

PLANNING & ZONING COMMISSION

MEETING AGENDA

FEBRUARY 12, 2024, 7:00 PM



PLANNING & ZONING COMMISSION REGULAR MEETING

HISTORIC CHURCH BUILDING - 403 N 7TH STREET, SANGER, TEXAS

CALL THE REGULAR MEETING TO ORDER AND ESTABLISH A QUORUM

INVOCATION AND PLEDGE

CITIZENS COMMENTS

This is an opportunity for citizens to address the Commission on any matter. Comments related to public hearings will be heard when the specific hearing begins. Citizens are allowed 3 minutes to speak. Each speaker must complete the Speaker's Form and include the topic(s) to be presented. Citizens who wish to address the Commission with regard to matters on the agenda will be received at the time the item is considered. The Commission is not allowed to converse, deliberate or take action on any matter presented during citizen input.

CONSENT AGENDA

All items on the Consent Agenda will be acted upon by one vote without being discussed separately unless requested by a Commissioner to remove the item(s) for additional discussion. Any items removed from the Consent Agenda will be taken up for individual consideration.

1. Consideration and possible action of the minutes from January 8, 2024, meeting.

ACTION ITEMS

2. Consideration and possible action on the Final Plat of Marley Meadows being 19.653 acres, located in the City of Sanger's ETJ, and generally located on the west side of Sam Bass Road and approximately 1307 feet north of the intersection of FM 455 and Sam Bass Road.

FUTURE AGENDA ITEMS

The purpose of this item is to allow the Chairman and Commissioners to bring forward items they wish to discuss at a future meeting, A Commissioner may inquire about a subject for which notice has not been given. A statement of specific factual information or the recitation of existing policy may be given. Any deliberation shall be limited to a proposal to place the subject on an agenda for a subsequent meeting. Items may be placed on a future meeting agenda with a consensus of the Commission or at the call of the Chairman.

INFORMATIONAL ITEMS

- [3.](#) Staff will be doing a presentation for the board.

ADJOURN

NOTE: The Commission reserves the right to adjourn into Executive Session as authorized by Texas Government Code, Section 551.001, et seq. (The Texas Open Meetings Act) on any item on its open meeting agenda in accordance with the Texas Open Meetings Act, including, without limitation Sections 551.071-551.087 of the Texas Open Meetings Act.

CERTIFICATION

I certify that a copy of this meeting notice was posted on the bulletin board at City Hall that is readily accessible to the general public at all times and was posted on the City of Sanger website on FEBRUARY 9, 2024 at 8:45 A.M.

Stefani Dodson
Stefani Dodson, Secretary

The Historical Church is wheelchair accessible. Request for additional accommodations or sign interpretation or other special assistance for disabled attendees must be requested 48 hours prior to the meeting by contacting the City Secretary's Office at 940.458.7930.



PLANNING & ZONING COMMISSION COMMUNICATION

DATE: February 12, 2024
FROM: Stefani Dodson, Secretary
AGENDA ITEM: Consideration and possible action of the minutes from January 8, 2024, meeting.

SUMMARY:
N/A

FISCAL INFORMATION:

Budgeted: N/A Amount: N/A GL Account: N/A

RECOMMENDED MOTION OR ACTION:

N/A

ATTACHMENTS:

Minutes from January 8, 2024

PLANNING & ZONING COMMISSION

MEETING MINUTES

JANUARY 08, 2024, 7:00 PM



**PLANNING & ZONING COMMISSION REGULAR MEETING
HISTORIC CHURCH BUILDING - 403 N 7TH STREET, SANGER, TEXAS**

CALL THE REGULAR MEETING TO ORDER AND ESTABLISH A QUORUM

There being a quorum Commissioner Miller called the Planning and Zoning meeting to order at 7:07 P.M.

BOARD MEMBERS PRESENT:

Commissioner, Place 2	Sally Amendola
Commissioner, Place 3	Jackie Turner
Commissioner, Place 4	Allen McAlister
Commissioner, Place 5	Jacob Gastelum
Commissioner, Place 6	Jason Miller
Commissioner, Place 7	Lisa Freeman

BOARD MEMBERS ABSENT:

Commissioner, Place 1 Shane Stone

STAFF MEMBERS PRESENT:

Director of Development Services Ramie Hammonds, and Secretary Stefani Dodson

CITIZENS COMMENTS

No citizens came forward.

CONSENT AGENDA

1. Consideration and possible action of the minutes from December 11, 2023, meeting.

Commissioner Miller makes a motion to approve the consent agenda.
Commissioner Freeman seconded the motion.

Voting Yea: Commissioner Amendola, Commissioner Gastelum, Commissioner McAlister, Commissioner Turner. The motion passes unanimously.

PUBLIC HEARING ITEMS

2. Conduct a public hearing on an amendment to Ordinance No. 04-11-22 to amend the planned development language and add 21.17 acres of land described as A0029A R BEEBE, 65B, within the City of Sanger, and generally located south of FM 455 and east of Indian Lane.

Commissioner Miller Opens the Public Hearing at 7:08 P.M.

Director Hammonds goes over the project. She goes over all of the changes they propose in the PD.

Casey McGinnis stood up to speak to the board about their project. He explains that they were able to work with the school to allow them to have some property for their tennis courts. They want to add this property to their development and update the PD.

Commissioner Miller closes the Public Hearing at 7:27 P.M.

3. Conduct a public hearing on a request for a Specific Use Permit (SUP) for Outside Sales and Display, on the west end 8.17 acres of land described as A1241A TIERWESTER, TR 165, zoned as Business District 2 (B-2) and generally located on the east side of I-35 at the intersection of South Stemmons and Wood Street.

Commissioner Miller Opens the Public Hearing at 7:28 P.M.

Director Hammonds goes over the SUP explaining their current one is close to the expiration date.

Commissioner Miller closes the Public Hearing at 7:30 P.M.

ACTION ITEMS

4. Consideration and possible action on an amendment to Ordinance No. 04-11-22 to amend the planned development language and add 21.17 acres of land described as A0029A R BEEBE, 65B, within the City of Sanger, and generally located south of FM 455 and east of Indian Lane.

Director Hammonds explains that this is the same project that was presented earlier in the public hearing.

Commissioner McAlister makes a motion to approve with the condition all comments are met by City Council.

Commissioner Freeman seconded the motion.

Voting Yea: Commissioner Miller, Commissioner Gastelum, Commissioner Amendola, Commissioner Turner. The motion passes unanimously.

5. Consideration and possible action on a request for a Specific Use Permit (SUP) for Outside Sales and Display, on the west end 8.17 acres of land described as A1241A TIERWESTER, TR 165, zoned as Business District 2 (B-2) and generally located on the east side of I-35 at the intersection of South Stemmons and Wood Street.

Director Hammonds explains that this is the same project that was presented earlier in the public hearing.

Commissioner Miller makes a motion to approve with a 2-year expiration.
Commissioner Gastelum seconded the motion.

Voting Yea: Commissioner McAlister, Commissioner Amendola, Commissioner Freeman, Commissioner Turner. The motion passes unanimously.

6. Consideration and possible action on the Preliminary Plat of Duck Creek Ridge, being 1.010 acres, located in the City of Sanger, and generally located on the south side of Duck Creek Road at the intersection of Duck Creek Road and Mesa Drive

Director Hammonds goes over the project explaining the applicant wants to make 4 single family lots from the 1 unplatted tract. She explains they are also needing a side yard setback variance from 8 ft to 7.5 ft. for the current home.

The board had a brief discussion over the right of way and if there was going to be an easement. The applicant explained they have asked for a variance to allow the current right of way to stay as it is a developed neighborhood.

Director Hammonds explained that the variance will be going in front of City Council.

Commissioner Miller makes a motion to approve with the condition all comments are met by City Council.
Commissioner McAlister seconded the motion.

Voting Yea: Commissioner Turner, Commissioner Gastelum, Commissioner Amendola, Commissioner Freeman. The motion passes unanimously.

7. Consideration and possible action on the Preliminary Plat of Duncan Retail, being 5.770 acres, located in the City of Sanger, and generally located on the east side of the I-35 Frontage Road approximately 60 feet north of the intersection of I-35 Frontage Road and S 5th Street.

Director Hammonds goes over the project and explains the applicant wants to create 5 commercial lots from the 1 unplatted lot. She stated there is currently an existing business that is on the property.

Commissioner Miller makes a motion to approve with the condition all comments are met by City Council.

Commissioner Turner seconded the motion.

Voting Yea: Commissioner McAlister, Commissioner Gastelum, Commissioner Amendola, Commissioner Freeman. The motion passes unanimously.

FUTURE AGENDA ITEMS

No items were discussed.

INFORMATIONAL ITEMS

8. FM455 & 1-35 Update

Director Hammonds updates the board on the roadway construction.

ADJOURN

There being no further items Commissioner Miller adjourns the meeting at 7:39 P.M.



PLANNING & ZONING COMMISSION COMMUNICATION

DATE: February 12, 2024

FROM: Ramie Hammonds, Development Services Director

AGENDA ITEM: Consideration and possible action on the Final Plat of Marley Meadows being 19.653 acres, located in the City of Sanger’s ETJ, and generally located on the west side of Sam Bass Road and approximately 1307 feet north of the intersection of FM 455 and Sam Bass Road.

SUMMARY:

- The applicant is proposing to create 17 single-family lots from 1 unplatted tract.
- This site is located on the west side of Sam Bass Road.
- The lots have a minimum 1 acre.
- This development is located in the City of Sanger’s ETJ
- The house will be served by onsite septic.

FISCAL INFORMATION:

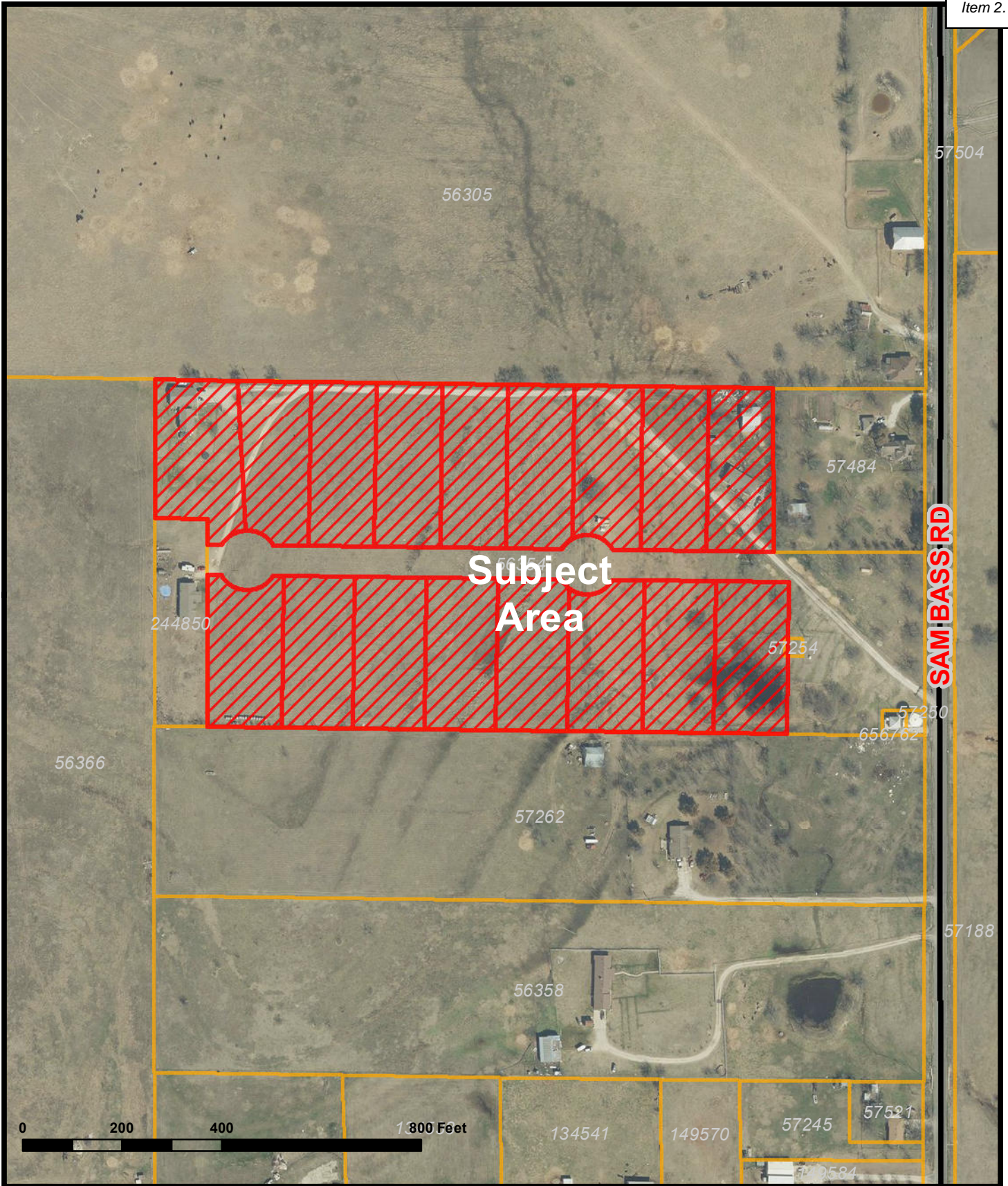
Budgeted: N/A Amount: N/A GL Account: N/A

RECOMMENDED MOTION OR ACTION:



Staff recommends DENIAL based on the condition attached comments have not been satisfied.

ATTACHMENTS:

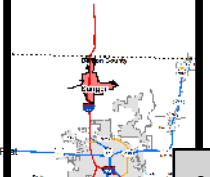
- Location Map
- Final Plat
- Application
- Letter of Intent
- Planning Comments
- Engineering Comments

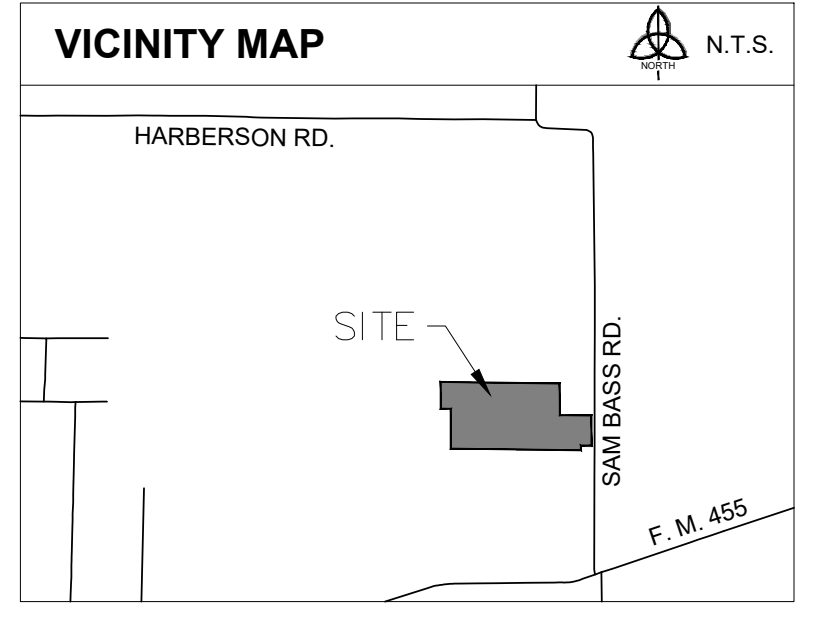
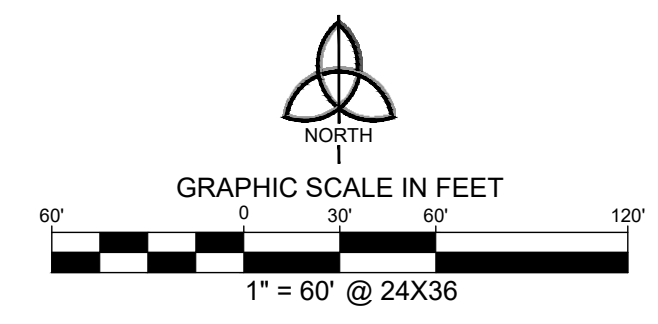


Project Name: Marley Meadows
 Final Plat
 Project: 24SANZON-0001

 City Limits  Exhibits

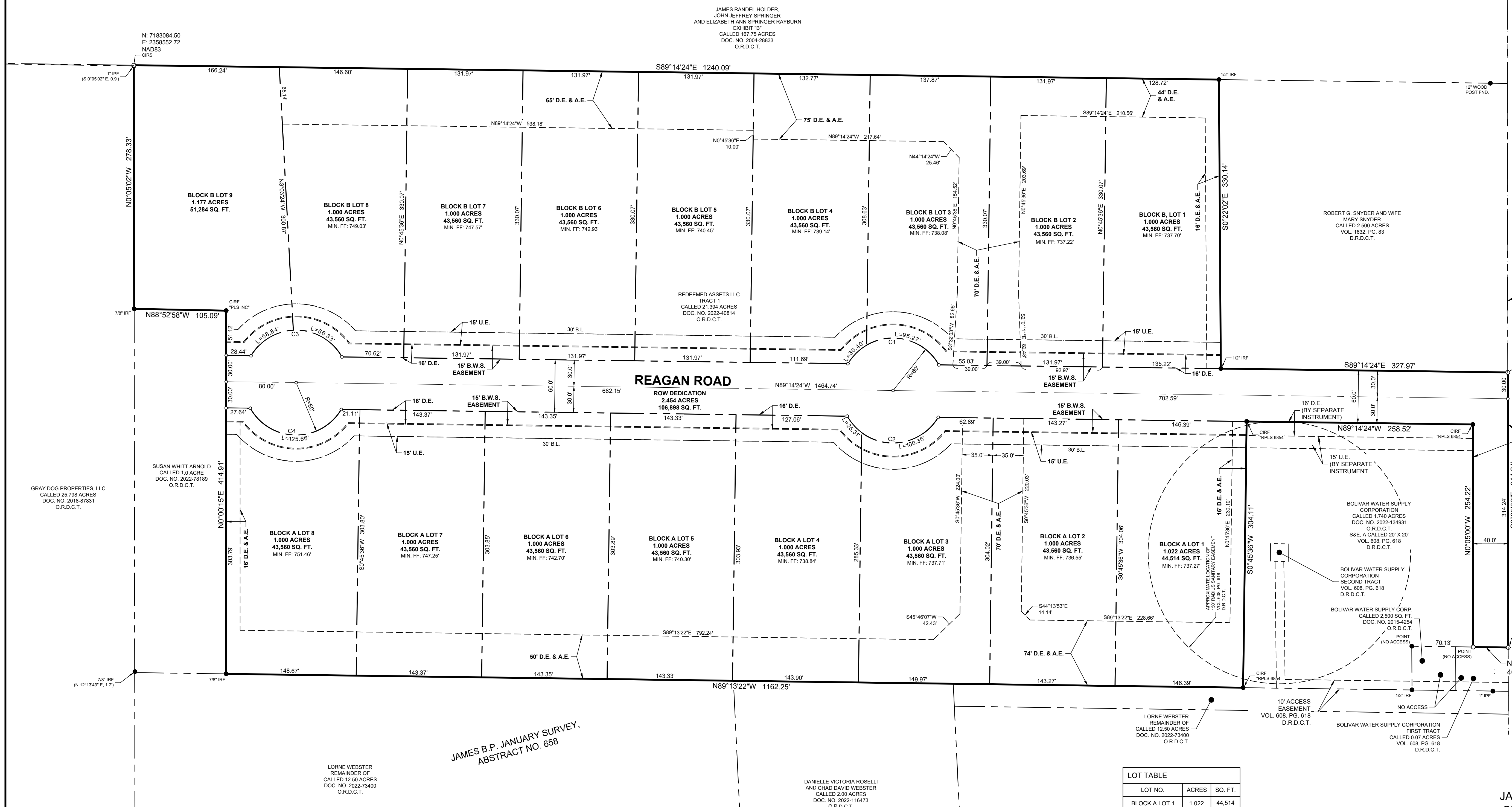
DISCLAIMER:
 This map was generated by GIS data provided by the Sanger GIS Department. The City of Sanger does not guarantee the correctness or accuracy of any features on this map. These map products are for illustration purposes only and are not suitable for site-specific decision making. GIS data is subject to constant changes, and may not be complete, accurate or current.
 Date: 1/22/2023 4:08:57 PM
 Doc Name: 23SANZON-0003_Marley Meadows Prelim Plat





LEGEND

- MONUMENT FOUND
- MONUMENT SET
- C/S: 5/8" IRON ROD W/ "6854" CAP SET
- P/S: PK NAIL SET
- IRF: IRON PIPE FOUND
- IRF: IRON ROD FOUND
- P.O.B: POINT OF BEGINNING
- O.R.D.C.T: OFFICIAL RECORDS DENTON COUNTY, TEXAS
- D.R.D.C.T: DEED RECORDS DENTON COUNTY, TEXAS
- VOL: VOLUME
- PG: PAGE
- U.E: UTILITY EASEMENT
- D.E: DRAINAGE EASEMENT



P.O.B.
N: 71827.33.57
E: 2360122.76
NAD83

JUDY K. SELPH
DOC. NO. 2010-20064
O.R.D.C.T.
REFERENCE:
MORRIS KNOWLES AND WIFE, JUEL DEAN KNOWLES CALLED 214.7 ACRES VOL. 345, PG. 247, D.R.D.C.T.

W. G. HUDSON SURVEY,
ABSTRACT NO. 563

**FINAL PLAT
MARLEY MEADOWS**
BLOCK A, LOTS 1-8 AND
BLOCK B, LOTS 1-9
17 RESIDENTIAL LOTS
2.454 ACRES RIGHT-OF-WAY DEDICATION
BEING 19.653 ACRES OUT OF THE
JAMES B.P. JANUARY SURVEY, ABSTRACT NO. 658,
CITY OF SANGER E.T.J., DENTON COUNTY, TEXAS

LOT TABLE

LOT NO.	ACRES	SQ. FT.
BLOCK A LOT 1	1.022	44,514
BLOCK A LOT 2	1.000	43,560
BLOCK A LOT 3	1.000	43,560
BLOCK A LOT 4	1.000	43,560
BLOCK A LOT 5	1.000	43,560
BLOCK A LOT 6	1.000	43,560
BLOCK A LOT 7	1.000	43,560
BLOCK A LOT 8	1.000	43,560
BLOCK B LOT 1	1.000	43,560
BLOCK B LOT 2	1.000	43,560
BLOCK B LOT 3	1.000	43,560
BLOCK B LOT 4	1.000	43,560
BLOCK B LOT 5	1.000	43,560
BLOCK B LOT 6	1.000	43,560
BLOCK B LOT 7	1.000	43,560
BLOCK B LOT 8	1.000	43,560
BLOCK B LOT 9	1.177	51,284
BOUNDARY	19.653	856,096
ROW DEDICATION	2.454	106,898

LEIGHTON WEBSTER AND BROOKE LOTTIS
CALLED 4.50 ACRES
DOC. NO. 2022-4782
O.R.D.C.T.

LORNE WEBSTER
REMAINDER OF
CALLED 12.50 ACRES
DOC. NO. 2022-73400
O.R.D.C.T.

DANIELLE VICTORIA ROSELLI
AND CHAD DAVID WEBSTER
CALLED 2.00 ACRES
DOC. NO. 2022-116473
O.R.D.C.T.

SANITARY EASEMENT QUOTE, AS RECORDED IN VOLUME 608, PAGE 618, DEED RECORDS, DENTON COUNTY, TEXAS:

"Further, as part of the consideration herein, Grantor, Lois N. Wolters, agrees not to build or maintain any septic tank or open-jointed drain field therefrom, cess pool, privy, stock pen, dump ground, or any other facility which might create a danger of pollution of the water of any well which might be drilled upon Tract Two above described for a distance of 150 feet from the well as drilled and developed. This sanitary easement shall constitute a covenant running with the land and shall bind the undersigned, his successors and assigns, and this grant of Sanitary Easement is made to the said BOLIVAR WATER SUPPLY CORPORATION, its successors and assigns."

FLOOD STATEMENT:

According to Federal Emergency Management Agency's Flood Insurance Rate Map No. 48121C0205G, for Denton County, Texas and incorporated areas, dated April 18, 2011, this property is located within:

Zone X (unshaded) defined as "Areas determined to be outside the 0.2% annual chance floodplain"

If this site is not within an identified special flood hazard area, this flood statement does not imply that the property and/or the structures thereon will be free from flooding or flood damage. On rare occasions, greater floods can and will occur and flood heights may be increased by man-made or natural causes. This flood statement shall not create liability on the part of the surveyor.

CURVE TABLE

NO.	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
C1	120°00'00"	60.00'	125.66'	S89°14'24"E	103.92'
C2	120°00'00"	60.00'	125.66'	N89°14'24"W	103.92'
C3	120°00'00"	60.00'	125.66'	N89°14'24"W	103.92'
C4	120°00'00"	60.00'	125.66'	N89°14'24"W	103.92'

TRINITY LAND SURVEYING LLC
121 W. Hickory St., Ste. 106 Denton, Texas 76201 FIRM # 10194687 Tel. No. (940) 293-3180

Scale	Drawn by	Checked by	Date	Project No.	Sheet No.
1" = 60'	MLB	TLS	01/16/2024	2022-014	1 OF 2

OWNER / APPLICANT:
Redeemed Assets LLC
2701 Wind River Ln.
Denton, Texas 76201
Ph: (940) 368-0963
Email: ben.burnside@yahoo.com
Contact: Ben Burnside

SURVEYOR:
Trinity Land Surveying, LLC
1222 Greenbriar St.
Denton, TX 76201
Ph: (940) 293-3180
Email: mblack@trinity-surveying.com
Contact: Michael Black, RPLS

ENGINEER:
Civil Engineering
1001 W. Euless Blvd., Ste. 412h
Euless, TX 76040
Ph: (972) 523-5493
Email: omg@civileng.com
Contact: Om Gharty Chhetri, P.E.

General Notes :

- The grid bearings and coordinates shown hereon are based on grid north of the Texas Coordinate System of 1983, North Central Zone (4202), North American Datum of 1983(2011).
- All corners are 5/8" iron rods set with a plastic cap stamped "RPLS 6854" unless otherwise noted.
- Minimum Finished Floor Elevations on lots were provided by iCivil Engineering, (972) 523-5493.
- The purpose of this plat is to create 17 residential lots from a previously unplatted tract of land.
- No 100-year floodplain exists on the site.
- This property lies within the ETJ of the City of Sanger, Texas.
- All lots comply with the minimum size requirements of the zoning district.
- This property may be subject to charges related to impact fees and the applicant should contact the City regarding any applicable fees due.
- All common areas, drainage easements, and detention facilities will be owned and maintained by the HOA/POA. Any common area within the City's right-of-way will require a facilities agreement, to be reviewed and approved by the City.
- Notice – selling a portion of this addition by metes and bounds is a violation of City ordinance and State Law and is subject to fines and withholding of utilities and building permits.
- This plat does not alter or remove existing deed restrictions, if any, on this property.
- Water service to be provided by Bolivar Water Supply, 4161 FM 455 West, Sanger, Texas (940) 458-3931
- Sanitary sewer to be handled by facilities approved by the Denton County Public Health.
- Electric Service to be provided by: CoServ Energy, 7701 I-35E Frontage Road, Corinth, Texas 76210, (940) 321-7800
- The maintenance of paving, grading and drainage improvements and/or easements shown on this plat are the responsibility of the individual property owner and **DOES NOT** constitute acceptance of same for maintenance purposes by Denton County.
- All surface drainage easements shall be kept clear of fences, buildings, foundation, plantings and other obstructions to the operation and maintenance of the drainage facility.
- Blocking the flow of water or constructing improvements in surface drainage easements, and filling or obstructing the floodway is prohibited.
- Denton County will not be responsible for any damage, personal injury or loss of life or property occasioned by flooding or flooding conditions.
- The existing creeks or drainage channels traversing along or across the addition will remain as open channels and will be maintained by the individual property owners of the lot or lots that are traversed by or adjacent to the drainage courses along or across the lots.
- Construction not complete within two years of the Commissioners Court approval shall be subject to current County Subdivision Rules and Regulations.
- A driveway culvert permit must be obtained from the Road and Bridge Department by the owner of each lot prior to the construction, installation or placement of any driveway access improvements within the dedicated right-of-way.
- No construction, without written approval from Denton County shall be allowed within an identified "FIRM" floodplain area, and then only after a detailed floodplain development permit including engineering plans and studies show that no rise in the Base Flood Elevation (BFE) will result, that no flooding will result, that no obstruction to the natural flow of water will result; and subject to all owners of the property affected by such construction becoming a party to the request. Where construction is permitted, all finished floor elevations shall be a minimum of two feet above the 100-year flood elevation.
- Denton County shall not be responsible for maintenance of private streets, drives, emergency access easements, recreation areas and open spaces; and the owners shall be responsible for the maintenance of private streets, drives, emergency access easements, recreation areas and open spaces, and said owners agree to indemnify and hold harmless Denton County from all claims, damages and losses arising out of or resulting from performance of the obligations of said owners set forth in this paragraph.

OWNER'S CERTIFICATE

STATE OF TEXAS §

COUNTY OF DENTON §

WHEREAS Redeemed Assets LLC, is the owner of the land shown on this plat within the area described by metes and bounds as follows:

BEING a tract of land situated in the James B. P. January Survey, Abstract No. 658, City of Sanger E.T.J., Denton County, Texas and being part of a called 21.394 acre tract described in a Warranty Deed to Redeemed Assets LLC, as recorded in Document No. 2022-40814 of the Official Records of said county, and being more particularly described by metes and bounds as follows:

BEGINNING at a PK nail set in Sam Bass Road (an apparent public right-of-way, no record found), same being the most easterly northeast corner of said 21.394 acre tract and the southeast corner of a called 2.500 acre tract described in a Deed to Robert G. Snyder and wife, Mary Snyder, as recorded in Volume 1632, Page 83 of the Deed Records of said county; **(NOTE: BEARINGS AND DISTANCES ARE BASED ON U. S. STATE PLANE NAD 1983 COORDINATES, TEXAS CENTRAL ZONE - 4203);**

THENCE South 00°05'00" East, along said Sam Bass Road and the most easterly east line of said 21.394 acre tract, a distance of 314.24 feet to a pk nail set for the northeast corner of a called 0.07 acre tract described in a General Warranty Deed, Access Easement and Sanitary Easement to Bolivar Water Supply Corporation, as recorded in Volume 608, Page 618 of said Deed Records;

THENCE North 89°13'22" West, leaving said Sam Bass Road and along the north line of said 0.07 acre tract, a distance of 40.00 feet to a point for the most easterly southeast corner of a called 1.740 acre tract described in a General Warranty Deed to Bolivar Water Supply Corporation, as recorded in Document No. 2022-134931 of said Official Records;

THENCE North 00°05'00" West, along the east line of said 1.740 acre tract, being 40 feet from and parallel with the east line of said 21.394 acre tract, a distance of 254.22 feet to a 5/8 inch iron rod with a yellow cap, stamped "RPLS 6854", found for the northeast corner of said 1.740 acre tract;

THENCE North 89°14'24" West, along the north line of said 1.740 acre tract, a distance of 258.52 feet to a 5/8 inch iron rod with a yellow cap, stamped "RPLS 6854", found for the northwest corner of said 1.740 acre tract;

THENCE South 00°45'36" West, along the west line of said 1.740 acre tract, a distance of 304.11 feet to a 5/8 inch iron rod with a yellow cap, stamped "RPLS 6854", found on the north line of a called 12.50 acre tract described in a General Warranty Deed to Lorne Webster, as recorded in Document No. 2022-73400 of said Official Records and the south line of said 21.394 acre tract, for the southwest corner of said 1.740 acre tract;

THENCE North 89°13'22" West, along the south line of said 21.394 acre tract, a distance of 1,162.25 feet to a 7/8 inch iron rod found for the southeast corner of a called 1.0 acre tract described in a Quit Claim Deed to Susan Whitt Arnold, as recorded in Document No. 2022-78189 of said Official Records and the most southerly southwest corner of said 21.394 acre tract;

THENCE North 00°00'15" East, leaving the north line of said 12.50 acre tract and along the east line of said 1.0 acre tract and the most southerly west line of said 21.394 acre tract, a distance of 414.91 feet to a iron rod with a cap, stamped "PLS INC", found for the northeast corner of said 1.0 acre tract and an inner "L" corner of said 21.394 acre tract;

THENCE North 88°52'58" West, along the north line of said 1.0 acre tract and the most westerly south line of said 21.394 acre tract, a distance of 105.09 feet to a 7/8 inch iron rod found on the east line of a called 25.798 acre tract described in a General Warranty Deed to Gray Dog Properties, LLC, as recorded in Document No. 2018-87831 of said Official Records, for the northwest corner of said 1.0 acre tract and the most westerly southwest corner of said 21.394 acre tract;

THENCE North 00°05'02" West, along the east line of said 25.798 acre tract and the most northerly west line of said 21.394 acre tract, a distance of 278.33 feet to a 5/8 inch iron rod with a yellow cap, stamped "RPLS 6854", set on the south line of Exhibit "B", a called 167.75 acre tract, for the northeast corner of said 25.798 acre tract and the northwest corner of said 21.394 acre tract;

THENCE South 89°14'24" East, along the south line of said 167.75 acre tract and the most northerly north line of said 21.394 acre tract, a distance of 1,240.09 feet to a 1/2 inch iron rod found for the northwest corner of the aforementioned 2.500 acre tract and the most northerly northeast corner of said 21.394 acre tract;

THENCE South 00°22'02" East, along the west line of said 2.500 acre tract and the most northerly east line of said 21.394 acre tract, a distance of 330.14 feet to a 1/2 inch iron rod found for the southwest corner of said 2.500 acre tract and an inner "L" corner of said 21.394 acre tract;

THENCE South 89°14'24" East, along the south line of said 2.500 acre tract and the most easterly north line of said 21.394 acre tract, a distance of 327.97 feet to the **POINT OF BEGINNING** and containing 856,096 square feet or 19.653 acres of land, more or less.

OWNER'S DEDICATION

STATE OF TEXAS §

COUNTY OF DENTON §

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

THAT, Redeemed Assets LLC, acting herein by and through its duly authorized officer, does hereby adopt this plat designating the herein above described property as MARLEY MEADOWS, an addition to the City of Sanger, Texas, and does hereby dedicate to the public use forever by fee simple title, free and clear of all liens and encumbrances, all streets, thoroughfares, alleys, fire lanes, drive aisles, parks, and watercourses, and to the public use forever easements for sidewalks, storm drainage facilities, utilities and any other property necessary to serve the plat and to implement the requirements of the subdivision regulations and other City codes and do hereby bind ourselves, our heirs, successors and assigns to warrant and to forever defend the title on the land so dedicated. Further, the undersigned covenants and agrees that he/she shall maintain all easements and facilities in a state of good repair and functional condition at all times in accordance with City codes and regulations. No buildings, fences, trees, shrubs, or other improvements or growths shall be constructed or placed upon, over, or across the easements as shown, except that landscape improvements may be installed, if approved by the City of Sanger. The City of Sanger and public utility entities shall have the right to access and maintain all respective easements without the necessity at any time of procuring permission from anyone.

WITNESS MY HAND, this _____ day of _____, 2024.

By: Ben Burnside

By: _____
Signature Title: Owner

STATE OF TEXAS §

COUNTY OF DENTON §

BEFORE ME, the undersigned authority, on this day personally appeared Ben Burnside, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purpose and consideration therein expressed, in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE on the _____ day of _____, 2024.

Notary Public, State of Texas

Printed Name _____ My Commission Expires _____

SURVEYOR'S CERTIFICATION

KNOW ALL MEN BY THESE PRESENTS:

That I, Michael L. Black, do hereby certify that I prepared this plat and the field notes made a part thereof from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my personal supervision, in accordance with the Subdivision regulations of the Extra Territorial Jurisdiction of the City of Sanger, Texas.

Michael L. Black
Registered Professional Land Surveyor No. 6854

STATE OF TEXAS §

COUNTY OF DENTON §

BEFORE ME, the undersigned, a Notary Public in and for The State of Texas, on this day personally appeared Michael L. Black, known to me to be the person and officer 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 stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 2024.

Notary Public, State of Texas

PRELIMINARY
THIS DOCUMENT SHALL
NOT BE RECORDED FOR
ANY PURPOSE AND
SHALL NOT BE USED OR
VIEWED OR RELIED
UPON AS A FINAL
SURVEY DOCUMENT

FINAL PLAT
MARLEY MEADOWS
BLOCK A, LOTS 1-8 AND
BLOCK B, LOTS 1-9
17 RESIDENTIAL LOTS
2.454 ACRES RIGHT-OF-WAY DEDICATION
BEING 19.653 ACRES OUT OF THE
JAMES B.P. JANUARY SURVEY, ABSTRACT NO. 658,
CITY OF SANGER E.T.J, DENTON COUNTY, TEXAS



TRINITY
LAND SURVEYING LLC

121 W. Hickory St., Ste. 106 Denton, Texas 76201 FIRM # 10194687 Tel. No. (940) 293-3180

Scale	Drawn by	Checked by	Date	Project No.	Sheet No.
	MLB	TLS	01/16/2024	2022-014	2 OF 2

OWNER / APPLICANT:
Redeemed Assets LLC
2701 Wind River Ln
Denton, Texas 76201
Ph: 940-368-0963
Email: ben.burnside@yahoo.com
Contact: Ben Burnside

SURVEYOR:
Trinity Land Surveying, LLC
1222 Greenbriar St.
Denton, TX 76201
Ph: (940) 293-3180
Email: mblack@trinity-surveying.com
Contact: Michael Black, RPLS

ENGINEER:
Civil Engineering
1001 W. Euless Blvd., Ste. 412h
Euless, TX 76040
Ph: (972) 523-5493
Email: omgg@icivileng.com
Contact: Om Gharty Chhertri, P.E.

APPROVAL BLOCK	
Approved:	
Chairman, Planning & Zoning Commission City of Sanger, TX	Date
Mayor City of Sanger, TX	Date
Attested by:	
City Secretary, City of Sanger, TX	Date



201 Bolivar Street/PO Box 1729 * Sanger, TX 76266
940-458-2059(office) www.sangertexas.org
SUBDIVISION APPLICATION

Preliminary
 Plat Minor
 Plat

Final
 Plat/Replat
 Amended Plat

Vacating Plat
 Conveyance
 Plat

Applicant	Owner (if different from applicant)
Name: Michael Black	Name: Ben Burnside
Company: Trinity Land Surveying LLC	Company: Redeemed Assets LLC
Address: 1222 Greenbriar St.	Address: 2701 Wind River Ln.
City, State, Zip: Denton, Texas 76201	City, State, Zip: Denton, Texas 76210
Phone: 940-293-3180	Phone: 940-368-0963
Fax:	Fax:
Email: mblack@trinity-surveying.com	Email: ben.burnside@yahoo.com

Submittal Checklist

<input checked="" type="checkbox"/>	Pre-Application Conference (Date: 2 / 15 / 2022)
	One (1) Paper Copy of Plat (24"x36", folded to 1/4 size)
<input checked="" type="checkbox"/>	Letter of Intent
<input checked="" type="checkbox"/>	Non-Refundable Application Fee (Check Payable to City of Sanger)
<input checked="" type="checkbox"/>	Application Form (Signed by Owner)
<input checked="" type="checkbox"/>	Applicable Plat Checklist (Completed)
<input checked="" type="checkbox"/>	Additional Required Documents/Traffic & Drainage Studies etc.
<input checked="" type="checkbox"/>	One (1) PDF Copy of all Documents Provided on a CD/DVD or Emailed to development@sangertexas.org

Supporting Materials (List if provided): _____

R Number(s): **56354**

Ben Burnside
Owner's Signature

11/8/23
Date

Applicant's Signature

Date

Office Use: Reviewed by Director of Development Services / /

February 7, 2024

Ms. Ramie Hammonds
Development Services Director/Building Official
City of Sanger
201 Bolivar St.
P.O. Box 1729
Sanger, Tx. 76266

Re: Final Plat Letter of Intent – Marley Meadows

Ms. Hammonds,
On behalf of our client, Redeemed Assets LLC, we respectfully submit this letter of Intent for the attached Final Plat for the Marley Meadows project.

Marley Meadows is a proposed 19.653 acre subdivision within the City of Sanger ETJ. The project is located north of FM 455 on Sam Bass Road, more specifically, 8949 Sam Bass Road.

Marley Meadows proposes to create 1 dedicated street and 17 residential lots.

We appreciate your review and consideration of our request. If you have any questions or require additional information, please contact me at (940) 293-3180 or by email at mblack@trinity-surveying.com.

Sincerely,

Michael L. Black, RPLS #6854 (Tx) PLS #1982 (Ok)

Trinity Land Surveying LLC

Firm # 10194687

1222 Greenbriar St.

Denton, Texas 76201

Ph. 940-293-3180

Email: mblack@trinity-surveying.com

Website: www.trinity-surveying.com



September 22, 2023
AVO 37449

Ms. Ramie Hammonds
Development Services Director/Building Official
City of Sanger
201 Bolivar Street
P.O. Box 1729
Sanger, Texas 76266

Re: **Marley Meadows – Drainage Study in support of the Preliminary Plat**
Fourth Review

Dear Ms. Hammonds,

Halff Associates, Inc. was requested by the City of Sanger to provide a review of the drainage study and downstream assessment in support of the Preliminary Plat for the Marley Meadows development. The drainage study was prepared by iCivil Engineering and is dated January 2023. Comments were provided February 7, 2023. A second submittal was provided May 16, 2023 and comments were provided May 30, 2023. A third submittal was received June 28, 2023. A fourth submittal was received September 14, 2023. Please refer to the Denton County Subdivision Rules and Regulations dated July 2009 for drainage criteria; hereafter referred to as Criteria Manual.

We have completed our review. **The drainage study is acceptable for preliminary platting.** Please address the comments below with the drainage study in support of the final plat/construction plans.

General:

1. **1st – 4th Review Comment:** Plans and plat are reviewed separately. Please note an accepted drainage study is required prior to plat acceptance.
2. **1st – 4th Review Comment:** Please address comments on attached markups and provide **annotated responses on markups.** All the comments have been addressed and response is provided
3. Please provide minimum finished floor elevations 2' above fully developed 100-yr water surface elevation for lots adjacent to proposed channels/roadside ditches on the plat.
1st Review Response: No Response.
2nd Review Comment: Address comments on preliminary plat.
2nd Review Response: Noted
3rd Review Comment: It appears the Ultimate 100yr WSEL's used to determine the min FFE do not match the Ultimate Conditions RAS model at some locations.
 - a. Please reconcile WSEL's on Grading Sheets with the RAS model.
 - b. Please provide the reference cross section on the Grading Sheet.
 - c. Please show all RAS cross sections on the Hydraulic Workmap/s.4th Review Comment: Please update all relevant information based of any changes due to comments. All information has been updated based on changes.
4. **1st - 3rd Review Comment:** Please note, additional comments may result once models and additional info is provided.
4th Review Comment: Please note, additional comments may result once final drainage study/construction plans/ final plats are provided. Noted

Hydrology and Hydraulics:

5. Please apply the existing conditions C values to the proposed conditions runoff calculations for the offsite areas; for a pre- and post- development analysis, the offsite runoff stays constant. Please

update the outfall discharge summaries according to the changes in the calculated existing and proposed runoff. Verify any flow increases.

1st Review Response: Offsite modeled using UH method

2nd Review Comment: Addressed.

6. It appears proposed flow is increased at the south outfall (DP "C"), please extend the hydrologic and hydraulic analysis through the zone of influence per the 10% rule and demonstrate no adverse impacts to downstream properties (no significant increases in water surface elevation and velocities). A proposed development of 19.65 acres will require an overall analysis of 196.5 acres.

1st Review Response: With UH method, no increase in peak discharge at the d/s.

2nd Review Comment: Please include onsite drainage area maps showing the flowpaths in greater detail. Please include the time of concentration parameters, calculations, and assumptions. Reconcile with HMS model.

2nd Review Response: HMS Reconciled, Calculation added

3rd Review Comment: Noted.

7. Please provide a pre- and post- HEC-RAS analysis for receiving creek thru the zone of influence and demonstrate no significant increase in water surface elevation and velocity in existing channels. Also, verify no increases to the backwater at upstream culvert. Include RAS model with next submittal.

1st Review Response: With SCS UH method, no increase in peak discharge at the d/s. RAS model included

2nd Review Comment: Noted. Verify after addressing HMS comments.

2nd Review Response: Updated.

3rd Review Comment: Noted

8. Please provide an Ultimate Conditions Drainage Area Map. Provide calculated runoff for a fully developed condition and design the channel going through the site to contain the fully developed 100-year flow with 1-ft. freeboard. Provide an ultimate conditions RAS model as well.

1st Review Response: HEC-RAS model included for existing, proposed and ultimate condition

2nd Review Comment: It appears that only existing and proposed RAS models were included in the submittal. Please include Ultimate Conditions Flows with Proposed Geometry.

2nd Review Response: ULTIMATE CONDITION ADDED TO MODELS.

3rd Review Comment: Addressed. Address comments on the RAS workmaps and provide annotated responses.

4th Review Comment: Addressed

9. Please provide channel cross sections with hydraulic parameters for proposed channels. Please note, a HEC-RAS model is required to confirm water surface profiles in channels, roadside ditches and culverts. Please provide RAS model and verify proposed channels contain the fully developed 100-yr flow with 1' freeboard. Use $n=.04$ for earthen channel. Include a RAS workmap or add RAS cross sections to the grading plans.

1st Review Response: HEC RAS model included for channels, roadside ditch and culverts

2nd Review Comment: Noted.

10. Channels must be designed to standards. Please refer to criteria manual Section IV-B and section IV3.4 (trapezoidal, 4:1 SS, 1' freeboard from 100-yr fully developed water surface elevation to top of bank, etc). Provide drainage easements with adequate access; include 10' beyond top of bank on both sides.

1st Review Response: Revised the slopes to 4:1

2nd Review Comment: Please address comments on channel profile sheets and hydraulic workmap.

2nd Review Response: Addressed.

3rd Review Comment: Please address comments on hydraulic workmap and grading plan.

4th Review Comment: Please address comment on Sheet 12-8 Addressed

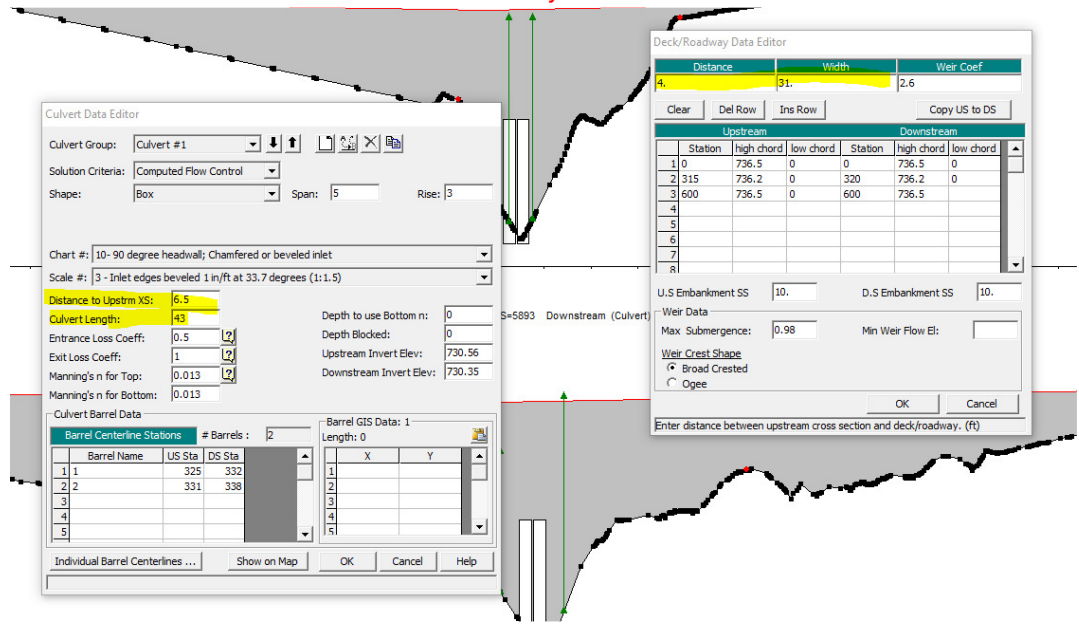
11. Provide RAS model for all proposed roadside ditches (Criteria Manual Section IV.3.4) including Sam Bass Road. Include proposed culverts and driveway culverts and verify the 100-yr fully developed flow is contained within the right of way. If not contained within ROW, additional DE must be dedicated to contain the fully developed 100-yr water surface elevation.
1st Review Response: HEC RAS model included for channels, roadside ditch and culverts
2nd Review Comment: Noted.
12. Please ensure side yard swales contain the 100yr WSEL and do not drain to the adjacent lots. Provide a typical section with hydraulic parameters. Ensure the typical section is feasible in each of the lots according to the grading plan.
1st Review Response: side ditch sized to contain 100 yr discharge
2nd Review Comment: Address side yard swales comment on grading sheets (sheet 8)
2nd Review Response:
3rd Review Comment: Addressed.
13. Verify the roadside ditch on Sam Bass Road does not drain to the proposed Street A roadside ditch.
1st Review Response: Samross culvert does not drain to the proposed street, flow is only 1.23 cfs
2nd Review Comment: Noted.
14. Show and label proposed culvert crossing on street plan and profile. Include 100-yr HGL. Please use a min of 18". Design culvert to pass the fully developed 100-yr flood event with 1' freeboard. Use RAS to evaluate backwater and tailwater at proposed culvert.
1st Review Response: culvert crossing is included in plan set
2nd Review Comment: Noted.
15. Provide Plan and profile for all proposed channels. Show and label the fully developed 100-yr water surface profile and left and right top of bank; verify 1' freeboard. Include culverts and verify 1' freeboard to top of road.
1st Review Response: Channel profile with 100 yr wse is included in plan set
2nd Review Comment: Please use the Ultimate 100yr flow to design the channels.
2nd Review Response: Ultimate Condition Utilized.
3rd Review Comment: (a) It appears the flow change at cross section 5551 does not match the HMS model. Please verify, reconcile and revise. (b) Address comments on sheet 9 and 13 and provide annotated responses.
4th Review Comment: a) Addressed b) Please address comments on Sheets 7, 9, 12-8, and 13B
 All comments addressed
16. The proposed infrastructure (ie inlets, SD, swales, driveway culverts, channels, etc.) included in the drainage study to support the preliminary plat will be reviewed again once the construction plans are available. Update calculations as necessary to correspond to plans.
1st Review Response: All proposed infrastructure calculation are included in plan set
2nd Review Comment: Addressed.
17. 4th Review Comment: Please review and revise HEC-RAS models for the following comments
 DCSRR IV.3.4: Channel bank station adjusted for all cross sections and all channels
 a. Channel bank stations should be adjusted for all cross sections and all channels.
 b. All cross sections must contain the computed water surface elevations. Verified
 c. For Channel-A, why does the n-value decrease (0.04 to 0.035) when transitioning from engineered ditch to the natural, existing channel? Please review and revise as necessary for all HEC-RAS models. n-value for natural channel = 0.035 DCSRR TABLE IV.3-6
 n-value for engineered channel = 0.040 recommended on earlier review

Ms. Ramie Hammonds
September 22, 2023
Page 4 of 4

curved cross-sections
are straightened

- d. Ineffective flow areas should not be located within the conveyance area of the proposed culverts (Channel-A structure cross section 5893). Culvert Ineffective flow area station are adjusted
- e. Flow profiles should not cross (Channel-A 6473 – 6601) Additional cross-sections were added to resolve crossing profiles
- f. Cross sections should not curve (Channel-A 5866 and 5922). Please revise.
- g. Please review and revise all structure data in the HEC-RAS models. Distance and width should be the same in both the Deck/Roadway editor and culvert editor.

Distance and width are now
same on both Deck/Roadway
editor and culvert editor



The Engineer shall revise the hydrologic study and/or plans in accordance with the above comments and/or provide a written response that addresses each comment. If you have any questions or need additional information, please do not hesitate to call me at (214) 937-3953.

Sincerely,
HALFF
TBPELS Firm No. 312

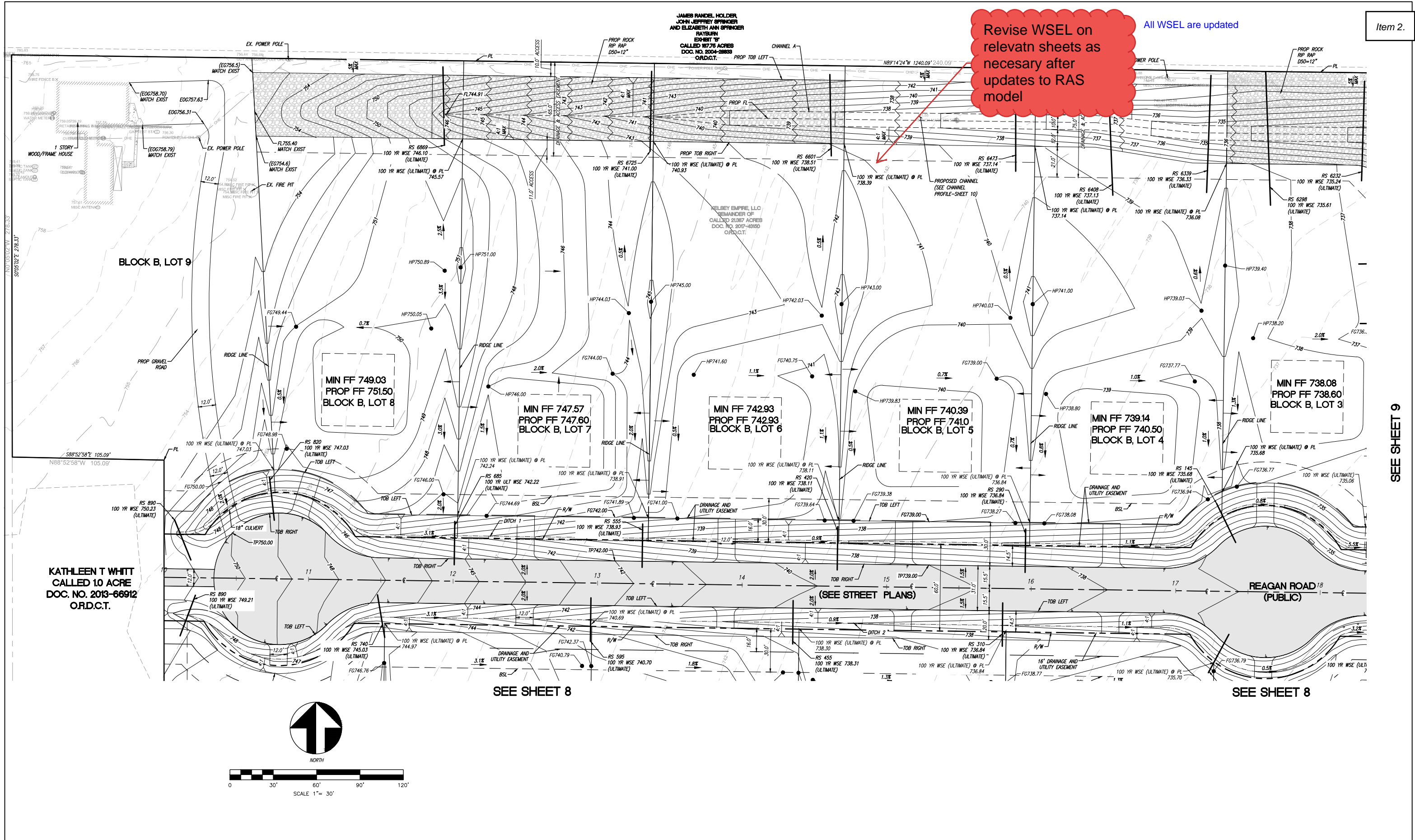
Parker C. Moore, P.E., CFM
Project Manager

Attachment:

- Plan Markups

All WSEL are updated

Revise WSEL on relevant sheets as necessary after updates to RAS model

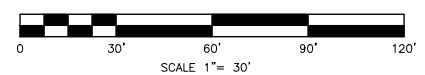
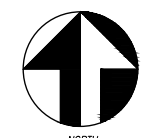


JAMES RANDEL HOLDER,
 JOHN JEFFREY SPRINGER
 AND ELIZABETH ANN SPRINGER
 RAYBURN
 EXHIBIT 'B'
 CALLED 187.76 ACRES
 DOC. NO. 2004-28893
 O.R.D.C.T.

HEISEY EMPIRE, LLC
 REMAINDER OF
 CALLED 21.987 ACRES
 DOC. NO. 2017-48180
 O.R.D.C.T.

KATHLEEN T WHITT
 CALLED 10 ACRE
 DOC. NO. 2013-66912
 O.R.D.C.T.

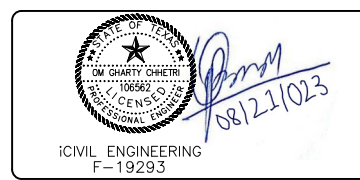
REAGAN ROAD
 (PUBLIC)



iCIVIL ENGINEERING
 1001 W EULESS BLVD, STE 412H
 EULESS, TX 76040
 PH: (972) 523-5493
 TBPE: F-19293
 EMAIL: INFO@ICIVILENG.COM

no.	revision	by	date

scale
 horiz
 vert
 date
 AUG 2023



SANGER, TEXAS
 GRADING PLAN
 FOR
 MARLEY MEADOWS

PROJECT NO.
 sheet
 18
 23

SEE SHEET 9

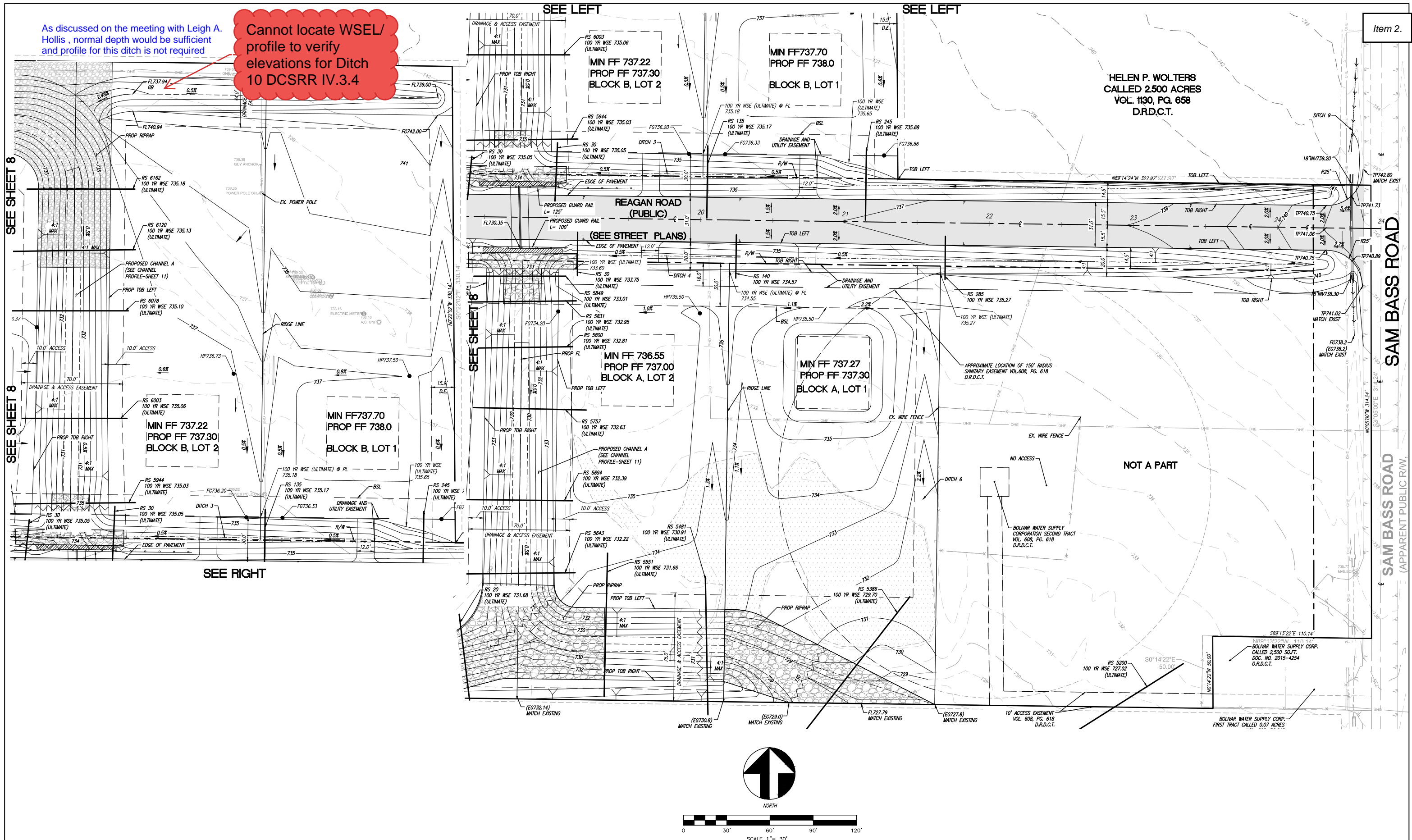
SEE SHEET 8

SEE SHEET 8

As discussed on the meeting with Leigh A. Hollis, normal depth would be sufficient and profile for this ditch is not required

Cannot locate WSEL/
profile to verify
elevations for Ditch
10 DCSRR IV.3.4

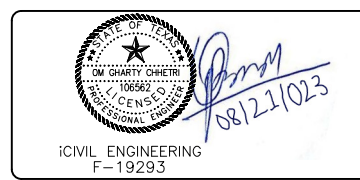
Item 2.



ICIVIL ENGINEERING
1001 W EULESS BLVD, STE 412H
EULESS, TX 76040
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TBPE: F-19293
EMAIL: INFO@ICIVILENG.COM

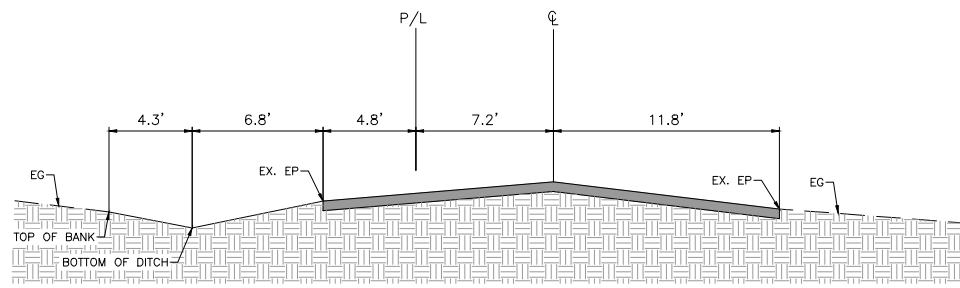
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AUG 2023

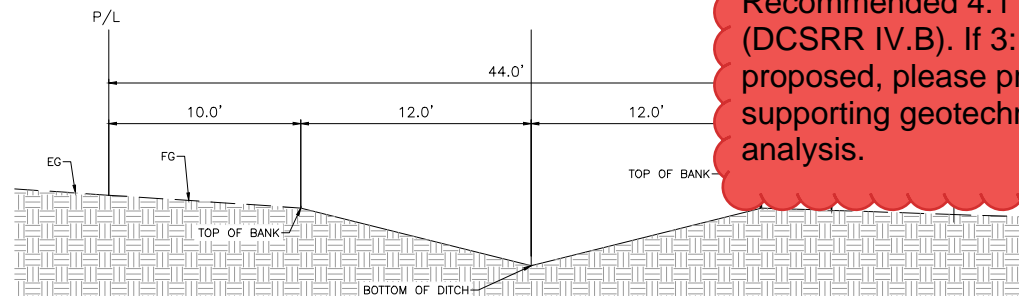


SANGER, TEXAS
GRADING PLAN
FOR
MARLEY MEADOWS

PROJECT NO.
sheet
19
23

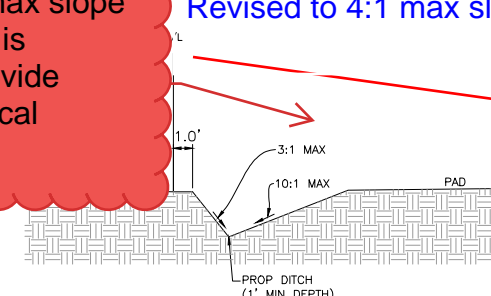


SECTION I-I
NTS



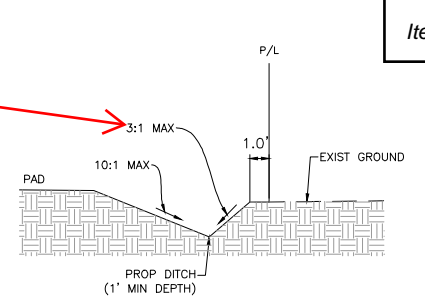
SECTION J-J
NTS

Recommended 4:1 max slope (DCSRR IV.B). If 3:1 is proposed, please provide supporting geotechnical analysis.



SECTION K-K
NTS

Revised to 4:1 max slope



SECTION L-L
NTS

AREA CODE	TIME OF CONCENTRATION CALCULATION																TOC (TOTAL) (Min.)	TOC USED	
	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW						
	LENGTH (ft)	MANNING'S N	P2 (in.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH (ft)	TOC(hr)	TOC(Min.)		
A1a & A1b	100	0.15	3.36	0.02	0.16	9.56	753.0	751.0	185	0.01	1.60	0.03	1.93	7.85	825	0.03	1.75	13.24	15.00

NOTE:
1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
3. P2 = 3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-3

AREA CODE	SHEET FLOW						CHANNEL FLOW 1				CHANNEL FLOW 2				TOC (TOTAL) (Min.)	TOC USED
	LENGTH (ft)	MANNING'S N	P2 (in.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	VEL.(fps)	LENGTH (ft)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH (ft)	TOC(hr)	TOC(Min.)		
A2	100	0.15	3.36	0.05	0.11	6.63	7.85	900.00	0.03	1.91	5.38	462	0.02	1.43	9.97	15.00

NOTE:
1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
3. P2 = 3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-3

DRIVEWAY CULVERT DATA FOR BLK B LOT 3 TO 9							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
10+47.78	0.97	4.20	4.20	LOT 9	18"	746.78	746.03
10+95.82	0.81	3.51	7.71	LOT 8 & 9	18"	745.29	744.55
12+49.77	0.55	2.38	10.09	LOT 7, 8 & 9	24"	740.53	739.79
13+88.82	0.55	2.38	12.47	LOT 6, 7, 8 & 9	24"	736.92	736.76
15+11.52	0.55	2.38	14.85	LOT 5, 6, 7, 8 & 9	27"	736.08	735.85
16+55.07	0.55	2.38	17.23	LOT 4, 5, 6, 7, 8 & 9	27"	734.59	734.28
17+61.27	0.14	0.60	17.83	LOT 3, 4, 5, 6, 7, 8 & 9	27"	733.38	733.07

* CULVERT LENGTH=24', MATERIAL=RCP

DRIVEWAY CULVERT DATA FOR BLK B LOT 1 & 2 CULVERTS							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
20+74.17	2.55	9.00	9.00	LOT 1, OA1a & OA1b	18"	734.11	734.01
19+65.12	1.74	6.16	15.16	LOT 1, 2 & OA1a, OA1b & A3	24"	733.58	733.46

* CULVERT LENGTH=24', MATERIAL=RCP

DRIVEWAY CULVERT DATA FOR BLK A LOT 3 TO 8 CULVERTS							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
10+80.03	0.21	1.17	1.17	LOT 9	18"	746.82	746.08
12+49.73	0.21	1.17	2.34	LOT 8 & 9	18"	741.58	740.84
13+88.82	0.21	1.17	3.51	LOT 7, 8 & 9	18"	737.83	737.60
15+11.46	0.21	1.17	4.68	LOT 6, 7, 8 & 9	18"	736.59	736.34
16+55.08	0.21	1.17	5.85	LOT 5, 6, 7, 8 & 9	18"	735.12	734.88
17+59.72	0.23	1.23	7.08	LOT 4, 5, 6, 7, 8 & 9	18"	734.05	733.82

* CULVERT LENGTH=24', MATERIAL=RCP

DRIVEWAY CULVERT DATA FOR BLK A LOT 1 & 2 CULVERTS							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
20+74.17	0.29	1.62	1.62	A4	18"	734.13	734.01
19+65.12	0.16	0.89	2.51	A4	18"	733.58	733.46

Area ID	DITCH ID	Area (acres)	C	CA	TC (min.)	RUNOFF CALCULATION				Q1 (cfs)	Q5 (cfs)	Q10 (cfs)	Q100 (cfs)	COM.
						I1 (in./hr.)	I5 (in./hr.)	I10 (in./hr.)	I100 (in./hr.)					
SIDE YARD DITCH	DITCH 0	0.75	0.45	0.34	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	DITCH BETWEEN ANY TWO LOTS (TYP.)
A1a & A1b	DITCH 1	4.12	0.55	2.27	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	HALF OF THE LOT DRAINS TO CHANNEL 1
A2	DITCH 2	1.27	0.71	0.90	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	COMPOSITE C=0.71 (CALCULATION PROVIDED ON THIS SHEET)
OA1a, OA1b & A3	DITCH 3	4.29	0.45	1.93	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	AREA A3+OA1a+OA1b DRAINS TO DITCH 3
A4	DITCH 4	0.45	0.75	0.34	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	COMPOSITE C=0.71 (CALCULATION PROVIDED ON THIS SHEET)
OA1b	DITCH 5	1.12	0.45	0.50	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	DITCH FOR OFFSITE AREA DRAINAGE
OA2	DITCH 6	0.96	0.45	0.43	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	DITCH FOR OFFSITE AREA DRAINAGE
OA3	DITCH 7	0.50	0.55	0.28	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	DITCH FOR OFFSITE AREA DRAINAGE
OA3 & A5	DITCH 8	5.56	0.45	2.50	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	1 ACRE LOTS
OA2-a	DITCH 9	0.20	0.78	0.16	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	ROADSIDE DITCH
OA1c	DITCH 10	1.57	0.30	0.47	15	3.34	4.65	5.42	7.87	1.13	1.57	1.83	2.66	DITCH FOR OFFSITE AREA DRAINAGE

NOTE:
C VALUE FOR SINGLE FAMILY RESIDENTIAL 1 ACRE LOTS = 0.45 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
C VALUE FOR SINGLE FAMILY RESIDENTIAL 1/2 ACRE LOTS = 0.55 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
C VALUE FOR STREET = 0.95 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
C VALUE FOR CLAYEY SOIL, AVERAGE, 5-10% = 0.60 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
THE VALUE OF INTENSITY PER HOUR IS TAKEN FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 47-48-49, TABLE IV.1-3

Please double check intensity values vs DCSRR Table IV 1-3 revised

Ditches shall maintain 30" minimum depth (DCSRR IV.B)

These are not ditch but rather swales. Ditch/Swale depth revised

V-DITCH CAPACITY CALCULATION						
DITCH ID	Q100 (cfs)	AVERAGE SLOPE (ft/ft)	MANNING'S N	WATER DEPTH (ft.)	VELOCITY (fps)	TOTAL DITCH DEPTH (ft)
DITCH 1	17.83	0.020	0.040	0.91	3.47	3.5
DITCH 2	7.10	0.020	0.040	0.80	2.77	2.5
DITCH 3	15.19	0.020	0.040	1.07	3.32	2.5
DITCH 4	2.66	0.020	0.040	0.55	2.07	2.5
DITCH 5	3.97	0.005	0.040	0.70	1.25	1.0
DITCH 6	3.40	0.005	0.040	0.66	1.20	1.0
DITCH 7	2.16	0.005	0.040	0.56	1.06	1.0
DITCH 8	19.69	0.015	0.040	1.24	3.20	4.5
DITCH 9	1.23	0.005	0.040	0.37	0.80	1.0
DITCH 10	3.71	0.0068	0.040	0.77	1.56	3.0

WEIGHTED RUNOFF COEFFICIENT (DITCH-2)			
LAND USE	TOTAL LAND AREA	RUNOFF COEF.	WEIGHTED RUNOFF COEF.
ASPHALT/CONCRETE	0.41	0.95	0.71
CLAYEY SOIL 5-10%	0.86	0.60	

WEIGHTED RUNOFF COEFFICIENT (DITCH-4)			
LAND USE	TOTAL LAND AREA	RUNOFF COEF.	WEIGHTED RUNOFF COEF.
ASPHALT/CONCRETE	0.19	0.95	0.75
CLAYEY SOIL 5-10%	0.26	0.60	

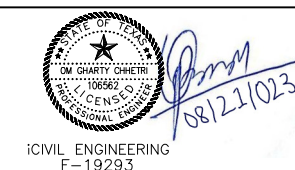
WEIGHTED RUNOFF COEFFICIENT (DITCH-9)			
LAND USE	TOTAL LAND AREA	RUNOFF COEF.	WEIGHTED RUNOFF COEF.
ASPHALT/CONCRETE	0.10	0.95	0.78
CLAYEY SOIL 5-10%	0.10	0.60	



iCIVIL ENGINEERING
1001 W EULESS BLVD, STE 412H
EULESS, TX 76040
PH: (972) 523-5493
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AUG 2023



SANGER, TEXAS
DITCH AND CULVERT CALCULATIONS
FOR
MARLEY MEADOWS

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	6000	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48
	6000	Q50	13.20	736.34	736.99	736.81	0.013098	1.68	78.03	208.64	0.49
CHANNEL-A	6000	Q100	19.90	736.34	737.03	736.80	0.013098	1.77	66.94	227.07	0.50

Check to ensure no increases in water surface elevations for all storm events or crossing profiles for all channels/ditches

Verified

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	6000	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48
	6000	Q50	13.20	736.34	736.99	736.81	0.013098	1.68	78.03	208.64	0.49

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	6000	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48
	6000	Q50	13.20	736.34	736.99	736.81	0.013098	1.68	78.03	208.64	0.49

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch	
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)	
CHANNEL-A	5893	Culvert #1	Q10	733.43	732.82	733.14	733.43	736.21	122.60	0.35	6.54	5.77
CHANNEL-A	5893	Culvert #1	Q50	734.34	733.66	733.97	734.34	736.21	184.30	0.70	7.79	7.06
CHANNEL-A	5893	Culvert #1	Q100	734.77	734.46	734.46	734.77	736.21	215.50	0.89	8.36	7.66
CHANNEL-A	5893	Culvert #1	Q100 (ULT)	734.85	734.13	734.53	734.85	736.21	221.50	0.93	8.47	7.78

CULVERT ANALYSIS

HEC-RAS Plan: CHANNEL-A PROP CONDITION River: CHANNEL-A Reach: CHANNEL-A

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch	
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)	
CHANNEL-A	5893	Culvert #1	Q10	733.43	732.82	733.14	733.43	736.21	122.60	0.35	6.54	5.77

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	5893	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48

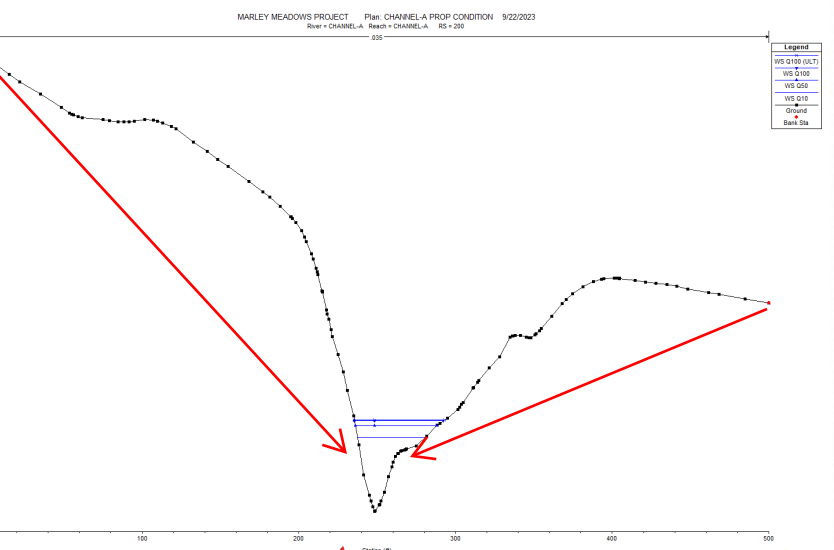
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	5893	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	5893	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	5893	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	5893	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	E.G. Elev	E.G. Slope	Vel Ch	Flow Area	Top Width	Froude # Ch
(ft)	(ft)	(ft)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(sq ft)	(ft)	(ft/s)
CHANNEL-A	5893	Q10	11.20	736.34	736.99	736.81	0.013098	1.45	89.50	182.60	0.48



Critical depth still exists

This section barely have any flow. Rip-Rap is provided

Channel bank stations should be adjusted for all cross sections and all channels. DCSR IV.3.4 Please see additional HEC-RAS comments in letter

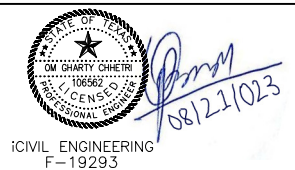
All Channel all bank stations are updated



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SANGER, TEXAS
HYDRAULIC WORK MAP
FOR
MARLEY MEADOWS

PROJECT NO.
sheet
1 of 21
23



DATE: 02/07/2024

1st REVIEW COMMENTS – Final Plat (Marley Meadows)

The request is for a Final Plat of Marley Meadows containing 17 lots, being approximately 19.653 acres in the JAMES B.P. JANUARY SURVEY, ABSTRACT NO. 658, prepared by Trinity Land Surveying, submitted on 01/16/2024. Below are the comments that should be addressed before City Council approval. Resubmit the revised plat along with a response letter addressing all comments.

Planning

Provide the following

1. Show the centerline of existing streets. Dimensions from centerline to edges of existing and proposed right of way on both sides of the centerline.
2. Notation to be added; “Minimum finished floor elevations are at least 2 feet about the 100-year flood plain.”
3. Notation to be added; “The subject property does not lie within a 100-year floodplain according to the Community Panel No._____, dated_____, of the National Flood Insurance Rate maps for Denton County, Texas.”
4. A signed and notarized copy of private restriction (if any), that is filed for the record in the office of the County Clerk shall be provided with the Final Plat.

Informational Comments

1. The property is within the Sanger ETJ.
2. The Final Pat will be scheduled for the Planning and Zoning (P&Z) Commission meeting on Monday, February 12, 2024, and the City Council meeting on Monday, March 4, 2024.



January 24, 2024
AVO 37449

Ms. Ramie Hammonds
Development Services Director/Building Official
City of Sanger
201 Bolivar Street
P.O. Box 1729
Sanger, Texas 76266

Re: **Marley Meadows – Drainage Study in support of the Final Plat**
3rd Review

Dear Ms. Hammonds,

Halff Associates, Inc. was requested by the City of Sanger to provide a review of the drainage study and downstream assessment in support of the Preliminary Plat for the Marley Meadows development. The drainage study was prepared by iCivil Engineering and is dated January 2023. Comments were provided February 7, 2023. A second submittal was provided May 16, 2023 and comments were provided May 30, 2023. A third submittal was received June 28, 2023. A fourth submittal was received September 14, 2023. Please refer to the Denton County Subdivision Rules and Regulations dated July 2009 for drainage criteria; hereafter referred to as Criteria Manual.

We have completed our review. **The drainage study is acceptable for preliminary platting.** Please address the comments below with the drainage study in support of the final plat/construction plans.

General:

1. **1st – 5th Review Comment:** Plans and plat are reviewed separately. Please note an accepted drainage study is required prior to plat acceptance.
2. **1st – 5th Review Comment:** Please address comments on attached markups and provide **annotated responses on markups.**
3. Please provide minimum finished floor elevations 2' above fully developed 100-yr water surface elevation for lots adjacent to proposed channels/roadside ditches on the plat.
1st Review Response: No Response.
2nd Review Comment: Address comments on preliminary plat.
2nd Review Response: **Noted**
3rd Review Comment: It appears the Ultimate 100yr WSEL's used to determine the min FFE do not match the Ultimate Conditions RAS model at some locations.
 - a. Please reconcile WSEL's on Grading Sheets with the RAS model.
 - b. Please provide the reference cross section on the Grading Sheet.
 - c. Please show all RAS cross sections on the Hydraulic Workmap/s.**4th & 5th Review Comment:** Please update all relevant information based of any changes due to comments.
4. **1st - 3rd Review Comment:** Please note, additional comments may result once models and additional info is provided.
4th & 5th Review Comment: Please note, additional comments may result once final drainage study/construction plans/ final plats are provided.

Hydrology and Hydraulics:

5. Please apply the existing conditions C values to the proposed conditions runoff calculations for the offsite areas; for a pre- and post- development analysis, the offsite runoff stays constant. Please

Ms. Ramie Hammonds
 January 24, 2024
 Page 2 of 4

update the outfall discharge summaries according to the changes in the calculated existing and proposed runoff. Verify any flow increases.

1st Review Response: Offsite modeled using UH method

2nd Review Comment: Addressed.

6. It appears proposed flow is increased at the south outfall (DP "C"), please extend the hydrologic and hydraulic analysis through the zone of influence per the 10% rule and demonstrate no adverse impacts to downstream properties (no significant increases in water surface elevation and velocities). A proposed development of 19.65 acres will require an overall analysis of 196.5 acres.

1st Review Response: With UH method, no increase in peak discharge at the d/s.

2nd Review Comment: Please include onsite drainage area maps showing the flowpaths in greater detail. Please include the time of concentration parameters, calculations, and assumptions. Reconcile with HMS model.

2nd Review Response: HMS Reconciled, Calculation added

3rd Review Comment: Noted.

7. Please provide a pre- and post- HEC-RAS analysis for receiving creek thru the zone of influence and demonstrate no significant increase in water surface elevation and velocity in existing channels. Also, verify no increases to the backwater at upstream culvert. Include RAS model with next submittal.

1st Review Response: With SCS UH method, no increase in peak discharge at the d/s. RAS model included

2nd Review Comment: Noted. Verify after addressing HMS comments.

2nd Review Response: Updated.

3rd Review Comment: Noted

8. Please provide an Ultimate Conditions Drainage Area Map. Provide calculated runoff for a fully developed condition and design the channel going through the site to contain the fully developed 100-year flow with 1-ft. freeboard. Provide an ultimate conditions RAS model as well.

1st Review Response: HEC-RAS model included for existing, proposed and ultimate condition

2nd Review Comment: It appears that only existing and proposed RAS models were included in the submittal. Please include Ultimate Conditions Flows with Proposed Geometry.

2nd Review Response: ULTIMATE CONDITION ADDED TO MODELS.

3rd Review Comment: Addressed. Address comments on the RAS workmaps and provide annotated responses.

4th Review Comment: Addressed

9. Please provide channel cross sections with hydraulic parameters for proposed channels. Please note, a HEC-RAS model is required to confirm water surface profiles in channels, roadside ditches and culverts. Please provide RAS model and verify proposed channels contain the fully developed 100-yr flow with 1' freeboard. Use $n=0.04$ for earthen channel. Include a RAS workmap or add RAS cross sections to the grading plans.

1st Review Response: HEC RAS model included for channels, roadside ditch and culverts

2nd Review Comment: Noted.

10. Channels must be designed to standards. Please refer to criteria manual Section IV-B and section IV3.4 (trapezoidal, 4:1 SS, 1' freeboard from 100-yr fully developed water surface elevation to top of bank, etc). Provide drainage easements with adequate access; include 10' beyond top of bank on both sides.

1st Review Response: Revised the slopes to 4:1

2nd Review Comment: Please address comments on channel profile sheets and hydraulic workmap.

2nd Review Response: Addressed.

3rd Review Comment: Please address comments on hydraulic workmap and grading plan.

4th Review Comment: Please address comment on Sheet 12-8

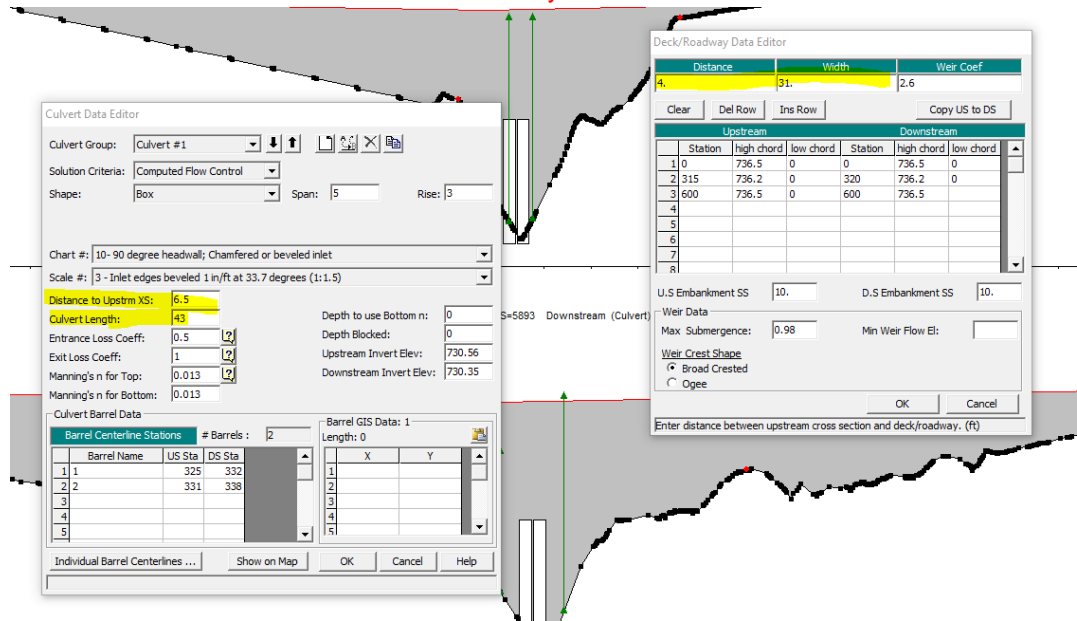
Ms. Ramie Hammonds
 January 24, 2024
 Page 3 of 4

5th Review Comment: Addressed

11. Provide RAS model for all proposed roadside ditches (Criteria Manual Section IV.3.4) including Sam Bass Road. Include proposed culverts and driveway culverts and verify the 100-yr fully developed flow is contained within the right of way. If not contained within ROW, additional DE must be dedicated to contain the fully developed 100-yr water surface elevation.
1st Review Response: HEC RAS model included for channels, roadside ditch and culverts
2nd Review Comment: Noted.
12. Please ensure side yard swales contain the 100yr WSEL and do not drain to the adjacent lots. Provide a typical section with hydraulic parameters. Ensure the typical section is feasible in each of the lots according to the grading plan.
1st Review Response: side ditch sized to contain 100 yr discharge
2nd Review Comment: Address side yard swales comment on grading sheets (sheet 8)
2nd Review Response:
3rd Review Comment: Addressed.
13. Verify the roadside ditch on Sam Bass Road does not drain to the proposed Street A roadside ditch.
1st Review Response: Samross culvert does not drain to the proposed street, flow is only 1.23 cfs
2nd Review Comment: Noted.
14. Show and label proposed culvert crossing on street plan and profile. Include 100-yr HGL. Please use a min of 18". Design culvert to pass the fully developed 100-yr flood event with 1' freeboard. Use RAS to evaluate backwater and tailwater at proposed culvert.
1st Review Response: culvert crossing is included in plan set
2nd Review Comment: Noted.
15. Provide Plan and profile for all proposed channels. Show and label the fully developed 100-yr water surface profile and left and right top of bank; verify 1' freeboard. Include culverts and verify 1' freeboard to top of road.
1st Review Response: Channel profile with 100 yr wse is included in plan set
2nd Review Comment: Please use the Ultimate 100yr flow to design the channels.
2nd Review Response: Ultimate Condition Utilized.
3rd Review Comment: (a) It appears the flow change at cross section 5551 does not match the HMS model. Please verify, reconcile and revise. (b) Address comments on sheet 9 and 13 and provide annotated responses.
4th Review Comment: a) Addressed b) Please address comments on Sheets 7, 9, 12-8, and 13B
5th Review Comment: Addressed
16. The proposed infrastructure (ie inlets, SD, swales, driveway culverts, channels, etc.) included in the drainage study to support the preliminary plat will be reviewed again once the construction plans are available. Update calculations as necessary to correspond to plans.
1st Review Response: All proposed infrastructure calculation are included in plan set
2nd Review Comment: Addressed.
17. 4th Review Comment: Please review and revise HEC-RAS models for the following comments DCSRR IV.3.4:
 - a. Channel bank stations should be adjusted for all cross sections and all channels. OK
 - b. All cross sections must contain the computed water surface elevations.
 - i. 5th Review Comment - XS 2000 & 2200. Recommend cutting off HEC-RAS model approximately 1,000 ft downstream of project area.

Ms. Ramie Hammonds
 January 24, 2024
 Page 4 of 4

- c. For Channel-A, why does the n-value decrease (0.04 to 0.035) when transitioning from engineered ditch to the natural, existing channel? Please review and revise as necessary for all HEC-RAS models. **OK.**
- d. Ineffective flow areas should not be located within the conveyance area of the proposed culverts (Channel-A structure cross section 5893). **OK**
- e. Flow profiles should not cross (Channel-A 6473 – 6601) **OK**
- f. Cross sections should not curve (Channel-A 5866 and 5922). Please revise. **OK**
- g. Please review and revise all structure data in the HEC-RAS models. Distance and width should be the same in both the Deck/Roadway editor and culvert editor. **OK**



- h. **5th Review Comment-** N-values should be defined for the left overbank, channel, and right overbank at a minimum. One (1) n-value should not be used for the entire length of the cross section.

The Engineer shall revise the hydrologic study and/or plans in accordance with the above comments and/or provide a written response that addresses each comment. If you have any questions or need additional information, please do not hesitate to call me at (214) 937-3953.

Sincerely,
 HALFF
 TBPELS Firm No. 312

Parker C. Moore, P.E., CFM
 Project Manager

Attachment:

- Plan Markups

CIVIL PLANS FOR MARLEY MEADOWS SAM BASS ROAD SANGER, TEXAS

SHEET INDEX

SHEET NO	DESCRIPTION
C.1	COVER SHEET
C.2	GENERAL NOTES
C.3	SURVEY AND PLAT
C.4	DEMOLITION PLAN
C.5	STREET PLAN
C.6	STREET PLAN
C.7	GRADING PLAN
C.8	GRADING PLAN
C.9	GRADING PLAN
C.10-A	PRE PROJECT TOC CALCULATION
C.10-B	PRE DEVELOPMENT DRAINAGE AREA MAP
C.11-A	POST AND ULTIMATE TOC CALCULATION
C.11-B	POST AND ULTIMATE DRAINAGE AREA MAP
C.12-A	DITCH AND CULVERT CALCULATIONS
C.12-B	DITCH AND CULVERT CALCULATIONS
C.13-A	HYDRAULIC WORK MAP
C.13-B	HYDRAULIC WORK MAP
C.13-C	HYDRAULIC WORK MAP
C.13-D	HYDRAULIC WORK MAP
C.14	CHANNEL PROFILE
C.15	CHANNEL PROFILE
C.16	CHANNEL PROFILE
C.17	CULVERT PLAN AND PROFILE
C.18	WATER MAIN PLAN
C.19	WATER MAIN PLAN
C.20	EROSION CONTROL PLAN
C.21	STANDARD DETAILS
C.22	STANDARD DETAILS
C.23	STANDARD DETAILS

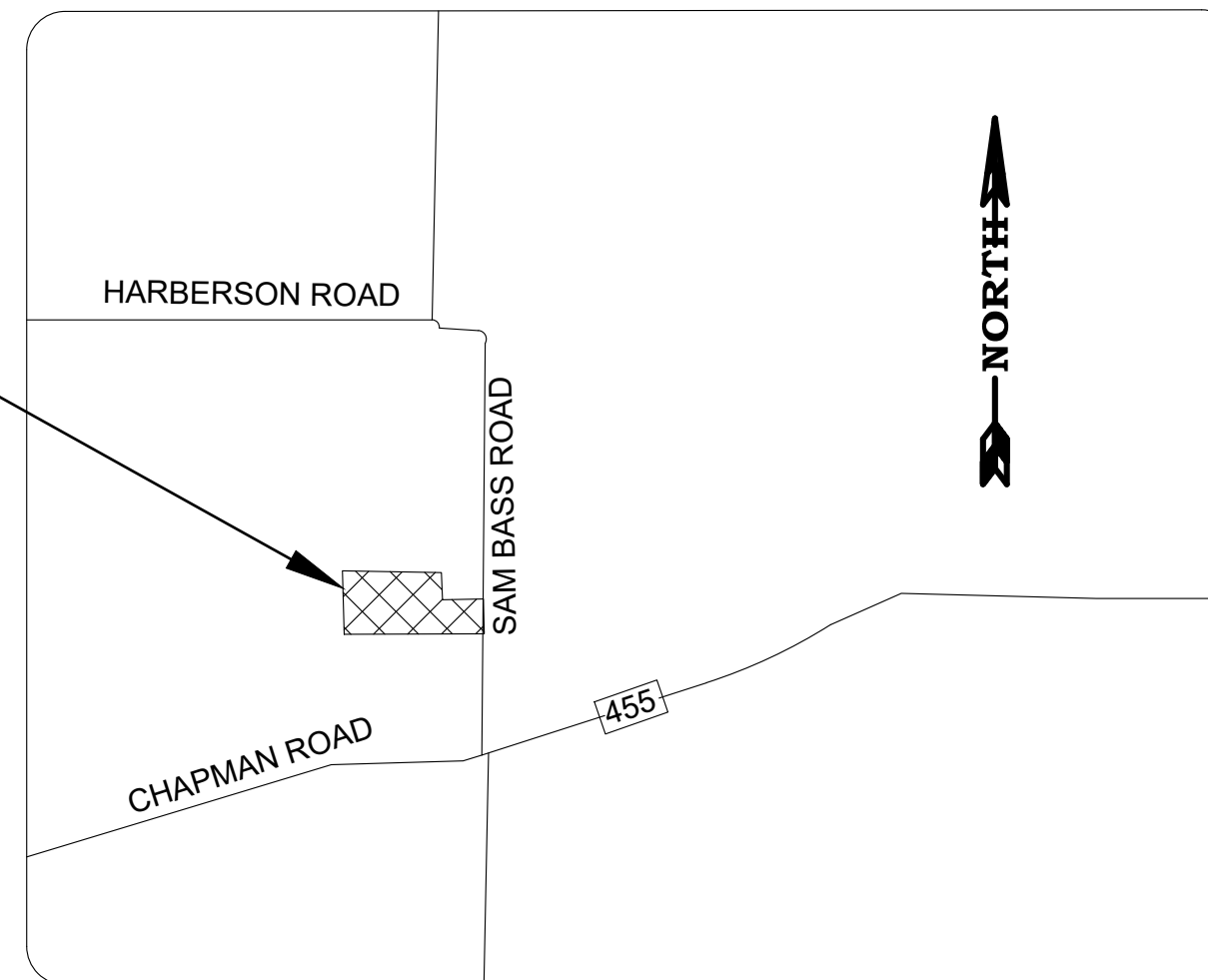
LEGEND

- ■ ■ ■ ■ RETAINING WALL
- 10 — EXIST. CONTOUR
- 10 — PROPOSED CONTOUR
- X-X- EXISTING FENCE
- W — EXIST. WATER MAIN
- S — EXIST. SEWER MAIN
- STM — EXIST. STORM MAIN
- ▶ FLOW DIRECTION
- ▨ SAWCUT, REMOVE AND REPLACE
- ▩ PROP 6" RIP-RAP
- ▭ PROP PAVEMENT
- ▩ PROP LANDSCAPE

ABBREVIATION

- TC TOP OF CURB
- TP TOP OF PAVEMENT
- FS FINISH SURFACE
- FG FINISH GRADE
- CF CURB FACE
- FL FLOWLINE
- HP HIGH POINT
- LP LOW POINT
- TG TOP OF GRATE
- GB GRADE BREAK
- P/L PROPERTY LINE
- R/W RIGHT OF WAY
- TRW TOP OF RETAINING WALL
- TF TOP OF FOOTING
- RH RETAINED HEIGHT
- SW SIDEWALK
- OHE. OVERHEAD ELECTRICITY
- WM WATER METER
- PP POWER POLE
- TOC TOP OF CLEANOUT
- SHLD SHOULDER
- UE UTILITY EASEMENT
- TOD TOP OF DITCH
- RCB REINFORCED CONCRETE BLOCK
- TOB TOP OF BANK
- DE DRAINAGE EASEMENT
- B.W.S. BOLIVAR WATER SUPPLY

PROJECT SITE



VICINITY MAP

NOT TO SCALE

PROJECT OWNER:
REDEEMED ASSETS LLC
2701 WIND RIVER LN,
DENTON, TX, 76210-2965

PROPERTY ADDRESS:
8949 SAM BASS ROAD
SANGER, TX 76266

TOPOGRAPHIC SURVEY BY:
TRINITY LAND SURVEYING LLC
1222 GREENBRIAR ST.
DENTON, TX 76201
FIRM NO. :10194687
TEL. NO. (940) 293-3180

PREPARED BY:
iCIVIL ENGINEERING
1001 W EULESS BLVD, STE 412H
EULESS, TX 76040
TEL.(972) 523-5493
TBPE:F-19293
EMAIL:INFO@ICIVILENG.COM

BENCHMARK:
TBM#1 "X" SET ON A 15'RCP HEADWALL
8'± NORTH OF THE EASTERLEY SOUTH
PROPERTY LINE AND 18'± WEST OF THE
CENTERLINE OF SAM BASS ROAD.
ELEV: 735.46'

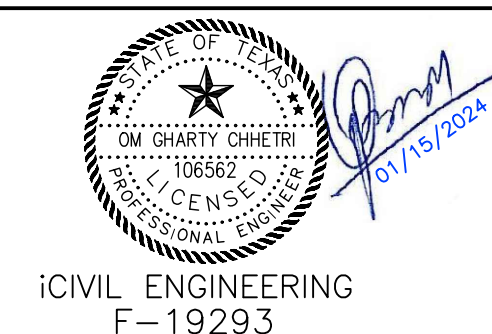
TBM#2 5/8" IRON ROD SET ON THE SOUTH
SIDE OF A GRAVEL ROAD, 37'± SOUTH OF
THE
NORTH PROPERTY LINE AND 654'± EAST OF
THE WEST PROPERTY LINE.
ELEV: 741.70'



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SANGER, TEXAS
COVER SHEET
FOR
MARLEY MEADOWS

PROJECT NO.

sheet
1
of
23

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT CITY OF SANGER STANDARDS, DENTON COUNTY & TXDOT SPECIFICATIONS. A COPY OF THE CONTRACT DOCUMENTS AND PLANS SHALL BE AVAILABLE ON-SITE AT ALL TIMES BY THE CONTRACTOR.
2. ALL COMMUNICATION BETWEEN THE CITY AND THE CONTRACTOR SHALL BE THROUGH THE ENGINEERING CONSTRUCTION INSPECTOR AND ENGINEER OF RECORD ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE APPROPRIATE DEPARTMENT FOR INSPECTIONS OF WORK NOT FALLING UNDER THE PUBLIC WORKS CONSTRUCTION PERMIT.
3. THE LOCATION AND DEPTH OF ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND THERE MAY BE OTHER UNKNOWN EXISTING UTILITIES NOT SHOWN ON THE PLANS. ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED AND PROTECTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. (ALSO SEE GENERAL NOTE NO. 4.4) THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES 72 HOURS PRIOR TO DOING ANY WORK IN THE AREA:
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM THE FOLLOWING:
 - 4.1. PREVENT ANY PROPERTY DAMAGE TO PROPERTY OWNER'S POLES, FENCES, SHRUBS, MAILBOXES, ETC
 - 4.2. LOCATE, VERIFY WORKING CONDITION AND PROTECT ALL EXISTING SPRINKLER SYSTEMS LINES AND HEADS (IF ANY) WITHIN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. REMOVE, ADJUST AND REINSTALL IN GOOD CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITION; REPLACE, IF IN DIRECT CONFLICT, WITH THE SAME OR BETTER QUALITY MATERIAL AND APPURTENANCES, ALL AT THE CONTRACTOR'S OWN EXPENSE.
 - 4.3. PROVIDE ACCESS TO ALL DRIVES DURING CONSTRUCTION.
 - 4.4. PROTECT ALL UNDERGROUND AND OVERHEAD UTILITIES AND REPAIR ANY DAMAGES. (ALSO SEE GENERAL NOTE NO. 3.)
 - 4.5. NOTIFY ALL UTILITY COMPANIES AND VERIFY LOCATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
 - 4.6. PROVIDE CONSTRUCTION STAKING OF PUBLIC IMPROVEMENTS CONSTRUCTED WITHIN ANY RIGHT-OF-WAY. STAKING SHALL BE PERFORMED BY A SURVEYOR LICENSED IN THE STATE OF TEXAS.
 - 4.7. COOPERATE WITH THE UTILITY COMPANIES WHERE UTILITIES ARE REQUIRED OR SPECIFIED TO BE RELOCATED.
 - 4.8. WORK IN CLOSE PROXIMITY TO AND PROTECT EXISTING UTILITY MAINS, TRAFFIC LIGHTS AND POLES.
 - 4.9. ANY ITEM NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO REMOVING THAT ITEM OR IT SHALL BE REPLACED AT THE CONTRACTOR'S OWN EXPENSE.
 - 4.10. ANY TREE, SHRUB, OR GRASSED AREAS DAMAGED BY THE CONTRACTOR'S WORK SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE TO EXISTING OR BETTER CONDITION.
5. IN THE PREPARATION OF THE PLANS AND SPECIFICATIONS, THE ENGINEER OF RECORD HAS ENDEAVORED TO INDICATE THE LOCATION OF EXISTING UNDERGROUND UTILITIES. IT IS NOT GUARANTEED THAT ALL LINES OR STRUCTURES HAVE BEEN SHOWN ON THE PLANS. THE CONTRACTOR SHALL REQUEST FOR LINE LOCATES AS DIRECTED IN ITEM #3. THE ENGINEER OF RECORD SHALL BE NOTIFIED ABOUT ANY CONFLICTS TO PROVIDE WRITTEN DIRECTION AND REVISED PLANS AS REQUIRED.
6. VERIFICATION OF THE CONDITION OF EXISTING COUNTY UTILITIES PRIOR TO CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL REQUEST FOR LINE LOCATES AS DIRECTED IN ITEM #3.
7. THE LOCATION FOR THE DISPOSAL OF CONSTRUCTION MATERIAL AND SPOILS SHALL BE ACCEPTED BY THE COUNTY PRIOR TO THE START OF CONSTRUCTION AS REFLECTED WITHIN THE STORMWATER POLLUTION PREVENTION PLAN.
8. ALL PHASES OF CONSTRUCTION MUST BE COORDINATED WITH THE ENGINEER OF RECORD. ALSO, THE CONTRACTOR IS REQUIRED TO COORDINATE WITH THE ADJACENT PROPERTY OWNERS AND THE COUNTY IN ORDER TO MINIMIZE CONFLICTS IN TRAFFIC FLOW OR OTHER OPERATIONS.
9. IT SHALL BE UNLAWFUL FOR ANY PERSON TO LAY, CONSTRUCT, BUILD, GRADE, GRAVEL, PAVE, SURFACE, EXCAVATE, RESURFACE, OR DO ANY WORK IN OR UPON ANY PUBLIC STREET, ALLEY, EASEMENT, THOROUGHFARE, PUBLIC PLACE, OR CONNECT TO PUBLIC WATER AND WASTEWATER MAINS WITHIN THE COUNTY, WITHOUT FIRST HAVING OBTAINED A PERMIT TO DO SUCH WORK FROM THE DIRECTOR OF PUBLIC WORKS, AND WITHOUT HAVING PAID A PERMIT FEE TO THE COUNTY. THE PERMITTEE SHALL NOTIFY THE COUNTY OF THE CONSTRUCTION STARTUP DATE AND AN EXPECTED COMPLETION DATE.
10. FIELD ADJUSTMENTS MAY BE NECESSARY AND SHALL BE CARRIED OUT AS DIRECTED IN WRITTEN FORM, AND REVISED PLANS AS NEEDED, BY THE ENGINEER OF RECORD. THE ADJUSTMENTS SHALL BE COORDINATED WITH THE CONTRACTOR AND THE ENGINEERING CONSTRUCTION INSPECTOR.
11. THE CONTRACTOR SHALL VERIFY, LOCATE, AND PROTECT EXISTING WATER, WASTEWATER, FIBER OPTIC CABLE/PATHWAYS (COUNTY AND FRANCHISE UTILITY), TRAFFIC SIGNALS AND APPURTENANCES, STORM DRAINAGE, NATURAL GAS, PETROLEUM PIPELINES, ELECTRIC AND TELEPHONE MAINS AND SERVICES AND RESTORE SERVICE IN CASE OF ANY DAMAGE.
12. THE PERMITTED CONTRACTOR MAKING CONNECTIONS/EXTENSIONS TO EXISTING PUBLIC UTILITIES SHALL BE SOLELY RESPONSIBLE FOR BACKFILL OF THE UTILITY TRENCH, AND ANY PAVING REPAIRS REQUIRED FOR COMPLETION OF THE CONNECTION/EXTENSION. ALL PAVING REPAIRS SHALL COMPLY WITH THE CURRENT COUNTY STANDARD DETAILS. THIRD PARTY WORK, NOT COVERED BY THE PERMITTEES PERMIT AND MAINTENANCE BOND, SHALL NOT BE ACCEPTED.
13. SHEETING, SHORING, AND BRACING: THE CONTRACTOR WILL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS GOVERNING EXCAVATION. TRENCH'S SIDE SLOPES SHALL MEET OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS THAT ARE IN EFFECT AT THE TIME OF CONSTRUCTION. SHEETING SHORING AND BRACING SHALL BE REQUIRED IF SIDE SLOPE STANDARDS ARE NOT MET. A PULL BOX, MEETING OSHA STANDARDS, WILL BE ACCEPTABLE. THE CONTRACTOR SHALL SUBMIT SITE SPECIFIC, DETAILED PLANS AND SPECIFICATIONS FOR TRENCH SAFETY SYSTEMS THAT MEET OSHA STANDARDS HAT ARE IN EFFECT AT THE TIME OF DEVELOPMENT OF PROJECT WHEN TRENCH EXCAVATION WILL EXCEED A DEPTH OF FIVE (5) FEET. THESE PLANS WILL BE SEALED BY AN ENGINEER REGISTERED BY THE STATE OF TEXAS AND SUBMITTED TO THE COUNTY PRIOR TO OBTAINING RELEASE OF THE PUBLIC WORKS CONSTRUCTION PERMIT.
14. THE ROAD OR STREETS SHALL CONSIST OF AT LEAST 2" OF HOT-MIX ASPHALTIC CONCRETE OVERLAY.THE FLEXIBLE BASE SHALL BE MIN OF 22' WIDE AND BE TO A DEPTH OF 4" COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.THE FLEXIBLE BASE SHALL BE EITHER:
 - A.COVERED WITH A PRIMER AT AN APPLICATION RATE OF 1/2 GALLON PER SQUARE YARD
15. THE CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR REVIEW AND ACCEPTANCE BY THE COUNTY PRIOR TO ANY PLACEMENT FOR ANY PUBLICLY DEDICATED INFRASTRUCTURE.
16. ALL EXISTING GRADES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. GRADES SHALL BE VERIFIED AND ANY DISCREPANCY BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD FOR EVALUATION AND ADJUSTMENTS AS NEEDED.
17. ALL BACKFILL FOR DITCH LINES ARE TO BE MECHANICALLY TAMPED TO 95% STD PROCTOR DENSITY (ASTM D698), AT A MOISTURE CONTENT NEAR OPTIMUM (-2% TO +2%, OR AS SPECIFIED BY THE ENGINEER OF RECORD). COSTS OF TESTING SERVICES FOR PRIVATE DEVELOPMENT, ON INFRASTRUCTURE THAT IS TO BE DEDICATED TO THE COUNTY, SHALL BE PAID BY THE DEVELOPER/CONTRACTOR. TESTING SHALL COMPLY WITH THE COUNTY STANDARDS AND THE CURRENT STANDARD DETAILS. ALL TEST REPORTS FOR PUBLIC INFRASTRUCTURE SHALL BE PROVIDED TO THE COUNTY IN A TIMELY MANNER. COSTS FOR RE-TESTING AFTER NOTED FAILURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
18. CONTRACTOR TO FILL ALL VOIDS UNDER EXISTING PAVEMENT WHEN INSTALLING NEW LINE. ALSO ALL DITCH LINES MUST BE FILLED AT THE END OF EACH DAY'S WORK. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE PROPER COUNTY DEPARTMENTS FOR ANY TRENCHES THAT ARE TO LEFT OPEN OVERNIGHT AND SHALL PROPERLY MARK AND PROTECT THE TRENCH.
19. ALL PIPES SHALL BE KEPT FREE OF TRASH AND DIRT AT ALL TIME. AT THE END OF EACH DAY, THE PIPE SHALL BE TEMPORARILY SEALED/CONNECTED. ALL PIPE INSTALLATION SHALL BE PERFORMED AS RECOMMENDED PER THE PIPE MANUFACTURER.
20. THE CONTRACTOR SHALL KEEP THE EXISTING FIRE HYDRANT(S), IF ANY IN SERVICE AT ALL TIMES, TO THE EXTENT POSSIBLE. THE CONTRACTOR SHALL BAG OR MARK FIRE HYDRANTS PROPERTY AND NOTIFY THE FIRE DEPARTMENT UPON REMOVING ANY HYDRANT FROM SERVICE. CONSTRUCTION THAT CAUSES THE INTERRUPTION OF WATER SUPPLY FOR FIRE SUPPRESSION MAY REQUIRE A FIRE WATCH TO BE PERFORMED BY THE FIRE DEPARTMENT. COSTS FOR FIRE WATCH SERVICES ARE AT THE CONTRACTOR'S EXPENSE.
21. THE CONTRACTOR SHALL MAINTAIN THE EXISTING WATER MAINS IN SERVICE DURING ALL PHASES OF CONSTRUCTION. LEAKS CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. LEAKS ALONG THE EXISTING WATER MAIN CLOSE TO THE WORKING AREA, CAUSED BY VIBRATION, ETC. (DURING WORKING HOURS) SHALL BE REPAIRED BY THE CONTRACTOR WITH THE COUNTY ONLY PROVIDING THE REQUIRED PARTS. THE COUNTY WILL REPAIR ALL LEAKS IF THE CONTRACTOR IS NOT ON THE JOB-SITE (PRIMARILY AFTER WORKING HOURS); IF THE LEAK IS DIRECTLY CAUSED BY THE CONTRACTOR AND NOT REPAIRED, ALL CHARGES INCURRED SHALL BE BILLED TO THE CONTRACTOR.
22. ALL CUTTING AND PLUGGING OF THE EXISTING WATER MAIN, WHERE SPECIFIED ON THE PLANS, SHALL INCLUDE ALL LABOR, FITTINGS AND APPURTENANCES REQUIRED TO PERFORM THIS WORK.
23. THE CONTRACTOR SHALL CONTACT THE ASSIGNED INSPECTOR FOR THE OPERATION OF ALL WATER VALVES & SCHEDULING OF SERVICES BY WATER/WASTEWATER.
24. THE CONTRACTOR SHALL MAINTAIN THE EXISTING WATER MAINS AND SERVICES IN OPERATION WHEN INSTALLING NEW WATER MAINS. THIS SHALL INCLUDE ANY TEMPORARY CONNECTIONS, IF REQUIRED.
25. THE CONTRACTOR MUST NOTIFY EACH PROPERTY OWNER A MINIMUM OF 24 HOURS PRIOR TO SHUTTING OFF WATER FOR CONNECTION TO NEW MAIN. THE CONTRACTOR SHALL NOTIFY THE ENGINEERING CONSTRUCTION INSPECTOR A MINIMUM OF 72 HOURS IN ADVANCE FOR ALL WATER OR WASTEWATER LOCATES OR SHUT OFFS OF WATER. THE LENGTH OF TIME FOR WATER SHUTDOWNS SHALL BE LIMITED TO AS NEEDED TO PERFORM THE REQUIRED WORK.
26. THE CONTRACTOR SHALL MAINTAIN THE EXISTING WASTEWATER MAINS AND SERVICES IN OPERATION WHEN INSTALLING NEW WASTEWATER MAINS. THIS SHALL INCLUDE ANY TEMPORARY CONNECTIONS, IF REQUIRED.
27. THE MAXIMUM DEFLECTION OF PIPE JOINTS SHALL NOT EXCEED THAT RECOMMENDED BY THE PIPE MANUFACTURE. IF IT IS NECESSARY TO DEFLECT THE PIPE (GREATER THAT THE RECOMMENDED AMOUNT) THE CONTRACTOR SHALL PROVIDE FITTINGS AS NEEDED.
28. PRIOR TO THE START OF CONSTRUCTION, COUNTY WATER/WASTEWATER REPRESENTATIVE AND THE CONTRACTOR SHALL MAKE A DRY RUN TO THE SYSTEM TO INSURE, TO THE EXTENT POSSIBLE, THAT THE UTILITY CAN BE FOUND AND SECURED. ANY ISSUES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD TO PROVIDE WRITTEN DIRECTION AND PROVIDE REVISED PLANS AS NEEDED.
29. TRAFFIC CONTROL PLANS SHALL BE SUBMITTED TO THE COUNTY. THE TRAFFIC CONTROL PLAN AND BARRICADES SHALL MAINTAIN TRAFFIC FLOW AND SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TMTUCD AND PREPARED BY A WORK ZONE CERTIFIED TECHNICIAN. TRAFFIC CONTROL PLANS SHALL BE SUBMITTED A MINIMUM OF TWO WEEKS IN ADVANCE OF WORK COMMENCING. TEMPORARY STREET CLOSURE REQUESTS SHALL BE SUBMITTED IN WRITING.
30. ALL PAVEMENT MARKINGS, INCLUDING RAISED PAVEMENT MARKERS, LANE STRIPING, TRANSVERSE MARKINGS, SIGNS AND OTHER TRAFFIC CONTROL DEVICES, DISTURBED DURING CONSTRUCTION SHALL BE MAINTAINED, REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
31. SEED/SOD SHALL BE FURNISHED TO ESTABLISH GROUND COVER OVER ALL DISTURBED AREAS AS AN EROSION CONTROL MEASURE. THE CONTRACTOR SHALL NOT WAIT UNTIL THE COMPLETION OF THE ENTIRE PROJECT BEFORE DOING THIS WORK.
32. ALL SANITARY SEWER AND WATER MAIN CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY OR EASEMENT SHALL CONFORM TO THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) GUIDELINES FOR CONSTRUCTION OF PUBLIC WATER AND SEWER SYSTEMS. CONTRACTOR SHALL MAINTAIN A COPY OF THE DESIGN DOCUMENTS AT THE JOBSITE AT ALL TIMES.
33. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE DEVELOPMENT PLANS RELEASED FOR CONSTRUCTION. THE CONTRACTOR SHALL INSURE THAT ALL EROSION CONTROL MEASURES ARE MAINTAINED AT ALL TIMES IN A CONDITION ACCEPTABLE TO THE PUBLIC WORKS ENGINEERING INSPECTOR.
34. THE CONTRACTOR SHALL NOT ALLOW SOIL AND DEBRIS TO ENTER EXISTING INLETS. ALL INLETS SHALL BE PROTECTED DURING CONSTRUCTION.
35. THE CONTRACTOR SHALL NOT DISPOSE OF WASTE OR ANY OTHER MATERIALS INTO STREAMS OR WATERWAYS. EXCESS MATERIAL SHALL BE HAULED OFF-SITE EACH DAY AND WILL NOT BE ALLOWED TO ACCUMULATE.
36. THE CONTRACTOR SHALL NOT BURY RUBBISH OR WASTE MATERIALS ON-SITE. BURNING MATERIALS WILL NOT BE ALLOWED WITHOUT PROPER WRITTEN AUTHORIZATION FROM THE RUSK FIRE DEPARTMENT.
37. THE CONTRACTOR SHALL WET DOWN THE CONSTRUCTION SITE AS DIRECTED BY THE COUNTY TO PREVENT BLOWING DUST.
38. THE CONTRACTOR SHALL CLEAN STREETS ADJACENT TO THE CONSTRUCTION SITE TO REMOVE MATERIALS DEPOSITED BY CONSTRUCTION VEHICLES ENTERING AND LEAVING THE CONSTRUCTION SITE.
39. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND MONITOR ALL WARNING AND SAFETY DEVICES (FLASHING LIGHTS, BARRICADES, SIGNS, ETC.) AS DEEMED NECESSARY BY THE COUNTY. WARNING AND SAFETY DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
40. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND VERIFY IN THE FIELD THE LOCATIONS, ELEVATIONS AND SIZES OF CONFLICTING AND / OR ADJACENT UTILITIES IN ADVANCE OF BEGINNING CONSTRUCTION.
41. THE COUNTY STANDARD DETAILS SHALL SUPERSEDE ANY DETAILS CONTAINED WITHIN THE PLAN SET.
42. THE CONTRACTOR SHALL COMPLY TO RULES AND REGULATIONS OF NEW SUBDIVISIONS IN DENTON COUNTY, TEXAS EFFECTIVE AS OF APRIL 24, 2018.

WATER GENERAL NOTES

1. UNLESS OTHERWISE NOTED ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS AND STANDARDS OF THE BOLIVER WATER SUPPLY CORPORATION.
2. ALL WATER MAIN CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY OR EASEMENT SHALL CONFORM TO THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) GUIDELINES FOR CONSTRUCTION OF PUBLIC WATER AND SEWER SYSTEMS. CONTRACTOR SHALL MAINTAIN A COPY OF THE DESIGN DOCUMENTS AT THE JOBSITE AT ALL TIMES.
3. CONTRACTOR SHALL MAINTAIN EXISTING WATER SERVICE AT ALL TIMES DURING CONSTRUCTION.
4. THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE CITY AND UTILITY COMPANY RECORDS AND PLANS, AND ARE CONSIDERED APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL LOCATIONS, ELEVATIONS AND DIMENSIONS OF ADJACENT AND/OR CONFLICTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION IN ORDER THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE CONTRACTOR SHALL PRESERVE AND PROTECT PUBLIC UTILITIES AT ALL TIMES DURING CONSTRUCTION. ANY DAMAGE TO UTILITIES RESULTING FROM CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT HIS EXPENSE. THE CITY OF SANGER ENGINEERING DEPARTMENT SHALL BE NOTIFIED WHEN PROPOSED WATER LINE GRADES CONFLICT WITH EXISTING UTILITY LINES. AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING CONSTRUCTION IN THE VICINITY OF EXISTING UTILITIES, THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES TO LOCATE ALL UNDERGROUND UTILITIES.
5. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE UNLESS NOTED OTHERWISE
6. ALL WATER MAINS SHALL BE C-900, DR-14 PVC PIPE.
7. THE CONTRACTOR SHALL PROVIDE A TRENCH SAFETY PLAN PRIOR TO BEGINNING HIS WORK.
8. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF FORTY-EIGHT INCHES (48") TO THE TOP OF PIPE.
9. ALL WATER MAIN FITTINGS SHALL BE MECHANICAL AND SHALL BE POLYWRAPPED.
10. ALL PROPOSED WATER MAINS SHALL BE PRESSURE TESTED, FLUSHED AND STERILIZED AND MEET ALL FEDERAL AND STATE TESTING REQUIREMENTS.



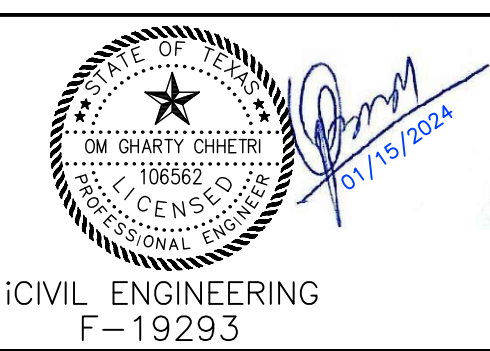
iCIVIL ENGINEERING
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SANGER, TEXAS

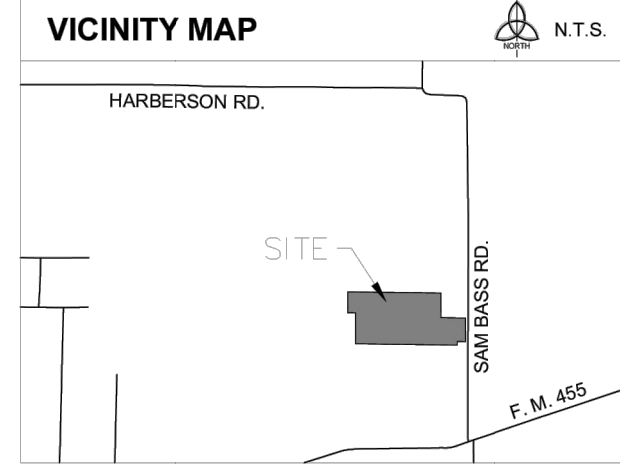
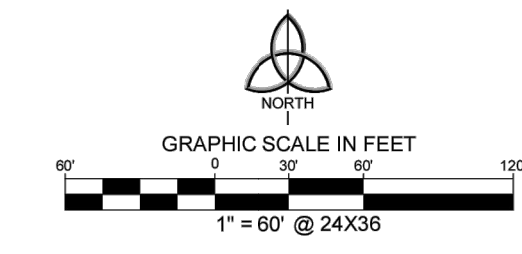
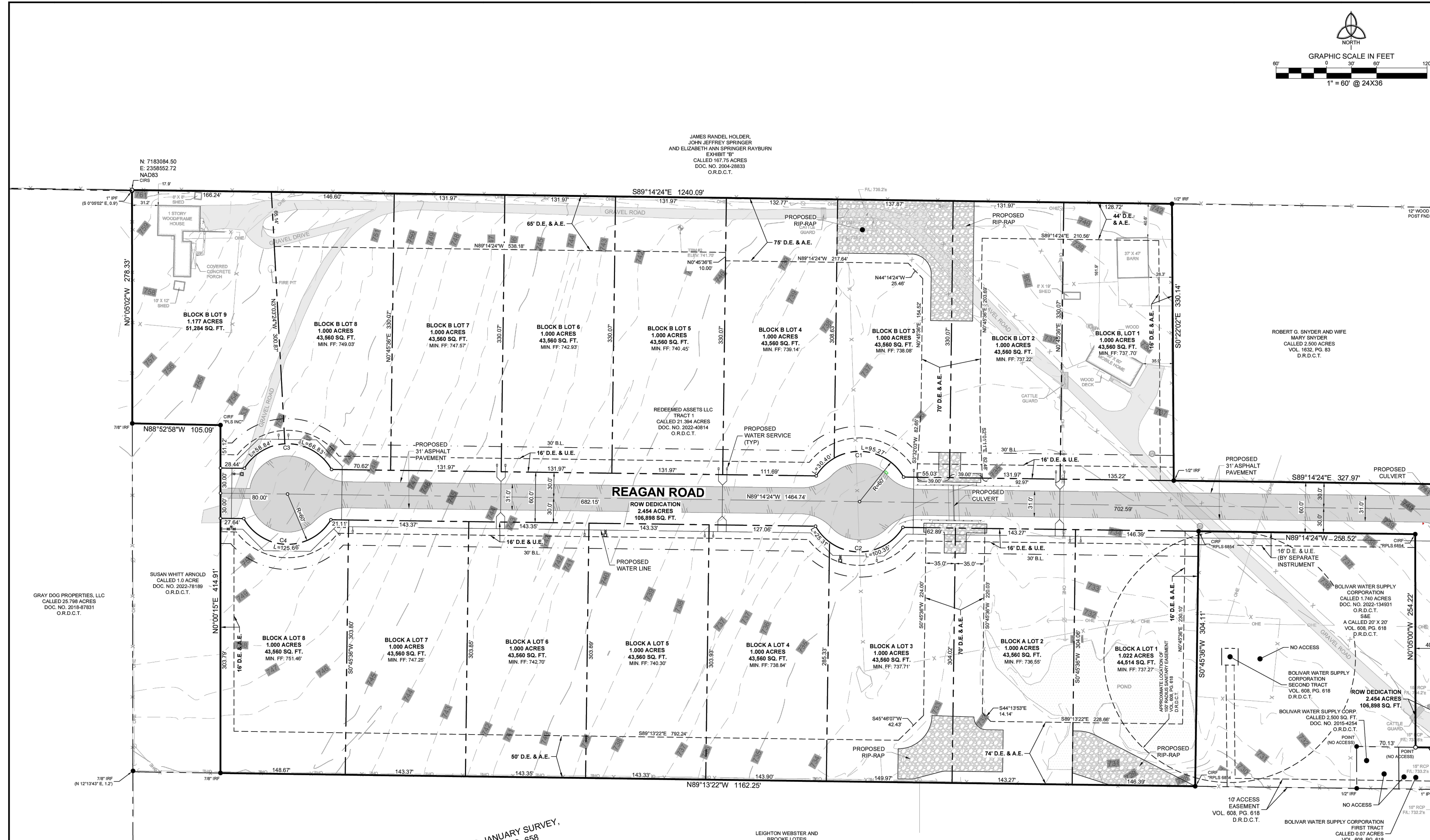
GENERAL NOTES

FOR

MARLEY MEADOWS

PROJECT NO.

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of
23



LEGEND

TV	CABLE TV BOX	TBM	TEMPORARY BENCHMARK
EM	ELEVATION BENCHMARK	ELEV	ELEVATION
GA	GAS TANK	FL	FLOW LINE
T	TELEPHONE BOX	RCP	REINFORCED CONCRETE PIPE
TV	TELEPHONE VAULT	CMF	CORROGATED METAL PIPE
EA	ELECTRIC ANCHOR	MON	MONUMENT FOUND
EM	ELECTRIC METER	PKS	PK MAIL SET
UP	UTILITY POLE	IPF	IRON PIPE FOUND
AG	AG LANT	IPF	IRON ROD FOUND
MB	MAIL BOX	P.C.B.	POINT OF BEGINNING
CS	SANITARY SEWER CLEANOUT	O.R.D.C.T.	OFFICIAL RECORDS DENTON COUNTY, TEXAS
ST	SANITARY SEWER SEPTIC TANK	O.R.D.C.T.	DEED RECORDS DENTON COUNTY, TEXAS
FM	FIRE HYDRANT	O.R.D.C.T.	DEED RECORDS DENTON COUNTY, TEXAS
WM	WATER METER	VOL	VOLUME
WV	WATER VALVE	PG	PAGE
WP	WATER PUMP	PG	PAGE
ISV	IRRIGATION VALVE	U.E.	UTILITY EASEMENT
SI	SIEN	D.E.	DRAINAGE EASEMENT

LINE TYPE LEGEND

---	BOUNDARY LINE
- - -	EASEMENT LINE
---	BUILDING LINE
---	STORM SEWER LINE
---	OVERHEAD UTILITY LINE
X	FENCE
---	CONCRETE PAVEMENT
---	ASPHALT PAVEMENT
---	BUILDING/HOUSE
---	COVERED AREA / OVERHANG

NOTICE:
Preliminary Plat for Review Purposes Only.

**PRELIMINARY PLAT
MARLEY MEADOWS
BLOCK A, LOTS 1-8 AND
BLOCK B, LOTS 1-9**

17 RESIDENTIAL LOTS
2.454 ACRES RIGHT-OF-WAY DEDICATION
BEING 19.653 ACRES OUT OF THE
JAMES B.P. JANUARY SURVEY, ABSTRACT NO. 658,
CITY OF SANGER E.T.J., DENTON COUNTY, TEXAS

**TRINITY
LAND SURVEYING LLC**

1222 Greenbriar St., Denton, Texas 76201 FIRM # 10194687 Tel. No. (940) 293-3180

Scale	Drawn by	Checked by	Date	Project No.	Sheet No.
1" = 60'	MLB	TLS	08/21/2023	2022-014	1 OF 2

OWNER / APPLICANT:
Redeemed Assets LLC
2701 West River Ln.
Denton, Texas 76210
Ph: (940) 293-3180
Email: ben.burmesde@yahoo.com
Contact: Ben Burmesde

SURVEYOR:
Trinity Land Surveying, LLC
1222 Greenbriar St.
Denton, TX 76201
Ph: (940) 293-3180
Email: mlba@trinity-surveying.com
Contact: Michael Black, RPLS

ENGINEER:
ICivil Engineering
1001 W. Euleless Blvd., Ste. 412h
Euleless, TX 76040
Ph: (972) 523-5493
Email: emrp@icivileng.com
Contact: Om Gharty Chhetri, P.E.

CURVE TABLE

NO.	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
C1	120°00'00"	60.00'	125.68'	S89°14'24"E	103.92'
C2	120°00'00"	60.00'	125.68'	N89°14'24"W	103.92'
C3	120°00'00"	60.00'	125.68'	N89°14'24"W	103.92'
C4	120°00'00"	60.00'	125.68'	N89°14'24"W	103.92'

SANITARY EASEMENT QUOTE, AS RECORDED IN VOLUME 608, PAGE 618, DEED RECORDS, DENTON COUNTY, TEXAS:

"Further, as part of the consideration herein, Grantor, Lois N. Wolters, agrees not to build or maintain any septic tank or open-jointed drain field therefrom, cess pool, privy, stock pen, dump ground, or any other facility which might create a danger of pollution of the water of any well which might be drilled upon Tract Two above described for a distance of 150 feet from the well as drilled and developed. This sanitary easement shall constitute a covenant running with the land and shall bind the undersigned, his successors and assigns, and this grant of Sanitary Easement is made to the said BOLIVAR WATER SUPPLY CORPORATION, its successors and assigns."

FLOOD STATEMENT:

According to Federal Emergency Management Agency's Flood Insurance Rate Map No. 48121C0205G, for Denton County, Texas and incorporated areas, dated April 18, 2011, this property is located within:

Zone X (unshaded) defined as "Areas determined to be outside the 0.2% annual chance floodplain"

If this site is not within an identified special flood hazard area, this flood statement does not imply that the property and/or the structures thereon will be free from flooding or flood damage. On rare occasions, greater floods can and will occur and flood heights may be increased by man-made or natural causes. This flood statement shall not create liability on the part of the surveyor.

BENCH MARK LIST

TBM #1 15" RCP SET ON A 15" RCP HEADWALL 8± NORTH OF THE MOST EASTERLY SOUTH PROPERTY LINE AND 18± WEST OF THE CENTERLINE OF SAM BASS ROAD. ELEV: 735.46'

TBM #2 5/8" IRON ROD SET ON THE SOUTH SIDE OF A GRAVEL ROAD, 37± SOUTH OF THE NORTH PROPERTY LINE AND 654± EAST OF THE WEST PROPERTY LINE. ELEV: 741.70'

LOT TABLE

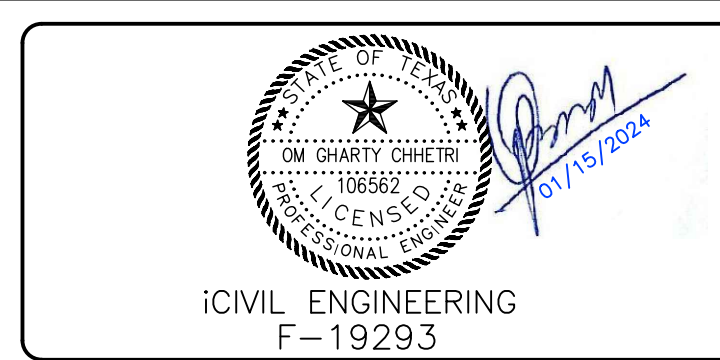
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BLOCK A LOT 1	1.022	44,514
BLOCK A LOT 2	1.000	43,560
BLOCK A LOT 3	1.000	43,560
BLOCK A LOT 4	1.000	43,560
BLOCK A LOT 5	1.000	43,560
BLOCK A LOT 6	1.000	43,560
BLOCK A LOT 7	1.000	43,560
BLOCK A LOT 8	1.000	43,560
BLOCK B LOT 1	1.000	43,560
BLOCK B LOT 2	1.000	43,560
BLOCK B LOT 3	1.000	43,560
BLOCK B LOT 4	1.000	43,560
BLOCK B LOT 5	1.000	43,560
BLOCK B LOT 6	1.000	43,560
BLOCK B LOT 7	1.000	43,560
BLOCK B LOT 8	1.000	43,560
BLOCK B LOT 9	1.177	51,284
BOUNDARY	19.653	856,096
ROW DEDICATION	2.454	106,898



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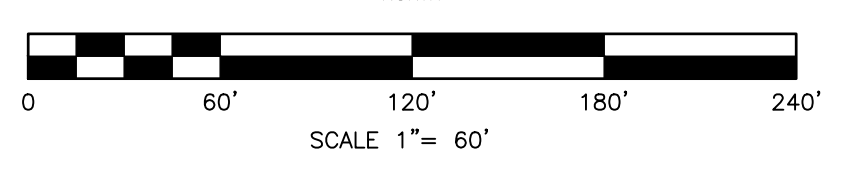
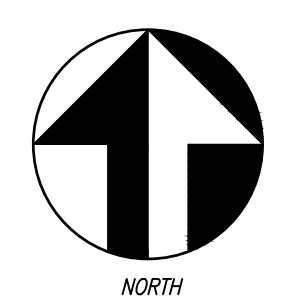
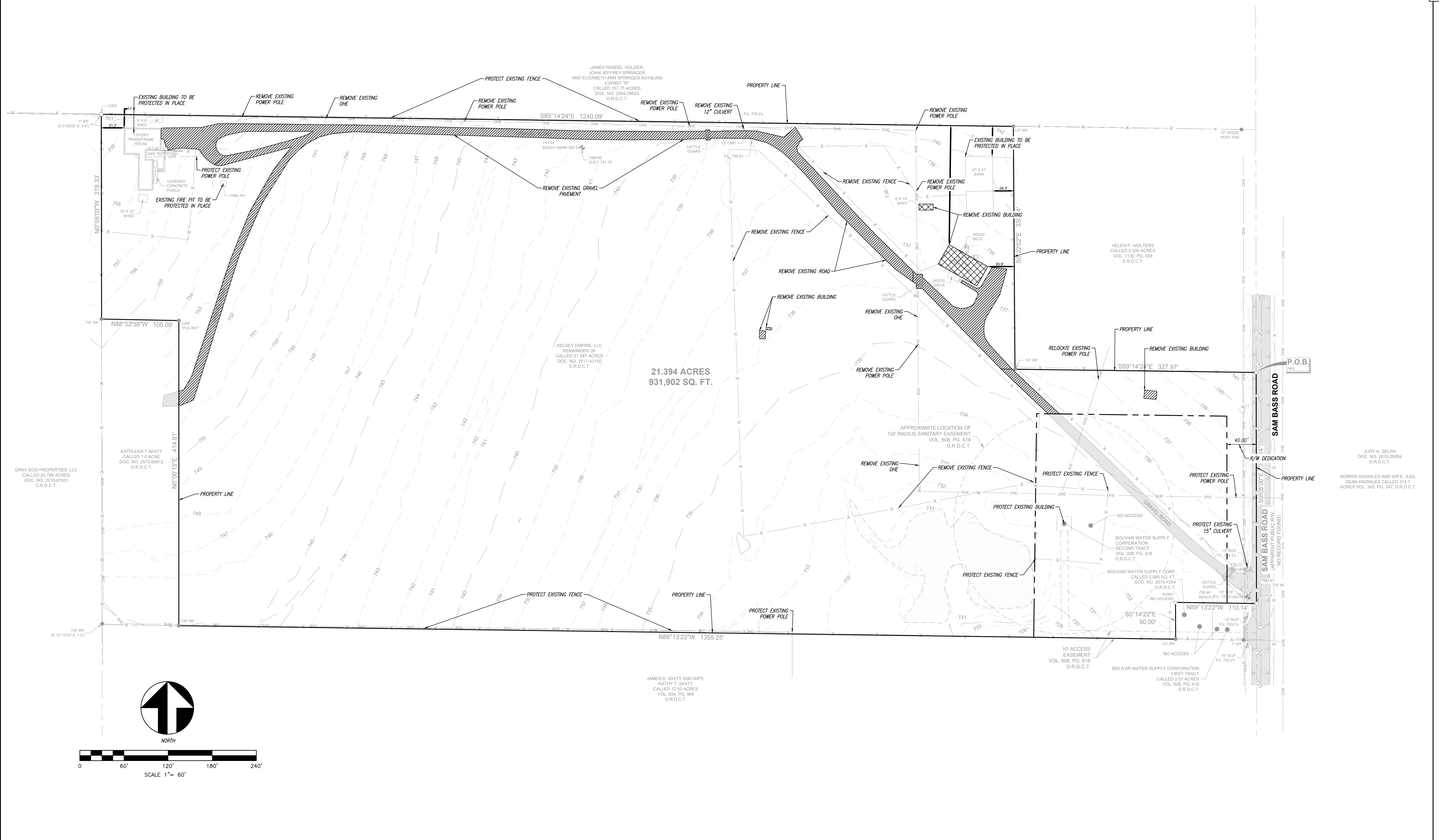
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SANGER, TEXAS
SURVEY & PLAT
FOR
MARLEY MEADOWS

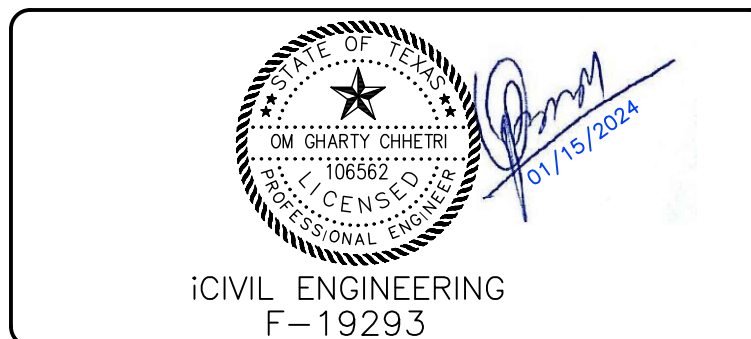
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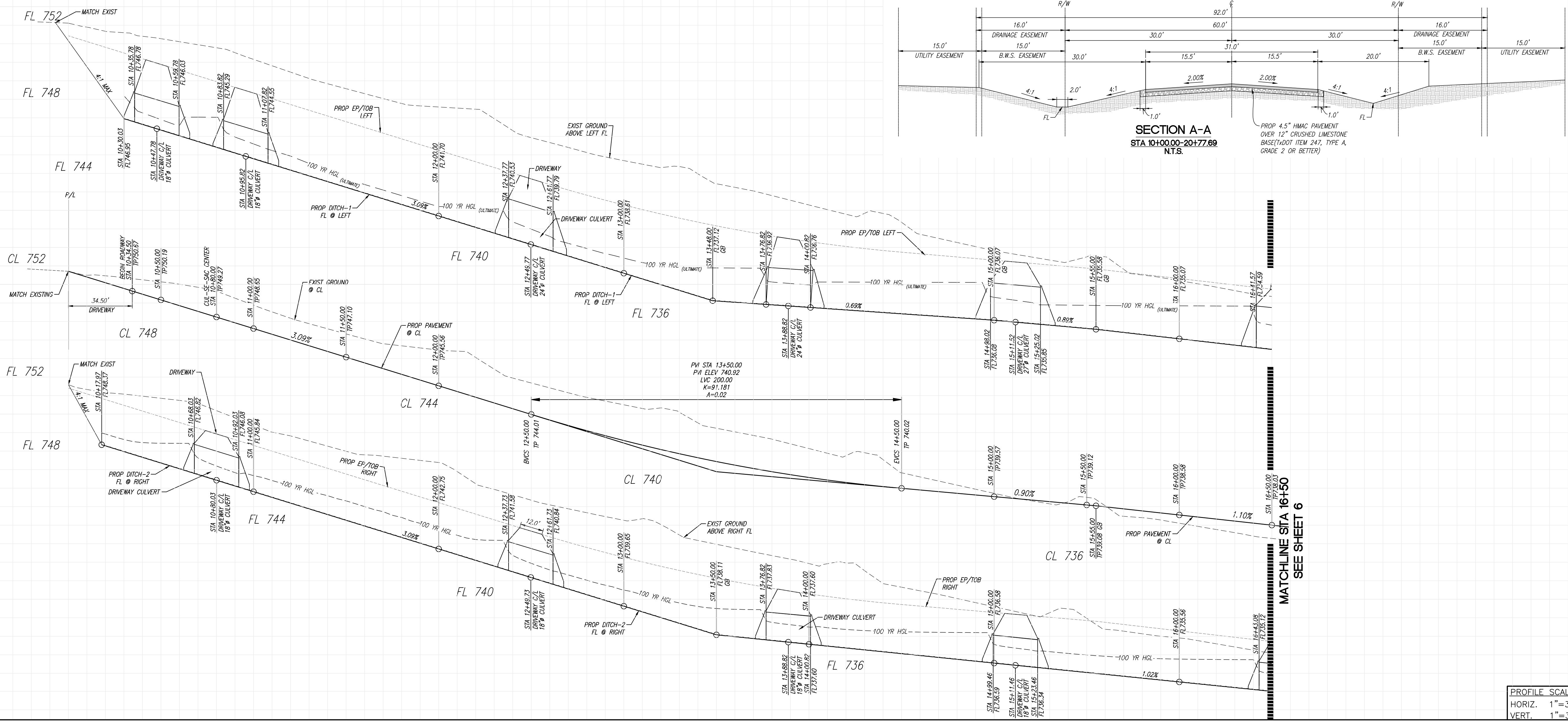
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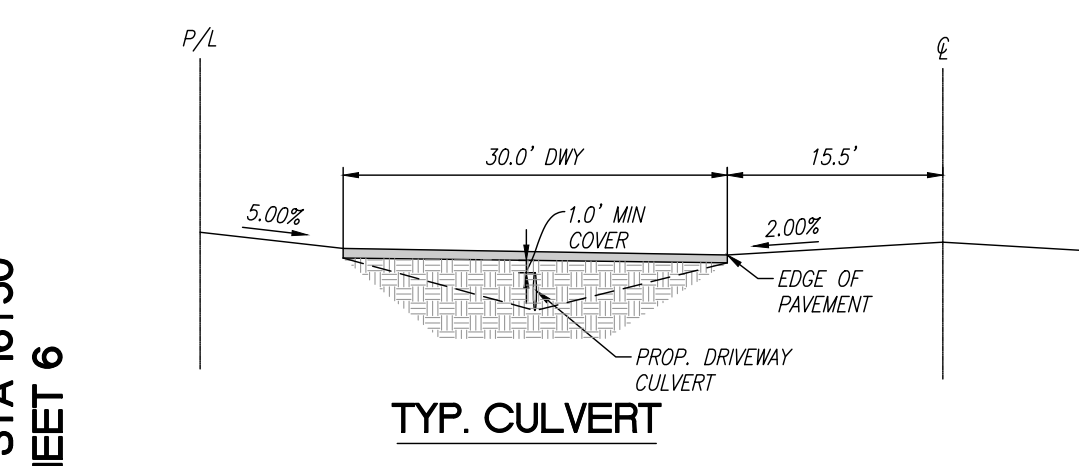
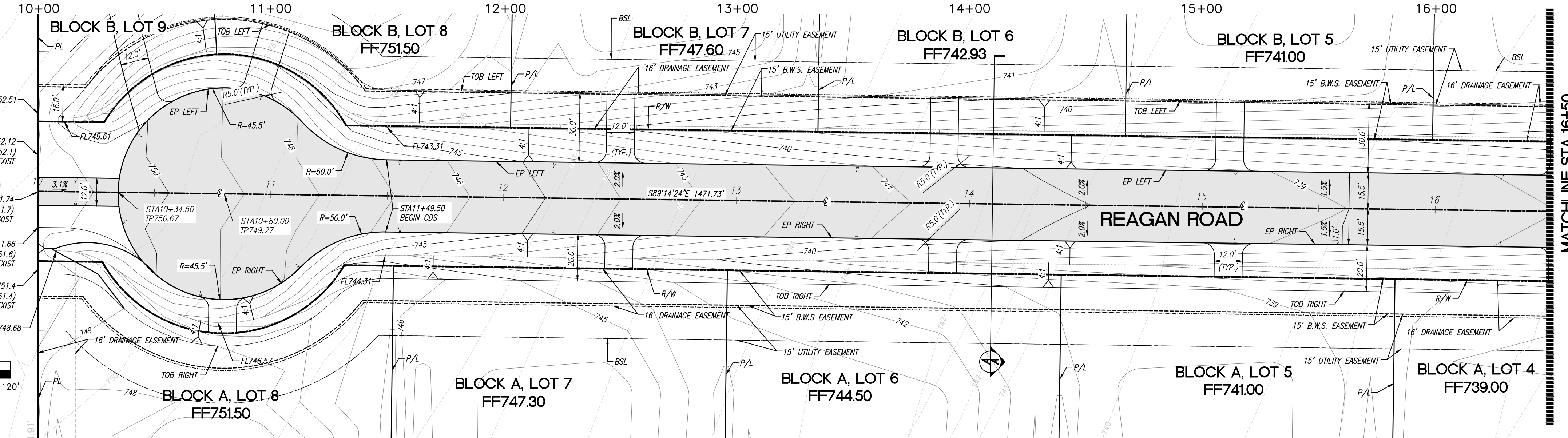


SANGER, TEXAS
DEMOLITION PLAN
 FOR
MARLEY MEADOWS

PROJECT NO.
 sheet
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 of
 23



PROFILE SCALE
 HORIZ. 1"=30'
 VERT. 1"=3'



PROP 4.5" HMAc PAVEMENT OVER 12" CRUSHED LIMESTONE BASE(TXDOT ITEM 247, TYPE A, GRADE 2 OR BETTER)

KATHLEEN T WHITT
 CALLED 10 ACRE
 DOC. NO. 2003-86992
 ORD.G.T.

SCALE 1"=30'

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 EULESS, TX 76040
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 TBPE: F-19293
 EMAIL: INFO@ICIVILENG.COM

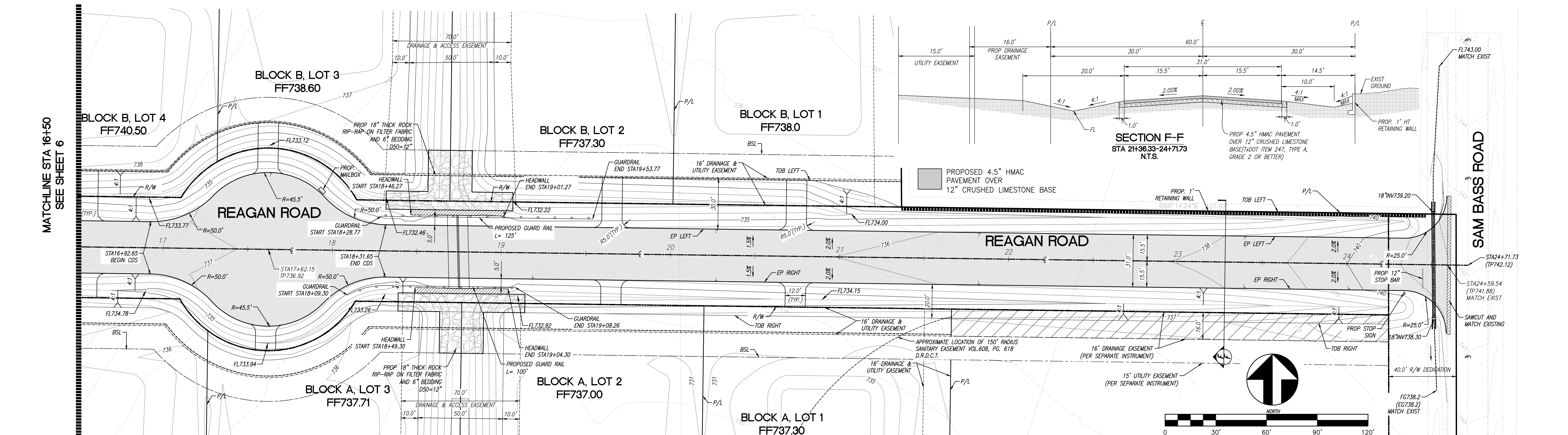
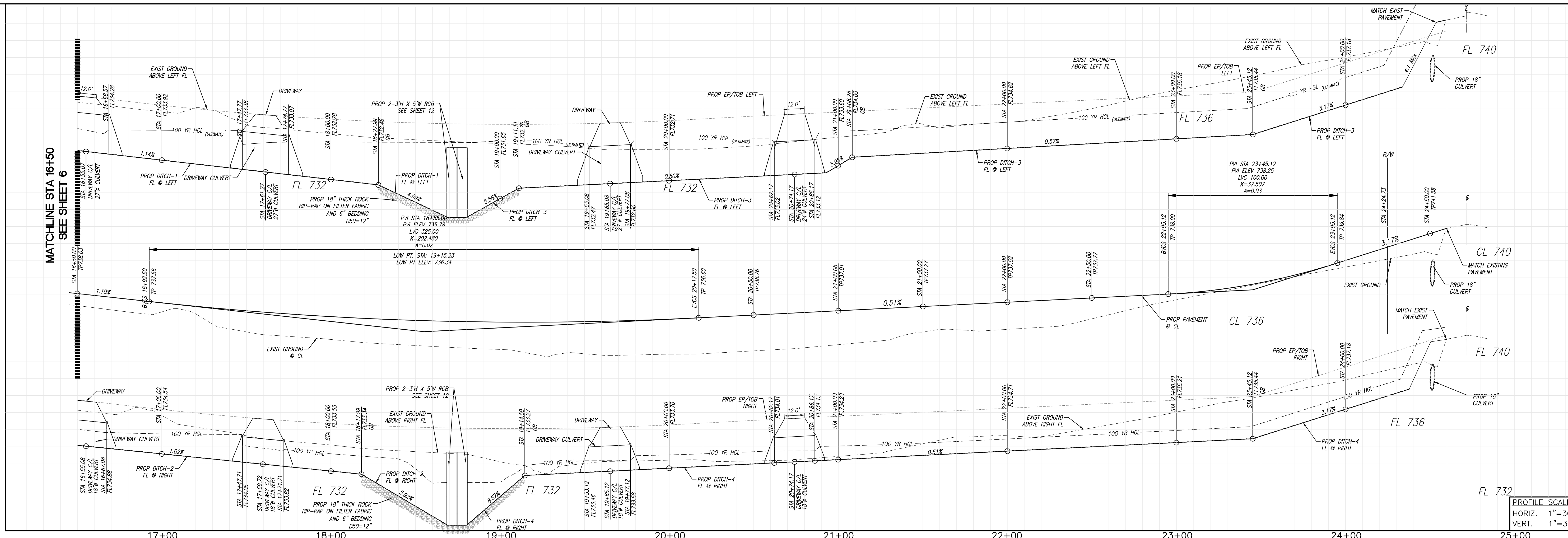
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JAN 2024

iCIVIL ENGINEERING
 F-19293

SANGER, TEXAS
STREET PLAN
 FOR
MARLEY MEADOWS

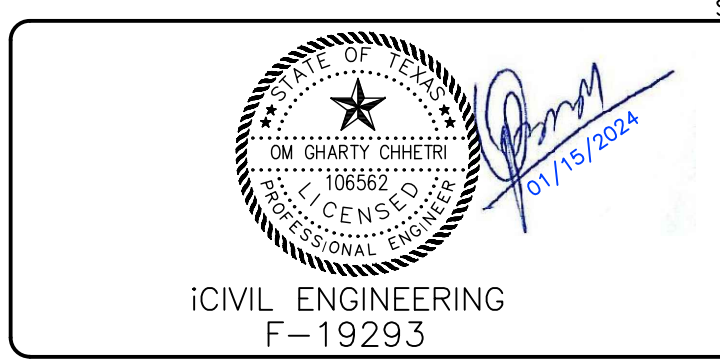
PROJECT NO.
 sheet
 5
 of
 23



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 EMAIL: INFO@ICIVILENG.COM

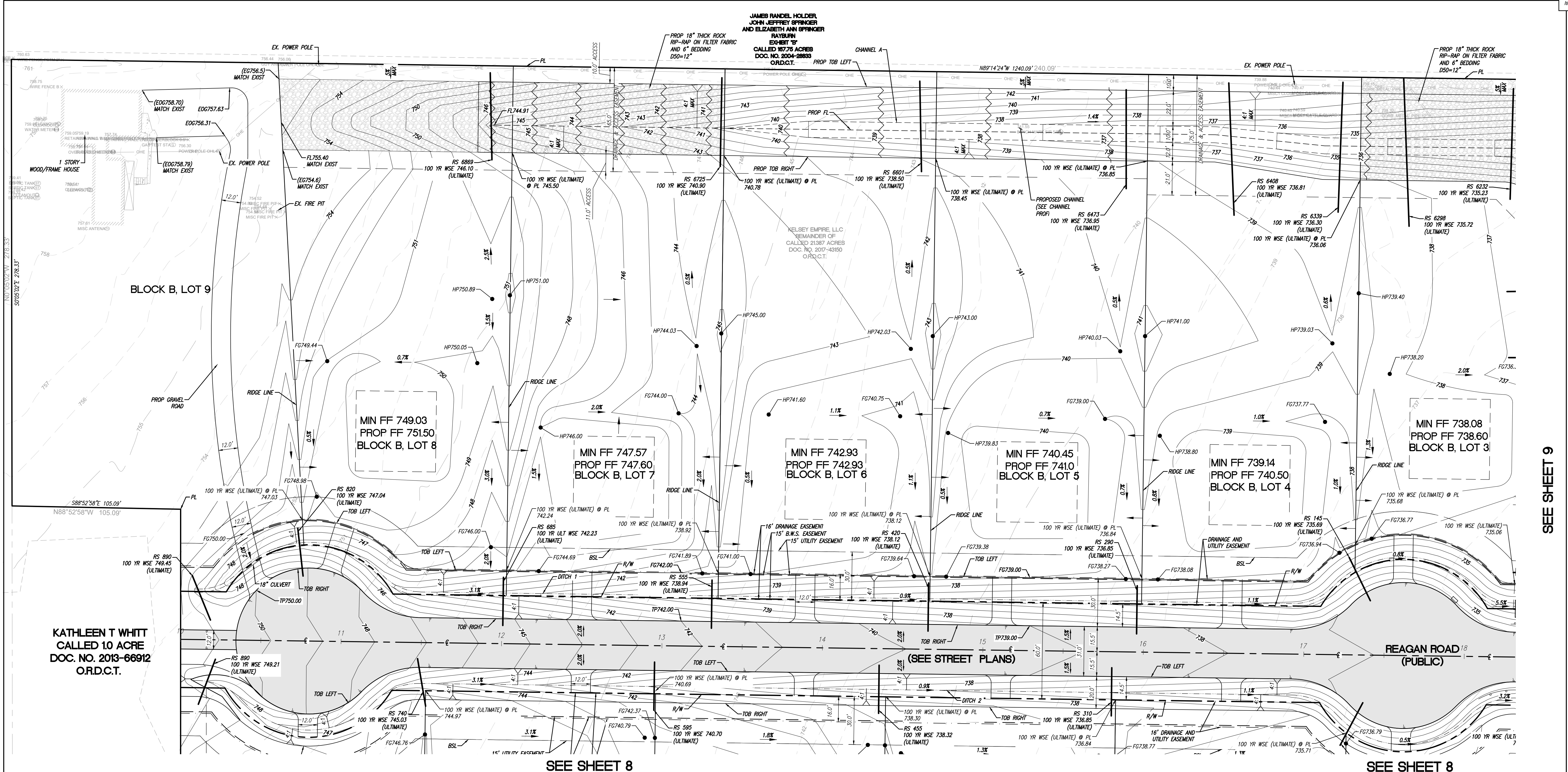
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JAN 2024



SANGER, TEXAS
STREET PLAN
 FOR
MARLEY MEADOWS

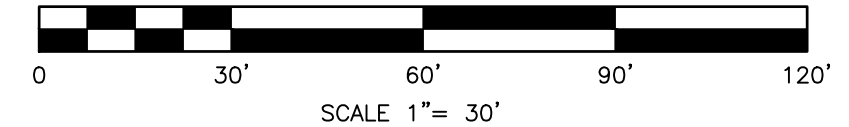
PROJECT NO.
 sheet
 6
 of
 23



SEE SHEET 9

SEE SHEET 8

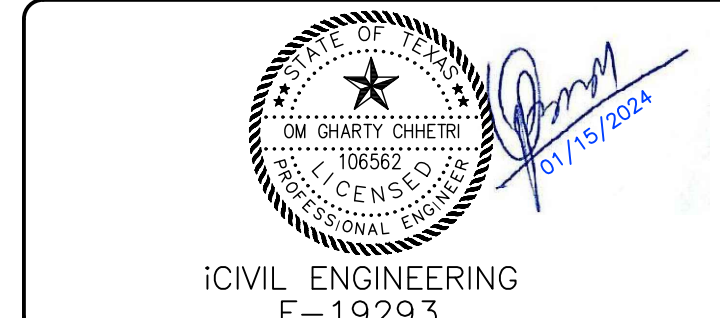
SEE SHEET 8



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vert
date
JAN 2024



SANGER, TEXAS
GRADING PLAN
 FOR
MARLEY MEADOWS

PROJECT NO.
sheet
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23

SEE SHEET 7

SEE SHEET 7

MIN FF 749.03
PROP FF 751.50
BLOCK B, LOT 8

MIN FF 747.57
PROP FF 747.60
BLOCK B, LOT 7

MIN FF 742.93
PROP FF 742.93
BLOCK B, LOT 6

MIN FF 740.45
PROP FF 741.0
BLOCK B, LOT 5

MIN FF 739.14
PROP FF 740.50
BLOCK B, LOT 4

MIN FF 738.08
PROP FF 738.60
BLOCK B, LOT 3

KATHLEEN T WHITT
CALLED 10 ACRE
DOC. NO. 2013-66912
O.R.D.C.T.

REAGAN ROAD (PUBLIC)

(SEE STREET PLANS)

MIN FF 751.46
PROP FF 751.50
BLOCK A, LOT 8

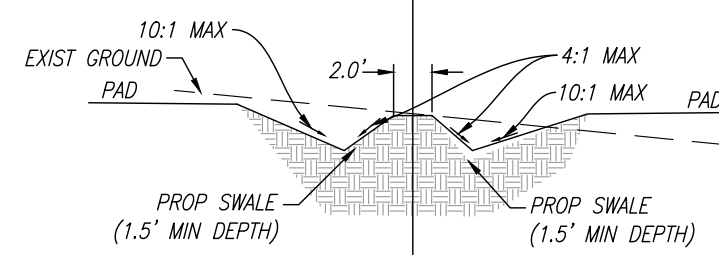
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PROP FF 747.30
BLOCK A, LOT 7

MIN FF 742.70
PROP FF 744.50
BLOCK A, LOT 6

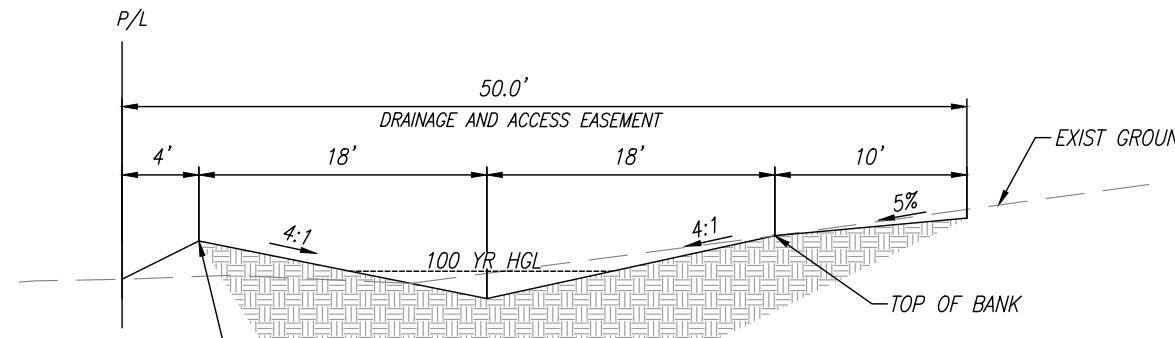
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PROP FF 741.0
BLOCK A, LOT 5

MIN FF 738.84
PROP FF 739.0
BLOCK A, LOT 4

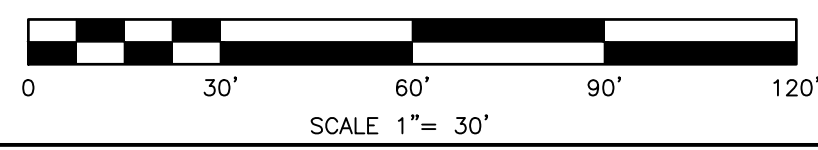
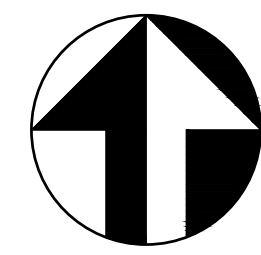
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PROP FF 737.71
BLOCK A, LOT 3



SECTION D-D
NTS



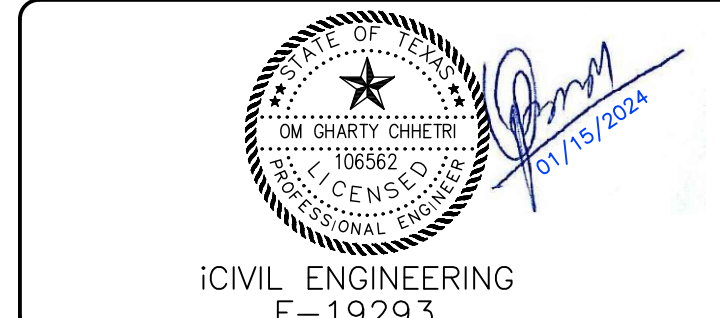
SECTION E-E
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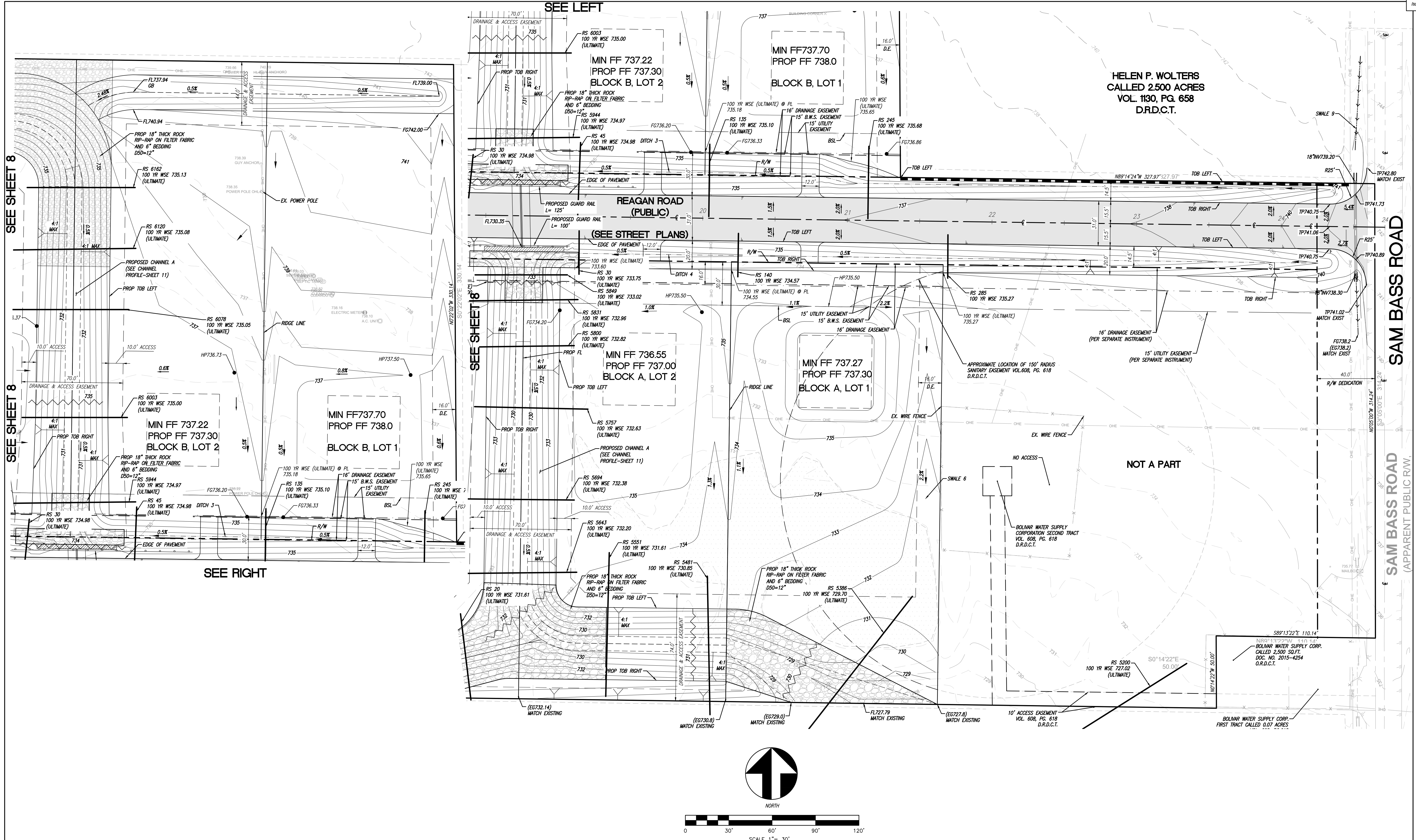
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SANGER, TEXAS
GRADING PLAN
FOR
MARLEY MEADOWS

PROJECT NO.
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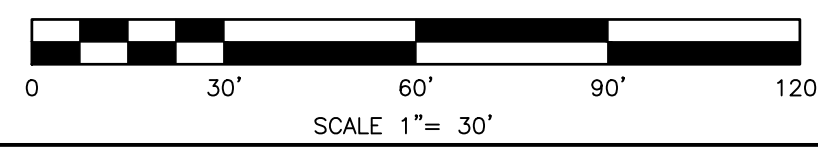
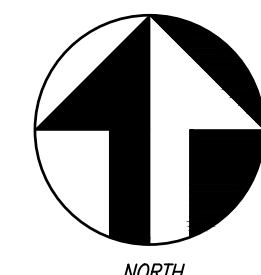
SEE SHEET 8

SEE SHEET 8

SEE SHEET 8

SEE RIGHT

SEE LEFT



HELEN P. WOLTERS
CALLED 2.500 ACRES
VOL. 1130, PG. 658
D.R.D.C.T.

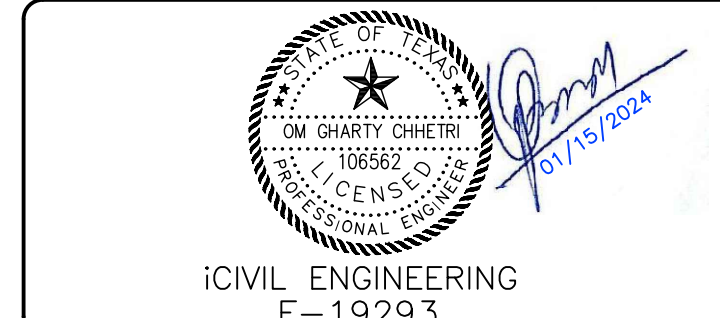
BOLINAR WATER SUPPLY CORP.
CALLED 2,500 SQ.FT.
DOC. NO. 2015-4254
O.R.D.C.T.



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SANGER, TEXAS
GRADING PLAN
FOR
MARLEY MEADOWS

PROJECT NO.
sheet
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TIME OF CONCENTRATION CALCULATION (PRE-PROJECT)																			
AREA CODE	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW				TOC (TOTAL) (Min.)	LAG TIME (min.)	
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH	TOC(hr)			TOC(Min.)
Sub-Basin 1	100	0.15	3.36	0.01	0.21	12.62	756.0	750.0	660	0.01	1.60	0.11	6.88	3.12	1100.00	0.10	5.88	25.37	15.22

NOTE:
 1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
 2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
 3. P2=3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 49, TABLE IV.1-3

TIME OF CONCENTRATION CALCULATION (PRE-PROJECT)															
AREA CODE	SHEET FLOW						SHALLOW CONCENTRATED FLOW						TOC (TOTAL)	LAG TIME (min.)	
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)			TOC(Min.)
Sub-Basin 2 (Pre)	100	0.15	3.36	0.01	0.21	12.62	756.0	729.0	1282	0.021	2.60	0.14	8.22	20.83	12.50

NOTE:
 1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
 2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
 3. P2=3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 49, TABLE IV.1-3

TIME OF CONCENTRATION CALCULATION (PRE-PROJECT)																			
AREA CODE	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW			TOC (TOTAL) (Min.)	LAG TIME (min.)		
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH			TOC(hr)	TOC(Min.)
Sub-Basin 3	100	0.15	3.36	0.02	0.16	9.56	743.0	724.0	1060	0.02	2.20	0.13	8.03	3.12	5092.00	0.45	27.20	44.793	26.88

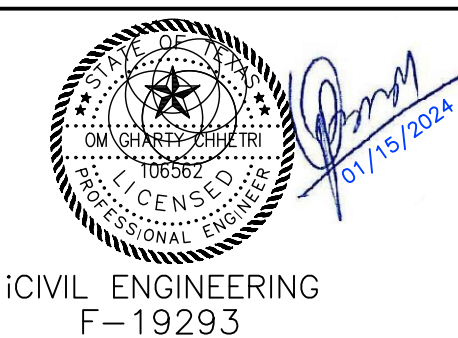
NOTE:
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 2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
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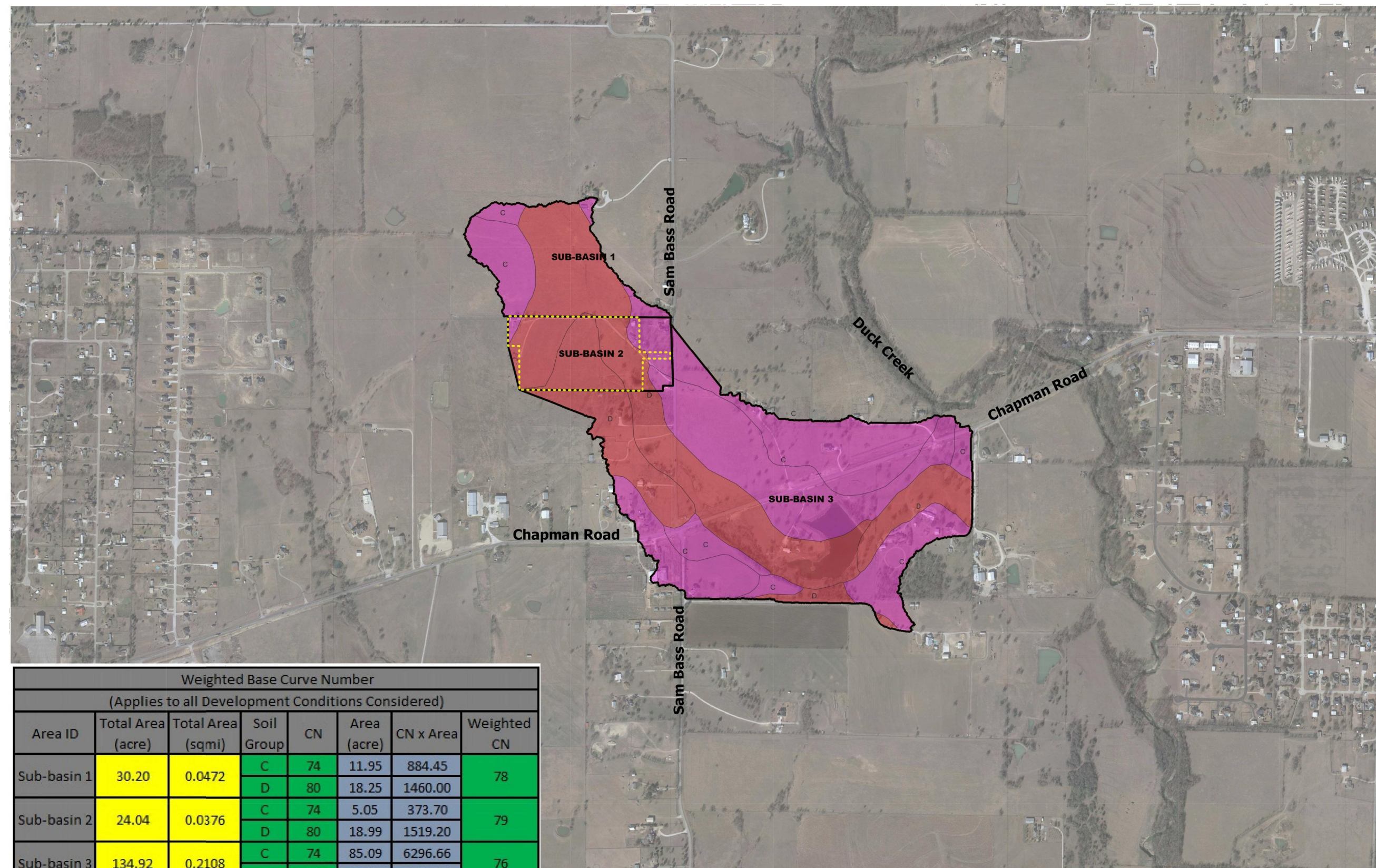
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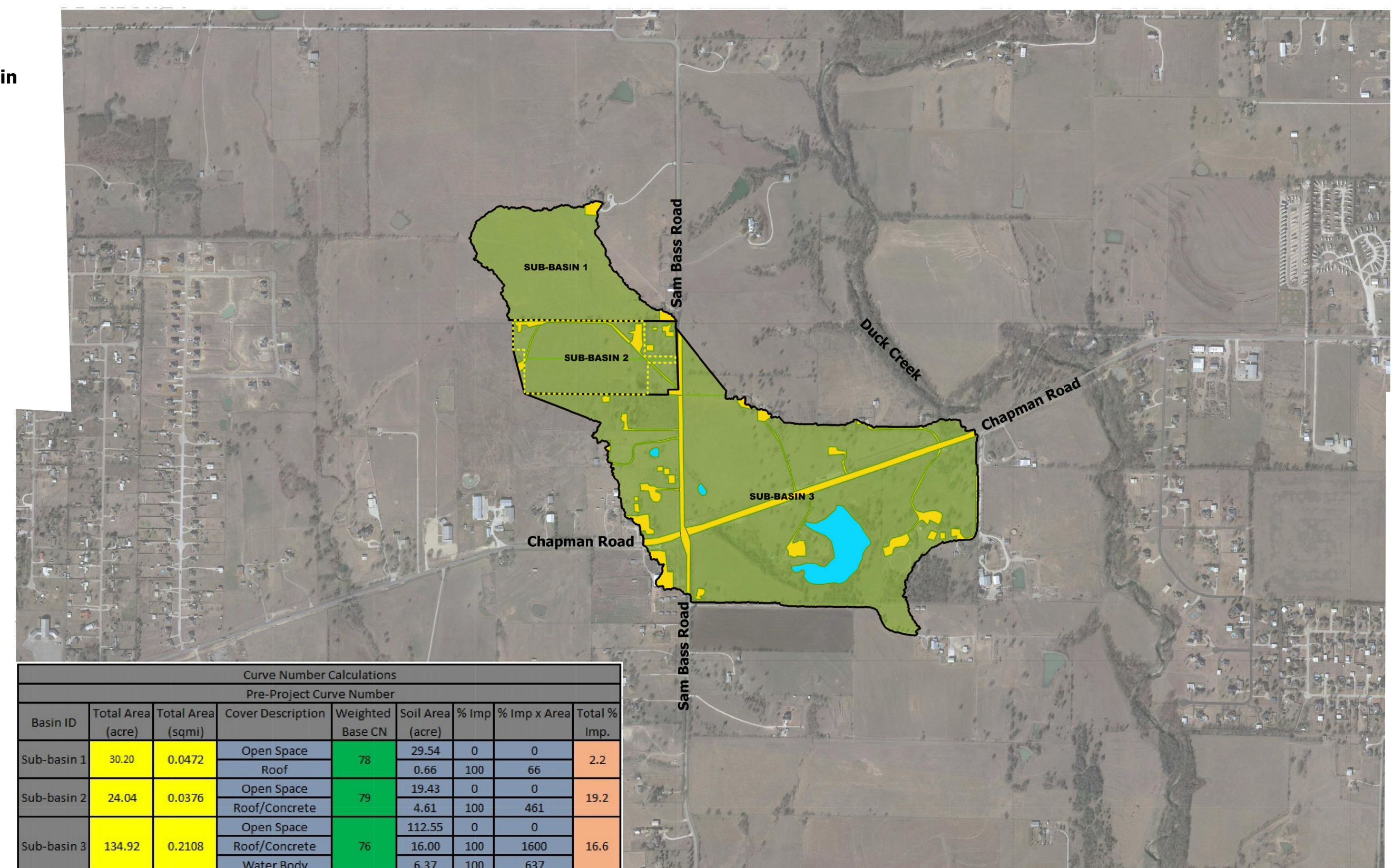
SANGER, TEXAS
PRE-PROJECT TIME OF CONCENTRATION CALCULATION
 FOR
MARLEY MEADOWS

PROJECT NO.
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 of
 23



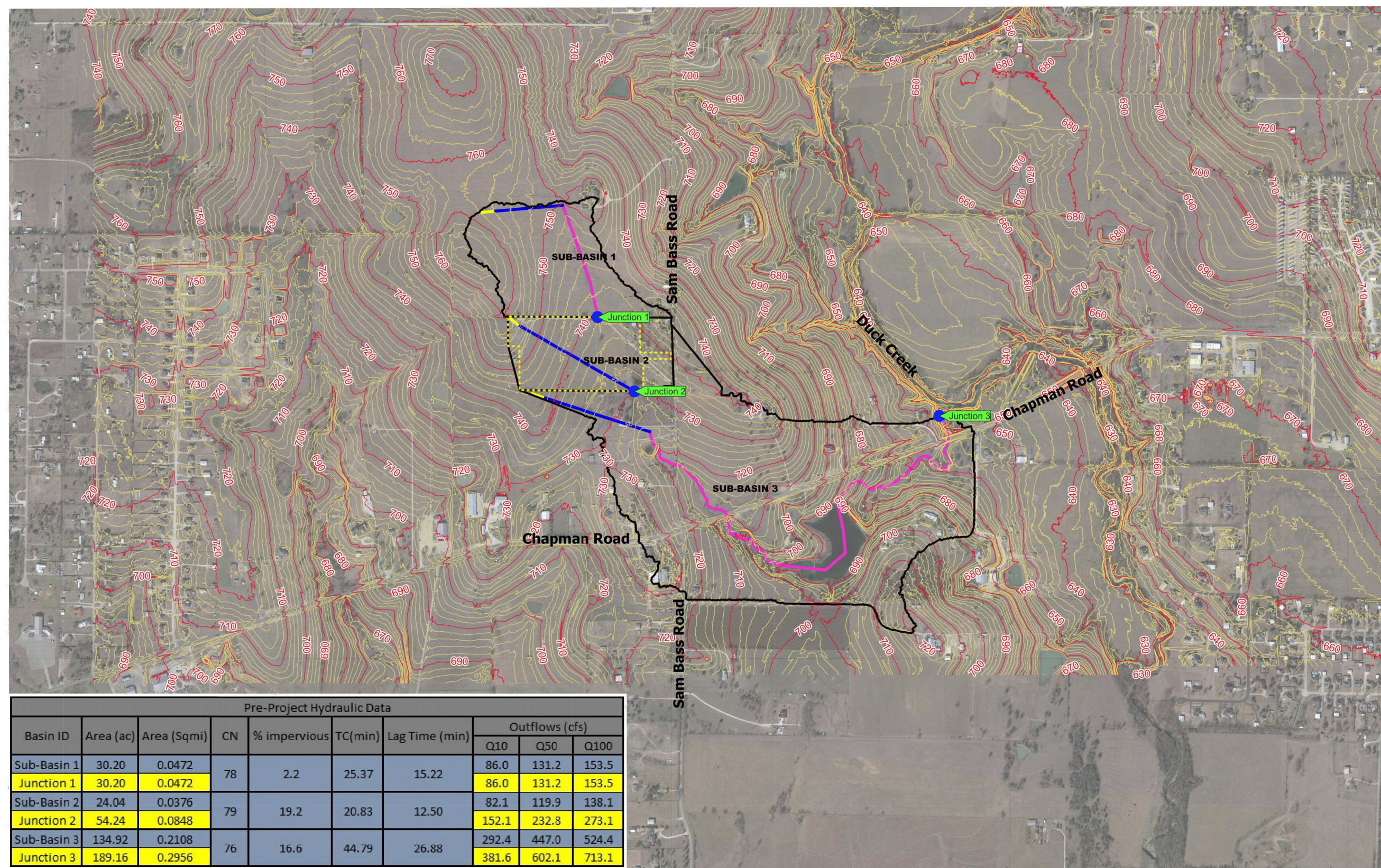
- Legends**
- Project Boundary
 - Pre-Project Sub-Basin
 - Soils Group**
 - C
 - D

Weighted Base Curve Number (Applies to all Development Conditions Considered)						
Area ID	Total Area (acre)	Total Area (sqmi)	Soil Group	CN	Area (acre)	Weighted CN
Sub-basin 1	30.20	0.0472	C	74	11.95	78
			D	80	18.25	
Sub-basin 2	24.04	0.0376	C	74	5.05	79
			D	80	18.99	
Sub-basin 3	134.92	0.2108	C	74	85.09	76
			D	80	49.83	



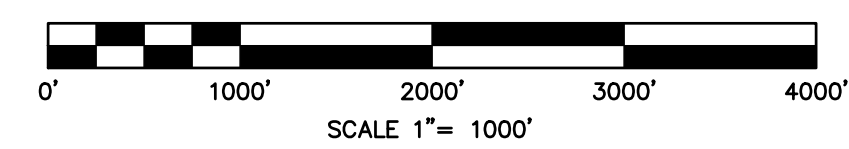
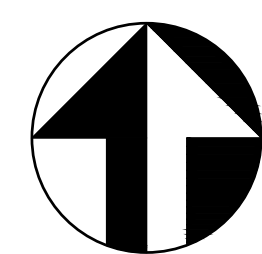
- Legends**
- Project Boundary
 - Pre-Project Sub-Basin
 - Pervious Area
 - Pre-Project Land Use
 - Roof/Concrete
 - Water Body

Curve Number Calculations								
Pre-Project Curve Number								
Basin ID	Total Area (acre)	Total Area (sqmi)	Cover Description	Weighted Base CN	Soil Area (acre)	% Imp	% Imp x Area	Total % Imp.
Sub-basin 1	30.20	0.0472	Open Space	78	29.54	0	0	2.2
			Roof	0.66	100	66		
Sub-basin 2	24.04	0.0376	Open Space	79	19.43	0	0	19.2
			Roof/Concrete	4.61	100	461		
Sub-basin 3	134.92	0.2108	Open Space	76	112.55	0	0	16.6
			Roof/Concrete	16.00	100	1600		
			Water Body	6.37	100	637		



- Legends**
- Project Boundary
 - Pre-Project Junction Point
 - Pre-Project Sub-Basin
 - Contours**
 - 10-Ft Interval
 - 2-Ft Interval
 - TC Flowpath**
 - Sheet Flow
 - Shallow Conc. Flow
 - Channel Flow

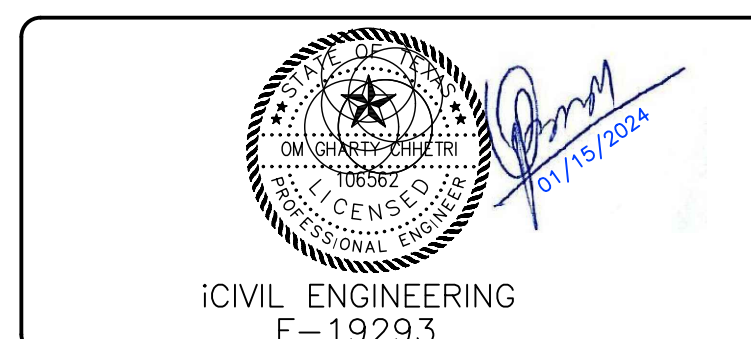
Pre-Project Hydraulic Data									
Basin ID	Area (ac)	Area (Sqmi)	CN	% Impervious	TC(min)	Lag Time (min)	Outflows (cfs)		
							Q10	Q50	Q100
Sub-Basin 1	30.20	0.0472	78	2.2	25.37	15.22	86.0	131.2	153.5
Junction 1	30.20	0.0472	78	2.2	25.37	15.22	86.0	131.2	153.5
Sub-Basin 2	24.04	0.0376	79	19.2	20.83	12.50	82.1	119.9	138.1
Junction 2	54.24	0.0848	79	19.2	20.83	12.50	152.1	232.8	273.1
Sub-Basin 3	134.92	0.2108	76	16.6	44.79	28.88	292.4	447.0	524.4
Junction 3	189.16	0.2956	76	16.6	44.79	28.88	381.6	602.1	713.1



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SANGER, TEXAS
PRE DAM
 FOR
MARLEY MEADOWS

PROJECT NO.
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TIME OF CONCENTRATION CALCULATION (POST-PROJECT & ULTIMATE DEVELOPMENT)																				
AREA CODE	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW						TOC (TOTAL) (Min.)	LAG TIME (min.)
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH	TOC(hr)	TOC(Min.)			
Sub-Basin 1	100	0.15	3.36	0.01	0.21	12.62	756.0	750.0	660	0.01	1.60	0.11	6.88	3.12	1100.00	0.10	5.88	25.37	15.22	

NOTE:
 1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
 2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
 3. P2=3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 49, TABLE IV.1-3

TIME OF CONCENTRATION CALCULATION (POST-PROJECT & ULTIMATE DEVELOPMENT)												
AREA CODE	SHEET FLOW					CHANNEL FLOW			TOC (TOTAL) (Min.)	LAG TIME (min.)		
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	VEL.(fps)	LENGTH			TOC(hr)	TOC(Min.)
Sub-Basin 2A	100	0.15	3.36	0.03	0.14	8.13	7.85	731	0.03	1.55	9.68	5.81

NOTE:
 1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
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 3. P2=3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 49, TABLE IV.1-3

TIME OF CONCENTRATION CALCULATION (POST-PROJECT & ULTIMATE DEVELOPMENT)																				
AREA CODE	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW						TOC (TOTAL) (Min.)	LAG TIME (min.)
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH	TOC(hr)	TOC(Min.)			
Sub-Basin 2B	100	0.15	3.36	0.02	0.16	9.56	756.0	751.5	276	0.02	1.60	0.05	2.88	7.85	825	0.03	1.75	14.19	8.51	

NOTE:
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TIME OF CONCENTRATION CALCULATION (POST-PROJECT & ULTIMATE DEVELOPMENT)																
AREA CODE	SHEET FLOW						CHANNEL FLOW 1				CHANNEL FLOW 2				TOC (TOTAL) (Min.)	LAG TIME (min.)
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	VEL.(fps)	LENGTH	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH	TOC(hr)	TOC(Min.)		
Sub-Basin 2C	100	0.15	3.36	0.05	0.11	6.63	7.85	900.00	0.03	1.91	5.38	462	0.02	1.43	9.97	5.98

NOTE:
 1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
 2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
 3. P2=3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 49, TABLE IV.1-3

TIME OF CONCENTRATION CALCULATION (POST-PROJECT & ULTIMATE DEVELOPMENT)																				
AREA CODE	SHEET FLOW						SHALLOW CONCENTRATED FLOW						CHANNEL FLOW						TOC (TOTAL) (Min.)	LAG TIME (min.)
	LENGTH (ft)	MANNINGS'S N	P2 (inc.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH	TOC(hr)	TOC(Min.)			
Sub-Basin 3	100	0.15	3.36	0.02	0.16	9.56	743.0	724.0	1060	0.02	2.20	0.13	8.03	3.12	5092.00	0.45	27.20	44.793	26.88	

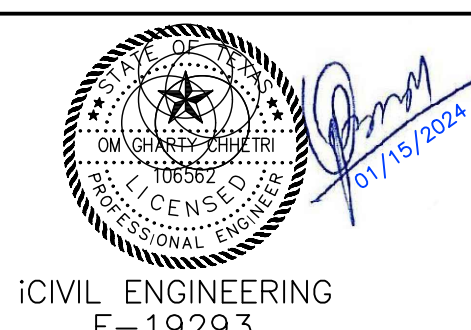
NOTE:
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 2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
 3. P2=3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 49, TABLE IV.1-3



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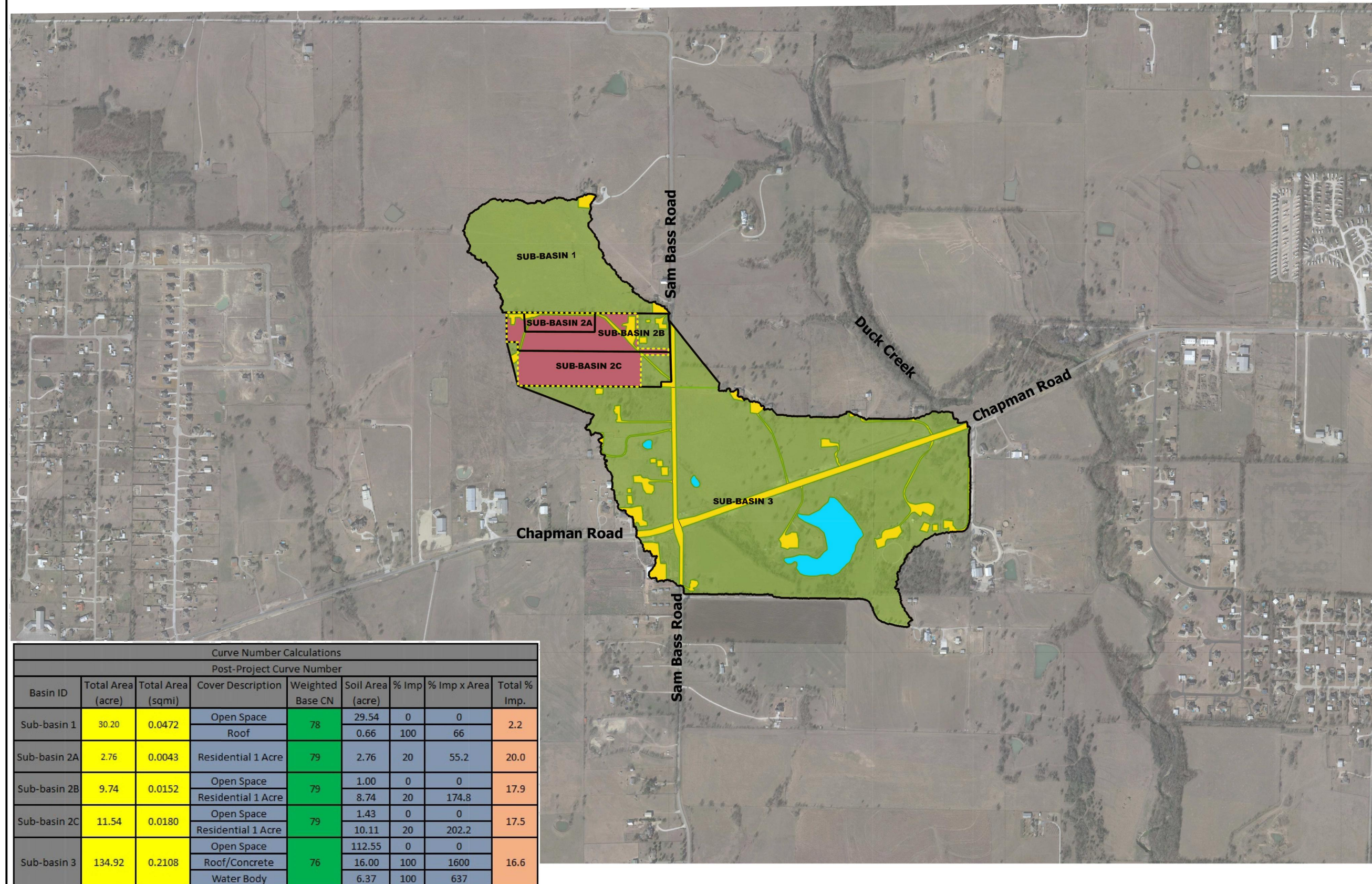
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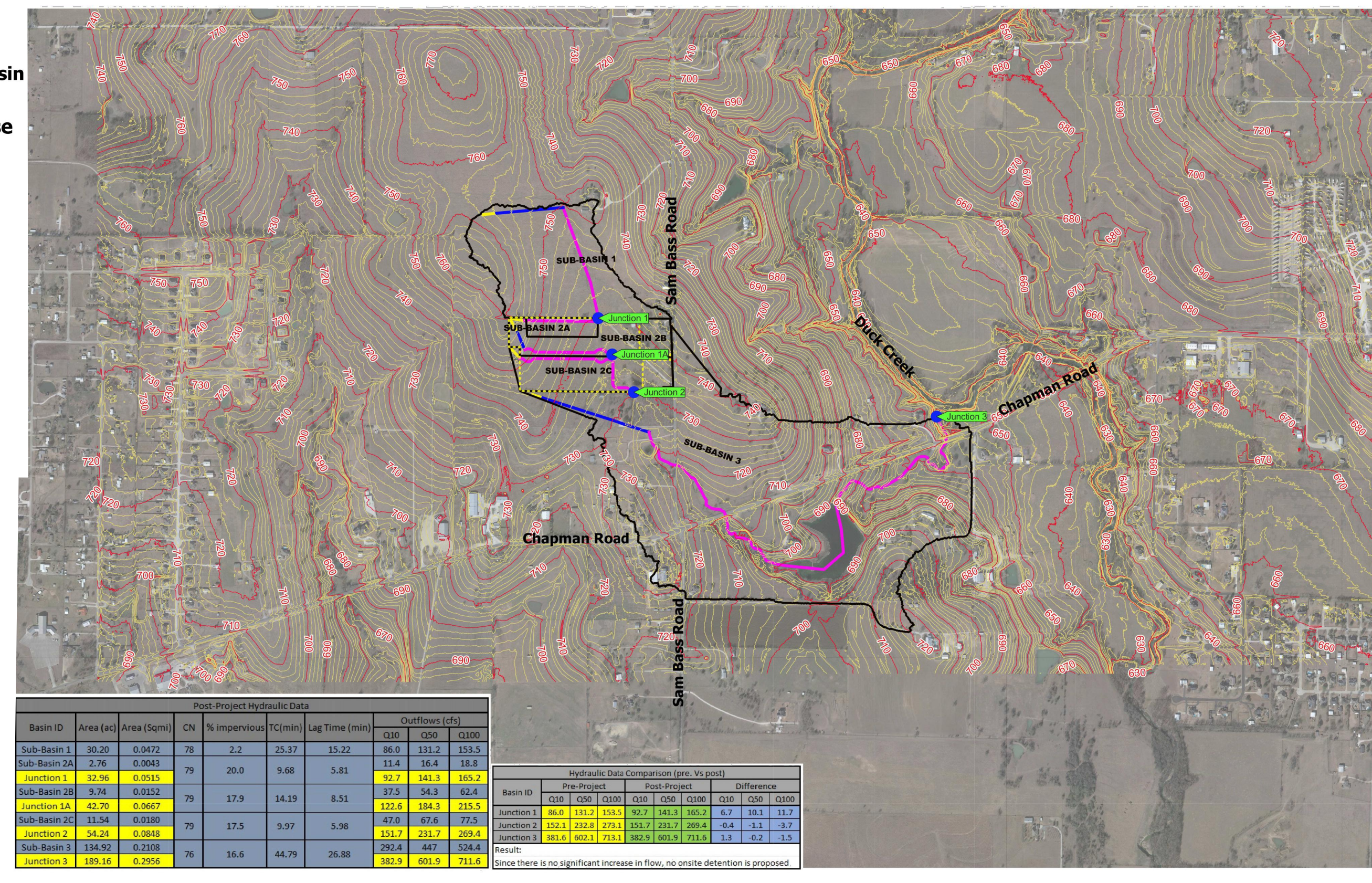


SANGER, TEXAS
POST-PROJECT & ULT. DEV. TIME OF CONCENTRATION
 FOR
MARLEY MEADOWS

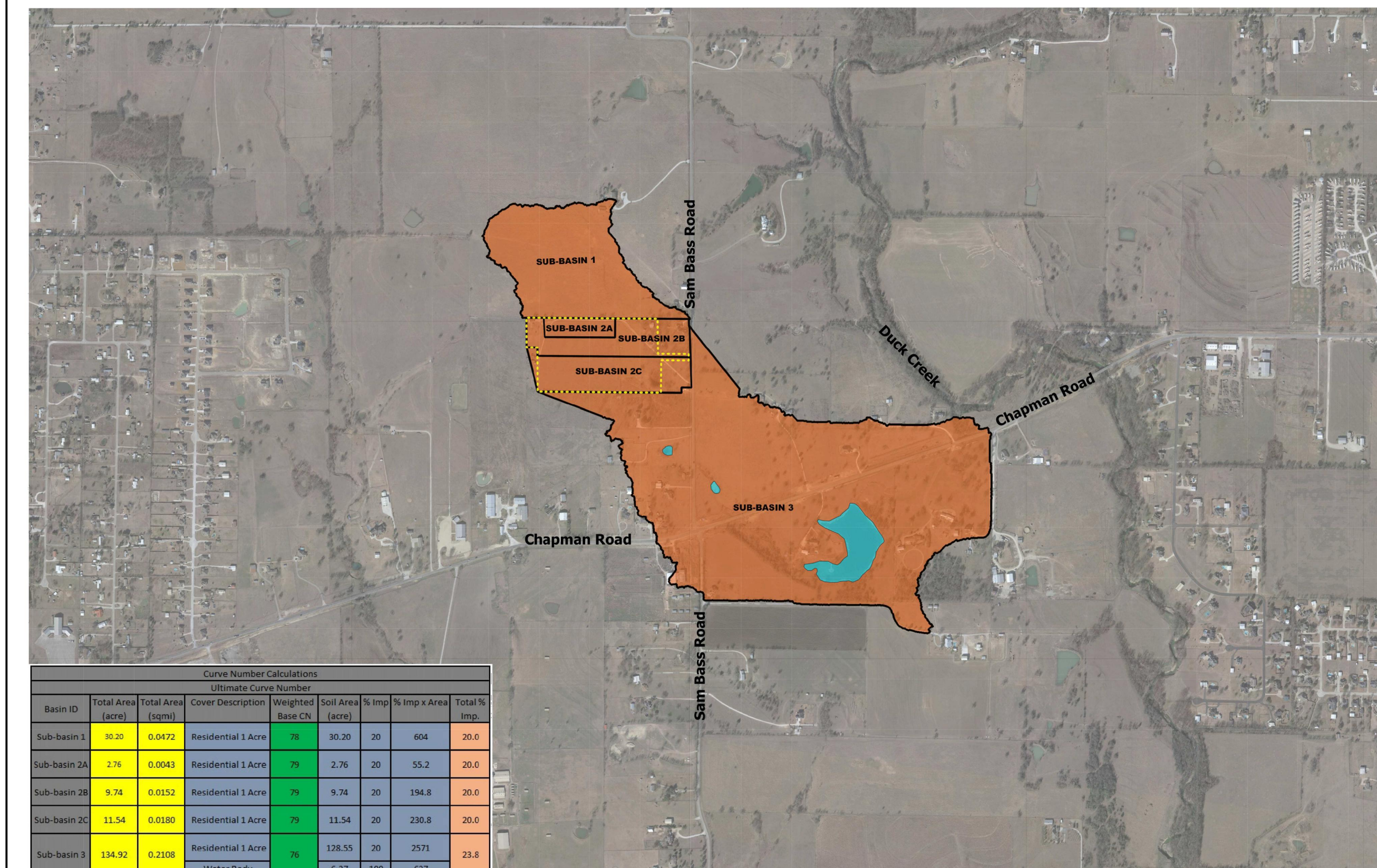
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 23



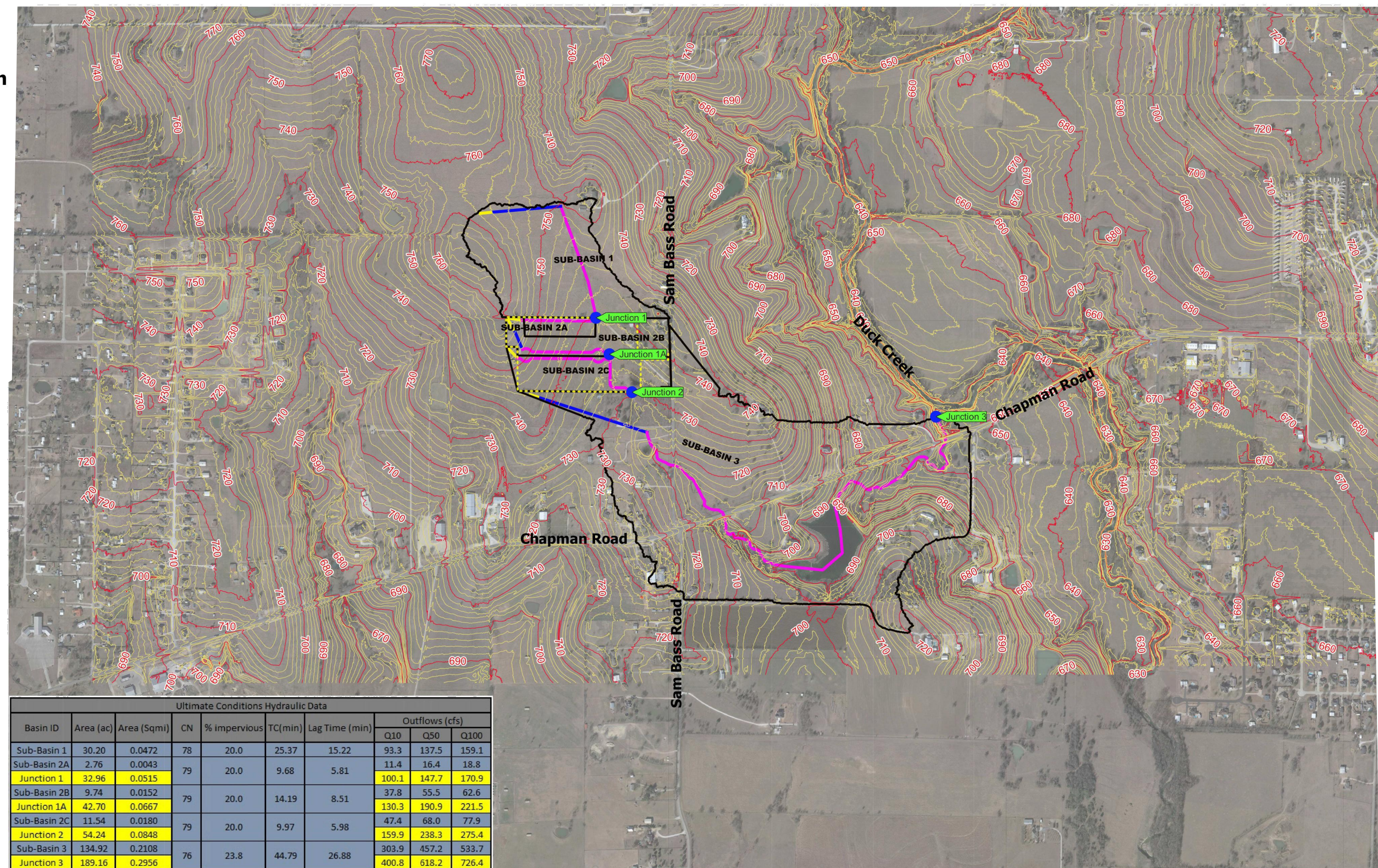
- Legends**
- Project Boundary
 - Post-Project Sub-Basin
 - Pervious Area
 - Post-Project Land Use
 - Roof/Concrete
 - Water Body
 - Residential 1 Acre



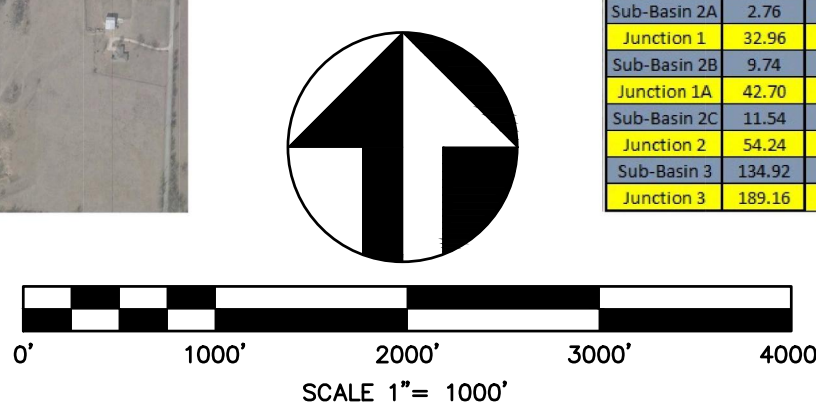
- Legends**
- Post-Project Junction Point
 - Project Boundary
 - Post-Project Sub-Basin
 - Contours
 - 10-Ft Interval
 - 2-Ft Interval
 - Post Project TC Flowpath
 - Sheet Flow
 - Shallow Conc. Flow
 - Channel Flow



- Legends**
- Project Boundary
 - Ultimate Sub-Basin
 - Ultimate Land Use
 - Residential 1 Acre
 - Water Body



- Legends**
- Post-Project Junction Point
 - Project Boundary
 - Ultimate Sub-Basin
 - Contours
 - 10-Ft Interval
 - 2-Ft Interval
 - Post Project TC Flowpath
 - Sheet Flow
 - Shallow Conc. Flow
 - Channel Flow



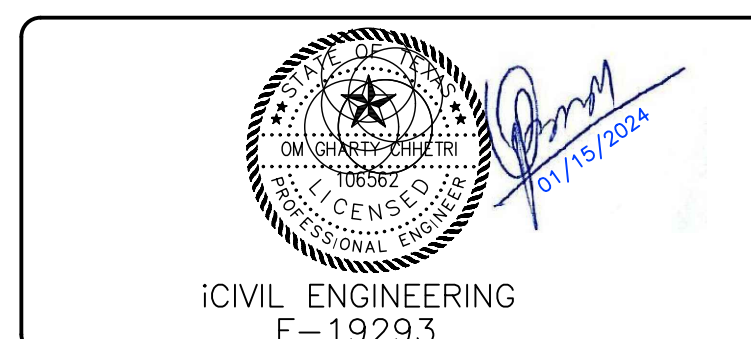
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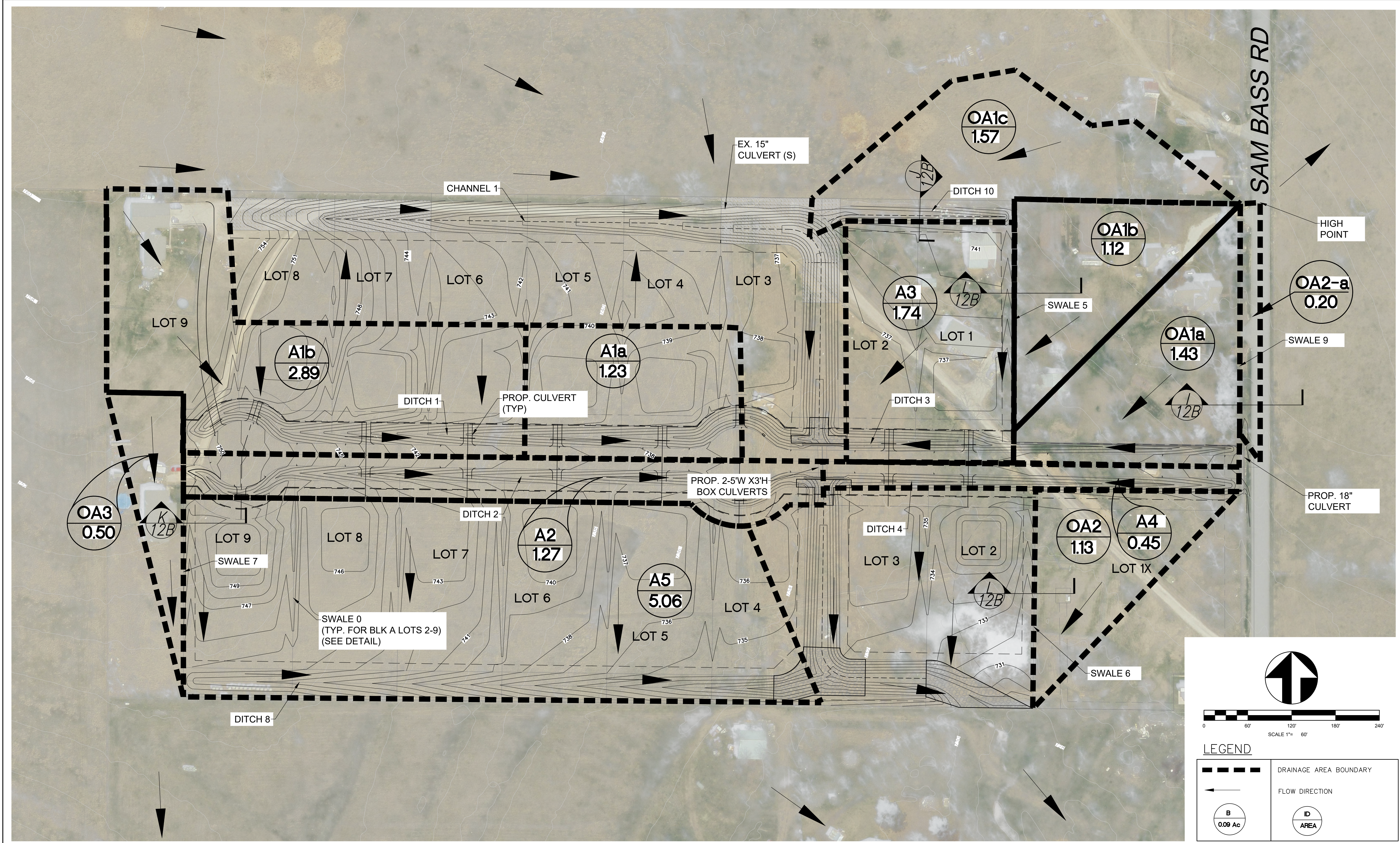
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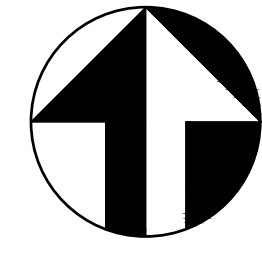
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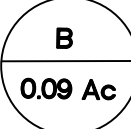

SANGER, TEXAS
POST AND ULTIMATE DAM
 FOR
MARLEY MEADOWS

PROJECT NO.
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LEGEND

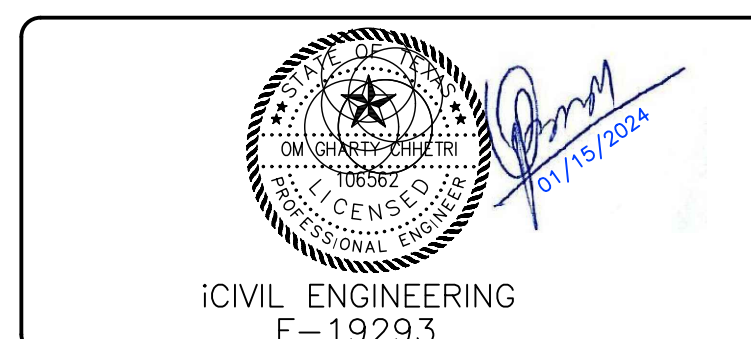
	DRAINAGE AREA BOUNDARY
	FLOW DIRECTION
	



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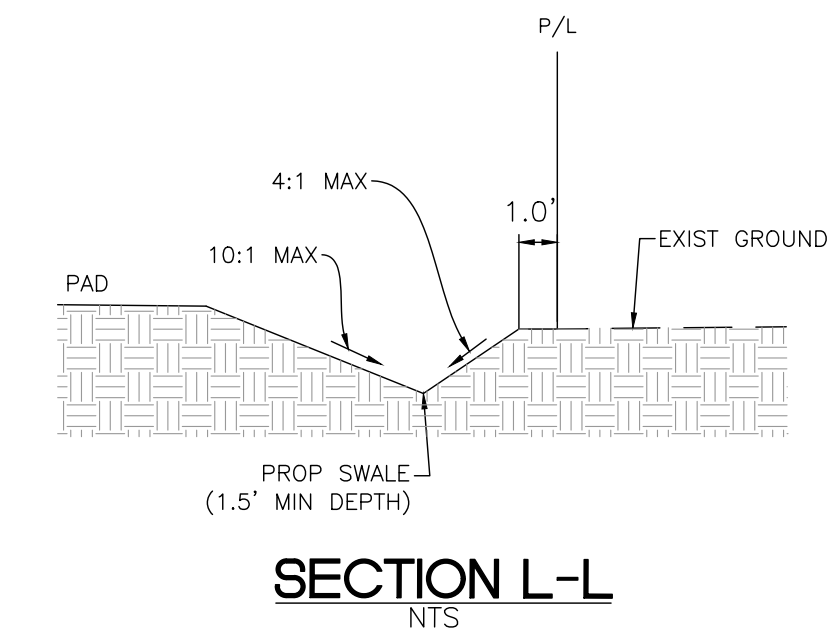
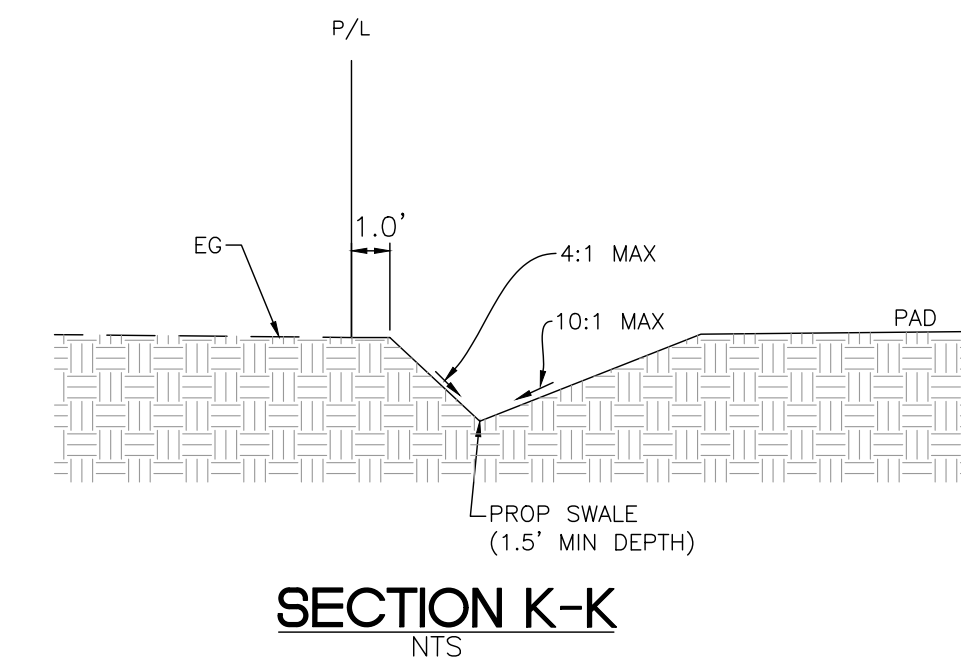
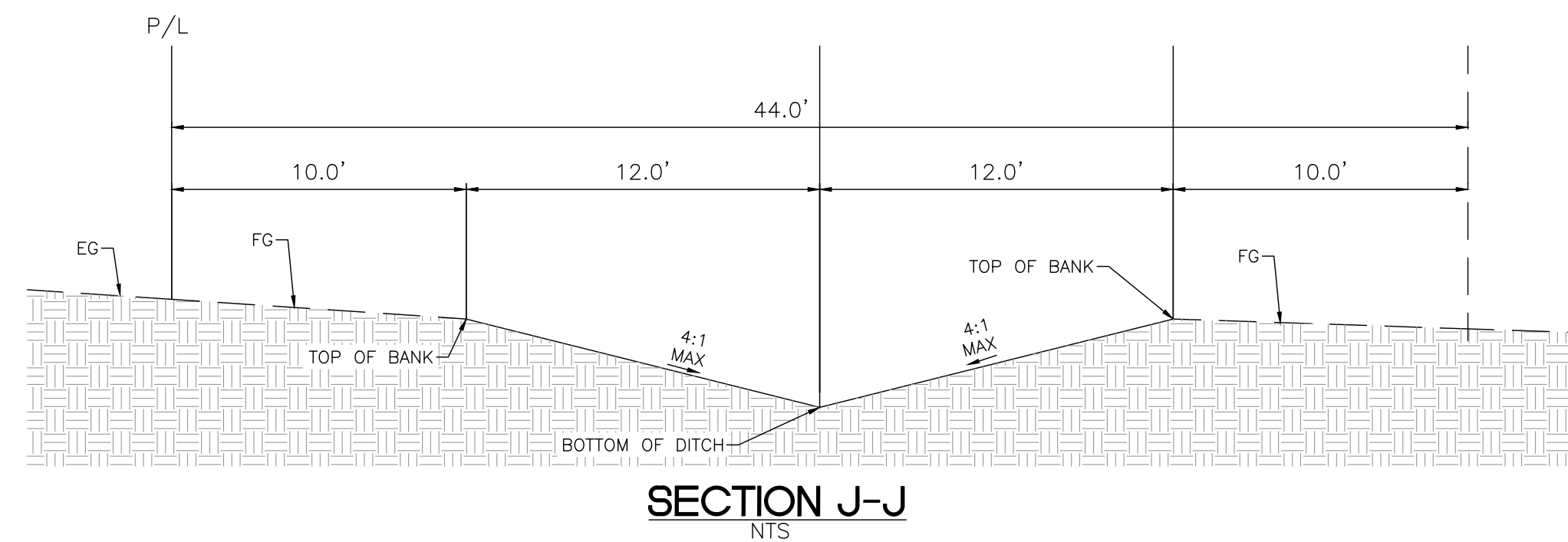
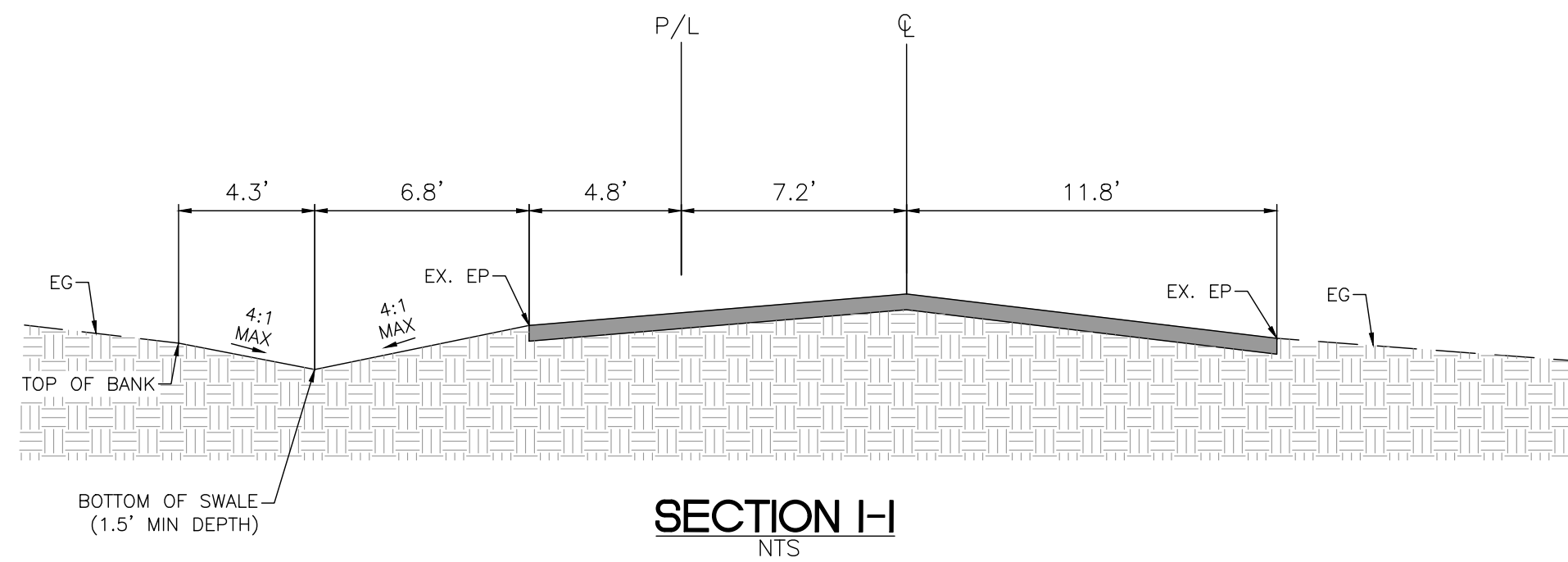
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SANGER, TEXAS
DITCH AND CULVERT CALCULATIONS
 FOR
MARLEY MEADOWS

PROJECT NO.
 sheet
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AREA CODE	TIME OF CONCENTRATION CALCULATION																		
	SHEET FLOW						SHALLOW CONCENTRATED FLOW					CHANNEL FLOW				TOC (TOTAL) (Min.)	TOC USED		
	LENGTH (ft)	MANNING'S N	P2 (in.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	HIGH ELEV	LOW ELEV	LENGTH(ft)	SLOPE(ft/ft)	VEL.(fps)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH (ft)			TOC(hr)	TOC(Min.)
A1a & A1b	100	0.15	3.36	0.02	0.16	9.56	753.0	751.0	185	0.01	1.60	0.03	1.93	7.85	825	0.03	1.75	13.24	15.00

- NOTE:
1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
 2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
 3. P2 = 3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV. 1-3

AREA CODE	TIME OF CONCENTRATION CALCULATION																
	SHEET FLOW						CHANNEL FLOW 1				CHANNEL FLOW 2				TOC (TOTAL) (Min.)	TOC USED	
	LENGTH (ft)	MANNING'S N	P2 (in.)	SLOPE (ft/ft)	TIME(hr.)	TIME(Min.)	VEL.(fps)	LENGTH (ft)	TOC(hr)	TOC(Min.)	VEL.(fps)	LENGTH (ft)	TOC(hr)	TOC(Min.)			
A2	100	0.15	3.36	0.05	0.11	6.63	7.85	900.00	0.03	1.91	5.38	462	0.02	1.43	9.97	15.00	

NOTE:

1. VALUE OF MANNING'S N FOR SHEET FLOW = 0.15 (FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 56, TABLE IV.1-6)
2. VELOCITY FOR SHALLOW CONCENTRATED FLOW IS TAKEN FROM TR 55 FIGURE 3-1
3. P2 = 3.36 FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV. 1-3

RUNOFF CALCULATION														COMMENTS
Area ID	DITCH ID	Area (acres)	C	CA	TC (min.)	I1 (in./hr.)	I5 (in./hr.)	I10 (in./hr.)	I100 (in./hr.)	Q1 (cfs)	Q5 (cfs)	Q10 (cfs)	Q100 (cfs)	
SIDE YARD SWALE	SWALE 0	0.75	0.45	0.34	15	3.31	4.85	5.50	7.91	1.12	1.64	1.86	2.67	SWALE BETWEEN ANY TWO LOTS (TYP. FOR BLK A LOT 2-9 SEE DETAILS)
A1a & A1b	DITCH 1	4.12	0.55	2.27	15	3.31	4.85	5.50	7.91	7.50	10.99	12.46	17.92	HALF OF THE LOT DRAINS TO CHANNEL 1
A2	DITCH 2	1.27	0.71	0.90	15	3.31	4.85	5.50	7.91	2.98	4.37	4.96	7.13	COMPOSITE C=0.71 (CALCULATION PROVIDED ON THIS SHEET)
OA1a, OA1b & A3	DITCH 3	4.29	0.45	1.93	15	3.31	4.85	5.50	7.91	6.39	9.36	10.62	15.27	AREA A3+OA1a+OA1b DRAINS TO DITCH 3
A4	DITCH 4	0.45	0.75	0.34	15	3.31	4.85	5.50	7.91	1.12	1.64	1.86	2.67	COMPOSITE C=0.71 (CALCULATION PROVIDED ON THIS SHEET)
OA1b	SWALE 5	1.12	0.45	0.50	15	3.31	4.85	5.50	7.91	1.67	2.44	2.77	3.99	SWALE FOR OFFSITE AREA DRAINAGE
OA2	SWALE 6	0.96	0.45	0.43	15	3.31	4.85	5.50	7.91	1.43	2.10	2.38	3.42	SWALE FOR OFFSITE AREA DRAINAGE
OA3	SWALE 7	0.50	0.55	0.28	15	3.31	4.85	5.50	7.91	0.91	1.33	1.51	2.18	SWALE FOR OFFSITE AREA DRAINAGE
OA3 & A5	DITCH 8	5.56	0.45	2.50	15	3.31	4.85	5.50	7.91	8.28	12.13	13.76	19.79	1 ACRE LOTS
OA2-a	SWALE 9	0.20	0.78	0.16	15	3.31	4.85	5.50	7.91	0.52	0.76	0.86	1.23	ROADSIDE SWALE
OA1c	DITCH 10	1.57	0.30	0.47	15	3.31	4.85	5.50	7.91	1.56	2.28	2.59	3.73	DITCH FOR OFFSITE AREA DRAINAGE

- NOTE:
- C VALUE FOR SINGLE FAMILY RESIDENTIAL 1 ACRE LOTS = 0.45 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
 - C VALUE FOR SINGLE FAMILY RESIDENTIAL 1/2 ACRE LOTS = 0.55 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
 - C VALUE FOR STREET = 0.95 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
 - C VALUE FOR CLAYEY SOIL, AVERAGE, 5-10% = 0.60 (DENTON COUNTY SUBDIVISION RULES & REGULATIONS TABLE IV.1-4)
- THE VALUE FOR RAINFALL INTENSITY IS TAKEN FROM DENTON COUNTY SUBDIVISION RULES & REGULATIONS, PAGE 47-48-49, TABLE IV.1-3

V-DITCH & SWALE CAPACITY CALCULATION							
DITCH ID	Q100 (cfs)	AVERAGE SLOPE (ft/ft)	MANNING'S N	WATER DEPTH (ft.)	VELOCITY (fps)	TOTAL DITCH/SWALE DEPTH (ft)	SECTION DETAILS
DITCH 1	17.92	0.020	0.040	0.91	3.47	3.5	SHEET 5 SECTION A-A
DITCH 2	7.13	0.020	0.040	0.80	2.77	2.5	SHEET 5 SECTION A-A
DITCH 3	15.27	0.020	0.040	1.07	3.32	2.5	SHEET 6 SECTION F-F
DITCH 4	2.67	0.020	0.040	0.55	2.07	2.5	SHEET 6 SECTION F-F
SWALE 5	3.99	0.005	0.040	0.70	1.25	1.5	SHEET 12-B SECTION L-L
SWALE 6	3.42	0.005	0.040	0.66	1.20	1.5	SHEET 12-B SECTION L-L
SWALE 7	2.18	0.005	0.040	0.56	1.06	1.5	SHEET 12-B SECTION K-K
DITCH 8	19.79	0.015	0.040	1.24	3.20	4.5	SHEET 8 SECTION E-E
SWALE 9	1.23	0.005	0.040	0.37	0.80	1.5	SHEET 12-B SECTION I-I
DITCH 10	3.73	0.0068	0.040	0.77	1.56	3.0	SHEET 12-B SECTION J-J

WEIGHTED RUNOFF COEFFICIENT (DITCH-2)			
LAND USE	TOTAL LAND AREA	RUNOFF COEF.	WEIGHTED RUNOFF COEF.
ASPHALT/CONCRETE	0.41	0.95	0.71
CLAYEY SOIL 5-10%	0.86	0.60	

WEIGHTED RUNOFF COEFFICIENT (DITCH-4)			
LAND USE	TOTAL LAND AREA	RUNOFF COEF.	WEIGHTED RUNOFF COEF.
ASPHALT/CONCRETE	0.19	0.95	0.75
CLAYEY SOIL 5-10%	0.26	0.60	

WEIGHTED RUNOFF COEFFICIENT (DITCH-9)			
LAND USE	TOTAL LAND AREA	RUNOFF COEF.	WEIGHTED RUNOFF COEF.
ASPHALT/CONCRETE	0.10	0.95	0.78
CLAYEY SOIL 5-10%	0.10	0.60	

DRIVEWAY CULVERT DATA FOR BLK B LOT 3 TO 9							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
10+47.78	0.97	4.22	4.22	LOT 9	18"	746.78	746.03
10+95.82	0.81	3.52	7.74	LOT 8 & 9	18"	745.29	744.55
12+49.77	0.55	2.39	10.14	LOT 7, 8 & 9	24"	740.53	739.79
13+88.82	0.55	2.39	12.53	LOT 6, 7, 8 & 9	24"	736.92	736.76
15+11.52	0.55	2.39	14.92	LOT 5, 6, 7, 8 & 9	27"	736.08	735.85
16+55.07	0.55	2.39	17.31	LOT 4, 5, 6, 7, 8 & 9	27"	734.59	734.28
17+61.27	0.14	0.61	17.92	LOT 3, 4, 5, 6, 7, 8 & 9	27"	733.38	733.07

* CULVERT LENGTH=24', MATERIAL=RPC

DRIVEWAY CULVERT DATA FOR BLK B LOT 1 & 2 CULVERTS							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
20+74.17	2.55	9.08	9.08	LOT 1, OA1a & OA1b	18"	734.11	734.01
19+65.12	1.74	6.19	15.27	LOT 1, 2 & OA1a, OA1b & A3	24"	733.58	733.46

* CULVERT LENGTH=24', MATERIAL=RPC

DRIVEWAY CULVERT DATA FOR BLK A LOT 3 TO 8 CULVERTS							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
10+80.03	0.21	1.18	1.18	LOT 9	18"	746.82	746.08
12+49.73	0.21	1.18	2.36	LOT 8 & 9	18"	741.58	740.84
13+88.82	0.21	1.18	3.54	LOT 7, 8 & 9	18"	737.83	737.60
15+11.46	0.21	1.18	4.72	LOT 6, 7, 8 & 9	18"	736.59	736.34
16+55.08	0.21	1.18	5.90	LOT 5, 6, 7, 8 & 9	18"	735.12	734.88
17+59.72	0.22	1.24	7.13	LOT 4, 5, 6, 7, 8 & 9	18"	734.05	733.82

* CULVERT LENGTH=24', MATERIAL=RPC

DRIVEWAY CULVERT DATA FOR BLK A LOT 1 & 2 CULVERTS							
STREET STATION	CORRESPONDING LOT AREA	Q100	Q100 TOTAL	CONTRIBUTING LOTS/AREA	CULVERT SIZE*	UPSTREAM INV.	DOWNSTREAM INV.
20+74.17	0.29	1.62	1.62	A4	18"	734.13	734.01
19+65.12	0.16	0.89	2.51	A4	18"	733.58	733.46

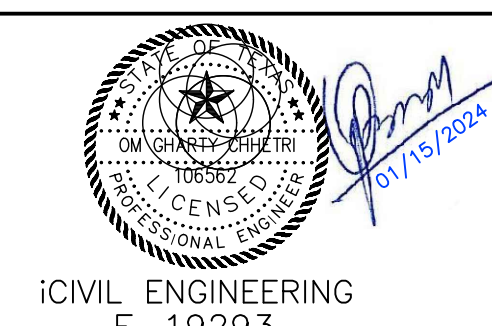
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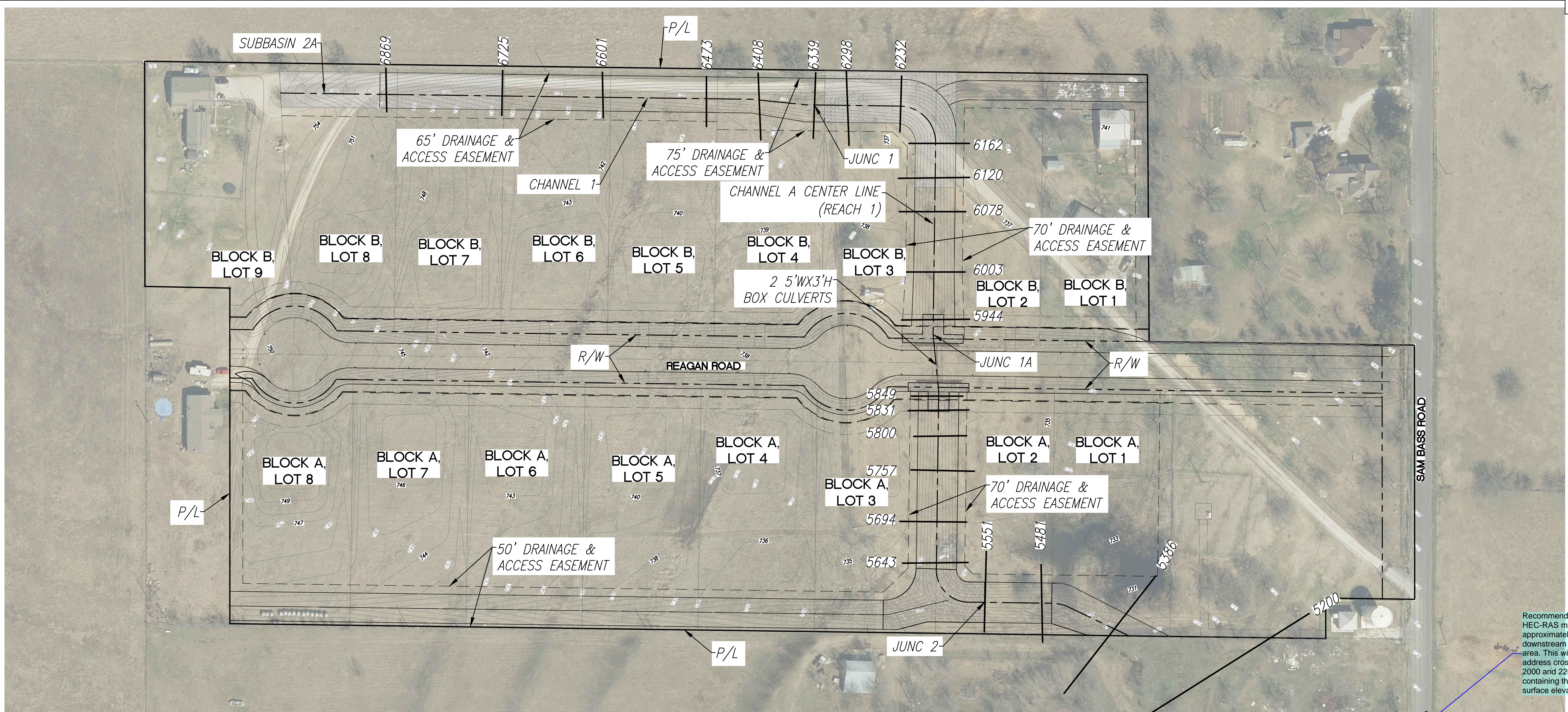
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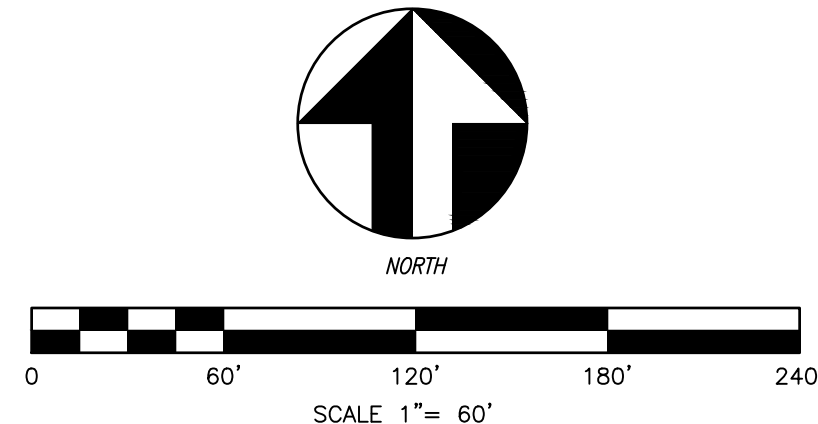
SANGER, TEXAS
DITCH AND CULVERT CALCULATIONS
 FOR
MARLEY MEADOWS

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Recommend starting HEC-RAS model approximately 1,000 ft downstream of project area. This will also address cross sections 2000 and 2200 not containing the water surface elevation.

HEC-RAS model: N-values should be defined for the left overbank, channel, and right overbank at a minimum. One (1) n-value should not be used for the entire length of the cross section.



LEGENDS
 123 RAS CROSS SECTION LINE

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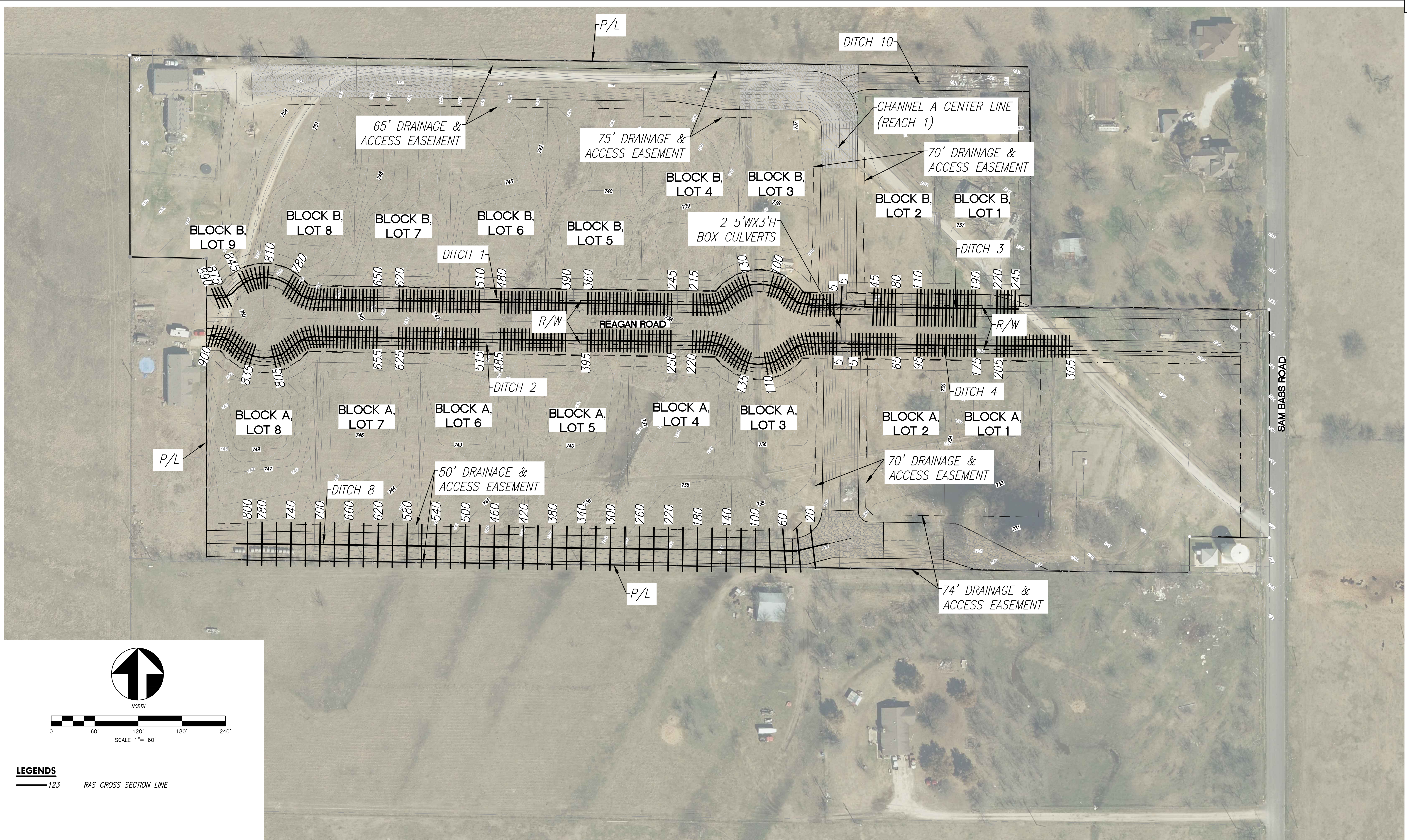
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 F-19293

SANGER, TEXAS
HYDRAULIC WORK MAP
 FOR
MARLEY MEADOWS

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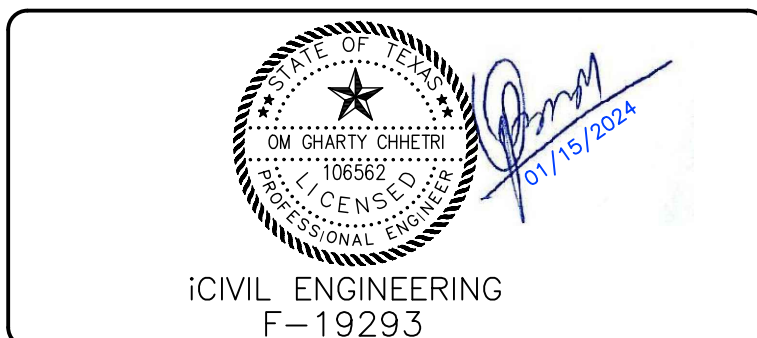
LEGENDS
 123 RAS CROSS SECTION LINE



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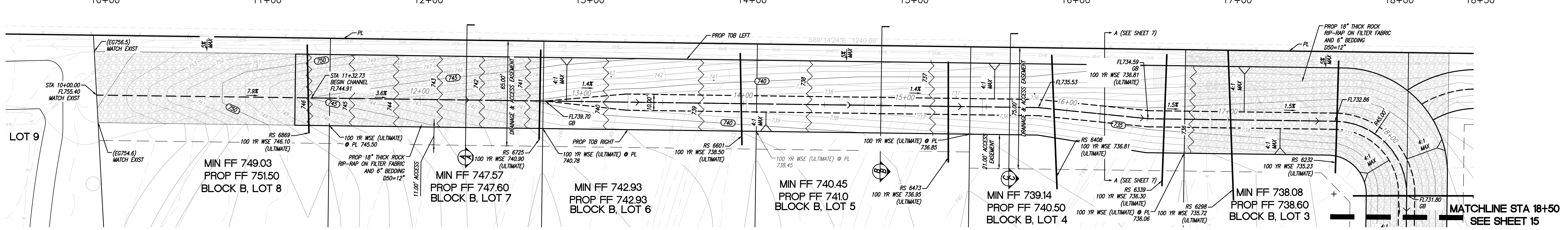
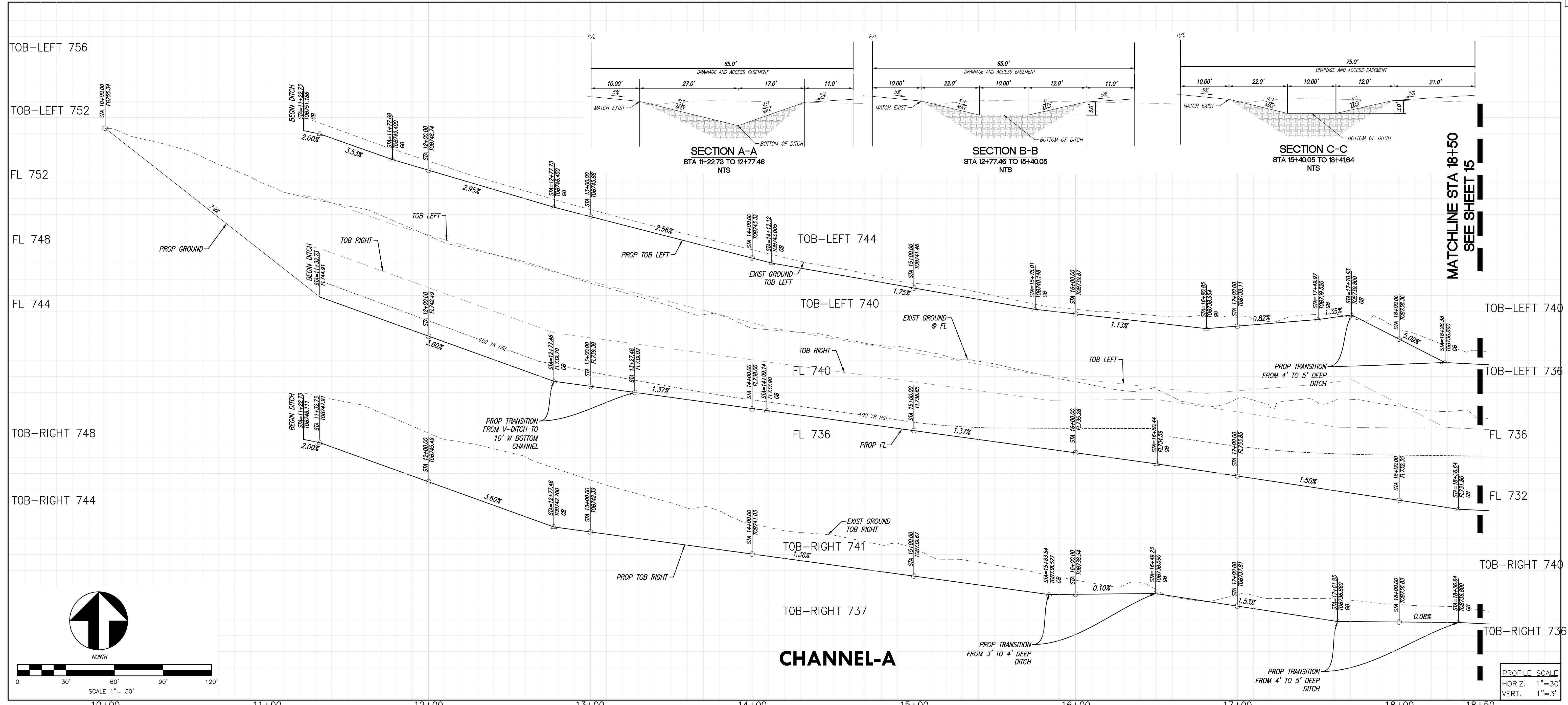


SANGER, TEXAS
HYDRAULIC WORK MAP
 FOR
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HEC-RAS Plan DITCH-1 River DITCH-1 Reach DITCH-1 Profile Q100													
Reach	River Sta	Profile	Q Total (cfs)	Mn Ch E (ft)	W.S. Elev (ft)	Chl W.S. (ft)	E.G. Elev (ft)	E.G. Slope	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Froude # C#
DITCH-1	890	Q100	4.22	749.92	750.23	750.23	750.33	0.044883	2.47	1.71	8.13	1.01	
DITCH-1	885	Q100	4.22	749.24	748.45	748.56	748.86	0.281899	5.12	0.62	8.22	2.48	
DITCH-1	880	Q100	4.22	748.56	747.77	747.88	748.18	0.078777	2.81	2.42	8.31	1.52	
DITCH-1	875	Q100	4.22	747.88	747.04	747.22	747.94	0.000503	0.82	6.79	10.22	0.13	
DITCH-1	860	Q100	4.22	746.64	747.04	747.05	747.05	0.010962	0.81	5.22	9.33	0.19	
DITCH-1	845	Q100	4.22	746.04	747.04	747.05	747.05	0.010962	0.81	5.22	9.33	0.19	
DITCH-1	840	Q100	4.22	746.03	747.04	747.05	747.05	0.000071	0.71	5.97	10.09	0.16	
DITCH-1	835	Q100	4.22	745.94	747.04	747.04	747.04	0.000689	0.59	7.11	10.95	0.13	
DITCH-1	830	Q100	4.22	745.92	747.04	747.04	747.04	0.000019	0.19	8.22	11.02	0.11	
DITCH-1	825	Q100	4.22	745.72	747.04	747.04	747.04	0.000213	0.44	9.51	12.54	0.09	
DITCH-1	820	Q100	4.22	745.62	747.04	747.04	747.04	0.000449	0.39	10.87	13.41	0.08	
DITCH-1	815	Q100	4.22	745.42	747.04	747.04	747.04	0.000121	0.12	12.24	14.28	0.07	
DITCH-1	810	Q100	7.74	745.29	747.03	745.90	747.04	0.000235	0.54	14.40	15.30	0.10	
DITCH-1	795	Q100	7.74	744.95	746.23	745.66	747.04	0.019960	2.88	2.89	7.19	0.74	
DITCH-1	775	Q100	7.74	744.53	745.14	745.25	745.25	0.010989	2.70	2.86	7.36	0.77	
DITCH-1	770	Q100	7.74	744.51	745.14	745.25	745.25	0.000462	0.46	3.27	8.42	0.71	
DITCH-1	765	Q100	7.74	744.21	744.75	744.75	744.75	0.003466	3.55	2.18	6.43	1.07	
DITCH-1	760	Q100	7.74	744.03	744.75	744.75	744.75	0.039870	3.50	2.21	6.33	1.04	
DITCH-1	755	Q100	7.74	744.03	744.54	744.54	744.54	0.039870	3.50	2.21	6.33	1.04	
DITCH-1	750	Q100	7.74	743.88	744.38	744.38	744.38	0.000606	0.61	3.24	7.33	0.91	
DITCH-1	745	Q100	7.74	743.83	744.14	744.14	744.36	0.044966	3.76	2.06	6.14	1.14	
DITCH-1	740	Q100	7.74	743.62	743.98	743.98	744.16	0.034188	3.40	2.28	6.40	1.01	
DITCH-1	735	Q100	7.74	743.42	743.98	743.98	744.16	0.044920	3.76	2.06	6.14	1.14	
DITCH-1	730	Q100	7.74	743.09	743.59	743.64	743.83	0.051283	3.84	1.98	6.00	1.21	
DITCH-1	725	Q100	7.74	742.94	743.42	743.49	743.69	0.059980	4.20	1.84	5.83	1.32	
DITCH-1	720	Q100	7.74	742.92	743.29	743.35	743.55	0.069632	4.41	1.79	5.70	1.40	
DITCH-1	715	Q100	7.74	742.64	743.11	743.20	743.42	0.072897	4.49	1.72	5.63	1.43	
DITCH-1	710	Q100	7.74	742.49	742.95	743.05	743.27	0.077006	4.44	1.74	5.69	1.41	
DITCH-1	705	Q100	7.74	742.21	742.87	742.97	743.19	0.082881	4.42	1.73	5.67	1.42	
DITCH-1	700	Q100	7.74	742.21	742.67	742.76	742.98	0.071199	4.42	1.73	5.67	1.42	
DITCH-1	695	Q100	7.74	742.06	742.52	742.61	742.82	0.068989	4.38	1.77	5.84	1.39	
DITCH-1	690	Q100	7.74	741.92	742.37	742.45	742.66	0.066959	4.33	2.04	6.47	1.07	
DITCH-1	685	Q100	7.74	741.75	742.22	742.30	742.52	0.069188	4.38	1.77	5.84	1.39	
DITCH-1	680	Q100	7.74	741.58	742.07	742.15	742.37	0.074431	4.30	2.04	6.47	1.07	
DITCH-1	675	Q100	7.74	741.44	742.23	742.30	742.52	0.069692	4.30	2.04	6.47	1.07	
DITCH-1	670	Q100	7.74	741.28	742.23	742.28	742.50	0.060015	4.39	5.07	8.70	0.48	
DITCH-1	665	Q100	7.74	741.12	742.23	742.25	742.47	0.028654	1.69	7.07	10.82	0.14	
DITCH-1	660	Q100	7.74	740.97	742.23	742.24	742.46	0.000666	0.67	10.85	12.05	0.18	
DITCH-1	655	Q100	7.74	740.81	742.23	742.23	742.45	0.000005	0.72	10.82	13.30	0.14	
DITCH-1	650	Q100	10.24	740.53	742.21	741.18	742.23	0.000004	0.73	13.88	14.72	0.13	
DITCH-1	635	Q100	10.24	738.76	740.39	740.59	740.59	0.032125	3.57	2.74	7.10	0.89	
DITCH-1	620	Q100	10.24	738.76	740.39	740.59	740.59	0.032125	3.57	2.74	7.10	0.89	
DITCH-1	615	Q100	10.24	738.59	740.39	740.59	740.59	0.032125	3.57	2.74	7.10	0.89	
DITCH-1	610	Q100	10.24	738.47	740.13	740.13	740.30	0.028410	3.33	3.05	7.29	0.91	
DITCH-1	605	Q100	10.24	738.31	739.96	739.96	740.16	0.027319	3.37	3.01	7.24	0.92	
DITCH-1	600	Q100	10.24	738.19	739.84	739.84	740.04	0.027777	3.36	3.02	7.27	0.93	
DITCH-1	595	Q100	10.24	738.06	739.70	739.68	739.88	0.028861	3.43	2.95	7.23	0.95	
DITCH-1	590	Q100	10.24	738.01	739.59	739.59	739.79	0.022320	3.17	3.20	7.47	0.85	
DITCH-1	585	Q100	10.24	737.88	739.45	739.42	739.62	0.024885	3.11	3.52	7.81	0.86	
DITCH-1	580	Q100	10.24	738.66	739.34	739.29	739.50	0.024992	3.25	3.12	7.32	0.88	
DITCH-1	575	Q100	10.24	738.53	739.21	739.17	739.37	0.025666	3.25	3.12	7.32	0.88	
DITCH-1	570	Q100	10.24	738.41	739.11	739.06	739.26	0.026366	3.24	3.04	7.31	0.89	
DITCH-1	565	Q100	10.24	738.31	739.03	739.15	739.15	0.027391	3.26	3.54	7.85	0.75	
DITCH-1	560	Q100	10.24	738.26	738.94	739.01	739.05	0.028552	3.29	3.43	7.65	0.83	
DITCH-1	555	Q100	10.24	738.05	738.84	739.01	739.03	0.030053	2.19	4.54	8.85	0.53	
DITCH-1	550	Q100	10.24	737.97	738.82	738.97	739.02	0.030602	1.87	5.41	8.57	0.44	
DITCH-1	545	Q100	10.24	737.86	738.79	738.94	739.00	0.031469	1.69	6.27	9.47	0.35	
DITCH-1	540	Q100	10.24	737.75	738.90	739.03	739.02	0.032362	1.66	7.46	11.14	0.29	
DITCH-1	535	Q100	10.24	737.66	738.89	739.01	739.04	0.033455	1.19	8.63	11.90	0.25	
DITCH-1	530	Q100	10.24	737.64	738.89	739.01	739.04	0.034548	1.19	8.63	11.90	0.25	
DITCH-1	525	Q100	10.24	737.47	738.89	739.00	739.00	0.035641	0.94	10.63	13.35	0.18	
DITCH-1	520	Q100	10.24	737.27	738.89	739.00	739.00	0.036734	0.82	12.30	14.20	0.16	
DITCH-1	515	Q100	10.24	737.08	738.89	739.00	739.00	0.037827	0.75	13.97	15.34	0.14	
DITCH-1	510	Q100	10.24	736.83	738.88	739.74	738.88	0.038944	0.68	16.15	16.69	0.13	
DITCH-1	495	Q100	12.53	736.72	738.14	738.16	738.16	0.041381	1.18	10.65	13.23	0.23	
DITCH-1	475	Q100	12.53	736.66	738.13	738.15	738.15	0.041091	1.08	11.65	13.84	0.21	
DITCH-1	470	Q100	12.53	736.59	738.13	738.15	738.15	0.040800	1.00	12.47	14.31	0.19	
DITCH-1	465	Q100	12.53	736.53	738.12	738.15	738.15	0.040509	0.92	13.49	14.91	0.18	
DITCH-1	460	Q100	12.53	736.47	738.12	738.13	738.13	0.040218	0.88	14.58	15.27	0.16	
DITCH-1	455	Q100	12.53	736.41	738.12	738.13	738.13	0.040000	0.82	15.79	15.70	0.15	
DITCH-1	450	Q100	12.53	736.34	738.13	738.13	738.13	0.040000	0.79	16.63	16.10	0.14	
DITCH-1	445	Q100	12.53	736.31	738.12	738.12	738.12	0.040000	0.74	18.10	16.59	0.13	
DITCH-1	440	Q100	12.53	736.24	738.12	738.12	738.12	0.040000	0.71	19.25	17.17	0.12	
DITCH-1	435	Q100	12.53	736.22	738.12	738.12	738.12	0.040000	0.68	18.42	17.31	0.12	
DITCH-1	430	Q100	12.53	736.16	738.12	738.12	738.12	0.040000	0.65	19.24	17.86	0.11	

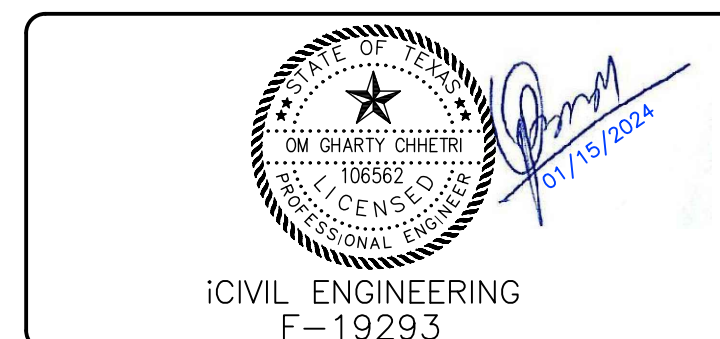
HEC-RAS Plan DITCH-2 River DITCH-2 Reach DITCH-2 Profile Q100													
Reach	River Sta	Profile	Q Total (cfs)	Mn Ch E (ft)	W.S. Elev (ft)	Chl W.S. (ft)	E.G. Elev (ft)	E.G. Slope	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Froude # C#
DITCH-2	900	Q100	7.13	748.75	749.47	748.45	749.64	0.029992	3.22	2.22	6.11	0.84	
DITCH-2	895	Q100	7.13	748.82	749.47	748.45	749.64	0.029322	2.93	2.43	6.34	0.93	
DITCH-2	890	Q100	7.13	748.88	749.47	748.10	749.64	0.029322	2.93	2.43	6.34	0.93	
DITCH-2	885	Q100	7.13	748.99	749.09	748.94	749.23	0.029593	3.06	2.33	6.21	0.88	
DITCH-2	880	Q100	7.13	748.78	748.95	748.91	749.10	0.029393	3.09	2.31	6.12	0.89	
DITCH-2	875	Q100	7.13	748.64	748.86	748.82	749.03	0.029322	2.93	2.43	6.34	0.93	
DITCH-2	870	Q100	7.13	748.00	748.86	748.83	749.11	0.028462	3.16	2.26	6.15	0.92	
DITCH-2	865	Q100	7.13	747.84	748.54	748.57	749.24	0.029424	2.90	2.46	6.07	0.94	
DITCH-2	860	Q100	7.13	747.70	748.39	748.39	749.07	0.029447	2.92	2.47	7.19	0.83	
DITCH-2	855	Q100	7.13	747.55	748.46	748.52	749.02	0.029172	1.85	3.86	9.99	0.37	
DITCH-2	850	Q100	7.13	747.43	748.46	748.49	749.05	0.029541	1.45	4.91	8.99	0.45	
DITCH-2	845	Q100	7.13	747.45	748.46	748.47	749.04	0.029169	1.13	6.02	10.		



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TBPE: F-19293
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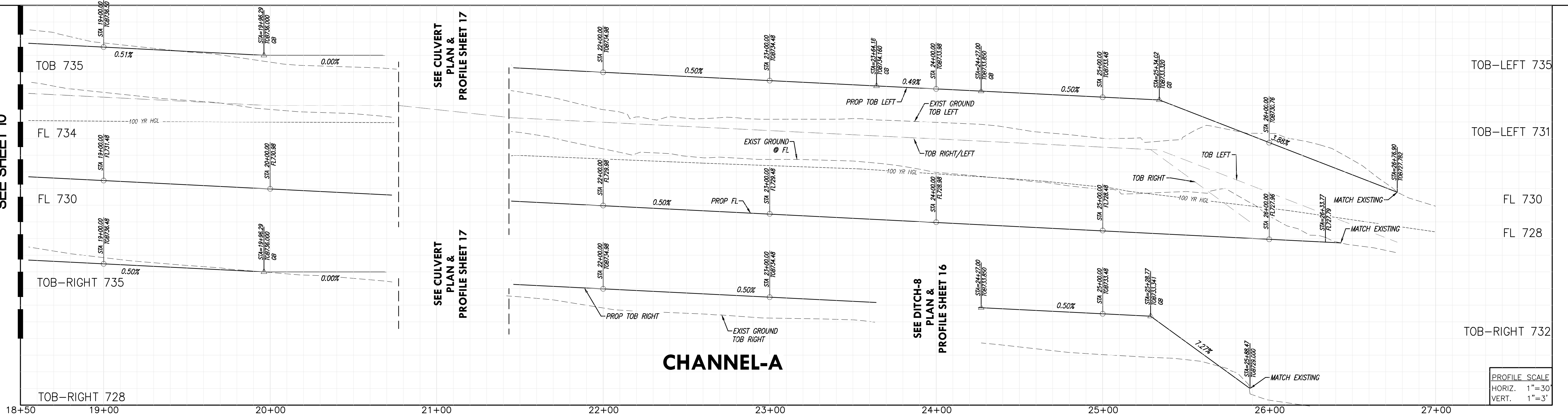
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JAN 2024



SANGER, TEXAS
CHANNEL-A PLAN & PROFILE
FOR
MARLEY MEADOWS

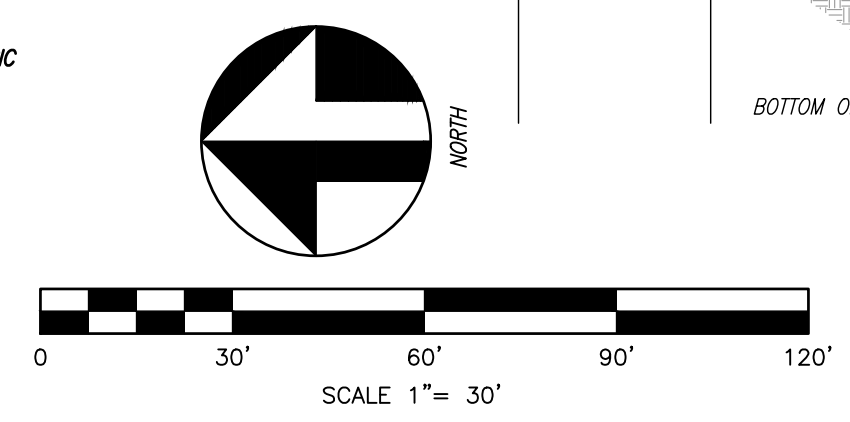
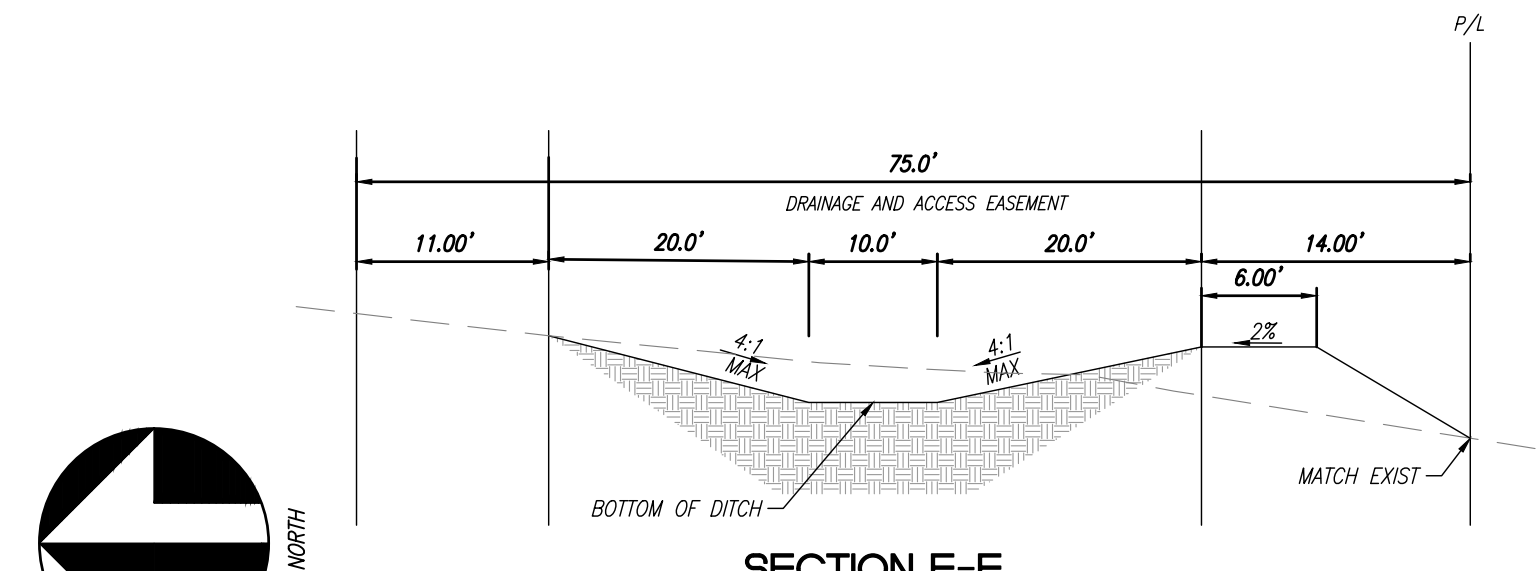
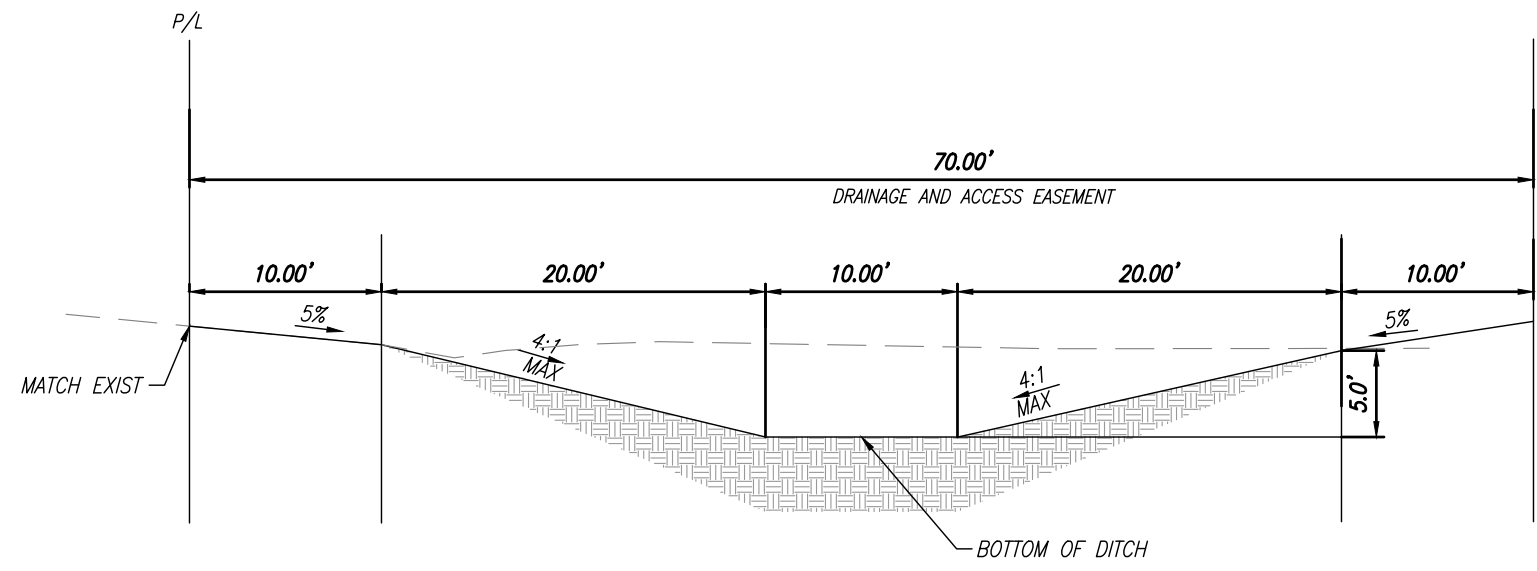
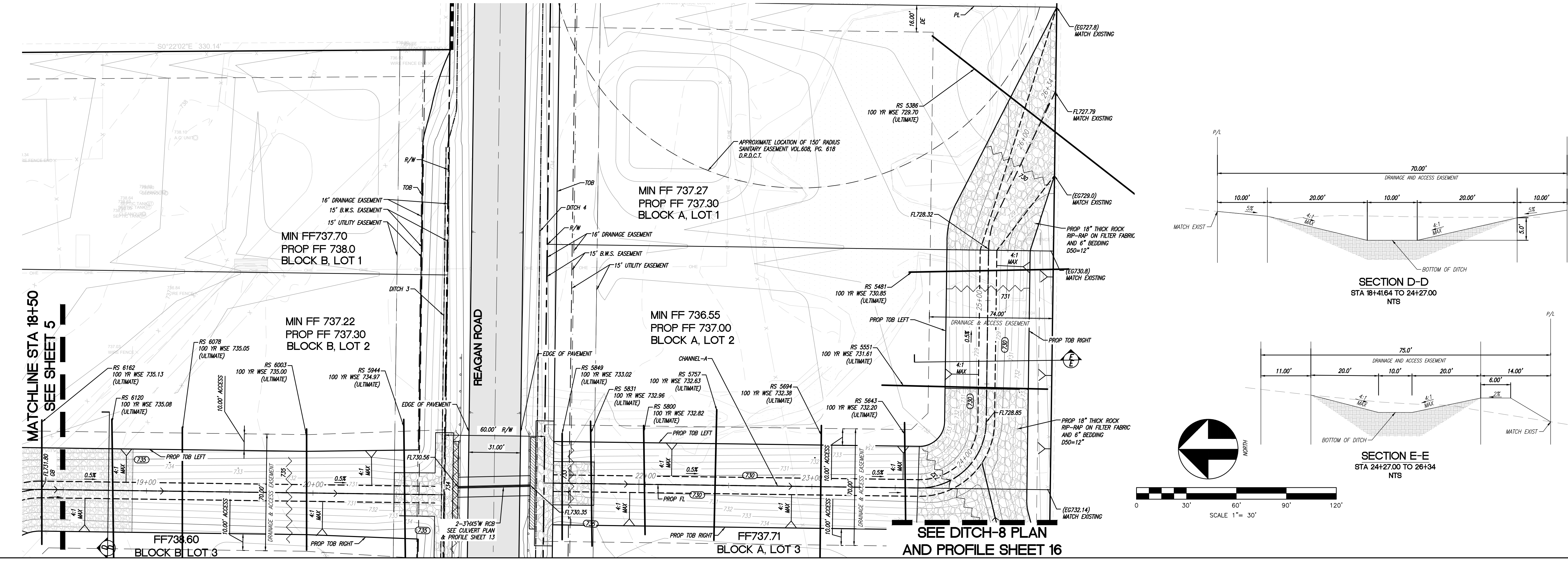
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of
23

MATCHLINE STA 18+50
SEE SHEET 10



CHANNEL-A

PROFILE SCALE
 HORIZ. 1"=30'
 VERT. 1"=3'



SEE DITCH-8 PLAN
 AND PROFILE SHEET 16

MATCHLINE STA 18+50
SEE SHEET 5



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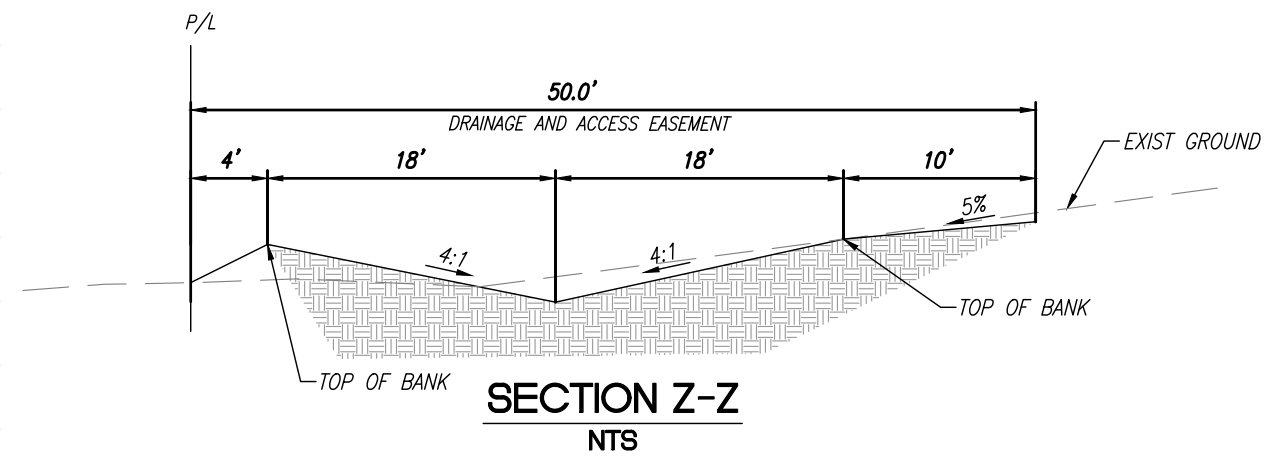
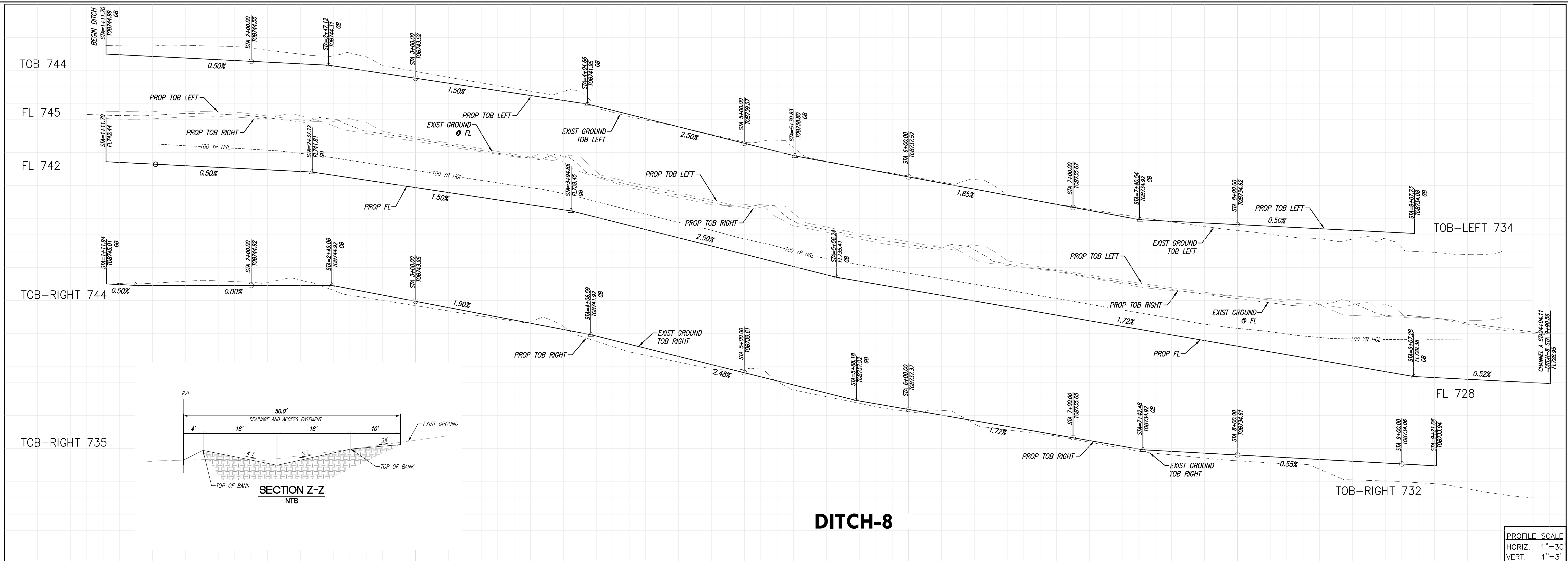
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JAN 2024

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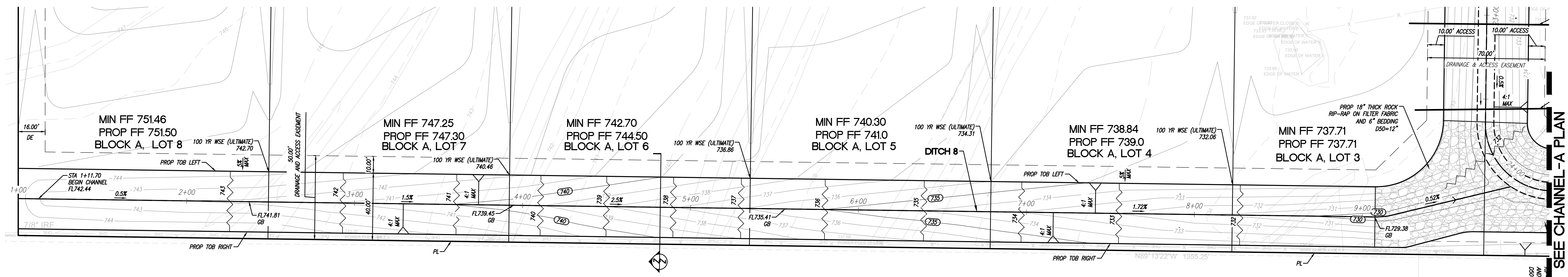
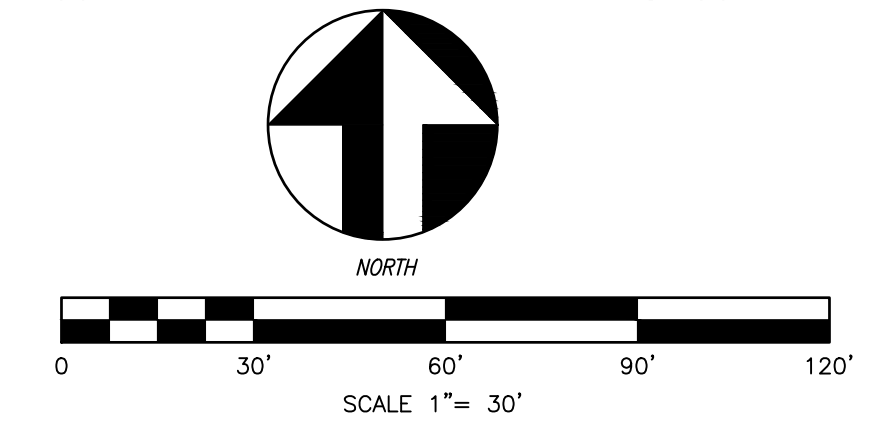
SANGER, TEXAS
CHANNEL-A PLAN & PROFILE
 FOR
MARLEY MEADOWS

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 of
 23



DITCH-8

PROFILE SCALE
 HORIZ. 1"=30'
 VERT. 1"=3'



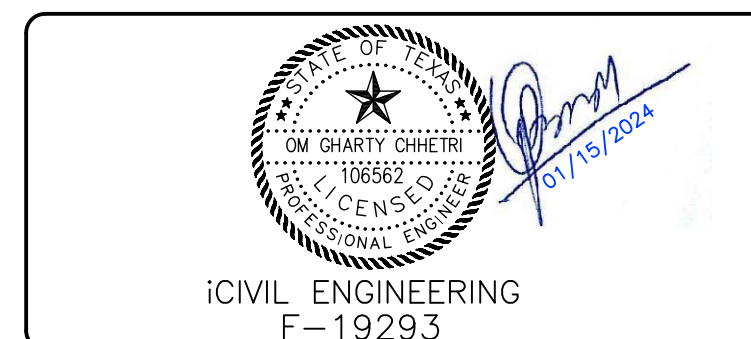
SEE CHANNEL-A PLAN AND PROFILE SHEET 15



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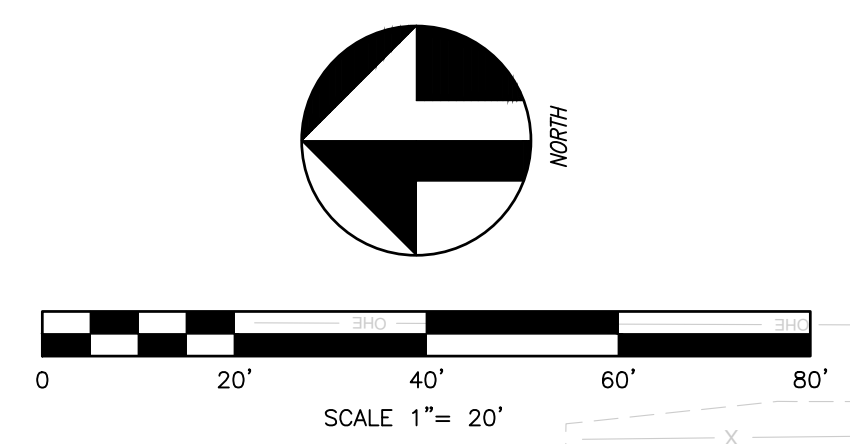
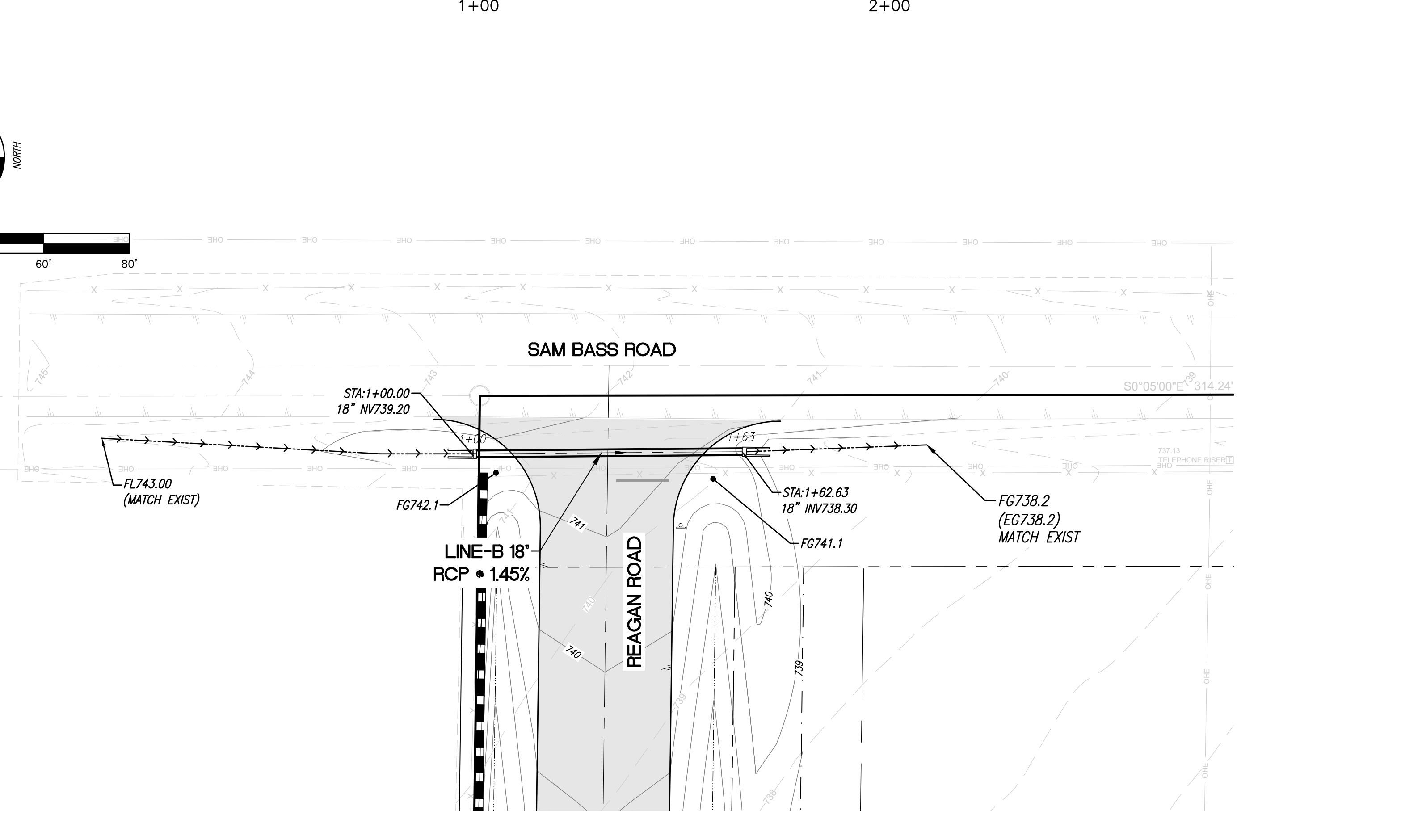
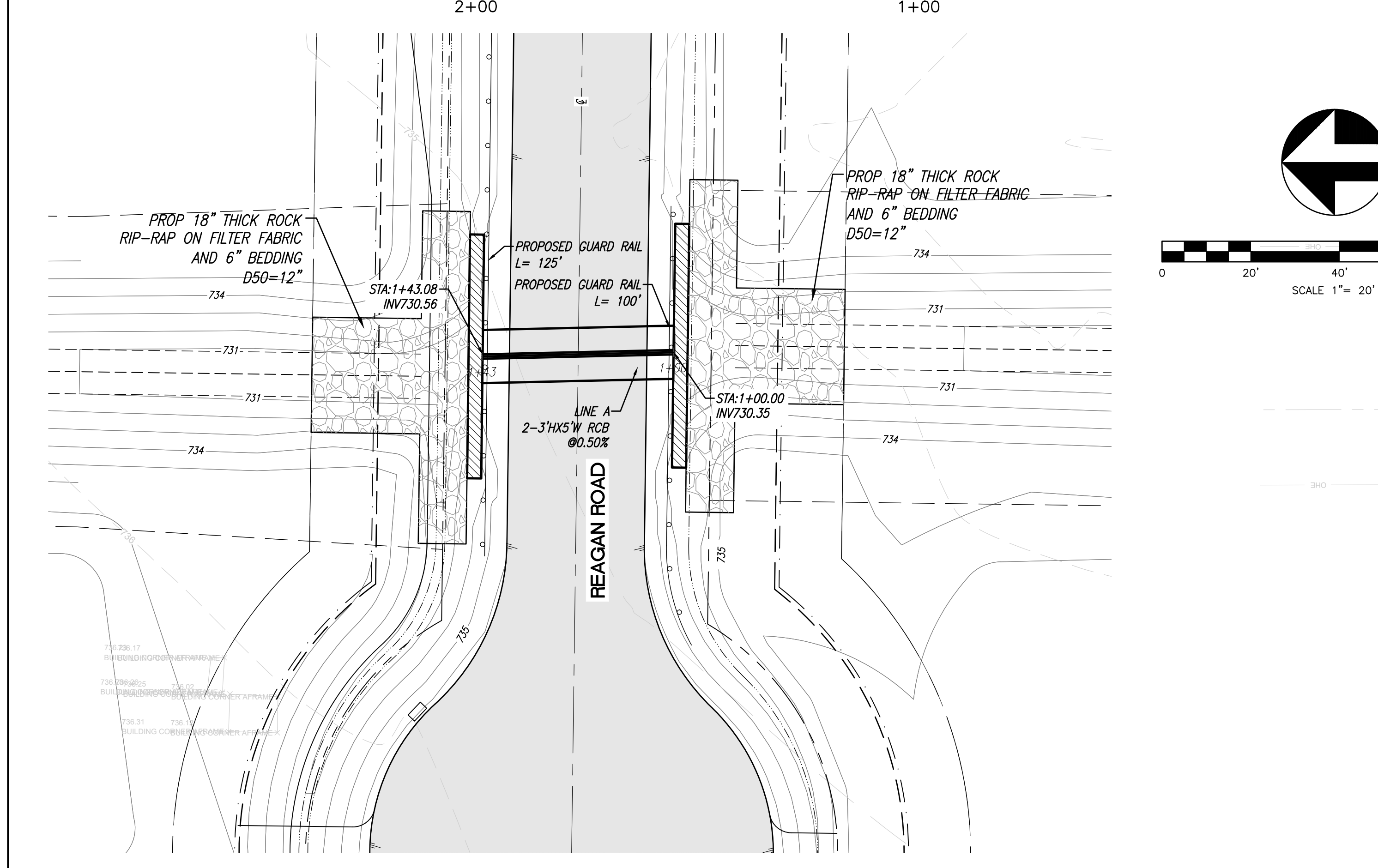
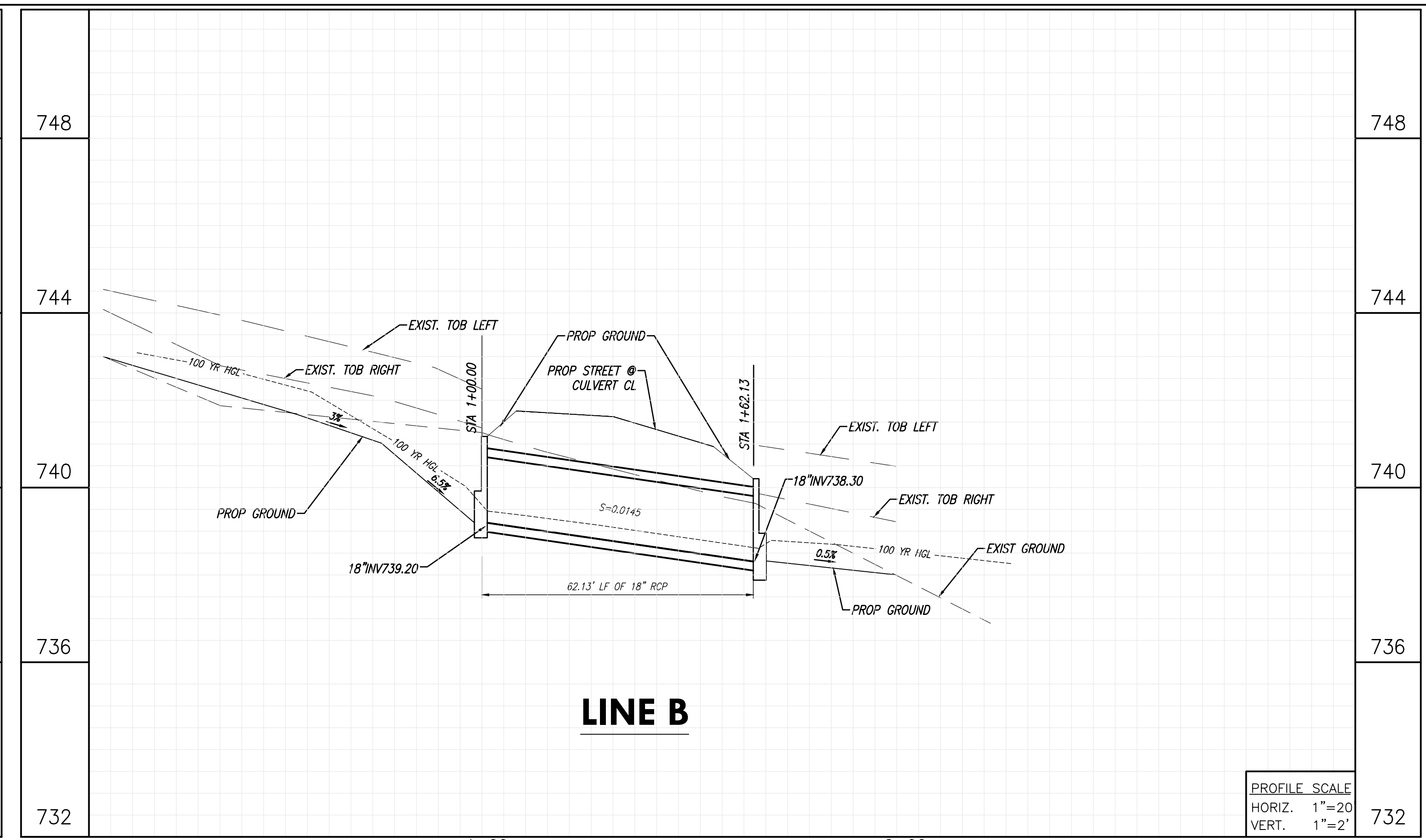
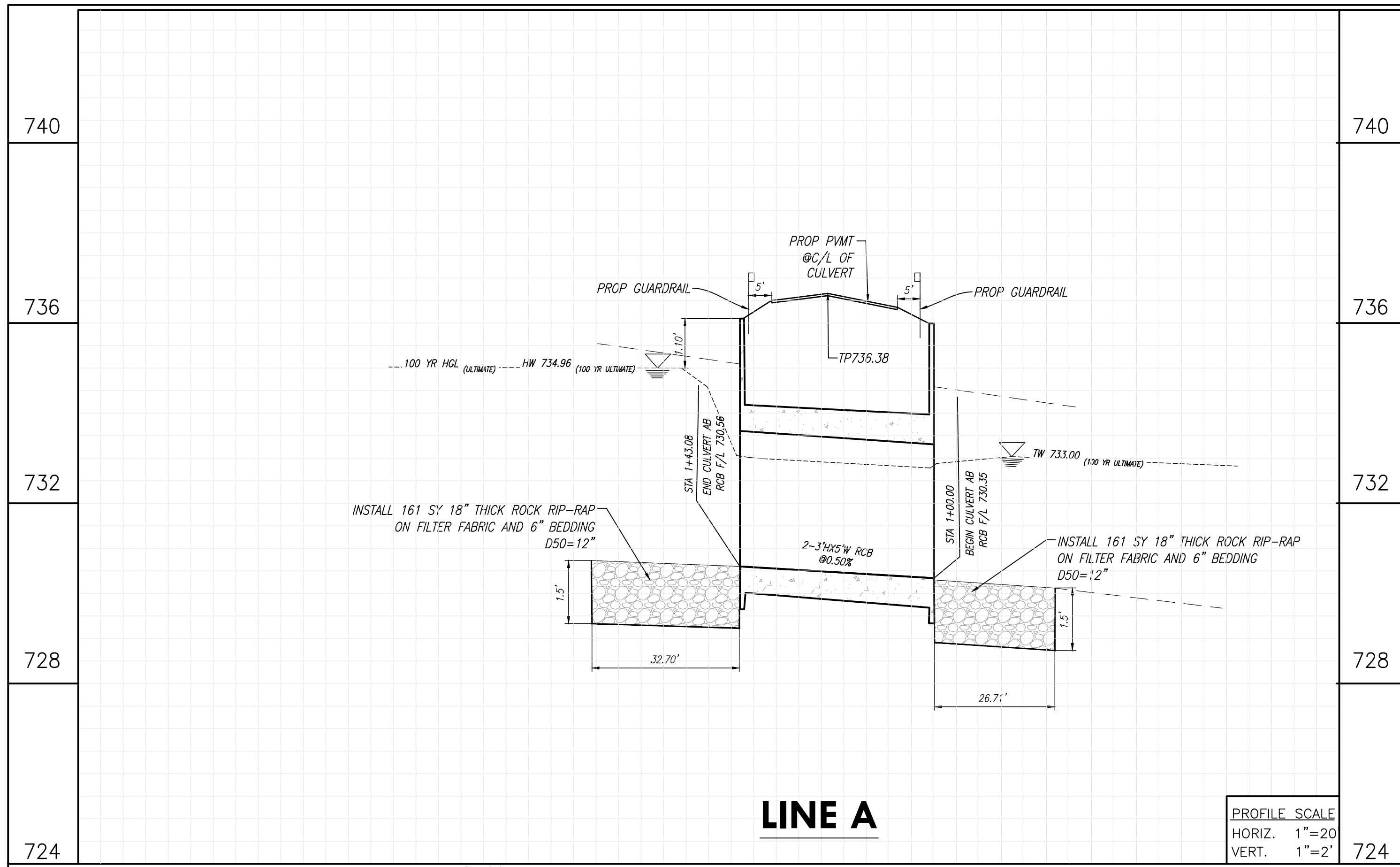
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JAN 2024



SANGER, TEXAS
DITCH-8 PLAN & PROFILE
 FOR
MARLEY MEADOWS

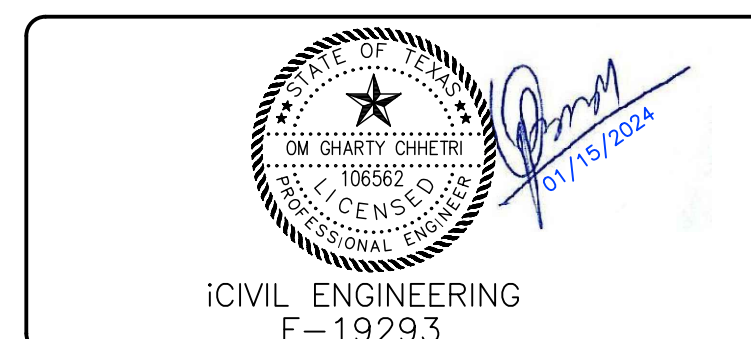
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 23



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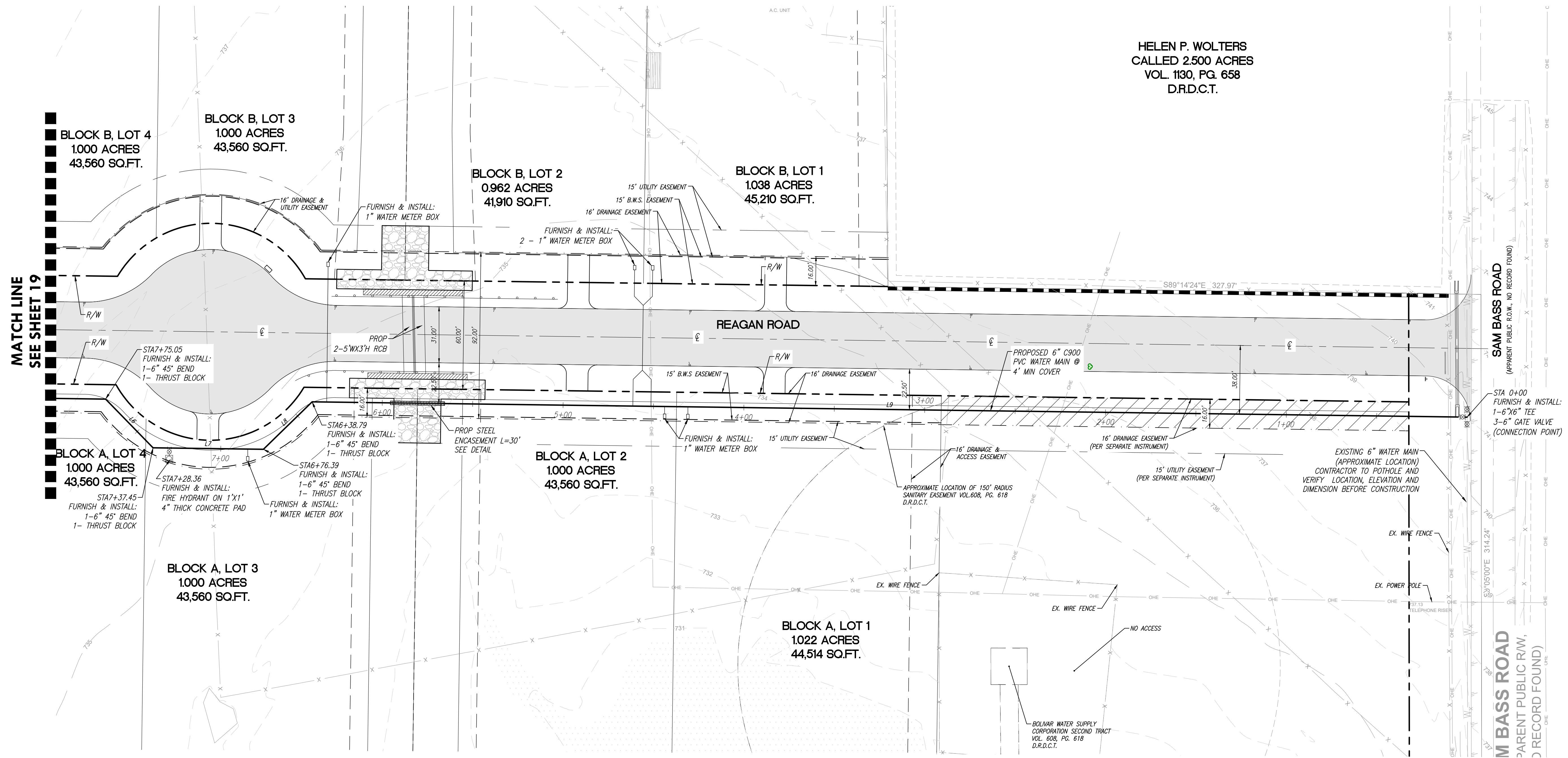
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SANGER, TEXAS
CULVERT PLAN & PROFILE
 FOR
MARLEY MEADOWS

PROJECT NO.
 sheet
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 23

HELEN P. WOLTERS
CALLED 2.500 ACRES
VOL. 1130, PG. 658
D.R.D.C.T.



MATCH LINE
SEE SHEET 19

BLOCK B, LOT 4
1.000 ACRES
43,560 SQ.FT.

BLOCK B, LOT 3
1.000 ACRES
43,560 SQ.FT.

BLOCK B, LOT 2
0.962 ACRES
41,910 SQ.FT.

BLOCK B, LOT 1
1.038 ACRES
45,210 SQ.FT.

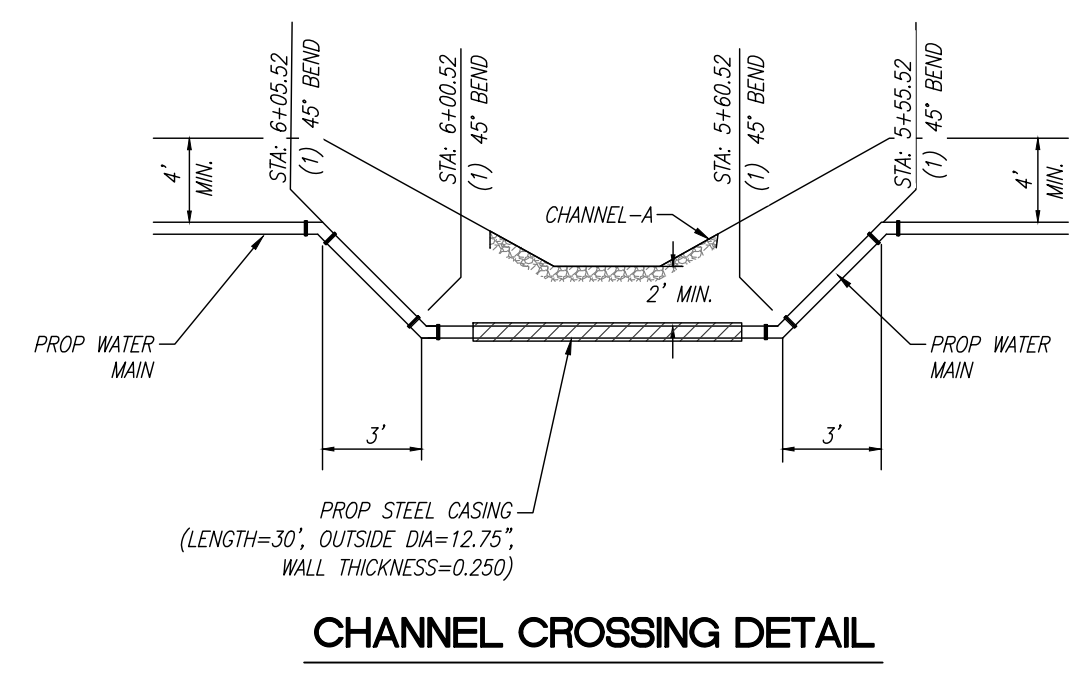
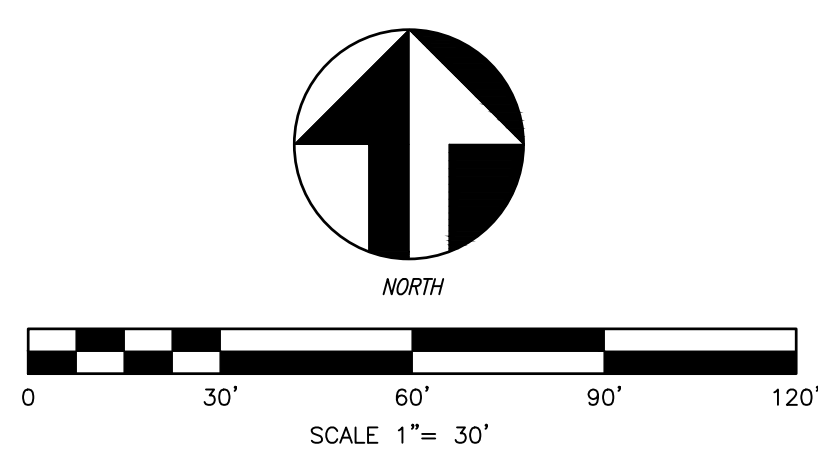
BLOCK A, LOT 4
1.000 ACRES
43,560 SQ.FT.

BLOCK A, LOT 2
1.000 ACRES
43,560 SQ.FT.

BLOCK A, LOT 3
1.000 ACRES
43,560 SQ.FT.

BLOCK A, LOT 1
1.022 ACRES
44,514 SQ.FT.

SEWER = SEPTIC SYSTEM



Line #	Length	Direction
L6	37.60	S44° 14' 23.69"E
L7	61.05	S89° 14' 23.84"E
L8	37.60	N45° 45' 36.17"E
L9	638.79	S89° 14' 23.76"E

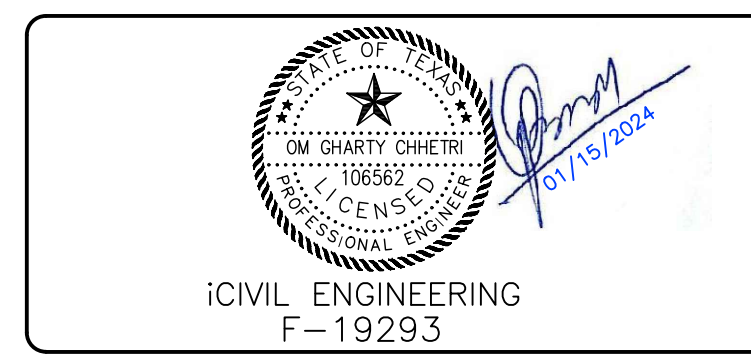
NOTE:
THE LOCATION AND DEPTH OF ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND THERE MAY BE OTHER UNKNOWN EXISTING UTILITIES NOT SHOWN ON THE PLANS. ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED AND PROTECTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES 72 HOURS PRIOR TO DOING ANY WORK IN THE AREA.



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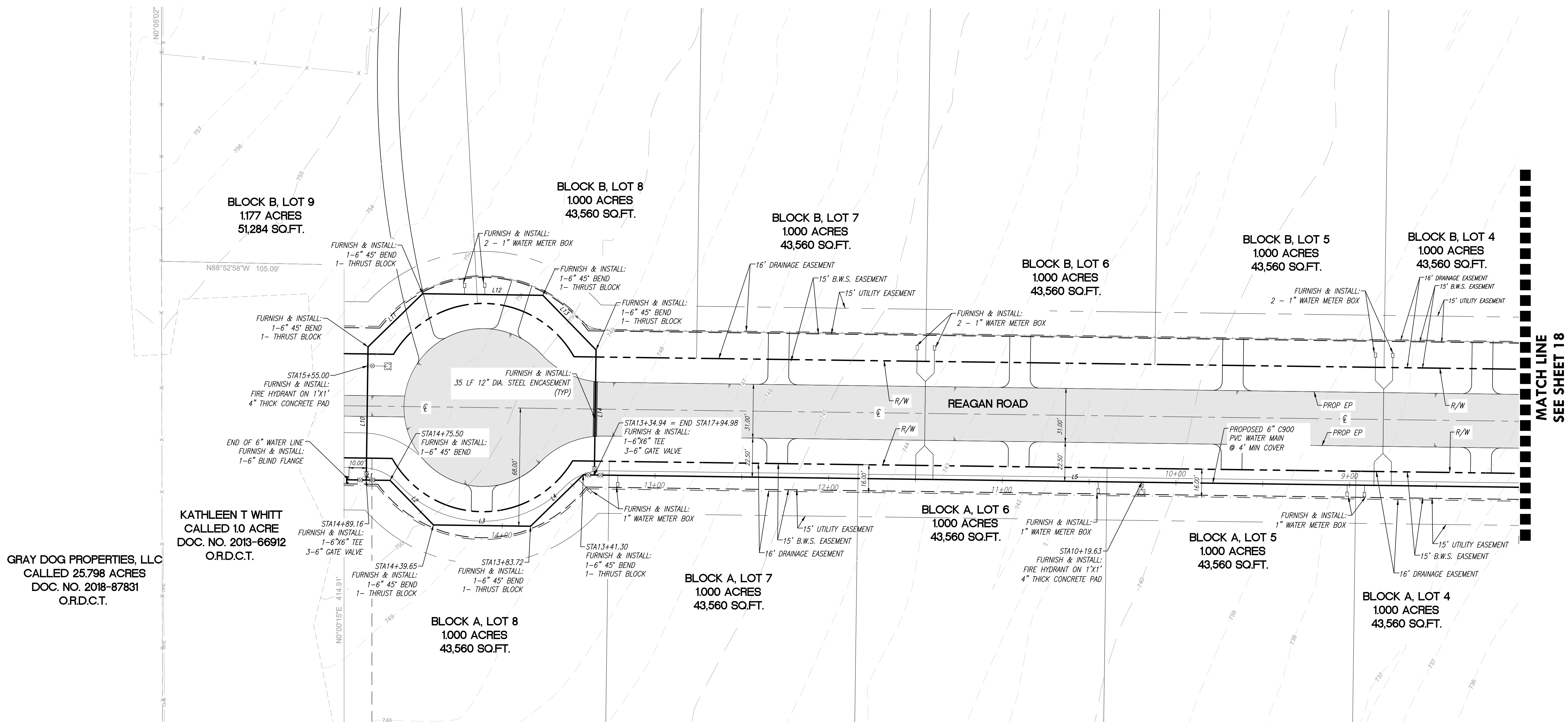
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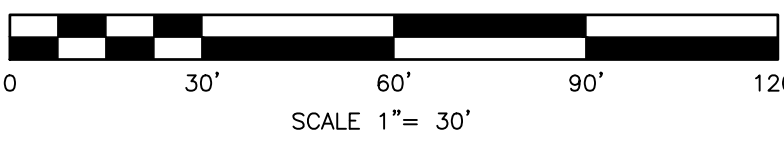
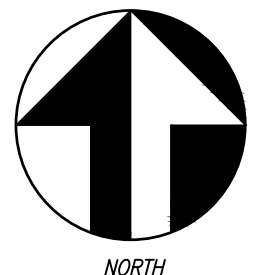
SANGER, TEXAS
WATER PLAN
FOR
MARLEY MEADOWS

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of
23



GRAY DOG PROPERTIES, LLC
CALLED 25.798 ACRES
DOC. NO. 2018-87831
O.R.D.C.T.

KATHLEEN T WHITT
CALLED 1.0 ACRE
DOC. NO. 2013-66912
O.R.D.C.T.



Water Line Table

Line #	Length	Direction
L1	23.67	S89° 14' 23.68"E
L2	35.84	S44° 14' 23.69"E
L3	55.93	S89° 14' 23.76"E
L4	42.42	N45° 45' 36.17"E
L5	566.25	S89° 14' 23.76"E
L10	76.74	N0° 45' 36.38"E
L11	43.86	N45° 45' 36.17"E
L12	69.26	S89° 14' 23.76"E
L13	43.88	S44° 14' 23.69"E
L14	72.08	S0° 45' 36.31"W

SEWER = SEPTIC SYSTEM

NOTE:
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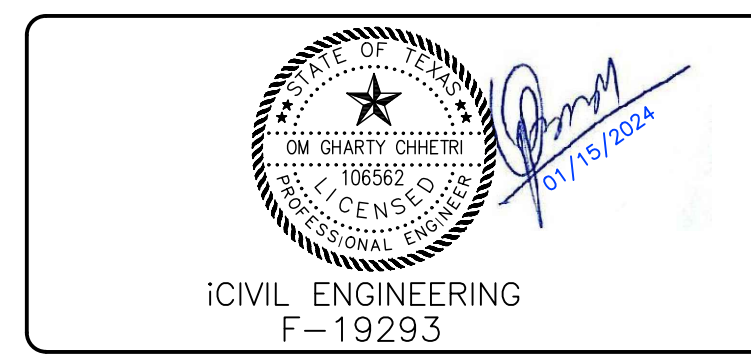
MATCH LINE
SEE SHEET 18



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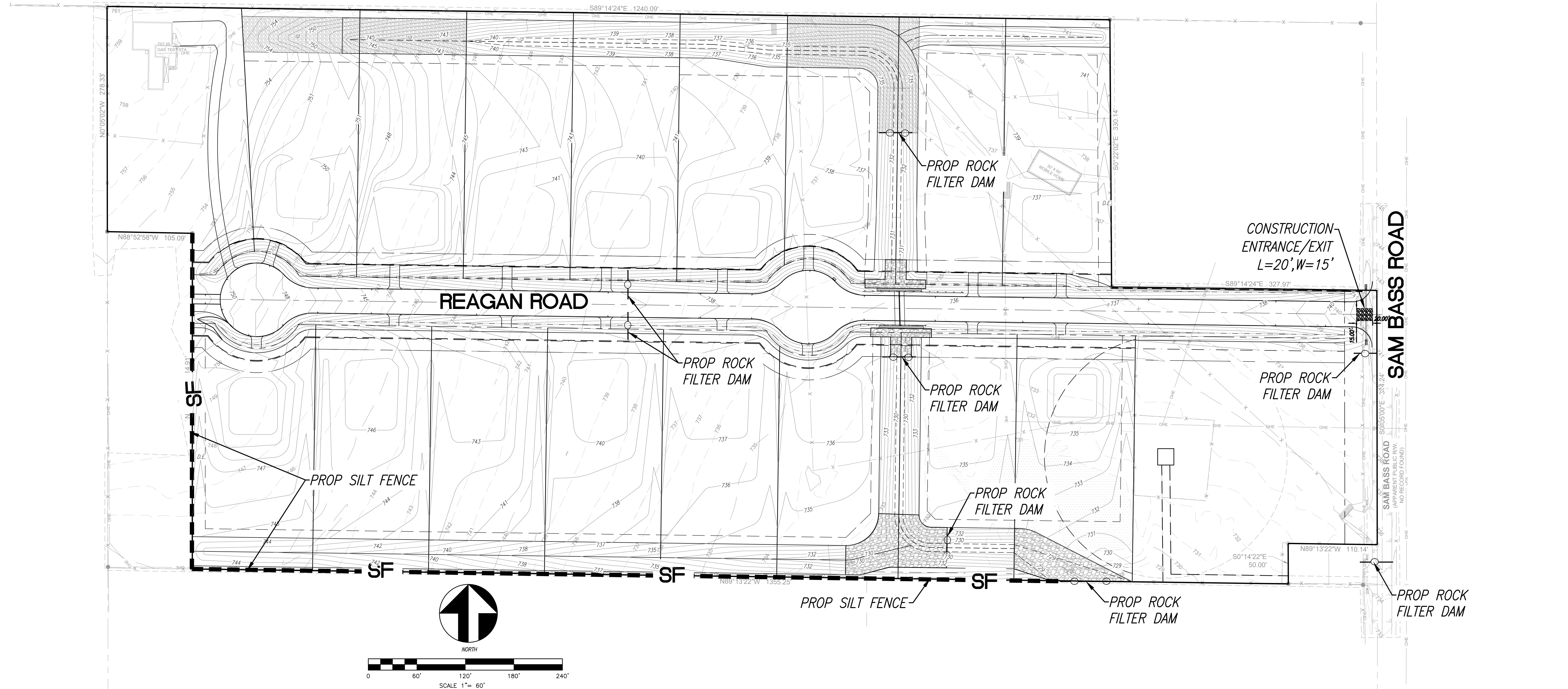
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JAN 2024



SANGER, TEXAS
WATER PLAN
FOR
MARLEY MEADOWS

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LEGEND

- ROCK FILTER DAM
- SILT FENCE OR APPROVED EQUAL
- DRAINAGE FLOW DIRECTION
- CONSTRUCTION ENTRANCE/EXIT
- SODDING

PHASE	DESCRIPTION
1	INSTALL INITIAL BMPs
2	GRADING & DITCH/CHANNEL
3	UNDERGROUND UTILITY INSTALLATION
4	PAVING OPERATIONS
5	ESTABLISH PERMANENT GROUND COVER
6	REMOVE TEMPORARY BMPs

EROSION AND SEDIMENT CONTROL

1. SOIL STABILIZATION PRACTISES (T-TEMPORARY P-PERMANENT)

- BUFFER ZONE
- PLANTING
- SODDING
- RIPRAP AT OUTLET

2. STRUCTURAL PRACTISES

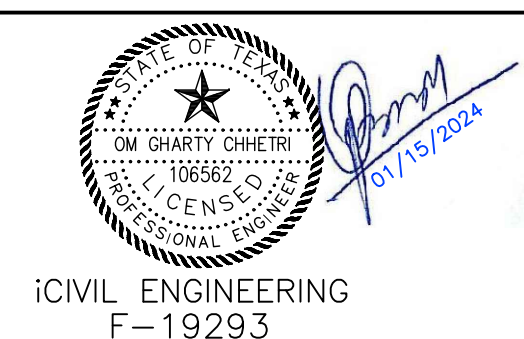
- SILT FENCE
- ROCK FILTER DAMS
- INLETS AND PIPES
- STORM INLET SEDIMENT TRAP
- PIPE SLOPE DRAINS
- STONE RIPRAP AT DISCHARGE POINT
- CULVERTS



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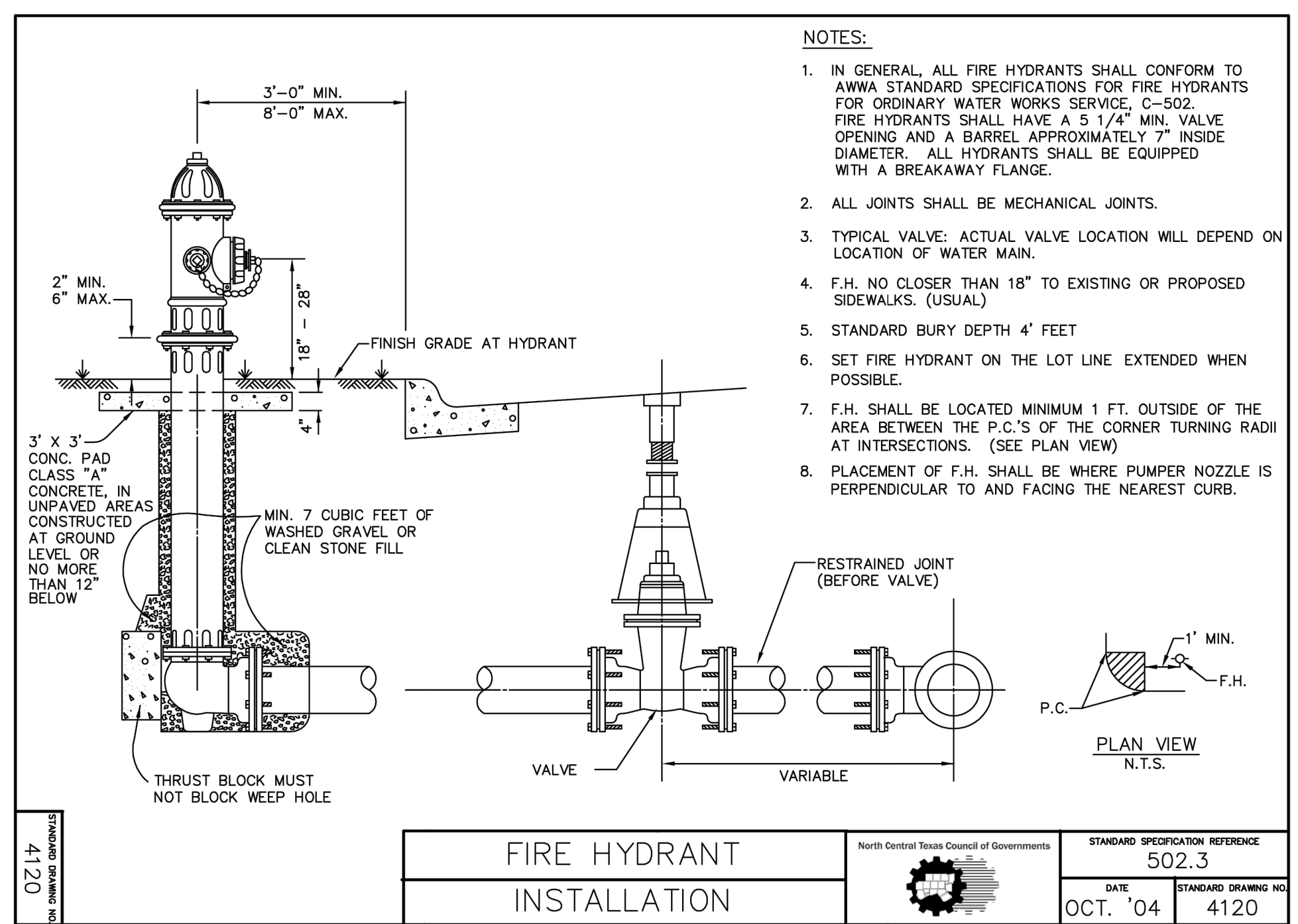
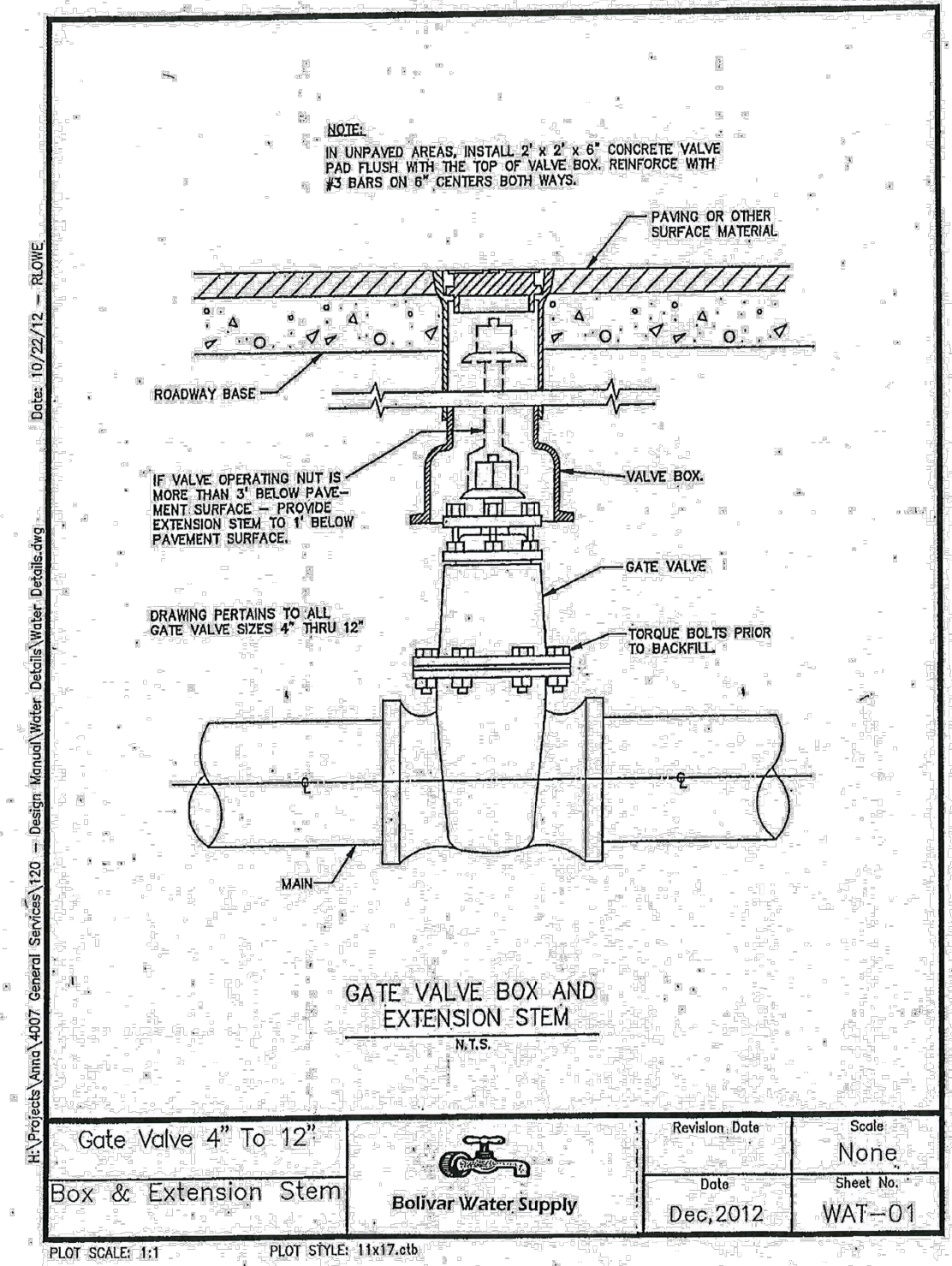
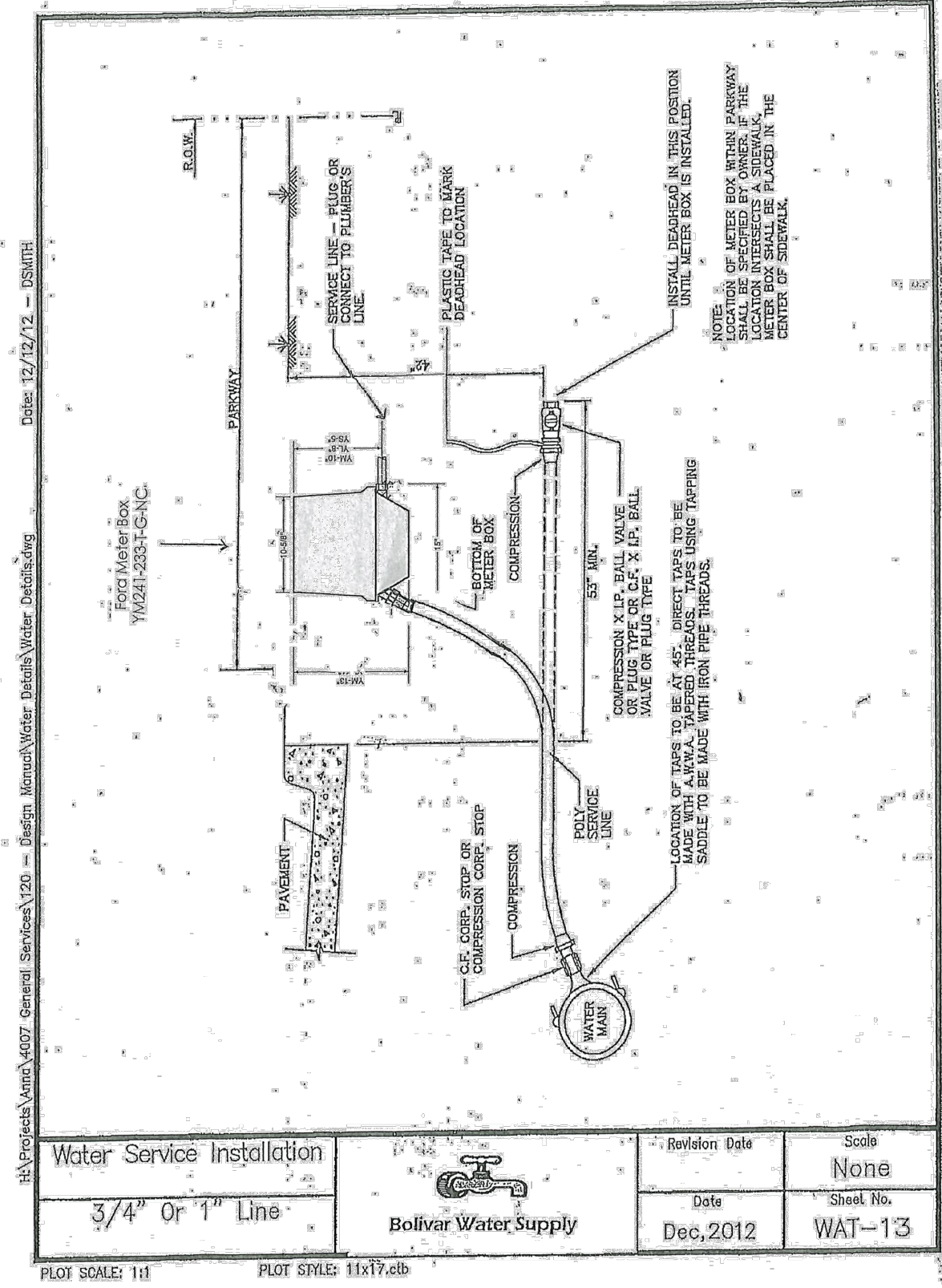
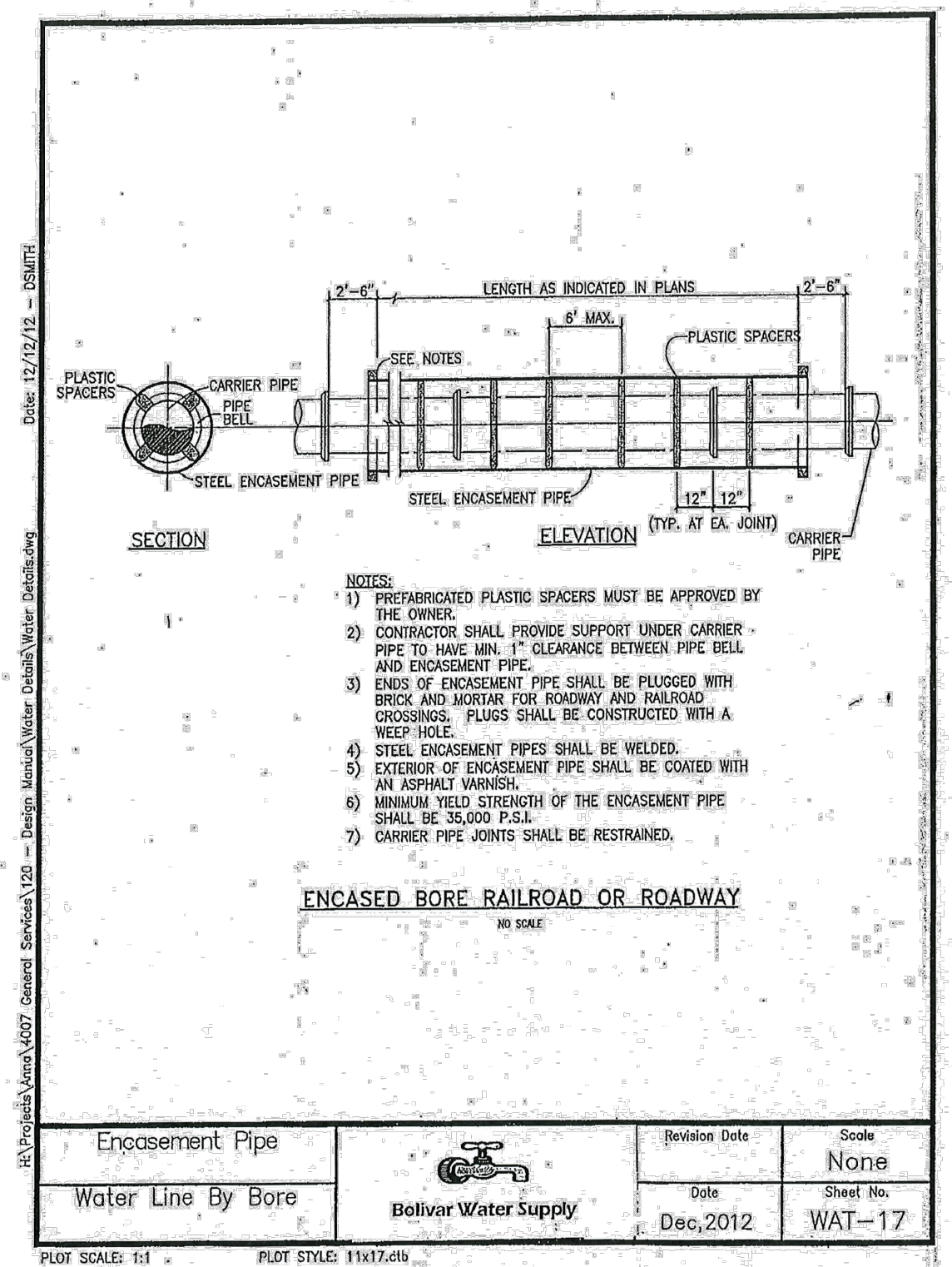
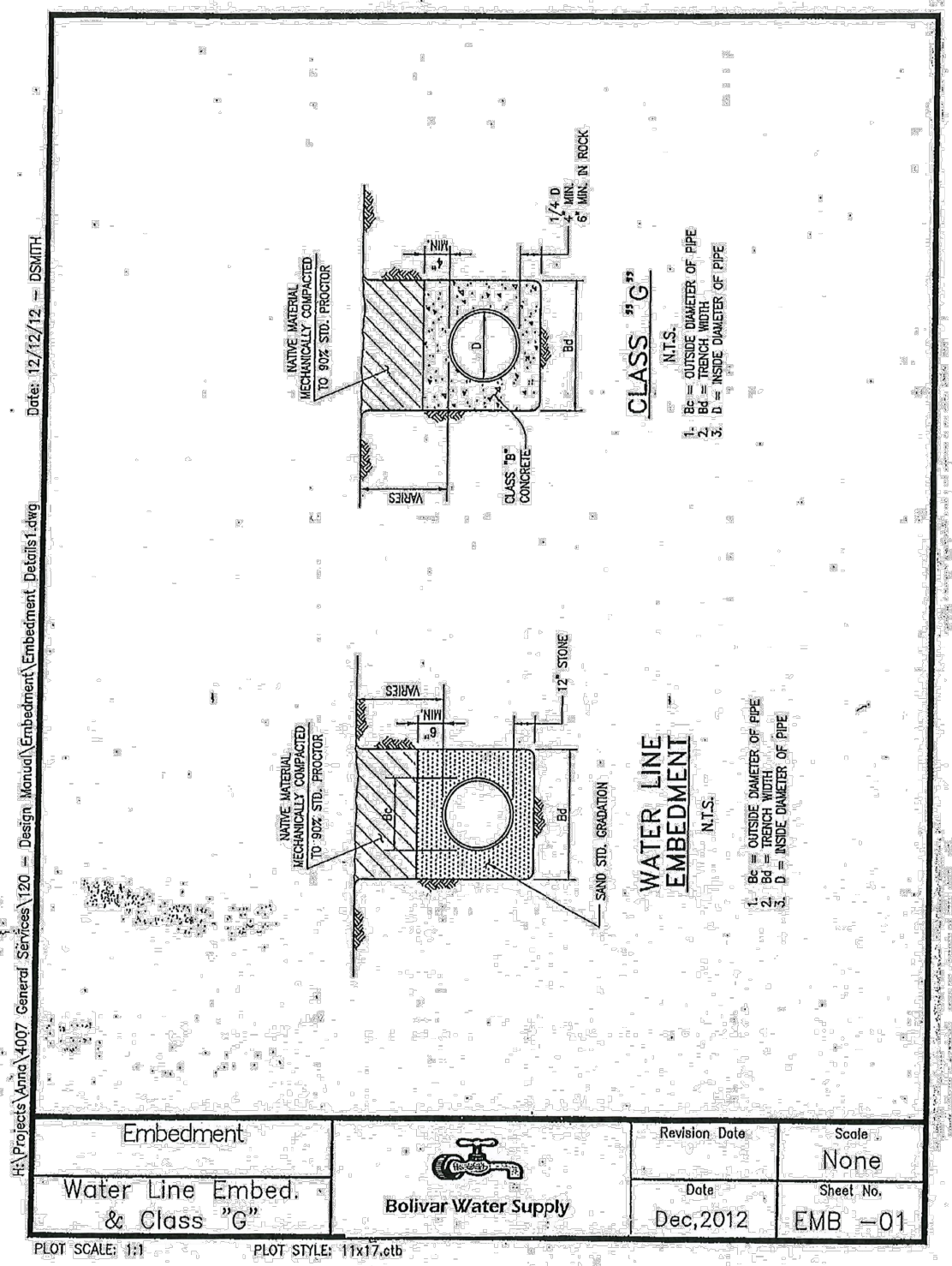
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SANGER, TEXAS
EROSION CONTROL PLAN
 FOR
MARLEY MEADOWS

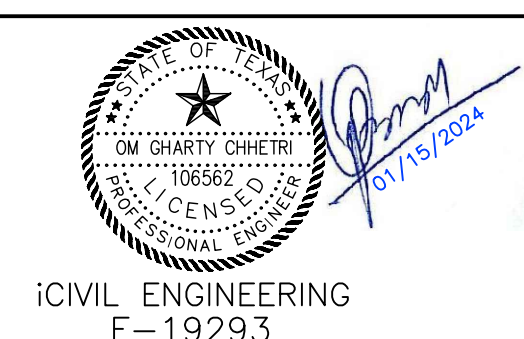
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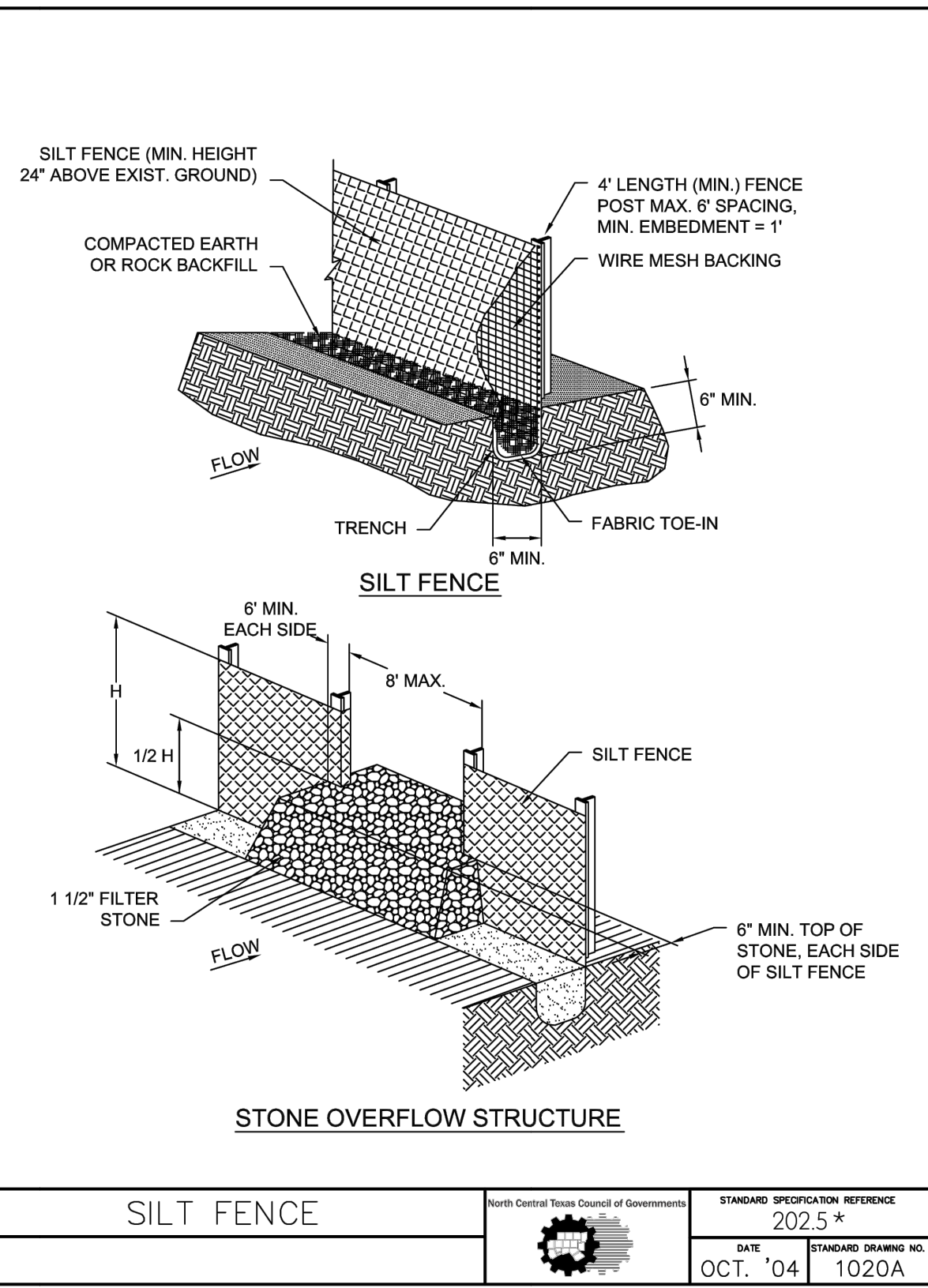
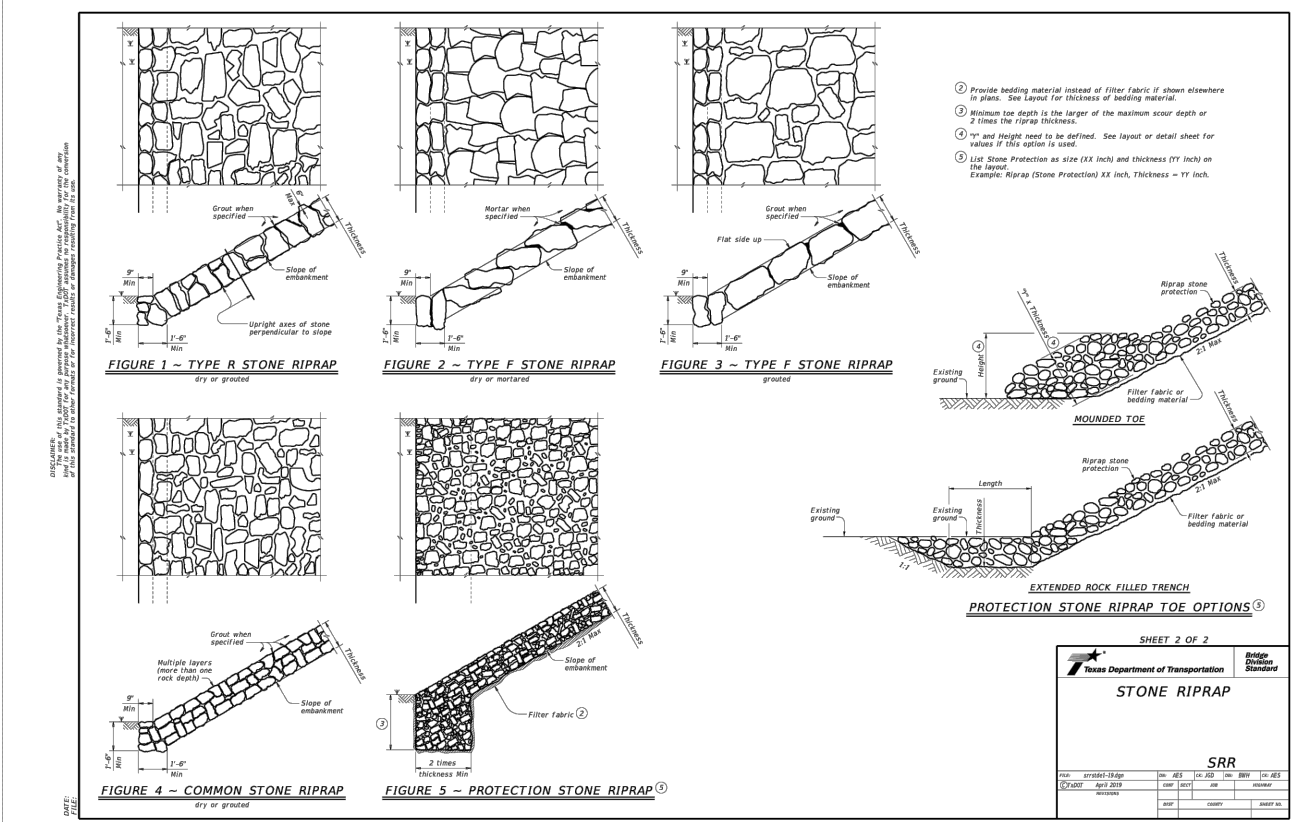
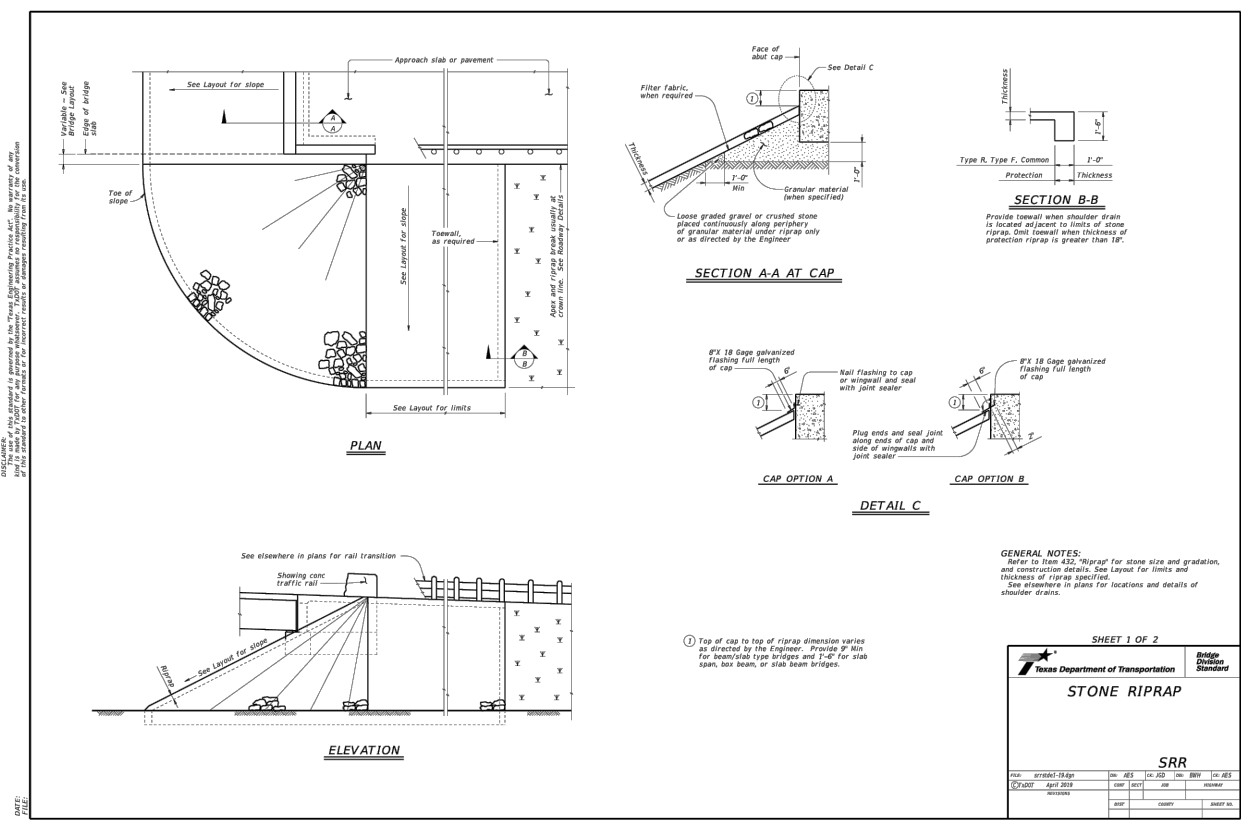
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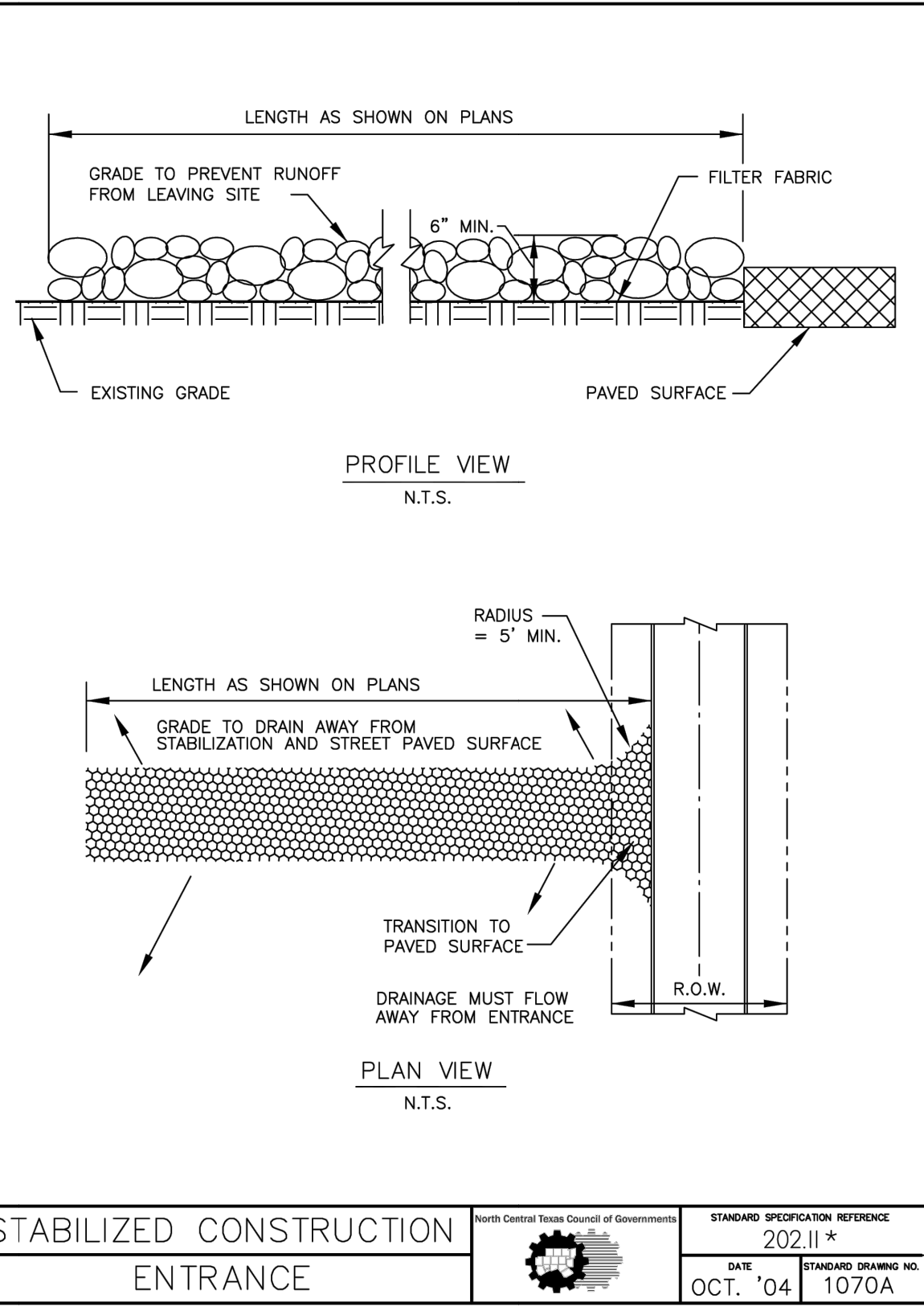
SANGER, TEXAS
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SILT FENCE GENERAL NOTES:

1. POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH SUPPORT POST OR TO WIRE BACKING, WHICH IN TURN IS ATTACHED TO THE FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN FINAL STABILIZATION IS ACHIEVED OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.



STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:

1. STONE SHALL BE 3 TO 5 INCH DIAMETER COARSE AGGREGATE.
2. LENGTH SHALL BE AS SPECIFIED IN THE SWPPP.
3. THE THICKNESS SHALL NOT BE LESS THAN 12 INCHES.
4. THE WIDTH SHALL BE NO LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES MUST BE REMOVED IMMEDIATELY.
7. THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
8. PREVENT SHORTCUTTING OF THE FULL LENGTH OF THE CONSTRUCTION ENTRANCE BY INSTALLING BARRIERS AS NECESSARY.
9. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP.

*Section II Standard Drawings as of October 2004. Reference number only has been updated for Fifth Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.

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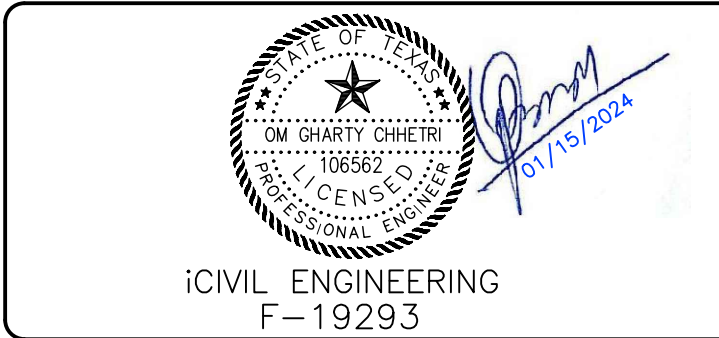
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PLANNING & ZONING COMMISSION COMMUNICATION

DATE: February 12, 2024
FROM: Stefani Dodson, Secretary
AGENDA ITEM: Staff will be doing a presentation for the board.

SUMMARY:
N/A

FISCAL INFORMATION:
Budgeted: N/A Amount: N/A GL Account: N/A

RECOMMENDED MOTION OR ACTION:
N/A

ATTACHMENTS: