MEADOWBROOK DRIVE

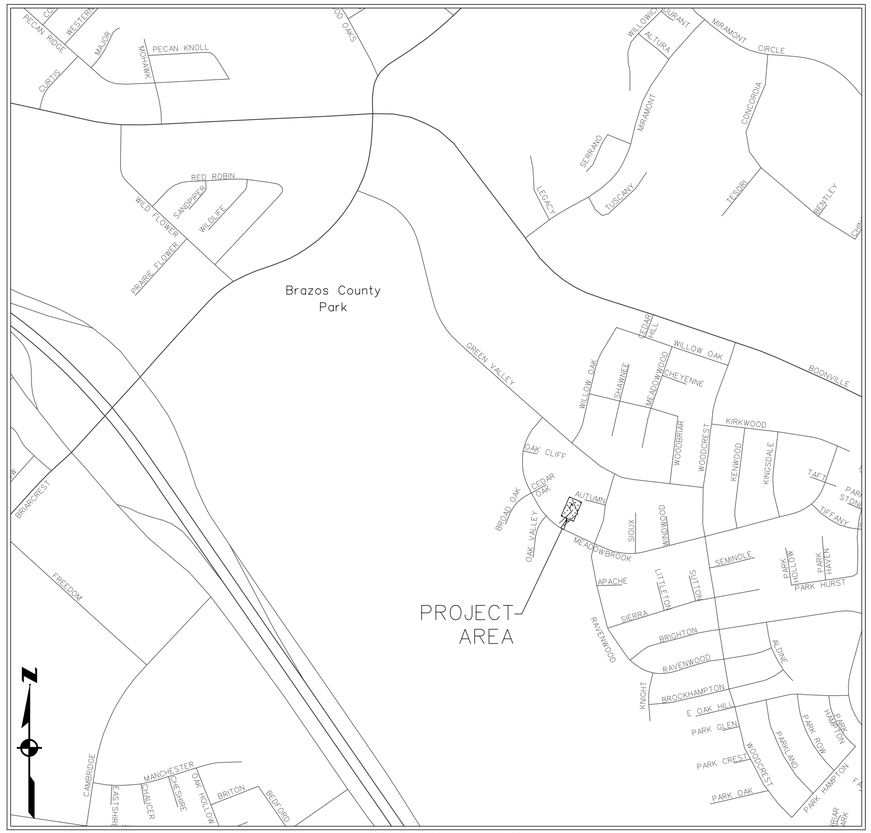
CREEK REHABILITATION

CIP NO. 425-D2-0913

CITY OF BRYAN
CITY COUNCIL

MARK CONLEE	– MAYOR
AL SAENZ	– SINGLE MEMBER DISTRICT 1
PAUL MADISON	– SINGLE MEMBER DISTRICT 2
JASON BIENSKI	– SINGLE MEMBER DISTRICT 3
ANN M. HORTON	– SINGLE MEMBER DISTRICT 4
ART HUGHES	– SINGLE MEMBER DISTRICT 5
MIKE SOUTHERLAND	– PLACE 6 – AT LARGE

PAUL KASPAR, P.E.	– CITY ENGINEER
JOSH KERCHO, E.I.T.	– PROJECT MANAGER



LOCATION MAP
N.T.S.

DRAWING INDEX

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2	EXISTING CONDITIONS
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G	STANDARD GABION DETAILS

GENERAL NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXACT DEPTH AND LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING ANY WORK. ALL UTILITIES SHOWN ARE APPROXIMATE LOCATIONS ONLY.
2. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION--INCLUDING:
   WATER SERVICES & WASTEWATER SERVICES: 209-5900
   ELECTRICAL SERVICES (BTU): 821-5830
   ATMOS GAS: 775-1624
   DIG TESS: 1-800-344-8377
   SUDDENLINK: 776-7766
3. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING, SHORING, BRACING, ETC. WHERE TRENCH DEPTH EXCEEDS 5 FEET.
4. TRENCH SAFETY SHALL BE IN ACCORDANCE WITH OSHA STANDARD 29 CFR PART 1926 P.
5. TRENCHING AND BACKFILL IN ALL STRUCTURAL AND NON-STRUCTURAL AREAS SHALL BE IN ACCORDANCE WITH THE TYPICAL TRENCH DETAIL FOUND IN THE CONSTRUCTIONS STANDARD DETAILS. STRUCTURAL BACKFILL SHALL BE PLACED IN ALL ROAD AND DRIVE EXCAVATIONS.
6. ALL OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO FENCES, CURBS AND SIGNS SHALL BE REPLACED TO ORIGINAL CONDITION OR TUNNELED AS DIRECTED BY THE ENGINEER. COST IS SUBSIDIARY TO ALL BID ITEMS.
7. CONTRACTOR WILL PROVIDE SEDIMENT CONTROL MEASURES SUCH AS SILT FENCING AND HAY BALES AROUND STORM SEWER INLETS AND MAINTAIN APPROPRIATE SWPPP PLANS ONSITE IN ACCORDANCE WITH TCEQ REQUIREMENTS.
8. CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS FREE OF MUD, SILT, ETC. AT ALL TIMES DURING CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH BTU FOR ALL RELOCATIONS OF UTILITY POLES.

JULY 2009

CITY OF BRYAN
The Good Life, Texas Style.

STATE OF TEXAS
ALTON ROGERS
50833
LICENSED
PROFESSIONAL ENGINEER

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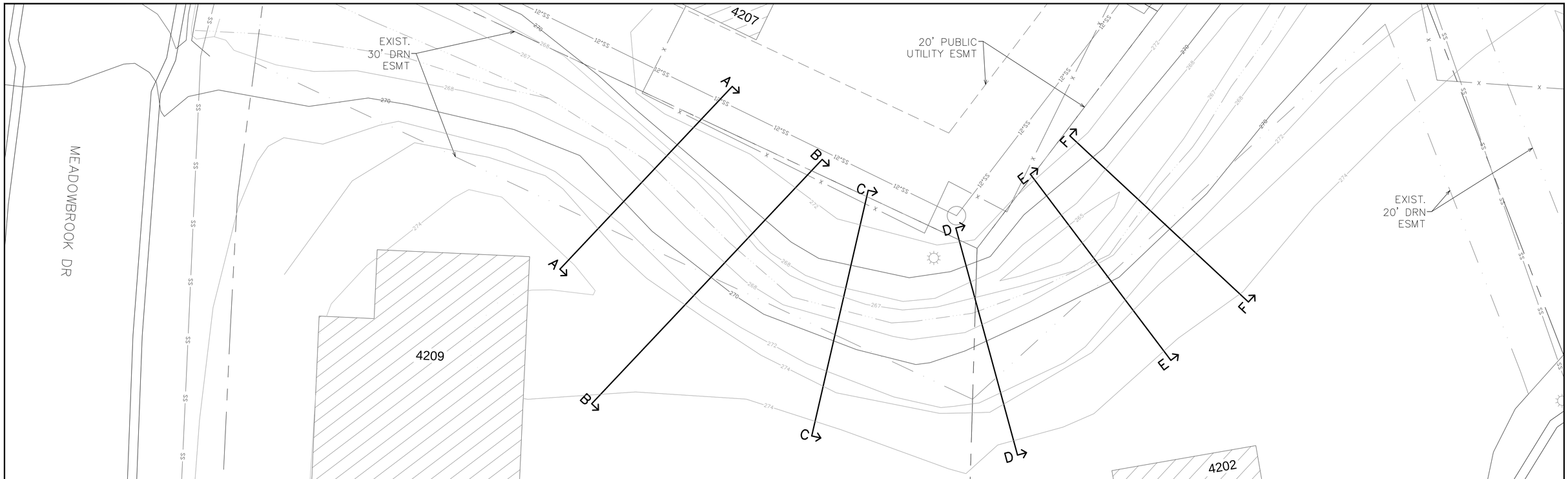
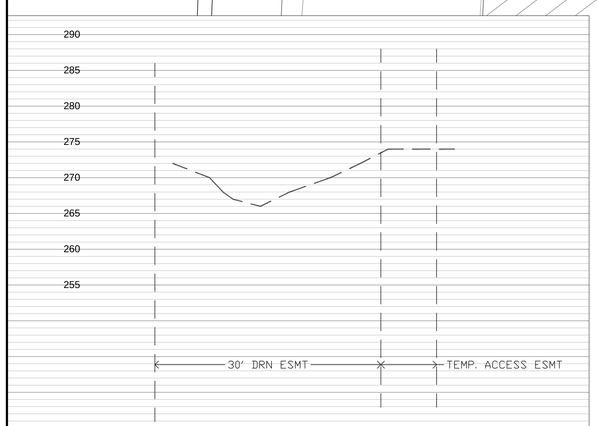
MEADOWBROOK DRIVE CREEK REHABILITATION	
DRAWN BY:	J.D.G.
DATE:	07/2009
APPR BY:	A.G.R.
SCALE:	
PROJECT NO:	425-D2-0913

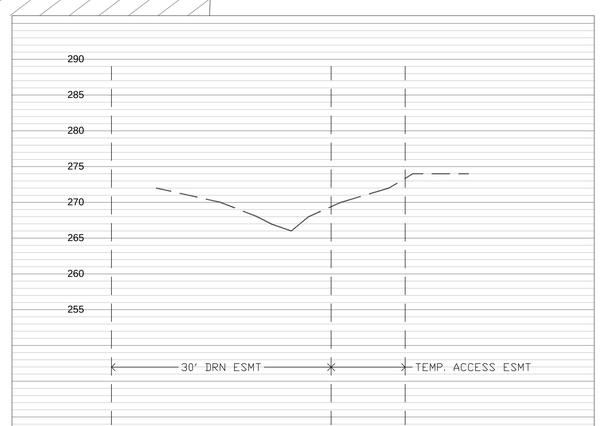
REV.	DATE	DESCRIPTION

SHEET 1 OF 3





SECTION A-A



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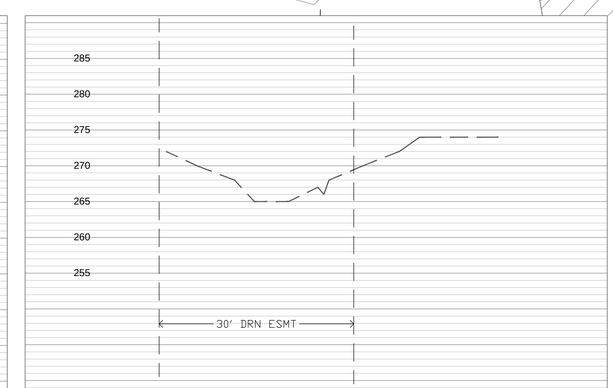

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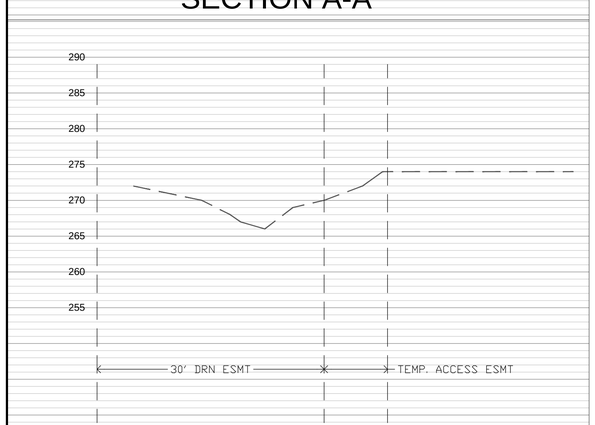

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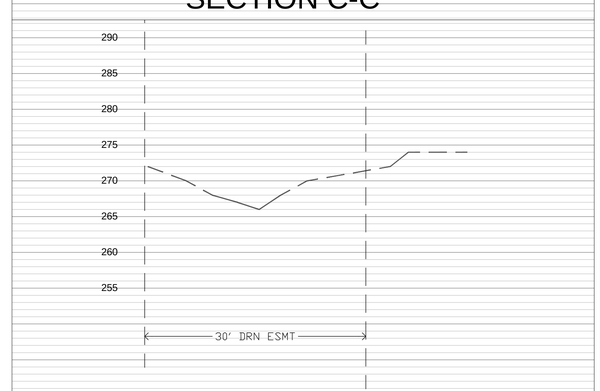

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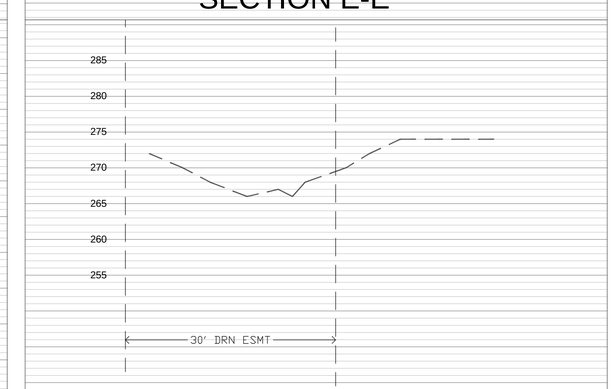

SECTION F-F

STATE OF TEXAS
ALTON ROGERS
50833
LICENSED
PROFESSIONAL ENGINEER

CITY OF BRYAN
Partners for Better

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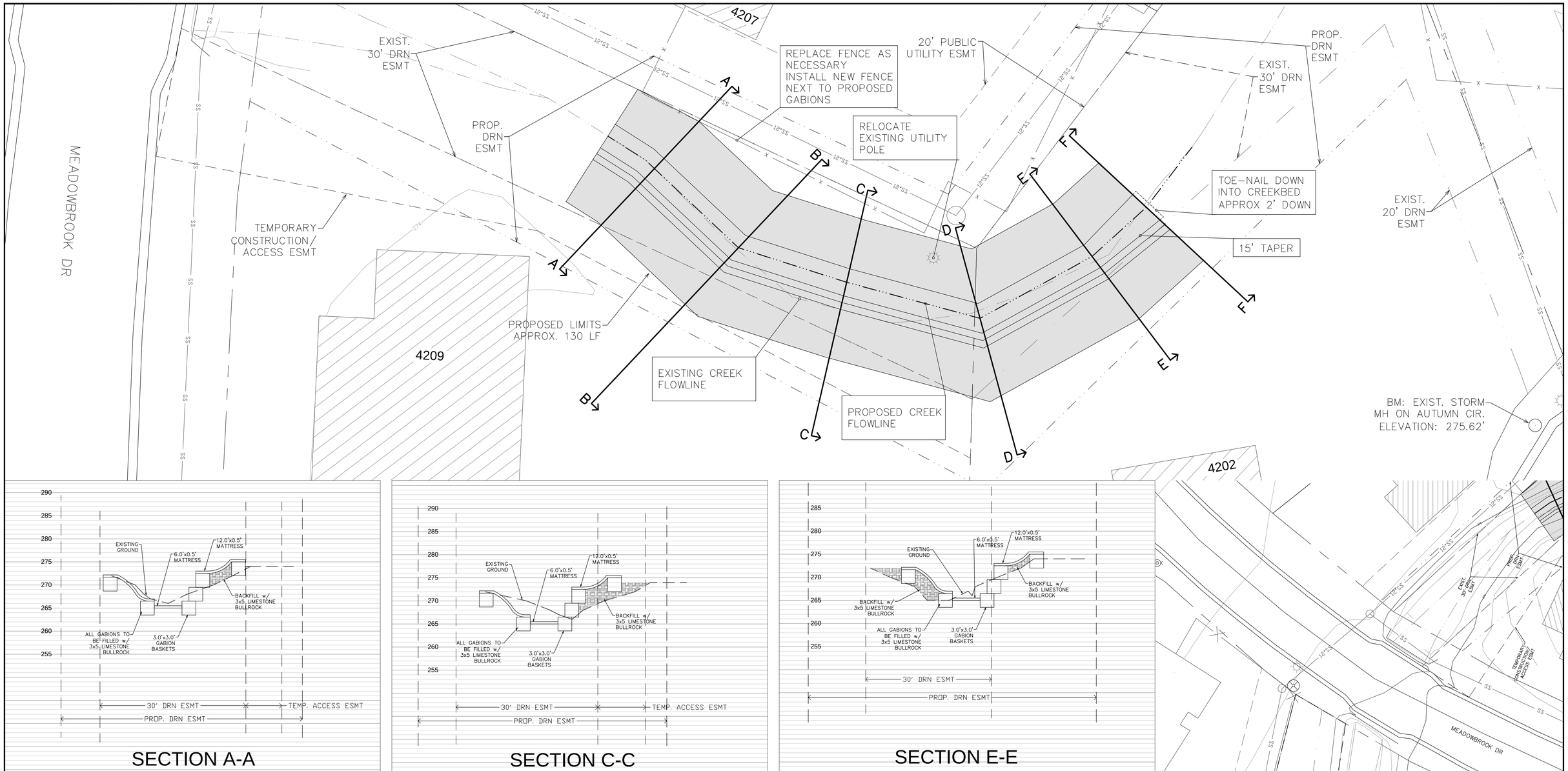
MEADOWBROOK DR CREEK REHAB
EXISTING CONDITIONS

DRAWN BY:	J.D.G.
DATE:	07/2009
APPR BY:	A.G.R.
SCALE:	1"=10'H 1"=10'V
PROJECT NO:	425-D2-0913

REV.	DATE	DESCRIPTION

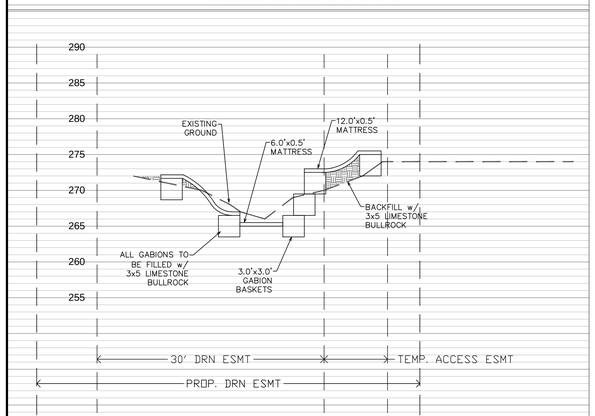
SHEET 2 OF 3



SECTION A-A

SECTION C-C

SECTION E-E



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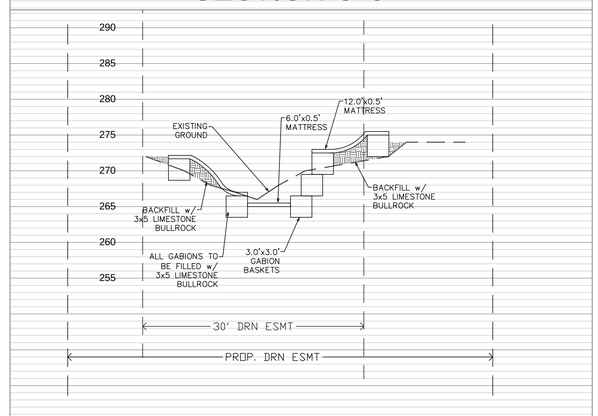

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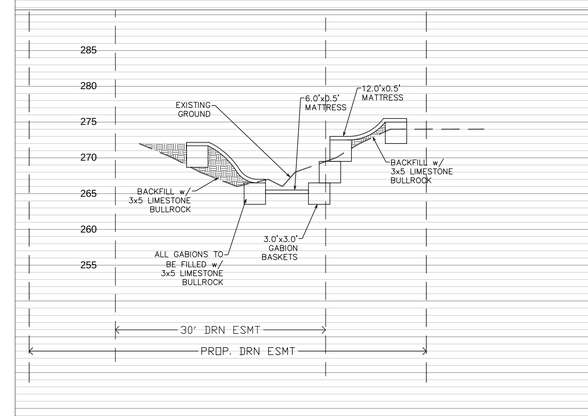

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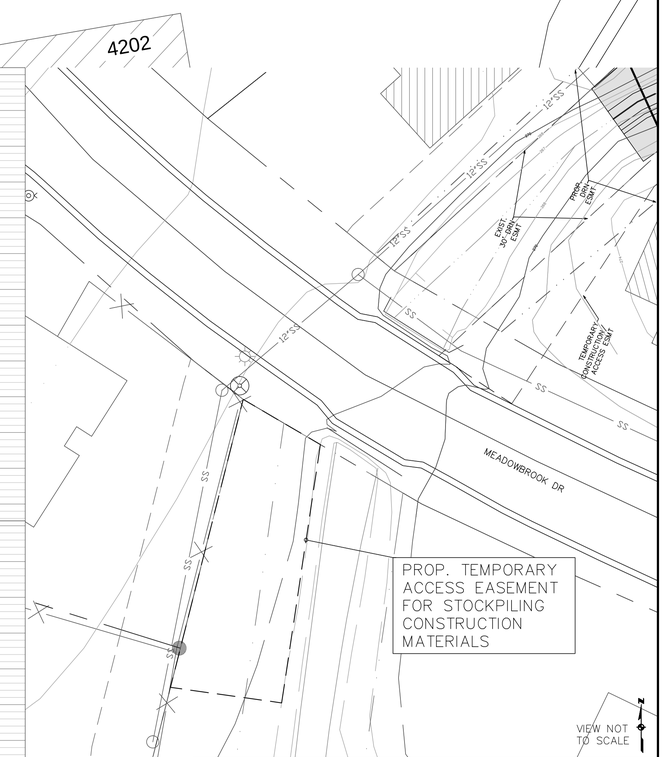

STATE OF TEXAS
ALTON ROGERS
50833
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CITY OF BRYAN
Bryan/College Station

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MEADOWBROOK DR CREEK REHAB
PROPOSED MODIFICATIONS

DRAWN BY:	J.D.G.
DATE:	7/2009
APPR BY:	A.G.R.
SCALE:	1"=10'H 1"=10'V
PROJECT NO:	425-D2-0913

REV.	DATE	DESCRIPTION

SHEET 3 OF 3

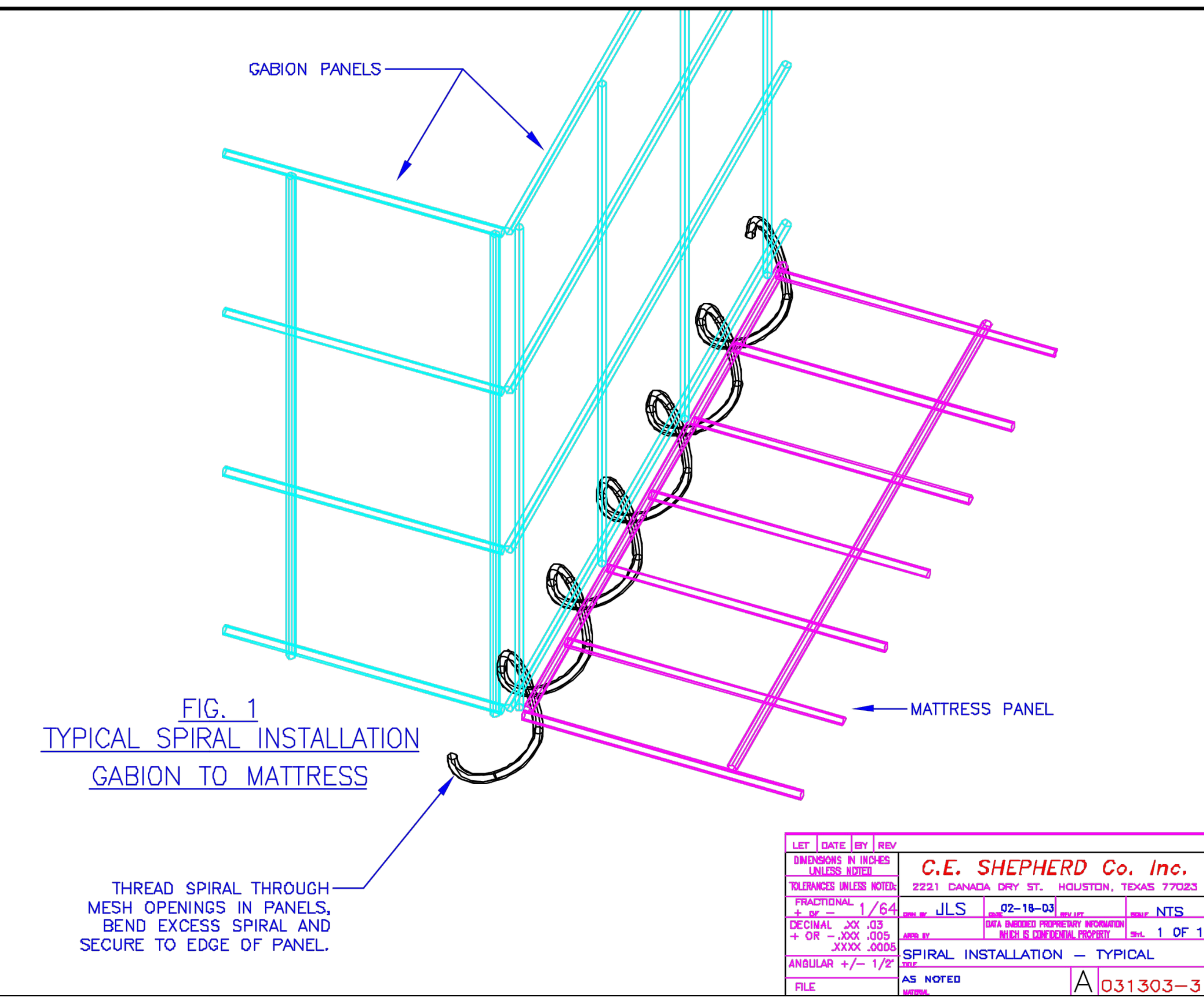
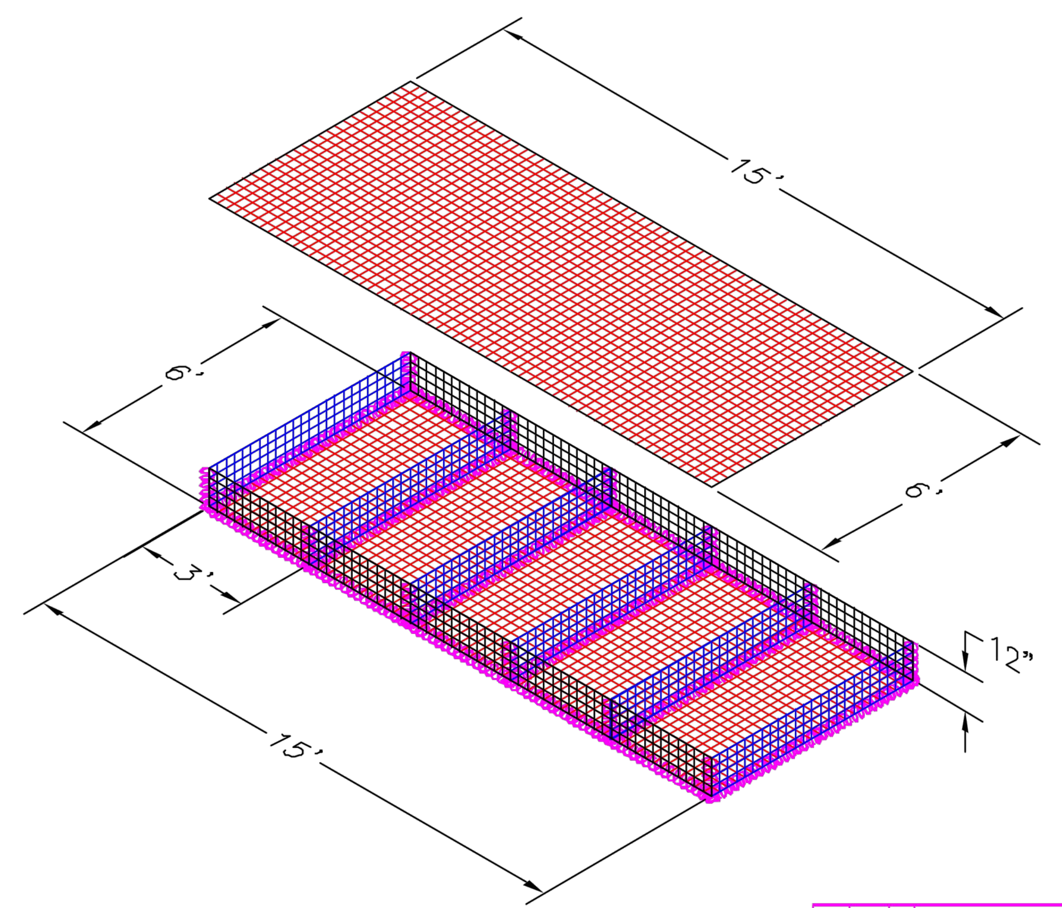
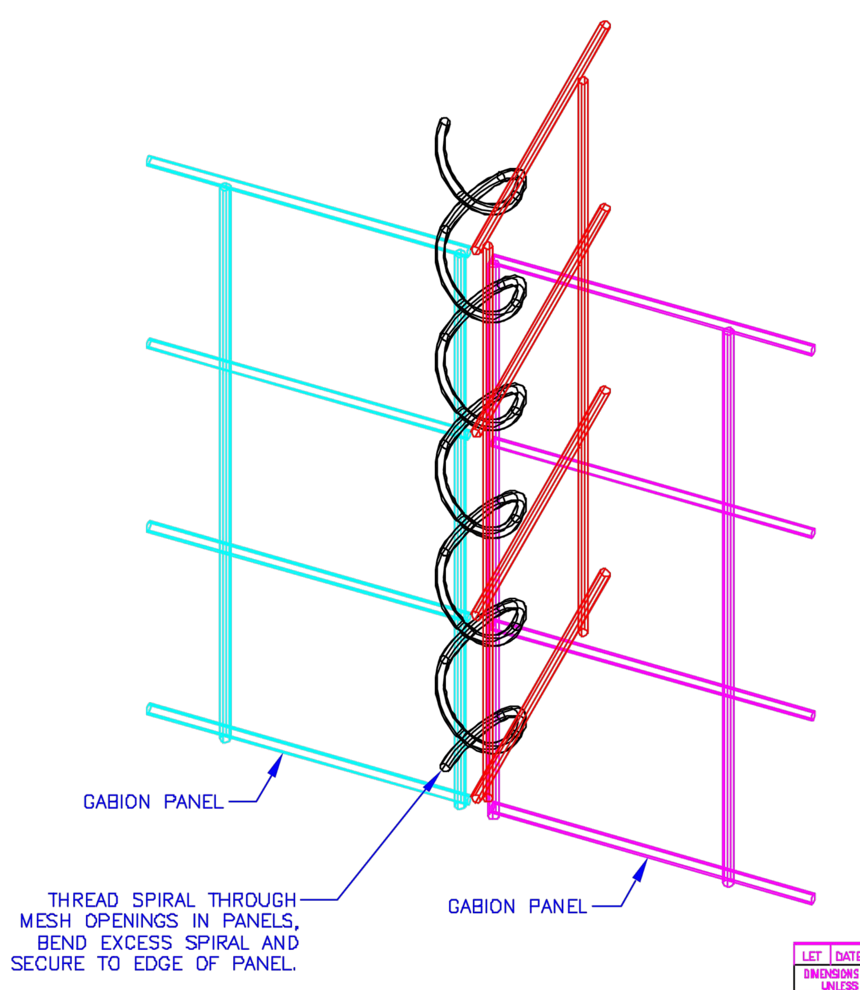


FIG. 1
TYPICAL SPIRAL INSTALLATION
GABION TO MATTRESS

C.E. SHEPHERD Co. Inc. — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JLS — 02-19-03 — NTS — 1 OF 1 — SPIRAL INSTALLATION – TYPICAL — AS NOTED — A 031303-3

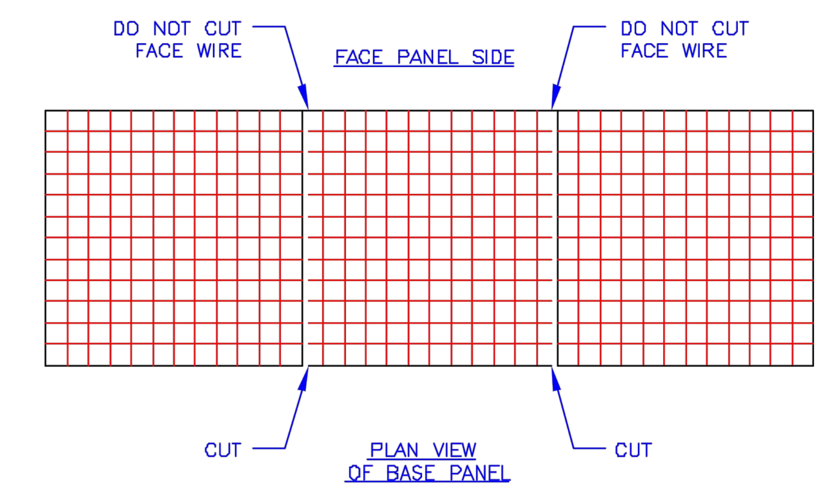


Modular Gabion Systems — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JS — 09-21-04 — 1:36 — 15'x6' — AS NOTED — A



TYPICAL SPIRAL INSTALLATION
GABION TO GABION

C.E. SHEPHERD Co. Inc. — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JLS — 02-19-03 — NTS — 1 OF 1 — SPIRAL INSTALLATION – TYPICAL — AS NOTED — A 031303-2



PLAN VIEW
OF BASE PANEL

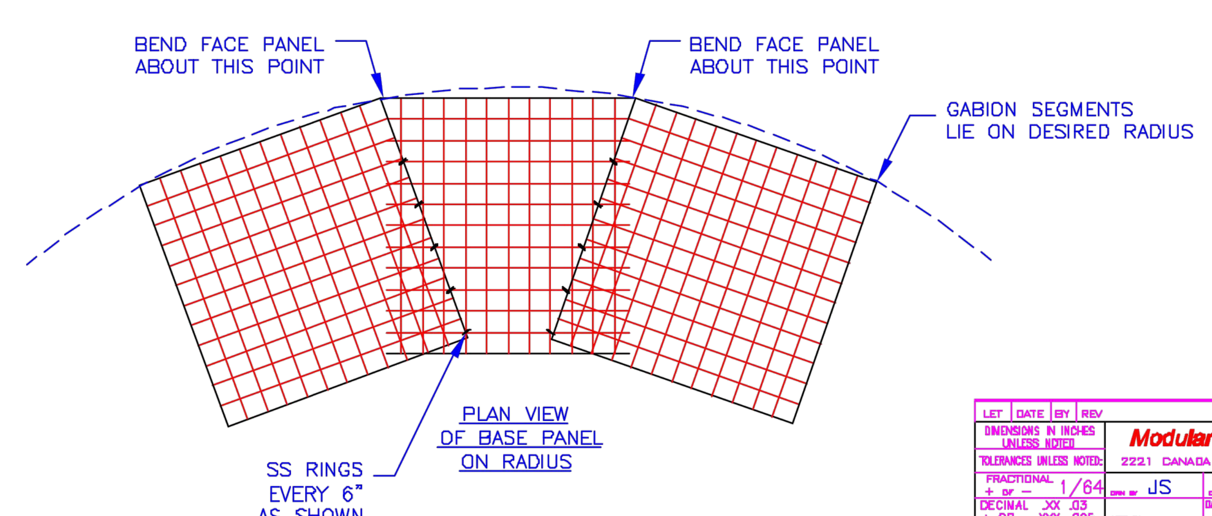
PROCEDURE FOR FITTING GABIONS TO A RADIUS.

1. CUT BASE PANEL FROM BACK TO FACE. CUT ALL WIRES EXCEPT FRONT EDGE WIRE OF BASE PANEL.

2. BEND FACE PANEL TO DESIRED RADIUS BY OVERLAPPING THE SEGMENTS OF THE BASE PANEL*

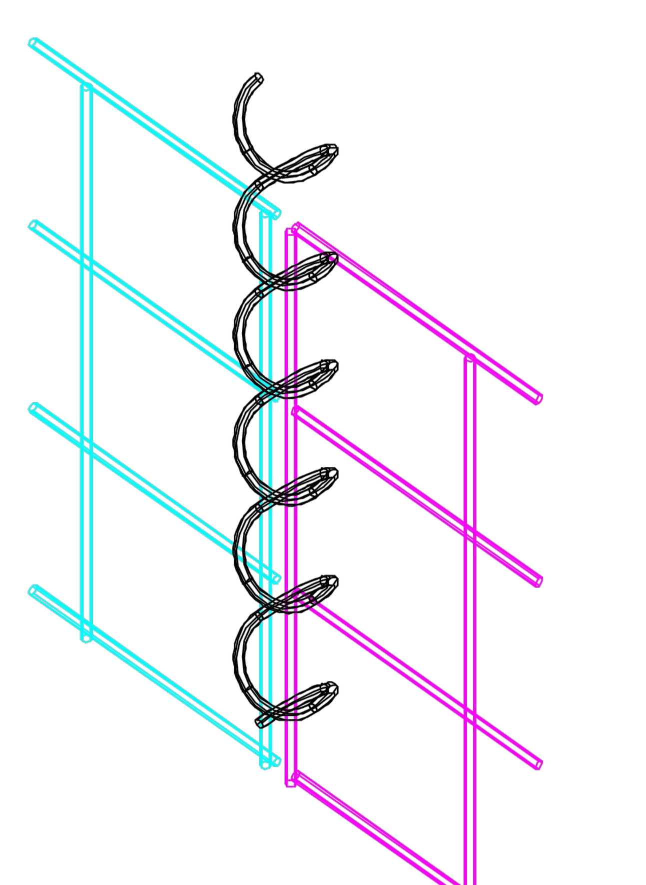
3. FASTEN THE SEGMENTS OF THE BASE PANEL IN PLACE WITH SS RINGS.

* CUTTING, BENDING AND OVERLAPPING OF THE FACE PANEL MAY ALSO BE NECESSARY IF THE FACE PANEL IS OTHER THAN VERTICAL.



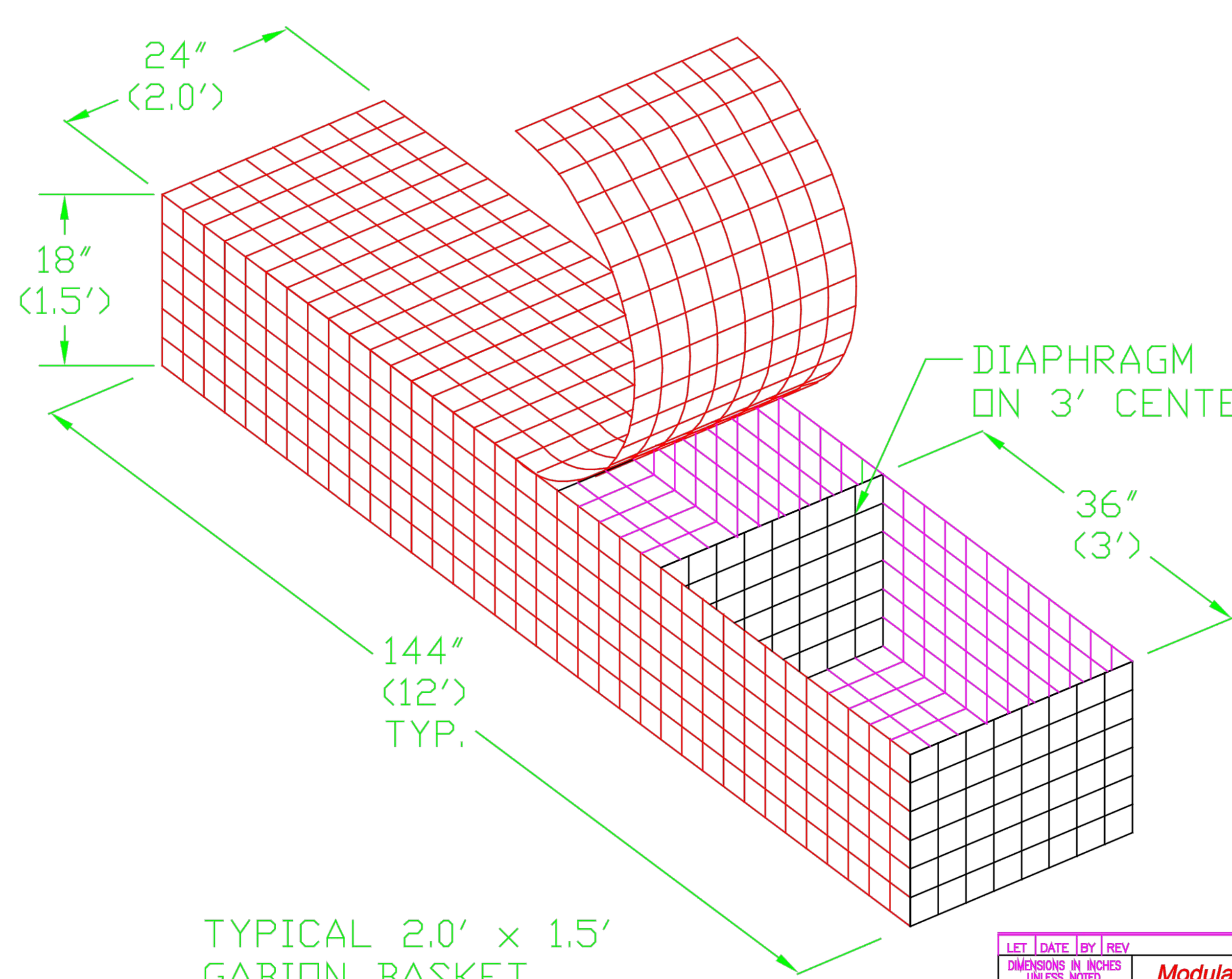
PLAN VIEW
OF BASE PANEL
ON RADIUS

Modular Gabion Systems — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JS — 07-23-04 — NTS — 1 OF 1 — RADIUS TURN DETAIL — AS NOTED — A 072304-1



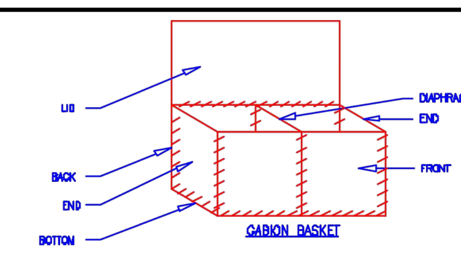
SPIRAL INSTALLATION

C.E. SHEPHERD Co. Inc. — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JLS — 01-13-03 — NTS — 1 OF 1 — SPIRAL INSTALLATION – TYPICAL — AS NOTED — A 031303-1



TYPICAL 2.0' x 1.5'
GABION BASKET

Modular Gabion Systems — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JS — 102802 — NTS — 1 OF 1 — TYPICAL GABION 2x1.5 — As Noted — FILE GAB — A 102802-A



GABION BASKET

TABLE 1. TYPICAL GABION BASKET SIZES

LENGTH FT	LENGTH M	WIDTH FT	WIDTH M	HEIGHT FT. FT	HEIGHT FT. M	NUMBER OF CELLS	VOLUME FT³	VOLUME M³
6	1.83	3	0.91	3	0.91	2	54	1.53
9	2.74	3	0.91	3	0.91	3	81	2.29
12	3.66	3	0.91	3	0.91	4	108	3.06
6	1.83	3	0.91	3	0.91	2	27	0.76
9	2.74	3	0.91	3	0.91	3	41	1.15
12	3.66	3	0.91	3	0.91	4	54	1.53
6	1.83	3	0.91	3	0.91	2	18	0.50
9	2.74	3	0.91	3	0.91	3	27	0.76
12	3.66	3	0.91	3	0.91	4	36	1.02

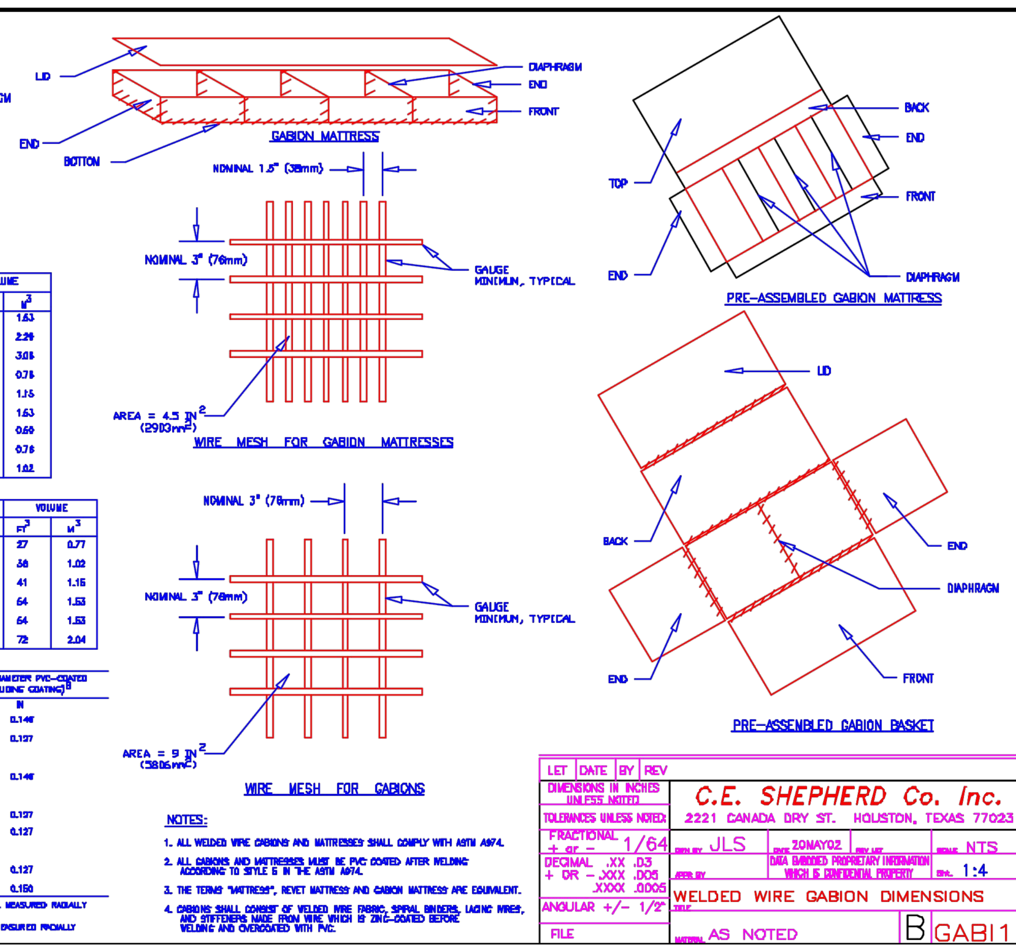
TABLE 2. TYPICAL GABION MATTRESS SIZES

LENGTH FT	LENGTH M	WIDTH FT	WIDTH M	HEIGHT FT. FT	HEIGHT FT. M	NUMBER OF CELLS	AREA FT²	AREA M²	VOLUME FT³	VOLUME M³
9	2.74	6	1.83	0.5	0.15	3	54	5.02	27	0.77
12	3.66	6	1.83	0.5	0.15	4	72	6.69	36	1.02
9	2.74	6	1.83	0.75	0.23	3	54	5.02	41	1.16
12	3.66	6	1.83	0.75	0.23	4	72	6.69	54	1.53
9	2.74	6	1.83	1.0	0.30	3	54	5.02	54	1.53
12	3.66	6	1.83	1.0	0.30	4	72	6.69	72	2.04

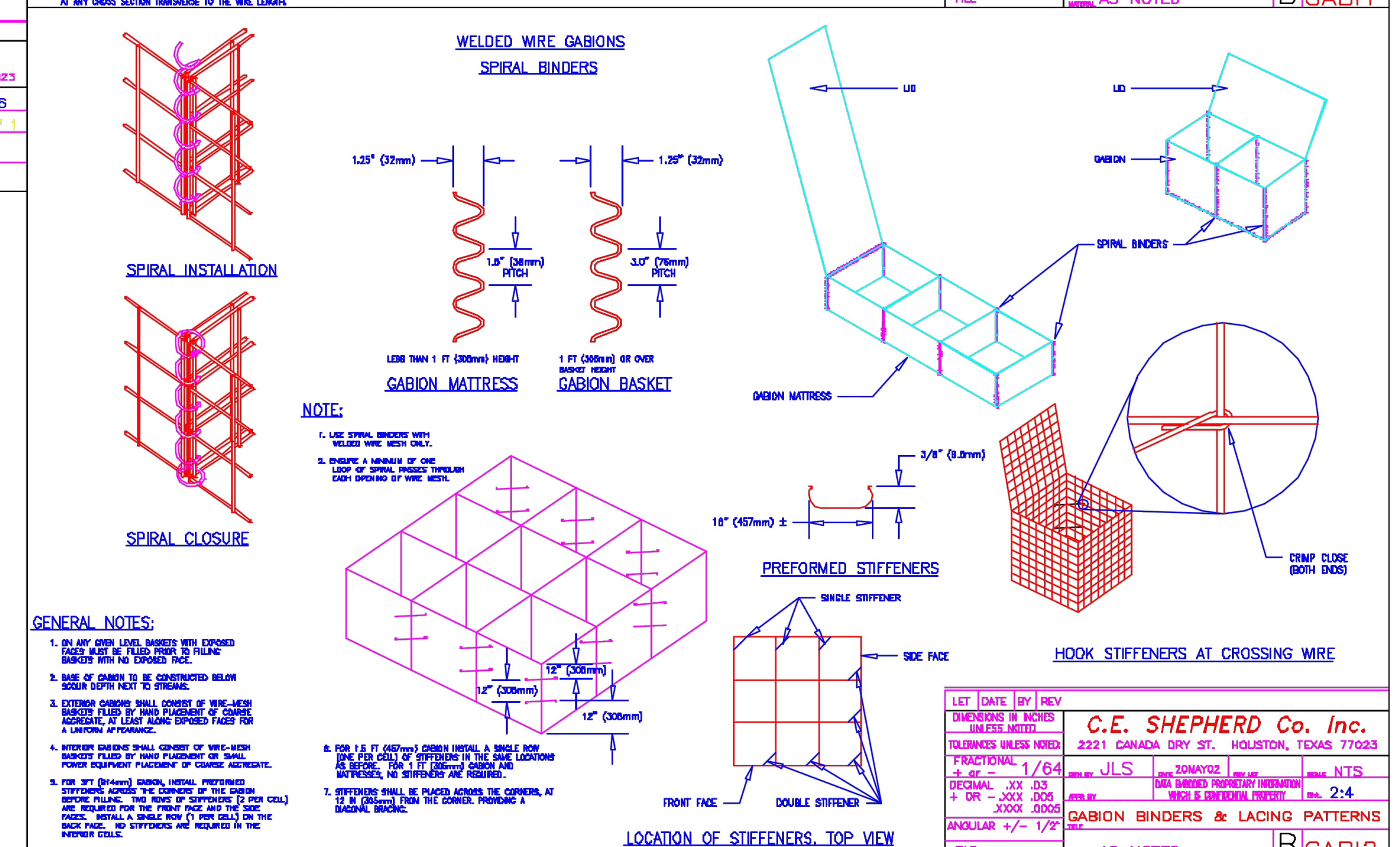
TABLE 3. WIRE DIAMETERS

	MINIMUM DIAMETER PVC-COATED WIRE (INCLUDING COATING)[A] IN	MINIMUM DIAMETER PVC-COATED WIRE (INCLUDING COATING)[B] IN
WIRE FOR PVC-COATED GABIONS	0.136	0.146
WIRE FOR GABION MATTRESSES	0.117	0.127
SPIRAL BINDERS FOR GABIONS		
PVC-COATED	0.136	0.146
SPIRAL BINDERS FOR GABION MATTRESSES		
PVC-COATED	0.117	0.127
LACING WIRE	0.117	0.127
STIFFENERS:		
LACING WIRE	0.117	0.127
PREFORMED	0.150	0.150

[A] THE MINIMUM THICKNESS OF PVC WHICH COVERS THE WIRE SHALL BE 15 MILS (0.015 IN OR 0.38MM), MEASURED RADIALLY AT ANY CROSS SECTION TRANSVERSE TO THE WIRE LENGTH.
[B] THE NOMINAL THICKNESS OF PVC WHICH COVERS THE WIRE SHALL BE 20 MILS (.020 IN OR .51MM), MEASURED RADIALLY AT ANY CROSS SECTION TRANSVERSE TO THE WIRE LENGTH.



C.E. SHEPHERD Co. Inc. — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JLS — NTS — 1:4 — WELDED WIRE GABION DIMENSIONS — AS NOTED — B GAB11



C.E. SHEPHERD Co. Inc. — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JLS — NTS — 2-4 — GABION BINDERS & LACING PATTERNS — AS NOTED — B GAB12

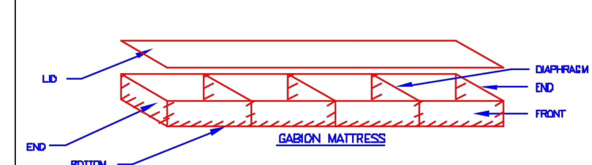


TABLE 1. TYPICAL GABION MATTRESS SIZES

LENGTH FT	LENGTH m	WIDTH FT	WIDTH m	HEIGHT FT. FT	HEIGHT FT. m	NUMBER OF CELLS	AREA FT²	AREA m²	VOLUME FT³	VOLUME m³
9	2.74	6	1.83	0.5	0.15	3	54	5.02	27	0.77
12	3.66	6	1.83	0.5	0.15	4	72	6.69	36	1.02
12	3.66	12	3.66	0.5	0.15	8	144	13.38	72	2.03
9	2.74	6	1.83	0.75	0.23	3	54	5.02	41	1.15
12	3.66	6	1.83	0.75	0.23	4	72	6.69	54	1.53
12	3.66	12	3.66	0.75	0.23	8	144	13.38	108	3.06
9	2.74	6	1.83	1.0	0.30	3	54	5.02	54	1.53
12	3.66	6	1.83	1.0	0.30	4	72	6.69	72	2.04
12	3.66	12	3.66	1.0	0.30	8	144	13.38	144	4.08

TABLE 2. WIRE DIAMETERS

	MINIMUM DIAMETER PVC-COATED WIRE (INCLUDING COATING)[A] IN	MINIMUM DIAMETER PVC-COATED WIRE (INCLUDING COATING)[B] IN
WIRE FOR GABION MATTRESSES	0.117	0.127
SPIRAL BINDERS FOR GABION MATTRESSES		
PVC-COATED	0.117	0.127
LACING WIRE	0.117	0.127

[A] THE MINIMUM THICKNESS OF PVC WHICH COVERS THE WIRE SHALL BE 15 MILS (0.015 IN OR 0.38MM), MEASURED RADIALLY AT ANY CROSS SECTION TRANSVERSE TO THE WIRE LENGTH.
[B] THE NOMINAL THICKNESS OF PVC WHICH COVERS THE WIRE SHALL BE 20 MILS (.020 IN OR .51MM), MEASURED RADIALLY AT ANY CROSS SECTION TRANSVERSE TO THE WIRE LENGTH.

TABLE 3. SPECIFICATIONS

CONSTRUCTION OF MATTRESS:	MEETS ASTM A974-97
MESH SIZE:	1 1/2" x 3"
WIRE:	13 1/2 GAUGE LOW CARBON SOFT TEMPER
METALLIC COATING:	MEETS ASTM A641, CLASS III GALVANIZED
PLASTIC COATING:	FUSE-BONDED PVC POWDER COATING
FILTER FABRIC MEMBRANE:	VARIES WITH APPLICATION
TURF REINFORCEMENT MAT:	VARIES WITH APPLICATION

WEIGHT PER SQUARE FOOT OF ECOMATTRESS BASED UPON VOLUMES OF 70% 3"–6" LIMESTONE AND 30% SOIL FILL.

6" THICK	55 LBS. ROCK FILL ONLY / 72 LBS ROCK AND SOIL
9" THICK	82 LBS ROCK FILL ONLY / 108 LBS ROCK AND SOIL
12" THICK	110 LBS ROCK FILL ONLY / 143 LBS ROCK AND SOIL

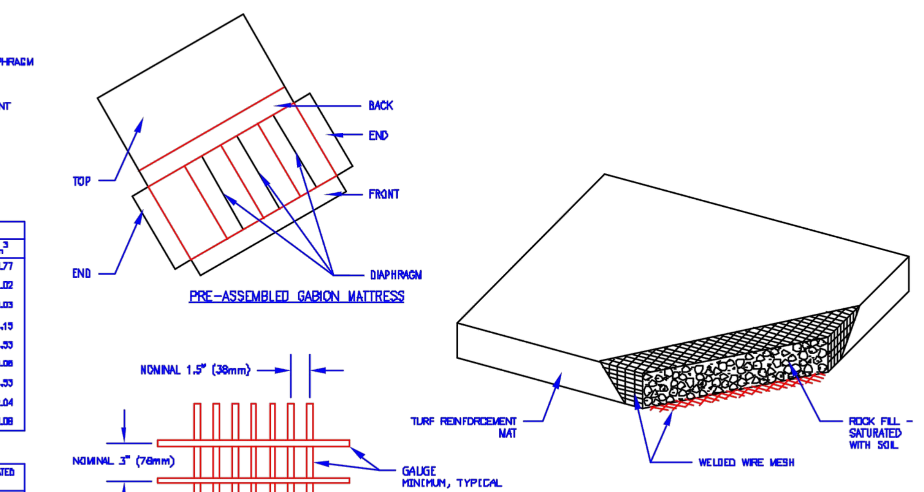
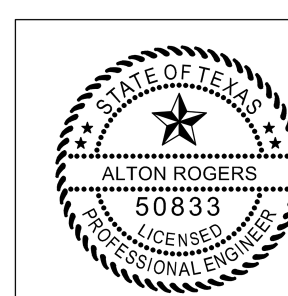


TABLE 4. TYPICAL GUIDE FOR USE
OF ECOMATTRESS ON CHANNEL REVETMENTS

MATTRESS THICKNESS in	MATTRESS THICKNESS m	STONE DIAMETER in	STONE DIAMETER cm	CRITICAL VELOCITY f/s	CRITICAL VELOCITY m/s	MAXIMUM VELOCITY f/s	MAXIMUM VELOCITY m/s
6	0.15	3	8	9	2.75	14	4.27
9	0.18	TO	TO	12	3.66	17	5.18
12	0.30	6	15	15	4.57	19	5.79

C.E. SHEPHERD Co. Inc. — 2221 CANADA DRY ST. HOUSTON, TEXAS 77023 — JLS — 13AUG03 — NTS — 1 OF 1 — DATA EMBODIED PROPRIETARY INFORMATION WHICH IS CONFIDENTIAL PROPERTY — WELDED WIRE MATTRESS DIMENSIONS — AS NOTED — B ECO1



CITY OF BRYAN

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MEADOWBROOK DR CREEK REHAB
GABION & MATTRESS DETAILS

DRAWN BY:	
DATE:	
APPR BY:	A.G.R.
SCALE:	N.T.S.
PROJECT NO:	

REV.	DATE	DESCRIPTION

SHEET G OF 4