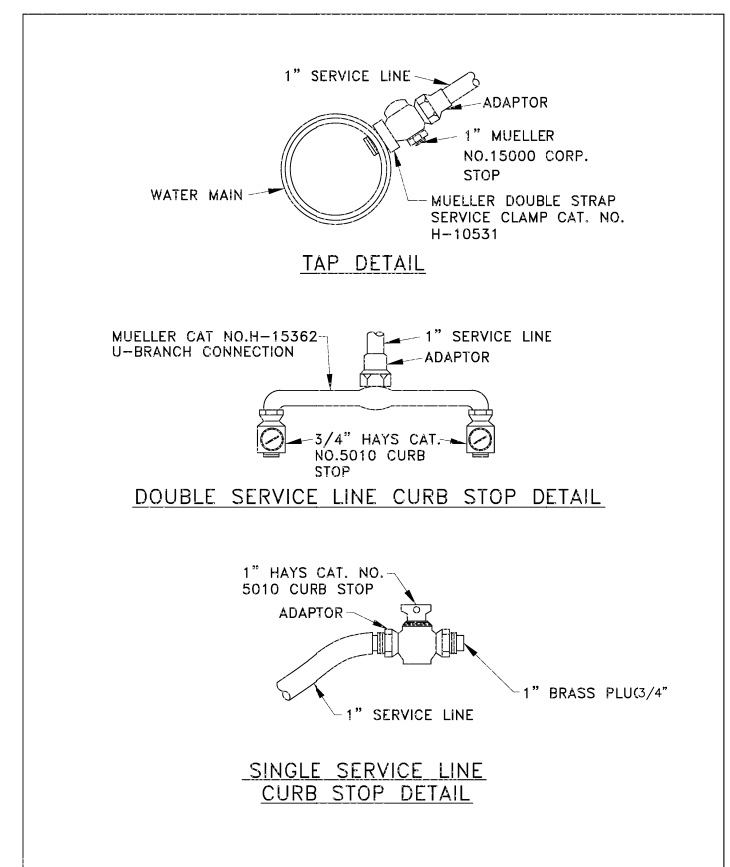
REVISIONS	CITY OF MONTGOMERY GATE VALVE & BOX INSTALLATION 14" AND SMALLER WATERLINE	WATER
		W-11

**BENCHMARK:**  
 ALL ELEVATIONS SET TO NGS. NAVD 88.  
 MONUMENT DESIGNATION ELEV. 190.963  
 BRASS DISC SET IN CONCRETE LOCATED BY  
 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' AT OFFFALL #1000  
 100YR. W.S.E. = 305.61' AT OFFFALL #1001  
 100YR. W.S.E. = 279.14' AT OFFFALL #1002  
 100YR. W.S.E. = 279.68' AT OFFFALL #1003  
 100YR. W.S.E. = 297.86' AT OFFFALL #1004  
 100YR. W.S.E. = 297.42' AT OFFFALL #1005  
 FIRM PANEL NO.48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

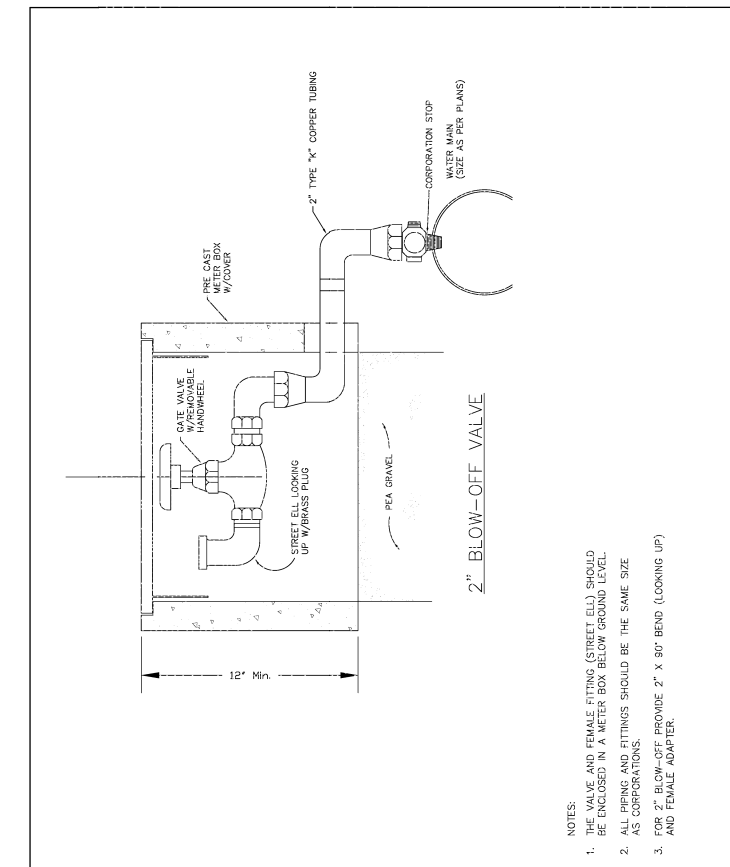
- NOTES:**
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB



REVISIONS	CITY OF MONTGOMERY WATER SERVICE CONNECTION	WATER
		W-8



REVISIONS	CITY OF MONTGOMERY CURB STOP & TAP FOR WATERLINE	WATER
		W-10



REVISIONS	CITY OF MONTGOMERY 2" BLOW-OFF VALVE FOR WATERLINE	WATER
		W-13

DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER  
 SIGNATURE VALID FOR ONE (1) YEAR

DATE

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

WATER DETAILS II

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Suite 600  
 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026  
 FRN - F-1386

LJA PROJECT NO.: 2980-0101

SCALE: N.T.S.





Date: Wed, 06 Mar 2024 4:20pm  
 Path: I:\Projects\2980\0101\Sheets\35 WATER DETAILS III.dwg

PIPE SIZE	"A"	"B"	"C"
16"	48"	10" SQ.	16" SQ.
18"	48"	12" SQ.	18" SQ.
20"	54"	12" SQ.	20" SQ.

**NOTES:**

- PLACE 1/2" EXPANSION JOINT MATERIAL AROUND WATER PIPE WHERE IT PASSES THROUGH CONCRETE VAULT.
- VALVES 18" AND LARGER SHALL HAVE SPUR GEARING WITH GREASE CASE.
- NOTE: LARGER DIAMETER R.C.P. MAY BE REQUIRED DEPENDENT UPON MANUFACTURER'S STANDARD SIZE FOR GATE VALVE.
- PROVIDE CORPORATION WITH COPPER RISER AND CURB STOP AT A MAXIMUM OF 12" FROM EACH END OF GATE VALVE AS SHOWN. CORPORATION AND CURB STOP SIZES SHALL BE 1". EXTEND RISER TO WITHIN 24" OF TOP OF MANHOLE.
- VALVES, BYPASS, CORPORATION STOP AND PIPING SHALL BE DESIGNED TO OPERATE AT THE MAXIMUM PRESSURES AS DESCRIBED IN THE SPECIFICATIONS.

REVISIONS	CITY OF MONTGOMERY GATE VALVE & VAULT INSTALLATION 16" AND LARGER WATERLINE	WATER W-12
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**NOTES:**

- THE VALVE AND FEMALE FITTING (STREET END) SHOULD BE ENCLOSED IN A METER BOX BELOW GROUND LEVEL, AS CORPORATIONS.
- ALL PIPING AND FITTINGS SHOULD BE THE SAME SIZE AS CORPORATIONS.
- FOR 2" BLOW-OFF PROVIDE 2" X 90° BEND (LOOKING UP) AND FEMALE ADAPTER.

REVISIONS	CITY OF MONTGOMERY 2" BLOW-OFF VALVE FOR WATERLINE	WATER W-13
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**WATER MAIN  
AUTOMATIC AIR RELEASE VALVE  
ELEVATION DETAIL**

NOTE: FOR LOCATION OF INSTALLATION SEE PLAN AND PROFILE SHEETS.

REVISIONS	CITY OF MONTGOMERY WATER MAIN AUTOMATIC AIR RELEASE VALVE	WATER W-14
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**NOTES:**

- Hydrants shall be also coated with a suitable primer and then painted to City of Montgomery color blue, and the term 'Red' Below ground. If the hydrant is to be installed above ground, the color enamel or enamel base bituminous thickness shall not less than one (1) mil thickness.
- Fire hydrants in open ditch roadways shall be 3'-ft. off R.O.W.
- Mechanical joints and/or elcon clamps are to be used together using 5/8" all thread (See W-12).

REVISIONS	CITY OF MONTGOMERY FIRE HYDRANT INSTALLATION	WATER W-15
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 MONUMENT DESIGNATION ELEV. 190.963  
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 COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
 100YR. W.S.E. = 299.04' OUTFALL #1000  
 100YR. W.S.E. = 305.61' AT OUTFALL #1001  
 100YR. W.S.E. = 279.14' AT OUTFALL #1002  
 100YR. W.S.E. = 279.68' AT OUTFALL #1003  
 100YR. W.S.E. = 297.86' AT OUTFALL #1004  
 100YR. W.S.E. = 297.42' AT OUTFALL #1005  
 FIRM PANEL NO.48339C0200G & 48339C0350G  
 EFFECTIVE DATE: AUGUST 18, 2014  
 THIS AREA LIES IN ZONE "X".

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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 SIGNATURE VALID FOR ONE (1) YEAR

CITY OF MONTGOMERY  
 MUNICIPAL UTILITY  
 DISTRICT NO. 215

REDBIRD MEADOWS  
 PHASE 1A

WATER DETAILS III

**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Phone 713.953.5200  
 Suite 600 Fax 713.953.5026  
 Houston, Texas 77042 FRN - F-1386

LJA PROJECT NO.: 2980-0101

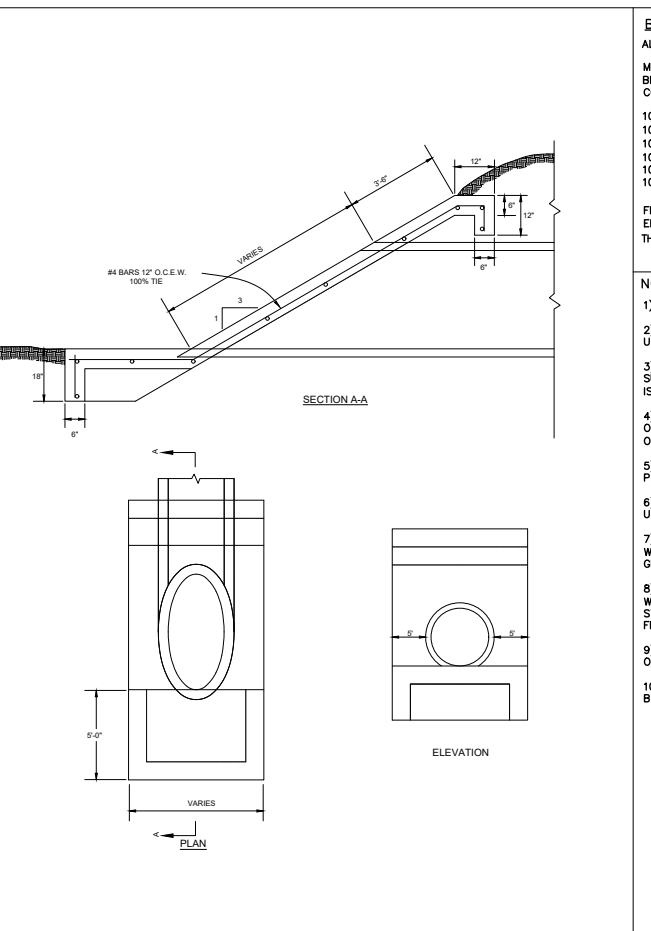
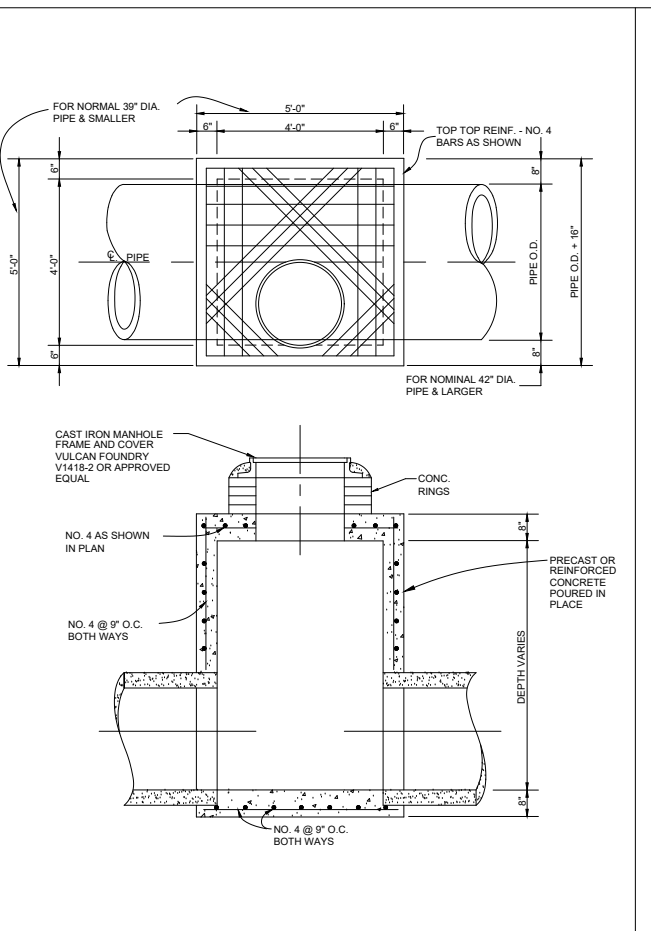
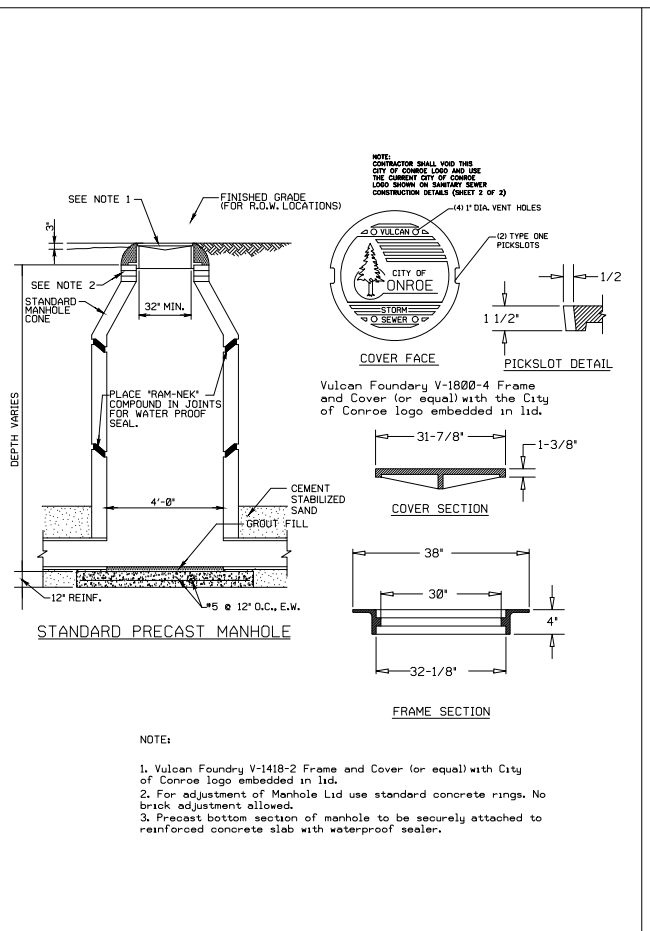
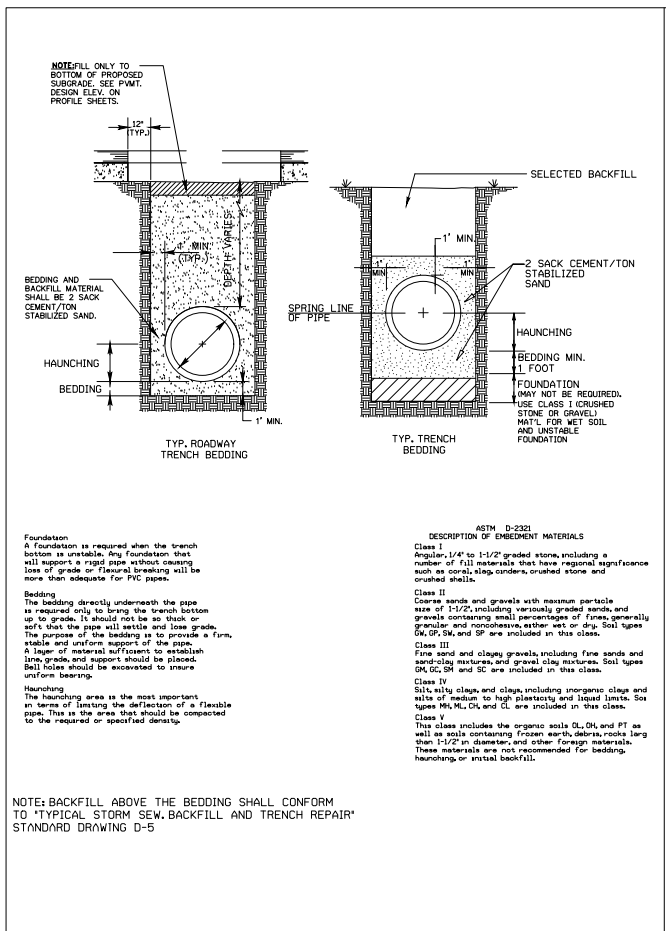
DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB.2024

SCALE: N.T.S. SHEET NO. 43 OF 47



03/07/2024

REDBIRD MEADOWS PHASE 1A - 2980-0101

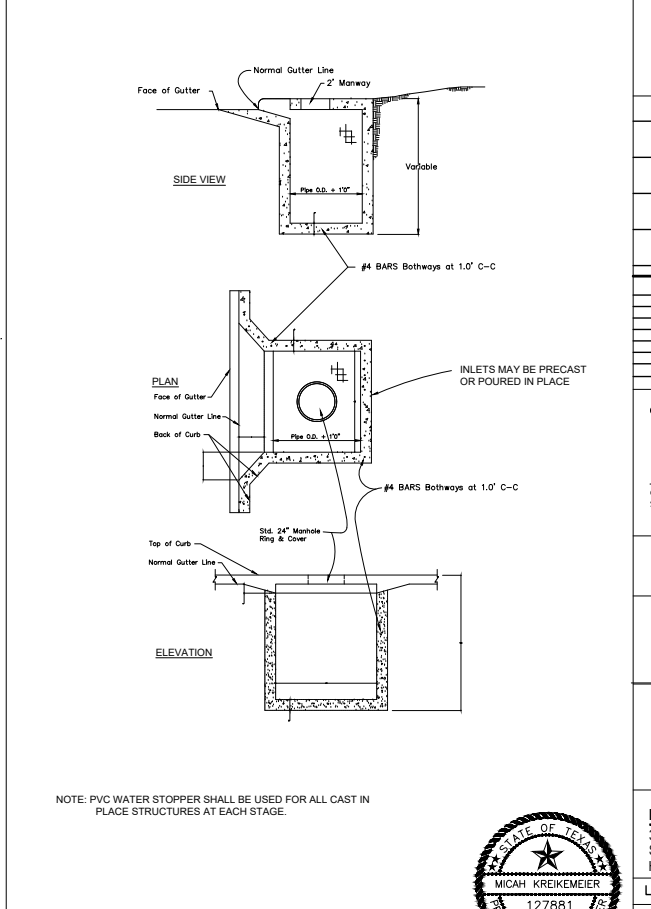
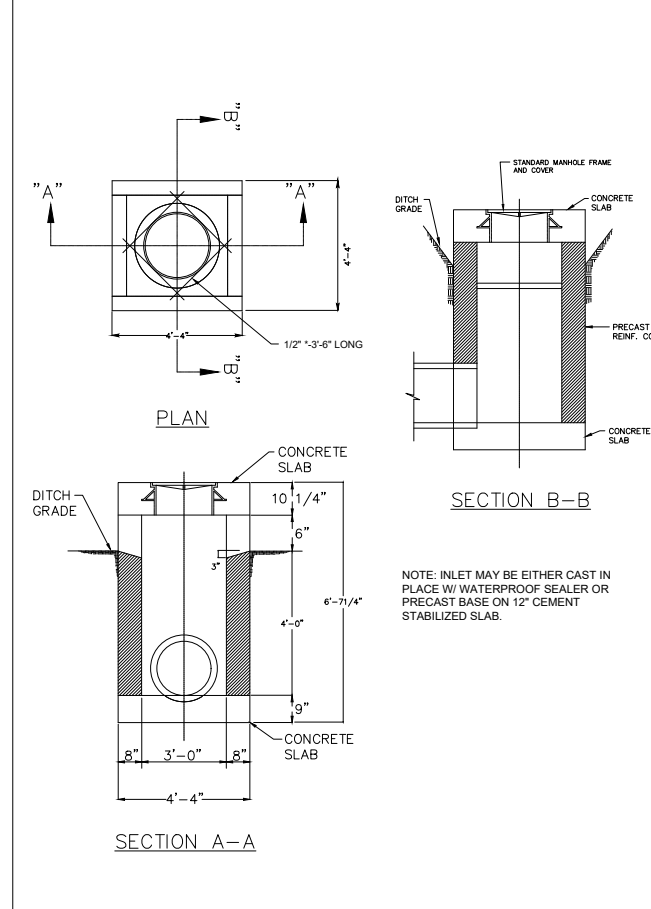
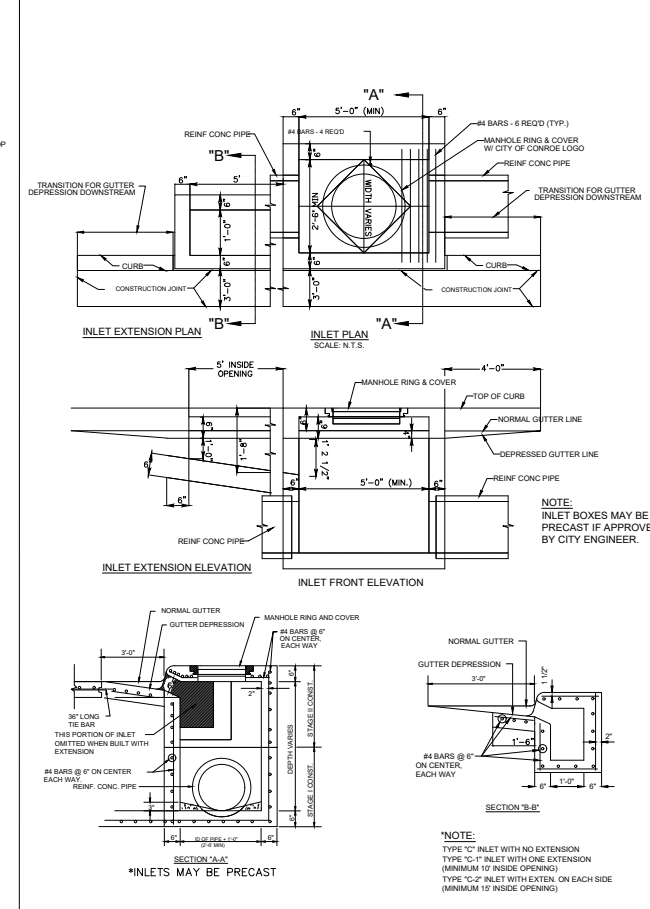
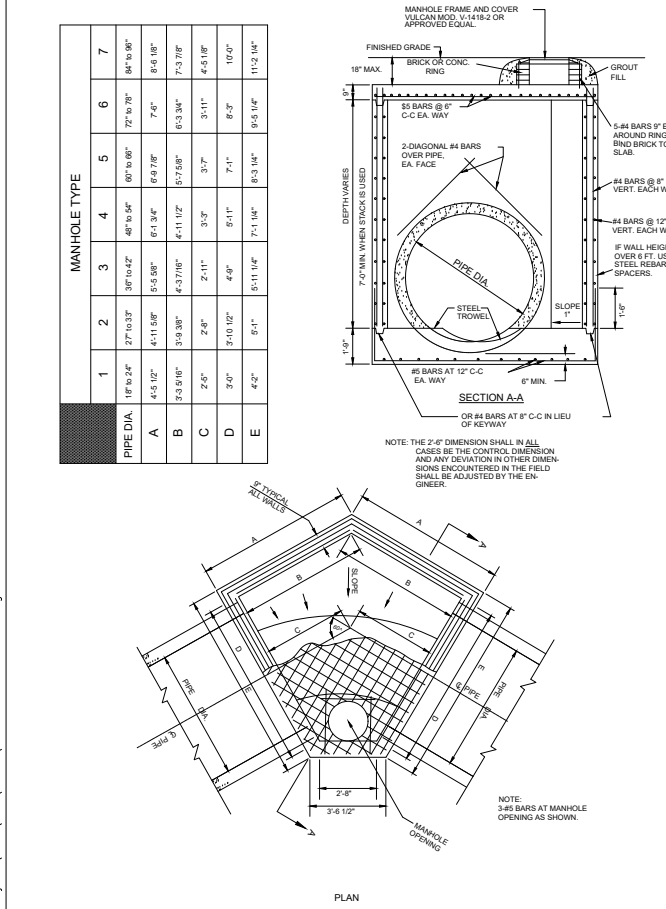


REVISIONS	CITY OF CONROE	DWG. NO. 1201
	MODIFIED TYPICAL STORM SEWER BEDDING TRENCH DETAIL	D-4

REVISIONS	CITY OF CONROE	DWG. NO. 1201
	MODIFIED STORM SEWER MANHOLE	D-6

REVISIONS	CITY OF CONROE	DWG. NO. 1201
	STANDARD SQUARE STORM DRAIN MANHOLE	D-7

REVISIONS	CITY OF CONROE	DWG. NO. 1201
	MODIFIED EFFLUENT/INFLUENT STORM HEADWALL	D-12



REVISIONS	CITY OF CONROE	DWG. NO. 1201
	MANHOLE TYPES 1-7	D-13

REVISIONS	CITY OF CONROE	DWG. NO. 1201
	MODIFIED TYPE "C", "C-1" & "C-2" INLETS	D-16

REVISIONS	CITY OF CONROE	DWG. NO. 1201
	TYPE "E" INLET	D-18

REVISIONS	CITY OF CONROE	DWG. NO. 1201
	TYPICAL RECESSED INLET DETAILS	D-20

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DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215  
 REDBIRD MEADOWS PHASE 1A

DRAINAGE DETAILS I

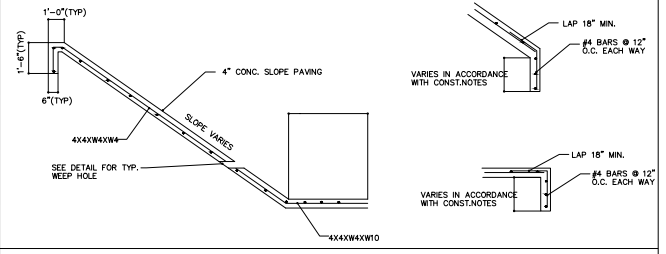
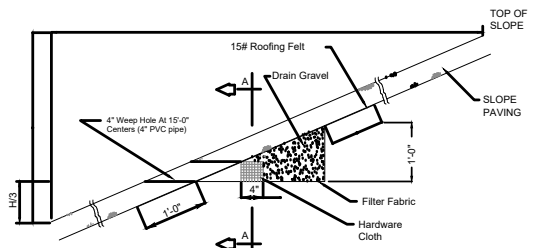
**LJA Engineering, Inc.**  
 3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042  
 Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386  
 LJA PROJECT NO.: 2980-0101  
 DRAWN: T.C.M./D.D. DESIGN: S.G.M.B. DATE: FEB. 2024  
 SCALE: N.T.S.



Date/Time : Wed, 06 Mar 2024 4:20pm Path : I:\Projects\2980\0101\Sheets\36\_DRAINAGE\_DETAILS.dwg

REBIRD MEADOWS PHASE 1A - 2980-0101

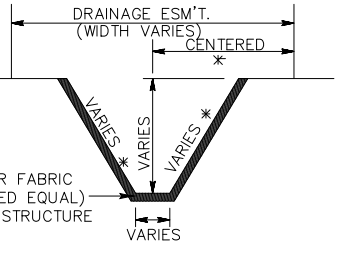




SLOPE PAVING DETAIL

NOTE:  
CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.

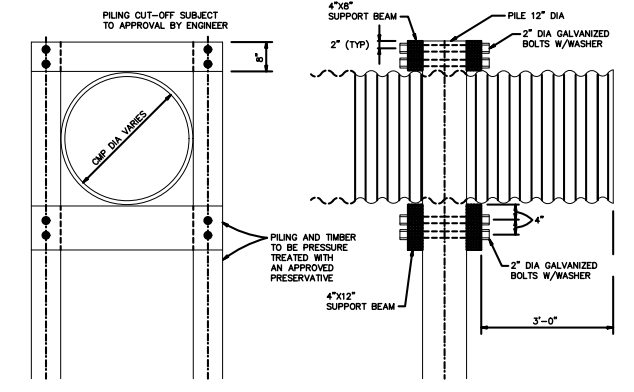
NOTE:  
SLOPE & LOCATION OF SWALES MAY VARY (AS DIRECTED BY OWNER)



OUTFALL DITCH AND OVERFLOW SWALE DETAIL

NON WOVEN POLYESTER FILTER FABRIC (TREVIRA S-1145 OR APPROVED EQUAL) UNDER RIPRAP ADJACENT TO STRUCTURE (NO SEPERATE PAY).

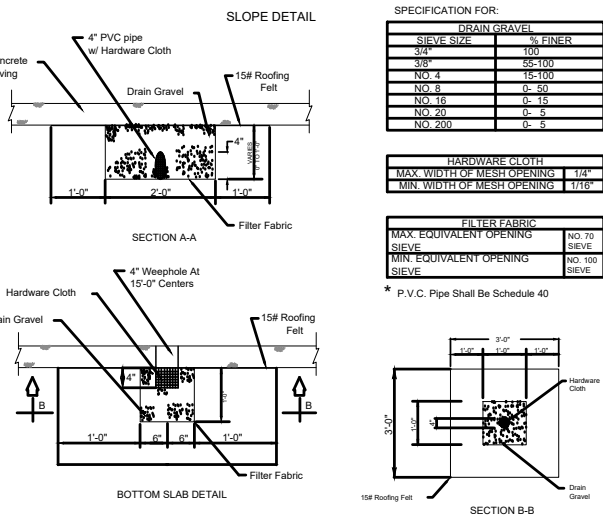
ALL STORM OUTFALLS WILL HAVE OVER FLOW SWALES CONSTRUCTED OVER THE DRAINAGE PIPE UNLESS OTHERWISE DIRECTED BY OWNER.



TIMBER BENT FOR CORRUGATED METAL PIPE OUTFALL 48-INCH AND LARGER

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100YR. W.S.E. = 279.14' AT OUTFALL #1002  
100YR. W.S.E. = 279.68' AT OUTFALL #1003  
100YR. W.S.E. = 297.86' AT OUTFALL #1004  
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FIRM PANEL NO.48339C0200G & 48339C0350G  
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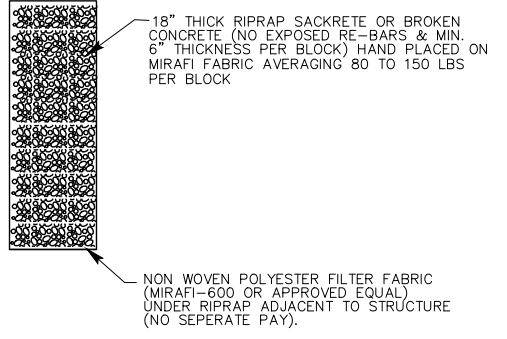
SPECIFICATION FOR:

DRAIN GRAVEL	
SI&E	% FINER
3/8"	100
No. 4	75-100
No. 8	0-50
No. 16	0-15
No. 20	0-5
No. 200	0-5

HARDWARE CLOTH	
MAX. WIDTH OF MESH OPENING	1/4"
MIN. WIDTH OF MESH OPENING	1/16"

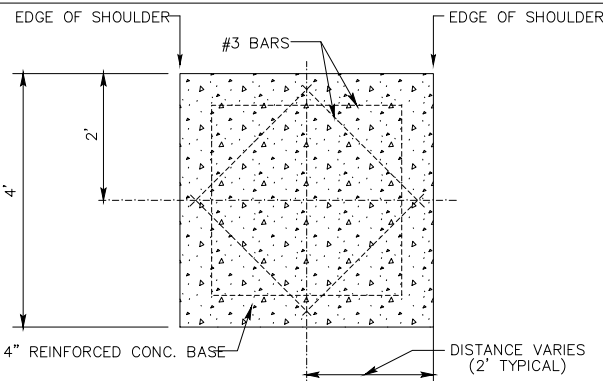
FILTER FABRIC	
MAX. EQUIVALENT OPENING	NO. 70 SIEVE
MIN. EQUIVALENT OPENING	NO. 100 SIEVE

\* P.V.C. Pipe Shall Be Schedule 40

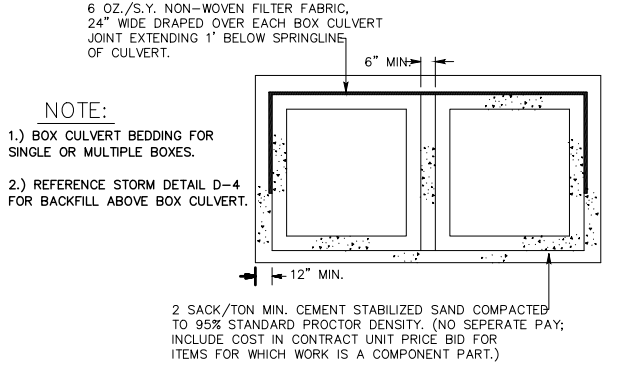


**NOTES:**  
1.) NON WOVEN POLYESTER FILTER FABRIC (MIRAFI-600 OR APPROVED EQUAL) UNDER RIPRAP ADJACENT TO STRUCTURE (NO SEPERATE PAY).  
2.) 18" THICK RIPRAP SACKRETE OR BROKEN CONCRETE (NO EXPOSED RE-BARS & MIN. 6" THICKNESS PER BLOCK) HAND PLACED ON MIRAFI FABRIC AVERAGING 80 TO 150 LBS PER BLOCK

RIPRAP



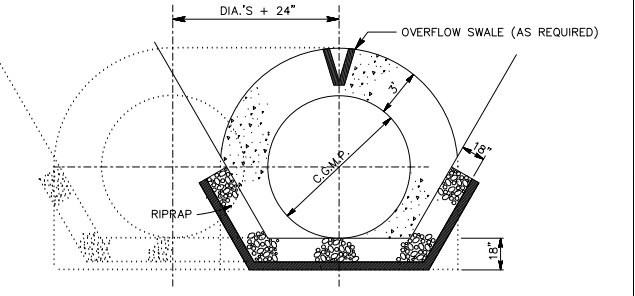
TYPICAL MANHOLE CAP DETAIL (N.T.S.)



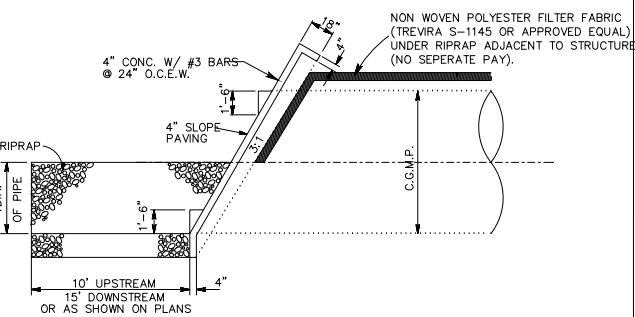
BOX CULVERT BEDDING DETAIL

NOT TO SCALE

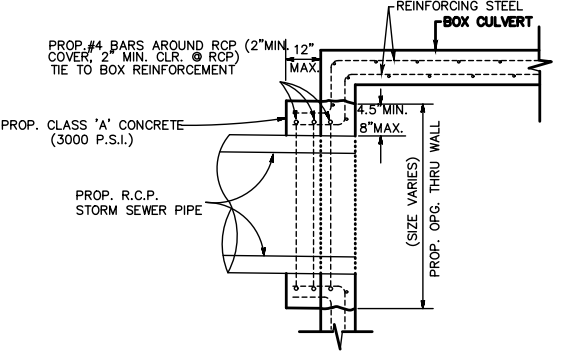
REVISIONS	CITY OF CONROE	DWG. NO. 1202
	WEEP HOLE DETAIL	D-26



**NOTES:**  
1.) 4" CLASS "A" REINFORCED CONCRETE WITH 18" TOEWALL ALL AROUND.  
2.) 18" THICK RIPRAP SACKRETE OR BROKEN CONCRETE (NO EXPOSED RE-BARS & MIN. 6" THICKNESS PER BLOCK) HAND PLACED ON TREVIRA FABRIC AVERAGING 50 TO 120 LBS PER BLOCK  
3.) C.G.M.P. W/ 1.5' STEP BEVELED ENDS (UPSTREAM & DOWNSTREAM).  
4.) 2' REBAR DRIVEN THROUGH ALTERNATE SACKS.



SLOPE PROTECTION DETAIL NO. 1 SINGLE OR DOUBLE



**NOTES:**  
1. HOLE CUT IN WALL OF BOX TO BE NEAT AND DONE IN A WORKMANLIKE MANNER.  
2. TIE THE PROP. COLLAR STEEL TO LONGITUDINAL AND ELLIPTICAL STEEL, WHERE APPLICABLE.  
3. ALL REINFORCING STEEL TO CONFORM TO ASTM A-615, GRADE 60. PROVIDE 30-BAR DIAMETER LAPS FOR CYLINDRICAL STEEL. ALL LONGITUDINAL STEEL SHOULD BE OF ADEQUATE LENGTH TO PROVIDE LAP TIE TO REINFORCING STEEL.

STORM SEWER/BOX CULVERT CONCRETE COLLAR NOT TO SCALE (INCIDENTAL TO STORM SEWER CONSTRUCTION)

STORM CONSTRUCTION NOTES

- STORM SEWER AND LEADS SHALL BE REINFORCED CONCRETE PIPE, ASTM C-76, CLASS III, WITH O-RING RUBBER GASKET JOINTS, AND SHALL BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH CITY OF CONROE STANDARD DETAIL AND DETAILS WITHIN THESE PLANS.
- ALL REINFORCED CONCRETE BOX CULVERTS SHALL CONFORM TO ASTM C 1433 REQUIREMENTS UNLESS SPECIFICALLY ESTABLISHED OTHERWISE IN THE CONSTRUCTION PLANS.
- ALL PROPOSED PIPE STUB OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8 INCH BRICK WALLS UNLESS OTHERWISE NOTED.
  - ALL BOX CULVERTS INSTALLED SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF CEMENT STABILIZED SAND (CEMENT STABILIZED SAND SHALL BE 2 SACKS CEMENT PER TON).
  - FOR INSTALLATION OF PRE-CAST CONCRETE BOX CULVERTS IN POOR SOIL CONDITIONS, A 7 INCH REINFORCED CONCRETE SLAB SHALL BE INSTALLED.
  - FOR INSTALLATION OF MONOLITHIC REINFORCED CONCRETE BOX CULVERTS IN POOR SOIL CONDITIONS, A 4 INCH THICK CLASS "C" CONCRETE SEAL SLAB SHALL BE INSTALLED, PRIOR TO CONSTRUCTION OF BOX CULVERTS.
- STORM SEWER MANHOLES SHALL BE STANDARD PRE-CAST, CAST IN PLACE OR CONSTRUCTED OF BRICK.
- ALL INLETS TO BE CITY OF CONROE TYPE "C", "C-1" OR "C-2" UNLESS OTHERWISE STATED ON PLANS. ALL INLETS INCLUDE ALL DEPTHS AND ARE TO BE STAGE-CONSTRUCTED. ALL TYPE C INLETS SHALL USE A PRECAST SECTION FOR STAGE I OF THE INLET. STAGE II INLETS MAY BE EITHER PRECAST OR CAST-IN-PLACE.
- ALL STORM SEWER LEADS SHALL BE 24 INCH MINIMUM UNLESS OTHERWISE INDICATED.
- GRADE DROP ON LEAD INLETS TO BE A MINIMUM OF 0.20 FOOT. GRADE DROP BETWEEN INLET AND MANHOLES TO BE 0.10 FOOT UNLESS OTHERWISE SHOWN.
- WHEN MANHOLE FRAME AND COVER IS REQUIRED, USE VULCAN FOUNDRY V-1418-Z FRAME AND COVER (OR EQUAL) WITH THE CITY OF CONROE LOGO EMBEDDED IN LID. FOR ADJUSTMENT OF MANHOLE LIDS USE STANDARD CONCRETE RINGS.
- CONCRETE USED FOR ALL POURED-IN-PLACE MANHOLES, INLETS, WINGWALLS, HEADWALLS AND OTHER APPURTENANCES TO BE CLASS "A" CONCRETE WITH 4,000 PSI STRENGTH AT 28 DAYS. CONCRETE SLOPE PROTECTION TO BE CLASS "B" CONCRETE WITH 3000 PSI STRENGTH AT 28 DAYS.
- CORNERS OF ALL EXPOSED CONCRETE STRUCTURES SHALL BE CHAMFERED 3/4".
- CONTRACTOR SHALL PROVIDE A MINIMUM VERTICAL CLEARANCE OF 6 INCHES AND HORIZONTAL CLEARANCE OF 4 FEET FROM PROPOSED STORM SEWER AND OTHER UTILITIES.
- ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.
- STORM SEWER MANHOLE RIMS SHALL BE 6 INCHES ABOVE NATURAL GROUND. BACKFILL SHALL BE ADDED AND SLOPED AWAY FROM THE MANHOLE RIM FOR DRAINAGE PURPOSES.
- WHEN STORM SEWER IS UNDER OR WITHIN 1' OF PAVEMENT, STORM SEWER TO BE BACKFILLED WITH CEMENT STABILIZED SAND.

DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

DRAINAGE DETAILS II

**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Houston, Texas 77042  
Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386

LJA PROJECT NO.: 2980-0101  
DRAWN: T.C.M/D.D. DESIGN: S.G.M.B. DATE: FEB. 2024

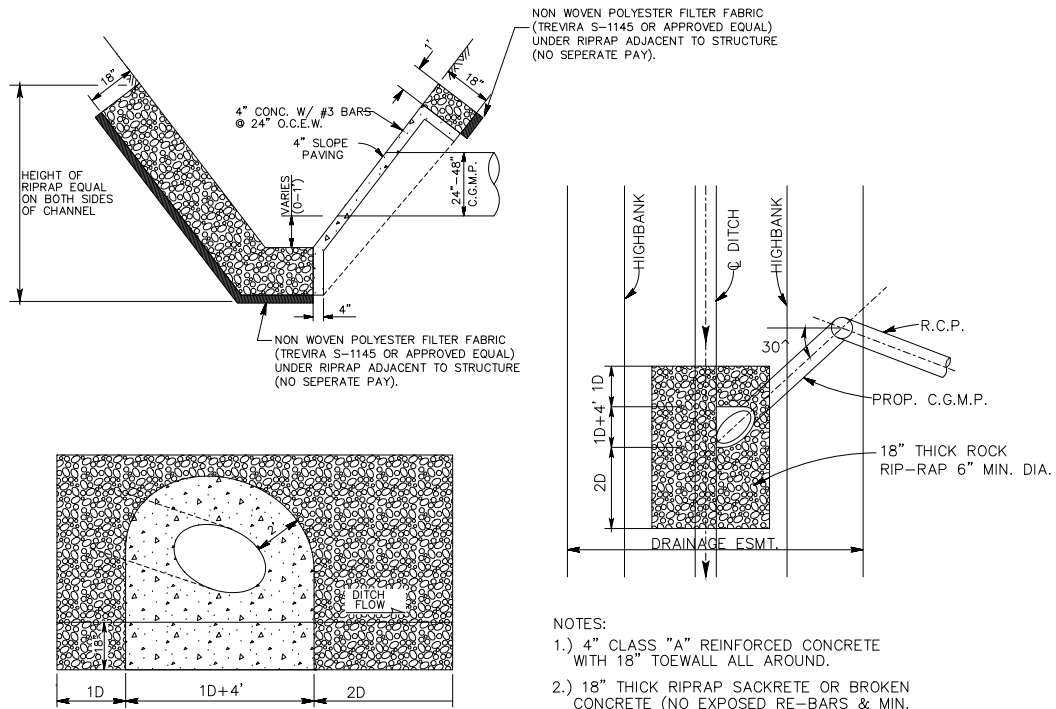
SCALE: N.T.S. SHEET NO. 45 OF 47



03/07/2024

Date: Wed, 06 Mar 2024 4:20pm  
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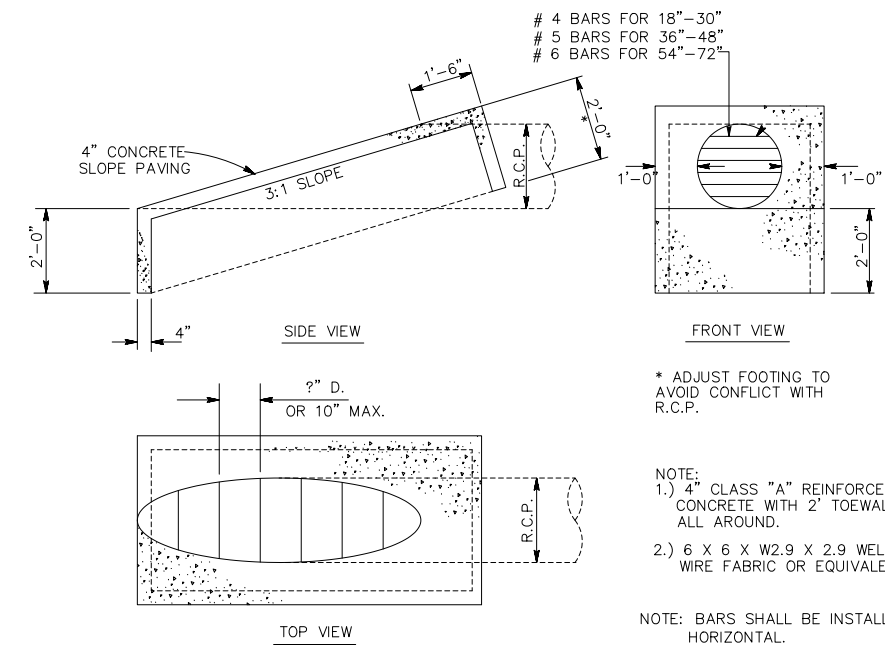
REDBIRD MEADOWS PHASE 1A - 2980-0101



- NOTES:
- 1.) 4" CLASS "A" REINFORCED CONCRETE WITH 18" TOEWALL ALL AROUND.
  - 2.) 18" THICK RIPRAP SACKRETE OR BROKEN CONCRETE (NO EXPOSED RE-BARS & MIN. 6" THICKNESS PER BLOCK) HAND PLACED ON TREVIRA FABRIC AVERAGING 50 TO 120 LBS PER BLOCK
  - 3.) C.G.M.P. W/ 1.5' STEP BEVELED ENDS (UPSTREAM & DOWNSTREAM).
  - 4.) 2' REBAR DRIVEN THROUGH ALTERNATE SACKS.

NOTE:  
BOX CULVERT SLOPE PROTECTION SHALL COMPLY WITH THESE DIMENSIONS AND REQUIREMENTS MODIFIED FOR RECTANGULAR CONFIGURATON

DITCH OUTFALL W/SLOPE PROTECTION  
DETAIL NO. 2

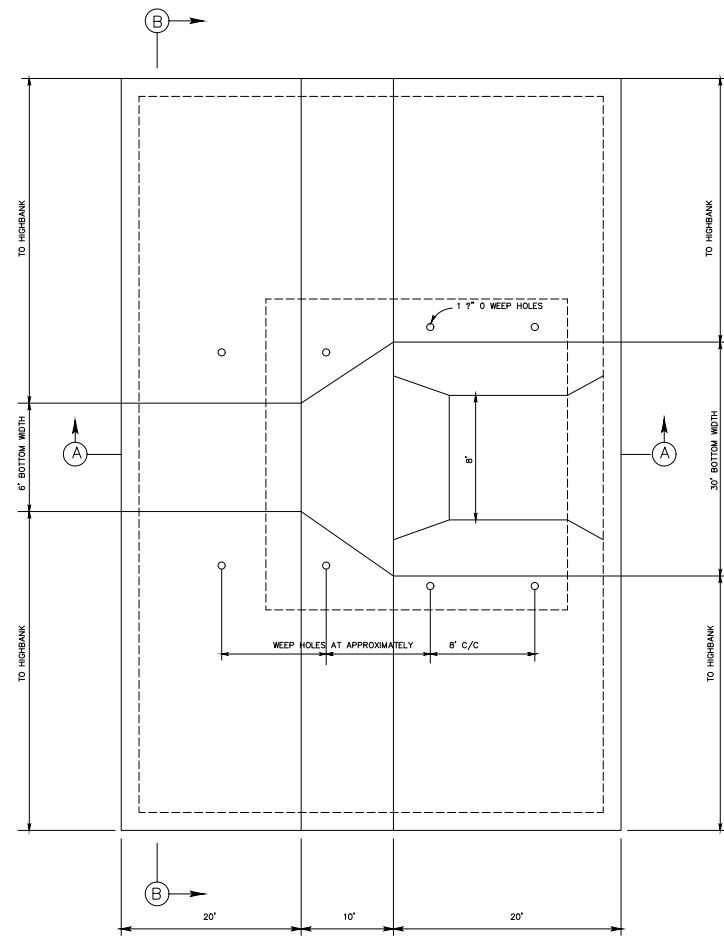
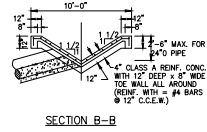
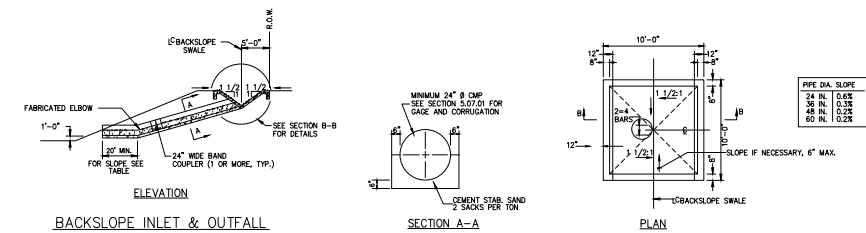


\* ADJUST FOOTING TO AVOID CONFLICT WITH R.C.P.

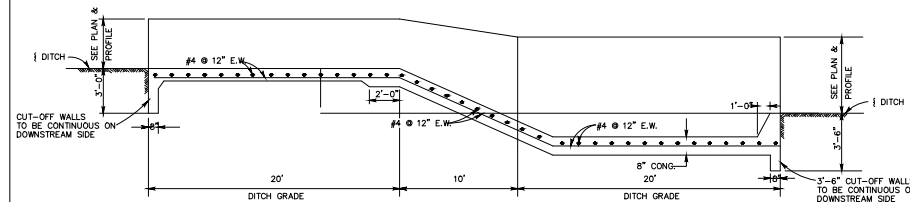
- NOTE:
- 1.) 4" CLASS "A" REINFORCED CONCRETE WITH 2' TOEWALLS ALL AROUND.
  - 2.) 6 X 6 X W2.9 X 2.9 WELDED WIRE FABRIC OR EQUIVALENT.

NOTE: BARS SHALL BE INSTALLED HORIZONTAL.

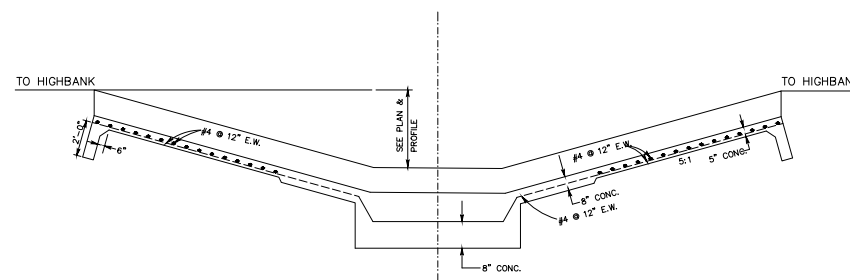
3:1 SLOPED END SECTION DETAIL



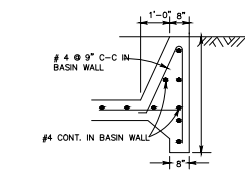
DROP STRUCTURE PLAN



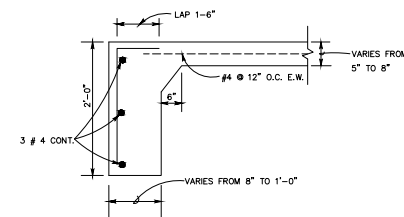
SECTION A



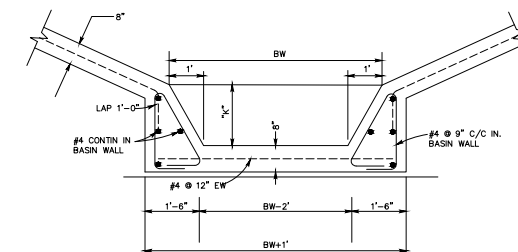
SECTION B



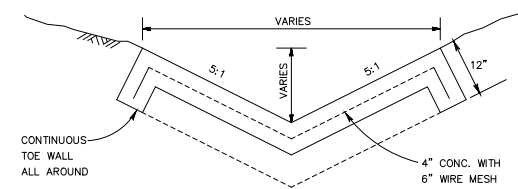
CUT-OFF WALL DETAIL



TOE WALL DETAIL



BASIN WALL DETAIL



CONCRETE OVERFLOW SWALE

(NOT TO SCALE)

**BENCHMARK:**  
ALL ELEVATIONS SET TO NGS. NAVD 88.  
MONUMENT DESIGNATION ELEV. 190.963  
BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,502,367.4350 Y = 255,445.6670  
100YR. W.S.E. = 299.04' OUTFALL #1000  
100YR. W.S.E. = 305.61' AT OUTFALL #1001  
100YR. W.S.E. = 279.14' AT OUTFALL #1002  
100YR. W.S.E. = 279.68' AT OUTFALL #1003  
100YR. W.S.E. = 297.86' AT OUTFALL #1004  
100YR. W.S.E. = 297.42' AT OUTFALL #1005  
FIRM PANEL NO.48339C0200G & 48339C0350G  
EFFECTIVE DATE: AUGUST 18, 2014  
THIS AREA LIES IN ZONE "X".

- NOTES:
- 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
  - 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.
  - 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.
  - 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.
  - 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.
  - 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.
  - 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.
  - 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB
  - 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB

DATE	REVISION	BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR DATE

CITY OF MONTGOMERY MUNICIPAL UTILITY DISTRICT NO. 215

REDBIRD MEADOWS PHASE 1A

DRAINAGE DETAILS III

**LJA Engineering, Inc.**  
3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042  
Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386

LJA PROJECT NO.: 2980-0101

SCALE: N.T.S.

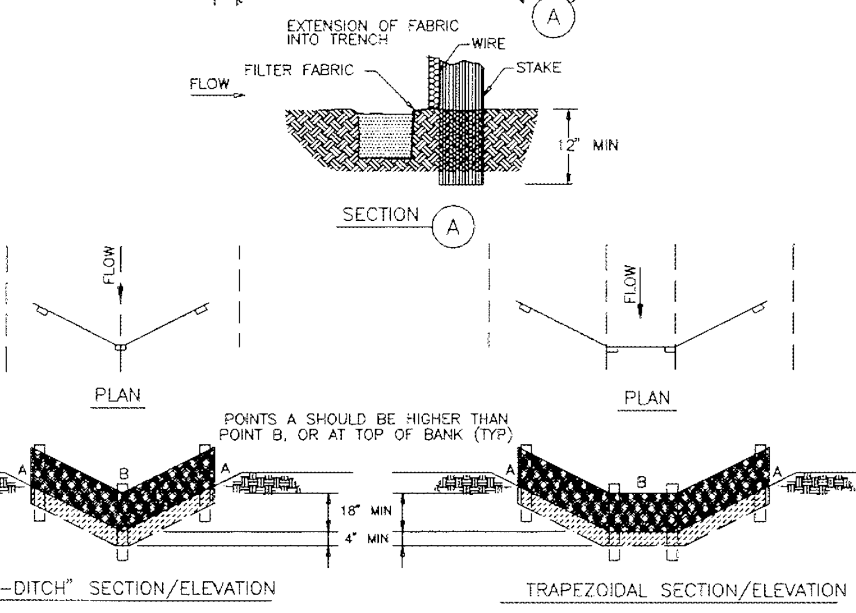
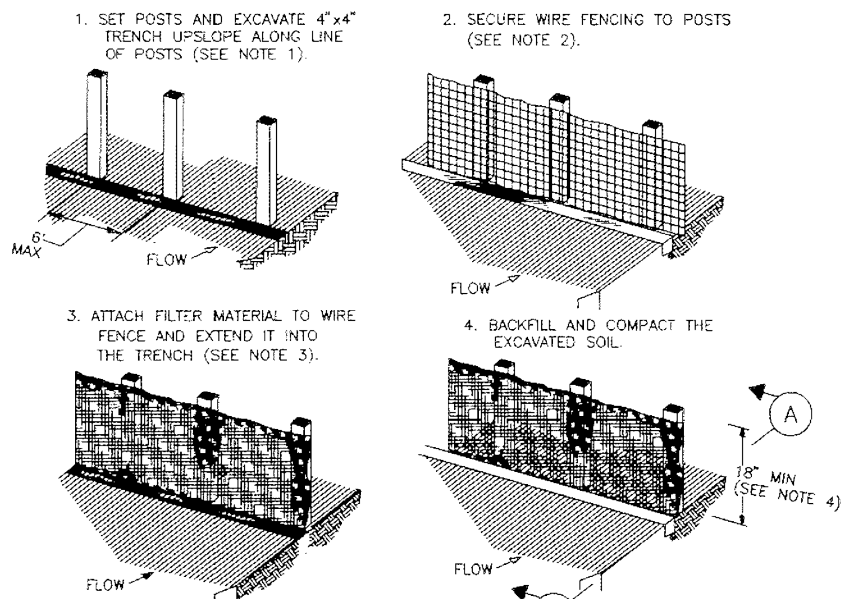
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SHEET NO. 46 OF 47



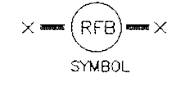
03/07/2024



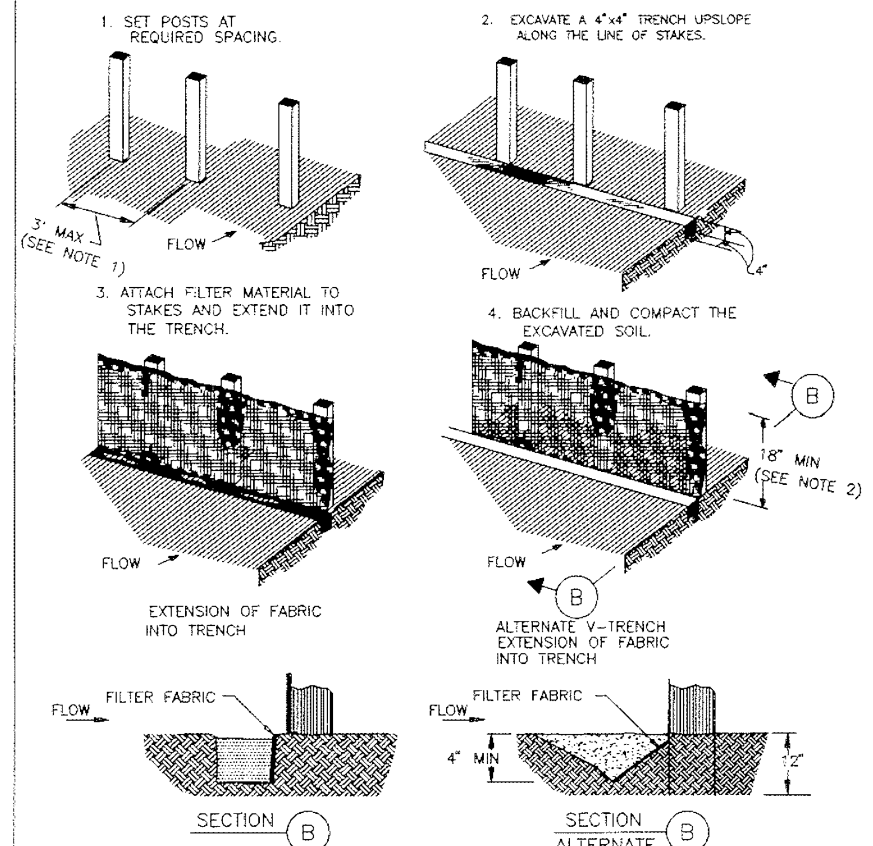


**CONSTRUCTION NOTES:**

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

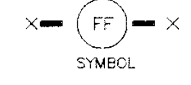


REINFORCED FILTER FABRIC BARRIER

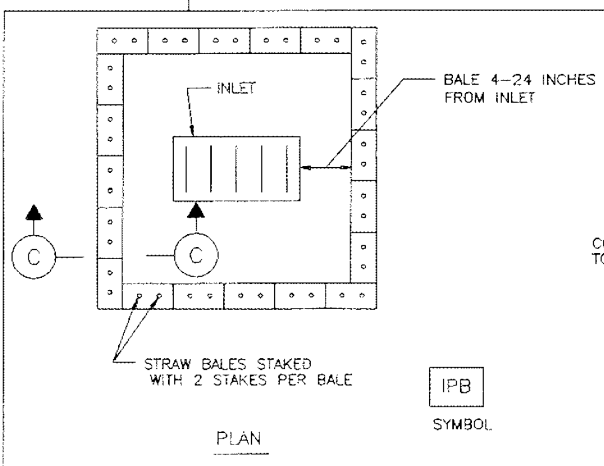


**CONSTRUCTION NOTES:**

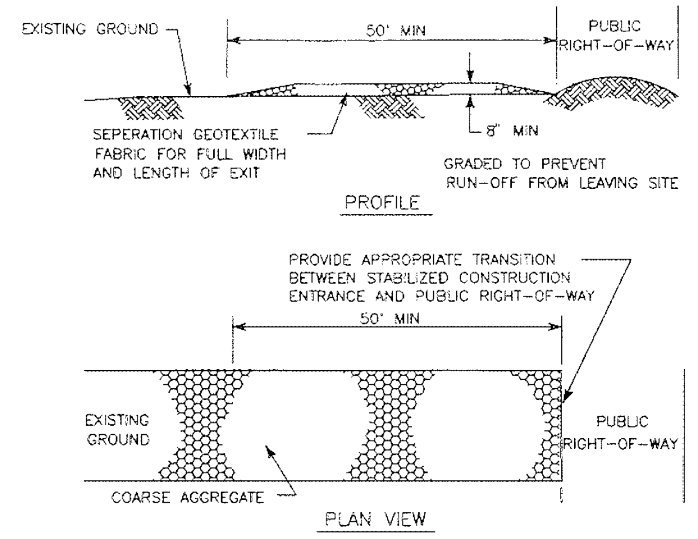
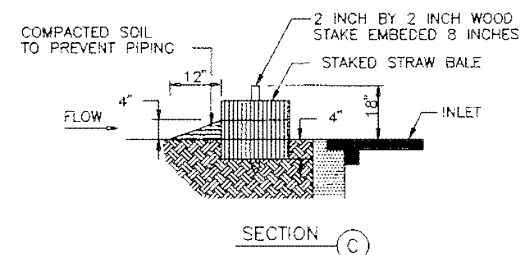
1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC FENCE SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC FENCE.



FILTER FABRIC FENCE

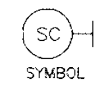


STRAW BALE DROP INLET PROTECTION BARRIER

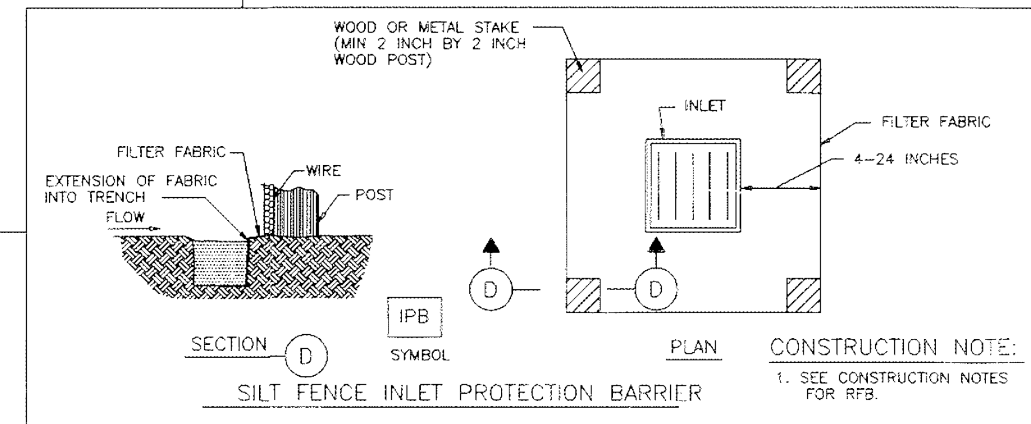


**CONSTRUCTION NOTES:**

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMMODATE A TRUCK WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
6. SEE COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION EXIT.
7. STABILIZED CONSTRUCTION EXIT SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.



STABILIZED CONSTRUCTION EXIT



SILT FENCE INLET PROTECTION BARRIER

- CONSTRUCTION NOTE:**
1. SEE CONSTRUCTION NOTES FOR RFB.

**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING  
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

STORM WATER POLLUTION  
PREVENTION PLAN DETAILS  
(NOT TO SCALE)

APPROVED BY:  
*S. Soudafin*  
CITY ENGINEER

APPROVED BY:  
*J. M. [Signature]*  
DIRECTOR OF PUBLIC  
WORKS AND ENGINEERING

EFF DATE: OCT-01-2002 DWG NO: 01571-01



03/07/2024

SHEET No: 47 OF 47

REDBIRD MEADOWS PHASE 1A - 2980-0101