City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 17

Background/Information:
An application for a preliminary plat was received on March 30, 2022. Re-submittal was received June 17, 2022.

Comments:
Letter of No Objection was issued by City Engineer June 22, 2022.

Action Requested:
Approve preliminary plat for Magnolia Ridge Forest Section 20.

Recommendation:
Approve preliminary plat for Magnolia Ridge Forest Section 20.

Attachments:
Preliminary Plat

Preliminary Plat Application Form

This form shall be submitted with each application for a preliminary plat.

CONTACT INFORMATION

Applicant

Katy Harris
Name

3600 W. Sam Houston Pkwy. S.
Street Address

Houston, TX 77042
City, State Zip

713-358-8536
Phone

N/A
Fax

kharris@lja.com
E-mail

Property Owner (if different)

M/I Homes Houston, LLC.
Name

10720 W. Sam Houston Pkwy. N. #100
Street Address

Houston, TX 77064
City, State Zip

281-223-1602
Phone

N/A
Fax

bboozer@mihomes.com
E-mail

Architect (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Engineer/Land Surveyor (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Project Name: Magnolia Ridge Subdivision: Section 20 Reviewer: _____

PROPERTY PROFILE

Legal Description Edward Taylor Survey, A-554
(Subdivision) (Lot) (Block)

Current Zoning NC. 1

Present Use of Property
Undeveloped acreage

Proposed Use of the Property
Single Family Residential

Total Area of Site 41.3 acres

Project Name: Mustang Ridge Subdivision: Section 20 Reviewer: _____

1. Description of existing property. If the property has been previously subdivided, provided the lot(s), block(s), and subdivision name. If the property has been subdivided, provide the metes and bounds description:
   Acreage.
   _____
   _____
   _____

2. Description of proposed property change, including lot numbers, name, etc.
   Single Family Residential with 132 lots.
   _____
   _____
   _____

Required Information

- ☒ Three (3) copies of the preliminary plat; minimum 20 in. x 24 in. size in blue or black line
- ☒ All fees
- ☒ One (1) Adobe Acrobat PDF of each page presented to the City for review
- ☒ Title opinion (title search) from a title guaranty company not more than 30 days old
- ☒ Three (3) original copies of a letter of transmittal
- ☒ Vicinity map
- ☒ North arrow
- ☐ Revision date
- ☒ Legal description of the parcel proposed for subdivision
- ☒ Scale
- ☒ Contour lines (at one-foot intervals)
- ☒ Tabulations that include:
  - ☒ The number of lots in the subdivision
  - ☒ The size of the parcel
  - ☐ Water available for fire protection
- ☒ Use and ownership of abutting parcels or lots
- ☒ Location and dimensions of right-of-ways, lots, utility easements, open spaces, and buffers
- ☐ Required justifications for cul-de-sacs, if cul-de-sacs are proposed
- ☒ Three (3) copies of blue or black line prints of the preliminary plans for the furnishings of water, sanitary sewer facilities, and provisions for storm sewers and general drainage facilities
- ☒ Proposed generalized use of lots (*e.g.*, mixed-use, single-family attached, multi-family, industrial, commercial or office, or institutional), provided on a separate attached description
- ☐ Location and size of proposed parks, playgrounds, civic (including church) or school sites or other special uses of land to be considered for dedication to public use, provided on a separate attached description
- ☒ If the proposed subdivision is to be constructed in several phases, a staging plan that shows how the subdivision improvements will be phased. Anticipated time lines for construction of the improvements shall be provided on a separate attached description
- ☐ Statement of proposed plans for drainage and sewage disposal/outfall, including location of proposed culverts and bridge, provided on a separate utility sheet
- ☐ If the proposed subdivision is one of several phases, conceptual plans for the other phases
- ☐ Traffic study (if necessary)

Project Name: Magnolia Ridge Subdivision: Section 20 Reviewer: _____

I, Katy Harris (print or type name), certify with my signature below that the information included in my submittal packet is complete, true, and correct, to the best of my knowledge.

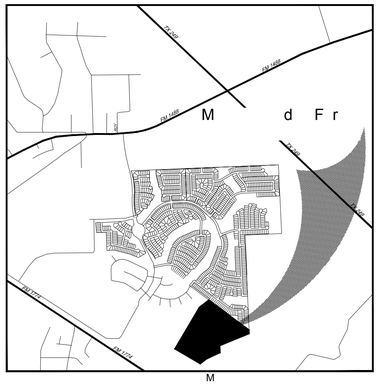
Katy Harris
_____ 03/03/2022

Signature of Applicant Date

Project Name: Escondido Subdivision: Section 7 Reviewer: _____

GENERAL NOTES:

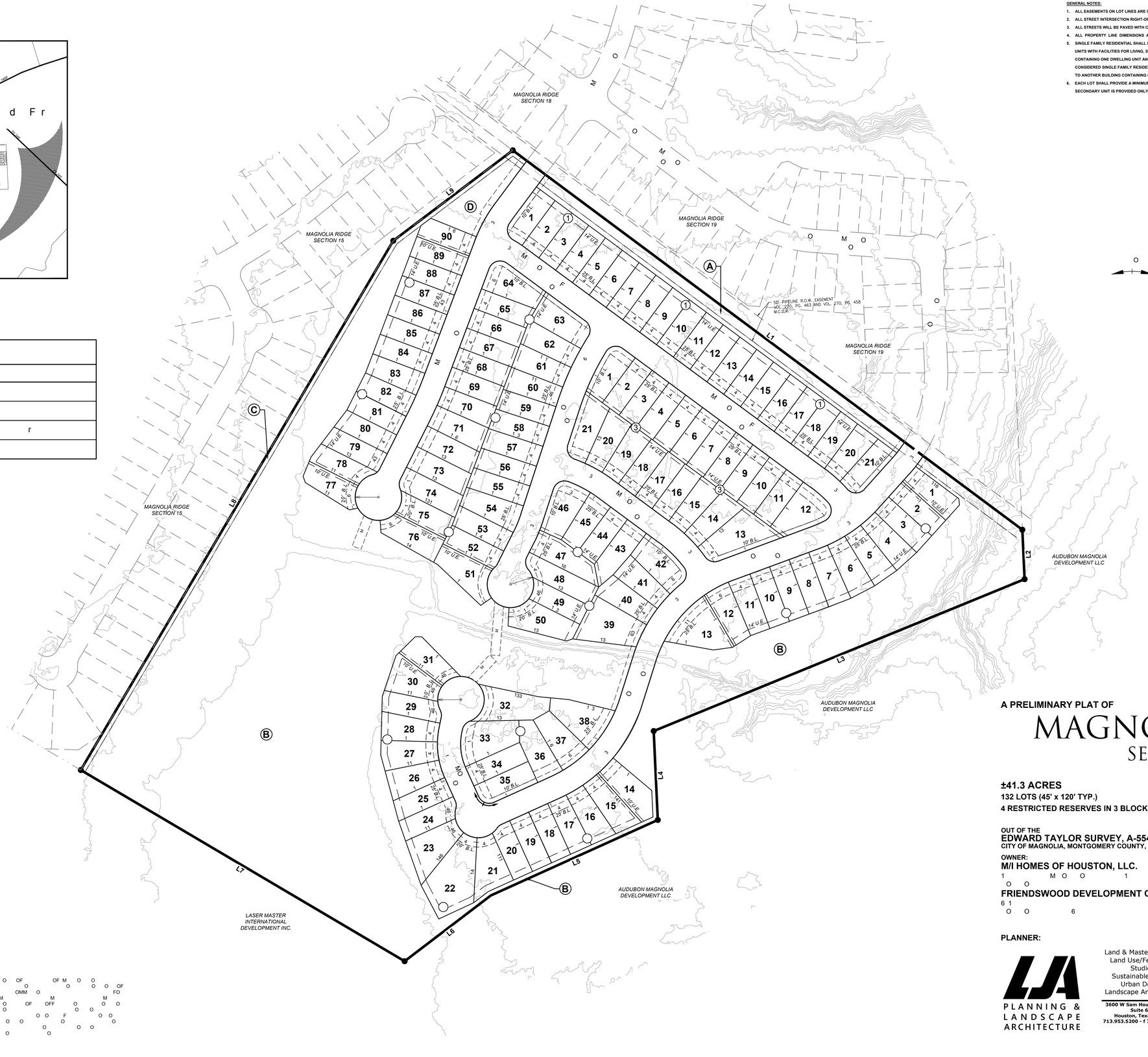
1. ALL EASEMENTS ON LOT LINES ARE CENTERED UNLESS OTHERWISE SHOWN.
2. ALL STREET INTERSECTION RIGHT-OF-WAY RETURN RADII ARE 25 FEET UNLESS OTHERWISE NOTED.
3. ALL STREETS WILL BE PAVED WITH CONCRETE AND BE CURB AND GUTTER STREETS WITH STORM SEWERS.
4. ALL PROPERTY LINE DIMENSIONS ARE APPROXIMATE.
5. SINGLE FAMILY RESIDENTIAL SHALL MEAN THE USE OF A LOT WITH ONE BUILDING DESIGNED FOR AND CONTAINING NOT MORE THAN TWO SEPARATE UNITS WITH FACILITIES FOR LIVING, SLEEPING, COOKING, AND EATING THEREIN. A LOT UPON WHICH IS LOCATED A FREE-STANDING BUILDING CONTAINING ONE DWELLING UNIT AND A DETACHED SECONDARY DWELLING UNIT OF NOT MORE THAN 900 SQUARE FEET ALSO SHALL BE CONSIDERED SINGLE FAMILY RESIDENTIAL. A BUILDING THAT CONTAINS ONE DWELLING UNIT ON ONE LOT THAT IS CONNECTED BY A PARTY WALL TO ANOTHER BUILDING CONTAINING ONE DWELLING UNIT ON AN ADJACENT LOT SHALL BE SINGLE FAMILY RESIDENTIAL.
6. EACH LOT SHALL PROVIDE A MINIMUM OF TWO OFF-STREET PARKING SPACES PER DWELLING UNIT ON EACH LOT. IN THOSE INSTANCES WHERE A SECONDARY UNIT IS PROVIDED ONLY ONE ADDITIONAL SPACE SHALL BE PROVIDED.



A	6	d O
B	1 6	d O
C	3	d O r
D		d O

O

L1	3 "	136
L2	3 3"	1
L3	6 44 3 "	63
L4	36 4 "	1
L5	6 4 "	3
L6	4 "	34
L7	6 4 "	1
L8	3 33 44"	13 4
L9	31 "	3 3



A PRELIMINARY PLAT OF

MAGNOLIA RIDGE
SECTION 20

±41.3 ACRES
132 LOTS (45' x 120' TYP.)
4 RESTRICTED RESERVES IN 3 BLOCKS

OUT OF THE
EDWARD TAYLOR SURVEY, A-554
CITY OF MAGNOLIA, MONTGOMERY COUNTY, TEXAS

OWNER:
M/I HOMES OF HOUSTON, LLC.
1 M O O 1
O O
FRIENDSWOOD DEVELOPMENT COMPANY:
6 1
O O 6

PLANNER:

LJA PLANNING & LANDSCAPE ARCHITECTURE

Land & Master Planning
Land Use/Feasibility Studies
Sustainable Design
Urban Design
Landscape Architecture

3600 W Sam Houston Pkwy S
Suite 600
Houston, Texas 77042
713.953.5200 - f 713.953.5026

NORTH 0 50 100 200

LJA# 2025-07001 03.03.2022

N

SCALE: 1" = 100'

SCALE IN FEET

100 50 0 100 200 300

PRELIMINARY ONELINES FOR
WATER, WASTEWATER AND DRAINAGE SYSTEM
TO SERVE
MAGNOLIA RIDGE FOREST SECTION 20
MARCH 1, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

N

SCALE: 1" = 100'

SCALE IN FEET

100 50 0 100 200 300

NOTE: SECTION 20 STORMWATER WILL BE COLLECTED BY CURB AND GUTTER STREETS WITH INLETS THROUGH THE STORM SYSTEM INTO FUTURE DETENTION CHANNEL.

PRELIMINARY ONELINES FOR
DRAINAGE SYSTEM
TO SERVE
MAGNOLIA RIDGE FOREST SECTION 20
MARCH 1, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

N

SCALE: 1" = 100'

SCALE IN FEET

100 50 0 100 200 300

NOTE: SECTION 20 WASTEWATER WILL GRAVITY FLOW THROUGH 8-INCH PVC SANITARY PIPE THAT CONNECTS TO FUTURE MAGNOLIA RIDGE FOREST SECTION 19, WHICH WILL GRAVITY FLOW INTO FUTURE MAGNOLIA RIDGE FOREST SECTION 17 THEN WILL CONNECT INTO MAGNOLIA RIDGE FOREST SECTION 12 SANITARY SEWER SYSTEM WHICH WILL GRAVITY FLOW TO THE LIFT STATION. FROM THERE THE WASTEWATER WILL TRAVEL VIA AN 8-INCH FORCEMAIN TO A FORCEMAIN DISCHARGE MANHOLE THAT WILL GRAVITY FLOW TO AN EXISTING 18-INCH PVC SANITARY IN MANGOLIA RIDGE FOREST SECTION 5

PRELIMINARY ONELINES FOR
WASTEWATER SYSTEM
TO SERVE
MAGNOLIA RIDGE FOREST SECTION 20
MARCH 1, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 18

Background/Information:
An application for a site plan was received on May, 2022.

Comments:
Letter of No Objection was issued by City Engineer on June 16, 2022.

Action Requested:
Approve site plan for water and sanitary sewer extension at Escondido along Pradoo Crossing.

Recommendation:
Approve site plan for water and sanitary sewer extension at Escondido along Pradoo Crossing.

Attachments:
Site Plan

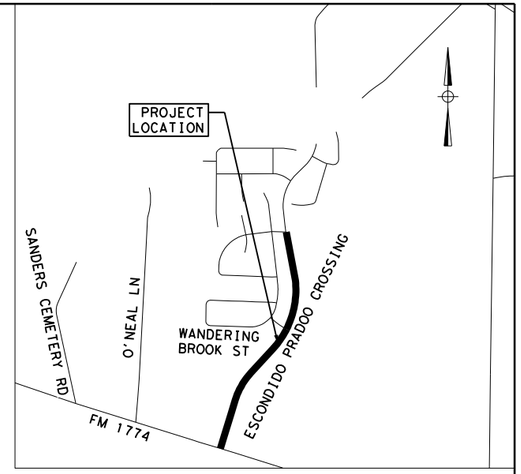
CONSTRUCTION PLANS FOR

WATER AND SANITARY SEWER UTILITIES ALONG ESCONDIDO PRADOO CROSSSING

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 174

JOB NO.

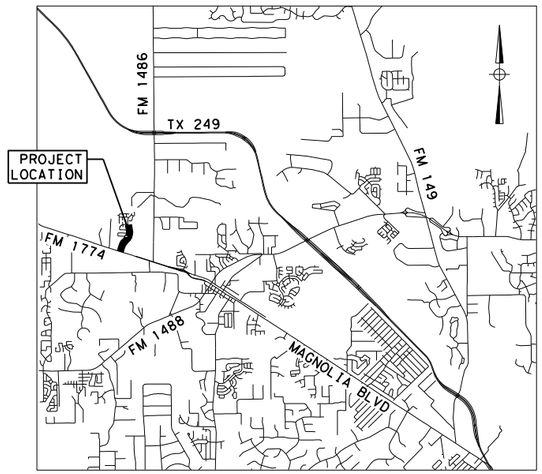
DATE:



VICINITY MAP
NTS

NOTES

1. THESE PLANS WERE PREPARED TO MEET OR EXCEED THE CITY OF MAGNOLIA DESIGN STANDARDS AS CURRENTLY AMENDED.
2. CONSTRUCTION WILL BE MONITORED BY A REGISTERED PROFESSIONAL ENGINEER TO VERIFY COMPLIANCE WITH THE CONSTRUCTION PLANS AND SPECIFICATIONS.
3. CONTRACTOR SHALL NOTIFY THE CITY OF MAGNOLIA CITY PLANNING DEPARTMENT AT 281-356-2266 (OPTION 3) AT LEAST 120 HOURS PRIOR TO COMMENCEMENT.
4. DESIGN PROCEDURES ARE IN COMPLETE COMPLIANCE WITH THE CITY OF MAGNOLIA DESIGN STANDARDS.



LOCATION MAP
NTS

CITY OF MAGNOLIA

APPROVED:_____

DATE:_____

MONTGOMERY COUNTY
ENGINEERING DEPARTMENT

APPROVED:_____
COUNTY ENGINEER

DATE:_____

MONTGOMERY COUNTY
FIRE MARSHAL DEPARTMENT

APPROVED:_____

DATE:_____

FOR REVIEW ONLY

DO NOT USE FOR PERMITTING, BIDDING, OR CONSTRUCTION.

ENGINEER: MICHAEL J. GUERRA
ENGR. REG. No.: 95687
DATE: 3/10/2022

DEVELOPER:
MAGNOLIA M3 RANCH 585-AC

ENGINEER:

Texas PE Firm Reg. #F-929

575 N.Dairy Ashford, Suite 700, Houston, Texas 77079
T +1 281 589 7257 **E** usinfrastructure@rpsgroup.com

DATE	REVISION	BY

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX & QUANTITES
3 - 4	GENERAL NOTES
5	WATER & SEWER LINE PLAN & PROFILE
6	SWPPP
7	STORM WATER POLLUTION PREVENTION PLAN DETAILS
8	TRAFFIC CONTROL STANDARD

SEWER LINE QUANTITIES

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QTY
1	TRENCH SAFETY SYSTEM	LF	212
2	4-FOOT DIAMETER PRECAST CONCRETE MANHOLE	EA	2
3	EXTRA DEPTH, 4-FOOT DIAMETER PRECAST CONCRETE MANHOLE	VF	11
4	12-INCH DIAMTER PVC SANITARY SEWER PIPE, BY OPEN CUT WITH RESTRAINED JOINTS	LF	212
5	12-INCH DIAMTER PVC SANITARY SEWER PIPE, BY TRENCHLESS CONSTRUCTION	LF	90
6	24-INCH BORE & STEEL ENCASEMENT	LF	90

WATER LINE QUANTITIES

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QTY
7	TRENCH SAFETY SYSTEM	LF	212
8	16-INCH DIAMETER DI WATER LINE BY OPEN CUT WITH RESTRAINED JOINTS	LF	212
9	16-INCH DIAMETER DI WATER LINE BY TRENCHLESS CONSTRUCTION	LF	90
10	30-INCH BORE & STEEL ENCASSEMENT	LF	90
11	16-INCH DIAMTER WET CONNECTION	EA	1
12	16-INCH GATE VALVE WITH BOX	EA	1
13	16-INCH X 22.5° BEND	EA	2
14	16-INCH X 45° BEND	EA	2
15	FIRE HYDRANT ASSEMBLY, ALL DEPTHS, INCLUDING 6-INCH DIAMETER GATE VALVE AND BO	EA	1
16	6-INCH DIAMETER FIRE HYDRANT BRANCH BY OPEN-CUT	LF	10

TCP & ENVIRONMENTAL QUANTITIES

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QTY
17	SILT FENCE	LF	620
18	TRAFFIC CONTROL	MO	2

rps
Texas PE Firm Reg. #F-929
575 N.Dairy Ashford, Suite 700, Houston, Texas 77079
T +1 281 589 7257 E usinfrastructure@rpsgroup.com

MAGNOLIA RANCH
ESCONDIDO PRADOO CROSSING
UTILITY PROJECT

REV	DESCRIPTION	BY	DATE

FOR REVIEW ONLY
DO NOT USE FOR PERMITTING, BIDDING, OR CONSTRUCTION.
ENGINEER: MICHAEL J. GUERRA
ENGR. REG. No.: 95687
DATE: 3/10/2022

INDEX & QUANTITIES

RPS Project No 007951	
Drawn By SN	Checked By MG
Scale	Date 3/10/2022
DWG No	Sheet 2 Of 8

GENERAL CONSTRUCTION NOTES:

1. CONSTRUCT WASTEWATER COLLECTION SYSTEMS, WATER LINES AND STORM DRAINAGE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF MAGNOLIA DESIGN STANDARDS.

2. UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATION IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/800-245-4545 AND LONE STAR ONE CALL AT 800-669-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER AND STORM DRAINAGE LINES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE CITY OF MAGNOLIA STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING REFERENCED ABOVE, AT NO ADDITIONAL COST.

4. CONTRACTOR SHALL NOTIFY THE CITY OF MAGNOLIA 5 DAYS PRIOR TO COMMENCING CONSTRUCTION.

5. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER.

6. CONTRACTOR SHALL COMPLY WITH THE LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.

7. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION:

CITY OF MAGNOLIA (CITY PLANNING, OPTION 3)	(281) 356-2266
LONE STAR NOTIFICATION CENTER	1-(800)-669-8344 TEXAS
EXCAVATION SAFETY SYSTEM INC.	1-800-344-8377
EXPLORER PIPELINE COMPANY	1-877-915-7473

8. ANY DAMAGE TO ANY OF THE EXISTING PAVEMENT AND/OR UTILITIES MUST BE REPAIRED IMMEDIATELY. THE CONTRACTOR MUST NOTIFY THE APPROPRIATE UTILITY OWNER, WHO WILL MAKE THE REPAIRS AT THE CONTRACTOR'S EXPENSE.

9. THE CONTRACTOR, ON BEHALF OF THE OWNER, IS TO OBTAIN ALL PERMITS REQUIRED BY THE CITY OF MAGNOLIA PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS.

10. GUIDELINES SET FORTH IN THE TEXAS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AS CURRENTLY AMENDED, SHALL BE OBSERVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAG MEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION - BOTH DAY AND NIGHT.

11. THE WORK AREAS WITH DIRECT PUBLIC ACCESS SHALL BE BARRICADED AND ILLUMINATED DURING DARKNESS AND PERIODS OF INACTIVITY.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIAL AND EQUIPMENT STORED ON THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIALS IN A SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES, DURING AND AFTER WORKING HOURS, UNTIL PROJECT COMPLETION AND OWNER ACCEPTANCE.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING OF ALL MATERIALS. THE LOADING AND UNLOADING OF ALL PIPE, VALVES, HYDRANTS, MANHOLES AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL AT ALL TIMES BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIAL. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. THE DEFECTIVE MATERIAL MUST BE REPLACED WITH SOUND MATERIAL.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING AND STORING OF ALL MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. ANY DEFECTIVE MATERIAL INCORPORATED INTO THE WORK SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. THERE SHALL BE NO PAYMENT MADE FOR STORED MATERIAL.

15. ALL PIPE AND REINFORCEMENT STEEL SHALL BE KEPT FREE OF DIRT AND OTHER DEBRIS. ANY DAMAGE TO THE COATING OF THE VARIOUS MATERIALS MUST BE REPAIRED.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE AND POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION OF PROPOSED FACILITIES. NATURAL GROUND ADJACENT TO UTILITY TRENCH EXCAVATION TO BE GRUBBED PRIOR TO PLACEMENT OF EXCESS TRENCH MATERIAL. (NO SEPARATE PAYMENT.)

17. ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.

18. UNLESS OTHERWISE NOTED, PLACEMENT OF UTILITIES IN EASEMENTS SHALL BE GOVERNED BY THE STANDARD 10' AND 14' EASEMENTS AS ADOPTED BY THE UTILITY COORDINATING COMMITTEE FOR THE HOUSTON METROPOLITAN AREA, AS CURRENTLY AMENDED OR REVISED.

20. ALL STATIONS ARE CENTERLINE OF STREET RIGHT-OF-WAY UNLESS OTHERWISE NOTED.

21. ALL GEOTECHNICAL REPORTS FOR THIS PROJECT (IF ANY) ARE AVAILABLE FOR REFERENCE AT THE OFFICE OF HE ENGINEER.

22. SURFACE RESTORATION: AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES WITHIN HE PROPERTY EQUAL TO OR BETTER THAN EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.

23. FINAL ACCEPTANCE OF THE UTILITIES WILL NOT BE GIVEN TO THE CONTRACTOR UNTIL THEY ARE INSPECTED AND APPROVED BY THE CITY OF MAGNOLIA. FINAL ACCEPTANCE OF THE PAVING WILL NOT BE GIVEN TO THE CONTRACTOR UNTIL IT IS INSPECTED AND APPROVED BY THE CITY OF MAGNOLIA.

24. SEE THE EROSION CONTROL PLAN AND SEDIMENT CONTROL LAYOUT FOR ADDITIONAL ENVIRONMENTAL NOTES AND DETAILS.

25. THESE PLANS WERE PREPARED TO MEET OR EXCEED CITY OF MAGNOLIA AND MONTGOMERY COUNTY SUBDIVISION RULES AND REGULATIONS AS CURRENTLY AMENDED.

26. CONSTRUCTION WILL BE MONITORED BY A REGISTERED PROFESSIONAL ENGINEER TO INSURE COMPLIANCE WITH THE CONSTRUCTION PLANS AND SPECIFICATIONS.
27. APPROVAL BY CITY OF MAGNOLIA WILL BE DEEMED VOID IF CONSTRUCTION IS NOT BEGUN WITHIN ONE YEAR OF APPROVAL.

28. CONTRACTOR SHALL PREPARE A SET OF "RECORD" DRAWINGS SHOWING ANY FIELD CHANGES MADE TO THE APPROVED ENGINEERING PLANS AND SUBMIT TO THE DESIGN ENGINEER.

29. ALL UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY IN THE FIELD THE EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.

30. MANHOLES SHALL BE PER CITY OF MAGNOLIA STANDARD DETAILS.

31. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG AREAS OF EXCAVATION.

32. ALL UNSATISFACTORY AND\OR WASTE MATERIALS INCLUDING VEGETATION, ROOTS, CONCRETE AND DEBRIS SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR. NO DIRECT PAYMENT WILL BE MADE, BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE VARIOUS BID PROPOSAL ITEMS.

33. ALL MANHOLES ARE TO BE CONSTRUCTED TO ALLOW FOR A MINIMUM OF ONE FOOT (1') OF VERTICAL ADJUSTMENT.

34. ALL SEWER TRENCHES UNDER OR WITHIN ONE FOOT OF PROPOSED AND/OR FUTURE PAVEMENT OR CURB SHALL HAVE BEDDING PER CITY OF MAGNOLIA DETAIL (TYPICAL SECTION OPEN CUT PAVED STREET, DRIVEWAY, OR ALLEY) WITH BANK SAND COMPACTED TO 95% MODIFIED PROCTOR UP TO THE BOTTOM OF THE PAVEMENT SUBGRADE.

GENERAL CONSTRUCTION NOTES (CONT):

35. CONTRACTOR SHALL REMOVE DAILY ALL MUD, DIRT AND DEBRIS DEPOSITED OR DROPPED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY.

36. THE USE OF WELL POINT SYSTEMS. WHEN REQUIRED BY TRENCH CONDITONS, SHALL BE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

37. CONTRACTOR SHALL PROTECT ALL TREES ADJACENT TO WORK AREA. NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF OWNER AND APPROVAL BY ENGINEER.

38. CONTRACTOR SHALL PROVIDE ONE FOOT (1') MINIMUM CLEARANCE AT STORM SEWER, SANITARY SEWER AND WATER LINE CROSSINGS.

39. ALL AREAS UNNECESSARILY DISTURBED ALONG SIDE AND BACK-OF-LOT EASEMENTS OUTSIDE PROJECT LIMITS AS A RESULT OF CONSTRUCTION WORK SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SEEDING SPECIFICATIONS BY THE CONTRACTOR(NO SEPARATE PAY).

40. RIM ELEVATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. UTILITY CONTRACTOR SHALL ADJUST RIM ELEVATIONS TO FOUR TO SIX INCHES (4.0"- 6.0") ABOVE THE FINISHED GRADE AT EACH MANHOLE LOCATION AFTER PAVEMENT CONTRACTOR HAS COMPLETED FINAL GRADING (NO SEPARATE PAY). SLOPED FILL SHALL BE ADDED FOR STORM WATER DRAINAGE AWAY FROM THE MANHOLE RIM.
41. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAG MEN, SIGNING, STRIPING AND WARNING DEVICES, ETC. DURING CONSTRUCTION BOTH DAY AND NIGHT IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

42. WATER, SANITARY SEWER, AND DRAINAGE CONTRACTOR SHALL AT COMPLETION OF HIS WORK FILL AND GRADE ALL UTILITY EASEMENTS (WET AND DRY) AS WELL AS LOW SPOTS IN LOTS FOR POSITIVE DRAINAGE, AS DIRECTED BY EITHER THE OWNER OR ENGINEER. (NO SEPARATE PAY)

43. UTILITY CONTRACTOR OR SWPPP CONTRACTOR, AS DETERMINED BY OWNER, SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURB INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.

44. UTILITY CONTRACTOR OR SWPPP CONTRACTOR, AS DETERMINED BY THE OWNER, SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE I CURB INLETS. (NO SEPARATE PAY)

SANITARY SEWER CONSTRUCTION NOTES:

1. ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MAGNOLIA STANDARD SPECIFICATIONS AND ALL CURRENT AMENDMENTS THERETO AND BE SUBJECT TO A STANDARD EXFILTRATION TEST. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS" SHALL GOVERN WHERE CONFLICTS EXIST EXCEPT WHERE CITY REQUIREMENTS ARE OF HIGHER STANDARDS.

2. ALL MANHOLES ARE TO BE PER CITY OF MAGNOLIA STANDARD DETAILS.

3. SANITARY SEWER MANHOLES WILL HAVE BEDDING AND BACKFILL PER CIYY OF MAGNOLIA DETAILS UNLESS OTHERWISE NOTED.

4. SANITARY SEWER PIPE 4" AND SMALLER SHALL BE SCHEDULE 40 PVC. SANITARY SEWER PIPE 6" AND LARGER SHALL BE SDR-26 PVC.

5. ALL SDR-26 PVC PIPE SHALL MEET ASTM SPECIFICATION D-3034. USE "FULL BODIED" SDR-26 PVC FITTINGS WITH APPROPRIATE ADAPTERS, SHALL HAVE A CELL CLASSIFICATION OF 12364-B AS DEFINED IN ASTM D-1784, AND SHALL HAVE DIP SIZE OD AND RUBBER GASKET BELL-AND-SPIGOT TYPE JOINT ENDS UNLESS OTHERWISE NOTED.

6. AWWA C-900 DR-18 PVC PIPE USES EITHER AWWA C900 DR-18 PVC FITTINGS OR DIP FITTINGS.

7. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE FOOT (1') BACK OF ALL PROPOSED OR FUTURE CURBS SHALL HAVE BEDDING PER CITY OF MAGNOLIA DETAIL (TYPICAL SECTION OPEN CUT PAVED STREET, DRIVEWAY, OR ALLEY) WITH BANK SAND COMPACTED TO 95% MODIFIED PROCTOR UP TO THE BOTTOM OF THE PAVEMENT SUBGRADE.

8. ALL SANITARY SEWERS CROSSING WATER LINES WITH A CLEARANCE BETWEEN 12 INCHES (12") AND NINE FEET (9') SHALL HAVE A MINIMUM OF ONE 18' JOINT OF 150 PSI DUCTILE IRON OR (GREEN) PVC PIPE MEETING ASTM SPECIFICATION 0224) CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER PROVIDE MINIMUM 2 FOOT SEPARATION.

9. CONTRACTOR SHALL PROVIDE FOR A MINIMUM HORIZONTAL CLEARANCE OF NINE FEET (9') BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.

10. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET FOUR TO SIX INCHES (4"- 6") ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING WITH SLOPED BACKFILL ADDED FOR STORM WATER DRAINAGE AWAY FROM MANHOLE RIM.

11. IN WET STABLE TRENCH AREAS USE BEDDING PER CITY OF MAGNOLIA.

12. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5% IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED AS PER 30 TAC 317.2 LATEST AMENDMENT AND WITHOUT MECHANICAL PULING DEVICES. NO BALL-TYPE MANDRELS ALLOWED.

13. INFILTRATION/EXFILTRATION OR LOW-PRESSURE AIR TEST SHALL BE PERFORMED AS PER TAC, TITLE 30 217.57 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.

14. "S.S.E." INDICATES "SANITARY SEWER EASEMENT"
15. FOR SANITARY MANHOLES (MH) RIMS SET INSIDE OF OR @ CURB & GUTTER PAVEMENT AND/OR BELOW T.C., MH RIMS WILL BE SET FLUSHED WITH AN ABUTTING/CONTAINING PAVED SURFACE. THE (VULCAN, NEENAH OR EQUAL) HEAVY DUTY BOLTED SOLID MH COVER WILL BE PROPERLY (AND SECURELY) ATTACHED AND SEALED TO ITS COMPATIBLE GASKETED FRAME BY USING BOTH A NEOPRENE GASKET AND (AT LEAST) 4 COUNTER-SUNK HEX-HEAD COARSE THREADED 1/2"-13 UNC STAINLESS STEEL BOLTS. THE HEAVY DUTY FRAME MH COVER WILL BE SOLID (NO AIR HOLES). SAID FRAME SHALL BE BOTH EMBEDDED INTO THE MH'S TOP ALSO SECURELY ANCHORED TO THE UNDERLYING MH STRUCTURE WITH SECURELY ATTACHED EMBEDDED ANCHOR BOLTS; OR THE CONCRETE MH'S EXPOSED REBARS WELDED TO THE FRAME; OR OTHER EQUALLY SECURED METHODS TO PREVENT MH COVER/FRAME BLOW-OFFS/EJECTIONS.

16. ALL SANITARY SEWER MANHOLES SHALL HAVE STAINLESS STEEL INFLOW PROTECTORS INSTALLED AFTER FINAL ADJUSTMENT OF MANHOLE RIMS. NO SEPARATE PAY.

17. ALL SANITARY SERVICE LEADS SHALL BE 6" DIA. MIN. AND LAID WITH A MINIMUM GRADE OF 0.70%.

18. WHEN MAKING A CONNECTION TO AN EXISTING SANITARY SEWER MANHOLE THE CONTRACTOR SHALL PLUG DOWN STREAM END OF THE PROPOSED SANITARY SEWER. THE SEWER SHALL REMAIN PLUGGED UNTIL FINAL ACCEPTANCE BY THE ENGINEER.

19. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 317.2 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.

A. INFILTRATION OR EXFILTRATION TEST: TOTAL LEAKAGE AS DETERMINED BY A HYDROSTATIC HEAD TEST SHALL NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO (2) FEET.

B. LOW-PRESSURE AIR TEST: PERFORM TEST ACCORDING TO UNI-B-6-90 OR OTHER APPROPRIATE PROCEDURES. FOR SECTIONS OF PIPE LESS THAN 36" (INCH) AVERAGE INSIDE DIAMETER, THE MINIMUM ALLOWABLE TIME FOR PRESSURE DROP FROM 3.5 P.S.I.G. TO 2.5 P.S.I.G. SHALL BE AS FOLLOWS:

6"	340 SECONDS OR 0.855(L) FOR TEST LENGTHS GREATER THAN 398'
8"	454 SECONDS OR 1.520(L) FOR TEST LENGTHS GREATER THAN 298'
10"	567 SECONDS OR 2.374(L) FOR TEST LENGTHS GREATER THAN 239'
15"	850 SECONDS OR 5.342(L) FOR TEST LENGTHS GREATER THAN 159'
18"	1020 SECONDS OR 7.693(D FOR TEST LENGTHS GREATER THAN 133'

WHERE L = LENGTH OF LINE OF SAME PIPE SIZE IN FEET.

WATERLINE CONSTRUCTION NOTES:

1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF MAGNOLIA RULES AND REGULATIONS, STANDARD SPECIFICATIONS, AND CONSTRUCTION DETAILS.

2. 4" THRU 12" WATER LINES SHALL BE P.V.C. CLASS 235, DR-18, AWWA C-900 AND 1" THRU 3" WATER LINES SHALL BE PVC SCHEDULE 40. 4" THRU 54" D.I.P. WATER LINES SHALL BE AWWA C151 (ANSI A21.51) AND DOUBLE WRAPPED IN 8-MIL POLYETHYLENE. PIPE SHALL BE LINED IN ACCORDANCE WITH AWWA C104 (ANSI A21.4). 16" WATERLINE SHALL BE C-905 OR 18 CLASS 235.

3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. WHERE PREVENTING MOVEMENT OF PIPE 16" OR GREATER AS NECESSARY DUE TO THRUST, USE RESTRAINED JOINTS.

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 MAGNOLIA 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. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EACH 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTAMINATION PERSISTS.

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" THRU 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 MAGNOLIA STANDARD CONSTRUCTION SPECIFICATIONS. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT.

11. ALL WATER LINES TO HAVE 4' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEARANCE TO OTHER UTIUTIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.

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 UNES 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. THEY SHALL BE BUILT AS PER THE DETAILS PROVIDED TO PREVENT PIPE MOVEMENT.

15. ALL ABOVE GROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE FLANGED. UNDERGROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE BOLTLESS AND PUSH-ON AFTER THE FIRST FLANGED FITTING BELOW GRADE UNLESS NOTED OTHERWISE ON THE PLANS.

16. ALL FLANGES BELOW GRADE SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.

17. ALL WATER VALVES SHALL OPEN COUNTERCLOCKWISE. 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 6" ABOVE THE PIPE. COST OF BANK SAND TO BE INCLUDED IN UNIT PRICE OF WATERLINE.

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, UNLESS OTHERWISE SHOWN.

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.

WARNING: OVERHEAD ELECTRICAL FACILITIES

1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE MARKED THOSE LINES IN THE CONSTRUCTION PLANS, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION.
2. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX FEET (6') OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS CARRIES BOTH CRIMINAL AND CIVIL LIABILITY.

3. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713) 207-2222.

CAUTION: AT&T FACILITIES

1. THE LOCATION OF SOUTHWESTERN BELL TELEPHONE COMPANY UTILITIES ARE NO LONGER PROVIDED BY AT&T AND ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF THESE UTILITIES PRIOR TO COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES. TO HAVE THESE FACILITIES LOCATED 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.

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.

TRAFFIC NOTES (CONT):

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.

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% 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.

rps
Texas PE Firm Reg. #F-929
575 N.Dairy Ashford, Suite 700, Houston, Texas 77079
T +1 281 589 7257 E usinfrastructure@rpsgroup.com

MAGNOLIA RANCH
ESCONDIDO PRADOO CROSSING
UTILITY PROJECT

REV	DESCRIPTION	BY	DATE

FOR REVIEW ONLY
DO NOT USE FOR PERMITTING, BIDDING, OR CONSTRUCTION.
ENGINEER: MICHAEL J. GUERRA
ENGR. REG. No.: 95687
DATE: 3/10/2022

GENERAL NOTES

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Drawn By SN	Checked By MG
Scale	Date 3/10/2022
DWG No	Sheet 3 Of 8

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TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."

2. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].

3. Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].

4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].

5. All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].

6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].

7. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].

8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].

9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].

10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].

11. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
    - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$Q = \frac{LD\sqrt{P}}{148{,}000}$$

      Where:
      - Q = the quantity of makeup water in gallons per hour,
      - L = the length of the pipe section being tested, in feet,
      - D = the nominal diameter of the pipe in inches, and
      - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
    - The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

      Where:
      - L = the quantity of makeup water in gallons per hour,
      - S = the length of the pipe section being tested, in feet,
      - D = the nominal diameter of the pipe in inches, and
      - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).

13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].

14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].

15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].

16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].

17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].

18. Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.

rps
Texas PE Firm Reg. #F-929
575 N.Dairy Ashford, Suite 700, Houston, Texas 77079
T +1 281 589 7257 E usinfrastructure@rpsgroup.com

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GENERAL NOTES

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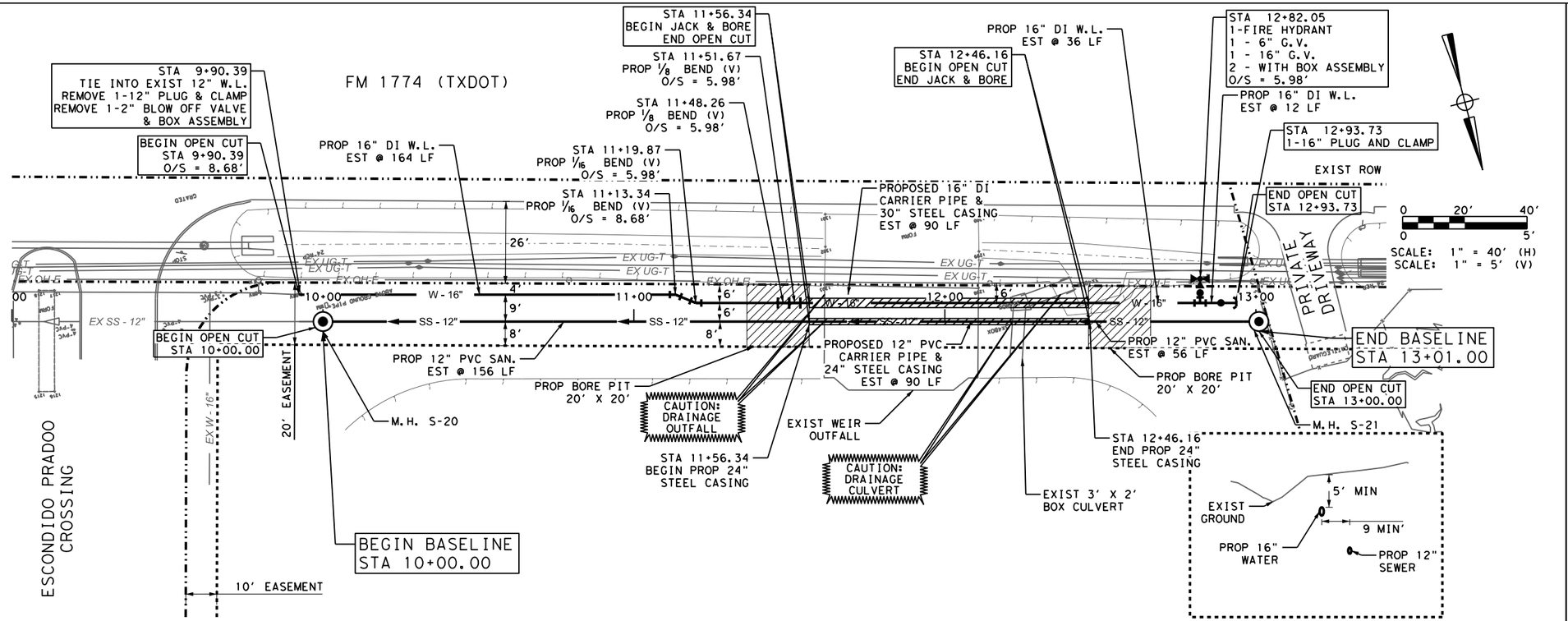

TYPICAL X-SECTION DETAIL
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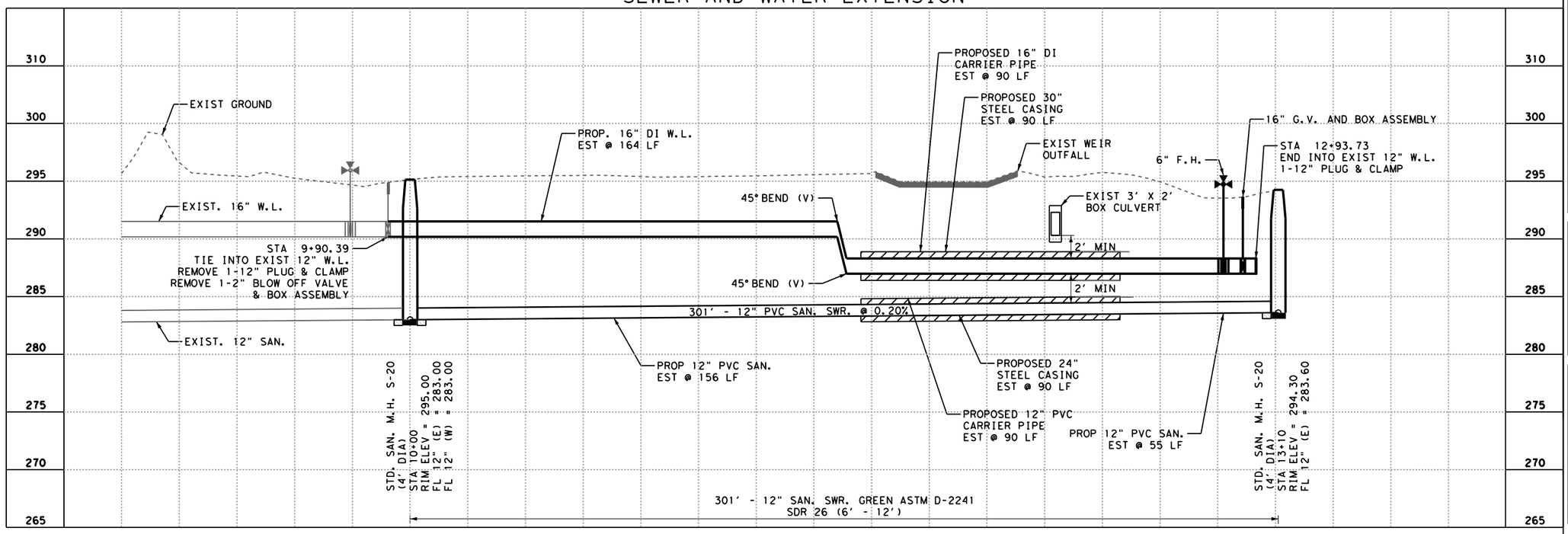
SEWER AND WATER EXTENSION



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575 N.Dairy Ashford, Suite 700, Houston, Texas 77079
T +1 281 589 7257 E usinfrastructure@rpsgroup.com

MAGNOLIA RANCH
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LEGEND:

EXISTING WATER	W - 16"
EXISTING SEWER	EX SS - 12'
PROPOSED WATER	W - 16"
PROPOSED SEWER	SS - 12"
PROPOSED CASING	
PROPOSED MANHOLE	
PROPOSED WATER VALVE	
PROPOSED FIRE HYDRANT	

NOTE:

1. CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITIES BEFORE EXCAVATING

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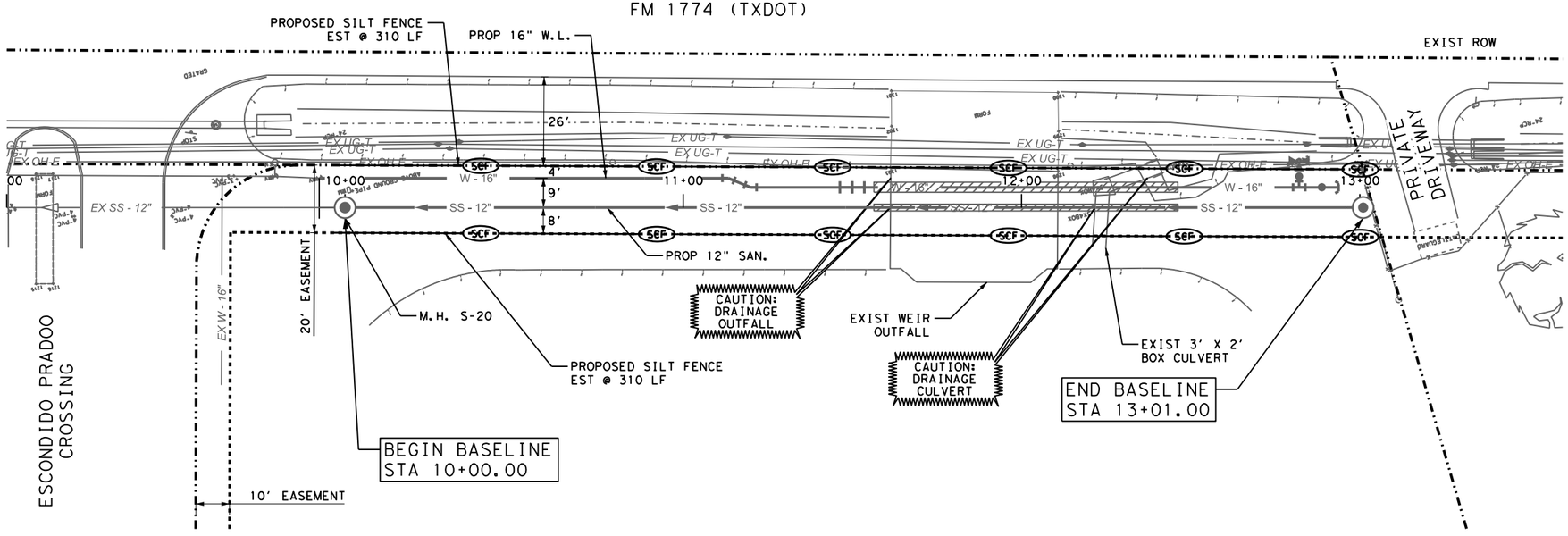

0 20' 40'
0 5'

SCALE: 1" = 40' (H)
SCALE: 1" = 5' (V)

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575 N.Dairy Ashford, Suite 700, Houston, Texas 77079
T +1 281 589 7257 E usinfrastructure@rpsgroup.com

MAGNOLIA RANCH
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UTILITY PROJECT

LEGEND:

EXISTING WATER	W - 16"
EXISTING SEWER	EX SS - 12'
PROPOSED WATER	W - 16"
PROPOSED SEWER	SS - 12"
PROPOSED CASING	
PROPOSED MANHOLE	
PROPOSED WATER VALVE	
PROPOSED FIRE HYDRANT	

NOTE:

1. CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITIES BEFORE EXCAVATING

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SWPPP

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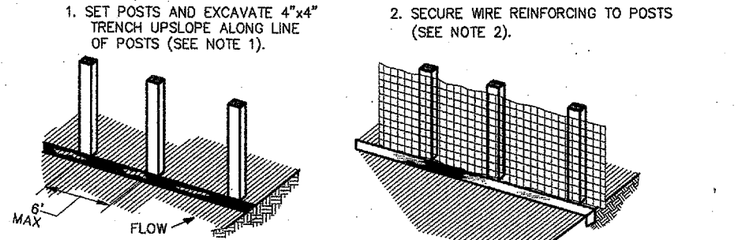
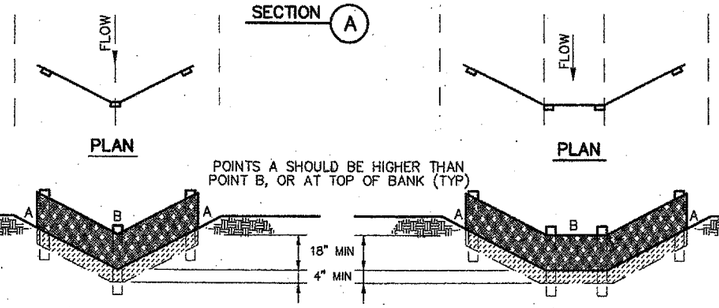


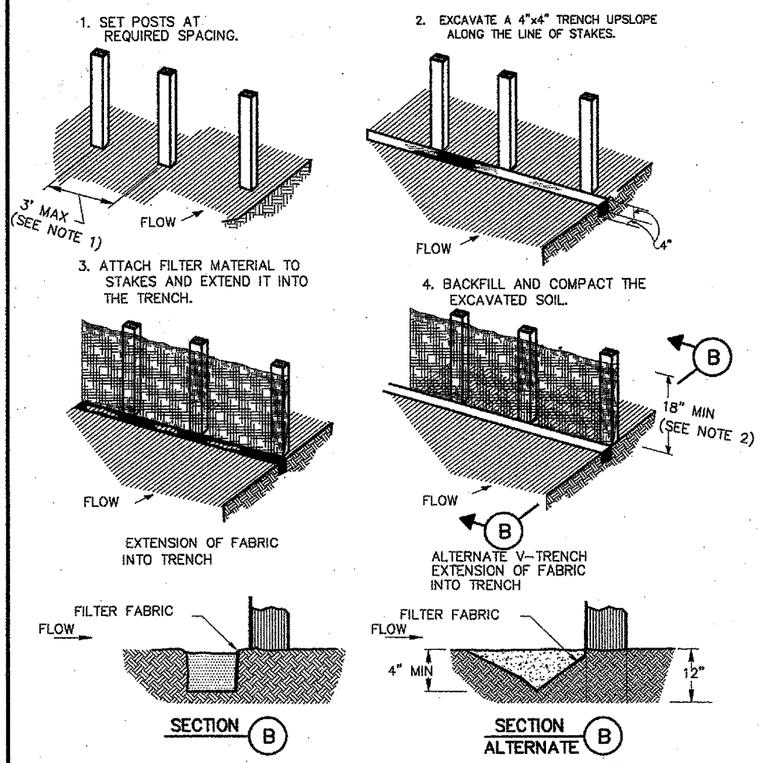


CONSTRUCTION NOTES:

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 REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, 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.

SYMBOL

REINFORCED FILTER FABRIC BARRIER

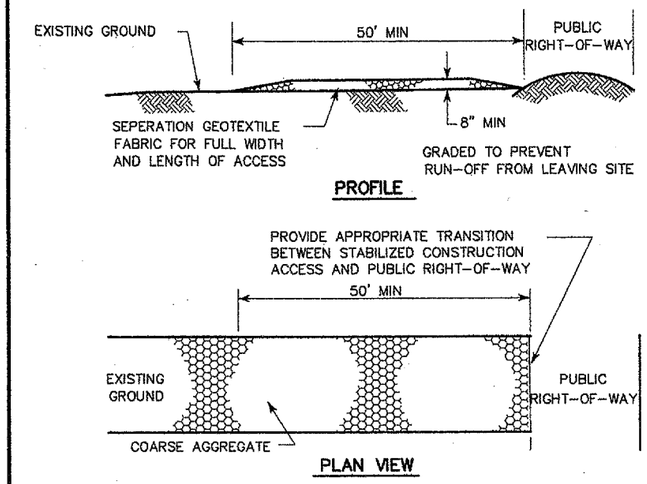


CONSTRUCTION NOTES:

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 BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER 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 BARRIER.

SYMBOL

FILTER FABRIC BARRIER

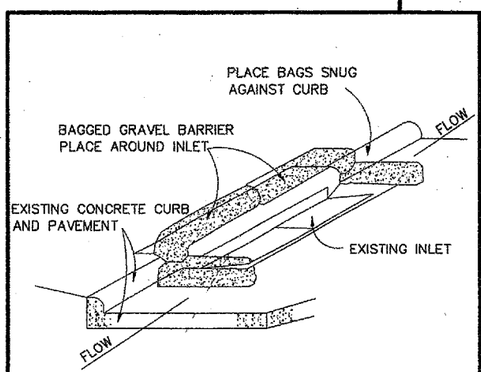


CONSTRUCTION NOTES:

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 ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

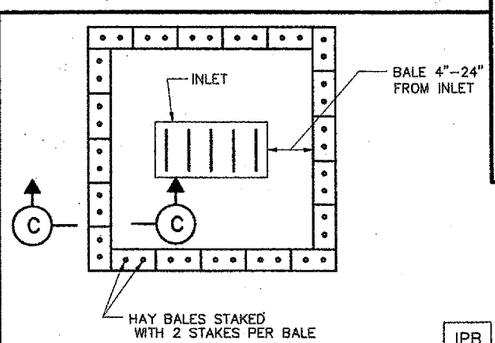
SC
SYMBOL

STABILIZED CONSTRUCTION ACCESS

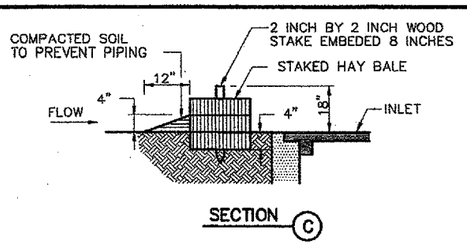


INLET PROTECTION BARRIER

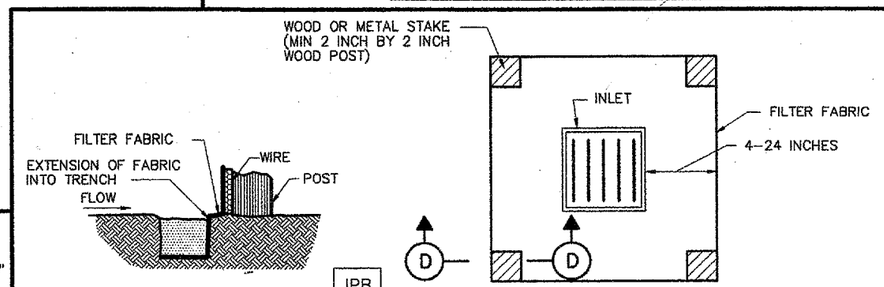
(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER



IPB
SYMBOL



HAY BALE INLET PROTECTION BARRIER



IPB
SYMBOL

SILT FENCE INLET PROTECTION BARRIER

CONSTRUCTION NOTE:

1. SEE CONSTRUCTION NOTES FOR RFB.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER

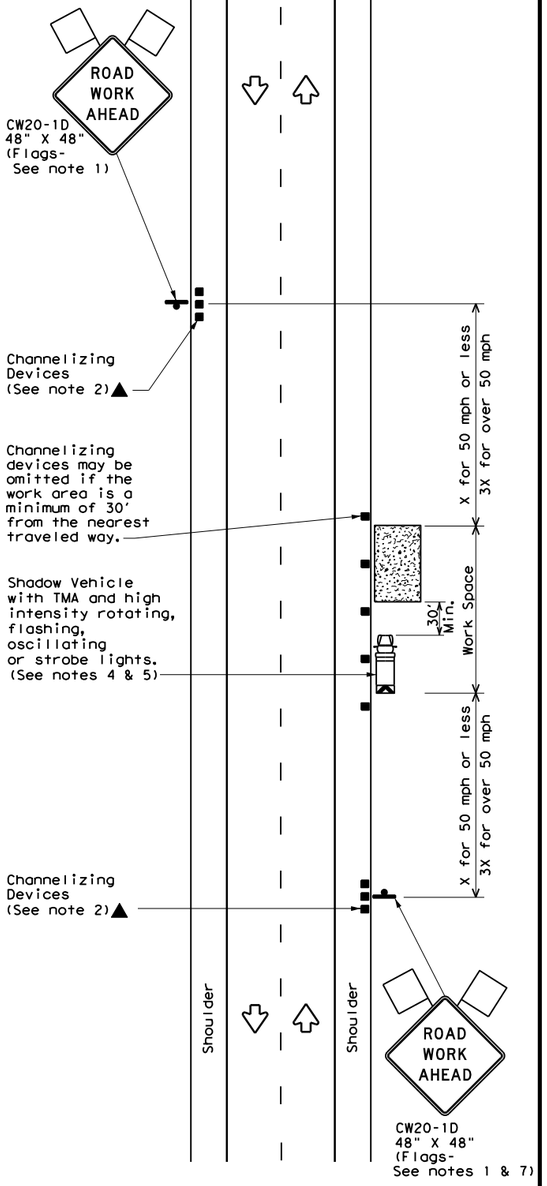
APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010

DWG NO: 01571-01

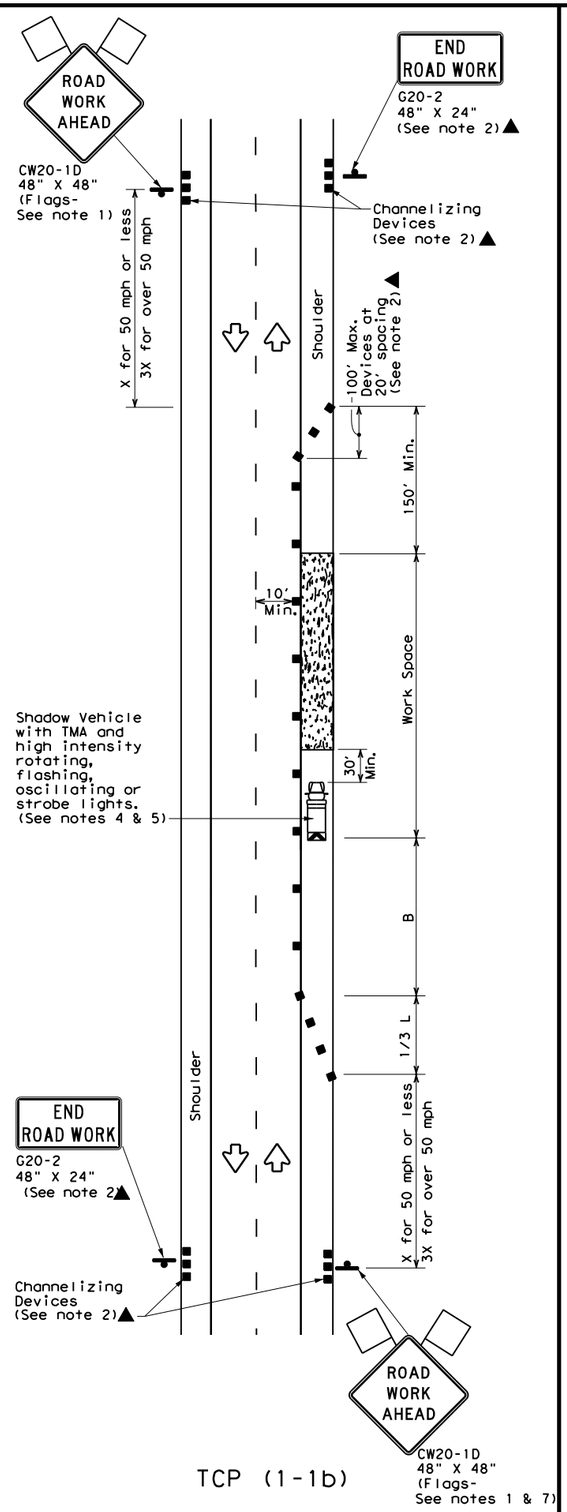
CON

DATE:
FILE:



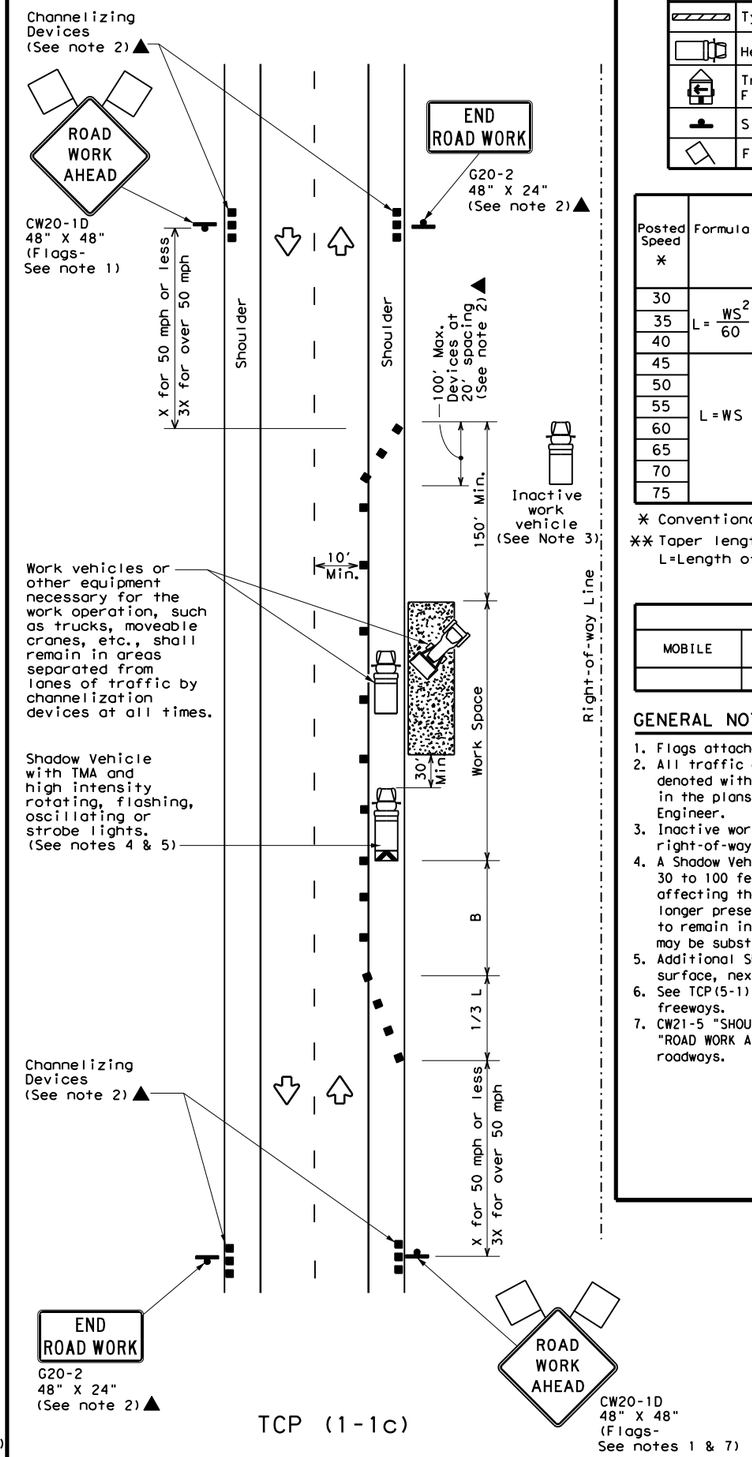
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(1-1)-18

FILE: tcp1-1-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 / 8-95 2-12 / 1-97 2-18	DIST	COUNTY		SHEET NO. 8

151

MAKING COMPLEX EASY

CLIENT: DEVELOPER: MAGNOLIA M3 RANCH 585-AC
PROJECT: Water and Sewer Extension
SUBJECT: Opinion of Probable Construction Cost

ESTIMATED QUANTITIES

SEWER

ITEM NO.	DESCRIPTION	UNIT	QUANT.	UNIT PRICE	TOTAL PRICE
1	TRENCH SAFETY SYSTEM	LF	212	$ 3.00	$ 636.00
2	4-FOOT DIAMETER PRECAST CONCRETE MANHOLE	EA	2	$ 7,500.00	$ 15,000.00
3	EXTRA DEPTH, 4-FOOT DIAMETER PRECAST CONCRETE MANHOLE	VF	11	$ 800.00	$ 8,800.00
4	12-INCH DIAMTER PVC SANITARY SEWER PIPE, BY OPEN CUT WITH RESTRAINED JOINTS	LF	212	$ 90.00	$ 19,080.00
5	12-INCH DIAMTER PVC SANITARY SEWER PIPE, BY TRENCHLESS CONSTRUCTION	LF	90	$ 90.00	$ 8,100.00
6	24-INCH BORE & STEEL ENCASEMENT	LF	90	$ 550.00	$ 49,500.00
				SEWER TOTAL	**$100,480.00**

WATER

ITEM NO.	DESCRIPTION	UNIT	QUANT.	UNIT PRICE	TOTAL PRICE
7	TRENCH SAFETY SYSTEM	LF	212	$ 3.00	$ 681.00
8	16-INCH DIAMETER DI WATER LINE BY OPEN CUT WITH RESTRAINED JOINTS	LF	212	$ 140.00	$ 31,780.00
9	16-INCH DIAMETER DI WATER LINE BY TRENCHLESS CONSTRUCTION	LF	90	$ 140.00	$ 10,500.00
10	30-INCH BORE & STEEL ENCASSEMENT	LF	90	$ 900.00	$ 67,500.00
11	16-INCH DIAMTER WET CONNECTION	EA	1	$ 5,000.00	$ 5,000.00
12	16-INCH GATE VALVE WITH BOX	EA	1	$ 6,000.00	$ 6,000.00
13	16-INCH X 22.5° BEND	EA	2	$ 1,600.00	$ 6,000.00
14	16-INCH X 45° BEND	EA	2	$ 1,600.00	$ 3,200.00
15	FIRE HYDRANT ASSEMBLY, ALL DEPTHS, INCLUDING 6-INCH DIAMETER GATE VALVE AND BOX	EA	1	$ 3,500.00	$ 3,500.00
16	6-INCH DIAMETER FIRE HYDRANT BRANCH BY OPEN-CUT	LF	10	$ 1,000.00	$ 10,000.00
17	16-INCH PLUG AND CLAMP	EA	1	$ 110.00	$ 110.00
				WATER TOTAL	**$144,271.00**

TCP & ENVIRONMENTAL

ITEM NO.	DESCRIPTION	UNIT	QUANT.	UNIT PRICE	TOTAL PRICE
18	SILT FENCE	LF	620	$ 3.00	$ 1,860.00
19	TRAFFIC CONTROL	MO	2	$ 1,500.00	$ 3,000.00
				TOTAL	**$4,860.00**

TOTAL	**$249,611.00**
20% CONTIGENCY	**$49,922.20**
PROJECT TOTAL	**$299,533.20**

June 16, 2022

Mr. Don Doering
City Administrator
18111 Buddy Riley Boulevard
Magnolia, TX 77354

Subject: ***Water and Sanitary Sewer Utilities Along Escondido Pradoo Crossing***
Letter of No Objection
City of Magnolia
AEI Job No. 220564.80-001

Dear Mr. Doering:

We received the revised construction plans for the proposed Water and Sanitary Sewer Utilities along Escondido Pradoo Crossing on June 13, 2022. On behalf of City of Magnolia (the "City"), we have reviewed the submitted documents and offer no objection to approval of this project, subject to the following comments:

1. The Developer shall be responsible for all aspects of this project and will provide final certification that all improvements have been constructed in conformance with the approved plans and specifications.
2. In the event that any portion of this development may change at a future date, the City reserves the right to review and approve the proposed changes prior to initiating the change.
3. Obtain all applicable utility company and governmental agency signatures.
4. Construction shall not commence until final agency approvals are secured.

Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Robel E. Giackero

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

xc: Ms. Christian Gable – City of Magnolia – Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company

Ms. Shauna Weaver, P.E., LEED AP BD+C – Pape-Dawson Engineers, Inc.

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 19

Background/Information:
An application for a preliminary plat was received on February 3, 2022.

Comments:
Letter of No Objection was issued by City Engineer June 17, 2022.

Action Requested:
Approve preliminary plat for Escondido Section 5.

Recommendation:
Approve preliminary plat for Escondido Section 5.

Attachments:
Preliminary Plat

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 20

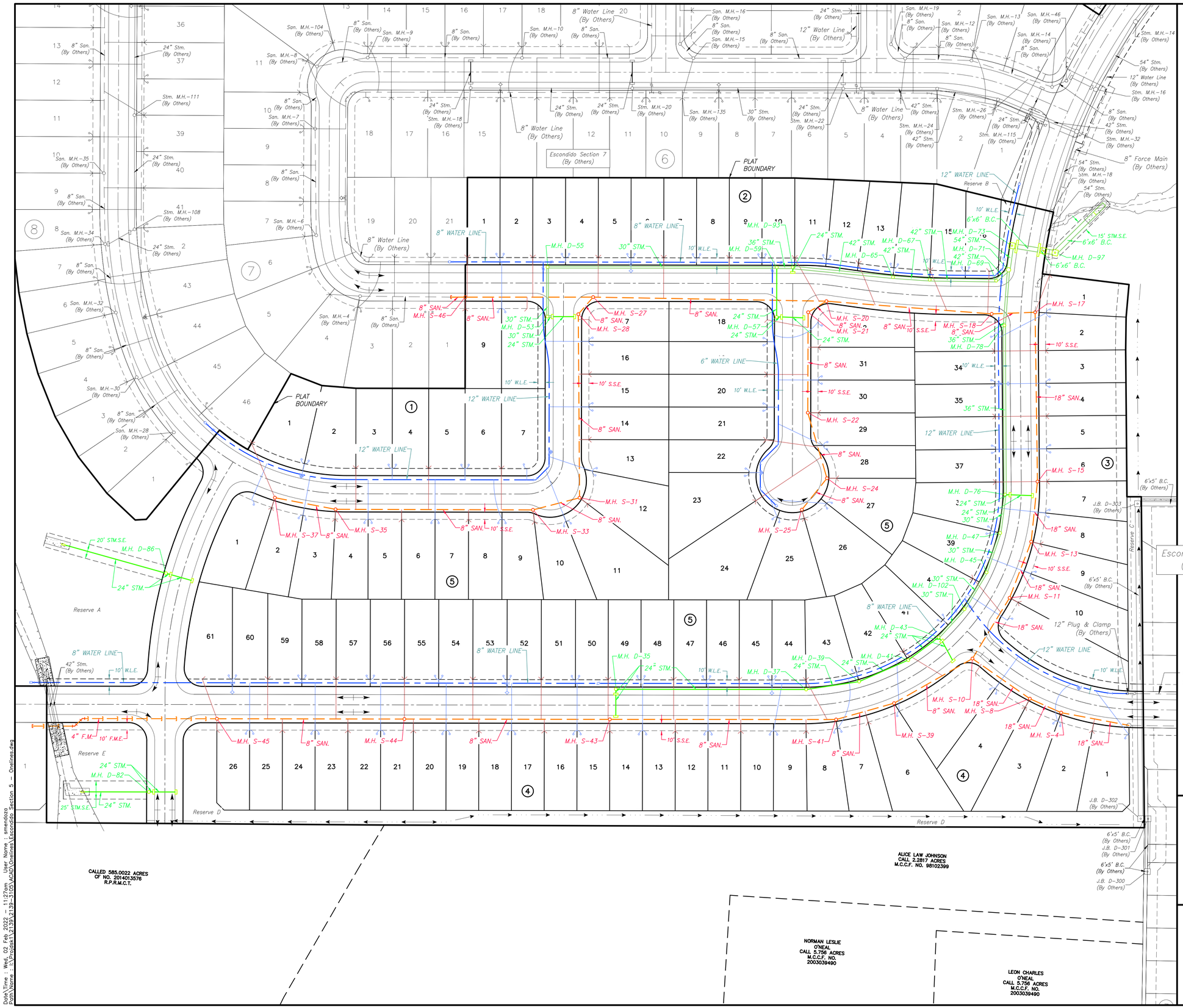
Background/Information:
An application for a site plan was received on March 3, 2022.

Comments:
Review letter was issued by City Engineer to applicant on June 22, 2022.

Action Requested:
Approve site plan for Escondido Section 5.

Recommendation:
Approve site plan for Escondido Section 5 upon receipt of Letter of No Objection from City Engineer.

Attachments:
Site Plan



N

SCALE: 1" = 60'

SCALE IN FEET

60 30 0 60 120 180

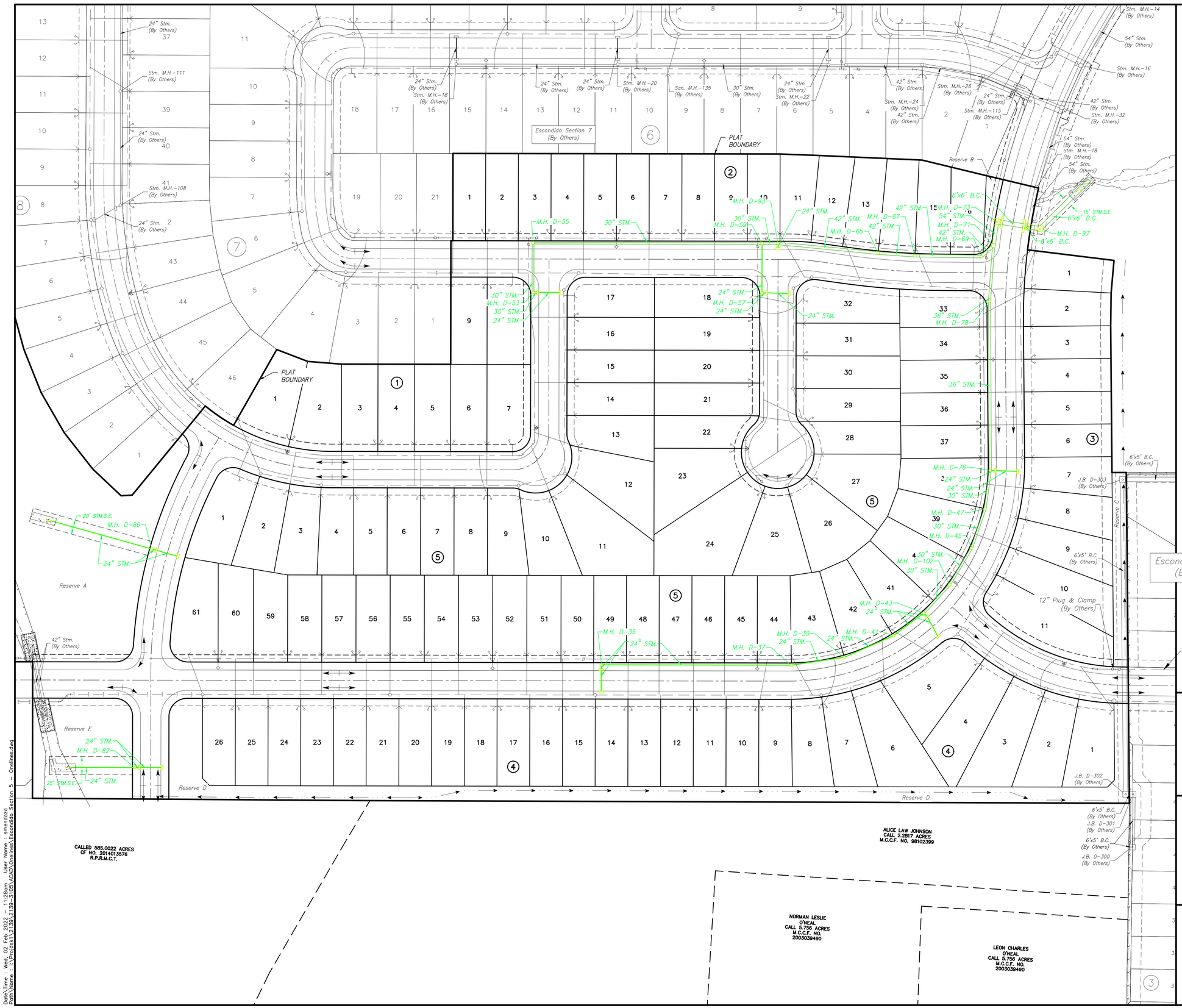
LEGEND

- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE FLOW DIRECTION
- PROPOSED WATER LINE AND GATE VALVE AND BOX
- PROPOSED WATER LINE W/BENDS
- PROPOSED WATER LINE W/TEE
- PROPOSED WATER LINE W/FIRE HYDRANT UNIT
  A. LINE SIZE X 6" TEE
  B. 6" GATE VALVE AND BOX
  C. FIRE HYDRANT
- 2" BLOW-OFF ASSEMBLY W/PLUG AND CLAMP
- PROPOSED STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND INLETS
- PROPOSED PAVEMENT
- INDICATES STORM SEWER EASEMENT
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- DOUBLE SANITARY SEWER SERVICE LEAD
- SINGLE SANITARY SEWER SERVICE LEAD
- INDICATES SANITARY SEWER EASEMENT

PRELIMINARY ONELINES FOR WATER, WASTEWATER & DRAINAGE SYSTEM TO SERVE ESCONDIDO SECTION 5 FEBRUARY 2, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

Date\Time : Wed, 02 Feb 2022 — 11:27am User Name : smendoza
Path\Name : I:\Projects\2139-3105\ACAD\Onelines\Escondido Section 5 – Onelines.dwg



N

SCALE: 1" = 60'

SCALE IN FEET

60 30 0 60 120 180

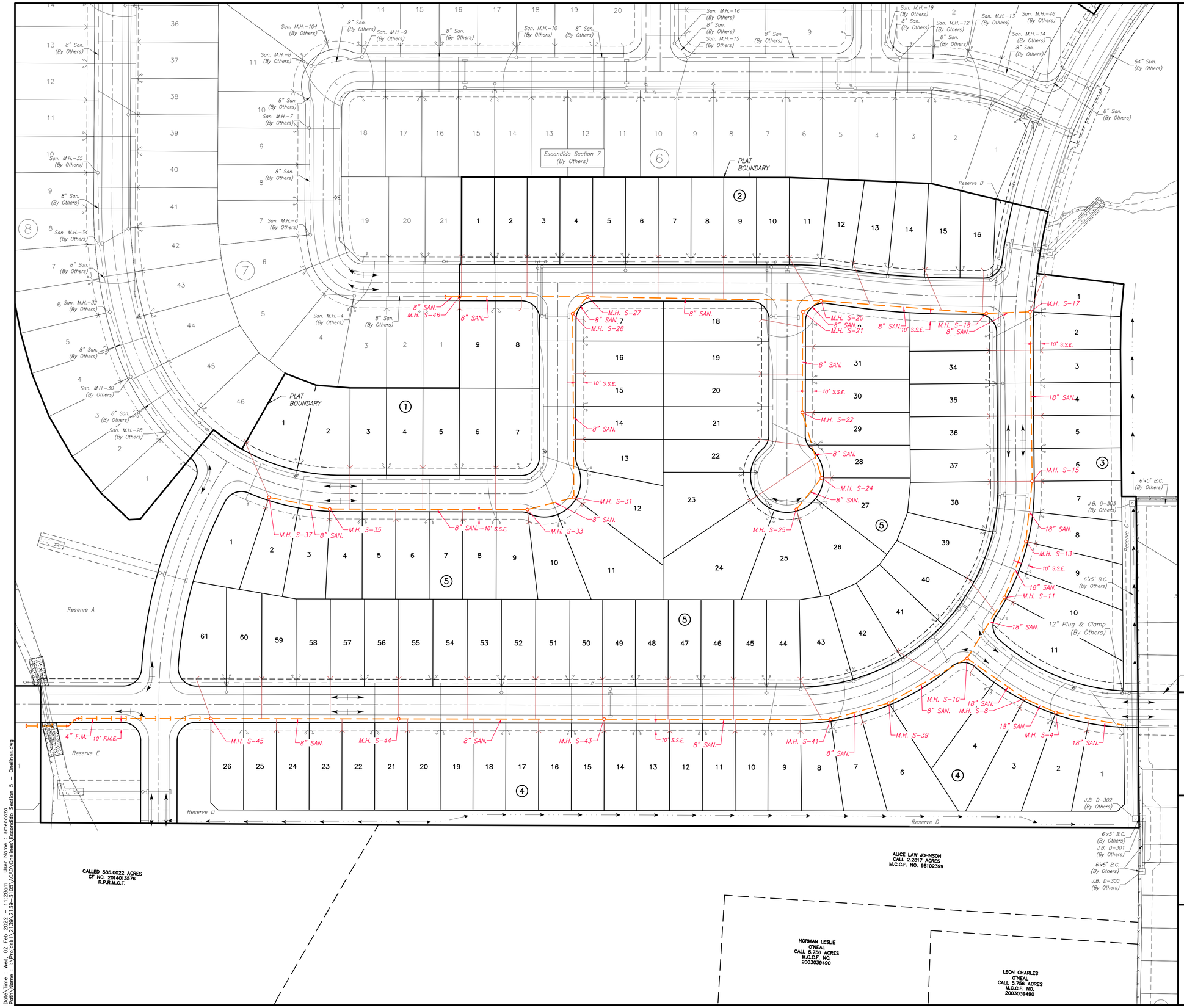
LEGEND

- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE FLOW DIRECTION
- PROPOSED STORM SEWER & MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND C INLETS
- PROPOSED PAVEMENT
- INDICATES PROPOSED DRAINAGE SWALE

NOTE: ESCONDIDO SECTION 5 STORMWATER WILL BE COLLECTED BY CURB AND GUTTER STREETS WITH INLETS THROUGH THE STORM SYSTEM AND INTO THE EXISTING CHANNELS.

PRELIMINARY ONELINES FOR
DRAINAGE SYSTEM
TO SERVE
ESCONDIDO SECTION 5
FEBRUARY 2, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386



N

SCALE: 1" = 60'

SCALE IN FEET

60 30 0 60 120 180

LEGEND

- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE FLOW DIRECTION
- PROPOSED DOUBLE SANITARY SEWER LEAD
- PROPOSED SINGLE SANITARY SEWER LEAD
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE

NOTE: ESCONDIDO SECTION 5 WILL GRAVITY FLOW THROUGH 8" PVC SANITARY PIPE AND THEN AN 18" SANITARY PIPE THAT CONNECTS TO THE SECTION 4 SANITARY PIPE.

PRELIMINARY ONELINES FOR
WASTEWATER SYSTEM
TO SERVE
ESCONDIDO SECTION 5
FEBRUARY 2, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

Date\Time : Wed, 02 Feb 2022 - 11:28am User Name : smendoza
Path\Name : I:\Projdsk1\2139-3105\ACAD\Onelines\Escondido Section 5 - Onelines.dwg

AEI ENGINEERING
a BAXTER & WOODMAN company

June 22, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Subject: ***Water, Sanitary Sewer and Drainage Facilities & Paving and Appurtenances to Serve Escondido Section 5 – Plan Review***
City of Magnolia
AEI Job No. 221273.80-001

Dear Mr. Doering:

We received the construction plans for the proposed Water, Sanitary Sewer and Drainage Facilities & Paving and Appurtenances to Serve Escondido Section 5 on June 10, 2022. On behalf of City of Magnolia (the "City"), we have reviewed the submitted documents and are providing the following comments for your consideration:

1. Plat shown on plans for reference does not match the preliminary plat that was submitted for City review. Verify.
2. Provide approval letter from Montgomery County Municipal Utility District No. 174.
3. Obtain all applicable utility company and governmental agency signatures.
4. As a reminder, all construction activities with a disturbance area of 5 acres or more must comply with the City's Code of Ordinance Spec 01560.
5. Construction shall not commence until final agency approvals are secured.

Please make all the revisions as requested and submit a revised set of plans to this office for final approval. Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Robel E. Giackero

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

xc: Ms. Christian Gable – City of Magnolia – Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Mr. Jordan Williams, P.E. – LJA Engineering, Inc.

Mr. Kamran Moussavi – LJA Engineering, Inc.

Preliminary Plat Application Form

This form shall be submitted with each application for a preliminary plat.

CONTACT INFORMATION

Applicant

Katy Harris
Name

3600 W. Sam Houston Pkwy. S.
Street Address

Houston, TX 77042
City, State Zip

713-358-8536
Phone

N/A
Fax

kharris@lja.com
E-mail

Property Owner (if different)

J Alan Kent Development
Name

7817 Rayford Road
Street Address

Spring, TX 77389
City, State Zip

281-376-1500
Phone

N/A
Fax

duane@jalankent.com
E-mail

Architect (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Engineer/Land Surveyor (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Project Name: Escondido Subdivision: Section 5 Reviewer: _____

PROPERTY PROFILE

Legal Description W. HILLHOUSE SURVEY, A 260 & W.T. DUNLAVY SURVEY, A-168
(Subdivision) (Lot) (Block)

Current Zoning ETJ

Present Use of Property
Acreage

Proposed Use of the Property
Single Family Residential with 123 lots.

Total Area of Site 29.6 acres

Project Name: Escondido Subdivision: Section 5 Reviewer: _____

1. Description of existing property. If the property has been previously subdivided, provided the lot(s), block(s), and subdivision name. If the property has been subdivided, provide the metes and bounds description:
   Acreage.
   _____
   _____
   _____

2. Description of proposed property change, including lot numbers, name, etc.
   Single Family Residential with 123 lots.
   _____
   _____
   _____

Required Information

- ☒ Three (3) copies of the preliminary plat; minimum 20 in. x 24 in. size in blue or black line
- ☒ All fees
- ☒ One (1) Adobe Acrobat PDF of each page presented to the City for review
- ☒ Title opinion (title search) from a title guaranty company not more than 30 days old
- ☒ Three (3) original copies of a letter of transmittal
- ☒ Vicinity map
- ☒ North arrow
- ☐ Revision date
- ☒ Legal description of the parcel proposed for subdivision
- ☒ Scale
- ☒ Contour lines (at one-foot intervals)
- ☒ Tabulations that include:
  - ☒ The number of lots in the subdivision
  - ☒ The size of the parcel
  - ☐ Water available for fire protection
- ☒ Use and ownership of abutting parcels or lots
- ☒ Location and dimensions of right-of-ways, lots, utility easements, open spaces, and buffers
- ☐ Required justifications for cul-de-sacs, if cul-de-sacs are proposed
- ☒ Three (3) copies of blue or black line prints of the preliminary plans for the furnishings of water, sanitary sewer facilities, and provisions for storm sewers and general drainage facilities
- ☒ Proposed generalized use of lots (*e.g.*, mixed-use, single-family attached, multi-family, industrial, commercial or office, or institutional), provided on a separate attached description
- ☐ Location and size of proposed parks, playgrounds, civic (including church) or school sites or other special uses of land to be considered for dedication to public use, provided on a separate attached description
- ☒ If the proposed subdivision is to be constructed in several phases, a staging plan that shows how the subdivision improvements will be phased. Anticipated time lines for construction of the improvements shall be provided on a separate attached description
- ☐ Statement of proposed plans for drainage and sewage disposal/outfall, including location of proposed culverts and bridge, provided on a separate utility sheet
- ☐ If the proposed subdivision is one of several phases, conceptual plans for the other phases
- ☐ Traffic study (if necessary)

Project Name: Escondido Subdivision: Section 5 Reviewer: _____

I, Katy Harris (print or type name), certify with my signature below that the information included in my submittal packet is complete, true, and correct, to the best of my knowledge.

Katy Harris 02-03-2022

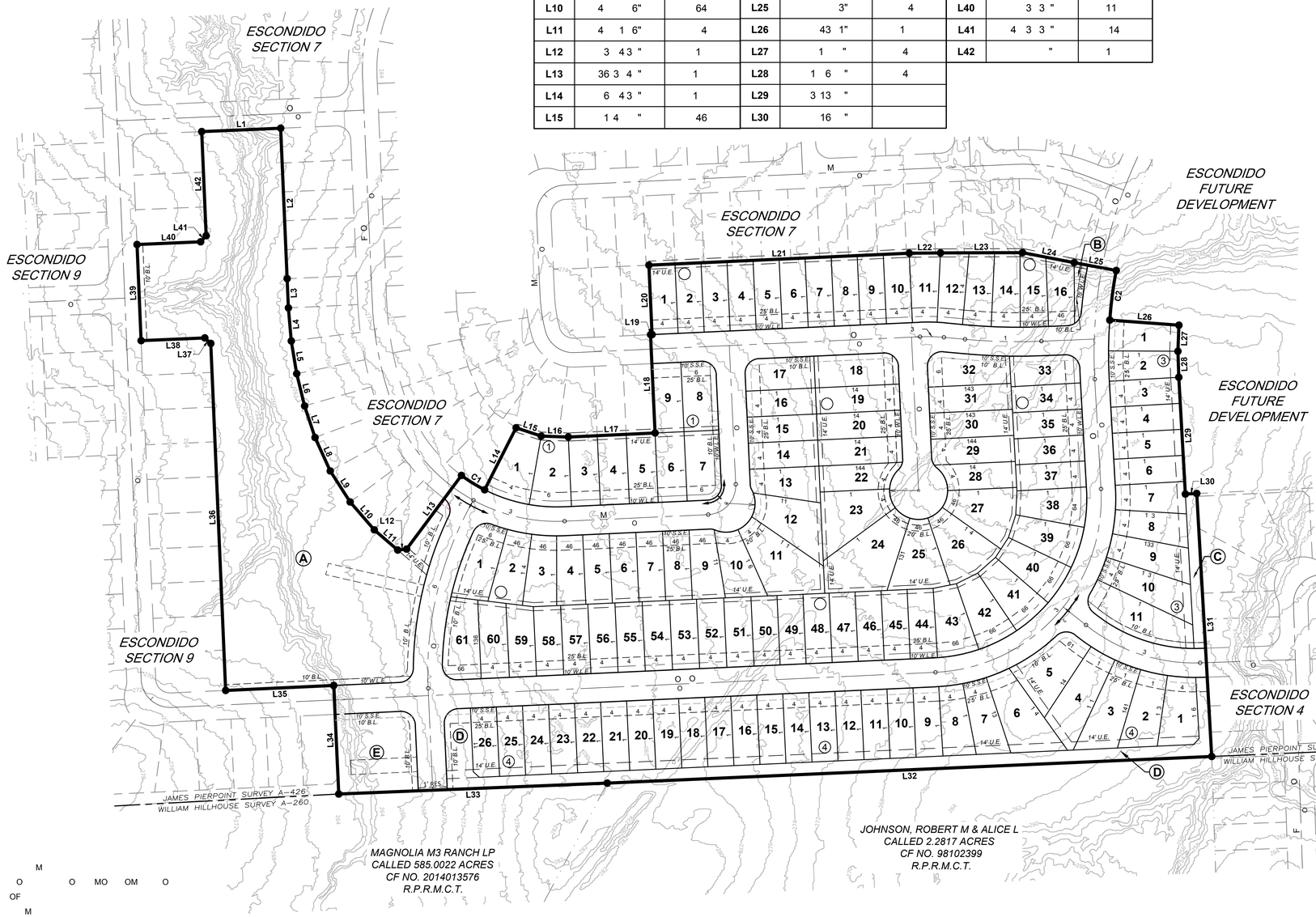
Signature of Applicant Date

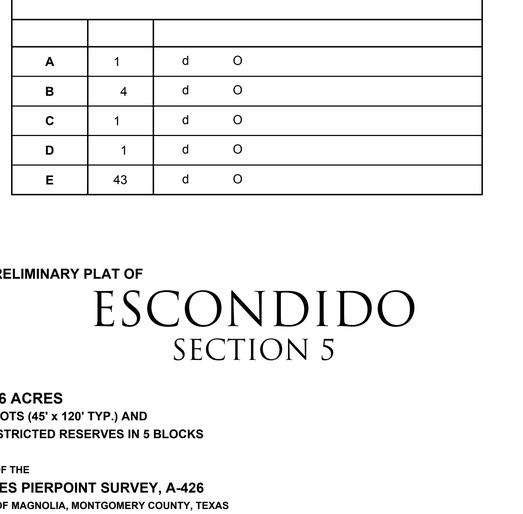
Project Name: Escondido Subdivision: Section 5 Reviewer: _____

GENERAL NOTES:

1. **"1' RES." INDICATES A ONE FOOT RESERVE DEDICATED TO THE PUBLIC IN FEE AS A BUFFER SEPARATION BETWEEN THE SIDE OR END OF STREETS IN SUBDIVISION PLATS WHERE SUCH STREETS ABUT ADJACENT ACREAGE TRACTS, THE CONDITION OF SUCH DEDICATION BEING THAT WHEN THE ADJACENT PROPERTY IS SUBDIVIDED IN A RECORDED PLAT, THE ONE FOOT RESERVE SHALL THEREUPON BECOME VESTED IN THE PUBLIC FOR STREET RIGHT-OF-WAY PURPOSES (AND THE FEE TITLE THERETO SHALL REVERT TO AND REVEST IN THE DEDICATOR, HIS HEIRS, ASSIGNS, OR SUCCESSORS).**
2. **ALL EASEMENTS ON LOT LINES ARE CENTERED UNLESS OTHERWISE SHOWN.**
3. **ALL STREET INTERSECTION RIGHT-OF-WAY RETURN RADII ARE 25 FEET UNLESS OTHERWISE NOTED.**
4. **ALL STREETS WILL BE PAVED WITH CONCRETE AND BE CURB AND GUTTER STREETS WITH STORM SEWERS.**
5. **ALL PROPERTY LINE DIMENSIONS ARE APPROXIMATE.**
6. **SINGLE FAMILY RESIDENTIAL SHALL MEAN THE USE OF A LOT WITH ONE BUILDING DESIGNED FOR AND CONTAINING NOT MORE THAN TWO SEPARATE UNITS WITH FACILITIES FOR LIVING SLEEPING, COOKING, AND EATING THEREIN. A LOT UPON WHICH IS LOCATED A FREE-STANDING BUILDING CONTAINING ONE DWELLING UNIT AND A DETACHED SECONDARY DWELLING UNIT OF NOT MORE THAN 900 SQUARE FEET ALSO SHALL BE CONSIDERED SINGLE FAMILY RESIDENTIAL. A BUILDING THAT CONTAINS ONE DWELLING UNIT ON ONE LOT THAT IS CONNECTED BY A PARTY WALL TO ANOTHER BUILDING CONTAINING ONE DWELLING UNIT ON AN ADJACENT LOT SHALL BE SINGLE FAMILY RESIDENTIAL.**
7. **EACH LOT SHALL PROVIDE A MINIMUM OF TWO OFF-STREET PARKING SPACES PER DWELLING UNIT ON EACH LOT. IN THOSE INSTANCES WHERE A SECONDARY UNIT IS PROVIDED ONLY ONE ADDITIONAL SPACE SHALL BE PROVIDED.**

O			O			O		
L1	3 3 "	13	L16	"	4	L31	3 1 3"	4
L2	"	6	L17	"	1	L32	1"	1 4
L3	1 "	1	L18	3 "	1	L33	4 33"	464
L4	4 "		L19	"	3	L34	3 "	1
L5	4"		L20	3 "	1	L35	"	1
L6	13 46 "		L21	"	4	L36	"	6
L7	1 11 31"		L22	6"	4	L37	4 "	14
L8	4 6"	64	L23	4 46"	141	L38	3 3 "	11
L9	3 41 1"	64	L24	"	1	L39	"	166
L10	4 6"	64	L25	3"	4	L40	3 3 "	11
L11	4 1 6"	4	L26	43 1"	1	L41	4 3 3 "	14
L12	3 43 "	1	L27	1 "	4	L42	"	1
L13	36 3 4 "	1	L28	1 6 "	4			
L14	6 43 "	1	L29	3 13 "				
L15	1 4 "	46	L30	16 "				





Vicinity Map
1 1

O				
			O	O
C1		4	14 "	4
C2		6	3 "	6

A	1	d O
B	4	d O
C	1	d O
D	1	d O
E	43	d O

A PRELIMINARY PLAT OF

ESCONDIDO
SECTION 5

±29.6 ACRES
123 LOTS (45' x 120' TYP.) AND
5 RESTRICTED RESERVES IN 5 BLOCKS

OUT OF THE
JAMES PIERPOINT SURVEY, A-426
CITY OF MAGNOLIA, MONTGOMERY COUNTY, TEXAS

OWNER:
J ALAN KENT DEVELOPMENT

PLANNER:

PLANNING & LANDSCAPE ARCHITECTURE

Land & Master Planning
Land Use/Feasibility Studies
Sustainable Design
Urban Design
Landscape Architecture

3600 W Sam Houston Pkwy S
Suite 600
Houston, Texas 77042
713.953.5200 - f 713.953.5026

NORTH

0 50 100 200

LJA# 2139-07003 **02.03.2022**

June 17, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Reference: ***Escondido Section 5 Preliminary Plat – Letter of No Objection***
City of Magnolia
AEI Job No. 220293.80-001

Dear Mr. Doering:

We received the preliminary plat for the proposed Escondido Section 5 and supporting documentation on June 16, 2022. On behalf of City of Magnolia (the "City"), we have reviewed the submitted documents and offer no objection to the approval of this project, subject to the following comments:

1. Provide preliminary approval for proposed street names from Montgomery County Emergency Communication District.
2. In the event that any portion of this development may change at a future date, the City reserves the right to review and approve the proposed changes prior to initiating the change.

Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

XC: Ms. Christian Gable – City of Magnolia - Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Ms. Katy Harris, AICP – LJA Engineering, Inc.

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 21

Background/Information:
An application for a final plat was received on June 27, 2022.

Comments:
Review letter was issued by City Engineer to applicant on July 18, 2022. Re-submittal was received July 13, 2022.

Action Requested:
Approve final plat for Escondido Section 5.

Recommendation:
Approve final plat for Escondido Section 5 upon receipt of Letter of No Objection from City Engineer.

Attachments:
Final Plat

Final Plat Application Form

This form shall be submitted with each application for a final plat.

Applications must be received by the first Monday of the month to be considered by the Planning and Zoning Commission in the same month.

CONTACT INFORMATION

Applicant

Alexis Santibanes
Name

3600 W Sam Houston S Pkwy, Suite 600
Street Address

Houston, TX 77042
City, State Zip

713-580-4179
Phone

Fax

asantibanes@lja.com
E-mail

Property Owner (if different)

Magnolia Escondido, LLC
Name

6046 FM 2920, Suite 512
Street Address

Spring, TX 77379
City, State Zip

713-580-4179
Phone

Fax

asantibanes@lja.com
E-mail

Architect (if different)

Name

Street Address

City, State Zip

Phone

Fax

E-mail

Engineer/Land Surveyor (if different)

Ciro Ariza
Name

1904 W Grand Parkway N, Suite 100
Street Address

Katy, TX 77449
City, State Zip

713-913-5293
Phone

Fax

cariza@lja.com
E-mail

Subdivision: Escondido Reviewer:

PROPERTY PROFILE

Property ID # R50829

Legal Description 29.567 acres in the James Pierpont Survey, Abstract 426, Montgomery County, Texas
(Subdivision) (Lot) (Block)

Current Zoning semi-urban residential

Present Use of Property
Rural

Proposed Use of the Property
Single Family Residential

Total Area of Site 29.567 acres

1. Description of existing property. If the property has been previously subdivided, provided the lot(s), block(s), and subdivision name. If the property has been subdivided, provide the metes and bounds description:
   29.567 acres in the James Pierpont Survey, Abstract 426, Montgomery County, Texas

2. Description of proposed property change, including lot numbers, name, etc.
   Escondido Section 5- 123 Lots, 5 Blocks, 5 Reserves

Required Information

- [X] One (1) copy of the final plat; 20 in. x 24 in. size Mylar original sealed by a state of Texas registered surveyor
- [X] Two (2) blue line copies of the original Mylar final plat
- [X] One (1) copies of "letter of explanation" with plat details
- [X] Six (6) copies in blue or black line of all originals in 11 in. x 17 in. size for City Council
- [X] All fees
- [X] One (1) Adobe Acrobat PDF of each page presented to the City for review
- [ ] Owner affidavit of no conveyance of any interest and that no additional liens exist on the land within the plat since the date of the original title opinion (title search)
- [X] Tax certificates; City, County, and School
- [X] Final plans and specifications for all required improvements
- [X] Vicinity map
- [X] North arrow
- [X] Revision date
- [X] Legal description
- [X] Scale
- [ ] Contour lines (at one-foot intervals)
- [X] Tabulations that include:
  - [X] The number of lots in the subdivision
  - [X] The size of the parcel
  - [X] The number of dwelling units proposed (provided on a separated attached description)
  - [X] The number of square feet of nonresidential floor area proposed, by generalized use (provided on a separate attached description)
  - [X] Water available for fire protection
- [X] Use and ownership of abutting parcels or lots
- [X] Location and dimensions (including all curve data, the lengths of all arcs, radii, internal angles, points of curvature, lengths and bearings of tangents) of:
  - [X] Right-of-way, streets, alleys, railroads, lots, open space, parks, protected natural resources, and buffers
  - [X] Utility and access easements
  - [ ] Private access easements

- [X] The outer boundary lines of the parcel proposed for subdivision, with accurate distances, angles, and true bearings if available, and the exact location width of all recorded streets and ways intersecting the boundaries of the parcel being platted
- [X] Distances and angles, or true bearings if available, to the established street lines or official monuments, which shall be accurately described on the plat
- [X] Proposed names of streets
- [X] Linear footage of proposed new right-of-way
- [X] All block indications, if any; lot numbers; all individual areas designated by number or letter, and lots in new subdivision, numbered consecutively
- [X] The accurate location, material, type and description of all permanent control monuments. Where no established bench mark exists, show permanent bench marks that have been established on the property based on mean sea level datum and shown on the plat
- [X] Delineation and area of special use areas, including the location and size of proposed parks, playgrounds, protected resources and open spaces, sites for places of public assembly (including schools) or other special uses of land to be considered for dedication to public use, and of all property that may be granted by deed and covenants for the common use of the property owners in the subdivision, along with statements for responsibility for maintenance. Actual use descriptions must be provided on a separate attached description
- [X] Proposed generalized use of lots (*e.g.*, mixed-use, single-family attached, multi-family, industrial, commercial or office, or institutional), provided on a separate attached description
- [ ] Proposed location, size, and linear footage of proposed potable water lines, provided on a separate utility sheet
- [ ] Proposed location, size, and linear footage of natural gas lines, provided on a separate utility sheet
- [ ] Proposed location, size, and linear footage of sanitary sewer lines and sewerage facilities, except individual treatment systems provided on utility and street construction plans
- [ ] Proposed location of fire hydrants, provided on utility and street construction plans
- [ ] If the proposed subdivision is to be constructed in several phases, a staging plan that shows how the subdivision improvements will be phased. Anticipated time lines for construction of the improvements shall be provided on a separate attached description
- [ ] If the proposed subdivision is one of several phases, conceptual plans for the other phases
- [ ] Traffic study (if necessary)
- [X] All required notes, certifications, and signatures

I, Alexis Santibanes (print or type name), certify with my signature below that the information included in my submittal packet is complete, true, and correct, to the best of my knowledge.

Alexis Santibanes

Signature of Applicant

6-27-2022

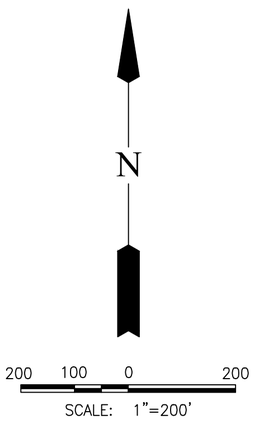
Date

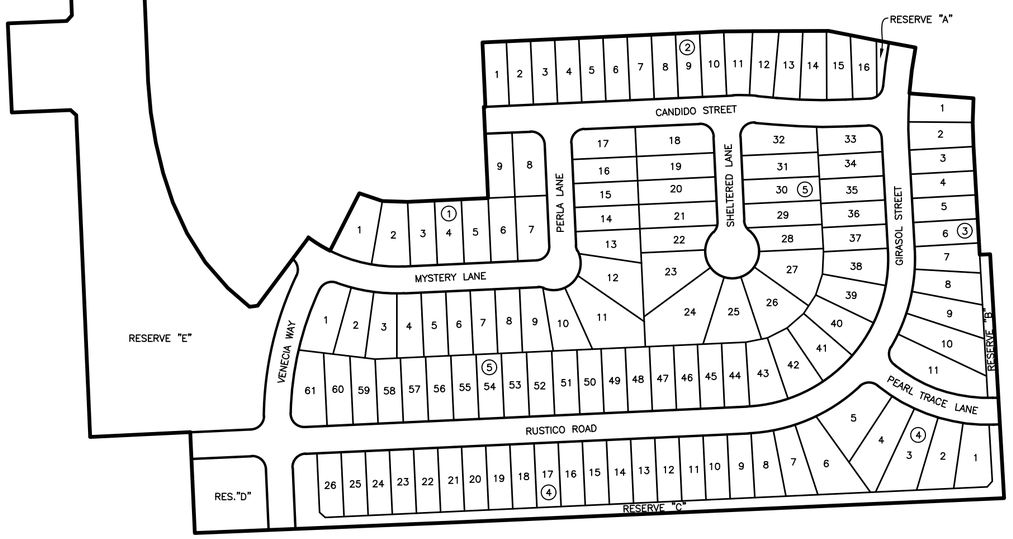
NOTE: Rfc ?nnjga_lr qf_jj f_tc rfc nj_r bsjw pcampbcb gl rfc mddgac md rfc Ajcpi md Amspr md Kmlremk cpw Amslrw* Rcv_q.

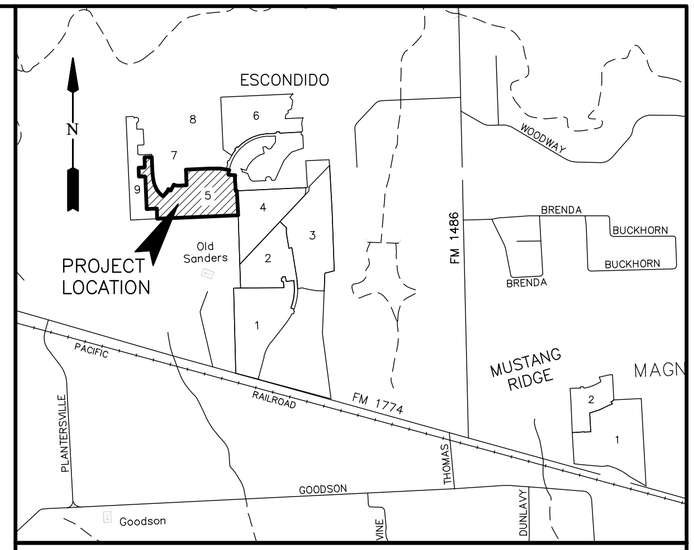
?drcp rfc pcampbglе md rfc dgl_j nj_r* rfc ?nnjga_lr qf_jj bgqrpg`src rfc amngcq md rfc pcampbcb dgl_j nj_r* u fgaf qf_jj qfmu _jj qgel_rspcq _lb rfc dgjc lsk`cp md rfc Ajcpi md Amspr* _q dmjjmuq8

/, Mlc nbd amnw qf_jj `c ck_gjcb rm rfc ?bkglgqrp_rmp _lb Agrw Clеglccp9

0, Rum `jsc+jglc npglrq* qf_jj `c pcrsplcb rm rfc ?bkglgqrp_rmp* mp _l _nnmglrcc `w S,Q, acprgdgcb k_gj, Please see certified mail requirements and deadlines in Ch. 11 of the City of Magnolia Unified Development Code.







VICINITY MAP
SCALE: 1"= 2000'

KEY MAP NO. 211G

FINAL PLAT
ESCONDIDO
SECTION 5

A SUBDIVISION OF 29.567 ACRES OF LAND SITUATED IN
THE JAMES PIERPONT SURVEY, ABSTRACT 426,
MONTGOMERY COUNTY, TEXAS.

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

DATE: JUNE 27, 2022

123 LOTS
5 BLOCKS
5 RESERVES
6.502 ACRES IN RESERVES

SURVEYOR:
GBI PARTNERS
LAND SURVEYING CONSULTANTS
4724 VISTA ROAD • PASADENA, TX 77505
PHONE: 281-499-4539 • GBIsurvey@GBIsurvey.com
TBPELS FIRM #10130300 • www.GBIsurvey.com

ENGINEER:
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

2139-3105.310

Date\Time : Mon, 27 Jun 2022 - 8:10am
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CAD: ALEXIS.S MYLAR CHECK: SUR. _____

STATE OF TEXAS
COUNTY OF MONTGOMERY

I, J. ALAN KENT, GENERAL MANAGER, RESPECTIVELY OF MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, OWNER OF THE PROPERTY SUBDIVIDED IN THE ABOVE AND FOREGOING MAP OF ESCONDIDO SECTION 5, DO HEREBY MAKE SUBDIVISION OF SAID PROPERTY FOR AND ON BEHALF OF SAID MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, ACCORDING TO THE LINES, STREETS, LOTS, ALLEYS, PARKS, BUILDING LINES, AND EASEMENTS THEREIN SHOWN, AND DESIGNATE SAID SUBDIVISION AS ESCONDIDO SECTION 5, LOCATED IN THE JAMES PIERPONT SURVEY, ABSTRACT 426, MONTGOMERY COUNTY, TEXAS, AND ON BEHALF OF SAID MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY; AND DEDICATE TO PUBLIC USE, AS SUCH, THE STREETS, ALLEYS, PARKS, AND EASEMENTS SHOWN THEREON FOREVER; AND DO HEREBY WAIVE ANY CLAIMS FOR DAMAGES OCCASIONED BY THE ESTABLISHING OF GRADES AS APPROVED FOR THE STREETS AND ALLEYS DEDICATED, OR OCCASIONED BY THE ALTERATION OF THE SURFACE OF ANY PORTION OF STREETS OR ALLEYS TO CONFORM TO SUCH GRADES; AND DO HEREBY BIND OURSELVES, OUR SUCCESSORS AND ASSIGNS TO WARRANT AND FOREVER DEFEND THE TITLE TO THE LAND SO DEDICATED.

THIS IS TO CERTIFY THAT I, J. ALAN KENT, GENERAL MANAGER, RESPECTIVELY OF MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, OWNER OF THE PROPERTY SUBDIVIDED IN THE ABOVE AND FOREGOING MAP OF ESCONDIDO SECTION 5, HAVE COMPLIED WITH OR WILL COMPLY WITH ALL REGULATIONS HERETOFORE ON FILE WITH THE MONTGOMERY COUNTY ENGINEER AND ADOPTED BY THE COMMISSIONERS' COURT OF MONTGOMERY COUNTY, TEXAS.

FURTHER, OWNERS HAVE DEDICATED AND BY THESE PRESENTS DO DEDICATE TO THE USE OF THE PUBLIC FOR PUBLIC UTILITY PURPOSE FOREVER UNOBSTRUCTED AERIAL EASEMENTS. THE AERIAL EASEMENTS SHALL EXTEND HORIZONTALLY AN ADDITIONAL ELEVEN FEET, SIX INCHES (11' 6") FOR TEN FEET (10' 0") PERIMETER GROUND EASEMENTS OR SEVEN FEET, SIX INCHES (7' 6") FOR FOURTEEN FEET (14' 0") PERIMETER GROUND EASEMENTS OR FIVE FEET, SIX INCHES (5' 6") FOR SIXTEEN FEET (16' 0") PERIMETER GROUND EASEMENTS, FROM A PLANE SIXTEEN FEET (16' 0") ABOVE THE GROUND LEVEL UPWARD, LOCATED ADJACENT TO AND ADJOINING SAID PUBLIC UTILITY EASEMENTS THAT ARE DESIGNATED WITH AERIAL EASEMENTS (U.E. AND A.E.) AS INDICATED AND DEPICTED, HEREON, WHEREBY THE AERIAL EASEMENT TOTALS TWENTY ONE FEET, SIX INCHES (21' 6") IN WIDTH.

FURTHER, OWNERS HAVE DEDICATED AND BY THESE PRESENTS DO DEDICATE TO THE USE OF THE PUBLIC FOR PUBLIC UTILITY PURPOSE FOREVER UNOBSTRUCTED AERIAL EASEMENTS. THE AERIAL EASEMENTS SHALL EXTEND HORIZONTALLY AN ADDITIONAL TEN FEET (10' 0") FOR TEN FEET (10' 0") BACK-TO-BACK GROUND EASEMENTS, OR EIGHT FEET (8' 0") FOR FOURTEEN FEET (14' 0") BACK-TO-BACK GROUND EASEMENTS OR SEVEN FEET (7' 0") FOR SIXTEEN FEET (16' 0") BACK-TO-BACK GROUND EASEMENTS, FROM A PLANE SIXTEEN FEET (16' 0") ABOVE GROUND LEVEL UPWARD, LOCATED ADJACENT TO BOTH SIDES AND ADJOINING SAID PUBLIC UTILITY EASEMENTS THAT ARE DESIGNATED WITH AERIAL EASEMENTS (U.E. AND A.E.) AS INDICATED AND DEPICTED HEREON, WHEREBY THE AERIAL EASEMENT TOTALS THIRTY FEET (30' 0") IN WIDTH.

FURTHER, WE, MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, DO HEREBY DEDICATE FOREVER TO THE PUBLIC A STRIP OF LAND A MINIMUM OF FIFTEEN (15) FEET WIDE ON EACH SIDE OF THE CENTER LINE OF ANY AND ALL GULLIES, RAVINES, DRAWS, SLOUGHS OR OTHER NATURAL DRAINAGE COURSES LOCATED IN THE SAID SUBDIVISION, AS EASEMENTS FOR DRAINAGE PURPOSES, GIVING MONTGOMERY COUNTY AND/OR ANY OTHER PUBLIC AGENCY THE RIGHT TO ENTER UPON SAID EASEMENT AT ANY AND ALL TIMES FOR THE PURPOSE OF CONSTRUCTING AND/OR MAINTAINING DRAINAGE WORK AND/OR STRUCTURES.

FURTHER, ALL OF THE PROPERTY SUBDIVIDED IN THE ABOVE AND FOREGOING MAP SHALL BE RESTRICTED IN ITS USE, WHICH RESTRICTIONS SHALL RUN WITH THE TITLE OF THE PROPERTY, AND SHALL BE ENFORCEABLE, AT THE OPTION OF MONTGOMERY COUNTY, BY MONTGOMERY COUNTY OR ANY CITIZEN THEREOF, BY INJUNCTION, AS FOLLOWS:

1. THE DRAINAGE OF SEPTIC TANKS INTO ROAD, STREET, ALLEY, OR OTHER PUBLIC DITCHES, EITHER DIRECTLY OR INDIRECTLY, IS STRICTLY PROHIBITED.

2. DRAINAGE STRUCTURES UNDER PRIVATE DRIVEWAYS SHALL HAVE A NET DRAINAGE OPENING AREA OF SUFFICIENT SIZE TO PERMIT THE FREE FLOW OF WATER WITHOUT BACKWATER, AND SHALL BE A MINIMUM OF ONE AND THREE QUARTERS (1-3/4) SQUARE FEET (18" DIAMETER PIPE CULVERT).

FURTHER, WE DO HEREBY DECLARE THAT ALL PARCELS OF LAND DESIGNATED AS LOTS ON THIS PLAT ARE ORIGINALLY INTENDED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLING UNITS THEREON AND SHALL BE RESTRICTED FOR THE SAME UNDER THE TERMS AND CONDITIONS OF SUCH RESTRICTIONS FILED SEPARATELY, UNLESS OTHERWISE NOTED.

WE HAVE ALSO COMPLIED WITH ALL REGULATIONS HERETO BEFORE ADOPTED BY THE CITY COUNCIL OF THE CITY OF MAGNOLIA, LOCATED IN MONTGOMERY COUNTY, TEXAS.

FURTHER, OWNERS DO HEREBY CERTIFY THAT WE ARE THE OWNERS OF ALL PROPERTY IMMEDIATELY ADJACENT TO THE BOUNDARIES OF THE ABOVE AND FORGOING SUBDIVISION OF ESCONDIDO SECTION 5 WHERE BUILDING SETBACK LINES OR PUBLIC EASEMENTS ARE TO BE ESTABLISHED OUTSIDE THE BOUNDARIES OF THE ABOVE AND FORGOING SUBDIVISION AND DO HEREBY MAKE AND ESTABLISH ALL BUILDING SETBACK LINES AND DEDICATE TO THE USE OF THE PUBLIC, ALL PUBLIC EASEMENTS SHOWN IN SAID ADJACENT ACREAGE.

IN TESTIMONY WHEREOF, THE MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, HAS CAUSED THESE PRESENTS TO BE SIGNED BY J. ALAN KENT, ITS GENERAL MANAGER THEREUNTO AUTHORIZED, THIS _____ DAY OF_____, 2022.

MAGNOLIA ESCONDIDO LLC
A TEXAS LIMITED LIABILITY COMPANY

BY: _____
J. ALAN KENT, GENERAL MANAGER

STATE OF TEXAS
COUNTY OF HARRIS

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED J. ALAN KENT, GENERAL MANAGER OF MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED, AND IN THE CAPACITY THEREIN AND HEREIN SET OUT AND AS THE ACT AND DEED OF SAID COMPANY.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS _____ DAY OF _____, 2022.

_____
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

I, KYLE B. DUCKETT, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF SURVEYING AND HEREBY CERTIFY THAT THE ABOVE SUBDIVISION IS TRUE AND CORRECT; WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND; THAT THE ELEVATION BENCHMARK REFLECTED ON THE FACE OF THE PLAT WAS ESTABLISHED AS REQUIRED BY REGULATION; THAT ALL CORNERS AND ANGLE POINTS OF THE BOUNDARIES OF THE ORIGINAL TRACT TO BE SUBDIVIDED OF REFERENCE HAVE BEEN MARKED WITH IRON RODS HAVING A DIAMETER OF NOT LESS THAN FIVE-EIGHTHS OF AN INCH (5/8") AND A LENGTH OF NOT LESS THAN THREE FEET (3'); AND THAT THE PLAT BOUNDARY CORNERS HAVE BEEN TIED TO THE NEAREST SURVEY CORNER.

_____
KYLE B. DUCKETT, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6340

THIS IS TO CERTIFY THAT THE PLANNING AND ZONING COMMISSION OF THE CITY OF MAGNOLIA, TEXAS, HAS APPROVED THIS PLAT AND SUBDIVISION OF ESCONDIDO SECTION 5 AS SHOWN HEREIN.

IN TESTIMONY WHEREOF, IN WITNESS OF THE OFFICIAL SIGNATURES OF THE CHAIRMAN, AND THE SECRETARY OF THE CITY OF MAGNOLIA, TEXAS, THIS THE _____ DAY OF _____, 2022, DO APPROVE THIS PLAT TO BE RECORDED IN THE OFFICIAL RECORD AT THE MONTGOMERY COUNTY CLERK'S OFFICE.

_____
ROBERT FRANKLIN, CHAIRMAN

_____
KANDICE GARRETT, SECRETARY

THIS IS TO CERTIFY THAT THE CITY COUNCIL OF THE CITY OF MAGNOLIA, TEXAS, HAS APPROVED THIS PLAT AND SUBDIVISION OF ESCONDIDO SECTION 5 AS SHOWN HEREIN.

IN TESTIMONY WHEREOF, IN WITNESS OF THE OFFICIAL SIGNATURES OF THE MAYOR, AND THE CITY SECRETARY OF THE CITY OF MAGNOLIA, TEXAS, THIS THE _____ DAY OF _____, 2022, DO APPROVE THIS PLAT TO BE RECORDED IN THE OFFICIAL RECORD AT THE MONTGOMERY COUNTY CLERK'S OFFICE.

_____
TODD KANA, MAYOR

_____
KANDICE GARRETT, CITY SECRETARY

I, JEFF JOHNSON, P.E., COUNTY ENGINEER OF MONTGOMERY COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE PLAT OF THIS SUBDIVISION COMPLIES WITH ALL OF THE EXISTING RULES AND REGULATIONS OF THIS OFFICE AS ADOPTED BY THE MONTGOMERY COUNTY COMMISSIONERS COURT.

I FURTHER CERTIFY THAT THE PLAT OF THIS SUBDIVISION COMPLIES WITH REQUIREMENTS FOR INTERNAL SUBDIVISION DRAINAGE AS ADOPTED BY COMMISSIONERS COURT; HOWEVER, NO CERTIFICATION IS HEREBY GIVEN AS TO THE EFFECT OF DRAINAGE FROM THIS SUBDIVISION ON INTERCEPTING DRAINAGE ARTERY OR PARENT STREAM OR ON ANY OTHER AREA OF SUBDIVISION WITHIN THE WATERSHED.

_____
JEFF JOHNSON, P.E.
COUNTY ENGINEER

APPROVED BY THE COMMISSIONERS COURT OF MONTGOMERY COUNTY, TEXAS, THIS _____ DAY OF _____, 2022.

_____
ROBERT C. WALKER
COMMISSIONER, PRECINCT 1

_____
CHARLIE RILEY
COMMISSIONER, PRECINCT 2

_____
MARK KEOUGH
COUNTY JUDGE

_____
JAMES L. NOACK
COMMISSIONER, PRECINCT 3

_____
JAMES METTS
COMMISSIONER, PRECINCT 4

STATE OF TEXAS
COUNTY OF MONTGOMERY

I, MARK TURNBULL, CLERK OF THE COUNTY COURT OF MONTGOMERY COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE WRITTEN INSTRUMENT WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR REGISTRATION IN MY OFFICE ON _____, 2022, AT _____ O'CLOCK _____.M., AND DULY RECORDED ON _____, 2022, AT _____ O'CLOCK _____.M., IN CABINET _____ SHEET _____, OF RECORD OF MAP FOR SAID COUNTY.

WITNESS MY HAND AND SEAL OF OFFICE, AT CONROE, MONTGOMERY COUNTY, TEXAS, THE DAY AND DATE LAST ABOVE WRITTEN.

_____
MARK TURNBULL, CLERK, COUNTY COURT,
MONTGOMERY COUNTY, TEXAS

BY: _____
DEPUTY

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

ESCONDIDO
SECTION 5

SHEET 2 OF 4

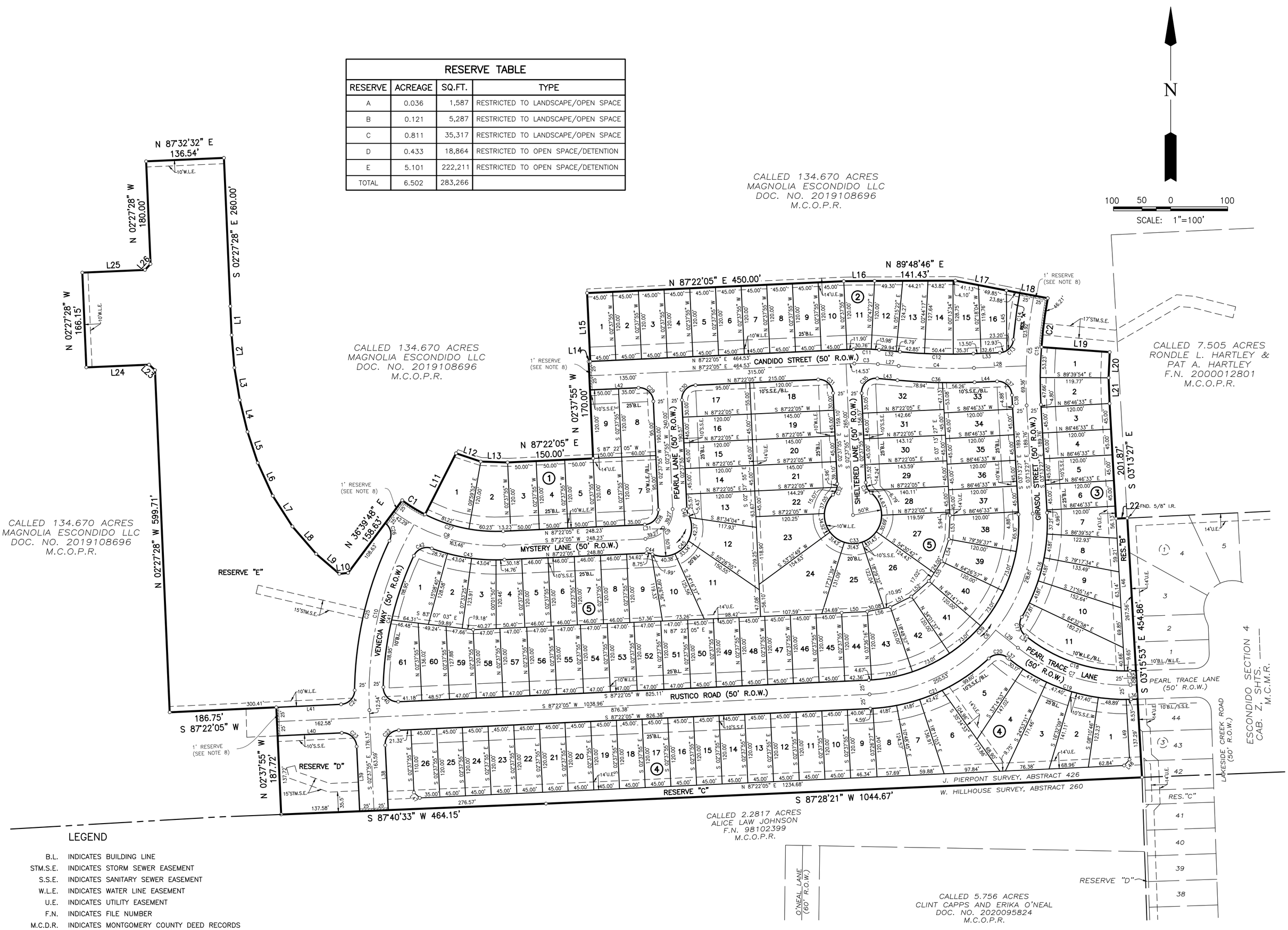
2139-3105

MYLAR CHECK: SUR. _____

CAD: ALEXIS.S

Date\Time : Mon, 27 Jun 2022 - 8:10am
Path\Name : I:\Projdsk1\PLATTING\2139\FINPLT\Escondido Section 5.dwg

RESERVE TABLE			
RESERVE	ACREAGE	SQ.FT.	TYPE
A	0.036	1,587	RESTRICTED TO LANDSCAPE/OPEN SPACE
B	0.121	5,287	RESTRICTED TO LANDSCAPE/OPEN SPACE
C	0.811	35,317	RESTRICTED TO LANDSCAPE/OPEN SPACE
D	0.433	18,864	RESTRICTED TO OPEN SPACE/DETENTION
E	5.101	222,211	RESTRICTED TO OPEN SPACE/DETENTION
TOTAL	6.502	283,266	



LEGEND

B.L.	INDICATES BUILDING LINE
STM.S.E.	INDICATES STORM SEWER EASEMENT
S.S.E.	INDICATES SANITARY SEWER EASEMENT
W.L.E.	INDICATES WATER LINE EASEMENT
U.E.	INDICATES UTILITY EASEMENT
F.N.	INDICATES FILE NUMBER
M.C.D.R.	INDICATES MONTGOMERY COUNTY DEED RECORDS
M.C.M.R.	INDICATES MONTGOMERY COUNTY MAP RECORDS
M.C.O.P.R.	INDICATES MONTGOMERY COUNTY OFFICIAL PUBLIC RECORDS
M.C.O.P.R.R.P.	INDICATES MONTGOMERY COUNTY OFFICIAL PUBLIC RECORDS OF REAL PROPERTY
R.O.W.	INDICATES RIGHT-OF-WAY
VOL.	INDICATES VOLUME
PG.	INDICATES PAGE
CAB.	INDICATES CABINET
SHTS.	INDICATES SHEETS
DOC. NO.	INDICATES DOCUMENT NUMBER
RES.	INDICATES RESERVE
	INDICATES STREET NAME CHANGE

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

ESCONDIDO
SECTION 5

SHEET 3 OF 4

2139-3105

Date\Time : Mon, 27 Jun 2022 - 8:10am
Path\Name : I:\Projsk1\PLATTING\2139\FINPLT\Escondido Section 5.dwg
CAD: ALEXIS.S MYLAR CHECK: SUR. ____

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S 02°28'10" E	50.57'
L2	S 04°57'50" E	57.32'
L3	S 09°22'24" E	57.32'
L4	S 13°46'58" E	57.32'
L5	S 18°11'31" E	57.32'
L6	S 24°29'26" E	63.54'
L7	S 32°41'01" E	63.62'
L8	S 40°52'56" E	63.62'
L9	S 49°21'26" E	53.58'
L10	N 83°54'38" E	15.27'
L11	N 26°54'39" E	120.00'
L12	S 71°40'55" E	45.63'
L13	S 88°08'52" E	46.88'
L14	N 87°22'05" E	2.63'
L15	N 02°37'55" W	120.00'
L16	N 89°28'56" E	53.99'
L17	S 79°05'57" E	90.97'
L18	S 79°22'53" E	73.88'
L19	S 85°43'51" E	119.80'
L20	S 02°18'07" W	45.00'
L21	S 01°56'59" E	45.00'
L22	N 87°16'27" E	19.68'
L23	N 47°27'28" W	14.14'
L24	S 87°32'32" W	110.00'
L25	N 87°32'32" E	110.00'
L26	N 42°32'32" E	14.14'
L27	S 84°44'38" E	36.72'
L28	N 87°41'56" E	91.41'
L29	S 51°26'02" E	49.89'
L30	S 88°03'28" W	10.81'
L31	N 47°37'55" W	5.00'
L32	S 84°44'38" E	36.72'
L33	N 87°41'56" E	46.11'
L34	S 51°26'02" E	3.48'
L35	N 88°03'28" E	10.23'
L36	S 88°03'28" W	11.38'
L37	N 51°26'02" W	3.48'
L38	S 02°37'55" E	113.73'
L39	N 02°37'55" W	113.46'
L40	S 87°22'05" W	112.58'
L41	N 87°22'05" E	113.66'
L42	S 87°22'05" W	85.00'
L43	S 84°44'38" E	35.55'
L44	N 87°41'56" E	39.45'
L45	N 00°21'54" W	105.16'
L46	N 03°13'27" W	267.12'
L47	S 47°37'55" E	14.14'
L48	N 42°04'19" E	14.07'
L49	S 03°13'27" E	105.52'
L50	S 87°20'23" W	44.99'
L51	S 63°34'43" W	41.03'
L52	S 48°22'03" W	41.03'
L53	S 02°45'41" W	41.46'
L54	S 17°56'43" W	41.03'
L55	N 33°09'23" E	41.03'
L56	N 78°47'23" E	41.03'

CURVE TABLE					
CURVE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	275.00'	9°49'30"	47.16'	S 58°14'57" E	47.10'
C2	775.00'	6°23'02"	86.35'	S 07°25'35" W	86.31'
C3	300.00'	7°53'17"	41.30'	S 88°41'16" E	41.27'
C4	1000.00'	7°33'26"	131.90'	S 88°31'21" E	131.80'
C5	800.00'	13°50'34"	193.28'	S 03°41'50" W	192.81'
C6	300.00'	90°35'32"	474.34'	S 42°04'19" W	426.45'
C7	300.00'	40°30'31"	212.10'	S 71°41'17" E	207.71'
C8	300.00'	39°17'43"	205.75'	S 72°59'04" E	201.74'
C9	50.00'	90°00'00"	78.54'	N 42°22'05" E	70.71'
C10	600.00'	32°19'57"	338.59'	S 13°32'04" W	334.11'
C11	325.00'	7°53'17"	44.74'	S 88°41'16" E	44.71'
C12	975.00'	7°33'26"	128.60'	S 88°31'21" E	128.51'
C13	25.00'	82°48'27"	36.13'	N 46°17'43" E	33.07'
C14	825.00'	5°43'37"	82.46'	N 07°45'18" E	82.43'
C15	775.00'	13°50'34"	187.24'	S 03°41'50" W	186.79'
C16	325.00'	33°34'38"	190.46'	S 13°33'52" W	187.75'
C17	25.00'	81°47'12"	35.69'	S 10°32'25" E	32.73'
C18	275.00'	40°30'31"	194.43'	S 71°41'17" E	190.40'
C19	325.00'	40°30'31"	229.78'	N 71°41'17" W	225.02'
C20	25.00'	81°47'12"	35.69'	S 87°40'22" W	32.73'
C21	325.00'	40°35'19"	230.23'	S 67°04'26" W	225.45'
C22	25.00'	90°00'00"	39.27'	S 42°22'05" W	35.36'
C23	25.00'	90°00'00"	39.27'	N 47°37'55" W	35.36'
C24	25.00'	86°41'46"	37.83'	N 44°01'12" E	34.32'
C25	625.00'	24°50'24"	270.96'	N 13°05'31" E	268.85'
C26	25.00'	78°50'56"	34.40'	N 13°54'44" W	31.75'
C27	275.00'	39°17'43"	188.60'	S 72°59'04" E	184.93'
C28	25.00'	90°00'00"	39.27'	N 42°22'05" E	35.36'
C29	25.00'	90°00'00"	39.27'	N 47°37'55" W	35.36'
C30	25.00'	90°00'00"	39.27'	N 42°22'05" E	35.36'
C31	25.00'	90°00'00"	39.27'	S 47°37'55" E	35.36'
C32	25.00'	48°11'23"	21.03'	S 21°27'47" W	20.41'
C33	50.00'	276°22'46"	241.19'	N 87°22'05" E	66.67'
C34	25.00'	48°11'23"	21.03'	N 26°43'36" W	20.41'
C35	25.00'	97°53'17"	42.71'	N 46°18'44" E	37.70'
C36	1025.00'	7°33'26"	135.20'	S 88°31'21" E	135.10'
C37	25.00'	90°25'59"	39.46'	S 47°05'04" E	35.49'
C38	825.00'	1°21'22"	19.53'	S 02°32'46" E	19.53'
C39	275.00'	90°35'32"	434.81'	S 42°04'19" W	390.91'
C40	25.00'	93°54'20"	40.97'	N 45°40'45" W	36.54'
C41	575.00'	23°42'22"	237.91'	N 13°07'36" E	236.21'
C42	25.00'	85°13'54"	37.19'	N 67°35'44" E	33.85'
C43	325.00'	22°50'36"	129.57'	S 81°12'37" E	128.72'
C44	25.00'	24°37'23"	10.74'	S 80°19'14" E	10.66'
C45	50.00'	139°14'45"	121.51'	N 42°22'05" E	93.74'
C46	25.00'	24°37'23"	10.74'	N 14°56'36" W	10.66'

BLOCK 1	
LOT NO.	SQ.FT.
1	7,672
2	7,273
3	6,000
4	6,000
5	6,000
6	6,000
7	7,066
8	7,066
9	6,000

BLOCK 2	
LOT NO.	SQ.FT.
1	5,400
2	5,400
3	5,400
4	5,400
5	5,400
6	5,400
7	5,400
8	5,400
9	5,400
10	5,400
11	5,774
12	5,678
13	5,911
14	6,049
15	5,808
16	5,324

BLOCK 3	
LOT NO.	SQ.FT.
1	5,896
2	5,853
3	5,400
4	5,400
5	5,400
6	5,400
7	5,934
8	6,380
9	7,254
10	8,747
11	10,788

BLOCK 4	
LOT NO.	SQ.FT.
1	7,127
2	7,479
3	9,113
4	9,607
5	9,849
6	10,014
7	6,527
8	6,041
9	5,459
10	5,400
11	5,400
12	5,400
13	5,400
14	5,400
15	5,400
16	5,400
17	5,400
18	5,400
19	5,400
20	5,400
21	5,400
22	5,400
23	5,400
24	5,400
25	5,400
26	5,350

BLOCK 5	
LOT NO.	SQ.FT.
1	8,007
2	6,449
3	6,272
4	5,723
5	5,520
6	5,520
7	5,520
8	5,520
9	6,018
10	6,578
11	11,499
12	8,844
13	6,210
14	5,400
15	5,400
16	5,400
17	6,466
18	7,841
19	6,525
20	6,525
21	6,524
22	5,862
23	9,544
24	13,128
25	8,554
26	8,766

BLOCK 5	
LOT NO.	SQ.FT.
27	8,731
28	5,657
29	6,455
30	6,451
31	6,430
32	7,572
33	5,975
34	5,400
35	5,400
36	5,400
37	5,400
38	6,730
39	6,887
40	6,887
41	6,887
42	6,887
43	6,887
44	5,522
45	5,400
46	5,400
47	5,400
48	5,400
49	5,400
50	5,400
51	5,640
52	5,640

BLOCK 5	
LOT NO.	SQ.FT.
53	5,640
54	5,640
55	5,640
56	5,640
57	5,640
58	5,640
59	5,825
60	6,408
61	8,250

NOTES:

1. ALL BEARINGS ARE REFERENCED TO THE STATE PLANE GRID COORDINATES, CENTRAL ZONE, NAD 83 (EPOCH 2010.00)
2. THE COORDINATES SHOWN HEREON ARE TEXAS CENTRAL ZONE NO. 4203 STATE PLANE GRID COORDINATES, NAD83 (2001 ADJ.) AND MAY BE BROUGHT TO SURFACE BY DIVIDING THE FOLLOWING COMBINED ADJUSTMENT FACTOR 0.99996413094.
3. PRIMARY BENCHMARK: A 1281 (NGS PID: BL1869) BRASS DISC STAMPED A 1281 1978 LOCATED ALONG THE WEST SIDE OF NICHOLS SAWMILL ROAD, 26 FEET WEST OF PAVEMENT, AND APPROXIMATELY 550 FEET SOUTH OF UNITY PARK DRIVE. PUBLISHED ELEVATION=231.8' NAVD88
4. THIS PLAT WAS PREPARED FROM INFORMATION FURNISHED BY CHARTER TITLE COMPANY, FILE NO. 2021-0334, DATED MAY 6, 2021. THE SURVEYOR HAS NOT ABSTRACTED THE ABOVE PROPERTY.
5. FIVE-EIGHTHS (5/8) INCH IRON RODS WITH PLASTIC CAP STAMPED "GBI PARTNERS" AND THREE (3) FEET IN LENGTH ARE SET ON ALL PERIMETER BOUNDARY CORNERS, UNLESS OTHERWISE NOTED.
6. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NO. 48339C0475G, REVISED AUGUST 18, 2014, THE SUBJECT TRACT LIES WITHIN ZONE "X" (UNSHADED) AND ZONE "X" (UNSHADED) IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE OF FLOODPLAIN. "GBI PARTNERS" AND "LJA ENGINEERING" DO NOT WARRANT NOR SUBSCRIBE TO THE ACCURACY OR SCALE OF SAID MAPS."
7. THE PIPELINES OR PIPELINE EASEMENTS WITHIN THE BOUNDARIES OF THIS PLAT ARE AS SHOWN.
8. ONE-FOOT RESERVE DEDICATED TO THE PUBLIC IN FEE AS A BUFFER SEPARATION BETWEEN THE SIDE OR END OF STREETS WHERE SUCH STREETS ABUT ADJACENT PROPERTY, THE CONDITION OF THIS DEDICATION BEING THAT WHEN THE ADJACENT PROPERTY IS SUBDIVIDED OR RESUBDIVIDED IN A RECORDED SUBDIVISION PLAT, THE ONE-FOOT RESERVE SHALL THEREUPON BECOME VESTED IN THE PUBLIC FOR STREET RIGHT-OF-WAY PURPOSES AND THE FEE TITLE THERETO SHALL REVERT TO AND REVEST IN THE DEDICATOR, HIS HEIRS, ASSIGNS OR SUCCESSORS.

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

ESCONDIDO
SECTION 5

SHEET 4 OF 4

2139-3105

MYLAR CHECK: SUR. _____

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Date\Time : Mon, 27 Jun 2022 - 8:10am
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July 7, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Reference: ***Escondido Section 5 – Final Plat Review***
City of Magnolia
AEI Job No. 221390.80-001

Dear Mr. Doering:

We received the final plat for the proposed Escondido Section 5 development on June 27, 2022. On behalf of the City of Magnolia (the "City"), we have reviewed the submitted documents and are providing the following comments for your consideration:

1. Provide approval for proposed street names from Montgomery County Emergency Communication District.
2. Provide a signed City Planning Letter. Update note four in the plat.
3. Provide the full legal description of the development on the first page of the plat, as indicated in the City Planning Letter dated June 23, 2022.
4. Update signature blocks for a corporation, add lienholder signatures and notaries as indicated in the Montgomery County Subdivision Rules and Regulations, Section Six Forms of Dedication.
5. Verify if paragraphs three and four on the signature page for public utility easement paragraphs are applicable for this project.
6. Update the Planning and Zoning Commissioner signature blocks to Scott Shelburne as the President and Josh Jakubik as the Secretary.
7. Verify the reserve labeling. It does not match the preliminary plat.
8. Add the point of beginning for your metes and bounds.
9. Provide evidence that the drainage plan, improvement plans, and maintenance bond have been approved per Montgomery County Subdivision Rules and Regulations, Section Two, II Requirements for Prior to Approval of Final Plat.
10. Provide City approval for water, sanitary, storm, and pavement plans for this plat, Escondido Section 5 WSDP.
11. Provide TCEQ approval for Escondido Section 5 WSDP plans.
12. Provide two copies of the tax certificates.
13. Final plat shall be signed and sealed by a Professional Surveyor licensed in Texas.
14. Obtain all applicable utility company and governmental agency signatures.
15. Construction shall not commence until final agency approvals are secured.

Please make all the revisions as requested and the applicable paperwork for this office for final approval. If you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Cristin Emshoff

Cristin Emshoff, MUP, ENV SP
Urban Planner

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

XC: Ms. Christian Gable – City of Magnolia - Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Mr. Robel E. Giackero, PE. – AEI Engineering, a Baxter & Woodman Company
Ms. Katy Harris, AICP – LJA Engineering, Inc.

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 22

Background/Information:
An application for a preliminary plat was received on March 3, 2022.

Comments:
Letter of No Objection was issued by City Engineer on June 17, 2022.

Action Requested:
Approve preliminary plat for Escondido Section 7.

Recommendation:
Approve preliminary plat for Escondido Section 7 upon receipt of Letter of No Objection from City Engineer.

Attachments:
Preliminary Plat

Preliminary Plat Application Form

This form shall be submitted with each application for a preliminary plat.

CONTACT INFORMATION

Applicant

Katy Harris
Name

3600 W. Sam Houston Pkwy. S.
Street Address

Houston, TX 77042
City, State Zip

713-358-8536
Phone

N/A
Fax

kharris@lja.com
E-mail

Property Owner (if different)

J Alan Kent Development
Name

7817 Rayford Road
Street Address

Spring, TX 77389
City, State Zip

281-376-1500
Phone

N/A
Fax

duane@jalankent.com
E-mail

Architect (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Engineer/Land Surveyor (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Project Name: Escondido Subdivision: Section 7 Reviewer: _____

PROPERTY PROFILE

Legal Description W. HILLHOUSE SURVEY, A 260 & W.T. DUNLAVY SURVEY, A-168
(Subdivision) (Lot) (Block)

Current Zoning ETJ

Present Use of Property
Acreage

Proposed Use of the Property
Single Family Residential with 114 lots.

Total Area of Site 32.2 acres

Project Name: Escondido Subdivision: Section 7 Reviewer: _____

1. Description of existing property. If the property has been previously subdivided, provided the lot(s), block(s), and subdivision name. If the property has been subdivided, provide the metes and bounds description:
   Acreage.
   _____ _
   _____
   _____

2. Description of proposed property change, including lot numbers, name, etc.
   Single Family Residential with 114 lots.
   _____
   _____
   _____

Required Information

- ☒ Three (3) copies of the preliminary plat; minimum 20 in. x 24 in. size in blue or black line
- ☒ All fees
- ☒ One (1) Adobe Acrobat PDF of each page presented to the City for review
- ☒ Title opinion (title search) from a title guaranty company not more than 30 days old
- ☒ Three (3) original copies of a letter of transmittal
- ☒ Vicinity map
- ☒ North arrow
- ☐ Revision date
- ☒ Legal description of the parcel proposed for subdivision
- ☒ Scale
- ☒ Contour lines (at one-foot intervals)
- ☒ Tabulations that include:
  - ☒ The number of lots in the subdivision
  - ☒ The size of the parcel
  - ☐ Water available for fire protection
- ☒ Use and ownership of abutting parcels or lots
- ☒ Location and dimensions of right-of-ways, lots, utility easements, open spaces, and buffers
- ☐ Required justifications for cul-de-sacs, if cul-de-sacs are proposed
- ☒ Three (3) copies of blue or black line prints of the preliminary plans for the furnishings of water, sanitary sewer facilities, and provisions for storm sewers and general drainage facilities
- ☒ Proposed generalized use of lots (*e.g.*, mixed-use, single-family attached, multi-family, industrial, commercial or office, or institutional), provided on a separate attached description
- ☐ Location and size of proposed parks, playgrounds, civic (including church) or school sites or other special uses of land to be considered for dedication to public use, provided on a separate attached description
- ☒ If the proposed subdivision is to be constructed in several phases, a staging plan that shows how the subdivision improvements will be phased. Anticipated time lines for construction of the improvements shall be provided on a separate attached description
- ☐ Statement of proposed plans for drainage and sewage disposal/outfall, including location of proposed culverts and bridge, provided on a separate utility sheet
- ☐ If the proposed subdivision is one of several phases, conceptual plans for the other phases
- ☐ Traffic study (if necessary)

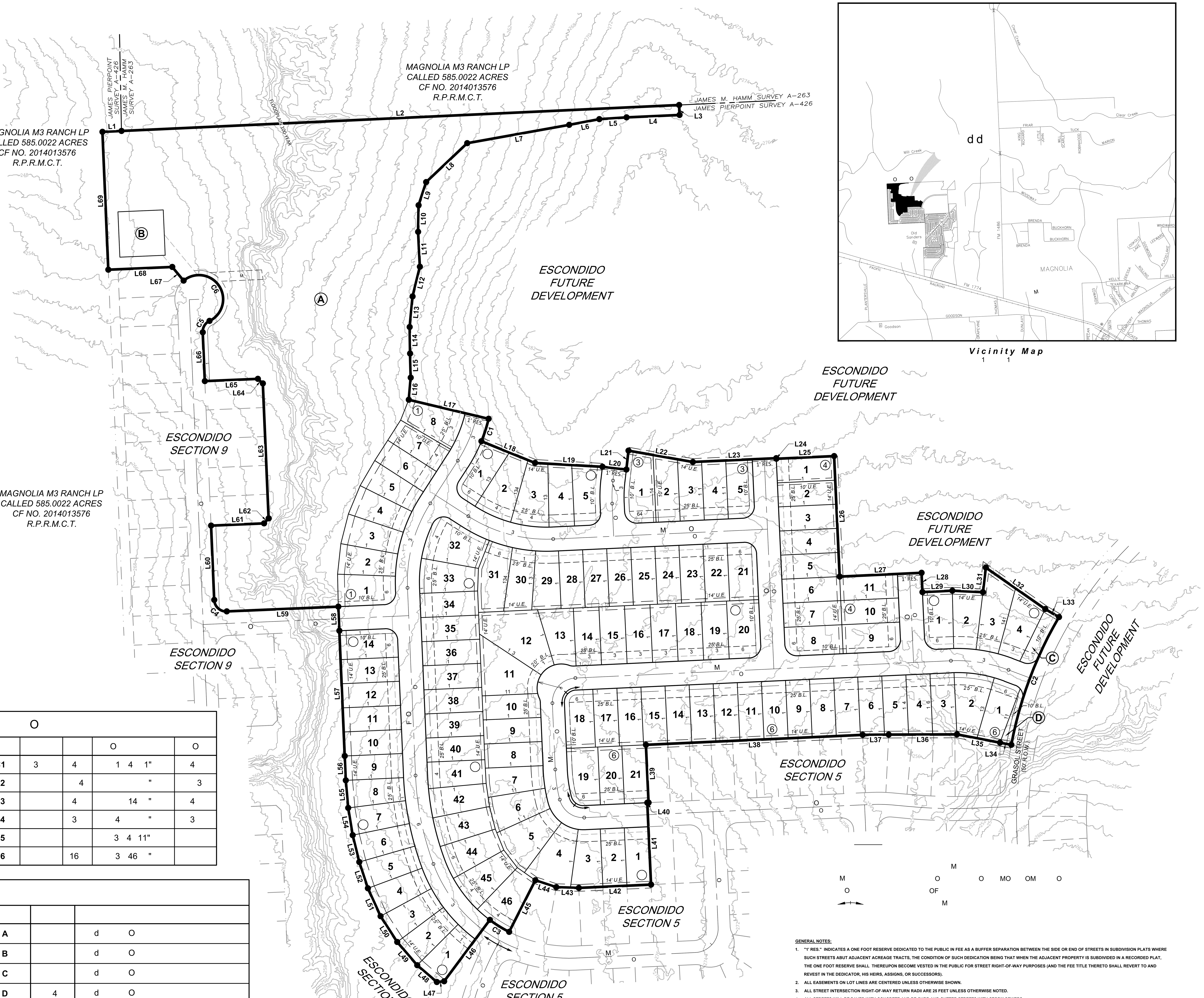
Project Name: Escondido Subdivision: Section 7 Reviewer: _____

I, Katy Harris (print or type name), certify with my signature below that the information included in my submittal packet is complete, true, and correct, to the best of my knowledge.

Katy Harris
_____ 03/03/2022

Signature of Applicant Date

Project Name: Escondido Subdivision: Section 7 Reviewer: _____



Vicinity Map

O			O		
L1	3 3 "	4	**L36**	4 46"	141
L2	14"	11	**L37**	6"	4
L3	3 31"	1	**L38**	"	4
L4	"	11	**L39**	3 "	1
L5	6 1 4"		**L40**	"	3
L6	1 14"	64	**L41**	3 "	1
L7	4 4"	1	**L42**	"	1
L8	46 3 "	11	**L43**	"	4
L9	1 3 31"	1	**L44**	1 4 "	46
L10	1 3 "		**L45**	6 4 3 "	1
L11	3 4"		**L46**	36 3 4 "	1
L12	13 43 "	64	**L47**	3 4 3 "	1
L13	31 31"	64	**L48**	4 1 6"	4
L14	6 "		**L49**	4 6"	64
L15	1 34 "		**L50**	3 41 1"	64
L16	4 33"	46	**L51**	4 6"	64
L17	6 36 6"	1	**L52**	1 11 31"	
L18	6 3"	1	**L53**	13 46 "	
L19	6 44 1"	14	**L54**	4"	
L20	3 3 4 "		**L55**	4 "	
L21	6 1 "	3	**L56**	1 "	1
L22	1 33"	13	**L57**	"	6
L23	"	1 3	**L58**	"	
L24	3 31"	1	**L59**	3 3 "	3
L25	"	1	**L60**	"	1 4
L26	3 31"		**L61**	3 3 "	11
L27	"	1	**L62**	4 3 3 "	14
L28	3 31"	4	**L63**	"	
L29	"	6	**L64**	4 "	14
L30	1 3 "	64	**L65**	3 3 "	11
L31	6 4 34"	1	**L66**	"	1 1
L32	4 4 "	1	**L67**	3 3 46"	3
L33	3 3"	33	**L68**	3 3 "	133
L34	3"	4	**L69**	"	6
L35	"	1			

O				
			O	O
C1	3	4	1 4 1"	4
C2		4	"	3
C3		4	14 "	4
C4		3	4 "	3
C5			3 4 11"	
C6		16	3 46 "	

A		d O
B		d O
C		d O
D	4	d O

GENERAL NOTES:

1. "1' RES." INDICATES A ONE FOOT RESERVE DEDICATED TO THE PUBLIC IN FEE AS A BUFFER SEPARATION BETWEEN THE SIDE OR END OF STREETS IN SUBDIVISION PLATS WHERE SUCH STREETS ABUT ADJACENT ACREAGE TRACTS, THE CONDITION OF SUCH DEDICATION BEING THAT WHEN THE ADJACENT PROPERTY IS SUBDIVIDED IN A RECORDED PLAT, THE ONE FOOT RESERVE SHALL THEREUPON BECOME VESTED IN THE PUBLIC FOR STREET RIGHT-OF-WAY PURPOSES (AND THE FEE TITLE THERETO SHALL REVERT TO AND REVEST IN THE DEDICATOR, HIS HEIRS, ASSIGNS, OR SUCCESSORS).
2. ALL EASEMENTS ON LOT LINES ARE CENTERED UNLESS OTHERWISE SHOWN.
3. ALL STREET INTERSECTION RIGHT-OF-WAY RETURN RADII ARE 25 FEET UNLESS OTHERWISE NOTED.
4. ALL STREETS WILL BE PAVED WITH CONCRETE AND BE CURB AND GUTTER STREETS WITH STORM SEWERS.
5. ALL PROPERTY LINE DIMENSIONS ARE APPROXIMATE.
6. SINGLE FAMILY RESIDENTIAL SHALL MEAN THE USE OF A LOT WITH ONE BUILDING DESIGNED FOR AND CONTAINING NOT MORE THAN TWO SEPARATE UNITS WITH FACILITIES FOR LIVING SLEEPING, COOKING, AND EATING THEREIN. A LOT UPON WHICH IS LOCATED A FREE-STANDING BUILDING CONTAINING ONE DWELLING UNIT AND A DETACHED SECONDARY DWELLING UNIT OF NOT MORE THAN 900 SQUARE FEET ALSO SHALL BE CONSIDERED SINGLE FAMILY RESIDENTIAL. A BUILDING THAT CONTAINS ONE DWELLING UNIT ON ONE LOT THAT IS CONNECTED BY A PARTY WALL TO ANOTHER BUILDING CONTAINING ONE DWELLING UNIT ON AN ADJACENT LOT SHALL BE SINGLE FAMILY RESIDENTIAL.
7. EACH LOT SHALL PROVIDE A MINIMUM OF TWO OFF-STREET PARKING SPACES PER DWELLING UNIT ON EACH LOT. IN THOSE INSTANCES WHERE A SECONDARY UNIT IS PROVIDED ONLY ONE ADDITIONAL SPACE SHALL BE PROVIDED.

A PRELIMINARY PLAT OF

ESCONDIDO
SECTION 7

±32.2 ACRES
114 LOTS (50' x 120' TYP.) AND
4 RESTRICTED RESERVES IN 8 BLOCKS

OUT OF THE
JAMES PIERPOINT SURVEY, A-426
CITY OF MAGNOLIA, MONTGOMERY COUNTY, TEXAS

OWNER:
J ALAN KENT DEVELOPMENT

PLANNER:

LJA PLANNING & LANDSCAPE ARCHITECTURE

Land & Master Planning
Land Use/Feasibility Studies
Sustainable Design
Urban Design
Landscape Architecture

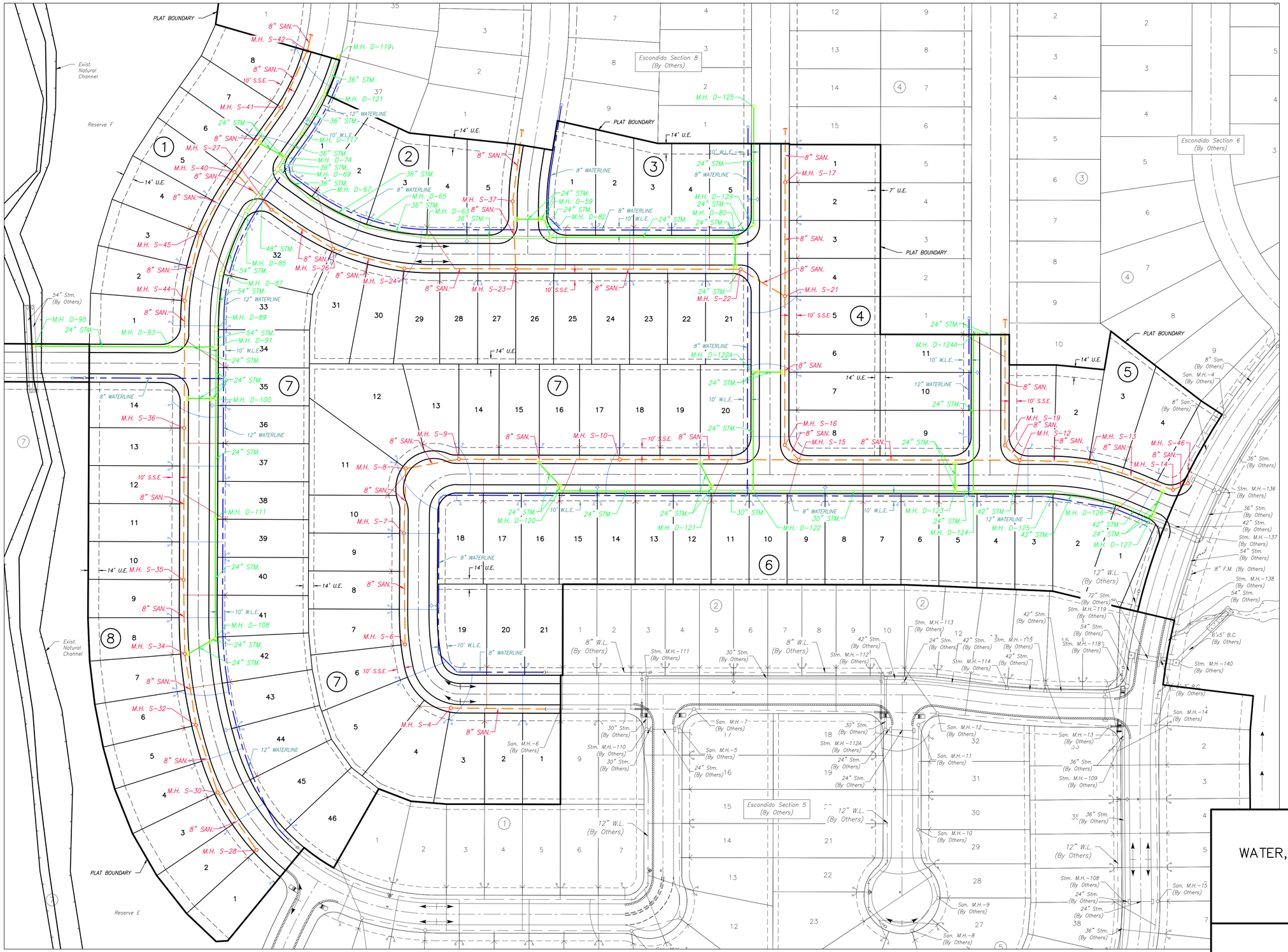
3600 W Sam Houston Pkwy S
Suite 600
Houston, Texas 77042
713.953.5200 - f 713.953.5026

NORTH

0 50 100 200

LJA# 2139-07003

03.03.2022



N

SCALE: 1" = 60'

SCALE IN FEET

60 30 0 60 120 180

LEGEND

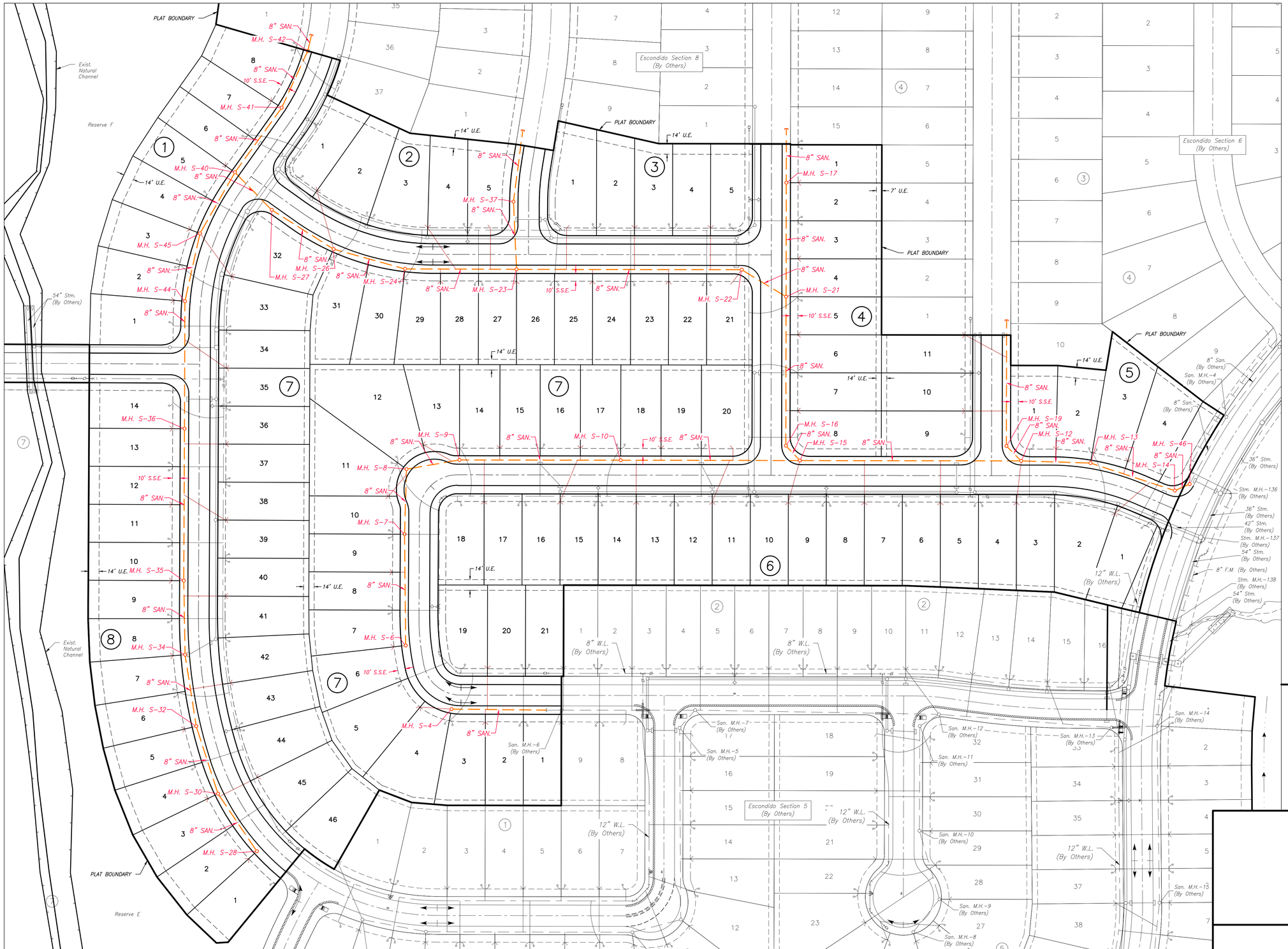
- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE FLOW DIRECTION
- PROPOSED WATER LINE AND GATE VALVE AND BOX
- PROPOSED WATER LINE W/BENDS
- PROPOSED WATER LINE W/TEE
- PROPOSED WATER LINE W/FIRE HYDRANT UNIT
  - A. LINE SIZE X 6" TEE
  - B. 6" GATE VALVE AND BOX
  - C. FIRE HYDRANT
- 2" BLOW-OFF ASSEMBLY W/PLUG AND CLAMP
- PROPOSED STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND INLETS
- PROPOSED PAVEMENT
- INDICATES STORM SEWER EASEMENT (20' STM.S.E.)
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- DOUBLE SANITARY SEWER SERVICE LEAD
- SINGLE SANITARY SEWER SERVICE LEAD
- INDICATES SANITARY SEWER EASEMENT (10' S.S.E.)

PRELIMINARY ONELINES FOR WATER, WASTEWATER & DRAINAGE SYSTEM TO SERVE ESCONDIDO SECTION 7

MARCH 2, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

Date\Time : Thu, 03 Mar 2022 - 8:52am User Name : kmousavi
Path\Name : I:\Projdsk1\21392\21392-3107\ACAD\Onelines\Escondido Section 7 - Onelines.dwg



N

SCALE: 1" = 60'

SCALE IN FEET

60 30 0 60 120 180

LEGEND

- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- DOUBLE SANITARY SEWER SERVICE LEAD
- SINGLE SANITARY SEWER SERVICE LEAD
- 10' S.S.E. — INDICATES SANITARY SEWER EASEMENT

NOTE: ESCONDIDO SECTION 7 WILL GRAVITY FLOW THROUGH 8" PVC SANITARY PIPE THAT CONNECTS TO THE COLLECTOR ROAD SANITARY PIPE.

PRELIMINARY ONELINES FOR
WASTEWATER SYSTEM
TO SERVE
ESCONDIDO SECTION 7
MARCH 2, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

N

SCALE: 1" = 60'

SCALE IN FEET

60 30 0 60 120 180

STORM SEWER SYSTEM

LEGEND

- PROPOSED STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND INLETS
- PROPOSED PAVEMENT
- INDICATES STORM SEWER EASEMENT
  - 20' STM.S.E.
- INDICATES PAVING SUMMIT

NOTE: ESCONDIDO SECTION 7 STORMWATER WILL BE COLLECTED BY CURB AND GUTTER STREETS WITH INLETS THROUGH THE STORM SYSTEM AND INTO THE EXISTING CHANNELS.

PRELIMINARY ONELINES FOR
DRAINAGE SYSTEM
TO SERVE
ESCONDIDO SECTION 7
MARCH 2, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

June 17, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Reference: ***Escondido Section 7 Preliminary Plat – Letter of No Objection***
City of Magnolia
AEI Job No. 220522.80-001

Dear Mr. Doering:

We received the revised preliminary plat for the proposed Escondido Section 7 on June 17, 2022 and supporting documentation on June 16, 2022. On behalf of City of Magnolia (the "City"), we have reviewed the submitted documents and offer no objection to the approval of this project, subject to the following comments:

1. Provide preliminary approval for proposed street names from Montgomery County Emergency Communication District.
2. In the event that any portion of this development may change at a future date, the City reserves the right to review and approve the proposed changes prior to initiating the change.

Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

XC: Ms. Christian Gable – City of Magnolia - Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Ms. Katy Harris, AICP – LJA Engineering, Inc.

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 23

Background/Information:
An application for a final plat was received on June 28, 2022.

Comments:
Review letter was issued by City Engineer to applicant on July 13, 2022.

Action Requested:
Approve final plat for Escondido Section 7.

Recommendation:
Approve final plat for Escondido Section 7 upon receipt of Letter of No Objection from City Engineer.

Attachments:
Final Plat

Final Plat Application Form

This form shall be submitted with each application for a final plat.

Applications must be received by the first Monday of the month to be considered by the Planning and Zoning Commission in the same month.

CONTACT INFORMATION

Applicant

Alexis Santibanes
Name

3600 W Sam Houston S Pkwy, Suite 600
Street Address

Houston, TX 77042
City, State Zip

713-580-4179
Phone

Fax

asantibanes@lja.com
E-mail

Property Owner (if different)

Magnolia Escondido, LLC
Name

6046 FM 2920, Suite 512
Street Address

Spring, TX 77379
City, State Zip

713-580-4179
Phone

Fax

asantibanes@lja.com
E-mail

Architect (if different)

Name

Street Address

City, State Zip

Phone

Fax

E-mail

Engineer/Land Surveyor (if different)

Ciro Ariza
Name

1904 W Grand Parkway N, Suite 100
Street Address

Katy, TX 77449
City, State Zip

713-913-5293
Phone

Fax

cariza@lja.com
E-mail

Project Name: Escondido Section 7 Subdivision: Escondido Reviewer:

PROPERTY PROFILE

Property ID # R50829

Legal Description 32.206 acres in the James Pierpont Survey, Abstract 426, Montgomery County, Texas
(Subdivision) (Lot) (Block)

Current Zoning semi-urban residential

Present Use of Property
Rural

Proposed Use of the Property
Single Family Residential

Total Area of Site 32.206 acres

1. Description of existing property. If the property has been previously subdivided, provided the lot(s), block(s), and subdivision name. If the property has been subdivided, provide the metes and bounds description:
   32.206 acres in the James Pierpont Survey, Abstract 426, Montgomery County, Texas

2. Description of proposed property change, including lot numbers, name, etc.
   Escondido Section 7 - 114 Lots, 8 Blocks, 4 Reserves

Required Information

- [X] One (1) copy of the final plat; 20 in. x 24 in. size Mylar original sealed by a state of Texas registered surveyor
- [X] Two (2) blue line copies of the original Mylar final plat
- [X] One (1) copies of "letter of explanation" with plat details
- [X] Six (6) copies in blue or black line of all originals in 11 in. x 17 in. size for City Council
- [X] All fees
- [X] One (1) Adobe Acrobat PDF of each page presented to the City for review
- [ ] Owner affidavit of no conveyance of any interest and that no additional liens exist on the land within the plat since the date of the original title opinion (title search)
- [X] Tax certificates; City, County, and School
- [X] Final plans and specifications for all required improvements
- [X] Vicinity map
- [X] North arrow
- [X] Revision date
- [X] Legal description
- [X] Scale
- [ ] Contour lines (at one-foot intervals)
- [X] Tabulations that include:
  - [X] The number of lots in the subdivision
  - [X] The size of the parcel
  - [X] The number of dwelling units proposed (provided on a separated attached description)
  - [X] The number of square feet of nonresidential floor area proposed, by generalized use (provided on a separate attached description)
  - [X] Water available for fire protection
- [X] Use and ownership of abutting parcels or lots
- [X] Location and dimensions (including all curve data, the lengths of all arcs, radii, internal angles, points of curvature, lengths and bearings of tangents) of:
  - [X] Right-of-way, streets, alleys, railroads, lots, open space, parks, protected natural resources, and buffers
  - [X] Utility and access easements
  - [ ] Private access easements

- [X] The outer boundary lines of the parcel proposed for subdivision, with accurate distances, angles, and true bearings if available, and the exact location width of all recorded streets and ways intersecting the boundaries of the parcel being platted
- [X] Distances and angles, or true bearings if available, to the established street lines or official monuments, which shall be accurately described on the plat
- [X] Proposed names of streets
- [X] Linear footage of proposed new right-of-way
- [X] All block indications, if any; lot numbers; all individual areas designated by number or letter, and lots in new subdivision, numbered consecutively
- [X] The accurate location, material, type and description of all permanent control monuments. Where no established bench mark exists, show permanent bench marks that have been established on the property based on mean sea level datum and shown on the plat
- [X] Delineation and area of special use areas, including the location and size of proposed parks, playgrounds, protected resources and open spaces, sites for places of public assembly (including schools) or other special uses of land to be considered for dedication to public use, and of all property that may be granted by deed and covenants for the common use of the property owners in the subdivision, along with statements for responsibility for maintenance. Actual use descriptions must be provided on a separate attached description
- [X] Proposed generalized use of lots (*e.g.*, mixed-use, single-family attached, multi-family, industrial, commercial or office, or institutional), provided on a separate attached description
- [ ] Proposed location, size, and linear footage of proposed potable water lines, provided on a separate utility sheet
- [ ] Proposed location, size, and linear footage of natural gas lines, provided on a separate utility sheet
- [ ] Proposed location, size, and linear footage of sanitary sewer lines and sewerage facilities, except individual treatment systems provided on utility and street construction plans
- [ ] Proposed location of fire hydrants, provided on utility and street construction plans
- [ ] If the proposed subdivision is to be constructed in several phases, a staging plan that shows how the subdivision improvements will be phased. Anticipated time lines for construction of the improvements shall be provided on a separate attached description
- [ ] If the proposed subdivision is one of several phases, conceptual plans for the other phases
- [ ] Traffic study (if necessary)
- [X] All required notes, certifications, and signatures

I, Alexis Santibanes (print or type name), certify with my signature below that the information included in my submittal packet is complete, true, and correct, to the best of my knowledge.

Alexis Santibanes

Signature of Applicant

5-26-2022

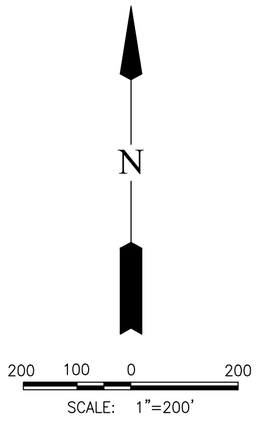
Date

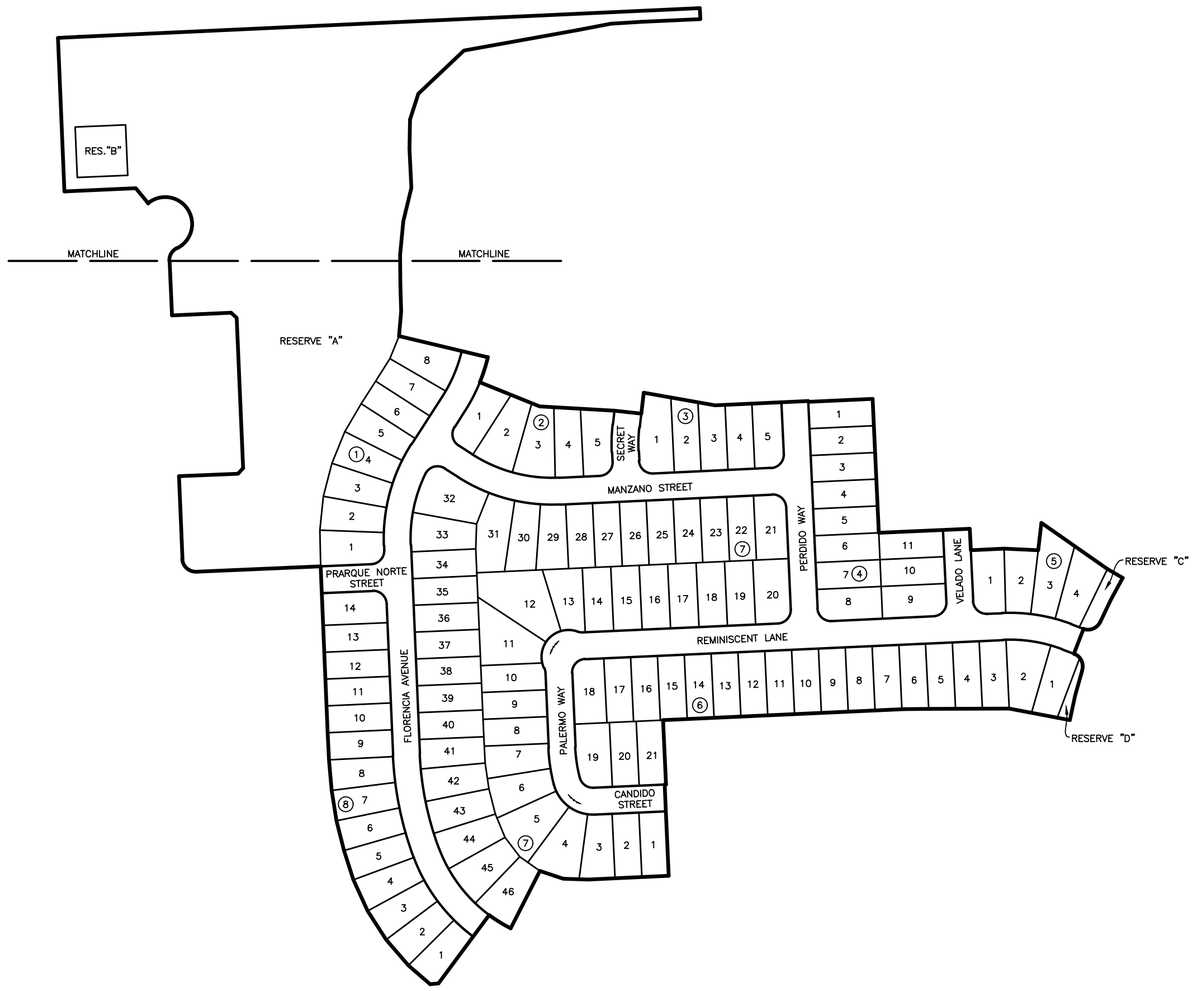
NOTE: Rfc ?nnjga_lr qf_jj f_tc rfc nj_r bsjw pcampbcb gl rfc mddgac md rfc Ajcpi md Amspr md Kmlremk cpw Amslrw* Rcv_q.

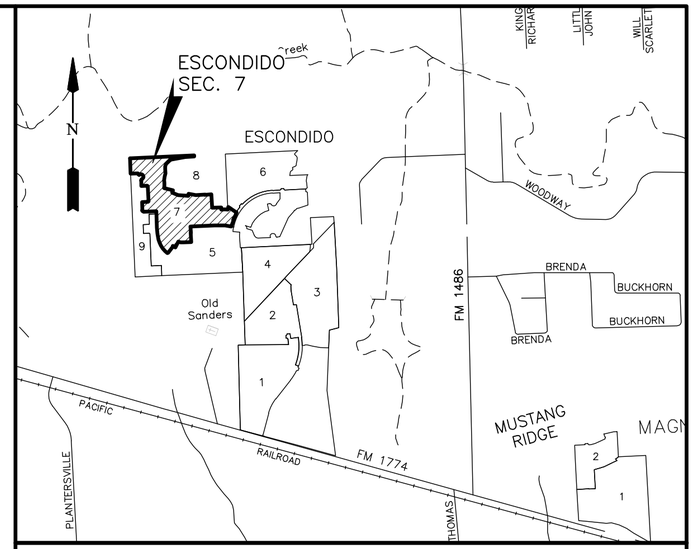
?drcp rfc pcampbgle md rfc dgl_j nj_r* rfc ?nnjga_lr qf_jj bgqrpg`src rfc amngcq md rfc pcampbcb dgl_j nj_r* u fgaf qf_jj qfmu _jj qgel_rspcq _lb rfc dgjc lsk`cp md rfc Ajcpi md Amspr* _q dmjjmuq8

/, Mlc nbd amnw qf_jj `c ck_gjcb rm rfc ?bkglgqrp_rmp _lb Agrw Cleglccp9

0, Rum `jsc+jglc npglrq* qf_jj `c pcrsplcb rm rfc ?bkglgqrp_rmp* mp _l _nnmglrcc `w S,Q, acprgdgcb k_gj, Please see certified mail requirements and deadlines in Ch. 11 of the City of Magnolia Unified Development Code.







VICINITY MAP
SCALE: 1"= 2,000'

KEY MAP NO. 211G

FINAL PLAT
ESCONDIDO
SECTION 7

A SUBDIVISION OF 32.206 ACRES OF LAND SITUATED IN
THE JAMES PIERPONT SURVEY, ABSTRACT 426,
MONTGOMERY COUNTY, TEXAS.

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

DATE: JUNE 28, 2022

114	LOTS
8	BLOCKS
4	RESERVES
10.095	ACRES IN RESERVES

SURVEYOR:
GBI PARTNERS
LAND SURVEYING CONSULTANTS
4724 VISTA ROAD • PASADENA, TX 77505
PHONE: 281-499-4539 • GBIsurvey@GBIsurvey.com
TBPELS FIRM #10130300 • www.GBIsurvey.com

ENGINEER:
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

2139-3107P.310

MYLAR CHECK: SURV. _____ DIR. _____
Date\Time : Tue, 28 Jun 2022 - 3:40pm
Path\Name : C:\Users\ASANTI~1\AppData\Local\Temp\AcPublish_20884\Escondido Section 7.dwg

STATE OF TEXAS
COUNTY OF MONTGOMERY

I, J. ALAN KENT, GENERAL MANAGER, RESPECTIVELY OF MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, OWNER OF THE PROPERTY SUBDIVIDED IN THE ABOVE AND FOREGOING MAP OF ESCONDIDO SECTION 7, DO HEREBY MAKE SUBDIVISION OF SAID PROPERTY FOR AND ON BEHALF OF SAID MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, ACCORDING TO THE LINES, STREETS, LOTS, ALLEYS, PARKS, BUILDING LINES, AND EASEMENTS THEREIN SHOWN, AND DESIGNATE SAID SUBDIVISION AS ESCONDIDO SECTION 7, LOCATED IN THE JAMES PIERPONT SURVEY, ABSTRACT 426, MONTGOMERY COUNTY, TEXAS, AND ON BEHALF OF SAID MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY; AND DEDICATE TO PUBLIC USE, AS SUCH, THE STREETS, ALLEYS, PARKS, AND EASEMENTS SHOWN THEREON FOREVER; AND DO HEREBY WAIVE ANY CLAIMS FOR DAMAGES OCCASIONED BY THE ESTABLISHING OF GRADES AS APPROVED FOR THE STREETS AND ALLEYS DEDICATED, OR OCCASIONED BY THE ALTERATION OF THE SURFACE OF ANY PORTION OF STREETS OR ALLEYS TO CONFORM TO SUCH GRADES; AND DO HEREBY BIND OURSELVES, OUR SUCCESSORS AND ASSIGNS TO WARRANT AND FOREVER DEFEND THE TITLE TO THE LAND SO DEDICATED.

THIS IS TO CERTIFY THAT I, J. ALAN KENT, GENERAL MANAGER, RESPECTIVELY OF MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, OWNER OF THE PROPERTY SUBDIVIDED IN THE ABOVE AND FOREGOING MAP OF ESCONDIDO SECTION 7, HAVE COMPLIED WITH OR WILL COMPLY WITH ALL REGULATIONS HERETOFORE ON FILE WITH THE MONTGOMERY COUNTY ENGINEER AND ADOPTED BY THE COMMISSIONERS' COURT OF MONTGOMERY COUNTY, TEXAS.

FURTHER, OWNERS HAVE DEDICATED AND BY THESE PRESENTS DO DEDICATE TO THE USE OF THE PUBLIC FOR PUBLIC UTILITY PURPOSE FOREVER UNOBSTRUCTED AERIAL EASEMENTS. THE AERIAL EASEMENTS SHALL EXTEND HORIZONTALLY AN ADDITIONAL ELEVEN FEET, SIX INCHES (11' 6") FOR TEN FEET (10' 0") PERIMETER GROUND EASEMENTS OR SEVEN FEET, SIX INCHES (7' 6") FOR FOURTEEN FEET (14' 0") PERIMETER GROUND EASEMENTS OR FIVE FEET, SIX INCHES (5' 6") FOR SIXTEEN FEET (16' 0") PERIMETER GROUND EASEMENTS, FROM A PLANE SIXTEEN FEET (16' 0") ABOVE THE GROUND LEVEL UPWARD, LOCATED ADJACENT TO AND ADJOINING SAID PUBLIC UTILITY EASEMENTS THAT ARE DESIGNATED WITH AERIAL EASEMENTS (U.E. AND A.E.) AS INDICATED AND DEPICTED, HEREON, WHEREBY THE AERIAL EASEMENT TOTALS TWENTY ONE FEET, SIX INCHES (21' 6") IN WIDTH.

FURTHER, OWNERS HAVE DEDICATED AND BY THESE PRESENTS DO DEDICATE TO THE USE OF THE PUBLIC FOR PUBLIC UTILITY PURPOSE FOREVER UNOBSTRUCTED AERIAL EASEMENTS. THE AERIAL EASEMENTS SHALL EXTEND HORIZONTALLY AN ADDITIONAL TEN FEET (10' 0") FOR TEN FEET (10' 0") BACK-TO-BACK GROUND EASEMENTS, OR EIGHT FEET (8' 0") FOR FOURTEEN FEET (14' 0") BACK-TO-BACK GROUND EASEMENTS OR SEVEN FEET (7' 0") FOR SIXTEEN FEET (16' 0") BACK-TO-BACK GROUND EASEMENTS, FROM A PLANE SIXTEEN FEET (16' 0") ABOVE GROUND LEVEL UPWARD, LOCATED ADJACENT TO BOTH SIDES AND ADJOINING SAID PUBLIC UTILITY EASEMENTS THAT ARE DESIGNATED WITH AERIAL EASEMENTS (U.E. AND A.E.) AS INDICATED AND DEPICTED HEREON, WHEREBY THE AERIAL EASEMENT TOTALS THIRTY FEET (30' 0") IN WIDTH.

FURTHER, WE, MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, DO HEREBY DEDICATE FOREVER TO THE PUBLIC A STRIP OF LAND A MINIMUM OF FIFTEEN (15) FEET WIDE ON EACH SIDE OF THE CENTER LINE OF ANY AND ALL GULLIES, RAVINES, DRAWS, SLOUGHS OR OTHER NATURAL DRAINAGE COURSES LOCATED IN THE SAID SUBDIVISION, AS EASEMENTS FOR DRAINAGE PURPOSES, GIVING MONTGOMERY COUNTY AND/OR ANY OTHER PUBLIC AGENCY THE RIGHT TO ENTER UPON SAID EASEMENT AT ANY AND ALL TIMES FOR THE PURPOSE OF CONSTRUCTING AND/OR MAINTAINING DRAINAGE WORK AND/OR STRUCTURES.

FURTHER, ALL OF THE PROPERTY SUBDIVIDED IN THE ABOVE AND FOREGOING MAP SHALL BE RESTRICTED IN ITS USE, WHICH RESTRICTIONS SHALL RUN WITH THE TITLE OF THE PROPERTY, AND SHALL BE ENFORCEABLE, AT THE OPTION OF MONTGOMERY COUNTY, BY MONTGOMERY COUNTY OR ANY CITIZEN THEREOF, BY INJUNCTION, AS FOLLOWS:

1. THE DRAINAGE OF SEPTIC TANKS INTO ROAD, STREET, ALLEY, OR OTHER PUBLIC DITCHES, EITHER DIRECTLY OR INDIRECTLY, IS STRICTLY PROHIBITED.

2. DRAINAGE STRUCTURES UNDER PRIVATE DRIVEWAYS SHALL HAVE A NET DRAINAGE OPENING AREA OF SUFFICIENT SIZE TO PERMIT THE FREE FLOW OF WATER WITHOUT BACKWATER, AND SHALL BE A MINIMUM OF ONE AND THREE QUARTERS (1-3/4) SQUARE FEET (18" DIAMETER PIPE CULVERT).

FURTHER, WE DO HEREBY DECLARE THAT ALL PARCELS OF LAND DESIGNATED AS LOTS ON THIS PLAT ARE ORIGINALLY INTENDED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLING UNITS THEREON AND SHALL BE RESTRICTED FOR THE SAME UNDER THE TERMS AND CONDITIONS OF SUCH RESTRICTIONS FILED SEPARATELY, UNLESS OTHERWISE NOTED.

WE HAVE ALSO COMPLIED WITH ALL REGULATIONS HERETO BEFORE ADOPTED BY THE CITY COUNCIL OF THE CITY OF MAGNOLIA, LOCATED IN MONTGOMERY COUNTY, TEXAS.

FURTHER, OWNERS DO HEREBY CERTIFY THAT WE ARE THE OWNERS OF ALL PROPERTY IMMEDIATELY ADJACENT TO THE BOUNDARIES OF THE ABOVE AND FORGOING SUBDIVISION OF ESCONDIDO SECTION 7 WHERE BUILDING SETBACK LINES OR PUBLIC EASEMENTS ARE TO BE ESTABLISHED OUTSIDE THE BOUNDARIES OF THE ABOVE AND FORGOING SUBDIVISION AND DO HEREBY MAKE AND ESTABLISH ALL BUILDING SETBACK LINES AND DEDICATE TO THE USE OF THE PUBLIC, ALL PUBLIC EASEMENTS SHOWN IN SAID ADJACENT ACREAGE.

IN TESTIMONY WHEREOF, THE MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, HAS CAUSED THESE PRESENTS TO BE SIGNED BY J. ALAN KENT, ITS GENERAL MANAGER THEREUNTO AUTHORIZED, THIS _____ DAY OF_____, 2022.

MAGNOLIA ESCONDIDO LLC
A TEXAS LIMITED LIABILITY COMPANY

BY: _____
J. ALAN KENT, GENERAL MANAGER

STATE OF TEXAS
COUNTY OF HARRIS

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED J. ALAN KENT, GENERAL MANAGER OF MAGNOLIA ESCONDIDO LLC, A TEXAS LIMITED LIABILITY COMPANY, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED, AND IN THE CAPACITY THEREIN AND HEREIN SET OUT AND AS THE ACT AND DEED OF SAID COMPANY.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS _____ DAY OF _____, 2022.

_____
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

I, KYLE B. DUCKETT, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF SURVEYING AND HEREBY CERTIFY THAT THE ABOVE SUBDIVISION IS TRUE AND CORRECT; WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND; THAT THE ELEVATION BENCHMARK REFLECTED ON THE FACE OF THE PLAT WAS ESTABLISHED AS REQUIRED BY REGULATION; THAT ALL CORNERS AND ANGLE POINTS OF THE BOUNDARIES OF THE ORIGINAL TRACT TO BE SUBDIVIDED OF REFERENCE HAVE BEEN MARKED WITH IRON RODS HAVING A DIAMETER OF NOT LESS THAN FIVE-EIGHTHS OF AN INCH (5/8") AND A LENGTH OF NOT LESS THAN THREE FEET (3'); AND THAT THE PLAT BOUNDARY CORNERS HAVE BEEN TIED TO THE NEAREST SURVEY CORNER.

_____
KYLE B. DUCKETT, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6340

THIS IS TO CERTIFY THAT THE PLANNING AND ZONING COMMISSION OF THE CITY OF MAGNOLIA, TEXAS, HAS APPROVED THIS PLAT AND SUBDIVISION OF ESCONDIDO SECTION 7 AS SHOWN HEREIN.

IN TESTIMONY WHEREOF, IN WITNESS OF THE OFFICIAL SIGNATURES OF THE CHAIRMAN, AND THE SECRETARY OF THE CITY OF MAGNOLIA, TEXAS, THIS THE _____ DAY OF _____, 2022, DO APPROVE THIS PLAT TO BE RECORDED IN THE OFFICIAL RECORD AT THE MONTGOMERY COUNTY CLERK'S OFFICE.

_____
ROBERT FRANKLIN, CHAIRMAN

_____
KANDICE GARRETT, SECRETARY

THIS IS TO CERTIFY THAT THE CITY COUNCIL OF THE CITY OF MAGNOLIA, TEXAS, HAS APPROVED THIS PLAT AND SUBDIVISION OF ESCONDIDO SECTION 7 AS SHOWN HEREIN.

IN TESTIMONY WHEREOF, IN WITNESS OF THE OFFICIAL SIGNATURES OF THE MAYOR, AND THE CITY SECRETARY OF THE CITY OF MAGNOLIA, TEXAS, THIS THE _____ DAY OF _____, 2022, DO APPROVE THIS PLAT TO BE RECORDED IN THE OFFICIAL RECORD AT THE MONTGOMERY COUNTY CLERK'S OFFICE.

_____
TODD KANA, MAYOR

_____
KANDICE GARRETT, CITY SECRETARY

I, JEFF JOHNSON, P.E., COUNTY ENGINEER OF MONTGOMERY COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE PLAT OF THIS SUBDIVISION COMPLIES WITH ALL OF THE EXISTING RULES AND REGULATIONS OF THIS OFFICE AS ADOPTED BY THE MONTGOMERY COUNTY COMMISSIONERS COURT.

I FURTHER CERTIFY THAT THE PLAT OF THIS SUBDIVISION COMPLIES WITH REQUIREMENTS FOR INTERNAL SUBDIVISION DRAINAGE AS ADOPTED BY COMMISSIONERS COURT; HOWEVER, NO CERTIFICATION IS HEREBY GIVEN AS TO THE EFFECT OF DRAINAGE FROM THIS SUBDIVISION ON INTERCEPTING DRAINAGE ARTERY OR PARENT STREAM OR ON ANY OTHER AREA OF SUBDIVISION WITHIN THE WATERSHED.

_____
JEFF JOHNSON, P.E.
COUNTY ENGINEER

APPROVED BY THE COMMISSIONERS COURT OF MONTGOMERY COUNTY, TEXAS, THIS _____ DAY OF _____, 2022.

_____
ROBERT C. WALKER
COMMISSIONER, PRECINCT 1

_____
CHARLIE RILEY
COMMISSIONER, PRECINCT 2

_____
MARK KEOUGH
COUNTY JUDGE

_____
JAMES L. NOACK
COMMISSIONER, PRECINCT 3

_____
JAMES METTS
COMMISSIONER, PRECINCT 4

STATE OF TEXAS
COUNTY OF MONTGOMERY

I, MARK TURNBULL, CLERK OF THE COUNTY COURT OF MONTGOMERY COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE WRITTEN INSTRUMENT WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR REGISTRATION IN MY OFFICE ON _____, 2022, AT _____ O'CLOCK _____.M., AND DULY RECORDED ON _____, 2022, AT _____ O'CLOCK ___.M., IN CABINET _____ SHEET _____, OF RECORD OF MAP FOR SAID COUNTY.

WITNESS MY HAND AND SEAL OF OFFICE, AT CONROE, MONTGOMERY COUNTY, TEXAS, THE DAY AND DATE LAST ABOVE WRITTEN.

_____
MARK TURNBULL, CLERK, COUNTY COURT,
MONTGOMERY COUNTY, TEXAS

BY: _____
DEPUTY

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

ESCONDIDO
SECTION 7

SHEET 2 OF 4

2139-3107P.310

DIR._____

MYLAR CHECK: SURV. _____

Date\Time : Tue, 28 Jun 2022 - 3:40pm
Path\Name : C:\Users\ASANTI~1\AppData\Local\Temp\AcPublish_20884\Escondido Section 7.dwg

RESERVE TABLE			
RESERVE	ACREAGE	SQ.FT.	TYPE
A	9.971	434,348	RESTRICTED TO DRAINAGE/DETENTION
B	0.203	8,836	RESTRICTED TO LIFT STATION
C	0.082	3,560	RESTRICTED TO LANDSCAPE/OPEN SPACE
D	0.042	1,836	RESTRICTED TO LANDSCAPE/OPEN SPACE
TOTAL	10.095	439,744	

MATCHLINE SEE SHEET 4 OF 4

MATCHLINE SEE SHEET 4 OF 4

CALLED 134.670 ACRES
MAGNOLIA ESCONDIDO LLC
DOC. NO. 2019108696
M.C.O.P.R.

CALLED 134.670 ACRES
MAGNOLIA ESCONDIDO LLC
DOC. NO. 2019108696
M.C.O.P.R.

CALLED 190.25 ACRES
MAGNOLIA M3 RANCH LP
FILE NO. 20140135576
M.C.O.P.R.

CALLED 134.670 ACRES
MAGNOLIA ESCONDIDO LLC
DOC. NO. 2019108696
M.C.O.P.R.

CALLED 134.670 ACRES
MAGNOLIA ESCONDIDO LLC
DOC. NO. 2019108696
M.C.O.P.R.

RESERVE "A"

RESERVE "E"

ESCONDIDO SECTION 5
CAB. Z, SHTS. _____
M.C.M.R.

ESCONDIDO SECTION 5
CAB. Z, SHTS. _____
M.C.M.R.

MANZANO STREET (50' R.O.W.)

PARQUE NORTE STREET (50' R.O.W.)

FLORENCIA AVENUE (50' R.O.W.)

PALERMO WAY (50' R.O.W.)

PERDIDO WAY (50' R.O.W.)

VELADO LANE (50' R.O.W.)

REMINISCENT LANE (50' R.O.W.)

CANDIDO STREET (50' R.O.W.)

SECRET WAY (50' R.O.W.)

SECLUDED STREET (50' R.O.W.)

RUSTICO ROAD (50' R.O.W.)

MARIA STREET (50' R.O.W.)

PERLA LANE (50' R.O.W.)

HIDDEN LANE (50' R.O.W.)

GIRASOL STREET (50' R.O.W.)

RES. "C"

RES. "D"

1' RESERVE (SEE NOTE 8)

N 02°27'28" W 280.00'

N 02°27'28" W 154.06'

S 87°32'32" W 231.54'

N 02°27'28" W 310.00'

S 80°01'33" E 135.47'

N 87°22'29" E 173.28'

S 02°37'31" E 250.00'

S 55°04'49" E 150.19'

S 87°22'05" W 450.00'

S 02°37'55" E 120.00'

S 02°37'55" E 170.00'

S 87°22'05" W 150.00'

LEGEND

B.L.	INDICATES BUILDING LINE
STM.S.E.	INDICATES STORM SEWER EASEMENT
S.S.E.	INDICATES SANITARY SEWER EASEMENT
W.L.E.	INDICATES WATER LINE EASEMENT
U.E.	INDICATES UTILITY EASEMENT
F.N.	INDICATES FILE NUMBER
M.C.D.R.	INDICATES MONTGOMERY COUNTY DEED RECORDS
M.C.M.R.	INDICATES MONTGOMERY COUNTY MAP RECORDS
M.C.O.P.R.	INDICATES MONTGOMERY COUNTY OFFICIAL PUBLIC RECORDS
M.C.O.P.R.R.P.	INDICATES MONTGOMERY COUNTY OFFICIAL PUBLIC RECORDS OF REAL PROPERTY
R.O.W.	INDICATES RIGHT-OF-WAY
VOL.	INDICATES VOLUME
PG.	INDICATES PAGE
CAB.	INDICATES CABINET
SHTS.	INDICATES SHEETS
DOC. NO.	INDICATES DOCUMENT NUMBER
RES.	INDICATES RESERVE
←→	INDICATES STREET NAME CHANGE

NOTES:

1. ALL BEARINGS ARE REFERENCED TO THE STATE PLANE GRID COORDINATES, CENTRAL ZONE, NAD 83 (EPOCH 2010.00)
2. THE COORDINATES SHOWN HEREON ARE TEXAS CENTRAL ZONE NO. 4203 STATE PLANE GRID COORDINATES, NAD83 (2001 ADJ.) AND MAY BE BROUGHT TO SURFACE BY DIVIDING THE FOLLOWING COMBINED ADJUSTMENT FACTOR 0.99996413094.
3. PRIMARY BENCHMARK: A 1281 (NGS PID: BL1869) BRASS DISC STAMPED A 1281 1978 LOCATED ALONG THE WEST SIDE OF NICHOLS SAWMILL ROAD, 26 FEET WEST OF PAVEMENT, AND APPROXIMATELY 550 FEET SOUTH OF UNITY PARK DRIVE. PUBLISHED ELEVATION=231.8' NAVD88
4. THIS PLAT WAS PREPARED FROM INFORMATION FURNISHED BY CHARTER TITLE COMPANY, FILE NO. 2021-0334, DATED MAY 6, 2021. THE SURVEYOR HAS NOT ABSTRACTED THE ABOVE PROPERTY.
5. FIVE-EIGHTHS (5/8) INCH IRON RODS WITH PLASTIC CAP STAMPED "GBI PARTNERS" AND THREE (3) FEET IN LENGTH ARE SET ON ALL PERIMETER BOUNDARY CORNERS, UNLESS OTHERWISE NOTED.
6. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NO. 48339C0475G, REVISED AUGUST 18, 2014, THE SUBJECT TRACT LIES WITHIN ZONE "X" (UNSHADED) AND ZONE "X" (UNSHADED) IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE OF FLOODPLAIN. "GBI PARTNERS" AND "LJA ENGINEERING" DO NOT WARRANT NOR SUBSCRIBE TO THE ACCURACY OR SCALE OF SAID MAPS."
7. THE ARE NO PIPELINES OR PIPELINE EASEMENTS WITHIN THE BOUNDARIES OF THIS PLAT.
8. ONE-FOOT RESERVE DEDICATED TO THE PUBLIC IN FEE AS A BUFFER SEPARATION BETWEEN THE SIDE OR END OF STREETS WHERE SUCH STREETS ABUT ADJACENT PROPERTY, THE CONDITION OF THIS DEDICATION BEING THAT WHEN THE ADJACENT PROPERTY IS SUBDIVIDED OR RESUBDIVIDED IN A RECORDED SUBDIVISION PLAT, THE ONE-FOOT RESERVE SHALL THEREUPON BECOME VESTED IN THE PUBLIC FOR STREET RIGHT-OF-WAY PURPOSES AND THE FEE TITLE THERETO SHALL REVERT TO AND REVEST IN THE DEDICATOR, HIS HEIRS, ASSIGNS OR SUCCESSORS.

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

ESCONDIDO
SECTION 7

SHEET 3 OF 4

2139-3107P.310

N

100 50 0 100

SCALE: 1"=100'

MYLAR CHECK: SURV. _____

DIR: _____

Date\Time : Tue, 28 Jun 2022 - 3:40pm
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RESERVE TABLE			
RESERVE	ACREAGE	SQ.FT.	TYPE
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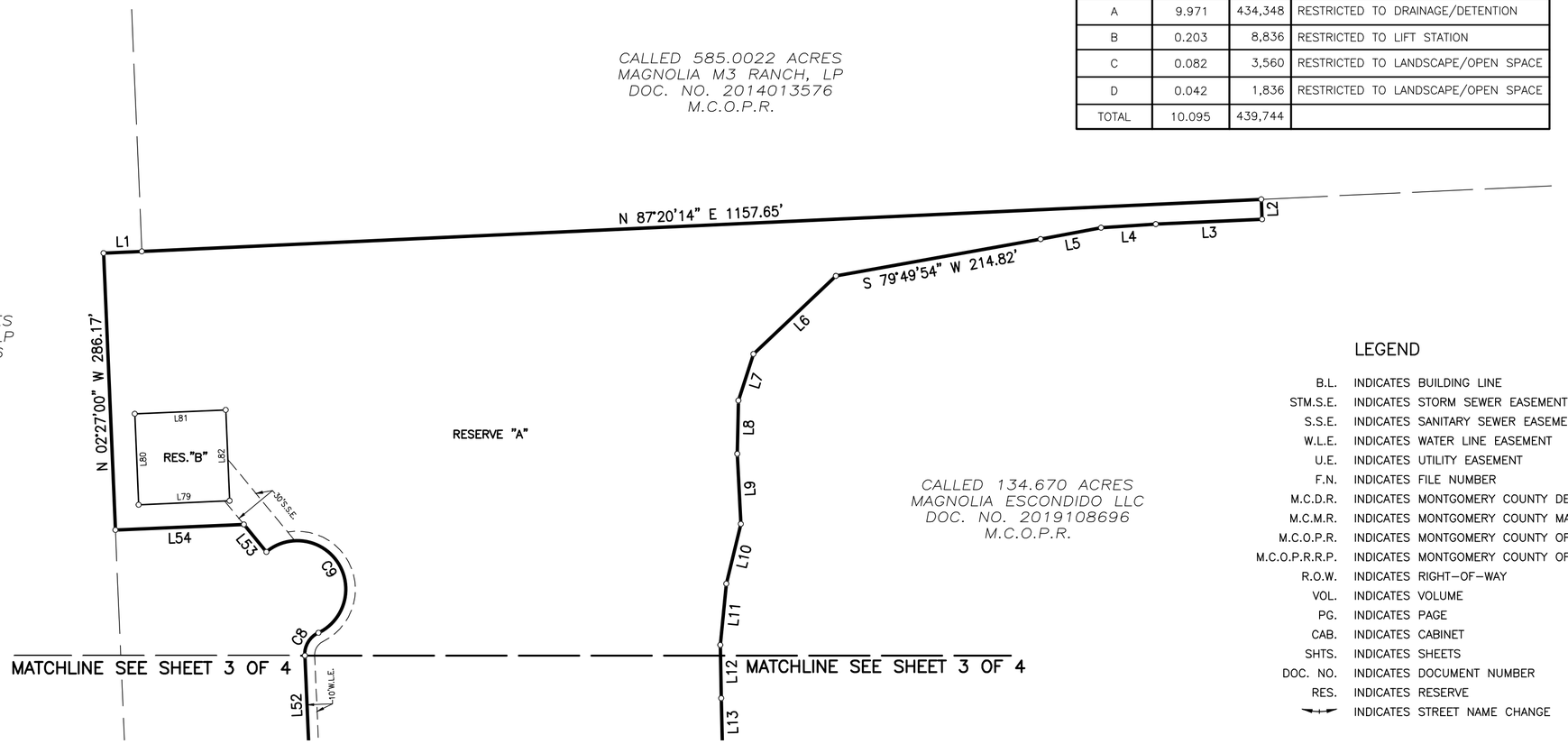
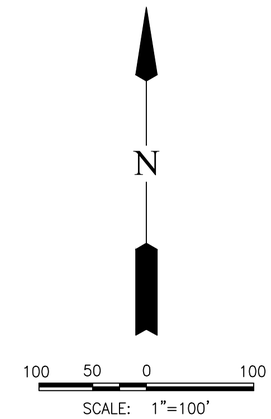
TOTAL	10.095	439,744	





LEGEND

B.L.	INDICATES BUILDING LINE
STM.S.E.	INDICATES STORM SEWER EASEMENT
S.S.E.	INDICATES SANITARY SEWER EASEMENT
W.L.E.	INDICATES WATER LINE EASEMENT
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R.O.W.	INDICATES RIGHT-OF-WAY
VOL.	INDICATES VOLUME
PG.	INDICATES PAGE
CAB.	INDICATES CABINET
SHTS.	INDICATES SHEETS
DOC. NO.	INDICATES DOCUMENT NUMBER
RES.	INDICATES RESERVE
⟷	INDICATES STREET NAME CHANGE

BLOCK 1	
LOT NO.	SQ.FT.
1	7,366
2	6,557
3	6,557
4	6,557
5	6,419
6	6,000
7	6,263
8	7,636

BLOCK 2	
LOT NO.	SQ.FT.
1	7,100
2	8,191
3	8,113
4	6,601
5	6,917

BLOCK 3	
LOT NO.	SQ.FT.
1	8,672
2	6,698
3	6,177
4	6,064
5	6,536

BLOCK 4	
LOT NO.	SQ.FT.
1	6,000
2	6,000
3	6,000
4	6,000
5	6,000
6	6,000
7	6,000
8	7,068
9	7,066
10	6,000
11	6,000

BLOCK 5	
LOT NO.	SQ.FT.
1	7,157
2	6,560
3	8,916
4	7,774

BLOCK 6	
LOT NO.	SQ.FT.
1	6,732
2	8,229
3	6,348
4	6,241
5	6,135
6	6,038
7	6,000
8	6,000
9	6,000
10	6,000
11	6,000
12	6,000
13	6,000
14	6,000
15	6,000
16	6,000
17	6,000
18	7,080
19	7,466
20	6,000
21	6,000

BLOCK 7	
LOT NO.	SQ.FT.
1	6,000
2	6,000
3	6,790
4	8,898
5	8,832
6	7,141
7	6,475
8	5,998
9	6,000
10	5,961
11	10,049
12	12,909
13	6,962
14	6,360
15	6,360
16	6,360
17	6,360
18	6,360
19	6,360
20	7,859
21	7,066
22	6,000
23	6,000

BLOCK 7	
LOT NO.	SQ.FT.
24	6,000
25	6,000
26	6,000
27	6,000
28	6,000
29	6,534
30	6,789
31	8,253
32	9,673
33	7,273
34	6,000
35	6,000
36	6,000
37	6,000
38	6,000
39	6,000
40	6,000
41	6,279
42	6,596
43	6,596
44	7,182
45	7,673
46	7,676

BLOCK 8	
LOT NO.	SQ.FT.
1	6,616
2	6,563
3	6,563
4	6,554
5	6,305
6	6,305
7	6,305
8	6,305
9	6,030
10	6,000
11	6,000
12	6,000
13	6,000
14	7,066

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 87°23'35" E	39.64'
L2	S 02°37'31" E	20.66'
L3	S 87°22'29" W	110.00'
L4	S 86°15'54" W	56.67'
L5	S 79°15'14" W	63.57'
L6	S 46°37'29" W	117.35'
L7	S 17°53'31" W	50.51'
L8	S 01°07'38" W	55.11'
L9	S 02°53'54" E	72.43'
L10	S 13°43'02" W	63.57'
L11	S 05°31'31" W	63.57'
L12	S 00°56'29" E	54.99'
L13	S 01°34'52" E	50.00'
L14	S 04°58'33" W	46.09'
L15	S 76°36'26" E	170.00'
L16	S 67°58'53" E	120.00'
L17	S 86°44'51" E	139.97'
L18	S 83°30'48" E	50.00'
L19	N 06°29'12" E	39.27'
L20	S 02°37'31" E	1.24'
L21	N 87°22'29" E	120.00'
L22	N 87°22'29" E	170.00'
L23	S 02°37'31" E	39.99'
L24	N 87°22'05" E	62.05'
L25	S 87°12'35" E	63.57'
L26	N 06°47'34" E	51.36'
L27	S 59°39'23" E	33.02'
L28	S 20°37'21" W	50.00'
L29	N 79°22'53" W	23.88'
L30	N 79°05'57" W	90.97'
L31	S 89°48'46" W	141.43'
L32	S 89°28'56" W	53.99'
L33	S 87°22'05" W	2.63'
L34	N 88°08'52" W	46.88'
L35	N 71°40'55" W	45.63'
L36	S 26°54'39" W	120.00'
L37	S 36°39'48" W	158.63'
L38	S 83°54'38" W	15.27'
L39	N 49°21'26" W	53.58'
L40	N 40°52'56" W	63.62'

LINE TABLE		
LINE	BEARING	DISTANCE
L41	N 32°41'01" W	63.62'
L42	N 24°29'26" W	63.54'
L43	N 18°11'31" W	57.32'
L44	N 13°46'58" W	57.32'
L45	N 09°22'24" W	57.32'
L46	N 04°57'50" W	57.32'
L47	N 02°28'10" W	50.57'
L48	N 87°32'32" E	110.00'
L49	N 42°32'32" E	14.14'
L50	N 47°27'28" W	14.14'
L51	S 87°32'32" W	110.00'
L52	N 02°27'28" W	101.32'
L53	N 39°30'46" W	36.79'
L54	S 87°32'32" W	132.84'
L55	S 32°44'15" W	105.21'
L56	S 57°15'45" E	80.53'
L57	N 02°37'31" W	67.84'
L58	N 06°29'12" E	26.01'
L59	S 69°22'39" E	24.06'
L60	S 47°32'41" E	7.00'
L61	S 32°44'15" W	35.00'
L62	S 57°15'45" E	30.53'
L63	N 87°22'05" E	75.69'
L64	N 02°37'31" W	17.85'
L65	N 06°29'12" E	26.01'
L66	S 06°29'12" W	26.01'
L67	S 02°37'31" E	17.84'
L68	N 02°37'31" W	96.27'
L69	N 02°37'31" W	135.00'
L70	S 02°37'31" E	134.99'
L71	N 87°22'05" E	27.47'
L72	S 69°22'39" E	24.06'
L73	N 69°22'39" W	24.06'
L74	N 57°15'45" W	28.75'
L75	S 87°32'32" W	95.00'
L76	N 87°32'32" E	95.00'
L77	N 02°27'28" W	7.77'
L78	N 32°44'15" E	105.21'
L79	S 87°32'32" W	94.00'
L80	N 02°27'28" W	94.00'

LINE TABLE		
LINE	BEARING	DISTANCE
L81	N 87°32'32" E	94.00'
L82	S 02°27'28" E	94.00'
L83	S 01°18'41" E	67.40'
L84	S 06°06'00" W	63.57'
L85	S 14°17'31" W	63.57'
L86	S 22°29'03" W	63.57'
L87	S 30°17'37" W	60.20'
L88	S 32°44'15" W	50.00'
L89	S 32°34'02" W	49.54'
L90	S 21°48'57" W	45.41'
L91	N 20°37'21" E	119.09'
L92	S 21°22'17" W	62.25'
L93	S 02°08'30" W	46.87'
L94	S 03°06'45" E	49.25'
L95	S 08°21'22" E	48.39'
L96	S 14°27'07" E	48.39'
L97	S 21°59'11" E	47.14'
L98	S 37°48'52" E	45.63'
L99	S 54°44'52" E	45.66'

CURVE TABLE					
CURVE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	325.00'	8°37'34"	48.93'	S 17°42'21" W	48.88'
C2	825.00'	6°20'56"	91.42'	S 27°10'09" W	91.37'
C3	25.00'	86°37'40"	37.80'	S 67°18'31" W	34.30'
C4	25.00'	86°37'40"	37.80'	S 26°03'49" E	34.30'
C5	825.00'	6°37'54"	95.49'	S 13°56'04" W	95.44'
C6	275.00'	9°49'30"	47.16'	N 58°14'57" W	47.10'
C7	25.00'	90°00'00"	39.27'	N 47°27'28" W	35.36'
C8	25.00'	66°25'19"	28.98'	N 30°45'11" E	27.39'
C9	50.00'	193°28'21"	168.84'	N 32°46'20" W	99.31'
C10	300.00'	19°20'41"	101.29'	S 23°03'55" W	100.81'
C11	300.00'	35°11'43"	184.28'	S 15°08'24" W	181.40'
C12	600.00'	17°56'20"	187.86'	S 11°25'38" E	187.09'
C13	300.00'	32°56'24"	172.47'	S 36°52'00" E	170.11'
C14	300.00'	35°22'10"	185.19'	S 74°56'50" E	182.27'
C15	300.00'	9°06'44"	47.71'	N 01°55'50" E	47.66'
C16	50.00'	78°05'49"	68.15'	N 53°35'00" W	63.00'
C17	300.00'	12°04'38"	63.24'	N 08°29'47" W	63.12'
C18	50.00'	89°49'33"	78.39'	N 42°27'19" E	70.60'
C19	300.00'	23°15'16"	121.76'	S 81°00'17" E	120.93'
C20	325.00'	19°20'41"	109.73'	S 23°03'55" W	109.21'
C21	25.00'	90°00'00"	39.27'	S 12°15'45" E	35.36'
C22	275.00'	35°22'10"	169.76'	S 74°56'50" E	167.08'
C23	25.00'	89°59'36"	39.27'	N 42°22'17" E	35.35'
C24	325.00'	9°06'44"	51.69'	N 01°55'50" E	51.63'
C25	275.00'	9°06'44"	43.74'	S 01°55'50" W	43.69'
C26	25.00'	90°00'24"	39.27'	S 47°37'43" E	35.36'
C27	25.00'	89°59'36"	39.27'	N 42°22'17" E	35.35'
C28	25.00'	90°00'24"	39.27'	S 47°37'43" E	35.36'
C29	25.00'	89°59'36"	39.27'	N 42°22'17" E	35.35'
C30	25.00'	90°00'24"	39.27'	S 47°37'43" E	35.36'

CURVE TABLE					
CURVE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C31	325.00'	23°15'16"	131.91'	S 81°00'17" E	131.00'
C32	275.00'	23°15'16"	111.61'	N 81°00'17" W	110.85'
C33	25.00'	89°49'33"	39.19'	S 42°27'19" W	35.30'
C34	275.00'	12°04'38"	57.97'	S 08°29'47" E	57.86'
C35	25.00'	78°05'49"	34.08'	S 53°35'00" E	31.50'
C36	75.00'	78°05'49"	102.23'	N 53°35'00" W	94.50'
C37	325.00'	12°04'38"	68.51'	N 08°29'47" W	68.38'
C38	25.00'	21°58'51"	9.59'	N 13°26'53" W	9.53'
C39	50.00'	133°47'14"	116.75'	N 42°27'19" E	91.98'
C40	25.00'	21°58'51"	9.59'	S 81°38'30" E	9.53'
C41	25.00'	89°59'36"	39.27'	N 42°22'17" E	35.35'
C42	25.00'	90°00'24"	39.27'	N 47°37'43" W	35.36'
C43	325.00'	35°22'10"	200.63'	N 74°56'50" W	197.46'
C44	25.00'	96°50'41"	42.26'	S 74°18'55" W	37.40'
C45	275.00'	28°21'02"	136.07'	S 11°43'03" W	134.69'
C46	575.00'	17°56'20"	180.03'	S 11°25'38" E	179.29'
C47	275.00'	32°56'24"	158.10'	S 36°52'00" E	155.93'
C48	325.00'	32°56'24"	186.85'	N 36°52'00" W	184.28'
C49	625.00'	17°56'20"	195.68'	N 11°25'38" W	194.89'
C50	25.00'	90°00'00"	39.27'	N 47°27'28" W	35.36'
C51	25.00'	90°00'00"	39.27'	N 42°32'32" E	35.36'
C52	325.00'	35°11'43"	199.64'	N 15°08'24" E	196.52'
C53	275.00'	19°20'41"	92.85'	N 23°03'55" E	92.41'

OWNER: MAGNOLIA ESCONDIDO, LLC
A TEXAS LIMITED LIABILITY COMPANY
6046 FM 2920, SUITE 512
SPRING, TEXAS 77379

ESCONDIDO
SECTION 7

SHEET 4 OF 4

2139-3107P.310

July 13, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Reference: ***Escondido Section 7 – Final Plat Review***
City of Magnolia
AEI Job No. 221489.80-001

Dear Mr. Doering:

We received the final plat for the proposed Escondido Section 7 development on June 28, 2022. On behalf of the City of Magnolia (the "City"), we have reviewed the submitted documents and are providing the following comments for your consideration:

1. Provide approval for proposed street names from Montgomery County Emergency Communication District.
2. Update note four in the plat for the latest City Planning Letter dated June 14, 2022.
3. Provide the full legal description of the development on the first page of the plat, as indicated in the City Planning Letter dated June 14, 2022.
4. Update subdivision area outside details of the 32.2-acre section to 131.841 acres, Magnolia Escondido, LLC No. 2021005404 as indicated in the City Planning Letter dated June 14, 2022.
5. Verify Metes and Bounds per Comment No. 4. Revise as needed.
6. Update signature blocks for a corporation, add lienholder signatures and notaries as indicated in the Montgomery County Subdivision Rules and Regulations, Section Six Forms of Dedication.
7. Update the Planning and Zoning Commissioner signature blocks to Scott Shelburne as the Chairman and Kandice Garrett as the Secretary.
8. Add the point of beginning for your metes and bounds on the face of the plat.
9. Provide evidence that the drainage plan, improvement plans, and maintenance bond have been approved per Montgomery County Subdivision Rules and Regulations, Section Two, II Requirements for Prior to Approval of Final Plat.
10. Provide City approval for water, sanitary, drainage, and pavement plans for Escondido Section 7.
11. Vicinity map on page 1 should be 1'=1000" per Montgomery County Subdivision Rules and Regulations, I Final Plat, A Final Plat Specifications, 1 General.
12. Provide TCEQ approval for Escondido Section 7 WSDP plans.
13. Provide copies of the tax certificates indicating that all taxes have been paid, including Montgomery County MUD 108.
14. Final plat shall be signed and sealed by a Professional Surveyor licensed in Texas.

15. Obtain all applicable utility company and governmental agency signatures.
16. Construction shall not commence until final agency approvals are secured.
17. Provide access to public right-of-way for Reserve B.
18. Preference for the street names to stay the same when possible as they continue into additional developments. For example, Maria Street should continue where Florencia Avenue is.

Please make all the revisions as requested and the applicable paperwork for this office for final approval. If you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Cristin Emshoff

Cristin Emshoff, MUP, ENV SP
Urban Planner

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

XC: Ms. Christian Gable – City of Magnolia - Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Mr. Robel E. Giackero, PE. – AEI Engineering, a Baxter & Woodman Company
Ms. Katy Harris, AICP – LJA Engineering, Inc.

June 17, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Reference: ***Escondido Section 9 Preliminary Plat – Letter of No Objection***
City of Magnolia
AEI Job No. 220523.80-001

Dear Mr. Doering:

We received the revised preliminary plat for the proposed Escondido Section 9 and supporting documentation on June 16, 2022. On behalf of City of Magnolia (the "City"), we have reviewed the submitted documents and offer no objection to the approval of this project, subject to the following comments:

1. Provide preliminary approval for proposed street names from Montgomery County Emergency Communication District.
2. In the event that any portion of this development may change at a future date, the City reserves the right to review and approve the proposed changes prior to initiating the change.

Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

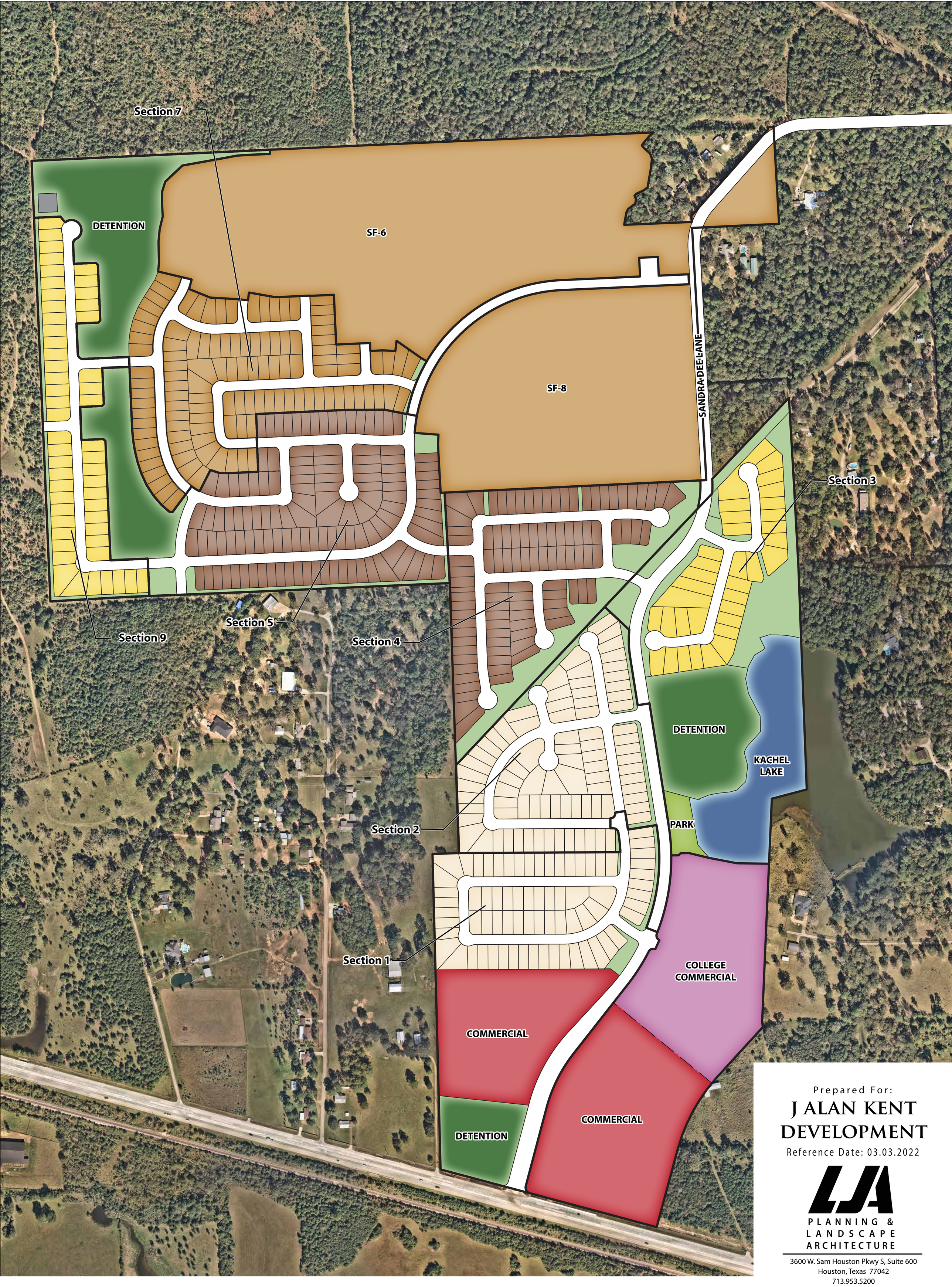
Sincerely,

Robel E. Giackero

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

XC: Ms. Christian Gable – City of Magnolia - Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Ms. Katy Harris, AICP – LJA Engineering, Inc.



NORTH

0 100 200 400

Concept Plan Study for

ESCONDIDO

±278.3 Acres of Land

Magnolia, Texas

Project #: 2139-07003

Prepared For:

J ALAN KENT DEVELOPMENT

Reference Date: 03.03.2022

LJA PLANNING & LANDSCAPE ARCHITECTURE

3600 W. Sam Houston Pkwy S, Suite 600
Houston, Texas 77042
713.953.5200

Preliminary Plat Application Form

This form shall be submitted with each application for a preliminary plat.

CONTACT INFORMATION

Applicant

Katy Harris
Name

3600 W. Sam Houston Pkwy. S.
Street Address

Houston, TX 77042
City, State Zip

713-358-8536
Phone

N/A
Fax

kharris@lja.com
E-mail

Property Owner (if different)

J Alan Kent Development
Name

7817 Rayford Road
Street Address

Spring, TX 77389
City, State Zip

281-376-1500
Phone

N/A
Fax

duane@jalankent.com
E-mail

Architect (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Engineer/Land Surveyor (if different)

N/A
Name

Street Address

City, State Zip

Phone

Fax

E-mail

Project Name: Escondido Subdivision: Section 9 Reviewer: _____

PROPERTY PROFILE

Legal Description W. HILLHOUSE SURVEY, A 260 & W.T. DUNLAVY SURVEY, A-168
(Subdivision) (Lot) (Block)

Current Zoning ETJ

Present Use of Property
Acreage

Proposed Use of the Property
Single Family Residential with 53 lots.

Total Area of Site 13.1acres

Project Name: Escondido Subdivision: Section 9 Reviewer: _____

1. Description of existing property. If the property has been previously subdivided, provided the lot(s), block(s), and subdivision name. If the property has been subdivided, provide the metes and bounds description:
   Acreage.
   _____ _
   _____
   _____

2. Description of proposed property change, including lot numbers, name, etc.
   Single Family Residential with 53 lots.
   _____
   _____
   _____

Required Information

- ☒ Three (3) copies of the preliminary plat; minimum 20 in. x 24 in. size in blue or black line
- ☒ All fees
- ☒ One (1) Adobe Acrobat PDF of each page presented to the City for review
- ☒ Title opinion (title search) from a title guaranty company not more than 30 days old
- ☒ Three (3) original copies of a letter of transmittal
- ☒ Vicinity map
- ☒ North arrow
- ☐ Revision date
- ☒ Legal description of the parcel proposed for subdivision
- ☒ Scale
- ☒ Contour lines (at one-foot intervals)
- ☒ Tabulations that include:
  - ☒ The number of lots in the subdivision
  - ☒ The size of the parcel
  - ☐ Water available for fire protection
- ☒ Use and ownership of abutting parcels or lots
- ☒ Location and dimensions of right-of-ways, lots, utility easements, open spaces, and buffers
- ☐ Required justifications for cul-de-sacs, if cul-de-sacs are proposed
- ☒ Three (3) copies of blue or black line prints of the preliminary plans for the furnishings of water, sanitary sewer facilities, and provisions for storm sewers and general drainage facilities
- ☒ Proposed generalized use of lots (*e.g.*, mixed-use, single-family attached, multi-family, industrial, commercial or office, or institutional), provided on a separate attached description
- ☐ Location and size of proposed parks, playgrounds, civic (including church) or school sites or other special uses of land to be considered for dedication to public use, provided on a separate attached description
- ☒ If the proposed subdivision is to be constructed in several phases, a staging plan that shows how the subdivision improvements will be phased. Anticipated time lines for construction of the improvements shall be provided on a separate attached description
- ☐ Statement of proposed plans for drainage and sewage disposal/outfall, including location of proposed culverts and bridge, provided on a separate utility sheet
- ☐ If the proposed subdivision is one of several phases, conceptual plans for the other phases
- ☐ Traffic study (if necessary)

Project Name: Escondido Subdivision: Section 9 Reviewer: _____

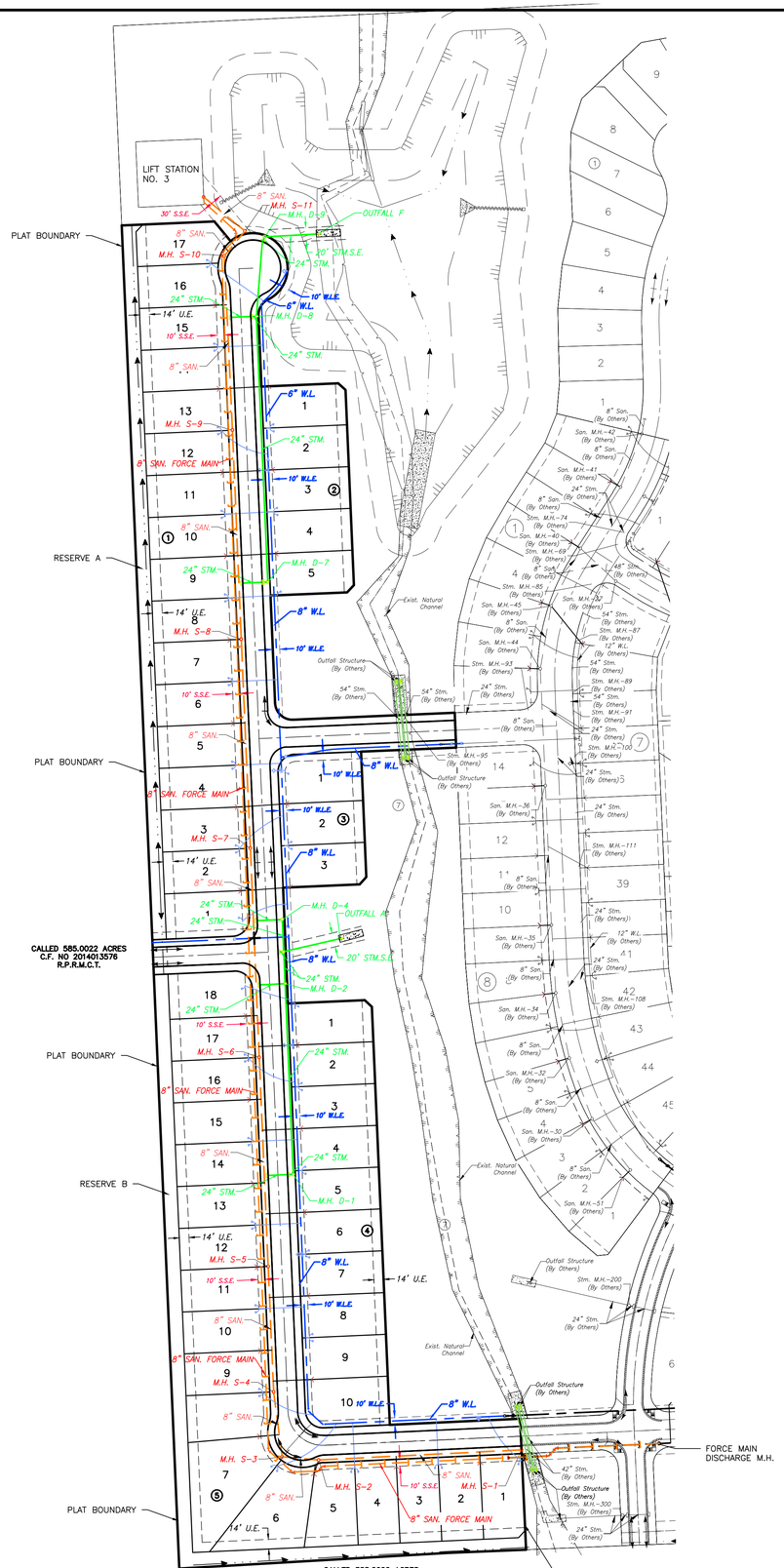
I, Katy Harris (print or type name), certify with my signature below that the information included in my submittal packet is complete, true, and correct, to the best of my knowledge.

Signature of Applicant

03-03-2022

Date

Project Name: Escondido Subdivision: Section 9 Reviewer: _____



GRAPHIC SCALE
100 0 50 100
(IN FEET)
1 inch = 100 ft.

N

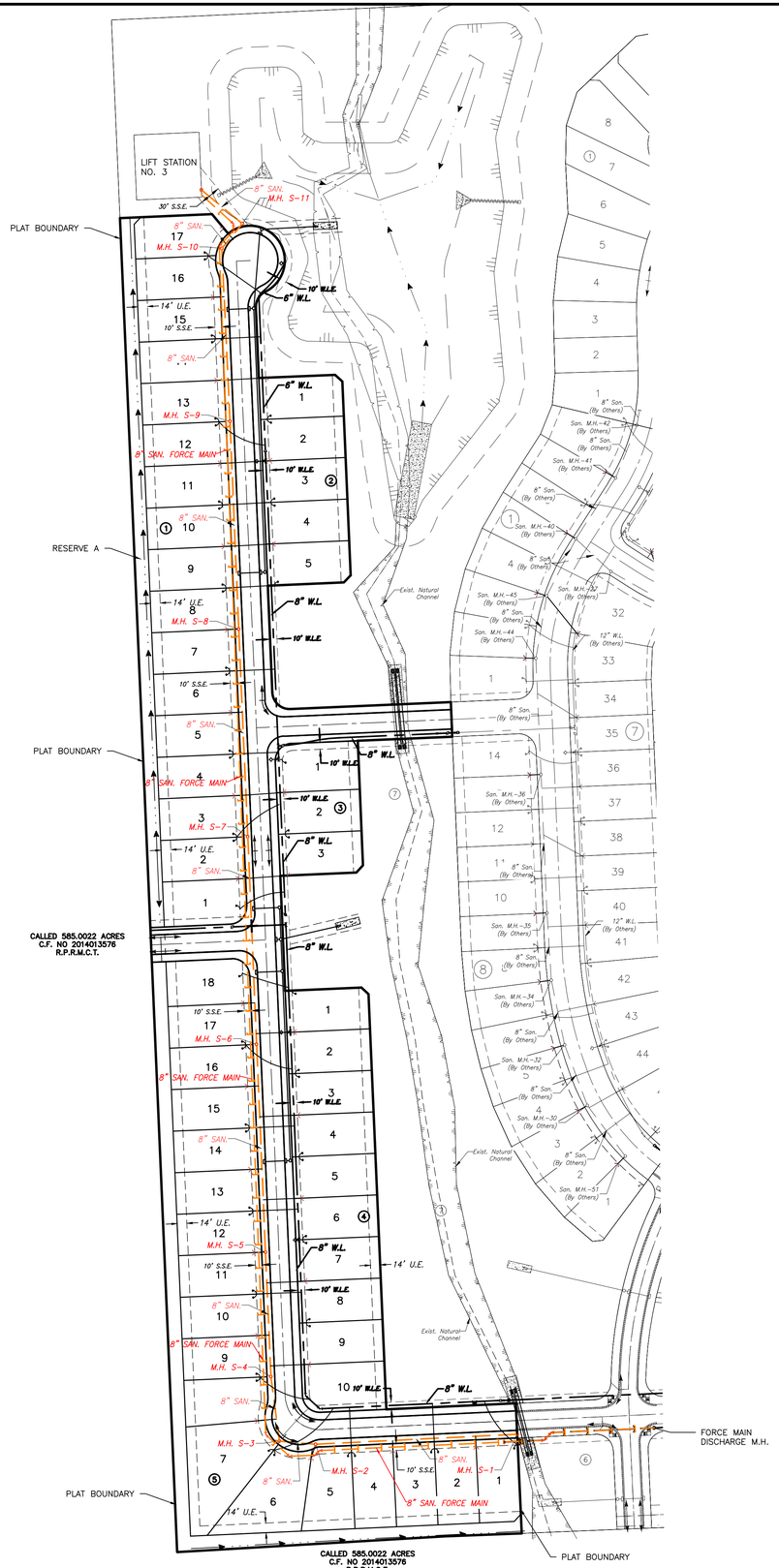
SCALE: 1" = 100'

LEGEND

- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE FLOW DIRECTION
- PROPOSED WATER LINE AND GATE VALVE AND BOX
- PROPOSED WATER LINE W/BENDS
- PROPOSED WATER LINE W/TEE
- A. LINE SIZE X 6" TEE
  B. 6" GATE VALVE AND BOX
  C. FIRE HYDRANT
- PROPOSED STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND INLETS
- PROPOSED PAVEMENT
- INDICATES STORM SEWER EASEMENT
  20' STM.S.E.
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- DOUBLE SANITARY SEWER SERVICE LEAD
- SINGLE SANITARY SEWER SERVICE LEAD
- INDICATES SANITARY SEWER EASEMENT
  10' S.S.E.

PRELIMINARY ONELINES FOR WATER, WASTEWATER, & DRAINAGE SYSTEM TO SERVE ESCONDIDO SECTION 9 MARCH 1, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386



GRAPHIC SCALE
100 0 50 100
(IN FEET)
1 inch = 100 ft.

N

SCALE: 1" = 100'

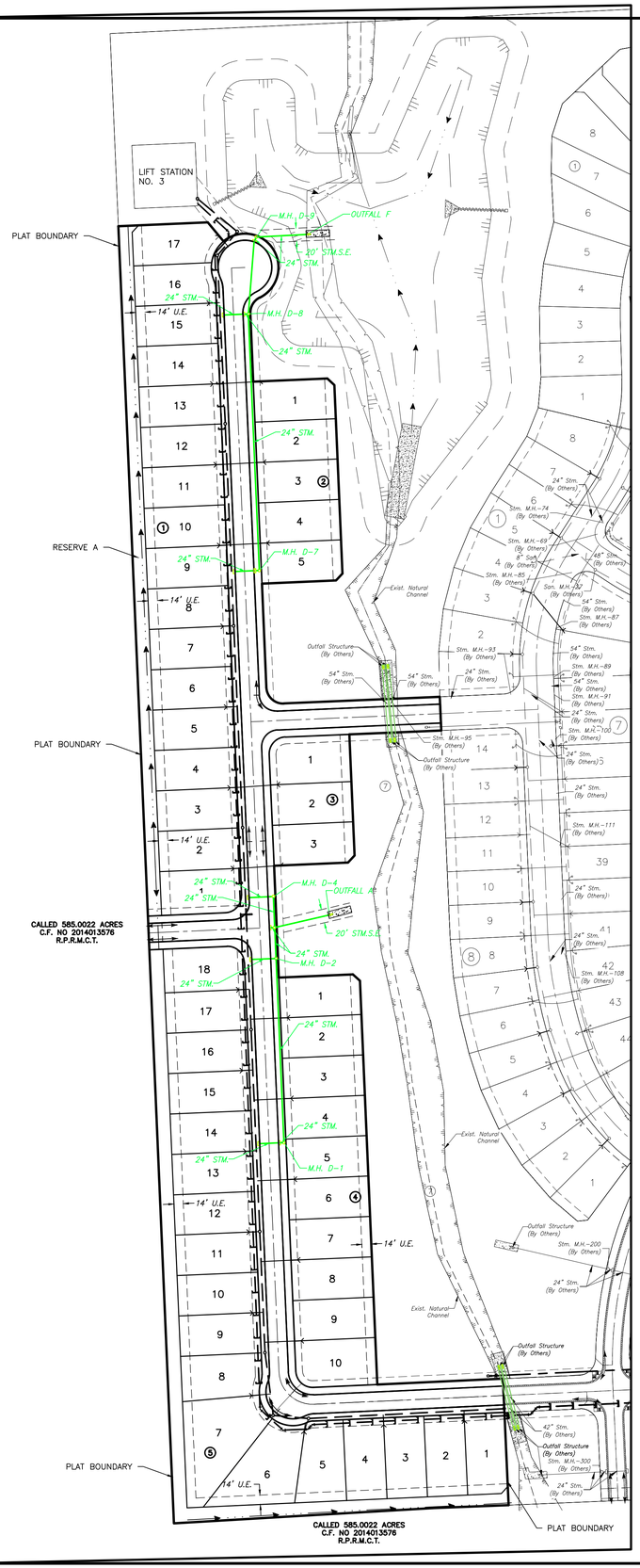
LEGEND

- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE FLOW DIRECTION
- PROPOSED WATER LINE AND GATE VALVE AND BOX
- PROPOSED WATER LINE W/BENDS
- PROPOSED WATER LINE W/TEE
- A. LINE SIZE X 6" TEE
  B. 6" GATE VALVE AND BOX
  C. FIRE HYDRANT
- 2" BLOW-OFF ASSEMBLY W/PLUG AND CLAMP
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- DOUBLE SANITARY SEWER SERVICE LEAD
- SINGLE SANITARY SEWER SERVICE LEAD
- 10' S.S.E. INDICATES SANITARY SEWER EASEMENT

NOTE: ESCONDIDO SECTION 9 WILL GRAVITY FLOW THROUGH 8" PVC SANITARY PIPE THAT CONNECTS TO FUTURE LIFT STATION NO. 3. FROM THERE THE WASTE WATER WILL FLOW VIA AN 8" FORCE MAIN TO A PROPOSED FORCE MAIN DISCHARGE MAN HOLE IN SECTION 5.

PRELIMINARY ONELINES FOR
WASTEWATER SYSTEM
TO SERVE
ESCONDIDO SECTION 9
MARCH 1, 2022

LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386



GRAPHIC SCALE
100 0 50 100
(IN FEET)
1 inch = 100 ft.

N

SCALE: 1" = 100'

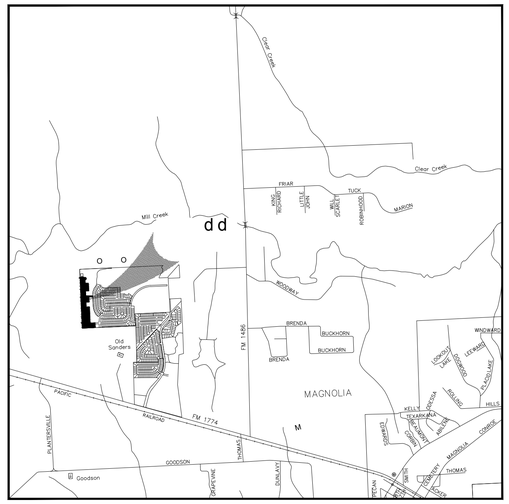
LEGEND

- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE FLOW DIRECTION
- PROPOSED STORM SEWER & MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND C INLETS
- PROPOSED PAVEMENT
- INDICATES PROPOSED DRAINAGE SWALE

NOTE: ESCONDIDO SECTION 9 WILL BE COLLECETED BY CURB AND GUTTER STREETS WITH INLETS THROUGH THE STORM SYSTEM INTO EXISTING THE CREEK AND FUTURE DETENTION

PRELIMINARY ONELINES FOR
DRAINAGE SYSTEM
TO SERVE
ESCONDIDO SECTION 9
MARCH 1, 2022

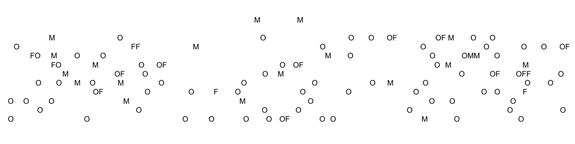
LJA Engineering, Inc.
1904 W. Grand Parkway North
Suite 100
Katy, Texas 77449
Phone 713.953.5200
Fax 713.953.5026
FRN-F-1386

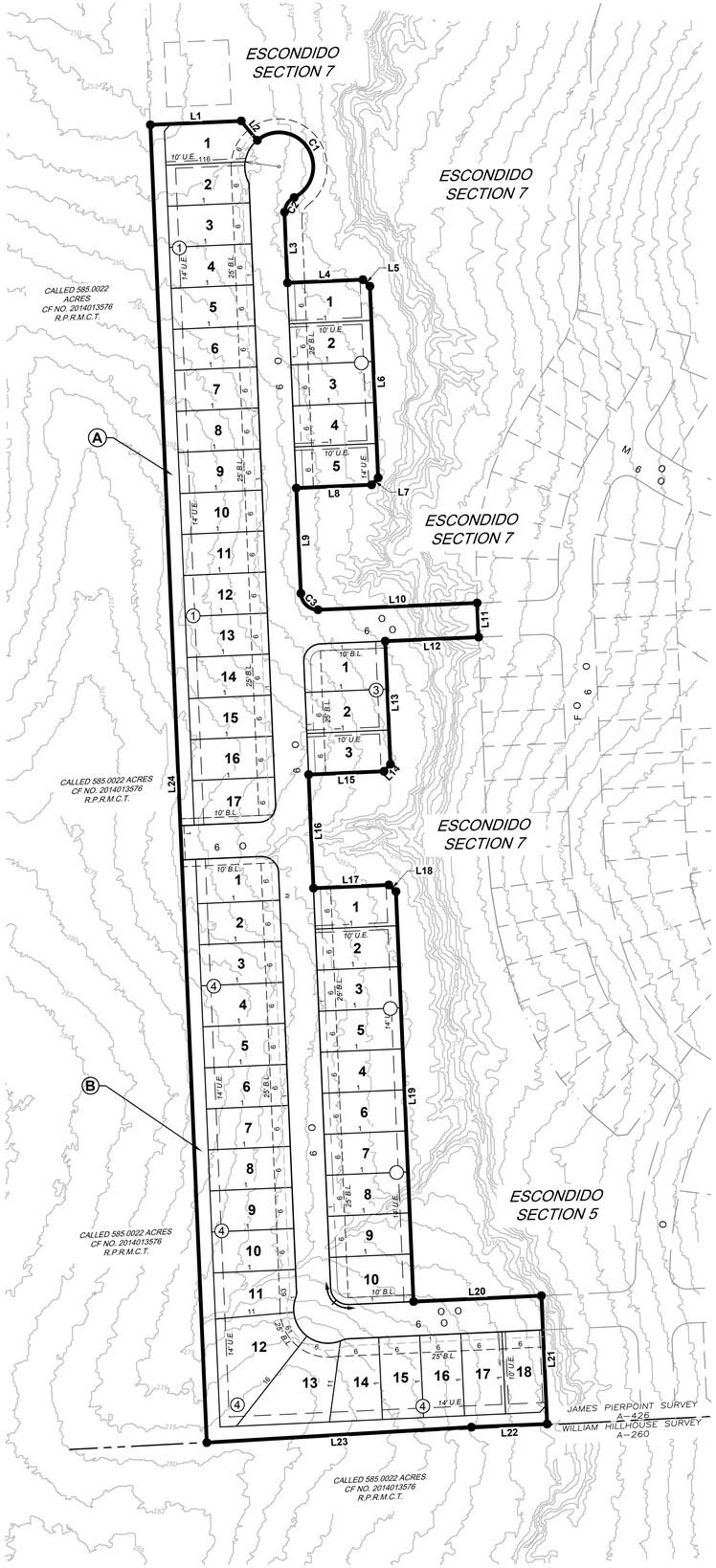


Vicinity Map
1 1

O				
			O	O
C1		16	3 46 "	
C2			3 4 11"	
C3		3	4 "	3

O			O		
L1	3 3 "	133	**L16**	"	166
L2	3 3 46"	3	**L17**	3 3 "	11
L3	"	1 1	**L18**	4 "	14
L4	3 3 "	11	**L19**	"	6
L5	4 "	14	**L20**	"	1
L6	"		**L21**	3 "	1
L7	4 3 3 "	14	**L22**	4 33"	111
L8	3 3 "	11	**L23**	6 3 1 "	3
L9	"	1 4	**L24**	"	1
L10	3 3 "	3			
L11	"				
L12	3 3 "	13			
L13	"	1			
L14	4 3 3 "	14			
L15	3 3 "	11			





GENERAL NOTES:

1. **"1' RES." INDICATES A ONE FOOT RESERVE DEDICATED TO THE PUBLIC IN FEE AS A BUFFER SEPARATION BETWEEN THE SIDE OR END OF STREETS IN SUBDIVISION PLATS WHERE SUCH STREETS ABUT ADJACENT ACREAGE TRACTS, THE CONDITION OF SUCH DEDICATION BEING THAT WHEN THE ADJACENT PROPERTY IS SUBDIVIDED IN A RECORDED PLAT, THE ONE FOOT RESERVE SHALL THEREUPON BECOME VESTED IN THE PUBLIC FOR STREET RIGHT-OF-WAY PURPOSES (AND THE FEE TITLE THERETO SHALL REVERT TO AND REVEST IN THE DEDICATOR, HIS HEIRS, ASSIGNS, OR SUCCESSORS).**
2. **ALL EASEMENTS ON LOT LINES ARE CENTERED UNLESS OTHERWISE SHOWN.**
3. **ALL STREET INTERSECTION RIGHT-OF-WAY RETURN RADII ARE 25 FEET UNLESS OTHERWISE NOTED.**
4. **ALL STREETS WILL BE PAVED WITH CONCRETE AND BE CURB AND GUTTER STREETS WITH STORM SEWERS.**
5. **ALL PROPERTY LINE DIMENSIONS ARE APPROXIMATE.**
6. **SINGLE FAMILY RESIDENTIAL SHALL MEAN THE USE OF A LOT WITH ONE BUILDING DESIGNED FOR AND CONTAINING NOT MORE THAN TWO SEPARATE UNITS WITH FACILITIES FOR LIVING SLEEPING, COOKING, AND EATING THEREIN. A LOT UPON WHICH IS LOCATED A FREE-STANDING BUILDING CONTAINING ONE DWELLING UNIT AND A DETACHED SECONDARY DWELLING UNIT OF NOT MORE THAN 900 SQUARE FEET ALSO SHALL BE CONSIDERED SINGLE FAMILY RESIDENTIAL. A BUILDING THAT CONTAINS ONE DWELLING UNIT ON ONE LOT THAT IS CONNECTED BY A PARTY WALL TO ANOTHER BUILDING CONTAINING ONE DWELLING UNIT ON AN ADJACENT LOT SHALL BE SINGLE FAMILY RESIDENTIAL.**
7. **EACH LOT SHALL PROVIDE A MINIMUM OF TWO OFF-STREET PARKING SPACES PER DWELLING UNIT ON EACH LOT. IN THOSE INSTANCES WHERE A SECONDARY UNIT IS PROVIDED ONLY ONE ADDITIONAL SPACE SHALL BE PROVIDED.**

M
M O O MO OM O
O OF
M

A	4	d O
B	61	d O

A PRELIMINARY PLAT OF

ESCONDIDO
SECTION 9

±13.1 ACRES
53 LOTS (60' x 120' TYP.) AND
2 RESTRICTED RESERVES IN 5 BLOCKS

OUT OF THE
JAMES PIERPOINT SURVEY, A-426
W. HILLHOUSE SURVEY, A-260
CITY OF MAGNOLIA, MONTGOMERY COUNTY, TEXAS

OWNER:
J ALAN KENT DEVELOPMENT

PLANNER:

PLANNING & LANDSCAPE ARCHITECTURE

Land & Master Planning
Land Use/Feasibility Studies
Sustainable Design
Urban Design
Landscape Architecture

3600 W Sam Houston Pkwy S
Suite 600
Houston, Texas 77042
713.953.5200 - f 713.953.5026

NORTH
0 50 100 200

LJA# 2139-07003 **03.03.2022**

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 25

Background/Information:
An application for a site plan was received on March, 2022.

Comments:
Letter of No Objection was issued by City Engineer on May 31, 2022.

Action Requested:
Approve site plan for Mill Creek Section 6.

Recommendation:
Approve site plan for Mill Creek Section 6.

Attachments:
Site Plan

AEI ENGINEERING
a BAXTER & WOODMAN company

May 31, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Reference: ***Water, Sanitary Sewer and Drainage Facilities & Paving Appurtenances to Serve Mill Creek Estates Section 6 – Letter of No Objection***
City of Magnolia
AEI Job No. 220158.80-001

Dear Mr. Doering:

We received the revised construction plans for the proposed Water, Sanitary Sewer and Drainage Facilities & Paving Appurtenances to Serve Mill Creek Estates Section 6 on May 19, 2022. On behalf of the City of Magnolia (the "City"), we have reviewed the submitted documents and offer no objection to the approval of this project, subject to the following comments:

1. Update street names Cherry Wood Drive, Rose Creek Lane, and Wildflower Lane to Cherry Creek Drive, Rose Willow Lane, and Wildflower Bend Lane, respectively, per the most recent plat.
2. The developer shall be responsible for all aspects of this project and will provide final certification that all improvements have been constructed in conformance with the approved plans and specifications.
3. In the event that any portion of this development may change at a future date, the City reserves the right to review and approve the proposed changes prior to initiating the change.
4. Obtain all applicable utility company and governmental agency signatures.
5. As a reminder, all construction activities with a disturbance area of 5 acres or more must comply with the City's Code of Ordinance Spec 01560.
6. Construction shall not commence until final agency approvals are secured.

Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Robel E. Giackero

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

XC: Ms. Tana Ross – City of Magnolia - Planning and Zoning Commission
Ms. Christian Gable – City of Magnolia – Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Mr. Brady Suton – LJA Engineering, Inc.
Mr. Phillip Kane Mudd, P.E. – LJA Engineering, Inc

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 26

Background/Information:
An application for a site plan was received on March, 2022.

Comments:
Review Letter was issued by City Engineer to applicant on July 6, 2022.

Action Requested:
Approve site plan for Mill Creek Estates Section 8.

Recommendation:
Approve site plan for Mill Creek Estates Section 8.

Attachments:
Site Plan

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 165
MONTGOMERY COUNTY, TEXAS

CONSTRUCTION PLANS FOR

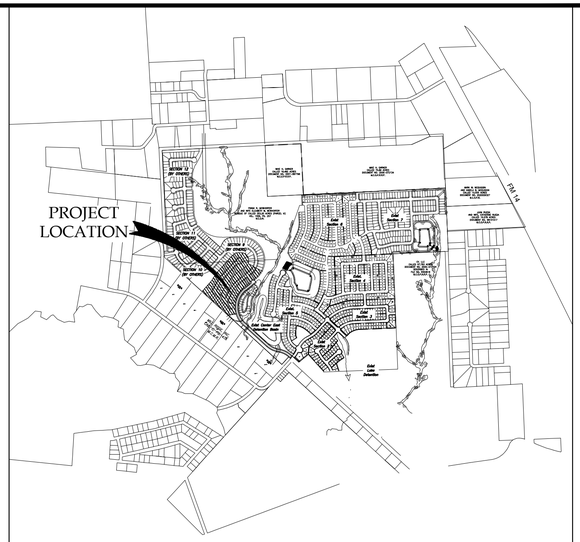
WATER, SANITARY SEWER AND DRAINAGE FACILITIES & PAVING AND APPURTENANCES

TO SERVE

MILL CREEK ESTATES SECTION 8

CITY OF MAGNOLIA E.T.J.

JOB NO. 1019-3081 WS&D
1019-3082 PAVING



VICINITY MAP
MONTGOMERY COUNTY KEY MAP – 182Z, 183W & 213A
SCALE: 1"=1,500'

SHEET INDEX

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____ – COUNTY ENGINEER

DATE: _____

MONTGOMERY COUNTY FIRE MARSHAL'S OFFICE

APPROVED: _____ – COUNTY FIRE MARSHAL

DATE: _____

CITY OF MAGNOLIA ENGINEERING DEPARTMENT

APPROVED: _____ – CITY ENGINEER

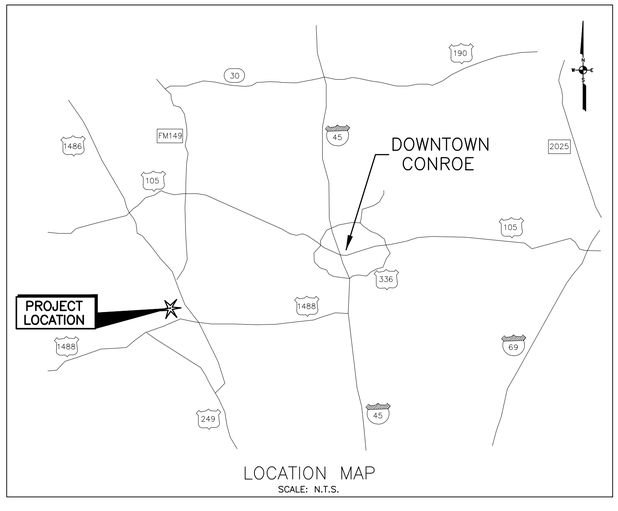
DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____



LOCATION MAP
SCALE: N.T.S.

DATE : AUGUST 2022

811
Know what's below. Call before you dig.

ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG
(713) 223-4567 (IN HOUSTON)
(NEW STATEWIDE NUMBER OUTSIDE HOUSTON)
1-800-545-6005

FIRM MAP# 48339C0480G

APPROVED FOR CONSTRUCTION

BY: _____ **DATE:** _____

NOTE:
CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION & ELEVATION DO NOT MATCH THESE PLANS.

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

OWNER: Forestar Group Inc.
3355 West Alabama, Suite 210
Houston, TX 77098

ENGINEER:

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

MONTGOMERY COUNTY M.U.D. No. 165
MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 - 2:20pm User Name : bsutton
Path\Name : I:\Projdskt\1019\3081 - Mill Creek Section 8\ACAD_Sheet_Files\01 COVER SHEET.dwg

GENERAL CONSTRUCTION NOTES:

1. CONSTRUCT WASTEWATER COLLECTION SYSTEMS, WATER LINES AND STORM DRAINAGE IN ACCORDANCE WITH THE CONSTRUCTION PLANS, SPECIFICATIONS AND DETAILS.

2. UTILITIES PRESENTED ON THIS DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATION IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/800-245-4545 AND LONE STAR ONE CALL AT 800-669-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER AND STORM DRAINAGE LINES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH DEPARTMENT OF PUBLIC WORKS AND ENGINEERING'S "STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING" AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING REFERENCED ABOVE, AT NO ADDITIONAL COST.

4. CONTRACTOR SHALL NOTIFY THE OFFICE OF THE COUNTY ENGINEER AND CITY ENGINEER, IN WRITING PRIOR TO COMMENCING CONSTRUCTION.

5. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER.

6. CONTRACTOR SHALL COMPLY WITH THE LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.

7. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION:

MONTGOMERY COUNTY ENGINEER (MR. JEFF JOHNSON, P.E) (936) 539-7833
MONTGOMERY COUNTY PRECINCT #2 (MR. CHARLIE RILEY) (936) 539-7816
DISTRICT OPERATOR
PROJECT ENGINEER (MR. KANE MUDD) (713) 953-5215
CITY OF MAGNOLIA CITY ADMINISTRATOR (MR. DON DOERING) (281) 356-2266

8. ANY DAMAGE TO ANY OF THE EXISTING PAVEMENT AND/OR UTILITIES MUST BE REPAIRED IMMEDIATELY. THE CONTRACTOR MUST NOTIFY THE APPROPRIATE UTILITY OWNER, WHO WILL MAKE THE REPAIRS AT THE CONTRACTOR'S EXPENSE.

9. THE CONTRACTOR, ON BEHALF OF THE OWNER, IS TO OBTAIN ALL PERMITS REQUIRED BY MONTGOMERY COUNTY AND THE CITY OF MAGNOLIA, PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN COUNTY ROAD RIGHTS-OF-WAY.

10. GUIDELINES SET FORTH IN THE TEXAS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AS CURRENTLY AMENDED, SHALL BE OBSERVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAG MEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION - BOTH DAY AND NIGHT.

11. THE WORK AREAS WITH DIRECT PUBLIC ACCESS SHALL BE BARRICADED AND ILLUMINATED DURING DARKNESS AND PERIODS OF INACTIVITY.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIAL AND EQUIPMENT STORED ON THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIALS IN A SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES, DURING AND AFTER WORKING HOURS, UNTIL PROJECT COMPLETION AND OWNER ACCEPTANCE.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING OF ALL MATERIALS. THE LOADING AND UNLOADING OF ALL PIPE, VALVES, HYDRANTS, MANHOLES AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL AT ALL TIMES BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIAL. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. THE DEFECTIVE MATERIAL MUST BE REPLACED WITH SOUND MATERIAL.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING AND STORING OF ALL MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. ANY DEFECTIVE MATERIAL INCORPORATED INTO THE WORK SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. THERE SHALL BE NO PAYMENT MADE FOR STORED MATERIAL.

15. ALL PIPE AND REINFORCEMENT STEEL SHALL BE KEPT FREE OF DIRT AND OTHER DEBRIS. ANY DAMAGE TO THE COATING OF THE VARIOUS MATERIALS MUST BE REPAIRED.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE AND POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION OF PROPOSED FACILITIES. NATURAL GROUND ADJACENT TO UTILITY TRENCH EXCAVATION TO BE GRUBBED PRIOR TO PLACEMENT OF EXCESS TRENCH MATERIAL. (NO SEPARATE PAYMENT.)

17. ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.

18. NO CONNECTIONS MADE TO EXISTING WATER LINES OR SANITARY SEWERS SHALL BE PLACED INTO SERVICE UNTIL ALL PROPOSED LINES OR SEWERS HAVE BEEN THOROUGHLY CLEANED, TESTED, AND APPROVED BY THE ENGINEER.

19. ALL STATIONS ARE CENTERLINE OF STREET RIGHT-OF-WAY UNLESS OTHERWISE NOTED.

20. ALL GEOTECHNICAL REPORTS FOR THIS PROJECT (IF ANY) ARE AVAILABLE FOR REFERENCE AT THE OFFICE OF THE ENGINEER.

21. SURFACE RESTORATION: AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES WITHIN THE PROPERTY EQUAL TO OR BETTER THAN EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.

22. FINAL ACCEPTANCE OF THE UTILITIES WILL NOT BE GIVEN TO THE CONTRACTOR UNTIL THEY ARE INSPECTED AND APPROVED BY THE TCEQ AND THE DISTRICT OPERATOR AND ENGINEER. FINAL ACCEPTANCE OF THE PAVING WILL NOT BE GIVEN TO THE CONTRACTOR UNTIL IT IS INSPECTED AND APPROVED BY MONTGOMERY COUNTY.

23. SEE THE EROSION CONTROL PLAN AND SEDIMENT CONTROL LAYOUT FOR ADDITIONAL ENVIRONMENTAL NOTES AND DETAILS.

24. THESE PLANS WERE PREPARED TO MEET OR EXCEED TCEQ, CITY OF MAGNOLIA, AND MONTGOMERY COUNTY SUBDIVISION RULES AND REGULATIONS AS CURRENTLY AMENDED.

25. CONSTRUCTION WILL BE MONITORED BY A REGISTERED PROFESSIONAL ENGINEER TO INSURE COMPLIANCE WITH THE CONSTRUCTION PLANS AND SPECIFICATIONS.

26. CONTRACTOR SHALL PREPARE A SET OF "RECORD" DRAWINGS SHOWING ANY FIELD CHANGES MADE TO THE APPROVED ENGINEERING PLANS AND SUBMIT TO THE DESIGN ENGINEER.

27. ALL UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY IN THE FIELD THE EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.

28. SANITARY MANHOLES SHALL BE CITY OF MAGNOLIA STANDARD PRECAST AS PER CITY OF MAGNOLIA STANDARD DETAIL SHEET. ALL MANHOLES MUST BE PRECAST WITH THE BASE SLAB REINFORCED PER CITY OF CONROE STANDARDS. BRICK MANHOLES ARE NOT ALLOWED.

29. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG AREAS OF EXCAVATION.

30. ALL UNSATISFACTORY AND\OR WASTE MATERIALS INCLUDING VEGETATION, ROOTS, CONCRETE AND DEBRIS SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR. NO DIRECT PAYMENT WILL BE MADE, BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE VARIOUS BID PROPOSAL ITEMS.

31. ALL MANHOLES ARE TO BE CONSTRUCTED TO ALLOW FOR A MINIMUM OF ONE FOOT (1') OF VERTICAL ADJUSTMENT.

32. ALL SEWER TRENCHES UNDER OR WITHIN ONE FOOT OF PROPOSED AND/OR FUTURE PAVEMENT OR CURB SHALL BE BACKFILLED WITH 2.0 SACKS OF CEMENT PER TON CEMENT-STABILIZED SAND TO A POINT ONE FOOT (1') BELOW PAVEMENT SUBGRADE. THE REMAINING BACKFILL SHALL BE MADE WITH COMPACTED SUITABLE MATERIAL.

33. CONTRACTOR SHALL REMOVE DAILY ALL MUD, DIRT AND DEBRIS DEPOSITED OR DROPPED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY AT NO COST TO OWNER.

34. THE USE OF WELL POINT SYSTEMS, WHEN REQUIRED BY TRENCH CONDITIONS, SHALL BE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

35. CONTRACTOR SHALL PROTECT ALL TREES ADJACENT TO WORK AREA. NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF OWNER AND APPROVAL BY ENGINEER.

36. CONTRACTOR SHALL PROVIDE ONE FOOT (1') MINIMUM CLEARANCE AT STORM SEWER, SANITARY SEWER AND WATER LINE CROSSINGS, EXCEPT AS DISCUSSED IN SANITARY SEWER NOTE 2 ON THIS SHEET.

37. ALL AREAS UNNECESSARILY DISTURBED ALONG SIDE AND BACK-OF-LOT EASEMENTS OUTSIDE PROJECT LIMITS AS A RESULT OF CONSTRUCTION WORK SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SEEDING SPECIFICATIONS BY THE CONTRACTOR (NO SEPARATE PAY).

38. RIM ELEVATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. UTILITY CONTRACTOR SHALL ADJUST RIM ELEVATIONS TO FOUR TO SIX INCHES (4.0"- 6.0") ABOVE THE FINISHED GRADE AT EACH MANHOLE LOCATION AFTER PAVEMENT CONTRACTOR HAS COMPLETED FINAL GRADING (NO SEPARATE PAY). SLOPED FILL SHALL BE ADDED FOR STORM WATER DRAINAGE AWAY FROM THE MANHOLE RIM.

39. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAG MEN, SIGNING, STRIPING AND WARNING DEVICES, ETC. DURING CONSTRUCTION BOTH DAY AND NIGHT IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

40. WATER, SANITARY SEWER, AND DRAINAGE CONTRACTOR SHALL AT COMPLETION OF HIS WORK FILL AND GRADE ALL UTILITY EASEMENTS (WET AND DRY) AS WELL AS LOW SPOTS IN LOTS FOR POSITIVE DRAINAGE, AS DIRECTED BY EITHER THE OWNER OR ENGINEER. (NO SEPARATE PAY)

GENERAL CONSTRUCTION NOTES CONTINUED:

41. UTILITY CONTRACTOR OR SWPPP CONTRACTOR, AS DETERMINED BY OWNER, SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURB INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.

42. UTILITY CONTRACTOR OR SWPPP CONTRACTOR, AS DETERMINED BY THE OWNER, SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE I CURB INLETS. (NO SEPARATE PAY)

43. MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 165 WILL OWN AND MAINTAIN ALL STORM SEWER FACILITIES.

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. ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS .

2. ALL SANITARY SEWERS CROSSING WATER LINES WITH A CLEARANCE BETWEEN TWO FOOT (2') AND NINE FEET (9') SHALL HAVE A MINIMUM OF ONE 18' JOINT OF 150 PSI SDR-26, DUCTILE IRON OR (GREEN) C900 PVC PIPE MEETING ASTM SPECIFICATION D3139 CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER PROVIDE MINIMUM 2 FOOT SEPARATION OUT-TO-OUT. WHEN A NEW WATERLINE CROSSES UNDER A WASTEWATER MAIN OR LATERAL, THE WATERLINE SHALL BE ENCASED IN AN 18-FOOT (OR LONGER) SECTION OF PIPE OR CONSTRUCTED OF DUCTILE IRON OR STEEL PIPE WITH MECHANICAL OR WELDED JOINTS AS APPROPRIATE. AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF ONE FOOT BETWEEN THE WATERLINE AND THE WASTEWATER MAIN OR LATERAL SHALL BE PROVIDED. BOTH THE WATERLINE AND WASTEWATER MAIN OR LATERAL MUST PASS A PRESSURE AND LEAKAGE TEST AS SPECIFIED IN AWWA STANDARD C600. THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.

3. SANITARY SEWER MANHOLES WILL HAVE BEDDING AND BACKFILL PER PROJECT SPECIFICATIONS AND DETAILS UNLESS OTHERWISE NOTED.

4. GRAVITY SANITARY SEWER PIPE SHALL CONFORM TO THE FOLLOWING UNLESS NOTED DIFFERENTLY IN BID PROPOSAL OR PLANS:
4"-12" 0'-8' DEPTH - ASTM 2241 SDR 26/CLASS 160
4"-12" 8'-12' DEPTH - ASTM 2241 SDR 26/CLASS 160
4"-12" 12'-16' DEPTH - ASTM 2241 SDR 26/CLASS 160
4"-12" GREATER THAN 16' DEPTH - ASTM 2241 SDR 26/CLASS 160

5. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE FOOT (1') BACK OF ALL PROPOSED OR FUTURE CURBS SHALL HAVE BEDDING PER PLANS SPECIFICATIONS AND DETAILS AS APPLICABLE, WITH 2 SACKS CEMENT/TON STABILIZED SAND BACKFILL UP TO THE PAVEMENT SUBGRADE. 100 PSI PERFORMANCE RESULTS ARE STILL REQUIRED.

6. ALL MANHOLES ARE TO BE PER THE PROJECT SPECIFICATIONS AND DETAILS UNLESS OTHERWISE NOTED.

7. CONTRACTOR SHALL PROVIDE FOR A MINIMUM HORIZONTAL CLEARANCE OF NINE FEET (9') OUT TO OUT BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.

8. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET FOUR TO SIX INCHES (4 - 6) ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING WITH SLOPED BACKFILL ADDED FOR STORM WATER DRAINAGE AWAY FROM MANHOLE RIM.

9. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5% IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED AS PER 30 TAC 217.57 LATEST AMENDMENT AND WITHOUT MECHANICAL PULLING DEVICES. NO BALL-TYPE MANDRELS ALLOWED.

10. W. S. E. INDICATES WATER SEWER EASEMENT

11. FOR SANITARY MANHOLES (MH) RIMS SET INSIDE OF OR @ CURB & GUTTER PAVEMENT AND/OR BELOW T.C., MH RIMS WILL BE SET FLUSHED WITH AN ABUTTING/CONTAINING PAVED SURFACE. THE (VULCAN, NEENAH OR EQUAL) HEAVY DUTY BOLTED SOLID MH COVER WILL BE PROPERLY (AND SECURELY) ATTACHED AND SEALED TO ITS COMPATIBLE GASKETED FRAME BY USING BOTH A NEOPRENE GASKET AND (AT LEAST) 4 COUNTER-SUNK HEX-HEAD COARSE THREADED ½ -13 UNC STAINLESS STEEL BOLTS. THE HEAVY DUTY FRAME MH COVER WILL BE SOLID (NO AIR HOLES). SAID FRAME SHALL BE BOTH EMBEDDED INTO THE MH'S TOP ALSO SECURELY ANCHORED TO THE UNDERLYING MH STRUCTURE WITH SECURELY ATTACHED EMBEDDED ANCHOR BOLTS; OR THE CONCRETE MH'S EXPOSED REBAR WELDED TO THE FRAME; OR OTHER EQUALLY SECURED METHODS TO PREVENT MH COVER/FRAME BLOW-OFFS/EJECTIONS.

12. ALL SANITARY SERVICE LEADS SHALL BE 6" DIA. MIN. AND LAID WITH A MINIMUM GRADE OF 0.70%.

13. WHEN MAKING A CONNECTION TO AN EXISTING SANITARY SEWER MANHOLE THE CONTRACTOR SHALL PLUG DOWN STREAM END OF THE PROPOSED SANITARY SEWER. THE SEWER SHALL REMAIN PLUGGED UNTIL FINAL ACCEPTANCE BY THE ENGINEER.

14. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.57 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.

A. INFILTRATION OR EXFILTRATION TEST: TOTAL LEAKAGE AS DETERMINED BY A HYDROSTATIC HEAD TEST SHALL NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO (2) FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

B. LOW-PRESSURE AIR TEST: PERFORM TEST ACCORDING TO ASTM C-828, ASTM C-924, ASTM F-1417 OR OTHER APPROPRIATE PROCEDURES. FOR SECTIONS OF PIPE LESS THAN 36 (INCH) AVERAGE INSIDE DIAMETER, THE MINIMUM ALLOWABLE TIME FOR PRESSURE DROP FROM 3.5 P.S.I.G. TO 2.5 P.S.I.G. SHALL BE AS FOLLOWS:

6 340 SECONDS OR 0.855(L) FOR TEST LENGTHS GREATER THAN 398'
8 454 SECONDS OR 1.520(L) FOR TEST LENGTHS GREATER THAN 298'
10 567 SECONDS OR 2.374(L) FOR TEST LENGTHS GREATER THAN 239'
12" 680 SECONDS OR 3.419(L) FOR TEST LENGTHS GREATER THAN 199'
15 850 SECONDS OR 5.342(L) FOR TEST LENGTHS GREATER THAN 159'
18 1020 SECONDS OR 7.693(L) FOR TEST LENGTHS GREATER THAN 133'

WHERE L = LENGTH OF LINE OF SAME PIPE SIZE IN FEET.

STORM DRAINAGE CONSTRUCTION NOTES:

1. STORM SEWER SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACK FILLED IN ACCORDANCE WITH THE PLAN SPECIFICATIONS AND DETAILS.

2. ALL STORM SEWER CONSTRUCTED IN SIDE LOT EASEMENTS SHALL BE R.C.P (C-76, CLASS III) AND SHALL BE EMBEDDED IN ACCORDANCE WITH THE PLAN SPECIFICATIONS AND DETAILS.

3. ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 2.0 SACK CEMENT/TON STABILIZED SAND TO THE SUBGRADE.

4. ALL TRENCH BACKFILL SHALL BE IN MAXIMUM 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS IN EACH LIFT, AND VIBRATORY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM D-698). MOISTURE CONTENT SHALL BE WITHIN -3% TO +3% OF OPTIMUM.

5. CIRCULAR AND ELLIPTICAL REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINT CONFORMING TO ASTM C443 AND ASTM C877 RESPECTIVELY.

6. ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24" AND LARGER R.C.P. (C-76, CLASS III) UNLESS NOTED DIFFERENTLY ON PLANS.

7. ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES AND INLET LEADS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.

8. CONTRACTOR SHALL PROVIDE ONE FOOT (1') MINIMUM CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS.

9. ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS, AND VALVE BOXES TO GRADE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF THIS WORK.

11. ALL DITCHES SHALL BE GRADED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDED, AND FERTILIZED.

12. ALL INLETS ARE STATIONED ON PLANS AT THE CENTERLINE OF THE INLET AT THE BACK OF CURB.

13. MONTGOMERY COUNTY M.U.D. NO. 165 WILL OWN AND MAINTAIN THIS COMPLETE STORM SEWER SYSTEM INCLUDING THE DETENTION PONDS AND OFF STREET DITCHES.

WATERLINE CONSTRUCTION NOTES:

1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 290, "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS."

2. 4" WATER LINES SHALL BE P.V.C. AWWA C900, CLASS 200, DR-14, 6" THROUGH 12" WATER LINES SHALL BE AWWA C-900, CLASS 235, DR-18, WATER LINES GREATER THAN 12" SHALL BE AWWA C-900, CLASS 305, DR-14. 4" THRU 54" D.I.P. WATER LINES SHALL BE AWWA C151 (ANSI A21.51) AND DOUBLE WRAPPED IN 8-MIL POLYETHYLENE. PIPE SHALL BE LINED IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).

3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. WHERE PREVENTING MOVEMENT OF PIPE 16" OR GREATER AS NECESSARY DUE TO THRUST, USE RESTRAINED MECHANICAL JOINTS.

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 2 SACKS CEMENT/TON STABILIZED SAND.

5. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER PLAN SPECIFICATIONS AND DETAILS AND TCEQ REGULATIONS.

6. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EACH 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTAMINATION PERSISTS. ALL SAMPLE RESULTS SHALL BE SUBMITTED TO ENGINEER PRIOR TO FINAL ACCEPTANCE.

7. 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 AND OPEN COUNTERCLOCKWISE.

8. 4" THRU 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.

9. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE PLAN SPECIFICATIONS AND DETAILS. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT.

10. 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. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.

11. 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.

12. 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.

13. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL UNDERGROUND TEES, BENDS AND LATERALS. THEY SHALL BE BUILT AS PER THE DETAILS PROVIDED TO PREVENT PIPE MOVEMENT.

14. ALL ABOVE GROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE FLANGED. UNDERGROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE BOLTLESS AND PUSH-ON AFTER THE FIRST FLANGED FITTING BELOW GRADE UNLESS NOTED OTHERWISE ON THE PLANS.

15. ALL FLANGES BELOW GRADE SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.

16. 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.

17. ALL FLANGES BELOW GRADE SHALL BE INSULATED.

18. ALL WATERLINES SHALL BE ENCASED IN BANK SAND TO AT LEAST 12" ABOVE THE PIPE. COST OF BANK SAND TO BE INCLUDED IN UNIT PRICE OF WATERLINE.

19. MAINTAIN MINIMUM 9-FOOT HORIZONTAL CLEARANCE BETWEEN OUTSIDE OF SANITARY SEWER MANHOLE AND WATERLINE.

20. WATER LINES PARALLEL TO SANITARY LINES SHALL BE INSTALLED WITH AT LEAST A 9-FOOT CLEARANCE AND IN SEPARATE TRENCHES.

21. CENTER OF FIRE HYDRANT TO BE LOCATED 3'-0" FROM BACK OF CURB WITH CENTER LINE OF STEAMER NOZZLE 22-INCHES ABOVE FINISHED GRADE, UNLESS OTHERWISE SHOWN.

22. WATERLINE SHALL BE CONSTRUCTED SUCH THAT ALL CROSSES AND TEES WILL NOT BE LOCATED UNDER PROPOSED OR FUTURE PAVING.

23. UTILITY CONTRACTOR TO TURN FIRE HYDRANTS AND MAKE ALL FINAL ADJUSTMENTS AFTER COMPLETION OF PAVING. NO SEPARATE PAY.

PAVING CONSTRUCTION NOTES:

1. ALL PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAILS AND MONTGOMERY COUNTY REQUIREMENTS AS CURRENTLY AMENDED.

2. ALL TEMPORARY AND PERMANENT SIGNAGE MUST COMPLY WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AS CURRENTLY AMENDED. ALL R1-1 STOP SIGNS SHALL BE 30"X30" WITH DIAMOND GRADE SHEETING.

3. ALL ROAD WIDTHS, CURB RADII, AND CURB ALIGNMENT SHOWN INDICATE BACK OF CURB. T.C. INDICATES TOP OF CURB. T.P. INDICATES TOP OF PAVEMENT ELEVATIONS.

4. ALL INTERSECTION CURB RETURN RADII SHALL BE 25 FEET AND ALL CUL-DE-SAC RETURN RADII SHALL BE 35 FEET UNLESS NOTED OTHERWISE.

5. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 60 FEET. TRANSVERSE CONTROL JOINTS SHALL BE INSTALLED WITH MAXIMUM SPACING OF 20 FEET.

6. WHEN A 6" THICK CONCRETE ROADWAY INTERSECTS WITH A THICKER CONCRETE ROADWAY, THE THICKER CONCRETE SHALL BE CONSTRUCTED FOR THE ENTIRE INTERSECTION, TO THE ENDS OF ALL CURB RETURNS.

7. THE PAVING CONTRACTOR SHALL PROTECT ALL UTILITIES AND SHALL REPAIR OR REPLACE AT HIS EXPENSE ANY FACILITIES DAMAGED DURING PAVING OR GRADING OPERATIONS. ALL MANHOLES AND VALVES WITHIN THE PAVEMENT AREA SHALL BE ADJUSTED TO FINISHED GRADE BY THE PAVING CONTRACTOR.

PAVING CONSTRUCTION NOTES:

8. THE PAVING CONTRACTOR SHALL CLEAR AND STRIP 6" LOTS AND STREET RIGHTS-OF-WAY OF ALL ORGANICS (VEGETATION, ROOTS ONE INCH (1") AND GREATER, ORGANIC SOIL LAYER) AT NO SEPARATE PAY (THIS INCLUDES HANDPICKING AS NECESSARY AND AS DIRECTED BY THE ENGINEER). THE VEGETATION, ROOTS, ETC. MUST BE PROPERLY DISPOSED OF OFFSITE. THE ORGANIC SOIL (TOP SOIL) MUST BE STOCKPILED DURING CONSTRUCTION AND USED AS TOP DRESSING TO PROVIDE THE MINIMUM LOT ELEVATIONS SHOWN ON THE GRADING PLAN.

9. AREAS TO BE FILLED SHALL BE SCARIFIED AND COMPACTED TO AT LEAST 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY PER ASTM D-698, TO A DEPTH OF 6" PRIOR TO FILL PLACEMENT. FILL MATERIAL SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS (MEASURED LOOSE) AND COMPACTED TO AT LEAST 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY PER ASTM D-698. MOISTURE CONTENT SHALL BE WITHIN -3% TO +3% OF OPTIMUM UNLESS OTHERWISE DIRECTED BY OWNER'S TESTING LAB OR THE ENGINEER. FILL SHALL BE CLEAN EARTH, SAND, OR A COMBINATION (AS APPROVED BY THE ENGINEER), AND BE FREE FROM TRASH, VEGETATION AND LARGE STONES.

10. THE PAVEMENT SUBGRADE IS TO BE SCARIFIED, LIME STABILIZED (AMOUNT AS DETERMINED BY LAB TESTS) AND COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY PER ASTM D-698. MOISTURE CONTENT SHALL BE WITHIN 0% TO +3% OF OPTIMUM UNLESS OTHERWISE DIRECTED BY OWNER'S TESTING LAB OR THE ENGINEER.

11. NECESSARY TESTING OF SUBGRADE AND ASPHALT PAVEMENT TO PROVE THAT THESE ITEMS MEET REQUIREMENTS SHALL BE DONE BY A COMMERCIAL TESTING LABORATORY APPROVED BY THE OWNER.

12. REINFORCEMENT STEEL FOR PAVEMENT SHALL BE SUPPORTED WITH PLASTIC CHAIRS AT EIGHTEEN INCH (18") MAXIMUM SPACING FOR 6-INCH PAVEMENT AND 18-INCHES MAXIMUM SPACING FOR PAVEMENT GREATER THAN 6-INCHES, EACH WAY.

13. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS.

14. STREET NAME SIGNS FOR ALL STREETS SHALL BE LOCATED ATOP EACH STOP SIGN AT ALL INTERSECTIONS. REFER TO RECORDED PLAT FOR CORRECT SPELLING OF STREET NAMES.

15. CONCRETE DESIGN MIX AND TEST DATA SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.

16. DOUBLE REFLECTORIZED BLUE TRAFFIC MARKERS SHALL BE PLACED SIX INCHES (6") OFFSET OF THE CENTERLINE AT ALL FLUSHING VALVE LOCATIONS BY THE PAVING CONTRACTOR. FLUSHING VALVES LOCATED AT INTERSECTIONS SHALL HAVE A BUTTON PLACED ON EACH STREET. NO SEPARATE PAY.

17. ADA ACCESSIBLE RAMPS SHALL BE INSTALLED WITH STREET PAVING PER PLANS AND COMPLY TO CURRENT ADA AND TDLR REGULATIONS (TXDOT TYPE 7).

18. THE ONLY AUTHORITY PERMITTED TO ADD WATER TO A CONCRETE TRUCK MUST COME FROM THE APPROVED COMMERCIAL TESTING LABORATORY OR THE ENGINEER.

19. CONCRETE CURB SHALL BE 4"X12" MOUNTABLE CURB UNLESS OTHERWISE NOTED.

20. ALL TOP OF CURB ELEVATIONS ARE BASED ON 6-INCH CURB. CONTRACTOR SHALL SUBTRACT 0.17 FEET FROM TOP OF CURB ELEVATIONS SHOWN ON PLANS TO DETERMINE TOP OF CURB ELEVATIONS WHERE 4" MOUNTABLE CONCRETE CURB IS PROPOSED.

PERMIT NOTES:

1. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY REGULATION OF MONTGOMERY COUNTY, TEXAS FOR FLOOD PLAIN MANAGEMENT PRIOR TO STARTING CONSTRUCTION.

2. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY MONTGOMERY COUNTY, TEXAS PRIOR TO STARTING CONSTRUCTION OF UTILITY AND/OR CULVERTS WITHIN MONTGOMERY COUNTY ROAD RIGHTS-OF-WAY.

3. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY THE CITY OF MAGNOLIA PRIOR TO STARTING CONSTRUCTION. CONTACT KARLI CAROLAN (281) 356-2266

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. SERVICE LINES ARE USUALLY NOT SHOWN.

2. CENTERPOINT SIGNATURES ON THESE PLANS ONLY INDICATES THAT ITS FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

3. WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 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.

6. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL FACILITIES

1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION.

2. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX FEET (6') OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS CARRIES BOTH CRIMINAL AND CIVIL LIABILITY.

3. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713) 207-2222.

CAUTION: AT&T FACILITIES

1. THE LOCATION OF SOUTHWESTERN BELL TELEPHONE COMPANY UTILITIES ARE NO LONGER PROVIDED BY AT&T AND ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF THESE UTILITIES PRIOR TO COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES. TO HAVE THESE FACILITIES LOCATED 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.

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.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.

2. AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TCEQ'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION, IN WRITING, AS TO ITS COMPLETION AND ATTEST TO THE FACT THAT THE WORK HAS BEEN COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED IN 30 TAC §290.39(H)(3).

3. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).

4. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).

5. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §290.44(A)(3).

6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §290.44(A)(4).

7. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.

O THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

$$Q=LD(P)^{\frac{1}{2}}/148,000$$

WHERE:
- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

O THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

WHERE:
- L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

8. AFTER JANUARY 4, 2014 ALL CONSTRUCTION PROJECTS MUST COMPLY WITH CHANGES TO THE SAFE DRINKING WATER ACT THAT REDUCE THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES TO 0.25 PERCENT.

9. THE SYSTEM MUST BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 35 PSI AT ALL POINTS WITHIN THE DISTRIBUTION NETWORK AT FLOW RATES OF AT LEAST 1.5 GALLONS PER MINUTE PER CONNECTION. WHEN THE SYSTEM IS INTENDED TO PROVIDE FIREFIGHTING CAPABILITY, IT MUST ALSO BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI UNDER COMBINED FIRE AND DRINKING WATER FLOW CONDITIONS AS REQUIRED BY 30 TAC §290.44(D).

10. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT AS REQUIRED BY 30 TAC §290.44(D)(1).

11. PURSUANT TO 30 TAC §290.44(D)(4), ACCURATE WATER METERS SHALL BE PROVIDED. SERVICE CONNECTIONS AND METER LOCATIONS SHOULD BE SHOWN ON THE PLANS.

12. PURSUANT TO 30 TAC §290.44(D)(5), SUFFICIENT VALVES AND BLOWOFFS TO MAKE REPAIRS. THE ENGINEERING REPORT SHALL ESTABLISH CRITERIA FOR THIS DESIGN.

13. PURSUANT TO 30 TAC §290.44(D)(6), THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE. WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.

14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC §290.44(E)(1-4) OF THE CURRENT RULES.

15. PURSUANT TO 30 TAC §290.44(E)(5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.

16. PURSUANT TO 30 TAC §290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.

17. PURSUANT TO 30 TAC §290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.

18. PURSUANT TO 30 TAC §290.44(E)(8), WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS.

19. PURSUANT TO 30 TAC §290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.

20. PURSUANT TO 30 TAC §290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED.

21. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICRO-BIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).

22. PURSUANT TO 30 TAC 290.44(E)(4)(B)(VI), THE CEMENT STABILIZED SAND ON WASTEWATER PIPES AT WATER CROSSINGS MUST:
-BE SIX (6) INCHES ABOVE THE PIPE
-BE FOUR (4) INCHES BELOW THE PIPE
-BE 2.5 BAGS OF CEMENT PER CUBIC YARD (OR 10% CEMENT PER CUBIC YARD) BASED ON LOOSE DRY WEIGHT VOLUME.

23. DECHLORINATION OF DISINFECTION WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARD C655.

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: ____________________
- COUNTY ENGINEER

DATE: ____________________

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY ____________________ DATE __________

TITLE ____________________

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

GENERAL NOTES

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

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

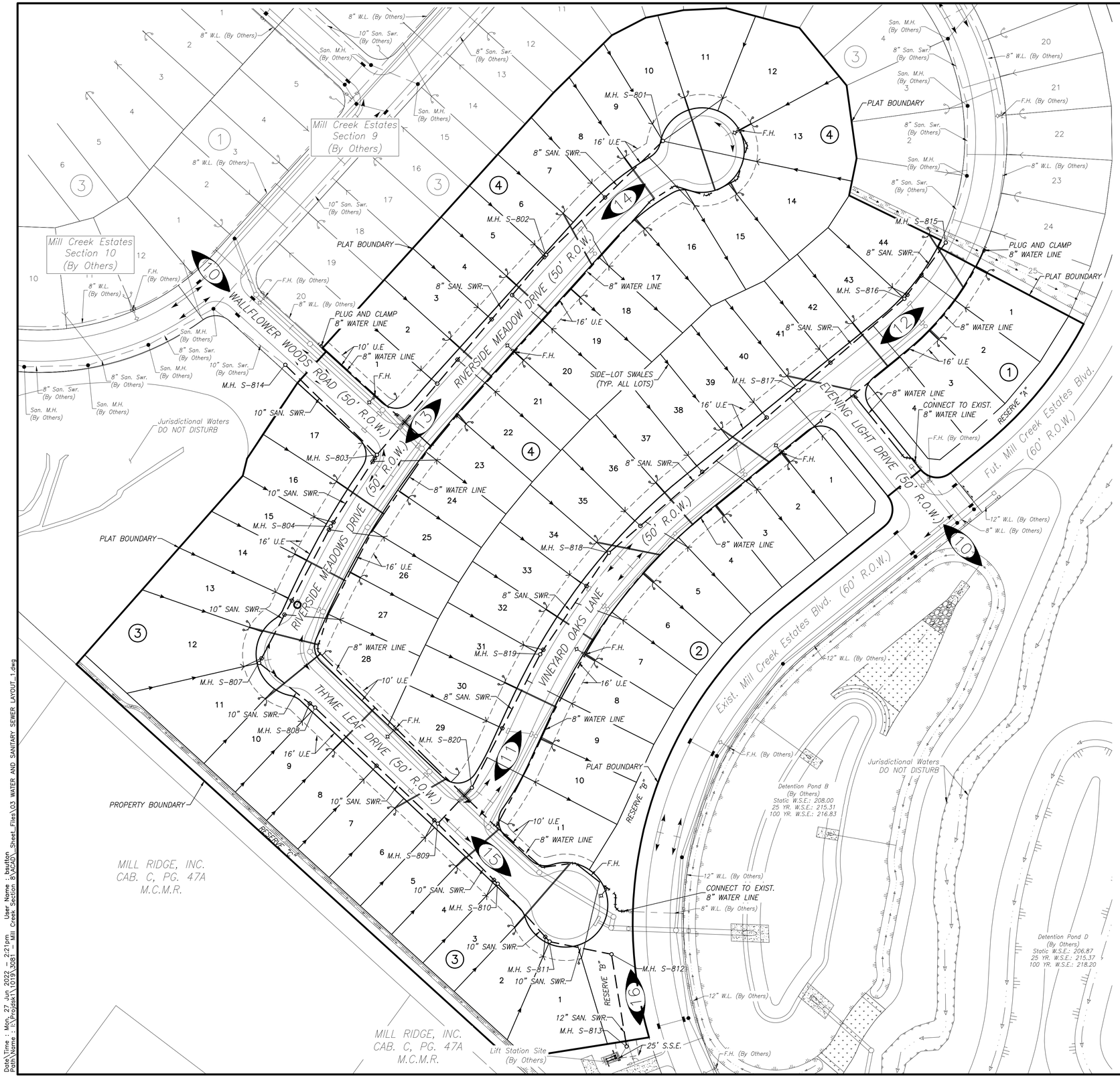
LJA PROJECT NO.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.) MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:21pm User Name : bsutton
Path\Name : I:\Projdsk1\1019\3081 - Mill Creek Section 8\ACAD_Sheet_Files\02 GENERAL NOTES.dwg



LEGEND

- PROPOSED WATER LINE AND GATE VALVE AND BOX
- PROPOSED WATER LINE W/BENDS
- PROPOSED WATER LINE W/TEE
- PROPOSED WATER LINE W/FIRE HYDRANT UNIT
  A. LINE SIZE X 6" TEE
  B. 6" GATE VALVE AND BOX
  C. FIRE HYDRANT
- 2" BLOW-OFF ASSEMBLY W/PLUG AND CLAMP
- EXISTING WATER LINE SYSTEM
- PROPOSED DOUBLE SANITARY SEWER LEAD
- PROPOSED SINGLE SANITARY SEWER LEAD
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- (10) INDICATES SHEET REFERENCE NUMBER
- (1) INDICATES BLOCK NUMBER
- 1 INDICATES LOT NUMBER
- U.E. UTILITY EASEMENT
- S.S.E. SANITARY SEWER EASEMENT

N

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

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4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

WATER AND SANITARY SEWER LAYOUT

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: 1"=60'

SHEET NO. 3 OF 25

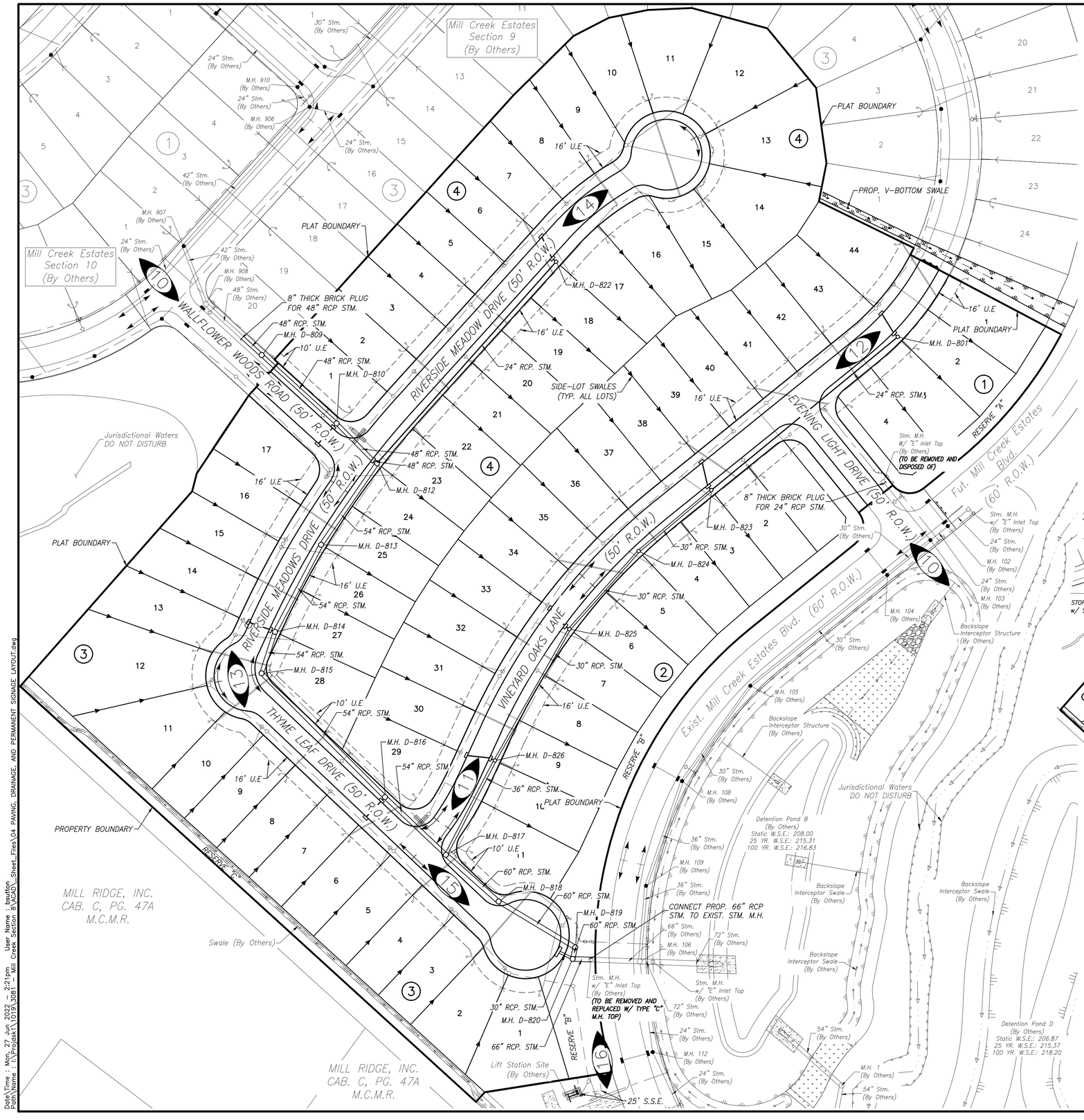
THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

MONTGOMERY COUNTY M.U.D. No. 165
MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 - 2:21 pm User Name : bsutton
Path\Name : L:\Projects\1019\3081 - Mill Creek - Section 8\CAD_Sheet_Files\03 WATER AND SANITARY SEWER LAYOUT_1.dwg



LEGEND

- PROPOSED STORM SEWER & MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND STD CURB INLETS
- PROPOSED PAVEMENT
- INDICATES PAVING SUMMIT
- INDICATES STREET SIGNS
- (10) INDICATES SHEET REFERENCE NUMBER
- (1) INDICATES BLOCK NUMBER
- 1 INDICATES LOT NUMBER
- U.E. INDICATES UTILITY EASEMENT
- S.S.E. INDICATES SANITARY SEWER EASEMENT

N

PERMANENT SIGNAGE LAYOUT

N.T.S.

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FOREST AR GROUP INC.

MILL CREEK ESTATES
SECTION 8

PAVING DRAINAGE AND PERMANENT SIGNAGE LAYOUT

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: 1"=60'

SHEET NO. 4 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:21pm User Name : bsulton
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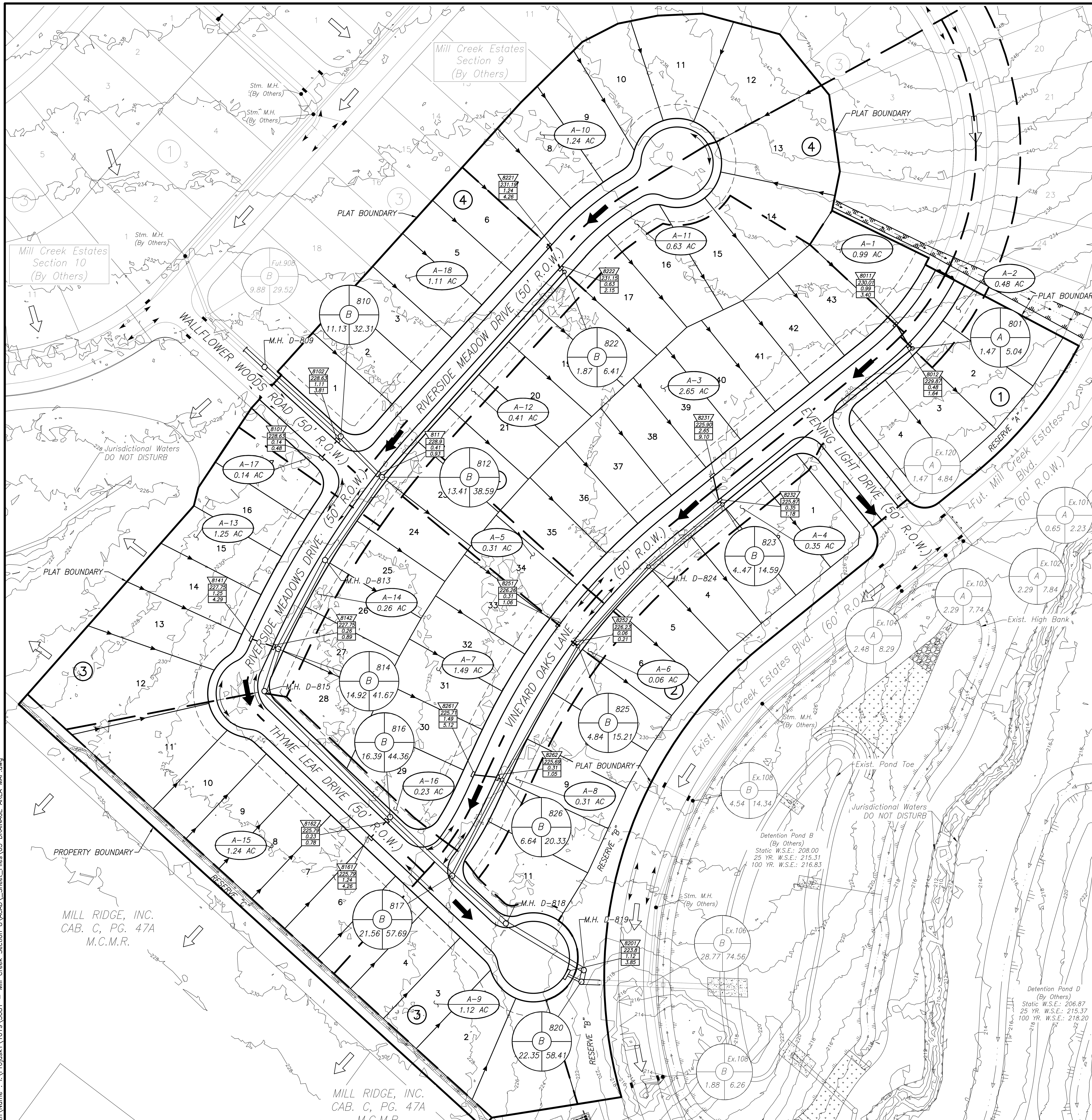

LEGEND

- PROPOSED STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER, MANHOLE, AND "H-2" INLETS
- INDICATES PROPOSED PAVEMENT
- INDICATES SYSTEM LINE NUMBER
- INDICATES MANHOLE NUMBER
- INDICATES DRAINAGE SYSTEM
- INDICATES ACCUMULATED DRAINAGE AREA IN ACRES
- INDICATES ACCUMULATED RUN OFF IN C.F.S.
- INLET 101 — INDICATES INLET NUMBER
- 0.0 — 100-YEAR PONDING IN FEET ABOVE TOP OF CURB AT LOW POINT BEFORE BREAK OVER
- 92.40 — INDICATES TOP OF CURB
- 1.70 — INDICATES DRAINAGE AREA IN ACRES
- 1.02 — INDICATES RUN OFF IN C.F.S.
- INDICATES PAVING SUMMIT
- INDICATES DRAINAGE AREA DIVIDE
- INDICATES SHEET FLOW
- INDICATES EXISTING SHEET FLOW
- 90 — INDICATES EXISTING NATURAL GROUND CONTOURS

N

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

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NOTES

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4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: ______________
- COUNTY ENGINEER

DATE: ______________

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY ______________ DATE ______________

TITLE ______________

DATE	REVISION	BY

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

DRAINAGE AREA MAP

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: 1"=60'

SHEET NO. 5 OF 25

MONTGOMERY COUNTY M.U.D. No. 165

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

STORM SEWER DESIGN

PROJECT: MILL CREEK ESTATES SEC. 8 Detention Pond B Sys. 25 yr WSE: 215.31
JOB NO: 1019-3081
BY: BLS
DESIGN STORM: 5-YEAR (PRE-ATLAS MoCo. DRAINAGE CRITERIA)
DATE: 20-Jun-22

	FROM JUNCTION	TO JUNCTION	ADDED AREA ac	TOTAL AREA ac	TC min	Intensity	Frequency Factor	C	CI	CUM Q cfs		REACH ft	PIPE TYPE	LINE/BOX SIZE in	Mannings n	WIDTH FT	HEIGHT FT	SLOPE %	DESIGN Q cfs	V fps	D.S. FALL (ft)	OTHER LOSSES ft	FLOWLINE UP-STREAM	DOWN-STREAM	ACT.V fps	SLOPE HYD. GRAD. (%)	delta H ft	ELEV. HYD. GRAD. UP-STREAM	DOWN-STREAM	TC/TP @ INLET UPSTR	HG DIST BELOW TC ft
	Pond B																														
OUTFALL B	Fut. 9011	Fut. 9012	0.49	0.49	10.00	6.25	1.00	0.55	3.44	1.68		28	R.C.P.	24	0.013			0.72	19.34	6.1	0.00		227.76	227.56	0.54	0.005	0.002	229.76	229.62	232.46	2.70
	Fut. 9012	Fut. 901	1.46	1.95	10.07	6.23	1.00	0.55	3.43	6.68		7	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.56	227.46	2.12	0.087	0.006	229.62	229.62	232.38	2.76
	Fut. 901	Fut. 902	0.00	1.95	10.11	6.22	1.00	0.55	3.42	6.67		139	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.46	227.21	2.12	0.086	0.120	229.62	229.50	232.38	2.77
	Fut. 902	Fut. 903	0.00	1.95	10.87	6.07	1.00	0.55	3.34	6.51		63	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.21	227.09	2.07	0.082	0.052	229.50	229.45	232.38	2.89
	Fut. 903	Fut. 904	0.00	1.95	11.21	6.00	1.00	0.55	3.30	6.44		100	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.09	226.91	2.05	0.080	0.080	229.45	229.37	232.38	2.94
	Fut. 904	Fut. 905	0.00	1.95	11.76	5.90	1.00	0.55	3.25	6.33		47	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		226.91	226.83	2.01	0.078	0.037	229.37	229.33	232.38	3.02
	Fut. 905	Fut. 906	2.23	4.18	12.01	5.86	1.00	0.55	3.22	13.46		209	R.C.P.	30	0.013			0.13	14.85	3.0	3.02		226.83	226.56	2.74	0.107	0.223	229.33	229.06	232.59	3.26
	Fut. 906	Fut. 907	3.19	7.37	13.17	5.66	1.00	0.55	3.11	22.95		215	R.C.P.	42	0.013			0.09	30.31	3.1	1.71		223.54	223.34	2.38	0.052	0.111	227.04	226.84	231.92	4.88
	Fut. 907	Fut. 908	1.56	8.93	14.30	5.49	1.00	0.55	3.02	26.95		71	R.C.P.	42	0.013			0.09	30.31	3.1	0.00		221.63	221.57	2.80	0.071	0.051	226.05	226.00	231.92	5.87
	Fut. 908	809	0.95	9.88	14.68	5.43	1.00	0.55	2.99	29.52		86	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.57	221.51	2.35	0.042	0.036	226.00	225.96	227.99	1.99
	809	810	0.00	9.88	15.16	5.36	1.00	0.55	2.95	29.15		116	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.51	221.43	2.32	0.041	0.047	225.96	225.92	227.99	2.03
	810	811	1.25	11.13	15.79	5.28	1.00	0.55	2.90	32.31		58	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.43	221.39	2.57	0.050	0.029	225.92	225.89	228.02	2.11
	811	812	0.41	11.54	16.11	5.24	1.00	0.55	2.88	33.24		7	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.39	221.38	2.64	0.053	0.004	225.89	225.88	228.90	3.01
	812	813	1.87	13.41	16.15	5.23	1.00	0.55	2.88	38.59		113	R.C.P.	54	0.013			0.06	48.36	3.0	0.46		221.38	221.32	2.42	0.038	0.043	225.88	225.82	228.90	3.01
	813	814	0.00	13.41	16.77	5.15	1.00	0.55	2.83	38.01		113	R.C.P.	54	0.013			0.06	48.36	3.0	0.00		220.86	220.79	2.39	0.037	0.042	225.36	225.29	228.90	3.54
	814	815	1.51	14.92	17.39	5.08	1.00	0.55	2.79	41.67		50	R.C.P.	54	0.013			0.06	48.36	3.0	1.81		220.79	220.76	2.62	0.045	0.022	225.29	225.26	227.75	2.47
	815	816	0.00	14.92	17.66	5.05	1.00	0.55	2.78	41.41		200	R.C.P.	54	0.013			0.06	48.36	3.0	0.00		218.95	218.83	2.60	0.044	0.088	223.45	223.33	227.75	4.31
	816	817	1.47	16.39	18.76	4.92	1.00	0.55	2.71	44.36		96	R.C.P.	54	0.013			0.06	48.36	3.0	0.95		218.83	218.77	2.79	0.050	0.048	223.33	223.27	225.79	2.46
	817	818	4.84	21.23	19.29	4.86	1.00	0.55	2.68	56.80		81	R.C.P.	60	0.013			0.05	58.47	3.0	1.53		217.82	217.78	2.89	0.047	0.038	222.82	222.78	225.79	2.97
	818	819	0.00	21.23	19.74	4.82	1.00	0.55	2.65	56.25		102	R.C.P.	60	0.013			0.05	58.47	3.0	0.00		216.25	216.20	2.86	0.046	0.047	221.25	221.20	225.79	4.54
	819	820	0.00	21.23	20.31	4.76	1.00	0.55	2.62	55.57		13	R.C.P.	60	0.013			0.05	58.47	3.0	2.69		216.20	216.19	2.83	0.045	0.006	221.20	221.19	225.79	4.59
	820	Ex. 119	1.12	22.35	20.39	4.75	1.00	0.55	2.61	58.41		21	R.C.P.	66	0.013			0.05	75.39	3.2	1.39		213.50	213.49	2.46	0.030	0.006	219.00	218.99	223.80	4.79
	Ex. 119	Ex. 106	0.00	22.35	20.49	4.74	1.00	0.55	2.61	58.28		56	R.C.P.	66	0.013			0.05	75.39	3.2	0.00		212.10	212.07	2.45	0.030	0.017	218.09	218.07	221.10	3.01
	Ex. 106	Ex. 107	6.42	28.77	20.79	4.71	1.00	0.55	2.59	74.56		15	R.C.P.	72	0.013			0.05	95.08	3.4	10.02		212.07	212.06	2.63	0.031	0.005	218.07	218.06	221.10	3.03
	Ex. 107	OUTFALL B	0.00	28.77	20.49	4.74	1.00	0.55	2.61	75.02		81	R.C.P.	72	0.013			0.05	95.08	3.4			202.04	202.00	2.65	0.031	0.025	215.34	215.31	221.10	5.76
	Fut. 9051	Fut. 9052	0.83	0.83	10.00	6.25	1.00	0.55	3.44	2.85		25	R.C.P.	24	0.013			0.80	20.26	6.4	0.00		227.93	227.73	0.91	0.016	0.004	229.93	229.73	232.63	2.70
	Fut. 9052	Fut. 905	1.40	2.23	10.07	6.23	1.00	0.55	3.43	7.64		7	R.C.P.	24	0.013			1.43	27.15	8.6			227.73	227.63	2.43	0.113	0.008	229.73	229.63	232.59	2.87
	Fut. 10011	Fut. 10012	0.84	0.84	10.00	6.25	1.00	0.55	3.44	2.89		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		233.01	232.81	0.92	0.016	0.004	235.01	234.81	237.71	2.70
	Fut. 10012	Fut. 1001	0.20	1.04	10.06	6.23	1.00	0.55	3.43	3.57		7	R.C.P.	24	0.013			0.18	9.64	3.1	2.59		232.81	232.80	1.13	0.025	0.002	234.81	234.80	237.71	2.90
	Fut. 1001	Fut. 909	0.00	1.04	10.10	6.23	1.00	0.55	3.42	3.56		175	R.C.P.	24	0.013			0.18	9.64	3.1	2.34		230.21	229.89	1.13	0.025	0.043	232.21	231.89	237.71	5.50
	Fut. 909	Fut. 910	0.00	1.04	11.05	6.03	1.00	0.55	3.32	3.45		126	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.55	227.33	1.10	0.023	0.029	229.55	229.33	237.71	8.16
	Fut. 910	Fut. 906	1.39	2.43	11.73	5.91	1.00	0.55	3.25	7.89		27	R.C.P.	24	0.013			0.18	9.64	3.1			227.33	227.28	2.51	0.121	0.032	229.33	229.28	231.59	2.26
	Fut. 9101	Fut. 9102	1.14	1.14	10.00	6.25	1.00	0.55	3.44	3.92		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		226.89	226.69	1.24	0.030	0.007	229.34	229.33	231.59	2.25
	Fut. 9102	Fut. 910	0.25	1.39	10.06	6.23	1.00	0.55	3.43	4.77		7	R.C.P.	24	0.013			1.43	27.15	8.6			226.69	226.59	1.51	0.044	0.003	229.33	229.33	231.59	2.25
	Fut. 9061	Fut. 906	0.76	0.76	10.00	6.25	1.00	0.55	3.44	2.61		35	R.C.P.	24	0.013			0.57	17.18	5.5	0.00		227.22	227.02	0.83	0.013	0.005	229.22	229.02	231.92	2.70
	Fut. 9071	Fut. 907	1.56	1.56	10.00	6.25	1.00	0.55	3.44	5.36		67	R.C.P.	24	0.013			0.30	12.44	4.0	0.00		223.70	223.50	1.70	0.056	0.037	226.09	226.05	228.40	2.31
	Fut. 9081	Fut. 9082	0.10	0.10	10.00	6.25	1.00	0.55	3.44	0.34		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		223.29	223.09	0.11	0.000	0.000	226.00	226.00	227.99	1.99
	Fut. 9082	Fut. 908	0.85	0.95	10.06	6.23	1.00	0.55	3.43	3.26		7	R.C.P.	24	0.013			1.43	27.15	8.6			223.09	222.99	1.04	0.021	0.001	226.00	226.00	227.99	1.99
	8101	8102	0.14	0.14	10.00	6.25	1.00	0.55	3.44	0.48		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		223.93	223.73	0.15	0.000	0.000	225.93	225.92	228.63	2.70
	8102	810	1.11	1.25	10.06	6.23	1.00	0.55	3.43	4.29		7	R.C.P.	24	0.013			1.43	27.15	8.6			223.73	223.63	1.36	0.036	0.002	225.92	225.92	228.63	2.71
	8221	8222	1.24	1.24	10.00	6.25	1.00	0.55	3.44	4.26		26	R.C.P.	24	0.013			0.77	19.90	6.3	0.00		226.49	226.29	1.35	0.035	0.009	228.49	228.29	231.19	2.70
	8222	822	0.63	1.87	10.07	6.23	1.00	0.55	3.43	6.41		7	R.C.P.	24	0.013			1.43	27.15	8.6	0.99		226.29	226.19	2.04	0.080	0.006	228.29	228.19	231.15	2.86
	822	812	0.00	1.87	10.08	6.23	1.00	0.55	3.43	6.41		308	R.C.P.	24	0.013			0.18	9.64	3.1			225.20	224.64	2.04	0.080	0.245	227.20	226.64	231.15	3.95
	8141	8142	1.25	1.25	10.00	6.25	1.00	0.55	3.44	4.29		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		223.05	222.85	1.36	0.036	0.009	225.30	225.29	227.75	2.45
	8142	814	0.26	1.51	10.06	6.23	1.00	0.55	3.43	5.18		7	R.C.P.	24	0.013			1.43	27.15	8.6			222.85	222.75	1.65	0.052	0.004	225.29	225.29	227.75	2.46
	8161	8162	1.24	1.24	10.00	6.25	1.00	0.55	3.44	4.26		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		221.09	220.89	1.35	0.035	0.008	223.34	223.33	225.79	2.45
	8162	816	0.23	1.47	10.06	6.23	1.00	0.55	3.43	5.04		7	R.C.P.	24	0.013			1.43	27.15	8.6			220.89	220.79	1.60	0.049	0.003	223.33	223.33	225.79	2.46
	8011	8012	0.99	0.99	10.00	6.25	1.00	0.55	3.44	3.40		25	R.C.P.	24	0.013			0.81	20.39	6.5	0.00		225.31	225.11	1.08	0.022	0.006	227.31	227.11	230.01	2.70
	8012	801	0.48	1.47	10.06	6.23	1.00	0.55	3.43	5.04		7	R.C.P.	24	0.013			1.43	27.15	8.6	2.90		225.11	225.01	1.60	0.049	0.003	227.11	227.01	229.87	2.76
	801	823	0.00	1.47	10.08	6.23	1.00	0.55	3.43	5.04		276	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		222.11	221.61	1.60	0.049	0.136	224.11	223.82	229.87	5.76
	823	824	3.00	4.47	11.58	5.93	1.00	0.55	3.26	14.59		108	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		220.90	220.76	2.97	0.125	0.136	223.82	223.69	225.87	2.05
	824	825	0.00	4.47	12.18	5.83	1.00	0.55	3.20	14.33		119	R.C.P.	30	0.013			0.13	14.85	3.0	0.07		220.76	220.60	2.91	0.121	0.144	223.69	223.54	225.87	2.18
	825	826	0.37	4.84	12.84	5.72	1.00	0.55	3.14	15.21		173	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		220.53	220.31	3.10	0.136	0.236	223.54	223.31	226.23	2.69
	826	817	1.80	6.64	13.77	5.57	1.00	0.55	3.06	20.33		122	R.C.P.	36	0.013			0.10	21.18	3.0			220.31	220.19	2.87	0.092	0.112	223.31	223.19	225.69	2.38
	8231	8232	2.65	2.65	10.00	6.25	1.00	0.55	3.44	9.10		27	R.C.P.	24	0.013			0.75	19.66	6.2	0.00		221.20	221.00	2.89	0.161	0.043	223.88	223.84	225.90	2.02
	8232	823	0.35	3.00	10.07	6.23	1.00	0.55	3.43	10.28		7	R.C.P.	24	0.013			1.43	27.15	8.6	0.00		221.00	220.90	3.27	0.205	0.014	223.84	223.82	225.87	2.03
	8251	8252	0.31	0.31	10.00	6.25	1.00	0.55	3.44	1.06		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		221.56	221.36	0.34	0.002	0.001	223.69	223.69	226.26	2.57
	8252	825	0.06	0.37	10.06	6.23	1.00	0.55	3.43	1.27		7	R.C.P.	24	0.013			1.43	27.15	8.6			221.36	221.26	0.40	0.003	0.000	223.69	223.69	226.23	2.55
	8261	8262	1.49	1.49	10.00	6.25	1.00	0.55	3.44	5.12		25	R.C.P.	24	0.013			0.79	20.19	6.4	0.00		221.01	220.81	1.63	0.051	0.013	223.56	223.55	225.71	2.15
	8262	826	0.31	1.80	10.07	6.23	1.00	0.55	3.43	6.17		7	R.C.P.	24	0.013			1.43	27.15	8.6			220.81	220.71	1.96	0.074	0.005	223.55	223.54	225.69	2.15
	8201	820	1.12	1.12	10.00	6.25	1.00	0.55	3.44	3.85		20	R.C.P.	30	0.013			0.13	14.85	3.0	0.17		218.93	218.90	0.78	0.009	0.002	221.43	221.40	223.80	2.37
	Ex.110	Ex. 111	0.60	0.60	10.00	6.25	1.00	0.55	3.44	2.06		61	R.C.P.	24	0.013			0.33	13.01	4.1	0.00		215.62	215.42	0.66	0.008	0.005	218.19	218.18	220.32	2.13
	Ex. 111	Ex. 112	0.24	0.84	10.25	6.19	1.00	0.55	3.41	2.86		128	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		215.42	215.19	0.91	0.016	0.020	218.18	218.16	220.32	2.14
	Ex. 112	Ex. 106	1.04	1.88	10.94	6.05	1.00	0.55	3.33	6.26		123	R.C.P.	24	0.013			0.18	9.64	3.1			215.19	214.97	1.99	0.076	0.094	218.16	218.07	221.03	2.86
	Ex. 1121	Ex. 1122	0.72	0.72	10.00	6.25	1.00	0.55	3.44	2.47		28	R.C.P.	24	0.013			0.71	19.20	6.1	0.00		216.33	216.13	0.79	0.012	0.003	218.33	218.17	221.03	2.70
	Ex. 1122	Ex. 112	0.32	1.04	10.08	6.23	1.00	0.55	3.43	3.56		7	R.C.P.	24	0.013			1.43	27.15	8.6			216.13	216.03	1.13	0.025	0.002	218.17	218.16	221.03	2.86
	Ex. 120	Ex. 103	0.00	0.00	10.00	6.25	1.00	0.55	3.44	0.00		86	R.C.P.	24	0.013			0.18	9.64	3.1	1.45		217.00	216.85	0.00	0.000	0.000	219.00	218.85	229.83	10.83
	Ex. 103	Ex. 104	2.29	2.29	10.47	6.15	1.00	0.55	3.38	7.74		64	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		215.40	215.31	1.58	0.035	0.022	217.90	217.81	229.83	11.93
	Ex. 104	Ex. 105	0.19	2.48	10.82	6.08	1.00	0.55	3.34	8.29		201	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		215.31	215.05	1.69	0.041	0.082	217.81	217.55	222.33	4.51
	Ex. 105	Ex. 108	0.00	2.48	11.93	5.87	1.00	0.55	3.23	8.01		134	R.C.P.	30	0.013			0.13	14.85	3.0	0.50		215.05	214.88	1.63	0.038	0.051	217.55	217.38	222.33	4.77
	Ex. 108	Ex. 109	2.06	4.54	12.67	5.74	1.00	0.55	3.16	14.34		127	R.C.P.	36	0.013			0.10	21.18	3.0	0.00		214.38	214.25	2.03	0.046	0.058	218.17	218.11	221.00	2.83
	Ex. 109	Ex. 106	0.00	4.54	13.38	5.63	1.00	0.55	3.10	14.05		87	R.C.P.	36	0.013			0.10	21.18	3.0			214.25	214.16	1.99	0.044	0.038	218.11	218.07	221.00	2.89
	Ex. 1021	Ex. 1022	1.36	1.36	10.00	6.25	1.00	0.55	3.44	4.67		28	R.C.P.	24	0.013			0.71	19.20	6.1	0.00		217.67	217.47	1.49	0.042	0.012	219.67	219.47	222.37	2.70
	Ex. 1022	Ex. 102	0.28	1.64	10.08	6.23	1.00	0.55	3.43	5.62		7	R.C.P.	24	0.013			1.43	27.15	8.6	0.00		217.47	217.37	1.79	0.061	0.004	219.47	219.37	222.37	2.90
	Ex. 102	Ex. 103	0.65	2.29	10.09	6.23	1.00	0.55	3.42	7.84		26	R.C.P.	24	0.013			0.18	9.64	3.1			215.95	215.90	2.49	0.119	0.030	217.95	217.90	222.37	4.42
	Ex. 1041	Ex. 1042	0.16	0.16	10.00	6.25	1.00	0.55	3.44	0.55		28	R.C.P.	24	0.013			0.71	19.20	6.1	0.00		217.67	217.47	0.17	0.001	0.000	219.67	219.47	222.37	2.70
	Ex. 1042	Ex. 104	0.03	0.19	10.08	6.23	1.00	0.55	3.43	0.65		7	R.C.P.	24	0.013			1.43	27.15	8.6			217.47	217.37	0.21	0.001	0.000	219.47	219.37	222.37	2.90
	Ex. 101	Ex. 102	0.65	0.65	10.00	6.25	1.00	0.55	3.44	2.23		31	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		216.00	215.95	0.71	0.010	0.003	218.00	217.95	222.00	4.00
	Ex. 1081	Ex. 1082	1.75	1.75	10.00	6.25	1.00	0.55	3.44	6.01		28	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		216.30	216.25	1.91	0.070	0.020	218.30	218.25	221.00	2.70
	Ex. 1082	Ex. 108	0.31	2.06	10.15	6.21	1.00	0.55	3.42	7.04		7	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		216.25	216.24	2.24	0.096	0.007	218.25	218.24	221.00	2.75

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

5 YEAR DRAINAGE CALCULATIONS

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.: 1019-3081 & 1019-3082

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 6 OF 25

MONTGOMERY COUNTY M.U.D. No. 165
MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 – 2:22pm User Name : bbutton
Path\Name : J:\Projects\1019\3081 - Mill Creek Section 8\CAD_Sheet_Files\06_5-YR DRAINAGE CALCULATIONS.dwg

STORM SEWER DESIGN

PROJECT: MILL CREEK ESTATES SEC. 8 Detention Pond B Sys. 25 yr WSE: 215.31
JOB NO: 1019-3081
BY: BLS
DESIGN STORM: 100-YEAR (PRE-ATLAS MoCo. DRAINAGE CRITERIA)
DATE: 20-Jun-22

	FROM	TO	ADDED	TOTAL	TC	Intensity	Frequency Factor	C	CI	CUM		REACH	PIPE	LINE/BOX					DESIGN		D.S.	OTHER	FLOWLINE		ACT.V	SLOPE	delta H	ELEV. HYD. GRAD.		TC/TP @	HG DIST
	JUNCTION	JUNCTION	AREA	AREA	min					Q		ft	TYPE	SIZE	Mannings	WIDTH	HEIGHT	SLOPE	Q	V	FALL	LOSSES	UP-	DOWN-	fps	HYD.	ft	UP-	DOWN-	INLET	BELOW TC
			ac	ac						cfs				in	n	FT	FT	%	cfs	fps	(ft)	ft	STREAM	STREAM	GRAD. (%)			STREAM	STREAM	UPSTR	ft
	Pond B																														
OUTFALL B	Fut. 9011	Fut. 9012	0.49	0.49	10.00	9.12	1.25	0.55	5.01	3.07		28	R.C.P.	24	0.013			0.72	19.34	6.1	0.00		227.76	227.56	0.98	0.018	0.005	230.84	230.83	232.46	1.62
	Fut. 9012	Fut. 901	1.46	1.95	10.07	9.10	1.25	0.55	5.00	12.20		7	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.56	227.46	3.88	0.288	0.020	230.83	230.81	232.38	1.55
	Fut. 901	Fut. 902	0.00	1.95	10.10	9.09	1.25	0.55	5.00	12.19		139	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.46	227.21	3.87	0.288	0.401	230.81	230.41	232.38	1.57
	Fut. 902	Fut. 903	0.00	1.95	10.70	8.95	1.25	0.55	4.92	12.00		63	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.21	227.09	3.81	0.279	0.176	230.41	230.24	232.38	1.97
	Fut. 903	Fut. 904	0.00	1.95	10.98	8.89	1.25	0.55	4.89	11.92		100	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.09	226.91	3.79	0.275	0.275	230.24	229.96	232.38	2.15
	Fut. 904	Fut. 905	0.00	1.95	11.42	8.79	1.25	0.55	4.84	11.79		47	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		226.91	226.83	3.75	0.269	0.128	229.96	229.83	232.38	2.42
	Fut. 905	Fut. 906	2.23	4.18	11.63	8.75	1.25	0.55	4.81	25.13		209	R.C.P.	30	0.013			0.13	14.85	3.0	3.02		226.83	226.56	5.11	0.372	0.777	229.83	229.06	232.59	2.76
	Fut. 906	Fut. 907	3.19	7.37	12.31	8.60	1.25	0.55	4.73	43.60		215	R.C.P.	42	0.013			0.09	30.31	3.1	1.71		223.54	223.34	4.53	0.186	0.400	227.24	226.84	231.92	4.68
	Fut. 907	Fut. 908	1.56	8.93	13.10	8.45	1.25	0.55	4.65	51.87		71	R.C.P.	42	0.013			0.09	30.31	3.1	0.00		221.63	221.57	5.38	0.264	0.188	226.61	226.42	231.92	5.31
	Fut. 908	809	0.95	9.88	13.32	8.41	1.25	0.55	4.62	57.10		86	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.57	221.51	4.54	0.157	0.135	226.42	226.29	227.99	1.57
	809	810	0.00	9.88	13.64	8.35	1.25	0.55	4.59	56.69		116	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.51	221.43	4.51	0.155	0.179	226.29	226.11	227.99	1.71
	810	811	1.25	11.13	14.07	8.27	1.25	0.55	4.55	63.27		58	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.43	221.39	5.03	0.192	0.112	226.11	226.00	228.02	1.92
	811	812	0.41	11.54	14.26	8.23	1.25	0.55	4.53	65.32		7	R.C.P.	48	0.013			0.07	38.16	3.0	0.00		221.39	221.38	5.19	0.205	0.014	226.00	225.98	228.90	2.90
	812	813	1.87	13.41	14.28	8.23	1.25	0.55	4.53	75.87		113	R.C.P.	54	0.013			0.06	48.36	3.0	0.46		221.38	221.32	4.76	0.148	0.167	225.98	225.82	228.90	2.91
	813	814	0.00	13.41	14.68	8.16	1.25	0.55	4.49	75.23		113	R.C.P.	54	0.013			0.06	48.36	3.0	0.00		220.86	220.79	4.72	0.145	0.164	225.51	225.35	228.90	3.39
	814	815	1.51	14.92	15.08	8.09	1.25	0.55	4.45	83.00		50	R.C.P.	54	0.013			0.06	48.36	3.0	1.81		220.79	220.76	5.21	0.177	0.088	225.35	225.26	227.75	2.41
	815	816	0.00	14.92	15.23	8.07	1.25	0.55	4.44	82.73		200	R.C.P.	54	0.013			0.06	48.36	3.0	0.00		218.95	218.83	5.19	0.176	0.351	223.82	223.47	227.75	3.93
	816	817	1.47	16.39	15.88	7.96	1.25	0.55	4.38	89.69		96	R.C.P.	54	0.013			0.06	48.36	3.0	0.95		218.83	218.77	5.63	0.206	0.198	223.47	223.27	225.79	2.32
	817	818	4.84	21.23	16.16	7.91	1.25	0.55	4.35	115.51		81	R.C.P.	60	0.013			0.05	58.47	3.0	1.53		217.82	217.78	5.87	0.195	0.157	222.94	222.78	225.79	2.85
	818	819	0.00	21.23	16.39	7.88	1.25	0.55	4.33	114.99		102	R.C.P.	60	0.013			0.05	58.47	3.0	0.00		216.25	216.20	5.85	0.193	0.197	221.42	221.22	225.79	4.37
	819	820	0.00	21.23	16.68	7.83	1.25	0.55	4.31	114.33		13	R.C.P.	60	0.013			0.05	58.47	3.0	2.69		216.20	216.19	5.81	0.191	0.026	221.22	221.19	225.79	4.57
	820	Ex. 119	1.12	22.35	16.72	7.83	1.25	0.55	4.30	120.27		21	R.C.P.	66	0.013			0.05	75.39	3.2	1.39		213.50	213.49	5.06	0.127	0.026	219.02	218.99	223.80	4.78
	Ex. 119	Ex. 106	0.00	22.35	16.79	7.82	1.25	0.55	4.30	120.11		56	R.C.P.	66	0.013			0.05	75.39	3.2	0.00		212.10	212.07	5.05	0.127	0.071	218.15	218.08	221.10	2.95
	Ex. 106	Ex. 107	6.42	28.77	16.97	7.79	1.25	0.55	4.28	154.05		15	R.C.P.	72	0.013			0.05	95.08	3.4	10.02		212.07	212.06	5.44	0.131	0.020	218.08	218.06	221.10	3.02
	Ex. 107	OUTFALL B	0.00	28.77	16.79	7.82	1.25	0.55	4.30	154.61		81	R.C.P.	72	0.013			0.05	95.08	3.4			202.04	202.00	5.46	0.132	0.107	215.42	215.31	221.10	5.68
	Fut. 9051	Fut. 9052	0.83	0.83	10.00	9.12	1.25	0.55	5.01	5.20		25	R.C.P.	24	0.013			0.80	20.26	6.4	0.00		227.93	227.73	1.65	0.052	0.013	229.93	229.86	232.63	2.70
	Fut. 9052	Fut. 905	1.40	2.23	10.07	9.10	1.25	0.55	5.01	13.95		7	R.C.P.	24	0.013			1.43	27.15	8.6			227.73	227.63	4.43	0.377	0.026	229.86	229.83	232.59	2.73
	Fut. 10011	Fut. 10012	0.84	0.84	10.00	9.12	1.25	0.55	5.01	5.26		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		233.01	232.81	1.67	0.054	0.013	235.01	234.81	237.71	2.70
	Fut. 10012	Fut. 1001	0.20	1.04	10.06	9.10	1.25	0.55	5.01	6.51		7	R.C.P.	24	0.013			0.18	9.64	3.1	2.59		232.81	232.80	2.07	0.082	0.006	234.81	234.80	237.71	2.90
	Fut. 1001	Fut. 909	0.00	1.04	10.10	9.09	1.25	0.55	5.00	6.50		175	R.C.P.	24	0.013			0.18	9.64	3.1	2.34		230.21	229.89	2.07	0.082	0.143	232.21	231.89	237.71	5.50
	Fut. 909	Fut. 910	0.00	1.04	11.05	8.87	1.25	0.55	4.88	6.34		126	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		227.55	227.33	2.02	0.078	0.098	229.55	229.39	237.71	8.16
	Fut. 910	Fut. 906	1.39	2.43	11.73	8.72	1.25	0.55	4.80	14.57		27	R.C.P.	24	0.013			0.18	9.64	3.1			227.33	227.28	4.63	0.412	0.110	229.39	229.28	231.59	2.19
	Fut. 9101	Fut. 9102	1.14	1.14	10.00	9.12	1.25	0.55	5.01	7.14		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		226.89	226.69	2.27	0.099	0.024	229.42	229.40	231.59	2.16
	Fut. 9102	Fut. 910	0.25	1.39	10.06	9.10	1.25	0.55	5.01	8.70		7	R.C.P.	24	0.013			1.43	27.15	8.6			226.69	226.59	2.76	0.147	0.010	229.40	229.39	231.59	2.18
	Fut. 9061	Fut. 906	0.76	0.76	10.00	9.12	1.25	0.55	5.01	4.76		35	R.C.P.	24	0.013			0.57	17.18	5.5	0.00		227.22	227.02	1.51	0.044	0.015	229.22	229.02	231.92	2.70
	Fut. 9071	Fut. 907	1.56	1.56	10.00	9.12	1.25	0.55	5.01	9.78		67	R.C.P.	24	0.013			0.30	12.44	4.0	0.00		223.70	223.50	3.11	0.185	0.124	226.73	226.61	228.40	1.66
	Fut. 9081	Fut. 9082	0.10	0.10	10.00	9.12	1.25	0.55	5.01	0.63		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		223.29	223.09	0.20	0.001	0.000	226.43	226.43	227.99	1.57
	Fut. 9082	Fut. 908	0.85	0.95	10.06	9.10	1.25	0.55	5.01	5.94		7	R.C.P.	24	0.013			1.43	27.15	8.6			223.09	222.99	1.89	0.068	0.005	226.43	226.42	227.99	1.57
	8101	8102	0.14	0.14	10.00	9.12	1.25	0.55	5.01	0.88		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		223.93	223.73	0.28	0.001	0.000	226.12	226.12	228.63	2.52
	8102	810	1.11	1.25	10.06	9.10	1.25	0.55	5.01	7.82		7	R.C.P.	24	0.013			1.43	27.15	8.6			223.73	223.63	2.49	0.119	0.008	226.12	226.11	228.63	2.51
	8221	8222	1.24	1.24	10.00	9.12	1.25	0.55	5.01	7.77		26	R.C.P.	24	0.013			0.77	19.90	6.3	0.00		226.49	226.29	2.47	0.117	0.031	228.49	228.29	231.19	2.70
	8222	822	0.63	1.87	10.07	9.10	1.25	0.55	5.00	11.70		7	R.C.P.	24	0.013			1.43	27.15	8.6	0.99		226.29	226.19	3.72	0.265	0.019	228.29	228.19	231.15	2.86
	822	812	0.00	1.87	10.08	9.10	1.25	0.55	5.00	11.69		308	R.C.P.	24	0.013			0.18	9.64	3.1			225.20	224.64	3.72	0.265	0.817	227.46	226.64	231.15	3.69
	8141	8142	1.25	1.25	10.00	9.12	1.25	0.55	5.01	7.83		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		223.05	222.85	2.49	0.119	0.029	225.39	225.36	227.75	2.37
	8142	814	0.26	1.51	10.06	9.10	1.25	0.55	5.01	9.45		7	R.C.P.	24	0.013			1.43	27.15	8.6			222.85	222.75	3.00	0.173	0.012	225.36	225.35	227.75	2.40
	8161	8162	1.24	1.24	10.00	9.12	1.25	0.55	5.01	7.77		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		221.09	220.89	2.47	0.117	0.028	223.51	223.48	225.79	2.28
	8162	816	0.23	1.47	10.06	9.10	1.25	0.55	5.01	9.20		7	R.C.P.	24	0.013			1.43	27.15	8.6			220.89	220.79	2.92	0.164	0.011	223.48	223.47	225.79	2.31
	8011	8012	0.99	0.99	10.00	9.12	1.25	0.55	5.01	6.20		25	R.C.P.	24	0.013			0.81	20.39	6.5	0.00		225.31	225.11	1.97	0.075	0.019	227.31	227.11	230.01	2.70
	8012	801	0.48	1.47	10.06	9.10	1.25	0.55	5.01	9.20		7	R.C.P.	24	0.013			1.43	27.15	8.6	2.90		225.11	225.01	2.92	0.164	0.011	227.11	227.01	229.87	2.76
	801	823	0.00	1.47	10.08	9.10	1.25	0.55	5.00	9.19		276	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		222.11	221.61	2.92	0.164	0.452	225.85	225.40	229.87	4.02
	823	824	3.00	4.47	11.58	8.76	1.25	0.55	4.82	26.91		108	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		220.90	220.76	5.47	0.427	0.463	225.40	224.93	225.87	0.48
	824	825	0.00	4.47	11.91	8.69	1.25	0.55	4.78	26.70		119	R.C.P.	30	0.013			0.13	14.85	3.0	0.07		220.76	220.60	5.43	0.420	0.502	224.93	224.43	225.87	0.94
	825	826	0.37	4.84	12.28	8.61	1.25	0.55	4.74	28.65		173	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		220.53	220.31	5.83	0.484	0.836	224.43	223.59	226.23	1.80
	826	817	1.80	6.64	12.77	8.51	1.25	0.55	4.68	38.86		122	R.C.P.	36	0.013			0.10	21.18	3.0			220.31	220.19	5.49	0.337	0.409	223.59	223.19	225.69	2.10
	8231	8232	2.65	2.65	10.00	9.12	1.25	0.55	5.01	16.61		27	R.C.P.	24	0.013			0.75	19.66	6.2	0.00		221.20	221.00	5.28	0.535	0.143	225.59	225.44	225.90	0.31
	8232	823	0.35	3.00	10.07	9.10	1.25	0.55	5.00	18.77		7	R.C.P.	24	0.013			1.43	27.15	8.6	0.00		221.00	220.90	5.97	0.683	0.048	225.44	225.40	225.87	0.43
	8251	8252	0.31	0.31	10.00	9.12	1.25	0.55	5.01	1.94		24	R.C.P.	24	0.013			0.83	20.74	6.6	0.00		221.56	221.36	0.62	0.007	0.002	224.94	224.93	226.26	1.32
	8252	825	0.06	0.37	10.06	9.10	1.25	0.55	5.01	2.32		7	R.C.P.	24	0.013			1.43	27.15	8.6			221.36	221.26	0.74	0.010	0.001	224.93	224.93	226.23	1.30
	8261	8262	1.49	1.49	10.00	9.12	1.25	0.55	5.01	9.34		25	R.C.P.	24	0.013			0.79	20.19	6.4	0.00		221.01	220.81	2.97	0.169	0.043	224.49	224.45	225.71	1.22
	8262	826	0.31	1.80	10.07	9.10	1.25	0.55	5.01	11.26		7	R.C.P.	24	0.013			1.43	27.15	8.6			220.81	220.71	3.58	0.246	0.017	224.45	224.43	225.69	1.25
	8201	820	1.12	1.12	10.00	9.12	1.25	0.55	5.01	7.02		20	R.C.P.	30	0.013			0.13	14.85	3.0	0.17		218.93	218.90	1.43	0.029	0.006	221.43	221.40	223.80	2.37
	Ex.110	Ex. 111	0.60	0.60	10.00	9.12	1.25	0.55	5.01	3.76		61	R.C.P.	24	0.013			0.33	13.01	4.1	0.00		215.62	215.42	1.20	0.027	0.017	218.48	218.46	220.32	1.84
	Ex. 111	Ex. 112	0.24	0.84	10.25	9.06	1.25	0.55	4.98	5.23		128	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		215.42	215.19	1.66	0.053	0.068	218.46	218.40	220.32	1.86
	Ex. 112	Ex. 106	1.04	1.88	10.94	8.90	1.25	0.55	4.89	11.50		123	R.C.P.	24	0.013			0.18	9.64	3.1			215.19	214.97	3.66	0.256	0.316	218.40	218.08	221.03	2.63
	Ex. 1121	Ex. 1122	0.72	0.72	10.00	9.12	1.25	0.55	5.01	4.51		28	R.C.P.	24	0.013			0.71	19.20	6.1	0.00		216.33	216.13	1.43	0.039	0.011	218.41	218.40	221.03	2.62
	Ex. 1122	Ex. 112	0.32	1.04	10.08	9.10	1.25	0.55	5.00	6.50		7	R.C.P.	24	0.013			1.43	27.15	8.6			216.13	216.03	2.07	0.082	0.006	218.40	218.40	221.03	2.63
	Ex. 120	Ex. 103	0.00	0.00	10.00	9.12	1.25	0.55	5.01	0.00		86	R.C.P.	24	0.013			0.18	9.64	3.1	1.45		217.00	216.85	0.00	0.000	0.000	219.00	218.85	229.83	10.83
	Ex. 103	Ex. 104	2.29	2.29	10.47	9.00	1.25	0.55	4.95	14.18		64	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		215.40	215.31	2.88	0.119	0.075	217.90	217.83	229.83	11.92
	Ex. 104	Ex. 105	0.19	2.48	10.82	8.92	1.25	0.55	4.91	15.22		201	R.C.P.	30	0.013			0.13	14.85	3.0	0.00		215.31	215.05	3.10	0.137	0.275	217.83	217.55	222.33	4.50
	Ex. 105	Ex. 108	0.00	2.48	11.90	8.69	1.25	0.55	4.78	14.81		134	R.C.P.	30	0.013			0.13	14.85	3.0	0.50		215.05	214.88	3.01	0.129	0.173	217.55	217.38	222.33	4.77
	Ex. 108	Ex. 109	2.06	4.54	12.64	8.54	1.25	0.55	4.70	26.65		127	R.C.P.	36	0.013			0.10	21.18	3.0	0.00		214.38	214.25	3.76	0.158	0.201	218.41	218.21	221.00	2.59
	Ex. 109	Ex. 106	0.00	4.54	13.20	8.43	1.25	0.55	4.64	26.31		87	R.C.P.	36	0.013			0.10	21.18	3.0			214.25	214.16	3.72	0.154	0.134	218.21	218.08	221.00	2.79
	Ex. 1021	Ex. 1022	1.36	1.36	10.00	9.12	1.25	0.55	5.01	8.52		28	R.C.P.	24	0.013			0.71	19.20	6.1	0.00		217.67	217.47	2.71	0.141	0.039	219.67	219.47	222.37	2.70
	Ex. 1022	Ex. 102	0.28	1.64	10.08	9.10	1.25	0.55	5.00	10.26		7	R.C.P.	24	0.013			1.43	27.15	8.6	0.00		217.47	217.37	3.26	0.204	0.014	219.47	219.37	222.37	2.90
	Ex. 102	Ex. 103	0.65	2.29	10.09	9.09	1.25	0.55	5.00	14.32		26	R.C.P.	24	0.013			0.18	9.64	3.1			215.95	215.90	4.55	0.397	0.101	218.00	217.90	222.37	4.36
	Ex. 1041	Ex. 1042	0.16	0.16	10.00	9.12	1.25	0.55	5.01	1.00		28	R.C.P.	24	0.013			0.71	19.20	6.1	0.00		217.67	217.47	0.32	0.002	0.001	219.67	219.47	222.37	2.70
	Ex. 1042	Ex. 104	0.03	0.19	10.08	9.10	1.25	0.55	5.00	1.19		7	R.C.P.	24	0.013			1.43	27.15	8.6			217.47	217.37	0.38	0.003	0.000	219.47	219.37	222.37	2.90
	Ex. 101	Ex. 102	0.65	0.65	10.00	9.12	1.25	0.55	5.01	4.07		31	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		216.00	215.95	1.29	0.032	0.010	218.00	217.95	222.00	4.00
	Ex. 1081	Ex. 1082	1.75	1.75	10.00	9.12	1.25	0.55	5.01	10.97		28	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		216.30	216.25	3.49	0.233	0.065	218.50	218.44	221.00	2.50
	Ex. 1082	Ex. 108	0.31	2.06	10.13	9.08	1.25	0.55	5.00	12.86		7	R.C.P.	24	0.013			0.18	9.64	3.1	0.00		216.25	216.24	4.09	0.321	0.022	218.44	218.41	221.00	2.56

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

100 YEAR DRAINAGE CALCULATIONS

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 7 OF 25

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

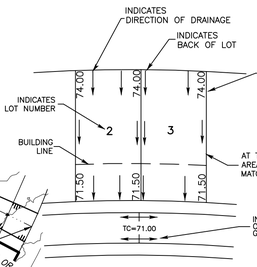
MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:22pm User Name : bautton
Path\Name : J:\Projects\1019_3081 - Mill Creek Section 8\CAD_Sheet_Files\07 100-YR DRAINAGE CALCULATIONS.dwg

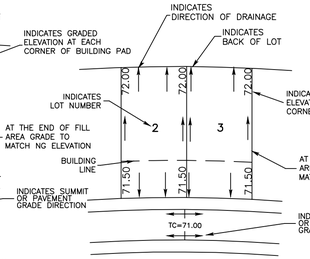
LEGEND

- STM. INLET
- TC=71.50 — TOP OF CURB ELEVATION
- (2) — INDICATES BLOCK NUMBER
- 2 — INDICATES LOT NUMBER
- 72 — INDICATES EXISTING NATURAL GROUND CONTOUR
- 72 — *EXISTING NATURAL GROUND CONTOUR*

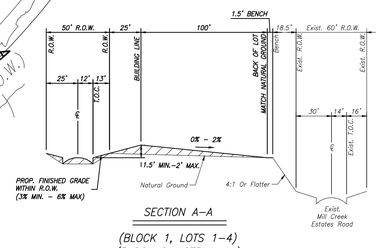
N



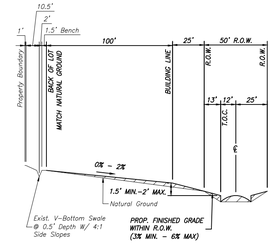
PLAN VIEW OF A–GRADED LOT DETAIL
(BY PAVING CONTRACTOR)
(NOT TO SCALE)



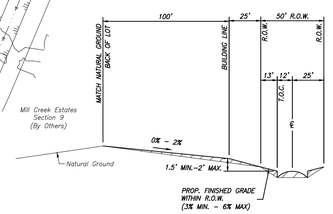
PLAN VIEW OF B–GRADED LOT DETAIL
(BY PAVING CONTRACTOR)
(NOT TO SCALE)



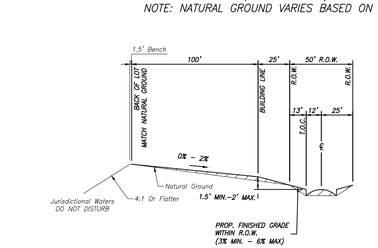
SECTION A–A
(BLOCK 1, LOTS 1–4)
(BLOCK 2, LOTS 1–11)
(BY PAVING CONTRACTOR)
(NOT TO SCALE)
NOTE: NATURAL GROUND VARIES BASED ON LOCATION.



SECTION B–B
(BLOCK 3, LOTS 1–11)
(BY PAVING CONTRACTOR)
(NOT TO SCALE)
NOTE: NATURAL GROUND VARIES BASED ON LOCATION.



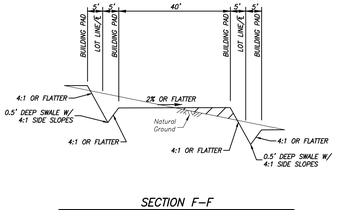
SECTION C–C
(BLOCK 4, LOTS 1–13)
(BY PAVING CONTRACTOR)
(NOT TO SCALE)
NOTE: NATURAL GROUND VARIES BASED ON LOCATION.



SECTION D–D
(BLOCK 3, LOTS 13–17)
(BY PAVING CONTRACTOR)
(NOT TO SCALE)
NOTE: NATURAL GROUND VARIES BASED ON LOCATION.

SECTION H–H
V–BOTTOM SWALE
(NOT TO SCALE)
NOTE: NATURAL GROUND VARIES BASED ON LOCATION
NOTE: CROSS SECTION MAY BE MIRRORED BASED ON LOCATION

SECTION E–E
(BLOCK 4 LOTS 14–44)
(BY PAVING CONTRACTOR)
(NOT TO SCALE)
NOTE: NATURAL GROUND VARIES BASED ON LOCATION.



SECTION F–F
ALL LOTS
(BY PAVING CONTRACTOR)
(NOT TO SCALE)
NOTE: NATURAL GROUND VARIES BASED ON LOCATION

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/– 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM–A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/– 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/– 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
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3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

GRADING 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.: 1019–3081 & 1019–3082

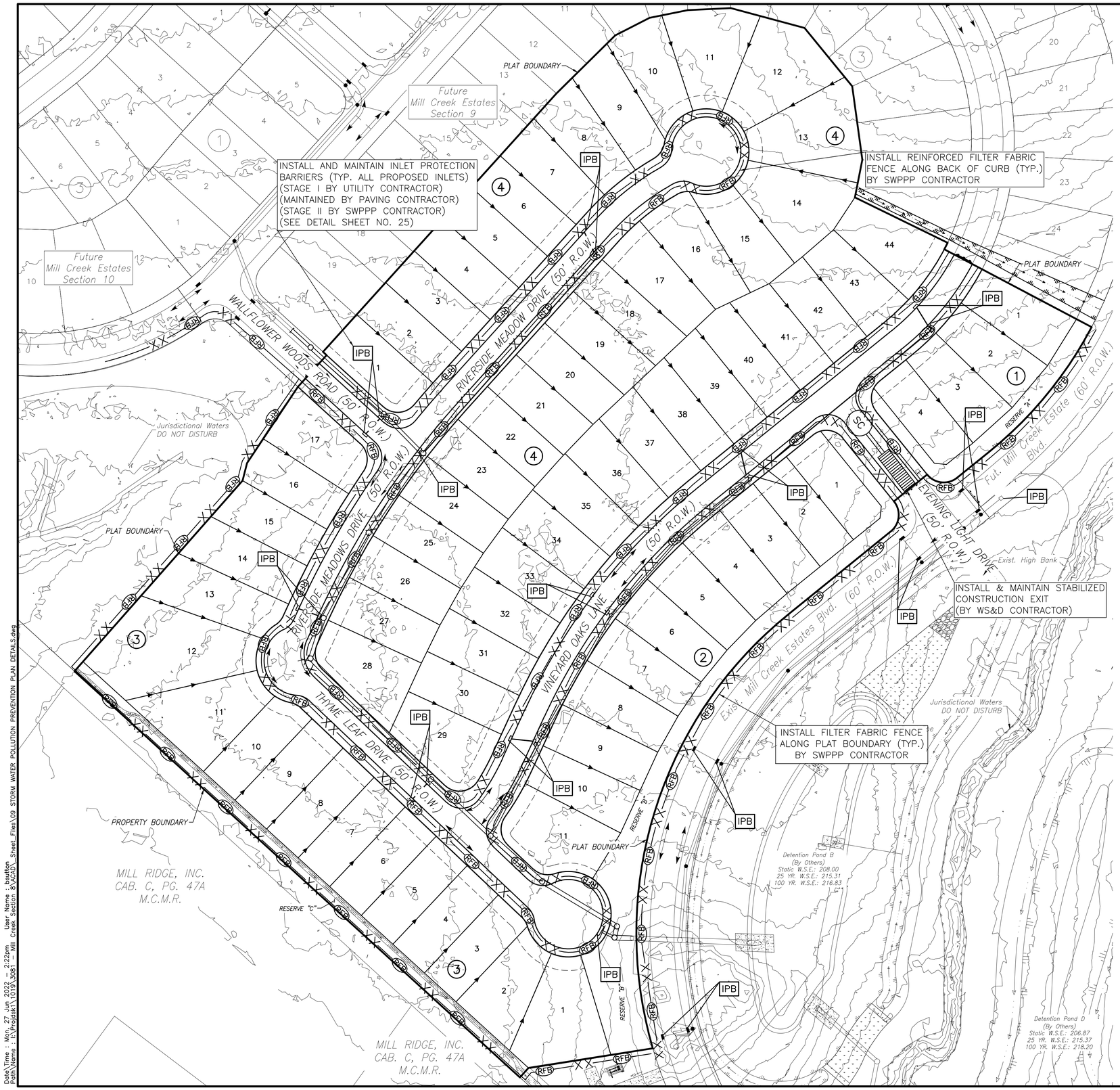
DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: 1"=60'

SHEET NO. 8 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019–3081 (W.S.&D.) & 1019–3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date/Time : Mon, 27 Jun 2022 – 2:22pm User Name : bsutton
Path Name : J:\Projects\1019\3081 – Mill Creek Section 8\CAD\Sheet Files\08 GRADING PLAN.dwg



LEGEND

- SC — = STABILIZED CONSTRUCTION EXIT
- IPB — = INLET PROTECTION BARRIER
- XX—RFB—XX = REINFORCED FABRIC FENCE
- XX—FF—XX = FILTER FABRIC FENCE
- 90 = INDICATES EXISTING NATURAL GROUND CONTOURS

N

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

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SURFACE COORDINATES: N 10079696.593
E 3757838.329

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4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: 1"=60'

SHEET NO. 9 OF 25

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

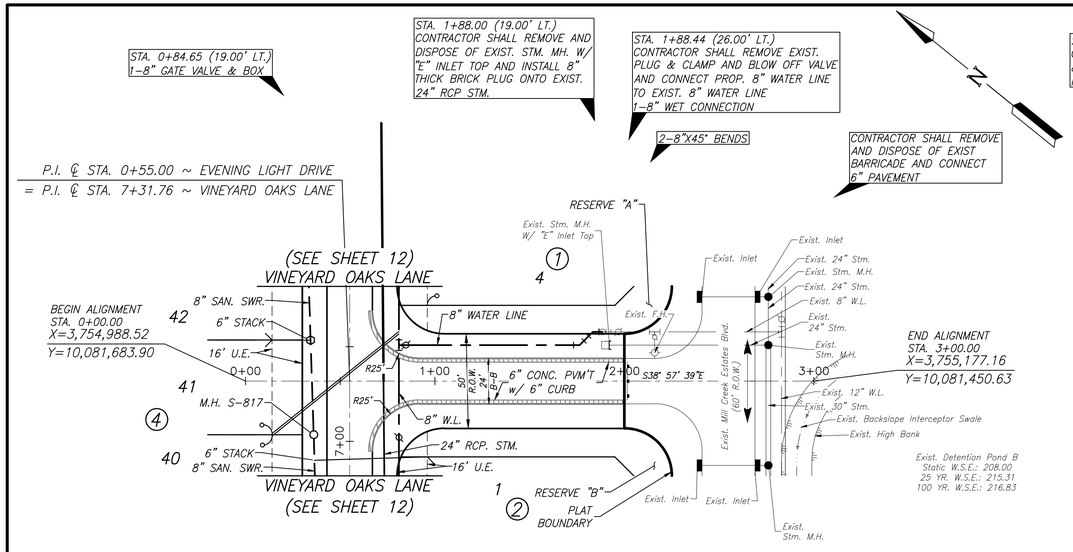
PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

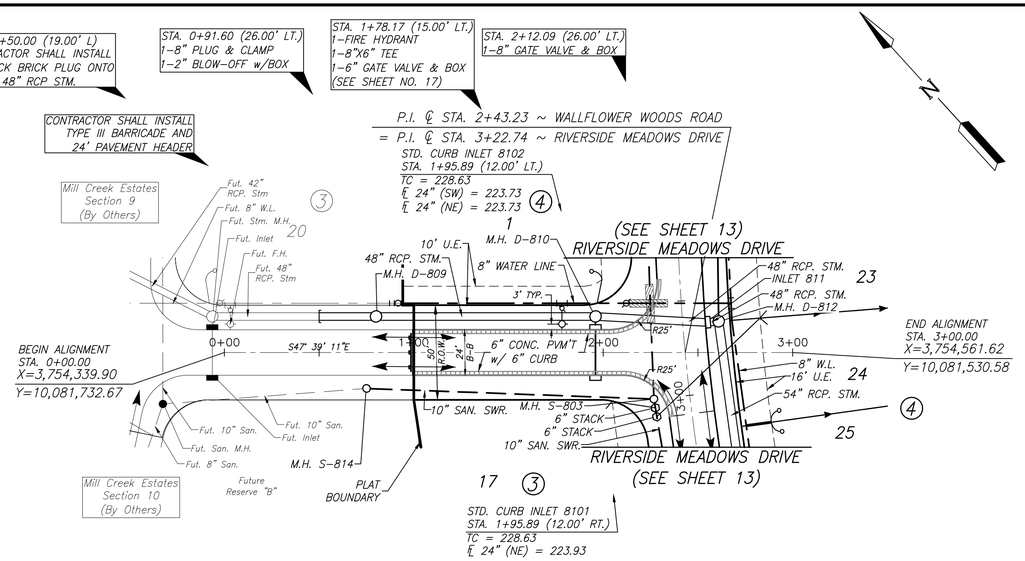
MONTGOMERY COUNTY M.U.D. No. 165

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 - 2:22pm User Name : lbaulton
Path\Name : I:\Projects\1019\3081 - Mill Creek Section 8\CAD\1_Sheet_Files\09 STORM WATER POLLUTION PREVENTION PLAN DETAILS.dwg

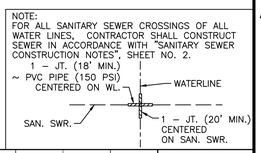


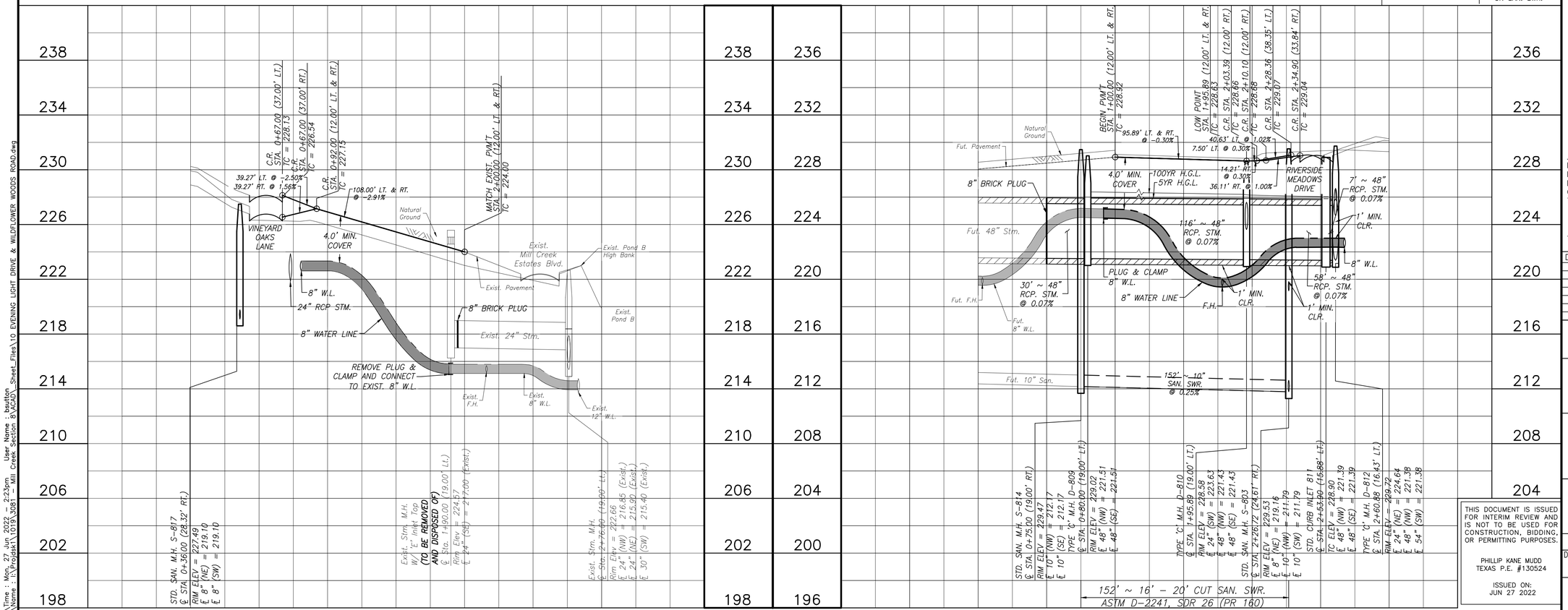
EVENING LIGHT LANE (50' R.O.W.)



WALLFLOWER WOODS ROAD (50' R.O.W.)

NOTE:
FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.





BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)

SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

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SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

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4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

EVENING LIGHT LANE
STA. 0+00 TO END
WALLFLOWER WOODS ROAD
STA. 0+00 TO END

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

HORZ: 1" = 40'
VERT: 1" = 4'

SHEET NO. 10 OF 25

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

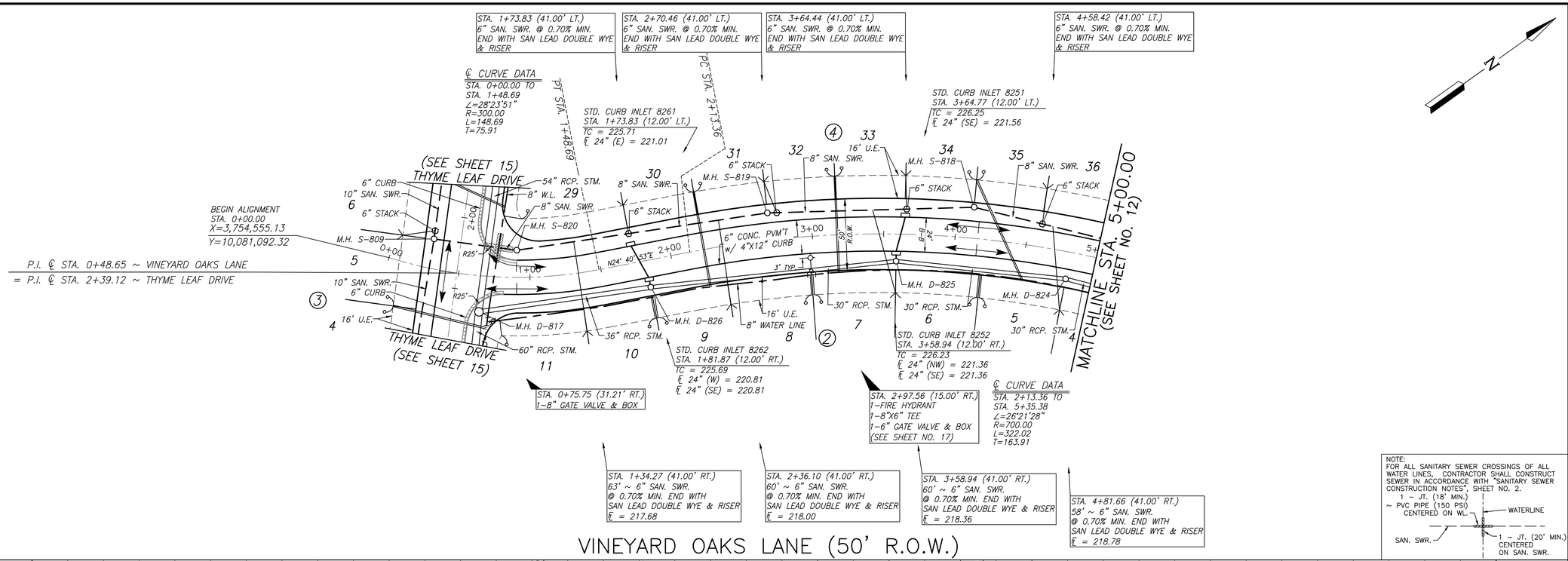
PHILLIP KANE MUDD
TEXAS P.E. #130524

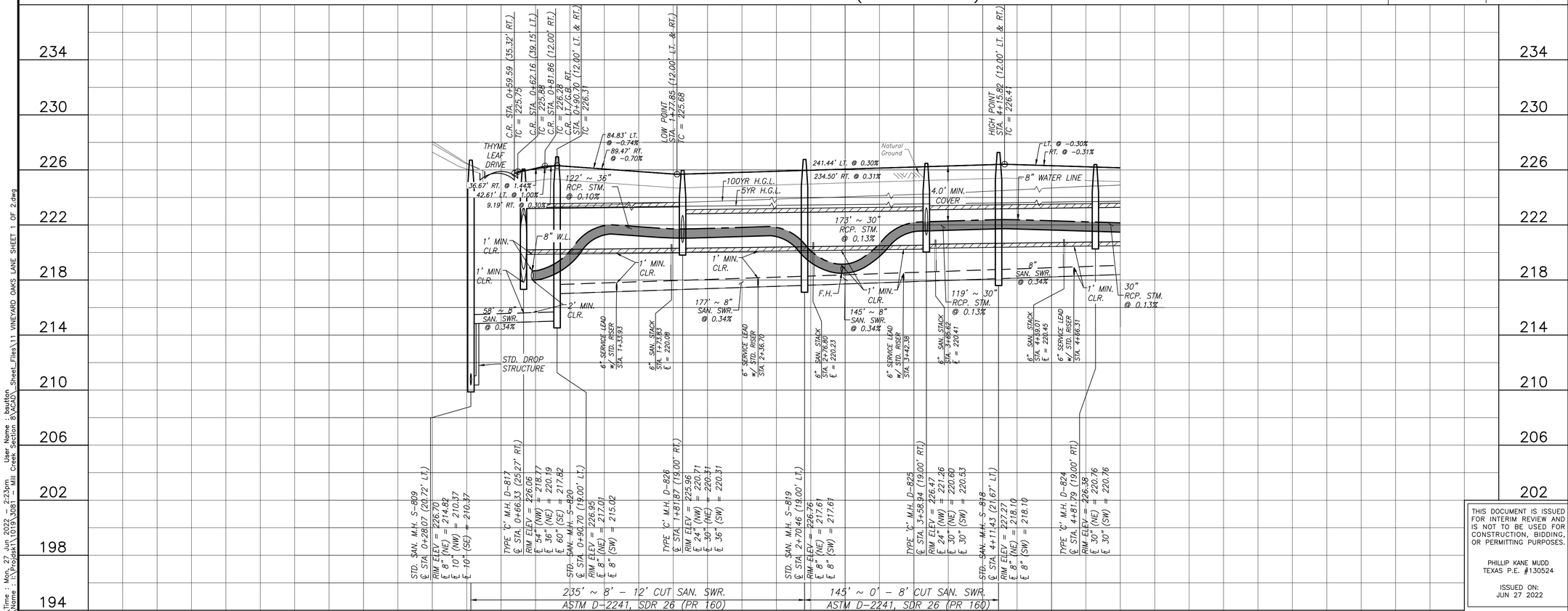
ISSUED ON:
JUN 27 2022

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:23pm
User Name : bautton
Path\Name : J:\Projects\1019.3081 - Mill Creek Sections 8 & 9\CAD\Sheet_Files\10 EVENING LIGHT DRIVE & WILDFLOWER WOODS ROAD.dwg

VINEYARD OAKS LANE (50' R.O.W.)





Date\Time : Mon, 27 Jun 2022 - 2:23pm User Name : bautton
Path\Name : J:\Projects\1019_3081 - Mill Creek Section 8\CAD\Sheet_Files\11 VINEYARD OAKS LANE SHEET 1 OF 2.dwg

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

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E 3810217.487

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SURFACE COORDINATES: N 10079696.593
E 3757838.329

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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
- COUNTY ENGINEER

DATE: _____

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

VINEYARD OAKS LANE
STA. 0+00 TO 5+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

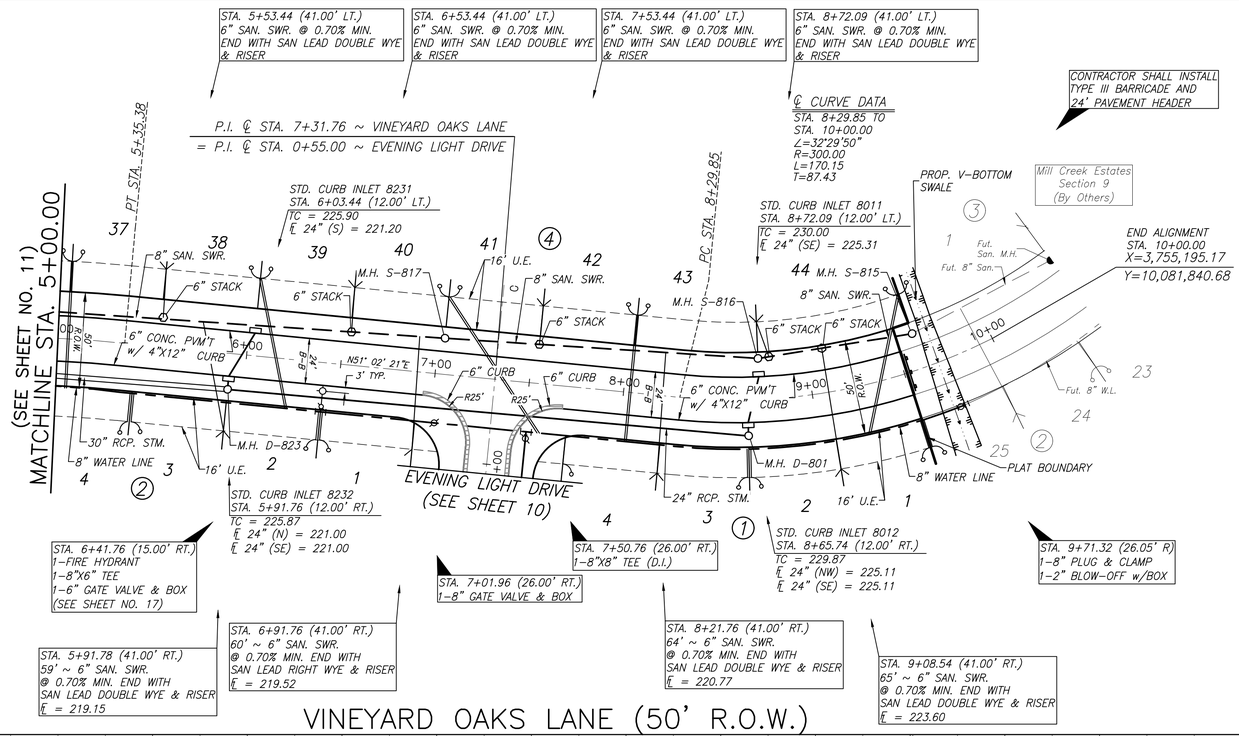
LJA PROJECT NO.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

HORZ: 1" = 40'
VERT: 1" = 4'

SHEET NO. 11 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165



BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)

SURFACE COORDINATES: N 10057959.086
E 3810217.487

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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

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BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

VINEYARD OAKS LANE
STA. 5+00 TO END

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.: 1019-3081 & 1019-3082

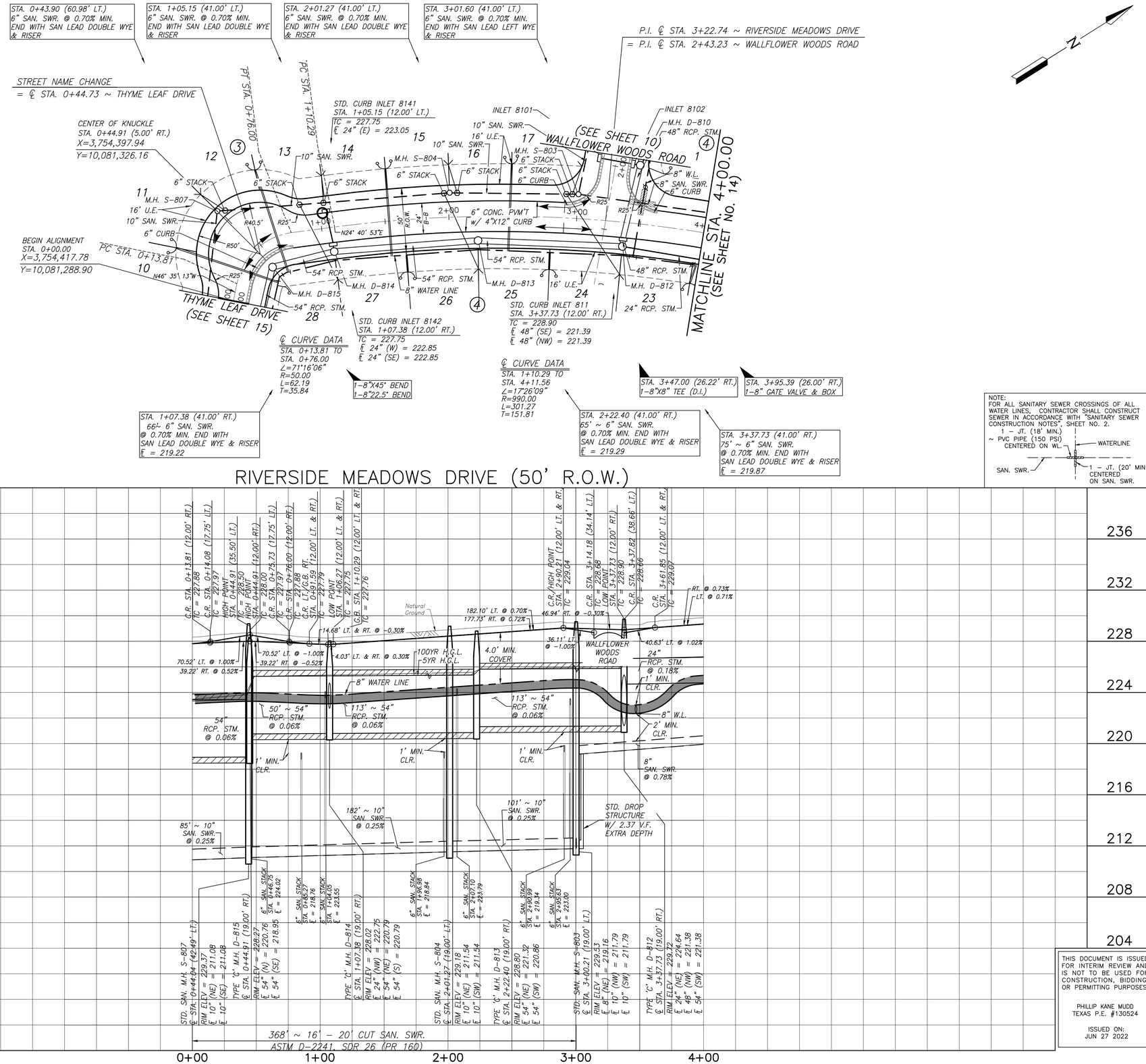
DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

HORZ: 1" = 40'
VERT: 1" = 4'

SHEET NO. 12 OF 25

MONTGOMERY COUNTY M.U.D. No. 165
MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 - 2:24pm User Name : bautton
Path Name : J:\Projects\1019_3081 - Mill Creek Section 8\CAD\Sheet_Files\12 VINEYARD OAKS LANE SHEET 2 OF 2.dwg



BENCHMARK:

PROJECT BM

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E 3810217.487

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SURFACE COORDINATES: N 10079696.593
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4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

RECORD DRAWING

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BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

RIVERSIDE MEADOWS DRIVE
STA. 0+00 TO 4+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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

HORZ: 1" = 40'
VERT: 1" = 4'

SHEET NO. 13 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:24pm User Name : bautton
Path\Name : J:\Projects\1019_3081 - Mill Creek Section 8\CAD\Sheet_Files\13_RIVERSIDE MEADOWS DRIVE SHEET 1 OF 2.dwg

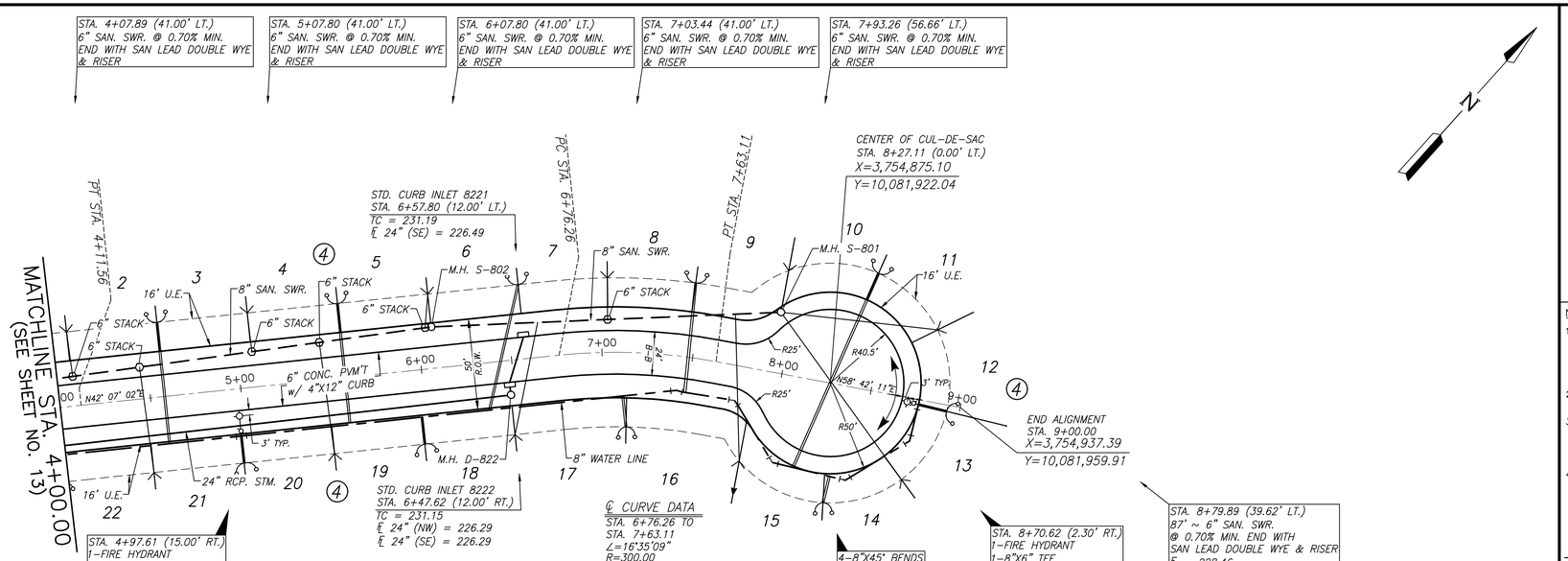
STA. 4+07.89 (41.00' LT.)
6" SAN. SWR. @ 0.70% MIN.
END WITH SAN LEAD DOUBLE WYE & RISER

STA. 5+07.80 (41.00' LT.)
6" SAN. SWR. @ 0.70% MIN.
END WITH SAN LEAD DOUBLE WYE & RISER

STA. 6+07.80 (41.00' LT.)
6" SAN. SWR. @ 0.70% MIN.
END WITH SAN LEAD DOUBLE WYE & RISER

STA. 7+03.44 (41.00' LT.)
6" SAN. SWR. @ 0.70% MIN.
END WITH SAN LEAD DOUBLE WYE & RISER

STA. 7+93.26 (56.66' LT.)
6" SAN. SWR. @ 0.70% MIN.
END WITH SAN LEAD DOUBLE WYE & RISER



STA. 4+97.61 (15.00' RT.)
1-FIRE HYDRANT
1-8"X6" TEE
1-6" GATE VALVE & BOX
(SEE SHEET NO. 17)

STA. 8+70.62 (2.30' RT.)
1-FIRE HYDRANT
1-8"X6" TEE
1-6" GATE VALVE & BOX
(SEE SHEET NO. 17)

STA. 8+79.89 (39.62' LT.)
87' ~ 6" SAN. SWR.
@ 0.70% MIN. END WITH
SAN LEAD DOUBLE WYE & RISER
℄ = 228.46

STA. 4+47.62 (41.00' RT.)
59' ~ 6" SAN. SWR.
@ 0.70% MIN. END WITH
SAN LEAD DOUBLE WYE & RISER
℄ = 222.88

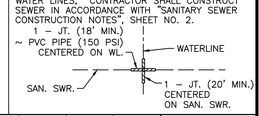
STA. 5+47.62 (41.00' RT.)
62' ~ 6" SAN. SWR.
@ 0.70% MIN. END WITH
SAN LEAD DOUBLE WYE & RISER
℄ = 223.24

STA. 6+47.62 (41.00' RT.)
63' ~ 6" SAN. SWR.
@ 0.70% MIN. END WITH
SAN LEAD DOUBLE WYE & RISER
℄ = 224.53

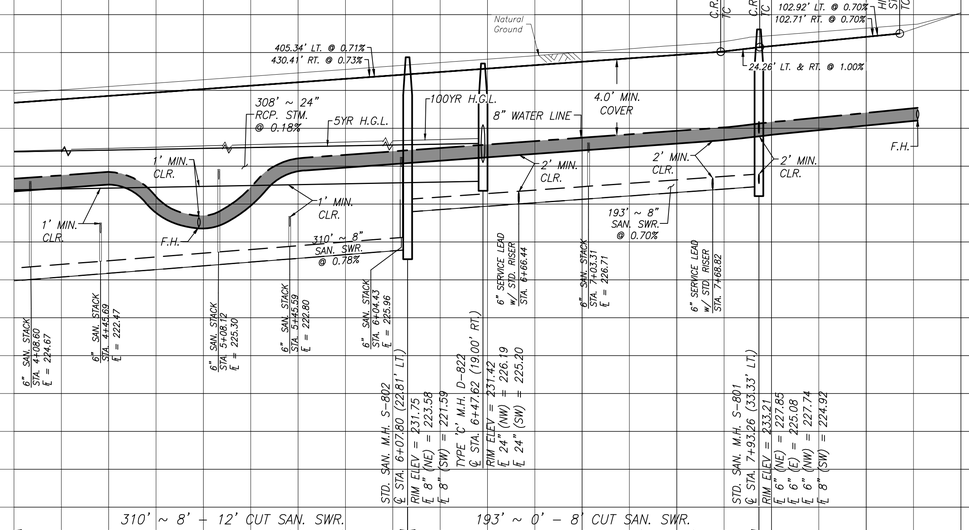
STA. 7+85.71 (51.41' RT.)
81' ~ 6" SAN. SWR.
@ 0.70% MIN. END WITH
SAN LEAD DOUBLE WYE & RISER
℄ = 225.40

STA. 8+75.41 (44.97' RT.)
113'~ 6" SAN. SWR.
@ 0.70% MIN. END WITH
SAN LEAD DOUBLE WYE & RISER
℄ = 225.87

NOTE:
FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.



RIVERSIDE MEADOWS DRIVE (50' R.O.W.)



BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
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4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

RIVERSIDE MEADOWS DRIVE
STA. 4+00 TO END

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

HORZ: 1" = 40'
VERT: 1" = 4'

SHEET NO. 14 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:25pm
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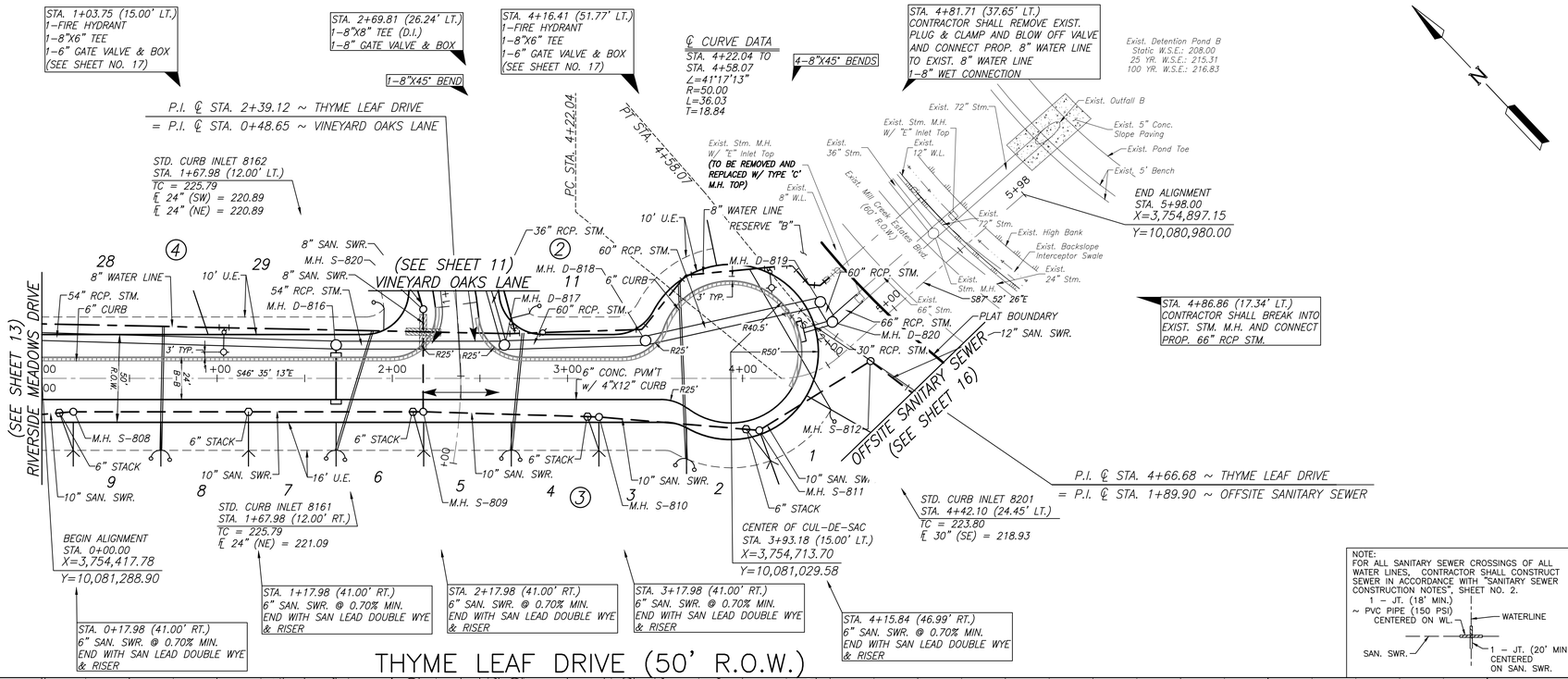
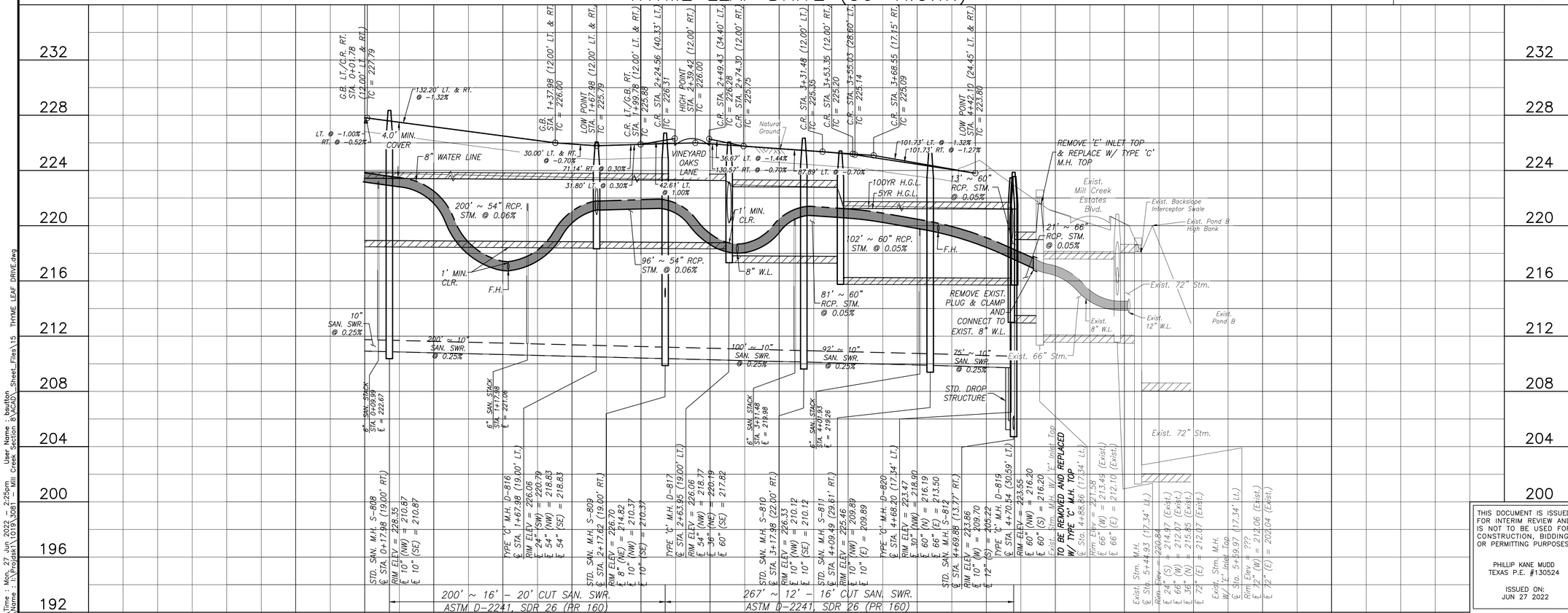
User Name : bautton





BENCHMARK:

PROJECT BM

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E 3810217.487

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SURFACE COORDINATES: N 10079696.593
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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
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BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

THYME LEAF DRIVE
STA. 0+00 TO END

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.: 1019-3081 & 1019-3082

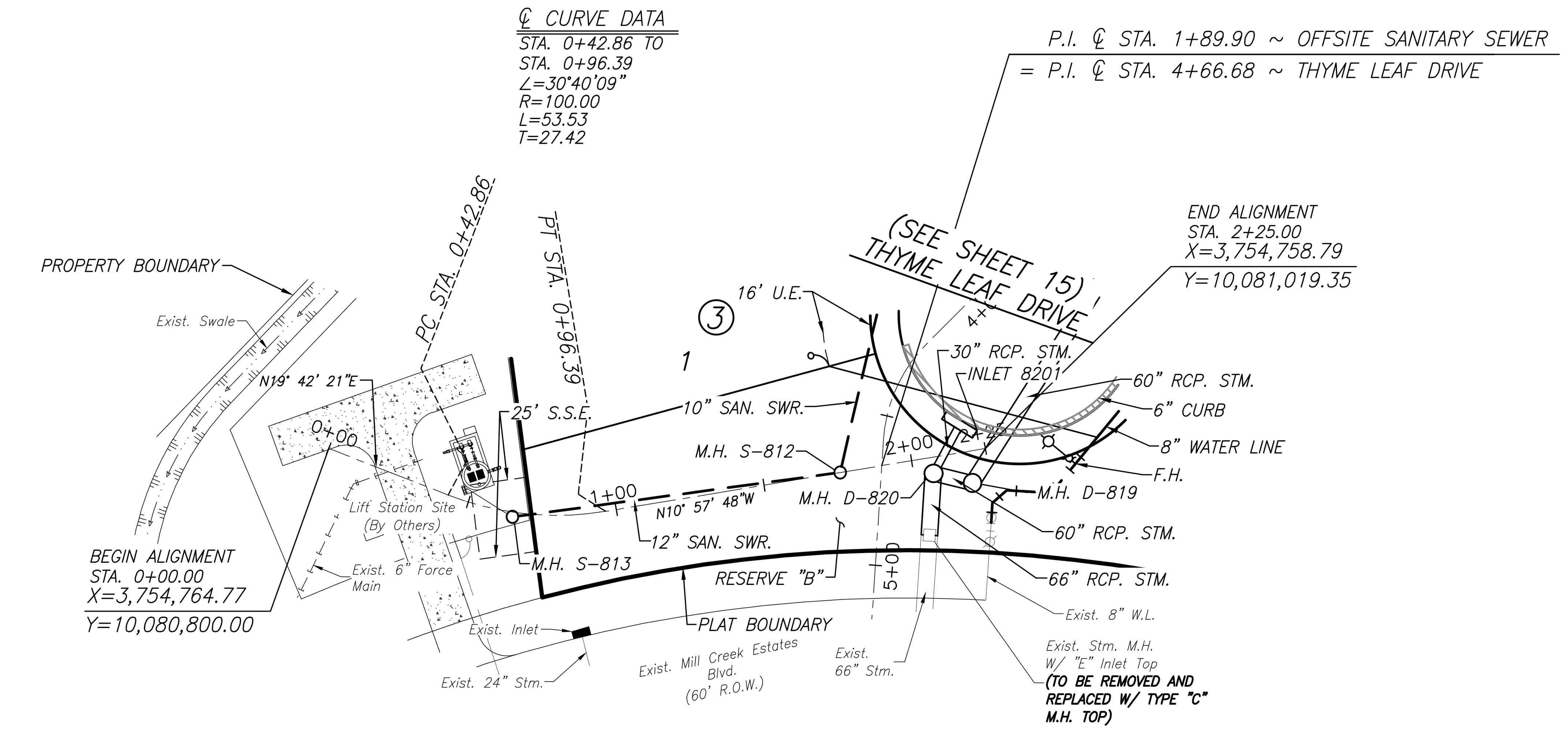
DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

HORZ: 1" = 40'
VERT: 1" = 4'

SHEET NO. 15 OF 25

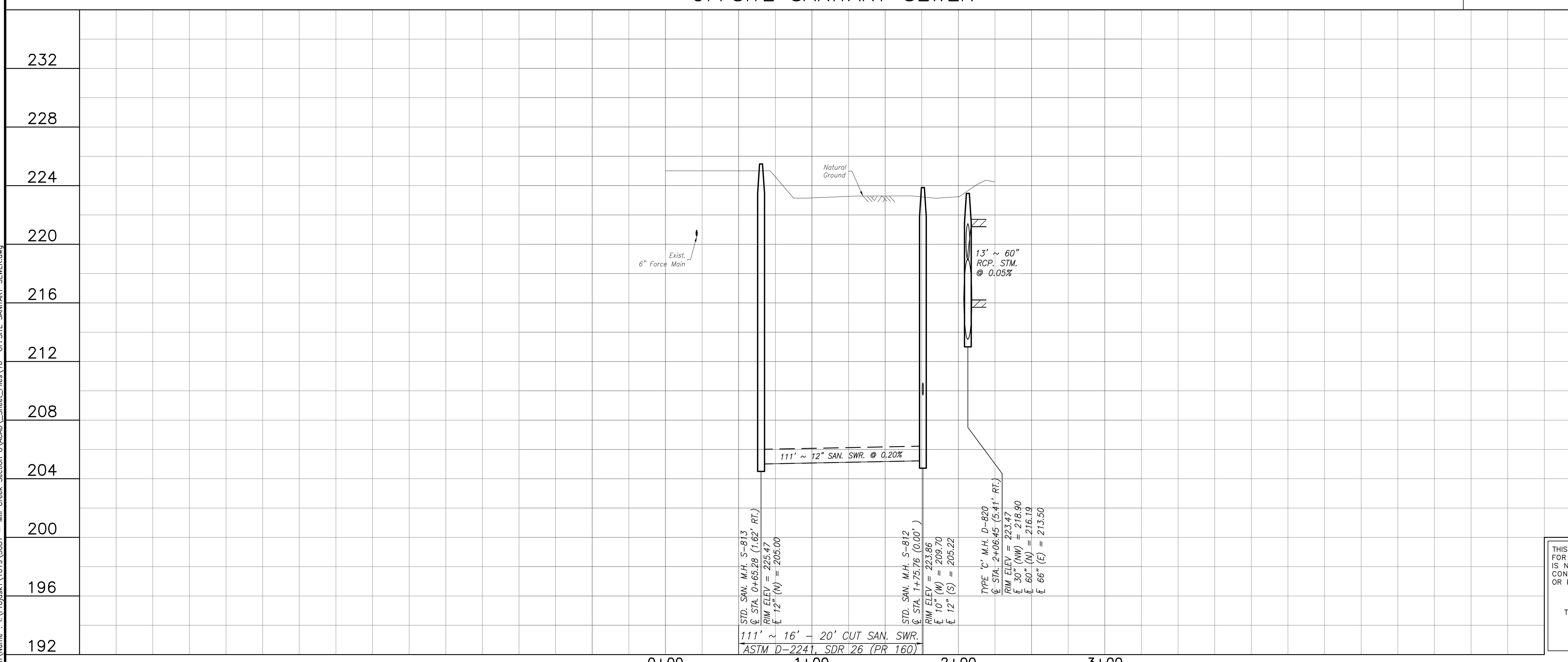
MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:25pm User Name : bautton
Path\Name : J:\Projects\1019_3081 - Mill Creek Section 8\CAD\Sheet_Files\15 THYME LEAF DRIVE.dwg



NOTE:
FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
1 – JT. (18' MIN.) ~ PVC PIPE (150 PSI) CENTERED ON WL.
WATERLINE
SAN. SWR.
1 – JT. (20' MIN.) CENTERED ON SAN. SWR.

OFFSITE SANITARY SEWER



BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: ____________ – COUNTY ENGINEER

DATE: ____________

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY ____________ DATE ____________

TITLE ____________

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

OFFSITE SANITARY SEWER
STA. 0+00 TO END

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

HORZ: 1" = 40'
VERT: 1" = 4'

SHEET NO. 16 OF 25

MONTGOMERY COUNTY M.U.D. No. 165

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 – 2:26pm User Name : bsutton
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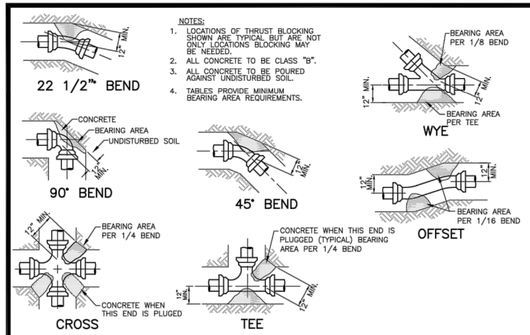
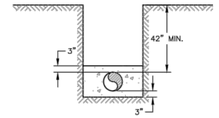
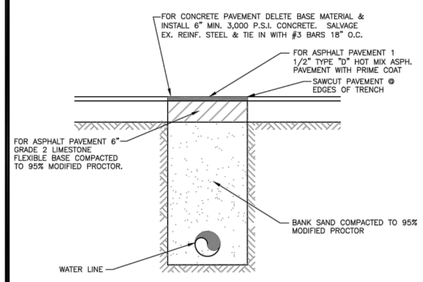


1/16 BEND (22 1/2°)		1/8 BEND (45°)		1/4 BEND (90°)		TEE	
PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA
4"	1 S.F.	4"	1 S.F.	4"	3 S.F.	4"	2 S.F.
6"	2 S.F.	6"	3 S.F.	6"	6 S.F.	6"	4 S.F.
8"	3 S.F.	8"	5 S.F.	8"	10 S.F.	8"	7 S.F.
10"	4 S.F.	10"	8 S.F.	10"	16 S.F.	10"	11 S.F.
12"	6 S.F.	12"	12 S.F.	12"	22 S.F.	12"	15 S.F.
14"	8 S.F.	14"	16 S.F.	14"	30 S.F.	14"	21 S.F.
18"	13 S.F.	18"	26 S.F.	18"	49 S.F.	18"	34 S.F.
20"	16 S.F.	20"	33 S.F.	20"	62 S.F.	20"	43 S.F.
24"	24 S.F.	24"	47 S.F.	24"	87 S.F.	24"	62 S.F.

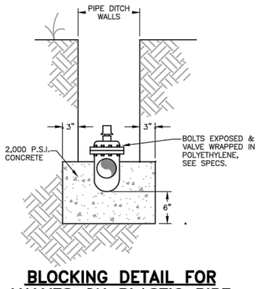
THRUST BLOCK DETAILS



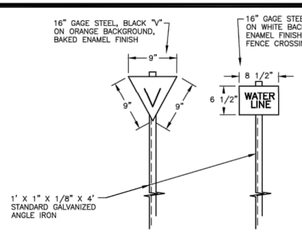
TYPICAL CONCRETE ENCASEMENT



TYPICAL SECTION OPEN CUT PAVED STREET, DRIVEWAY, OR ALLEY



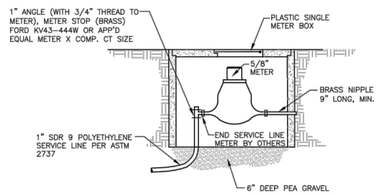
BLOCKING DETAIL FOR VALVES ON PLASTIC PIPE



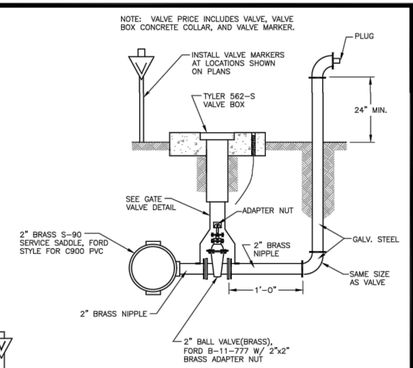
VALVE MARKER
NTS

WATER LINE MARKER
NTS

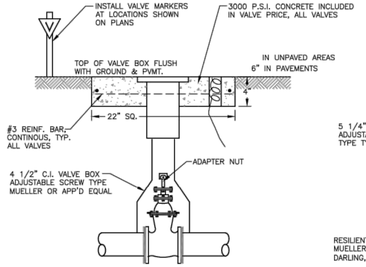
NOTE: VALVE AND WATER LINE MARKERS ARE TO BE INSTALLED AT LOCATIONS AS SHOWN ON PLANS. WATER LINE MARKER IS TO BE INSTALLED NEAR THE R.O.W. LINE AT ROAD AND RAILROAD CROSSINGS.



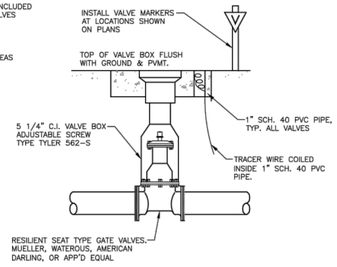
WATER METER



FLUSH VALVE UNIT IN UNIMPROVED AREAS
NTS

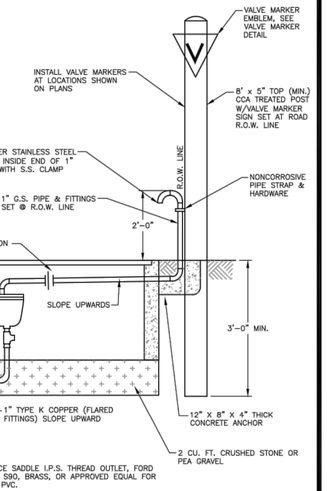


BRASS BALL VALVES 2" & SMALLER W/ BRASS 2" x 2" ADAPTER NUT

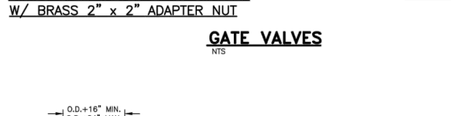


3" & LARGER

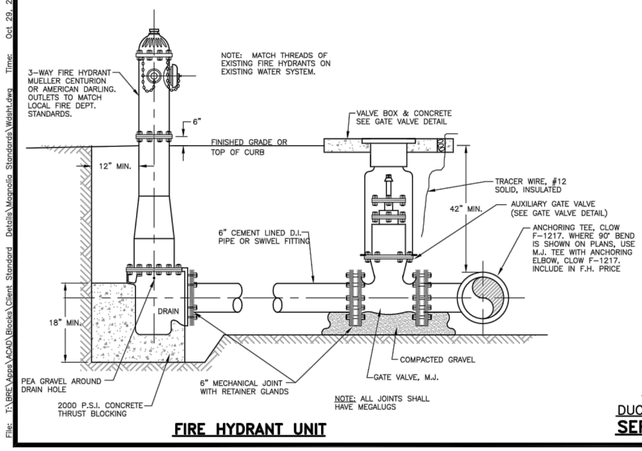
GATE VALVES
NTS



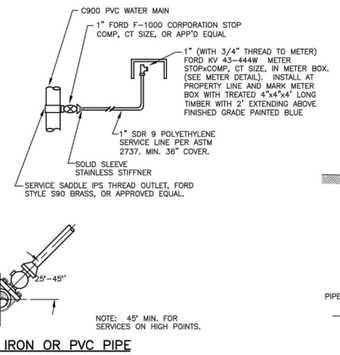
AIR RELEASE VALVE INSTALLATION
NTS



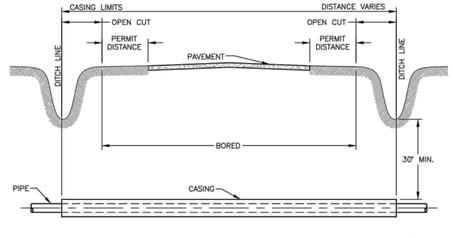
EMBEDMENT CROSS SECTION FOR P.V.C. PIPE
NTS



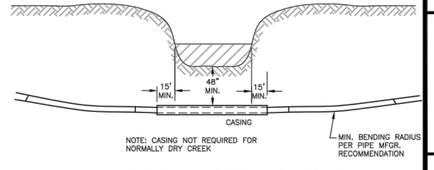
FIRE HYDRANT UNIT



DUCTILE IRON OR PVC PIPE SERVICE CONNECTION



TYPICAL BORED ROAD CROSSING SECTION
NTS



TYPICAL CREEK CROSSING

CITY OF MAGNOLIA STANDARD DETAIL SHEETS

WATER DETAILS SHEET 1 OF 2

NO.	REVISIONS	DATE:

JOB NO. 3919

PROJECT MGR. KMH

TBPE No. F-8405

STRAND ASSOCIATES®

SHEET 1

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

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E 3810217.487

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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

RECORD DRAWING

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BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

WATER DETAILS
(SHEET 1 OF 2)

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 17 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:26pm User Name : kaulton
Path\Name : I:\Projects\1019\3081 - Mill Creek Section 8\CAD\1_Sheet_Files\17 WATER DETAILS (SHEET 1 OF 2).dwg
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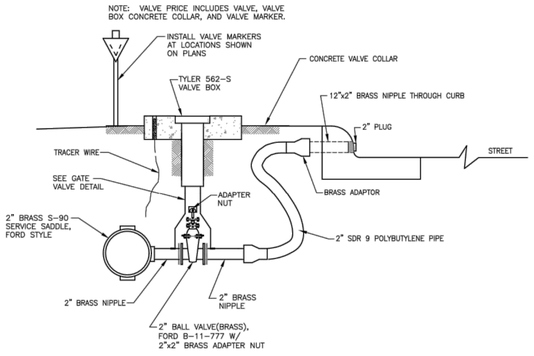
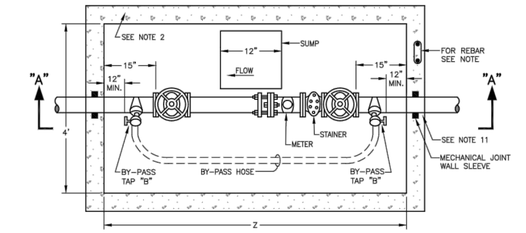
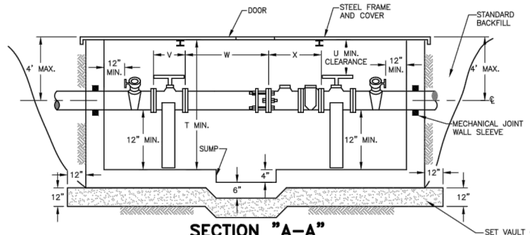


FLUSH VALVE UNIT AT STREET

N.T.S.



PLAN VIEW



SECTION "A-A"

METER VAULT														
DOMESTIC														
METER SIZE	T	U	V	W	X	Y	Z	METER SIZE	T	U	V	W	X	Y	Z
3"	4'-6"	25"	8"	11-1/2"	24"	9"	6'-10"	3"	4'-6"	25"	8"	16-1/2"	19"	9"	6'-10"
4"	4'-6"	22"	9"	13-1/2"	29"	10"	7'-7"	4"	4'-6"	22"	9"	19-1/2"	23"	10"	7'-7"
6"	5'-2"	26"	10-1/2"	13-1/2"	33"	13"	8'-2"	6"	5'-2"	26"	10-1/2"	19-1/2"	27"	13"	8'-2"
								8"	6'-0"	31"	11-1/2"	25-1/2"	30"	17"	9'-1"
								10"	7'-0"	37"	13"	29-1/2"	41"	21"	10'-7"

3" COMPOUND 24"
3" STRAINER 7"
AND COMPOUND

3"-10" TURBINE METER OR COMPOUND METER

N.T.S.

METER VAULT NOTES

1. NOTIFY THE PUBLIC WORKS DEPARTMENT (277-1204) PRIOR TO CONSTRUCTION OF VAULT OR BY-PASS ASSEMBLY.
2. THE METER VAULT CAN BE EITHER POURED IN PLACE OR PREFABRICATED. CONCRETE SHALL BE SIX INCHES (6) THICK AND BE 3,000 P.S.I. WITH #4 REINFORCEMENT STEEL ON TWELVE INCH (12) CENTERS EACH WAY IF THE VAULT IS POURED IN PLACE. PREFABRICATED VAULTS SHALL BE FOUR INCHES (4) THICK AND BE 4,500 P.S.I. CONCRETE WITH #4 REINFORCEMENT STEEL ON EIGHT INCH (8) CENTERS EACH WAY. THESE ARE MINIMAL SPECIFICATIONS.
3. THE VAULT WILL NOT BE PUT IN ANY DRIVE OR PARKING AREAS AND MUST BE LOCATED IN A WATER METER EASEMENT.
4. THE VAULT LID SHALL BE A BILCO LID TYPE Q-4 SINGLE LEAF DESIGN. ANGLE FRAME IS 1/4-INCH STEEL WITH STRAP ANCHORS BOLTED TO THE EXTERIOR. THE LEAF IS 1/4-INCH STEEL DIAMOND PATTERN PLATE PIVOTING ON TORSION BARS FOR EASY OPERATION. THE MINIMUM LIVE LOAD CAPACITY IS 150 POUNDS PER SQUARE FOOT. THE SIZE OF THE DOOR IS THREE FEET (3') BY THREE FEET (3').
5. THE LID SHALL BE PAINTED WITH 43-38 TNEMEC DIFFUSED ALUMINUM PAINT OR APPROVED EQUALAND CENTERED OVER METER.
6. THE BY-PASS AND METER TEST TAP SHALL BE INSTALLED INSIDE THE VAULT. TAP A MUST BE AT LEAST TWO (2) PIPE DIAMETERS DOWNSTREAM OF THE METER. TAPS B AND C MUST BE MADE AT APPROXIMATE FORTY-FIVE DEGREE (45°) ANGLE ON EACH END OF THE PIPE AND CENTERED TEN INCHES (10) AWAY FROM THE WALL. ALL TAPS SHALL BE TWO INCHES (2) AND SHALL INCLUDE A ROCKWELL NO. 317-045514-000 FOR THREE INCH (3) BY TWO INCH (2); ROCKWELL NO. 317-056314-000 FOUR INCH (4) BY TWO INCH (2); ROCKWELL NO. 317-076014-000 FOR SIX INCH (6) BY TWO INCH (2); AND ROCKWELL NO. 317-121214-000 SERVICE SADDLES WITH BRASS NIPPLES AND NO. 7500 OHIO BRASS OR APPROVED EQUAL.
7. THE STRAINER AND METER WILL BE PROVIDED BY CITY.
8. THE STAINER, METER AND FLEXIBLE COUPLING WILL NOT BE SET UNTIL THE METER VAULT AND TAPS ARE ACCEPTED BY THE CITY. ALL UTILITIES MUST ALSO HAVE BEEN ACCEPTED AND RELEASED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO METER INSTALLATION.
9. THE VALVES SHALL BE RESILIENT WEDGE DESIGN GATE VALVE. ALL VALVES SHALL BE FLANGED BOTH ENDS AND HAVE HAND WHEELS.
10. THE BOTTOM OF THE METER VAULT SHALL HAVE A FOUR-INCH (4) FILL SAND CUSHION UNDERNEATH. A SUMP FOUR INCHES (4) DEEP AND TWELVE INCHES (12) IN DIAMETER SHALL BE INSTALLED TO ONE SIDE IN THE CENTER OF THE BOTTOM SLAB. IF PRECAST VAULT IS USED, RAM-NEK SHALL BE USED TO SEAL ALL COLD JOINTS.
11. ALL WALL PENETRATIONS SHALL BE MADE WITH A CAST IN PLACE WALL SLEEVE AS APPROVPED BY THE DEPARTMENT OF PUBLIC WORKS. BREAKING OUT THE WALL USING A JACKHAMMER OR USING KNOCKOUT PANELS WILL NOT BE ALLOWED.
12. A CONCRETE SUPPORT WILL BE INSTALLED UNDER EACH VALVE.
13. DEPTH OF VAULT SHALL BE A MINIMUM OF FOUR AND ONE-HALF FEET (4-1/2).
14. ALL PIPING INSIDE THE VAULT SHALL BE DUCTILE IRON WITH FLANGE FITTINGS. ALL PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.

NO.	REVISIONS	DATE

WATER DETAILS SHEET 2 OF 2

CITY OF MAGNOLIA STANDARD DETAIL SHEETS

JOB NO. 3919

PROJECT MGR. KMH

TBPE No. F-8405

STRAND ASSOCIATES®

SHEET 2

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)

SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

WATER DETAILS
(SHEET 2 OF 2)

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 18 OF 25

MONTGOMERY COUNTY M.U.D. No. 165

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 - 2:26pm User Name : bauton
Path\Name : J:\Projects\1019\3081 - Mill Creek Section 8\ACAD\Sheet Files\18 WATER DETAILS (SHEET 2 Of 2).dwg
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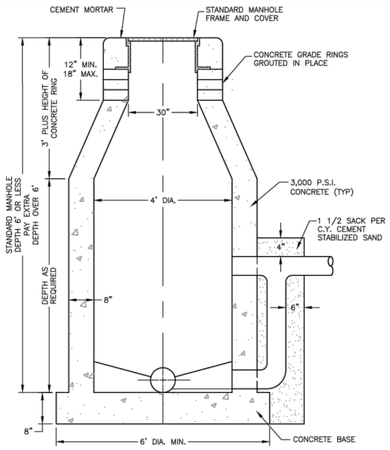


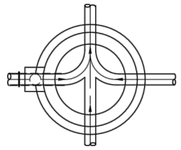
STANDARD MANHOLE STANDARD DROP CONNECTION ON MANHOLE

SECTION VIEW

CAST IN PLACE MANHOLE

NTS

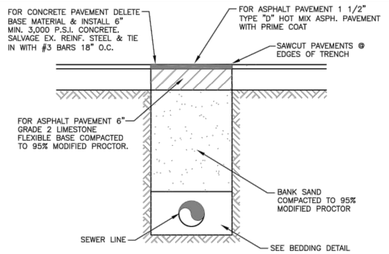
NOTE:
ALL CONCRETE MANHOLES SHALL INCLUDE A WATERPROOFING ADMIXTURE. MANHOLES RECEIVING A FORCE MAIN OR WITHIN 100 FEET OF A TREATMENT PLANT OR PUMP STATION SHALL INCLUDE XYPEX BIOSAN C500 ANTIMICROBIAL AND CRYSTALLINE ADMIXTURE INCLUDING FIELD DETECTION COLORANT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL OTHER MANHOLES SHALL INCLUDE XPEX ADMIX C-100OR (INCLUDING RED DYE) PER MANUFACTURER'S INSTRUCTIONS.



NOTE: PROVIDE HARD SMOOTH SURFACE TO MANHOLE INVERTS.

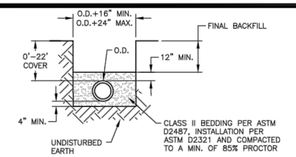
MANHOLE PLAN VIEW

NTS



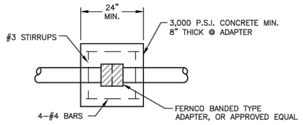
TYPICAL SECTION OPEN CUT PAVED STREET, DRIVEWAY, OR ALLEY

NTS



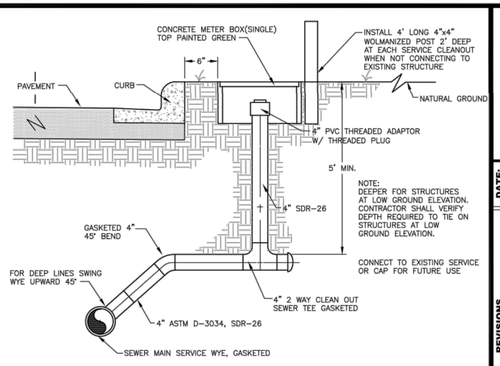
EMBEDMENT CROSS SECTION FOR P.V.C. PIPE

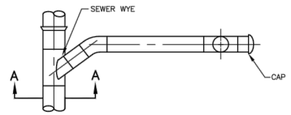
NTS



DETAIL FOR JOINING PIPES OF DIFFERENT TYPE MATERIAL

NTS

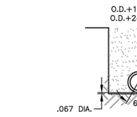




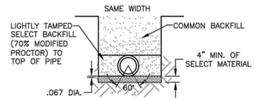
TYPICAL SERVICE CONNECTION

NTS

NOTES:
1. ALL SERVICE LINES SHALL BE 4" SDR-26 P.V.C. PIPE.
2. SERVICE TAPS ON V.C.P. SHALL BE MADE WITH A 4" 'Y' TAP SADDLE DICKEY MODEL NO. YT0400003 OR EQUAL. A 4" E.T.C.O. ADAPTER DICKEY MODEL NO. 442 ZE 042000 OR APPROVED EQUAL SHALL BE USED TO ADAPT FROM THE ABOVE TAP SADDLE TO 4" SDR-26 P.V.C. PIPE.
3. SERVICE TAPS ON DUCTILE IRON PIPE SHALL BE MADE WITH A 4" P.V.C. SADDLE AS MANUFACTURED BY GPK PRODUCTS OF FARGO N.D. OR EQUAL.
4. SERVICE CONNECTIONS FOR P.V.C. PIPE SHALL BE MADE WITH SERVICE WYES OF THE SAME A.S.T.M. DESIGNATION AS THE MAIN LINE.
5. BID ITEMS FOR SERVICE WYES SHALL INCLUDE WYES FOR 6" THROUGH 15" DIA. PIPE AND SADDLES FOR 18" AND LARGER DIAMETER PIPES.
6. ALL SERVICE WYES AND P.V.C. SERVICE LINE SHALL BE ENCASED IN SAND OR GRAVEL WITH FINES.



TYPE 1 FOR I.D.<16" ONLY



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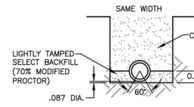

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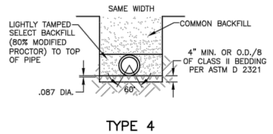

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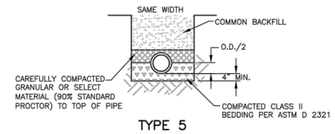
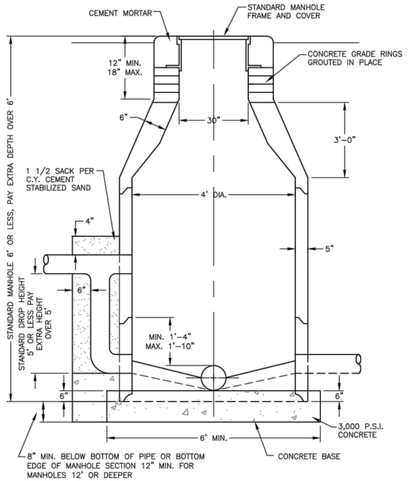


TYPE 5

EMBEDMENT CROSS SECTION FOR DUCTILE IRON PIPE

NTS

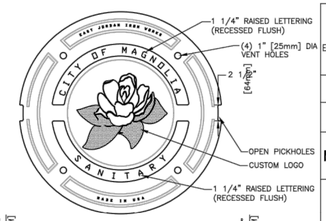


STANDARD DROP CONNECTION ON MANHOLE STANDARD MANHOLE

SECTION VIEW

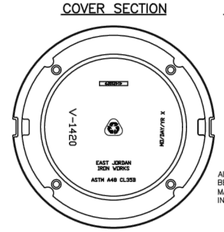
PRECAST CONCRETE MANHOLE

NTS



COVER SECTION

√MACHINED SURFACE



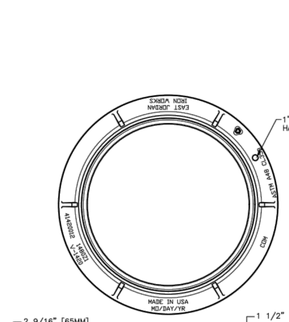
BOTTOM VIEW

ALL PRODUCTS TO BE CERTIFIED AS MANUFACTURED/MADE IN THE U.S.A.

EAST JORDAN IRON WORKS, INC.
P.O. BOX 439 EAST JORDAN, MI. 49727 1-800-874-4100 FAX 231-536-4458
DRAWN: TCL — DATE: 06/07/02
APPROVED: — DATE:
MANHOLE COVER
PRODUCT NO.: 41421029
CATALOG NO.: V1420
REF. PRODUCT DRAWING: 41421028
EST. WT.: COVER: 275 LBS 125kg
OPEN AREA: N/A
MAT'L SPEC.: COVER - GRAY IRON ASTM A48 CL35B
LOAD RATING: HEAVY DUTY

SANITARY SEWER TYPICAL MANHOLE COVER

NTS



FRAME SECTION

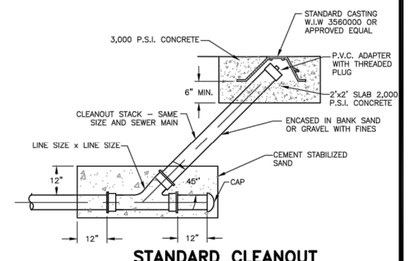
MACHINED SURFACE

EAST JORDAN IRON WORKS, INC.
P.O. BOX 439 EAST JORDAN, MI. 49727 1-800-874-4100 FAX 231-536-4458
DRAWN: TCL — DATE: 06/07/02
APPROVED: — DATE:
V-1420\1480Z1 FRAME WITHOUT MUD RING
PRODUCT NO.: 41420012
CATALOG NO.: V-1420\1480Z1
REF. PRODUCT DRAWING: 41420012
EST. WT.: FRAME: 170 LBS 77kg
OPEN AREA: N/A
MAT'L SPEC.: FRAME - GRAY IRON ASTM A48 CL35
LOAD RATING: HEAVY DUTY

ALL PRODUCTS TO BE CERTIFIED AS MANUFACTURED/MADE IN THE U.S.A.

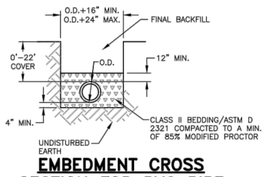
SANITARY SEWER FRAME WITHOUT MUD RING

NTS



STANDARD CLEANOUT

NTS



EMBEDMENT CROSS SECTION FOR PVC PIPE

NTS

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

DATE
REVISIONS
NO.

SANITARY SEWER DETAILS
CITY OF MAGNOLIA
STANDARD DETAIL SHEETS

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

JOB NO. 3919
PROJECT MGR. KMH
TBPE No. F-8405

STRAND ASSOCIATES®

SHEET 1

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

SANITARY SEWER
DETAILS

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 19 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:26pm User Name : bhutton
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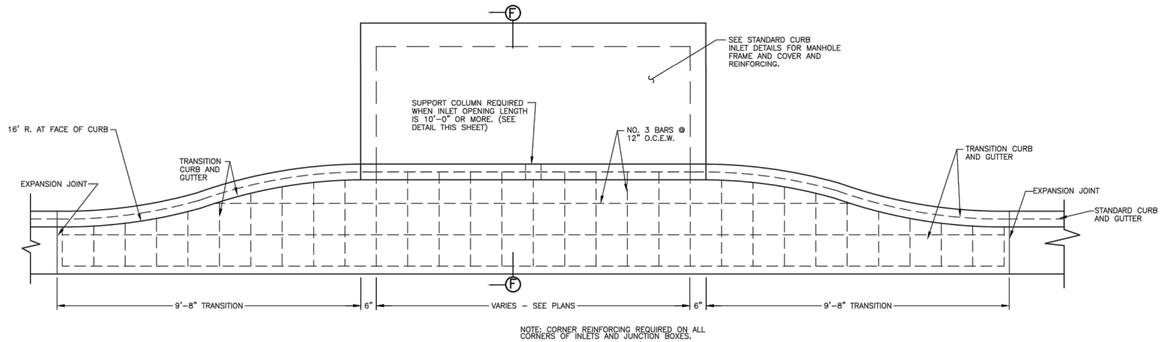
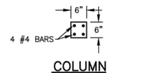
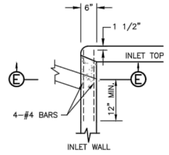
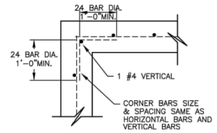




COLUMN SECTION Ⓔ – Ⓔ

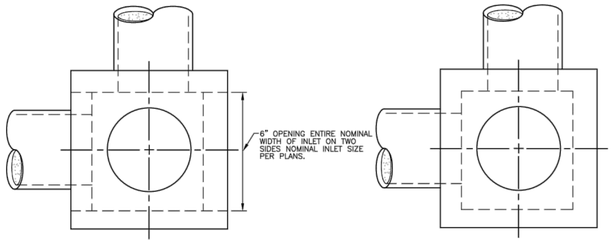


SUPPORT COLUMN



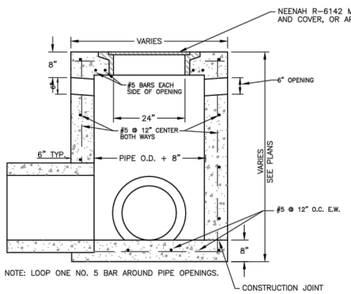
TYPICAL CORNER REINFORCING DETAIL

RECESSED CURB INLET DETAIL

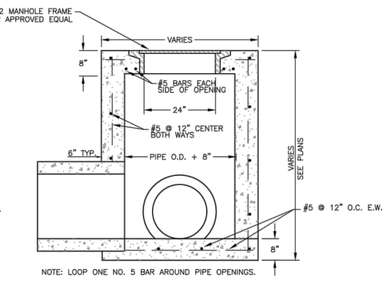


PLAN

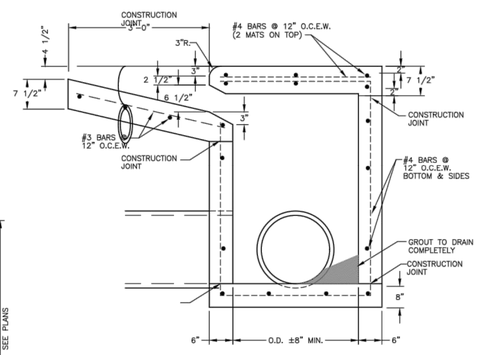
PLAN



SECTION
TYPE X INLET



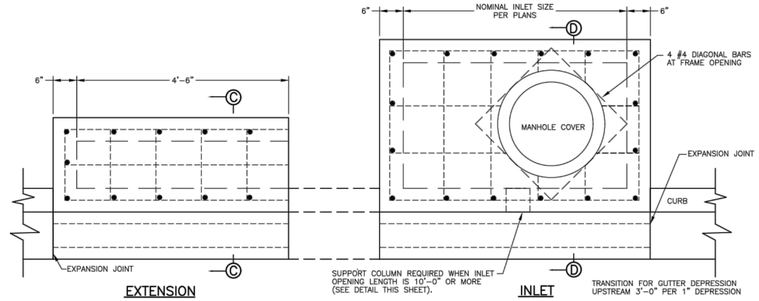
SECTION
JUNCTION BOX



SECTION Ⓕ – Ⓕ

INLET GENERAL NOTES:

1. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATIVES SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.



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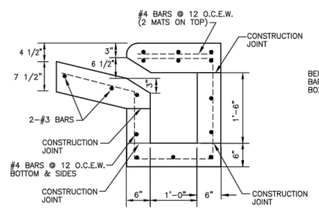
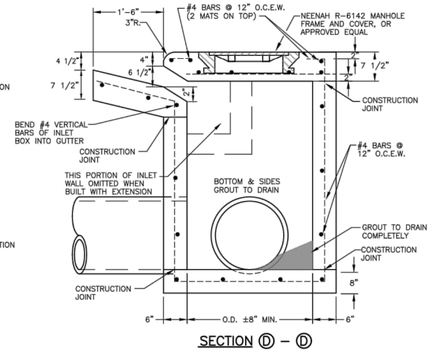


SECTION Ⓒ – Ⓒ



SECTION Ⓓ – Ⓓ

STANDARD CURB INLET DETAIL

DRAINAGE DETAILS
SHEET 1 OF 2

CITY OF MAGNOLIA
STANDARD DETAIL SHEETS

NO.	REVISIONS	DATE

JOB NO.
3919

PROJECT MGR.
KMH

TBPE No. F-8405

STRAND ASSOCIATES®

SHEET
1

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

STORM DETAILS
(SHEET 1 OF 3)

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.: 1019-3081 & 1019-3082

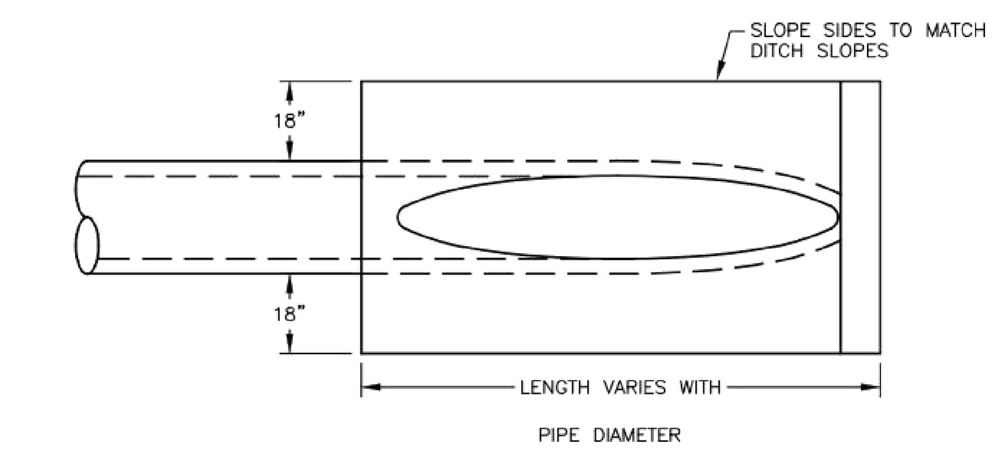
DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

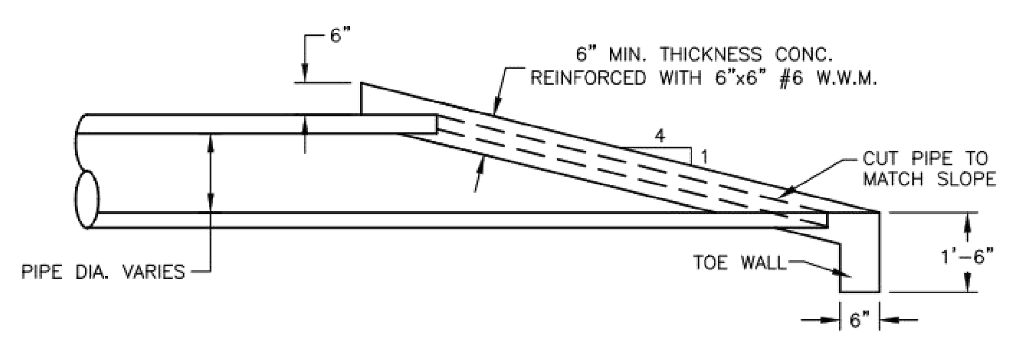
SHEET NO. 20 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S&D.) & 1019-3082 (PAV.)
MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:26pm User Name : bauton
Path\Name : J:\Projects\1019\3081 - Mill Creek Section 8\CADD\Sheet Files\20 STORM DETAILS (SHEET 1 OF 3).dwg
File: I:\SBET\Appl\ACAD\Blocks\Client Standard Details\Magnolia Standards\100SHT.dwg Time: Dec 12, 2019 - 5:17pm

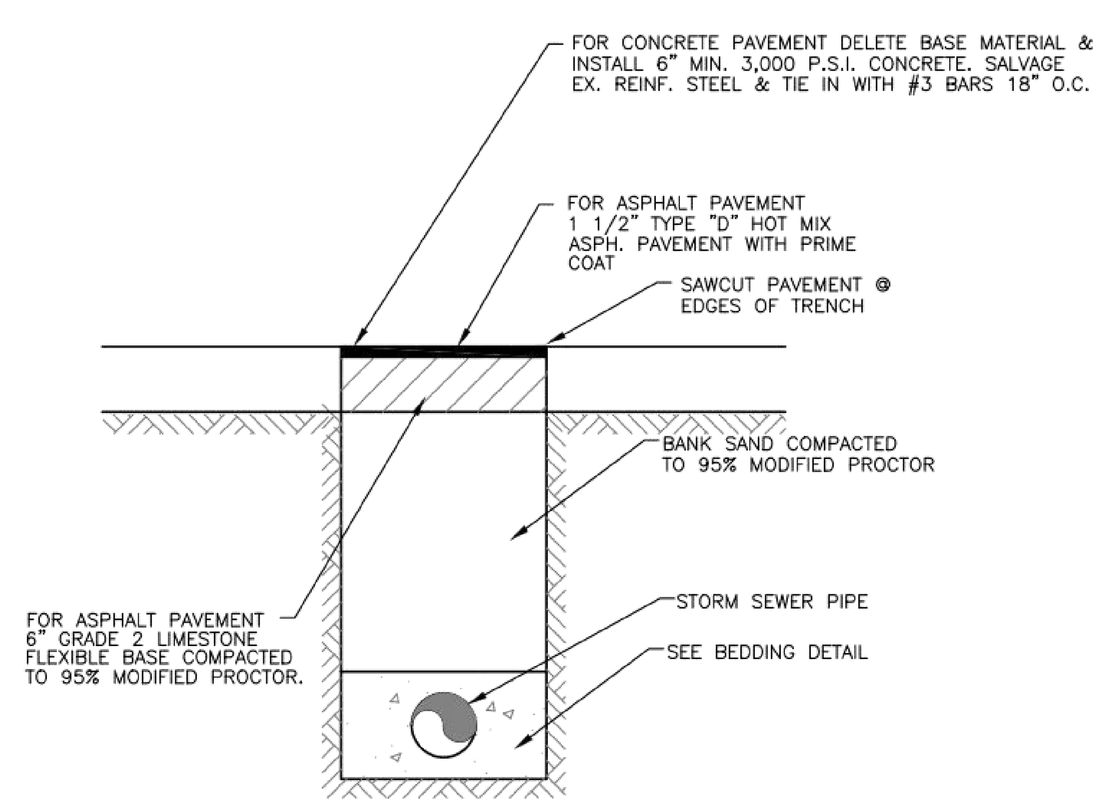


PLAN

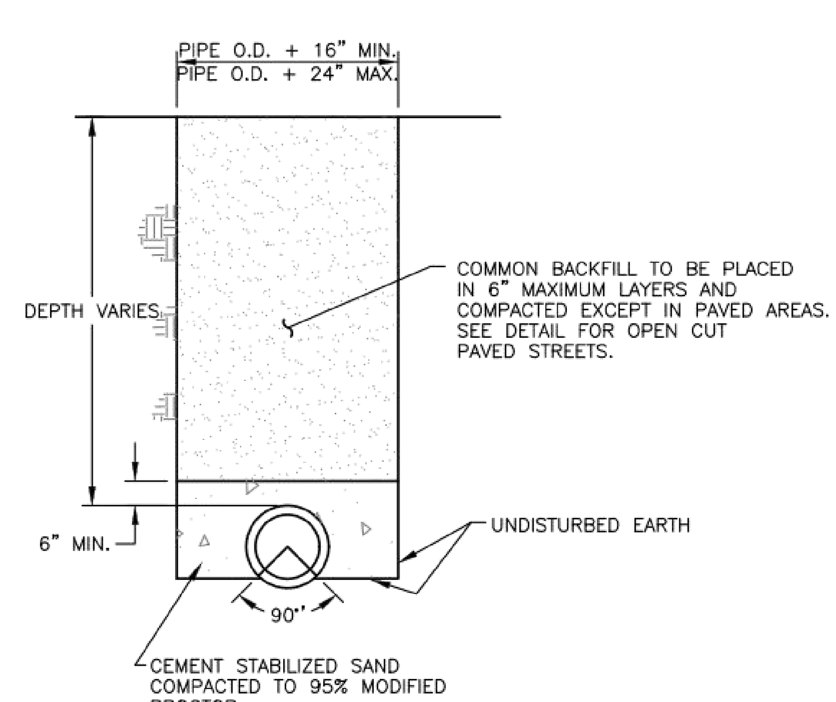


SECTION

SLOPED END TREATMENT FOR CULVERTS AND STORM SEWERS



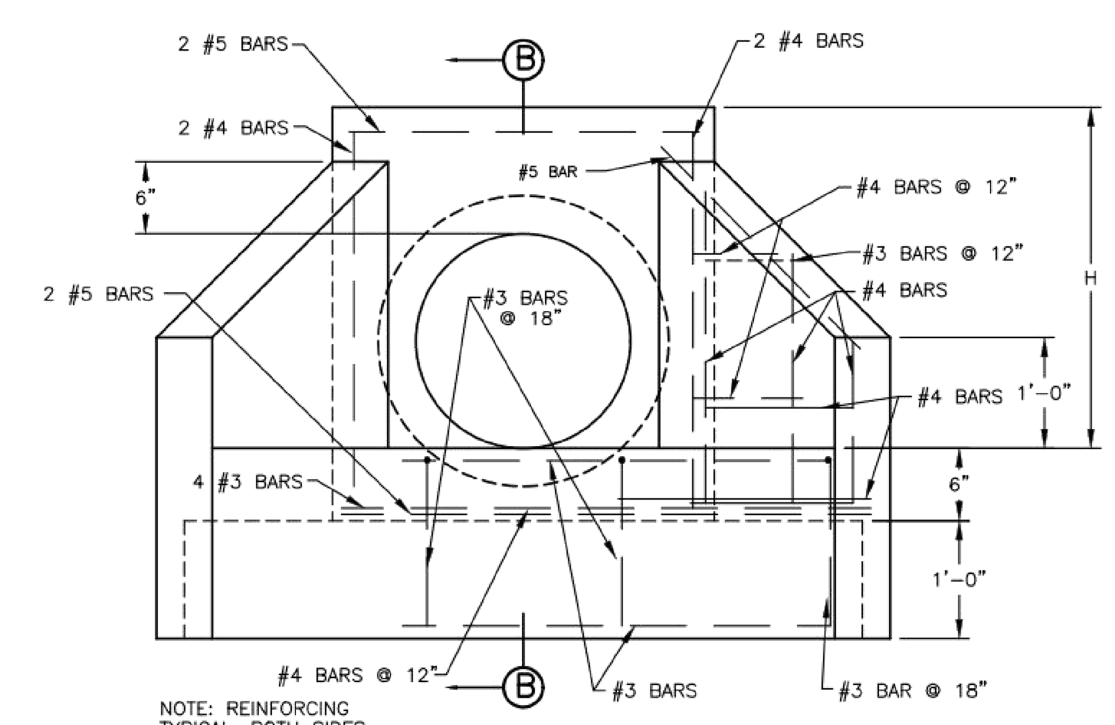
TYPICAL SECTION OPEN CUT PAVED STREET, DRIVEWAY, OR ALLEY



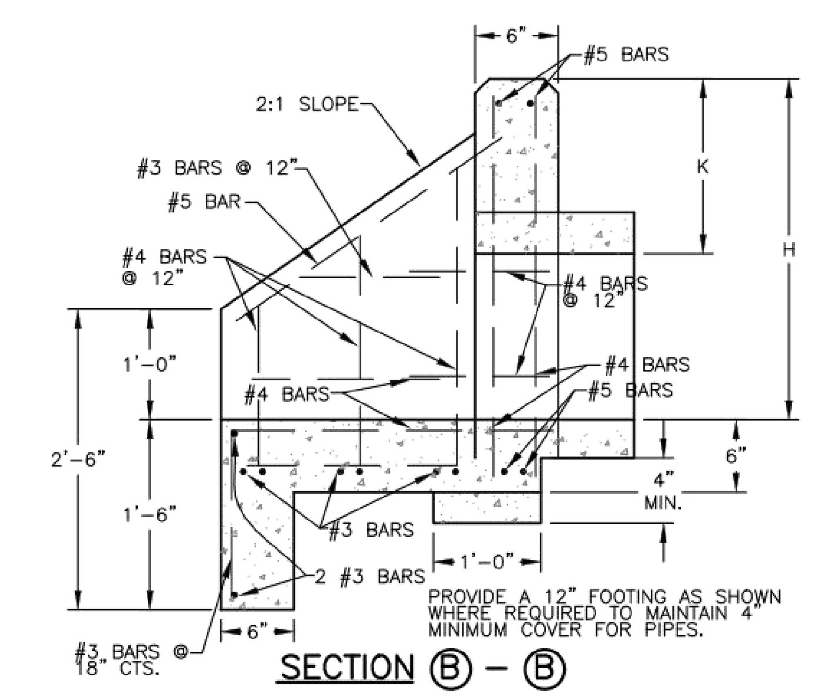
CONCRETE, CORRUGATED STEEL OR PVC PIPE BEDDING DETAIL

NO. OF PIPES	DIAMETER OF PIPES	TYPE "B" HEADWALL TABLE OF DIMENSIONS					
		G	K	X	H	Y	W
1	12	–	12"	2'-4"	2'-0"	1'-0"	2'-4"
2	12	10	12"	4'-2	2'-0"	1'-0"	4'-2"
1	18	–	12"	2'-11"	2'-6"	2'-0"	4'-0 7/8"
2	"	1'-2"	12"	5'-7"	2'-6"	2'-0"	6'-8 7/8"
1	24	–	12"	3'-6"	3'-0"	3'-0"	5'-9 3/4"
2	"	1'-5"	12"	6'-11"	3'-0"	3'-0"	9'-2 3/4"
1	36	–	12"	4'-8"	4'-0"	5'-0"	9'-3 3/4"
2	"	1'-11"	12"	9'-7"	4'-0"	5'-0"	14'-2 1/2"
1	48"	–	15"	5'-10"	5'-3"	7'-0"	12'-9 1/8"
1	60"	–	15"	7'-0"	6'-3"	9'-0"	16'-2 7/8"

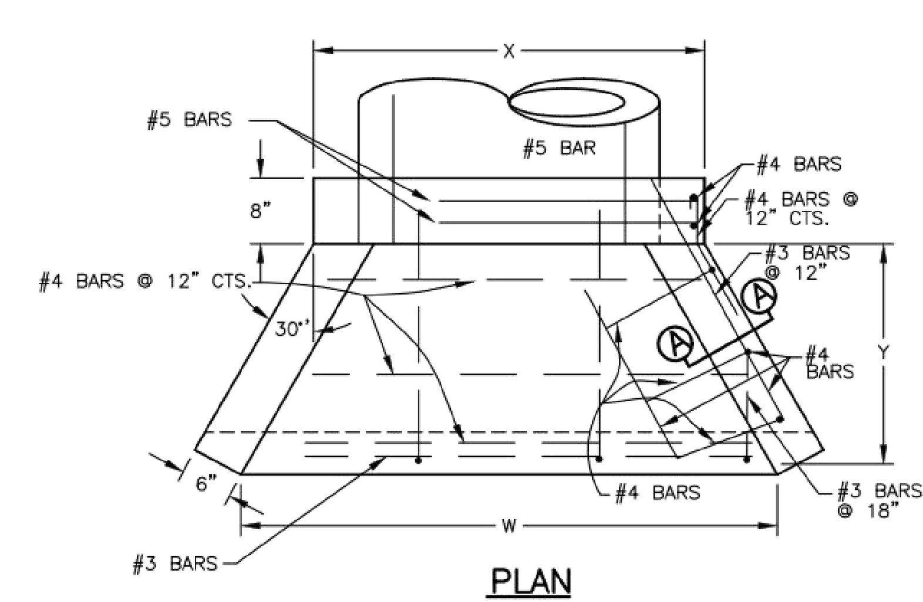
ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4". "G" DIMENSION IS BETWEEN INSIDES OF PIPES FOR MULTIPLE PIPE HEAD WALL.



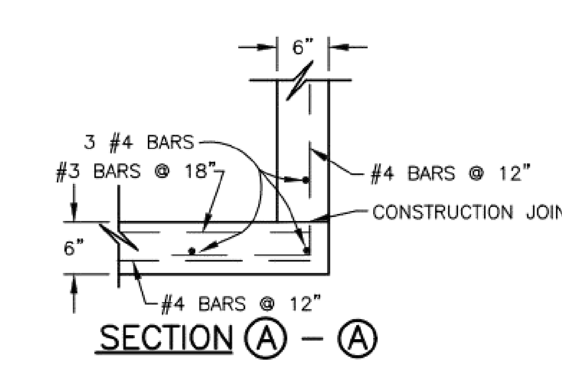
ELEVATION



SECTION B – B



PLAN



SECTION A – A

TYPE "B" HEADWALL DETAIL

O'Malley Strand Associates, Inc.
203 S. Jackson
Brenham, Texas 77833
(979) 836-7937
TBPE No. F-8405
TBPLS No. 10030000

STRAND ASSOCIATES®

CITY OF MAGNOLIA

NO.	REVISION	BY	DATE

Field Book:
Date:
Project Number:
Design By:
Drawn By:
Drawing Name:
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE.

Sheet Title:
DRAINAGE DETAILS
Sheet Number:
....of....

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: ______________________
– COUNTY ENGINEER

DATE: ______________________

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY ______________ DATE ________

TITLE ______________________

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

STORM DETAILS
(SHEET 2 OF 3)

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

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.: 1019–3081 & 1019–3082

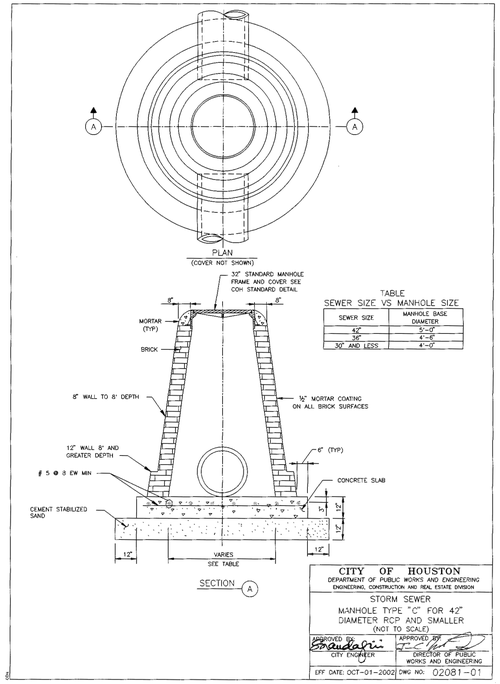
DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

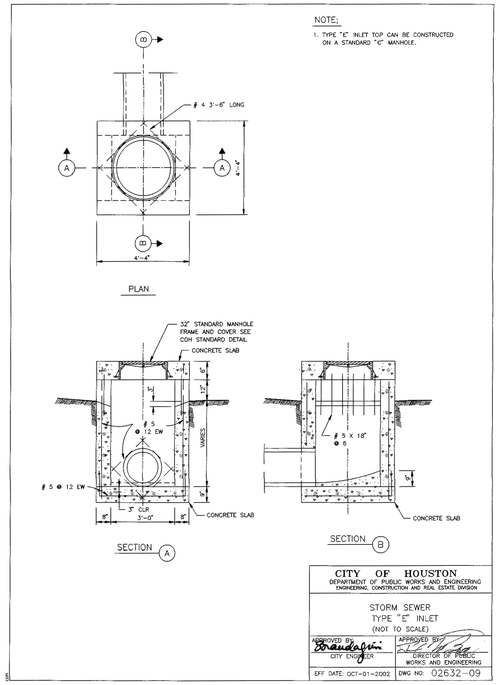
SHEET NO. 21 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019–3081 (W.S.&D.) & 1019–3082 (PAV.) MONTGOMERY COUNTY M.U.D. No. 165

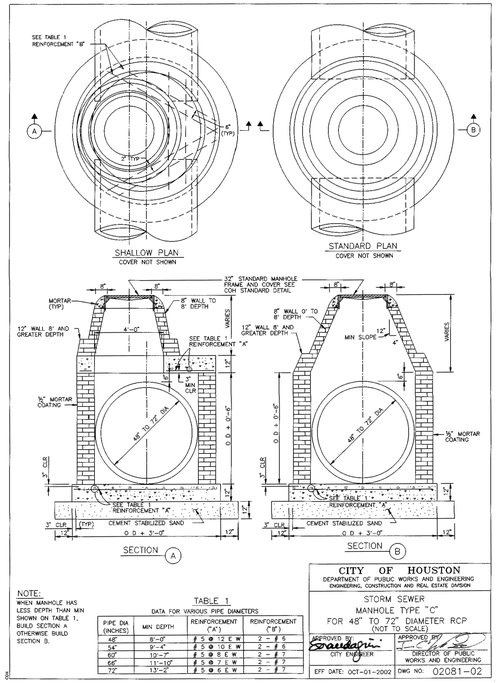
Date\Time : Mon, 27 Jun 2022 – 2:26pm User Name : bsutton
Path\Name : I:\Projdsk1\1019\3081 – Mill Creek Section 8\ACAD_Sheet_Files\21 STORM DETAILS (SHEET 2 OF 3).dwg



STORM SEWER MANHOLE DETAIL



STORM SEWER TYPE "E" INLET



STORM SEWER MANHOLE DETAIL

Explorer Pipeline Company
Foreign Crossing and Encroachment Specifications
EPL-331
Rev. XIV 06/2016

Before you start any excavation project **Call 811 (State One Call Center)**. There is also a project survey/design ticket available through the One Call Center which allows for pre-planning and underground utility first contacts. Federal and State laws require 48-72 hours' notice given to the utility companies prior to beginning excavation. This may be accomplished by contacting a "One Call" system (see bottom of back page for listings). If you are unable to contact the appropriate one call system, please call the nearest Explorer Pipeline area office a minimum of 48 hours prior to commencing work.

The following are minimum requirements for most proposed encroachments to avoid conflict with Explorer Pipeline's easement rights. It is not Explorer's intent to convey that these are the only types of activities permitted; additional specifications may be required depending upon the proposed encroachments.

GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS

A) Explorer's easement restricts the placement of a permanent structure, building, parking lot, pond, etc., within the right-of-way without a project review and the expressed written consent of Explorer Pipeline.

B) An authorized Explorer representative must be on site during **any** type of excavation or surface modification within the right-of-way. This includes activities such as driving fence posts.

C) Any change in the amount of existing material (soil) on and over the right-of-way, that makes the total amount of cover less than four (4') feet or adds more than one (1') foot of cover, must be approved in advance by Explorer's ROW Integrity Administrator.

D) Encroaching party will be responsible for any future erosion repairs due to its activities, or lack of proper erosion control measures, which result in Explorer having to relocate its pipeline or take corrective measures to prevent its pipeline from becoming exposed.

GENERAL REQUIREMENTS FOR BURIED LINE CROSSINGS

A) All buried lines crossing Explorer right-of-way shall be installed adhering to all applicable codes and requirements governing such installations.

B) All buried lines crossing Explorer's right-of-way must cross on an angle that when measured between the proposed buried line and Explorer right-of-way is between 90 and 45 degrees. This angle must be maintained across the entire width of the right-of-way. Points of Intersection (PIs) are not allowed within the ROW boundaries.

C) All buried lines crossing Explorer's pipeline shall maintain a minimum separation of 24 inches between the two lines, with the same grade of depth carried across the entire right-of-way.

D) All buried lines should cross under the pipeline. However, should the encroaching party be unable to comply with the 24" clearance requirements due to obstructions or unfavorable soil conditions, Explorer's representative may approve special design and construction.

E) Explorer's pipeline shall be exposed at encroaching party's expense during all bored crossings where clearance between Explorer's line and proposed bore path is ten feet (10') or less. In addition, for bored crossings, the minimum separation between Explorer and crossing utility shall be 48 inches. In cases where the soil condition (swampy) does not safely allow for Explorer Pipeline to be exposed, sheet piling (min. 5 feet from pipeline to a depth 48" below the bottom of the pipe) shall be used to protect the pipeline. Upon completing crossing, compact all disturbed backfill to a density equal to or greater than surrounding soil.

F) No foreign appurtenances (meters, poles, drop boxes, collection basins, etc.) shall be located within Explorer's right-of-way.

G) Encroaching party shall furnish and install a six inch wide burial warning tape, 12 to 18 inches above all lines and extend across the entire width of Explorer's right-of-way.

H) Where physically possible, signs shall be installed at each edge of right-of-way by encroaching party to locate and identify owner, type of service, and emergency phone numbers.

I) Encroaching party will be responsible for any future erosion repairs due to its activities, or lack of proper erosion control measures, which result in Explorer having to relocate its pipeline or take corrective measures to prevent its pipeline from becoming exposed.

PARALLEL ENCROACHMENTS AND OVERLAPPING EASEMENTS WITHIN EXPLORER PIPELINE'S RIGHT-OF-WAY

A) A third party intending to encroach upon Explorer's easement must first obtain Explorer's permission and/or provide documentation stating there is no exclusivity to said easement. Explorer prefers not to have parallel pipeline construction within its easement. A Joint User Agreement will be put in place to reserve any "first in time" rights available to Explorer should there be a need for overlapping easements. The requirements for parallel encroachments and overlapping easements within Explorer's right-of-way will be negotiated with Explorer's Right-of-Way Integrity Administrator and Senior Attorney.

1. EXCAVATION

A) Plans for any excavation on the right-of-way must be approved before work commences. Excavating closer than 24 inches to the pipeline or cathodic protection (C.P.) wires shall be done by hand until the pipeline and C.P. wires are exposed. This shall be done only with the approval and in the presence of an authorized Explorer representative. After Explorer's pipeline and C.P. wires have been exposed, the excavation equipment should be positioned so the operation of the equipment will not reach within 24 inches of the pipeline or C.P. wires.

B) If a backhoe is used, the bucket should be curled under each time it is returned to the ditch and should have a plate covering all teeth to reduce the chance of gouges or punctures to the pipe.

C) A One Call to **811 (State One Call Center)** is required if any deep plowing or ripping of the soil within the right-of-way, including agricultural land, at any depth that may negatively impact the safe operations of the pipeline. If you should strike the pipeline at any time you must call Explorer's emergency number at 888-876-0036; it is the law. All tiling projects require an 811 call.

2. COMMUNICATION LINES (FIBER OPTIC, TELEPHONE, TV, OTHER DATA LINES)

A) Shall meet all provisions GENERAL REQUIREMENTS – BURIED LINE CROSSINGS.

B) For clearances less than 48" below Explorer and for all crossings over Explorer, fiber optics shall be encased in rigid steel conduit the full width of right-of-way. Directionally bored installations will be evaluated on a case by case basis.

3. POWER LINES (BURIED)

A) Shall meet all provisions GENERAL REQUIREMENTS – BURIED LINE CROSSINGS.

B) Shall have a minimum clearance of 24 inches when crossing over or under Explorer's pipeline.

C) Shall be encased in steel conduit. The steel conduit shall be the full width of the right-of-way and centered in a 6" minimum layer of red concrete.

D) Concrete may be omitted when crossing under Explorer's pipeline when 48 inches or more of clearance is obtained between the bottom of Explorer's pipeline and the top of the steel conduit;

Or if 72 inches of clearance is obtained for bored installations utilizing non-steel conduit.

E) Signs shall be placed at each edge of the right-of-way to mark the underground cable angle and path of crossing. The signs are to be furnished by the Power Company of the encroaching party.

4. POWER LINES (ABOVEGROUND)

A) Shall maintain a minimum of 25 feet of clearance above grade and completely across the right-of-way.

B) Shall have no poles or appurtenances located on the right-of-way.

5. SEWER AND WATER LINES

A) Shall meet all provisions GENERAL REQUIREMENTS-BURIED LINE CROSSINGS.

PIPELINE CROSSING REQUIREMENTS

Explorer Pipeline Company
Foreign Crossing and Encroachment Specifications
EPL-331
Rev. XIV 06/2016

B) Septic tanks / drain fields are not permitted within the right-of-way.

6. METALLIC PIPE CROSSINGS

A) Explorer Pipeline personnel will install leads on Explorer's pipeline when deemed necessary. Explorer Pipeline may request test leads to be installed at third party pipeline crossings.

7. STREETS, ROADS, DRIVEWAYS AND RAILROADS

A) Unpaved residential driveways shall be allowed provided there will be a minimum cover of 48" between the lowest point of the road sub-grade and top of Explorer's pipeline.

B) An opportunity for Explorer to make a pipe inspection must be given at least 48 hours prior to the start of any construction.

C) Provisions A, C & D of the GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS pertain to driveway crossings.

D) Paved driveways, streets, highways and railroad construction may require a special encroachment agreement. Plans for such crossings should be submitted a minimum of 180 calendar days prior to work commencement to allow time for project impact review by Explorer's ROW Integrity Administrator.

8. FENCES – BARRIERS - WALLS

A) Privacy fences are not permitted, unless otherwise authorized by the easement or as approved by Explorer's ROW Integrity Administrator.

B) Fence posts shall not be installed within 3 feet of the center of the pipeline and the first post either side of the pipe shall be set in hand dug holes. To perform normal maintenance, access through or around fences crossing the right-of-way must be provided.

C) Cable Barrier vertical supports along highway medians or rights-of-way must span the pipeline equidistance from the center of the pipeline and not be closer than 3 feet from the edge of the pipeline. The first footings either side of the pipe shall be set in hand dug holes.

D) Sound Barrier or Beautification Walls shall be designed with a sub-grade horizontal beam. Vertical supports will be mounted to the horizontal beam. There are no vertical shafts to be drilled on the right-of-way without Explorer's approval in writing.

E) Installer shall adhere to provisions A & C of GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS.

9. LANDSCAPING

A) Flower beds, lawns and vegetable gardens are permitted within the right-of-way, but may be damaged by routine or annual maintenance / tesing, if planted directly over the pipeline. Heavy maintenance may require total clearing of the right-of-way.

B) The planting of trees or shrubbery on, or which hang over; Explorer's right-of-way is prohibited unless specifically stated in the right-of-way agreement. Ornamental trees or shrubs required by city ordinance with deep, sophisticated root systems will NOT be allowed over the pipeline at any time.

C) Provisions of GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS shall apply to landscaping.

10. OPEN WATERWAYS

A) Open waterways smaller than 3 feet wide at the bottom are defined as "ditches" and must have a minimum of 3 feet of cover from the top of the pipe to the bottom of the ditch, or the ditch must be lined using an approved Explorer method and material. Larger open waterways are considered on a case by case basis.

B) Anyone altering (clearing, re-grading or changing alignment) a waterway on Explorer's right-of-way must obtain approval from Explorer and shall meet Provisions A, C & D of the GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS.

11. BLASTING/SEISMIC ACTIVITY

All blasting and seismic activity encroachment shall be approved by Explorer prior to work. The party responsible for the blasting shall complete and submit Explorer's Blasting Data Form to Explorer for calculation of the safe blasting distance.

12. SUBSURFACE DRAINAGE TILE (NON METALLIC)

A) Shall meet provisions A, B, E, F, & H, of GENERAL REQUIREMENTS- BURIED LINE CROSSINGS.

B) A minimum clearance of 12" is desired at the crossing with a constant grade the full width of Explorer's right-of-way.

C) Field tiles that cross over the pipeline shall require special non-metallic support. Support is not required for plastic drain lines.

13. TEMPORARY HEAVY EQUIPMENT CROSSINGS

A) Equipment such as construction, logging, etc., must cross the pipeline only at Explorer approved crossing locations where the cover has been checked and determined adequate to meet load-bearing requirements.

B) Provisions A, C & D of the GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS also apply.

NOTE: These specifications are subject to change. Please contact your local Explorer Pipeline office prior to commencing any work on the right-of-way.

Right-of-Way Integrity Administrator: (918) 493-5153

EXPLORER PIPELINE AREA OFFICES

These **ARE NOT** emergency numbers.

Hammond, Indiana (877) 931-7473
Wood River, Illinois (877) 926-7473
Glenpool, Oklahoma (877) 925-7473
Arlington, Texas (877) 921-7473
Greenville, Texas (877) 919-7473
Houston, Texas (877) 915-7473
Port Arthur, Texas (877) 912-7473

ONE CALL SYSTEMS

National One Call	811
Indiana	1-800-382-5544
Illinois	1-800-892-0123
Missouri	1-800-344-7483
Oklahoma	1-800-522-6543
Texas	1-800-545-6005

EXPLORER PIPELINE COMPANY
24-HOUR EMERGENCY NUMBER
(CALL TOLL FREE) 1-888-876-0036

811
Know what's below.
Call before you dig.

PIPELINE CROSSING REQUIREMENTS

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)

SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)

SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
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3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

STORM DETAILS
(SHEET 3 OF 3)

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 22 OF 25

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

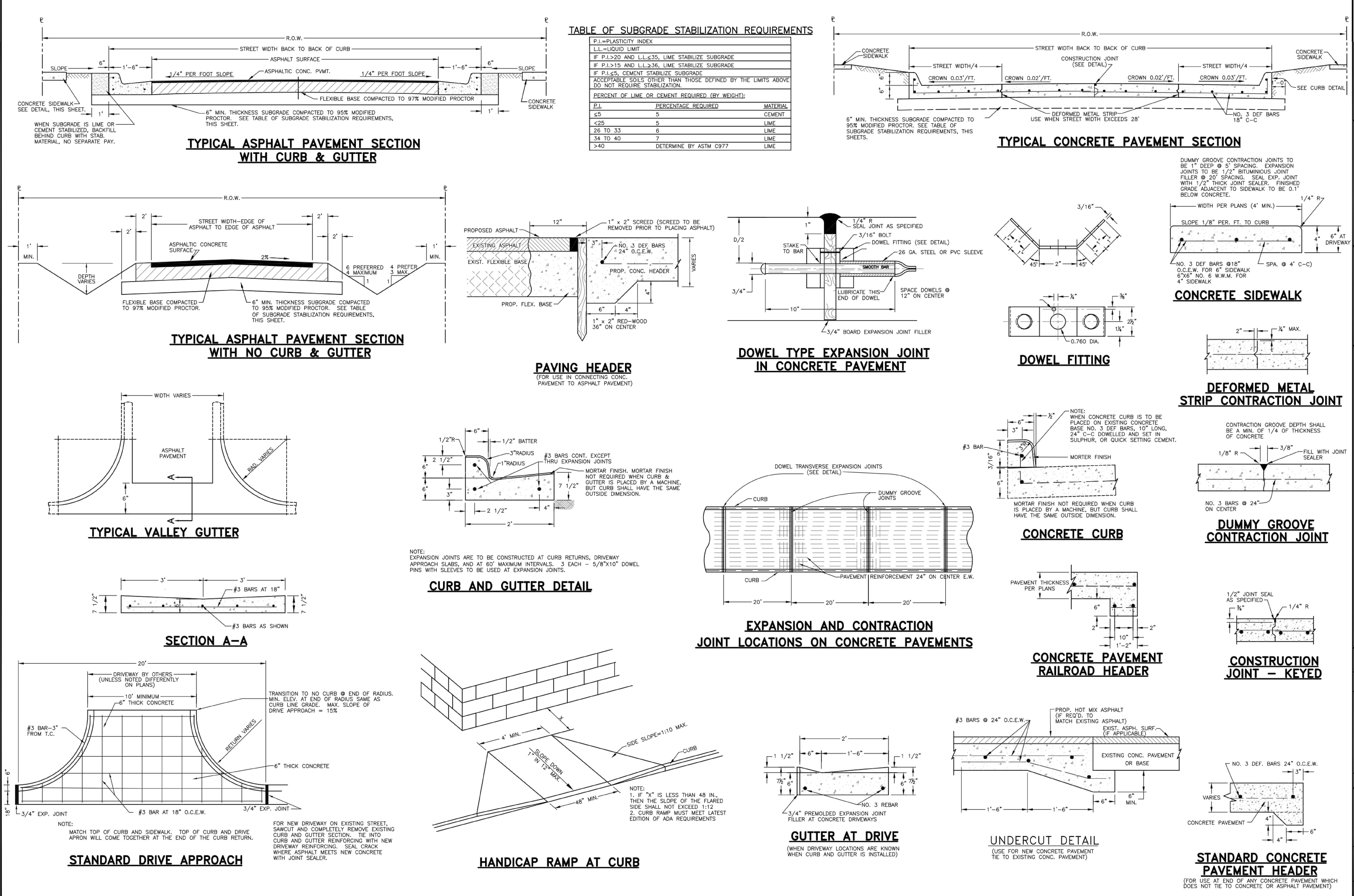
PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

MONTGOMERY COUNTY M.U.D. No. 165

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 - 2:26pm User Name : bauton
Path\Name : I:\Projects\1019\3081 - Mill Creek - Section 8\CAD\L_Sheet_Files\22 STORM DETAILS (SHEET 3 OF 3).dwg



TYPICAL ASPHALT PAVEMENT SECTION WITH CURB & GUTTER
TYPICAL CONCRETE PAVEMENT SECTION
TYPICAL ASPHALT PAVEMENT SECTION WITH NO CURB & GUTTER
PAVING HEADER
(FOR USE IN CONNECTING CONC. PAVEMENT TO ASPHALT PAVEMENT)
DOWEL TYPE EXPANSION JOINT IN CONCRETE PAVEMENT
DOWEL FITTING
CONCRETE SIDEWALK
DEFORMED METAL STRIP CONTRACTION JOINT
TYPICAL VALLEY GUTTER
CURB AND GUTTER DETAIL
NOTE: EXPANSION JOINTS ARE TO BE CONSTRUCTED AT CURB RETURNS, DRIVEWAY APPROACH SLABS, AND AT 60' MAXIMUM INTERVALS. 3 EACH – 5/8"x10" DOWEL PINS WITH SLEEVES TO BE USED AT EXPANSION JOINTS.
CONCRETE CURB
DUMMY GROOVE CONTRACTION JOINT
SECTION A–A
EXPANSION AND CONTRACTION JOINT LOCATIONS ON CONCRETE PAVEMENTS
CONCRETE PAVEMENT RAILROAD HEADER
CONSTRUCTION JOINT – KEYED
STANDARD DRIVE APPROACH
HANDICAP RAMP AT CURB
GUTTER AT DRIVE
(WHEN DRIVEWAY LOCATIONS ARE KNOWN WHEN CURB AND GUTTER IS INSTALLED)
UNDERCUT DETAIL
(USE FOR NEW CONCRETE PAVEMENT TIE TO EXISTING CONC. PAVEMENT)
STANDARD CONCRETE PAVEMENT HEADER
(FOR USE AT END OF ANY CONCRETE PAVEMENT WHICH DOES NOT TIE TO CONCRETE OR ASPHALT PAVEMENT)

TABLE OF SUBGRADE STABILIZATION REQUIREMENTS

P.I.=PLASTICITY INDEX

L.L.=LIQUID LIMIT

IF P.I.>20 AND L.L.≤35, LIME STABILIZE SUBGRADE

IF P.I.>15 AND L.L.≥36, LIME STABILIZE SUBGRADE

IF P.I.≤5, CEMENT STABILIZE SUBGRADE

ACCEPTABLE SOILS OTHER THAN THOSE DEFINED BY THE LIMITS ABOVE DO NOT REQUIRE STABILIZATION.

PERCENT OF LIME OR CEMENT REQUIRED (BY WEIGHT):

P.I.	PERCENTAGE REQUIRED	MATERIAL
≤5	5	CEMENT
<25	5	LIME
26 TO 33	6	LIME
34 TO 40	7	LIME
>40	DETERMINE BY ASTM C977	LIME

O'Malley Strand Associates, Inc.
203 S. Jackson
Brenham, Texas 77833
(979) 836-7937
TBPE No. F-8405
TBPLS No. 10030000

STRAND ASSOCIATES

CITY OF MAGNOLIA

Sheet Title: PAVING DETAILS

Sheet Number: ....of....

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/– 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)

SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: ______________
– COUNTY ENGINEER

DATE: ______________

RECORD DRAWING

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BY ______________ DATE ______________

TITLE ______________

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

PAVING DETAILS

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

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.: 1019–3081 & 1019–3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 23 OF 25

MONTGOMERY COUNTY M.U.D. No. 165

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019–3081 (W.S.&D.) & 1019–3082 (PAV.)

Date\Time : Mon, 27 Jun 2022 – 2:26pm User Name : bsutton
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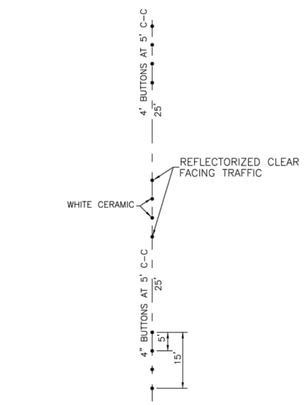
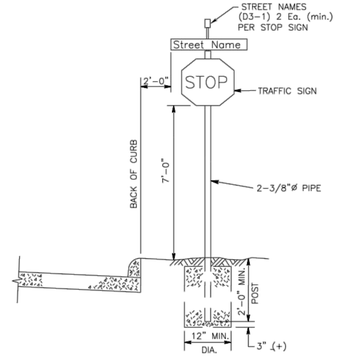


LANE SEPARATION BUTTON DETAIL FOR SAME TRAFFIC DIRECTION

N.T.S.

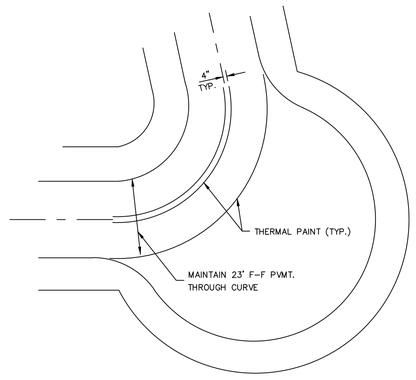
(WHITE BUTTONS) REQUIRED ON ALL ESPLANADE SECTIONS



NOTE: INSTALLATION OF STOP SIGN INCLUDES PAINTED 24" STOP BAR (NO EXTRA PAY)

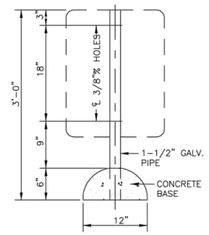
TYPICAL SIGN MOUNT DETAIL

N.T.S



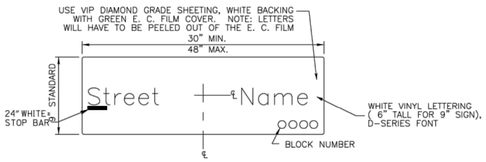
TYPICAL STRIPING DETAIL FOR KNUCKLE CUL-DE-SAC

N.T.S.



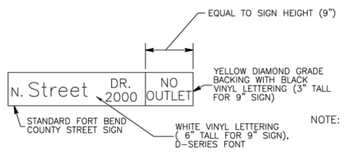
SIGN PEDESTAL

N.T.S.



DETAIL OF STANDARD STREET NAME SIGN (INTERNAL STREETS, COLLECTORS, AND THOROUGHFARES)

N.T.S.

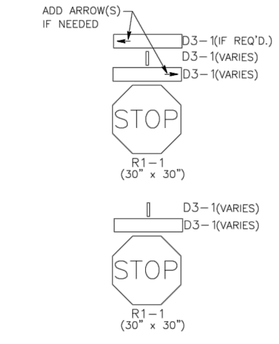


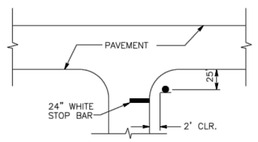
STREET SIGN WITH NO OUTLET DESIGNATION

N.T.S.

NOTE:
1. ALUMINUM SIGNS MUST BE 0.080-INCH BLANKS FLAT BLADED WITH ROUNDED CORNERS
2. SIGN DIMENSIONS FOR 9" TALL SIGNS: 9"X30", 9"X36", 9"X42", OR 9"X48"
3. STREETS WITHOUT OUTLET MUST HAVE NO OUTLET SIGN POSTED.

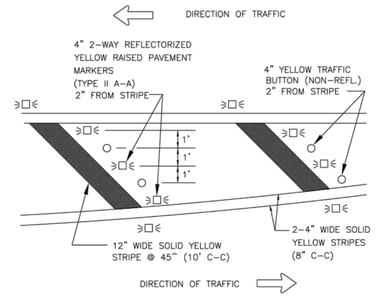
NOTE: CONFORM TO COUNTY STANDARD FOR SIGN SHEETING (STOP SIGNS MUST BE DIAMOND GRADE).





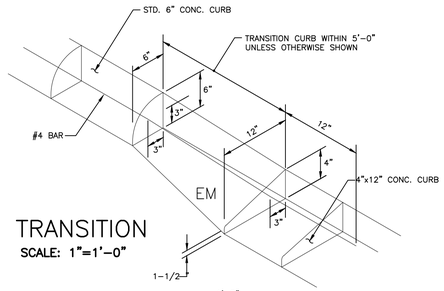
STOP SIGN LOCATION DETAIL

N.T.S



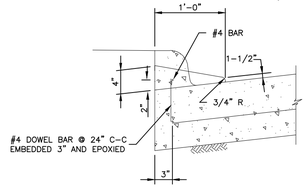
CROSSHATCHING DETAIL

N.T.S.



TRANSITION

SCALE: 1"=1'-0"



1. 6-inch concrete curb to be constructed on all esplanades, islands and non-residential streets. Residential streets may be constructed with either 6-inch concrete curb or 4-inch x 12-inch concrete curb as noted on drawings.
2. All 4-inch x 12-inch concrete curbs to be poured separate from proposed concrete pavement.
3. Transitions from 6-inch concrete curb to 4-inch x 12-inch concrete curb to be accomplished within 5 feet, unless otherwise shown. If this 5-foot transition curb is not poured monolithicly with the pavement, then reinforcing steel as shown above in typical detail 4-inch x 12-inch transition curb is to be installed.

TYPICAL DETAIL
4" x 12" TRANSITION CURB

N.T.S.

BENCHMARK:

PROJECT BM

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MONTGOMERY COUNTY ENGINEERING DEPARTMENT

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BY _____ DATE _____

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DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

BARRICADE PERMANENT SIGNAGE AND STRIPING 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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 24 OF 25

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PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
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MONTGOMERY COUNTY M.U.D. No. 165

Date\Time : Mon, 27 Jun 2022 - 2:26pm User Name : bautton
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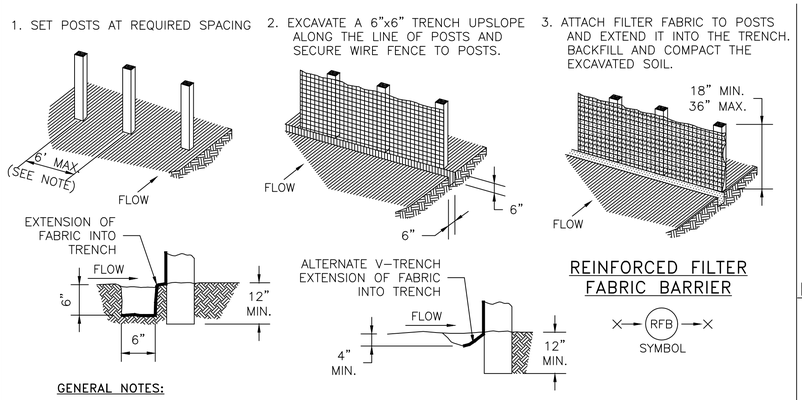
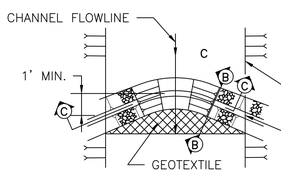


REINFORCED FILTER FABRIC BARRIER

RFB — SYMBOL

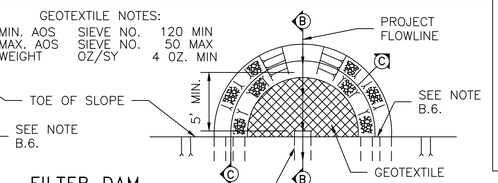
GENERAL NOTES:

1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.



IN-CHANNEL FILTER DAM PLAN

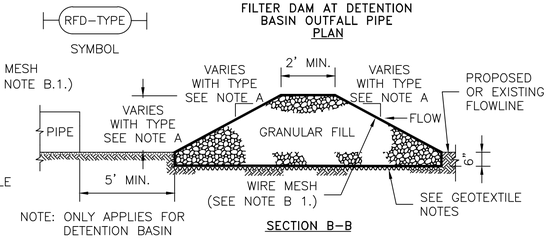
SECTION C-C



FILTER DAM AT DETENTION BASIN OUTFALL PIPE PLAN

FILTER DAM

RFD-TYPE — SYMBOL



SECTION B-B

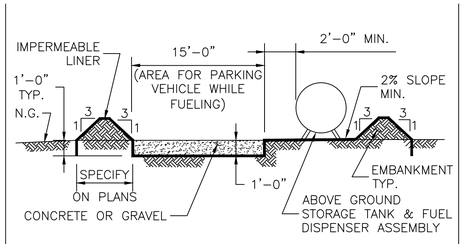
NOTE: ONLY APPLIES FOR DETENTION BASIN OUTFALL PIPE PROTECTION.

A. TYPES OF FILTER DAMS

1. TYPE 1 (NON-REINFORCED)
   a. HEIGHT – 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF 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 HEXAGONAL OPENINGS.
2. PLACE GRANULAR FILL ON THE WIRE MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
   a. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4.
   b. 4-8 INCHES FOR ROCK FILTER DAM TYPE REFER TO GRANULAR FILL IN SPECIFICATION SECTION No. 02378 RIPRAP AND GRANULAR FILL.
3. FOLD WIRE MESH AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
4. IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
5. SEE HCFCD SPECIFICATION SECTION NO. 02364-FILTER DAMS.
6. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.

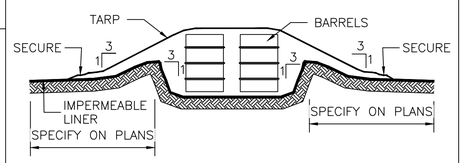


ABOVE GROUND TEMP. VEHICLE & EQUIPMENT FUELING AREA WITH TANK

TFA — SYMBOL

GENERAL NOTES:

1. THE SIZE OF TANK FOUNDATION AREA DEPENDS ON THE SIZE OF ABOVE GROUND STORAGE TANK AND DISPENSER ASSEMBLY.
2. PROVIDE A MINIMUM SLOPE OF 2 % TOWARD THE SUMP PIT.
3. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS.

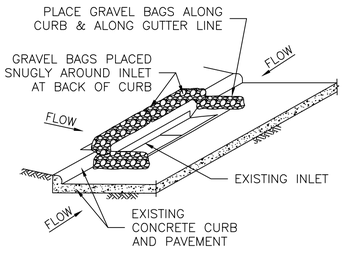


BARREL STORAGE AREA

BSA — SYMBOL

GENERAL NOTES:

1. ALTERNATIVELY, STORE BARRELS IN AN ENCLOSED BUILDING OR SHED.
2. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS. 60 mil MINIMUM.
3. CONSTRUCT BERMED AREA WITH VOLUME GREATER THAN OR EQUAL TO 110% VOLUME OF BARRELS.

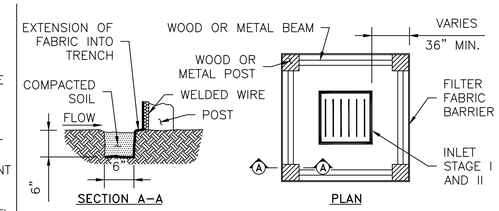


INLET PROTECTION BARRIERS FOR STAGE II INLETS

IPB-II — SYMBOL

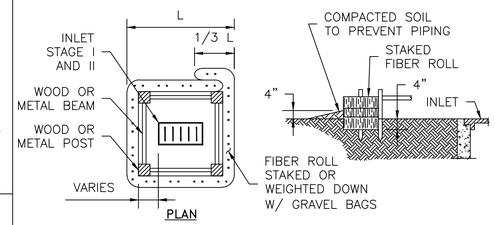
GENERAL NOTES:

1. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
2. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.



SECTION A-A **PLAN**

INLET PROTECTION BARRIER WITH REINFORCED FILTER FABRIC



PLAN

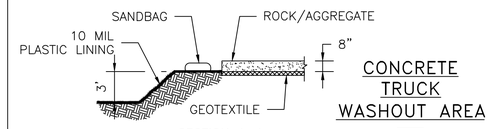
INLET PROTECTION BARRIER WITH FILTER ROLLS

GENERAL NOTES:

1. FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER, AND AS APPROVED BY THE ENGINEER.

INLET PROTECTION BARRIERS FOR STAGE I INLETS

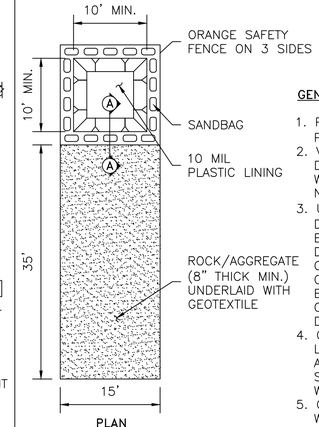
IPB — SYMBOL



SECTION A-A

CONCRETE TRUCK WASHOUT AREA

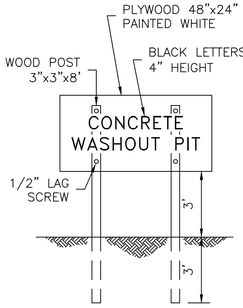
CTW — SYMBOL



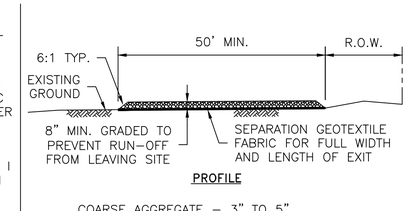
PLAN

GENERAL NOTES:

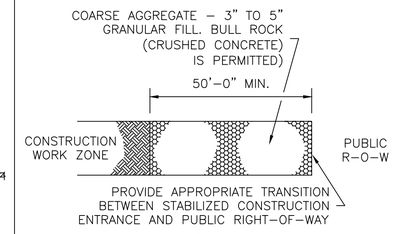
1. POST A SIGN READING "CONCRETE WASHOUT PIT" NEXT TO THE PIT.
2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASHOUT THEIR TRUCKS IN THE PIT AND NOWHERE ELSE.
3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASHOUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
4. CONCRETE WASHOUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.



SIGN DETAIL (OR EQUIVALENT)



PROFILE



PLAN

STABILIZED CONSTRUCTION ACCESS

SC-1 — SYMBOL

GENERAL NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.

BENCHMARK:

PROJECT BM

TSARP MONUMENT 110125: A BRASS DISK STAMPED RM100125 LOCATED ON THE DOWNSTREAM SIDE OF THE KUYKENDAHL ROAD BRIDGE OVER CYPRESS CREEK. THE POINT IS LOCATED +/- 0.60 MILES SOUTHWEST OF THE INTERSECTION OF KUYKENDAHL ROAD AND FLINTRIDGE DRIVE.

ELEVATION = 143.57 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10057959.086
E 3810217.487

SITE TBM

TBM-A: A CHISELED BOX IN CONCRETE ON TOP OF A STORM SEWER CURB INLET WITHIN AN UNDEVELOPED SECTION OF MILL CREEK. THE POINT IS LOCATED +/- 1100 FEET NORTHEAST OF MILL CREEK ROAD AND +/- 2020 FEET NORTH OF FM 1488.

ELEVATION = 216.12 FEET (NAVD88 2001 ADJ.)
SURFACE COORDINATES: N 10079696.593
E 3757838.329

NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF EXISTING FACILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR TO IMMEDIATELY NOTIFY THE ENGINEER IF EXISTING LOCATION AND/OR ELEVATION DO NOT MATCH THESE PLANS.
2. ALL STORM SEWER IS 24" R.C.P. UNLESS OTHERWISE NOTED
3. FOR ALL SANITARY SEWER CROSSINGS OF ALL WATER LINES, CONTRACTOR SHALL CONSTRUCT SEWER IN ACCORDANCE WITH "SANITARY SEWER CONSTRUCTION NOTES", SHEET NO. 2.
4. THE HOME OWNERS ASSOCIATION WILL OWN AND MAINTAIN ALL SIDEWALKS AND CURB RAMPS

MONTGOMERY COUNTY ENGINEERING DEPARTMENT

APPROVED: _____
– COUNTY ENGINEER

DATE: _____

RECORD DRAWING

I CERTIFY THAT THIS DRAWING REFLECTS THE IMPROVEMENTS CONSTRUCTED AS TO SIZE, LOCATION AND GRADE AND THAT THE CONSTRUCTION WAS IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS

BY _____ DATE _____

TITLE _____

DATE	REVISION	BY

MONTGOMERY COUNTY MUD NO. 165
FORESTAR GROUP INC.

MILL CREEK ESTATES
SECTION 8

STORM WATER POLLUTION PREVENTION PLAN DETAILS

THIS DOCUMENT IS ISSUED FOR INTERIM REVIEW AND IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMITTING PURPOSES.

PHILLIP KANE MUDD
TEXAS P.E. #130524

ISSUED ON:
JUN 27 2022

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.: 1019-3081 & 1019-3082

DESIGNED BY:	DRAWN BY:	DATE:
SJAH	BLS/JAS	AUGUST 2022

SCALE: NONE

SHEET NO. 25 OF 25

MILL CREEK ESTATES SECTION EIGHT JOB NO. 1019-3081 (W.S.&D.) & 1019-3082 (PAV.) MONTGOMERY COUNTY M.U.D. No. 165

AEI ENGINEERING
a BAXTER & WOODMAN company

July 6, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Subject: ***Water, Sanitary Sewer and Drainage Facilities & Paving and Appurtenances to Serve Mill Creek Estates Section 8 – Plan Review***
City of Magnolia
AEI Job No. 221399.80-001

Dear Mr. Doering:

We received the construction plans for the proposed Water, Sanitary Sewer and Drainage Facilities & Paving and Appurtenances to Serve Mill Creek Estates Section 8 on June 27, 2022. On behalf of City of Magnolia (the "City"), we have reviewed the submitted documents and are providing the following comments for your consideration:

1. Plans shall be signed and sealed by a Texas Registered Professional Engineer.
2. Provide approval letter from Montgomery County Municipal Utility District No. 174.
3. Sheet 15 – Show easement for 60"/66" storm sewer located east of the Thyme Leaf Drive cul-de-sac.
4. Obtain all applicable utility company and governmental agency signatures.
5. As a reminder, all construction activities with a disturbance area of 5 acres or more must comply with the City's Code of Ordinance Spec 01560.
6. Construction shall not commence until final agency approvals are secured.

Please make all the revisions as requested and submit a revised set of plans to this office for final approval. Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Robel E. Giackero

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

xc: Ms. Christian Gable – City of Magnolia – Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works

Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Ms. Cristin Emshoff, MUP, ENV SP - AEI Engineering, a Baxter & Woodman Company
Mr. Phillip Kane Mudd, P.E. – LJA Engineering, Inc.
Mr. Brady Sutton– LJA Engineering, Inc.

City of Magnolia
City Council
Agenda Item Summary

Date: July 18, 2022

To: Planning & Zoning Commission
From: Christian Gable, Planning Coordinator

RE: Planning and Zoning Commission Agenda Item 27

Background/Information:
An application for a site plan was received on May 26, 2022.

Comments:
Letter of No Objection was issued by City Engineer on July 6, 2022.

Action Requested:
Approve site plan for Windmill Estates.

Recommendation:
Approve site plan for Windmill Estates.

Attachments:
Site Plan

Site Plan Application Form

This form shall be submitted with each application for a site plan.

CONTACT INFORMATION

Applicant

Kyle Adams
Name

1450 Lake Robbins Drive, Suite 310
Street Address

The Woodlands, Tx, 77380
City, State Zip

832-592-2721
Phone

Fax

kadams@bgeinc.com
E-mail

Property Owner (if different)

DAVIDSON HOMES, LLC
Name

10522 Serenity Sound
Street Address

Magnolia, TX, 77354
City, State Zip

281-330-0041
Phone

Fax

jrorison@builttoinvest.com
E-mail

Architect (if different)

Name

Street Address

City, State Zip

Phone

Fax

E-mail

Engineer/Land Surveyor (if different)

BGE, Inc.
Name

1450 Lake Robbins Drive, Suite 310
Street Address

The Woodlands, Tx, 77380
City, State Zip

832-592-2721
Phone

Fax

kadams@bgeinc.com
E-mail

Project Name: Windmill Estates Lot#: 31 Reviewer: _____

PROPERTY PROFILE

Site Address WINDMILL ESTATES PARTIAL RE-PLAT NO. 1

Legal Description A SUBDIVISION OF 8.164 ACRES OF LAND LOCATED IN THE G.W. LONIS SURVEY, A-320, CITY OF MAGNOLIA, MONTGOMERY COUNTY, TEXAS, ALSO BEING A PORTION OF LOTS 1-9, BLOCK M, AND LOTS 1-10, BLOCK L, BLOCK N, LOT 1 OF WINDMILL ESTATES RECORDED UNDER CAB. A, SHT. 188B, M.C.M.R.

(Subdivision) (Lot) (Block)

Current Zoning SEMI-URBAN RESIDENTIAL. The remainder of the project is Planned Development District (PD-2) Overlay Zoning District

Present Use of Property
UNDEVELOPED LAND

Proposed Use of the Property
RESIDENTIAL SUBDIVISION

Total Area of Site 8.164

Project Name: _____ Lot#: _____ Reviewer: _____

Required Information

- ☑ One (1) completed application
- ☑ Five (5) copies of a complete submittal package, minimum 24 in. by 36 in. sheet size
- ☑ All fees
- ☑ Proposed generalized land uses
- ☑ Areas counted towards open space ratio or landscape surface ratio (as appropriate), including annotation of the land area and general function (*e.g.*, buffer, drainage, passive recreation, etc.) of each open space tract or designated landscape area
- ☑ Areas intended for dedication to City or other public entity
- ☑ Areas intended for common ownership by property owners' association
- ☑ Proposed site improvements, showing:
  - ☑ Location and dimensions (length and width of segments; curb radii) of proposed streets, sidewalks, and trails, including connections to existing streets, sidewalks, and trails
  - ☑ Access spacing and corner clearance measurements
  - ☐ Proposed building footprints and required and actual setback distances (not required for site plans that support single-family and duplex subdivision plats)
  - ☑ Proposed utility easements, including type and size of utility lines or facilities, and spacing of fire hydrants
  - ☑ Proposed drainage facilities and easements
  - ☐ Proposed motor vehicle parking spaces, including typical dimensions, spaces angles, and drive aisle widths, and location and dimensions of disabled parking spaces, and accessible routes
  - ☐ Proposed bicycle parking areas, number of spaces, and dimensions of maneuvering area around bicycle racks
  - ☐ Proposed loading areas, including loading space dimensions
  - ☐ Proposed garbage collection locations, including distances from dumpster enclosures to property lines
  - ☐ Proposed fire and emergency access lanes
  - ☐ Proposed location of street lighting
  - ☐ Location, materials, and height of proposed fences and walls
  - ☐ Required and proposed bufferyard widths
- ☐ Building elevation drawings, showing:
  - ☐ Building materials for all sides of nonresidential, mixed-use, and multi-family buildings
  - ☐ Materials and height of all structural screening
  - ☐ Canopies and awnings
  - ☐ Building heights
- ☐ Tables and calculations, showing:
  - ☐ Area of parcel proposed for development
  - ☐ Required and provided open space ratio or landscaped surface ratio
  - ☐ Base site area and net buildable area
  - ☐ Maximum and actual gross and net density
  - ☐ Total floor area for each proposed use
  - ☑ Lot, parcel, and tract areas (if a subdivision is proposed)

Project Name: _____ Lot#: _____ Reviewer: _____

- ☐ Parking spaces required and provided, including disabled parking spaces and bicycle parking spaces; any credits or shared parking calculations; and whether spaces are on-street or off-street
- ☐ Park dedication
- ☑ Providers of sanitary sewer, potable water, telephone, and gas utilities
- ☐ Elementary, middle, and high school (if residential development is proposed)

☐ Narrative sheets or documents:

- ☐ Required justifications for cul-de-sacs, if cul-de-sacs are proposed
- ☐ Parking study, if used to reduce parking requirements
- ☐ Traffic study, or calculation of vehicle trips that shows that a complete traffic study is not necessary to demonstrate that the proposal will not significantly impact the transportation system

☑ Grading, drainage, and erosion control plans and drainage study

☐ Copy of recorded plat

☐ Copy of concept plan (if site is part of a larger development)

I, _____ (print or type name), certify with my signature below that the information included in my submittal packet is complete, true, and correct, to the best of my knowledge.

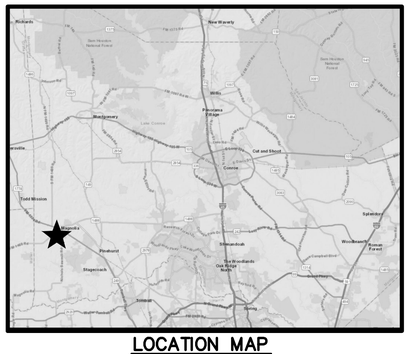
_____ _____

Signature of Applicant Date

Project Name: _____ Lot#: _____ Reviewer: _____

CITY OF MAGNOLIA

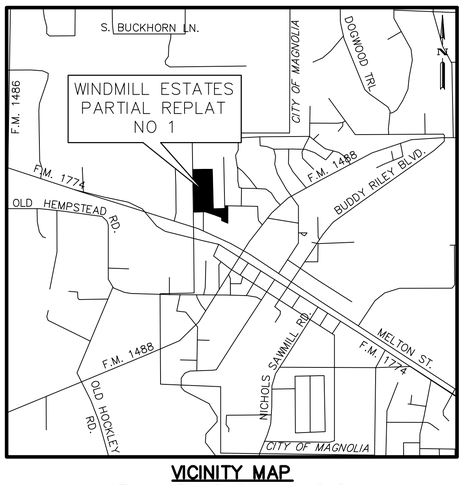
WINDMILL ESTATES



LOCATION MAP

CONSTRUCTION PLANS OF PROPOSED
WATER DISTRIBUTION SYSTEM
SANITARY COLLECTION SYSTEM
STORM DRAINAGE SYSTEM
STREET PAVING

MAY 2022



VICINITY MAP
KEY MAP NO 211M & 212J

SHEET INDEX

1. MR. BURT SMITH WITH CITY OF MAGNOLIA IS THE CITY'S OPERATOR AND SHALL BE CONTACTED AT 281-356-2266;
2. THE OPERATOR SHALL BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION OF ANY SANITARY OR WATER LINES;
3. WATER AND SANITARY SEWER LINES SHALL NOT BE COVERED UNTIL OBSERVED AND APPROVED BY THE CITY;
4. DEVELOPER SHALL MAKE THE FINAL TAP INTO THE CITY'S WATER LINE.FINAL TAP SHALL NOT BE COVERED UNTIL OBSERVED AND APPROVED BY THE CITY;
5. THE CITY WILL INSTALL THE METER.

ONE–CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
DIAL 811 or 1–(800)–545–6005
AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION

REV. NO.	DATE	DESCRIPTION	P.E. APPR.
3			
2			
1			

BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

SHEET NO: 1 OF 41

FILE PATH: \\browngay.net\gfs\Regions\TXH\Projects\Built_Capital\8576-00-Windmill_Estates\LD\01_CADD\01_Shts\XX_WM-EST_GEN_CVR.dwg PLOT STYLE: BGE-CORP-2018.ctb PLOTTED: KADAMS 5/10/2022 2:49 PM

CITY OF MAGNOLIA WINDMILL ESTATES 8576-00

GENERAL
---

1. THESE PLANS WERE PREPARED TO MEET OR EXCEED TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, MONTGOMERY COUNTY AND CITY OF MAGNOLIA RULES AND REGULATION AS CURRENTLY AMENDED.
2. WATER LINES, WASTEWATER COLLECTION SYSTEMS, AND DRAINAGE SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MAGNOLIA.
3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING PUBLIC UTILITY LINES, INCLUDING BUT NOT LIMITED TO WATER LINES, WASTEWATER COLLECTION SYSTEMS AND STORM SEWERS, DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH CITY OF MAGNOLIA, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING WITH LATEST ADDENDA AND AMENDMENTS THERETO WITH NO COST TO THE PUBLIC. (NO ADDITIONAL PAY TO CONTRACTOR)
4. UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE PLANS, UTILITIES WITHIN EASEMENTS SHALL BE LOCATED IN ACCORDANCE WITH STANDARDS OUTLINED BY THE MOST CURRENT UTILITY COORDINATING COMMITTEE DRAWINGS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND OTHER FACILITIES.
6. CONTRACTOR SHALL COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS AND ANY OTHER FEDERAL, STATE AND LOCAL REGULATIONS REGARDING TRENCH SAFETY SYSTEMS FOR TRENCH EXCAVATION.
7. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) REQUIREMENTS.
8. CONTRACTOR TO OBTAIN ALL CONSTRUCTION PERMITS REQUIRED PRIOR TO STARTING CONSTRUCTION.
9. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY, UPON COMPLETION OF JOB, SHALL BE AS GOOD OR BETTER THAN CONDITION PRIOR TO STARTING WORK.
10. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING PUBLIC OR PRIVATE UTILITY LINES, INCLUDING BUT NOT LIMITED TO WATER LINES, WASTEWATER COLLECTION SYSTEMS AND STORM SEWERS, DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH MONTGOMERY COUNTY, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING WITH LATEST ADDENDA AND AMENDMENTS THERETO, WITH NO COST TO THE PUBLIC.

SANITARY SEWERS
---

1. ALL SEWERS SHALL BE SUBJECT TO A STANDARD EXFILTRATION TEST. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF 30 TEXAS ADMINISTRATIVE CODE, CHAPTER 317, "DESIGN CRITERIA FOR SEWERAGE SYSTEMS" SHALL BE FOLLOWED WHERE NOT COVERED BY THE CITY OF MAGNOLIA.
2. SANITARY SEWER PIPE TO BE SDR 26 P.V.C. PIPE MEETING ASTM SPECIFICATIONS D3O34 WITH RUBBER GASKET JOINTS, UNLESS OTHERWISE NOTED.
3. SANITARY SEWERS WILL HAVE BEDDING AND BACKFILL PER CITY OF MAGNOLIA SPECIFICATIONS AND DETAILS INCLUDED IN THIS PLAN SET.
4. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT 1 FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL HAVE BEDDING PER CITY OF MAGNOLIA SPECIFICATIONS AND DETAILS INCLUDED IN THIS PLAN SET, WITH A MINIMUM 1 1/2 SACK CEMENT/C.Y. (MIN. 100 PSI AT 48 HR.) STABILIZED SAND BACKFILL UP TO WITHIN ONE (1) FOOT OF PAVING SUBGRADE. TEST REPORTS TO BE SUBMITTED BEFORE PLACEMENT OF PAVEMENT. SAND SHALL BE PLACED WITHIN 4 HOURS OF BEING MIXED.
5. ALL MANHOLES ARE TO BE PER CITY OF MAGNOLIA SPECIFICATIONS AND DETAILS INCLUDED IN THIS PLAN SET.
6. CONTRACTOR SHALL PROVIDE 6-INCHES OF CLEARANCE AT ALL SANITARY SEWERS CROSSING WATER LINES PER CITY OF MAGNOLIA DESIGN SPECIFICATIONS.
7. CONTRACTOR SHALL PROVIDE FOR A MINIMUM HORIZONTAL CLEARANCE OF 9' (NINE FEET) BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.
8. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3"-6" ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING WITH SLOPED BACKFILL ADDED FOR STORMWATER DRAINAGE AWAY FROM MANHOLE RIM.
9. "SAN. S.E." INDICATES "SANITARY SEWER EASEMENT".
10. IN WET STABLE TRENCH AREAS USE BEDDING PER CITY OF MAGNOLIA SPECIFICATIONS AND DETAILS INCLUDED IN THIS PLAN SET.
11. ALL SEWER LEADS AND STACKS SHALL BE MARKED WITH A 4" X 6' LONG P.V.C. PIPE AT THE TIME OF CONSTRUCTION. THE 4" P.V.C. PIPE SHALL EXTEND TWO FEET ABOVE FINISHED GRADE AND BE CAPPED. THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE 4" P.V.C. PIPES IN GOOD AND PLUMB CONDITION. IF PIPE IS DAMAGED, THE PAVING CONTRACTOR SHALL REPLACE THE 4" P.V.C. PIPE AT THE ENGINEERS DIRECTION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR MAINTAINING THE 4" P.V.C. PIPE MARKINGS.
12. ALL DR P.V.C. PIPE IS TO HAVE D.I.P. SIZE O.D. AND RUBBER GASKETED BELL-AND-SPIGOT TYPE JOINT ENDS.
13. SDR 26 P.V.C. PIPE USES "FULL BODIED" SDR 26 P.V.C. FITTINGS OR D.I.P. FITTINGS WITH APPROPRIATE ADAPTERS. AWWA C-900 DR-18 P.V.C. PIPE USES EITHER AWWA C900 DR-18 P.V.C. FITTINGS OR D.I.P. FITTINGS. SDR-26 P.V.C. PIPE SHALL HAVE A CELL CLASSIFICATION OF 12364-B AS DEFINED IN ASTM D-1784.
14. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 3O DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED AS PER 30 TAC 317.2 LATEST AMENDMENT AND WITHOUT MECHANICAL PULLING DEVICES.
15. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER 30 TAC 317.2 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.
    A. INFILTRATION OR EXFILTRATION TEST: TOTAL LEAKAGE AS DETERMINED BY A HYDROSTATIC HEAD TEST SHALL NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2 FEET.
    B. LOW - PRESSURE AIR TEST: PERFORM TEST ACCORDING TO UNI-B-6-9O OR OTHER APPROPRIATE PROCEDURES. FOR SECTIONS OF PIPE LESS THAN 36" (INCH) AVERAGE INSIDE DIAMETER, THE MINIMUM ALLOWABLE TIME FOR PRESSURE DROP FROM 3.5 PSIG TO 2.5 PSIG SHALL BE AS FOLLOWS:
        8": 454 SECONDS OR 1.52O(L) FOR TEST LENGTHS GREATER THAN 298'.
        1O": 567 SECONDS OR 2.374(L) FOR TEST LENGTHS GREATER THAN 239'.
        12": 680 SECONDS OR 3.419(L) FOR TEST LENGTHS GREATER THAN 199'.
        15": 850 SECONDS OR 5.342(L) FOR TEST LENGTHS GREATER THAN 159'.
        18": 1020 SECONDS OR 7.693(L) FOR TEST LENGTHS GREATER THAN 133'.
    WHERE L = LENGTH OF LINE OF SAME PIPE SIZE IN FEET.
16. SERVICE CONNECTIONS ENTERING A MANHOLE THREE FEET (3') OR MORE ABOVE THE FLOWLINE OF THE MANHOLE SHALL INCLUDE A DROP PIPE WITH FITTINGS OUTSIDE THE MANHOLE. THE DROP SHALL BE INSTALLED ADJOINING AND ANCHORED TO THE WALL OF THE MANHOLE, UNLESS SPECIFICALLY APPROVED OTHERWISE.
17. WHENEVER POSSIBLE CENTER 1 - 20' JOINT, C-900 PVC PIPE, CLASS 150 SANITARY SEWER LEAD ON PROPOSED WATER LINE AND 1 - 20' JOINT, C-900 PVC WATER LINE PIPE ON PROPOSED SANITARY LEAD, 12" MINIMUM CLEARANCE

COMPACTION OF SITE FILL
---

1. ALL AREAS TO BE FILLED ARE TO BE FREE OF VEGETATION, DEBRIS, PONDED WATER, LOOSE SOILS, MUD & MUCK. (STRIP 3" MIN.)
2. THE PLACEMENT OF ANY FILL OR THE DISPOSAL OF ANY EXCESS MATERIAL ON ANY PORTION OF THIS PROJECT SHALL BE MADE IN 8" LOOSE LIFTS, UNIFORMLY SPREAD AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

UTILITY BACKFILL
---

1. BACKFILL FOR UTILITIES SHALL BE IN ACCORDANCE MONTGOMERY COUNTY "RULES AND REGULATIONS" AND PER DETAILS INCLUDED IN THESE PLANS OR ANY OTHER APPLICABLE MONTGOMERY COUNTY DETAILS.
2. BACKFILL COMPACTION TO BE AT A MINIMUM OF 90 PERCENT (OUTSIDE OF PAVEMENT) AND 95 PERCENT (UNDER OR WITHIN 1 FOOT OF PAVEMENT) OF THE MAXIMUM DRY DENSITY AND AT A MOISTURE CONTENT RECOMMENDED FROM GEOTECHNICAL INVESTIGATION.

WATER LINES
---

1. 4" THRU 12" WATER LINES SHALL BE P.V.C. CLASS 15O, DR-18, AWWA C-9OO.
2. ALL WATER LINES SHALL HAVE A 6" BOTTOM AND 12" SIDE BANK - SAND ENVELOPE AND SHALL BE BACKFILLED TO A MINIMUM COMPACTED DEPTH OF 6" OVER THE TOP OF THE PIPE TO PROVIDE A COMPACTED ENCASEMENT IN ACCORDANCE WITH CITY OF MAGNOLIA WATER DEPARTMENT SPECIFICATIONS AND DETAILS INCLUDED IN THIS PLAN SET.
3. WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO WITHIN 1 FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" ABOVE PIPE AND BACKFILLED WITH 1 1/2 SACK CEMENT / C.Y. STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
4. ALL FILL AND COMPACTION TO 95% STANDARD PROCTOR DENSITY SHALL BE PERFORMED PRIOR TO CONSTRUCTION OF WATER LINES.
5. CONTRACTOR SHALL PROVIDE FOR A MINIMUM HORIZONTAL CLEARANCE OF 9' (NINE FEET) BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.
6. "W.L.E." INDICATES "WATER LINE EASEMENT"
7. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651. A MINIMUM OF ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EACH 1,000 FEET OF COMPLETED WATERLINE TO CHECK EFFICIENCY OF DISINFECTION PROCEDURES AND SHALL BE REPEATED IF CONTAMINATION PERSISTS.
8. ALL WATER PIPE AND RELATED PRODUCTS MUST CONFORM TO ANSI/NSF STANDARD 61.
9. 4" THROUGH 12" FITTINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.53 CONFORMING TO THE REQUIREMENTS OF SECTION 02528- POLYETHYLENE WRAP, OR PUSH ON FITTINGS PER ANSI A21.10 PRESSURE RATED AT 250 PSIG.
10. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH AWWA C-600, SECTION 4 STANDARDS FOR A DURATION OF NOT LESS THAN TWO HOURS. LEAKAGE SHALL BE DEFINED AS THE QUANTITY OF WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF, TO MAINTAIN PRESSURE WITHIN 5 PSI OF THE SPECIFIED TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER AND THE AIR HAS BEEN EXPELLED. THE TEST PRESSURE SHALL BE EITHER A MINIMUM OF 125 PSIG OR 1.5 TIMES THE WORKING PRESSURE WHICHEVER IS LARGER. THE MAXIMUM LEAKAGE SHALL BE CALCULATED USING THE FORMULA AS FOLLOWS:
        L = (S)(D)(P ^1/2)/133,200
    WHERE L = ALLOWABLE LEAKAGE IN GAL./HR.
        S = LENGTH OF PIPE TESTED IN FEET
        D = INSIDE DIAMETER OF PIPE IN INCHES
        P = PRESSURE IN POUNDS PER SQUARE INCH (GAUGE)
11. PIPE SHALL NOT BE LAID IN WATER OR PLACED WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION IN COMPLIANCE WITH TAC 290.44(f)(1).
12. ALL PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST ALSO BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-pw) AS REQUIRED IN SECTION 290.44(a)(2) OF THE RULES.
13. THE HYDROSTATIC LEAKAGE RATE FOR PVC PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AWWA C-605 AS REQUIRED IN SECTION 290.44(a)(5) OF THE RULES. [L = NDP /7,400]

STORM SEWERS
---

1. STORM SEWERS AND LEADS SHALL BE REINFORCED CONCRETE PIPE, C-76, CLASS III, AND SHALL BE INSTALLED, BEDDED, AND BACKFILLED IN ACCORDANCE WITH MONTGOMERY COUNTY SPECIFICATIONS AND DRAWINGS AS APPLICABLE.
2. C.M.P. (CORRUGATED METAL PIPE) SHALL BE INSTALLED, BEDDED AND BACKFILLED ACCORDING TO MONTGOMERY COUNTY DETAILS.
3. ALL SEWERS CONSTRUCTED IN SIDE LOT EASEMENTS SHALL BE R.C.P. (C-76 CLASS III) AND SHALL BE BEDDED IN ACCORDANCE WITH MONTGOMERY COUNTY SPECIFICATIONS AND DETAILS INCLUDED IN THIS PLAN SET AS APPLICABLE - MIN. 20' EASEMENT SHALL BE PROVIDED.
4. ALL SEWERS UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 2 SACKS CEMENT/C.Y. STABILIZED SAND AS-PER DETAILS. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL IN 8 INCH LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS ON EACH LIFT, AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM DESIGNATION D-698/AASHTO T99). MOISTURE CONTENT OF BACKFILL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEMENT-STABILIZED SAND SPECIFICATION, LATEST EDITION.
   ALTERNATE TO CEMENT STABILIZED SAND BACKFILL FOR PIPES 54-INCH AND LARGER, FROM 1-FOOT ABOVE THE TOP OF PIPE TO THE BOTTOM OF THE SUBGRADE. CONTRACTOR MAY BACKFILL WITH SUITABLE MATERIAL, PROVIDED THE BACKFILL MATERIAL IS PLACED IN 8-INCH LIFTS AND MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY. TESTS SHALL BE TAKEN AT 100-FOOT INTERVALS ON EACH LIFT. BEDDING AND BACKFILL TO 1-FOOT ABOVE THE TOP OF THE PIPE SHALL BE CEMENT STABILIZED SAND.
5. ALL INLETS TO BE TYPE "H-2" UNLESS OTHERWISE NOTED.
6. ALL INLET LEADS TO BE 24" RCP UNLESS OTHERWISE NOTED.
7. 24" TO 72" STORM SEWERS SHALL HAVE TYPE "C" M.H.'S.
8. CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINTS ONLY CONFORMING TO ASTM C 443.
9. "STM. S.E." INDICATES "STORM SEWER EASEMENT".
10. ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.
11. ALL STORM SEWER MANHOLE RIMS LOCATED OUTSIDE THE PROPOSED PAVING SHALL BE SET TO PROPOSED FINISHED GRADE ELEVATION.
12. CONTRACTOR SHALL PROVIDE 6-INCHES OF CLEARANCE AT ALL STORM SEWERS CROSSING WATER LINES PER MONTGOMERY COUNTY DESIGN SPECIFICATIONS.
13. STORM SEWERS AND DETENTION POND SHALL BE OWNED AND MAINTAINED BY GRAND OAKS M.U.D.

PAVING
---

1. GUIDELINES SET FORTH IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL BE OBSERVED.
2. CLEAN EXPOSED STEEL AND TIE TO EXISTING PAVEMENT; IF NOT EXPOSED, SAW CUT AND BREAK OFF 24" TO EXPOSE STEEL.
3. ALL CURB RETURN RADII ARE 25', UNLESS OTHERWISE NOTED, AND HAVE A 1% MIN. GRADE.
4. PAVING SHALL BE IN ACCORDANCE WITH MONTGOMERY COUNTY.
5. ALL STOP SIGNS SHALL BE T.M.U.T.C.D. STANDARD NO. MR-1-1 (24"X24"). STOP SIGN SHALL BE PLACED AS SHOWN AT RADIUS POINT CURB APPROXIMATELY TWO FEET BEHIND CURB.

PRIVATE UTILITY LINES SHOWN

CenterPoint Energy Electric Facilities. (Approval only for crossing underground ductlines unless noted.) Valid at Time of Review Only

City of Magnolia Gas Facilities

SBC Approved for underground conduit facilities only. signature valid for one year.

REV. NO.	DATE	DESCRIPTION	P.E. APPR.
3			
2			
1			

BGE, Inc.
10777 Westheimer, Suite 400
Houston, TX 77042
Tel: 281-558-8700 • www.bgeinc.com
TBPE Registration No. F-1046

THESE PLANS ARE ISSUED FOR THE PURPOSE OF PRELIMINARY REVIEW AND ARE NOT INTENDED FOR CONSTRUCTION. WHEN ISSUED IN FINAL FORM THEY WILL BE SEALED, SIGNED AND DATED.

RESPONSIBLE ENGINEER:
BGE, INC.
F-1046
KYLE J. ADAMS, P.E.
TEXAS REGISTRATION NO. 137440
January 3, 2022

CITY OF MAGNOLIA

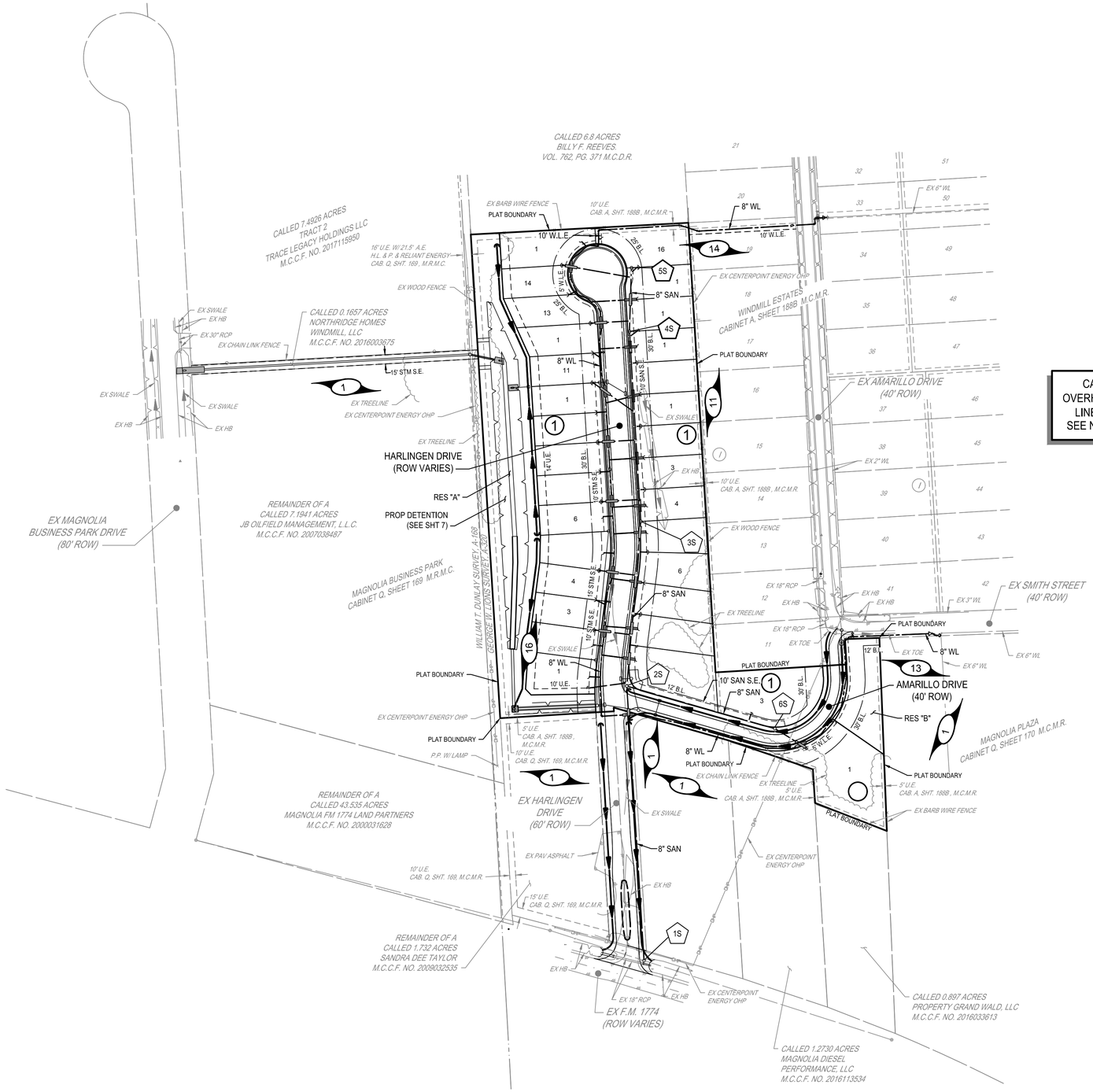
WINDMILL ESTATES

GENERAL CONSTRUCTION NOTES

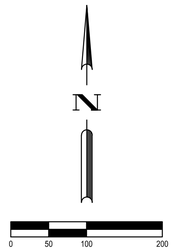
JOB NUMBER: 8576-00

SUBMITTED: BGE, INC.
SCALE: N/A
DATE: FEBRUARY 2022
SURVEY BY: BROWN & GAY ENGINEERS, INC.
F.B NO:

DESIGNED BY: J.P.
DRAWN BY: N/A
SHEET NO 2 OF 23 SHEETS
CITY DWG NO:



CAUTION !!!
OVERHEAD POWER
LINES IN AREA
SEE NOTES SHT 2



BENCHMARKS

PRIMARY BENCHMARK: NGS MONUMENT A-1281 - BENCHMARK IS AN NGS BRASS DISK STAMPED A-1281 SET ATOP AN IRON ROD INSIDE OF A STEEL PIPE. TO REACH THE BENCHMARK FROM THE INTERSECTION OF FM 1486 AND FM 1774, GO SOUTHEAST ALONG FM 1774 A DISTANCE OF 0.4 MILES TO NICHOLS SAWMILL RD. THEN SOUTH ALONG NICHOLS SAWMILL RD. A DISTANCE OF 0.8 MILES TO THE BENCHMARK ON THE RIGHT. (BENCHMARK IS ALSO H.C. FLOODPLAIN RM 100195)

ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

TBM 551-49-1: BOX CUT ON TOP OF THE NORTH END OF A SAFETY END TREATMENT AT THE ENTRANCE TO WORLD PETROLEUM SUPPLY ALONG THE WEST SIDE OF MAGNOLIA BUSINESS PARK DRIVE.

ELEVATION: 263.17 FEET

TBM 551-49-1: BOX ON TOP OF CONCRETE AT THE SOUTH CORNER OF THE SOUTH DRIVE OF A DOUBLE CONCRETE DRIVE ON THE EAST SIDE OF AMARILLO DRIVE LOCATED APPROXIMATELY 452-FEET NORTH OF THE CENTERLINE INTERSECTIONS OF AMARILLO DRIVE AND SMITH ROAD AT ADDRESS 222 AMARILLO.

ELEVATION: 280.26 FEET

GENERAL NOTES:

1. "U.E." INDICATES "UTILITY EASEMENT".
2. "W.L.E." INDICATES "WATER LINE EASEMENT".
3. "SAN.S.E." INDICATES "SANITARY SEWER EASEMENT".
4. "STM.S.E." INDICATES "STORM SEWER EASEMENT".
5. "D.E." INDICATES "DRAINAGE EASEMENT".
6. "TEMP.D.E." INDICATES "TEMPORARY DRAINAGE EASEMENT".
7. ALL 14 FOOT UTILITY EASEMENTS SHOWN EXTEND 7 FEET ON EACH SIDE OF A COMMON LOT LINE UNLESS OTHERWISE INDICATED.
8. ALL SANITARY SEWERS ARE 8" UNLESS OTHERWISE INDICATED.
9. ALL WATER LINES ARE 8" UNLESS OTHERWISE INDICATED.

NOTICE
FOR LOCATION OF UNDERGROUND UTILITY LINES, CALL 811, 48 HOURS BEFORE EXCAVATING.

PERMIT NOTES:

1. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY CITY OF MAGNOLIA, TEXAS PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN COUNTY ROAD RIGHT-OF-WAY. THE PERMIT IS TO BE ISSUED IN THE OWNERS NAME.
2. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY REGULATION OF CITY OF MAGNOLIA, TEXAS FOR FLOOD PLAIN MANAGEMENT PRIOR TO STARTING CONSTRUCTION.

BGE, Inc.
Houston, TX 77042

KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

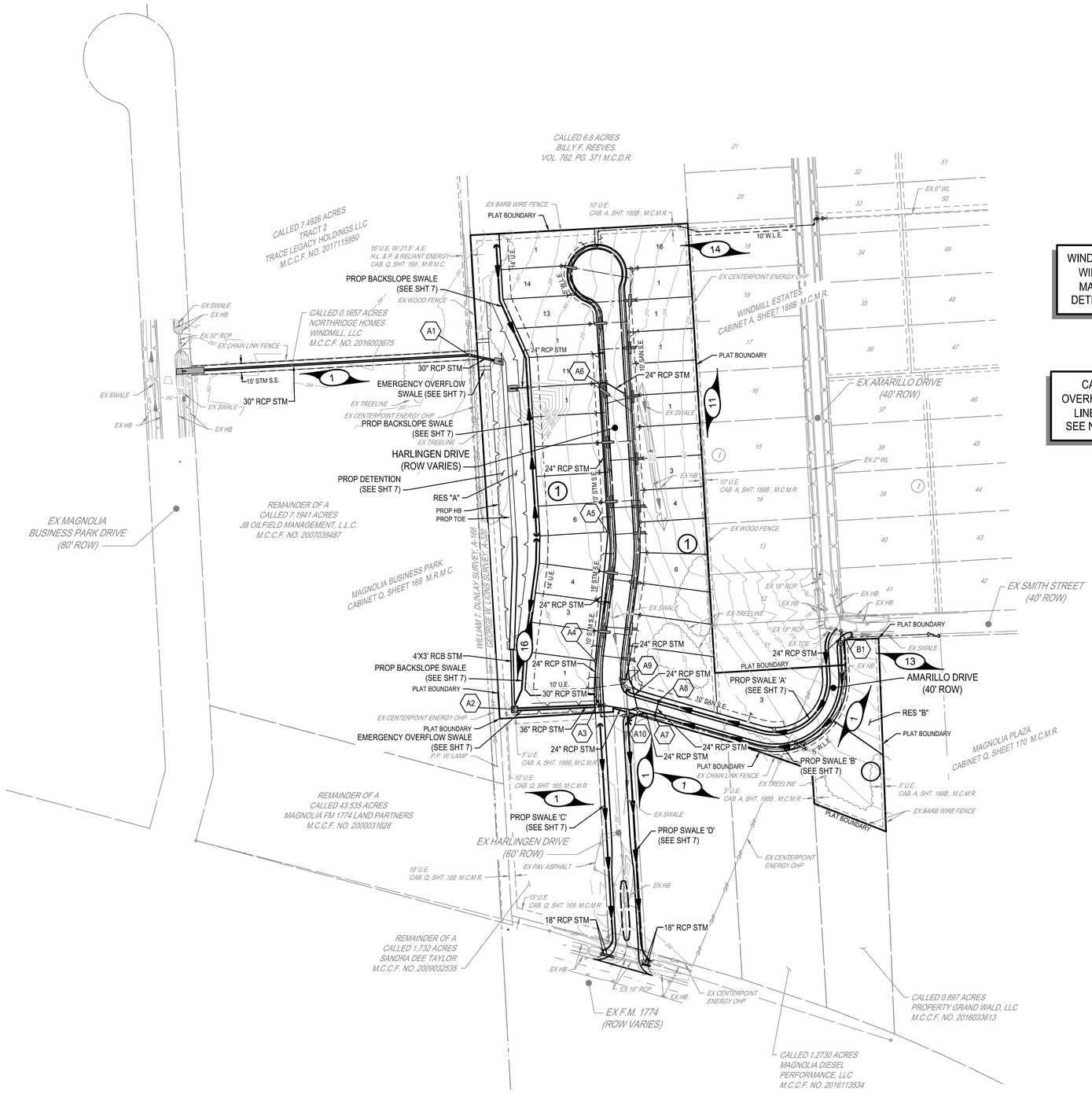
SANITARY SEWER AND
WATER OVERALL

BROWN & GAY ENGINEERS, INC.

3 OF 41

CITY DWG NO:

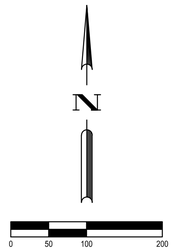
CITY OF MAGNOLIA – WINDMILL ESTATES



NOTE:

WINDMILL ESTATES WILL OWN AND MAINTAIN THE DETENTION POND

CAUTION !!! OVERHEAD POWER LINES IN AREA SEE NOTES SHT 2



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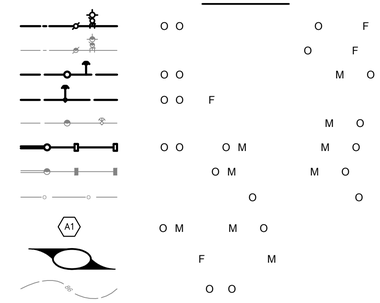
ELEVATION: 280.26 FEET



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9. ALL WATER LINES ARE 8" UNLESS OTHERWISE INDICATED.
10. ALL STORM SEWERS ARE 24" UNLESS OTHERWISE INDICATED.

NOTICE
FOR LOCATION OF UNDERGROUND UTILITY LINES, CALL 811, 48 HOURS BEFORE EXCAVATING.

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1			

BGE

BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

STORM SEWER OVERALL

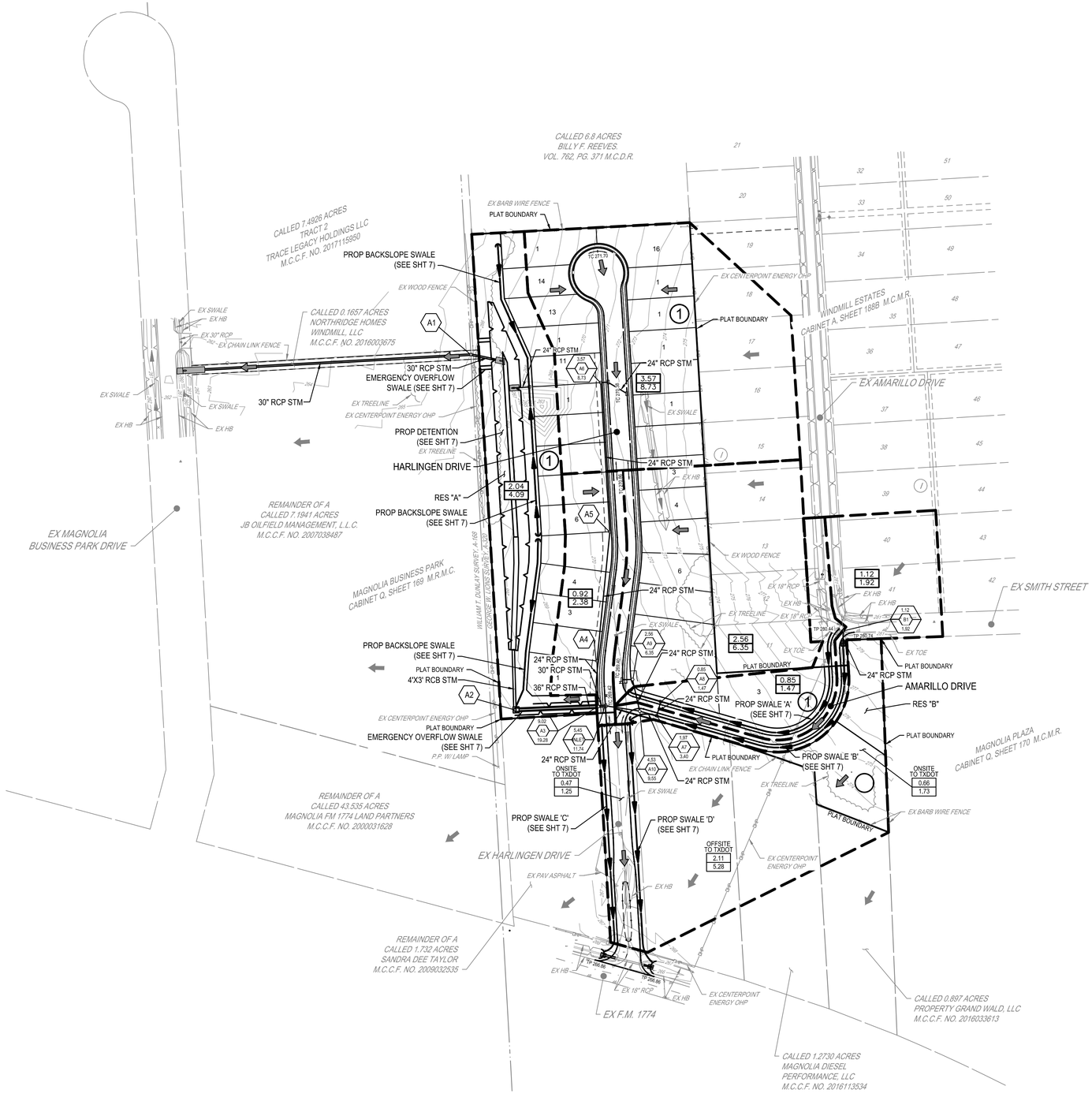
M BGE, INC.

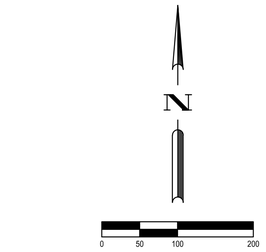
BROWN & GAY ENGINEERS, INC.

4 OF 41

CITY DWG NO:

CITY OF MAGNOLIA – WINDMILL ESTATES





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ELEVATION: 280.26 FEET

NOTE:

WINDMILL ESTATES WILL OWN AND MAINTAIN THE DETENTION POND

SEE SHEET 6 FOR DRAINAGE CALCULATIONS

THE PROPOSED DRAINAGE AND DETENTION SYSTEM PROVIDES AT MINIMUM A 10% REDUCTION IN RUNOFF FROM PRE-CONSTRUCTION CONDITIONS

EXISTING STORM INLETS & MANHOLE

PROPOSED STORM INLETS & MANHOLE

EXTREME EVENT SHEET FLOW DIRECTION

OFF SITE EXTREME EVENT SHEET FLOW DIRECTION

O		O	
3			
1			

BGE

BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

DRAINAGE AREA MAP

BROWN & GAY ENGINEERS, INC.

CITY DWG NO:

CITY OF MAGNOLIA – WINDMILL ESTATES

CITY OF MAGNOLIA – WINDMILL ESTATES

City of Magnolia -- Storm Sewer Calculation Form

Project: Windmill Estates
Job No: 8576-00
By: KJA
Date: 4/18/2022
#N/A

Rainfall Frequency (years): 5

b = 75.26
d = 11.23
e = 0.7974

REQUIRED INPUT VALUES	
Curb Height (in feet) =	0.50
Static WSE =	
10 yr WSE =	265.70
100 yr WSE =	266.80

										LINE				DESIGN				HYD. GRAD							
	From MH	To MH	Sub Area (ac)	Sub Runoff Coeff. C	Total Area A (ac)	Sum of C A	Intensity I (in / hr)	Sum of Flows Q (cfs)	Time of Conc. TC (min)	Reach Length (ft)	Diameter (in) or span x rise (ft)	Slope (%)	Manning's "n"	Capacity Q (cfs)	Velocity V (fps)	Drop at Down stream Manhole	Actual Velocity (fps)	Hydraulic Gradient (%)	Change in Head (ft)	Elev. Up Stream (ft)	Elev. Down Stream (ft)	TC Upstream (ft)	TC Downstream (ft)	Flowline Upstream (ft)	Flowline Downstream (ft)
A	9	10	2.56	0.60	2.56	1.54	4.14	6.35	26.80	54	24	0.18	0.013	9.60	3.06		3.26	0.180	0.097	266.62	266.52	269.48	269.58	264.60	264.50
A	10	Inlet		0.60	4.53	2.32	4.11	9.55	27.09	58	24	0.18	0.013	9.60	3.06	0.50	3.48	0.180	0.104	266.52	266.41	269.58	269.42	264.50	264.40
A	Inlet	3	0.92	0.60	5.45	2.88	4.08	11.74	27.41	12	30	0.13	0.013	14.79	3.01		3.34	0.130	0.016	266.41	266.40	269.58	269.42	263.90	263.88
A	8	7	0.85	0.40	0.85	0.34	4.33	1.47	24.72	25	24	0.81	0.013	20.36	6.48		3.74	0.810	0.203	266.77	266.57	270.00	270.00	263.50	263.30
A	7	10	1.12	0.40	1.97	0.79	4.32	3.40	24.78	30	24	0.18	0.013	9.60	3.06		2.79	0.180	0.054	266.57	266.52	270.00	269.58	263.30	263.24
A	6	5	3.57	0.60	3.57	2.14	4.08	8.73	27.51	250	24	0.18	0.013	9.60	3.06		3.46	0.180	0.450	267.38	266.93	270.38	270.40	265.38	264.93
A	5	4		0.60	3.57	2.14	3.96	8.73	28.88	217	24	0.18	0.013	9.60	3.06		3.46	0.180	0.391	266.93	266.54	270.40	269.50	264.93	264.54
A	4	3		0.60	3.57	2.14	3.87	8.73	30.06	76	24	0.18	0.013	9.60	3.06	2.27	3.46	0.180	0.137	266.54	266.40	269.50	269.42	264.54	264.40
A	3	2		0.60	9.02	5.02	3.84	19.28	30.47	140	36	0.11	0.013	22.12	3.13		3.52	0.110	0.154	265.12	264.97	269.42	269.42	262.13	261.97
A	2	OUT		0.60	9.02	5.02	3.83	19.28	31.22	101	4 x 3	0.09	0.013	37.13	3.09		3.06	0.090	0.091	264.97	264.88	269.42	269.42	261.97	261.88

City of Magnolia -- Storm Sewer Calculation Form

Project: Windmill Estates
Job No: 8576-00
By: KJA
Date: 4/18/2022
#N/A

Rainfall Frequency (years): 100

b = 145.71
d = 15.69
e = 0.7898

REQUIRED INPUT VALUES	
Curb Height (in feet) =	0.50
Static WSE =	
10 yr WSE =	265.70
100 yr WSE =	266.80

										LINE				DESIGN				HYD. GRAD							
	From MH	To MH	Sub Area (ac)	Sub Runoff Coeff. C	Total Area A (ac)	Sum of C A	Intensity I (in / hr)	Sum of Flows Q (cfs)	Time of Conc. TC (min)	Reach Length (ft)	Diameter (in) or span x rise (ft)	Slope (%)	Manning's "n"	Capacity Q (cfs)	Velocity V (fps)	Drop at Down stream Manhole	Actual Velocity (fps)	Hydraulic Gradient (%)	Change in Head (ft)	Elev. Up Stream (ft)	Elev. Down Stream (ft)	TC Upstream (ft)	TC Downstream (ft)	Flowline Upstream (ft)	Flowline Downstream (ft)
A	9	10	2.56	0.60	2.56	1.54	7.54	11.58	26.80	54	24	0.18	0.013	**9.60**	3.06		3.69	0.262	0.142	266.92	266.78	269.48	269.58	264.60	264.50
A	10	Inlet		0.60	4.53	2.32	7.50	17.43	27.09	58	24	0.18	0.013	**9.60**	3.06	0.50	5.55	0.594	0.344	266.78	266.43	269.58	269.42	264.50	264.40
A	Inlet	3	0.92	0.60	5.45	2.88	7.46	21.45	27.41	12	30	0.13	0.013	**14.79**	3.01		4.37	0.273	0.033	266.43	266.40	269.58	269.42	263.90	263.88
A	8	7	0.85	0.40	0.85	0.34	7.85	2.67	24.72	25	24	0.81	0.013	20.36	6.48		4.44	0.810	0.203	267.03	266.83	270.00	270.00	263.50	263.30
A	7	10	1.12	0.40	1.97	0.79	7.84	6.18	24.78	30	24	0.18	0.013	9.60	3.06		3.24	0.180	0.054	266.83	266.78	270.00	269.58	263.30	263.24
A	6	5	3.57	0.60	3.57	2.14	7.44	15.94	27.51	250	24	0.18	0.013	**9.60**	3.06		5.08	0.497	1.242	269.10	267.86	270.38	270.40	265.38	264.93
A	5	4		0.60	3.57	2.14	7.26	15.94	28.88	217	24	0.18	0.013	**9.60**	3.06		5.08	0.497	1.078	267.86	266.78	270.40	269.50	264.93	264.54
A	4	3		0.60	3.57	2.14	7.11	15.94	30.06	76	24	0.18	0.013	**9.60**	3.06	2.27	5.08	0.497	0.377	266.78	266.40	269.50	269.42	264.54	264.40
A	3	2		0.60	9.02	5.02	7.06	35.44	30.47	140	36	0.11	0.013	**22.12**	3.13		5.01	0.282	0.395	266.19	265.79	269.42	269.42	262.13	261.97
A	2	OUT		0.60	9.02	5.02	7.01	35.44	31.22	101	4 x 3	0.09	0.013	37.13	3.09		3.71	0.090	0.091	265.79	265.70	269.42	269.42	261.97	261.88

City of Magnolia -- Storm Sewer Calculation Form

Project: Windmill Estates
Job No: 8576
By: KJA
Date: 4/18/2022

Rainfall Frequency (years): 5

b = 75.26
d = 11.23
e = 0.7974

\\browngay.net\gfs\Regions\TXH\Projects\Built_Capital\8576-00-Windmill_Estates\LD\02_ENGR\01_Calcs\[STM-CALC - DITCHES.xlsx]5 YR DITCH

DITCH	Sub Area (ac)	Sub Runoff Coeff. C	Total Area A (ac)	Sum of C A	Intensity I (in / hr)	Sum of Flows Q (cfs)	Time of Conc. TC (min)	Average Depth (ft)	Average Width (ft)	Side Slope (X:1)	SWALE AREA (ft^2)	P_W	R_h	Slope (%)	Manning's "n"	Capacity Q (cfs)	Velocity V (fps)	Depth of Water (5 YR)	a
A	0.85	0.40	0.85	0.34	4.33	1.47	24.72	1.5	12.0	4	9	12.37	0.73	2.00	0.030	51.14	2.30	0.40	0.64
B	1.12	0.40	1.12	0.45	4.28	3.39	25.20	1.5	12.0	4	9	12.37	0.73	2.00	0.030	51.14	2.90	0.54	1.17
C	0.47	0.60	0.47	0.28	4.42	1.25	23.76	1.5	12.0	4	9	12.37	0.73	0.40	0.030	22.87	1.20	0.51	1.04
D	2.77	0.40	2.77	1.11	4.12	4.57	26.97	1.5	12.0	4	9	12.37	0.73	0.40	0.030	22.87	1.24	0.96	3.69
EX 1774	1.50	0.40	1.50	0.60	4.23	2.54	25.74	1.5	21.0	6	13.5	18.25	0.74	1.00	0.030	54.85	2.75	0.48	0.92

DRAINAGE SUMMARY TABLE (APLICABLE TO PROJECTS WITH DRAINAGE TO TxDOT)
Please copy and paste the completed table onto the drainage sheet

TxDOT Tracking number (TR#)		
Highway	FM 1488	
TxDOT frontage	101	FT
TxDOT Area (the strip of site within 150-ft frontage)	0.04	AC
Total tract area based on submitted survey map	8.164	AC
Proposed disturbed area	0.04	AC
Project contributing drainage area to TxDOT	1.13	AC
Off-site contributing drainage area (if applicable)	2.11	AC
Increased impervious area	0.30	AC
10-yr required detention volume	SEE 100 YR	AC-FT
10-yr proposed detention volume	SEE 100 YR	AC-FT
10-yr design W.S.E.	265.70	FT
10-yr Pre-developed peak flow	12.80	CFS
10-yr Post-developed peak flow (Before detention/restrictor)	6.60	CFS
10-yr Proposed discharge to TxDOT R.O.W. (With detention/restrictor)	6.60	CFS
100-yr required detention volume	1.30	AC-FT
100-yr proposed detention volume	1.30	AC-FT
100-yr design W.S.E.	267.80	FT
100-yr Pre-developed peak flow	20.70	CFS
100-yr Post-developed peak flow (Before detention/restrictor)	10.80	CFS
100-yr Proposed discharge to TxDOT R.O.W. (With detention/restrictor)	10.80	CFS
TxDOT as-built or calculated allowable discharge	20.70	CFS
Primary tie-in/outfall structure size	N/A	Inch
Primary restrictor size	N/A	Inch
Primary restrictor maximum discharge	N/A	CFS
Secondary outfall device size (If applicable)	N/A	CFS
Secondary outfall discharge (If applicable)	N/A	CFS
Maximum combined pumped discharge (If applicable)	N/A	GPM (CFS)
% Pumped discharge volume (If applicable)	N/A	AC-FT
Effective gravity discharge elevation (If applicable)	N/A	FT
B.F.E. per effective FIRM (If applicable)	N/A	FT
Proposed fill below B.F.E. (If applicable)	N/A	AC-FT
Proposed cut below B.F.E. (If applicable)	N/A	AC-FT

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BGE, Inc.
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Houston, TX 77042
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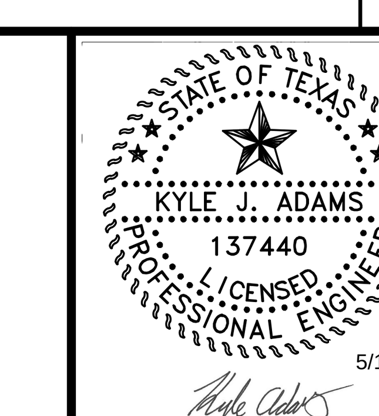

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CITY OF MAGNOLIA

WINDMILL ESTATES

DRAINAGE CALCULATIONS

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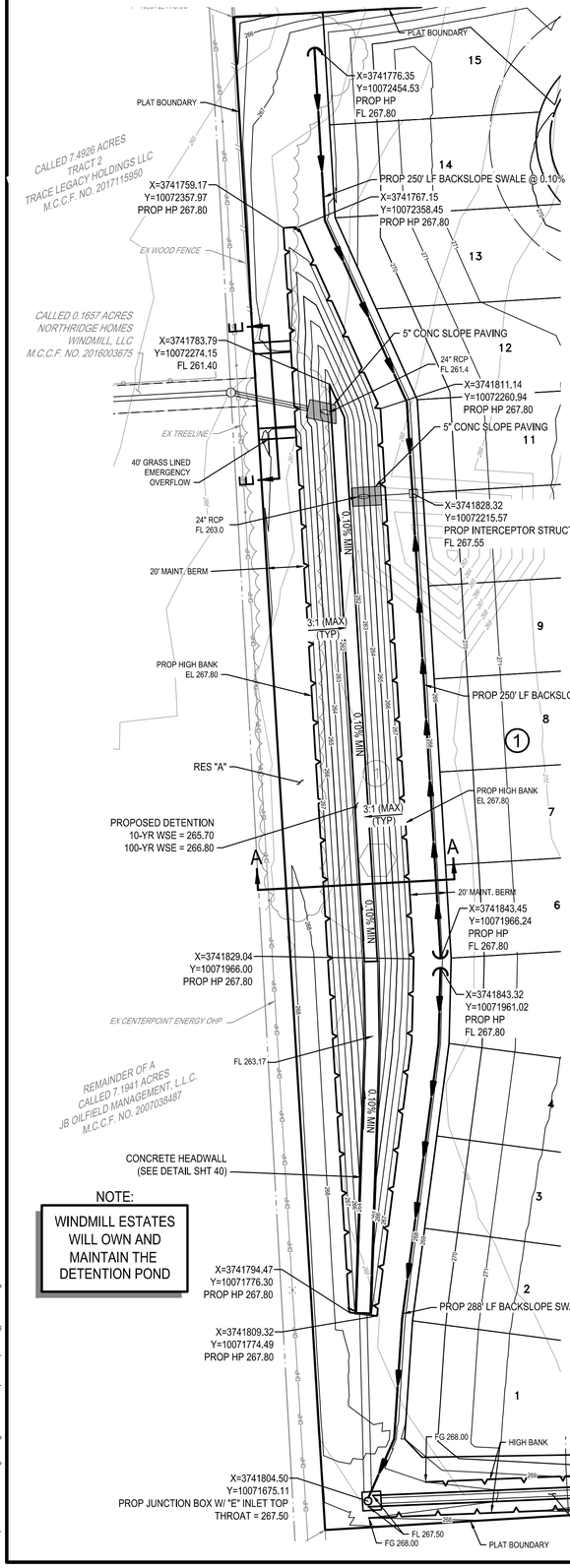
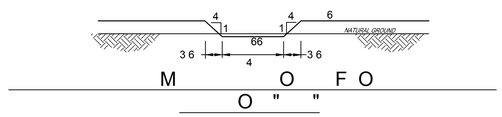
O 6 OF 41
CITY DWG NO:

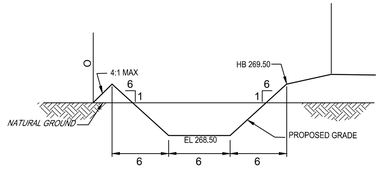
CITY OF MAGNOLIA – WINDMILL ESTATES

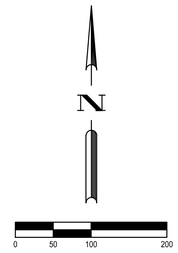


NOTE:

WINDMILL ESTATES WILL OWN AND MAINTAIN THE DETENTION POND







BENCHMARKS

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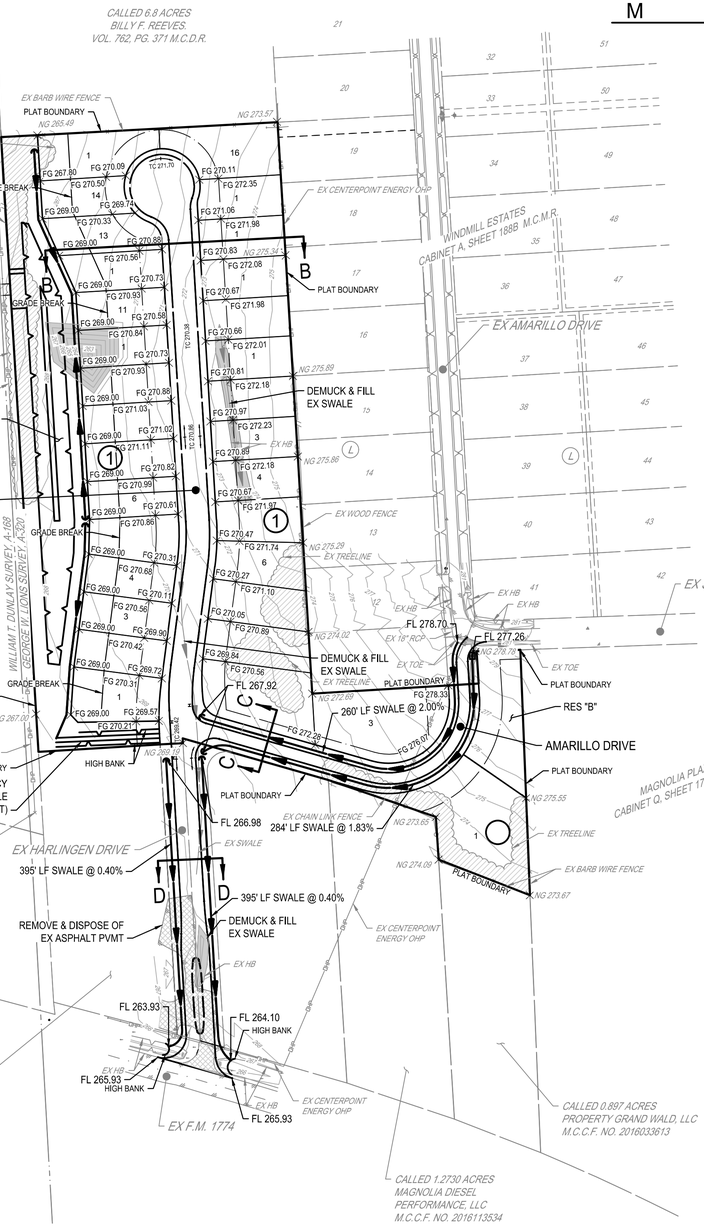
ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

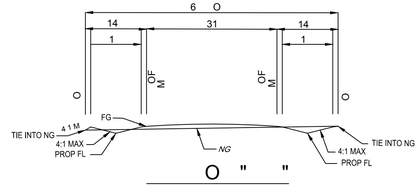
TBM 551-49-1: BOX CUT ON TOP OF THE NORTH END OF A SAFETY END TREATMENT AT THE ENTRANCE TO WORLD PETROLEUM SUPPLY ALONG THE WEST SIDE OF MAGNOLIA BUSINESS PARK DRIVE.

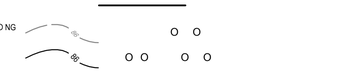
ELEVATION: 263.17 FEET

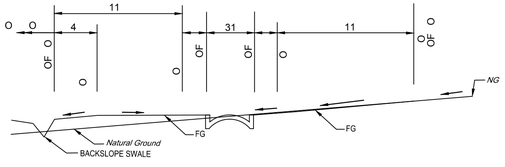
TBM 551-49-1: BOX ON TOP OF CONCRETE AT THE SOUTH CORNER OF THE SOUTH DRIVE OF A DOUBLE CONCRETE DRIVE ON THE EAST SIDE OF AMARILLO DRIVE LOCATED APPROXIMATELY 452-FEET NORTH OF THE CENTERLINE INTERSECTIONS OF AMARILLO DRIVE AND SMITH ROAD AT ADDRESS 222 AMARILLO.

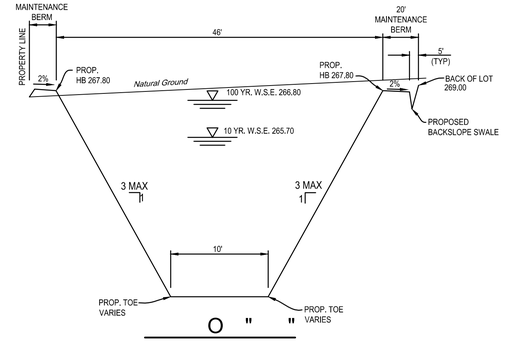
ELEVATION: 280.26 FEET











NOTE:

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BGE

BGE, Inc.
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Houston, TX 77042
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STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22
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CITY OF MAGNOLIA

WINDMILL ESTATES

GRADING PLAN AND DETENTION POND LAYOUT

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M BGE, INC.
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BROWN & GAY ENGINEERS, INC.
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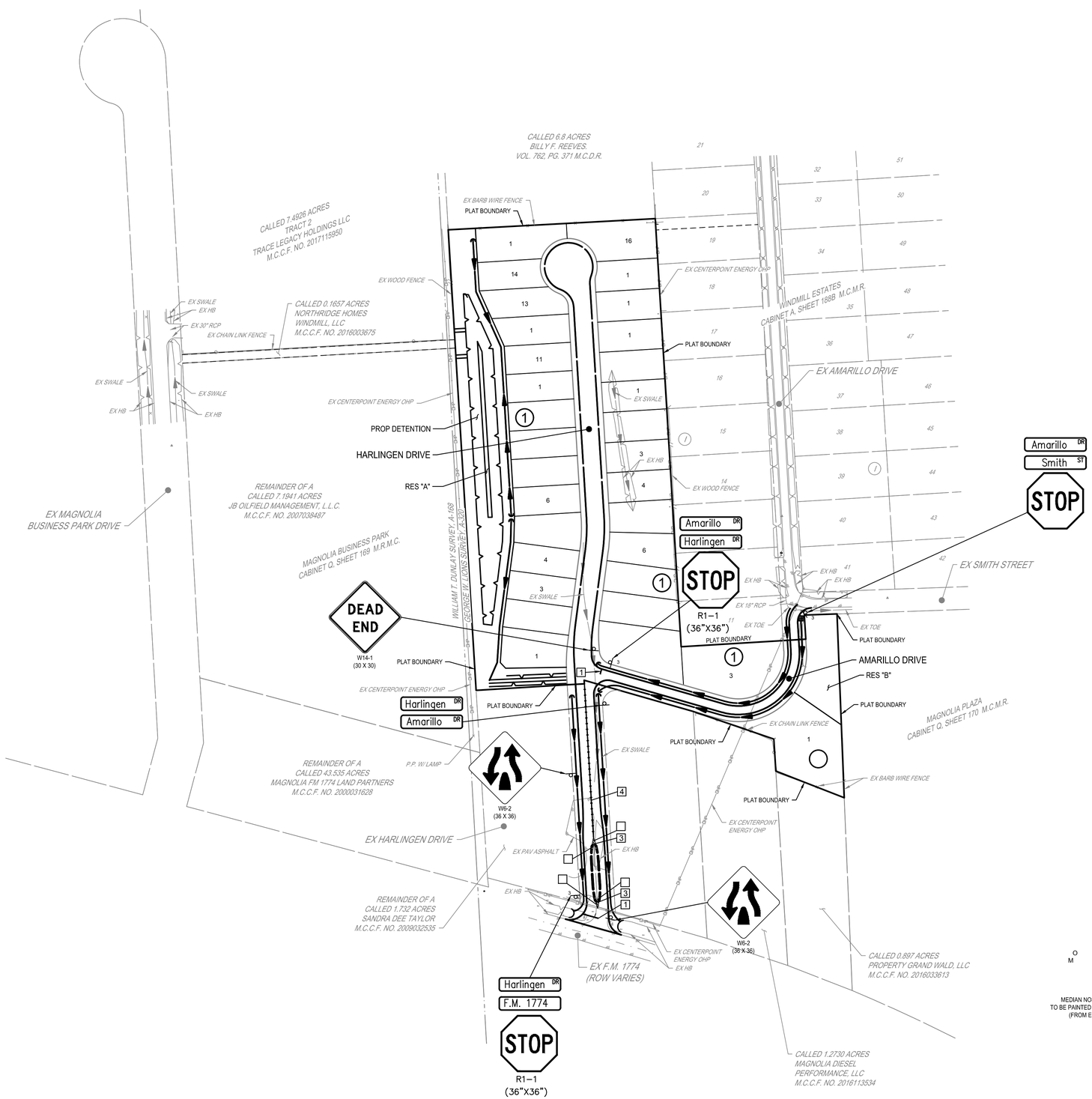
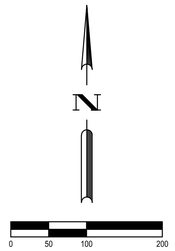
O OF 41
CITY DWG NO:





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ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

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ELEVATION: 263.17 FEET

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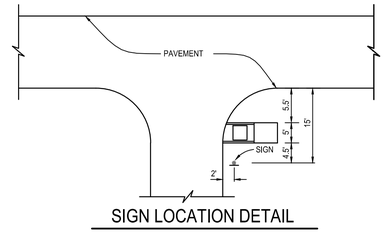
ELEVATION: 280.26 FEET

LEGEND

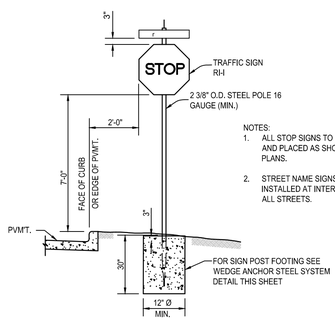
- PROPOSED STOP SIGN
- PROPOSED STREET SIGN
- PROPOSED STOP SIGN WITH STREET SIGN
- PROPOSED TOP CURB GRADE ARE BASED ON 6" CURBS. WHERE 4"X12" CURBS ARE INSTALLED, ACTUAL TOP OF CURB WILL BE 0.17 FEET BELOW PLAN GRADE.
- PROPOSED 4"X12" CURB

NOTE:
WHERE NOT COVERED, THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" GUIDELINES SHALL BE USED.

- [1] 24" WIDE WHITE STOP LINE (SEE DTL SHT 32)
- [ ] 8" WIDE SOLID WHITE STRIPE (TYPE I) WITH TYPE II C-R PAVEMENT MARKERS AND NON-REFLECTIVE WHITE BUTTONS (TYP) (SEE DTL SHT 32)
- [3] 24" WIDE SOLID YELLOW STRIPE 20' C-C @45° WITH TYPE II A-A MARKERS AND YELLOW BUTTONS (SEE DTL SHT 31)
- [4] 2-4" WIDED YELLOW STRIPES WITH 4" 2-WAY YELLOW RAISED REFLECTORIZED PAVEMENT MARKERS (TYPE II A-A) (SEE DTL SHT 32)
- [ ] BLACK COLORED CONCRETE MEDIAN NOSE (NO SEPARATE PAY) (SEE DTL THIS SHEET)

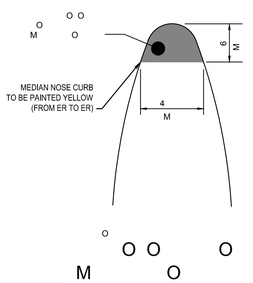


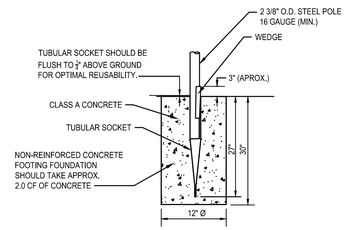
SIGN LOCATION DETAIL



NOTES:
1. ALL STOP SIGNS TO BE SIZED AND PLACED AS SHOWN ON PLANS.
2. STREET NAME SIGNS TO BE INSTALLED AT INTERSECTION OF ALL STREETS.

TYPICAL SIGN MOUNT DETAIL





WEDGE ANCHOR STEEL SYSTEM DETAIL

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BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

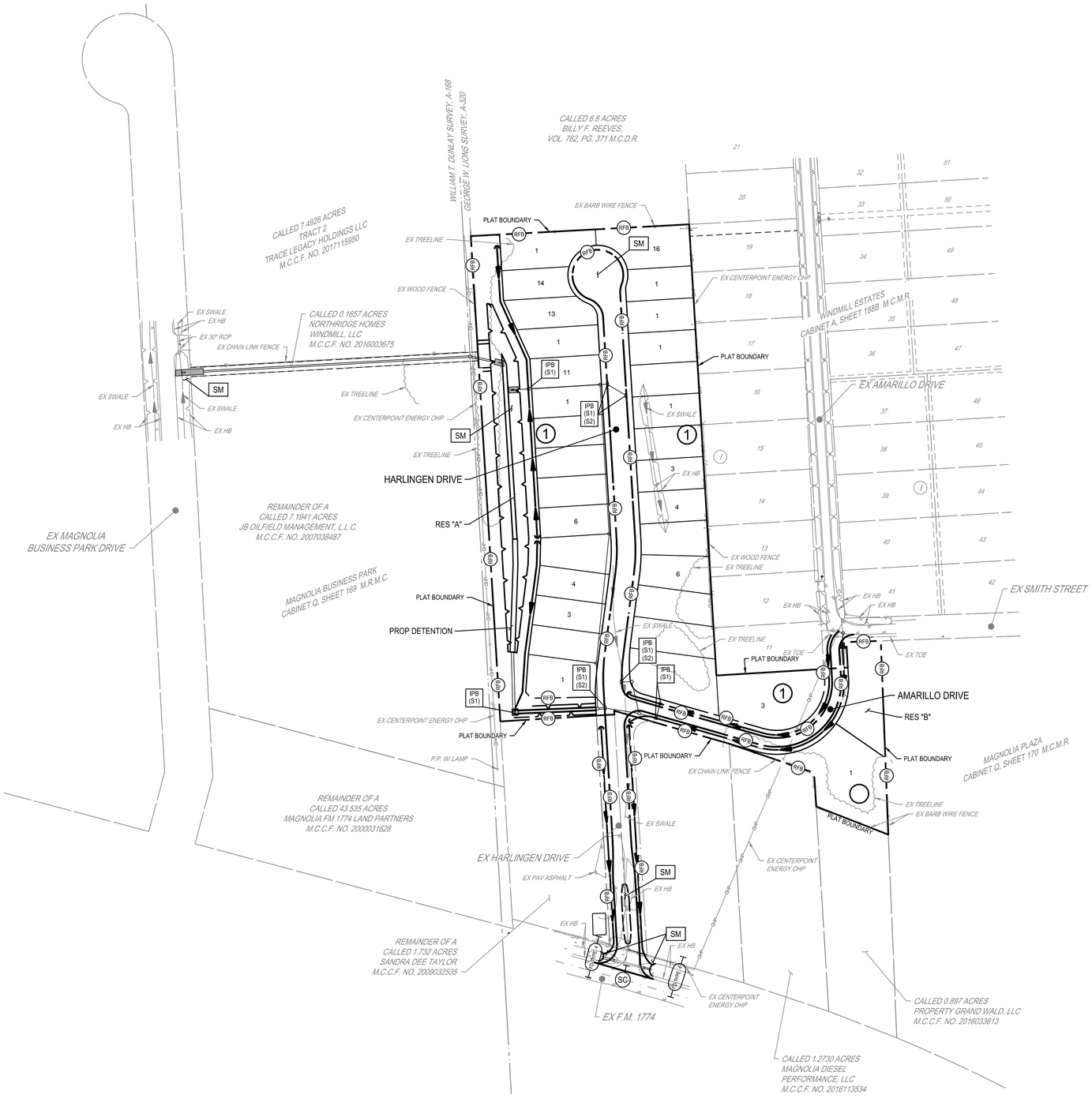
WINDMILL ESTATES

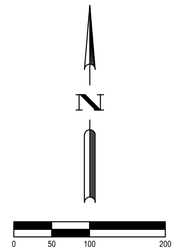
PAVING, SIGNAGE AND STRIPING LAYOUT

BROWN & GAY ENGINEERS, INC.

CITY DWG NO:

CITY OF MAGNOLIA – WINDMILL ESTATES





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ELEVATION: 280.26 FEET

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IPB (S1) O O FO M 1

IPB (S2) O O FO M 1

SM O M M 1

RFB FO F F M 1 4

SC O O M 1

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FD-TYPE X F M O MO O
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NOTE:
IN AREAS WHERE THE PROJECT DESIGN INCORPORATES FILL ADJACENT TO NEIGHBORING LANDOWNERS, THE CONTRACTOR SHALL IMPLEMENT GRADING AND/OR PERIMETER RUNOFF CATCHMENT DEVICES (E.G.- PERIMETER DITCHES OR OTHER BEST MANAGEMENT PRACTICES) DURING CONSTRUCTION TO ENSURE THAT ADJACENT PARCELS BORDERING THE PROJECT SITE DO NOT EXPERIENCE INTERIM DRAINAGE FLOWS THAT EXCEED PRE-DEVELOPMENT CONDITIONS FOR STORM EVENTS UP TO AND INCLUDING THE CURRENT STORM DRAINAGE DESIGN CRITERIA AT THE TIME OF PERMIT OR CARRY SEDIMENT GENERATED AS PART OF CONSTRUCTION ACTIVITIES. WHERE APPLICABLE, THESE PRACTICES ARE IN ADDITION TO THE STANDARD STORM WATER POLLUTION PREVENTION DESIGN AND SHALL INCLUDE ADDITIONAL DITCHES REDIRECTING SITE DRAINAGE OR TEMPORARY PIPING. THIS NOTE IS NOT INTENDED TO ADDRESS ANY LIABILITY OR RESPONSIBILITY UNDER TEXAS WATER CODE 11.086.

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1. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH THE TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM (TPDES) REQUIREMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ENFORCEMENT OF TPDES REQUIREMENTS PER "GENERAL REQUIREMENTS FOR PERMIT TXR150000".
3. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING GENERAL SOURCE CONTROLS PER SPECIAL SPEC. ITEM 01572.
4.
5. THE LOCATION OF THE STABILIZED CONSTRUCTION ACCESS IS TO BE DETERMINED BY THE CONTRACTOR.
6. STORM WATER QUALITY PRE-CONSTRUCTION INSPECTION REQUIREMENTS: THE PROPERTY OWNER OR CONTRACTOR SHALL CONTACT THE HARRIS COUNTY STORM WATER QUALITY PERMITTING SECTION AT 713-956-3000 FOR A PRE-CONSTRUCTION INSPECTION PRIOR TO COMMENCING ANY CLEARING OR CONSTRUCTION ACTIVITIES ON THE SITE.
7. ALL RESERVES AND AREAS BETWEEN BACK-OF-CURB AND RIGHT-OF-WAY SHALL BE HYDRO-MULCHED SEEDED, PER SPEC. ITEM 02921. ALL LOTS AND OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE BROADCAST SEEDED, PER SPEC ITEM 02920.
8. ANY AREAS DISTURBED WITHIN H.C.F.C.D. R.O.W. SHALL BE SEEDED PER H.C.F.C.D. SPECS.

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BGE

BGE, Inc.
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Houston, TX 77042
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STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22
F 1 46

CITY OF MAGNOLIA

WINDMILL ESTATES

STORM WATER POLLUTION PREVENTION PLAN

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M BGE, INC.
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BROWN & GAY ENGINEERS, INC.
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O OF 41
CITY DWG NO:

CITY OF MAGNOLIA – WINDMILL ESTATES

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CURVE TABLE					
CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD DISTANCE
C1	10°53'48"	300.00'	57.05'	N02° 03' 06"E	56.97'

POINT TABLE		
NUMBER	STATION	OFFSET
1	1+12.21	3.72' RT
2	1+12.21	3.72' LT
3	1+44.62	6.20' RT
4	1+44.88	6.20' LT
5	1+77.79	6.20' RT
6	1+77.90	6.20' LT
7	2+07.17	3.75' RT
8	2+07.11	3.70' LT
9	2+20.98	18.50' RT
10	2+20.98	18.50' LT
11	2+42.74	17.19' RT
12	2+42.74	17.19' LT
13	2+83.76	15.50' RT
14	2+83.76	15.50' LT

BEGIN PVM'T WITH STD. PAVING HEADER (LOAD TRANSFER DEVICE)

STA 0+00.00
N:10071178.35
E:3742001.49

EX F.M. 1774 (ROW WIDTH VARIES)

ACREAGE

CALLED 1.3179 ACRES RESERVE "U" OF CAB. A, SHT 188B M.R.M.C. M.C.C.F. NO. 20000087721

EX HARLINGEN DRIVE (60' R.O.W.) CAB. A, SHT. 188B, M.C.M.R.

REMAINDER OF A CALLED 1.732 ACRES SANDRA DEE TAYLOR M.C.C.F. NO. 2009032535

CALLED 0.2752 ACRE R.O.W. PUBLIC DEDICATION CITY OF MAGNOLIA M.C.C.F. NO 2017006435

STA = 4+93.72
PLAT BOUNDARY

PI STA. 5+04.57 HARLINGEN ROAD =
PI STA. 2+17.24 BASELINE - D

PI STA. 5+21.20 HARLINGEN ROAD =
PI STA. 0+50.00 AMARILLO DRIVE

6+76
1-8" x 6" TEE, AB
1-6" GV & BOX
1-FH

CAUTION !!!
OVERHEAD POWER LINES IN AREA
SEE NOTES SHT 2

			O		F	F
13	6"	11		6 61	64 4	64 4
14	6"	61		6	61 3	61 1
1	6"			6	64	64 1
16	6"	64		3 16	61	61 43

BENCHMARKS

PRIMARY BENCHMARK: NGS MONUMENT A-1281 - BENCHMARK IS AN NGS BRASS DISK STAMPED A-1281 SET ATOP AN IRON ROD INSIDE OF A STEEL PIPE. TO REACH THE BENCHMARK FROM THE INTERSECTION OF FM 1486 AND FM 1774, GO SOUTHEAST ALONG FM 1774 A DISTANCE OF 0.4 MILES TO NICHOLS SAWMILL RD. THEN SOUTH ALONG NICHOLS SAWMILL RD. A DISTANCE OF 0.8 MILES TO THE BENCHMARK ON THE RIGHT. (BENCHMARK IS ALSO H.C. FLOODPLAIN RM 100185)

ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

TBM 551-49-1: BOX CUT ON TOP OF THE NORTH END OF A SAFETY END TREATMENT AT THE ENTRANCE TO WORLD PETROLEUM SUPPLY ALONG THE WEST SIDE OF MAGNOLIA BUSINESS PARK DRIVE.

ELEVATION: 263.17 FEET

TBM 551-49-1: BOX ON TOP OF CONCRETE AT THE SOUTH CORNER OF THE SOUTH DRIVE OF A DOUBLE CONCRETE DRIVE ON THE EAST SIDE OF AMARILLO DRIVE LOCATED APPROXIMATELY 452-FEET NORTH OF THE CENTERLINE INTERSECTIONS OF AMARILLO DRIVE AND SMITH ROAD AT ADDRESS 222 AMARILLO.

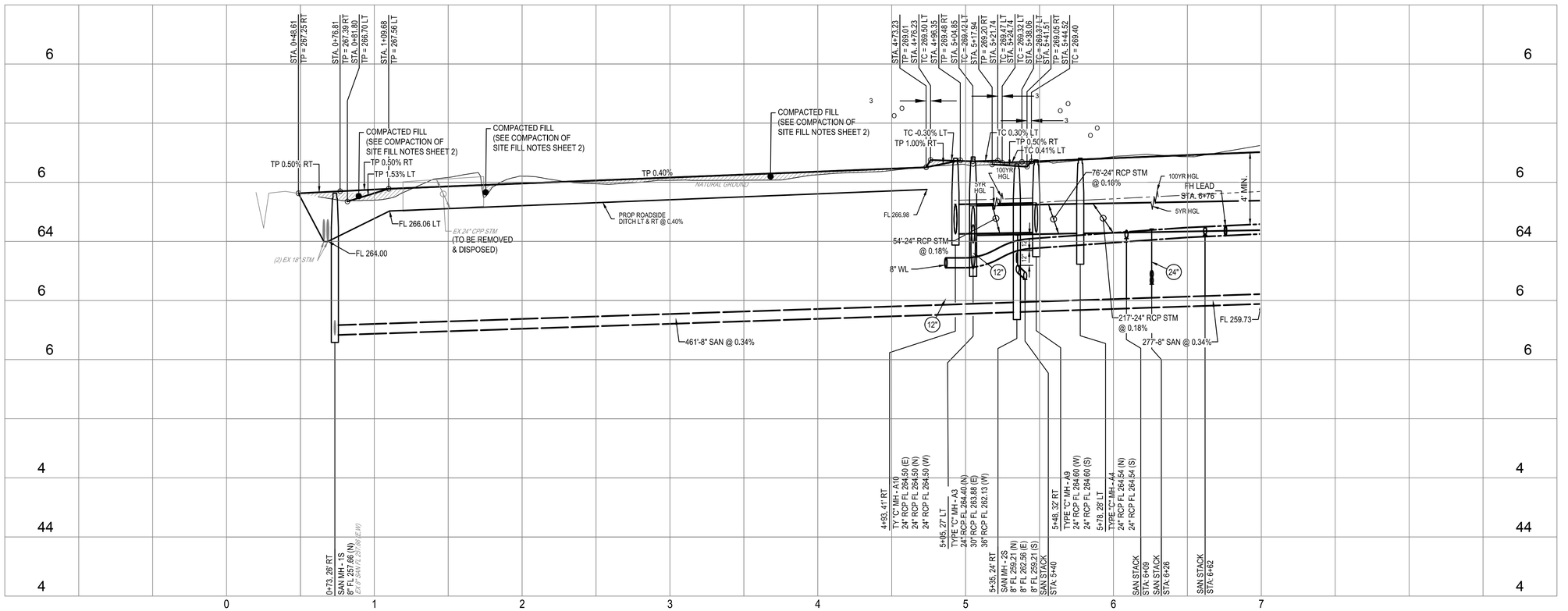
ELEVATION: 280.26 FEET

- INDICATES 1-20' JT. OF C-900 PVC (150 PSI MIN.) CENTERED ON CROSSING
- INDICATES RESTRAINED JOINT WATERLINE
- X" INDICATES MINIMUM CLEARANCE (INCHES)
- 3' CURB TRANSITION (SEE PLAN VIEW FOR CURB HEIGHTS)
- 1S SANITARY MANHOLE NUMBER
- A1 STORM MANHOLE NUMBER
- 6" SANITARY SEWER STACK
- SANITARY SEWER DOUBLE WYE W/ RISER
- SANITARY SEWER SINGLE WYE W/ RISER
- SANITARY SEWER DOUBLE WYE
- SANITARY SEWER SINGLE WYE
- PROPOSED 4"X12" CURB
- **PROPOSED TOP CURB GRADE ARE BASED ON 6" CURBS. WHERE 4"X12" CURBS ARE INSTALLED. ACTUAL TOP OF CURB WILL BE 0.17 FEET BELOW PLAN GRADE.**
- PROPOSED ASPHALT PAVEMENT
- 3/4" WATER SERVICE LINE WITH SINGLE CONNECTION
- PROP 4' SIDEWALK
- AREA OF DEMUCK & FILL
- AREA OF TREE CLEARING
- ASPHALT (TO BE REMOVED AND DISPOSED)

NOTES:

1. SANITARY SEWERS SHALL BE PROPOSED SDR-26 PVC, UNLESS OTHERWISE INDICATED.
2. STORM SEWERS SHALL BE PROPOSED REINFORCED CONCRETE PIPE C-76, CLASS III, UNLESS OTHERWISE INDICATED. ALL JOINTS SHALL BE RUBBER GASKETED.
3. ALL WATER LINES TO BE PROPOSED PVC CLASS 235, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
4. PLACE 1 FULL SECTION (MIN 18') OF WL AND SS CENTERED AT SS/WL CROSSING. PROVIDE RESTRAINED JOINTS AT BOTH ENDS OF THE FULL SECTIONS. WHEN WL GOES UNDER SS PROVIDE DIP FOR SMALL DIAMETER WL (LESS THAN 24 INCHES). PVC PIPE IS ONLY ALLOWED IF ENCASED AS PER TAC 290.44, AND USE RESTRAINED JOINTS FOR BOTH DIP / PVC PIPE AND PLACE 1 FULL SECTION (MIN 18') OF MIN 150 PSI SS CENTERED AT WL CROSSING. PROVIDE RESTRAINED JOINTS AT BOTH ENDS OF THE FULL SECTIONS.
5. ALL CURB RETURNS ARE NO GREATER THAN 2% UNLESS OTHERWISE NOTED.

HARLINGEN ROAD



BGE, Inc.
Houston, TX 77042
F 1 46

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46

CITY OF MAGNOLIA

WINDMILL ESTATES

PLAN & PROFILE - HARLINGEN DRIVE (STA. 0+00 TO 7+00)

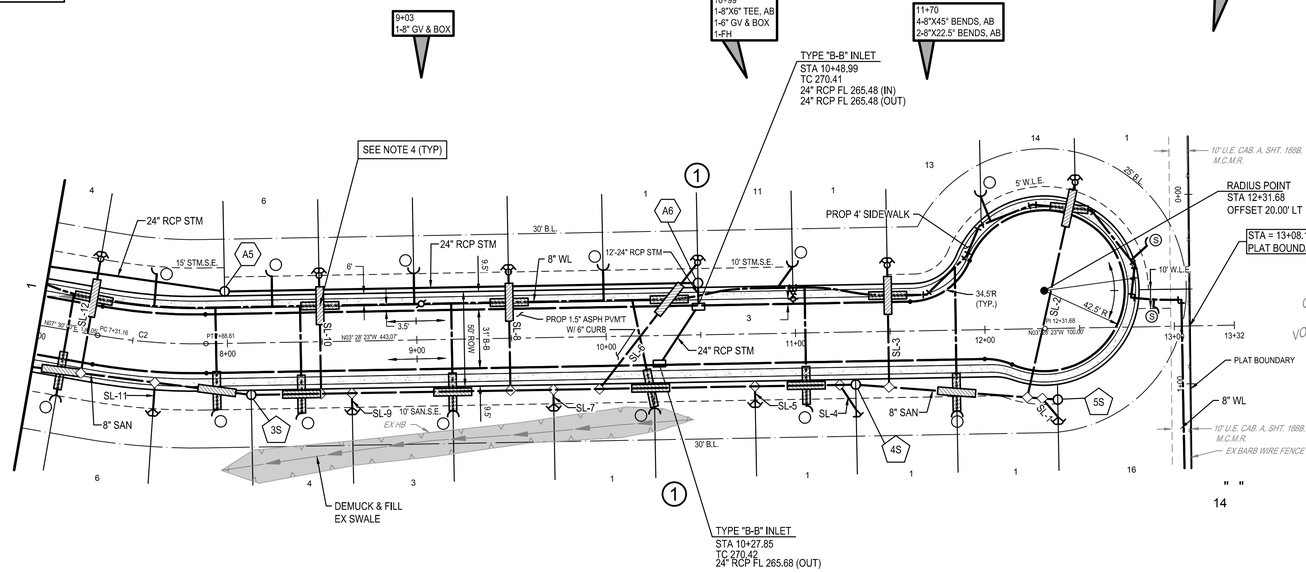
O M 6

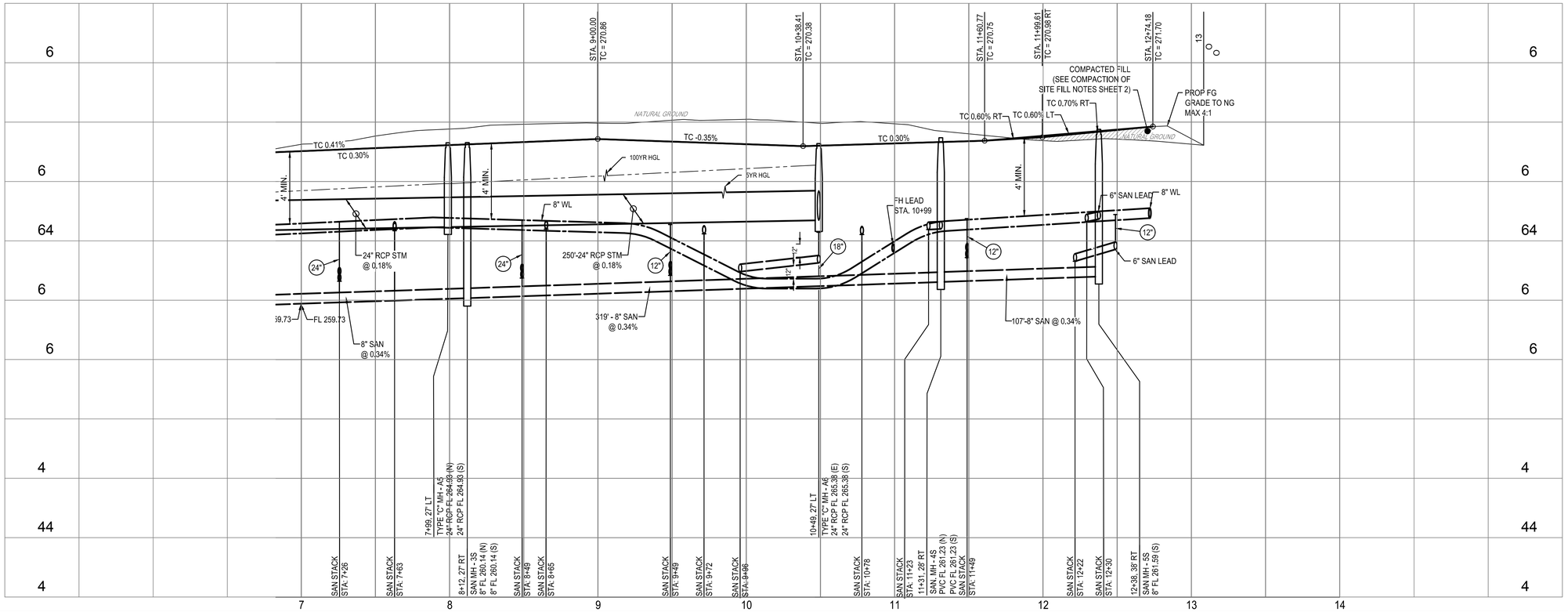
M BGE, INC.
O 1" 4
1" 4
M
BROWN & GAY ENGINEERS, INC.
F O

O 1 OF 41
CITY DWG NO:

CURVE TABLE					
CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD DISTANCE
C2	10°58'23"	300.00'	57.45'	N02° 00' 48"E	57.37'

			O		F	F
1	6"	13	1 34	1 3	6 46	6
	6"	116	6	1 4	63 4	6 63
3	6"	64	6	11 4	63 4	6
4	6"	16		11	64 6	64
	6"		63	1	64 4	64 4
6	6"	4		1 4	6	61
	6"		66	1 6	64	64 4
	6"	63		4	6 11	61 6
	6"			6	64 4	64
1	6"	63		4	61 3	61 4
11	6"	14		63	64	64 6
1	6"	61			61 1	61





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ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

TBM 551-49-1: BOX CUT ON TOP OF THE NORTH END OF A SAFETY END TREATMENT AT THE ENTRANCE TO WORLD PETROLEUM SUPPLY ALONG THE WEST SIDE OF MAGNOLIA BUSINESS PARK DRIVE.

ELEVATION: 263.17 FEET

TBM 551-49-1: BOX ON TOP OF CONCRETE AT THE SOUTH CORNER OF THE SOUTH DRIVE OF A DOUBLE CONCRETE DRIVE ON THE EAST SIDE OF AMARILLO DRIVE LOCATED APPROXIMATELY 452-FEET NORTH OF THE CENTERLINE INTERSECTIONS OF AMARILLO DRIVE AND SMITH ROAD AT ADDRESS 222 AMARILLO.

ELEVATION: 280.26 FEET

0 20 40 80

INDICATES 1-20' JT. OF C-900 PVC (150 PSI MIN.) CENTERED ON CROSSING

INDICATES RESTRAINED JOINT WATERLINE

X" INDICATES MINIMUM CLEARANCE (INCHES)

1S SANITARY MANHOLE NUMBER

A1 STORM MANHOLE NUMBER

6" SANITARY SEWER STACK

SANITARY SEWER DOUBLE WYE W/ RISER

SANITARY SEWER SINGLE WYE W/ RISER

SANITARY SEWER DOUBLE WYE

SANITARY SEWER SINGLE WYE

PROPOSED 4"X12" CURB

PROPOSED TOP CURB GRADE ARE BASED ON 6" CURBS. WHERE 4"X12" CURBS ARE INSTALLED. ACTUAL TOP OF CURB WILL BE 0.17 FEET BELOW PLAN GRADE.

1" WATER SERVICE LINE WITH DOUBLE CONNECTION

3/4" WATER SERVICE LINE WITH SINGLE CONNECTION

PROP 4' SIDEWALK

AREA OF DEMUCK & FILL

SPECIAL GEOTECHNICAL NOTE FOR UTILITIES UNDER CUL-DE-SAC AND/OR KNUCKLES

ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SAC AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE

NOTES:

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5. ALL CURB RETURNS ARE NO GREATER THAN 2% UNLESS OTHERWISE NOTED.

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BGE

BGE, Inc.
Houston, TX 77042

KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

PLAN AND PROFILE -
HARLINGEN DRIVE
(STA. 7+00 TO 13+32)

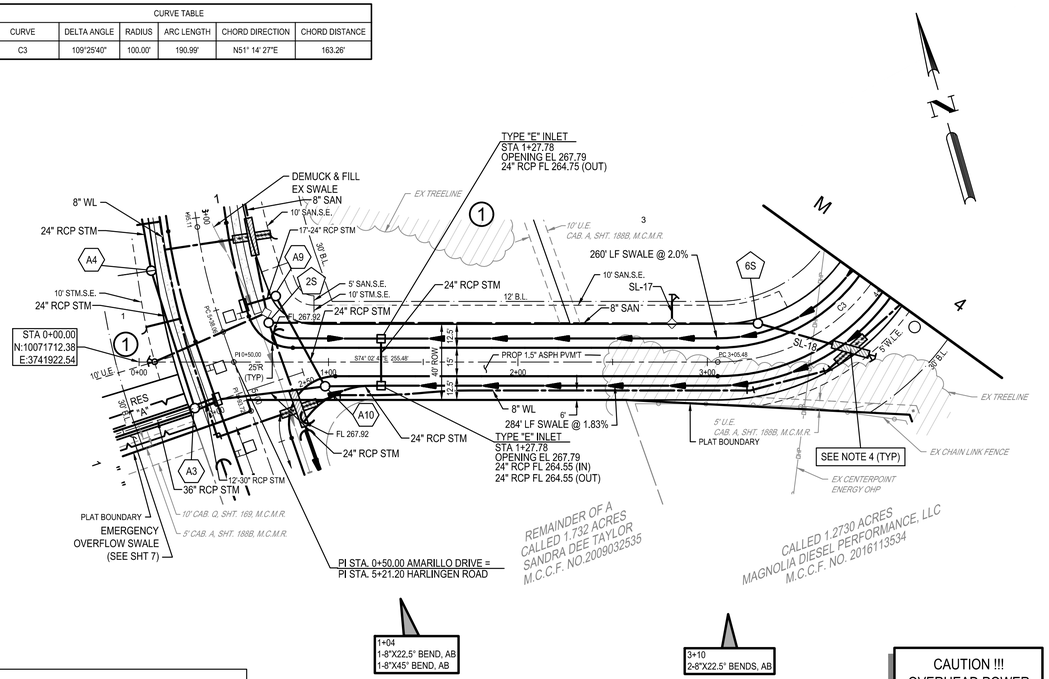
BROWN & GAY ENGINEERS, INC.

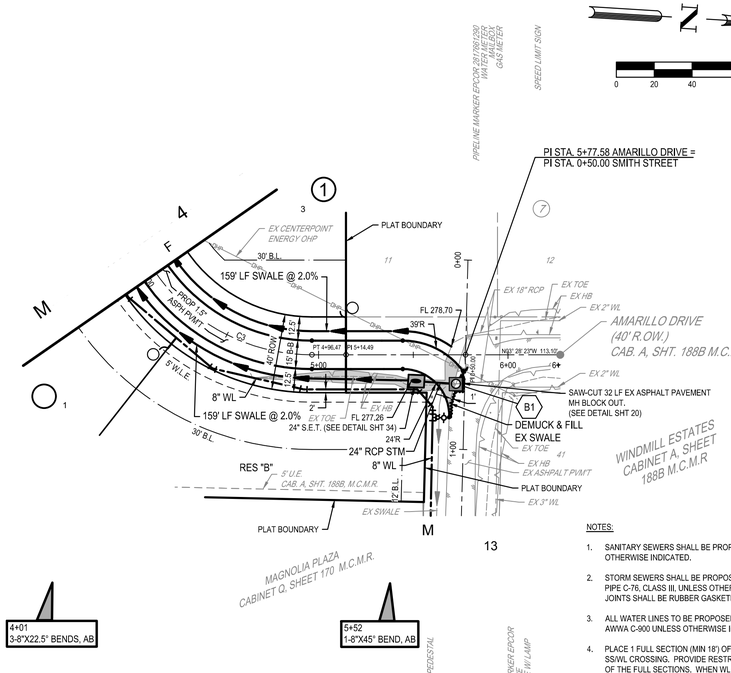
SHEET 11 OF 41

CITY DWG NO:

CITY OF MAGNOLIA – GRAND OAKS M.U.D.

CURVE TABLE					
CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD DISTANCE
C3	109°25'40"	100.00'	190.99'	N51° 14' 27"E	163.26'





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ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

TBM 551-49-1: BOX CUT ON TOP OF THE NORTH END OF A SAFETY END TREATMENT AT THE ENTRANCE TO WORLD PETROLEUM SUPPLY ALONG THE WEST SIDE OF MAGNOLIA BUSINESS PARK DRIVE.

ELEVATION: 263.17 FEET

TBM 551-49-1: BOX ON TOP OF CONCRETE AT THE SOUTH CORNER OF THE SOUTH DRIVE OF A DOUBLE CONCRETE DRIVE ON THE EAST SIDE OF AMARILLO DRIVE LOCATED APPROXIMATELY 452-FEET NORTH OF THE CENTERLINE INTERSECTIONS OF AMARILLO DRIVE AND SMITH ROAD AT ADDRESS 222 AMARILLO.

ELEVATION: 280.26 FEET

- INDICATES 1-20' JT. OF C-900 PVC (150 PSI MIN.) CENTERED ON CROSSING
- INDICATES RESTRAINED JOINT WATERLINE
- (X') INDICATES MINIMUM CLEARANCE (INCHES)
- 1S SANITARY MANHOLE NUMBER
- A1 STORM MANHOLE NUMBER
- 6" SANITARY SEWER STACK
- SANITARY SEWER DOUBLE WYE W/ RISER
- SANITARY SEWER SINGLE WYE W/ RISER
- SANITARY SEWER DOUBLE WYE
- SANITARY SEWER SINGLE WYE
- PROPOSED 4"X12" CURB
- PROPOSED ASPHALT PAVEMENT
- 3/4" WATER SERVICE LINE WITH SINGLE CONNECTION
- PROP 4' SIDEWALK
- AREA OF DEMUCK & FILL

NOTES:

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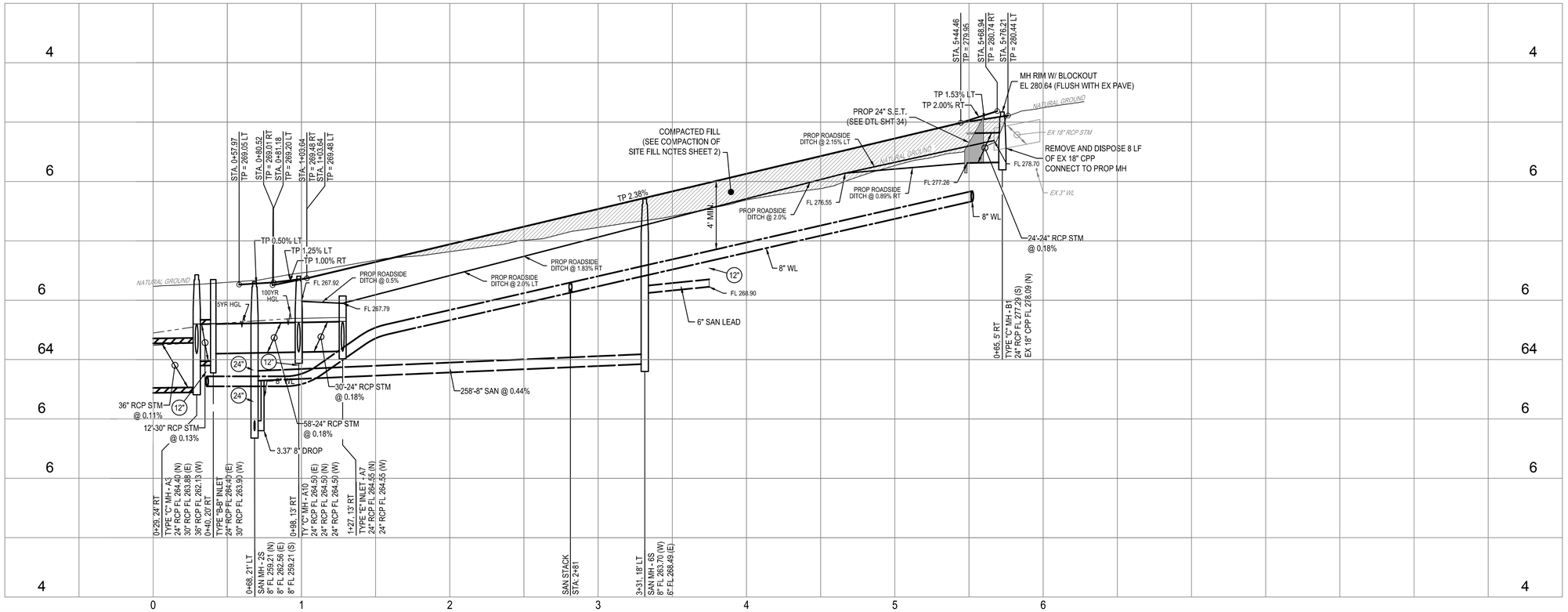
5. ALL CURB RETURNS ARE NO GREATER THAN 2% UNLESS OTHERWISE NOTED.

			O		F	F
1	6"	1		4 4 3	6 6	6 61
1	6"			4 13	6	6 4

AMARILLO DRIVE



AMARILLO DRIVE

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BGE

BGE, Inc.
Houston, TX 77042

KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

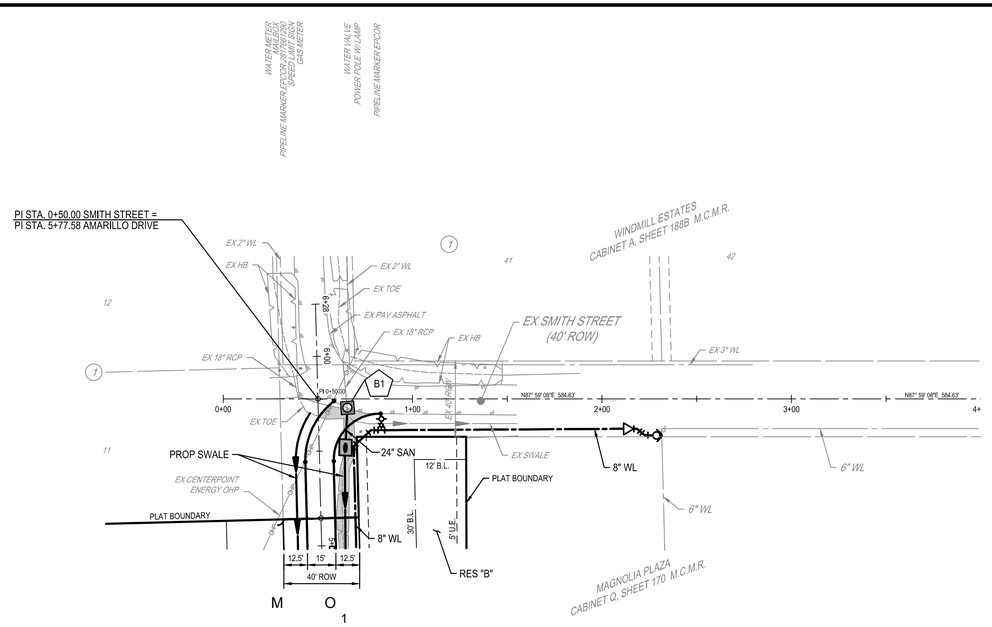
PLAN AND PROFILE -
AMARILLO DRIVE (STA.
0+00 TO 6+28)

BGE, INC.
BROWN & GAY ENGINEERS, INC.

1 OF 41

CITY DWG NO:

CITY OF MAGNOLIA – WINDMILL ESTATES

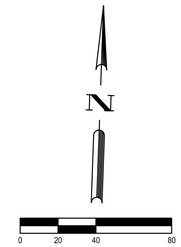


0+83
1-8"X6" TEE, AB
1-6" GV & BOX
1-FH

2+19
1-8"X6" RED, AB
2-8" 45° BEND, AB

2+32
1 - 6"X8" TS&V

CAUTION !!!
OVERHEAD POWER
LINES IN AREA
SEE NOTES SHT 2



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PRIMARY BENCHMARK: NGS MONUMENT A-1281 - BENCHMARK IS AN NGS BRASS DISK STAMPED A-1281 SET ATOP AN IRON ROD INSIDE OF A STEEL PIPE. TO REACH THE BENCHMARK FROM THE INTERSECTION OF FM 1488 AND FM 1774, GO SOUTHEAST ALONG FM 1774 A DISTANCE OF 0.4 MILES TO NICHOLS SAWMILL RD. THEN SOUTH ALONG NICHOLS SAWMILL RD. A DISTANCE OF 0.8 MILES TO THE BENCHMARK ON THE RIGHT. (BENCHMARK IS ALSO H.C. FLOODPLAIN RM 100195)

ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

TBM 551-49-1: BOX CUT ON TOP OF THE NORTH END OF A SAFETY END TREATMENT AT THE ENTRANCE TO WORLD PETROLEUM SUPPLY ALONG THE WEST SIDE OF MAGNOLIA BUSINESS PARK DRIVE.

ELEVATION: 263.17 FEET

TBM 551-49-1: BOX ON TOP OF CONCRETE AT THE SOUTH CORNER OF THE SOUTH DRIVE OF A DOUBLE CONCRETE DRIVE ON THE EAST SIDE OF AMARILLO DRIVE LOCATED APPROXIMATELY 452-FEET NORTH OF THE CENTERLINE INTERSECTIONS OF AMARILLO DRIVE AND SMITH ROAD AT ADDRESS 222 AMARILLO.

ELEVATION: 280.26 FEET

PROPOSED ASPHALT PAVEMENT

AREA OF DEMUCK & FILL

NOTES:

1. SANITARY SEWERS SHALL BE PROPOSED SDR-26 PVC, UNLESS OTHERWISE INDICATED.
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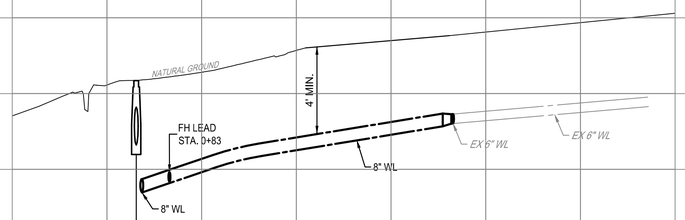
SMITH STREET



BGE, Inc.
Houston, TX 77042

KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
5/18/22

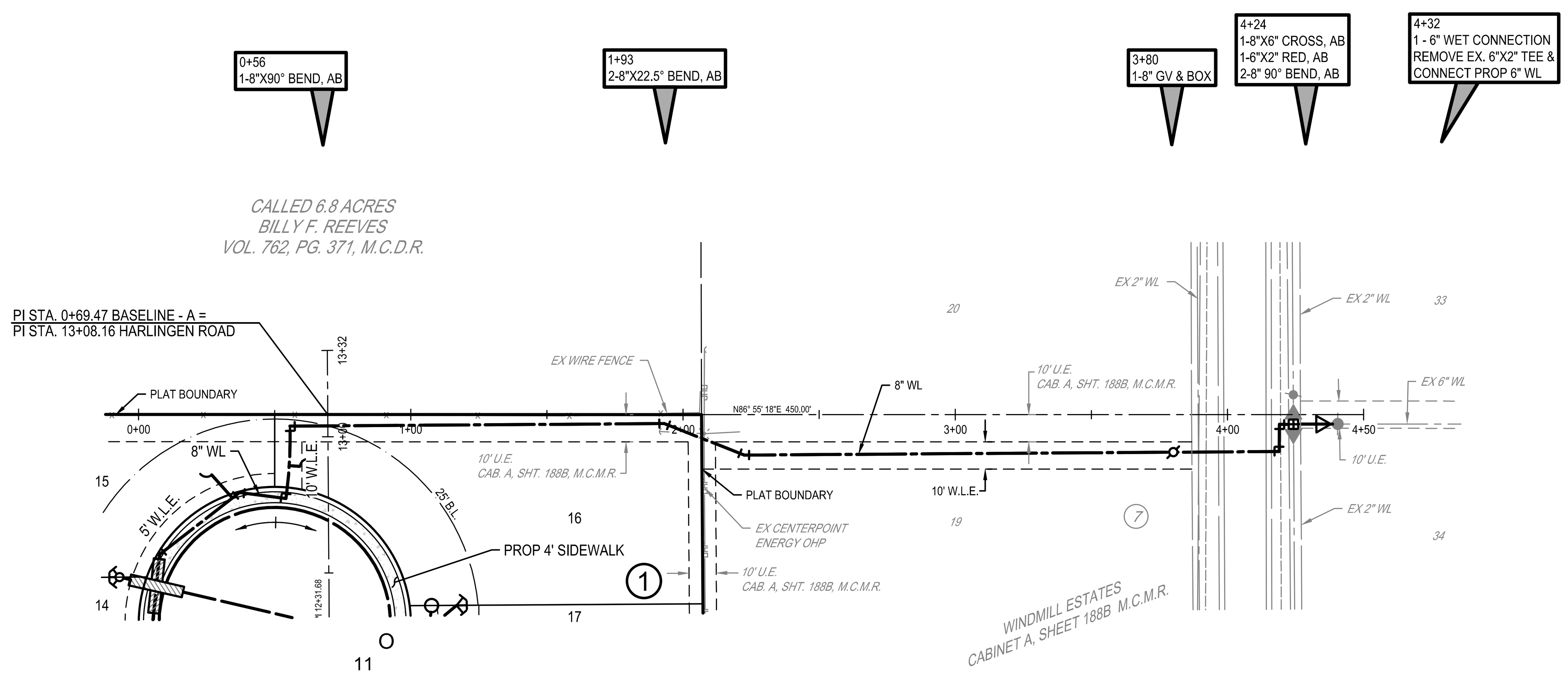
CITY OF MAGNOLIA

WINDMILL ESTATES

PLAN AND PROFILE - SMITH STREET (STA. 0+00 TO 6+35)

13 OF 41

BROWN & GAY ENGINEERS, INC.



TS&V NEEDS TO BE 5' MIN FROM BELLS, FITTINGS, VALVES, ETC. CONTRACTOR TO FIELD VERIFY TAPPING LOCATION PRIOR TO TAPPING OR METER INSTALLATION. IF ANY FITTINGS, VALVES, BELLS, ETC. ARE FOUND WITHIN 5' OF TS&V CONTRACTOR TO CONTACT ENGINEER AND MAKE NECESSARY REVISIONS.

N

0 10 20 40

BENCHMARKS

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ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

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ELEVATION: 280.26 FEET

INDICATES RESTRAINED JOINT WATERLINE

NOTES:

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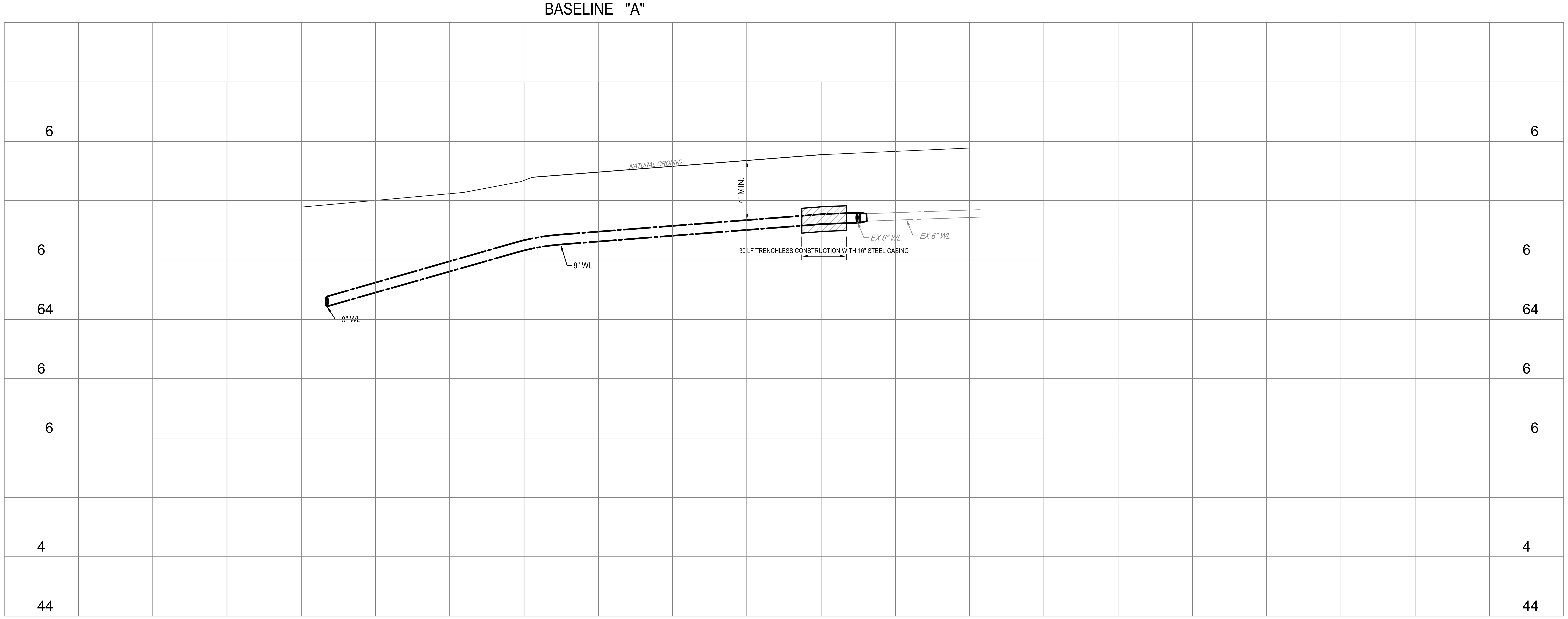
CAUTION !!!
OVERHEAD POWER
LINES IN AREA
SEE NOTES SHT 2

BASELINE "A"



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LICENSED
PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

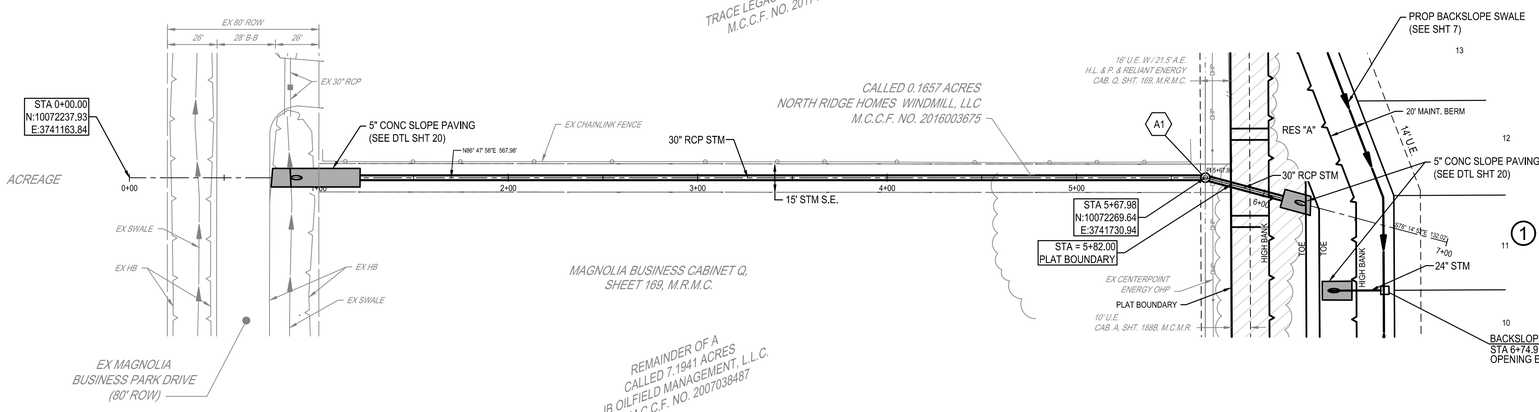
PLAN AND PROFILE -
BASELINE "A"

BGE, INC.
BROWN & GAY ENGINEERS, INC.

14 OF 41

CITY DWG NO:

CITY OF MAGNOLIA — WINDMILL ESTATES



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ELEVATION: 280.26 FEET

A1 STORM MANHOLE NUMBER

AREA OF TREE CLEARING

NOTES:

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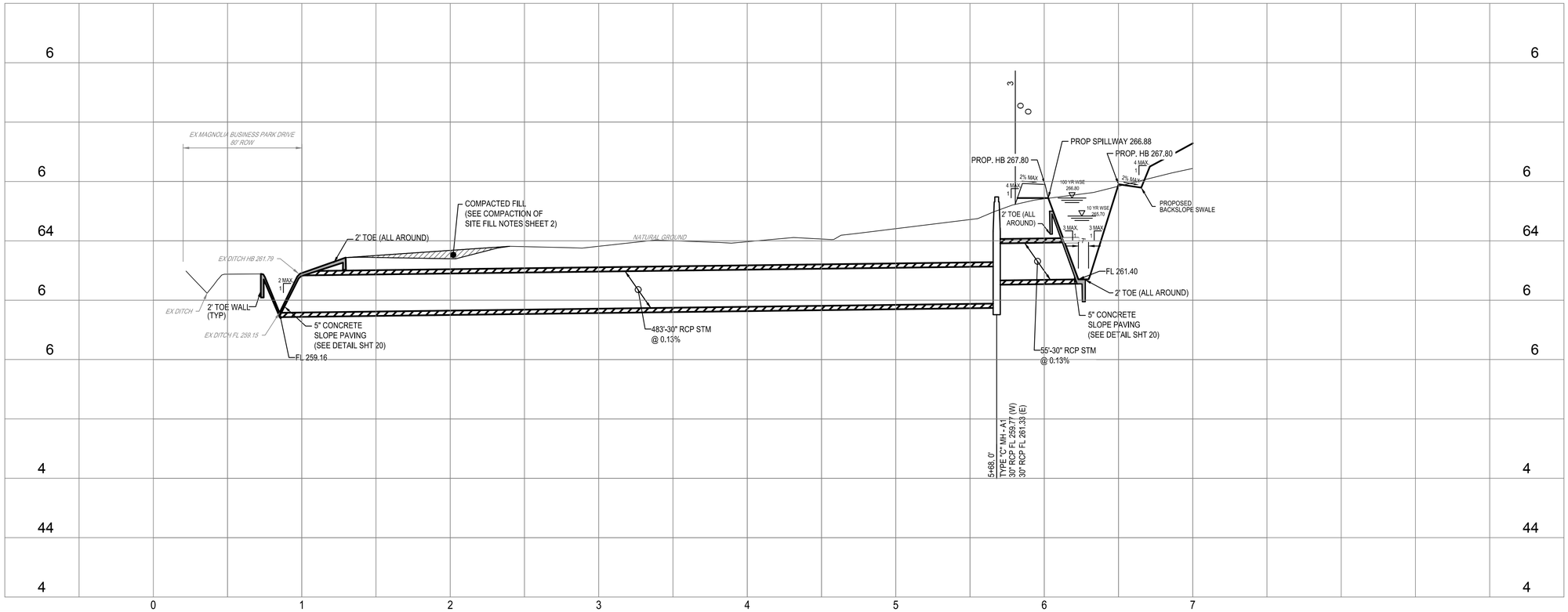
5. ALL CURB RETURNS ARE NO GREATER THAN 2% UNLESS OTHERWISE NOTED.

BASELINE - "B"



CITY OF MAGNOLIA – WINDMILL ESTATES

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BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

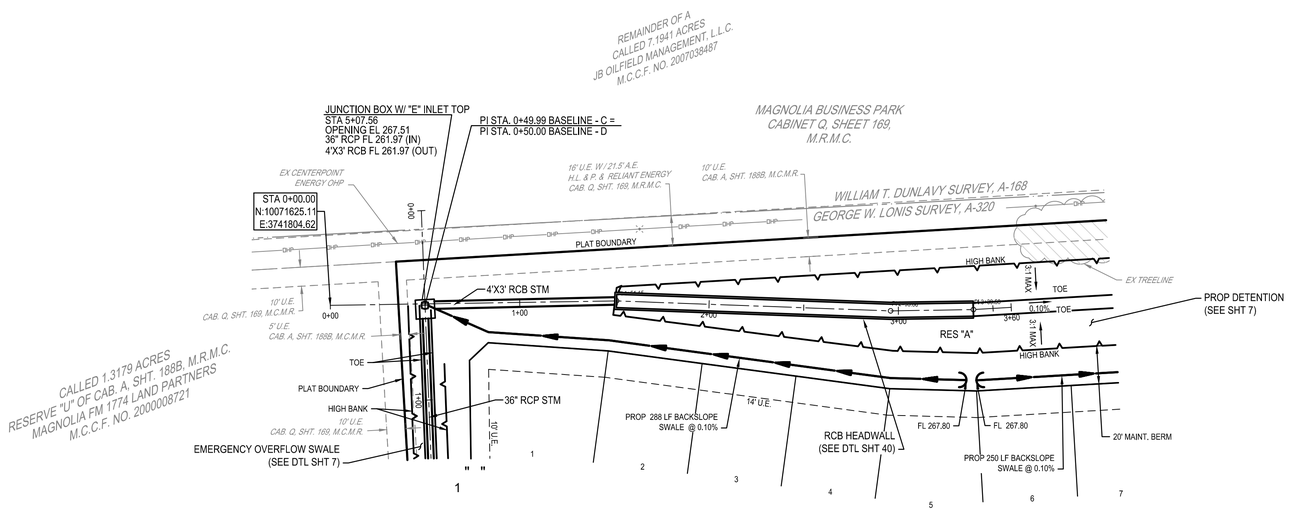
WINDMILL ESTATES

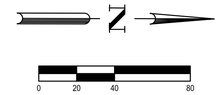
PLAN AND PROFILE -
BASELINE "B"

BGE, INC.
BROWN & GAY ENGINEERS, INC.

1 OF 41

CITY DWG NO:





BENCHMARKS

PRIMARY BENCHMARK: NGS MONUMENT A-1281 - BENCHMARK IS AN NGS BRASS DISK STAMPED A-1281 SET ATOP AN IRON ROD INSIDE OF A STEEL PIPE. TO REACH THE BENCHMARK FROM THE INTERSECTION OF FM 1486 AND FM 1774, GO SOUTHEAST ALONG FM 1774 A DISTANCE OF 0.4 MILES TO NICHOLS SAWMILL RD. THEN SOUTH ALONG NICHOLS SAWMILL RD. A DISTANCE OF 0.8 MILES TO THE BENCHMARK ON THE RIGHT. (BENCHMARK IS ALSO H.C. FLOODPLAIN RM 100195)

ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

TBM 551-49-1: BOX CUT ON TOP OF THE NORTH END OF A SAFETY END TREATMENT AT THE ENTRANCE TO WORLD PETROLEUM SUPPLY ALONG THE WEST SIDE OF MAGNOLIA BUSINESS PARK DRIVE.

ELEVATION: 263.17 FEET

TBM 551-49-1: BOX ON TOP OF CONCRETE AT THE SOUTH CORNER OF THE SOUTH DRIVE OF A DOUBLE CONCRETE DRIVE ON THE EAST SIDE OF AMARILLO DRIVE LOCATED APPROXIMATELY 452-FEET NORTH OF THE CENTERLINE INTERSECTIONS OF AMARILLO DRIVE AND SMITH ROAD AT ADDRESS 222 AMARILLO.

ELEVATION: 280.26 FEET

INDICATES 1-20' JT. OF C-900 PVC (150 PSI MIN.) CENTERED ON CROSSING

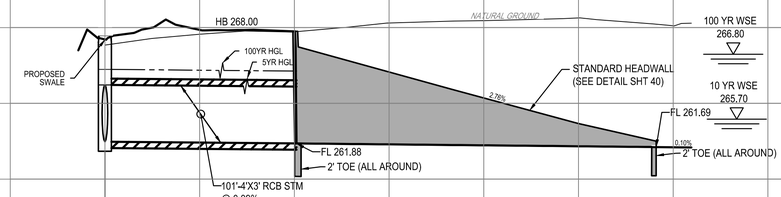
X" INDICATES MINIMUM CLEARANCE (INCHES)

A1 STORM MANHOLE NUMBER

AREA OF TREE CLEARING

CAUTION !!!
OVERHEAD POWER
LINES IN AREA
SEE NOTES SHT 2

BASELINE "C"



0+50, 1' RT
JUNCTION BOX W/ "E" INLET TOP - A2
36" RCP FL 261.97 (E)
4'X3' RCB FL 261.97 (N)

0 1 2 3 4

CITY OF MAGNOLIA	
WINDMILL ESTATES	
PLAN AND PROFILE - BASELINE "C"	
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M BGE, INC. O 1" 4 1" 4 M BROWN & GAY ENGINEERS, INC. F O	O 16 OF 41 CITY DWG NO:

BGE, Inc.
Houston, TX 77042
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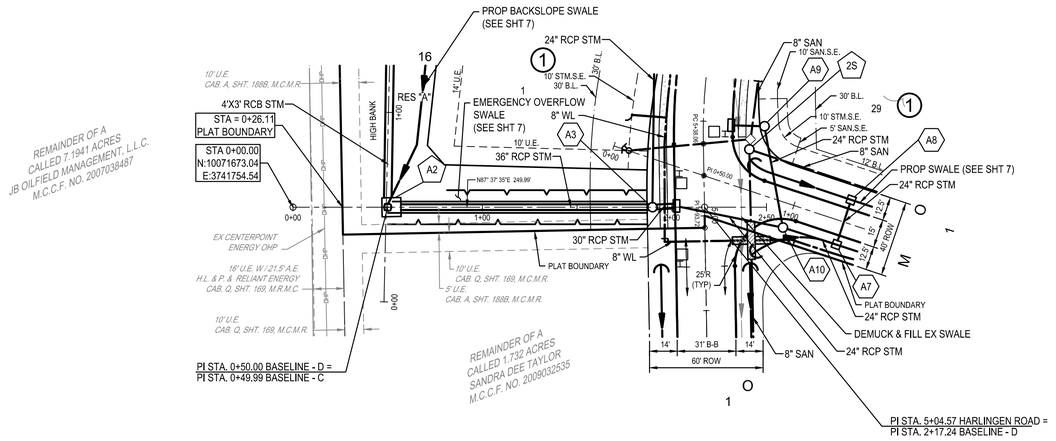
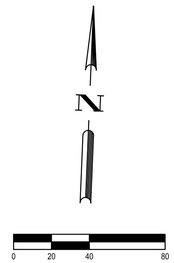
STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22
F 1 46



CAUTION !!!
OVERHEAD POWER
LINES IN AREA
SEE NOTES SHT 2



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ELEVATION: 231.72 FEET NAVD-88, 2001 ADJUSTMENT

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ELEVATION: 263.17 FEET

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ELEVATION: 280.26 FEET

NOTES:

1. SANITARY SEWERS SHALL BE PROPOSED SDR-26 PVC, UNLESS OTHERWISE INDICATED.
2. STORM SEWERS SHALL BE PROPOSED REINFORCED CONCRETE PIPE C-76, CLASS III, UNLESS OTHERWISE INDICATED. ALL JOINTS SHALL BE RUBBER GASKETED.
3. ALL WATER LINES TO BE PROPOSED PVC CLASS 235, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
4. PLACE 1 FULL SECTION (MIN 18') OF WL AND SS CENTERED AT SS/WL CROSSING. PROVIDE RESTRAINED JOINTS AT BOTH ENDS OF THE FULL SECTIONS. WHEN WL GOES UNDER SS PROVIDE DIP FOR SMALL DIAMETER WL (LESS THAN 24 INCHES), PVC PIPE IS ONLY ALLOWED IF ENCASED AS PER TAC 290.44, AND USE RESTRAINED JOINTS FOR BOTH DIP / PVC PIPE AND PLACE 1 FULL SECTION (MIN 18') OF MIN 150 PSI SS CENTERED AT WL CROSSING. PROVIDE RESTRAINED JOINTS AT BOTH ENDS OF THE FULL SECTIONS.
5. ALL CURB RETURNS ARE NO GREATER THAN 2% UNLESS OTHERWISE NOTED.

INDICATES 1-20' JT. OF C-900 PVC (150 PSI MIN.) CENTERED ON CROSSING

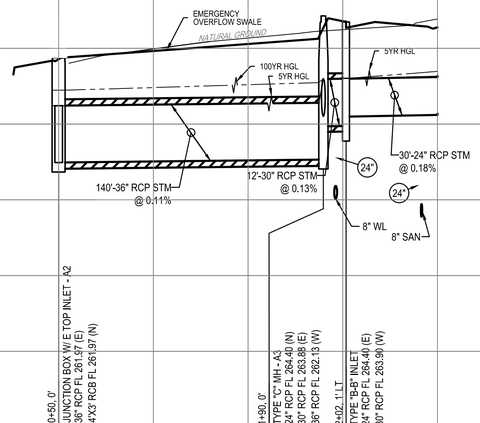
INDICATES RESTRAINED JOINT WATERLINE

(X') INDICATES MINIMUM CLEARANCE (INCHES)

(1S) SANITARY MANHOLE NUMBER

(A1) STORM MANHOLE NUMBER

BASELINE "D"



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CITY OF MAGNOLIA – WINDMILL ESTATES

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BGE

BGE, Inc.
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Houston, TX 77042
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STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22
F 1 46

CITY OF MAGNOLIA

WINDMILL ESTATES

PLAN AND PROFILE -
BASELINE "D"

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M BGE, INC.
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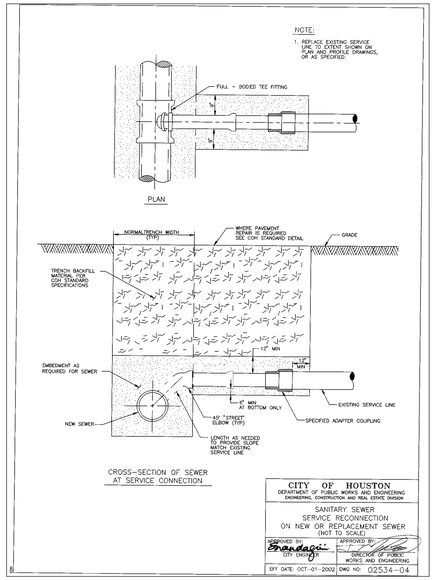
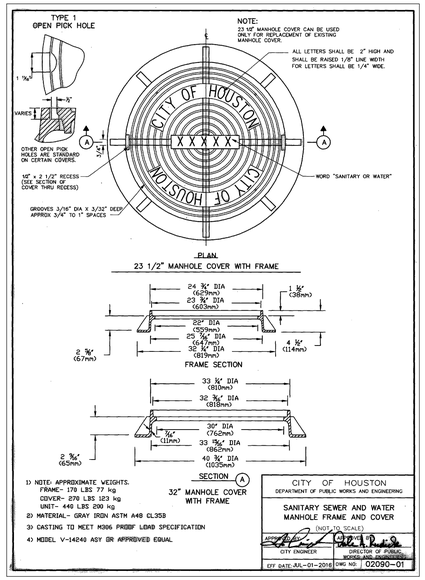
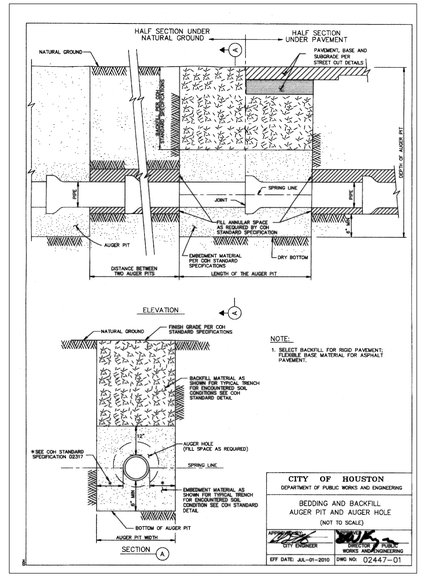
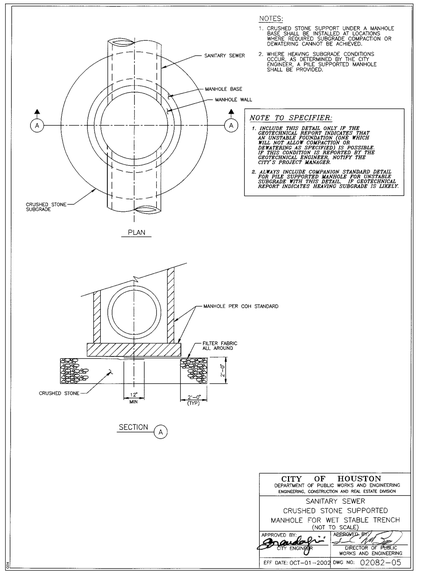
BROWN & GAY ENGINEERS, INC.
F O

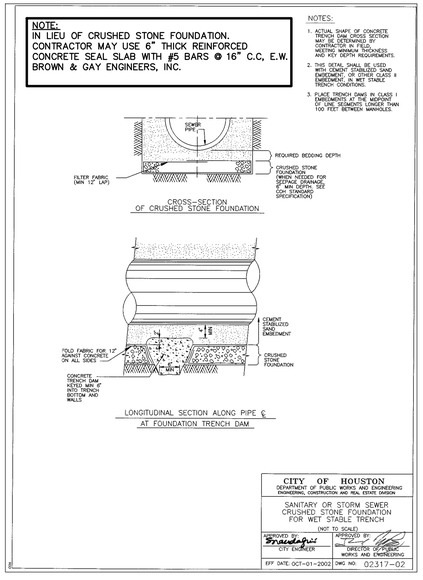
O 1 OF 41
CITY DWG NO:

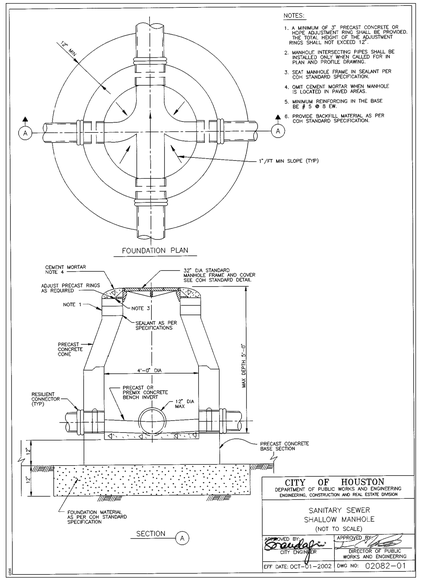


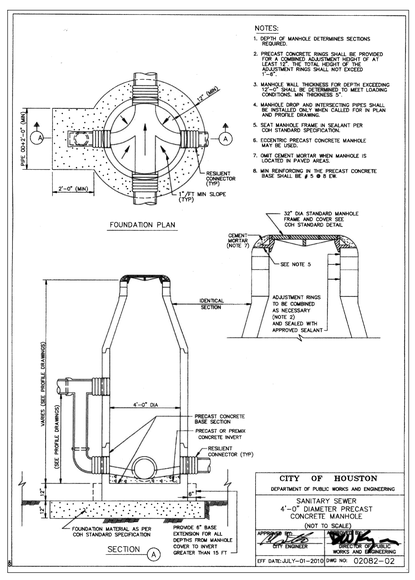


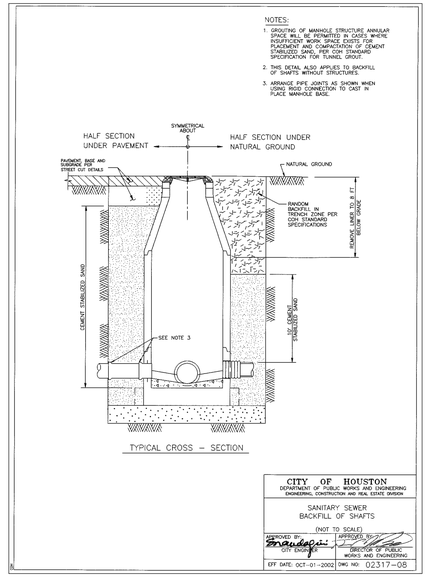












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BGE

BGE, Inc.
1 r 4
Houston, TX 77042
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STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46

CITY OF MAGNOLIA

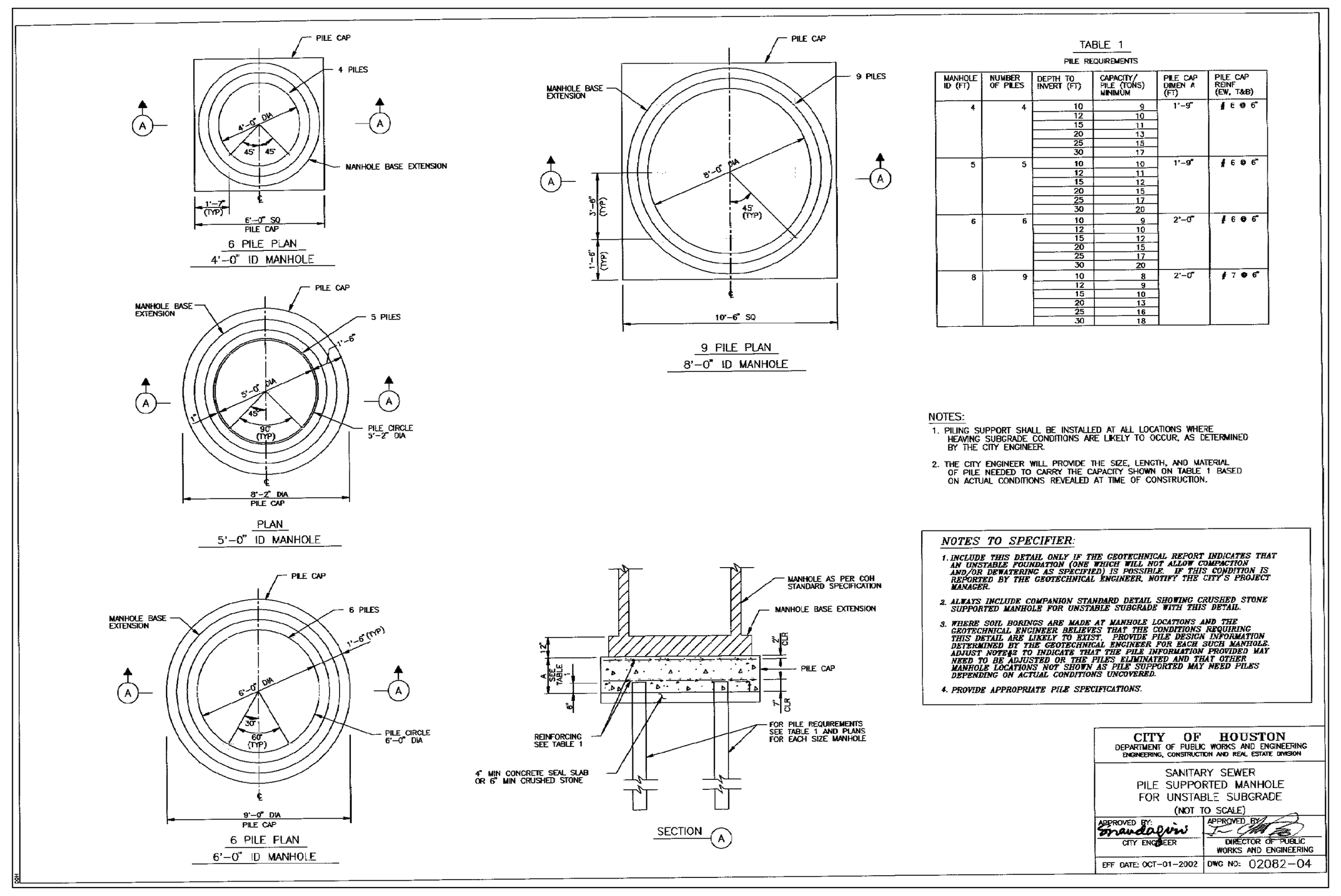
WINDMILL ESTATES

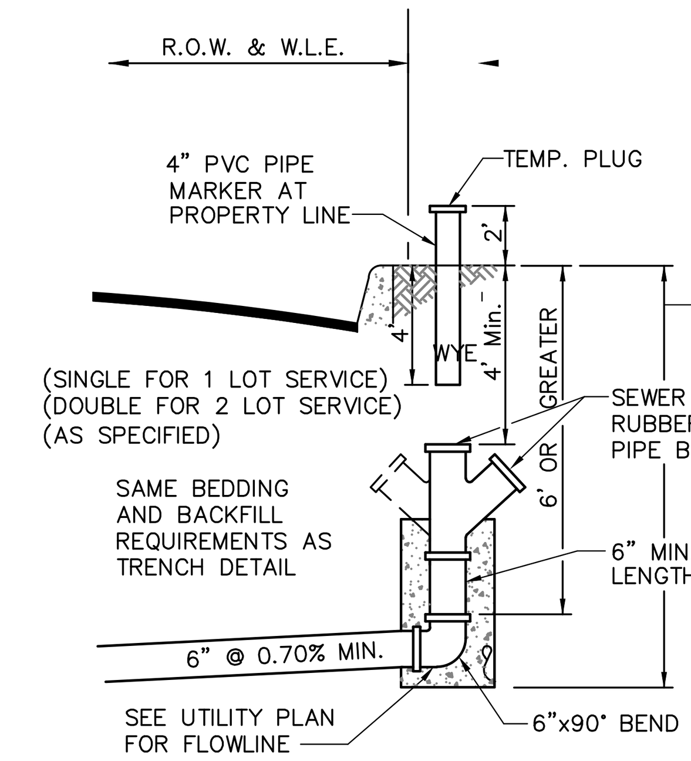
SANITARY SEWER DETAILS (SHEETS 1 OF 2)

O M 8576-00

M BGE, INC.
N.T.S.
MAY 2022
BROWN & GAY ENGINEERS, INC.
F O

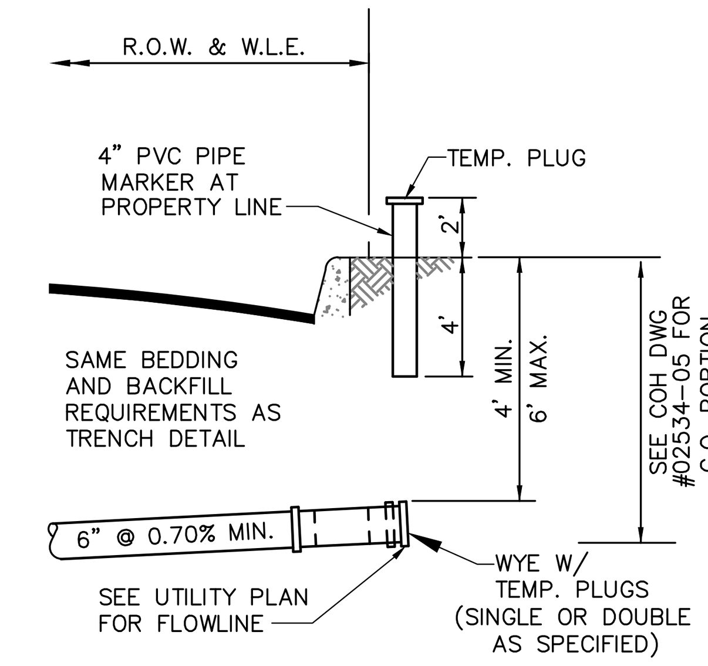
J.P.
A.W.
O 18 OF 41
CITY DWG NO:





RISER SERVICE LEAD TERMINATION

N.T.S.



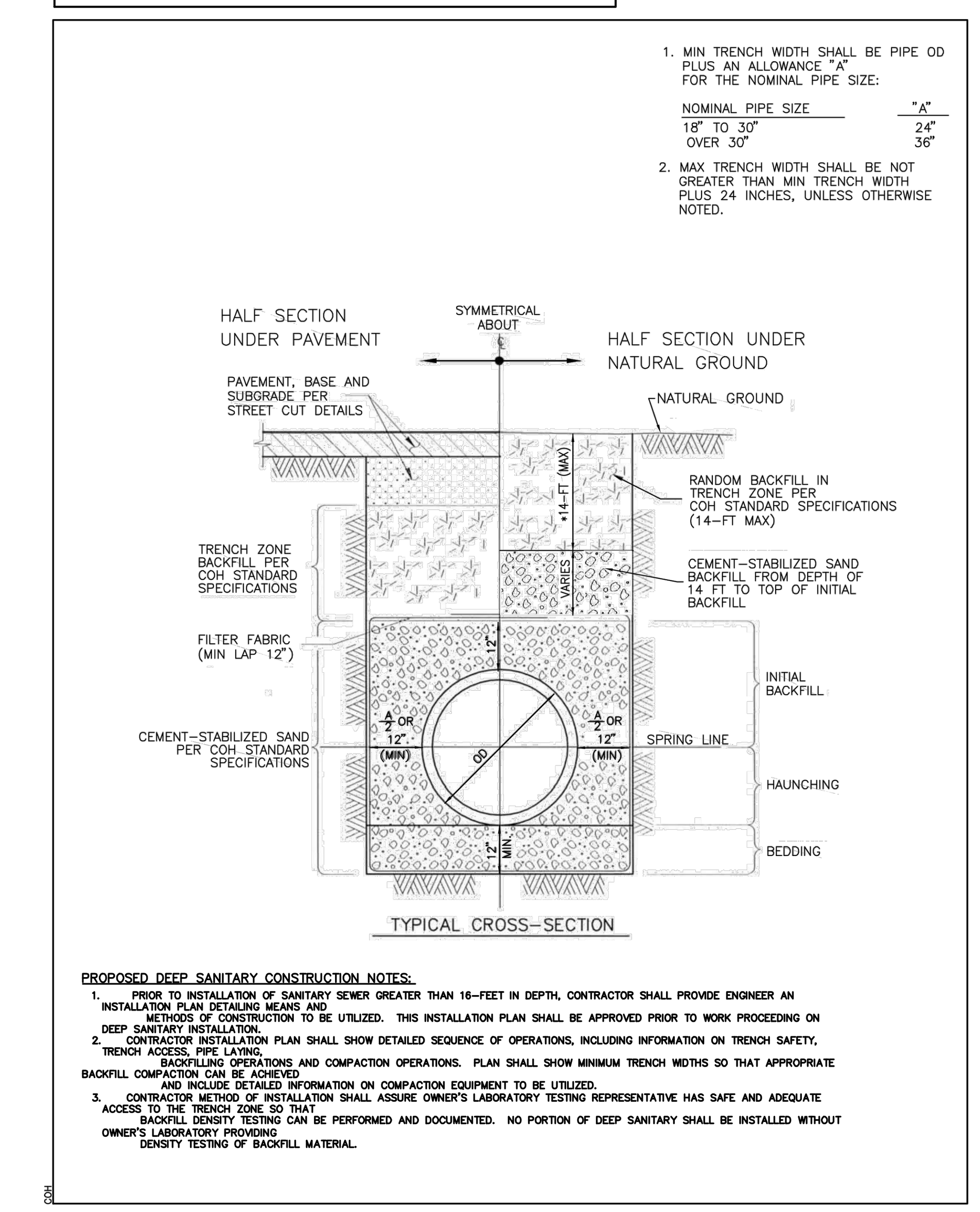
WYE SERVICE LEAD TERMINATION

N.T.S.

TYPICAL SANITARY SERVICE LEADS

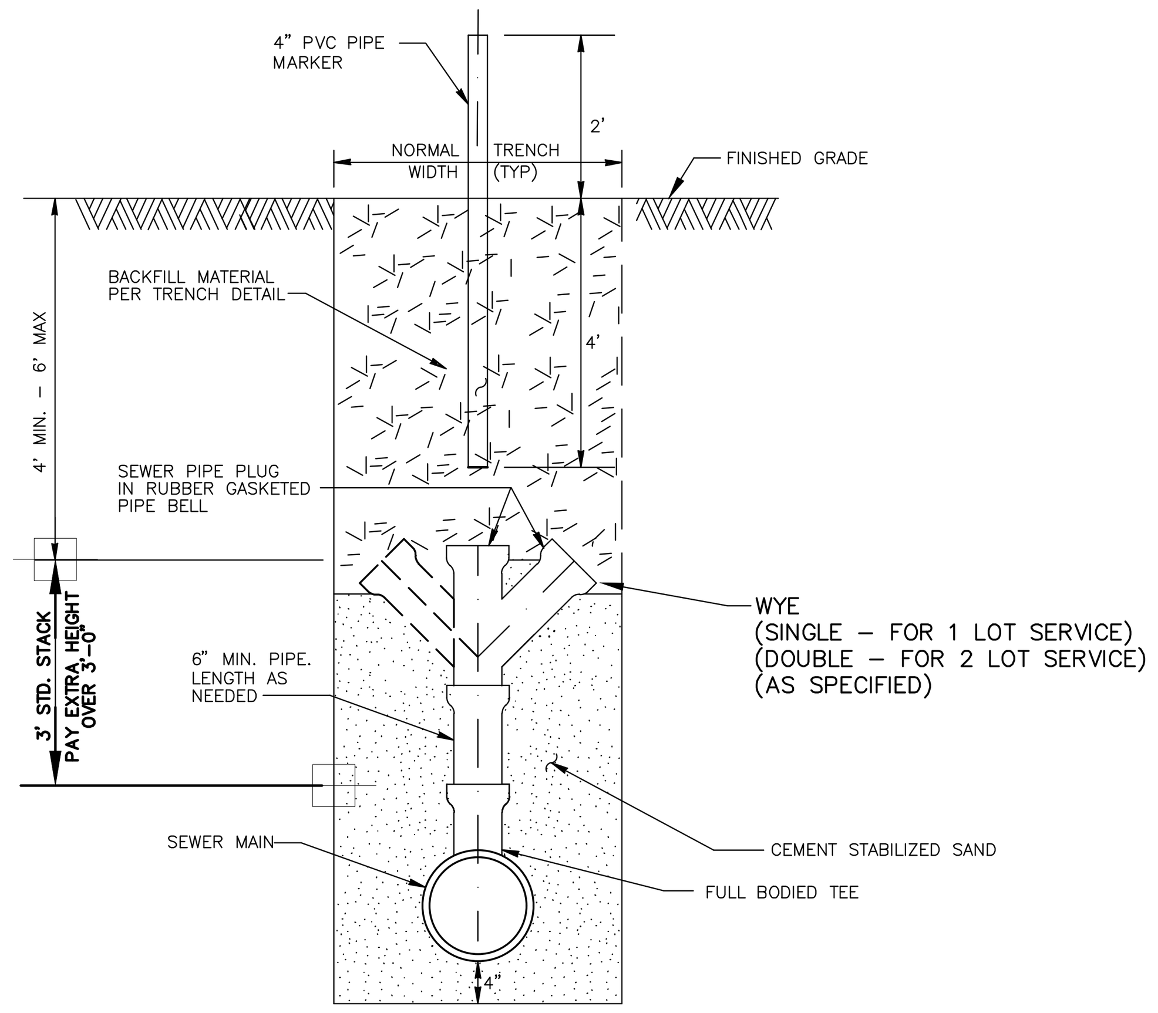
N.T.S.

NOTE:
FOR SANITARY SEWER PIPE GREATER THAN 16-FT IN DEPTH (AND NOT UNDER PAVEMENT), THE TRENCH BACKFILL SHALL BE CEMENT STABILIZED SAND TO A MINIMUM OF 14-FT BELOW NATURAL GROUND.



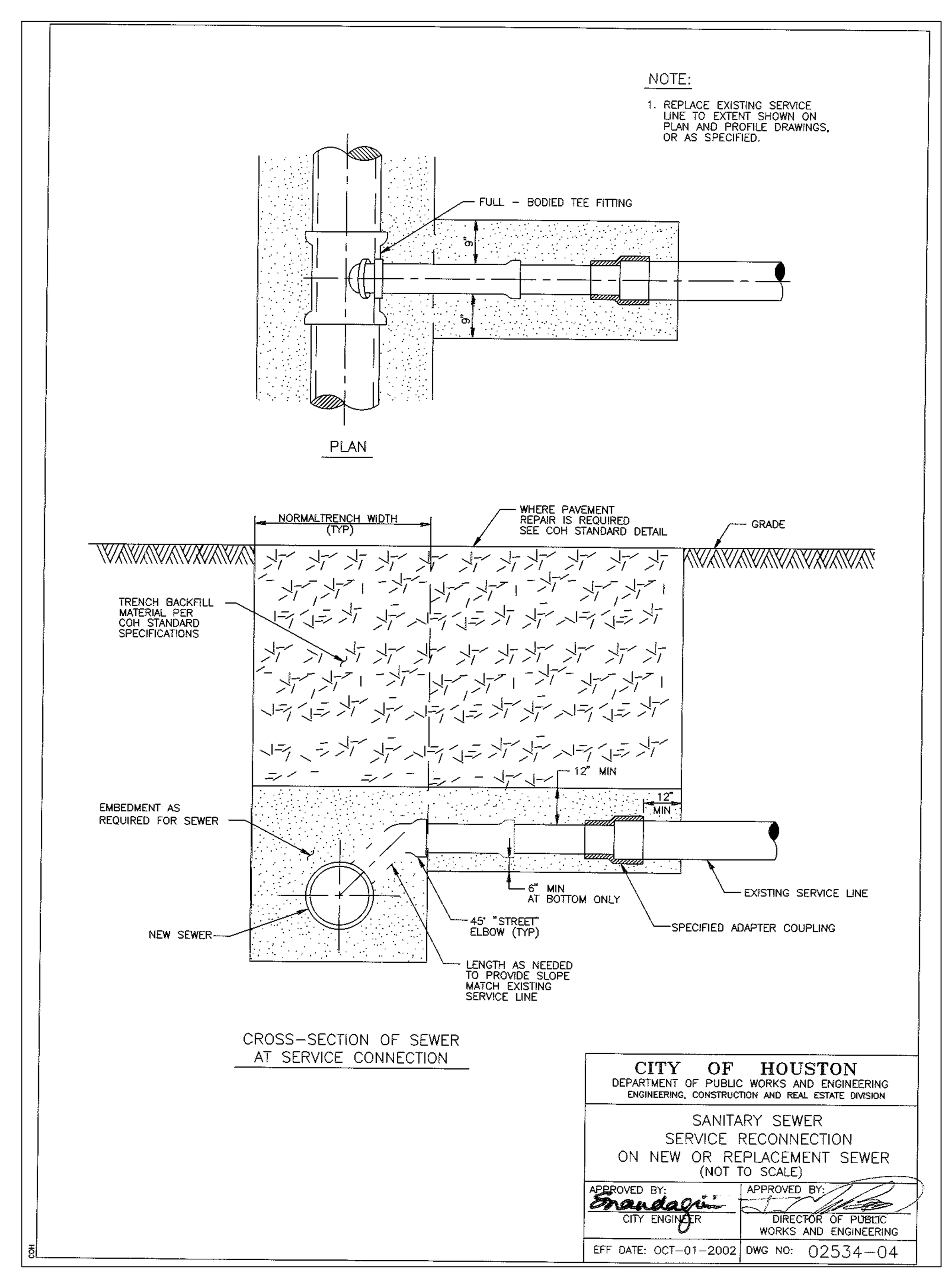
ADDITIONAL BACKFILL REQUIREMENTS FOR SANITARY SEWER DEPTHS GREATER THAN 16-FT

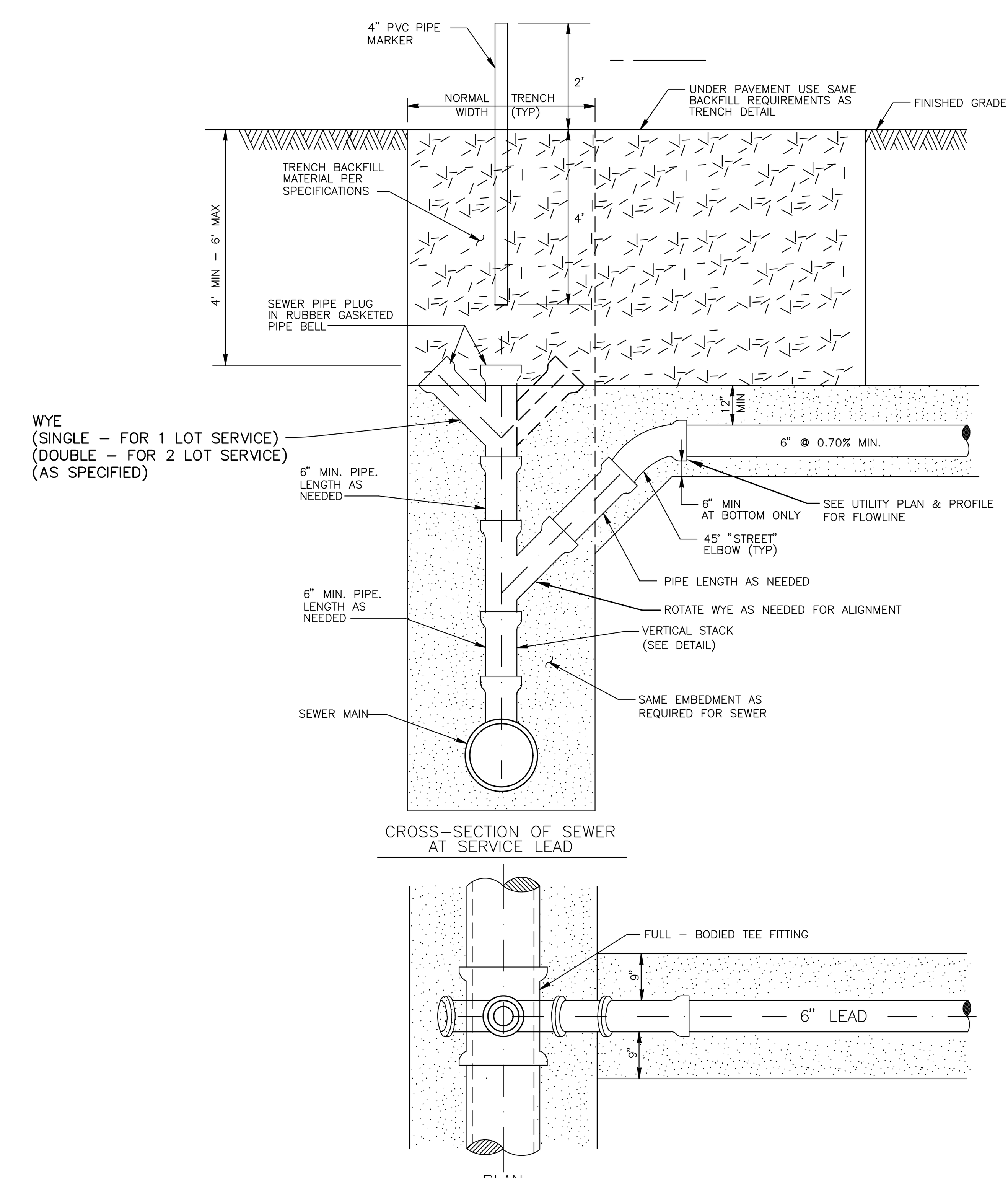
N.T.S.



SANITARY SEWER STACK

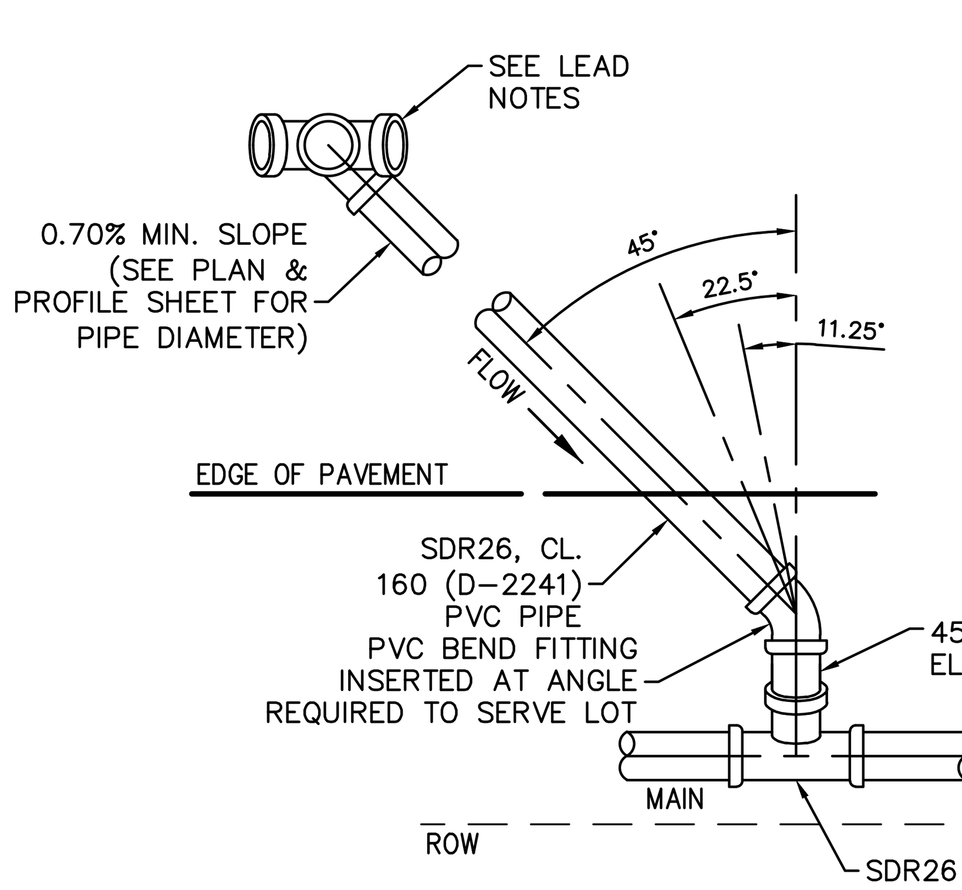
N.T.S.





COMBINATION NEAR AND FAR SIDE SERVICE LEAD WITH STACK

N.T.S.



FAR-SIDE LEAD NOTES:

1. FOR SINGLE FAR SIDE LEAD, PROVIDE 6" PLUG.
2. FOR DOUBLE FAR SIDE LEAD, PROVIDE 6"X4" WYE WITH PLUGS. FOR COST SAVINGS, USE "DOUBLE WYE" WITH PLUG IN CENTER.
3. WYE MUST BE LOCATED WITHIN STREET ROW OR ADJACENT EASEMENT.
4. NO SEPARATE PAY FOR WYES AND PLUGS.
5. CENTER FULL JOINT ON WATERLINE CROSSING.

FAR-SIDE SANITARY SEWER LEAD DETAIL (PLAN VIEW)

N.T.S.

BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

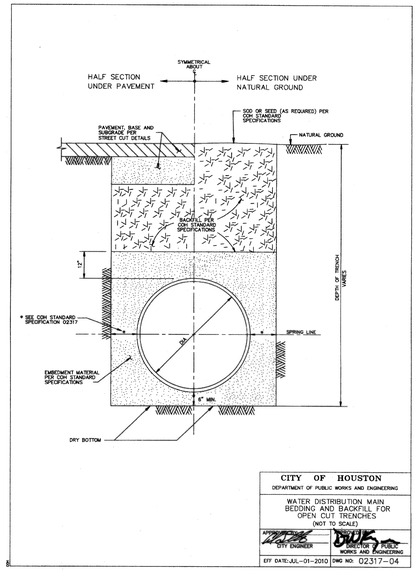
SANITARY SEWER DETAILS (SHEET 2 OF 2)

8576-00

BGE, INC.
N.T.S.
MAY 2022
BROWN & GAY ENGINEERS, INC.
J.P.
A.W.
19 OF 41
CITY DWG NO:

CITY OF MAGNOLIA – GRAND OAKS M.U.D.

G:\TXH\Projects\Built_Capital\8576-00-Windmill_Estates\LD\01_CADD\01_Shts\SAN_SWR_DTLS.dwg

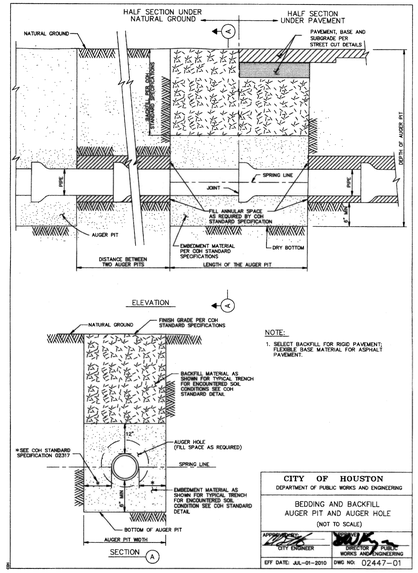


CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER DISTRIBUTION MAIN
BEDDING AND BACKFILL FOR
OPEN CUT TRENCHES
(NOT TO SCALE)

APPROVED: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JUL-01-2010 DWG NO: 02317-04



NOTE:
1. SELECT BACKFILL FOR RIGID PAVEMENT| FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.

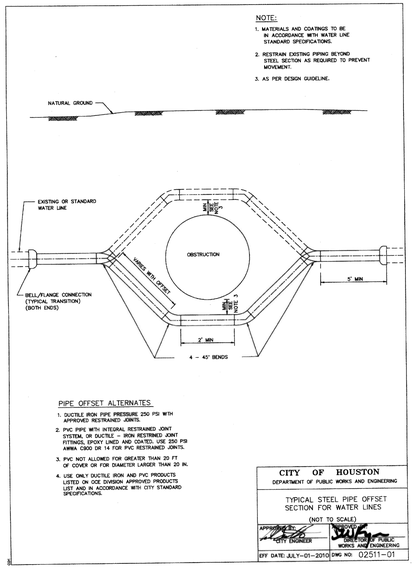
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

BEDDING AND BACKFILL
AUGER PIT AND AUGER HOLE
(NOT TO SCALE)

APPROVED: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JUL-01-2010 DWG NO: 02447-01

NOTE:
1. MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH WATER LINE STANDARD SPECIFICATIONS.
2. RESTRAIN EXISTING PIPING BEYOND STEEL SECTION AS REQUIRED TO PREVENT MOVEMENT.
3. AS PER DESIGN GUIDELINE.



PIPE OFFSET ALTERNATES

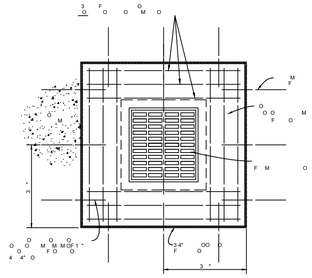
1. DUCTILE IRON PIPE PRESSURE 250 PSI WITH APPROVED RESTRAINED JOINTS.
2. PVC PIPE WITH INTEGRAL RESTRAINED JOINT SYSTEM, OR DUCTILE - IRON RESTRAINED JOINT FITTINGS, EPOXY LINED AND COATED. USE 250 PSI AWWA C900 DR 14 FOR PVC RESTRAINED JOINTS.
3. PVC NOT ALLOWED FOR GREATER THAN 20 FT. OF COVER OR FOR DIAMETER LARGER THAN 20 IN.
4. USE ONLY DUCTILE IRON AND PVC PRODUCTS LISTED ON COE DIVISION APPROVED PRODUCTS LIST AND IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS.

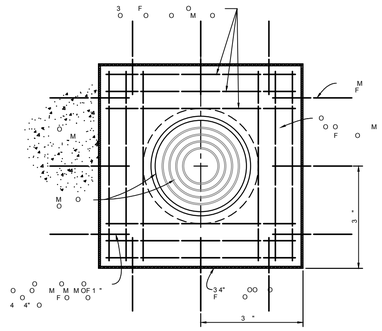
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

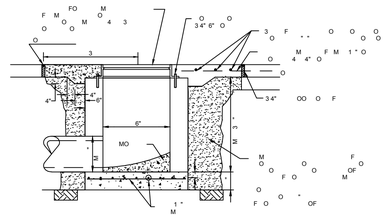
TYPICAL STEEL PIPE OFFSET
SECTION FOR WATER LINES
(NOT TO SCALE)

APPROVED: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

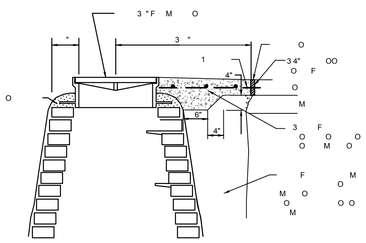
EFF DATE: JULY-01-2010 DWG NO: 02511-01





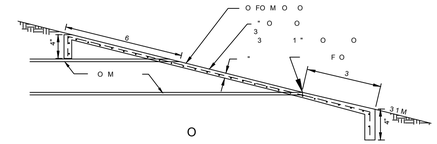


TYPE "A" GRATE INLET
AND BLOCKOUT DETAIL
N.T.S.

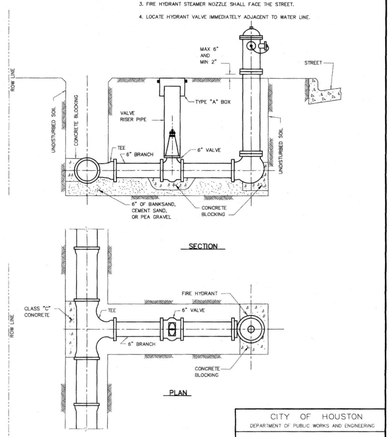


MANHOLE BLOCKOUT DETAIL

NOT C.O.H STANDARD DETAIL
JULY 1, 1999 N.T.S.



NOTES:
1. LOCATE FIRE HYDRANTS AT PCs OF THE INTERSECTION CURB RADIUS, 3 FEET BEHIND CURB OR PROJECTED FUTURE CURB.
2. ON OPEN-DITCH ROADWAYS, SET THE FIRE HYDRANTS WITH IN 5 FEET OF RIGHTS-OF-WAY LINES.
3. FIRE HYDRANT STEAMER NOZZLE SHALL FACE THE STREET.
4. LOCATE HYDRANT VALVE IMMEDIATELY ADJACENT TO WATER LINE.

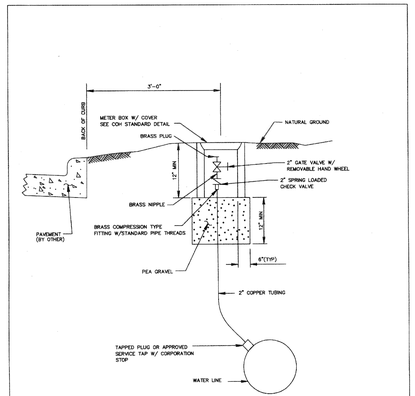


CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STANDARD
FIRE HYDRANT DETAIL
(NOT TO SCALE)

APPROVED: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 DWG NO: 02520-01



GENERAL NOTES:

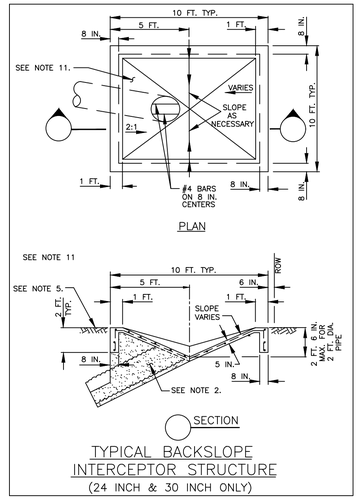
1. PLACE GATE VALVE VERTICAL TO GROUND WITH END OF BRASS PLUG 3 INCHES FROM SURFACE
2. PLACE METER BOX CENTER AROUND GATE VALVE BOX WITH LONG SIDE PARALLEL TO VALVE.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

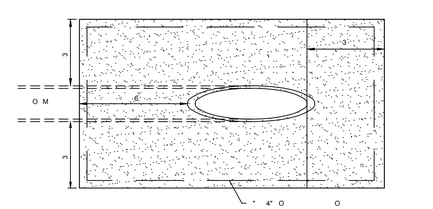
PERMANENT
BLOW-OFF-DETAIL
(NOT TO SCALE)

APPROVED: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 DWG NO: 02524-01



TYPICAL BACKSLOPE
INTERCEPTOR STRUCTURE
(24 INCH & 30 INCH ONLY)



INTERCEPTOR STRUCTURE DETAIL NOTES:

1. INTERCEPTOR OUTFALL PIPES WITHIN THE HCFCD RIGHT-OF-WAY SHALL BE CMP OR HDPE PIPE IN ACCORDANCE WITH SPECIFICATION SECTION 02642- CORRUGATED METAL PIPE, HIGH DENSITY POLYETHYLENE (HDPE) PIPE IN ACCORDANCE WITH SPECIFICATION SECTION 2505-HIGH DENSITY POLYETHYLENE, OR APPROVED EQUAL. USE TABLE BELOW FOR CORRUGATED GALVANIZED STEEL PIPE.
2. PROVIDE AND PLACE CEMENT STABILIZED SAND IN ACCORDANCE WITH SPECIFICATION SECTION 02321-CEMENT STABILIZED SAND AND SECTION 02316 - STRUCTURAL EXCAVATING.
3. EXCAVATION, FILL AND BACKFILL FOR STORM SEWER OUTFALLS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02316-STRUCTURAL EXCAVATING AND BACKFILLING.
4. CONCRETE SHALL BE STRUCTURAL CONCRETE IN ACCORDANCE WITH SPECIFICATION SECTION 03310-CONCRETE.
5. INTERCEPTOR STRUCTURES:
   a. ADJUST LENGTH AND WIDTH IN FIELD AS NECESSARY.
   b. 2-FEET DEEP X 8-INCH WIDE TOE ALL AROUND THE STRUCTURE.
   c. STEEL REINFORCING-#4 BARS (GRADE 40) AT 12 INCHES ON CENTER EACH WAY.
   d. ANY INTERCEPTOR OUTFALL PIPE LARGER THAN MAXIMUM SIZE INDICATED REQUIRES A SEPARATE DETAIL.
   e. MATCH TOP OF CONCRETE WITH NATURAL GROUND.
6. IN DETENTION BASINS, SET FLOWLINE OF OUTFALL AT TOE OF THE SLOPE. IN CHANNEL, USE ELEVATION INDICATED IN THE TABLE OR 1 FOOT ABOVE NORMAL WATER LEVEL WHICH EVER IS HIGHER.
7. SEE CONCRETE CHANNEL LINING DETAIL SHEET FOR CMP OUTFALL DETAILS THROUGH CONCRETE CHANNEL LINING.
8. CONCRETE PAD AROUND TYPE "B" INLET: PAID FOR AS CONCRETE INTERCEPTOR STRUCTURE PER UNIT PRICE SCHEDULE. TYPE "B" INLET BOX, COH DWG. NO. 02632-02 WITH GRATE TOP, VULCAN FOUNDRY COMPANY, V-4880-1 OR APPROVED EQUAL, APPROX. 489 SQ.IN. OPENING.
9. BACKSLOPE SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. FINAL ELEVATIONS AND LOCATIONS SHALL BE FIELD VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION.
10. STRUCTURAL CONCRETE WITH #4 BARS (GRADE 40) 12 INCH O.C. EACH WAY - FOR COLLARS ONLY.
11. EPOXY CLEAN WATER CLEAR CHOICE LOGO BUTTON ON INTERCEPTORS. LOCATION TO BE DETERMINED BY THE ENGINEER.

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BGE

BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22

CITY OF MAGNOLIA

WINDMILL ESTATES

WATER LINE AND
MISCELLANEOUS DETAILS

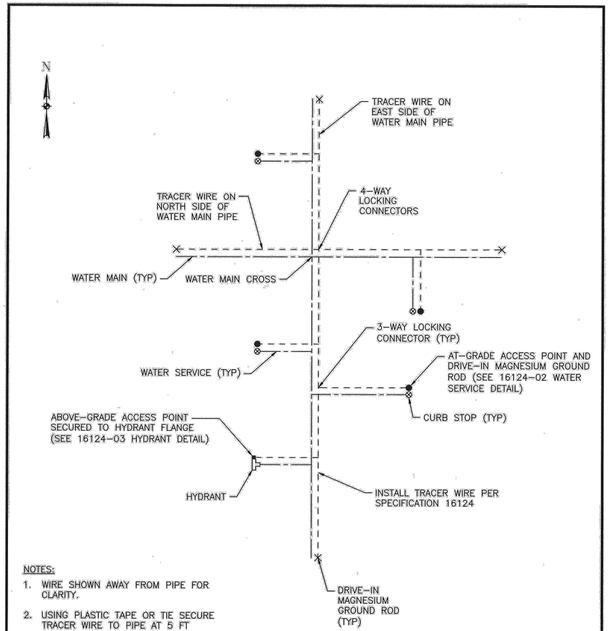
O M 6

BROWN & GAY ENGINEERS, INC.

O OF 41

CITY DWG NO:

CITY OF MAGNOLIA – GRAND OAKS M.U.D.



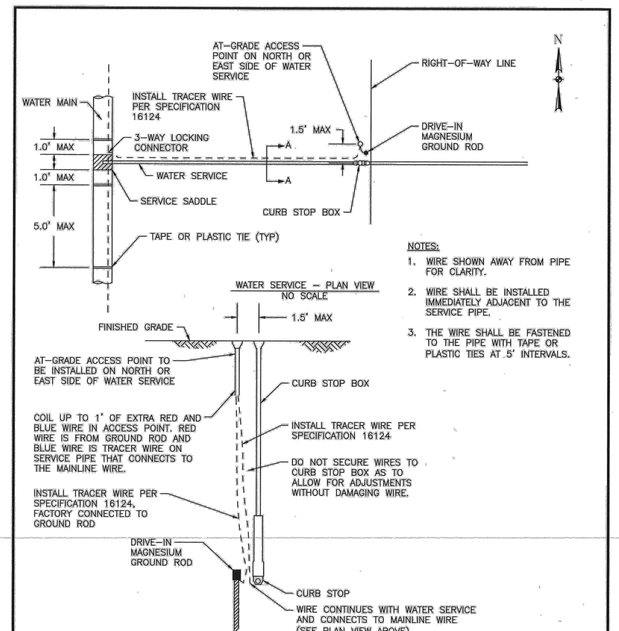
NOTES:
1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY.
2. USING PLASTIC TAPE OR TIE SECURE TRACER WIRE TO PIPE AT 5 FT INTERVALS IN THE 3 O' CLOCK POSITION.

SAMPLE PLAN (WATER)
NOT TO SCALE

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

COMPLETE UTILITY LOCATING SYSTEM SAMPLE PLAN (WATER)
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
Suhail Kanwar	Carol Haddock
EFF DATE: JUL-01-2021	DWG NO: 16124-01



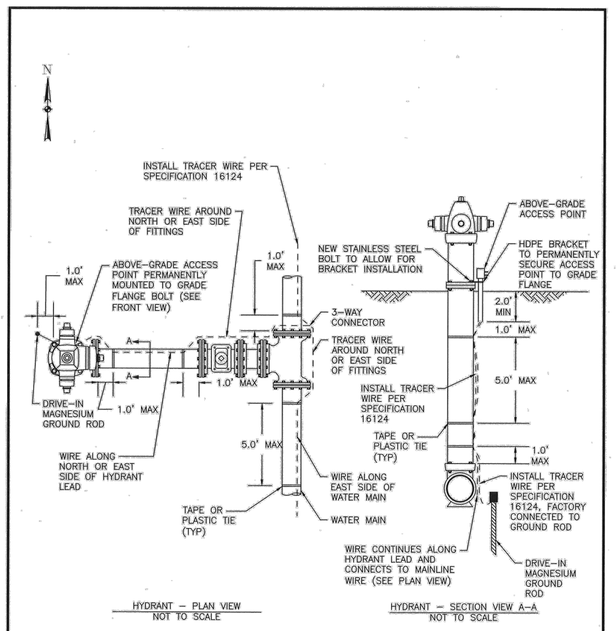
NOTES:
1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY.
2. WIRE SHALL BE INSTALLED IMMEDIATELY ADJACENT TO THE SERVICE PIPE.
3. THE WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.

WATER SERVICE – SECTION VIEW A–A
NOT TO SCALE

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

COMPLETE UTILITY LOCATING SYSTEM WATER SERVICE DETAIL
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
Suhail Kanwar	Carol Haddock
EFF DATE: JUL-01-2021	DWG NO: 16124-02



HYDRANT – PLAN VIEW
NOT TO SCALE

HYDRANT – SECTION VIEW A–A
NOT TO SCALE

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

COMPLETE UTILITY LOCATING SYSTEM HYDRANT DETAIL
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF HOUSTON PUBLIC WORKS
Suhail Kanwar	Carol Haddock
EFF DATE: JUL-01-2021	DWG NO: 16124-03

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BGE

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KYLE J. ADAMS
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CITY OF MAGNOLIA

WINDMILL ESTATES

WATER LINE TRACER DETAILS

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BROWN & GAY ENGINEERS, INC.
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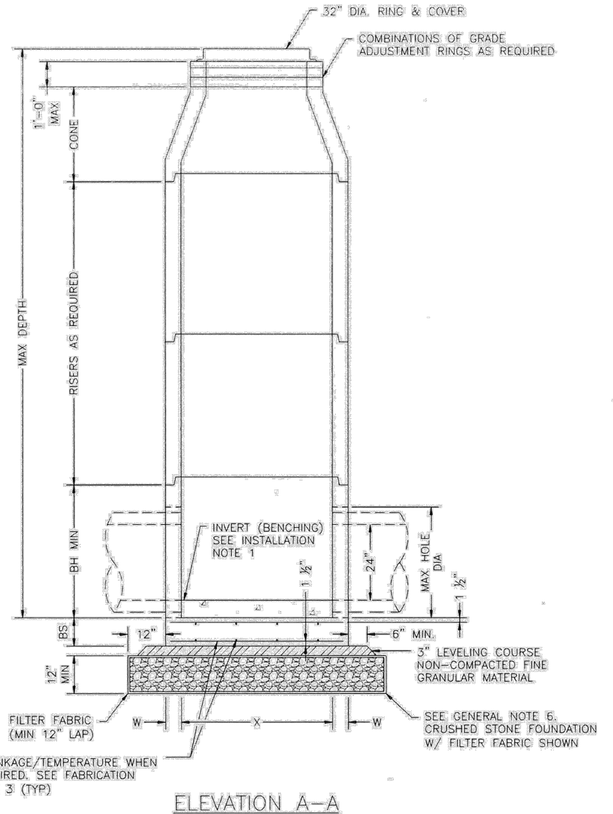
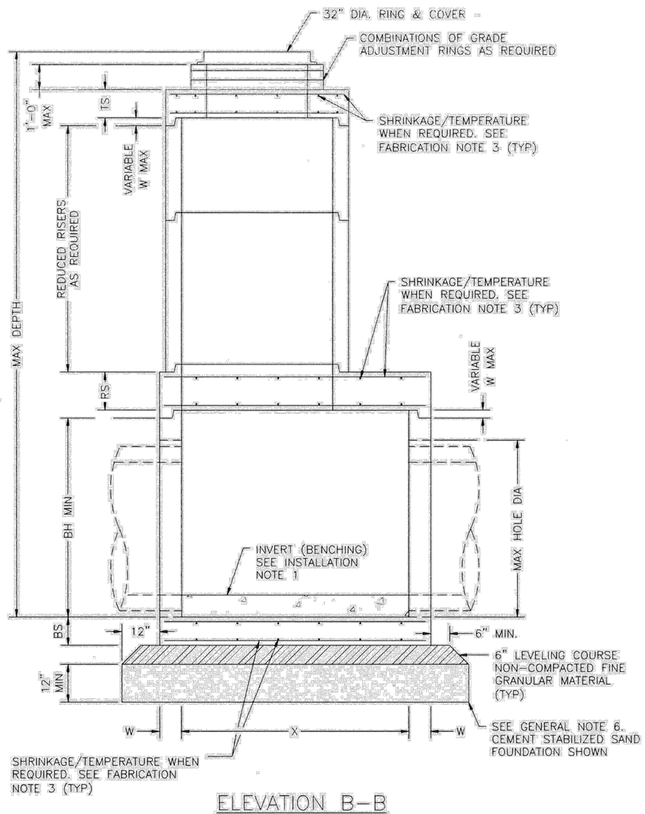
CITY DWG NO:



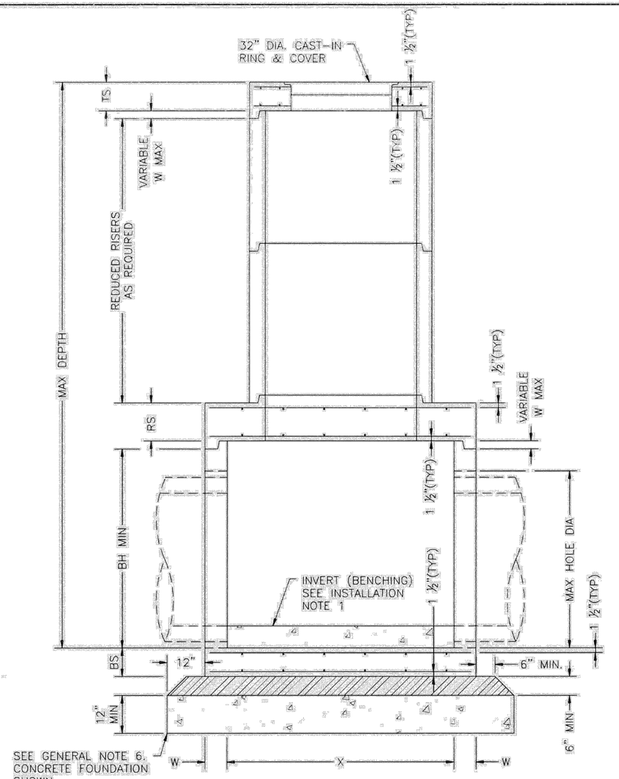
ELEVATION A–A

CONE TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION B–B

FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION C–C

FLAT SLAB TOP WITH INVERTED RING & COVER OPTION

FABRICATION NOTES:

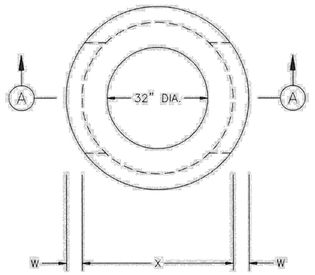
1. PROVIDE CLASS "H" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF BASE, RISER AND CONE IN ACCORDANCE WITH ASTM C478.
3. SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN^2/FT EACH WAY.
4. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
5. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS ¾".
6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
8. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE SHOWN. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED.

INSTALLATION NOTES:

1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO THIS ITEM. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02082 FOR INVERT (BENCHING) REQUIREMENTS.
2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN ½" BETWEEN EACH SECTION, OR ½ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
4. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'–0" MAX AS SHOWN.
5. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'–6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'–6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'–0"; STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

GENERAL NOTES:

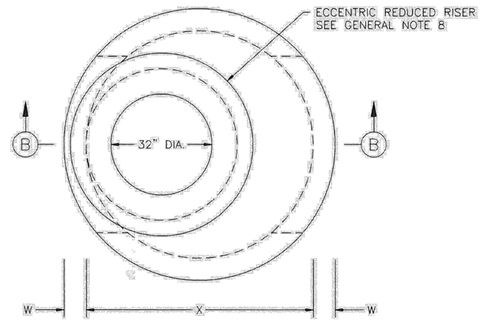
1. SEE TABLE 1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
2. DESIGNED ACCORDING TO ASTM C478.
3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02082 "PRECAST CONCRETE MANHOLES".
4. PIPE OD + PLACEMENT TOLERANCE MUST BE EQUAL OR LESS THAN MAX HOLE DIA. FOR RIGID PIPE, PLACEMENT TOLERANCE IS 4" MAX, 2" MIN. FOR FLEXIBLE PIPE, CONSULT BOOT/SEAL MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE.
5. STORM WATER SEWER PIPE INTERNAL DIA. SHALL NOT BE LESS THAN 24".
6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02082.
7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
9. CONES MAY BE CONCENTRIC OR ECCENTRIC. REDUCTION CONES ARE ACCEPTABLE. REFER TO MANUFACTURER FOR CONE DIMENSIONS.
10. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO ROUND MANHOLES LARGER THAN 6–FOOT DIA.



PLAN VIEW A

COVER NOT SHOWN

4–FT DIA MANHOLE



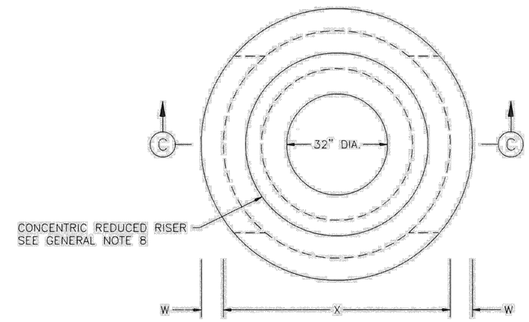
PLAN VIEW B

COVER NOT SHOWN

5–FT & 6–FT DIA MANHOLE

ECCENTRIC MANHOLE

(PREFERRED CONFIGURATION)



PLAN VIEW C

COVER NOT SHOWN

5–FT & 6–FT DIA MANHOLE

CONCENTRIC MANHOLE

(ALTERNATE CONFIGURATION)

TABLE 1

PRECAST ROUND MANHOLE (PRM) MINIMUM REQUIREMENTS FOR 24 IN. TO 42 IN. INTERNAL DIA STORM SEWER PIPES

	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISER THICKNESS	REDUCED RISER DIA	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX DEPTH TO TOP OF BASE SLAB	MIN HEIGHT	MAX HOLE DIA
	X	BS	W	ID	RS	TS	MAX DEPTH	BH MIN	MAX HOLE DIA
	FT	IN.	IN.	IN.	IN.	IN.	FT.	IN.	IN.
PRM	4	9	5	–	–	9	25	42	35
	5	9	6	48	9	9	25	42	42
	6	9	7	48/60*	12	9	25	42	56

(*) 60–IN REDUCED RISER IS TO BE USED WHEN DEEMED NECESSARY TO SATISFY WALL PENETRATION SPACING REQUIREMENTS.

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER
5/18/22

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE

(NOT TO SCALE) OF 41

APPROVED BY:	APPROVED BY:
Sarhail Kanwar	Carol Haddock
CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL–01–2021	DWG NO: 02082–12

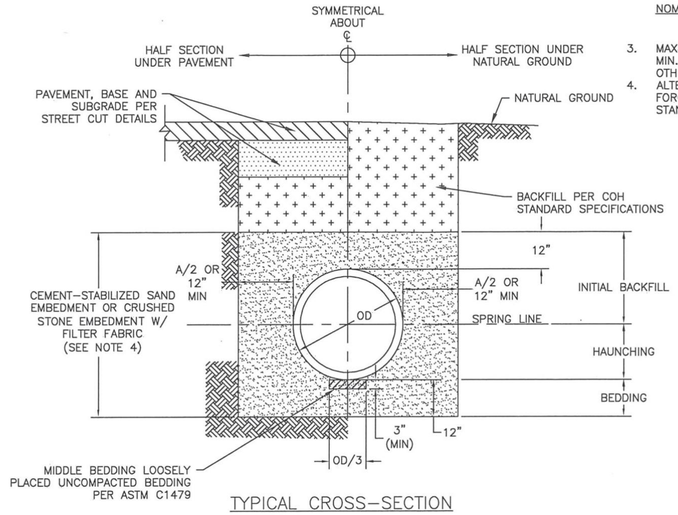
02317–03

NOTES:

1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
2. MIN. TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

3. MAX. TRENCH WIDTH SHALL BE NOT GREATER THAN MIN. TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
4. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE COH STANDARD SPECIFICATIONS.



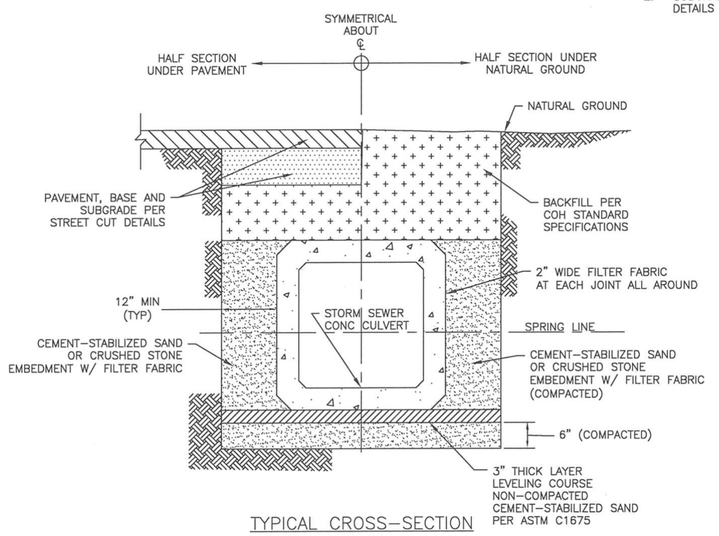
TYPICAL CROSS–SECTION

SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–05

NOTES:

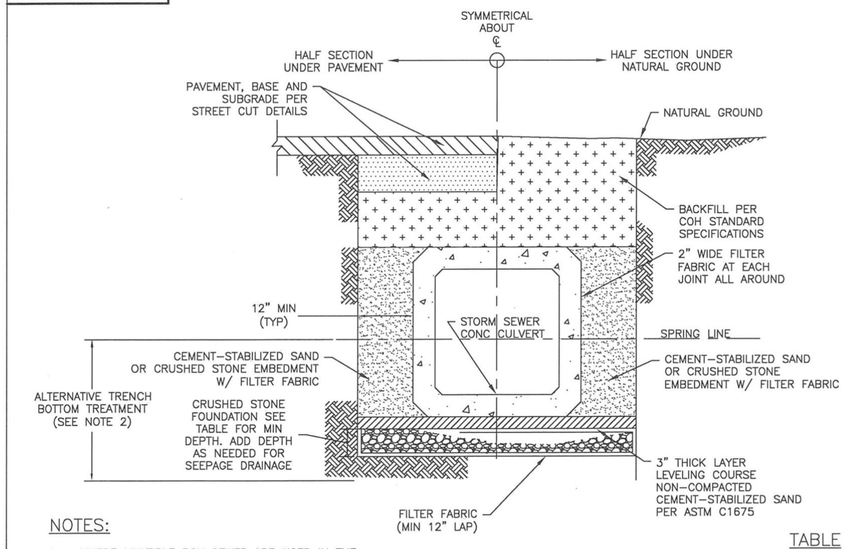
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. SUBGRADE AND PAVEMENT FOR STREET CUT DETAILS – 02951.



TYPICAL CROSS–SECTION

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

02317–06



NOTES:

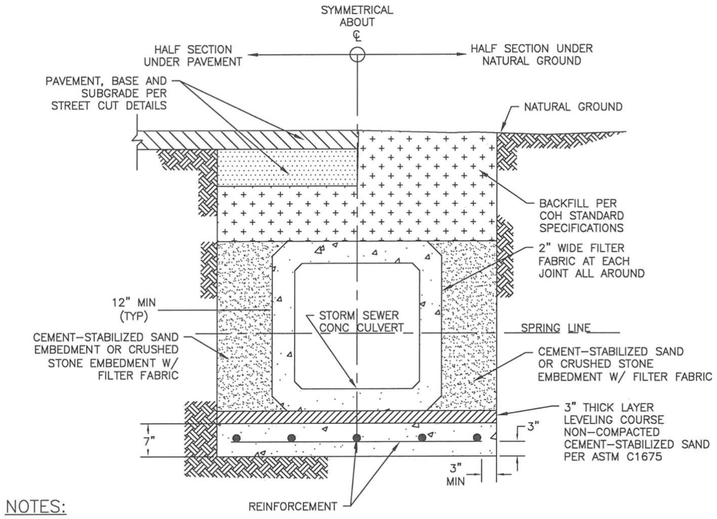
1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. ALTERNATIVE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY OF ENGINEERS AND AS PAID FOR IN THE PROPOSAL.

TABLE

CULVERT SIZE (FT)	FOUNDATION DEPTH(INCHES)
3' X 2' TO 6' X 6'	12
6' X 6' AND LARGER	18

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR WET STABLE TRENCH
NTS

02317–07



NOTES:

1. WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
2. REINFORCED CONCRETE SLAB PIPE BEDDING TO BE PLACED IN DRY TRENCH ONLY.
3. CONCRETE IN SLAB TO REACH MIN COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
4. PRECAST SEAL SLAB MAYBE USED AS APPROVED BY CITY ENGINEER.

PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL WITH SEAL SLAB
NTS

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FIRM INFORMATION

STATE OF TEXAS
KYLE J. ADAMS
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LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46
ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02317–03 THROUGH 07

APPROVED BY: CITY ENGINEER

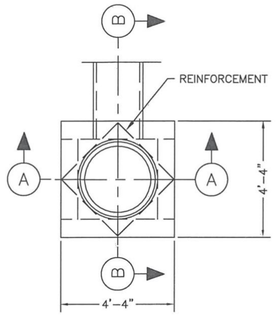
APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

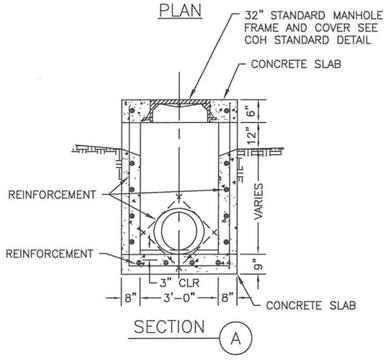
EFFECTIVE DATE: JUL–01–2019

FOR CITY OF HOUSTON USE ONLY

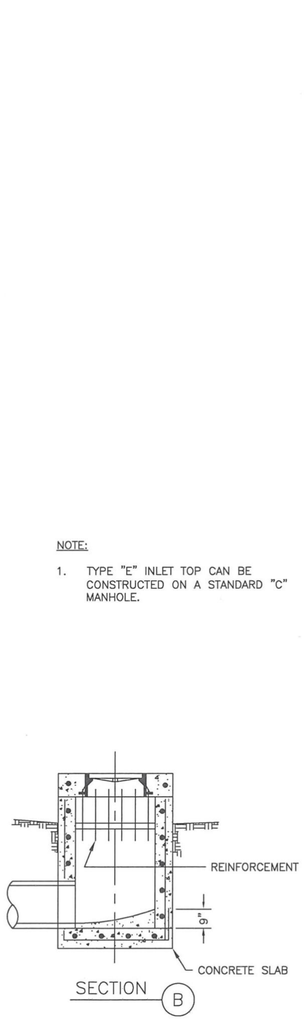
SHEET NO. 3 OF 41



PLAN



SECTION A



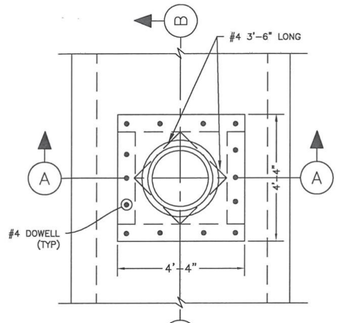
SECTION B

NOTE:

1. TYPE "E" INLET TOP CAN BE CONSTRUCTED ON A STANDARD "C" MANHOLE.

STORM SEWER TYPE "E" INLET
NTS

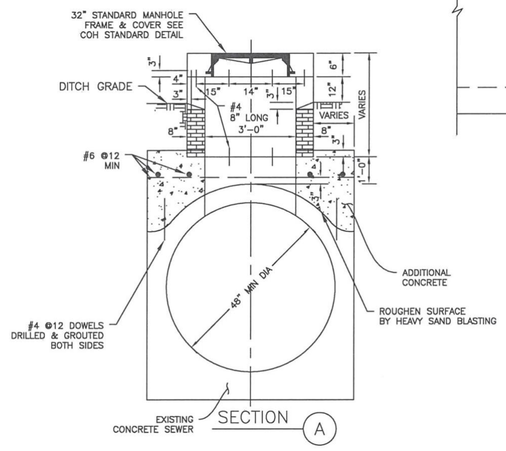
COH IS PHASING OUT BRICK. NEW DETAILS TO BE POSTED END OF 2019



PLAN OF TYPE "E"
(COVER NOT SHOWN)

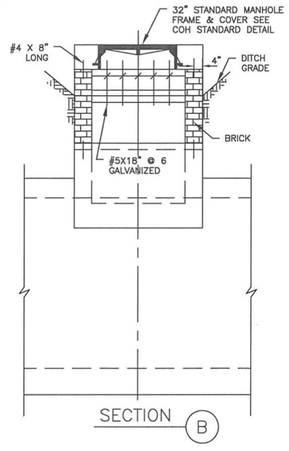
NOTE:

1. 8" CONCRETE WALLS MAY BE CONSTRUCTED IN LEU OF 8" BRICK WALLS.



SECTION A

STORM SEWER TYPE "E" INLET ON EXIST MONOLITHIC CONC SEWERS OF 48" DIA & GREATER
NTS



SECTION B

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Houston, TX 77042
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FIRM INFORMATION

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46
ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER 02632–09 AND 02632–10

APPROVED BY: CITY ENGINEER

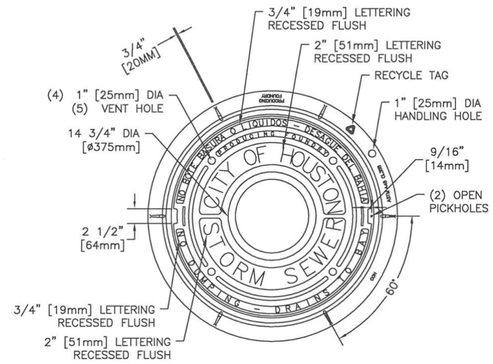
APPROVED BY: DEPUTY DIRECTOR

APPROVED BY: DIRECTOR

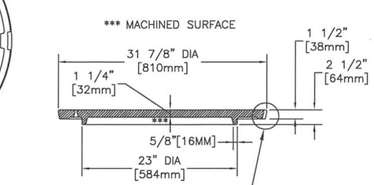
EFFECTIVE DATE: JUL–01–2019

FOR CITY OF HOUSTON USE ONLY

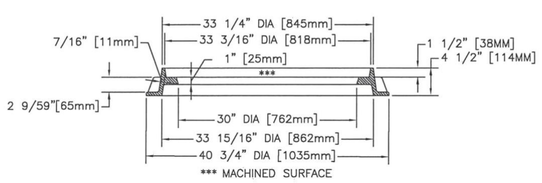
02084–02



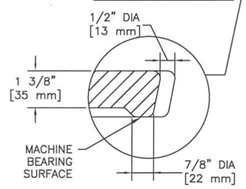
BOTTOM VIEW OF COVER



COVER SECTION



FRAME SECTION



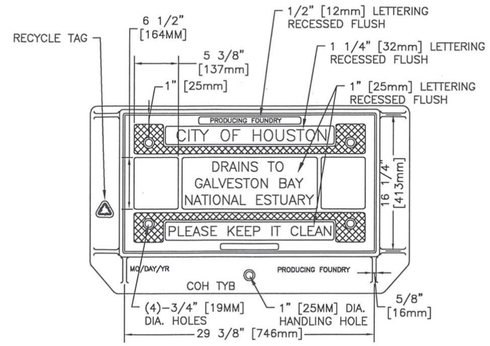
OPEN PICKHOLE DETAIL

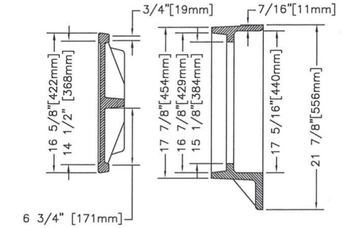
NOTES:

1. APPROXIMATE WEIGHTS.
   FRAME – 170 LBS (77KGS)
   COVER – 270 LBS (123KGS)
   UNIT – 440 LBS (200KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–1420 ASY OR APPROVED EQUAL

STORM SEWER MANHOLE FRAME AND COVER
NTS

02084–03

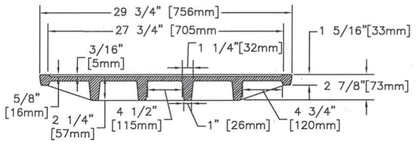




COVER SECTION FRAME SECTION

NOTES:

1. APPROXIMATE WEIGHTS.
   FRAME – 125 LBS (57KGS)
   COVER – 130 LBS (59KGS)
   UNIT – 225 LBS (116KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–4241 ASY OR APPROVED EQUAL



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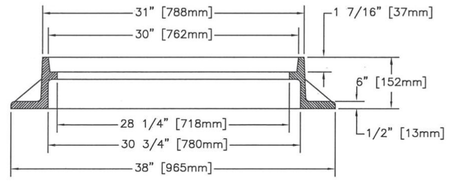
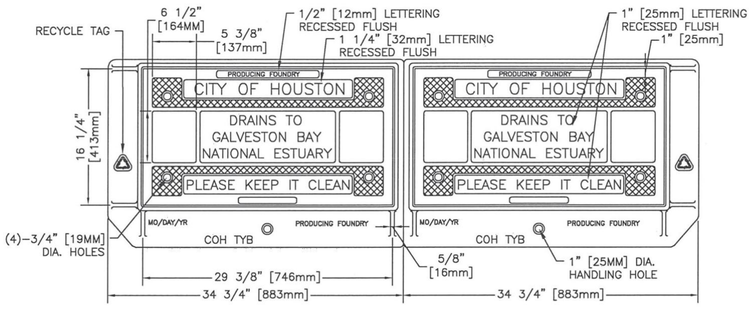
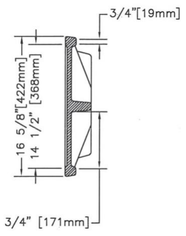


FRAME SECTION

STORM SEWER TYPE "B" INLET ASSEMBLY
NTS

02084–04





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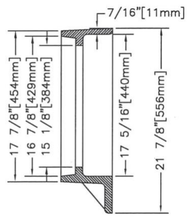
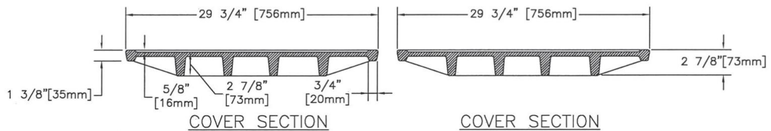


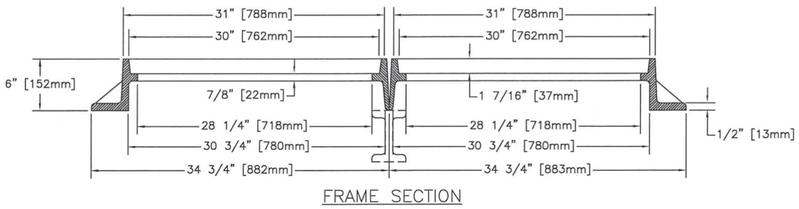
FRAME SECTION

NOTES:

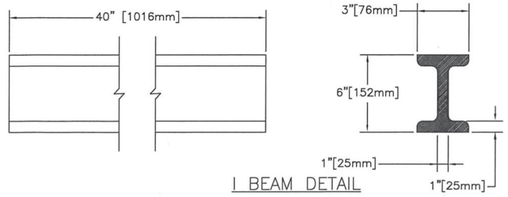
1. APPROXIMATE WEIGHTS.
   FRAME – 125 LBS (57KGS)
   COVER – 120 LBS (55KGS)
   I BEAM – 107 LBS (49KGS)
   UNIT – 597 LBS (271KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V–4243 ASY OR APPROVED EQUAL



COVER SECTION COVER SECTION



FRAME SECTION



I BEAM DETAIL

STORM SEWER TYPE "BB" INLET DOUBLE ASSEMBLY
NTS

BGE, Inc.
Houston, TX 77042
FIRM INFORMATION F 1 46

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
ENGINEER'S SEAL F 1 46

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02084–02 THROUGH 04

APPROVED BY: CITY ENGINEER
APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR

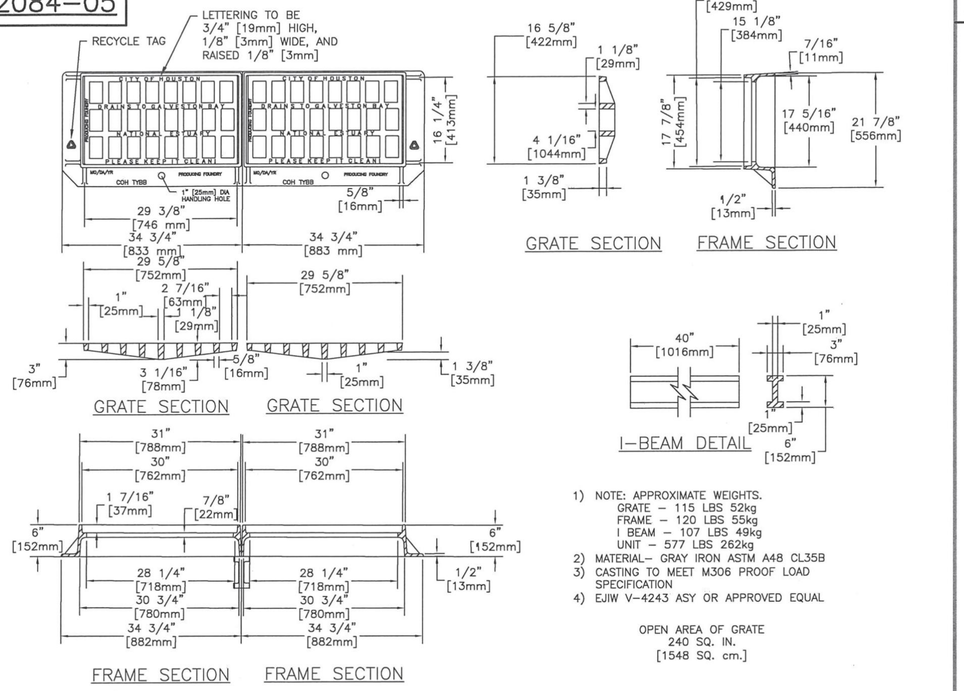
EFFECTIVE DATE: JUL–01–2019

FOR CITY OF HOUSTON USE ONLY

SHEET NO. OF 41

PLOTTED: KADAMS 5/10/2022 2:44 PM
PLOT STYLE: BGE-CORP-2018.ctb
FILE PATH: G:\TXH\Projects\Built_Capital\8576-00-Windmill_Estates\LD\01_CADD\01_Shts\B-B INLETS DTLS.dwg

02084–05

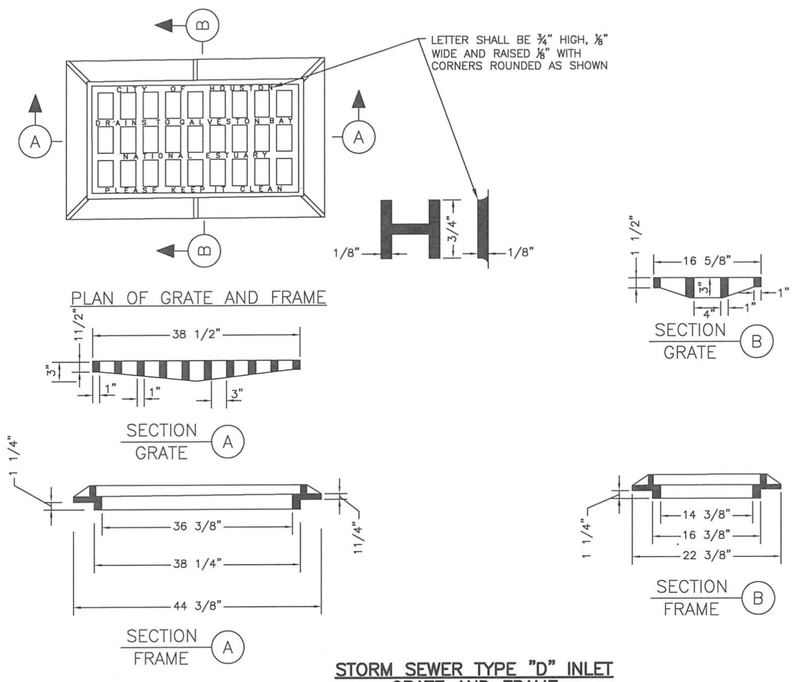


1) NOTE: APPROXIMATE WEIGHTS.
   GRATE – 115 LBS 52kg
   FRAME – 120 LBS 55kg
   I BEAM – 107 LBS 49kg
   UNIT – 577 LBS 262kg
2) MATERIAL– GRAY IRON ASTM A48 CL35B
3) CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4) EJIW V–4243 ASY OR APPROVED EQUAL

OPEN AREA OF GRATE
240 SQ. IN.
[1548 SQ. cm.]

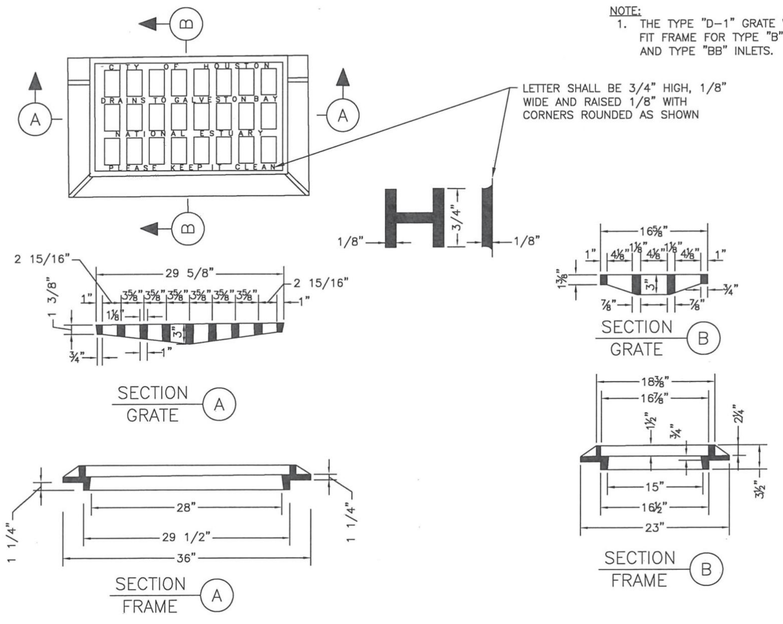
STORM SEWER FRAME AND GRATE FOR TYPE B–B INLET DOUBLE ASSEMBLY
NTS

02084–06



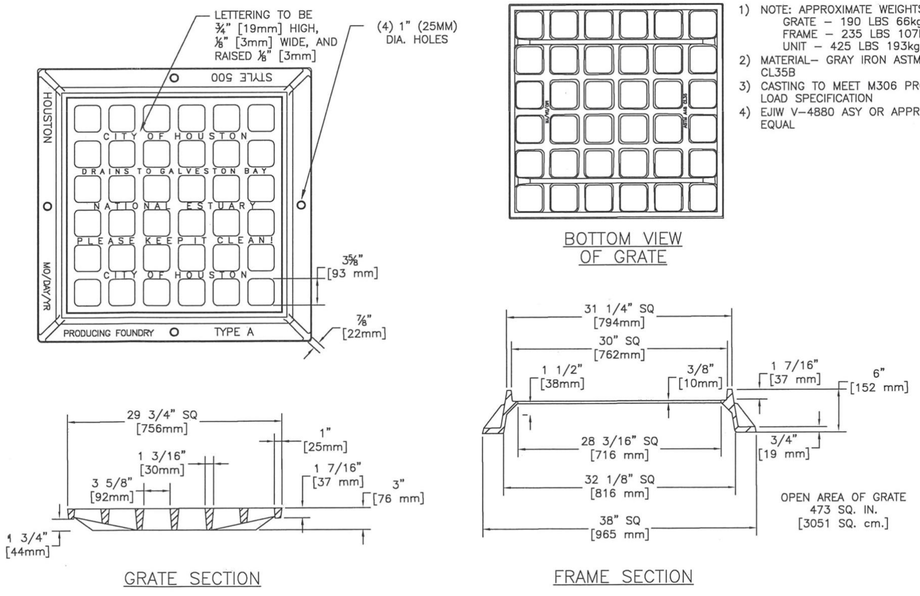
STORM SEWER TYPE "D" INLET GRATE AND FRAME
NTS

02084–07



STORM SEWER TYPE "D–1" INLET GRATE AND FRAME
NTS

02084–08



1) NOTE: APPROXIMATE WEIGHTS.
   GRATE – 190 LBS 66kg
   FRAME – 235 LBS 107kg
   UNIT – 425 LBS 193kg
2) MATERIAL– GRAY IRON ASTM A48 CL35B
3) CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4) EJIW V–4880 ASY OR APPROVED EQUAL

OPEN AREA OF GRATE
473 SQ. IN.
[3051 SQ. cm.]

STORM SEWER TYPE "A" INLET GRATE AND FRAME
NTS

BGE
BGE, Inc.
Houston, TX 77042
FIRM INFORMATION
F 1 46

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02084–05 THROUGH 08

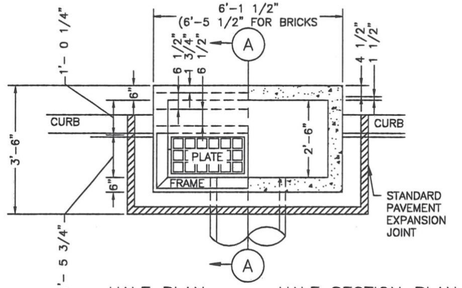
APPROVED BY:	APPROVED BY:
CITY ENGINEER	DEPUTY DIRECTOR

APPROVED BY:
DIRECTOR

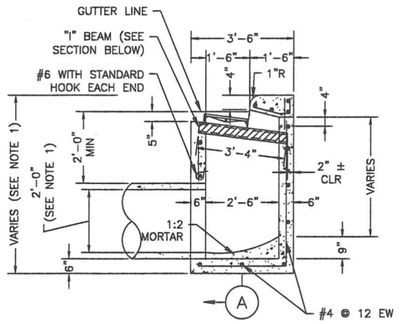
EFFECTIVE DATE: JUL–01–2019

FOR CITY OF HOUSTON USE ONLY

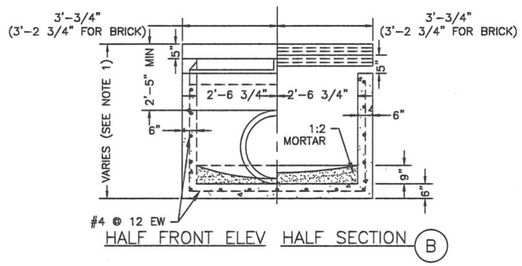
02632-04



HALF PLAN HALF SECTION PLAN

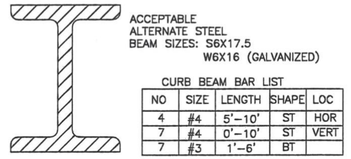


SECTION A



HALF FRONT ELEV HALF SECTION B

STORM SEWER TYPE "B-B" INLET
NTS



ACCEPTABLE ALTERNATE STEEL BEAM SIZES: S6X17.5 W6X16 (GALVANIZED)

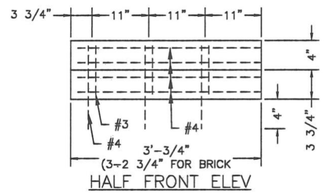
CURB BEAM BAR LIST

NO	SIZE	LENGTH	SHAPE	LOC
4	#4	5'-10'	ST	HOR
7	#4	0'-10'	ST	VERT
7	#3	1'-6'	BT	

SECTION THRU BEAM

NOTES:

1. DIMENSION VARIES BASED ON PIPE DIAMETER AND WALL THICKNESS.
2. CENTER REINFORCING IN SLAB AND WALLS. CENTER STEEL BEAM ON INLET AND CAST INTO WALLS AS SHOWN.
3. WHEN TOP OF CURB TO FLOWLINE IS GREATER THAN 8 FEET USE TYPE "C" INLET.



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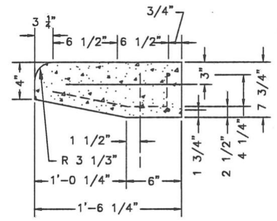


TRANSVERSE SECTION

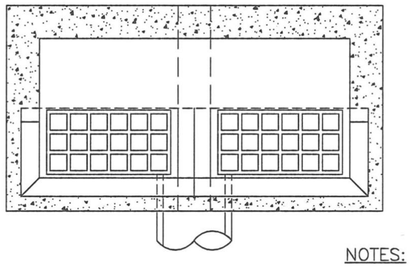
PRECAST CURB BEAM

GENERAL NOTES:

USE STANDARD CAST IRON FRAME & PLATES. LEAD SHALL LEAVE INLET AT LOCATION AND GRADE REQUIRED.

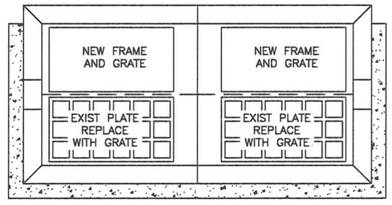
02632-05

STEP 1: EXIST TYPE "B" INLET



TOP VIEW

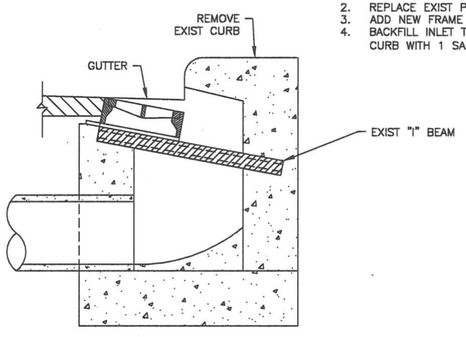
STEP 2:



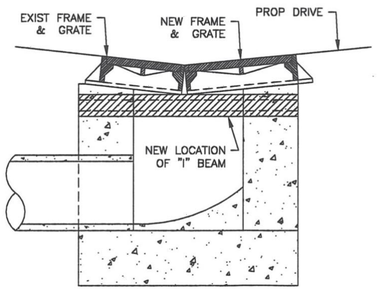
TOP VIEW

NOTES:

1. AFTER REMOVING EXIST CURB, RAISE EXIST FRAME TO GUTTER GRADE.
2. REPLACE EXIST PLATE WITH A GRATE.
3. ADD NEW FRAME AND GRATE NEXT TO EXIST FRAME.
4. BACKFILL INLET TO A POINT ONE FOOT BEHIND THE CURB WITH 1 SACK/TON CEMENT STABILIZED SAND.



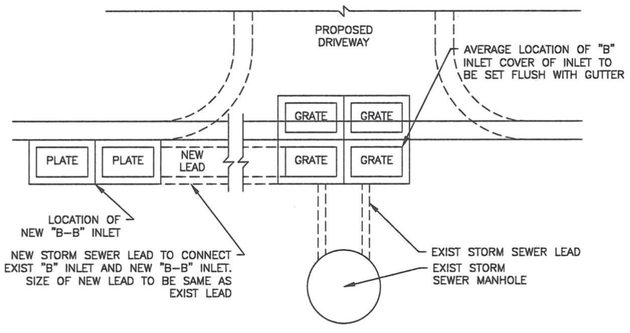
SIDE VIEW



SIDE VIEW

STORM SEWER TYPE "B" INLET RELOCATION
NTS

STEP 3: CONSTRUCT NEW TYPE "B-B" INLET ON CURB RETURN OF PROPOSED DRIVEWAY



BGE, Inc.
1 1 4
Houston, TX 77042
1 1 F 1 46
FIRM INFORMATION

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46
ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02632-04 THROUGH 05

APPROVED BY: CITY ENGINEER
APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO. OF 41

PLOTTED: KADAMS 5/10/2022 2:44 PM
PLOT STYLE: BGE-CORP-2018.ctb
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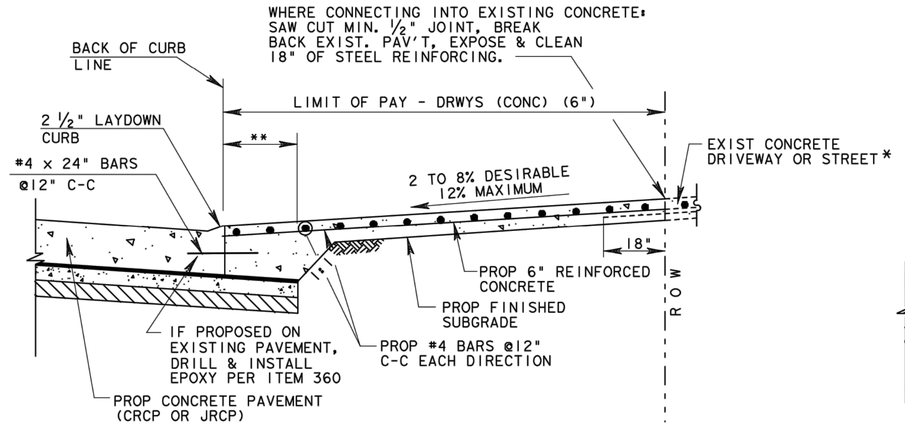
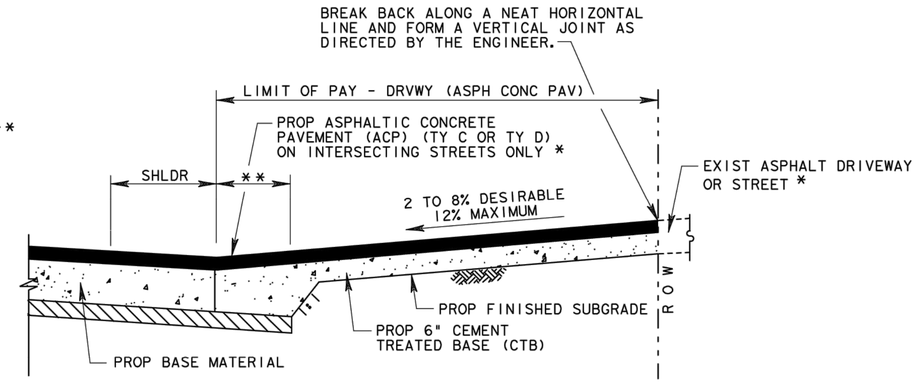


PROPOSED DRIVEWAY DETAIL
REINFORCED CONCRETE AT CONCRETE CURB AND GUTTER ROADWAY



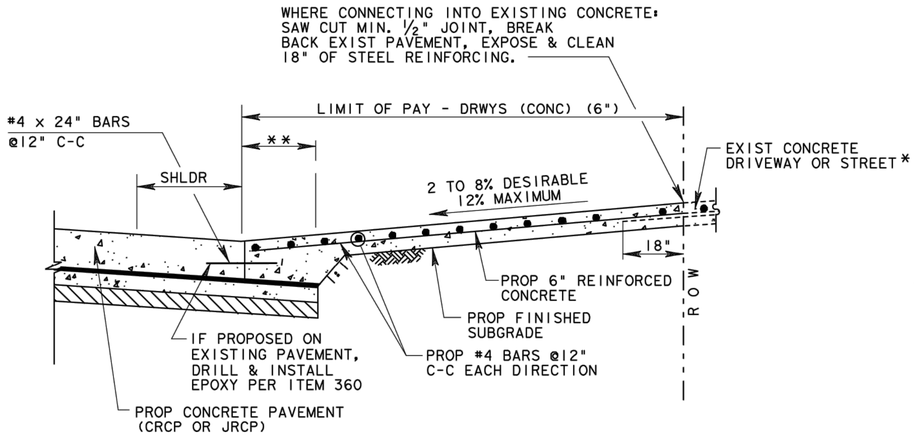
PROPOSED DRIVEWAY DETAIL
ASPHALT W/ PCTB AT ASPHALT ROADWAY

NOTES:

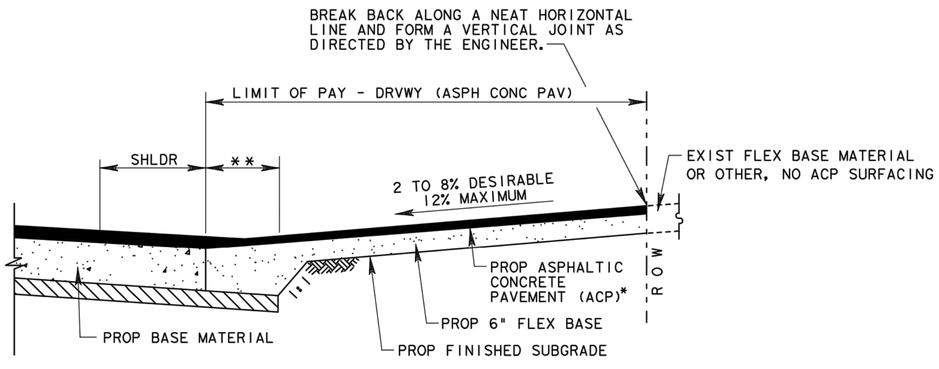
1. SEE SHEET 2 OF 2 FOR DRIVEWAY SLOPES WITH PROPOSED SIDEWALKS.
2. FOR INTERSECTIONS BUILT WITH CRCP PAVEMENT SEE CRCP DETAIL.

* FOR STREET INTERSECTIONS REFER TO PAVING DETAILS AND INTERSECTION DETAILS FOR REINFORCING STEEL AND SECTION REQUIREMENTS.

** PROPOSED LIMIT OF ROADWAY BASE AND/OR SUBGRADE



PROPOSED DRIVEWAY DETAIL
REINFORCED CONCRETE AT CONCRETE ROADWAY



PROPOSED DRIVEWAY DETAIL
ASPHALT W/ FLEX BASE AT ASPHALT ROADWAY

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46

SHEET 1 OF 2

Texas Department of Transportation
Houston District

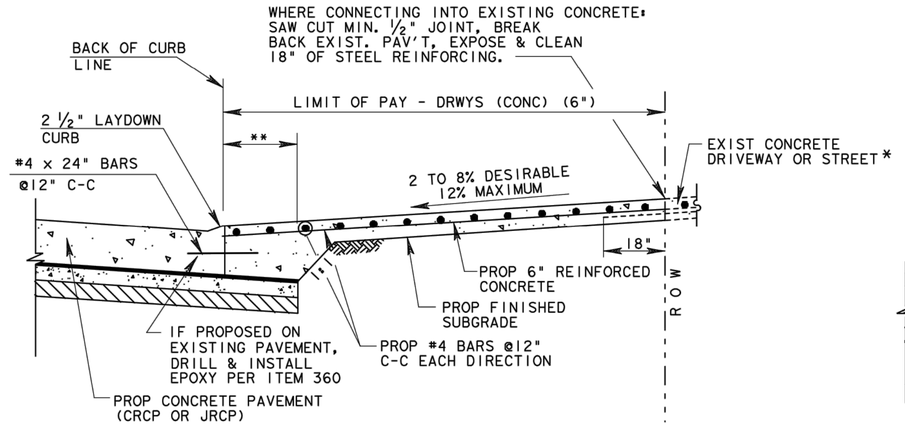
DRIVEWAY DETAILS

WINDMILL ESTATES
DD

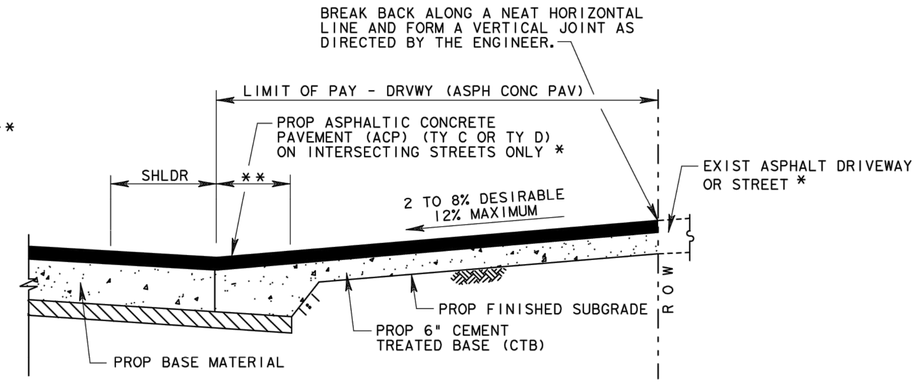
FILE: STDB-8.dgn	DN:	CK:	DW:	CK:
© TxDOT SEPT. 2004	DIST	FED REG	PROJECT NO.	SHEET
REVISIONS 1/2008 ADDED TIE-BAR INFORMATION 9/09 ADDED NOTE FOR ITEM 360.	HOU	6		
	COUNTY	CONTROL	SECT	JOB / HIGHWAY

41

STDB8A



PROPOSED DRIVEWAY DETAIL
REINFORCED CONCRETE AT CONCRETE
CURB AND GUTTER ROADWAY



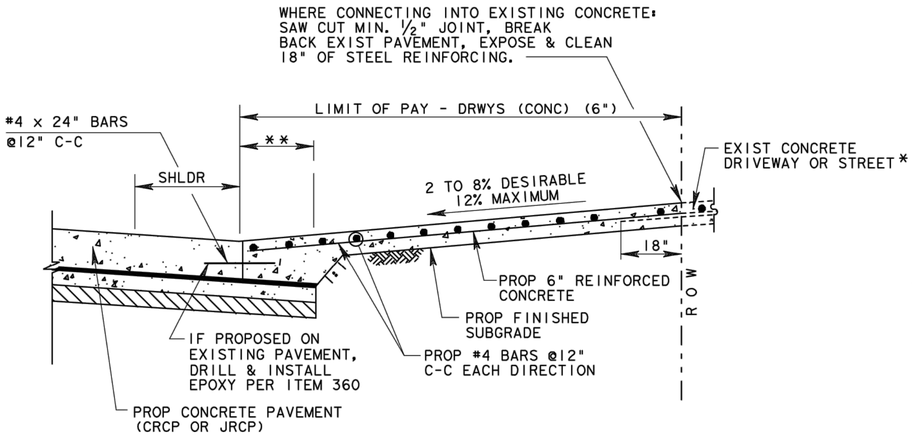
PROPOSED DRIVEWAY DETAIL
ASPHALT W/ PCTB AT ASPHALT ROADWAY

NOTES:

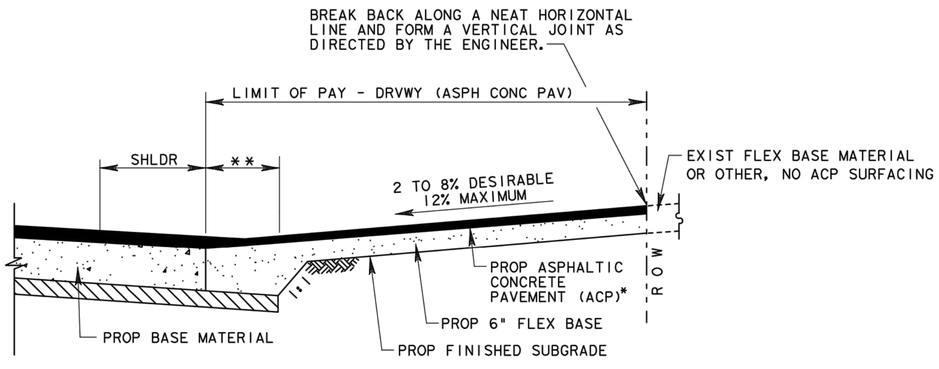
1. SEE SHEET 2 OF 2 FOR DRIVEWAY SLOPES WITH PROPOSED SIDEWALKS.
2. FOR INTERSECTIONS BUILT WITH CRCP PAVEMENT SEE CRCP DETAIL.

* FOR STREET INTERSECTIONS REFER TO PAVING DETAILS AND INTERSECTION DETAILS FOR REINFORCING STEEL AND SECTION REQUIREMENTS.

** PROPOSED LIMIT OF ROADWAY BASE AND/OR SUBGRADE



PROPOSED DRIVEWAY DETAIL
REINFORCED CONCRETE AT CONCRETE ROADWAY



PROPOSED DRIVEWAY DETAIL
ASPHALT W/ FLEX BASE AT ASPHALT ROADWAY

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22
F 1 46

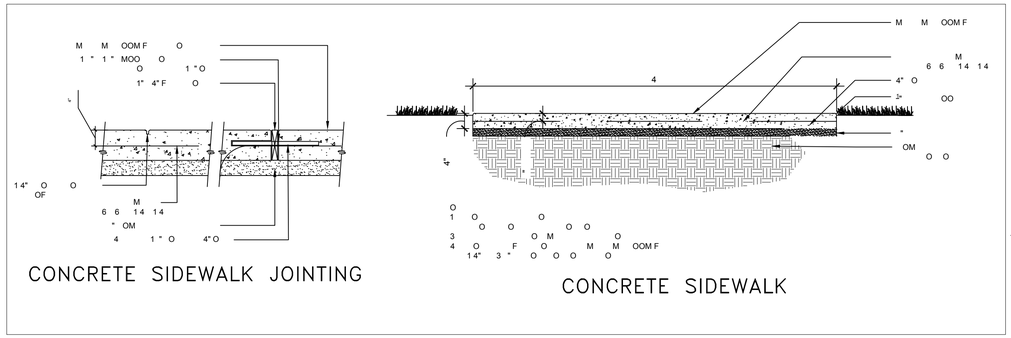
Texas Department of Transportation
Houston District

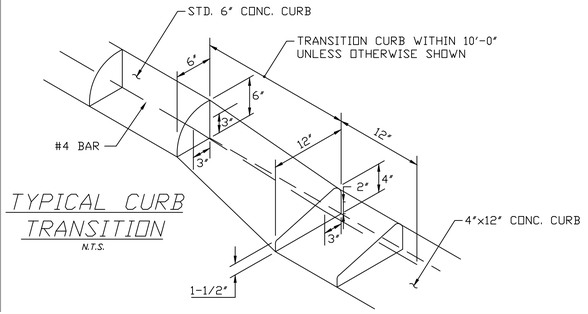
DRIVEWAY DETAILS

WINDMILL ESTATES
DD

FILE: STDB-8.dgn	DN:	CK:	DW:	CK:
© TxDOT SEPT. 2004	DIST	FED REG	PROJECT NO.	SHEET
REVISIONS 1/2008 ADDED TIE-BAR INFORMATION 9/09 ADDED NOTE FOR ITEM 360.	HOU	6		
	COUNTY	CONTROL	SECT	JOB / HIGHWAY
				/ 41

STDB8A



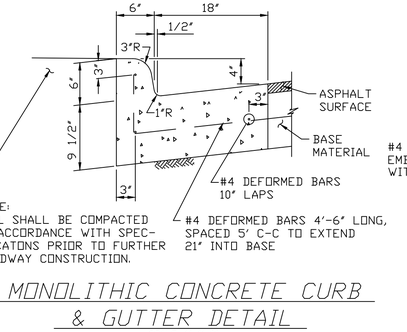


TYPICAL CURB TRANSITION

N.T.S.

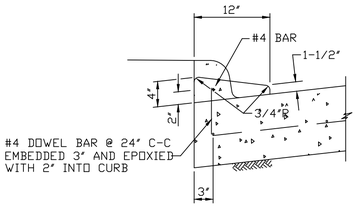
4"x12" MONOLITHIC AND TRANSITION CURB NOTES:

1. *6-inch concrete curb to be constructed on all esplanades, islands and non-residential streets. Residential streets may be constructed with either 6-inch concrete curb or 4-inch x 12-inch concrete curb as noted on plans.*
2. *Transitions from 6-inch concrete curb to 4-inch x 12-inch concrete curb to be accomplished within 10 feet, unless otherwise shown. If this 10-foot transition curb is not poured monolithicly with the pavement, then reinforcing steel as shown above in typical detail 4-inch x 12-inch transition curb is to be installed.*



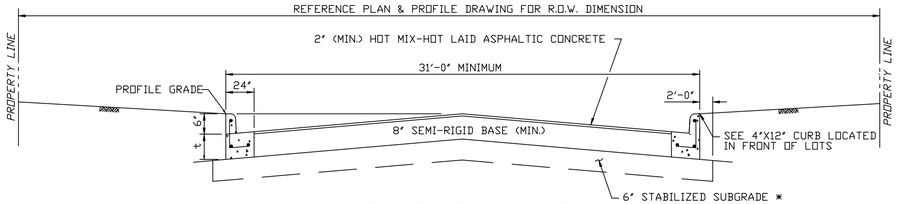
MONOLITHIC CONCRETE CURB & GUTTER DETAIL

SCALE: 1"=1'-0"



TYPICAL DETAIL 4"x12" TRANSITION CURB

SCALE: 1"=1'-0"

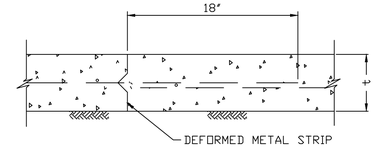


SEMI-RIGID BASE PAVEMENT CURB & GUTTER SECTION

N.T.S.

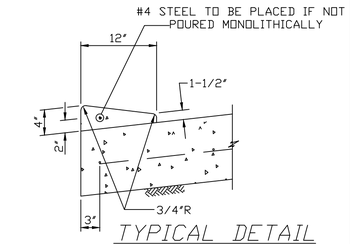
STABILIZED SUBGRADE *

REFER TO REGULATIONS OF CITY OF MAGNOLIA FOR THE APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE FOR SUBGRADE REQUIREMENTS



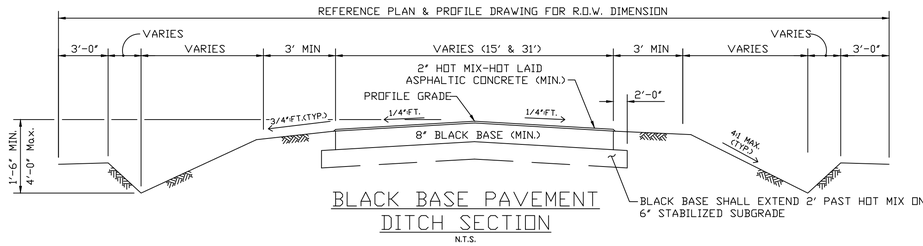
CONSTRUCTION JOINT DETAIL

SCALE: 1 1/2"=1'-0"



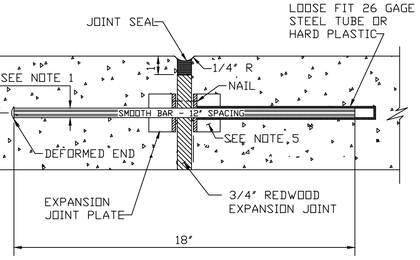
TYPICAL DETAIL 4"x12" CURB

SCALE: 1"=1'-0"



BLACK BASE PAVEMENT DITCH SECTION

N.T.S.

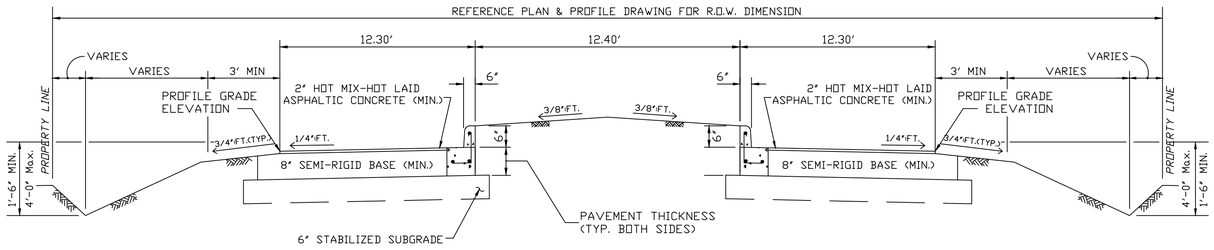


DOWEL TYPE EXPANSION JOINT DETAIL

SCALE: 3"=1'-0"

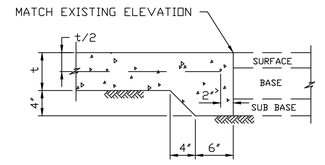
NOTES :

1. *Dowels for pavement expansion joints shall be 3/4" ø for 6" to less than 7" pavement thickness, 1" ø for 7" to less than 9" pavement thickness and 1 1/4" ø for 9" or greater pavement thickness.*
2. *Expansion joint shall be placed at the end of each curb return and at maximum 80' spacing (See plans).*
3. *All joint seal material shall be asphalt rubber in accordance with ASTM designation D.3405.*
4. *If deformed metal strips are allowed, they shall be staked in place with #3 bars.*
5. *Pre-manufactured joint plate.*



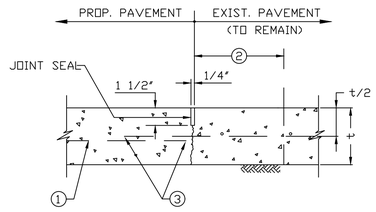
TYPICAL SECTIONS FOR COMBINATION CURB FOR DIVIDED RESIDENTIAL STREETS

N.T.S.



CONCRETE TO ASPHALT STANDARD PAVING HEADER

SCALE: 1"=1'-0"



CONCRETE TO CONCRETE STANDARD PAVEMENT TIE-IN

(SEE NOTES)

1. *Reinforcing centered in proposed pavement, 3" clear at edges.*
2. *Saw-cut & remove 2' existing pavement or pavement with curb. Expose and clean existing reinforcing.*
3. *24 bar diameter lap or weld, if directed.*

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3			
1			

BGE

BGE, Inc.
Houston, TX 77042
F 1 46

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46

CITY OF MAGNOLIA

WINDMILL ESTATES

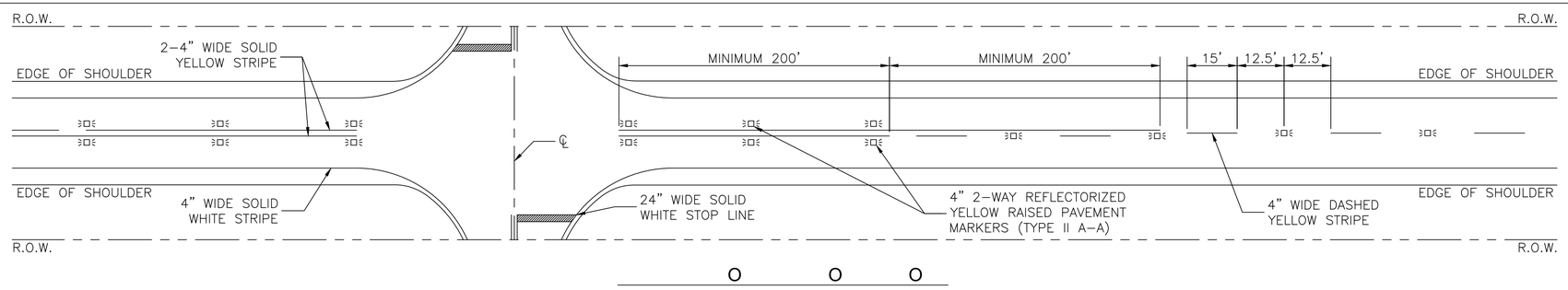
PAVING DETAILS

O M 8576-00

M BGE, INC.
N.T.S.
MAY 2022
BROWN & GAY ENGINEERS, INC.
F O

J.P.
A.W.
O 30 OF 41
CITY DWG NO:

CITY OF MAGNOLIA – GRAND OAKS M.U.D.



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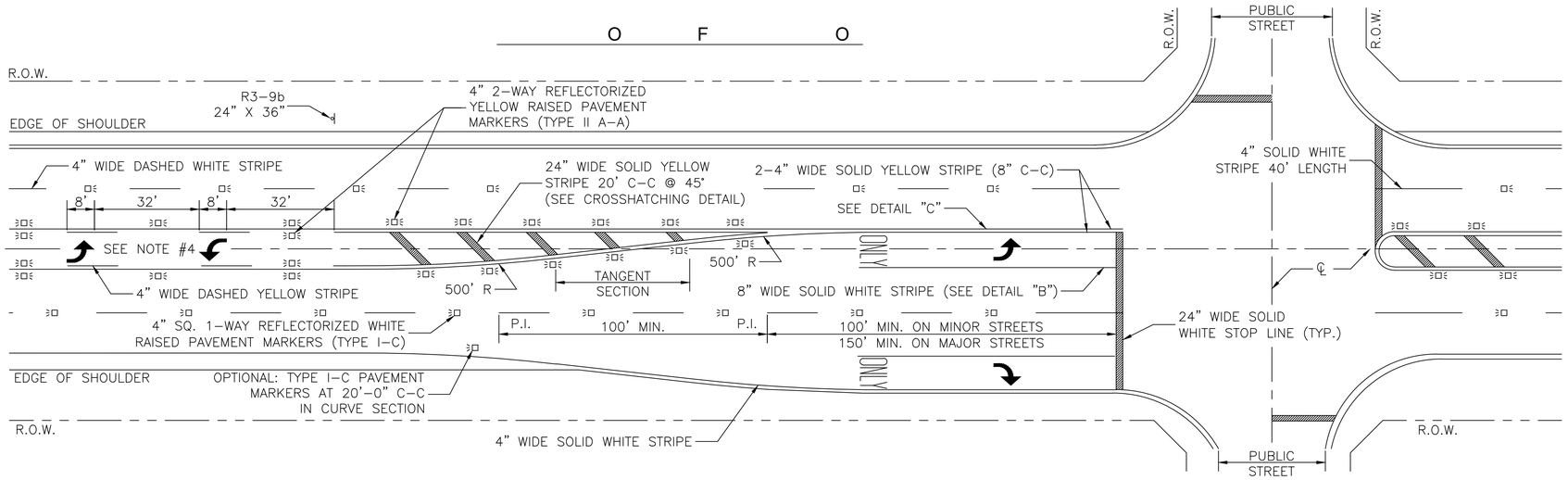

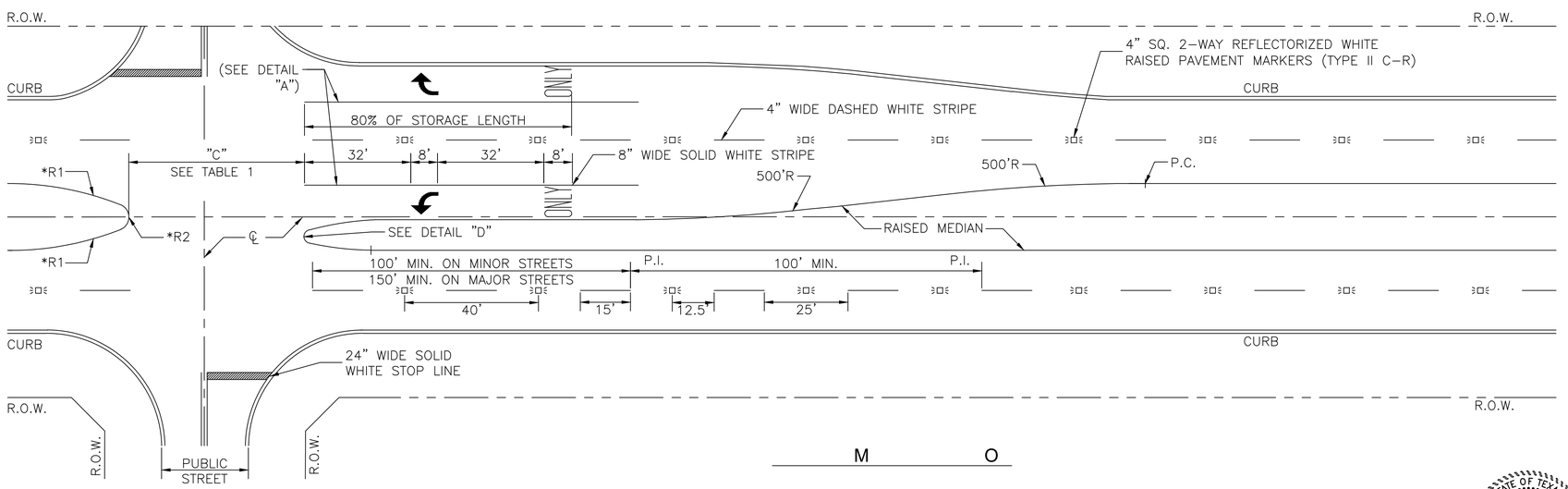

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1. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (TMUTCD).
2. ALL TRAFFIC BUTTONS AND MARKERS SHALL BE INSTALLED ADJACENT TO STRIPES (APPROXIMATELY 2").
3. LEFT TURN STORAGE BAYS SHALL BE A MIN. OF 100' ON MINOR STREETS AND A MIN. 150' ON MAJOR STREETS.
4. REPEAT ARROWS AT APPROXIMATELY 1000' INTERVALS WITHIN TWO–WAY LEFT TURN SECTION.
5. WHEN PAVEMENT MARKINGS EXTEND INTO OR CONTINUE THROUGH AN INTERSECTION AREA, THEY SHALL BE THE SAME COLOR AND AT LEAST THE SAME WIDTH AS THE LINE MARKINGS THEY EXTEND.
6. WHEN CROSSWALK MARKINGS ARE USED WITHIN AN ESTABLISHED SCHOOL ZONE AREA, CONTINENTAL TYPE MARKINGS SHALL BE USED.
7. ADDITIONAL SET OF "WORD" AND "ARROW" PAVEMENT MARKINGS SHALL BE USED WHEN TURN LANE STORAGE LENGTH IS 160 FEET OR GREATER.

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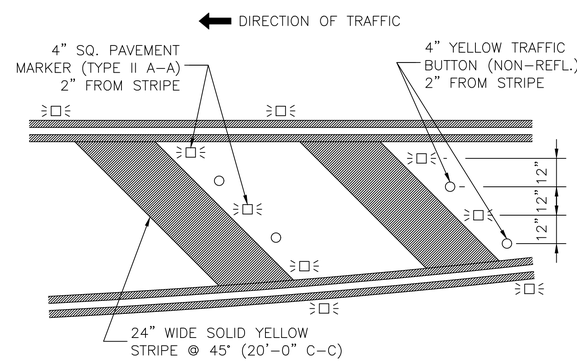

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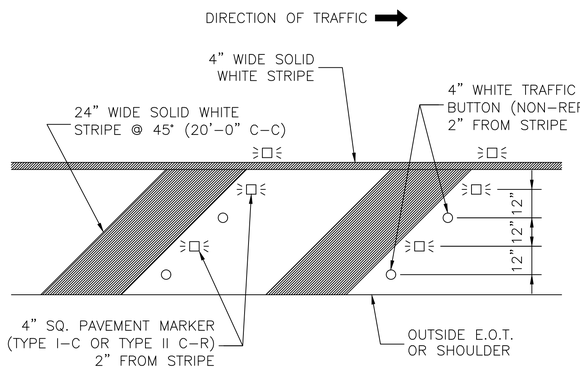

NO.	REVISIONS	DATE	NAME
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4			
5			

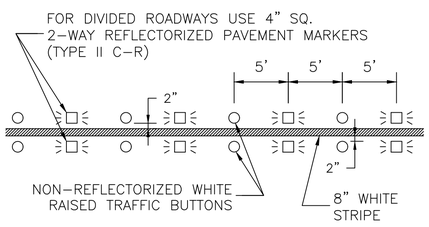
BGE, Inc.
1 r 4
Houston, TX 77042
1 r F 1 46

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46

PROJECT TITLE: WINDMILL ESTATES
SHEET DESCRIPTION: PAVEMENT MARKING DETAILS (1 OF 2)
CIVIL STANDARD: PM
DRAWN BY: JDZ
DATE: 12/14/17
CK'D BY: BSH
SCALE: NONE
SHEET NO: 31 / 41

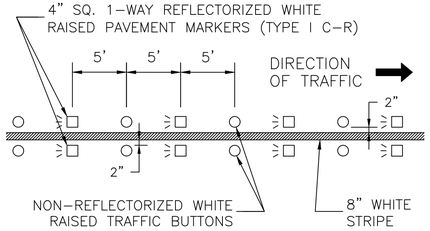
" "

(FOR DIVIDED ROADWAYS)



" "

(FOR UNDIVIDED ROADWAYS)



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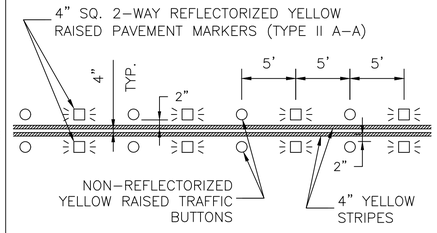
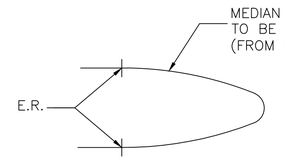
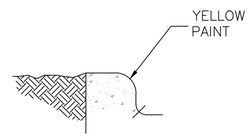


" "

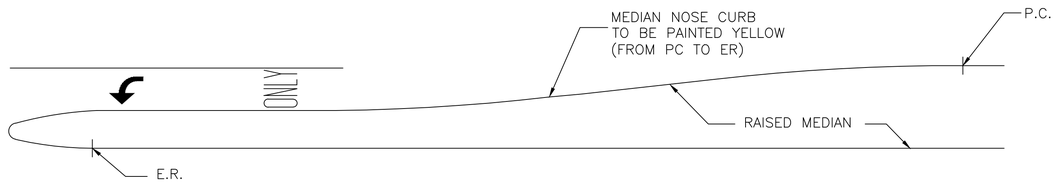
* PAINT FROM THE BACK OF CURB TO THE GUTTER LINE



TYPICAL MEDIAN NOSE



TYPICAL CURB SECTION



RAISED MEDIAN WITH TURN BAY

M M

M O	O
≥□≤	4" x 4" REFLECTORIZED RAISED PAVEMENT MARKER
□≤	INDICATED DIRECTION OF TRAFFIC FLOW
○	NON-REFLECTIVE 4" DIA. RAISED TRAFFIC BUTTON

M O

M	1	
≤10'	N/A	W/2
>10' ≤40'	90'	W/5
>40'	N/A	N/A

1

TYPICAL MEDIAN OPENING "C"

M / O	1 / O	1 / 1	1
PRIVATE DRIVE	45'	52.5'	60'
UNDIVIDED STREET <40'	45'	52.5' (2)	60'
UNDIVIDED STREET 44'	50'	55' (2)	60'
DIVIDED STREET	D+22'	D+22'	D+22'

O

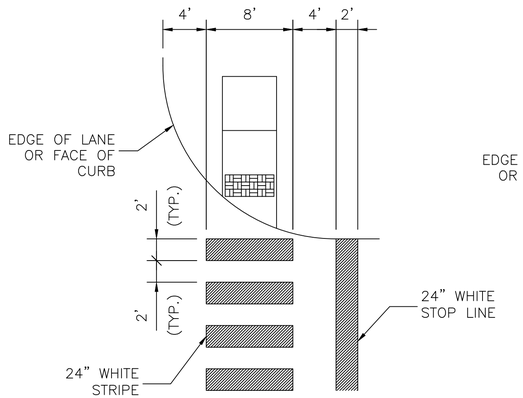
(1) LTB = LEFT TURN BAY

(2) DISTANCE FROM CENTERLINE OF OPENING TO MEDIAN NOSE WITH LEFT TURN LANE IS 30' FOR RIGHT ANGLE INTERSECTIONS, FOR INTERSECTIONS OTHER THAN 90°, APPLY DESIGN VEHICLE TURNING TEMPLATE TO DETERMINE DIMENSION TO MEDIAN NOSE CUT OFF.

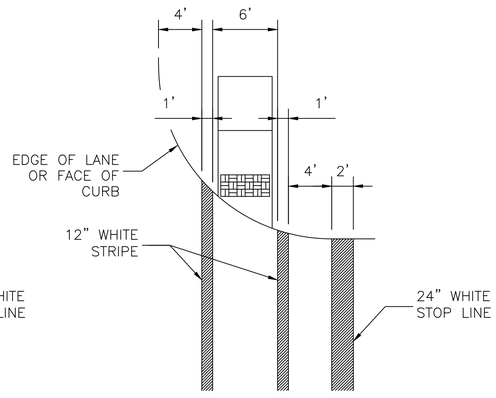
(3) D = WIDTH OF DIVIDED STREET

O M

CONTINENTAL TYPE



STANDARD TYPE



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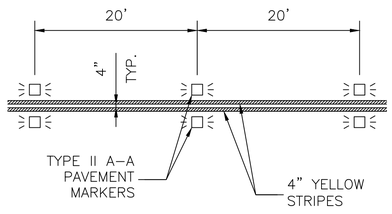

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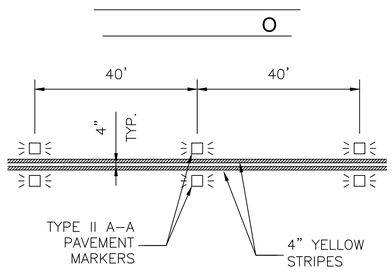

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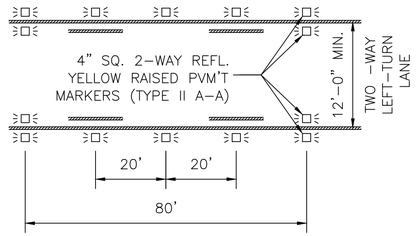

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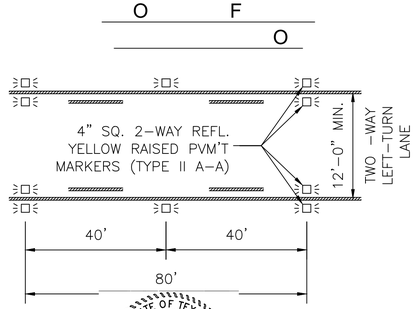

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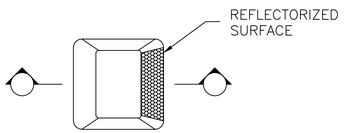
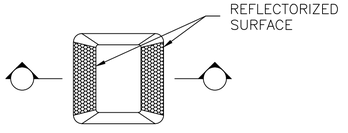
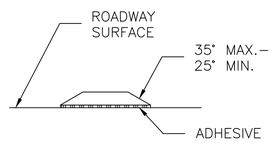


TYPE I (TOP VIEW)



TYPE II (TOP VIEW)



SECTION A-A

NO.	REVISIONS	DATE	NAME
1			
2			
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5			

BGE, Inc.
Houston, TX 77042

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

PROJECT TITLE: WINDMILL ESTATES

SHEET DESCRIPTION: PAVEMENT MARKING DETAILS (2 OF 2)

CIVIL STANDARD: PM

DRAWN BY: JDZ

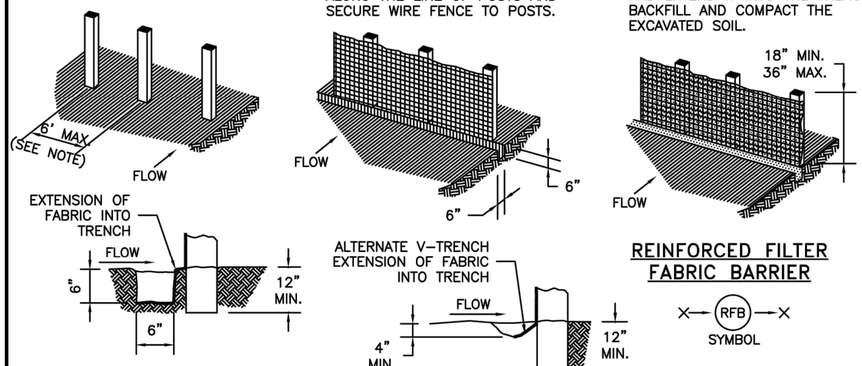
DATE: 12/14/17

CK'D BY: BSH

SCALE: NONE

SHEET NO: 3 / 41

1. SET POSTS AT REQUIRED SPACING
2. EXCAVATE A 6"x6" TRENCH UPSLOPE ALONG THE LINE OF POSTS AND SECURE WIRE FENCE TO POSTS.
3. ATTACH FILTER FABRIC TO POSTS AND EXTEND IT INTO THE TRENCH. BACKFILL AND COMPACT THE EXCAVATED SOIL.

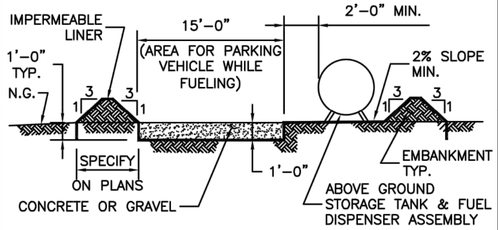


REINFORCED FILTER FABRIC BARRIER

RFB
SYMBOL

GENERAL NOTES:

1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

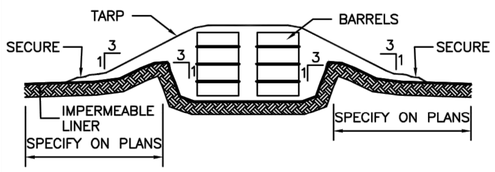


ABOVE GROUND TEMP. VEHICLE & EQUIPMENT FUELING AREA WITH TANK

TFA
SYMBOL

GENERAL NOTES:

1. THE SIZE OF TANK FOUNDATION AREA DEPENDS ON THE SIZE OF ABOVE GROUND STORAGE TANK AND DISPENSER ASSEMBLY.
2. PROVIDE A MINIMUM SLOPE OF 2 % TOWARD THE SUMP PIT.
3. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS.

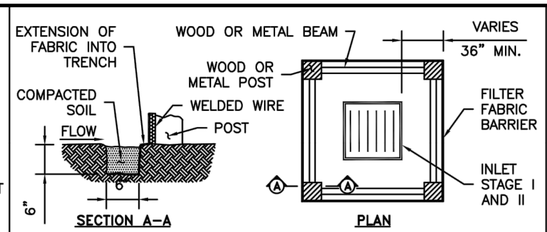


BARREL STORAGE AREA

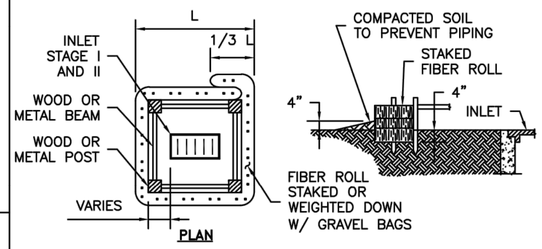
BSA
SYMBOL

GENERAL NOTES:

1. ALTERNATIVELY, STORE BARRELS IN AN ENCLOSED BUILDING OR SHED.
2. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS. 60 mil MINIMUM.
3. CONSTRUCT BERMED AREA WITH VOLUME GREATER THAN OR EQUAL TO 110% VOLUME OF BARRELS.



INLET PROTECTION BARRIER WITH REINFORCED FILTER FABRIC



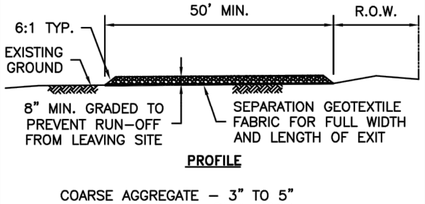
INLET PROTECTION BARRIER WITH FILTER ROLLS

GENERAL NOTES:

1. FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER, AND AS APPROVED BY THE ENGINEER.

INLET PROTECTION BARRIERS FOR STAGE I INLETS

IPB
SYMBOL

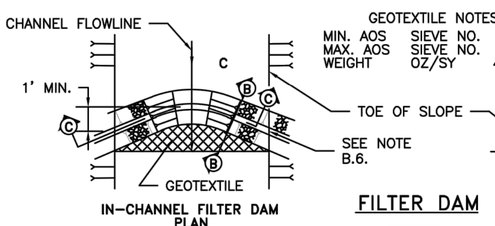


STABILIZED CONSTRUCTION ACCESS

SC-1
SYMBOL

GENERAL NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.



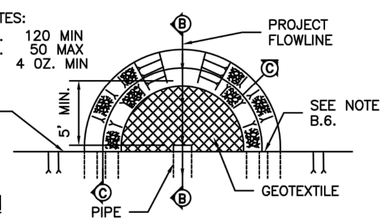
IN-CHANNEL FILTER DAM PLAN

GEOTEXTILE NOTES:

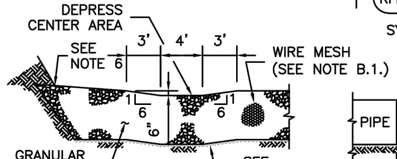
MIN. AOS	SIEVE NO.	120 MIN
MAX. AOS	SIEVE NO.	50 MAX
WEIGHT	OZ/SY	4 OZ. MIN

FILTER DAM

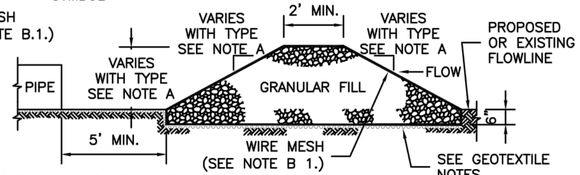
RFD-TYPE
SYMBOL



FILTER DAM AT DETENTION BASIN OUTFALL PIPE PLAN



SECTION C-C



NOTE: ONLY APPLIES FOR DETENTION BASIN OUTFALL PIPE PROTECTION.

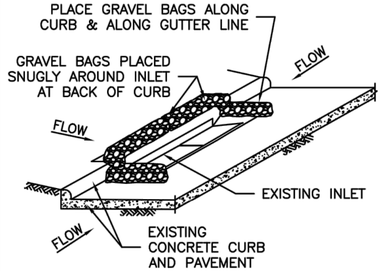
SECTION B-B

A. TYPES OF FILTER DAMS

1. TYPE 1 (NON-REINFORCED)
   a. HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF 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 HEXAGONAL OPENINGS.
2. PLACE GRANULAR FILL ON THE WIRE MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
   a. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4.
   b. 4-8 INCHES FOR ROCK FILTER DAM TYPE REFER TO GRANULAR FILL IN SPECIFICATION SECTION No. 02378 RIPRAP AND GRANULAR FILL.
3. FOLD WIRE MESH AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
4. IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
5. SEE HCFCD SPECIFICATION SECTION NO. 02364-FILTER DAMS.
6. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.

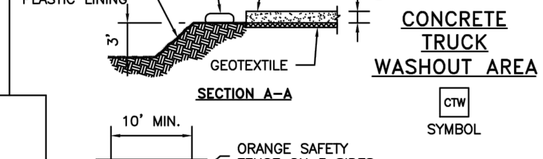


INLET PROTECTION BARRIERS FOR STAGE II INLETS

IPB-II
SYMBOL

GENERAL NOTES:

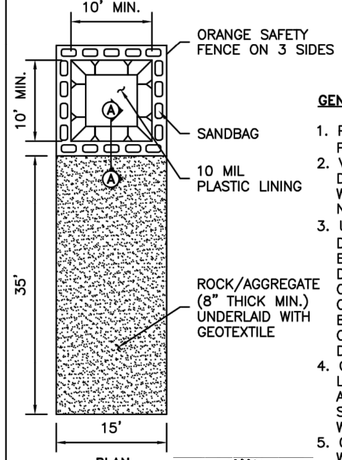
1. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
2. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.



SECTION A-A

CONCRETE TRUCK WASHOUT AREA

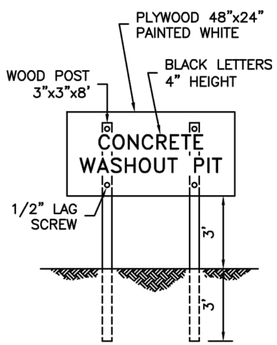
CTW
SYMBOL



PLAN

GENERAL NOTES:

1. POST A SIGN READING "CONCRETE WASHOUT PIT" NEXT TO THE PIT.
2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASHOUT THEIR TRUCKS IN THE PIT AND NOWHERE ELSE.
3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASHOUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
4. CONCRETE WASHOUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.



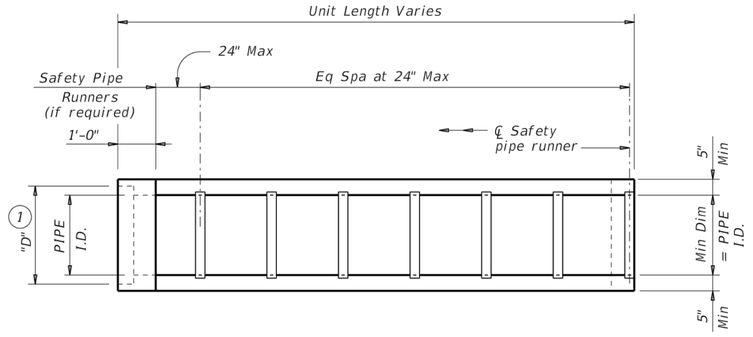
SIGN DETAIL (OR EQUIVALENT)

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22
F 1 46

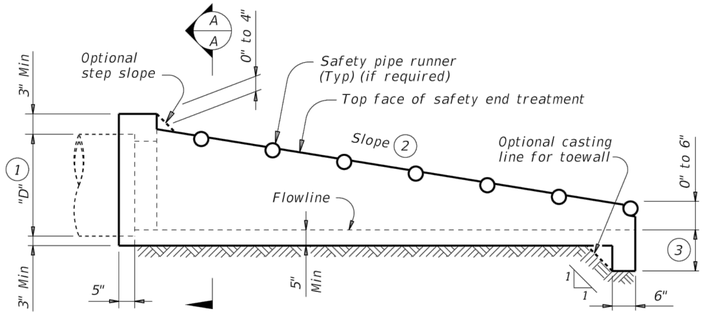
PROJECT TITLE: M		
DRAWN BY: JDZ		HCPID, A&E STANDARD
CK'D BY: NR	SHEET DESCRIPTION: STORM WATER POLLUTION	29
SCALE: NONE	PREVENTION PLAN DETAILS	SHEET NO:
DATE: 04/25/14	APPROVED BY:	33 / 41

DATE:
FILE:



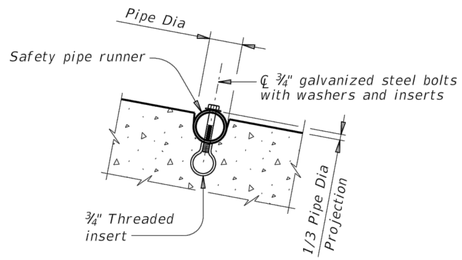
PLAN

(Showing bell end connection)



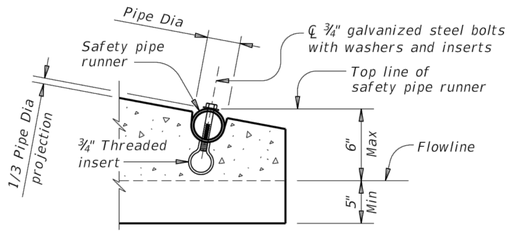
LONGITUDINAL ELEVATION

(Showing bell end connection)

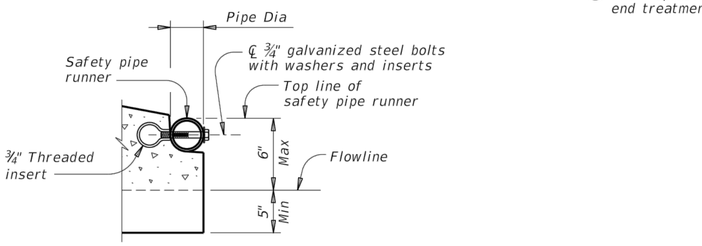


INSTALLATION DETAIL FOR SAFETY PIPE RUNNERS

(If required)



OPTION A



OPTION B

END DETAILS FOR INSTALLATION OF SAFETY PIPE RUNNERS

(If required)

PIPE I.D.	RCP WALL "B" THICKNESS	TP WALL THICKNESS (7)	"D" (1)	MAXIMUM SLOPE	MINIMUM LENGTH OF UNIT	PIPE RUNNERS REQUIRED		REQUIRED PIPE RUNNER SIZES		
						SINGLE PIPE	MULTIPLE PIPE	NOMINAL DIA.	O.D.	I.D.
12"	2"	1.15"	17"	6:1	4'–9"	No	Yes, for >2 pipes	3" STD	3.500"	3.068"
15"	2.25"	1.30"	20.50"	6:1	6'–5"	No	Yes, for >2 pipes	3" STD	3.500"	3.068"
18"	2.50"	1.60"	24"	6:1	8'–0"	No	Yes, for >2 pipes	3" STD	3.500"	3.068"
24"	3"	1.95"	31"	6:1	11'–3"	No	Yes, for >2 pipes	3" STD	3.500"	3.068"
30"	3.50"	2.65"	38.50"	6:1	14'–8"	No	Yes	4" STD	4.500"	4.026"
36"	4"	2.75"	45.50"	6:1	17'–11"	Yes	Yes	4" STD	4.500"	4.026"
42"	4.50"	N/A	52.50"	6:1	21'–2"	Yes	Yes	4" STD	4.500"	4.026"

(1) Dimension "D" is based on Reinforced Concrete Pipe (RCP) meeting the requirements of ASTM C–76, Class III, (RCP Wall "B" thickness). Adjust "D" for any other wall thickness used. For Thermoplastic Pipe (TP) take into account the annular space requirements for grouted connections.

(2) Slope as shown elsewhere in the plans. Slope of 6:1 or flatter is required for vehicle safety.

(3) Toewall to be used only when dimension is shown elsewhere in the plans.

(4) Fill the top 4" of void between precast end treatments with concrete riprap. Concrete riprap is considered subsidiary to the Item "Safety End Treatment".

(5) Adjust clear distance between pipes to provide for the minimum distance between safety end treatments.

(6) Provide cement stabilized bedding and backfill in accordance with the Item, "Excavation and Backfill for Structures". Bedding and backfill is considered subsidiary to the Item "Safety End Treatment". When concrete riprap is specified around the safety end treatment, backfill as directed by Engineer.

(7) Thermoplastic pipe wall thickness may vary. Adjust accordingly. Thermoplastic pipe requires the safety end treatments to have a bell end for grouted connections.

GENERAL NOTES:

Precast safety end treatment for reinforced concrete pipe (RCP), and thermoplastic pipe (TP) may be used for TYPE II end treatment as specified in Item "Safety End Treatment".

When precast safety end treatment is used as a Contractor's alternate to mitered RCP, riprap will not be required unless noted otherwise on the plans.

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Manufacture this product in accordance with Item "Safety End Treatment" except as noted below :

A. Provide minimum reinforcing of #4 at 6" (Grade 40) or #4 at 9" (Grade 60) each way or 6"x6" – D12 x D12 or 5"x5" – D10 x D10 welded wire reinforcement (WWR).

B. For precast (steel formed) sections, provide Class "C" concrete (f'c = 3,600 psi).

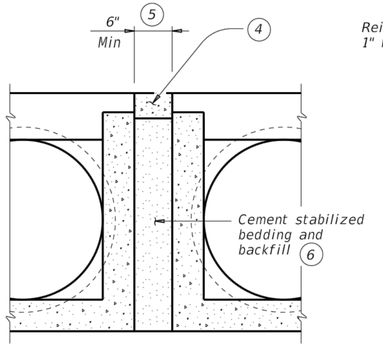
At the option and expense of the Contractor the next larger size of safety end treatment may be furnished; as long as the "D" dimension cast is that of the required size of pipe.

Pipe runners are designed for a traversing load of 10,000 Lbs at yield as recommended by Research Report 280–2F, "Safety Treatment of Roadside Parallel–Drainage Structures", Texas Transportation Institute, March 1981.

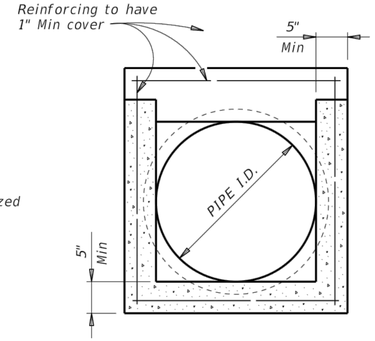
Provide pipe runners meeting the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Galvanize all steel components except reinforcing steel after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

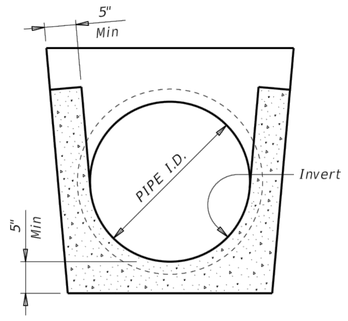
Connect RCP using the Optional Joint for RCP detail shown or in accordance with Item 464 "Reinforced Concrete Pipe". Connect TP by grouting. See PBGC standard for grouted connections with TP and precast safety end treatment.



MULTIPLE PIPE INSTALLATION

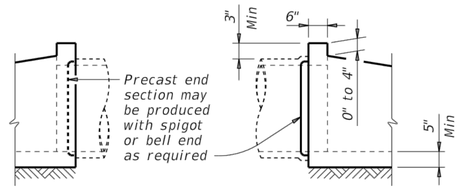


OPTION WITH SQUARE BOTTOM



OPTION WITH INVERT BOTTOM

SECTION A-A



OPTIONAL JOINT FOR RCP

(Showing joint between RCP and precast safety end treatment)

STATE OF TEXAS
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137440
LICENSED PROFESSIONAL ENGINEER
5/18/22

F 1 46

Texas Department of Transportation

Bridge Division Standard

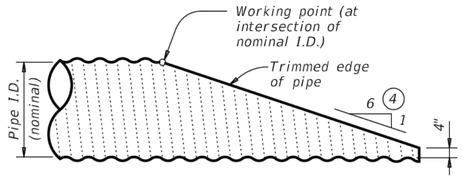
PRECAST SAFETY END TREATMENT

TYPE II ~ PARALLEL DRAINAGE

PSET-SP

FILE: psetspss-18.dgn	DN: RLW	CK: KLR	DW: JTR	CK: GAF
©TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
11-10: Add note for synthetic fibers. 09-18: Added Thermoplastic Pipe in table.	DIST	COUNTY		SHEET NO.
				34 OF 41

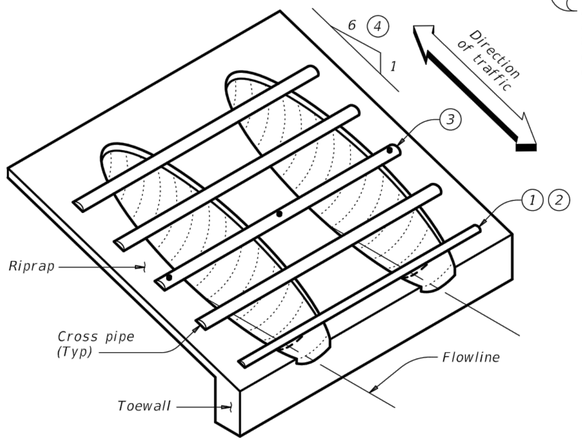
DATE:
FILE:



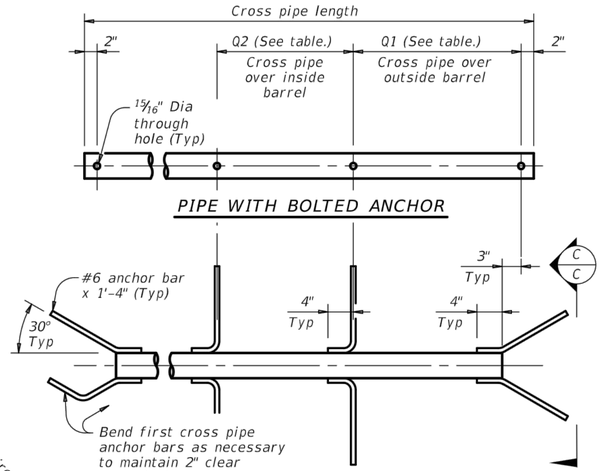
NOTE: All cross pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert Details at reinforced concrete pipe (RCP) culvert are similar.)

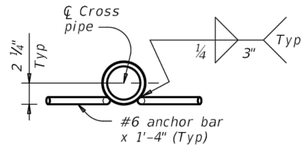


ISOMETRIC VIEW OF TYPICAL INSTALLATION



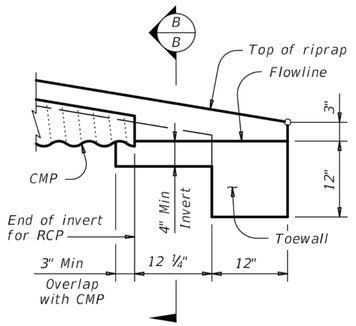
PIPE WITH BOLTED ANCHOR

PIPE WITH ANCHOR BARS



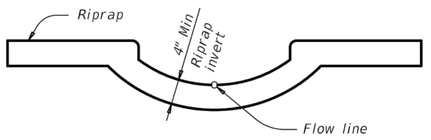
SECTION C-C

CROSS PIPE DETAILS



DETAIL "A"

(Showing invert with corrugated metal pipe (CMP) culvert. Reinforced concrete pipe (RCP) culvert details are similar. Cross pipes not shown for clarity.)



SECTION B-B

(Cross pipes not shown for clarity.)

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, AND RIPRAP QUANTITIES (2)

Nominal Culvert I.D.	Conc Riprap (CY) (6)	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes
12"	0.6	0' – 9"	N/A	2' – 1"	1' – 9"	3 or more pipe culverts	3" Std (3.500" O.D.)
15"	0.7	0' – 11"	N/A	2' – 5"	2' – 2"		
18"	0.8	1' – 2"	N/A	2' – 10"	2' – 8"		
21"	0.9	1' – 4"	N/A	3' – 2"	3' – 1"		
24"	0.9	1' – 7"	N/A	3' – 6"	3' – 7"		
27"	1.0	1' – 8"	N/A	3' – 10"	3' – 11"	3 or more pipe culverts	3 1/2" Std (4.000" O.D.)
30"	1.1	1' – 10"	N/A	4' – 2"	4' – 4"	2 or more pipe culverts	
33"	1.2	1' – 11"	4' – 2"	4' – 5"	4' – 8"	All pipe culverts	
36"	1.3	2' – 1"	4' – 5"	4' – 9"	5' – 1"	All pipe culverts	4" Std (4.500" O.D.)
42"	1.5	2' – 4"	4' – 11"	5' – 5"	5' – 10"		
48"	1.7	2' – 7"	5' – 5"	6' – 0"	6' – 7"	All pipe culverts	5" Std (5.563" O.D.)
54"	2.0	3' – 0"	5' – 11"	6' – 9"	7' – 6"		
60"	2.2	3' – 3"	6' – 5"	7' – 4"	8' – 3"		
66"	2.4	3' – 3"	6' – 11"	7' – 10"	8' – 9"		
72"	2.7	3' – 4"	7' – 5"	8' – 5"	9' – 4"		

(1) The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe no more than 6" above the flow line.

(2) Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 1#2" standard pipe (4" O.D.) for the first bottom pipe.

(3) Install the third cross pipe from the bottom of the culvert using a bolted connection. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, install all other cross pipes using the bolted connection details.

(4) Match cross slope as shown elsewhere in the plans. Cross slope of 6:1 or flatter is required for vehicle safety.

(5) Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".

(6) Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for contractor's information only.

MATERIAL NOTES:

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 (Gr B), or API 5LX52.

Provide ASTM A307 bolts and nuts.

Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

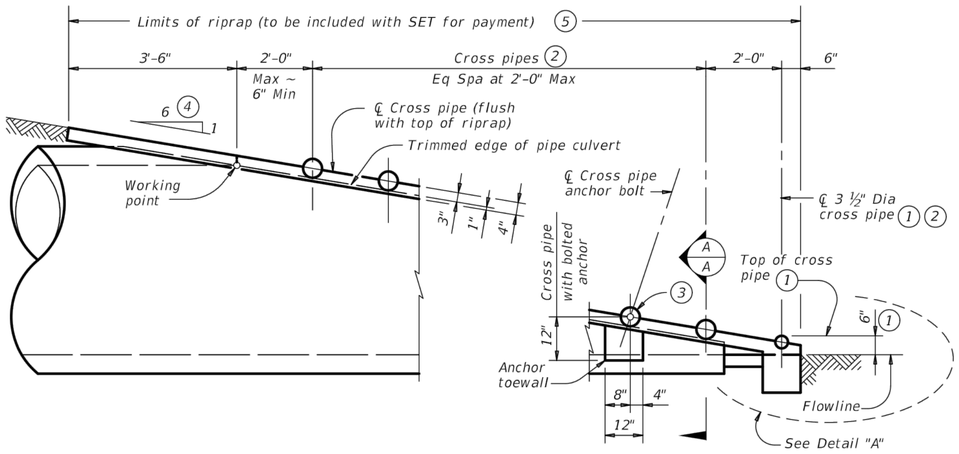
GENERAL NOTES:

Cross pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the cross pipes.

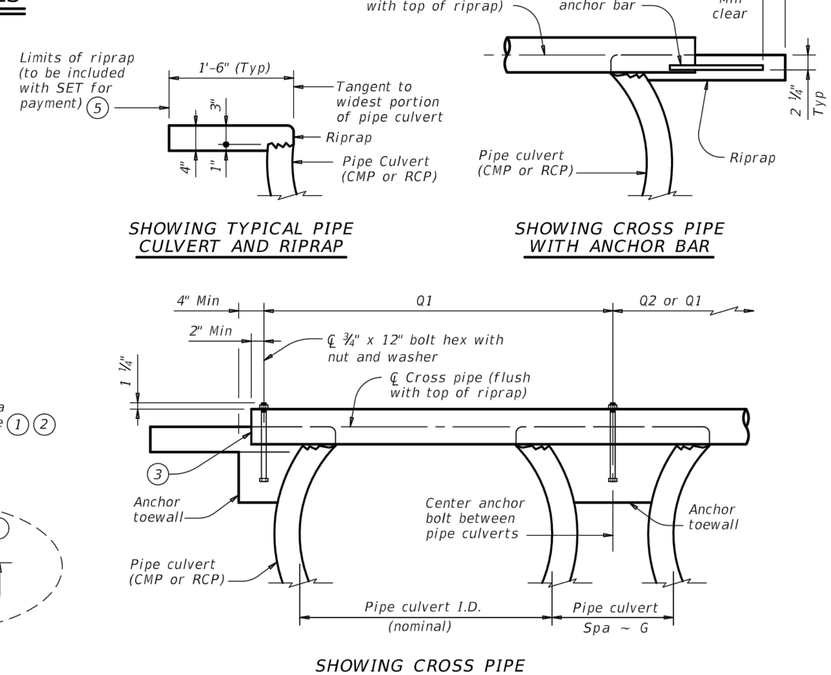
Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap".

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details at corrugated metal pipe (CMP) culvert are similar.)



SHOWING TYPICAL PIPE CULVERT AND RIPRAP

SHOWING CROSS PIPE WITH ANCHOR BAR

SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22

F 1 46

Texas Department of Transportation

Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 72" DIA PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE

SETP-PD

FILE: setppdse-20.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				3 OF 41

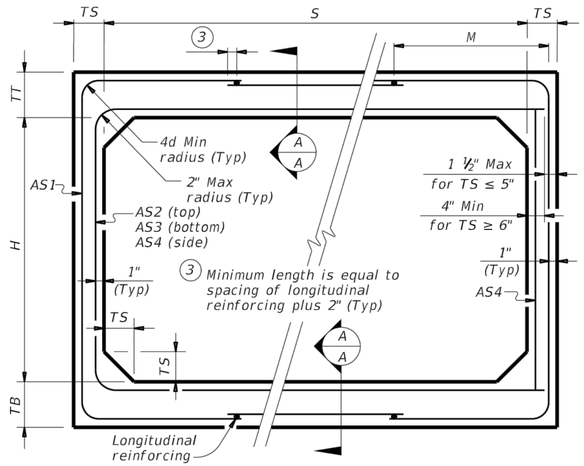
DATE:
FILE:

BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) (2)							(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
4	2	7.5	6	5	< 2	–	0.18	0.27	0.15	0.12	0.18	0.18	0.14	4.5
4	2	5	5	5	2 < 3	38	0.18	0.19	0.17	0.12	–	–	–	3.6
4	2	5	5	5	3 – 5	38	0.13	0.13	0.13	0.12	–	–	–	3.6
4	2	5	5	5	10	38	0.12	0.12	0.12	0.12	–	–	–	3.6
4	2	5	5	5	15	38	0.14	0.16	0.16	0.12	–	–	–	3.6
4	2	5	5	5	20	38	0.18	0.20	0.21	0.12	–	–	–	3.6
4	2	5	5	5	25	38	0.23	0.25	0.25	0.12	–	–	–	3.6
4	2	5	5	5	30	38	0.28	0.30	0.30	0.12	–	–	–	3.6
4	3	7.5	6	5	< 2	–	0.18	0.31	0.18	0.12	0.18	0.18	0.14	5.0
4	3	5	5	5	2 < 3	38	0.15	0.23	0.20	0.12	–	–	–	4.1
4	3	5	5	5	3 – 5	38	0.12	0.16	0.16	0.12	–	–	–	4.1
4	3	5	5	5	10	38	0.12	0.14	0.14	0.12	–	–	–	4.1
4	3	5	5	5	15	38	0.12	0.18	0.18	0.12	–	–	–	4.1
4	3	5	5	5	20	38	0.14	0.23	0.24	0.12	–	–	–	4.1
4	3	5	5	5	25	38	0.17	0.29	0.29	0.12	–	–	–	4.1
4	3	5	5	5	30	38	0.21	0.35	0.35	0.12	–	–	–	4.1
4	4	7.5	6	5	< 2	–	0.18	0.33	0.20	0.12	0.18	0.18	0.14	5.5
4	4	5	5	5	2 < 3	38	0.12	0.26	0.23	0.12	–	–	–	4.6
4	4	5	5	5	3 – 5	38	0.12	0.18	0.18	0.12	–	–	–	4.6
4	4	5	5	5	10	38	0.12	0.15	0.15	0.12	–	–	–	4.6
4	4	5	5	5	15	38	0.12	0.19	0.20	0.12	–	–	–	4.6
4	4	5	5	5	20	38	0.12	0.25	0.25	0.12	–	–	–	4.6
4	4	5	5	5	25	38	0.14	0.31	0.31	0.12	–	–	–	4.6
4	4	5	5	5	30	38	0.17	0.37	0.37	0.12	–	–	–	4.6

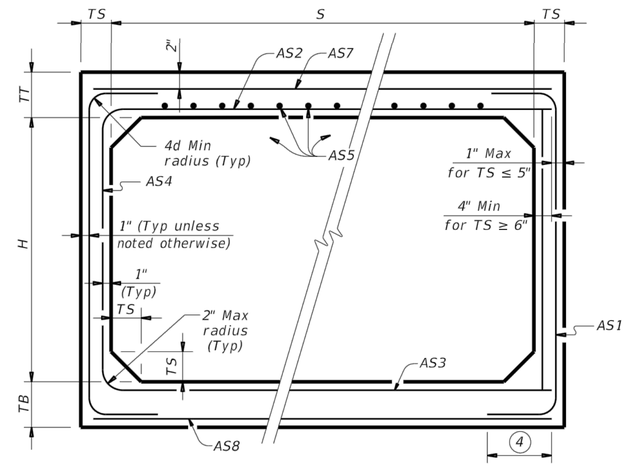
(1) For box length = 8'-0"

(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A" CORNER OPTION "B"

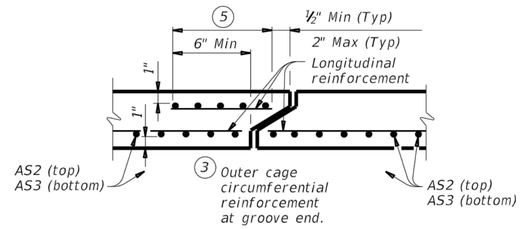
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:

Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.

Provide Class H concrete (f`c = 5,000 psi).

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

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STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED PROFESSIONAL ENGINEER
5/18/22

F 1 46

Texas Department of Transportation

Bridge Division Standard

SINGLE BOX CULVERTS PRECAST

4'-0" SPAN

SCP-4

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	Size	MAX DEPTH = 15 ft. to top of BASE SLAB										MAX DEPTH = 25 ft. to top of BASE SLAB										Min Height (See Gen Note 3)	Max HOLE DIA (See Fab Note 2)	Max KO DIA (See Fab Note 2)
		Base Slab			Base Unit or Riser Walls			Below Grade Slab (w/PJB) Reducing Slab (w/PB)				Base Slab			Base Unit or Riser Walls			Below Grade Slab (w/PJB) Reducing Slab (w/PB)						
		Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Reduced Riser Size	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness	Reduced Riser Size	Short Span Reinf Steel Area	Long Span Reinf Steel Area	Thickness			
	X x Y	Ashort	Along	BS	Bshort	Blong	W	RWSxRWL or ID	Dshort	Dlong	TS	Ashort	Along	BS	Bshort	Blong	W	RWSxRWL or ID	Dshort	Dlong	TS	BH MIN	HOLE DIA	KO DIA
	ft.	in^2/ft	in^2/ft	in.	in^2/ft	in^2/ft	in.	ft. **	in^2/ft	in^2/ft	in.	in^2/ft	in^2/ft	in.	in^2/ft	in^2/ft	in.	ft. **	in^2/ft	in^2/ft	in.	ft.	in.	in.
Precast Junction Box (PJB)	3x3	0.23	0.23	6	0.19	0.19	6	N/A	0.37	0.37	9	0.29	0.29	6	0.24	0.24	6	N/A	0.37	0.37	9	3.5	36	36
	4x4	0.29	0.29	6	0.24	0.24	6	N/A	0.41	0.41	9	0.47	0.47	6	0.38	0.38	6	N/A	0.41	0.41	9	4.5	48	48
	3x5	0.29	0.18	6	0.19	0.35	6	N/A	0.48	0.48	9	0.39	0.18	6	0.23	0.59	6	N/A	0.48	0.48	9	3.5	36/60	36/60
	4x5	0.36	0.18	6	0.22	0.34	6	N/A	0.42	0.42	9	0.53	0.26	6	0.39	0.59	6	N/A	0.42	0.42	9	4.5	48/60	48/60
	5x5	0.36	0.36	6	0.34	0.34	6	N/A	0.43	0.43	9	0.62	0.62	6	0.59	0.59	6	N/A	0.43	0.43	9	5.5	60	60
	5x6	0.27	0.27	9	0.34	0.45	6	N/A	0.48	0.48	9	0.47	0.45	9	0.38	0.54	8	N/A	0.48	0.48	9	5.5	60/72	60/72
	6x6	0.27	0.27	9	0.45	0.45	6	N/A	0.56	0.56	9	0.52	0.52	9	0.54	0.54	8	N/A	0.56	0.56	9	6.5	72	72
	8x8	0.46	0.46	9	0.51	0.51	8	N/A	0.45	0.45	12	0.87	0.87	9	0.59	0.59	10	N/A	0.45	0.45	12	8.5	96	72
Precast Base (PB)	3x3	0.23	0.23	6	0.19	0.19	6	N/A	N/A	N/A	N/A	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	3.5	36	36
	4x4	0.29	0.29	6	0.24	0.24	6	N/A	N/A	N/A	N/A	0.47	0.47	6	0.38	0.38	6	N/A	N/A	N/A	N/A	4.5	48	48
	3x5	0.29	0.18	6	0.19	0.35	6	3x3	0.30	0.34	9	0.39	0.18	6	0.23	0.59	6	3x3	0.40	0.40	9	3.5	36/60	36/60
	4x5	0.36	0.18	6	0.22	0.34	6	3x3	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	3x3	0.46	0.37	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	4x4	0.30	0.30	9	0.53	0.26	6	0.39	0.59	6	4x4	0.39	0.39	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	48"	0.39	0.39	9	0.53	0.26	6	0.39	0.59	6	48"	0.47	0.47	9	4.5	48/60	48/60
	4x5	0.36	0.18	6	0.22	0.34	6	3x5	0.33	0.40	9	0.53	0.26	6	0.39	0.59	6	3x5	0.48	0.48	9	4.5	48/60	48/60
	5x5	0.36	0.36	6	0.34	0.34	6	3x3	0.34	0.34	9	0.62	0.62	6	0.59	0.59	6	3x3	0.53	0.53	9	5.5	60	60
	5x5	0.36	0.36	6	0.34	0.34	6	4x4	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	4x4	0.64	0.64	9	5.5	60	60
	5x5	0.38	0.38	6	0.34	0.34	6	48"	0.36	0.36	9	0.62	0.62	6	0.59	0.59	6	48"	0.64	0.64	9	5.5	60	60
	5x5	0.36	0.36	6	0.34	0.34	6	3x5	0.34	0.40	9	0.62	0.62	6	0.59	0.59	6	3x5	0.53	0.53	9	5.5	60	60
	5x6	0.31	0.31	9	0.34	0.45	6	3x3	0.34	0.34	9	0.47	0.45	9	0.38	0.54	8	3x3	0.61	0.50	9	5.5	60/72	60/72
	5x6	0.27	0.27	9	0.34	0.45	6	4x4	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	4x4	0.74	0.57	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	48"	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	48"	0.74	0.57	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	3x5	0.45	0.45	9	0.47	0.45	9	0.38	0.54	8	3x5	0.61	0.61	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	48"	0.36	0.45	9	0.47	0.45	9	0.38	0.54	8	48"	0.74	0.57	9	5.5	60/72	60/72
	5x6	0.29	0.29	9	0.34	0.45	6	3x5	0.45	0.45	9	0.47	0.45	9	0.38	0.54	8	3x5	0.61	0.61	9	5.5	60/72	60/72
	6x6	0.29	0.29	9	0.45	0.45	6	3x3	0.41	0.41	9	0.52	0.52	9	0.54	0.54	8	3x3	0.74	0.74	9	6.5	72	72
	6x6	0.27	0.27	9	0.45	0.45	6	4x4	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	4x4	0.87	0.87	9	6.5	72	72
	6x6	0.29	0.29	9	0.45	0.45	6	48"	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	48"	0.87	0.87	9	6.5	72	72
	6x6	0.29	0.29	9	0.45	0.45	6	3x5	0.45	0.45	9	0.52	0.52	9	0.54	0.54	8	3x5	0.87	0.87	9	6.5	72	72
	8x8	0.52	0.52	9	0.51	0.51	8	3x3	0.61	0.61	12	0.91	0.91	9	0.70	0.70	10	3x3	0.85	0.85	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	4x4	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	4x4	1.01	1.01	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	48"	0.70	0.70	12	0.87	0.87	9	0.70	0.70	10	48"	1.01	1.01	12	8.5	96	72
	8x8	0.52	0.52	9	0.51	0.51	8	3x5	0.70	0.85	12	0.87	0.87	9	0.70	0.70	10	3x5	1.01	1.01	12	8.5	96	72

** Unless otherwise indicated.

FABRICATION NOTES:
1. Maximum spacing of reinforcement is 8".
2. At manufacturer's option, provide cast or cored holes or thin wall panels (KO) to the maximum diameter shown for each. When no penetration is required, it is acceptable to provide a wall with no sectional reduction.

GENERAL NOTES:
1. Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PJB for details.
2. Precast Base consists of base slab, base unit, risers (as required), reducing slab (as required), and reduced risers (as required). See sheet PB for details.
3. Min Height shown is for stock base units. Use stock base units whenever practical. Smaller height base units can be used in special installation circumstances, when noted elsewhere in the plans. Absolute minimum height of base units is 2'-6".

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137440
LICENSED
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5/18/22

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DESIGN DATA FOR PRECAST BASE AND JUNCTION BOX

PDD

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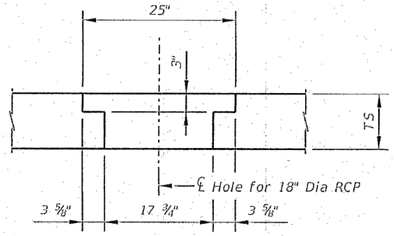
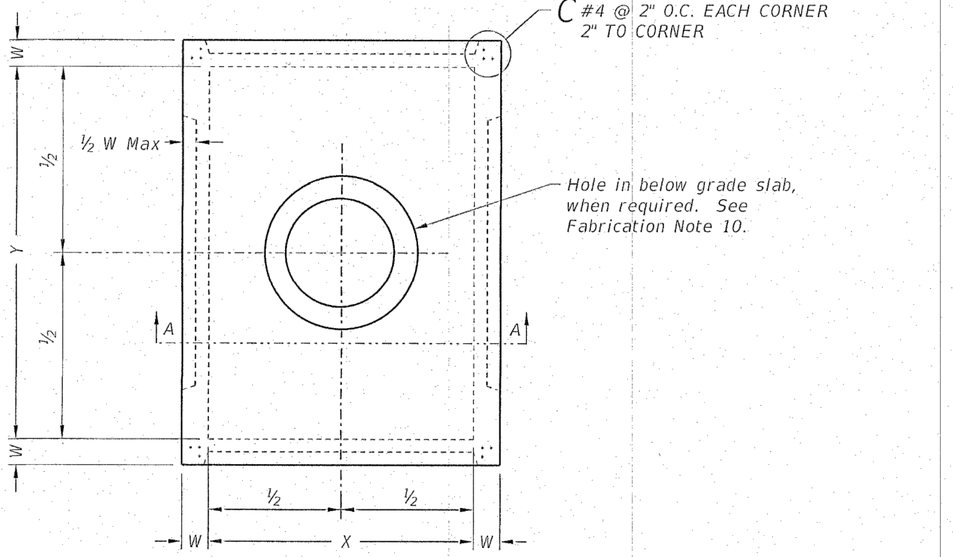
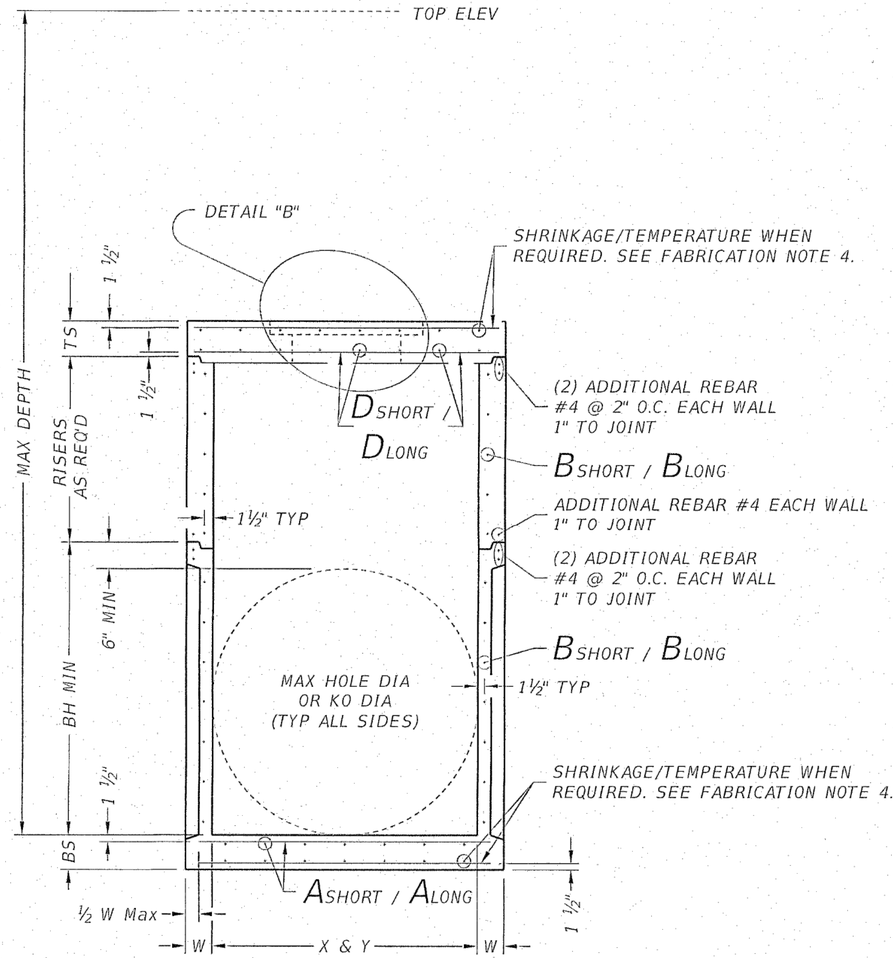


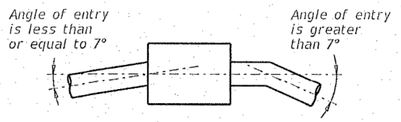
DETAIL "B"



PLAN VIEW



SECTION A-A



PIPE CONNECTION DETAIL

Connect pipes within 7° of normal to PJB wall. If necessary, use pipe elbow or curved approach alignment to stay within this limit.

FABRICATION NOTES:

1. Provide Class "H" concrete in accordance with Item 421 and having a minimum compressive strength of 5,000 psi.
2. Provide Grade 60 reinforcing steel or equivalent area of WWR.
3. Provide typical clear cover of 1 ½" to reinforcing steel at interior or exterior walls.
4. Walls or slabs with a thickness of 8" or greater require shrinkage and temperature reinforcing steel. Provide steel area = 0.11 in²/ft each way.
5. No substitution is allowed for vertical and horizontal #4 bars in corners.
6. Manufacture base and risers to nearest 3" increment.
7. Design tongue and groove joints for full closure on both shoulders. Minimum spigot depth is ¾".
8. Provide lifting devices in conformance with Manufacturer's recommendations.
9. See sheet PDD for sizes, dimensions, and reinforcing steel not shown.
10. Provide hole in below grade slab only when PJB is installed with inlet type PDD.

INSTALLATION NOTES:

1. Inverts (benching) to be provided by Contractor. Concrete or mortar used for invert is subsidiary to junction box.
2. Seal tongue and groove joints with preformed or bulk mastic in conformance with Manufacturer's recommendations. Tongue and groove joints may be grouted no more than 1" between each section, or ½ the joint depth, whichever is greater.
3. Do not grout rubber gasket joints without Manufacturer's recommendation.
4. For rigid pipe, cut hole in thin wall panel (KO) 4" Max, 2" Min larger than pipe OD.
5. For flexible pipe, consult boot/seal Manufacturer's specification for placement tolerance and hole size. Center pipe in hole and install boot/seal per Manufacturer's specification.

GENERAL NOTES:

1. Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PDD for sizes.
2. Designed according to ASTM C913.
3. Payment for junction box is per Item 465 "Junction Boxes, Manholes, and Inlets" by type and size.

Cover dimensions are clear dimensions, unless noted otherwise.

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PRECAST JUNCTION BOX

TXDOT MISCELLANEOUS DETAILS **PJB**

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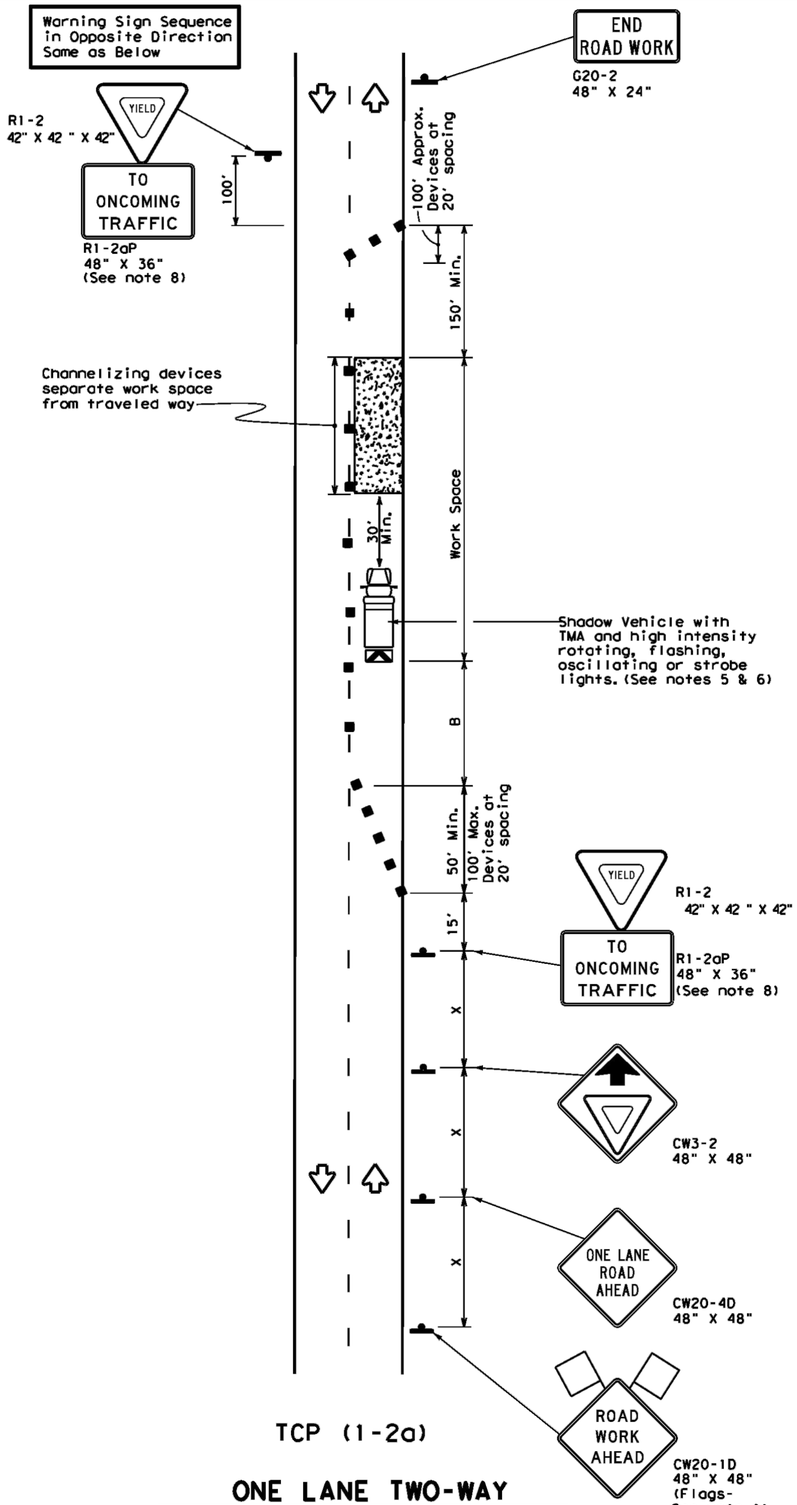
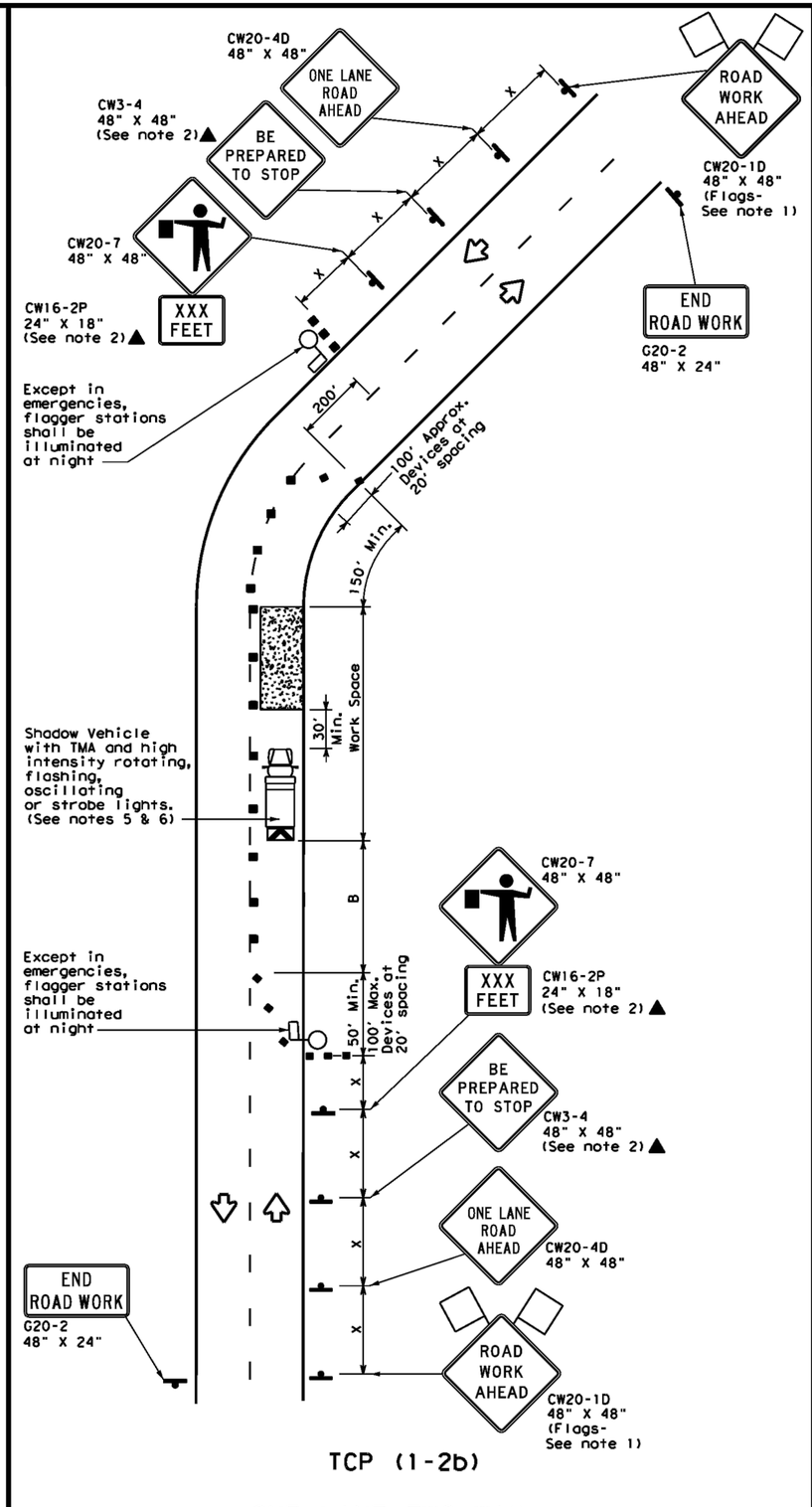


TCP (1-2a)

ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

LEGEND

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(1-2)-18

STATE OF TEXAS
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137440
PROFESSIONAL ENGINEER
5/18/22

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TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing length (2~wings) (3)	
					Bars J1		Bars J2			
Maximum Wingwall Height Hw	W	X	Y	Z	Size	Spa	Size	Spa	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING
(2~wings)

Bar	Size	No.	Spa
D	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
M	#4	4	~
P	#4	~	1'-0"
R	#5	6	~
V	#4	~	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	~	1'-6"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:

(All values are in feet.)

Hw = H + T + C - 0.250'
Lw = (Hw - 0.333') (SL)

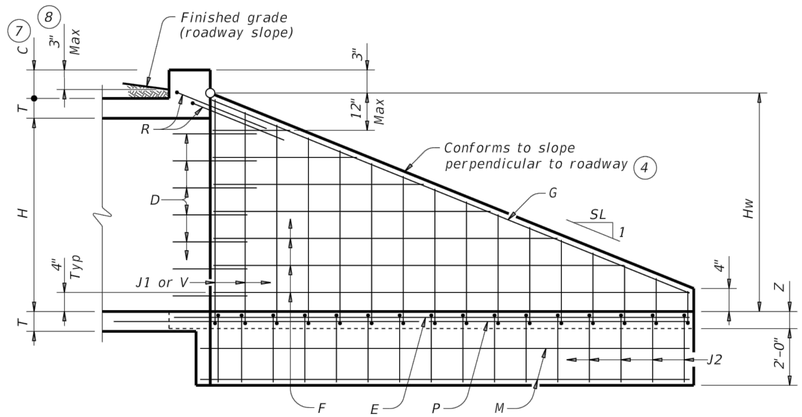
For cast-in-place culverts:
Ltw = (N) (S) + (N + 1) (U)

For precast culverts:
Ltw = (N) (2U + S) + (N - 1) (0.5')

Total Wingwall Area (two wings ~ SF) = (Hw + 0.333') (Lw)

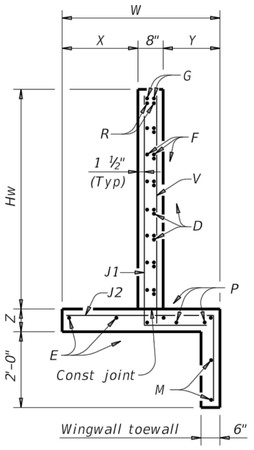
Hw = Height of wingwall
SL:1 = Side slope ratio (horizontal:1 vertical)
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans

See applicable box culvert standard sheet for H, S, T, and U values.

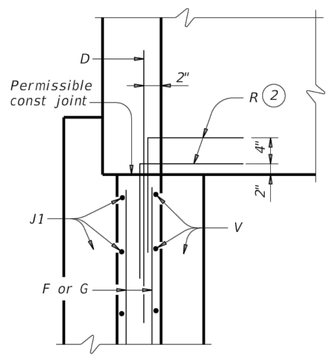


INSIDE ELEVATION

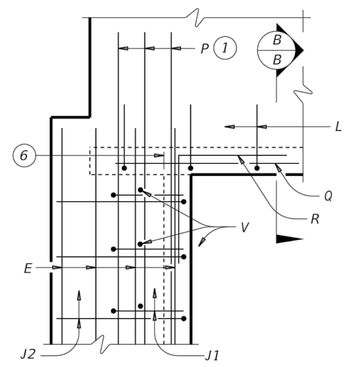
(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)



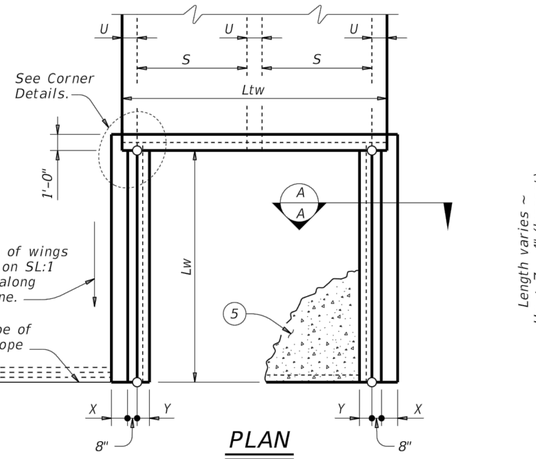
SECTION A-A



WINGWALL

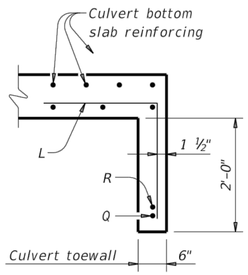


FOOTING AND TOEWALL



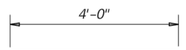
PLAN

(Showing dimensions.)

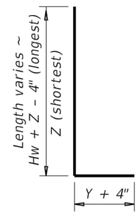


SECTION B-B (5)

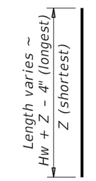
BARS R



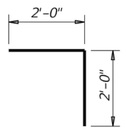
BARS D



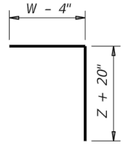
BARS J1



BARS V



BARS L



BARS J2

(1) Extend Bars P 3'-0" minimum into bottom slab of box culvert.

(2) Adjust as necessary to maintain 1 1#2" clear cover and 4" minimum between bars.

(3) Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.

(4) Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.

(5) When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap". Unless otherwise shown on the plans or directed by the Engineer, provide a 6" wide by 1'-6" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.

(6) At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.

(7) 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

(8) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

MATERIAL NOTES:

Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
In riprap concrete, synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing unless noted otherwise.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

CORNER DETAILS

Texas Department of Transportation

Bridge Division Standard

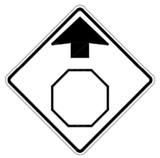
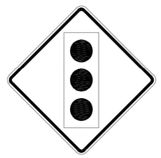
CONCRETE WINGWALLS WITH STRAIGHT WINGS FOR 0° SKEW BOX CULVERTS

SW-O

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

F 1 46

FILE: sw-0stde-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				40 OF 41

	 * MINIMUM SIZE OF 36X36 SHALL BE USED FOR STOP SIGNS THAT FACE MULTI-LANE APPROACHES										
TMUTCD/SHSD ID	R1-1	R1-2	R1-3P	R2-1	R3-4	R3-5R (L)	R3-7L (R)	R3-8	R4-7	R6-1R, R6-1L	R6-2R (L)
LOCAL	30x30*	30x30	18X6	24x30	24x24	30x36	30x30	Varies x 30	24x30	36x12	24x30
COLLECTOR	36x36	36x36	18X6	24x30	30x30	30x36	36x36	Varies x 30	24x30	36x12	30x36
THOROUGHFARE	36x36	36x36	18X6	24x30	30x30	30x36	36x36	Varies x 36	24x30	36x12	30x36
				 * SIGNALIZED LOCATIONS ONLY WHERE APPROVED BY HCED							
TMUTCD/SHSD ID	NO PARKING (ALL TYPES)	R8-8	R10-6R (L)	R10-17T	W1-1R (L)	W1-2R (L)	W1-3R (L)	W1-4R (L)	W1-6R (L), W1-7	W1-7T	W1-8R (L)
LOCAL	18x24	24x30	24x36	30x30	30x30	30x30	30x30	30x30	48x24	48x24	18x24
COLLECTOR	18X24	24x30	24x36	30X30	36x36	36x36	36x36	36x36	48x24	48x24	18x24
THOROUGHFARE	18X24	24x30	24x36	30X30	36x36	36x36	36x36	36x36	48x24	48x24	30x36
											
TMUTCD/SHSD ID	W2-1	W2-2R (L)	W3-1	W3-3	W4-2R (L)	W6-2	W6-3	W8-13aT	W9-1R (L)	W9-2R (L)	W10-1
LOCAL	30x30	30x30	30x30	30x30	36x36	36x36	36x36	36x36	36x36	36x36	30 dia.
COLLECTOR	30x30	30x30	30x30	30x30	36x36	36x36	36x36	36x36	36x36	36x36	30 dia.
THOROUGHFARE	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	30 dia.
											
TMUTCD/SHSD ID	W11-1 through W11-12	W13-1P	W14-1	W14-2	W16-2aP	W16-7PL (PR)	W16-9	S1-1	S4-3P		I-3
LOCAL	30x30	18x18	30x30	24x24	24x12	30x18	24x12	36x36	24x8	24x36	VARIES X 18
COLLECTOR	36x36	18x18	36x36	24x24	24x12	30X18	24x12	36x36	24x8	24x36	VARIES X 18
THOROUGHFARE	36x36	18x18	36x36	N/A	24X12	30x18	24X12	36x36	24x8	24x36	VARIES X 30
		No border, White on Green									
TMUTCD/SHSD ID	OM-3R, OM-3L	GROUND MOUNTED STREET NAME SIGN		TYPES D-DY, D-DW							
LOCAL	12X36	VARIES X 8		36" TALL							
COLLECTOR	12X36	VARIES X 8		36" TALL							
THOROUGHFARE	12X36	VARIES X 8		36" TALL							

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

STATE OF TEXAS
KYLE J. ADAMS
137440
LICENSED
PROFESSIONAL ENGINEER
5/18/22

F 1 46

PROJECT TITLE: WINDMILL ESTATES

SHEET DESCRIPTION: SMALL SIGN DETAILS

TRAFFIC STANDARD: SSD

DRAWN BY: JDZ

DATE: 3/16/18

CK'D BY: BSH

SCALE: NONE

SHEET NO: 41 / 41

J:\Engineering Specs\Harris County Standard Traffic Drawings-Master file\3-16-2018 STANDARD TRAFFIC DRAWINGS\2-PAVEMENT MARKINGS AND SIGN\SSD.dwg

AEI ENGINEERING
a BAXTER & WOODMAN company

July 6, 2022

Mr. Don Doering
City Administrator
City of Magnolia
18111 Buddy Riley Boulevard
Magnolia, Texas 77354

Reference: ***Water, Sanitary Sewer, Storm Drainage System & Street Paving to Serve Windmill Estates – Letter of No Objection***
City of Magnolia
AEI Job No. 220274.80-001

Dear Mr. Doering:

We received the revised construction plans for the proposed Water, Sanitary Sewer, Storm Drainage System and Street Paving to serve Windmill Estates on June 9, 2022. On behalf of the City of Magnolia (the "City"), we have reviewed the submitted documents and offer no objection to the approval of this project, subject to the following comments:

1. The developer shall be responsible for all aspects of this project and will provide final certification that all improvements have been constructed in conformance with the approved plans and specifications.
2. In the event that any portion of this development may change at a future date, the City reserves the right to review and approve the proposed changes prior to initiating the change.
3. Obtain all applicable utility company and governmental agency signatures.
4. As a reminder, all construction activities with a disturbance area of 5 acres or more must comply with the City's Code of Ordinance Spec 01560.
5. Construction shall not commence until final agency approvals are secured.

Should you have any questions or require additional information, please contact the undersigned or Michael A. Kurzy, P.E. at (281) 350-7027.

Sincerely,

Robel E. Giackero

Robel E. Giackero, P.E.
Project Engineer

AEI Engineering, a Baxter & Woodman Company
TBPELS Registration No. F-21783

XC: Ms. Christian Gable – City of Magnolia - Planning Coordinator
Mr. Burt Smith – City of Magnolia – Director of Public Works
Mr. Michael A. Kurzy, P.E. – AEI Engineering, a Baxter & Woodman Company
Ms. Cristin Emshoff, MUP, ENV SP – AEI Engineering, a Baxter & Woodman Company
Mr. Kyle J. Adams, P.E. – BGE, Inc.