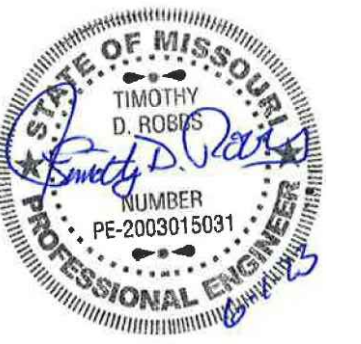


FORT LEONARD WOOD READINESS CENTER REPAIR RANGE 18A EROSION ST. ROBERT, MISSOURI

STATE OF MISSOURI
MIKE PARSON,
GOVERNOR



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PROFESSIONAL ENGINEERING
EXPIRES: 12/31/2023
EXPIRATION DATE: DECEMBER 31, 2023



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MISSOURI NATIONAL GUARD

REPAIR RANGE 18A
EROSION

FT. LEONARD WOOD
ST. ROBERT, MISSOURI

PROJECT # T-2230-01
SITE # 5017
FACILITY # 56440

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 6/1/2023

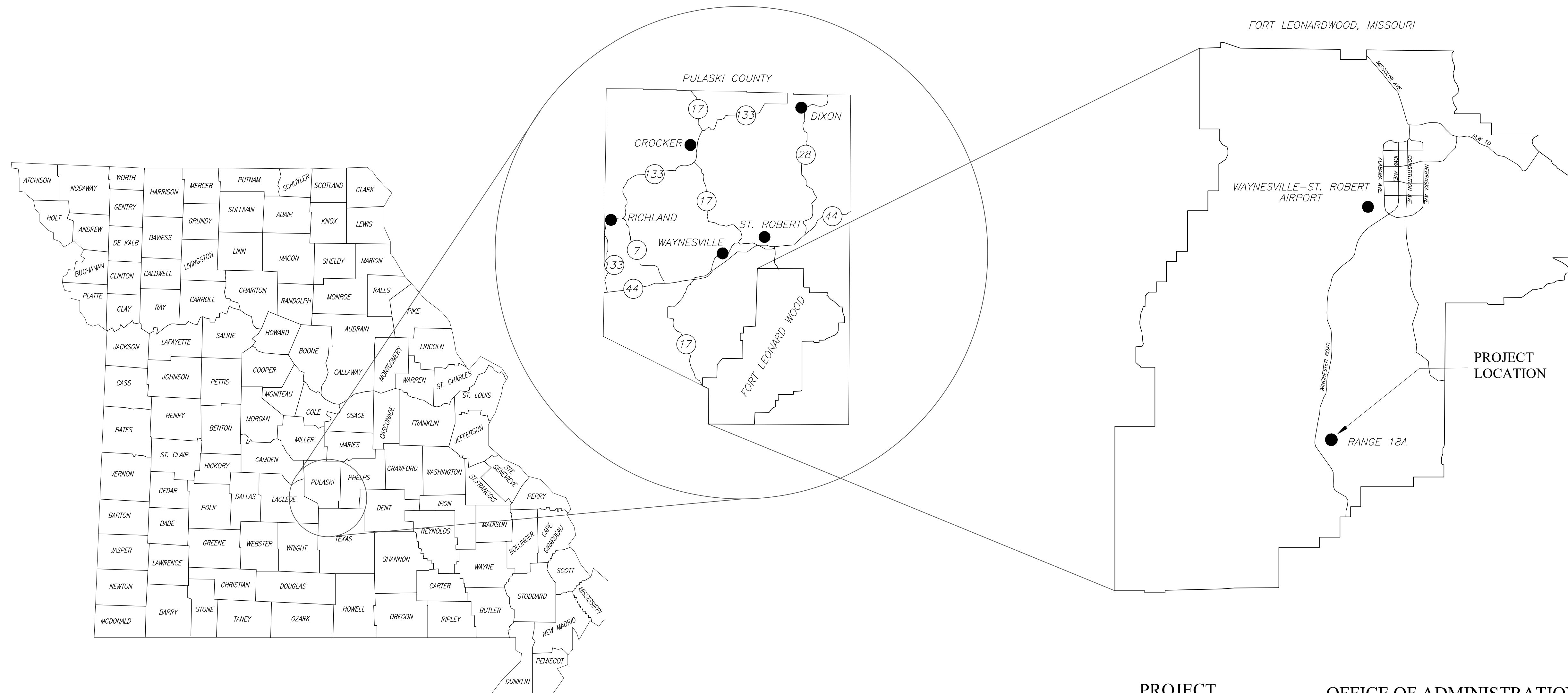
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DRAWN BY: LAW
CHECKED BY: JEG
DESIGNED BY: TDR

SHEET TITLE:
COVER SHEET

SHEET NUMBER:

G-100

SHEET 1 OF 8



LIST OF DRAWINGS

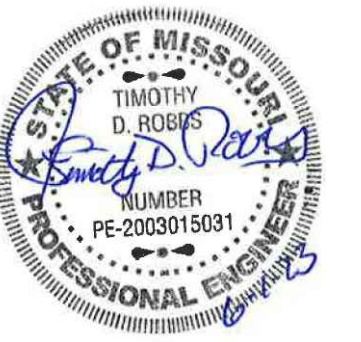
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COVER SHEET	G-100	6/1/23
AREAS OF CONCERN	C-100	6/1/23
AREA 1 IMPROVEMENTS	C-101	6/1/23
AREA 2 IMPROVEMENTS	C-102	6/1/23
AREA 3 IMPROVEMENTS	C-103	6/1/23
AREA 4 IMPROVEMENTS	C-104	6/1/23
DETAILS	C-105	6/1/23
EROSION CONTROL	C-106	6/1/23

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
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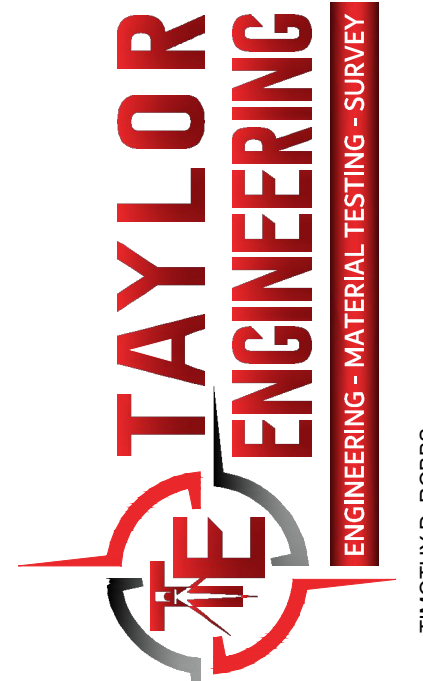
CONTRACTOR TO CONTACT FLW DPW FOR A DIG
PERMIT PRIOR TO STARTING WORK.
CONTACT PERSON: TYRONE HARRIS, 573-596-0900

PROJECT NUMBER: T2230-01
SITE NUMBER: 5017
FACILITY NUMBER: 56440



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NAME: TIMOTHY D. ROBBES
DISCIPLINE: CIVIL
LICENSE NO.: E-2000015031
EXPIRATION DATE: 12/31/2023

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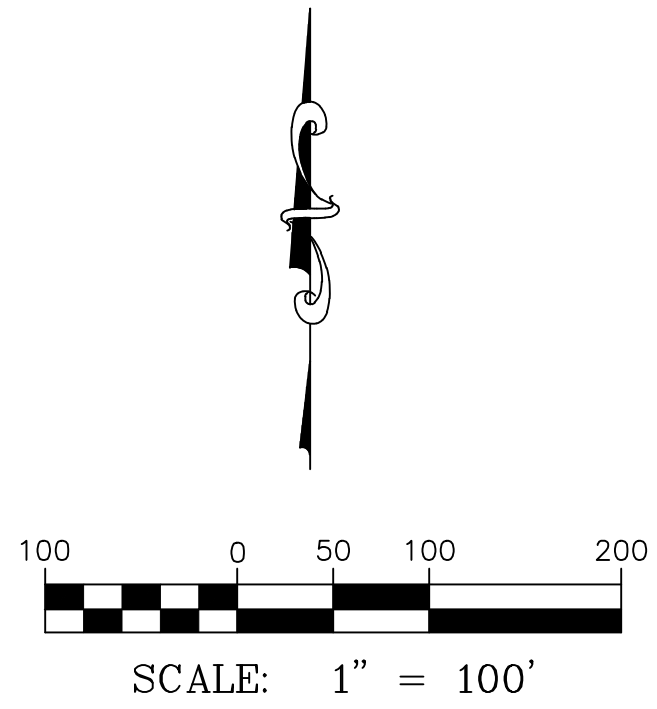
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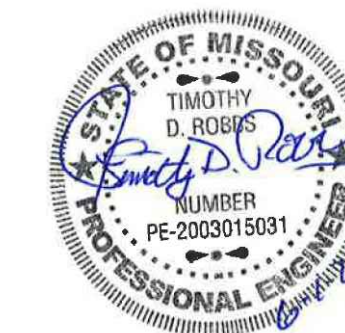
**AREAS OF
CONCERN**

SHEET NUMBER:

C-100

SHEET 2 OF 8





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 LICENSE NO. E-2003015031
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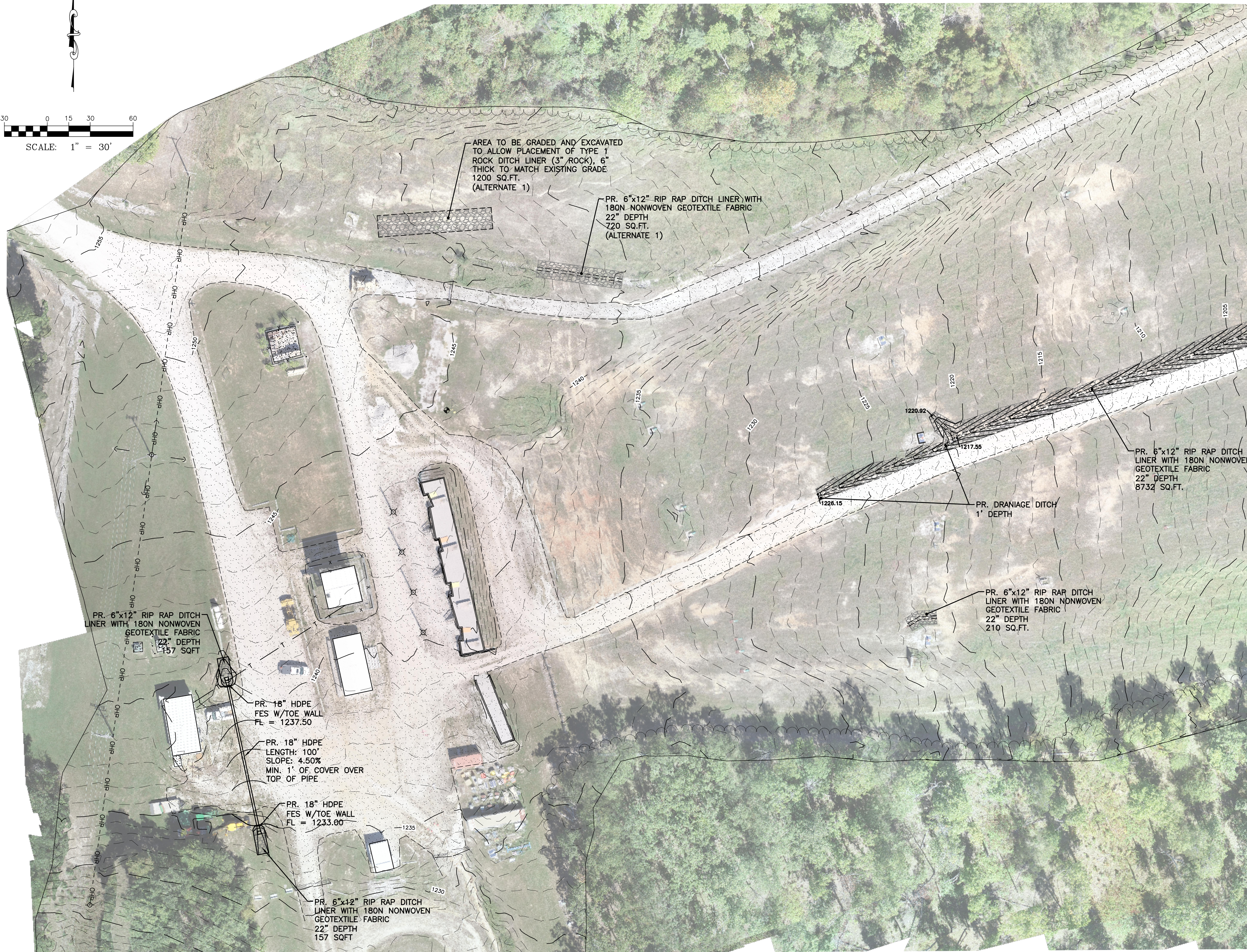
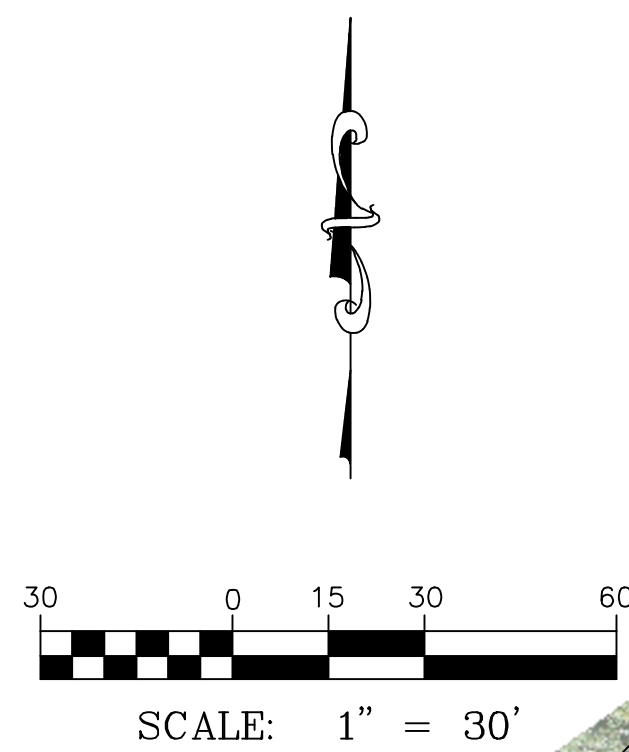
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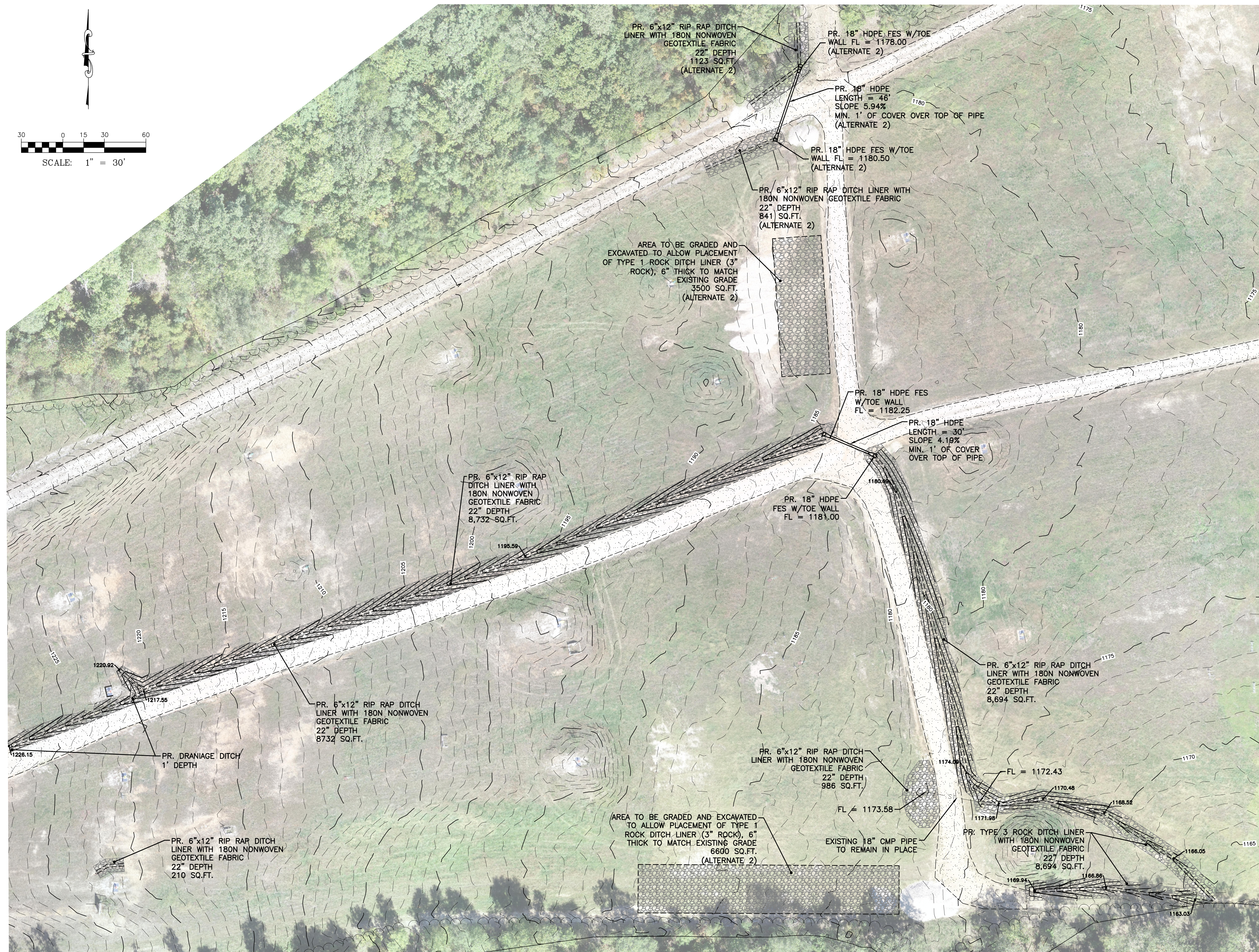
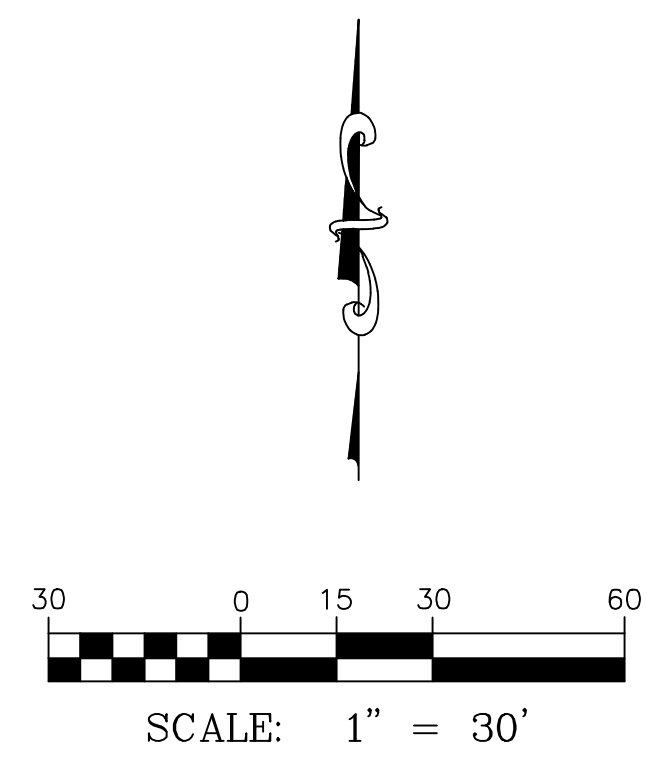
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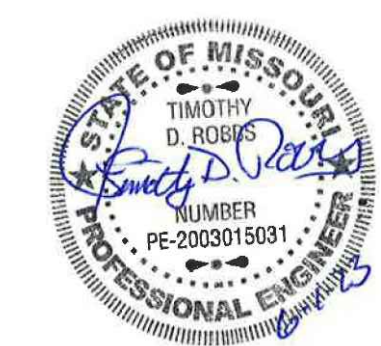
C-101

SHEET 4 OF 8





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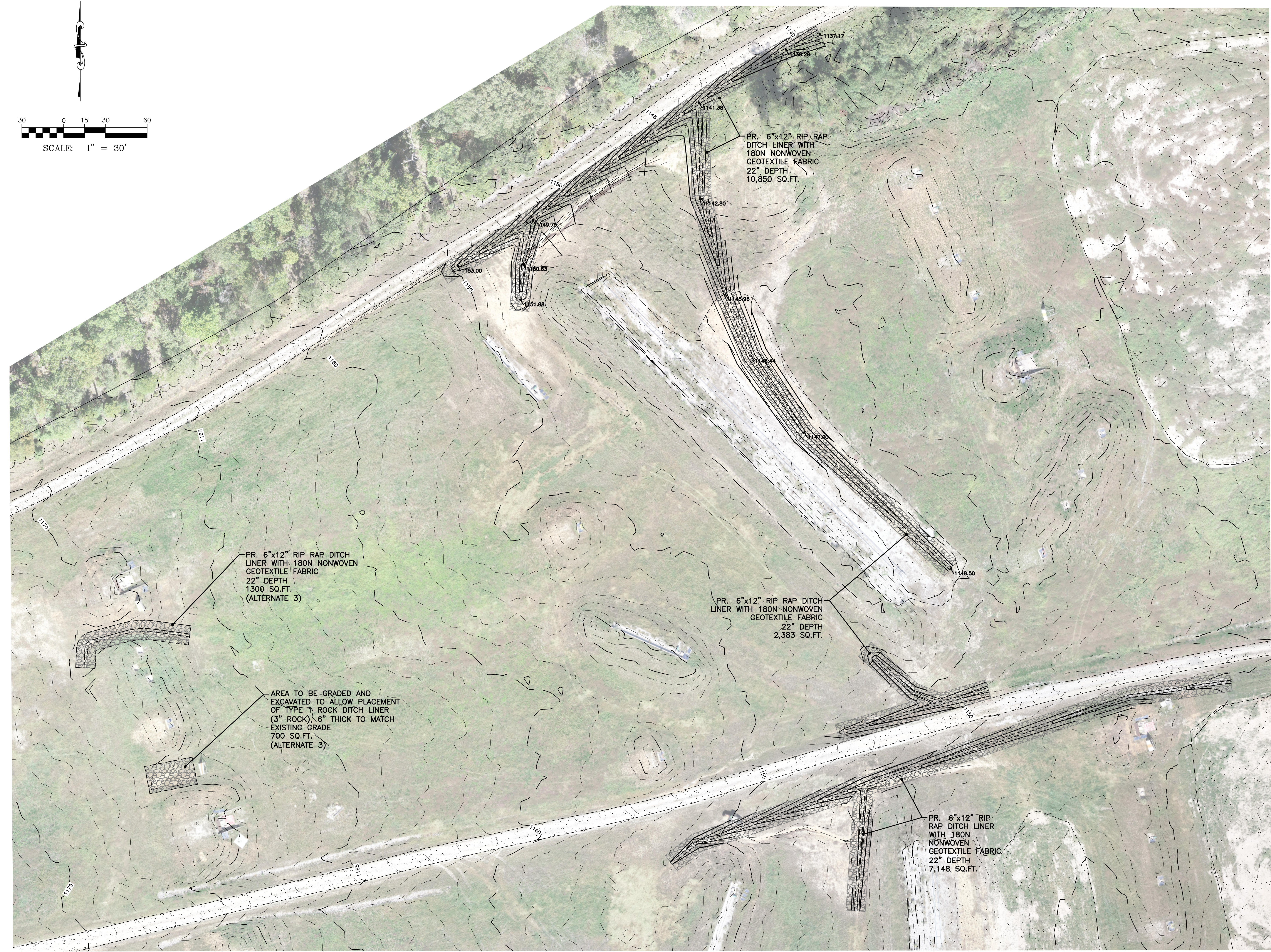
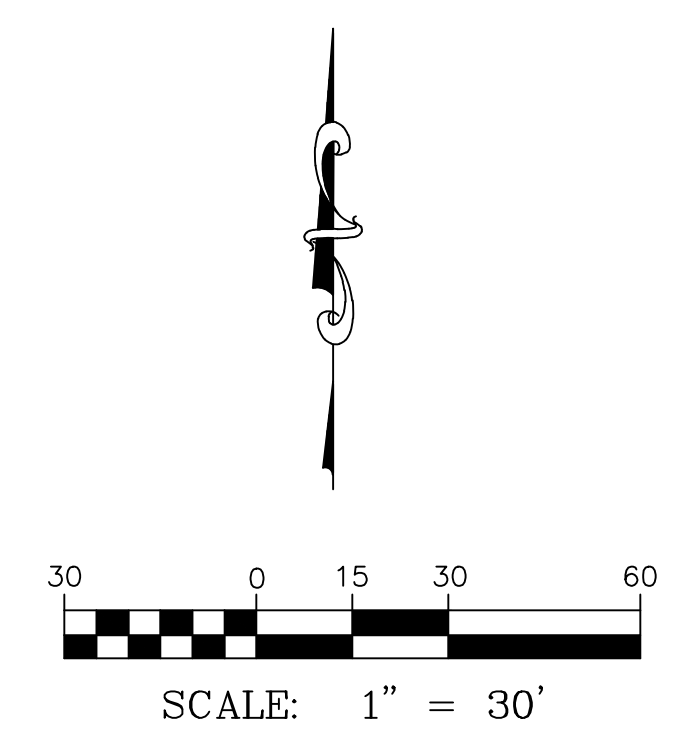
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DRAWN BY: LAW
CHECKED BY: JEG
DESIGNED BY: TDR

SHEET TITLE:
**AREAS 2
IMPROVEMENTS**

SHEET NUMBER:

C-102

SHEET 4 OF 8



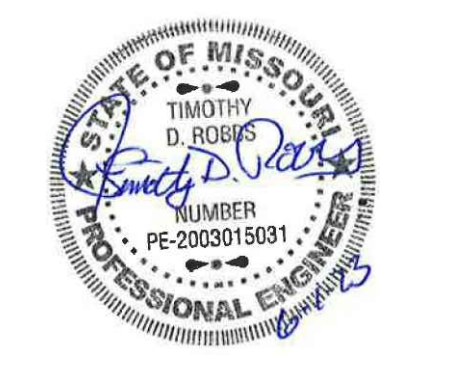
PR. 6"x12" RIP RAP DITCH LINER WITH 180N NONWOVEN GEOTEXTILE FABRIC 22" DEPTH 1300 SQ.FT. (ALTERNATE 3)

AREA TO BE GRADED AND EXCAVATED TO ALLOW PLACEMENT OF TYPE 1 ROCK DITCH LINER (3" ROCK), 6" THICK TO MATCH EXISTING GRADE 700 SQ.FT. (ALTERNATE 3)

PR. 6"x12" RIP RAP DITCH LINER WITH 180N NONWOVEN GEOTEXTILE FABRIC 22" DEPTH 2,383 SQ.FT.

PR. 6"x12" RIP RAP DITCH LINER WITH 180N NONWOVEN GEOTEXTILE FABRIC 22" DEPTH 10,850 SQ.FT.

PR. 6"x12" RIP RAP DITCH LINER WITH 180N NONWOVEN GEOTEXTILE FABRIC 22" DEPTH 7,148 SQ.FT.



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ISSUE DATE: 06/01/2023

CAD DWG FILE: T2230-01-DESIGN
DRAWN BY: LAW
CHECKED BY: JEG
DESIGNED BY: TDR

SHEET TITLE:
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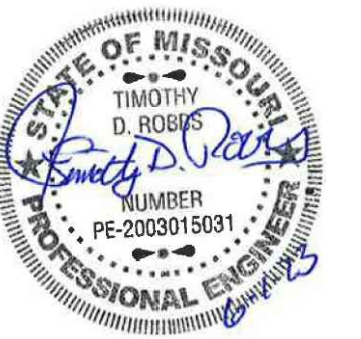
SHEET NUMBER:
C-103
SHEET 5 OF 8



AREA TO BE GRADED AND EXCAVATED TO ALLOW PLACEMENT OF TYPE 1 ROCK DITCH LINER (3" ROCK), 6" THICK TO MATCH EXISTING GRADE 1255 SQ.FT. (ALTERNATE 4)

PR. 6"x12" RIP RAP DITCH LINER WITH 180N NONWOVEN GEOTEXTILE FABRIC /22" DEPTH 3580 SQ.FT. (ALTERNATE 4)

AREA TO BE GRADED AND EXCAVATED TO ALLOW PLACEMENT OF TYPE 1 ROCK DITCH LINER (3" ROCK), 6" THICK TO MATCH EXISTING GRADE 7200 SQ.FT. (ALTERNATE 4)



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LICENSE NO.: E-0003018031
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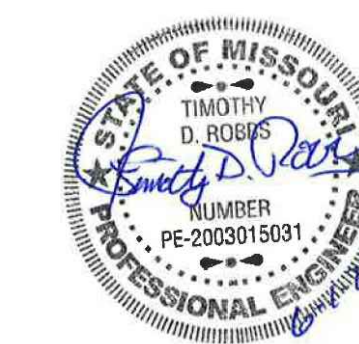
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DRAWN BY: LAW
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SHEET TITLE:
**AREA 4
IMPROVEMENTS**

SHEET NUMBER:

C-104

SHEET 6 OF 8



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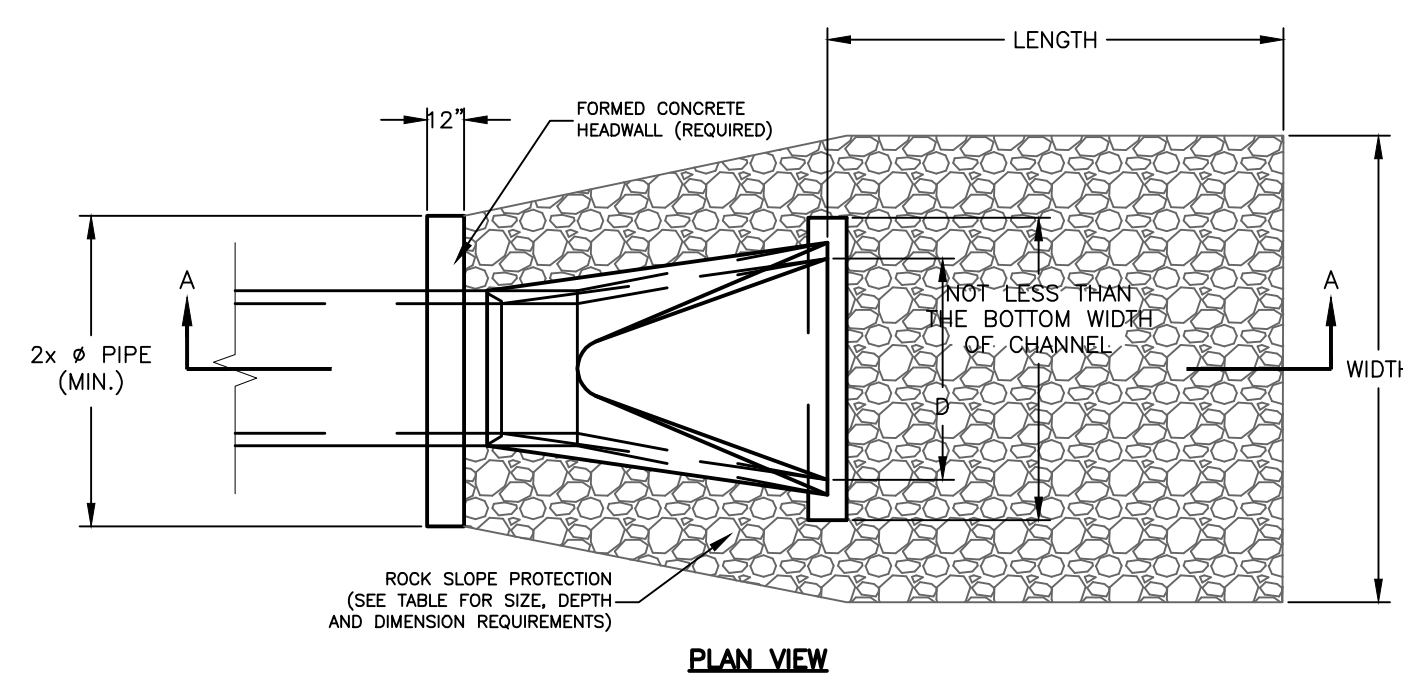
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DETAILS

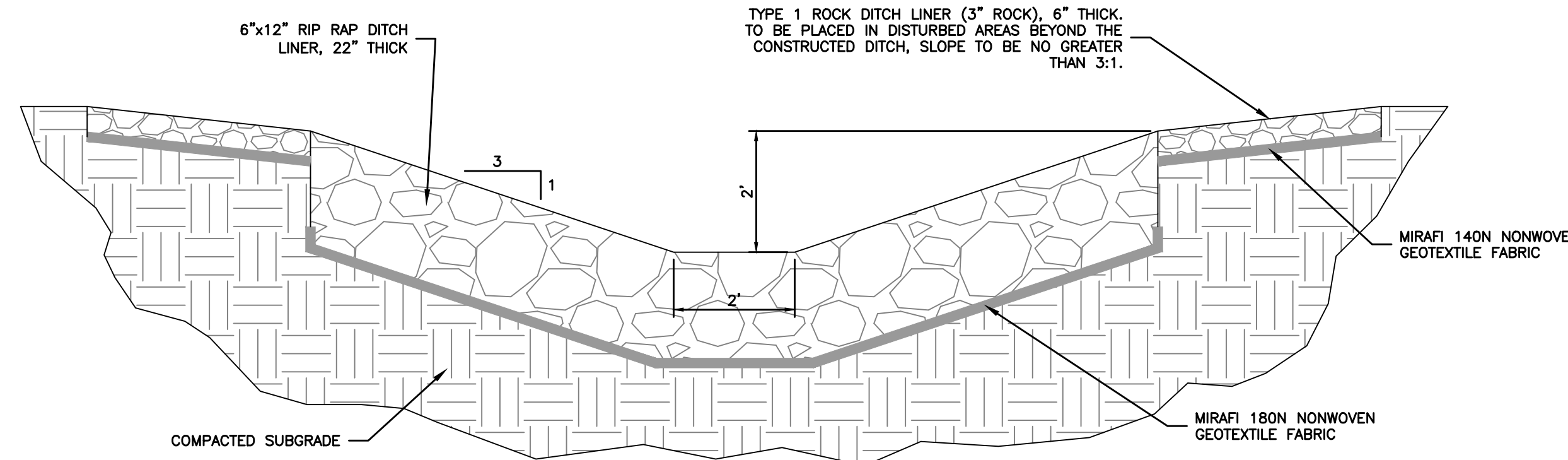
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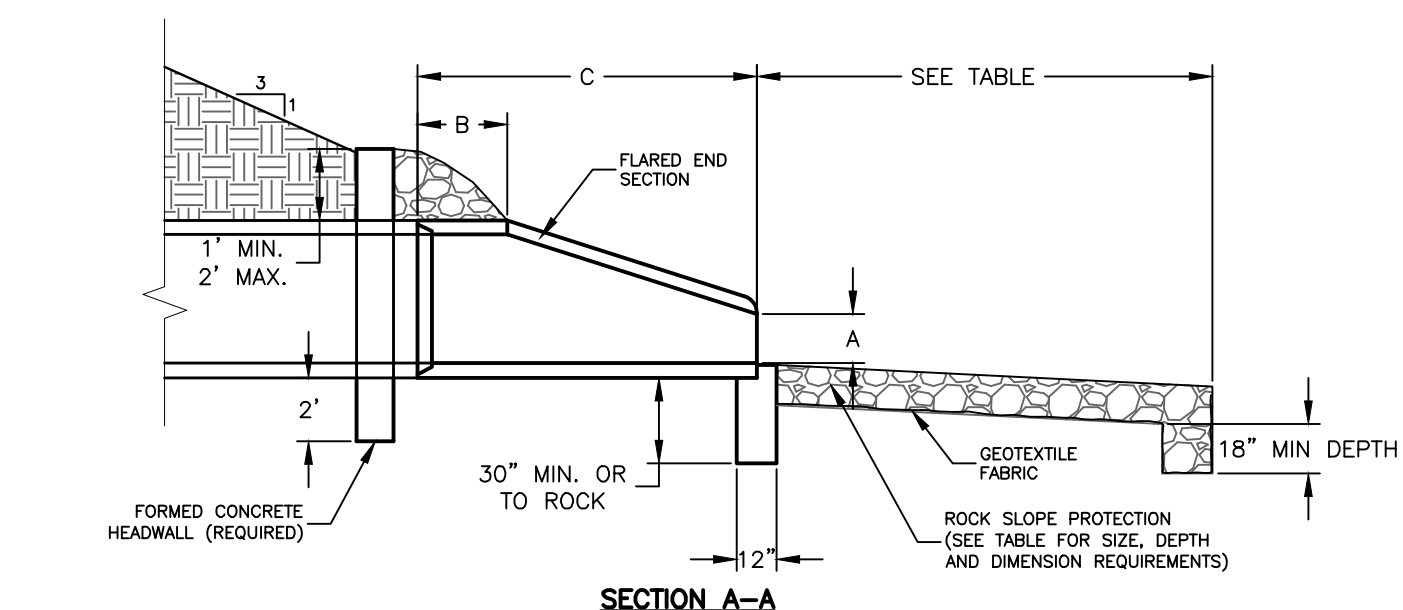
SHEET 7 OF 8



PLAN VIEW

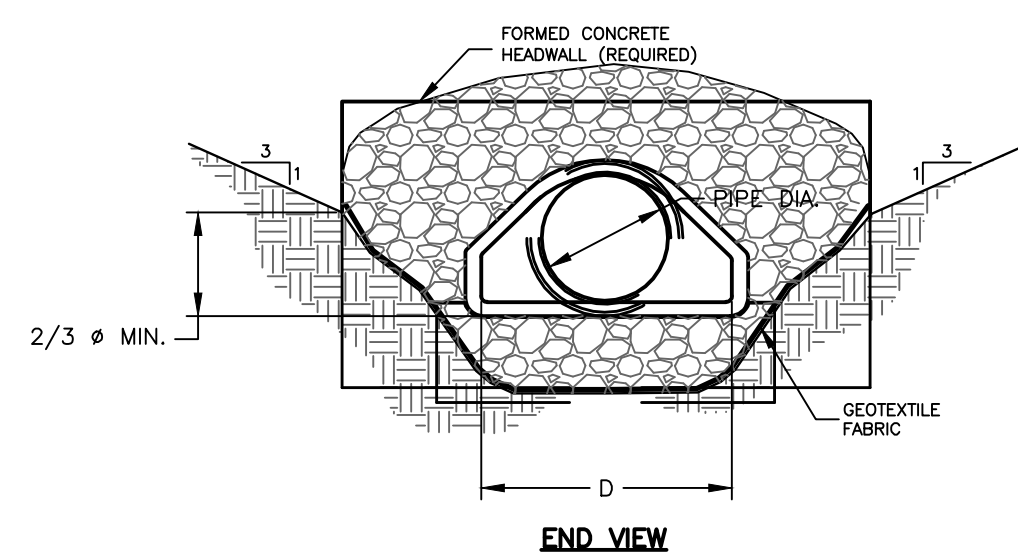


TYPICAL RIP RAP CHANNEL DETAIL
NO SCALE



SECTION A-A

FLARED END AND ROCK SLOPE PROTECTION DETAIL
NO SCALE

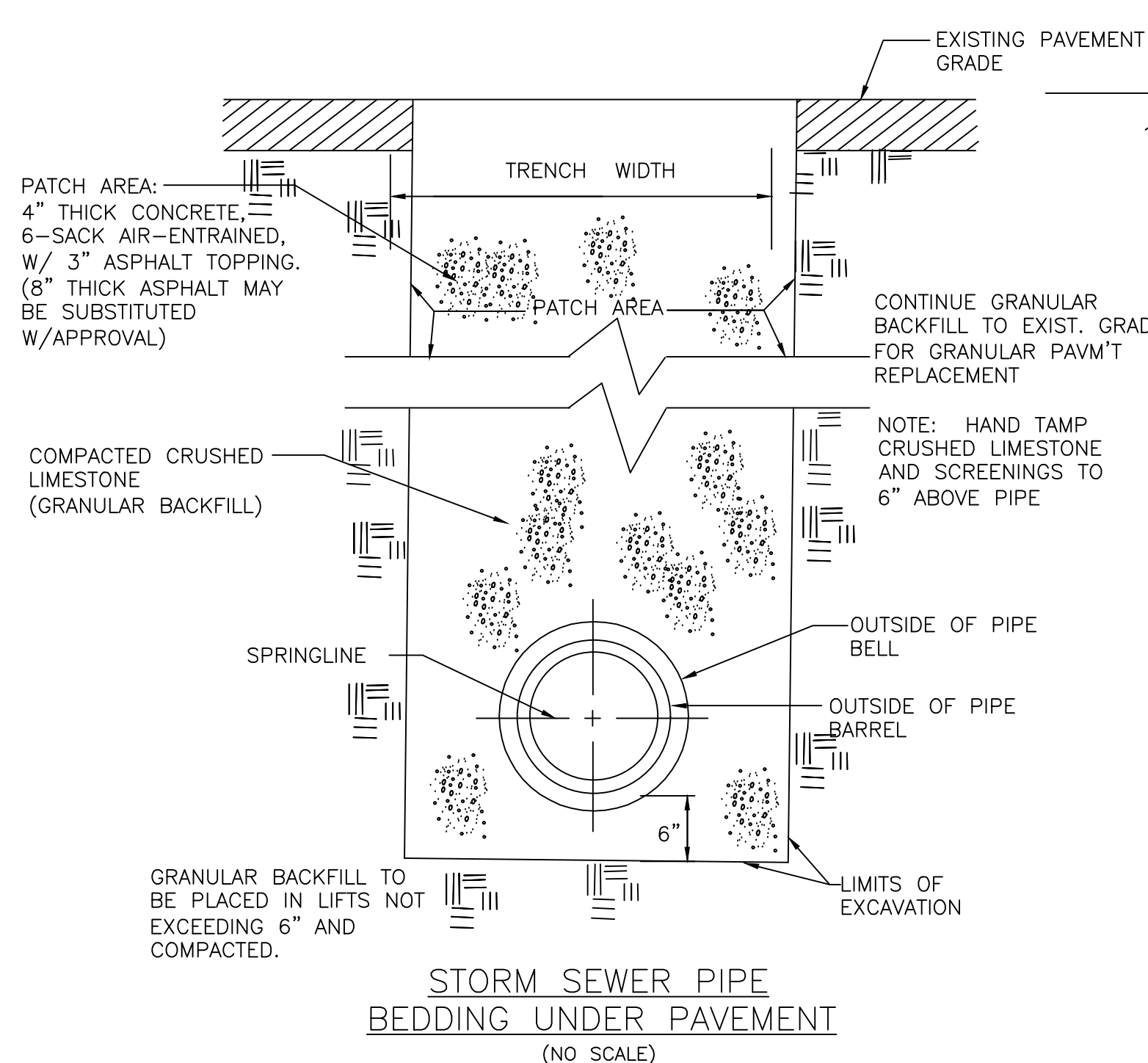


END VIEW

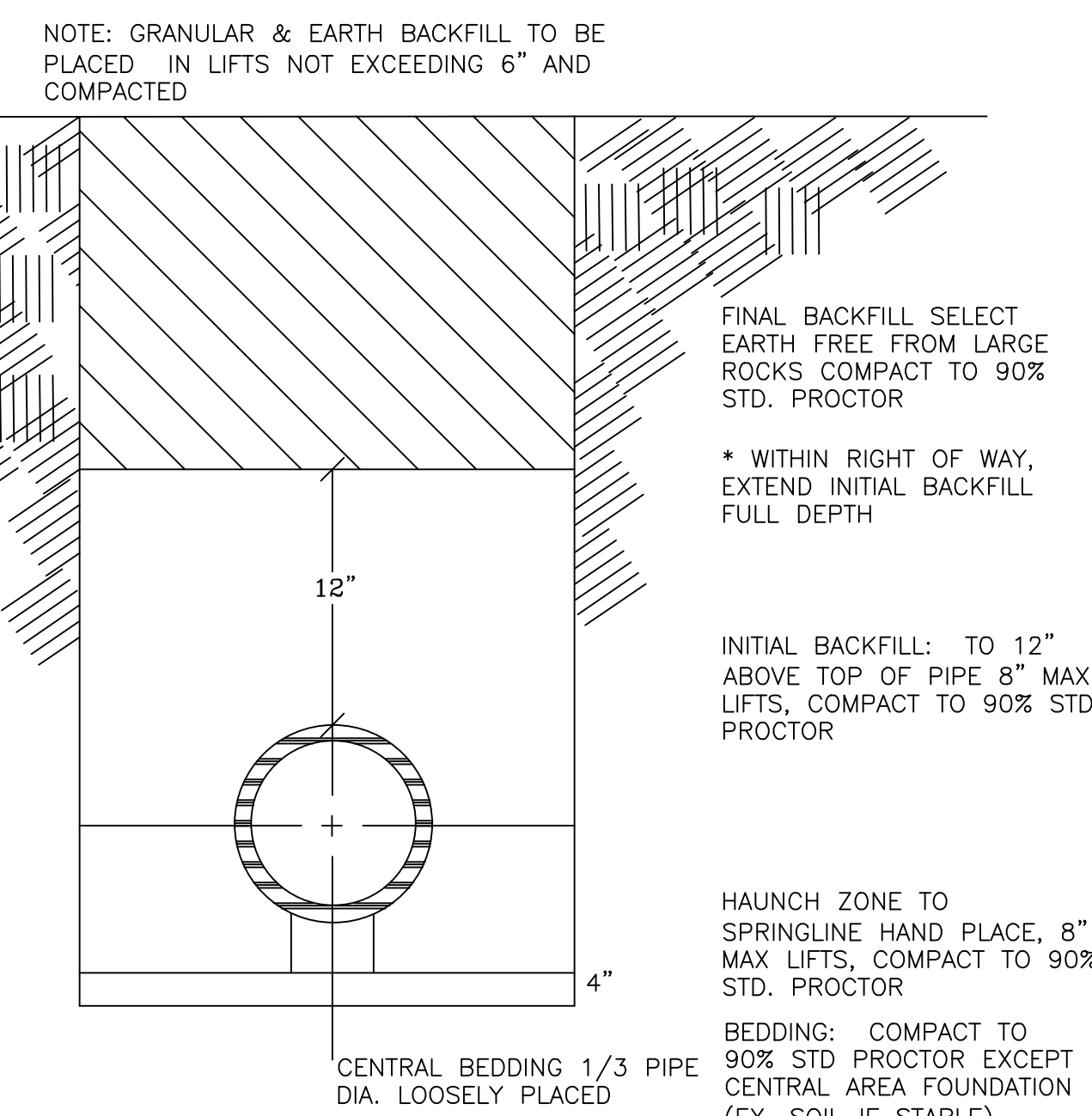
ROCK SLOPE PROTECTION SCHEDULE (MINIMUMS)				
PIPE DIA. (IN.)	DEPTH (IN.)	WIDTH (FT.)	LENGTH (FT.)	MATERIAL TYPE
12	12	4	12	TYPE 2 ROCK DITCH LINER
15	12	4	12	TYPE 2 ROCK DITCH LINER
18	12	4	12	6" TO 12" RIP RAP DITCH LINER
21	12	5	13	6" TO 12" RIP RAP DITCH LINER
24	18	6	14	TYPE 1 ROCK BLANKET
30	18	7	16	TYPE 1 ROCK BLANKET
36	24	9	18	TYPE 2 ROCK BLANKET
48	24	12	20	TYPE 2 ROCK BLANKET
60	24	15	25	TYPE 2 ROCK BLANKET
72	24	20	30	TYPE 2 ROCK BLANKET

FLARED END DIMENSIONS					
PIPE DIA. (IN.)	WALL THICKNESS	A	B (MIN.)	C (MIN.)	D
12	2"	4"	4'-0"	6'-0"	2'-0"
15	2 1/4"	6"	3'-10"	6'-0"	2'-6"
18	2 1/2"	9"	3'-10"	6'-0"	3'-0"
21	2 3/4"	9"	3'-2"	6'-0"	3'-6"
24	3"	9 1/2"	2'-6"	6'-0"	4'-0"
30	3 1/2"	1'-0"	1'-7"	6'-0"	5'-0"
36	4"	1'-3"	2'-10"	8'-0"	6'-0"
48	5"	2'-0"	2'-2"	8'-0"	7'-0"
60	6"	2'-6"	3'-3"	8'-0"	8'-0"
72	7"	2'-0"	1'-9"	8'-0"	9'-0"

- NOTES:
- CONCRETE STRENGTH TO BE f'(C)=4,000 PSI. SEE SECTION 3000 - SEWERS IN THE PROJECT MANUAL FOR ADDITIONAL SPECIFICATIONS.
 - CONCRETE HEAD WALL, CONCRETE TOE WALL, GEOTEXTILE FABRIC AND ROCK SLOPE PROTECTION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR FLARED END SECTIONS.



STORM SEWER PIPE
BEDDING UNDER PAVEMENT
(NO SCALE)



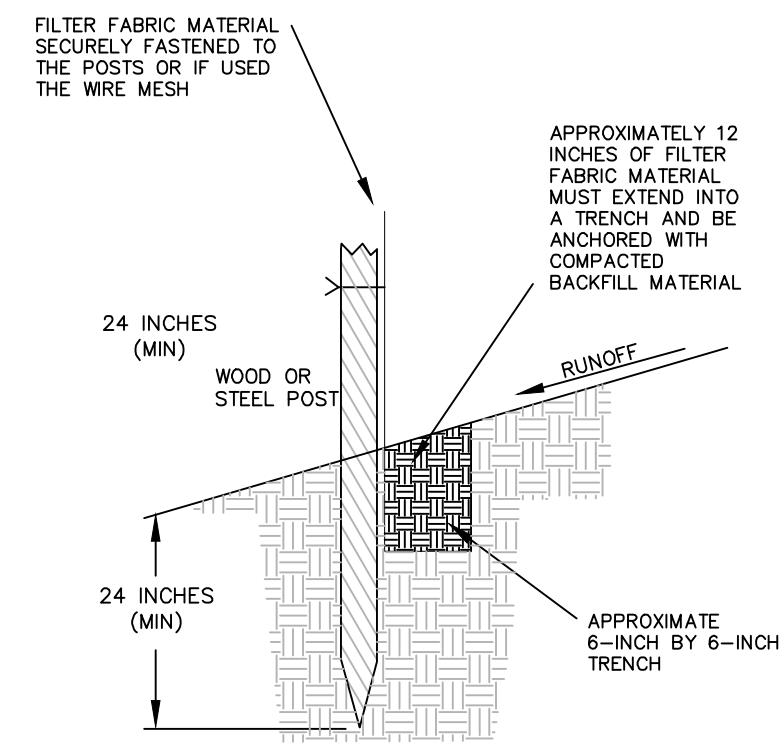
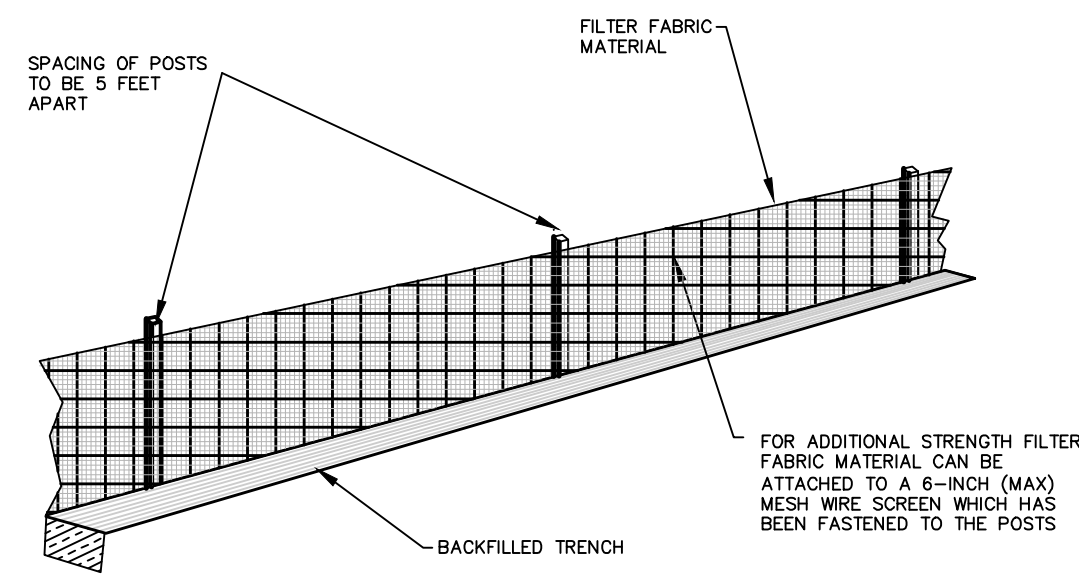
HDPE STORM SEWER BACKFILL
(NO SCALE)

CRUSHED LIMESTONE 3/4" MINUS OR APPROVED SUBSTITUTE
NOTE: FULL DEPTH UNDER ALL PAVEMENT

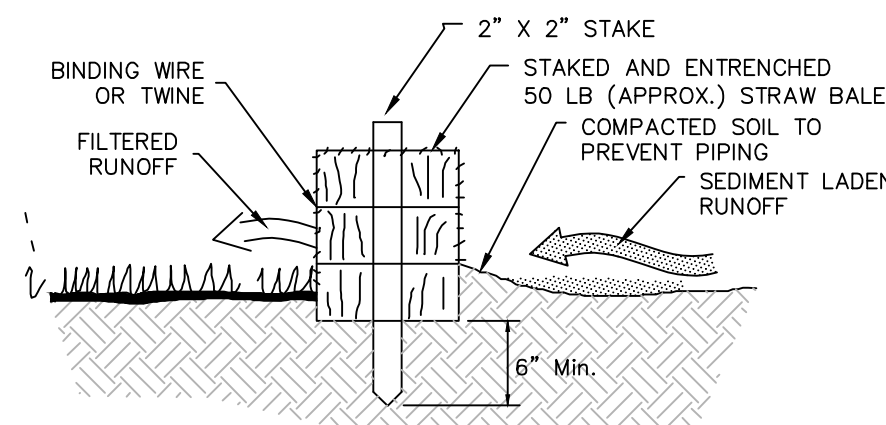
TRENCH WIDTH AS FOLLOWS	
DIA. (IN)	TRENCH WIDTH (IN)
6	23
8	25
10	28
12	31
24	48
30	66
36	78

SEDIMENT & EROSION CONTROL NOTES

1. THE EROSION CONTROL PLAN SHOWS THE LOCATION AND DETAILS FOR PERIMETER EROSION CONTROLS TO BE CONSTRUCTED. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING EROSION AND DISCHARGE OF SEDIMENT FROM THE SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE NECESSARY MEASURES DURING ALL PHASES OF HIS OPERATIONS REGARDLESS OF WHETHER THEY ARE SPECIFICALLY NOTED ON THE EROSION CONTROL PLAN AND SHALL MAINTAIN AND REPLACE CONTROLS AS NECESSARY DURING THE COURSE OF HIS OPERATIONS.
2. INITIAL SEDIMENT CONTROLS SHOWN ON THE EROSION CONTROL PLAN MUST BE INSTALLED PRIOR TO ANY OTHER WORK.
3. THE CONTRACTOR SHALL CLEAN ALL STREETS BOTH INTERIOR AND ADJACENT TO THE SITE AS NEEDED AFTER EACH RAINFALL AND AT THE END OF CONSTRUCTION DAY.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST DURING CONSTRUCTION AND SHALL WATER CONSTRUCTION AREAS WHENEVER CONDITIONS WARRANT.
5. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING SILT FROM STORM DRAINS, INLETS, CULVERTS, ETC. PRIOR TO APPROVAL OF CONSTRUCTION.
6. ALL DISTURBED AREAS NOT RECEIVING OTHER PERMANENT STABILIZATION SUCH AS PAVEMENT, ROOFS, SOD AND ETC. SHALL BE SEEDED AND MULCHED, AS PER THE PROJECT SPECIFICATIONS BEFORE TEMPORARY SEDIMENT CONTROLS CAN BE REMOVED AND PRIOR TO FINAL APPROVAL OF CONSTRUCTION.
7. IF APPLICABLE THE CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS AS PUT FORTH IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND THE MISSOURI STATE GENERAL PERMIT. THE SWPPP SHALL BE CONSIDERED AS A STARTING POINT FOR SEDIMENT AND EROSION CONTROLS AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REVISING AND UPDATING EROSION CONTROLS AS SITE CONDITIONS CHANGE DURING THE COURSE OF CONSTRUCTION.



Silt Fence Installation
Not To Scale



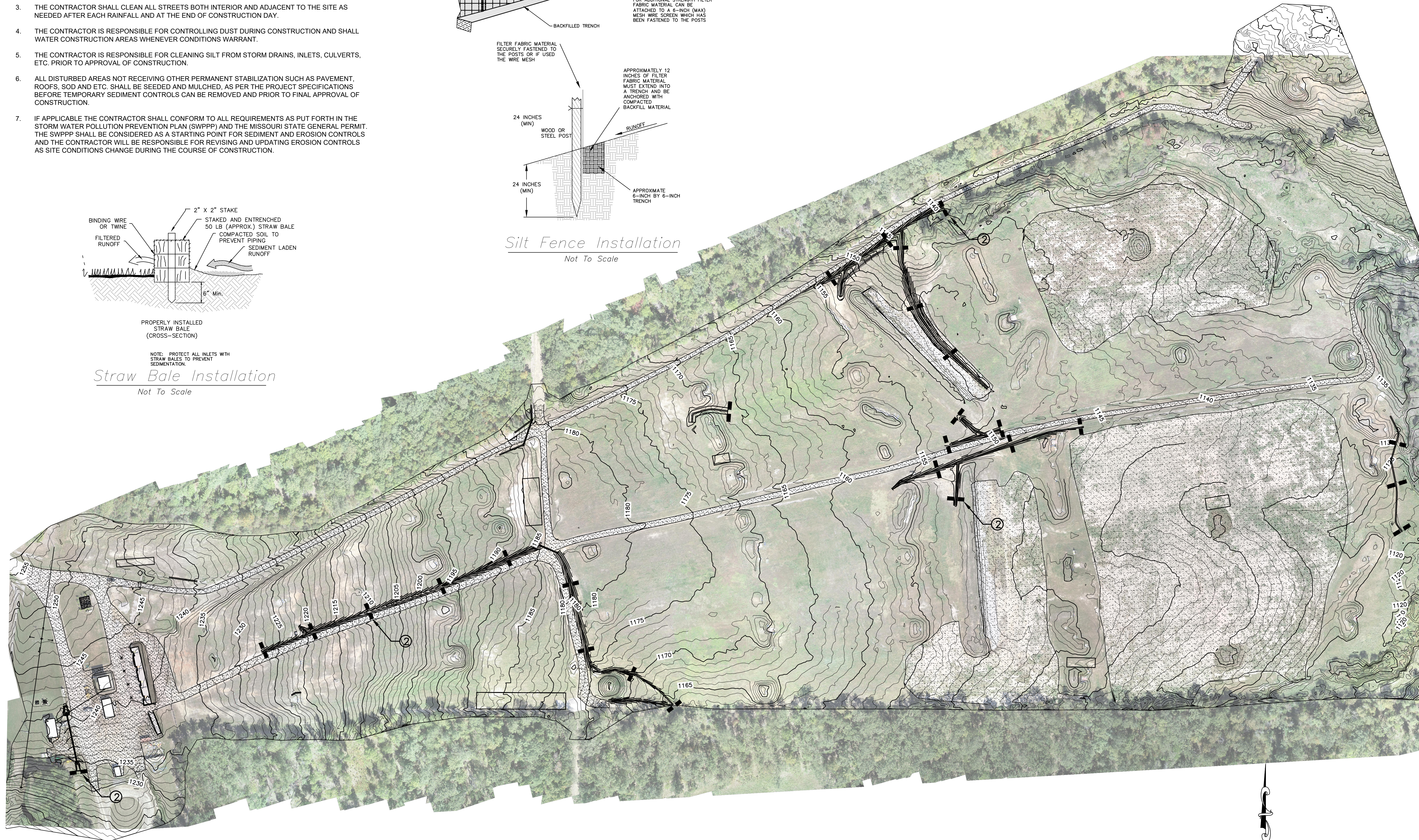
PROPERLY INSTALLED STRAW BALE (CROSS-SECTION)

NOTE: PROTECT ALL INLETS WITH STRAW BALES TO PREVENT SEDIMENTATION.

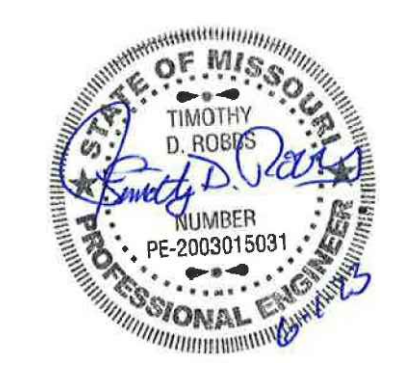
Straw Bale Installation
Not To Scale

EROSION CONTROL LEGEND

- ① SILT FENCE OR STRAW BALES ————
- ② DITCH CHECK ————



STATE OF MISSOURI
MIKE PARSON,
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SHEET 8 OF 8

