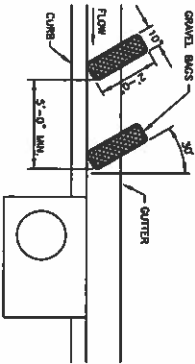




North Bay at Lake Woodmoor

Final Grading and Erosion Control Plan

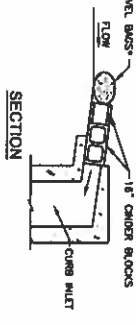
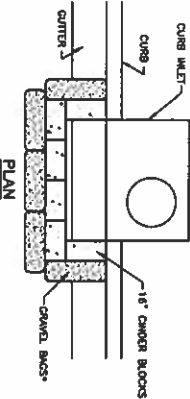
El Paso County, Colorado



- INSTALLATION REQUIREMENTS**
1. MAINTENANCE SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION.
 2. BAYS ARE TO BE MADE OF 1/4" WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.
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CURB SOCK INLET PROTECTION

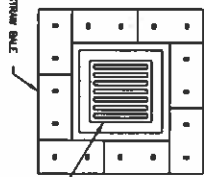
(IP-4)



BLOCK AND GRAVEL BAG INLET PROTECTION

(IP-3)

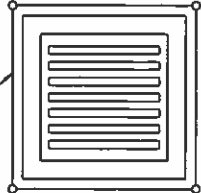
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STRAW BALE INLET PROTECTION

(IP-2)

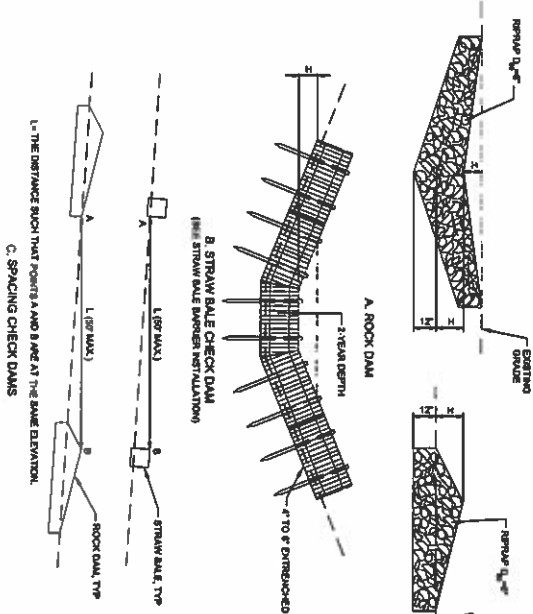
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FILTER FABRIC INLET PROTECTION

(IP-1)

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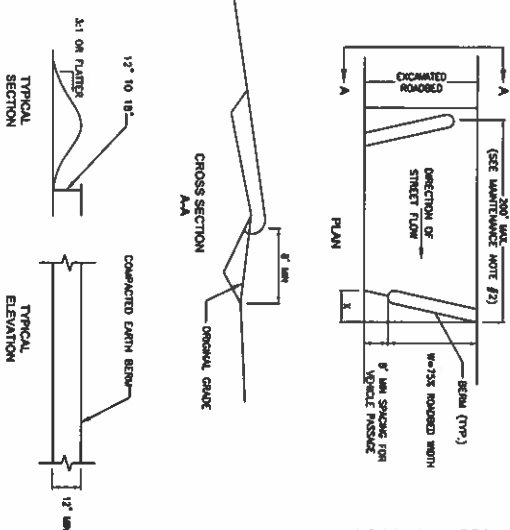


CHECK DAM

(CD-4)

(CD-3)

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ROUGH-CUT STREET CONTROL

(RCS)

(RCS)

W	X
18" - 24"	5'
24" - 36"	8'
36" - 48"	12'
48" - 60"	15'
60" - 72"	18'

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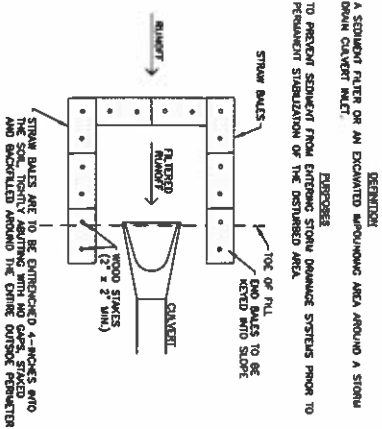
STRAW BALE BARRIER

(SBB)

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CULVERT INLET PROTECTION

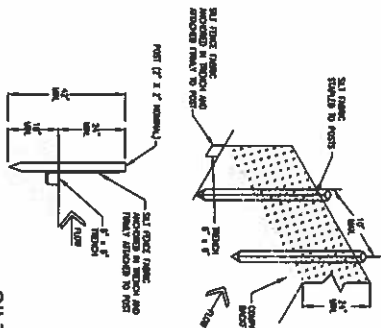
(CIP)



- INSTALLATION REQUIREMENTS**
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SILT FENCE DETAIL

(SF)



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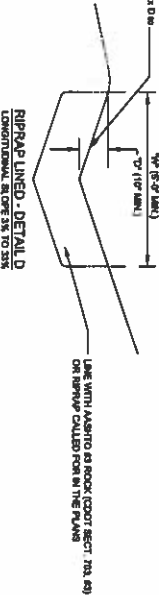
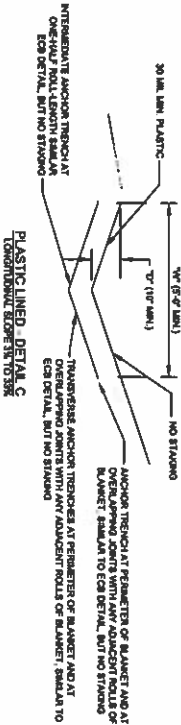
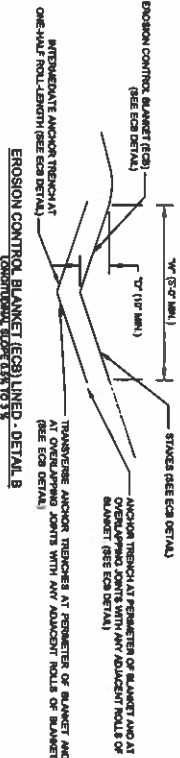
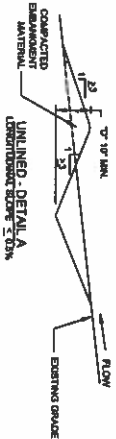
NOTE:
DETAILS SHOWN MAY NOT BE REQUIRED FOR THIS PROJECT.
REFER TO GRADING AND EROSION CONTROL PLAN. ANY CHANGES
SHALL BE COORDINATED WITH EL PASO COUNTY ENGINEERING
DIVISION INSPECTIONS

North Bay at Lake Woodmoor
Final Grading and Erosion Control Plan
El Paso County, Colorado

Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

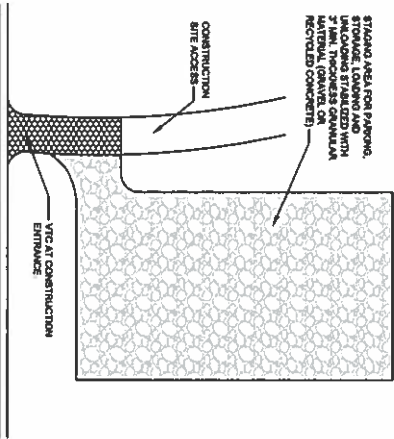
Project No.	13073
Date	November 21, 2019
Drawn	NRK
Check	CAD
Revisions	

- INSTALLATION REQUIREMENTS**
1. USE ONE FOR EACH DIVISION OF EROSION DETAIL.
 2. TYPE OF DETAIL (EARTH, EROSION, PLASTIC LINED OR RIGID LINED).
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- MAINTENANCE REQUIREMENTS**
1. THE SHARP TURNERS SHALL INSPECT DIVERSION DETAIL WEEKLY AND DURING AND AFTER ANY STORM MAKE REPAIRS AS NECESSARY.
 2. DIVERSION DETAIL ARE TO REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION OR IF APPROVED BY LOCAL JURISDICTION MAY BE LEFT IN PLACE.
 3. DIVERSION DETAIL ARE TO BE REMOVED DURING AND AFTER CONSTRUCTION OR IF APPROVED BY LOCAL JURISDICTION MAY BE LEFT IN PLACE.
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 5. DIVERSION DETAIL ARE TO BE REMOVED DURING AND AFTER CONSTRUCTION OR IF APPROVED BY LOCAL JURISDICTION MAY BE LEFT IN PLACE.



TEMPORARY DIVERSION DIKE

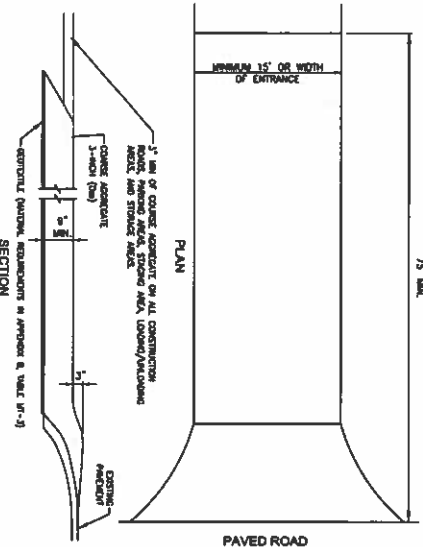
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STABILIZED STAGING AREA

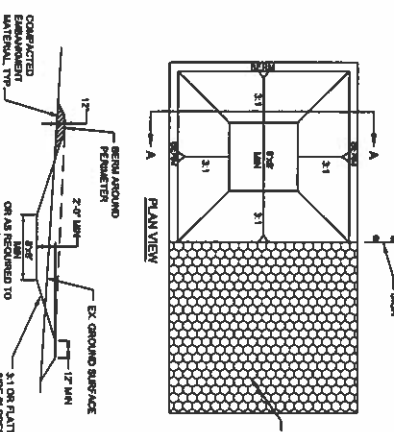
NTS

- INSTALLATION REQUIREMENTS**
1. THE SHARP TURNERS SHALL INSPECT CONSTRUCTION SITE ARE TO BE STABILIZED FROM TO CONSTRUCTION BEGINNING.
 2. CONSTRUCTION DETAIL ARE TO BE BUILT WITH STABILIZED MATERIALS AND METHODS.
 3. CONSTRUCTION DETAIL ARE TO BE BUILT WITH STABILIZED MATERIALS AND METHODS.
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VEHICLE TRACKING CONTROL

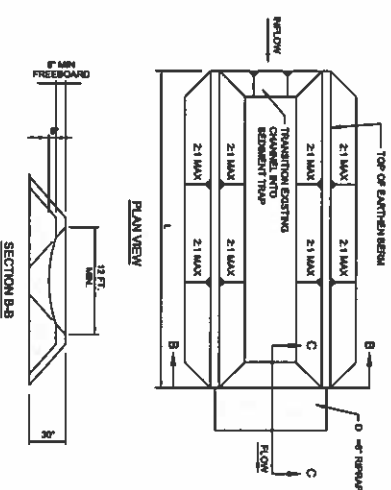
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CONCRETE WASHOUT AREA

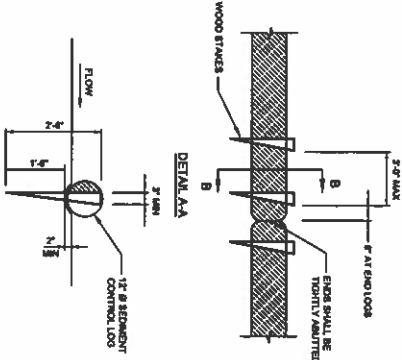
NTS

- INSTALLATION REQUIREMENTS**
1. SET ONE FOR EACH DIVISION OF SEDIMENT TRAP.
 2. TYPE OF DETAIL (EARTH, EROSION, PLASTIC LINED OR RIGID LINED).
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SEDIMENT TRAP

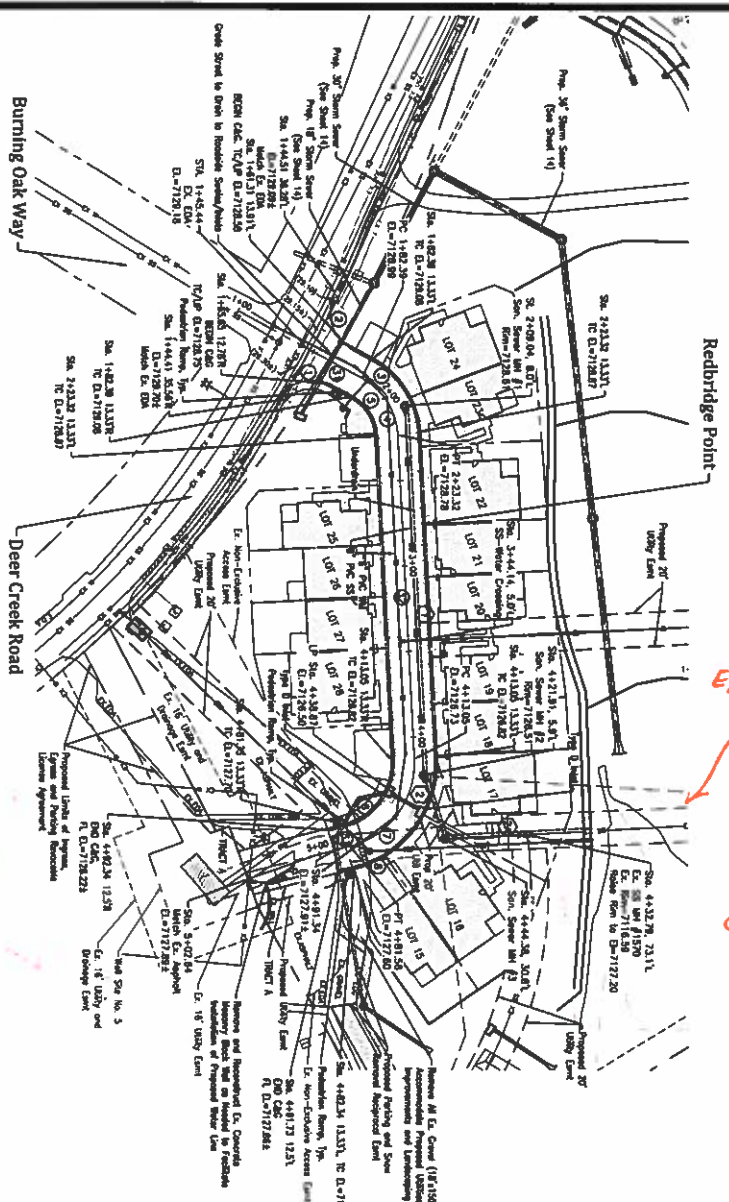
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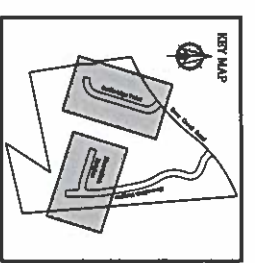
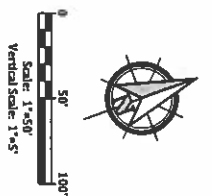
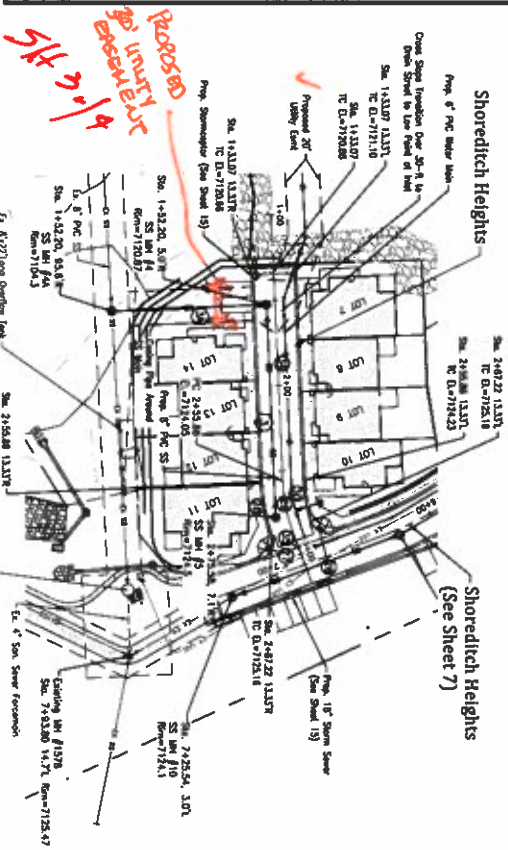
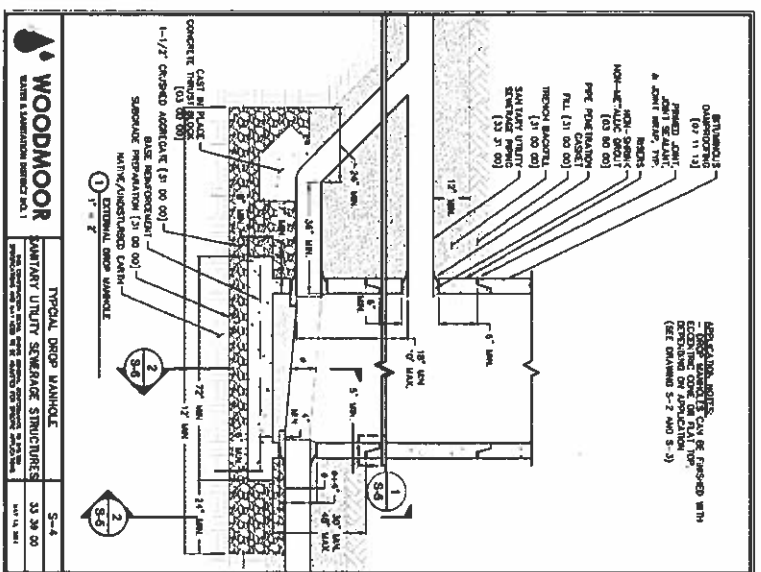
SEDIMENT CONTROL LOG

NTS

NOTE:
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REFER TO GRADING AND EROSION CONTROL PLAN. ANY CHANGES SHALL BE COORDINATED WITH EL PASO COUNTY ENGINEERING DIVISION INSPECTIONS



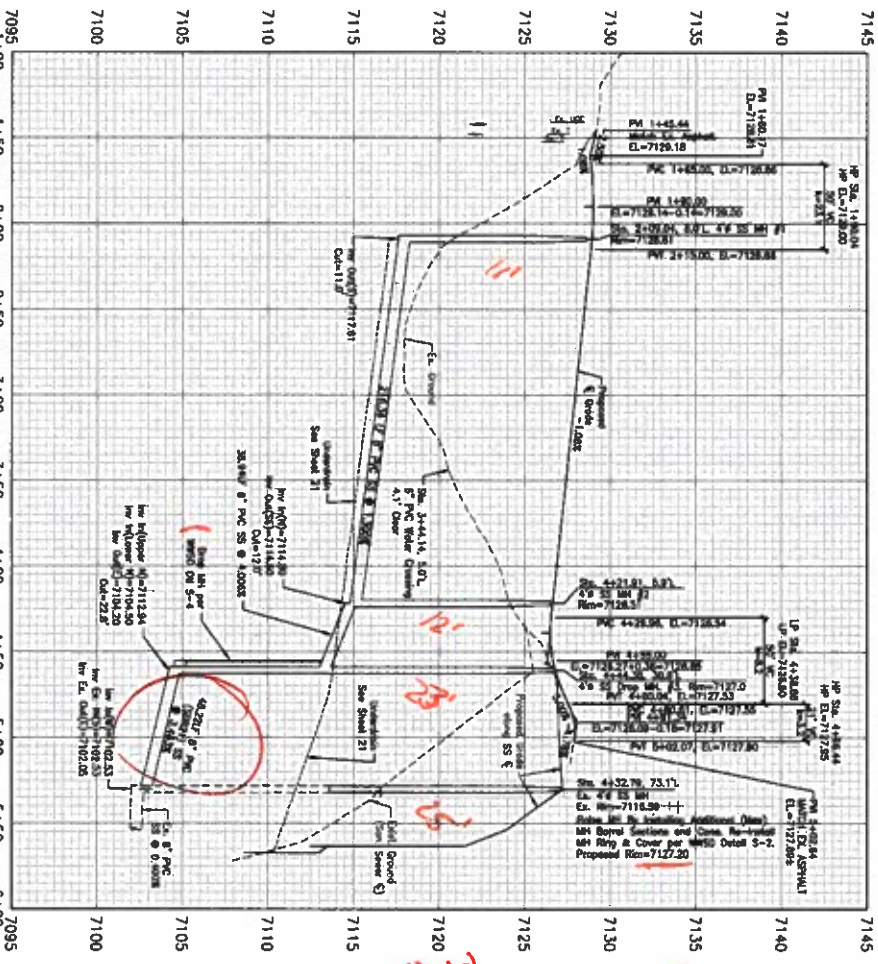
Is this an EXISTING EASEMENT?
5/4-3/4
This is really need
to be unit to need



Redbridge Point (Private Road)

Shoreditch Heights - Sanitary

Shoreditch Heights (Private Road)



25' deep -
yuck - are we sure
Due to water we're ok with?
HDP??
Should be dip 2' deep

ROAD LINE DATA	
1. 5413.41'	2. 5770.34'
3. 5770.34'	4. 5770.34'
5. 5770.34'	6. 5770.34'
7. 5770.34'	8. 5770.34'

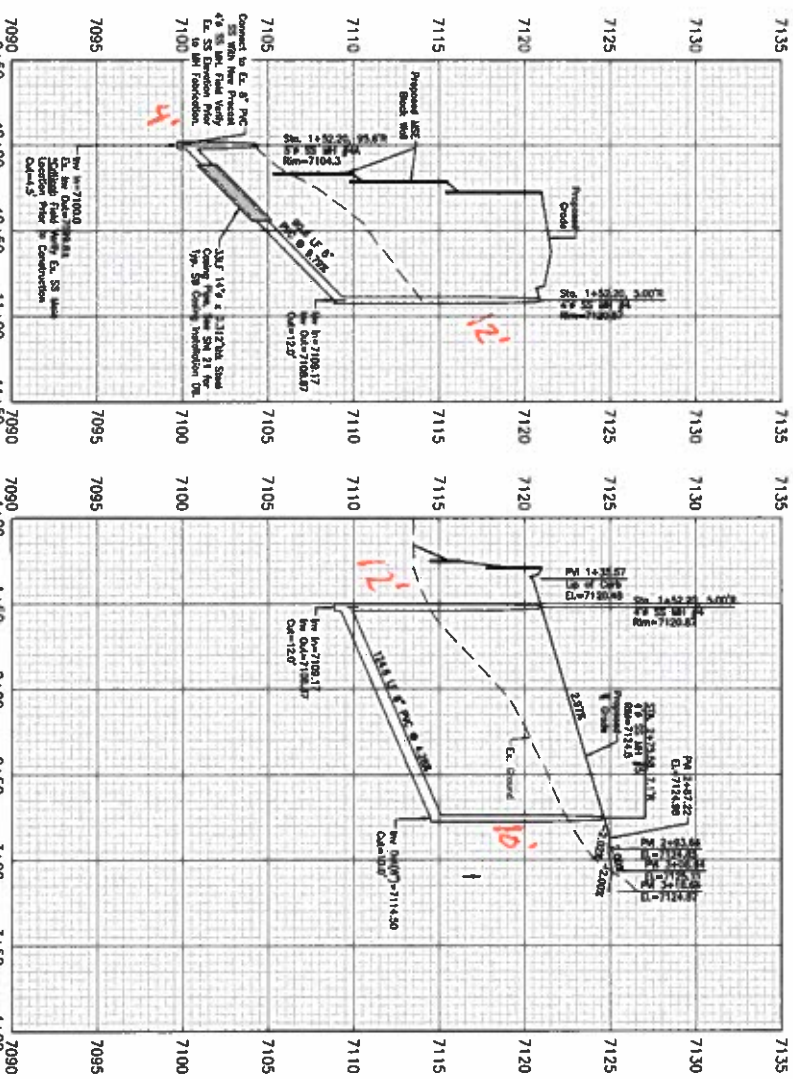
ROAD CURVE DATA	
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3. 5770.34'	4. 5770.34'
5. 5770.34'	6. 5770.34'
7. 5770.34'	8. 5770.34'

SANITARY SEWER LINE DATA	
1. 5770.34'	2. 5770.34'
3. 5770.34'	4. 5770.34'
5. 5770.34'	6. 5770.34'
7. 5770.34'	8. 5770.34'

Know what's below,
Call before you dig.



WOODMOOR WATER & SANITATION DISTRICT NO. 1
APPROVED FOR CONSTRUCTION



North Bay at Lake Woodmoor
Redbridge Point -- Plan and Profile
Shoreditch Heights -- Plan and Profile
El Paso County, Colorado

Celebrating 30 years
Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

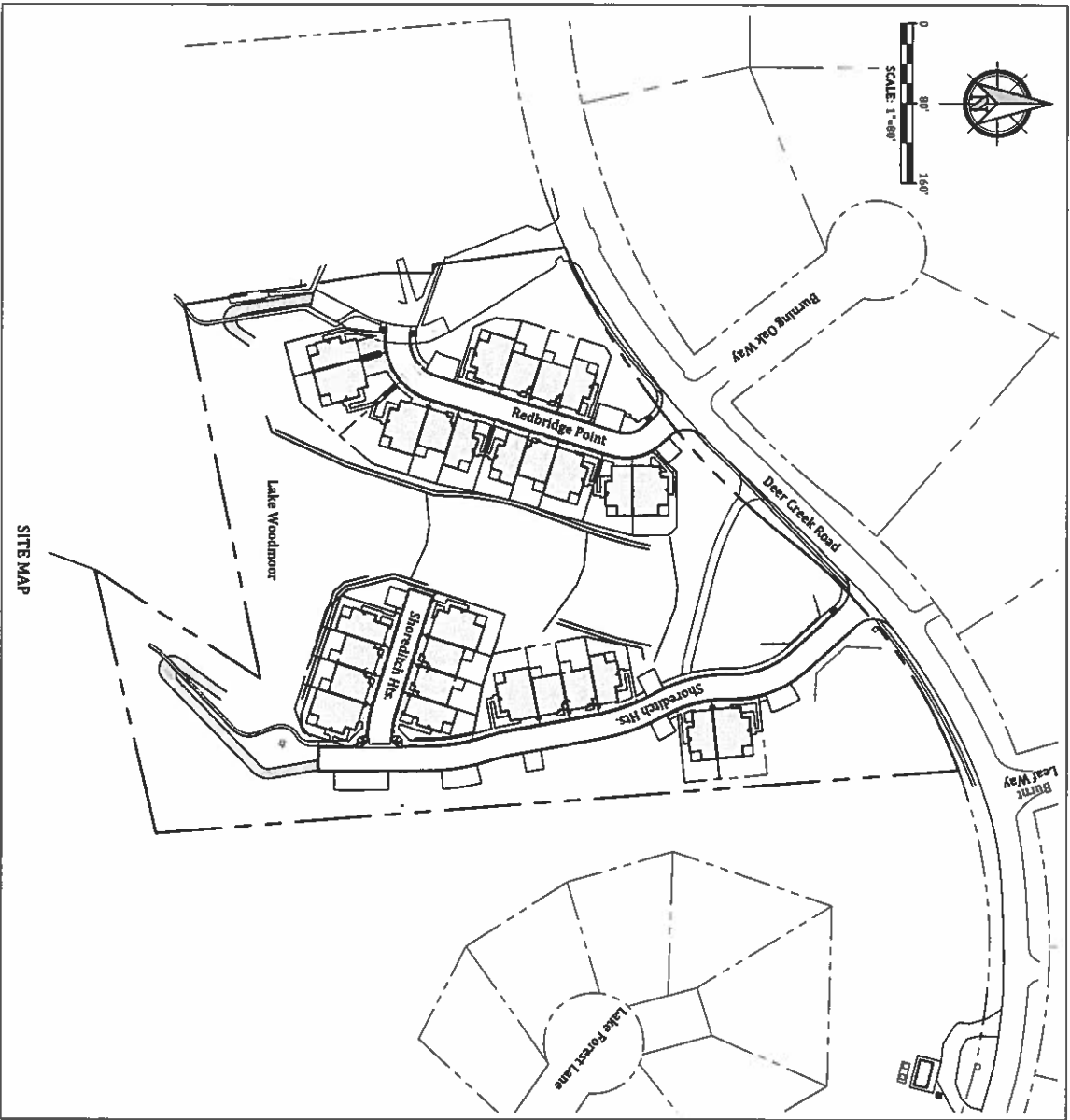
Project No.	15073
Date	November 21, 2019
Drawn	NRK
Check	MWE
Revised	
Sheet	6
Of 23 Sheets	

**North Bay at Lake Woodmoor
EL PASO COUNTY, COLORADO
PUBLIC WATER SYSTEM PLAN AND PROFILES
INCLUDING UTILITY SERVICES**

1. **GENERAL NOTES:**
All materials and installation procedures will be in compliance with the system Specifications and the Rules and Regulations of the Woodmoor Water and Sanitation District No. 1.
2. **Developer/Owner of Contractor shall be responsible for determining and obtaining any and all permits required to perform the work from all applicable regulatory agencies or entities having jurisdiction, and issued by such entities or agencies.**
3. **Contractors shall provide and field verify elevations, pipe size, type, alignment, etc. of existing water lines at all noted connection points to the District's system.**
4. **In case of conflict between these plans and the system specifications, consult the District prior to commencing work.**
5. **Contractors shall notify the District a minimum of 2 working days prior to performing scheduled tests for observation by District personnel.**
6. **Bypass pumping of existing sewer flow is required when connecting to the District's existing sewer system. Contractor shall provide sufficient pumping capacity with continuous supervision during construction. District personnel shall observe the location, etc. of bypass pumping operations with the District prior to commencing pumping operations.**
7. **The temporary control of the state pipe collection system, Columbia Central Zone (NAID 83), Coordinates of the two horizontal benchmarks are noted below and on this plan.**
8. **Benchmark: NGS Benchmark "7395" - Elevation = 7113.2 (NAVD 88)**

TBM#1 Northwest Property Corner (N)468,240.00, E3,181,465.66 Elevation=7101.46
TBM#2 Southwest Property Corner (N)468,240.42, E3,181,738.69 Elevation=7049.49


1. Sewer service tap connections will be located a minimum of five (5) feet away from any available and be installed at least 18 inches or ten feet from the main sewer line. For service tap connections to existing sewer mains a sewer service saddle tap may be installed.
2. Sewer service lines/taps will be installed such that a sewer service clean out is located 5 feet into the property or extended to the front lot easement, whichever is less and be located a minimum of 10 feet away from any side lot line. Trenches from the sewer tap at the main to the clean out or the property line shall be installed and a manhole pit will be installed next to the clean out for protection and ease of location.
3. A minimum of 10 feet of horizontal separation must be maintained between water service lines and sewer service lines.
4. Water service lines/taps will be 3/4-inch in diameter unless otherwise noted and installed such that the minimum depth of the trench is 36 inches or 10 feet to the bottom of the trench, whichever is less and a minimum of 10 feet from any sewer service line/tap/clean out.
5. Curb stops and boxes shall be buried such that 6-inches (6") of cover exists as measured from finished grade and be located at the service line. A manhole box will be installed at the curb stop box for protection and ease of location.
6. Water service taps will not be located on a fire hydrant lateral or within 30' from a pipe bell, valve or mechanical joint connection. Water taps will maintain minimum five (5) foot spacing from other taps on the water main.
7. Direct tapping of water service line corporation stops (i.e. no saddle) will not be permitted.



INDEX OF SHEETS	
8	Public Water System Plan & Profiles-Cover Sheet
9	Utility Plan
10	Utility Services Plan
11	Water Plan and Profile- Redbridge Pt. and Shoreditch Hts.
12	Water Plan and Profile- Redbridge Pt. and Shoreditch Hts.

PREF-EXAMINATION CHECKLIST

- ☐ GAS AND OTHER UTILITY LINES OF RECORD SHOWN ON PLANS.
- ☐ UTILITIES CENTRAL LOCATION CALLED AT LEAST 2 BUSINESS DAYS AHEAD.
- ☐ UTILITIES LOCATED AND MARKED.
- ☐ EMPLOYEES BRIEFED ON EXCAVATION AND COLOR CODES.*
- ☐ EMPLOYEES TRAINED ON EXCAVATION AND SAFETY PROCEDURES FOR NATURAL GAS LINES.
- ☐ WHEN EXCAVATION APPROACHED GAS LINE, EMPLOYEES STOPPED TO CHECK DEPTH AND DIRECTION.
- ☐ 2x6 ALUMINUM STRIPS WITH UTILITY IDENTIFICATION CODES USED TO MARK UTILITIES.
- ☐ RED OR WHITE WATER GREEN ELECTRIC



Know what's below,
Call before you dig.

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

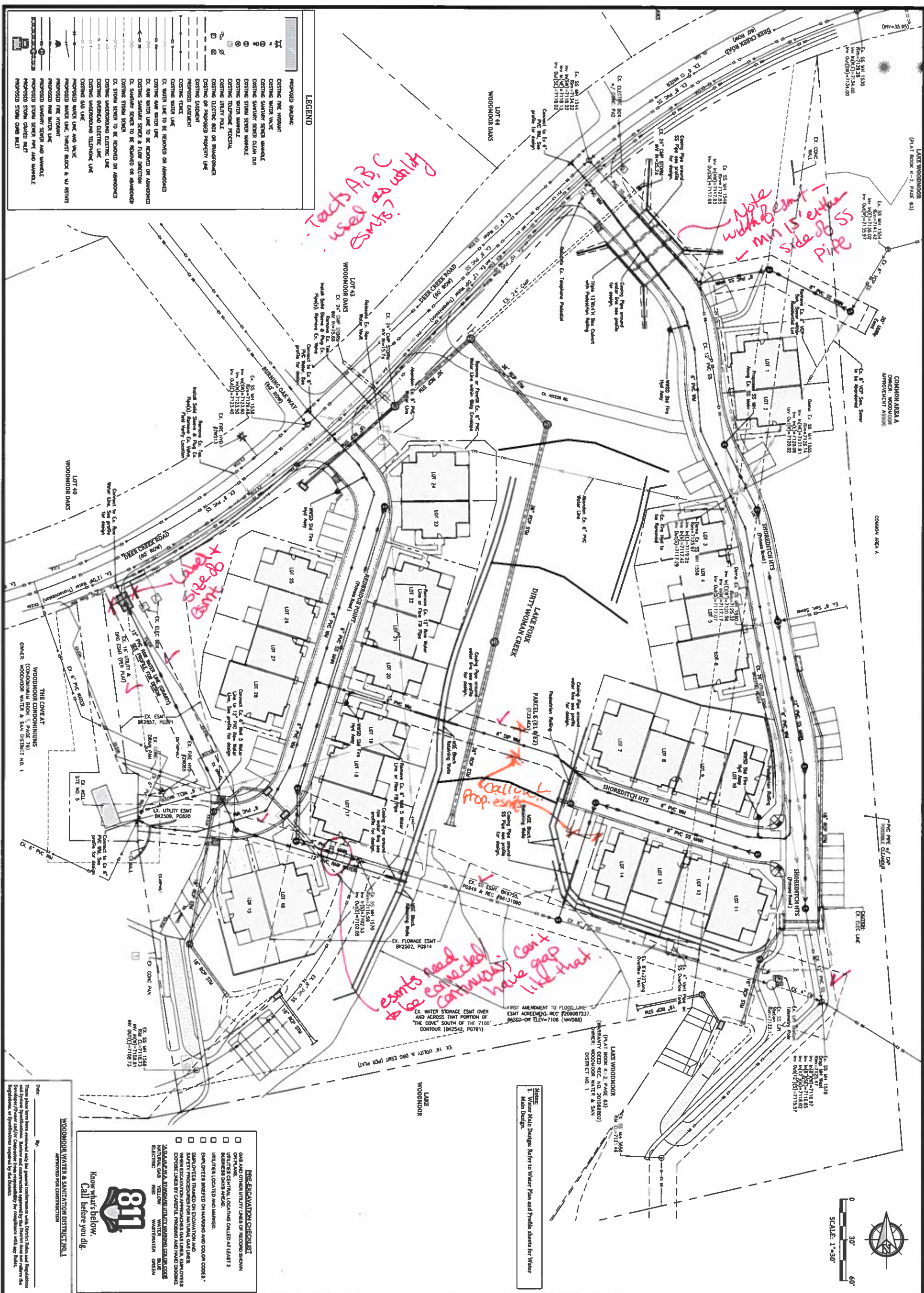
WOODMOOR WATER & SANITATION DISTRICT NO. 1
APPROVED FOR CONSTRUCTION

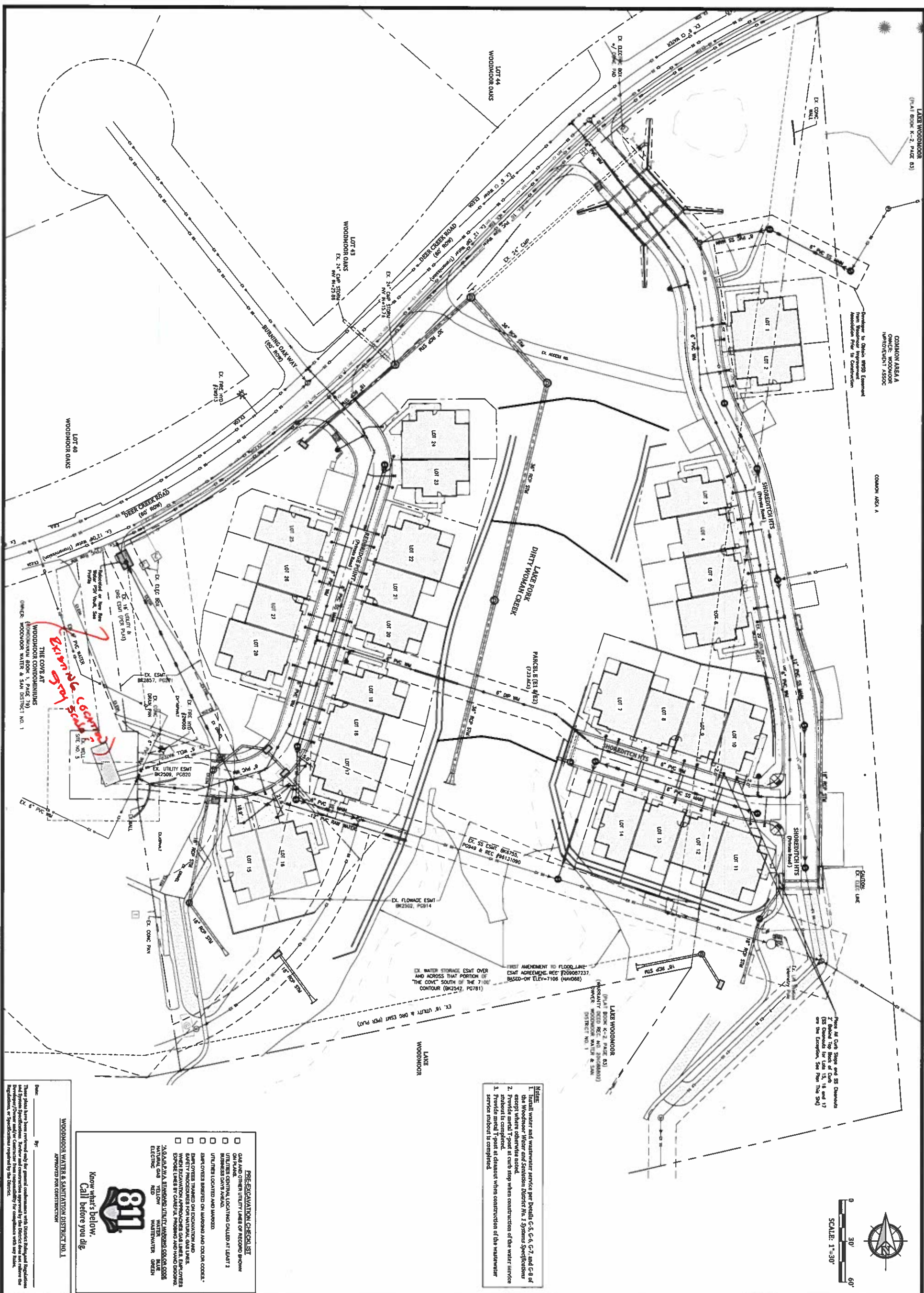
These plans have been reviewed only for general conformance with District Rules and Regulations and System Specifications. Review and construction approval by the District does not relieve the Developer/Owner and/or Contractor from responsibility for compliance with any Rules, Regulations, or Specifications required by the District.

North Bay at Lake Woodmoor

Utility Plan Cover Sheet

El Paso County, Colorado

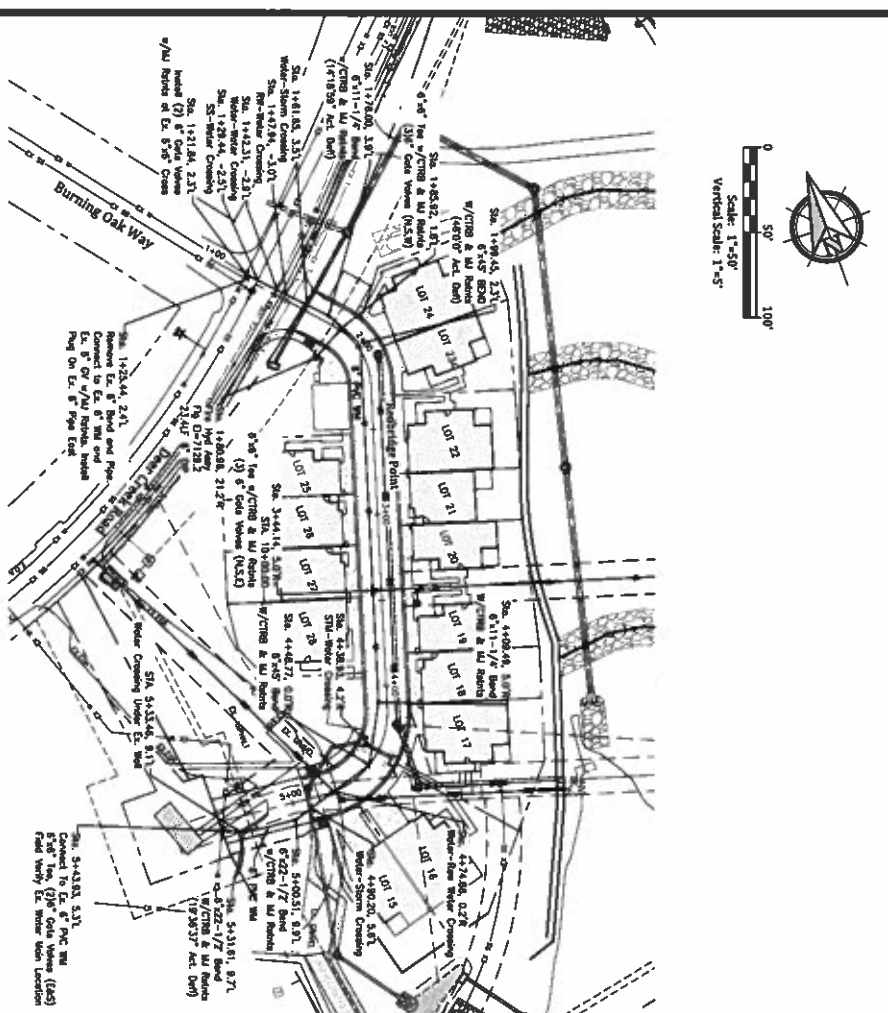




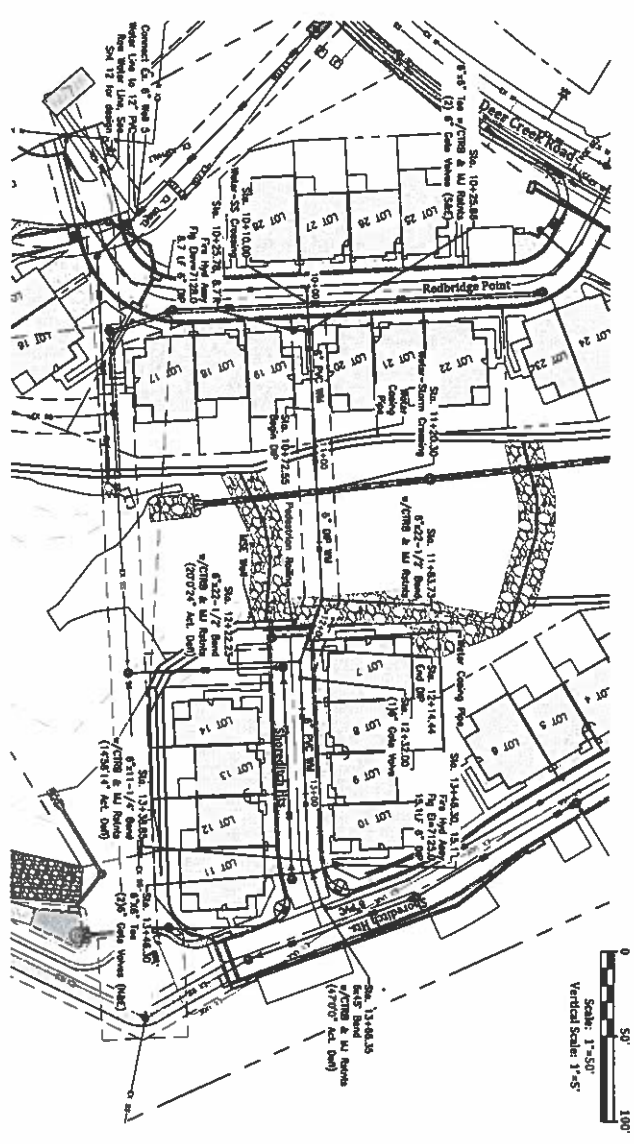
North Bay at Lake Woodmoor

Utility Service Plan

El Paso County, Colorado

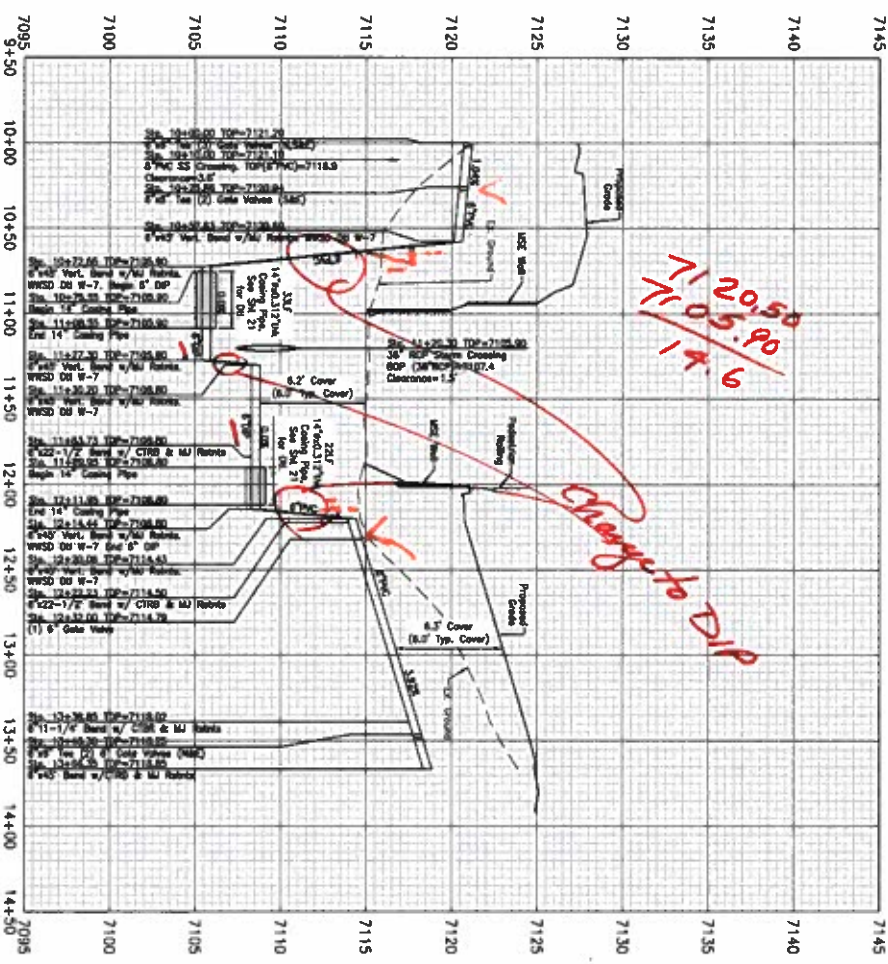
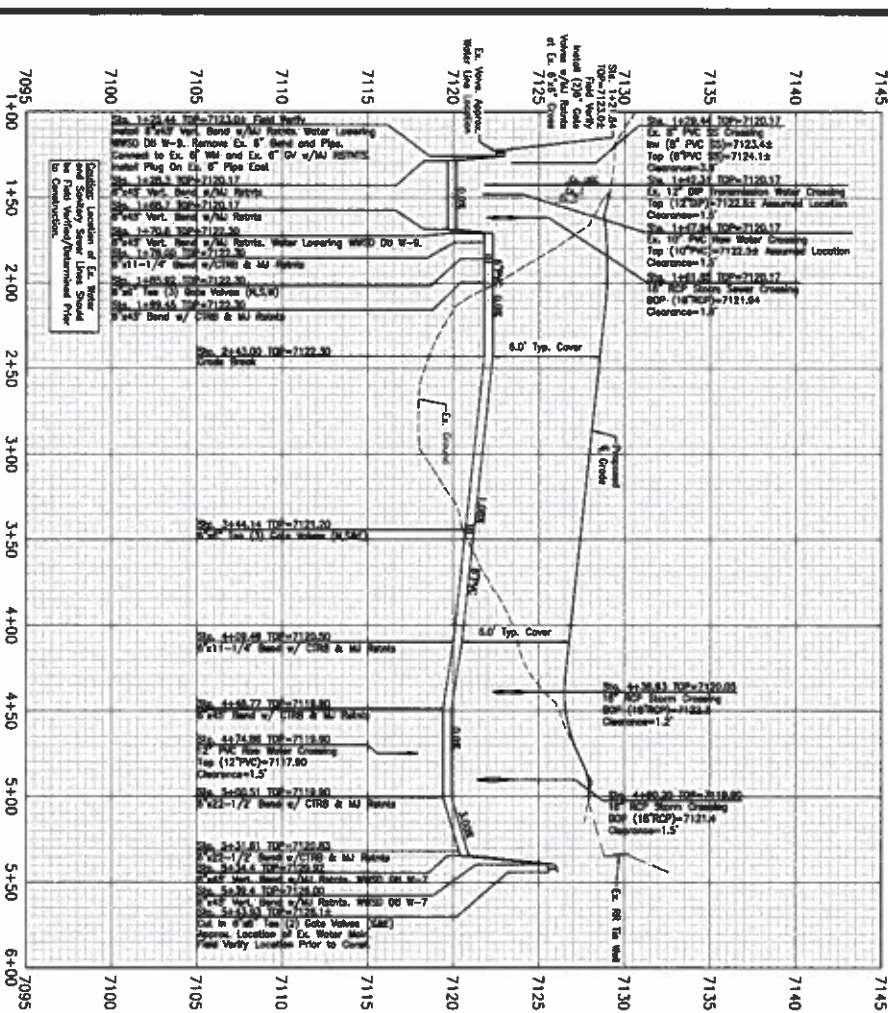


WATER LINE DATA		
LINE #	LENGTH	BEARING
L1	50.57	S43°15'28.54"E
L2	24.49	S28°56'28.72"E
L3	144.60	S17°03'30.28"W
L4	65.36	S17°03'30.28"W
L5	37.02	S28°18'30.28"W
L6	53.42	S73°18'30.28"W
L7	31.10	N64°11'23.72"W
L8	13.10	N64°34'52.83"W
L9	73.67	N72°58'39.72"W
L10	110.07	N72°55'09.08"W
L11	36.50	S50°26'39.72"E
L12	116.62	N72°28'34.01"W
L13	27.51	N67°25'08.20"W
L14	27.51	N67°25'08.20"W
L15	14.23	S41°57'04.18"E
L16	98.33	N25°52'30.67"E
L17	30.77	S15°28'53.48"E
L18	59.71	S04°13'53.48"E
L19	6.68	S24°43'53.48"E
L20	71.93	S24°43'53.48"E
L21	179.41	S10°33'12.28"E
L22	48.58	S00°25'08.20"E
L23	5.00	S45°34'51.80"W

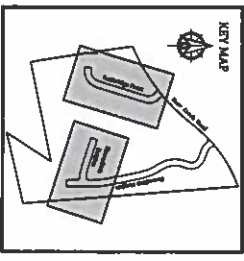


Redbridge Point - Water

Shoreditch Heights - Water

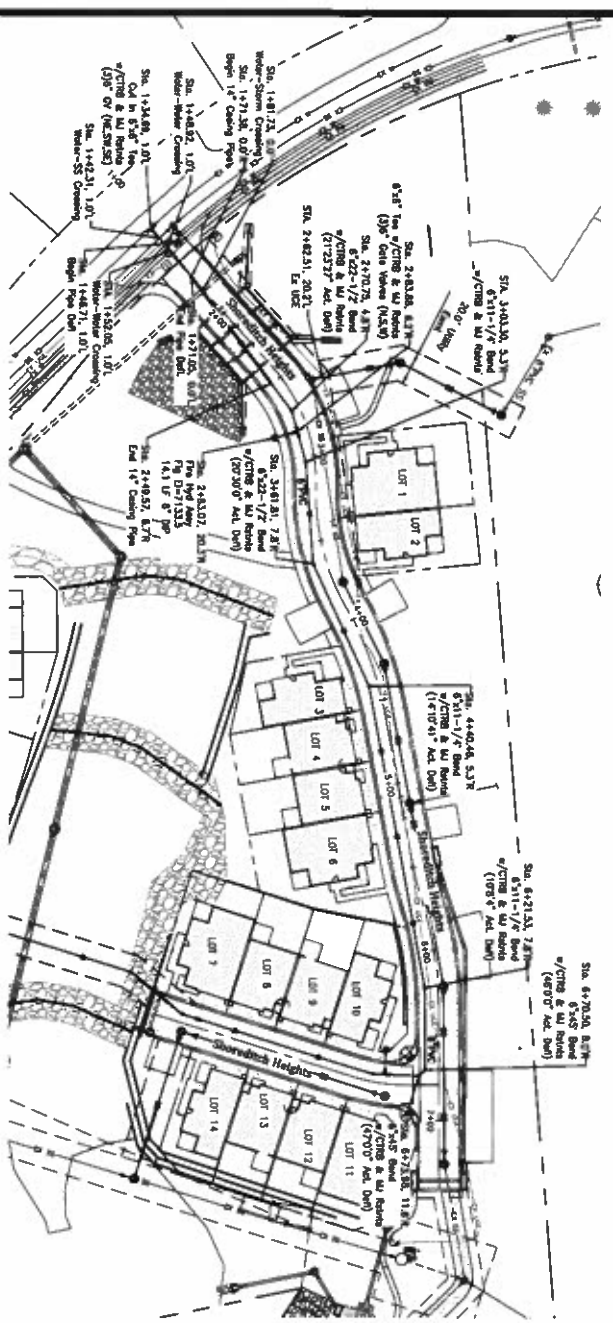


NOTES:
1. Refer to Plan view for actual angle at horizontal points.
2. Location of existing utilities has not been field determined. Contractor to determine location of existing utilities prior to construction.

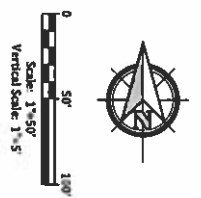


WOODMOOR WATER & SANITATION DISTRICT NO. 1
APPROVED FOR CONSTRUCTION

These plans have been reviewed only for general compliance with District Rules and Regulations. District does not warrant, represent, or assume any liability for the accuracy or completeness of the information provided. The user of these plans assumes all responsibility for the accuracy and completeness of the information provided. The user of these plans assumes all responsibility for the accuracy and completeness of the information provided.



WATER LINE DATA		
LINE #	LENGTH	BEARING
L1	50.57	S43°15'28.54"E
L2	24.48	S28°56'29.22"E
L3	144.60	S17°03'30.28"W
L4	65.36	S17°03'30.28"W
L5	37.02	S28°18'50.28"W
L6	53.42	S73°18'30.28"W
L7	31.10	N84°11'29.22"W
L8	13.10	N64°34'52.83"W
L9	73.67	N72°56'29.22"W
L10	110.07	N72°55'09.08"W
L11	38.50	S50°26'23.22"E
L12	116.82	N72°26'54.01"W
L13	27.51	N67°25'08.20"W
L14	27.51	N67°25'08.20"W
L15	14.23	S41°57'04.18"E
L16	30.77	S19°28'53.48"E
L17	30.77	S19°28'53.48"E
L18	36.71	S04°13'53.48"E
L19	6.68	S24°43'53.48"E
L20	71.93	S24°43'53.48"E
L21	178.41	S10°33'12.28"E
L22	48.38	S00°23'08.20"E
L23	5.00	S45°34'31.60"W



Why? making sure it's not a precast see diagram 1 in plans

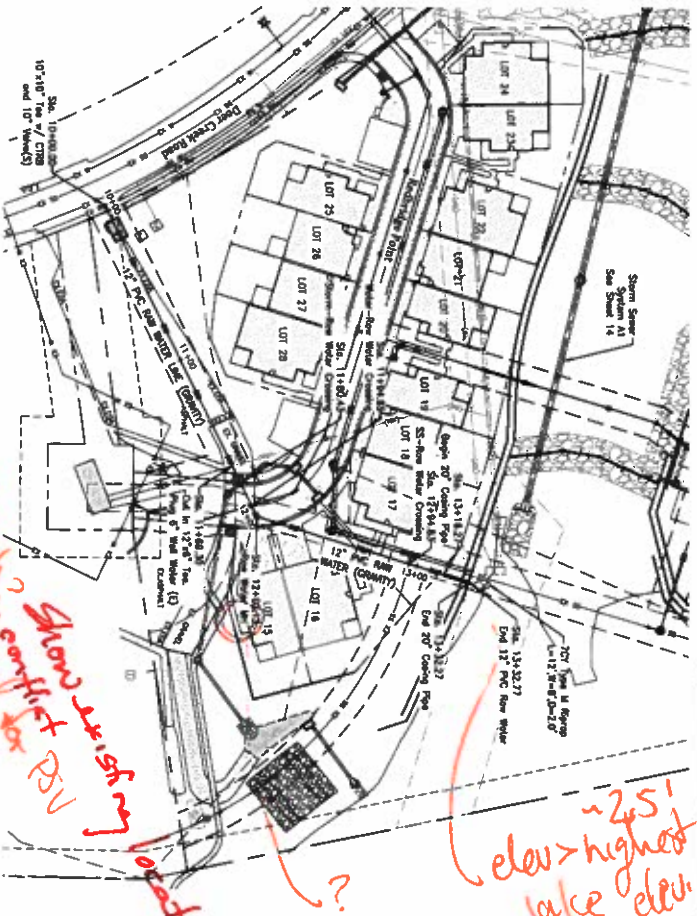
Shore-ditch heights - water

Shore-ditch heights - water

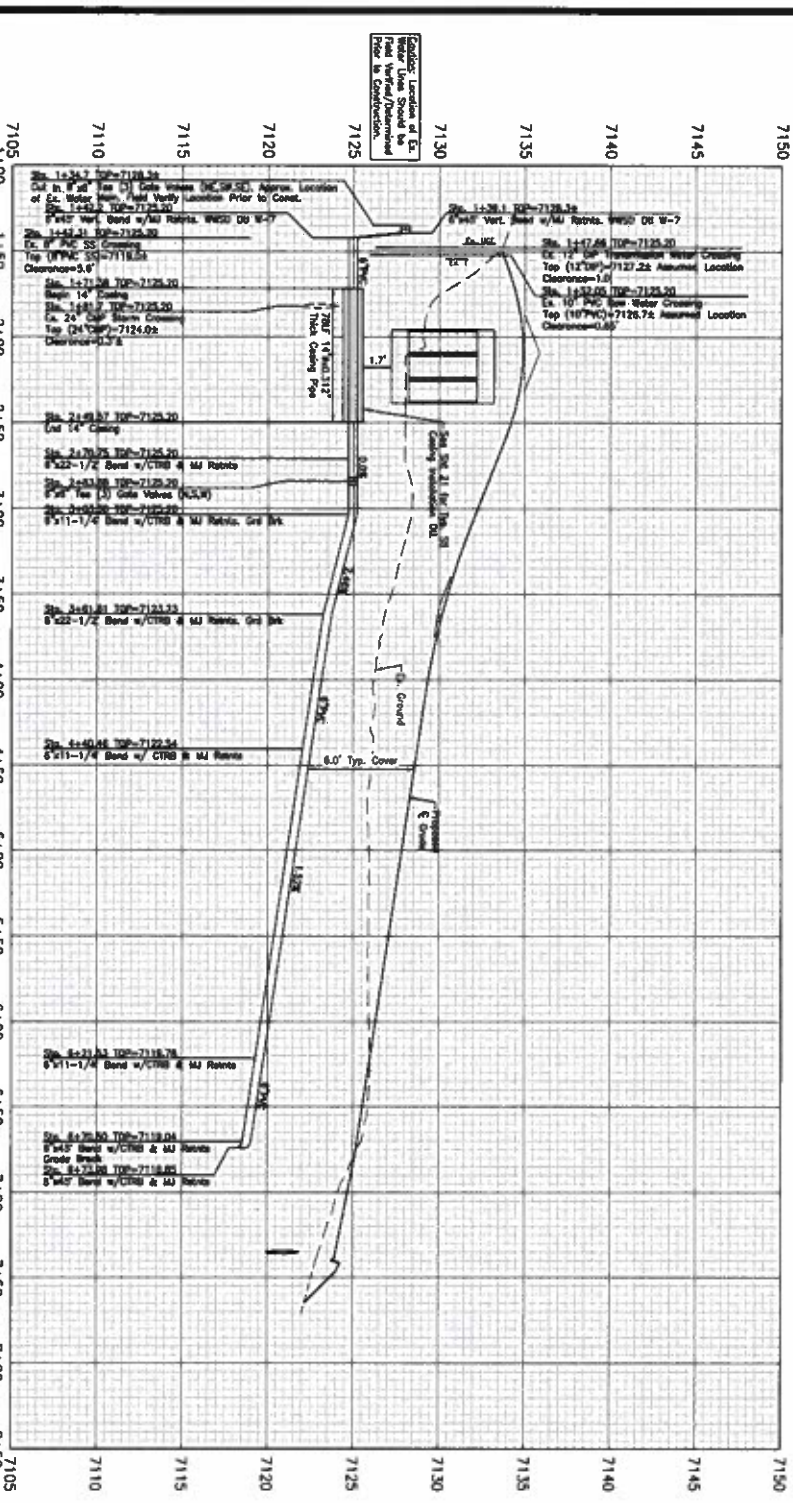
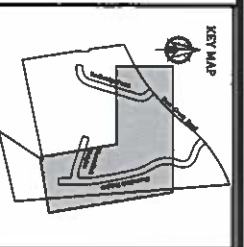
Shore-ditch heights - water

Shore-ditch heights - water

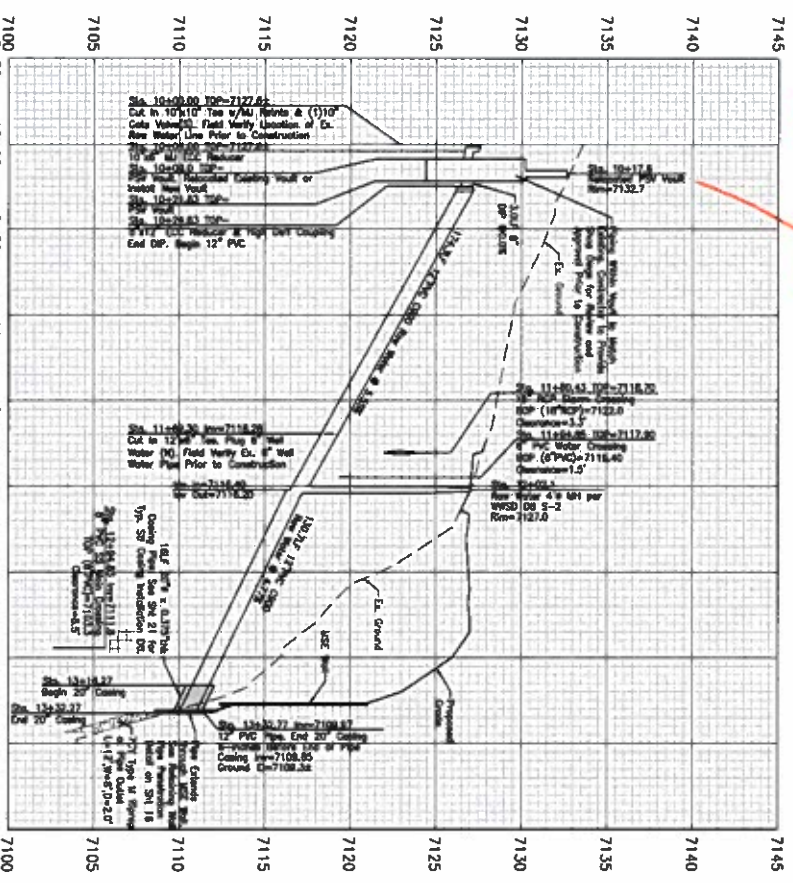
Shore-ditch heights - water



WOODMOOR WATER & SANITATION DISTRICT NO. 1
APPROVED FOR CONSTRUCTION



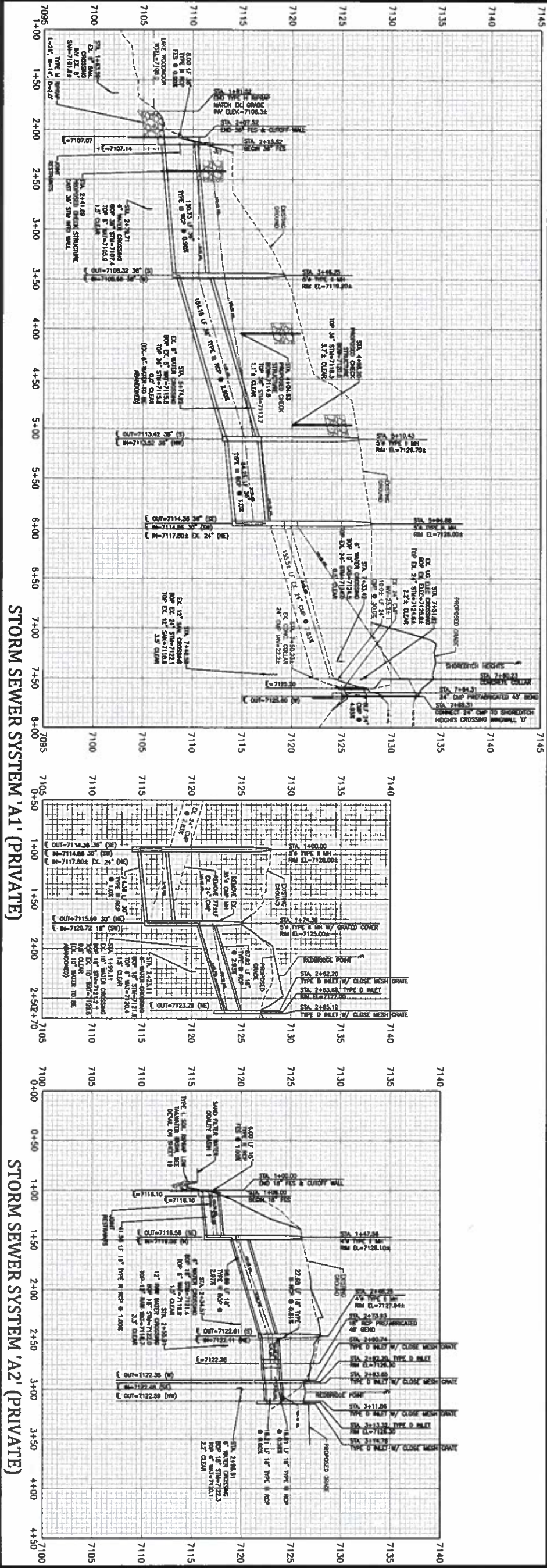
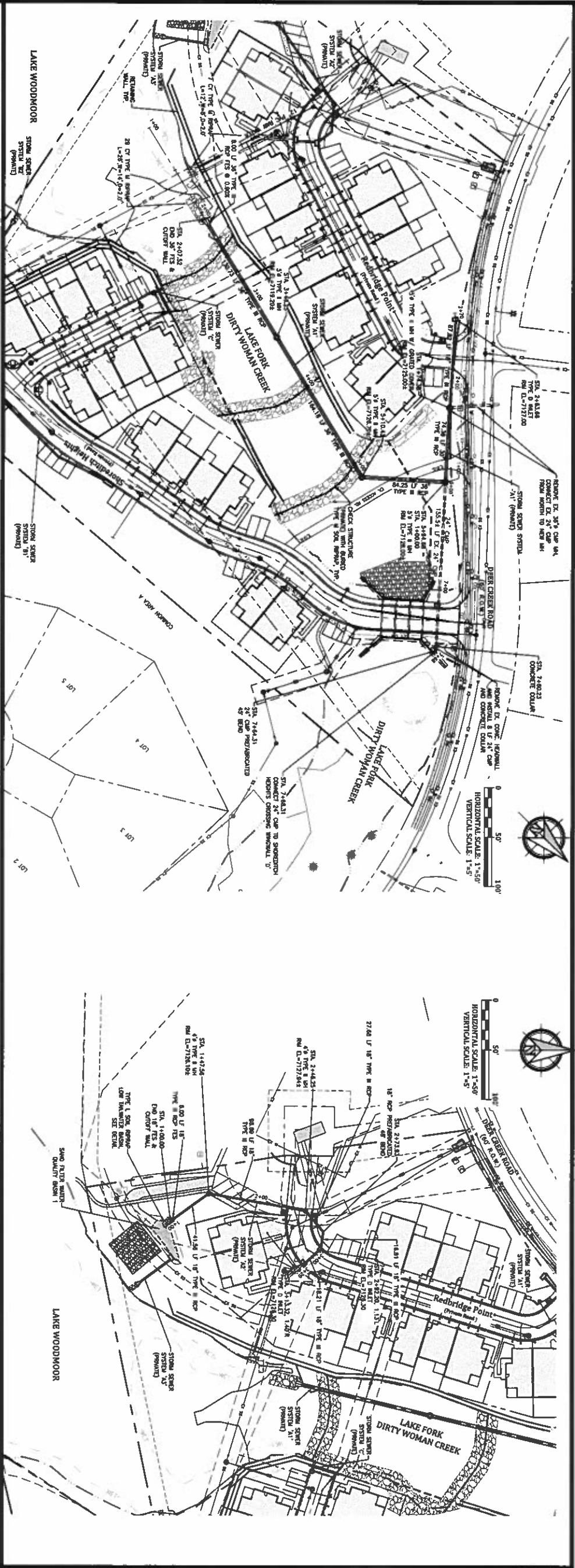
Know what's below.
Call before you dig.

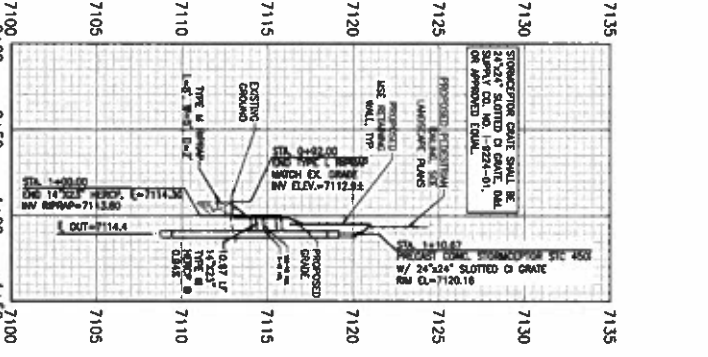
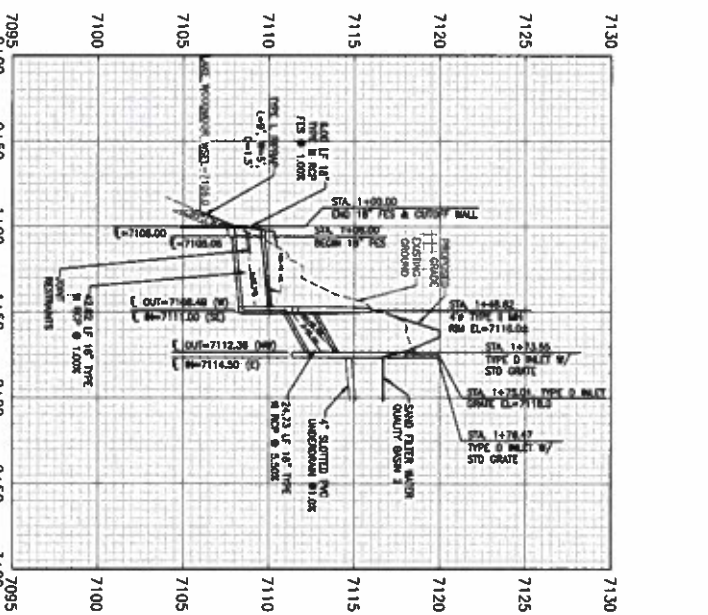
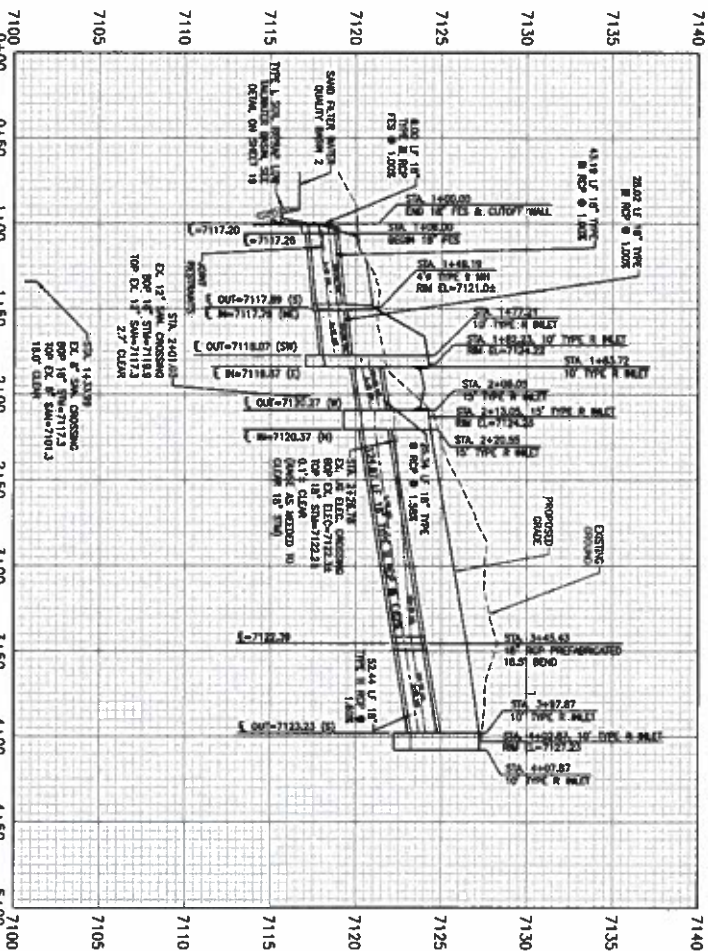
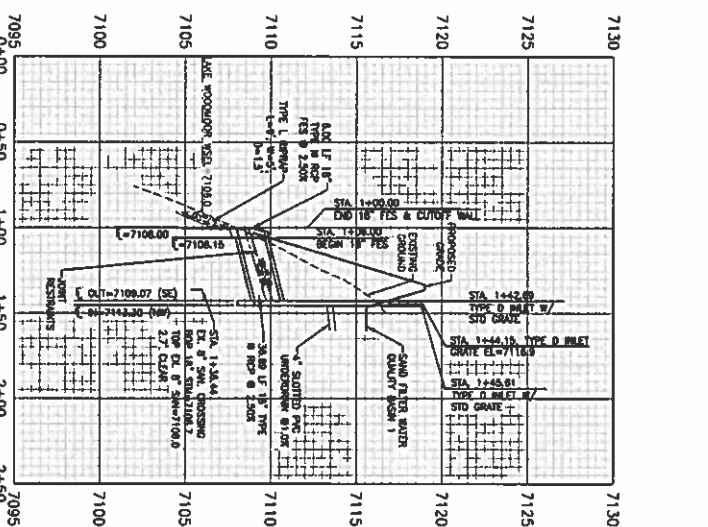
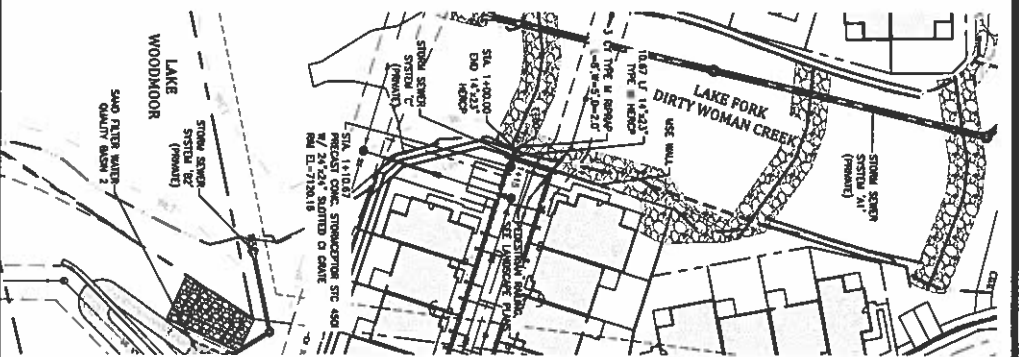
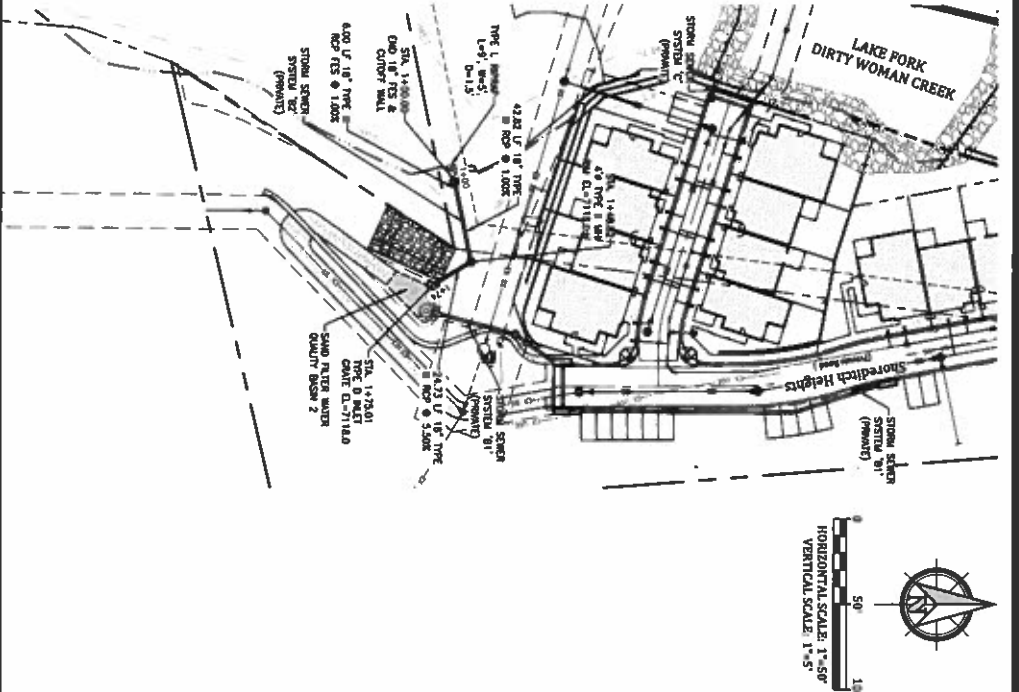
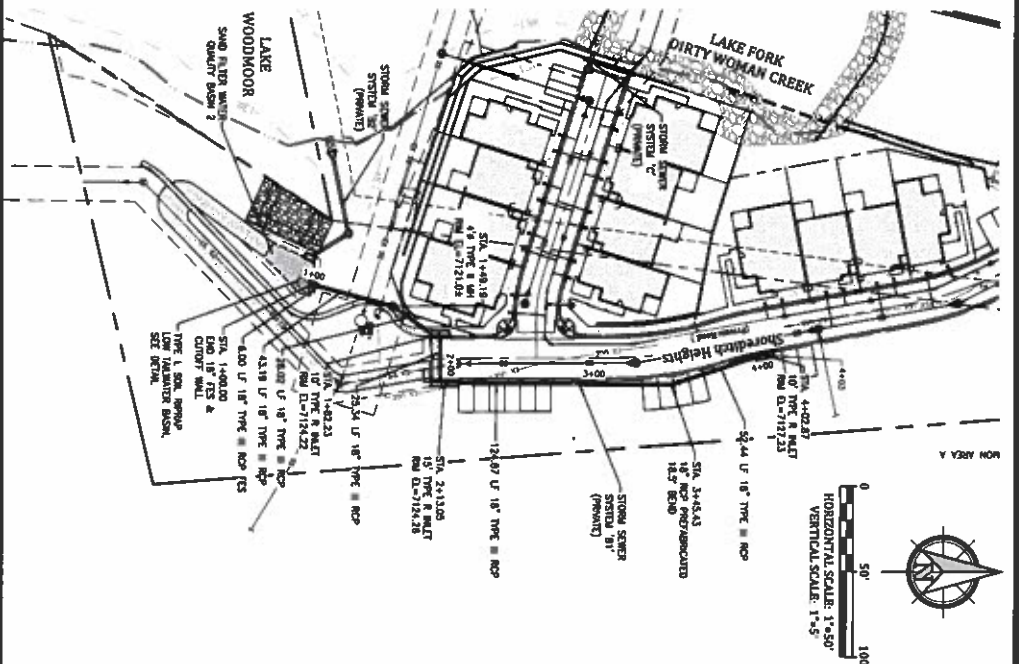
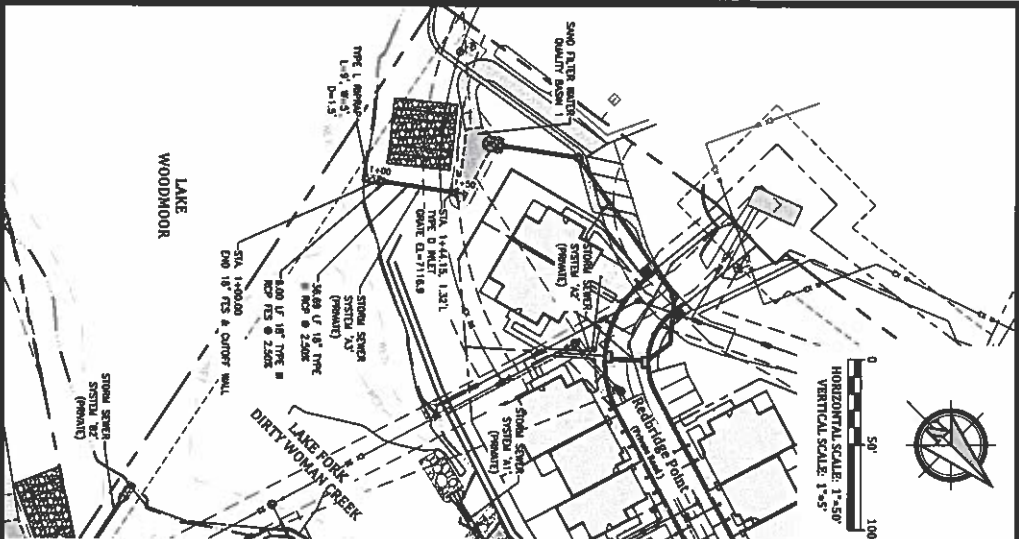


Project No.	15073
Date	November 21, 2019
Design	NRK
Drawn	CAD
Check	MWE
Revision	

North Bay at Lake Woodmoor
Shoreditch Heights -- 6" Watermain Plan and Profile
12" Water Storage Pipeline Plan and Profile
El Paso County, Colorado

Celebrating 30 years
Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342





STORM SEWER SYSTEM 'A3' (PRIVATE)

STORM SEWER SYSTEM 'B1' (PRIVATE)

STORM SEWER SYSTEM 'B2' (PRIVATE)

STORM SEWER SYSTEM 'C' (PRIVATE)

North Bay at Lake Woodmoor

Storm Sewer Plan and Profiles
El Paso County, Colorado

Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

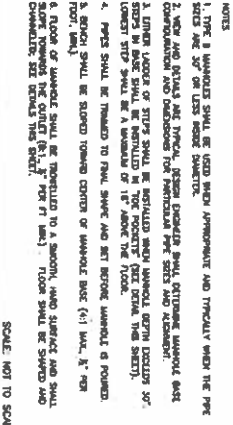


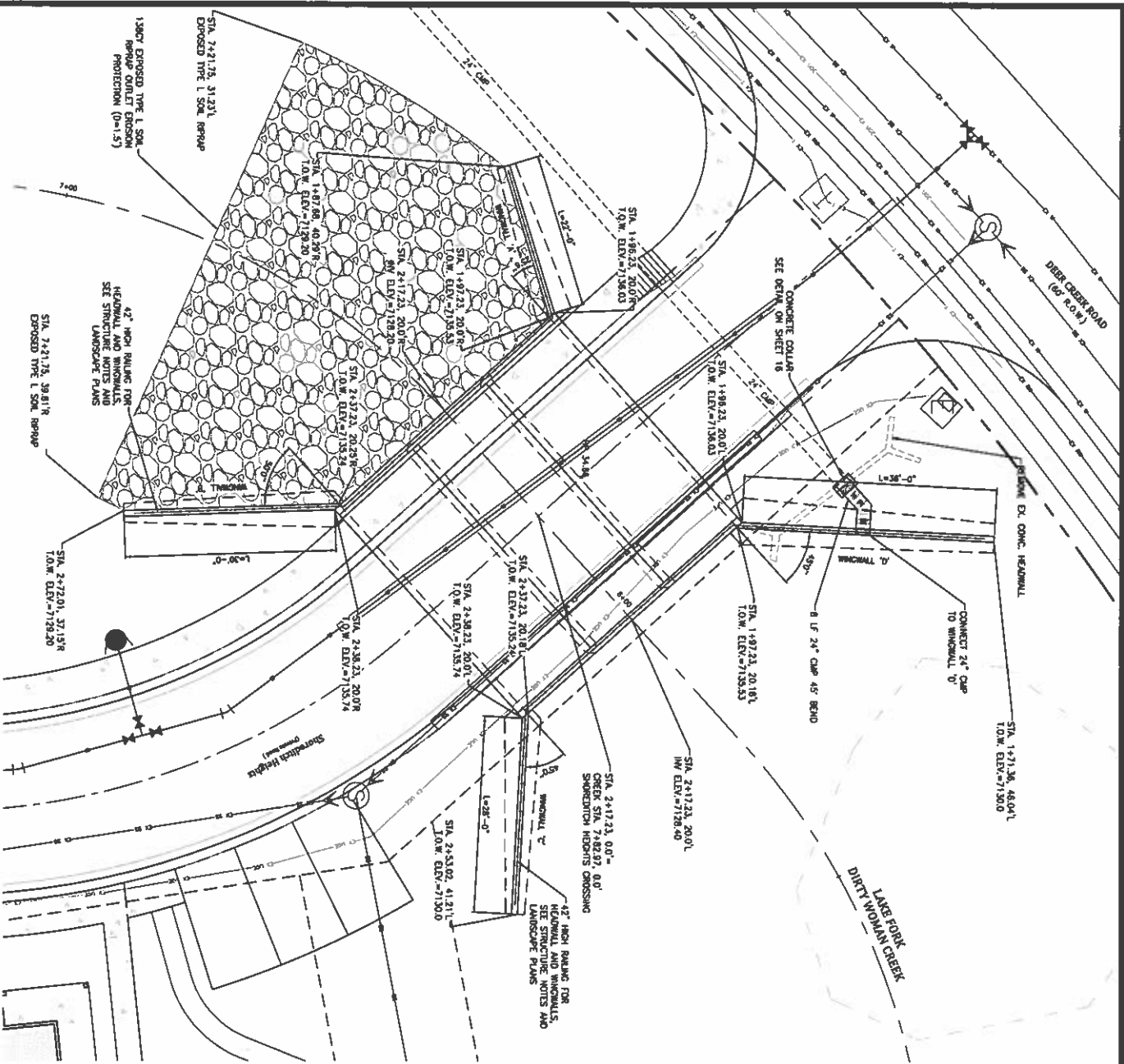
**RCP FES PIPE OUTLET w/CONCRETE
CUTOFF WALL AND JOINT RESTRAINTS**
SCALE: MTS



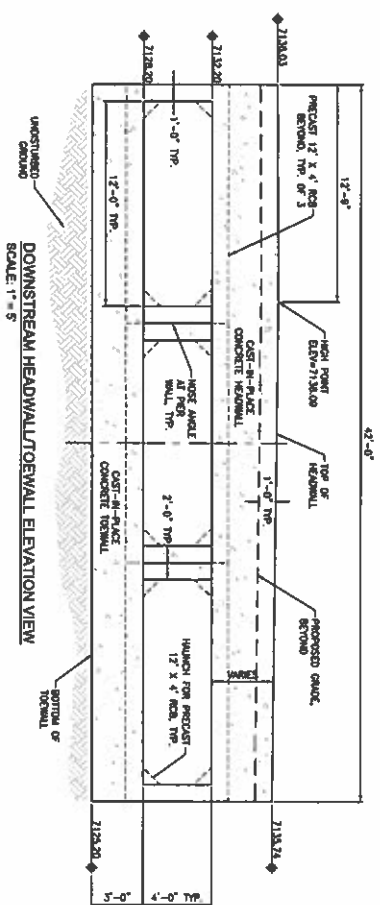
CLASSIFICATION AND GRADATION OF RIPRAP				
REPORT OBSERVATION REMARK	% SCALES 1/4" AND LARGER	INTERMEDIATE SIZE (INCHES)	DESIGN DEPTH	
TYPE VI.	70-100 30-60 2-10	12 8 2	6**	
TYPE L	70-100 30-60 35-50 2-10	12 8 15 3	9**	
TYPE M	70-100 30-60 35-50 2-10	21 15 12 3	12**	
TYPE H	70-100 30-60 35-50 2-10	24 18 18 4	18	
TYPE VII	50-70 35-60 30-70 2-10	42 24 100 2	24	

* design standard size (intermediate dimension) by report.
 ** for L, H and M is separate with size types. (per volume) and Bury
 with 1/4" and larger stones. (per volume) and 1/4" and larger stones.
 L, M, H, Bury with 1/4" and larger stones. (per volume) and 1/4" and larger stones.
 L, M, H, Bury with 1/4" and larger stones. (per volume) and 1/4" and larger stones.

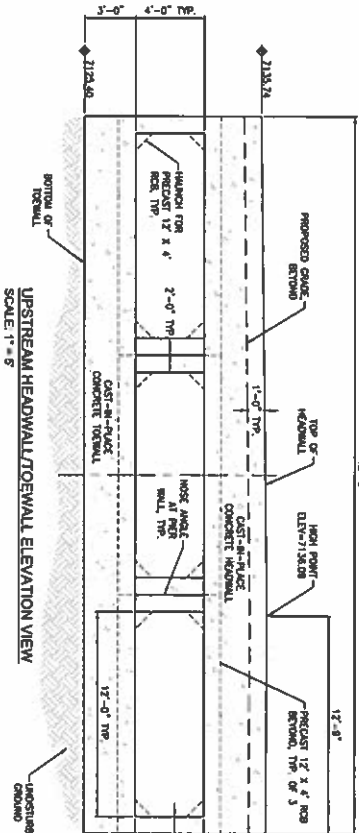
[illegible]



SHOREDITCH HEIGHTS CROSSING PLAN
SCALE: 1" = 10'



DOWNSTREAM HEADWALL/TEE WALL ELEVATION VIEW
SCALE: 1" = 5'

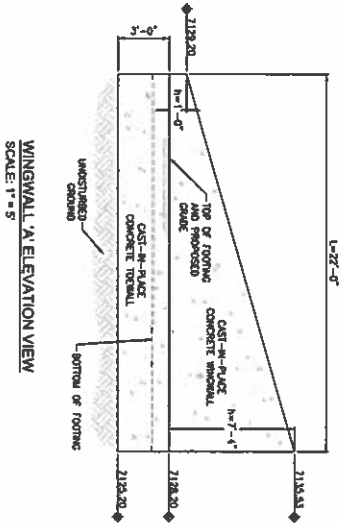


UPSTREAM HEADWALL/TEE WALL ELEVATION VIEW
SCALE: 1" = 5'

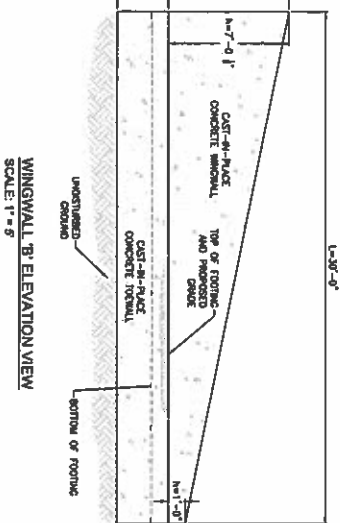
HEADWALL/TEE WALL TYPICAL SECTION
SCALE: 1" = 5'

WINGWALL TYPICAL SECTION
SCALE: 1" = 5'

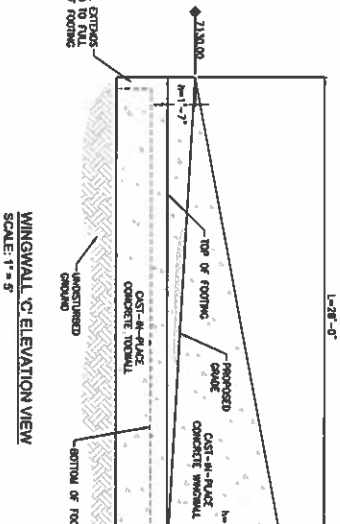
- STRUCTURE NOTES:**
1. PRECAST CONCRETE BOX CULVERT MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH DOT STANDARD PLAN NO. H-403-1, WITH BEDDING ALTERNATIVE 1.
 2. CAST-IN-PLACE CONCRETE HEADWALLS WITH DETAILS AND THEN CONNECTION TO THE PRECAST BOX CULVERT SHALL BE CONSTRUCTED IN ACCORDANCE WITH DOT STANDARD PLAN NO. H-401-2A FOR WALL HEIGHTS LESS THAN 12'-0". USE DESIGN FOR H-401-2A.
 3. CAST-IN-PLACE CONCRETE HEADWALLS FOR WALL HEIGHTS LESS THAN 12'-0" SHALL BE CONSTRUCTED IN ACCORDANCE WITH DOT STANDARD PLAN NO. H-401-2A.
 4. CAST-IN-PLACE CONCRETE HEADWALLS FOR WALL HEIGHTS LESS THAN 12'-0" SHALL BE CONSTRUCTED IN ACCORDANCE WITH DOT STANDARD PLAN NO. H-401-2A.
 5. ALL REINFORCING STEEL SHALL HAVE 2-INCH MINIMUM CLEARANCE FROM FACE OF CONCRETE AND 3-INCH MIN CLEARANCE TO FACE OF CONCRETE PLACED AGAINST SOIL.
 6. ALL REINFORCING STEEL SHALL HAVE 2-INCH MINIMUM CLEARANCE FROM FACE OF CONCRETE AND 3-INCH MIN CLEARANCE TO FACE OF CONCRETE PLACED AGAINST SOIL.
 7. CAST-IN-PLACE CONCRETE HEADWALLS SHALL BE CONSTRUCTED WITH CORNER CLASS 0 CONCRETE.
 8. CAST-IN-PLACE CONCRETE HEADWALLS SHALL BE CONSTRUCTED WITH CORNER CLASS 0 CONCRETE.
 9. CAST-IN-PLACE CONCRETE HEADWALLS SHALL BE CONSTRUCTED WITH CORNER CLASS 0 CONCRETE.
 10. CAST-IN-PLACE CONCRETE HEADWALLS SHALL BE CONSTRUCTED WITH CORNER CLASS 0 CONCRETE.



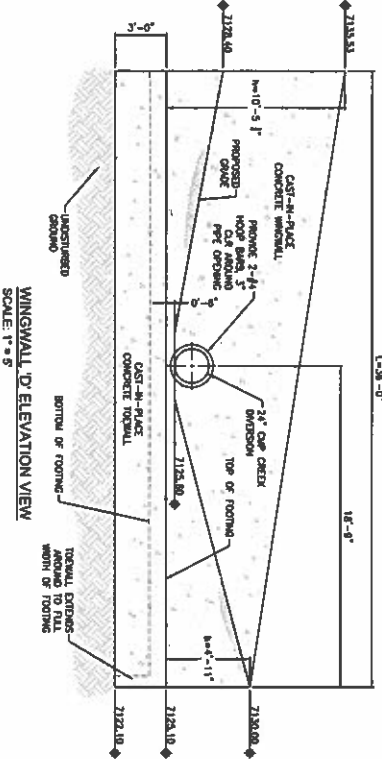
WINGWALL 'A' ELEVATION VIEW
SCALE: 1" = 5'



WINGWALL 'B' ELEVATION VIEW
SCALE: 1" = 5'



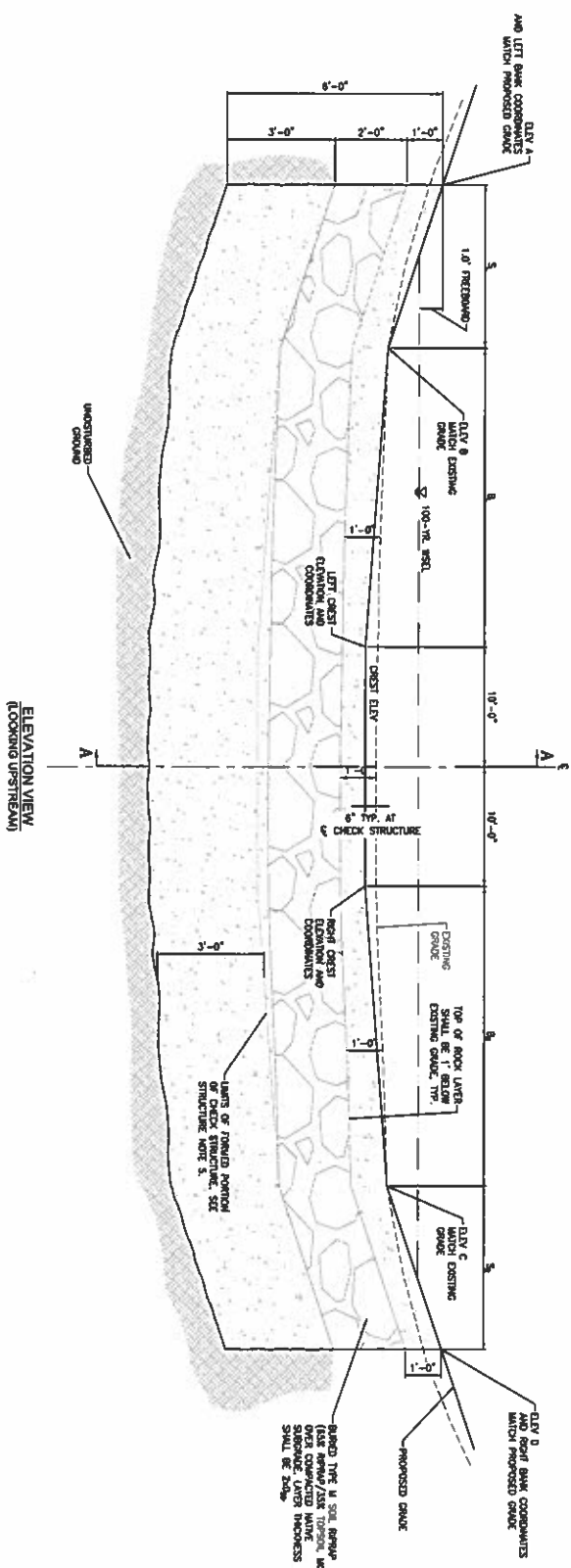
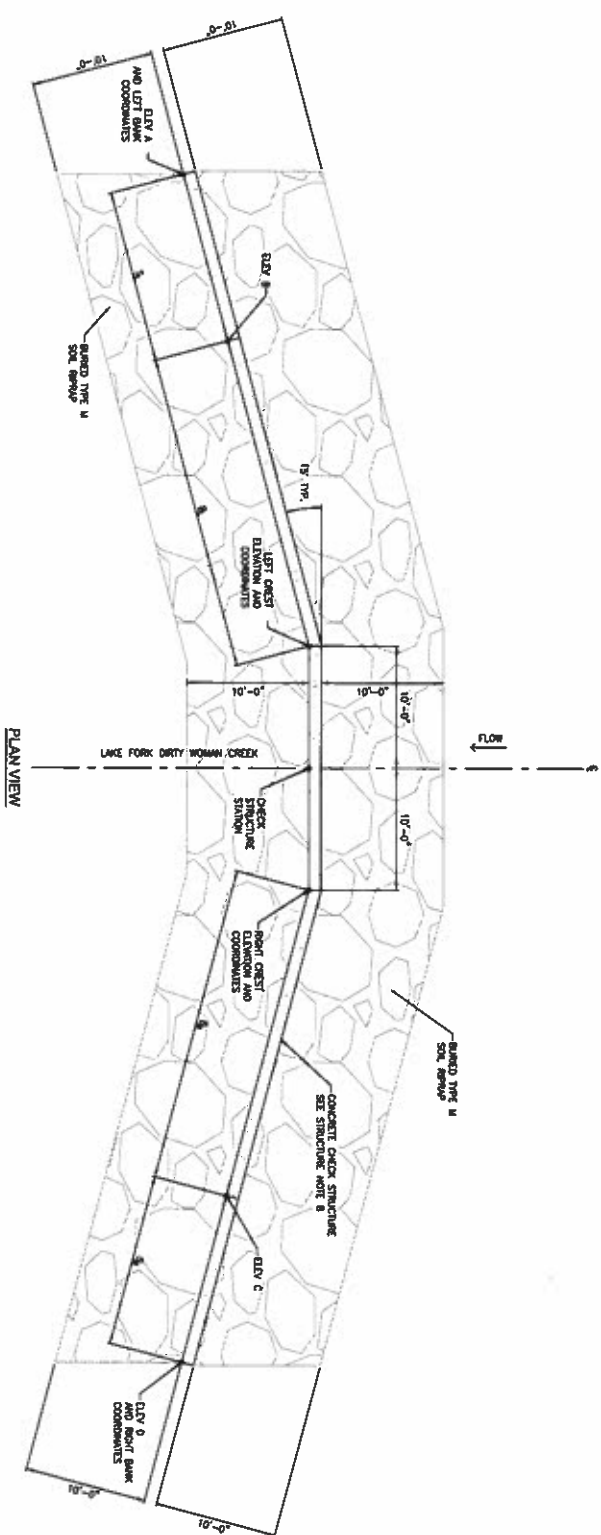
WINGWALL 'C' ELEVATION VIEW
SCALE: 1" = 5'



WINGWALL 'D' ELEVATION VIEW
SCALE: 1" = 5'

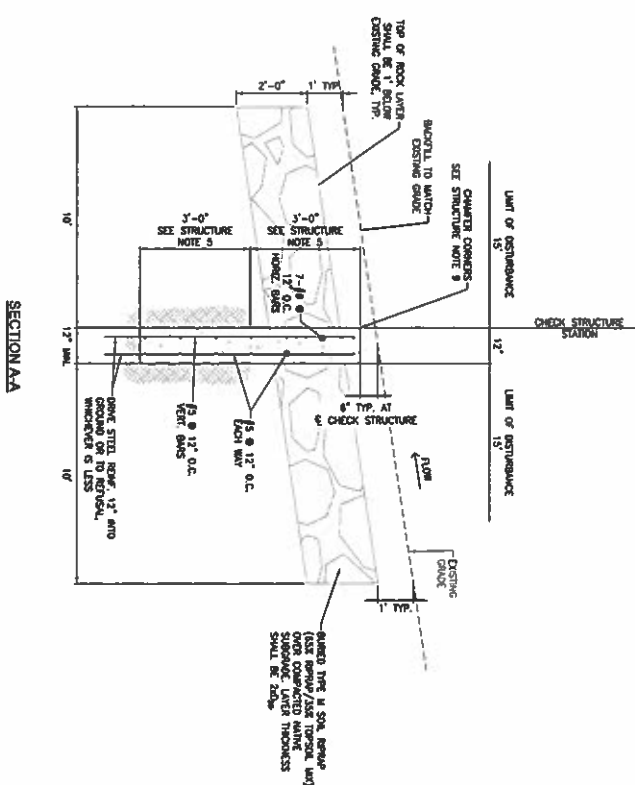
North Bay at Lake Woodmoor
Shoreditch Heights Crossing Details
El Paso County, Colorado

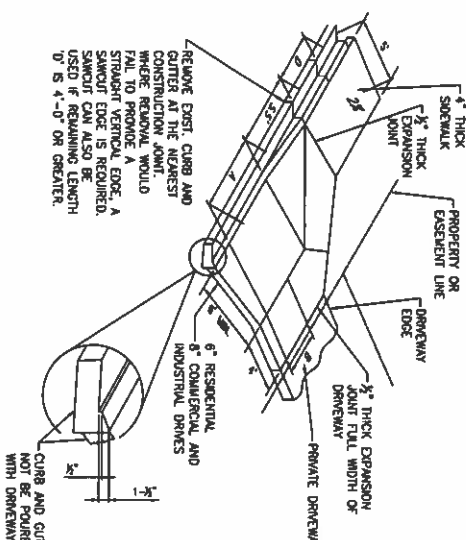
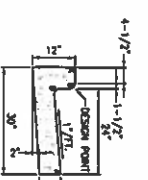
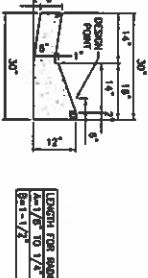
Celebrating 30 years
Kiowa
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1604 South 21st Street
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(719) 630-7342



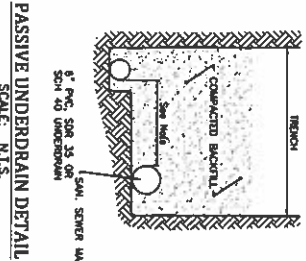
CHECK STRUCTURE DETAILS (PRIVATE)
NTS

CHECK STRUCTURE LAYOUT TABLE													
(ALL DIMENSIONS IN FEET (INCH))													
CHECK STRUCTURE STATION	LEFT CREST COORDINATES	RIGHT CREST COORDINATES	LEFT BANK COORDINATES	RIGHT BANK COORDINATES	A	B	C	S	CREST ELEV (LEFT/RIGHT)	ELEV A	ELEV B	ELEV C	ELEV D
STA. 3+49.33	E 24761.85	E 24761.85	E 24762.08	E 24762.14	38.6	30.6	5.7	7.3	7171.2	7171.6	7171.6	7172.7	7171.9
STA. 3+78.04	E 23830.82	E 23833.82	E 23834.30	E 22260.15	34.4	37.0	-	19.9	7170.8	7170.8	7170.8	7172.8	
STA. 3+77.94	E 23722.37	E 23722.37	E 23722.37	E 22071.96	44.3	42.8	7.1	15.6	7175.9	7176.0	7176.2	7176.3	7176.5
STA. 3+78.04	E 23830.82	E 23833.82	E 23834.30	E 22260.15	34.4	37.0	-	19.9	7170.8	7170.8	7170.8	7172.8	

[illegible]



TOOL JOINT SYMBOL		DRY-CUTTING METHOD
A	B	
1"	2"	1"
1 1/2"	2 1/2"	1 1/2"
1 3/4"	3"	1 3/4"
1 7/8"	3 1/2"	1 7/8"
2"	3 3/4"	2"
2 1/4"	4"	2 1/4"
2 1/2"	4 1/2"	2 1/2"
2 3/4"	4 3/4"	2 3/4"
2 7/8"	5"	2 7/8"
3"	5 1/2"	3"
3 1/4"	5 3/4"	3 1/4"
3 1/2"	6"	3 1/2"
3 3/4"	6 1/2"	3 3/4"
3 7/8"	6 3/4"	3 7/8"
4"	7"	4"
4 1/4"	7 1/2"	4 1/4"
4 1/2"	7 3/4"	4 1/2"
4 3/4"	8"	4 3/4"
4 7/8"	8 1/2"	4 7/8"
5"	8 3/4"	5"
5 1/4"	9"	5 1/4"
5 1/2"	9 1/2"	5 1/2"
5 3/4"	9 3/4"	5 3/4"
5 7/8"	10"	5 7/8"
6"	10 1/2"	6"
6 1/4"	10 3/4"	6 1/4"
6 1/2"	11"	6 1/2"
6 3/4"	11 1/2"	6 3/4"
6 7/8"	11 3/4"	6 7/8"
7"	12"	7"
7 1/4"	12 1/2"	7 1/4"
7 1/2"	12 3/4"	7 1/2"
7 3/4"	13"	7 3/4"
7 7/8"	13 1/2"	7 7/8"
8"	13 3/4"	8"
8 1/4"	14"	8 1/4"
8 1/2"	14 1/2"	8 1/2"
8 3/4"	14 3/4"	8 3/4"
8 7/8"	15"	8 7/8"
9"	15 1/2"	9"
9 1/4"	15 3/4"	9 1/4"
9 1/2"	16"	9 1/2"
9 3/4"	16 1/2"	9 3/4"
9 7/8"	16 3/4"	9 7/8"
10"	17"	10"
10 1/4"	17 1/2"	10 1/4"
10 1/2"	17 3/4"	10 1/2"
10 3/4"	18"	10 3/4"
10 7/8"	18 1/2"	10 7/8"
11"	18 3/4"	11"
11 1/4"	19"	11 1/4"
11 1/2"	19 1/2"	11 1/2"
11 3/4"	19 3/4"	11 3/4"
11 7/8"	20"	11 7/8"
12"	20 1/2"	12"
12 1/4"	20 3/4"	12 1/4"
12 1/2"	21"	12 1/2"
12 3/4"	21 1/2"	12 3/4"
12 7/8"	21 3/4"	12 7/8"
13"	22"	13"
13 1/4"	22 1/2"	13 1/4"
13 1/2"	22 3/4"	13 1/2"
13 3/4"	23"	13 3/4"
13 7/8"	23 1/2"	13 7/8"
14"	23 3/4"	14"
14 1/4"	24"	14 1/4"
14 1/2"	24 1/2"	14 1/2"
14 3/4"	24 3/4"	14 3/4"
14 7/8"	25"	14 7/8"
15"	25 1/2"	15"
15 1/4"	25 3/4"	15 1/4"
15 1/2"	26"	15 1/2"
15 3/4"	26 1/2"	15 3/4"
15 7/8"	26 3/4"	15 7/8"
16"	27"	16"
16 1/4"	27 1/2"	16 1/4"
16 1/2"	27 3/4"	16 1/2"
16 3/4"	28"	16 3/4"
16 7/8"	28 1/2"	16 7/8"
17"	28 3/4"	17"
17 1/4"	29"	17 1/4"
17 1/2"	29 1/2"	17 1/2"
17 3/4"	29 3/4"	17 3/4"
17 7/8"	30"	17 7/8"
18"	30 1/2"	18"
18 1/4"	30 3/4"	18 1/4"
18 1/2"	31"	18 1/2"
18 3/4"	31 1/2"	18 3/4"
18 7/8"	31 3/4"	18 7/8"
19"	32"	19"
19 1/4"	32 1/2"	19 1/4"
19 1/2"	32 3/4"	19 1/2"
19 3/4"	33"	19 3/4"
19 7/8"	33 1/2"	19 7/8"
20"	33 3/4"	20"
20 1/4"	34"	20 1/4"
20 1/2"	34 1/2"	20 1/2"
20 3/4"	34 3/4"	20 3/4"
20 7/8"	35"	20 7/8"
21"	35 1/2"	21"
21 1/4"	35 3/4"	21 1/4"
21 1/2"	36"	21 1/2"
21 3/4"	36 1/2"	21 3/4"
21 7/8"	36 3/4"	21 7/8"
22"	37"	22"
22 1/4"	37 1/2"	22 1/4"
22 1/2"	37 3/4"	22 1/2"
22 3/4"	38"	22 3/4"
22 7/8"	38 1/2"	22 7/8"
23"	38 3/4"	23"
23 1/4"	39"	23 1/4"
23 1/2"	39 1/2"	23 1/2"
23 3/4"	39 3/4"	23 3/4"
23 7/8"	40"	23 7/8"
24"	40 1/2"	24"
24 1/4"	40 3/4"	24 1/4"
24 1/2"	41"	24 1/2"
24 3/4"	41 1/2"	24 3/4"
24 7/8"	41 3/4"	24 7/8"
25"	42"	25"
25 1/4"	42 1/2"	25 1/4"
25 1/2"	42 3/4"	25 1/2"
25 3/4"	43"	25 3/4"
25 7/8"	43 1/2"	25 7/8"
26"	43 3/4"	26"
26 1/4"	44"	26 1/4"
26 1/2"	44 1/2"	26 1/2"
26 3/4"	44 3/4"	26 3/4"
26 7/8"	45"	26 7/8"
27"	45 1/2"	27"
27 1/4"	45 3/4"	27 1/4"
27 1/2"	46"	27 1/2"
27 3/4"	46 1/2"	27 3/4"
27 7/8"	46 3/4"	27 7/8"
28"	47"	28"
28 1/4"	47 1/2"	28 1/4"
28 1/2"	47 3/4"	28 1/2"
28 3/4"	48"	28 3/4"
28 7/8"	48 1/2"	28 7/8"
29"	48 3/4"	29"
29 1/4"	49"	29 1/4"
29 1/2"	49 1/2"	29 1/2"
29 3/4"	49 3/4"	29 3/4"
29 7/8"	50"	29 7/8"
30"	50 1/2"	30"
30 1/4"	50 3/4"	30 1/4"
30 1/2"	51"	30 1/2"
30 3/4"	51 1/2"	30 3/4"
30 7/8"	51 3/4"	30 7/8"
31"	52"	31"
31 1/4"	52 1/2"	31 1/4"
31 1/2"	52 3/4"	31 1/2"
31 3/4"	53"	31 3/4"
31 7/8"	53 1/2"	31 7/8"
32"	53 3/4"	32"
32 1/4"	54"	32 1/4"
32 1/2"	54 1/2"	32 1/2"
32 3/4"	54 3/4"	32 3/4"
32 7/8"	55"	32 7/8"
33"	55 1/2"	33"
33 1/4"	55 3/4"	33 1/4"
33 1/2"	56"	33 1/2"
33 3/4"	56 1/2"	33 3/4"
33 7/8"	56 3/4"	33 7/8"
34"	57"	34"
34 1/4"	57 1/2"	34 1/4"
34 1/2"	57 3/4"	34 1/2"
34 3/4"	58"	34 3/4"
34 7/8"	58 1/2"	34 7/8"
35"	58 3/4"	35"
35 1/4"	59"	35 1/4"
35 1/2"	59 1/2"	35 1/2"
35 3/4"	59 3/4"	35 3/4"
35 7/8"	60"	35 7/8"
36"	60 1/2"	36"
36 1/4"	60 3/4"	36 1/4"
36 1/2"	61"	36 1/2"
36 3/4"	61 1/2"	36 3/4"
36 7/8"	61 3/4"	36 7/8"
37"	62"	37"
37 1/4"	62 1/2"	37 1/4"
37 1/2"	62 3/4"	37 1/2"
37 3/4"	63"	37 3/4"
37 7/8"	63 1/2"	37 7/8"
38"	63 3/4"	38"
38 1/4"	64"	38 1/4"
38 1/2"	64 1/2"	38 1/2"
38 3/4"	64 3/4"	38 3/4"
38 7/8"	65"	38 7/8"
39"	65 1/2"	39"
39 1/4"	65 3/4"	39 1/4"
39 1/2"	66"	39 1/2"
39 3/4"	66 1/2"	39 3/4"
39 7/8"	66 3/4"	39 7/8"
40"	67"	40"
40 1/4"	67 1/2"	40 1/4"
40 1/2"	67 3/4"	40 1/2"
40 3/4"	68"	40 3/4"
40 7/8"	68 1/2"	40 7/8"
41"	68 3/4"	41"
41 1/4"	69"	41 1/4"
41 1/2"	69 1/2"	41 1/2"
41 3/4"	69 3/4"	41 3/4"
41 7/8"	70"	41 7/8"
42"	70 1/2"	42"
42 1/4"	70 3/4"	42 1/4"
42 1/2"	71"	42 1/2"
42 3/4"	71 1/2"	42 3/4"
42 7/8"	71 3/4"	42 7/8"
43"	72"	43"
43 1/4"	72 1/2"	43 1/4"
43 1/2"	72 3/4"	43 1/2"
43 3/4"	73"	43 3/4"
43 7/8"	73 1/2"	43 7/8"
44"	73 3/4"	44"
44 1/4"	74"	44 1/4"
44 1/2"	74 1/2"	44 1/2"
44 3/4"	74 3/4"	44 3/4"
44 7/8"	75"	44 7/8"
45"	75 1/2"	45"
45 1/4"	75 3/4"	45 1/4"
45 1/2"	76"	45 1/2"
45 3/4"	76 1/2"	45 3/4"
45 7/8"	76 3/4"	45 7/8"
46"	77"	46"
46 1/4"	77 1/2"	46 1/4"
46 1/2"	77 3/4"	46 1/2"
46 3/4"	78"	46 3/4"
46 7/8"	78 1/2"	46 7/8"
47"	78 3/4"	47"
47 1/4"	79"	47 1/4"
47 1/2"	79 1/2"	47 1/2"
47 3/4"	79 3/4"	47 3/4"
47 7/8"	80"	47 7/8"
48"	80 1/2"	48"
48 1/4"	80 3/4"	48 1/4"
48 1/2"	81"	48 1/2"
48 3/4"	81 1/2"	48 3/4"
48 7/8"	81 3/4"	48 7/8"
49"	82"	49"
49 1/4"	82 1/2"	49 1/4"
49 1/2"	82 3/4"	49 1/2"
49 3/4"	83"	49 3/4"
49 7/8"	83 1/2"	49 7/8"
50"	83 3/4"	50"
50 1/4"	84"	50 1/4"
50 1/2"	84 1/2"	50 1/2"
50 3/4"	84 3/4"	50 3/4"
50 7/8"	85"	50 7/8"
51"	85 1/2"	51"
51 1/4"	85 3/4"	51 1/4"
51 1/2"	86"	51 1/2"
51 3/4"	86 1/2"	51 3/4"
51 7/8"	86 3/4"	51 7/8"
52"	87"	52"
52 1/4"	87 1/2"	52 1/4"
52 1/2"	87 3/4"	52 1/2"
52 3/4"	88"	52 3/4"
52 7/8"	88 1/2"	52 7/8"
53"	88 3/4"	53"
53 1/4"	89"	53 1/4"
53 1/2"	89 1/2"	53 1/2"
53 3/4"	89 3/4"	53 3/4"
53 7/8"	90"	53 7/8"
54"	90 1/2"	54"
54 1/4"	90 3/4"	54 1/4"
54 1/2"	91"	54 1/2"
54 3/4"	91 1/2"	54 3/4"
54 7/8"	91 3/4"	54 7/8"
55"	92"	55"
55 1/4"	92 1/2"	55 1/4"
55 1/2"	92 3/4"	55 1/2"
55 3/4"	93"	55 3/4"
55 7/8"	93 1/2"	55 7/8"
56"	93 3/4"	56"
56 1/4"	94"	56 1/4"
56 1/2"	94 1/2"	56 1/2"
56 3/4"	94 3/4"	56 3/4"
56 7/8"	95"	56 7/8"
57"	95 1/2"	57"
57 1/4"	95 3/4"	57 1/4"
57 1/2"	96"	57 1/2"
57 3/4"	96 1/2"	57 3/4"
57 7/8"	96 3/4"	57 7/8"
58"	97"	58"
58 1/4"	97 1/2"	58 1/4"
58 1/2"	97 3/4"	58 1/2"
58 3/4"	98"	58 3/4"
58 7/8"	98 1/2"	58 7/8"
59"	98 3/4"	59"
59 1/4"	99"	59 1/4"
59 1/2"	99 1/2"	59 1/2"
59 3/4"	99 3/4"	59 3/4"
59 7/8"	100"	59 7/8"
60"	100 1/2"	60"
60 1/4"	100 3/4"	60 1/4"
60 1/2"	101"	60 1/2"
60 3/4"	101 1/2"	60 3/4"
60 7/8"	101 3/4"	60 7/8"
61"	102"	61"
61 1/4"	102 1/2"	61 1/4"
61 1/2"	102 3/4"	61 1/2"
61 3/4"	103"	61 3/4"
61 7/8"	103 1/2"	61 7/8"
62"	103 3/4"	62"
62 1/4"	104"	62 1/4"
62 1/2"	104 1/2"	62 1/2"
62 3/4"	104 3/4"	62 3/4"
62 7/8"	105"	62 7/8"
63"	105 1/2"	63"
63 1/4"	105 3/4"	63 1/4"
63 1/2"	106"	63 1/2"
63 3/4"	106 1/2"	63 3/4"
63 7/8"	106 3/4"	63 7/8"
64"	107"	64"
64 1/4"	107 1/2"	64 1/4"
64 1/2"	107 3/4"	64 1/2"
64 3/4"	108"	64 3/4"
64 7/8"	108 1/2"	64 7/8"
65"	108 3/4"	65"
65 1/4"	109"	65 1/4"
65 1/2"	109 1/2"	65 1/2"
65 3/4"	109 3/4"	65 3/4"
65 7/8"	110"	65 7/8"
66"	110 1/2"	66"
66 1/4"	110 3/4"	66 1/4"
66 1/2"	111"	66 1/2"
66 3/4"	111 1/2"	66 3/4"
66 7/8"	111 3/4"	66 7/8"
67"	112"	67"
67 1/4"	112 1/2"	67 1/4"
67 1/2"	112 3/4"	67 1/2"
67 3/4"	113"	67 3/4"
67 7/8"	113 1/2"	67 7/8"
68"	113 3/4"	68"
68 1/4"	114"	68 1/4"
68 1/2"	114 1/2"	68 1/2"
68 3/4"	114 3/4"	68 3/4"
68 7/8"	115"	68 7/8"
69"	115 1/2"	69"
69 1/4"	115 3/4"	69 1/4"
69 1/2"	116"	69 1/2"
69 3/4"	116 1/2"	69 3/4"
69 7/8"	116 3/4"	69 7/8"
70"	117"	70"
70 1/4"	117 1/2"	70 1/4"
70 1/2"	117 3/4"	70 1/2"
70 3/4"	118"	70 3/4"
70 7/8"	118 1/2"	70 7/8"
71"	118 3/4"	71"
71 1/4"	119"	71 1/4"
71 1/2"	119 1/2"	71 1/2"
71 3/4"	119 3/4"	71 3/4"
71 7/8"	120"	71 7/8"
72"	120 1/2"	72"
72 1/4"	120 3/4"	72 1/4"
72 1/2"	121"	72 1/2"
72 3/4"	121 1/2"	72 3/4"
72 7/8"	121 3/4"	72 7/8"
73"	122"	73"
73 1/4"	122 1/2"	73 1/4"
73 1/2"	122 3/4"	73 1/2"
73 3/4"	123"	73 3/4"
73 7/8"	123	



1. UNDERGROUND NOTES
2. 1000 GRAIN PER FT. WILL BE USED IN NOTES AS SHOWN ON THE PLANS
3. ALL UNDERGROUND CONSTRUCTION SHALL COMPLY WITH THE LATEST CODES/ORDINANCES UNLESS SPECIFICALLY STATED
4. CONCRETE SHALL BE PLACED IN A MINIMUM 12-INCH OVERLAP ABOVE THE EXISTING CONCRETE
5. UNDERGROUND PIPE TO BE CONSTRUCTED WITH THE TOP OF PIPE (GALV. OR BLACK) AT THE BOTTOM OF THE SHIMMER SURFACE PIPE
6. UNDERGROUND PIPES TO BE PROTECTED FROM FIRE/ACIDIC/HAZARDOUS MATERIALS BY OTHER THAN SPECIFICATIONS DESCRIBED THEREIN
7. THE CONNECTION BETWEEN THE AGING AND PULVER FIBERS OF THE BARRIER 50 INCH ALG. COLLECTED SUBSTANCES IS DIRECTED TO THE PAVEMENT PIPE SECTION
8. HORIZONTAL SEPARATION BETWEEN SHIMMER SURFACE AND UNDERGROUND SHALL BE 12" FOR UNDERGROUND UTILITIES ADJACENT TO SHIMMER SURFACE SERVICES
9. UNDERGROUND UTILITIES SHALL BE INSTALLED DOWNHILL OF THE SHIMMER SURFACE
10. PIPE EXPOSURE WHERE THE UTILITY SHALL BE RUN WITH PROTECTIONS

