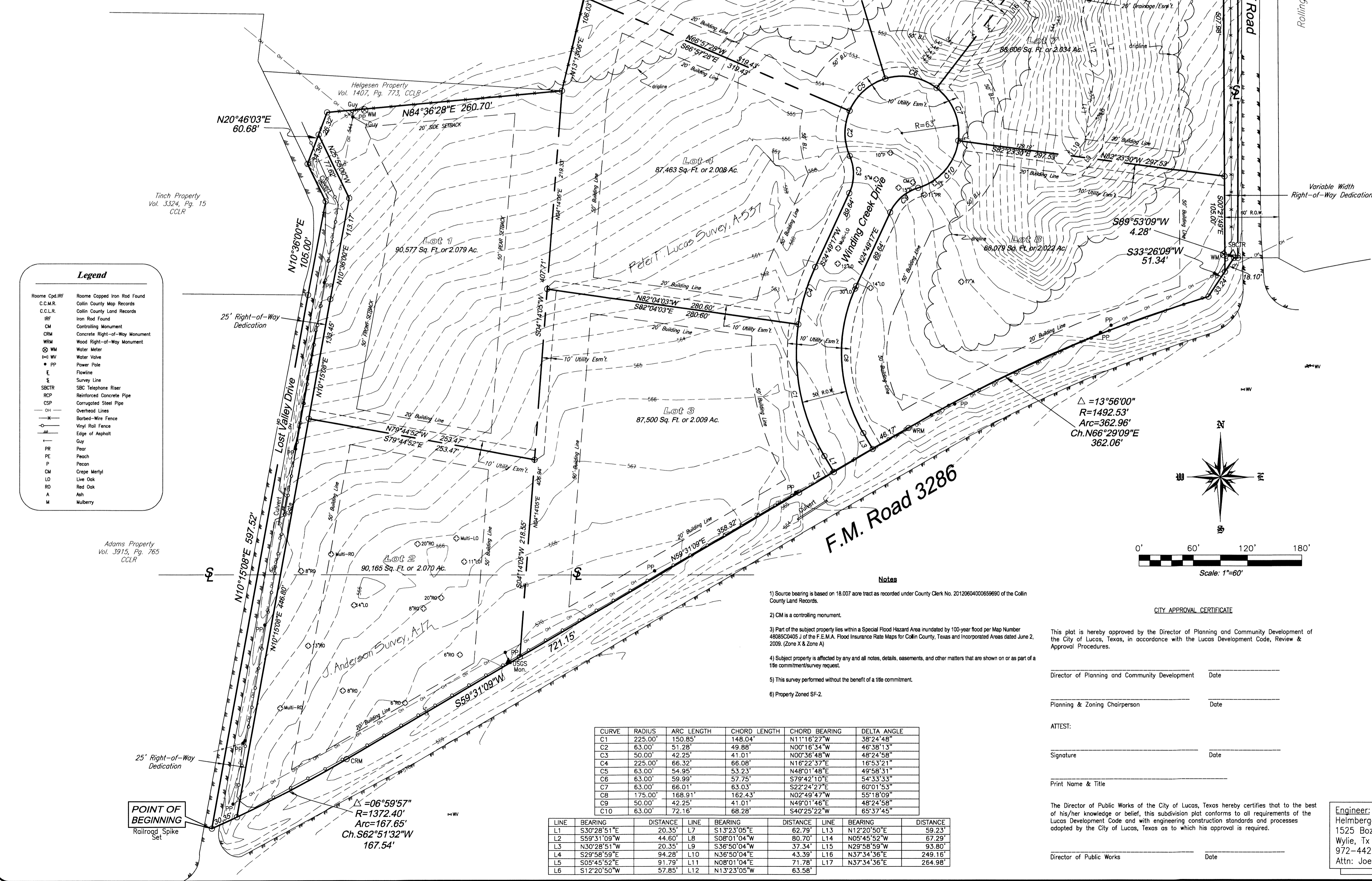


**Preliminary Plat - For Inspection Purposes Only**



**Legend**

- Room Capped Iron Rod Found
- C.C.M.R. Collin County Map Records
- C.C.L.R. Collin County Land Records
- RM Iron Rod Found
- CM Controlling Monument
- CRM Concrete Right-of-Way Monument
- WM Wood Right-of-Way Monument
- WM Water Meter
- WM Water Valve
- PP Power Pole
- E Flowline
- SWR Survey Line
- SRTC SBC Telephone Riser
- RCP Reinforced Concrete Pipe
- CSP Corrugated Steel Pipe
- OL Overhead Lines
- B-W Barbed-Wire Fence
- V-W Vinyl Rail Fence
- A Edge of Asphalt
- G Guy
- PR Pear
- PE Peach
- P Pecan
- CM Orange Marly
- LO Live Oak
- RO Red Oak
- A Ash
- M Mulberry

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	225.00	150.85'	148.04'	N11°16'27"W	38°24'48"
C2	63.00'	51.28'	49.88'	N00°16'34"W	46°38'13"
C3	50.00'	42.25'	41.01'	N00°36'48"W	48°24'58"
C4	225.00	66.32'	66.08'	N16°22'37"E	16°53'21"
C5	63.00'	54.95'	53.23'	N48°01'48"E	49°58'31"
C6	63.00'	59.99'	57.75'	S79°42'10"E	54°33'33"
C7	63.00'	66.01'	63.03'	S22°24'27"E	60°01'53"
C8	175.00'	168.91'	162.43'	N02°49'47"W	55°18'09"
C9	50.00'	42.25'	41.01'	N49°01'48"E	48°24'58"
C10	63.00'	72.16'	68.28'	S40°25'22"W	65°37'45"

- Notes**
- Source bearing is based on 18.007 acre tract as recorded under County Clerk No. 201206400059690 of the Collin County Land Records.
  - CM is a controlling monument.
  - Part of the subject property lies within a Special Flood Hazard Area inundated by 100-year flood per Map Number 48085C0405 of the F.E.M.A. Flood Insurance Rate Maps for Collin County, Texas and Incorporated Areas dated June 2, 2009. (Zone X & Zone A)
  - Subject property is affected by any and all notes, details, easements, and other matters that are shown on or as part of a title commitment/survey request.
  - This survey performed without the benefit of a title commitment.
  - Property Zoned SF-2.

**CITY APPROVAL CERTIFICATE**

This plat is hereby approved by the Director of Planning and Community Development of the City of Lucas, Texas, in accordance with the Lucas Development Code, Review & Approval Procedures.

Director of Planning and Community Development \_\_\_\_\_ Date \_\_\_\_\_

Planning & Zoning Chairperson \_\_\_\_\_ Date \_\_\_\_\_

ATTEST:

Signature \_\_\_\_\_ Date \_\_\_\_\_

Print Name & Title \_\_\_\_\_

The Director of Public Works of the City of Lucas, Texas hereby certifies that to the best of his/her knowledge or belief, this subdivision plat conforms to all requirements of the Lucas Development Code and with engineering construction standards and processes adopted by the City of Lucas, Texas as to which his approval is required.

Director of Public Works \_\_\_\_\_ Date \_\_\_\_\_

**OWNER'S DEDICATION AND ACKNOWLEDGMENT**

STATE OF TEXAS §  
COUNTY OF COLLIN §

WHEREAS Sooner Ranch Properties, LLC, is the owner of a tract of land situated in the State of Texas, County of Collin and City of Lucas, being part of the Peter F. Lucas Survey, Abstract No. 537 and the James Anderson Survey, Abstract No. 17, being all of an 18.007 acre tract of land as recorded under County Clerk No. 201206400059690 of the Collin County Land Records with said premises being more particularly described as follows:

BEGINNING at a railroad spike found in the approximate middle of Lost Valley Drive (an asphalt roadway) marking the southwest corner of said 18.007 acre tract, said premises, and the southeast corner of Adams property as recorded in Volume 3915, Page 765 of the Collin County Land Records;

THENCE with the approximate middle of Lost Valley Drive, a west line of 18.007 acre tract, a west line of said premises, and Adam's east line, North 10°15'08" East, 597.52 feet to a Spurr capped iron rod found marking Adam's northeast corner and the southeast corner of Tinch's property as recorded in Volume 3324, Page 15 of the Collin County Land Records;

THENCE partway with the approximate middle of Lost Valley Drive, a west line of 18.007 acre tract, said premises, and an east line of Tinch's property, North 10°36'00" East, 105.00 feet to a Roome capped iron rod found off the east edge of said existing asphalt roadway;

THENCE with the east edge of said existing asphalt roadway along a west line of said 18.007 acre tract, said premises, and an east line of said Tinch property as follows: North 25°55'00" West, 45.80 feet to a Roome capped iron rod found marking the most southerly corner of Helgesen's property as recorded in Volume 1407, Page 773 of the Collin County Land Records;

THENCE departing said roadway, along a northerly line of 18.007 acre tract, said premises, and a southerly line of said Helgesen's property as follows: North 20°46'03" East, 60.68 feet to a wood fence corner post for corner; North 84°36'28" East, 260.70 feet to a 1/2" iron rod found marking the most easterly corner of said Helgesen's property, the southeast corner of a Helgesen property as recorded in Volume 941, Page 348 of the Collin County Land Records, and an interior corner of said 18.007 acre tract and said premises;

THENCE with a west line of said 18.007 acre tract, said premises, and the east line of said Helgesen property, North 13°13'06" East, 406.09 feet to a wood fence corner post marking the northeast corner of said Helgesen property, the most northerly northwest corner of said 18.007 acre tract, said premises, and being in the south line of McDonald's property as recorded under County Clerk No. 97-0069380 of the Collin County Land Records;

THENCE with the general course of wire fence along the most northerly north line of 18.007 acre tract, said premises, and the south line of McDonald's property as follows: North 88°13'19" East, passing at 159.02 feet a 3/8" iron rod found marking the northeast corner of said 9.952 acre tract and the northwest corner of the aforementioned 9.00 acre tract, and continuing for a total distance of 220.49 feet to a point for corner; North 87°37'11" East, 99.43 feet to a point for corner; South 87°11'28" East, 61.17 feet to a point for corner; South 85°21'20" East, 88.42 feet to a point for corner; North 86°17'30" East, 76.32 feet to a point for corner; North 82°11'07" East, 110.81 feet to a Roome capped iron rod found off the west edge of the asphalt of Winnickoff Road and marking the northeast corner of said 18.007 acre tract, said premises, and McDonald's southeast corner;

THENCE with the east line of 18.007 acre tract, said premises, and west of the asphalt of Winnickoff Road, South 00°03'52" East, 600.25 feet to a Roome capped iron rod found marking the southeast corner of said 18.007 acre tract, said premises, and its intersection with the north right-of-way line of F. M. Road 3286;

THENCE with a south line of 18.007 acre tract, said premises, and the northerly right-of-way line of F.M. Road 3286 as follows: South 89°53'09" West, 4.28 feet to a Roome capped iron rod found; South 33°26'09" West, 51.34 feet to a Roome capped iron rod found marking the beginning of a curve to the left; southwesterly along said curve having a central angle of 13°56'00" with a radius of 1492.53 feet, for an arc distance of 362.96 feet (chord = South 66°29'09" West, 362.06 feet to a wood right-of-way monument found marking the end of said curve; South 59°31'09" West, 72.15 feet to a wood right-of-way monument found marking the beginning of a curve to the right; southwesterly along said curve having a central angle of 6°59'57" with a radius of 1372.40 feet, for an arc distance of 167.65 feet (chord = South 62°51'32" West, 167.54 feet to the point of beginning and containing 18.007 acres of land.

**OWNER'S CERTIFICATE**

STATE OF TEXAS §  
COUNTY OF COLLIN §

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That I, **Sooner Ranch Properties, LLC**, the Owner, adopt this plat as **Preliminary Plat of Lots 1-8, Block A of Winding Creek Reserve**, an addition to the City of Lucas, do hereby bind themselves and their heirs, assigns and successors of title this plat designating the hereinabove described property as to the public use forever the public use for the streets, alleys, and right-of-way easements shown thereon, and do hereby reserve the easement strips shown on this plat for the mutual use and accommodation of garbage collection agencies and all public utilities desiring to use or using same. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths that in any way endanger or interfere with the construction, maintenance or efficiency of its respective systems on any of these easement strips, and any public utility shall at all times have the right of ingress and egress to and from and upon the said easement strips for the purpose of constructing, reconstructing, inspecting, patrolling, without the necessity of any time of procuring the permission of anyone.

Witness our hands at Lucas, Texas, this \_\_\_\_ day of \_\_\_\_\_, 2013.

Sooner Ranch Properties, LLC  
Representative \_\_\_\_\_

**ACKNOWLEDGMENT**

STATE OF TEXAS §  
COUNTY OF COLLIN §

Before me, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared \_\_\_\_\_ known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they each executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this \_\_\_\_ day of \_\_\_\_\_, 2013.

Notary Public in and for the State of Texas \_\_\_\_\_

**SURVYOR'S CERTIFICATE**

STATE OF TEXAS §  
COUNTY OF COLLIN §

KNOW ALL MEN BY THESE PRESENTS:

That I, F. E. Bemenderfer, do hereby certify, that I prepared this plat from an actual on the ground survey of the land as described and that the corner monuments shown thereon were properly placed under my personal supervision in accordance with the Plotting Rules and Regulations of the City of Lucas Planning and Zoning Commission.

F. E. Bemenderfer, Jr.  
R.P.L.S. No. 4051

**ACKNOWLEDGMENT**

STATE OF TEXAS §  
COUNTY OF COLLIN §

Before me, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared **F.E. Bemenderfer Jr.**, 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 considerations therein expressed.

Given UNDER MY HAND AND SEAL OF OFFICE, this \_\_\_\_ day of \_\_\_\_\_, 2013.

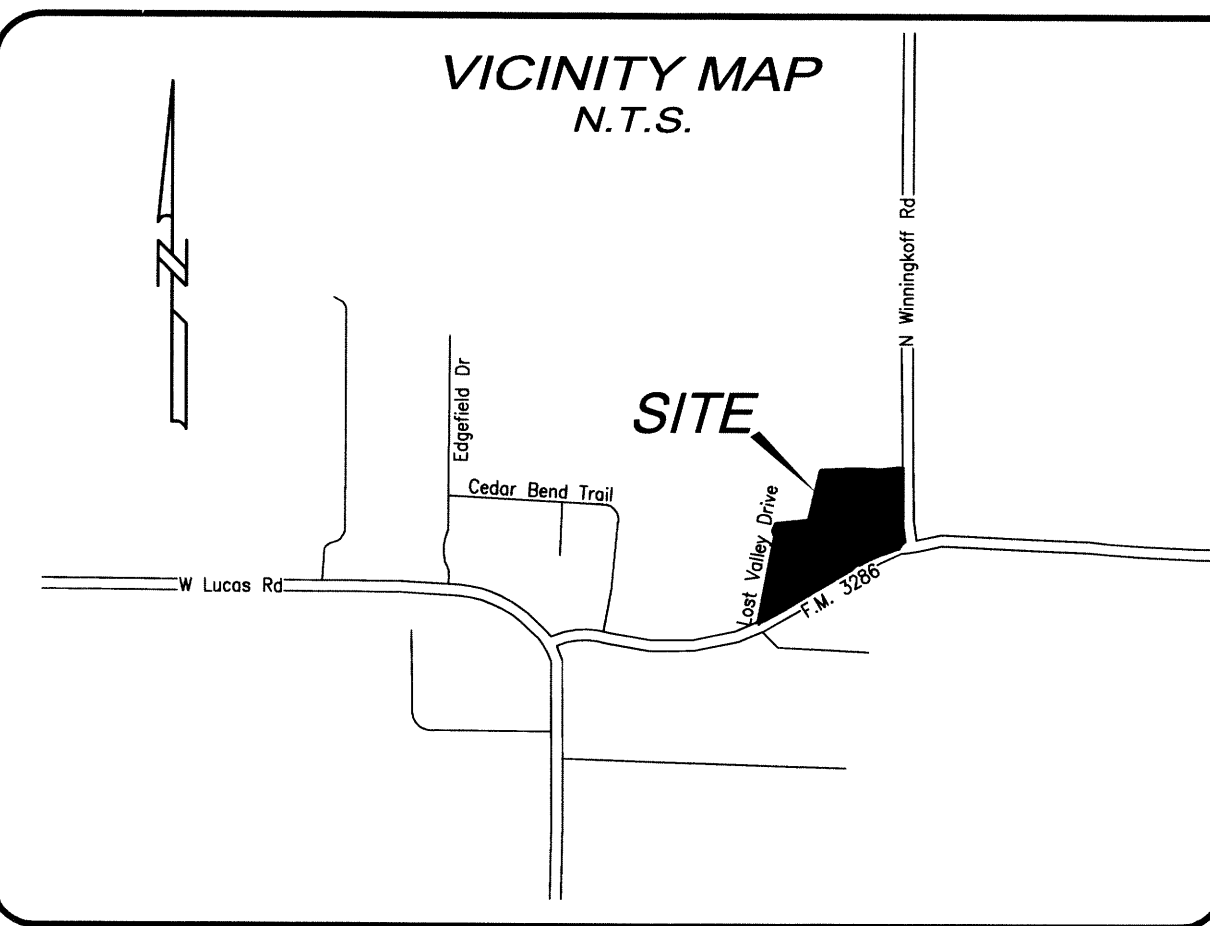
Notary Public in and for the State of Texas \_\_\_\_\_

**APPROVED COPY**  
**Preliminary Plat of**  
**Lots 1-8, Block A, Winding Creek Reserve**  
**being all of an 18.007 acre tract of land**  
**James Lovelady Survey, Abstract No. 538**  
**James Anderson Survey, Abstract No. 17**  
**City of Lucas, Collin County, Texas**  
**August, 2013**

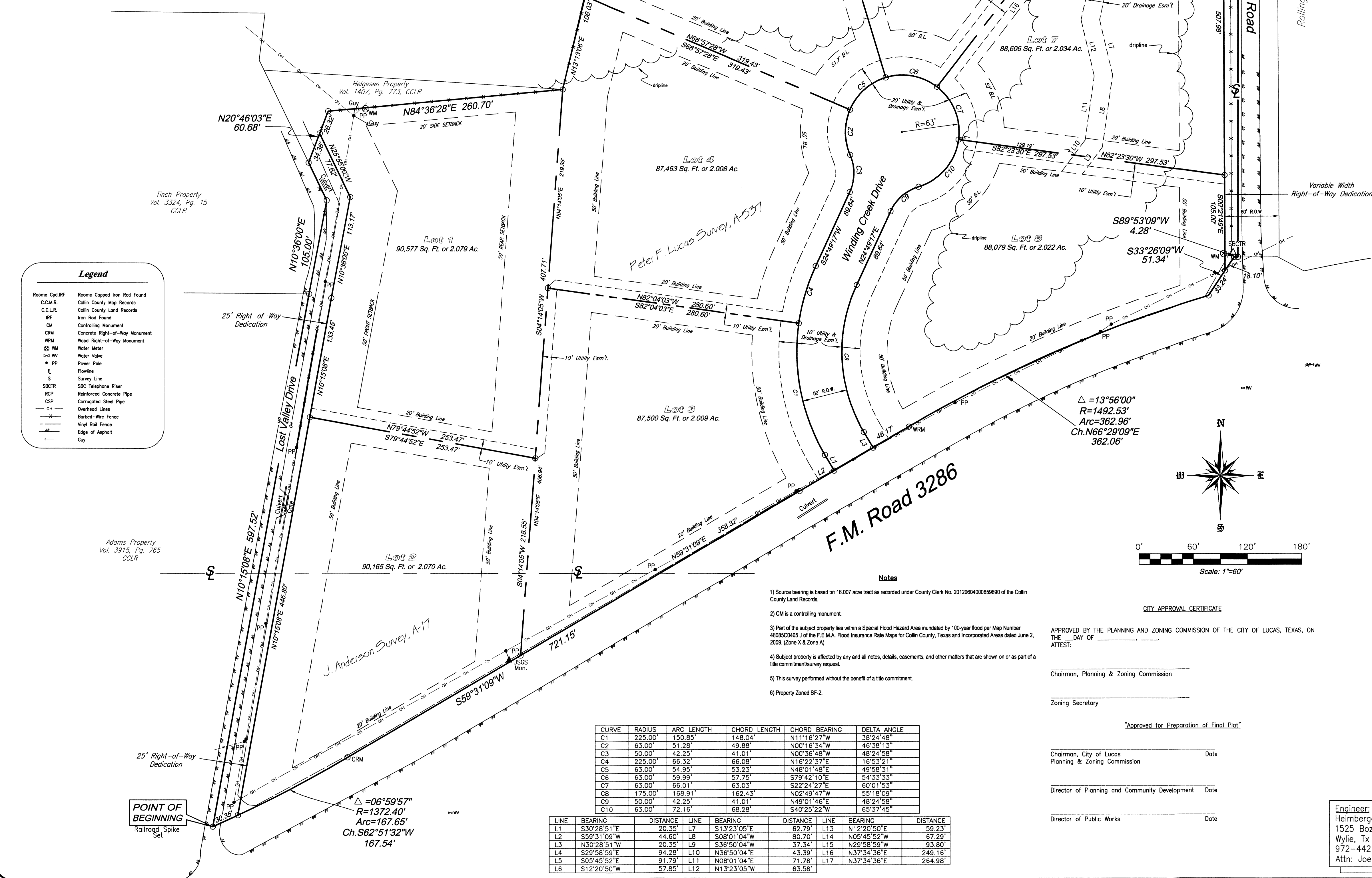
Engineer:  
Helmlinger & Associates  
1525 Bozman Rd.  
Wylie, Tx 75098  
972-442-7459  
Attn: Joe Helmlinger

Owner:  
Sooner Ranch Properties, LLC  
9 Hobb Hill Ln.  
Lucas, Tx 75002-7471

Roome Land Surveying, Inc.  
2000 Avenue G, Suite 810  
Plano, Texas 75074  
Phone (972) 423-4372 / Fax (972) 423-7523  
www.roomesurveying.com



**Preliminary Plat - For Inspection Purposes Only**



**Legend**

- Room Capped Iron Rod Found
- C.C.M.R. Collin County Map Records
- C.C.L.R. Collin County Land Records
- IRF Iron Rod Found
- CM Controlling Monument
- CSM Concrete Right-of-Way Monument
- WRM Wood Right-of-Way Monument
- WM Water Meter
- WM Water Meter
- PP Power Pole
- E Flowline
- SURVY Survey Line
- SBCR Telephone Riser
- RCP Reinforced Concrete Pipe
- CSP Corrugated Steel Pipe
- OH Overhead Lines
- BWF Barbed-Wire Fence
- VRF Vinyl Rail Fence
- EA Edge of Asphalt
- Guy

**Notes**

- Source bearing is based on 18.007 acre tract as recorded under County Clerk No. 201206400055960 of the Collin County Land Records.
- CM is a controlling monument.
- Part of the subject property lies within a Special Flood Hazard Area inundated by 100-year flood per Map Number 40825005 of the F.E.M.A. Flood Insurance Rate Maps for Collin County, Texas and Incorporated Areas dated June 2, 2009. (Zone X & Zone A)
- Subject property is affected by any and all notes, details, easements, and other matters that are shown on or as part of a title commitment/survey request.
- This survey performed without the benefit of a title commitment.
- Property Zoned SF-2.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	225.00'	150.85'	148.04'	N11°16'27"W	38°24'48"
C2	63.00'	51.28'	49.88'	N00°16'34"W	46°38'13"
C3	50.00'	42.25'	41.01'	N00°36'48"W	48°24'58"
C4	225.00'	66.32'	66.08'	N18°22'37"E	16°53'21"
C5	63.00'	54.95'	53.23'	N48°01'48"E	49°58'31"
C6	63.00'	59.99'	57.75'	S79°42'10"E	54°33'33"
C7	63.00'	66.01'	63.03'	S22°24'27"E	60°01'53"
C8	175.00'	168.91'	162.43'	N02°49'47"W	55°18'09"
C9	50.00'	42.25'	41.01'	N49°01'48"E	48°24'58"
C10	63.00'	72.18'	68.28'	S40°25'22"W	65°37'45"

LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
L1	S30°28'51"E	20.35'	L7	S13°23'05"E	62.79'	L13	N12°20'50"E	59.23'
L2	S59°31'09"W	44.60'	L8	S08°01'04"W	80.70'	L14	N05°45'52"W	67.29'
L3	N30°28'51"W	20.35'	L9	S36°50'04"W	37.34'	L15	N29°58'59"W	93.80'
L4	S29°58'59"E	94.28'	L10	N36°50'04"E	43.39'	L16	N37°34'36"E	249.18'
L5	S02°45'52"E	91.79'	L11	N08°01'04"E	71.78'	L17	N37°34'36"E	254.98'
L6	S12°20'50"W	57.85'	L12	N13°23'05"W	63.58'			

**OWNER'S DEDICATION AND ACKNOWLEDGEMENT**

STATE OF TEXAS §  
COUNTY OF COLLIN §

WHEREAS Sooner Ranch Properties, LLC, is the owner of a tract of land situated in the State of Texas, County of Collin and City of Lucas, being part of the Peter F. Lucas Survey, Abstract No. 537 and the James Anderson Survey, Abstract No. 17, being all of an 18.007 acre tract of land as recorded under County Clerk No. 201206400055960 of the Collin County Land Records with said premises being more particularly described as follows:

BEGINNING at a railroad spike found in the approximate middle of Lost Valley Drive (an asphalt roadway) marking the southwest corner of said 18.007 acre tract, said premises, and the southeast corner of Adams property as recorded in Volume 3915, Page 765 of the Collin County Land Records;

THENCE with the approximate middle of Lost Valley Drive, a west line of 18.007 acre tract, a west line of said premises, and Adam's east line, North 10°15'08" East, 597.52 feet to a Spore capped iron rod found marking Adam's northeast corner and the southeast corner of Tinch's property as recorded in Volume 3324, Page 15 of the Collin County Land Records;

THENCE with the approximate middle of Lost Valley Drive, a west line of 18.007 acre tract, said premises, and an east line of Tinch's property, North 10°36'00" East, 105.00 feet to a Room capped iron rod found at the east edge of said existing asphalt roadway;

THENCE with the east edge of said existing asphalt roadway along a west line of said 18.007 acre tract, said premises, and an east line of said Tinch property as follows: North 25°55'00" West, 45.80 feet to a Room capped iron rod found marking the most southerly corner of Helgesen's property as recorded in Volume 1407, Page 773 of the Collin County Land Records;

THENCE departing said roadway, along a northerly line of 18.007 acre tract, said premises, and a southerly line of said Helgesen's property as follows: North 20°46'03" East, 60.68 feet to a wood fence corner post for corner; North 84°36'28" East, 260.70 feet to a 3/8" iron rod found marking the most easterly corner of said Helgesen's property, the southeast corner of a Helgesen property as recorded in Volume 941, Page 346 of the Collin County Land Records, and an interior corner of said 18.007 acre tract and said premises;

THENCE with a west line of said 18.007 acre tract, said premises, and the east line of said Helgesen property, North 13°13'06" East, 406.09 feet to a wood fence corner post marking the northeast corner of said Helgesen property, the most northerly northwest corner of said 18.007 acre tract, said premises, and being in the south line of McDonald's property as recorded under County Clerk No. 97-0069380 of the Collin County Land Records;

THENCE with the general course of wire fence along the most northerly north line of 18.007 acre tract, said premises, and the south line of McDonald's property as follows: North 88°13'19" East, passing at 159.02 feet a 3/8" iron rod found marking the northeast corner of said 9.952 acre tract and the northwest corner of the aforementioned 9.000 acre tract, and continuing for a total distance of 220.49 feet to a point for corner, North 87°37'11" East, 99.43 feet to a point for corner; South 87°11'28" East, 61.17 feet to a point for corner; South 85°21'20" East, 86.42 feet to a point for corner; North 86°17'30" East, 76.32 feet to a point for corner; North 82°11'07" East, 110.81 feet to a Room capped iron rod found at the west edge of the asphalt of Winnieford Road and marking the northeast corner of said 18.007 acre tract, said premises, and McDonald's southeast corner;

THENCE with the east line of 18.007 acre tract, said premises, and west of the asphalt of Winnieford Road, South 00°03'52" East, 600.25 feet to a Room capped iron rod found marking the southeast corner of said 18.007 acre tract, said premises, and its intersection with the north right-of-way line of F. M. Road 3286;

THENCE with a south line of 18.007 acre tract, said premises, and the northerly right-of-way line of F.M. Road 3286 as follows: South 89°53'09" West, 4.28 feet to a Room capped iron rod found; South 33°26'09" West, 51.34 feet to a Room capped iron rod found and marking the beginning of a curve to the left; southwesterly along said curve having a central angle of 13°56'00" with a radius of 1492.53 feet, for an arc distance of 362.96 feet; (chord = South 68°29'09" West, 362.06 feet to a wood right-of-way monument found marking the end of said curve; South 59°31'09" West, 721.15 feet to a wood right-of-way monument found marking the beginning of a curve to the right; southwesterly along said curve having a central angle of 6°59'57" with a radius of 1372.40 feet, for an arc distance of 167.65 feet (chord = South 62°51'32" West, 167.54 feet to the point of beginning and containing 18.007 acres of land.

**OWNER'S CERTIFICATE**

STATE OF TEXAS §  
COUNTY OF COLLIN §

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That I, Sooner Ranch Properties, LLC, the Owner, adopt this plat as Final Plat of Lots 1-8, Block A of Winding Creek Reserve, an addition to the City of Lucas, do hereby bind themselves and their heirs, assigns and successors of title this plat designating the heretofore described property to be hereby dedicated to the public use forever the streets, alleys, and right-of-way easements shown thereon, and do hereby reserve the easement strips shown on this plat for the mutual use and accommodation of garbage collection agencies and all public utilities desiring to use or using same. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths that in any way endanger or interfere with the construction, maintenance or efficiency of its respective systems on any of these easement strips, and any public utility shall at all times have the right of ingress and egress to and from and upon the said easement strips for the purpose of constructing, reconstructing, inspecting, patrolling, without the necessity of any time of procuring the permission of anyone.

Witness our hands at LUCAS, Texas, this \_\_\_\_ day of \_\_\_\_\_, 2013.

Sooner Ranch Properties, LLC  
Representative

**ACKNOWLEDGEMENT**

STATE OF TEXAS §  
COUNTY OF COLLIN §

Before me, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared \_\_\_\_\_ known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they each executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this \_\_\_\_ day of \_\_\_\_\_, 2013.

Notary Public in and for the State of Texas

**SURVYOR'S CERTIFICATE**

STATE OF TEXAS §  
COUNTY OF COLLIN §

KNOW ALL MEN BY THESE PRESENTS:

That I, F. E. Bemenderfer, do hereby certify, that I prepared this plat from an actual on the ground survey of the land as described and that the corner monuments shown thereon were properly placed under my personal supervision in accordance with the Platting Rules and Regulations of the City of Lucas Planning and Zoning Commission.

F. E. Bemenderfer, Jr.  
R.P.L.S. No. 4051

**ACKNOWLEDGEMENT**

STATE OF TEXAS §  
COUNTY OF COLLIN §

Before me, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared F. E. Bemenderfer, Jr., 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 considerations therein expressed.

Given UNDER MY HAND AND SEAL OF OFFICE, this the \_\_\_\_ day of \_\_\_\_\_, 2013.

Notary Public in and for the State of Texas

**CITY APPROVAL CERTIFICATE**

APPROVED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF LUCAS, TEXAS, ON THE \_\_\_\_ DAY OF \_\_\_\_\_, 2013.

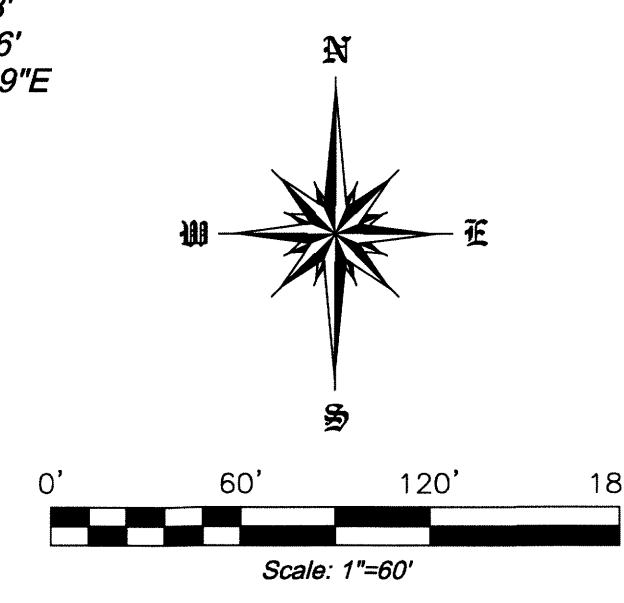
ATTEST:

Chairman, Planning & Zoning Commission \_\_\_\_\_ Date \_\_\_\_\_

Zoning Secretary \_\_\_\_\_ Date \_\_\_\_\_

Director of Planning and Community Development \_\_\_\_\_ Date \_\_\_\_\_

Director of Public Works \_\_\_\_\_ Date \_\_\_\_\_



**Not submitted - Included for Reference Only**

**Final Plat of Reference Only**

**Lots 1-8, Block A, Winding Creek Reserve**  
being all of an 18.007 acre tract of land  
Peter F. Lucas Survey, Abstract No. 537  
James Anderson Survey, Abstract No. 17  
City of Lucas, Collin County, Texas  
September, 2013

Engineer:  
Helmeberg & Associates  
1525 Bozmann Rd.  
Wylie, TX 75098  
972-442-7459  
Attn: Joe Helmeberg

Owner:  
Sooner Ranch Properties, LLC  
9 Hobb Hill Ln.  
Lucas, TX 75002-7471

**Roome Land Surveying, Inc.**  
2000 Avenue G, Suite 810  
Plano, Texas 75074  
Phone (972) 423-4372 / Fax (972) 423-7523  
www.roomeandsurveying.com

WATER GENERAL NOTES

- All water main construction within public right-of-way or dedicated easement shall conform to the requirements of the Texas Commission on Environmental Quality (TCEQ) guidelines for construction of public water systems. Water system shall be tested in accordance with the City of Lucas standards and specifications. The contractor shall maintain a copy of the reference documents at the jobsite at all times.
- All water main construction shall conform to the North Central Texas Council of Governments Standard Specifications (N.C.T.C.O.G.) for Public Works Construction. In the event an item is not covered, the contractor shall bring the problem to the attention of the Engineer for a decision, approval or modification. The contractor shall maintain a copy of the design documents at the jobsite at all times.
- All water tests to be performed by North Texas Municipal Water District (NTMWD) at their laboratory in Wylie, Texas. Contact NTMWD for fees associated with testing. Testing fees to be included in bid.
- Contractor shall be responsible for traffic control, warning and safety devices to protect the public safety and health until all work has been completed and accepted by the City of Lucas.
- Contractor shall be responsible for Trench Safety in compliance with the Occupational Safety and Health Administration's trench safety standards.
- Contractor shall maintain existing water service at all times during construction.
- The contractor shall provide legible and clearly marked "as-built" plans to the owner upon completion and prior to acceptance of the improvements. "As-built" plans to be submitted in hard copy, electronic media (.pdf files) and in electronic media (autocad file).
- The locations, elevations and dimensions of existing utilities shown on these plans were obtained from available City of Lucas records and are considered APPROXIMATE at best. 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 (if necessary) to provide adequate clearances. The contractor shall preserve and protect public utilities at all times during construction. Any damage to utilities resulting from the contractor's operations shall be restored at his expense. The engineer shall be notified when proposed water line grades conflict with existing utility grades. The contractor shall notify utility companies to locate all underground utilities at least forty-eight (48) hours prior to beginning construction in the vicinity of the existing utilities.
- All dimensions are to the centerline of pipe unless noted otherwise.
- All water mains shall be C900, Class 305, DR-14 PVC pipe (0.493 MWT) for 6" pipe (fire hydrant leads only) and C900, Class 235, DR-18 PVC pipe for 8" pipe (0.503 MWT).
- All gate valves shall be Resilient Seat Gate Valves (A-2360-2361 series) as manufactured by Mueller and shall be designed for a minimum water working pressure of 200 pounds per square inch unless otherwise specified in the plans.
- All fire hydrants must have FH swivel or anchor and meet N.C.T.C.O.G. specifications as manufactured by Mueller with no substitution allowed.
- Fire hydrant bases shall be 2" to 6" above finished grade and shall face the street. Fire hydrant shall be placed per Owner direction but in no case less than that called out for on plans.
- All water mains shall have a minimum cover of 48" below finished grade.
- All pipe fittings shall be domestic, mechanical joint ductile iron fittings meeting the requirements of either AWWA C-110 or C-153. The fittings shall have a working pressure of 350 pounds per square inch and flanged fittings shall have a working pressure of 250 pounds per square inch. All retaining glands shall be Mega-lug 2000 PV as manufactured by Ebba Iron, Inc. Glands shall be manufactured of ductile iron conforming to ASTM A536-80. No imported fittings shall be allowed.
- All air valves shall be the float and lever type, or equal, or the vacuum breaker type as manufactured by APCO No. 145C or approved equal.

- All water mains shall be pressure tested, flushed and sterilized in accordance with the specifications upon completion of the work and prior to final acceptance. Documentation of same shall be provided to the City of Lucas.
- All backfill shall be compacted to 90% Standard Proctor (ASTM-D-698) at or slightly above optimum moisture content in non-paved areas. All backfill shall be compacted to 95% Standard Proctor (ASTM-D-698) at or slightly above optimum moisture content in paved areas. All backfill shall be placed in 8" lifts compacted as noted.
- All piping shall be inspected by the City of Lucas prior to covering. A minimum of twenty-four (24) hours notice shall be given to the City of Lucas prior to covering the pipe.
- All concrete blocking and embedment for water lines shall be in accordance with the N.C.T.C.O.G. construction standard.
- Embedment to be Class "B+" per Standard Drawing No. 3020.
- Any water service located outside of a street, alley or easement shall be installed by a plumber and be inspected by the City of Lucas.
- Water services shall be located as shown on the plans.
- Flush valves shall be a 2" gate valve with 2" galvanized riser per note on plans.
- All valve stacks shall have valve boxes with a 2' x 2' concrete pad if not located in pavement. Valve lids to be painted red for fire hydrant control and blue for in-line valves.
- Tracer wires to be terminated 3" below finish grade at all valve boxes or other locations with wire to be coiled a minimum of 6" radius 3 coils. Locator wire shall be a continuous insulated 12 gage copper wire. The wire shall be coded blue for water pipe. The locator wire shall be installed in the ditch along with the pipe and shall be terminated as above. Splices shall be kept to a minimum and all splices shall be made with a direct bury splice as manufactured by 3M, Model DBR.  
  
In cases where a valve stack or fire hydrant is encased in a concrete pad the tracer wire shall be terminate by connecting to a 1/2" solid copper conductor that extends 1" out of the concrete pad. The copper conductor shall extend a minimum of 3" below the concrete pad and the tracer wire shall be connected to the copper conductor by a grounding lug. Connection shall be made prior to pouring the concrete pad.
- All water services to be a minimum 1" Nominal Pipe Size as manufactured by US Poly P.R./P.C. 200 PSI SDR 7 (compatible with IPS fittings). Service taps shall be S70 or S90 single brass strap saddles as manufactured by Ford or equal.
- Meter box and lid shall be by DFW Plastics, Inc. Meter box to be DFW1200TT.12.1R and meter box lid to be DFW1200.1R.LID.
- Unless otherwise specified, all check valves for service taps will be the silent spring loaded double check type as approved by the Owner.
- Brass corporation stops and brass angle meter stops shall be by Mueller or Ford and shall be 1".
- A two (2) year maintenance bond totaling 100% of the cost of construction the first year and 60% of the cost of construction the second year shall be submitted to the City of Lucas beginning the day of acceptance of the improvements and continuing two (2) full calendar years thereafter.
- The contractor is to schedule a pre-construction meeting with the City of Lucas prior to beginning construction.

PAVING AND GRADING GENERAL NOTES

- All construction shall conform to the City of Lucas Standard specifications and construction details. In the event that an item is not covered, the contractor shall bring the problem to the attention of the engineer for approval or modification.
- The Owner/Contractor shall be responsible for paying a ll inspection fees to the City of Lucas prior to Engineering Plan "release".
- The Contractor shall be responsible for providing a two (2) year, 100% Maintenance Bond to the City of Lucas for all city maintained water, storm drainage and pavement improvements within right-of-ways or easements.
- Excavation or fill operations shall not interfere with or obstruct pre-construction drainage patterns until such time as on-site drainage improvements are constructed.
- Top of pavement elevations are noted with (TP) following them. All other spot elevations shown are to finished grade unless otherwise noted. The intention of this grading plan is preclude ponding water on paving or grassed areas. If the contractor finds any location that will result in ponding water, the Engineer shall be notified for clarification prior to pavement placement.
- Sawed transverse dummy joints shall be installed in concrete pavement on 15.5' centers. Sawed longitudinal dummy joints shall be installed along centerline of roadway and outside where applicable. All joints shall be filled with an approved sealer.
- The Contractor shall be responsible for recording all field changes to the plans. The Project Engineer shall incorporate these changes into "As-Built" record drawings.
- All conduits for irrigation sleeves shall be per the Landscape Plan and shall be installed 24" below the bottom of the concrete pavement and extend 2' outside of back of curb.
- Contractor shall be responsible for traffic control, warning and safety devices until all work has been accepted by the City of Lucas and the owner.
- The locations of existing utilities shown on these plans are approximate. All utilities may not be shown. It is the responsibility of the contractor to contact the City of Lucas and all area utilities that may conflict with construction prior to beginning work. Contact DIGTESS, 1-800-DIG-TESS, and all appropriate entities prior to beginning work.
- The Contractor shall be responsible for providing erosion control in accordance with the Erosion Control Plan prepared by the Engineer and the City of Lucas's Code of Ordinances.
- Erosion control shall conform to the North Texas Council of Government Details as approved by the City of Lucas.
- HANDICAP ACCESS NOTE: Accessible pedestrian routes on public rights-of-way and private property shall comply with Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Texas Accessibility Standards (TAS). Design and construction of all curb ramps on public rights-of-way shall be in accordance with Texas Department of Transportation Standard Detail PED-05, sheets 1 through 4. Design and construction of all sidewalks shall be in accordance with City of Lucas standard details with passing areas having a minimum 5-foot by 5-foot size at intervals not exceeding 200 feet. Curb ramps that are part of accessible routes on private property may be constructed in accordance with TxDOT standard detail PED-05, sheets 1 through 4, or may be constructed in accordance with a design submitted and approved by the Texas Department of Licensing and Regulation. The contractor is to ensure compliance with this HANDICAP ACCESS NOTE.
- TRAFFIC CONTROL NOTE: Contractor shall provide traffic control plan, at least 48 hours prior to any work in a city street. Traffic control measures shall conform to Part VI of the Texas Manual on Uniform Traffic Control Devices. Traffic control measures shall be installed for any work activity that takes place on or adjacent to any city street or roadway. The city engineer may require the Traffic Control Plan to be designed and sealed by an engineer licensed in the State of Texas.
- TRAFFIC CONTROL DEVICE NOTE: Contact Engineering Division at least 48 hours prior to work requiring the removal or relocation of traffic signs, traffic control equipment or other traffic control appurtenances.
- FRANCHISE UTILITY LOCATOR SERVICE NOTE: For franchise utility locator services call Texas One Call at 1 -800-344-8377 or Utility Locator at 1-800-DIG-TESS.

- The contractor shall obtain a grading permit from the City of Lucas and participate in a Public Works pre-construction meeting prior to mobilization and construction.
- Contractor shall complete all fill operations prior to installing any utilities (i.e. water or storm sewer). After fill operations are completed, contractor shall excavate utility trench, install utilities, compact trench and ensure all Public Works inspections are properly performed.

UTILITY CONSTRUCTION GENERAL NOTES

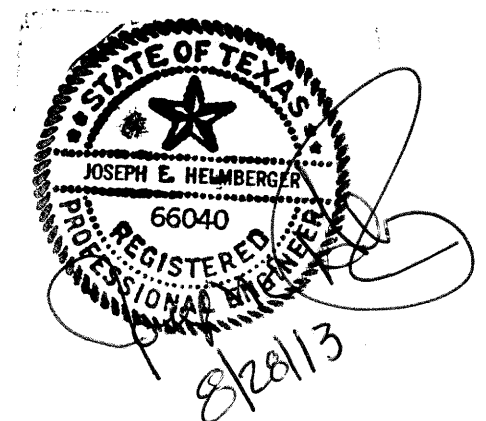
- All construction shall conform to the City of Lucas standard specifications and construction details. In the event that an item is not covered, the contractor shall bring the problem to the attention of the engineer for approval or modification.
- The Owner/Contractor shall be responsible for paying all inspection fees to the City of Lucas prior to Engineering Plan "release".
- The Contractor shall be responsible for providing a two (2) year, 100% Maintenance Bond to the City of Lucas for all city maintained water improvements within right-of-ways or easements.
- The location of existing utilities shown on these plans is approximate. All utilities may not be shown. It is the responsibility of the contractor to contact the City of Lucas and all area utilities that may conflict with construction prior to beginning work. Contact DIGTESS, 1-800-DIG-TESS, and all appropriate entities prior to beginning work.
- Contractor shall be responsible for Trench Safety in compliance with the Occupational Safety and Health Administration's trench safety standards.
- Any water service located outside of a street, alley or easement shall be installed by a plumber and be inspected by the City of Lucas.
- Contractor shall complete all fill operations prior to installing any utilities (i.e. water, sewer, storm sewer). After fill operations are completed, contractor shall excavate utility trench, install utilities, compact trench and ensure all Public Works inspections are properly performed.
- Franchise utility locator service. For franchise utility locator services contact TEXAS ONE CALL at 1-800-344-8377 or UTILITY LOCATOR at 1-800-DIG-TESS.

Design survey and boundary verification provided by the Owner under separate contract with Roome Land Surveying, Inc., 2000 Avenue G, Suite 810, Plano, Texas, 75074, Mr. John Glas, RPLS, 972.423.4372

As-built utilities, paving and drainage information obtained from record drawings on file with the City of Lucas.

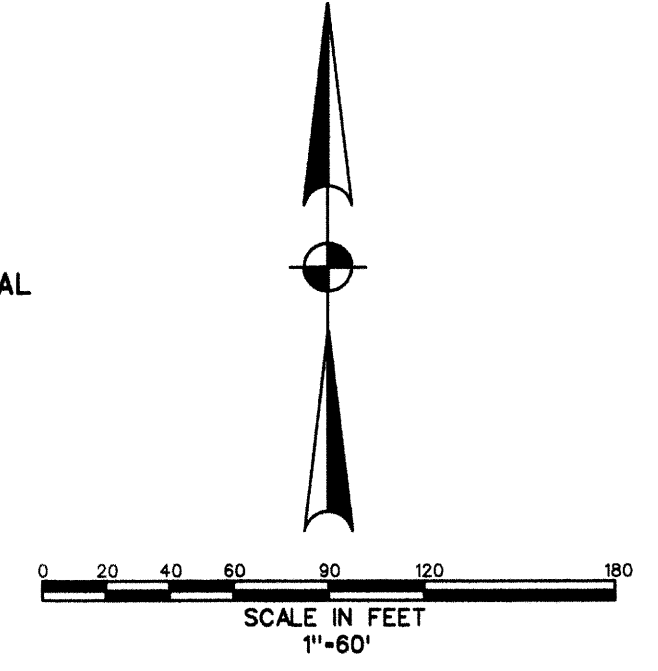
RECORD DRAWING 02-16-14

THIS DOCUMENT IS SUBMITTED AS A "RECORD DRAWING" FOR RECORD PURPOSES ONLY. ANY MODIFICATION OR CHANGES THAT HAVE BEEN MADE DURING CONSTRUCTION AND NOTED ON THIS DRAWING HAVE BEEN SUPPLIED BY THE OWNER, HIS REPRESENTATIVE OR THE CONTRACTOR. FIELD INSPECTION / CONTRACT SUPERVISION OF THE CONSTRUCTION WAS PERFORMED BY OTHERS. IT IS NOT GUARANTEED BY HELMBERGER ASSOCIATES, INC. THAT THIS DOCUMENT REPRESENTS "AS-BUILT" CONDITIONS.



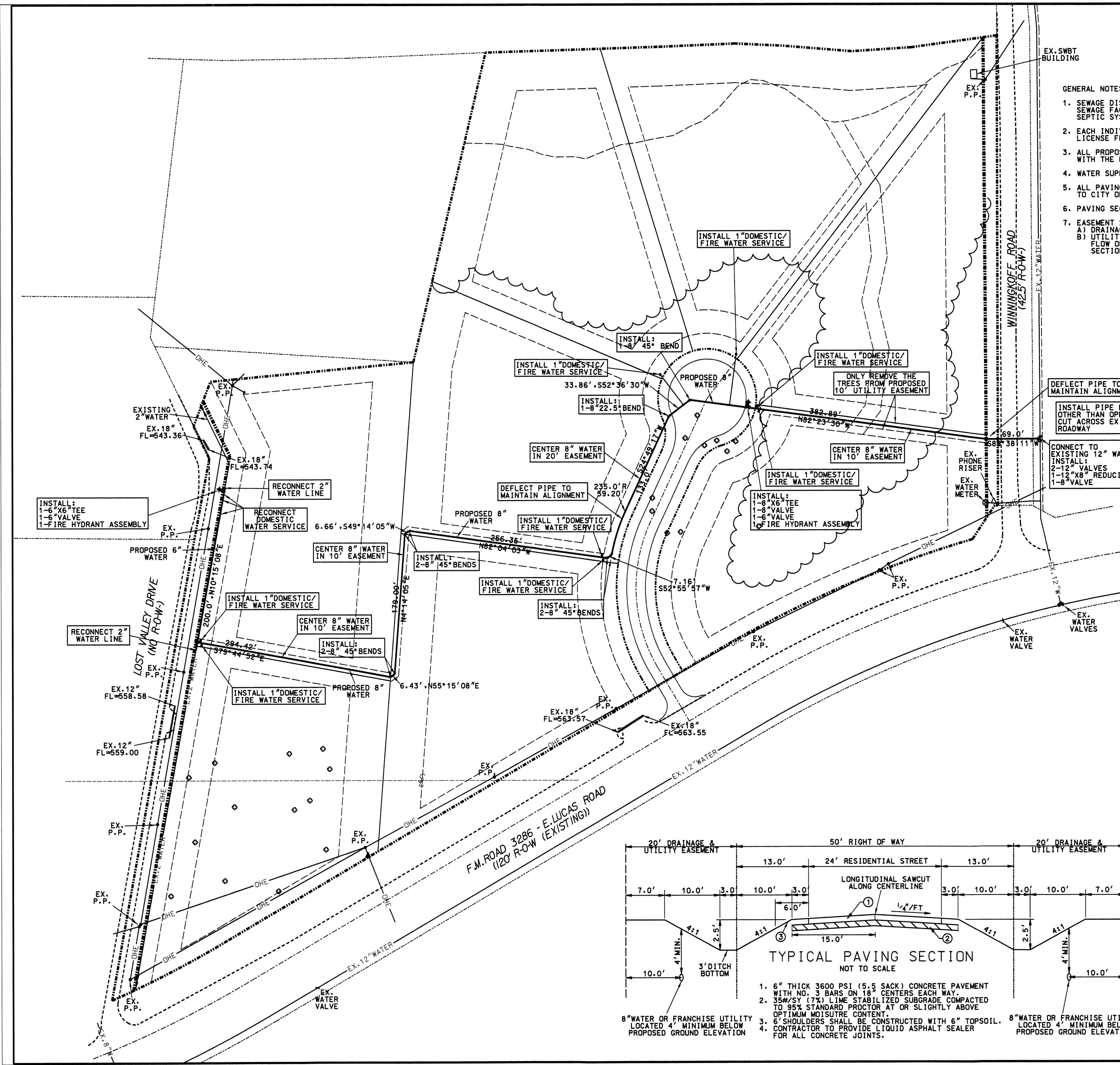
GENERAL NOTES						
WINDING CREEK RESERVE						
J. ANDERSON SURVEY, ABSTRACT A-17 AND PETER F. LUCAS SURVEY, ABSTRACT A-537						
CITY OF LUCAS, TEXAS						
TBPE REGISTRATION NO. F-000756	<b>HELMBERGER ASSOCIATES, INC.</b> CIVIL AND ENVIRONMENTAL ENGINEERS <small>1028 BODMAN ROAD, WYLIE TEXAS 75086 972.442-7400</small>					
	DESIGN	DRAWN	DATE	SCALE	NOTES	FILE
HELM.	CADD	AUG. 28, 2013	1"=80'	ON BORDER DGN	1329	GN

N



GENERAL NOTES:

- SEWAGE DISPOSAL SHALL BE PRIVATELY OWNED/ORGANIZED ON-SITE SEWAGE FACILITIES AND SHALL BE OF THE AEROBIC TYPE. NO TRADITIONAL SEPTIC SYSTEMS WILL BE ALLOWED.
- EACH INDIVIDUAL LOT OWNER SHALL OBTAIN AN ON-SITE SEWAGE FACILITY LICENSE FROM COLLIN COUNTY DEVELOPMENT SERVICES.
- ALL PROPOSED ON-SITE SEWAGE FACILITIES SHALL BE IN ACCORDANCE WITH THE RULES OF COLLIN COUNTY FOR ON-SITE SEWAGE FACILITIES.
- WATER SUPPLY BY THE CITY OF LUCAS.
- ALL PAVING, DRAINAGE AND WATER SYSTEM IMPROVEMENTS TO BE BUILT TO CITY OF LUCAS STANDARDS.
- PAVING SECTION AS SHOWN ON THIS PLAN PROPOSED.
- EASEMENT STATEMENT:  
 A) DRAINAGE EASEMENTS SHALL BE USED FOR OVERLAND FLOW OF STORM WATER  
 B) UTILITY EASEMENTS SHALL BE USED FOR UTILITIES AND OVERLAND FLOW OF STORM WATER WHERE CHANNEL DEPTH IS NOT SUFFICIENT IN TYPICAL SECTION.



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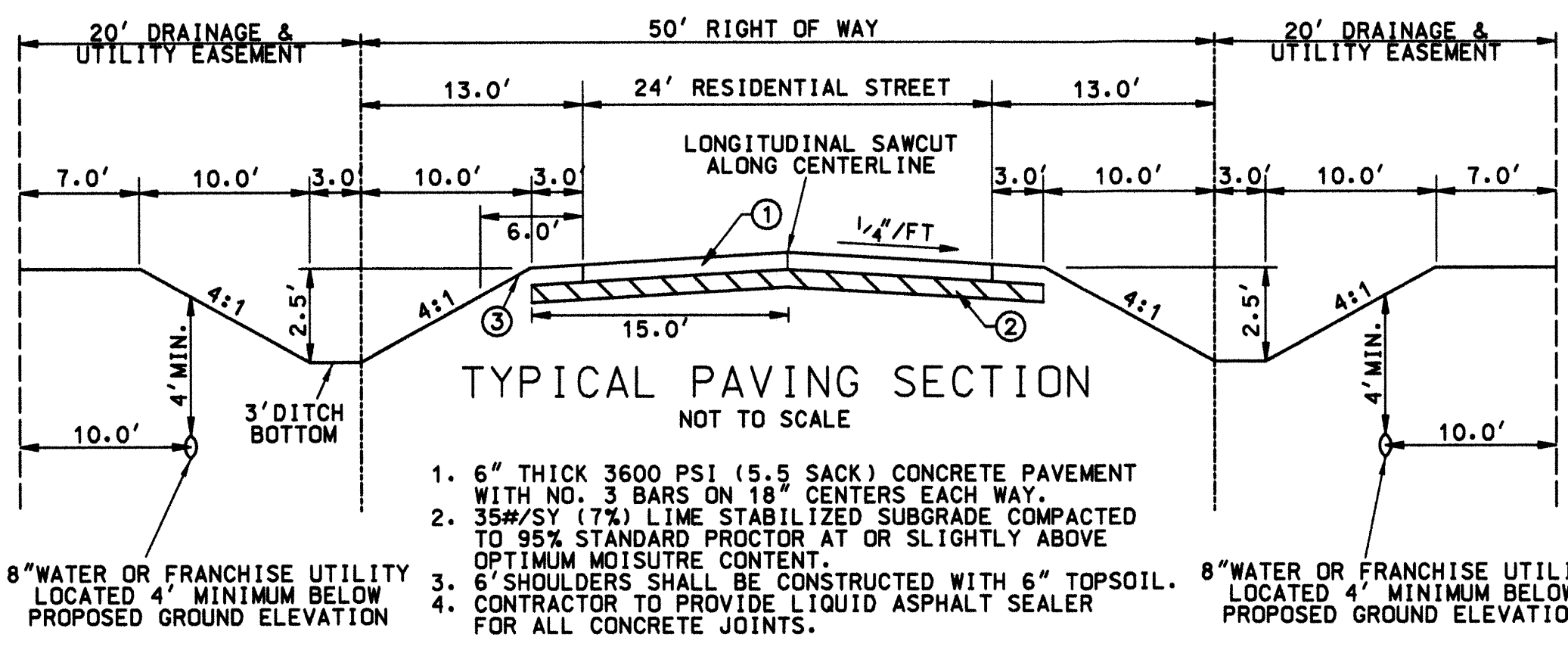
As-built utilities, paving and drainage information obtained from record drawings on file with the City of Lucas.

OWNER:  
 SOONER RANCH PROPERTIES, LLC  
 MR. RONALD T. EVANS  
 9 HOBB HILL LANE  
 LUCAS, TEXAS 75002  
 972.740.3458

DEVELOPER:  
 H. PURDOM, INC.  
 MR. HARRY PURDOM  
 701 NORTH CENTRAL EXPRESSWAY  
 SUITE 3-200  
 RICHARDSON, TEXAS 75080  
 214.808.4174

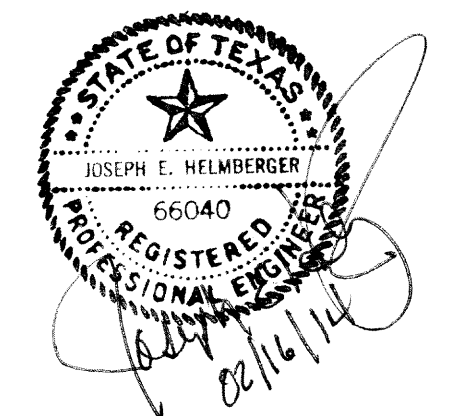
SURVEYOR:  
 ROOME LAND SURVEYING, INC.  
 MR. JOHN GLAS, RPLS  
 2000 AVENUE G  
 SUITE 810  
 PLANO, TEXAS 75074  
 972.423.4372

ENGINEER:  
 HELMBERGER ASSOCIATES, INC.  
 JOSEPH E. HELMBERGER, P.E.  
 1525 BOZMAN ROAD  
 WYLIE, TEXAS 75098  
 (972) 442-7459



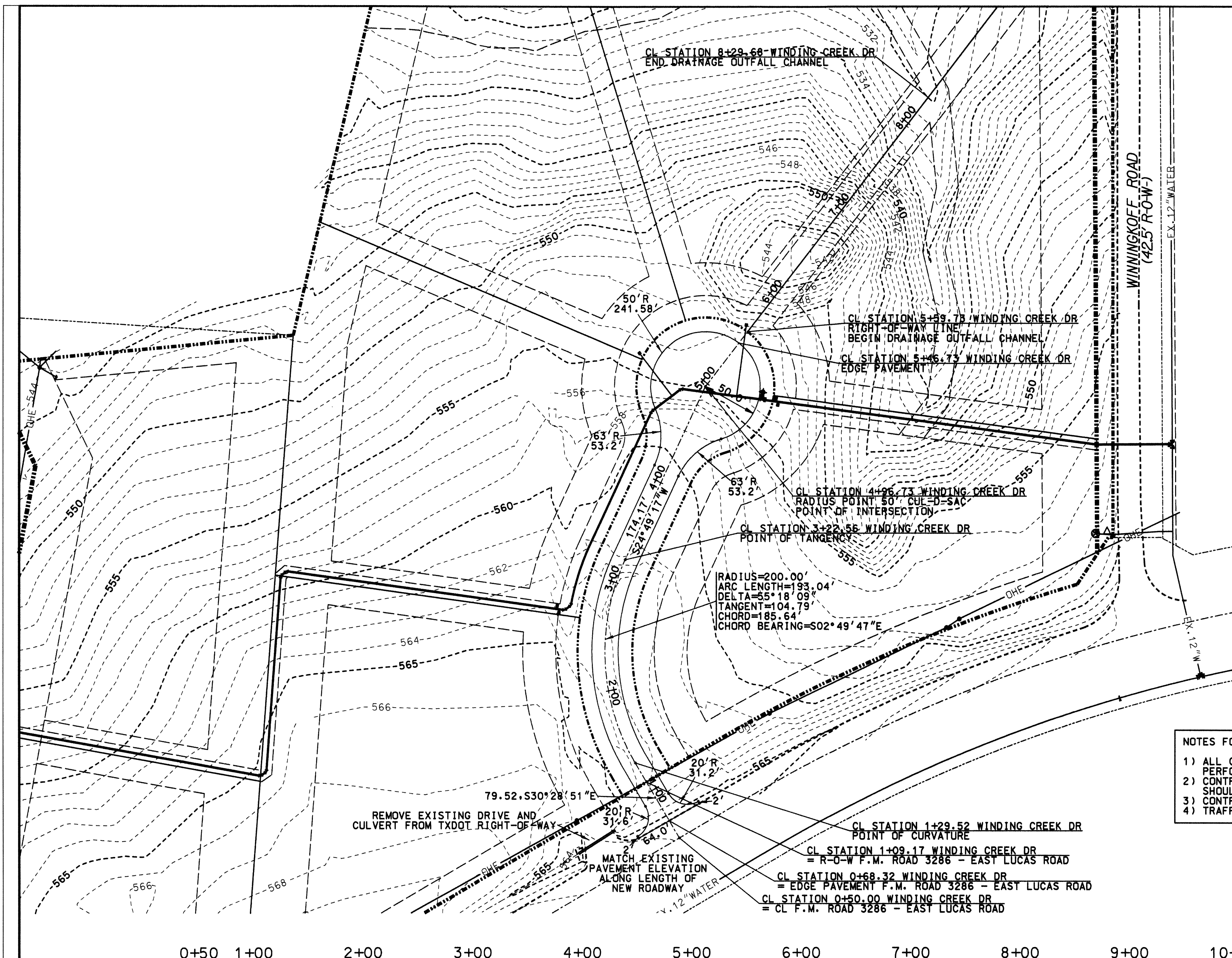
TYPICAL PAVING SECTION NOT TO SCALE

- 6" THICK 3600 PSI (5.5 SACK) CONCRETE PAVEMENT WITH NO. 3 BARS ON 18" CENTERS EACH WAY.
- 35#/CY (7%) LIME STABILIZED SUBGRADE COMPACTED TO 95% STANDARD PROCTOR AT OR SLIGHTLY ABOVE OPTIMUM MOISTURE CONTENT.
- 6" SHOULDERS SHALL BE CONSTRUCTED WITH 6" TOPSOIL.
- CONTRACTOR TO PROVIDE LIQUID ASPHALT SEALER FOR ALL CONCRETE JOINTS.



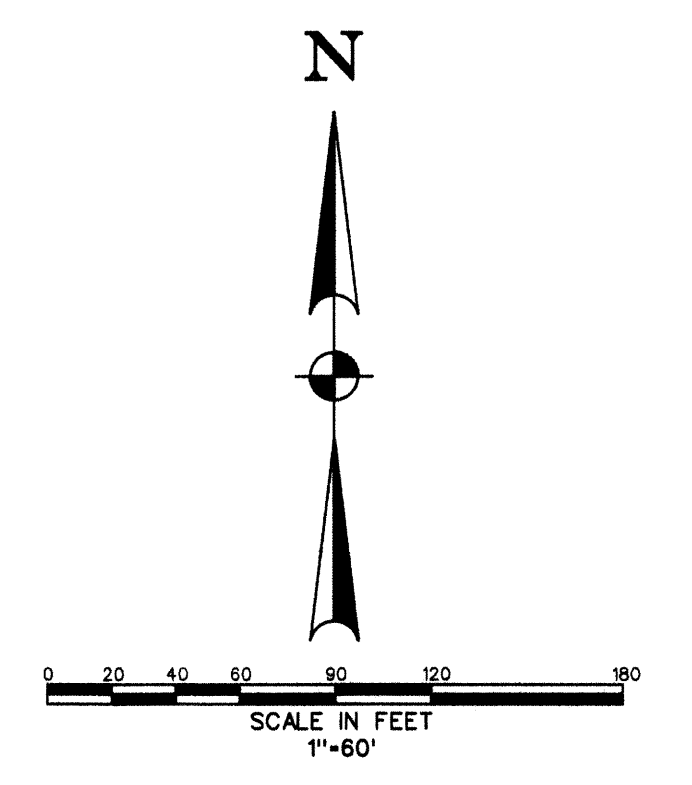
UTILITY PLAN						
WINDING CREEK RESERVE						
J. ANDERSON SURVEY, ABSTRACT A-17 AND PETER F. LUCAS SURVEY, ABSTRACT A-537						
CITY OF LUCAS, TEXAS						
TBPE REGISTRATION NO. F-000756		<b>HELMBERGER ASSOCIATES, INC.</b> CIVIL AND ENVIRONMENTAL ENGINEERS <small>1525 BOZMAN ROAD, WYLIE, TEXAS 75098 (972) 442-7459</small>				
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
HELM.	CADD	AUG. 28, 2013	1"=60'	UBORDER DGN	1329	C1

REVISED TO REFLECT AS-BUILT CONDITION 02-16-14

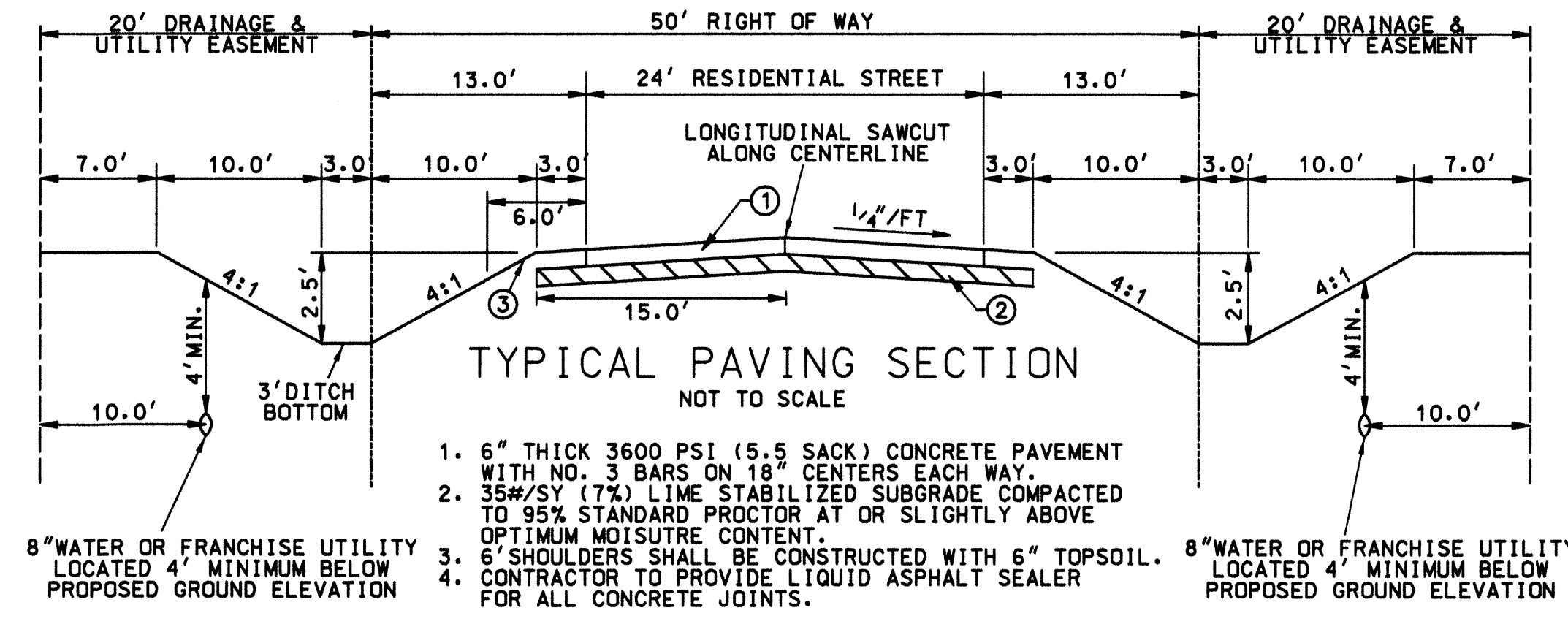


**GENERAL NOTES:**

1. SEWAGE DISPOSAL SHALL BE PRIVATELY OWNED/ORGANIZED ON-SITE SEWAGE FACILITIES AND SHALL BE OF THE AEROBIC TYPE. NO TRADITIONAL SEPTIC SYSTEMS WILL BE ALLOWED.
2. EACH INDIVIDUAL LOT OWNER SHALL OBTAIN AN ON-SITE SEWAGE FACILITY LICENSE FROM COLLIN COUNTY DEVELOPMENT SERVICES.
3. ALL PROPOSED ON-SITE SEWAGE FACILITIES SHALL BE IN ACCORDANCE WITH THE RULES OF COLLIN COUNTY FOR ON-SITE SEWAGE FACILITIES.
4. WATER SUPPLY BY THE CITY OF LUCAS.
5. ALL PAVING, DRAINAGE AND WATER SYSTEM IMPROVEMENTS TO BE BUILT TO CITY OF LUCAS STANDARDS.
6. PAVING SECTION AS SHOWN ON THIS PLAN PROPOSED.
7. EASEMENT STATEMENT:  
 A) DRAINAGE EASEMENTS SHALL BE USED FOR OVERLAND FLOW OF STORM WATER  
 B) UTILITY EASEMENTS SHALL BE USED FOR UTILITIES AND OVERLAND FLOW OF STORM WATER WHERE CHANNEL DEPTH IS NOT SUFFICIENT IN TYPICAL SECTION.



BOUNDARY INFORMATION AND FIELD SURVEYING PROVIDED BY ROOME LAND SURVEYING, INC. ATTENTION JOHN GLAS, RPLS, 972.423.4372 2000 AVENUE G, SUITE 810, PLANO, TX, 75074



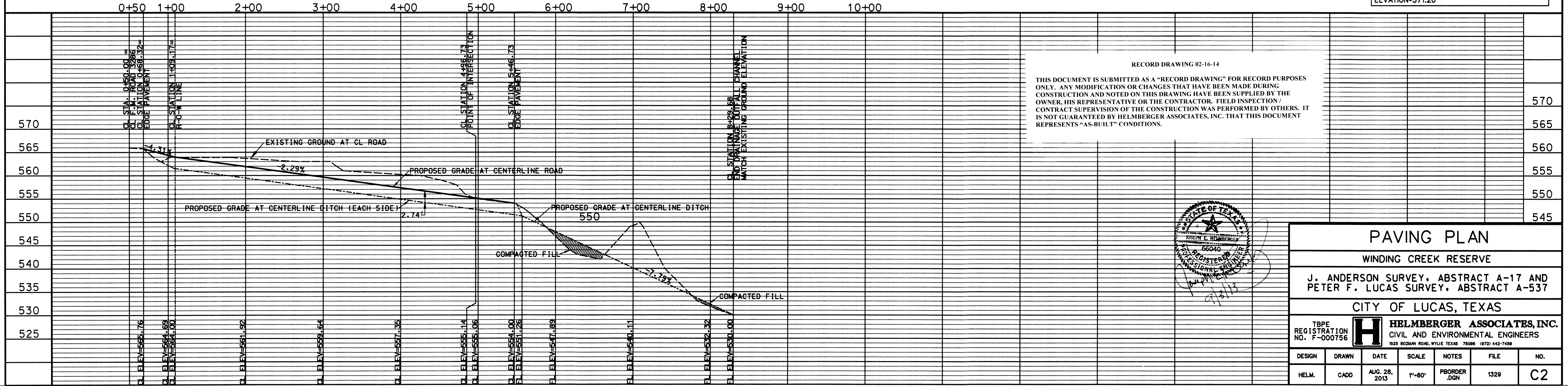
- NOTES FOR CONSTRUCTION IN TXDOT RIGHT-OF-WAY:**
- 1) ALL CONSTRUCTION IN TXDOT RIGHT-OF-WAY TO BE PERFORMED IN ACCORDANCE WITH TXDOT SPECIFICATIONS.
  - 2) CONTRACTOR TO SAWCUT A STRAIGHT EDGE AT PAINTED SHOULDER PAINT LINE TO ABUT NEW CONCRETE PAVEMENT.
  - 3) CONTRACTOR TO MATCH EXISTING PAVEMENT ELEVATION.
  - 4) TRAFFIC CONTROL PER TXDOT STANDARDS.

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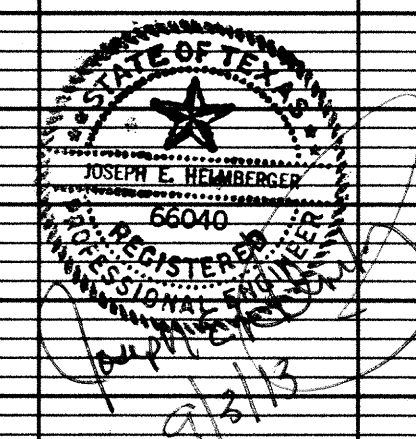
As-built utilities, paving and drainage information obtained from record drawings on file with the City of Lucas.

REVISED 09/03/13 TO INCLUDE TXDOT NOTES

**BENCHMARK:**  
 FEMA MONUMENT #135  
 SQUARE ON CULVERT HEADWALL AT THE  
 SOUTHEAST CORNER OF FM 1378 & FM 3286  
 AS SHOWN ON FEMA PANEL NO.48085C0455  
 G, DATED JANUARY 19, 1996  
 ELVATION=571.20



RECORD DRAWING 02-16-14  
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PAVING PLAN						
WINDING CREEK RESERVE						
J. ANDERSON SURVEY, ABSTRACT A-17 AND PETER F. LUCAS SURVEY, ABSTRACT A-537						
CITY OF LUCAS, TEXAS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
HELM.	CADD	AUG. 28, 2013	1"=60'	PBORDER .DGN	1329	C2

TBPE REGISTRATION NO. F-000756  
**HELMBERGER ASSOCIATES, INC.**  
 CIVIL AND ENVIRONMENTAL ENGINEERS  
 1023 BODMAN ROAD, WYLLIE TEXAS 75086 (972) 442-7408

APPROXIMATE SCALED LIMITS OF 100-YEAR FLOOD PLAIN PER FEMA PANEL NO. 48085C0405 J, DATED JUNE 2, 2009

ALL DRIVE CULVERTS TO BE INSTALLED PER CITY OF LUCAS STANDARDS. DITCH GRADING UPSTREAM AND DOWNSTREAM TO BE PERFORMED BY THE CONTRACTOR TO ENSURE PROPER DRAINAGE.

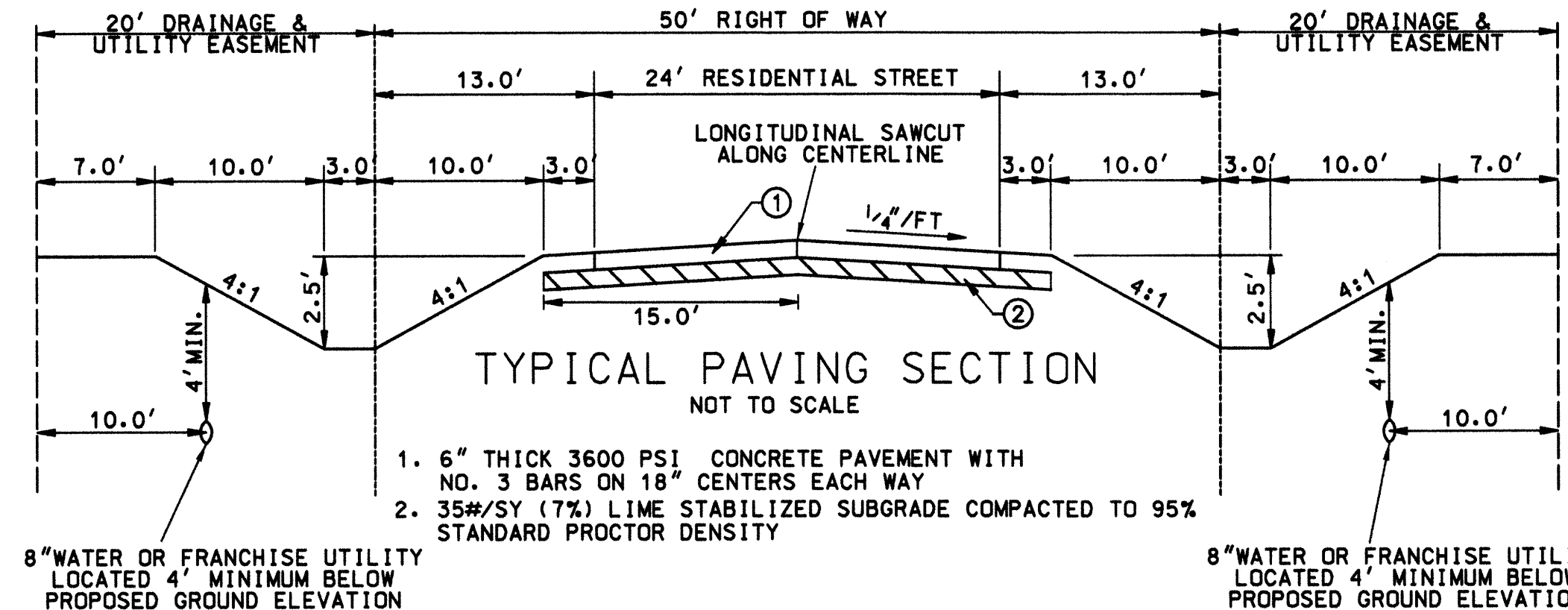
BENCHMARK:  
FEMA MONUMENT #135  
SQUARE ON CULVERT HEADWALL AT THE  
SOUTHEAST CORNER OF FM 1378 & FM 3286  
AS SHOWN ON FEMA PANEL NO.48085C0455  
G DATED JANUARY 19, 1996  
ELEVATION=571.20

N

SCALE IN FEET  
1"=60'

BOUNDARY INFORMATION AND FIELD SURVEYING  
PROVIDED BY ROOME LAND SURVEYING, INC.  
ATTENTION JOHN GLAS, RPLS, 972.423.4372  
2000 AVENUE G, SUITE 810, PLANO, TX, 75074

--- DRAINAGE DIVIDE  
- - - 548 --- EXISTING 1' CONTOUR  
- - - 550 --- EXISTING 5' CONTOUR  
DA-22 6.28CFS DRAINAGE AREA NO. DEVELOPED 100 YR. FLOW  
← FLOW INDICATOR



RUNOFF CALCULATIONS:

DA NUMBER	AREA (ACRES)	Q100 (CFS) (PRE. DEV.)	Q100 (CFS) (POST DEV.)	DIFFERENCE (CFS)
OFFSITE 1	0.69	1.82	2.08	0.26
OFFSITE 2	0.42	1.11	1.26	0.15
OFFSITE 3	0.04	0.11	0.12	0.01
OFFSITE 4	0.38	1.00	1.14	0.14
1	2.07	5.45	6.23	0.78
2	2.08	5.47	6.26	0.79
3	1.96	5.16	5.90	0.74
4	1.93	5.08	5.81	0.73
5	2.00	5.26	6.02	0.76
6	2.43	6.40	7.31	0.91
7	0.46	1.21	1.38	0.17
8	1.68	4.42	5.05	0.63
9	1.78	4.69	5.35	0.66
10	0.45	1.19	1.35	0.17
11	0.51	1.34	1.53	0.19

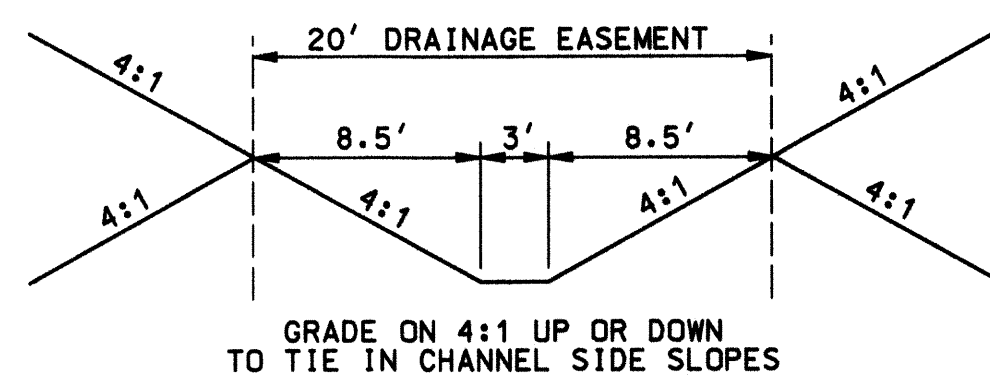
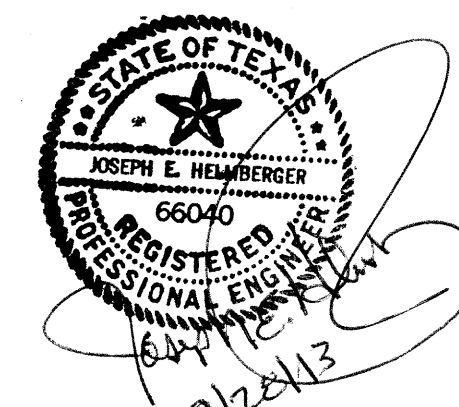
Design survey and boundary verification provided by the Owner under separate contract with Roome Land Surveying, Inc., 2000 Avenue G, Suite 810, Plano, Texas, 75074, Mr. John Glas, RPLS, 972.423.4372

As-built utilities, paving and drainage information obtained from record drawings on file with the City of Lucas.

NO CULVERT PROPOSED BECAUSE THERE IS NO DEFINED DITCH IN FM 3286 RIGHT OF WAY EAST OF PROPOSED ROAD AND WATER FLOWS ACROSS THE PROPERTY. DRAINAGE FROM FM 3286 WEST OF PROPOSED ROAD WILL BE CARRIED IN DITCH TO CREEK.

RECORD DRAWING 02-16-14

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TRAPEZOIDAL CHANNEL:  
MANNINGS COEFFICIENT:0.035  
CHANNEL SLOPE:0.0779  
LEFT SIDE SLOPE:4:1  
RIGHT SIDE SLOPE:4:1  
BOTTOM WIDTH:3.0'  
DISCHARGE:4.69CFS  
DEPTH:0.28'  
FLOW AREA:1.250.FT.  
WETTED PERIMETER:5.31'  
CRITICAL DEPTH:0.37'  
VELOCITY:4.29'/SEC.

WEST TRAPEZOIDAL CHANNEL:  
MANNINGS COEFFICIENT:0.035  
CHANNEL SLOPE:0.0229  
LEFT SIDE SLOPE:4:1  
RIGHT SIDE SLOPE:4:1  
BOTTOM WIDTH:3.0'  
DISCHARGE:3.61CFS  
DEPTH:0.33'  
FLOW AREA:1.450.FT.  
WETTED PERIMETER:5.71'  
CRITICAL DEPTH:0.31'  
VELOCITY:2.54'/SEC.

EAST TRAPEZOIDAL CHANNEL:  
MANNINGS COEFFICIENT:0.035  
CHANNEL SLOPE:0.0229  
LEFT SIDE SLOPE:4:1  
RIGHT SIDE SLOPE:4:1  
BOTTOM WIDTH:3.0'  
DISCHARGE:1.35CFS  
DEPTH:0.19'  
FLOW AREA:0.750.FT.  
WETTED PERIMETER:4.58'  
CRITICAL DEPTH:0.17'  
VELOCITY:1.87'/SEC.

TYPICAL PAVING SECTION DITCHES

DRAINAGE PLAN

WINDING CREEK RESERVE

J. ANDERSON SURVEY, ABSTRACT A-17 AND PETER F. LUCAS SURVEY, ABSTRACT A-537

CITY OF LUCAS, TEXAS

TBPE REGISTRATION NO. F-000756 HELMBERGER ASSOCIATES, INC. CIVIL AND ENVIRONMENTAL ENGINEERS 9525 BOSWELL ROAD, WYLLIE, TEXAS 75098 (972) 442-7458

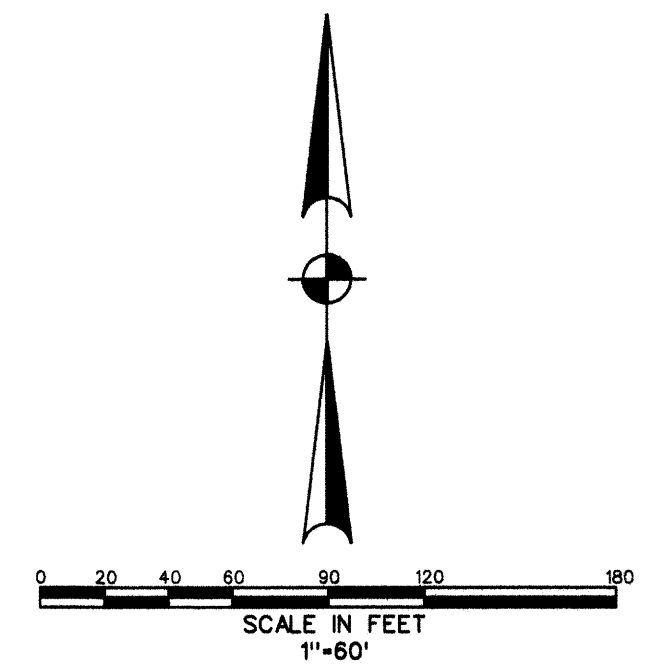
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
HELM.	CADD	AUG. 28, 2013	1"=60'	DBORDER .DGN	1329	C3

SECTION A-A  
NOT TO SCALE



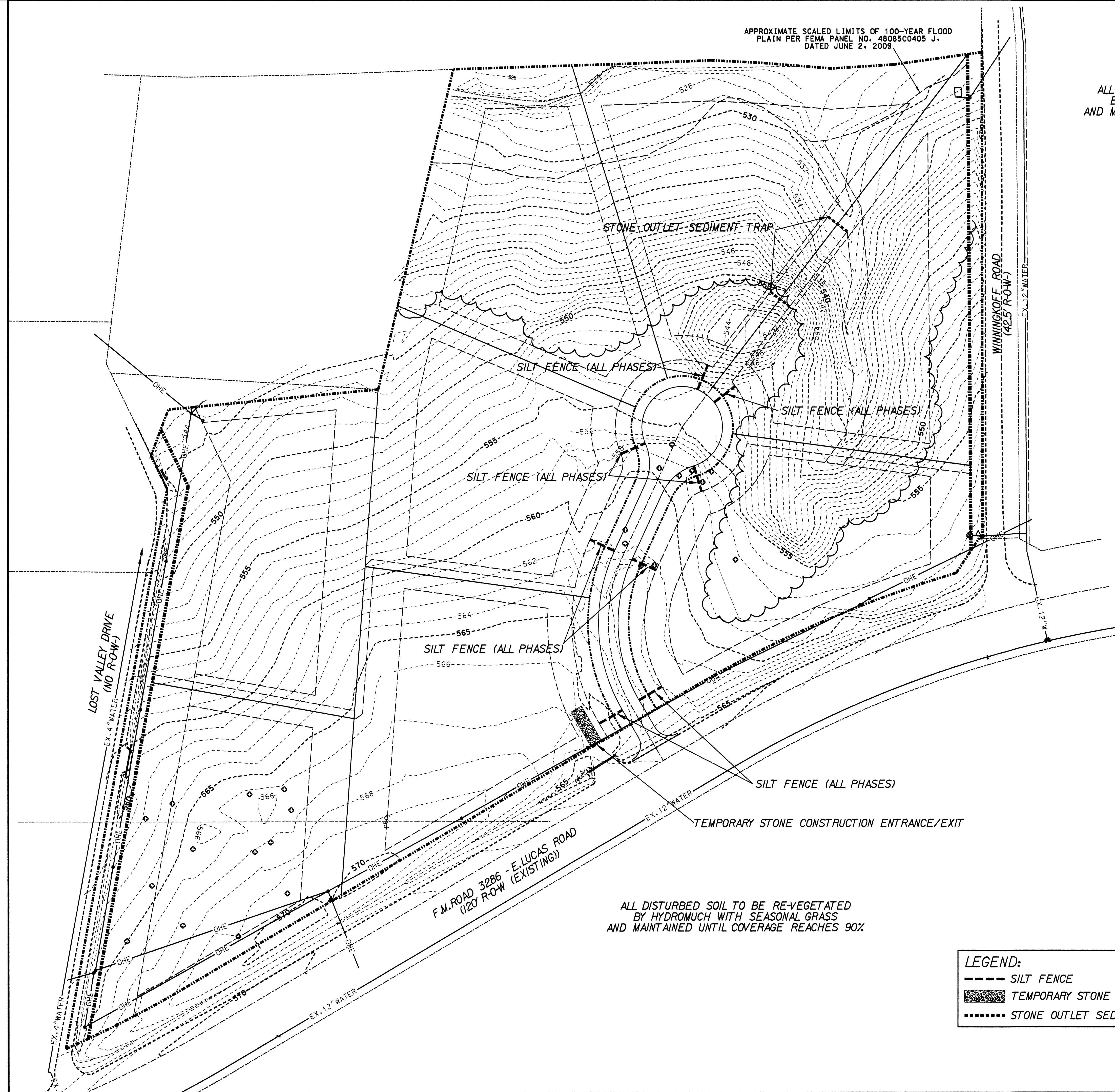
APPROXIMATE SCALED LIMITS OF 100-YEAR FLOOD  
PLAIN PER FEMA PANEL NO. 48085C0405 J,  
DATED JUNE 2, 2009

N



ALL DISTURBED SOIL TO BE RE-VEGETATED  
BY HYDROMUCH WITH SEASONAL GRASS  
AND MAINTAINED UNTIL COVERAGE REACHES 90%

SEE SHEET C-5 FOR DETAILS AND NOTES

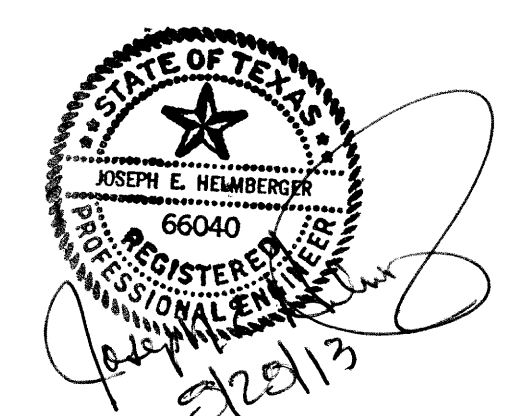


ALL DISTURBED SOIL TO BE RE-VEGETATED  
BY HYDROMUCH WITH SEASONAL GRASS  
AND MAINTAINED UNTIL COVERAGE REACHES 90%

**LEGEND:**

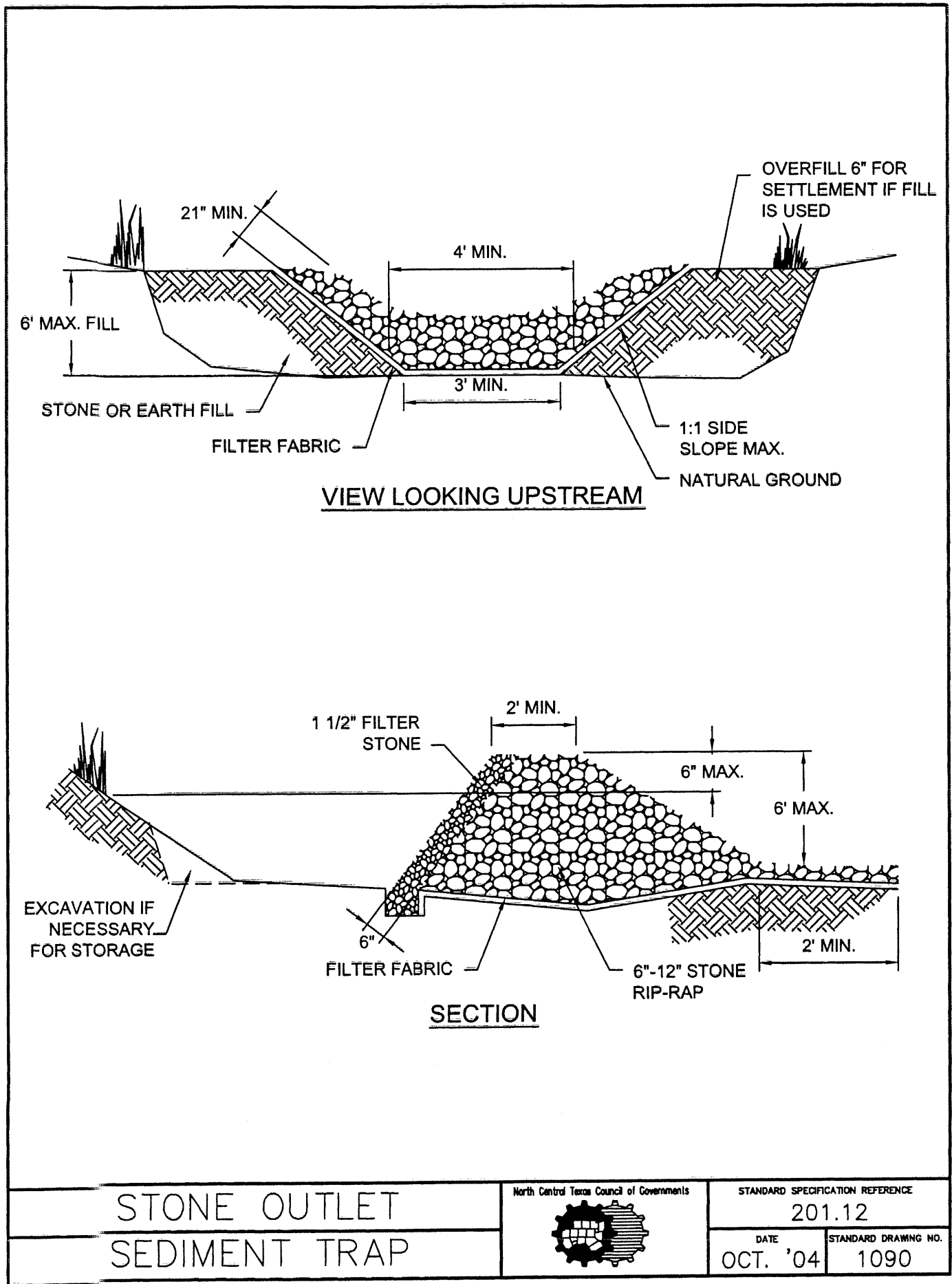
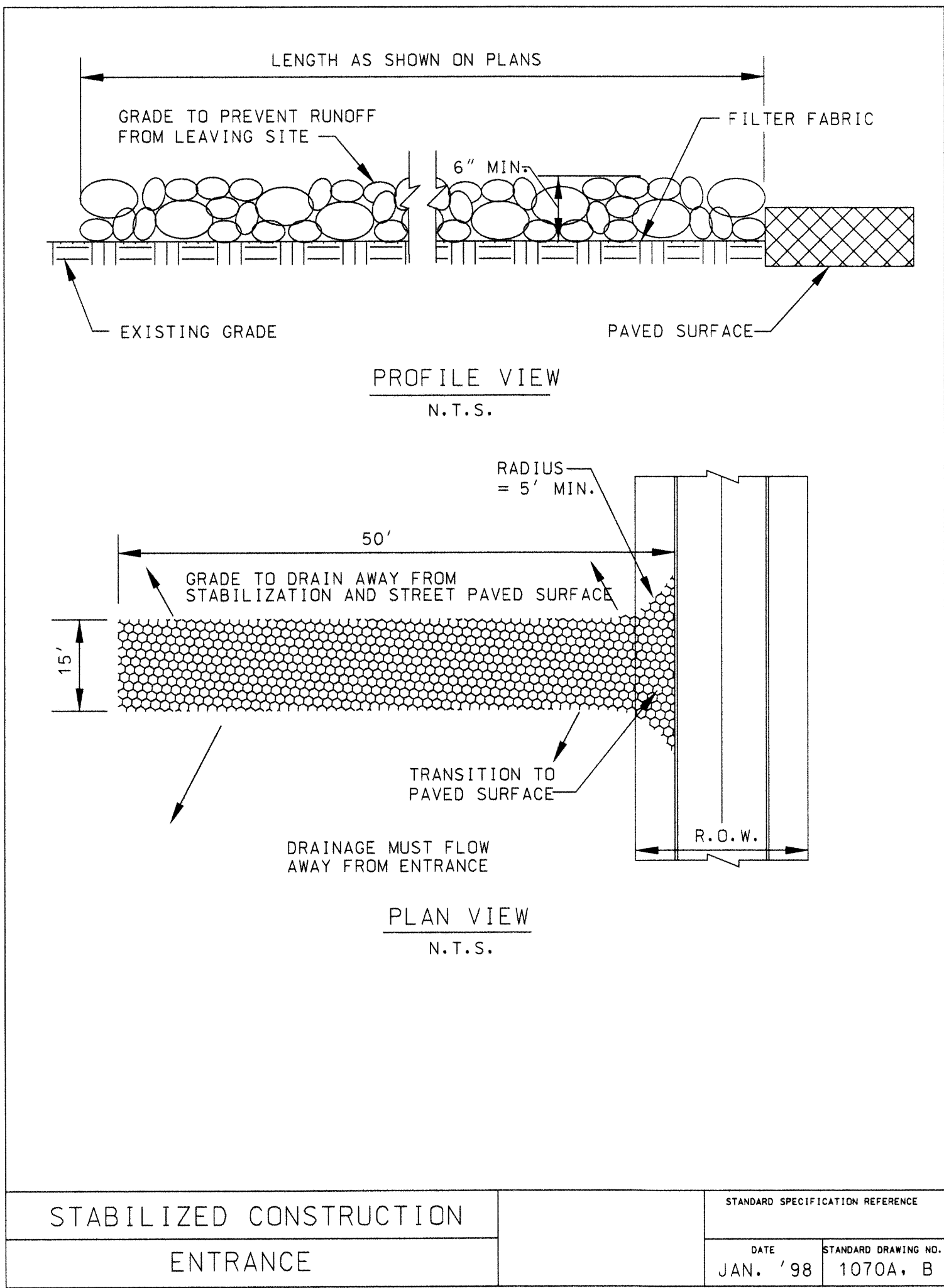
- SILT FENCE
- ▨ TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIT
- - - - - STONE OUTLET SEDIMENT TRAP

RECORD DRAWING 02-16-14  
THIS DOCUMENT IS SUBMITTED AS A "RECORD DRAWING" FOR RECORD PURPOSES ONLY. ANY MODIFICATION OR CHANGES THAT HAVE BEEN MADE DURING CONSTRUCTION AND NOTED ON THIS DRAWING HAVE BEEN SUPPLIED BY THE OWNER, HIS REPRESENTATIVE OR THE CONTRACTOR. FIELD INSPECTION / CONTRACT SUPERVISION OF THE CONSTRUCTION WAS PERFORMED BY OTHERS. IT IS NOT GUARANTEED BY HELMBERGER ASSOCIATES, INC. THAT THIS DOCUMENT REPRESENTS "AS-BUILT" CONDITIONS.



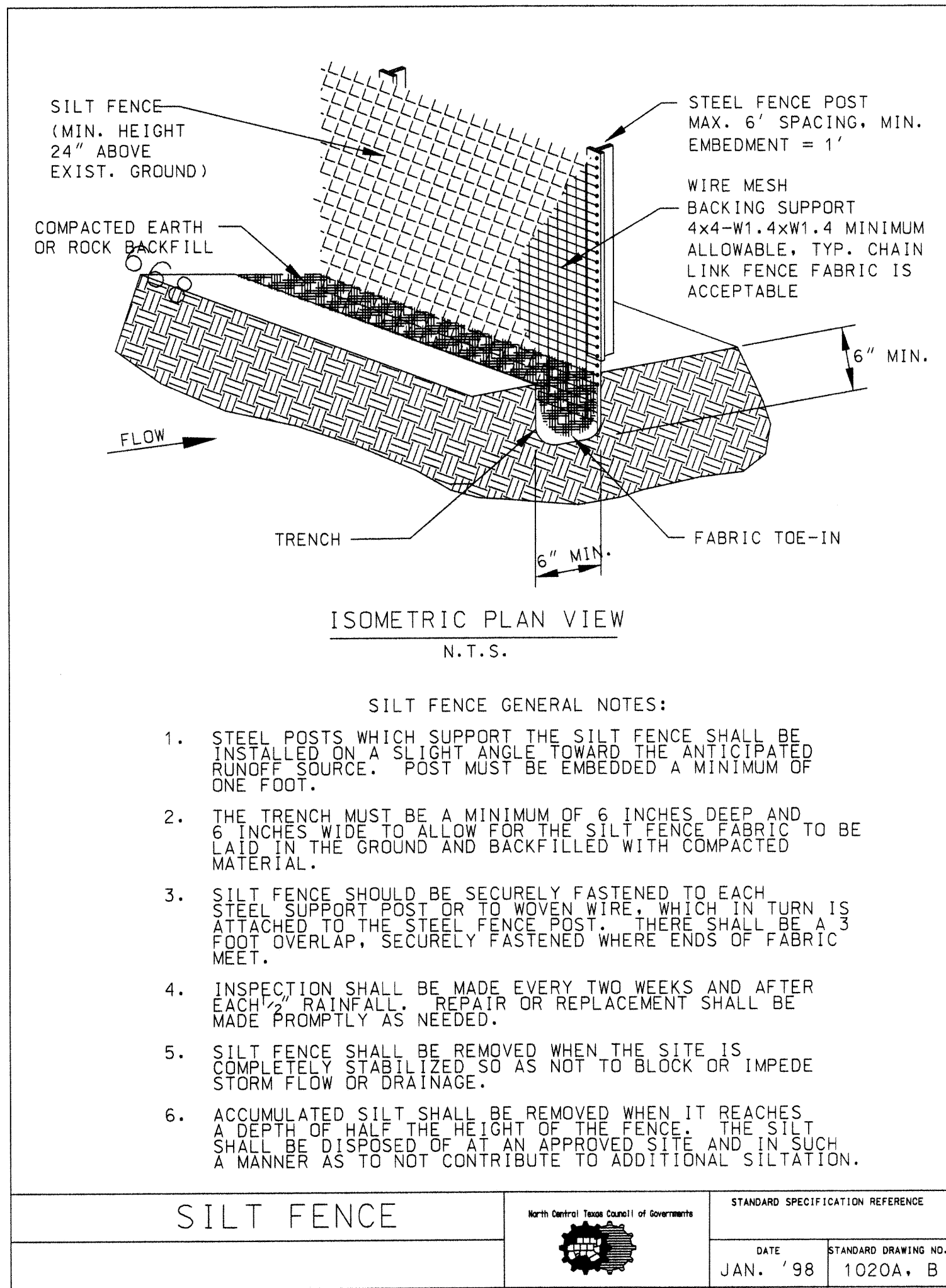
<b>EROSION CONTROL PLAN</b>					
WINDING CREEK RESERVE					
J. ANDERSON SURVEY, ABSTRACT A-17 AND PETER F. LUCAS SURVEY, ABSTRACT A-537					
CITY OF LUCAS, TEXAS					
TBPE REGISTRATION NO. F-000756		<b>HELMBERGER ASSOCIATES, INC.</b> CIVIL AND ENVIRONMENTAL ENGINEERS <small>1535 BODDAM ROAD, WYLLIE, TEXAS 76098 (972) 442-7458</small>			
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE
HELM.	CADD	AUG. 28, 2013	1"=60'	ECBORDER .DGN	1329
					NO. C4

SEE SHEET C4 FOR INSTALLATION LOCATION



- EROSION GENERAL NOTES:**
1. EROSION CONTROL DEVICES SHOWN ON THIS PLAN SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES ON THE PROJECT.
  2. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND COLLIN COUNTY.
  3. IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON SITE.
  4. OFF-SITE SOIL BORROW OR SPOIL AREAS ARE CONSIDERED AS PART OF THE PROJECT SITE, AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMPs TO CONTROL OFFSITE SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. THESE AREAS SHALL BE STABILIZED WITH PERMANENT GROUND COVER PRIOR TO FINAL APPROVAL OF THE PROJECT.
  5. INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO INSURE THAT THE DEVICES ARE FUNCTIONING PROPERLY. WHEN SEDIMENT OR MUD HAS CLOGGED THE VOID SPACES BETWEEN STONES OR MUD IS TRACKED ONTO A PUBLIC ROADWAY THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASHDOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL OFF SITE SEDIMENTATION. PERIODIC RE-GRADING OR THE ADDITION OF NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFICIENCY OF THE INSTALLATION. CONTRACTOR SHALL HAVE A COPY OF THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS EROSION AND SEDIMENT CONTROL MANUAL ON SITE AT ALL TIMES.
  7. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTAL OF N.O.I., N.O.T. AND ANY ADDITIONAL INFORMATION REQUIRED BY THE E.P.A. CONTRACTOR SHALL COMPLY WITH ALL E.P.A. STORMWATER POLLUTION PREVENTION REQUIREMENTS.

BMP MAINTENANCE SCHEDULE		
BMP	MAINTENANCE FREQUENCY	BY:
SILT FENCE	WEEKLY/AFTER RAINS	CONTRACTOR
CONST ENTRANCE	WEEKLY/AFTER RAINS	CONTRACTOR
STONE OUTLET SEDIMENT TRAP	WEEKLY/AFTER RAINS	CONTRACTOR



RECORD DRAWING 02-16-14

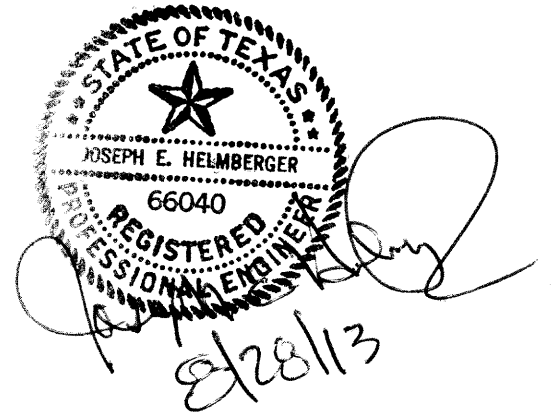
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- LEGEND:**
- SILT FENCE
  - TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIT
  - STONE OUTLET SEDIMENT TRAP

- EROSION CONTROL CONSTRUCTION PHASING:**
- PHASE 1 - INSTALL BMP'S
  - PHASE 2 - TOP SOIL REMOVAL AND ROUGH GRADING
  - PHASE 3 - UTILITY INSTALLATION
  - PHASE 4 - ROAD CONSTRUCTION
  - PHASE 5 - INSTALLATION OF PERMANENT GROUND COVER
  - PHASE 6 - REMOVAL OF BMP'S

REV.	BY:	REVISION

EROSION CONTROL CONSTRUCTION PLAN		
TYPE:	INSTALLATION:	REMOVAL:
CONSTRUCTION ENTRANCE	PRIOR TO STARTING	PRIOR TO PAVEMENT PLACEMENT
SILT FENCE	AFTER SHAPING DITCH	AFTER ESTABLISHING GRASS COVER
STONE OUTLET SEDIMENT TRAP	AFTER SHAPING DITCH	AFTER ESTABLISHING GRASS COVER



**OWNER:**  
SOONER RANCH PROPERTIES, LLC  
MR. RONALD T. EVANS  
9 HOBBS HILL LANE  
LUCAS, TEXAS 75002  
972.740.3458

**DEVELOPER:**  
H. PURDOM, INC.  
701 NORTH CENTRAL EXPRESSWAY  
SUITE 3-200  
RICHARDSON, TEXAS 75080  
214.808.4174

**ENGINEER:**  
HELMBERGER ASSOCIATES, INC.  
JOSEPH E. HELMBERGER, P.E.  
1525 BOZMAN ROAD  
WYLIE, TEXAS 75098  
972.442.7459

**EROSION CONTROL PLAN**

WINDING CREEK RESERVE

J. ANDERSON SURVEY, ABSTRACT A-17 AND  
PETER F. LUCAS SURVEY, ABSTRACT A-537

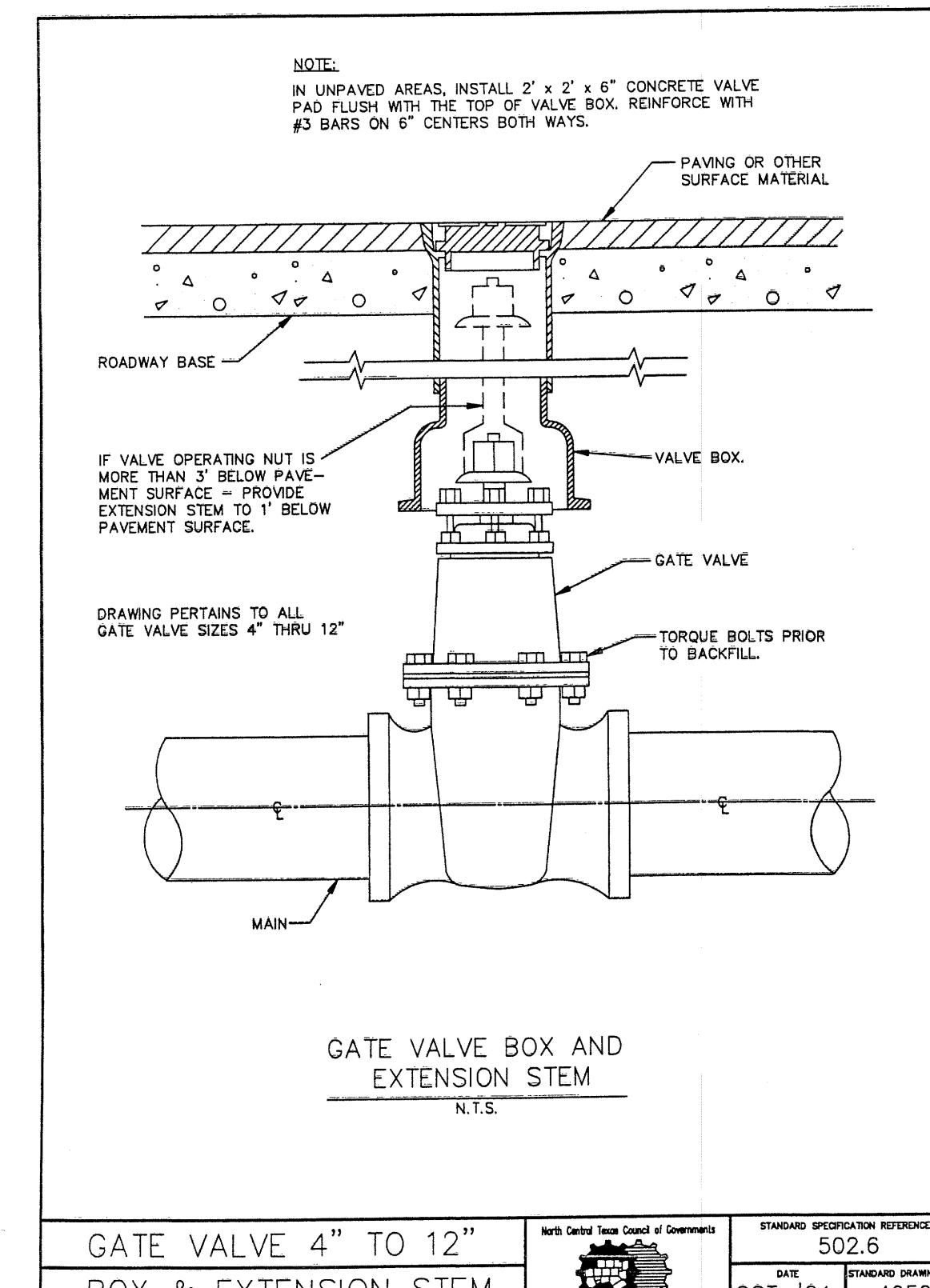
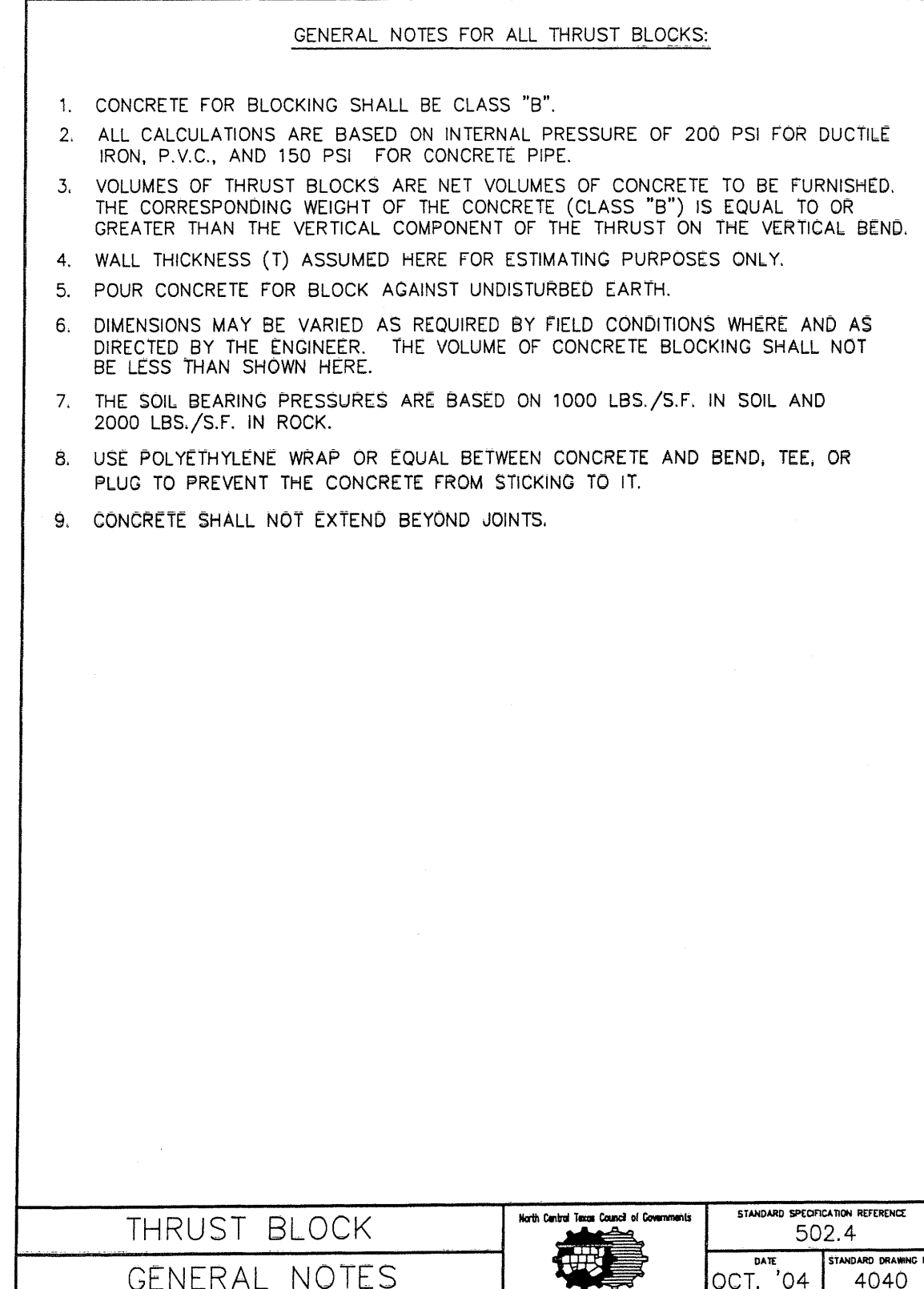
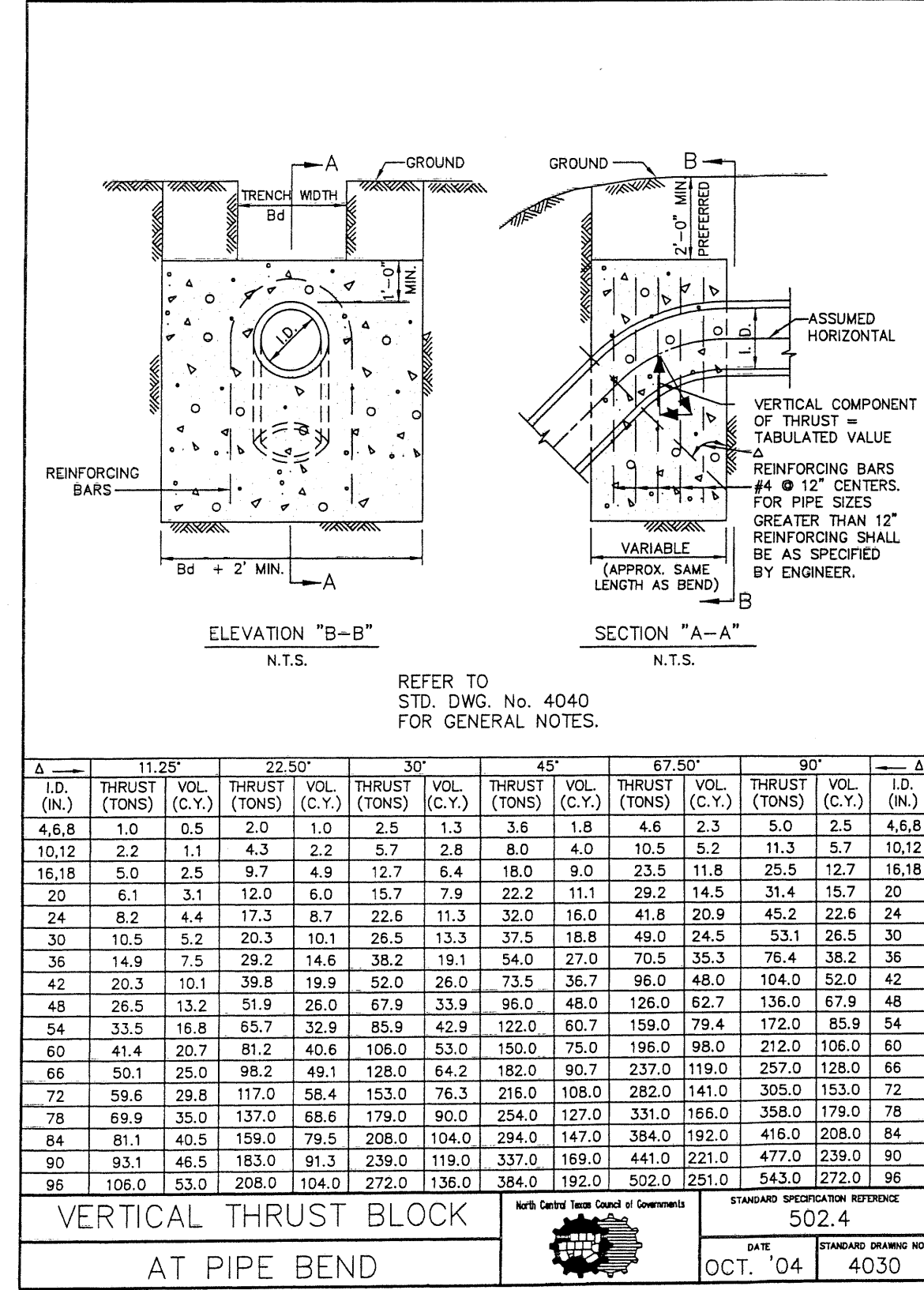
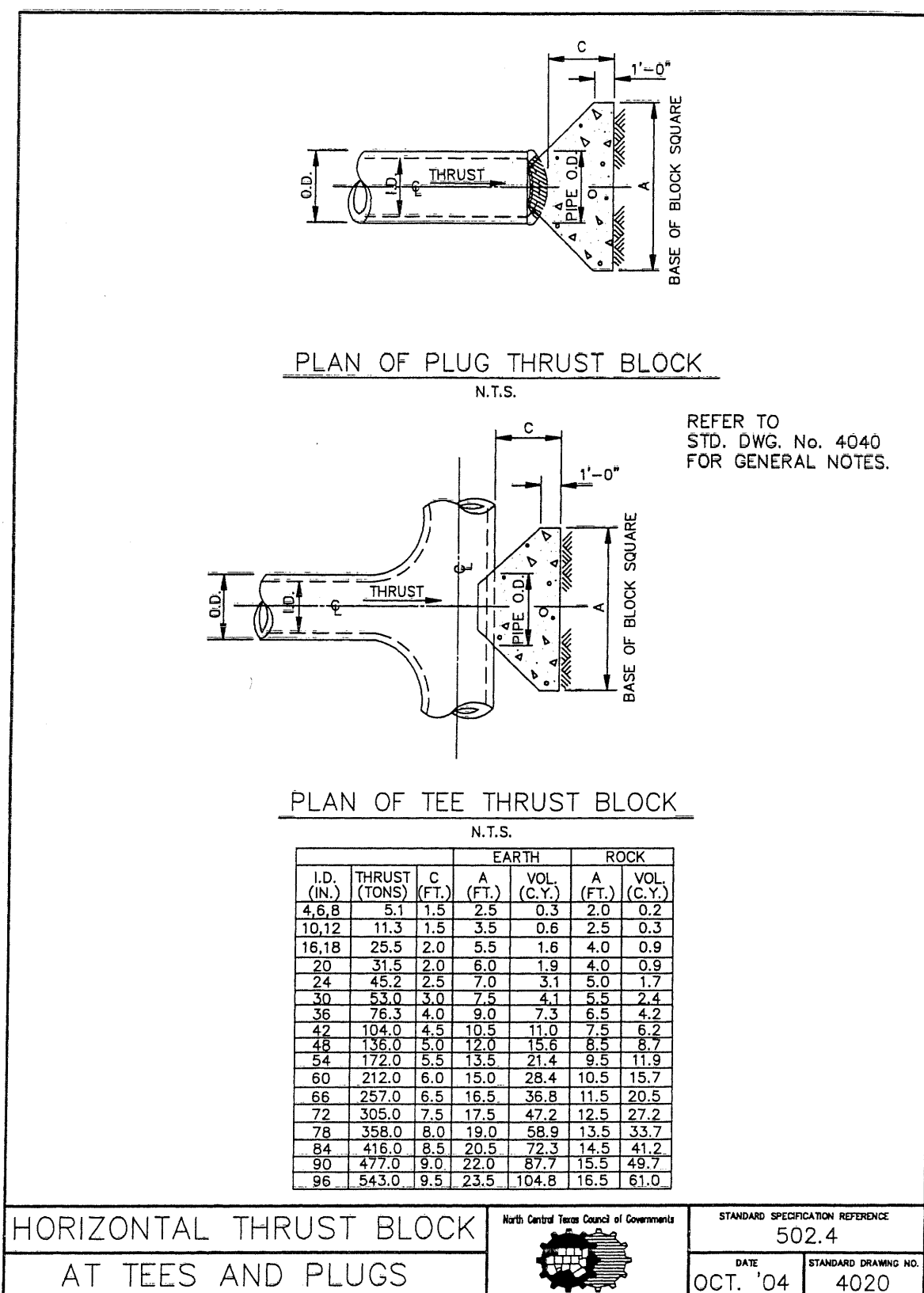
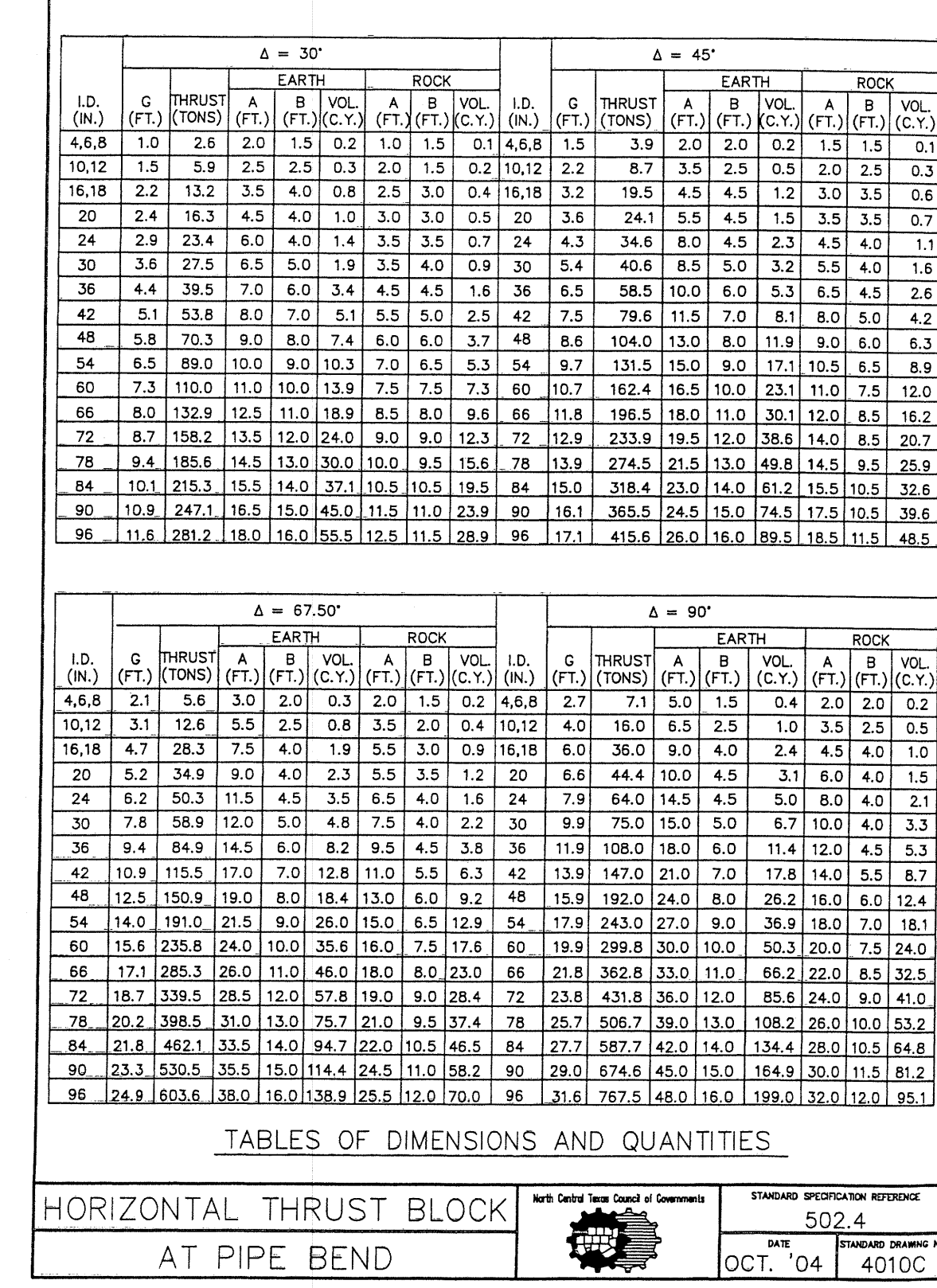
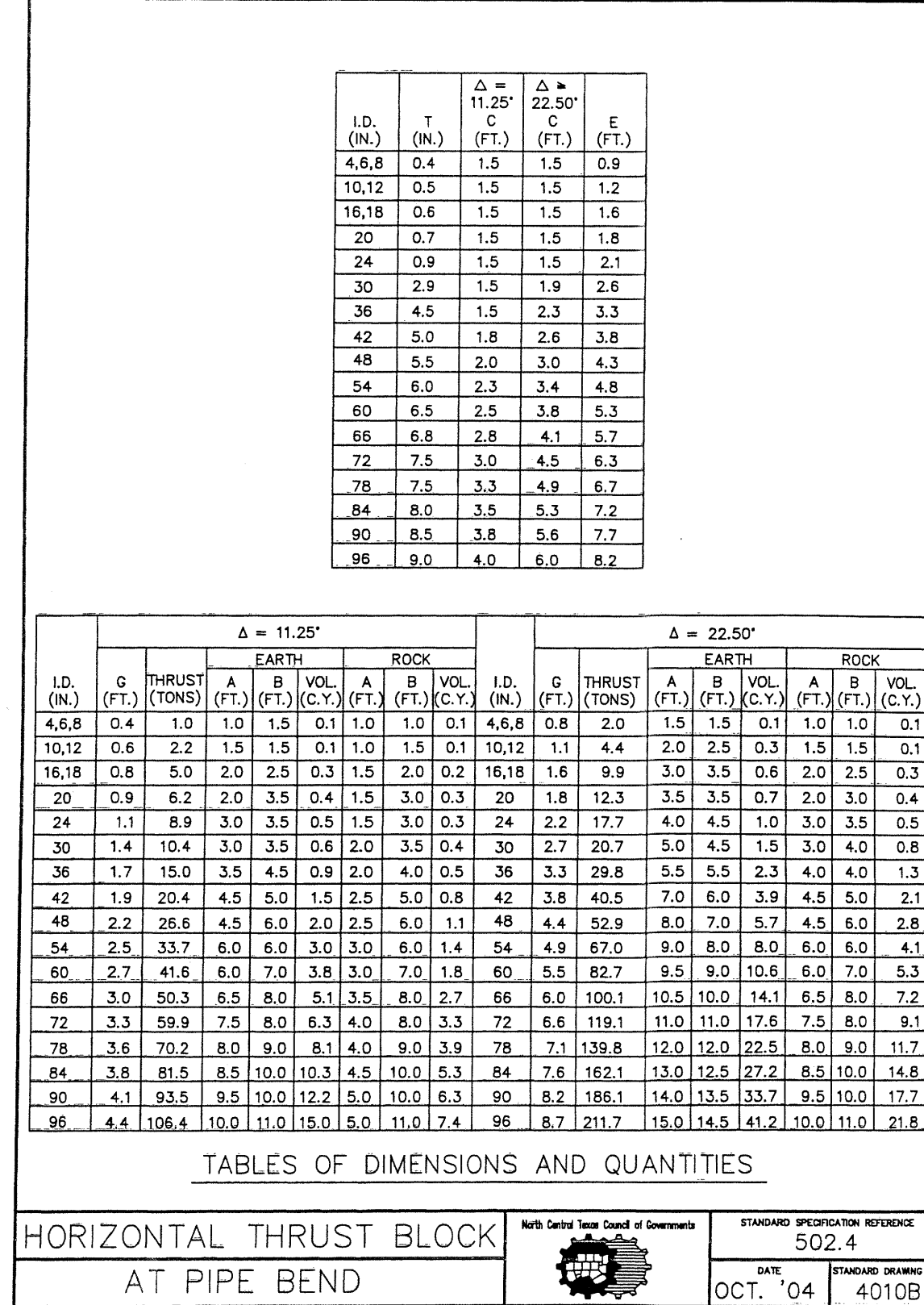
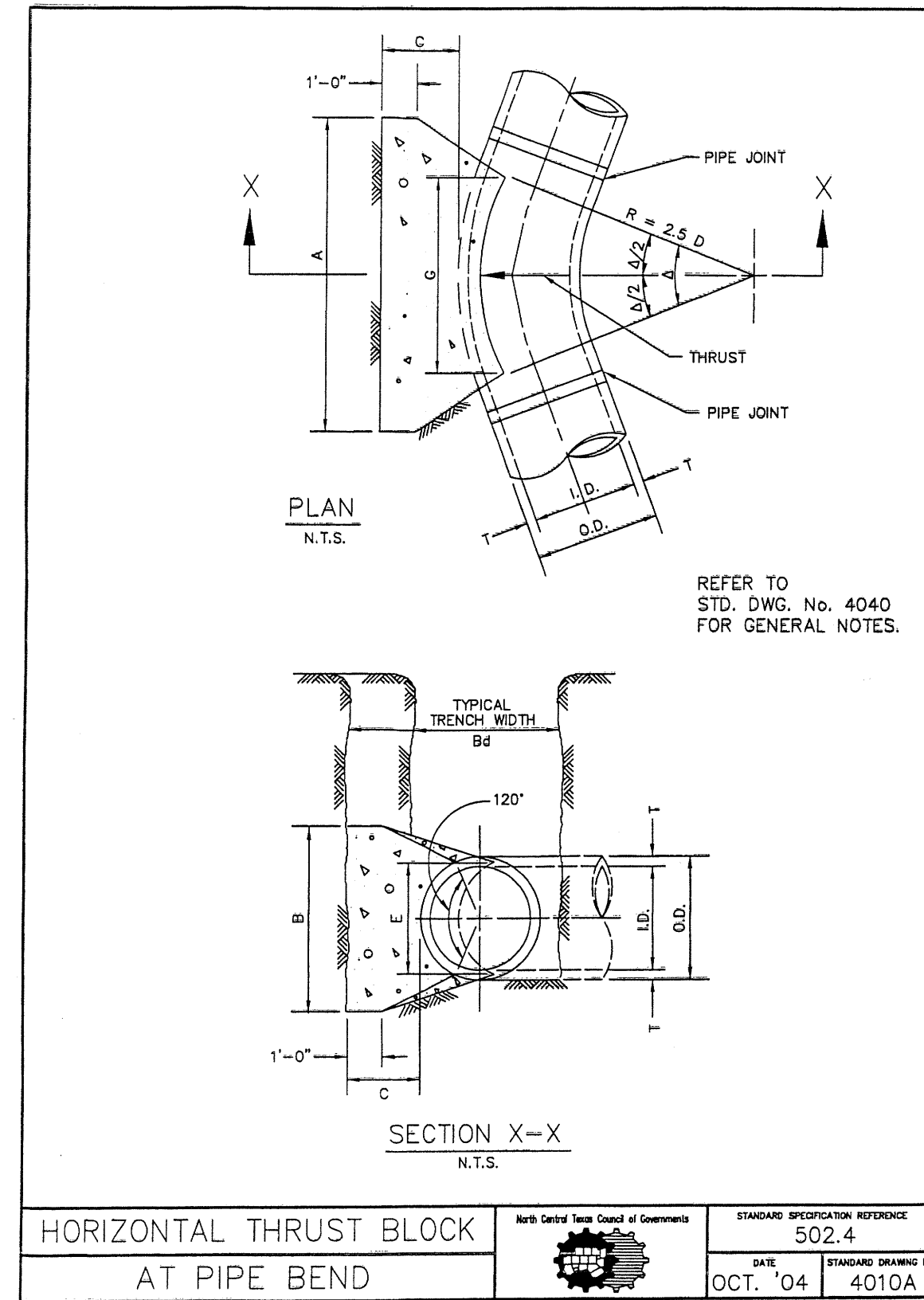
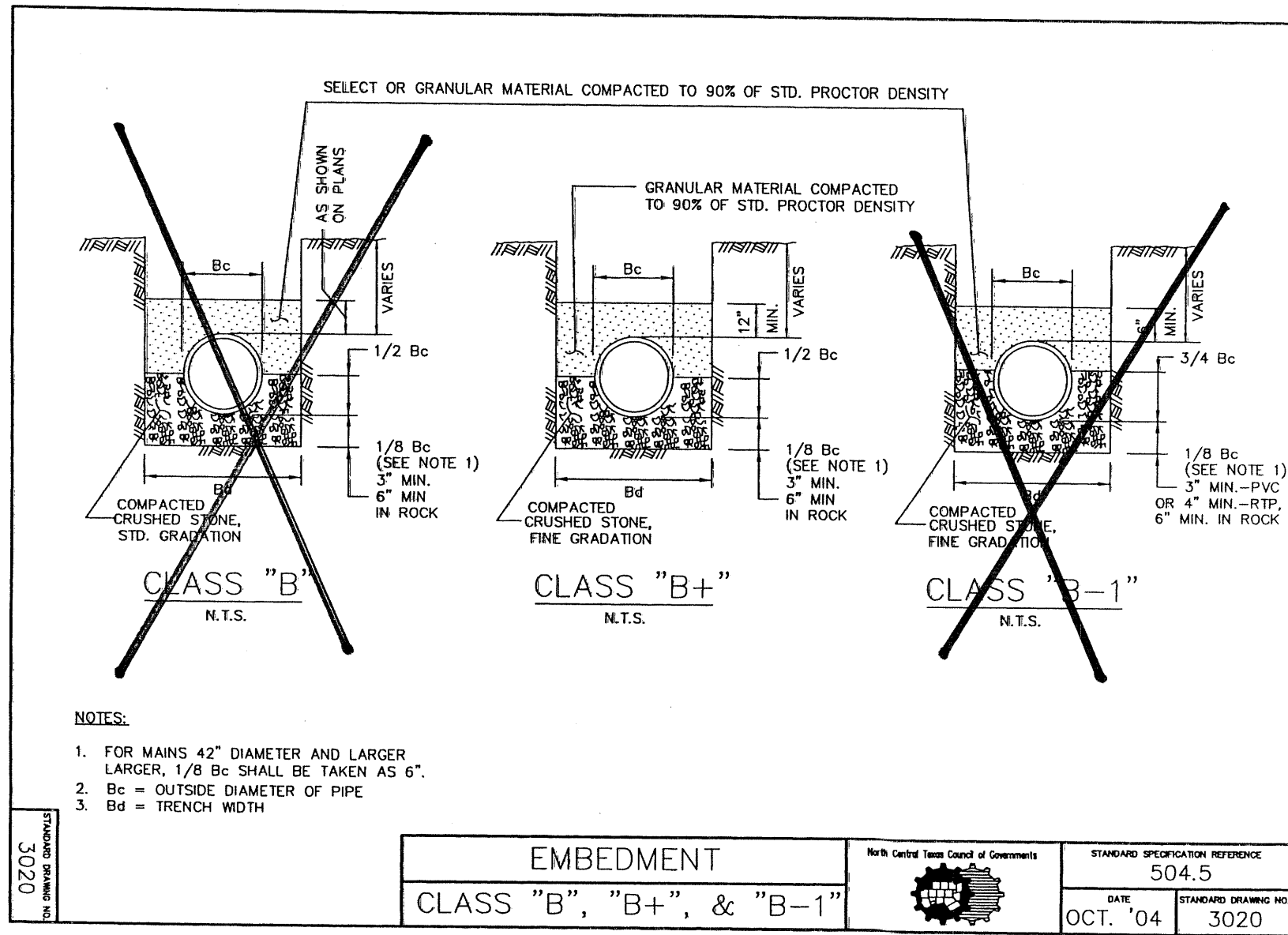
CITY OF LUCAS, TEXAS

REGISTRATION NO. F-000756

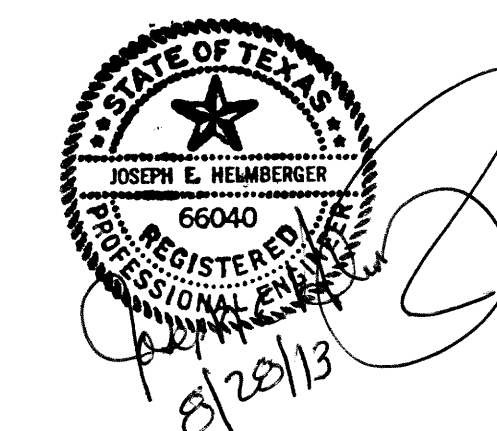
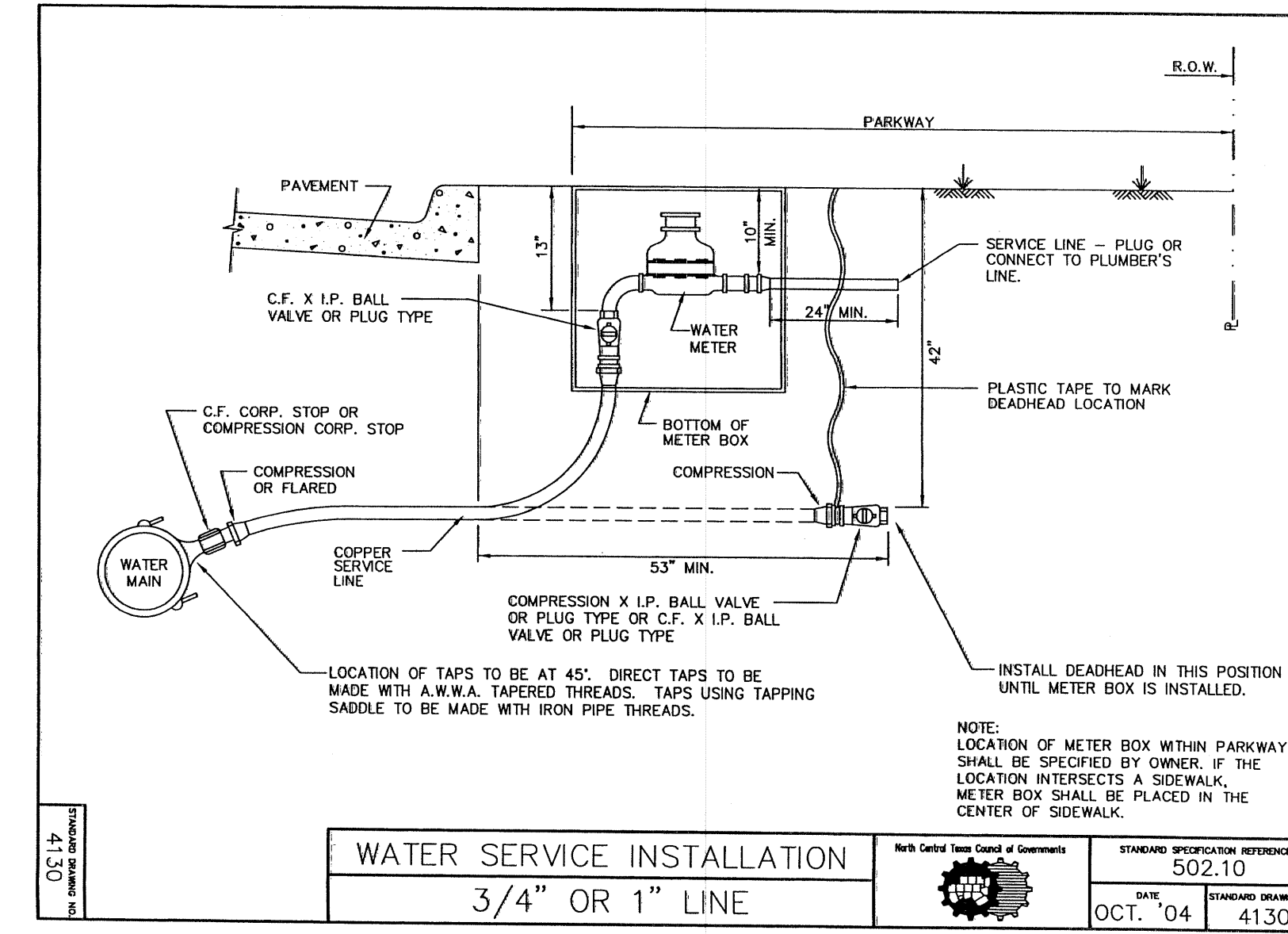
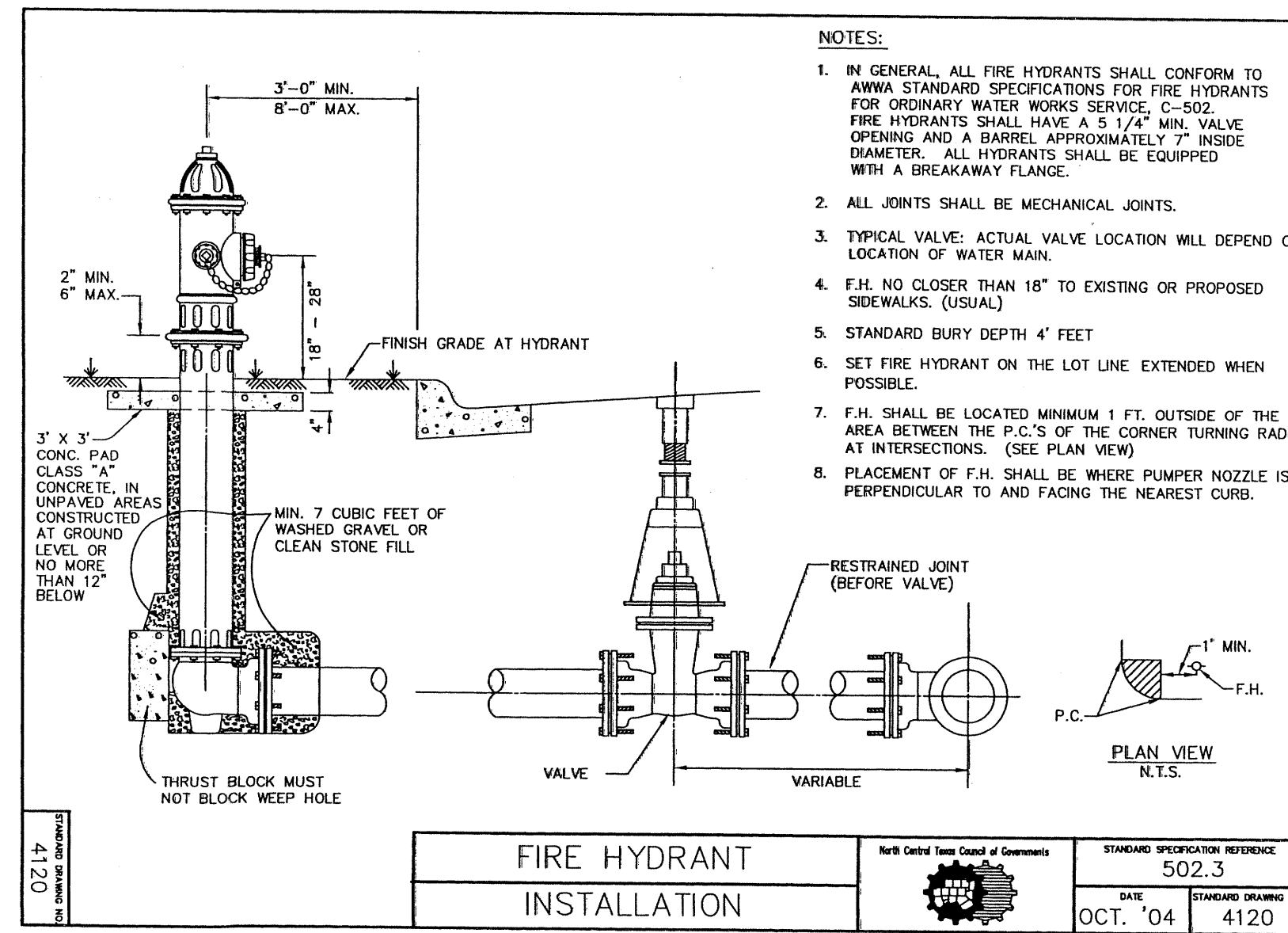
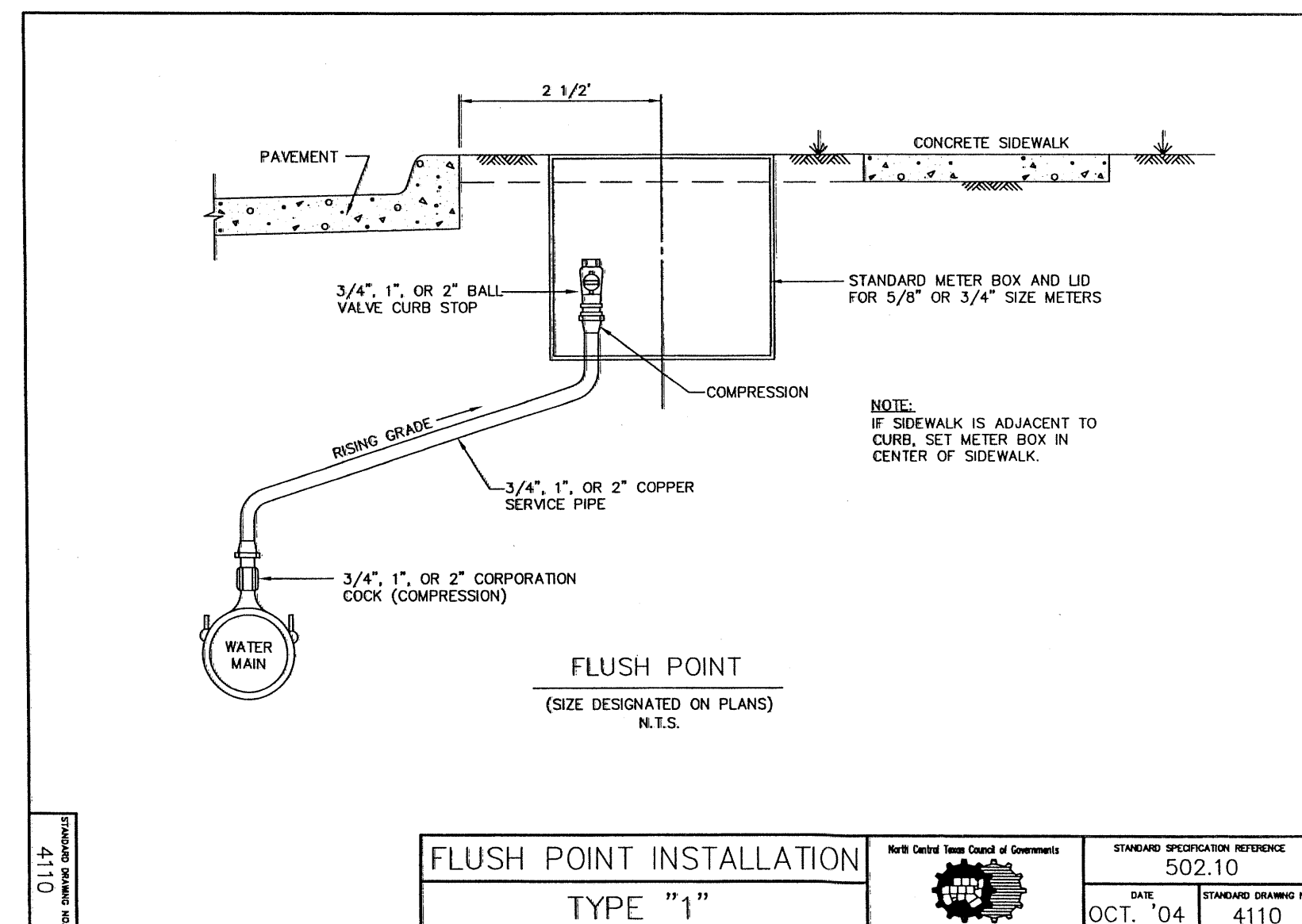
**HELMBERGER ASSOCIATES, INC.**  
CIVIL AND ENVIRONMENTAL ENGINEERS  
1525 BOZMAN ROAD, WYLIE, TEXAS 75098 (972) 442-7459

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
HELM.	CADD	AUG. 28, 2013	1"=80'	ECBORDER.DGN	1329	C5





WATER DETAIL SHEET						
WINDING CREEK RESERVE						
J. ANDERSON SURVEY, ABSTRACT A-17 AND PETER F. LUCAS SURVEY, ABSTRACT A-537						
CITY OF LUCAS, TEXAS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
HELM.	CADD	AUG. 28, 2013	1"=60'	DETAIL BORDER .DGN	1329	D1



WATER DETAIL SHEET						
WINDING CREEK RESERVE						
J. ANDERSON SURVEY, ABSTRACT A-17 AND PETER F. LUCAS SURVEY, ABSTRACT A-537						
CITY OF LUCAS, TEXAS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
HELM.	CADD	AUG. 28, 2013	1"=60'	DETAIL BORDER .DGN	1329	D2