



PROJECT LOCATION
Sections 5 & 6, T39N, R7E

CONSTRUCTION NOTES

1. Installation shall meet the requirements of NRCS plans and specifications. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both.
2. Stationing refers to centerline of construction and is the measured horizontal distance.
3. The contractor shall provide all traffic control and such plans shall meet Rio Grande County Specifications.
4. Ingress and egress routes shall be on the left side (east side) of the river only. Other routes need to be approved by NRCS prior to use by the contractor.
5. The contractor shall perform all excavations in conformance with OSHA Part 1926, Subpart P.
6. If archeological resources are encountered during construction, the contractor shall notify NRCS immediately.
7. Any fill material placed in open water, below the high water line, or within the floodplain shall be removed and restored back to pre-construction conditions.
8. The contractor shall complete the work as shown on the construction drawings and according to the accompanying specifications. Deviations to the plans will not be allowed unless written permission is granted from the owner, the Sponsor and NRCS.
9. Contractor shall return all areas disturbed by construction to original or better condition.

STRUCTURAL NOTES

1. The concrete shall be constructed according to NRCS Specification 31, Concrete For Major Structures.
Concrete: 4,000 psi
Rebar: Grade 60
2. Exposed concrete edges shall be chamfered 1 inch.
3. Reinforced bar spacing is center to center of bars. Bar cover is clear distance between surface of bar and face of concrete and shall be 2" for formed or top surfaces and 3" for surfaces placed against earth, unless otherwise shown.
4. In sections with a single mat of reinforcing steel, the steel shall be positioned in the center of the section, unless otherwise specified.
5. Unless otherwise shown on the drawings, where it is necessary to splice longitudinal reinforcing bars, provide lap splices as necessary. All such splices shall be staggered between layers of rebar and side to side. All lap splices shall be approved by the engineer and shall be lapped a minimum of 25" for #4 bars, 31" for #5 bars and 37" for #6 bars.
6. Any fine-grained, cohesive soil encountered within the foundation of the reinforced concrete structure shall be removed and replaced with compacted granular material.
7. All construction joints shall be installed at locations as shown on the construction drawings unless otherwise approved by the engineer.
8. The contractor shall coordinate with the Gate Manufacturer on all gate attachments to wall(s), blockouts that are needed and additional reinforcement needs prior to construction activities.

MCDONALD DITCH COMPANY PLANS FOR THE CONSTRUCTION OF STRUCTURE FOR WATER CONTROL RIO GRANDE COUNTY, COLORADO

Practice Code 348 - Diversion Dam
Engineering Job Class VII



Robins Construction

#748B05111TO
#748B05111TI
#748B05111TZ
#748B05111TR
#748B05111SZ
#748B05110ZG
#748B05111SY
#748B05111SX

COMPLETION DATE FOR DAM - 3/11/2015
COMPLETION DATE FOR PIPE
AND HEAD GATE - 3/16/2016

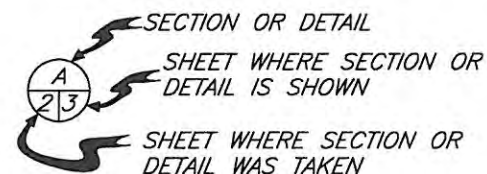
INDEX OF DRAWINGS

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3.	STRUCTURE PLAN VIEW
4.	DIMENSIONS AND CONTROL JOINT DETAILS
5.	STRUCTURE PLAN VIEW AND SECTION VIEW
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12.	SCREEN STRUCTURE & MISC. DETAILS
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OWNERS STATEMENT

"THIS PLAN HAS BEEN REVIEWED WITH ME AND I AM IN AGREEMENT WITH THE CALCULATIONS AND DESIGN."

OWNER OR AGENT _____ DATE _____
COMPANY OR AGENCY _____



UTILITIES STATEMENT

"I realize that as a landowner, I and/or the contractor I hire, may be liable for any damage to utilities during construction. NRCS makes no representation that utilities shown on the plans are exactly located or that all utilities present are shown."

"I will provide NRCS with the Utility Notification Center of Colorado (UNCC) ticket number my contractor has acquired prior to start of construction."

LAND OWNER OR AGENT _____ DATE _____
UNCC TICKET NUMBER _____

"CALL UTILITY NOTIFICATION CENTER OF COLORADO @ 1-800-922-1987. CALL TWO (2) BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES."

TABLE OF ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Excavation for Structural Works	Cu Yds	15,374
Earthfill for Structural Works	Cu Yds	1575
Screen/Overflow Struc. Concrete	Cu Yds	72
Radial Gate Structure Concrete	Cu Yds	52
Diversion Dam Structure Concrete	Cu Yds	235
Fish Passage Structure Concrete	Cu Yds	123
Head Gate Structure Concrete	Cu Yds	32
Pipe Outlet Structure Concrete	Cu Yds	4
36" SMOOTH INTERIOR POLYPROPYLENE PIPE	LF	1054
42" SMOOTH INTERIOR HDPE PIPE	Ln Ft	930
Loose Rock Rip Rap	Cu Yds	1608
5' wide x 2'-6" high Slide Gate	Ea	1
3' wide x 9' high Automated Gate	Ea	1
10' wide x 4' high Radial Gate	Ea	1
2' wide x 1' high Slide Gate	Ea	1
6' wide x 16' long Punch Plate	Ea	1

"AS-BUILT" *Laurie A. Clark*
5-17-2016

Date 02/14
Designed L. Clark
Drawn L. Clark
Checked R. Marine & NDCSms
Approved J. Andrews
10/10/14
SCE

MCDONALD DITCH COMPANY
Cover Sheet

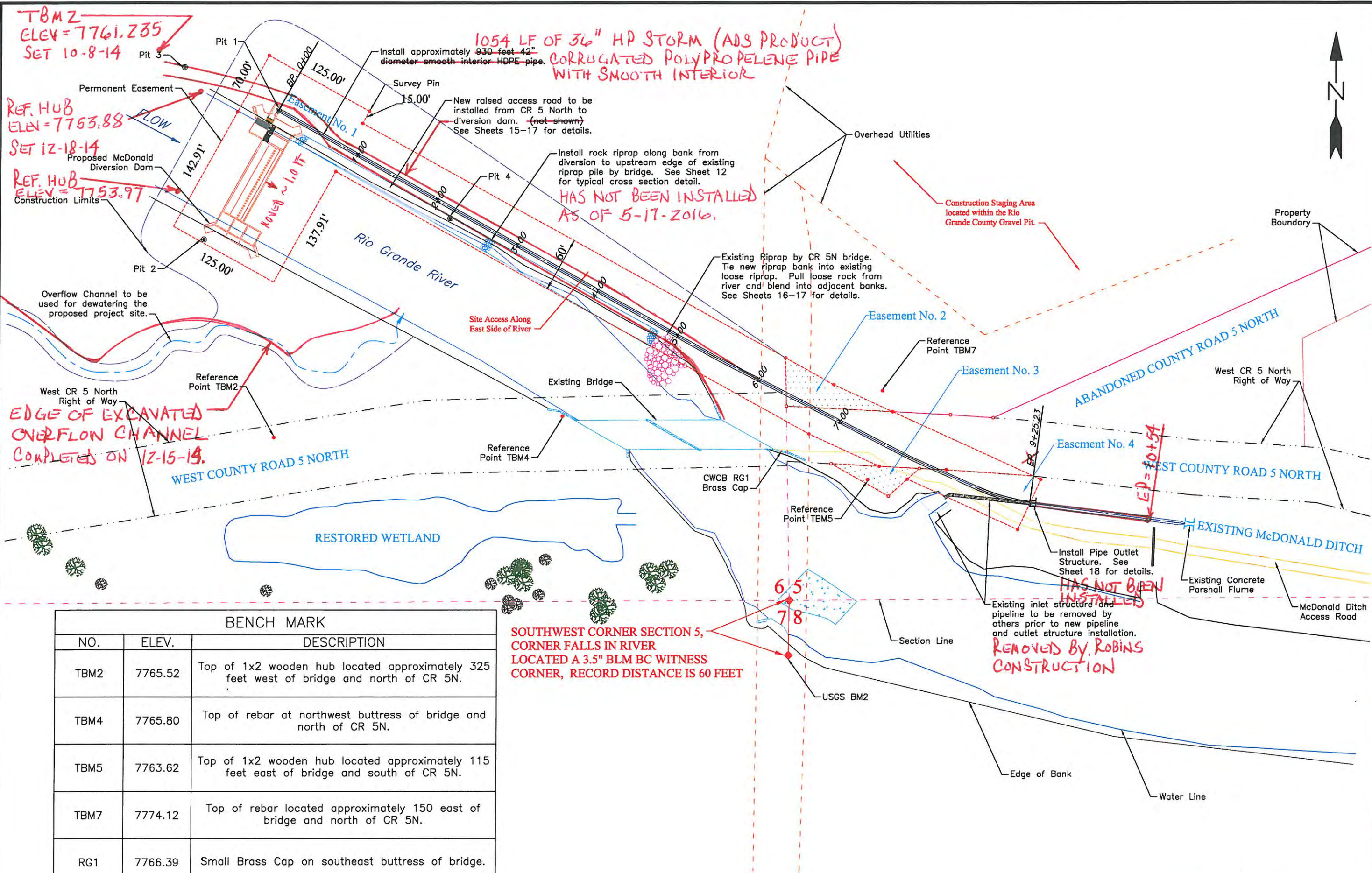
EQIP, FY2010

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

File No.
FP_03-04-14

Drawing No.
10/7/2014

Sheet 1 of 18



TBM2
ELEV=7761.235
SET 10-8-14

REF. HUB
ELEV=7753.88
SET 12-18-14

REF. HUB
ELEV=7753.97
Construction Limits

EDGE OF EXCAVATED
OVERFLOW CHANNEL
COMPLETED ON 12-15-14.

**SOUTHWEST CORNER SECTION 5,
CORNER FALLS IN RIVER
LOCATED A 3.5" BLM BC WITNESS
CORNER, RECORD DISTANCE IS 60 FEET**

BENCH MARK		
NO.	ELEV.	DESCRIPTION
TBM2	7765.52	Top of 1x2 wooden hub located approximately 325 feet west of bridge and north of CR 5N.
TBM4	7765.80	Top of rebar at northwest buttress of bridge and north of CR 5N.
TBM5	7763.62	Top of 1x2 wooden hub located approximately 115 feet east of bridge and south of CR 5N.
TBM7	7774.12	Top of rebar located approximately 150 east of bridge and north of CR 5N.
RG1	7766.39	Small Brass Cap on southeast buttress of bridge.
BM2	7761.675	USGS Brass Cap located at corner of CR 5W and south of the Rio Grande River.



Date 02/14

Designed L. Clark

Drawn L. Clark

Checked R. Marine & M. D. D. 6/14

Approved J. A. 10/20/14

MCDONALD DITCH COMPANY
Overall Project Plan View

Rio Grande County, Colorado

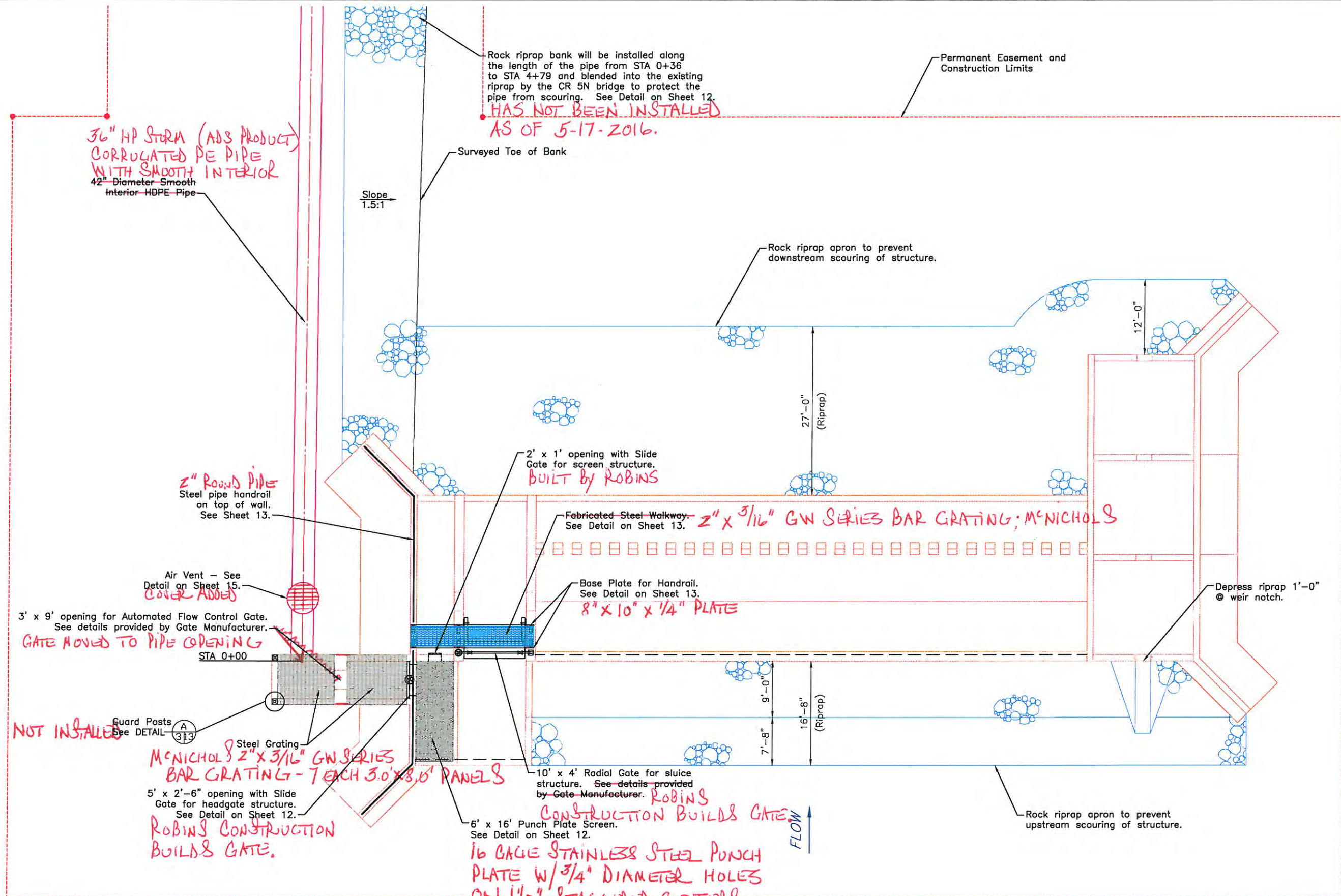
EQIP, FY2010

Natural Resources Conservation Service
United States Department of Agriculture

File No. FP_03-04-14

Drawing No. 10/7/2014

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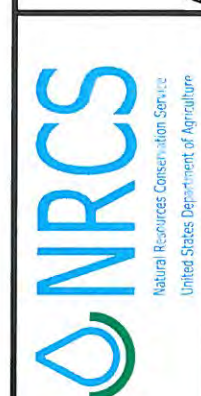


Date	02/14
Designed	L. Clark
Drawn	L. Clark
Checked	R. Marine & J. NCSMC
Approved	12A
	02/14
	6/14
	10/14/14

MCDONALD DITCH COMPANY
Structure Plan View

Rio Grande County, Colorado

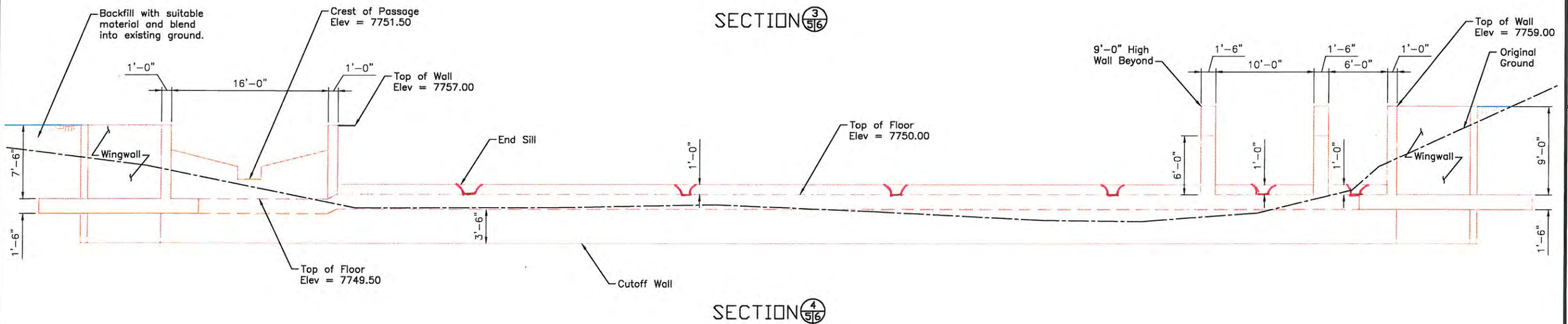
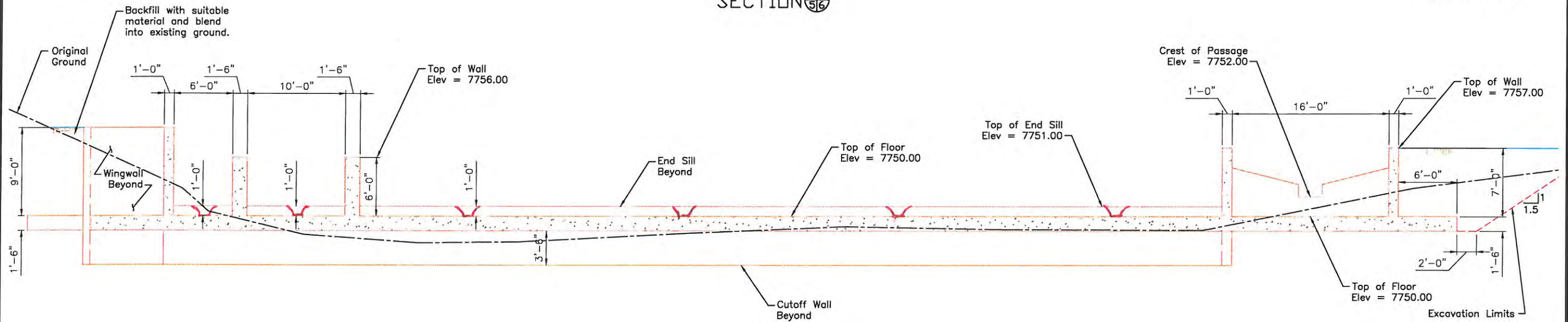
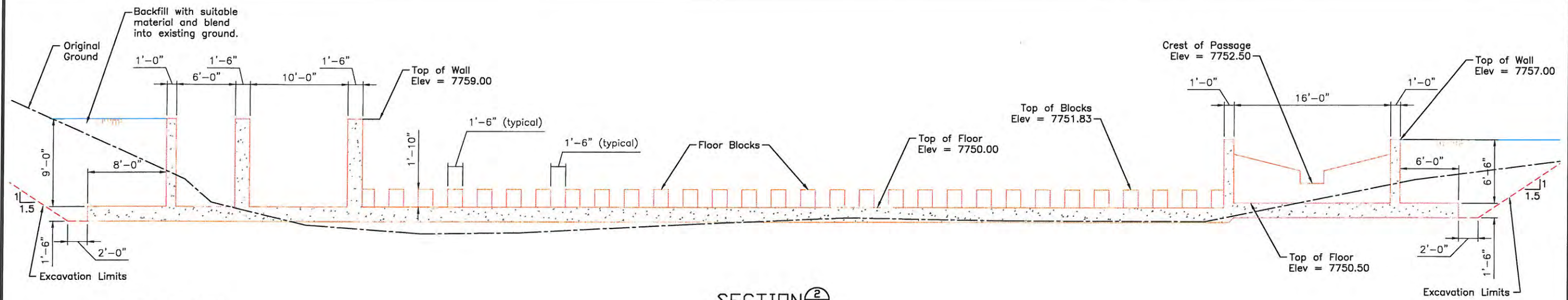
EQIP, FY2010



File No.
FP_03-04-14

Drawing No.
10/7/2014

Sheet 3 of 18



"AS-BUILT"



Designed	<u>L. Clark</u>	Date	<u>02/14</u>
Drawn	<u>L. Clark</u>		<u>02/14</u>
Checked	<u>R. Marino & NBSMC</u>		<u>6/14</u>
Approved	<u>SEA</u>		<u>10/24/14</u>

MCDONALD DITCH COMPANY
Structure Section Views

EQIP, FY2010

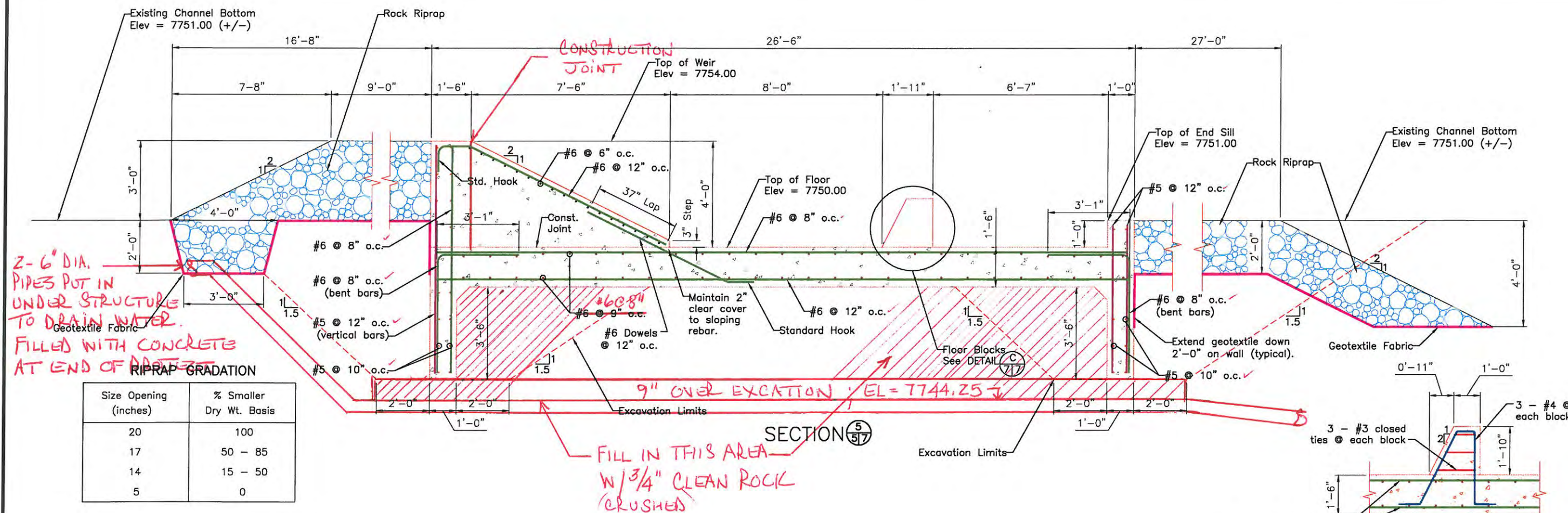
Rio Grande County, Colorado



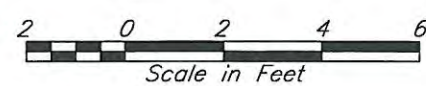
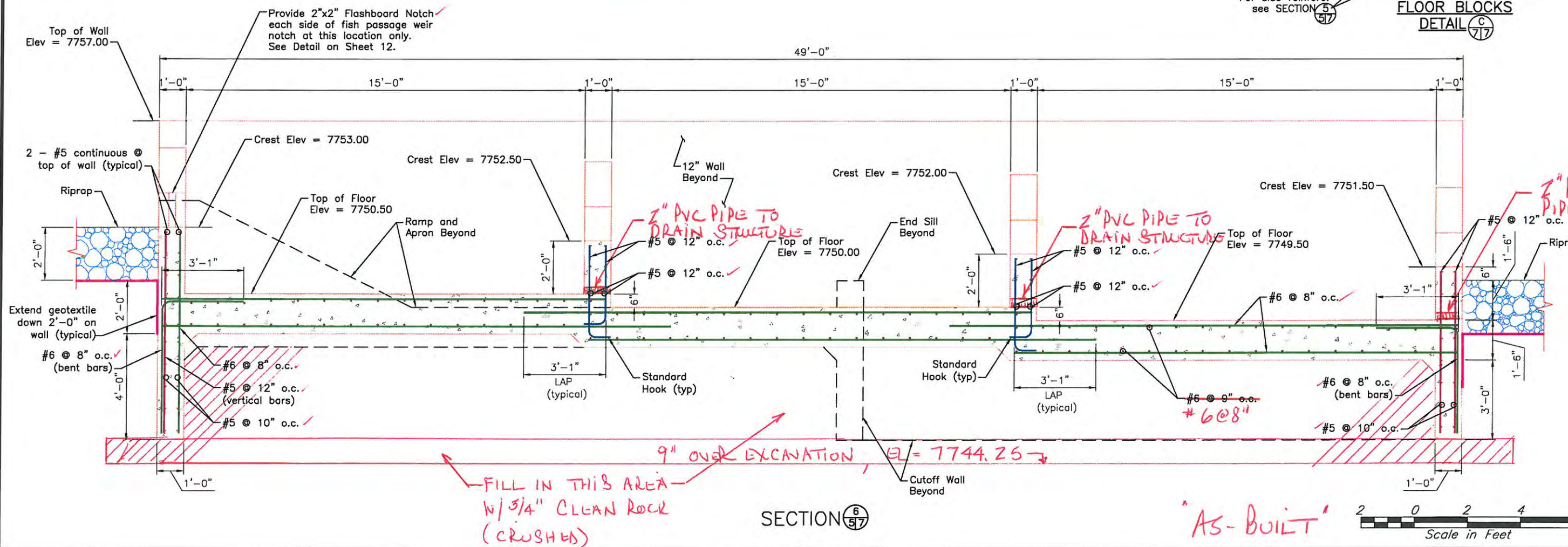
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10/7/2014

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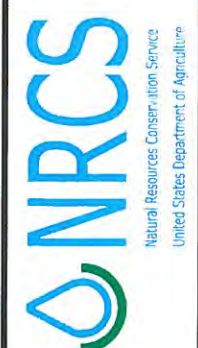


Size Opening (inches)	% Smaller Dry Wt. Basis
20	100
17	50 - 85
14	15 - 50
5	0



Date 02/14
 Designed L. Clark
 Drawn L. Clark
 Checked R. Marine & N. S. M.
 Approved JEA
 6/14

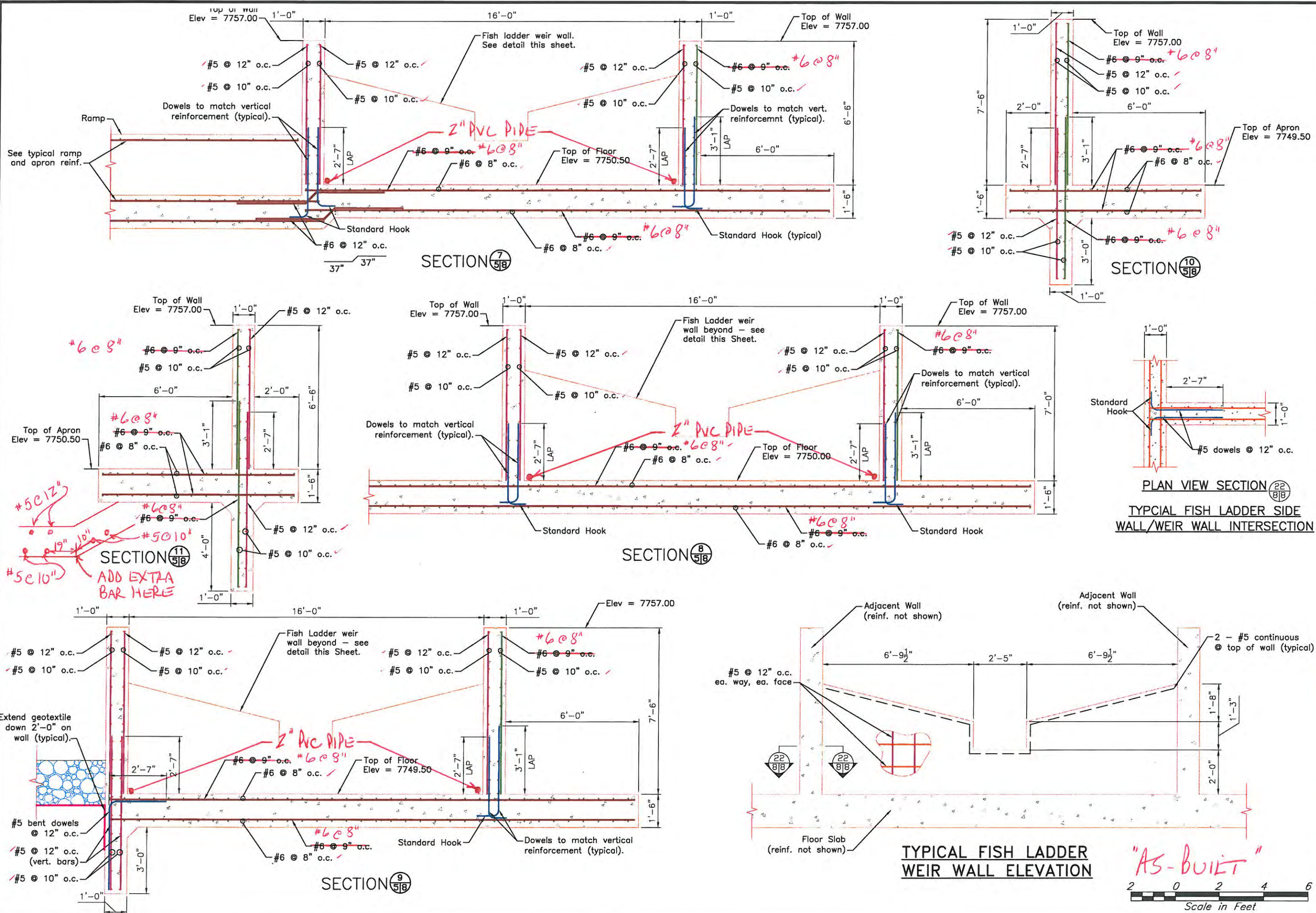
MCDONALD DITCH COMPANY
 Section Views and Details



File No. FP_03-04-14
 Drawing No. 10/7/2014
 Sheet 7 of 18

EQIP, FY2010

Rio Grande County, Colorado



Date	02/14
Designed	L. Clark
Drawn	L. Clark
Checked	R. Martinez
Approved	J. A. [Signature]

MCDONALD DITCH COMPANY
 Section Views and Details

Rio Grande County, Colorado

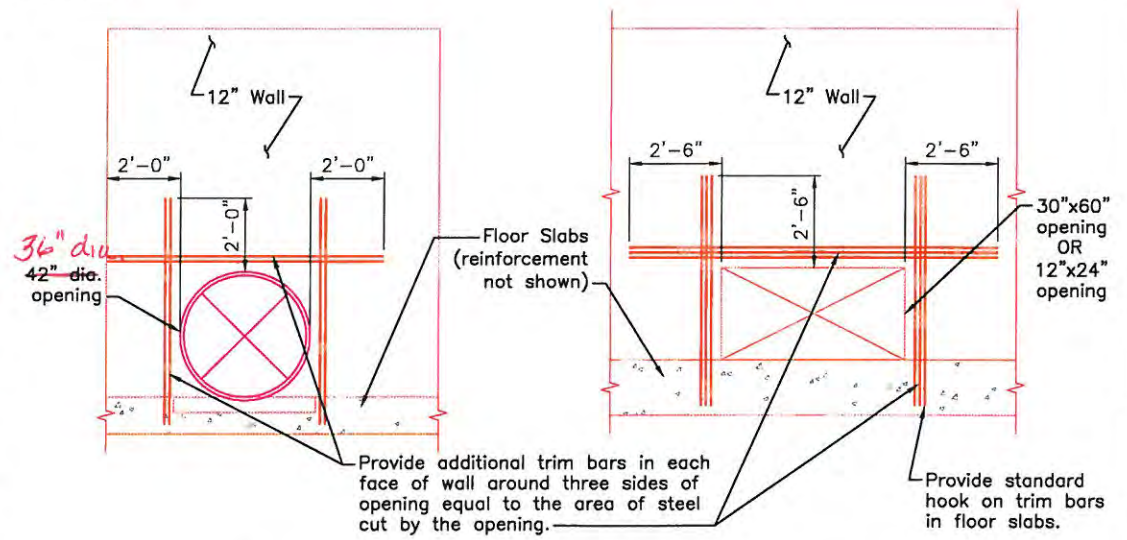
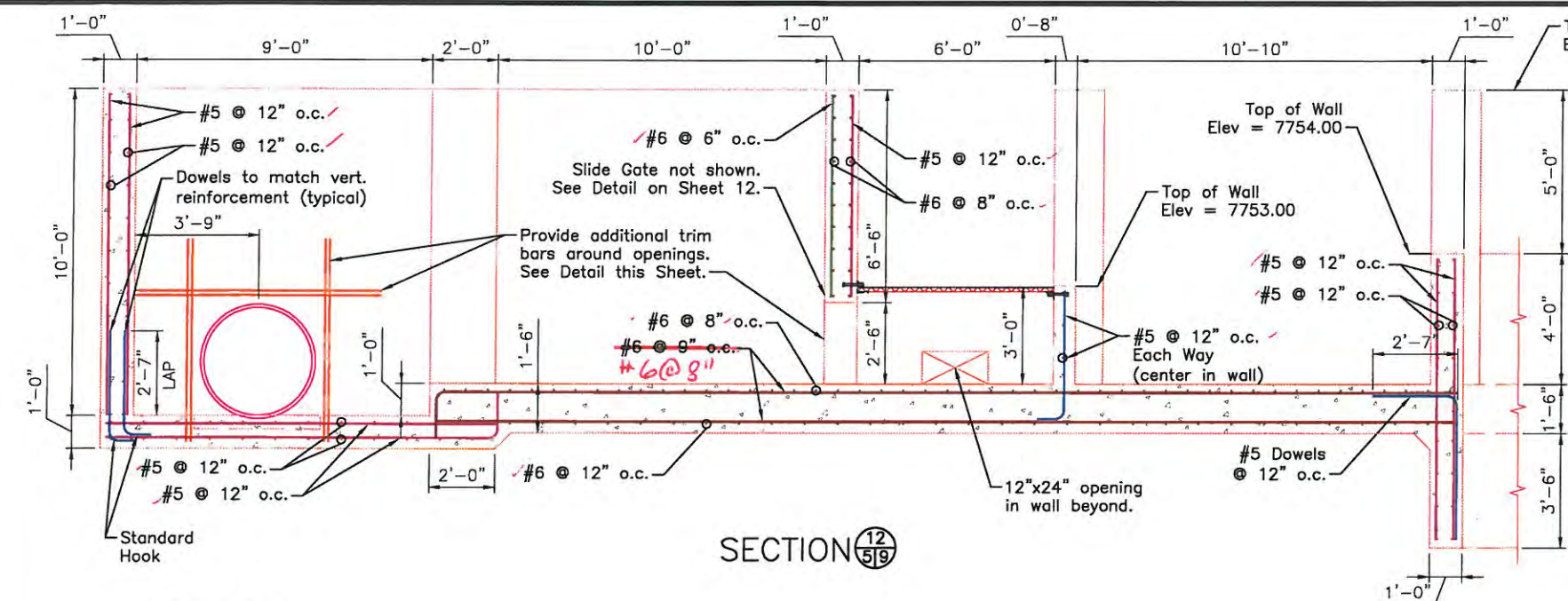
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NRCS
 Natural Resources Conservation Service
 United States Department of Agriculture

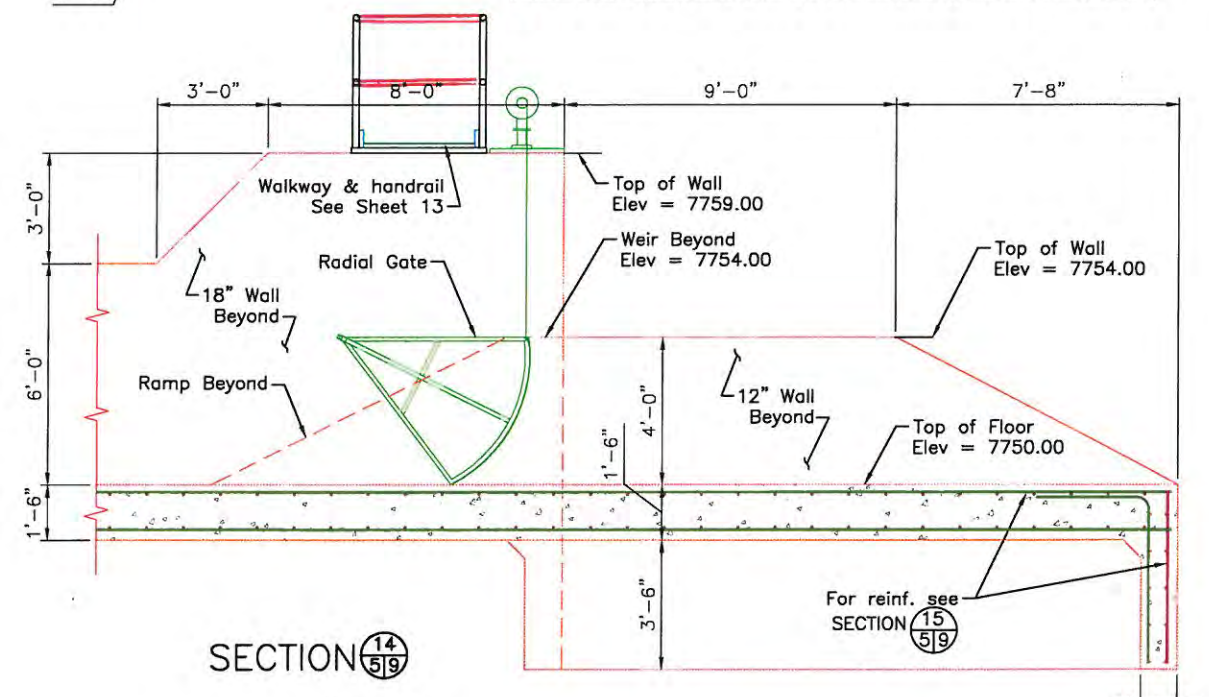
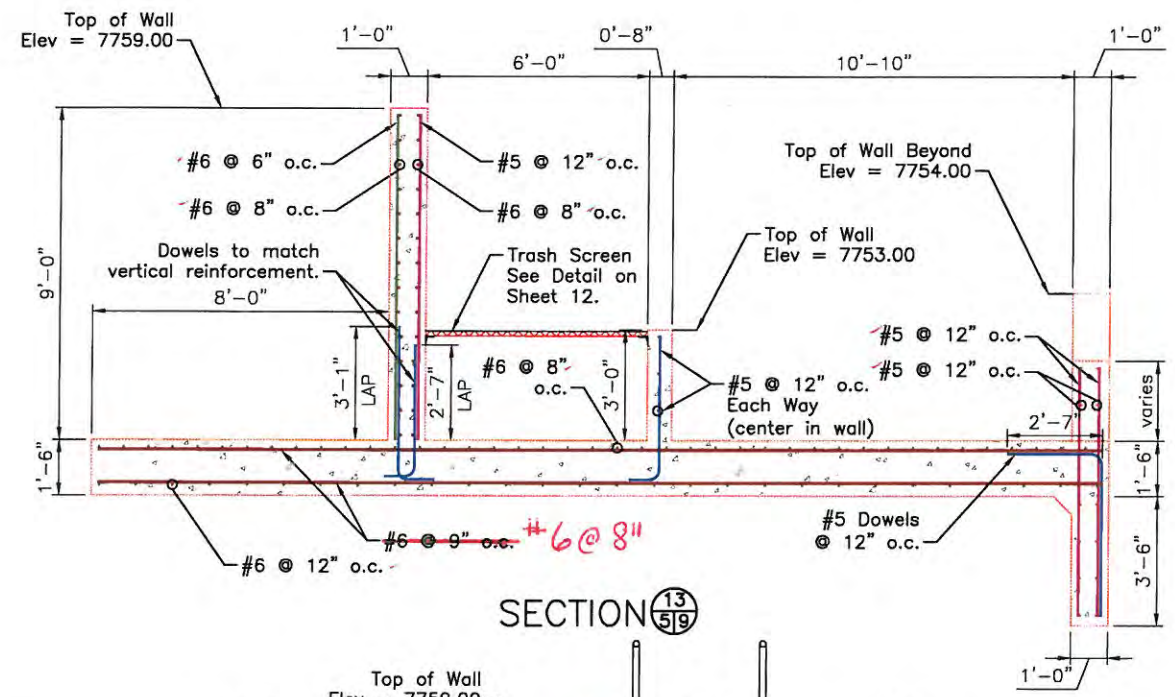
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Drawing No.
 10/7/2014

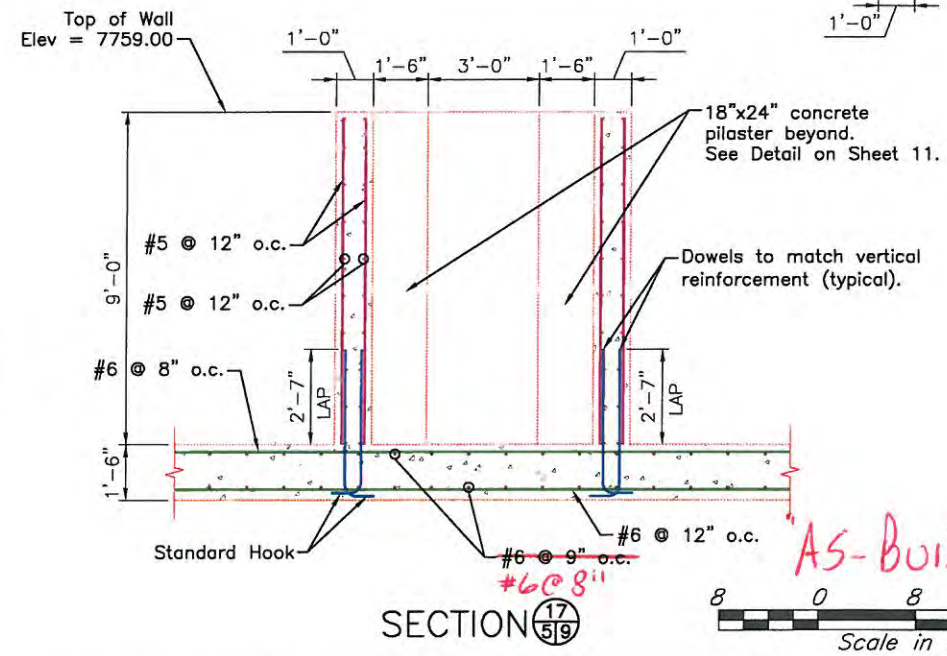
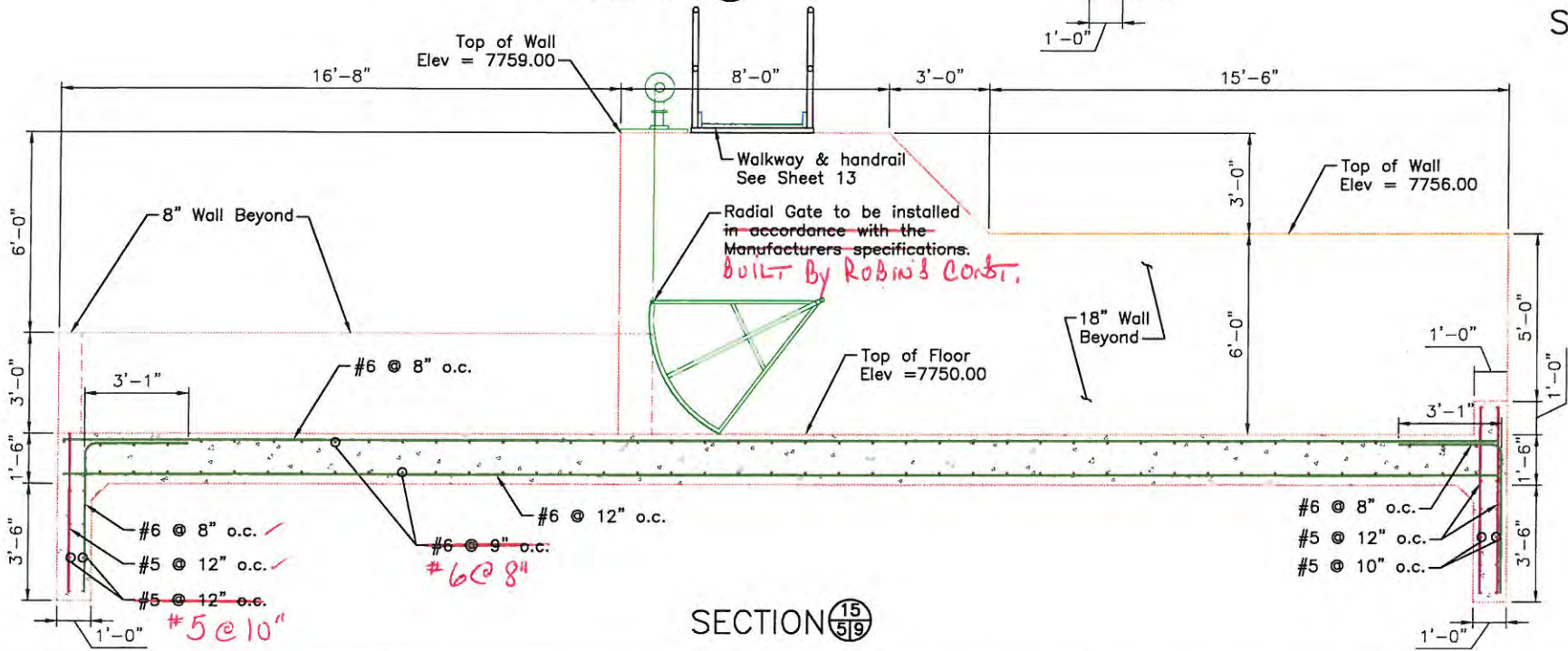
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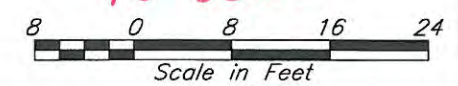
TYPICAL TRIM BAR REINF. IN WALL OPENINGS



SECTION 14/59

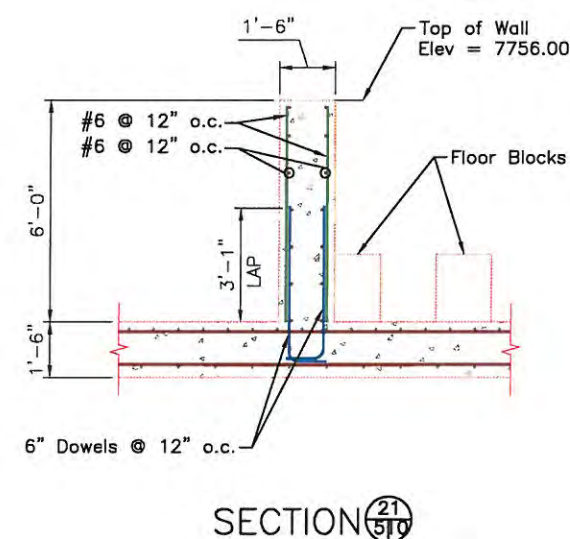
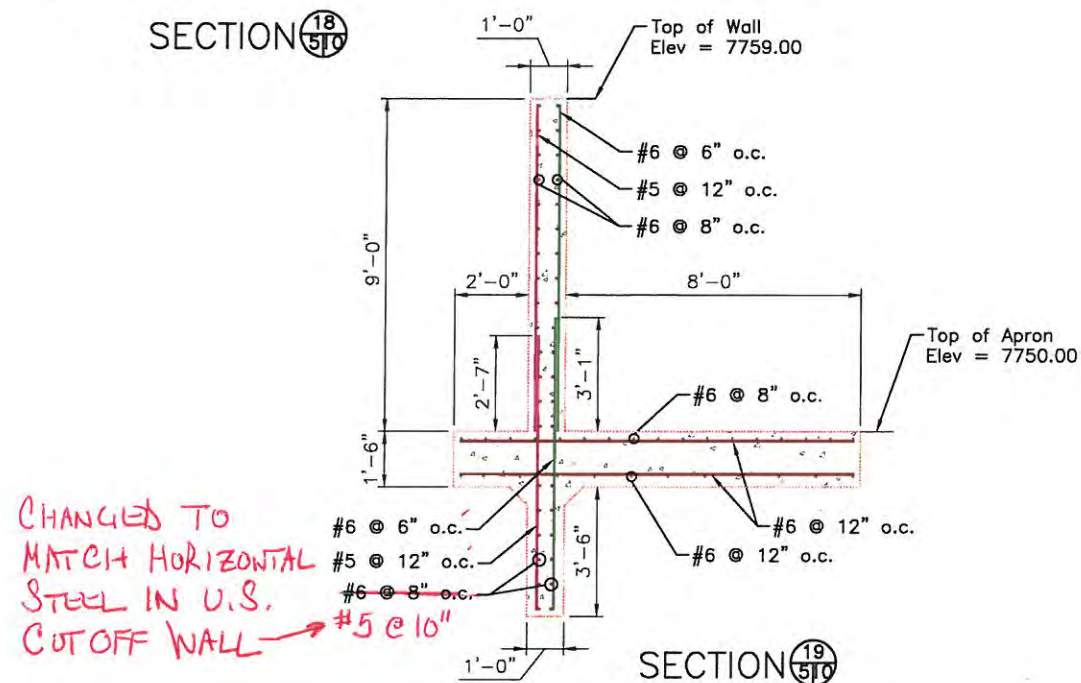
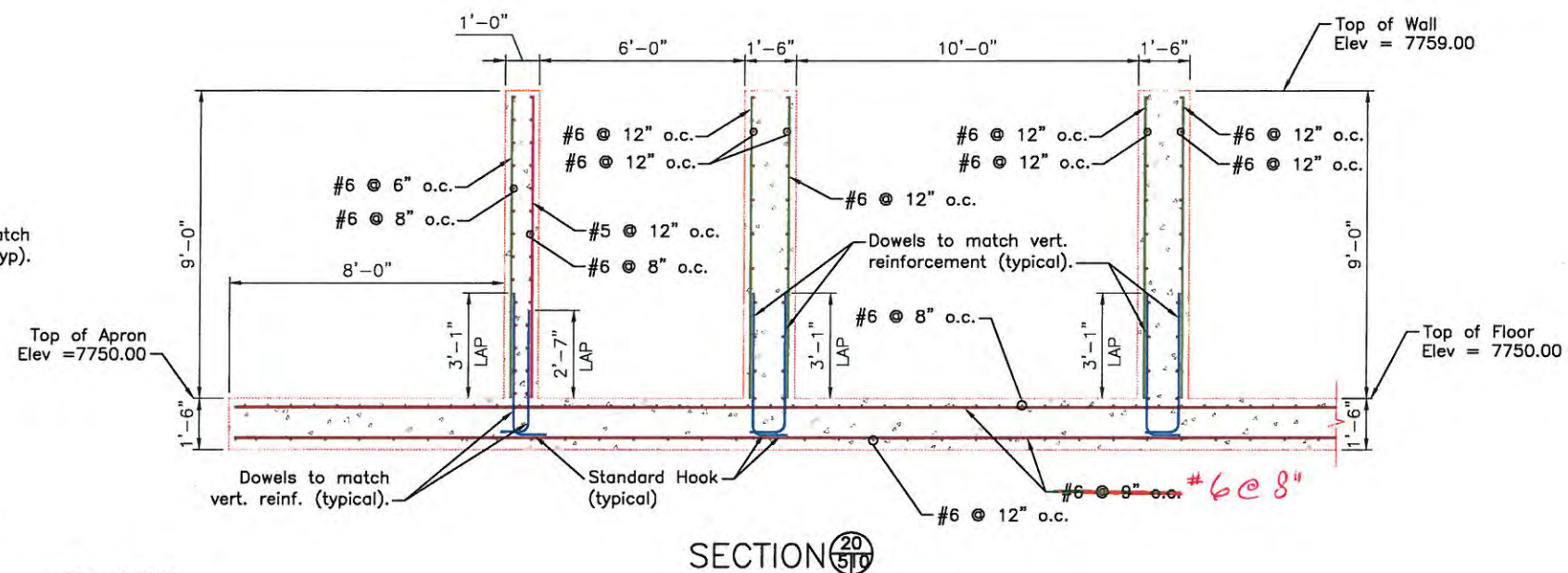
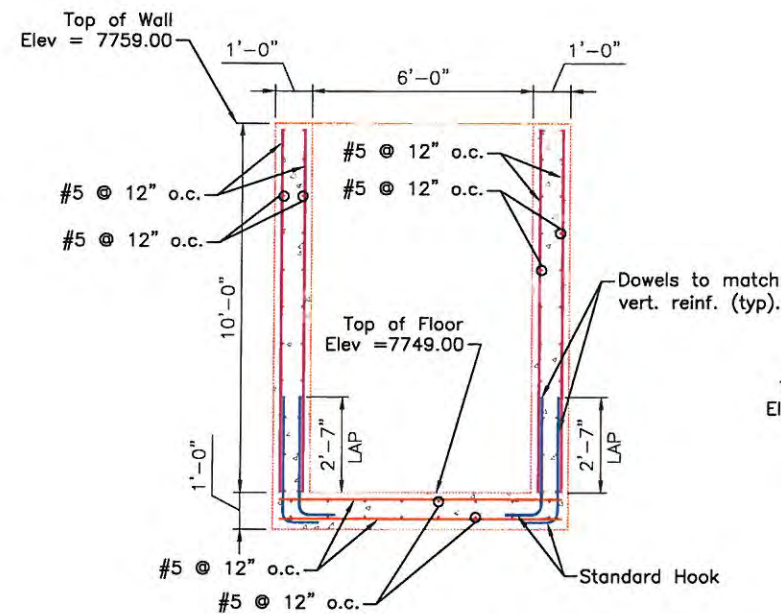
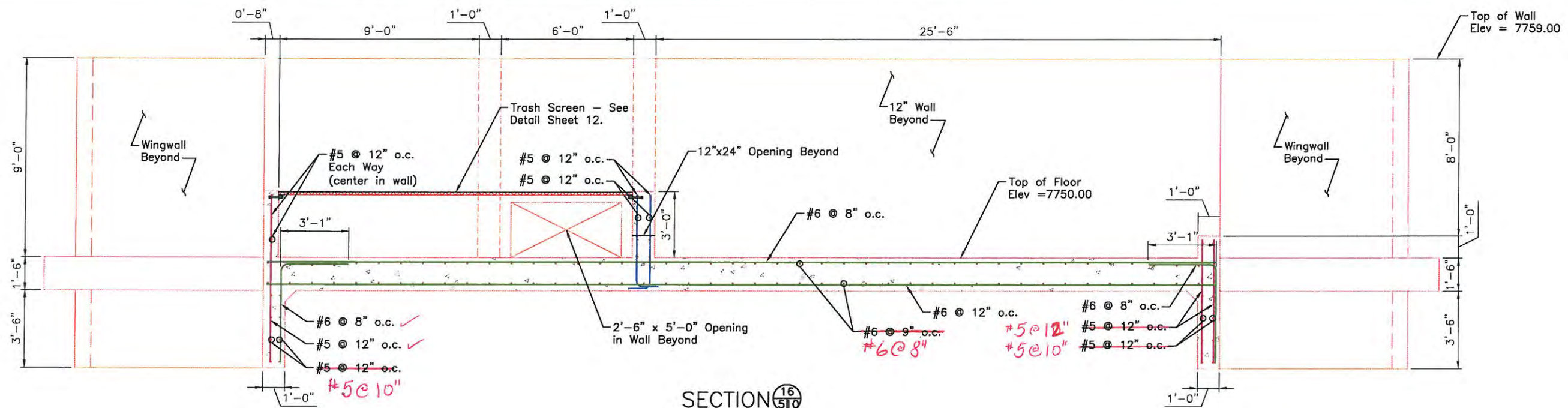


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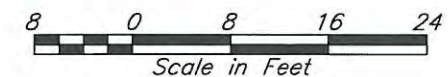


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Designed L. Clark	02/14		
Drawn L. Clark	02/14		
Checked R. Marine F. NASMC	6/14		
Approved [Signature]		Rio Grande County, Colorado	EQIP, FY2010

MCDONALD DITCH COMPANY
Section Views and Details



"AS-BUILT"



Date	02/14
Designed	L. Clark
Drawn	L. Clark
Checked	R. Marino & NDCS/MC
Approved	J. J. J.

MCDONALD DITCH COMPANY Section Views and Details

EQIP, FY2010

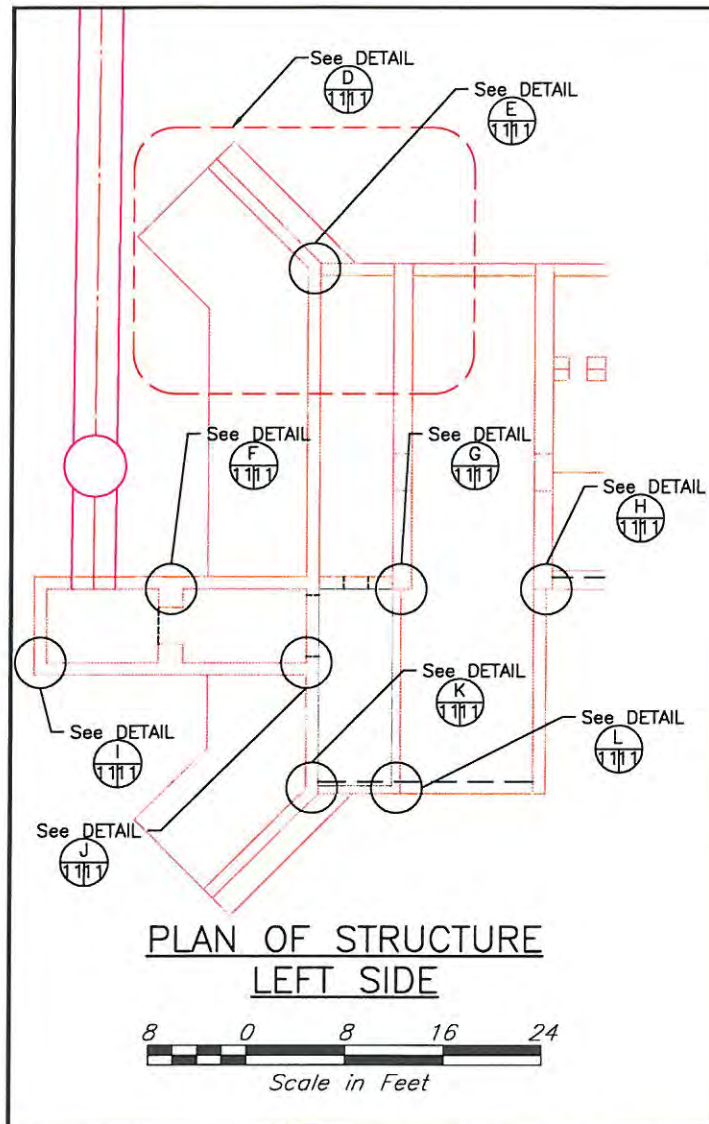
Rio Grande County, Colorado



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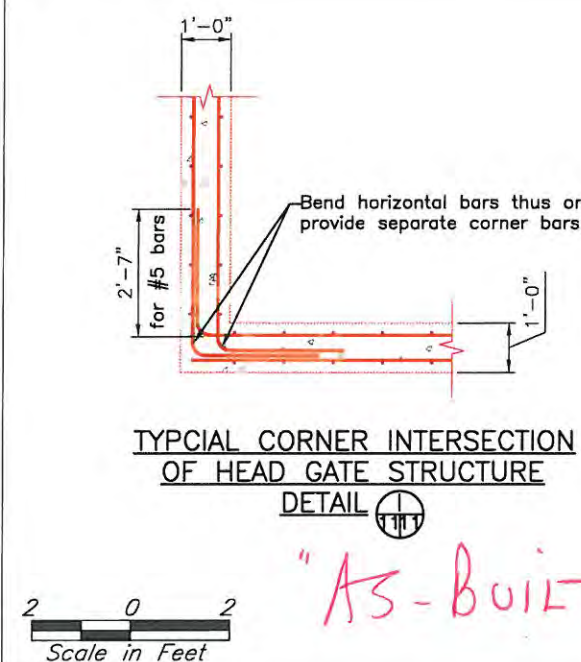
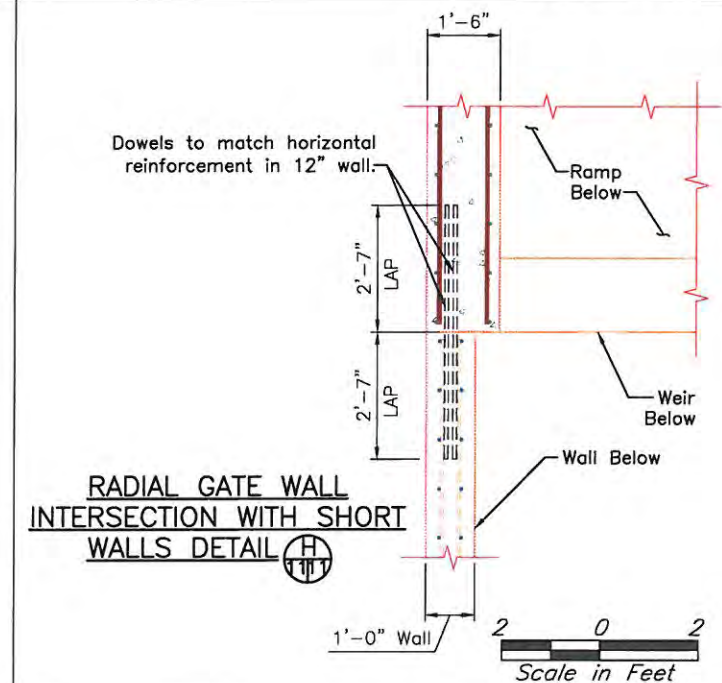
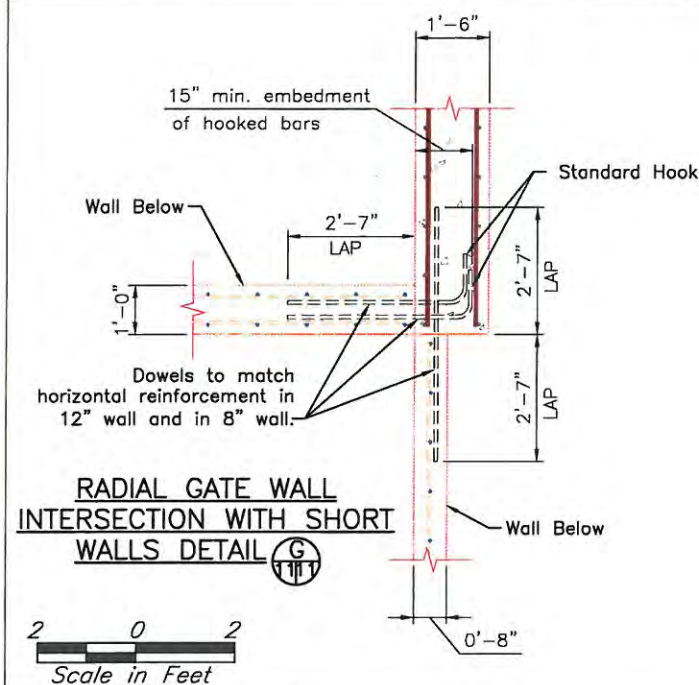
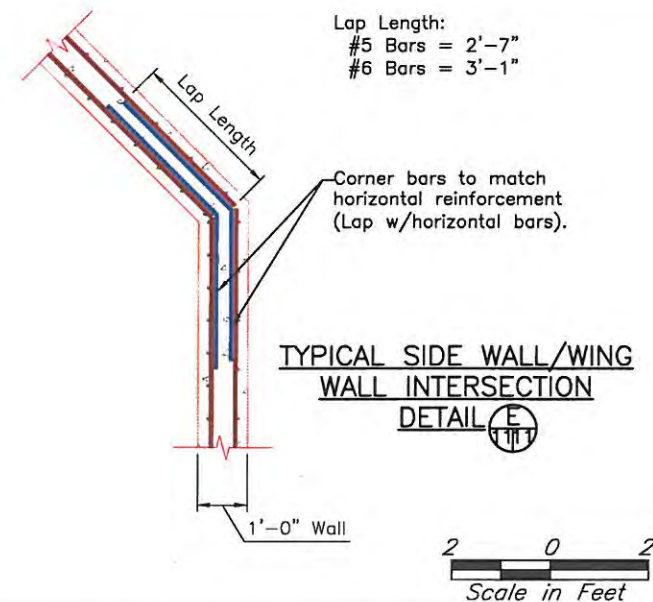
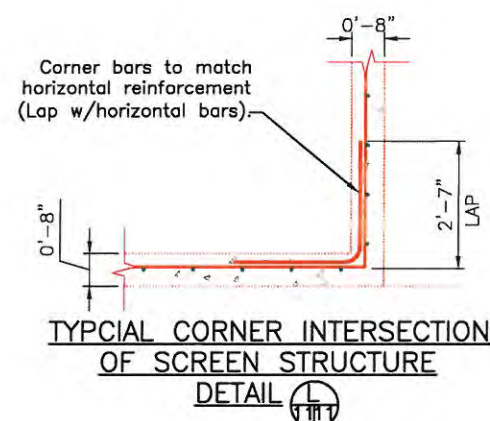
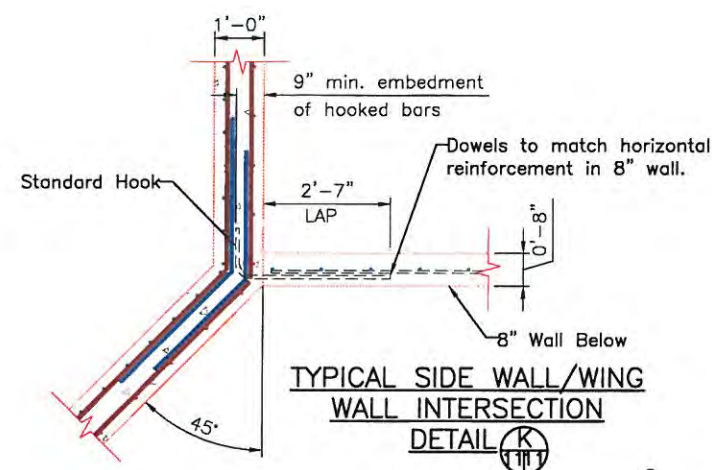
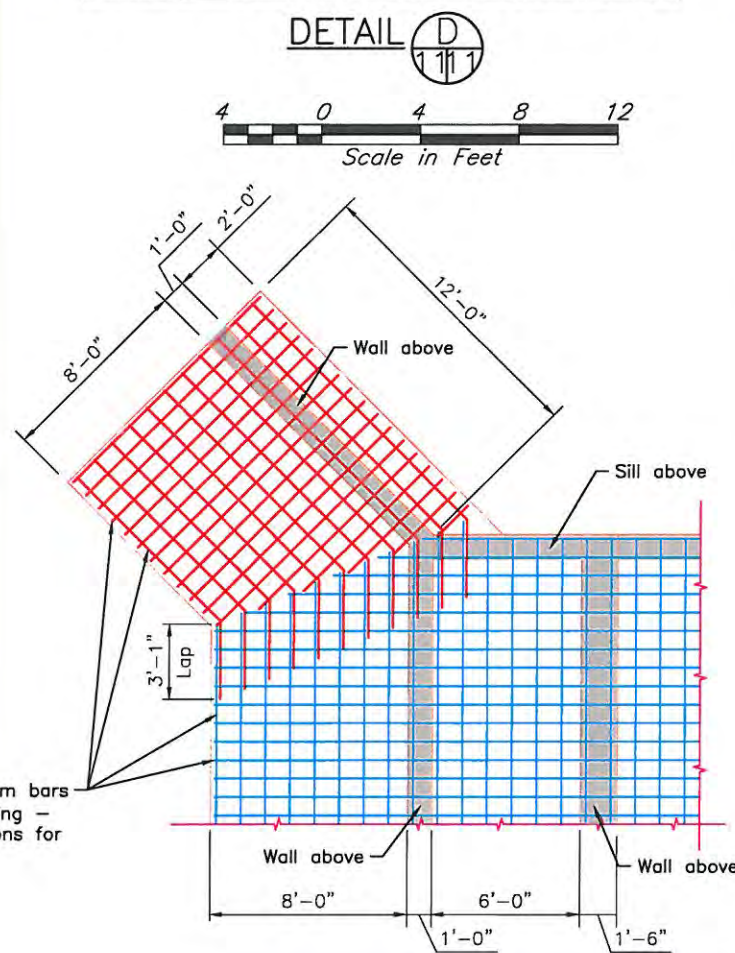
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10/7/2014

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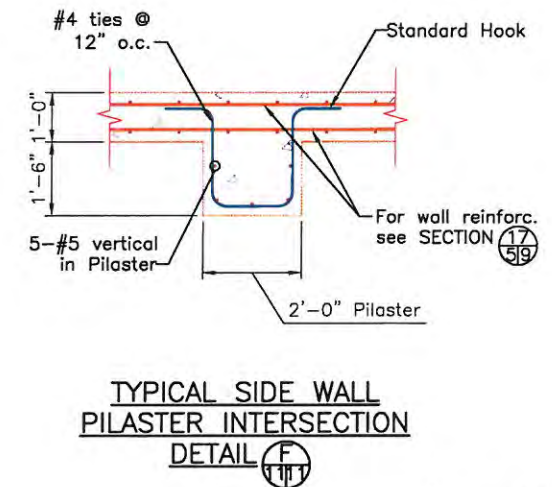
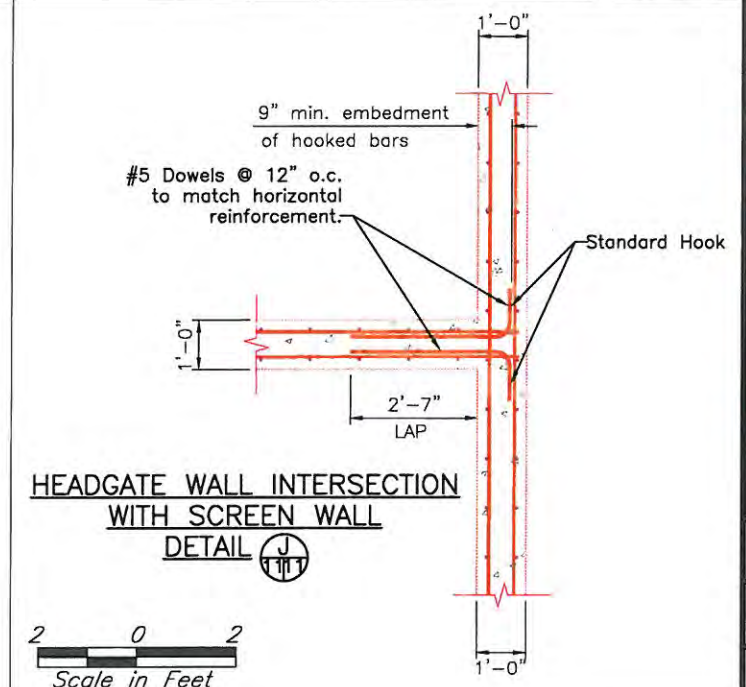


#6 top and bottom bars in floor slab/footing - see various sections for spacing

PLAN VIEW TYPICAL FLOOR/FOOTING REINFORCING DETAIL @ WING WALL CORNERS



"AS-BUILT"



MCDONALD DITCH COMPANY Structure Reinforcement Details

EQIP, FY2010



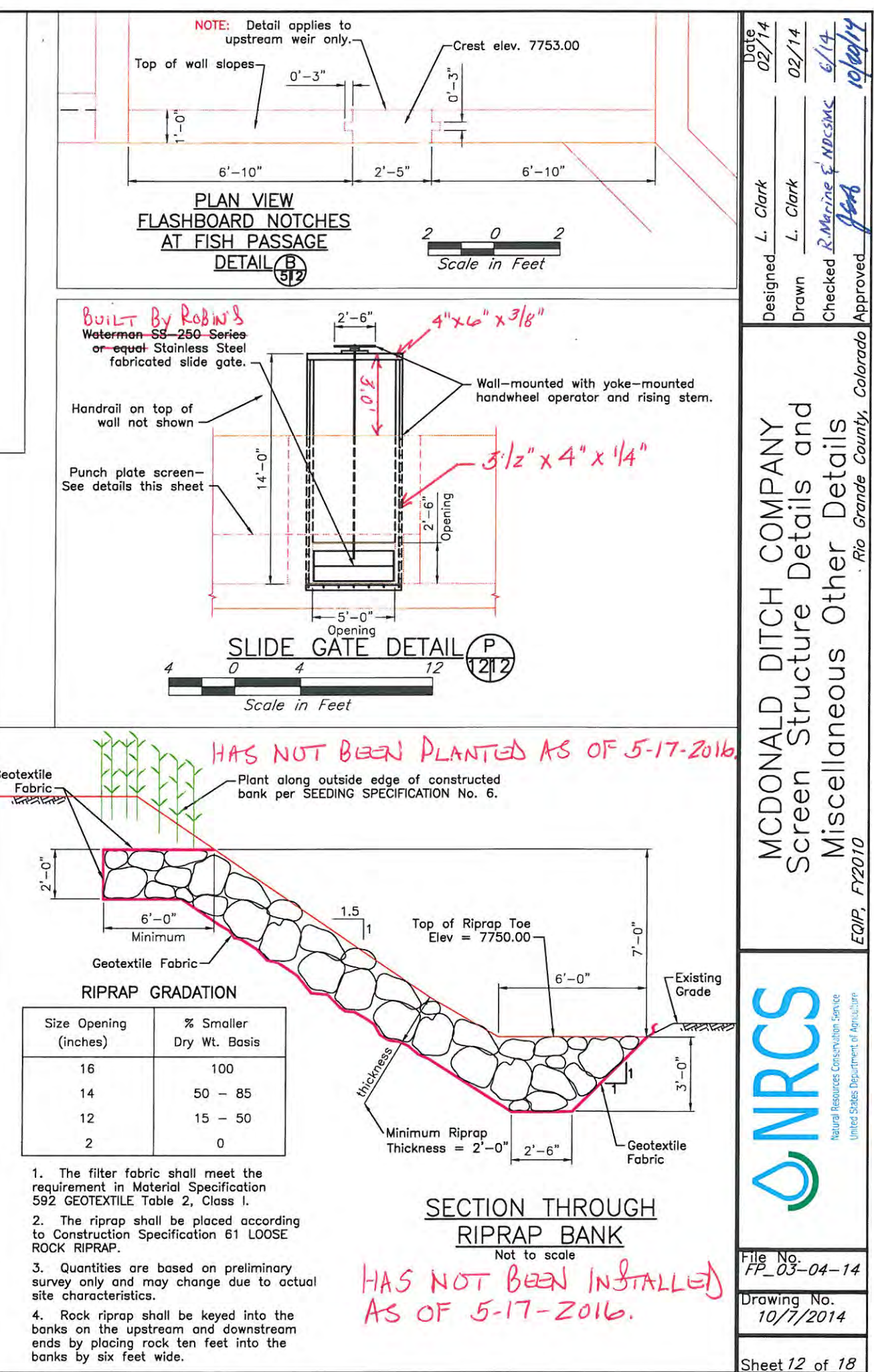
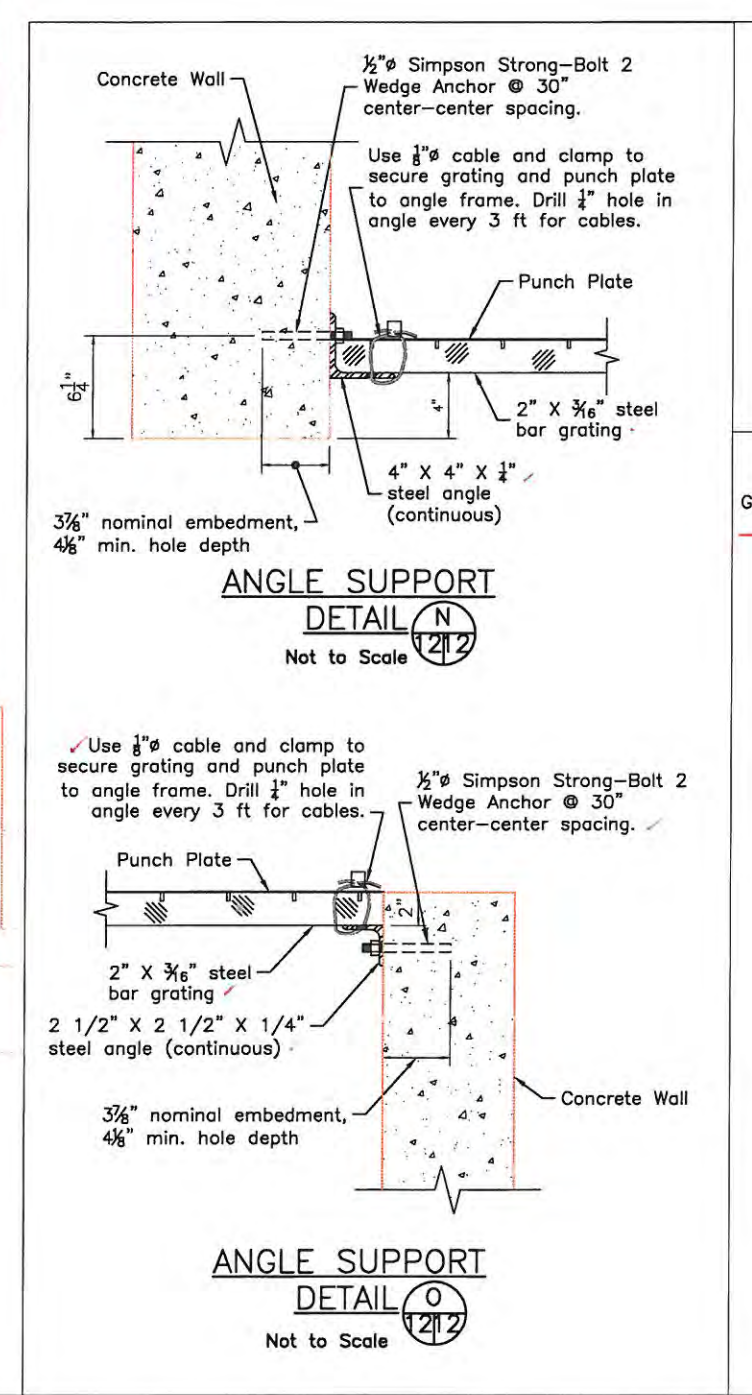
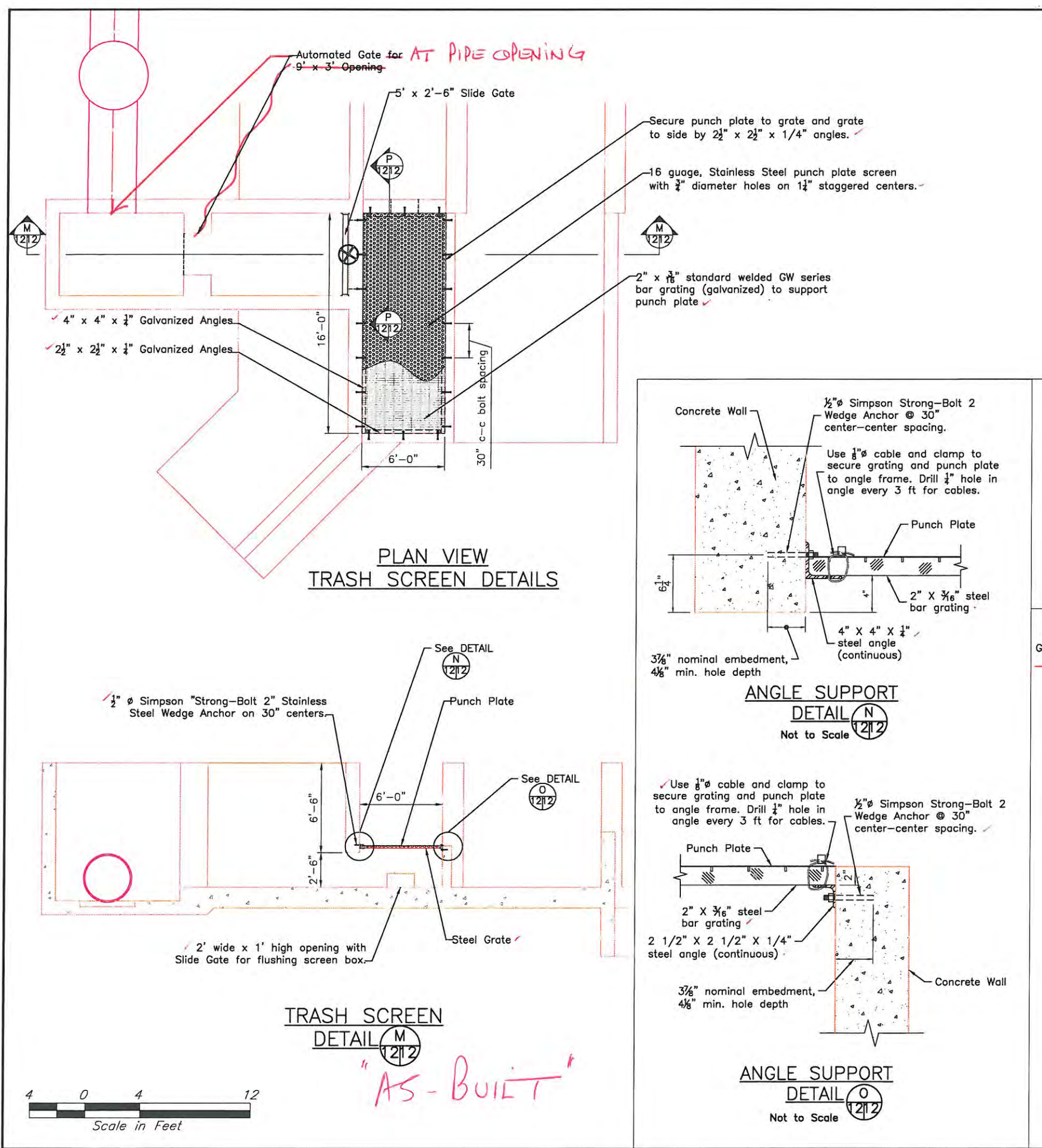
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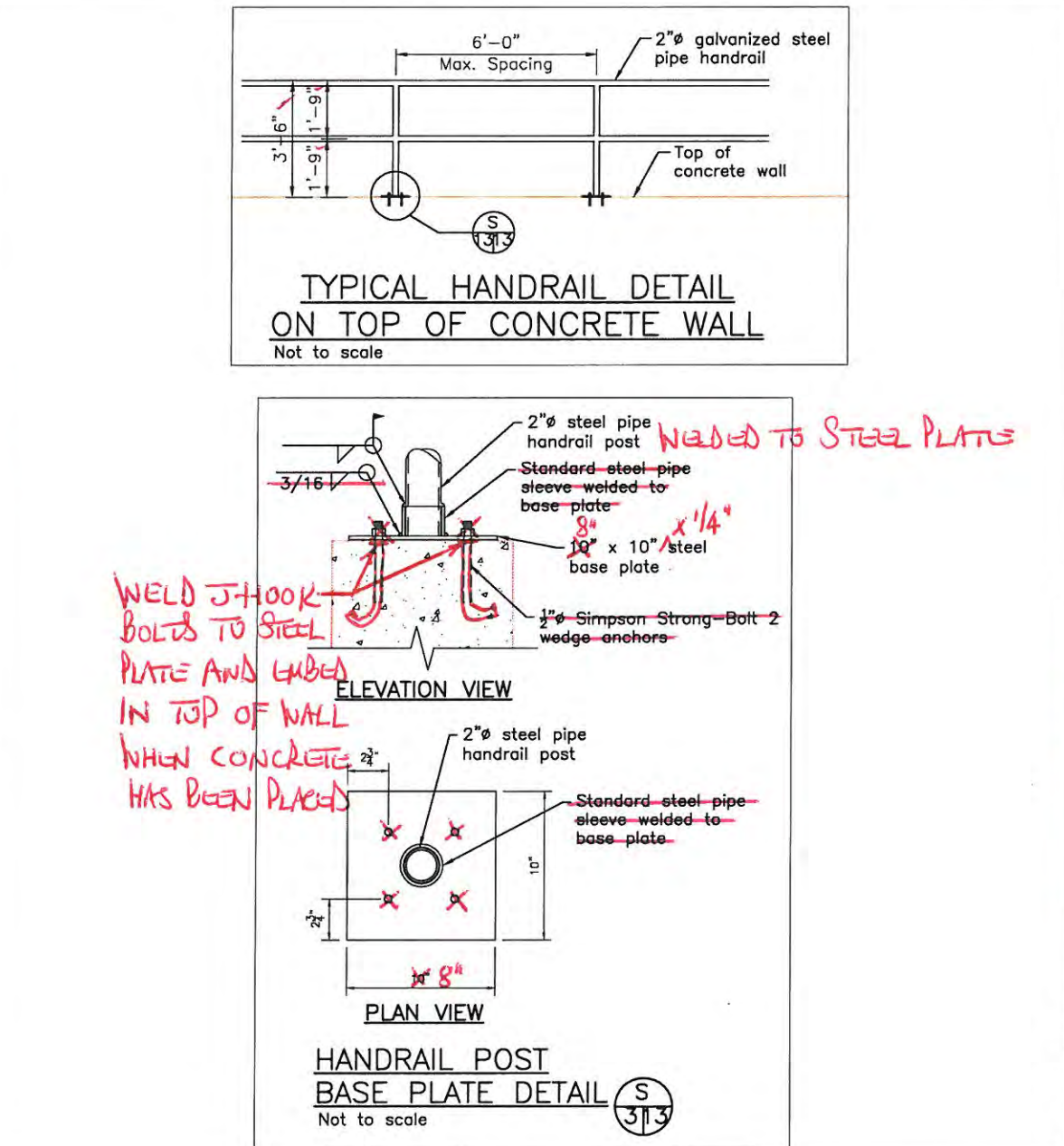
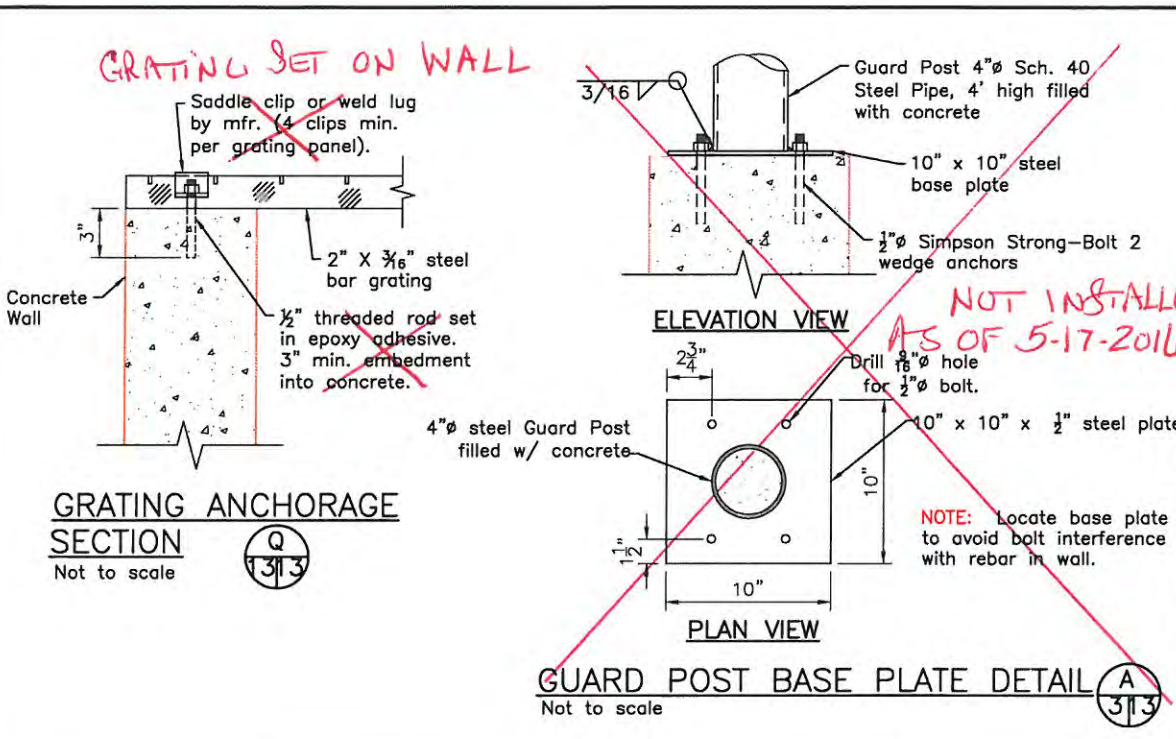
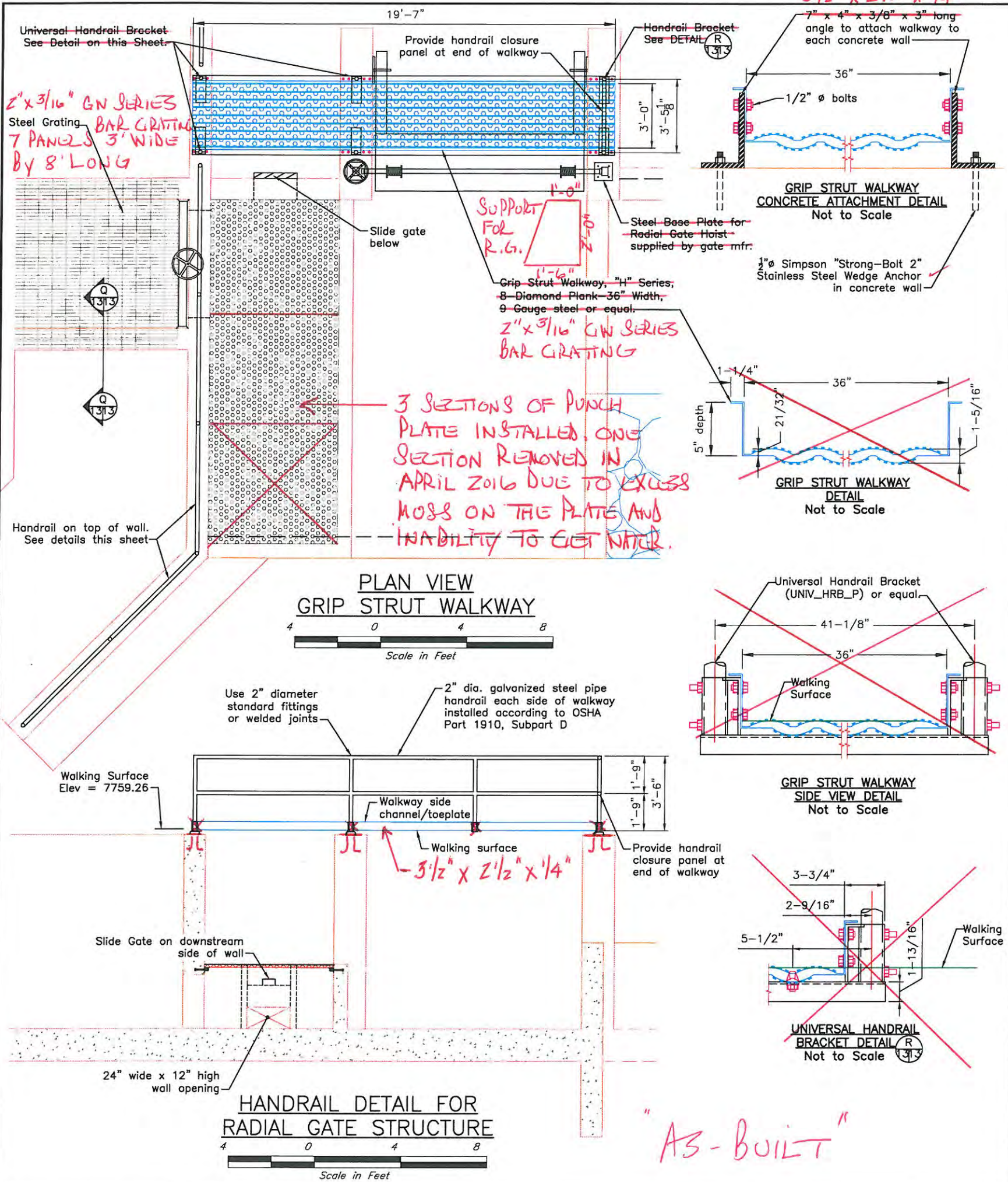
Drawing No.
10/7/2014

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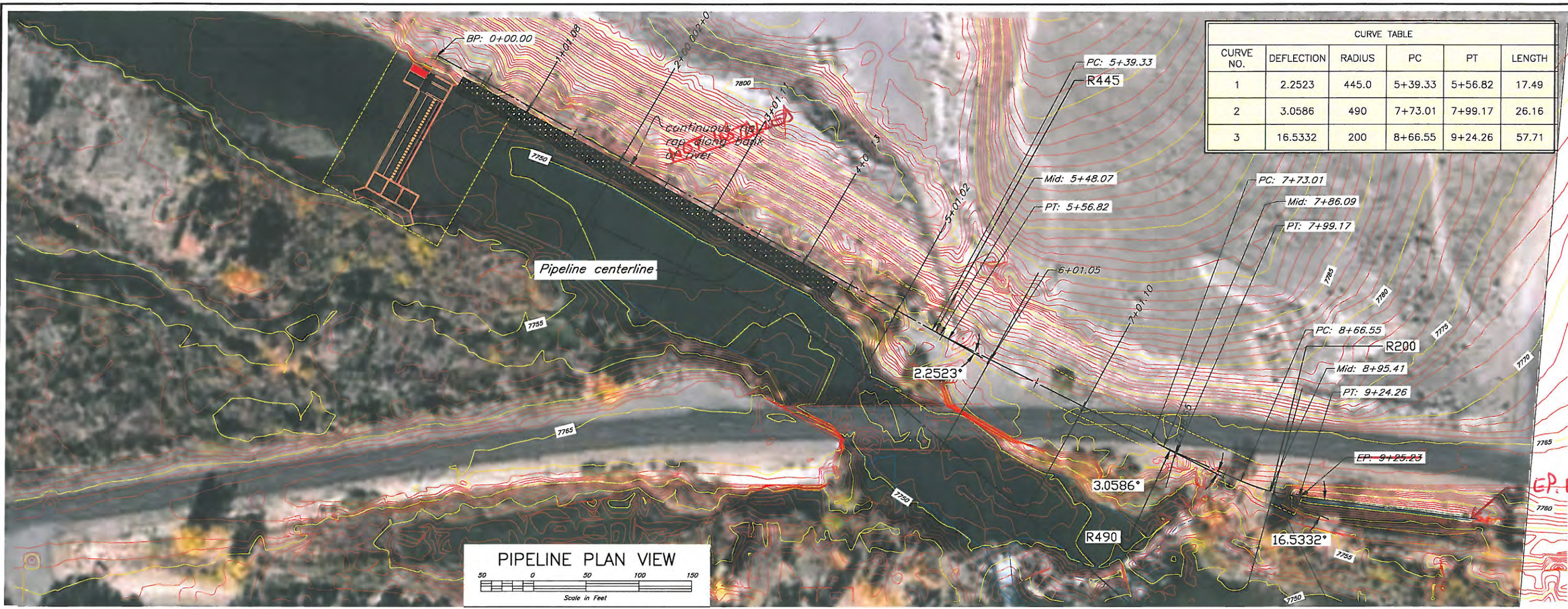
Date 02/14
Designed L. Clark
Drawn L. Clark
Checked R. Martinez & NDCS/MC
Approved J. Clark
02/14
6/14
10/2014

Rio Grande County, Colorado





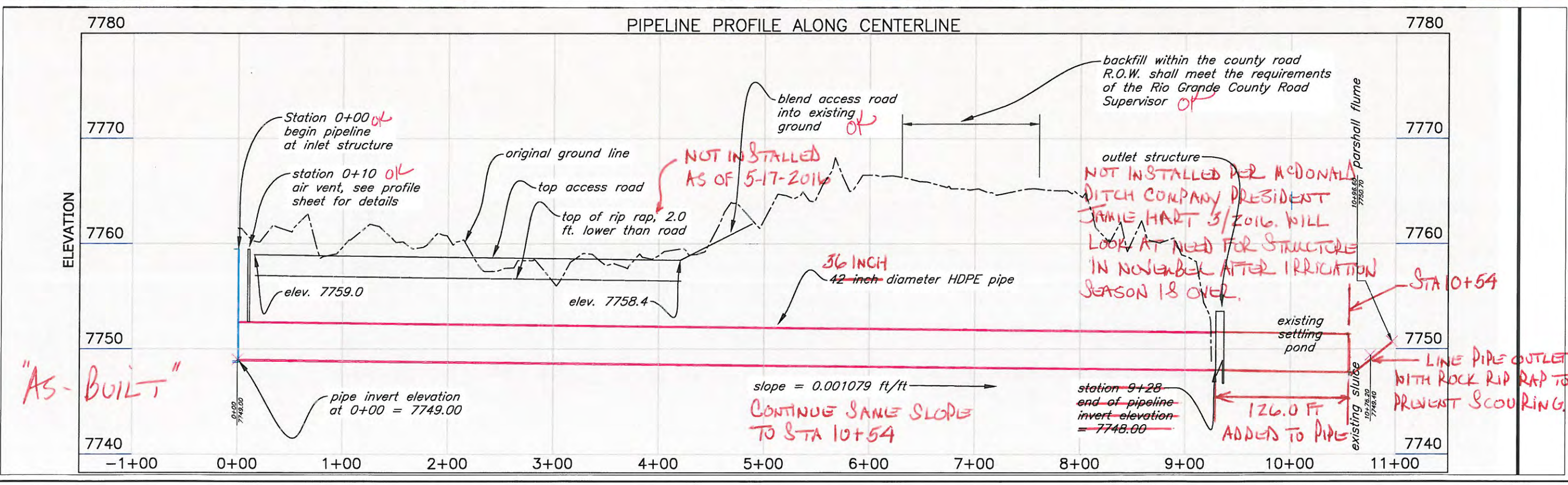
Date	02/14
Designed	L. Clark
Drawn	L. Clark
Checked	R. Marine & NDCSinc
Approved	10/24/14
MCDONALD DITCH COMPANY	
Handrail, Base Plate and	
Rock Riprap Details	
Rio Grande County, Colorado	
EQIP, FY2010	
NRCS	
Natural Resources Conservation Service	
United States Department of Agriculture	
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CURVE TABLE					
CURVE NO.	DEFLECTION	RADIUS	PC	PT	LENGTH
1	2.2523	445.0	5+39.33	5+56.82	17.49
2	3.0586	490	7+73.01	7+99.17	26.16
3	16.5332	200	8+66.55	9+24.26	57.71

Date 02/14
 Designed L. Clark
 Drawn L. Clark
 Checked R. Marine & N. S. M.
 Approved J. A.
 02/14
 6/14
 10/14/14

MCDONALD DITCH COMPANY
 Pipeline Plan and Profile Views
 Rio Grande County, Colorado
 EQIP, FY2010



NRCS
 Natural Resources Conservation Service
 United States Department of Agriculture
 File No. FP_03-04-14
 Drawing No. 10/7/2014
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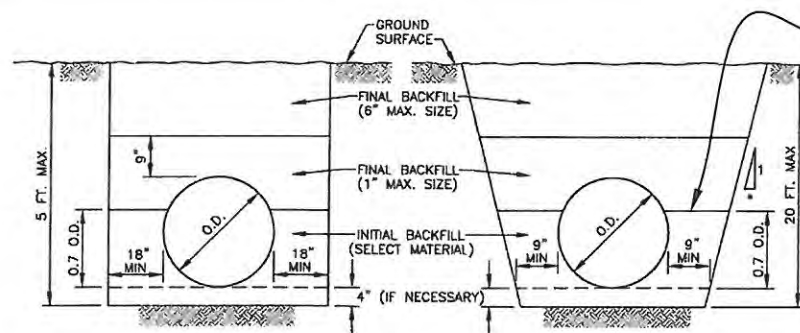


FIGURE 2 - 20" DIA. AND GREATER

NOTES

1. TRENCH WALL SLOPE (*) WILL VARY AS NEEDED FOR CONSTRUCTION SAFETY IN ACCORDANCE WITH OSHA REQUIREMENTS AND SITE CONDITIONS. REFER TO OSHA 1926, SUBPART P.
2. THE TRENCH WILL BE OVER EXCAVATED 4" AND BACKFILLED TO GRADE WITH SAND OR COMPACTED FINE-GRAINED SOILS WHERE THE IN-SITU MATERIALS ARE UNACCEPTABLE FOR PIPE BEDDING.
3. UNLESS OTHERWISE SPECIFIED, "SELECT MATERIAL" FOR INITIAL BACKFILL WILL BE COARSE SAND OR GRAVEL WITH 1" MAXIMUM SIZE.

PIPELINE TRENCH DETATILS

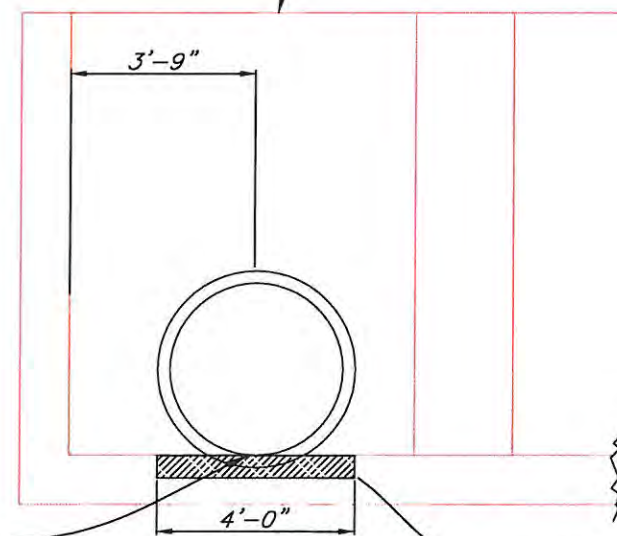
invert of pipe to be flush with the top of concrete floor

FRONT VIEW OF PIPELINE

SCALE: 1" = 2'

Construction Note:
Initial backfill material shall be 1" to 1/4" crushed rock with no fines placed in lifts no greater than 6 inches thick. Each lift shall be compacted with two passes of a vibrating plate or hand directed tamper. Hand placement is necessary to insure compaction of the initial backfill under the haunches of the pipe.

top of planned inlet box, elev 7759.0



concrete floor blockout place in floor during floor construction, remove before construction of wall.

Pipeline Inlet Box

0'-5"

7'-2"

gravel backfill between pipes

2'-6"

water stop on outside of pipe as per manufacturer's recommendation

36" dia. corrugated metal pipe

48" dia. corrugated metal pipe

1/2" dia. steel bar handles install 4

2" dia. holes on 3" centers cut into GMP

1/4" thick steel lid GRATE WELDED TO TOP OF PIPE

36" x 30 fabricated tee for air vent

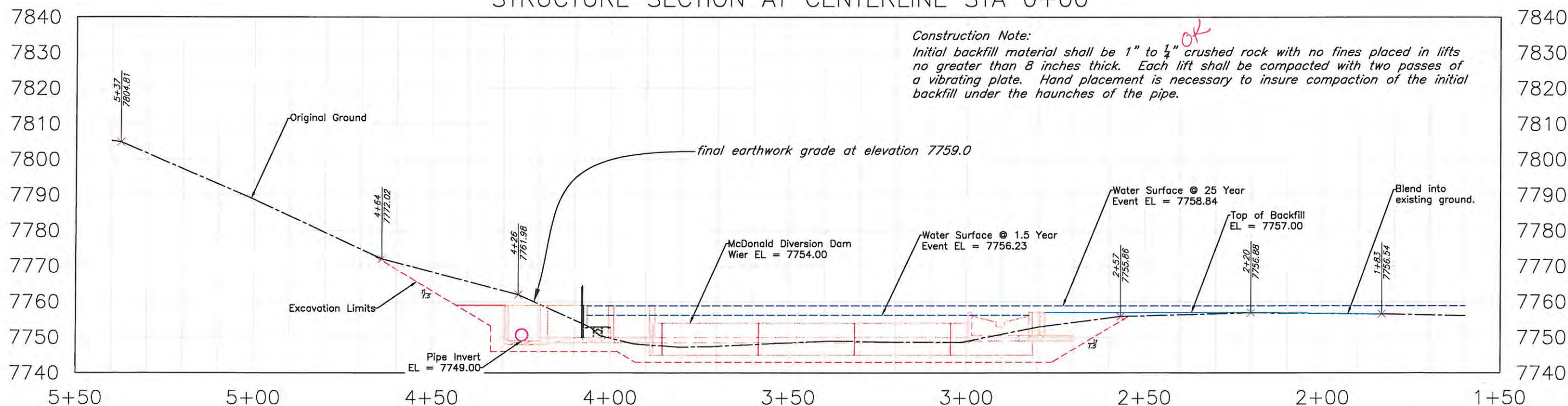
SCALE: 1" = 2'

SECTION VIEW OF PIPELINE

SCALE: 1" = 2'

PIPELINE INLET DETAILS

STRUCTURE SECTION AT CENTERLINE STA 0+00



Construction Note:

Initial backfill material shall be 1" to 1/4" crushed rock with no fines placed in lifts no greater than 8 inches thick. Each lift shall be compacted with two passes of a vibrating plate. Hand placement is necessary to insure compaction of the initial backfill under the haunches of the pipe.

"AS-BUILT"

Date 02/14
Designed L. Clark
Drawn L. Clark, R. Clark
Checked R. Marine & NDCS/mc
Approved JGA
10/20/14

MCDONALD DITCH COMPANY
Pipeline Inlet Details and
Pipeline Cross Section Details
Rio Grande County, Colorado
EQIP, FY2010

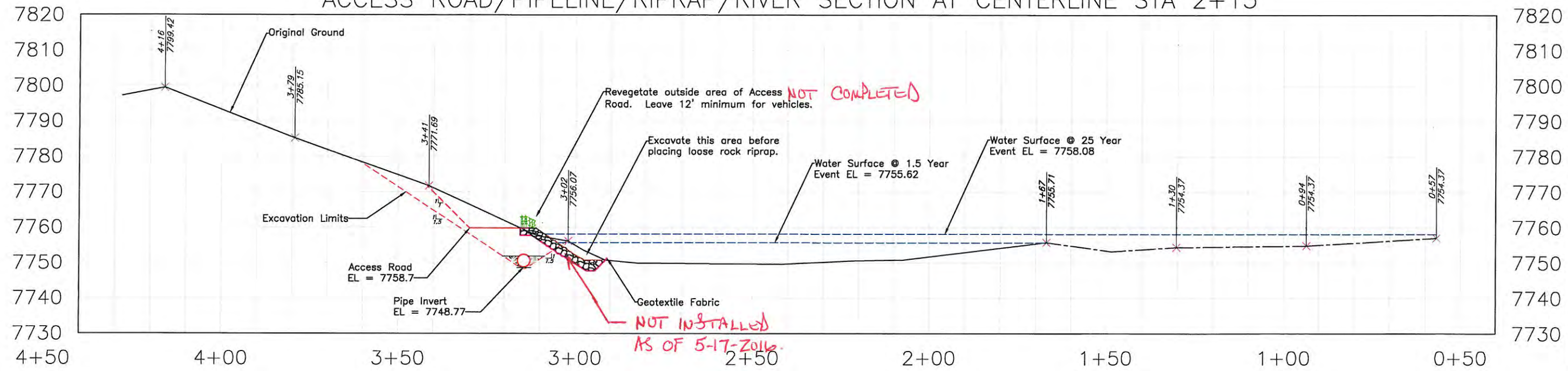
NRCS
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File No.
FP_03-04-14

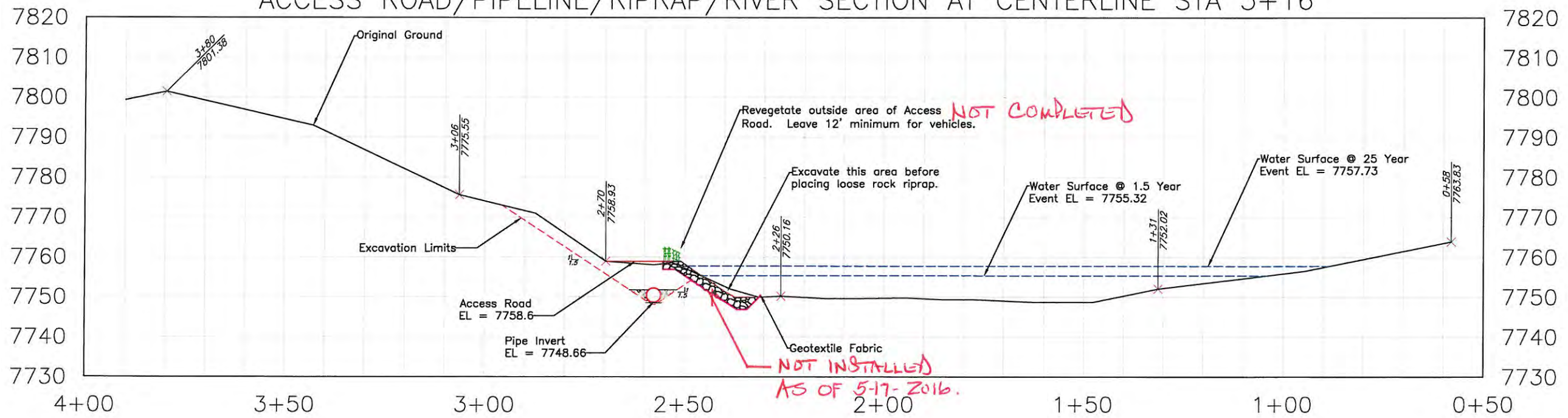
Drawing No.
10/7/2014

Sheet 15 of 18

ACCESS ROAD/PIPELINE/RIPRAP/RIVER SECTION AT CENTERLINE STA 2+15

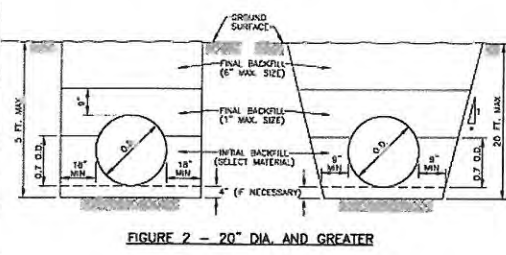
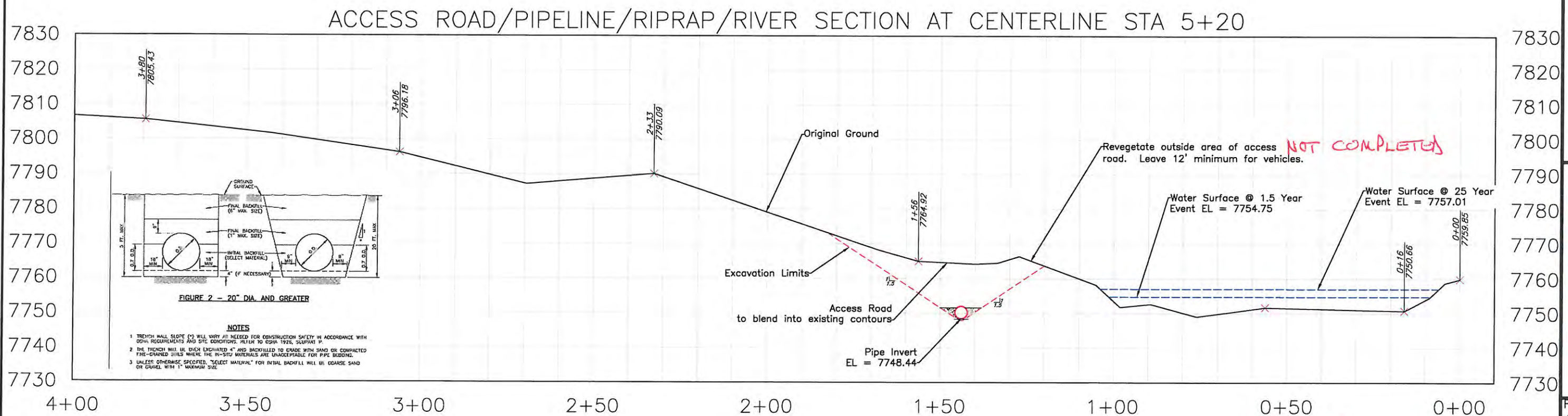
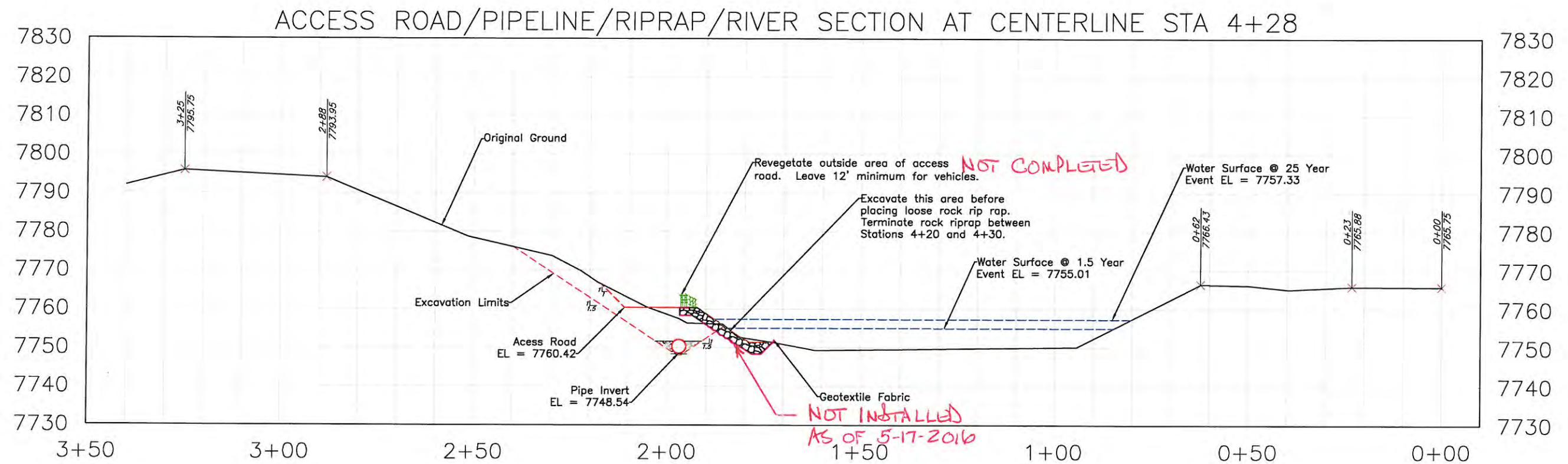


ACCESS ROAD/PIPELINE/RIPRAP/RIVER SECTION AT CENTERLINE STA 3+16



"AS-BUILT"

 Natural Resources Conservation Service United States Department of Agriculture		File No. FP_03-04-14 Drawing No. 10/7/2014 Sheet 16 of 18	
MCDONALD DITCH COMPANY Pipeline Cross Section Details		Rio Grande County, Colorado	
Date 02/14 Designed L. Clark Drawn L. Clark Checked R. Martinez & NDCSMC Approved Jea	Date 02/14 Drawn L. Clark Checked R. Martinez & NDCSMC Approved Jea	EQIP, FY2010	

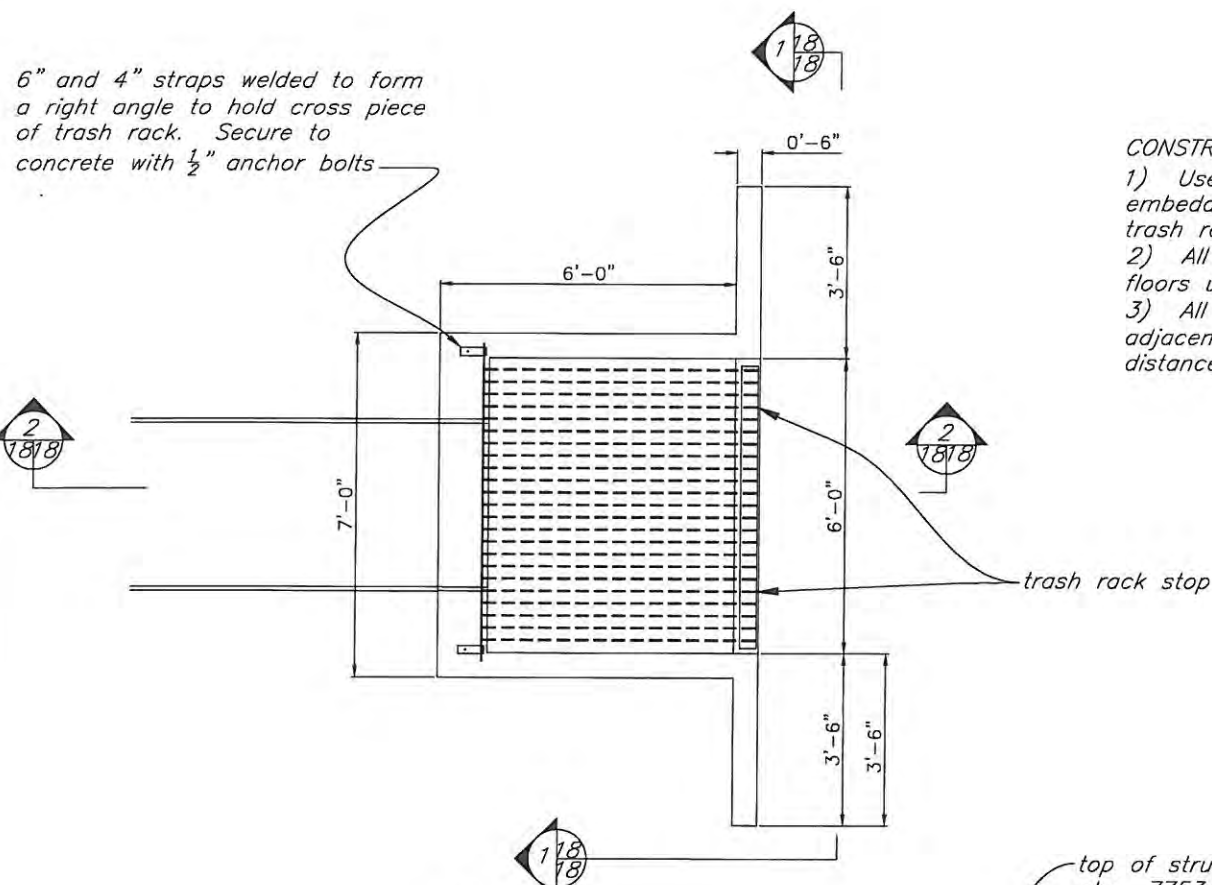


NOTES

- TRENCH WALL SLOPE (S) WILL VARY AS NEEDED FOR CONSTRUCTION SAFETY IN ACCORDANCE WITH OSHA REQUIREMENTS AND SITE CONDITIONS. REFER TO OSHA 1926, SLURRYWALL 19.
- THE TRENCH WILL BE EXCAVATED 4\"/>

"AS-BUILT"

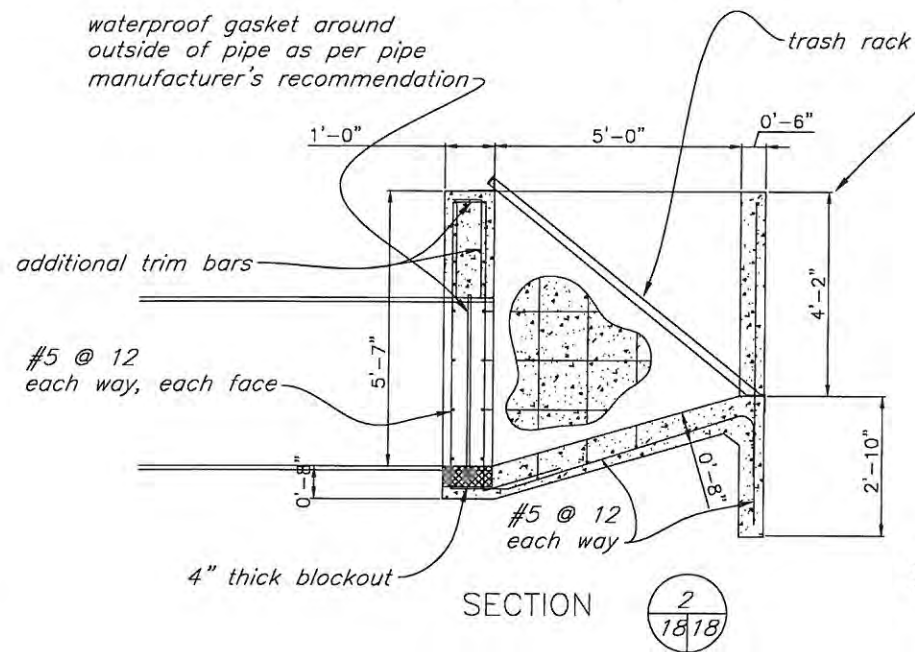
NRCS Natural Resources Conservation Service United States Department of Agriculture	MCDONALD DITCH COMPANY Pipeline Cross Section Details	Date: 02/14 Designed: L. Clark Drawn: L. Clark Checked: R. Marine & J. NDCSMC Approved: J. NDCSMC
Rio Grande County, Colorado EQIP, FY2010		
File No. FP_03-04-14 Drawing No. 10/7/2014 Sheet 17 of 18		



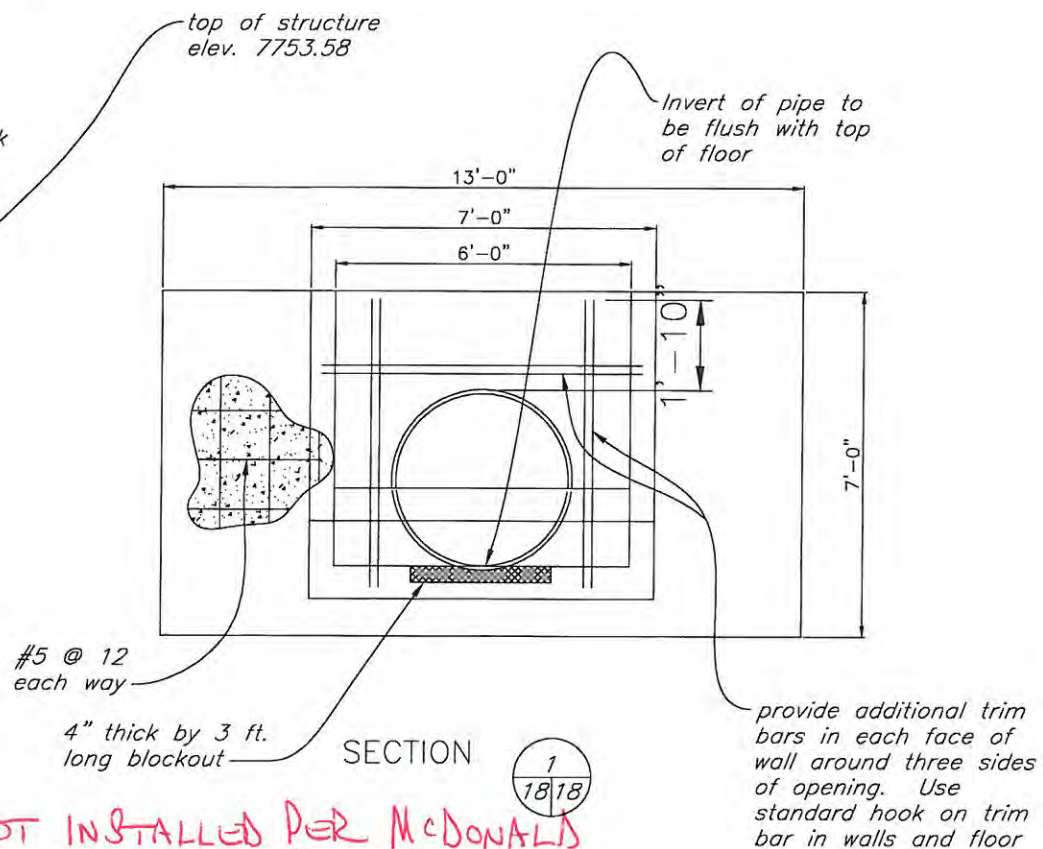
PLAN VIEW

CONSTRUCTION NOTES:

- 1) Use $\frac{1}{2}$ " diameter expansion bolts, bolted to steel straps, embedded into concrete. Use two each for upper and lower trash rack supports.
- 2) All rebar shall be placed in the center of walls and floors unless otherwise shown.
- 3) All rebar shall be continuous from walls and floors into adjacent walls and floors. The minimum lapped splice distance is 19 inches.

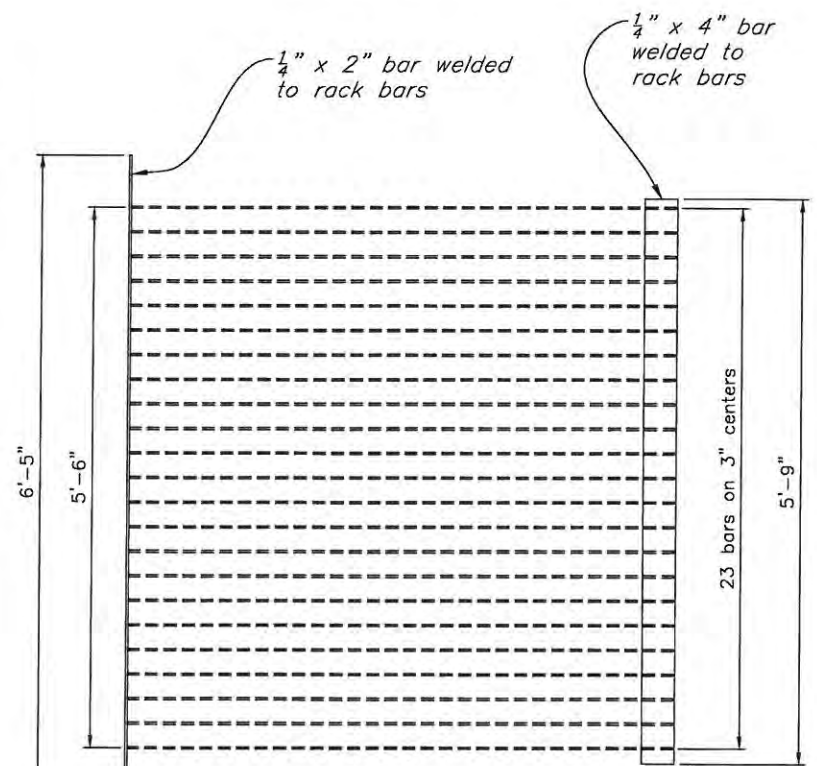


SECTION 2

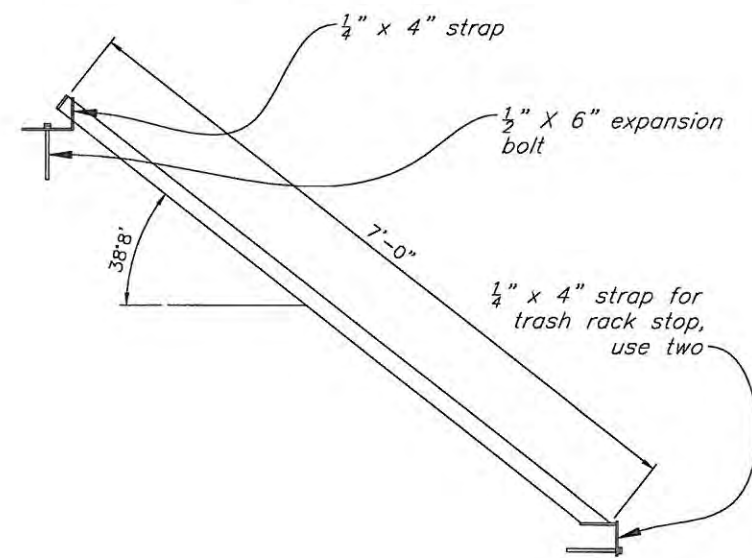


SECTION 1

PIPELINE OUTLET STRUCTURE



TRASH RACK
PLAN VIEW



TRASH RACK
SECTION VIEW



"AS-BUILT"

NOT INSTALLED PER McDONALD
DITCH COMPANY PRESIDENT JAMIE
HEART 3/2016. WILL LOOK INTO
NEED FOR STRUCTURE IN NOVEMBER
2016 AFTER IRRIGATION SEASON.

Date	02/14
Designed	L. Clark
Drawn	L. Clark
Checked	R. Martinez & NDCS/MC
Approved	JEA

MCDONALD DITCH COMPANY
Pipeline Outlet Structure Details

EQUIP, FY2010

Rio Grande County, Colorado



File No.
FP_03-04-14

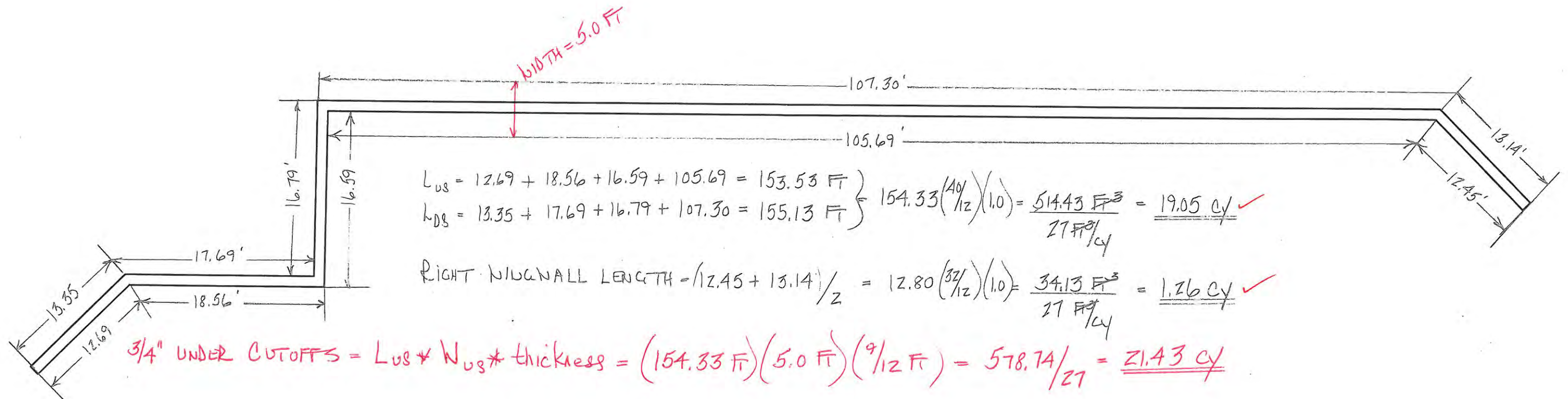
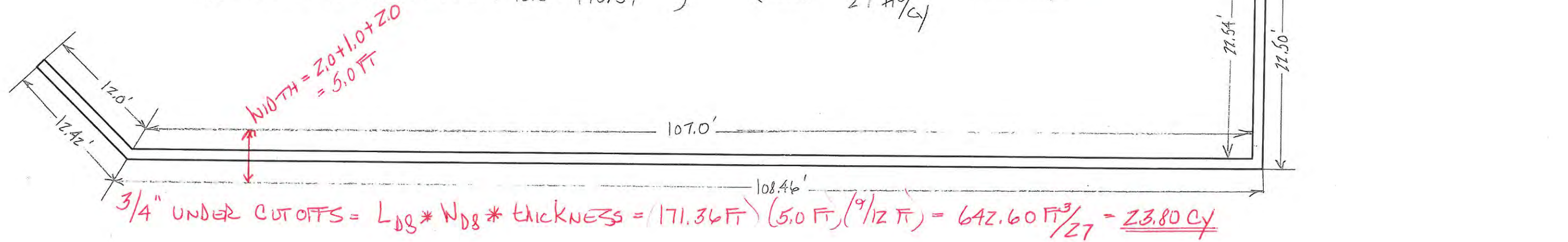
Drawing No.
10/7/2014

Sheet 18 of 18

JANUARY 2 - CONCRETE POUD. 1
6 TRUCKS
41.5 CY DELIVERED

"AS BUILT"; MEASURED IN FIELD = $21.16 + 19.05 + 1.26 = \underline{41.47 \text{ cy}}$

$$\begin{aligned} L_{us} &= 12.42 + 108.46 + 22.54 + 16.38 + 12.42 = 172.18 \\ L_{ds} &= 12.0 + 107.0 + 22.54 + 17.0 + 12.0 = 170.54 \end{aligned} \left\{ 171.36 \left(\frac{40}{12} \right) = \frac{571.20 \text{ FT}^3}{27 \text{ FT}^3/\text{cy}} = \underline{21.16 \text{ cy}} \right.$$



JANUARY 15 - CONCRETE POUR #2

15 TRUCKS

120 CY DELIVERED

"AS BUILT"; MEASURED IN FIELD:

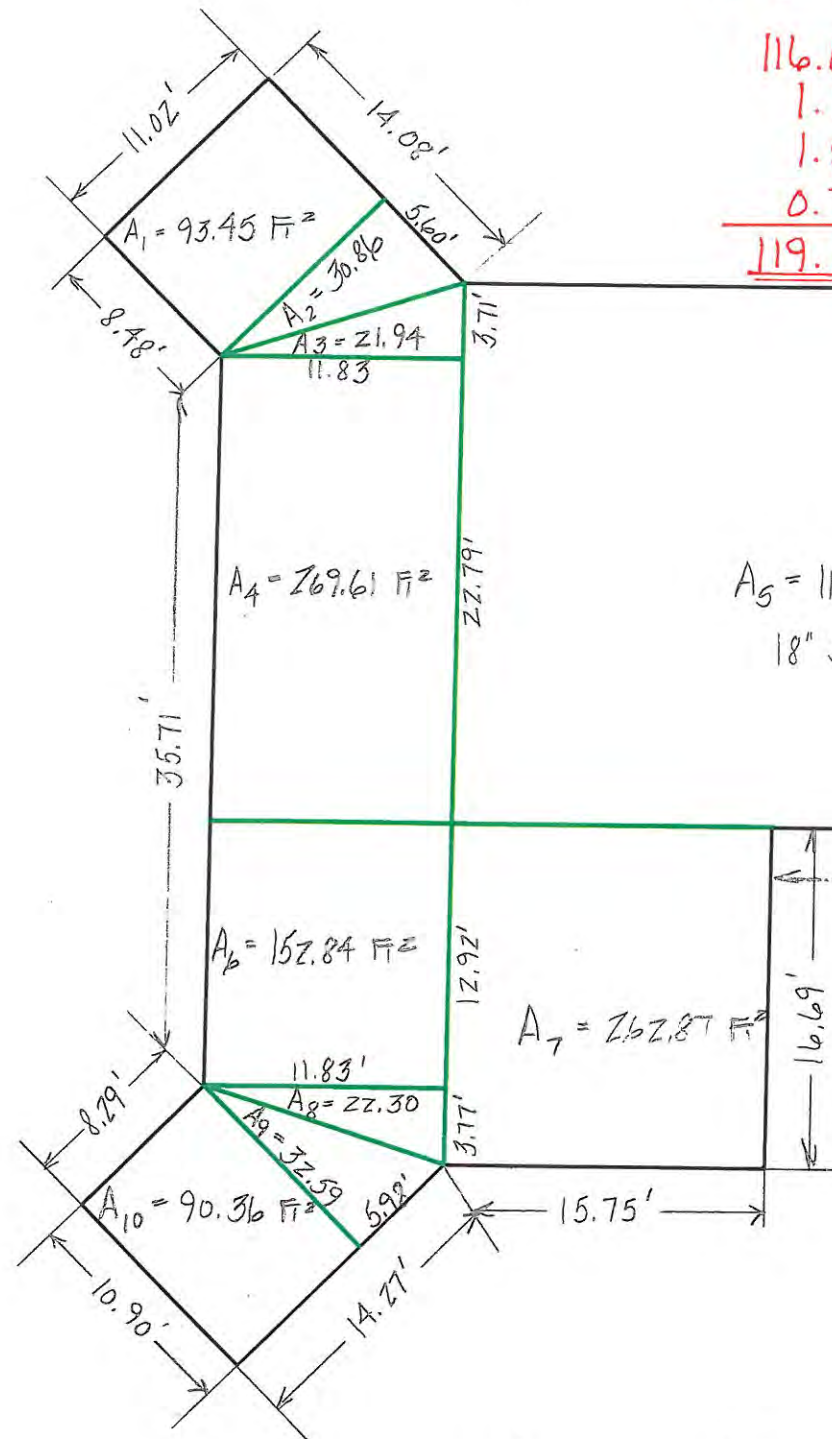
116.66

1.19

1.0 - PRIME PUMP

0.75 - SENT BACK

119.16 CY



$$\text{VOLUME} = \frac{(2099.89 \text{ FT}^2)(1.50 \text{ FT})}{27 \text{ FT}^3/\text{CY}} = \underline{116.66 \text{ CY}} \checkmark$$

$$\text{ADDITIONAL FOR EDGES} = \left(\frac{2}{12}\right)\left(\frac{18}{12}\right)(12.69 + 18.56 + 16.59 + 26.63 + 12.0 + 15.75 + 26.63) = \frac{32.21 \text{ FT}^3}{27 \text{ FT}^3/\text{CY}} = \underline{1.19 \text{ CY}} \checkmark$$

JANUARY 26 - CONCRETE POUR #3

16 TRUCKS

122 CY DELIVERED

"AS BUILT"; MEASURED IN FIELD:

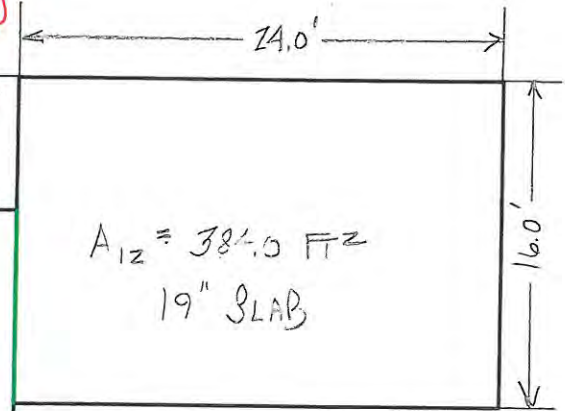
118.60

1.21

1.0 - PRIME PUMP

~ 0.0 - SENT BACK

121.81 CY



$$\text{VOLUME} = \frac{(2022.50 \text{ FT}^2)(1.58 \text{ FT})}{27 \text{ FT}^3/\text{CY}} = \underline{118.60 \text{ CY}} \checkmark$$

$$\text{ADDITIONAL FOR EDGES} = (61.83 + 61.83 + 6.5)\left(\frac{2}{12}\right)\left(\frac{18}{12}\right) = \frac{32.54 \text{ FT}^3}{27 \text{ FT}^3/\text{CY}} = \underline{1.21 \text{ CY}} \checkmark$$

FEBRUARY 4 - CONCRETE Pour #4
13 TRUCKS
104 cy DELIVERED

"AS BUILT" ; MEASURED IN FIELD

$$VOL_{1-5} = 29.45$$

$$VOL_{6-10} = 27.93$$

$$VOL_{11} = 4.0$$

$$VOL_{12} = 1.25$$

$$VOL_{13} = 5.17$$

$$VOL_{14} = 4.0$$

$$VOL_{15} = 1.25$$

$$VOL_{16} = 5.17$$

$$VOL_{17} = 18.48$$

$$VOL_{18} = 1.50$$

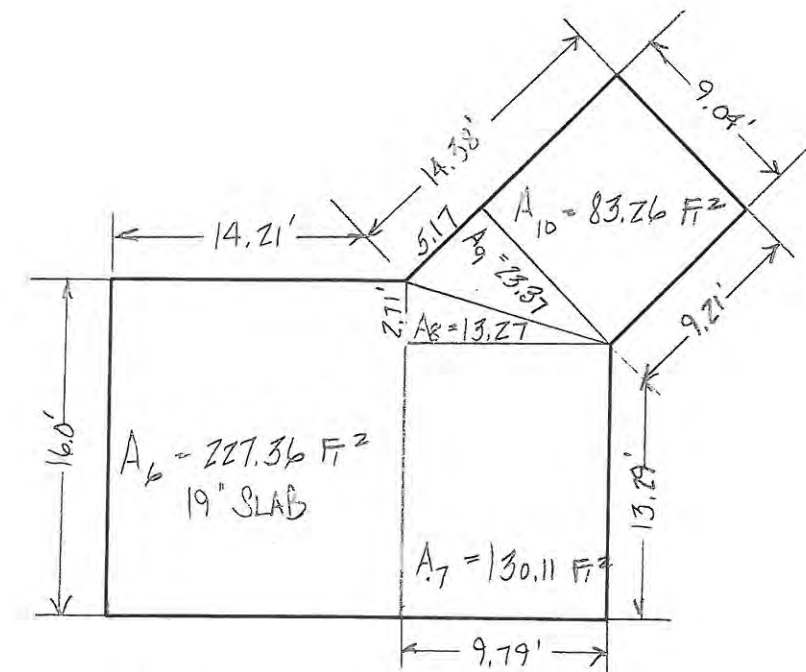
$$VOL_{19} = 1.94$$

$$VOL_{20} = 0.69$$

$$PUMP = 1.0 \text{ cy}$$

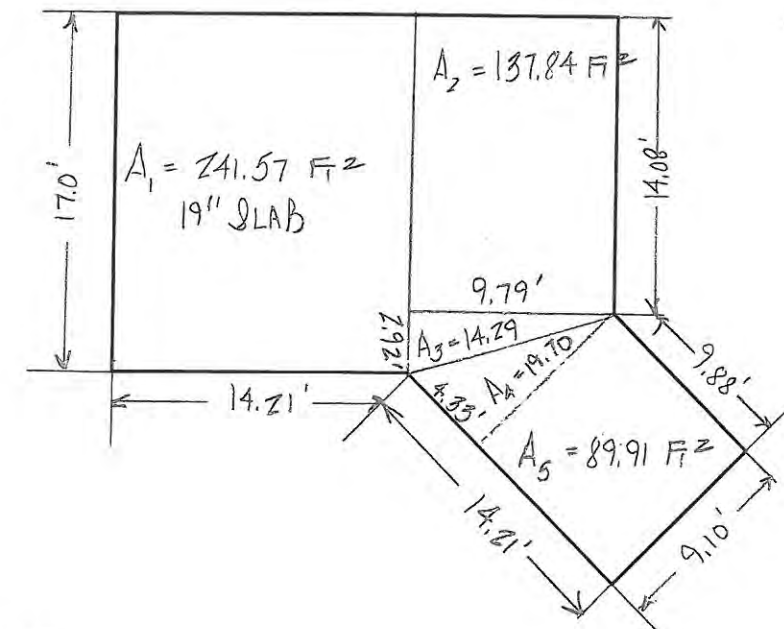
$$BACK = 0.5 + 0.75$$

$$\underline{103.08 \text{ cy}}$$



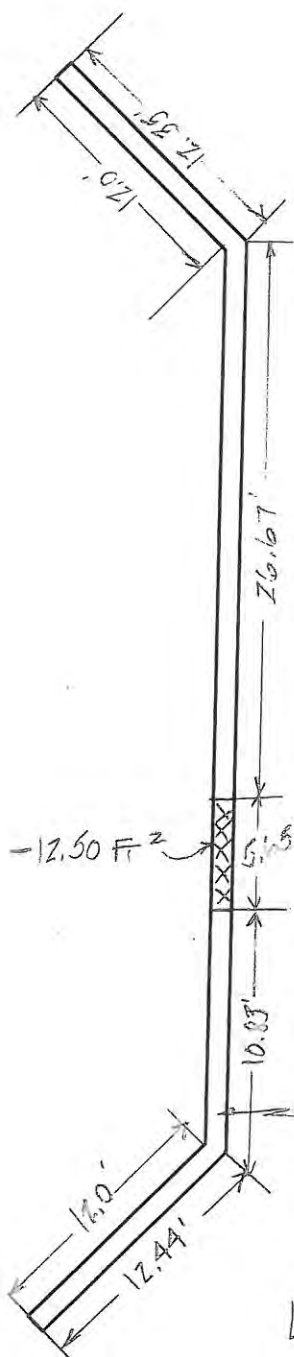
$$A_{6-10} = 477.37 \text{ ft}^2$$

$$VOLUME_{6-10} = \frac{(477.37 \text{ ft}^2)(1.58 \text{ ft})}{27 \text{ ft}^3/\text{cy}} = 27.93 \text{ cy}$$



$$A_{1-5} = 503.31 \text{ ft}^2$$

$$VOLUME_{1-5} = \frac{(503.31 \text{ ft}^2)(1.58 \text{ ft})}{27 \text{ ft}^3/\text{cy}} = 29.45 \text{ cy}$$



$$A_{16} = 93.0 \text{ ft}^2$$

$$V_{16} = 5.17 \text{ cy}$$

$$A_{13} = (15.50)(6.0) = 93.0 \text{ ft}^2$$

$$V_{13} = \frac{(93.0 \text{ ft}^2)(1.50 \text{ ft})}{27} = 5.17 \text{ cy}$$

$$A_{15} = 22.50 \text{ ft}^2$$

$$V_{15} = 1.25 \text{ cy}$$

$$A_{12} = \left[\frac{1}{2}(3.0)(3.0) + (3.0)(6.0) \right] = 22.50 \text{ ft}^2$$

$$V_{12} = \frac{(22.50 \text{ ft}^2)(1.50 \text{ ft})}{27} = 1.25 \text{ cy}$$

$$A_{11} = (8.0)(9.0) = 72.0 \text{ ft}^2$$

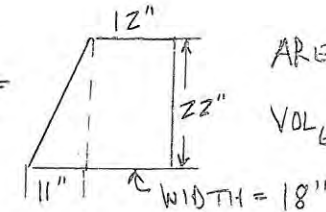
$$V_{11} = \frac{(72.0 \text{ ft}^2)(1.50 \text{ ft})}{27} = 4.0 \text{ cy}$$

$$A_{14} = 72.0 \text{ ft}^2$$

$$V_{14} = 4.0 \text{ cy}$$

$$A_{17}$$

$$VOLUME_{19} = \frac{(52.50)(1.0)(1.0)}{27} = 1.94 \text{ cy}$$



$$AREA = \frac{1}{2} \left(\frac{11}{12} \right) \left(\frac{22}{12} \right) + \left(\frac{12}{12} \right) \left(\frac{22}{12} \right) = 2.67 \text{ ft}^2$$

$$VOL_{18} = \frac{(2.67)(1.50)}{27} = 0.15 \text{ cy}$$

$$VOL_{18} = (10)(0.15) = 1.50 \text{ cy}$$

$$ADDITIONAL \text{ FOR EDGES} = (16.0 + 17.0 + 12.0 + 17.0 + 12.0) = 74.0 \text{ ft}$$

$$VOLUME_{20} = \frac{(74.0 \text{ ft}) \left(\frac{2}{12} \right) \left(\frac{18}{12} \right)}{27} = 0.69 \text{ cy}$$

$$LENGTH = 12.44 + 10.83 + 5.65 + 26.67 + 12.35 = 67.94 \text{ ft}$$

$$AREA_{17} = (67.94 \text{ ft})(1.0 \text{ ft}) - 12.50 \text{ ft}^2 = 55.44 \text{ ft}^2$$

$$VOLUME_{17} = \frac{(55.44 \text{ ft}^2)(9.0 \text{ ft})}{27 \text{ ft}^3/\text{cy}} = 10.40 \text{ cy}$$

FEBRUARY 11 - CONCRETE P.O.R #5

7 TRUCKS

2 SENT BACK; BASED ON 90 MINUTE EXCLUSION (16 cy)
41 cy DELIVERED AND PLACED IN FORM

"AS BUILT" - MEASURED IN FIELD

$$V_{1-6} = 31.82 \text{ cy}$$

$$V_{10} = 1.94 \text{ cy}$$

$$V_7 = 1.50$$

$$V_{11} = 0.59$$

$$V_8 = 1.33$$

$$V_{12} = 1.25$$

$$V_9 = 0.57$$

$$\text{PUMP} = 1.0$$

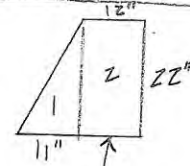
$$\text{BACK} = 1.0$$

$$\underline{\underline{41.0 \text{ cy}}}$$

$$A_{12} = (6.0 + 10.0 + 17.79)(1.0) = 33.79 \text{ Ft}^2$$

$$V_{12} = \frac{(33.79 \text{ Ft}^2)(1.0 \text{ Ft})}{27 \text{ Ft}^3/\text{cy}} = 1.25 \text{ cy}$$

$$\text{AREA}_7 = 10 \text{ BLOCKS} =$$



WIDTH = 18"

$$\text{AREA}_1 = \frac{1}{2} \left(\frac{11}{12} \right) \left(\frac{22}{12} \right) = 0.84 \text{ Ft}^2$$

$$\text{AREA}_2 = \left(\frac{12}{12} \right) \left(\frac{22}{12} \right) = 1.83 \text{ Ft}^2$$

$$\text{VOL} = (2.67 \text{ Ft}^2)(1.50 \text{ Ft}) = 4.01 \text{ Ft}^3 / 27 = 0.15 \text{ cy}$$

$$\text{VOL}_7 = (0.15 \text{ cy})(10 \text{ BLOCKS}) = 1.50 \text{ cy}$$

$$A_{11} = (6.0)(3.0) - (2.0)(1.0) = 16.0 \text{ Ft}^2$$

$$V_{11} = \frac{(16.0 \text{ Ft}^2)(1.0 \text{ Ft})}{27 \text{ Ft}^3/\text{cy}} = 0.59 \text{ cy}$$

$$A_8 = (9.0)(4.0) = 36.0 \text{ Ft}^2$$

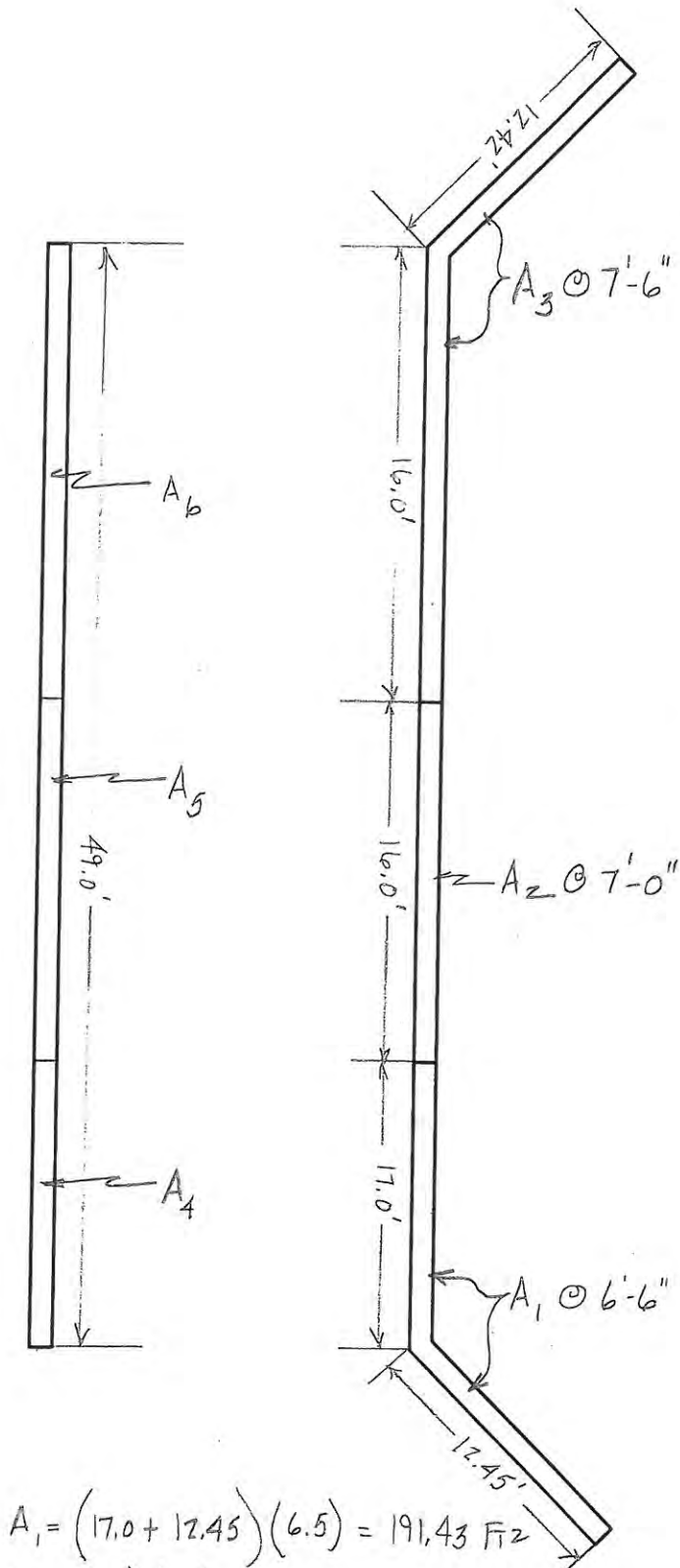
$$V_8 = \frac{(36.0 \text{ Ft}^2)(1.0 \text{ Ft})}{27 \text{ Ft}^3/\text{cy}} = 1.33 \text{ cy}$$

$$A_9 = \frac{1}{2} (7.67)(4.0) = 15.38 \text{ Ft}^2$$

$$V_9 = \frac{(15.38 \text{ Ft}^2)(1.0 \text{ Ft})}{27 \text{ Ft}^3/\text{cy}} = 0.57 \text{ cy}$$

$$V_{10} = (23.33 \text{ Ft})(3.0 \text{ Ft}) = 69.99 \text{ Ft}^2$$

$$V_{10} = \frac{(69.99 \text{ Ft}^2)(9/12 \text{ Ft})}{27 \text{ Ft}^3/\text{cy}} = 1.94 \text{ cy}$$



$$A_1 = (17.0 + 12.45)(6.5) = 191.43 \text{ Ft}^2$$

$$A_2 = (16.0)(7.0) = 112.0 \text{ Ft}^2$$

$$A_3 = (16.0 + 12.42)(7.5) = 213.15 \text{ Ft}^2$$

$$A_4 = (17.0)(6.5) = 110.50 \text{ Ft}^2$$

$$A_5 = (16.0)(7.0) = 112.0 \text{ Ft}^2$$

$$A_6 = (16.0)(7.5) = 120.0 \text{ Ft}^2$$

$$V = (A_1 - A_6)(1.0) / 27 = 31.82 \text{ cy}$$

FEBRUARY 18. CONCRETE Pour #6

4 TRUCKS

32.5 cy DELIVERED AND PLACED IN FORMS

"AS BUILT"; MEASURED IN FIELD

$$V_{\text{FISH}} = 8.92 \text{ cy}$$

WALLS

$$V_{\text{SILL}} = 0.66$$

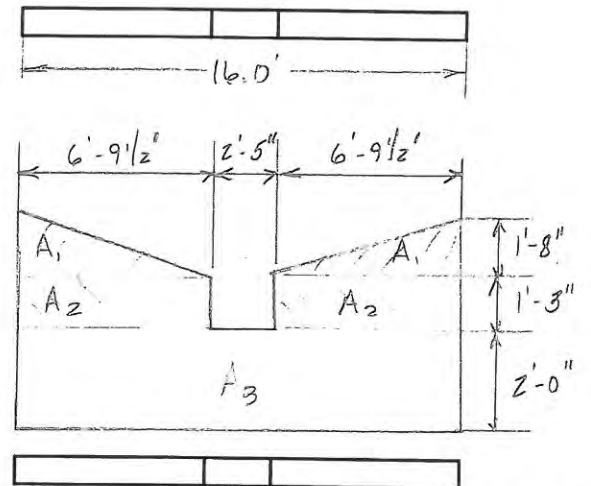
$$V_{\text{BLOCKS}} = 1.50$$

$$V_{18" \text{ WALL}} = 19.56$$

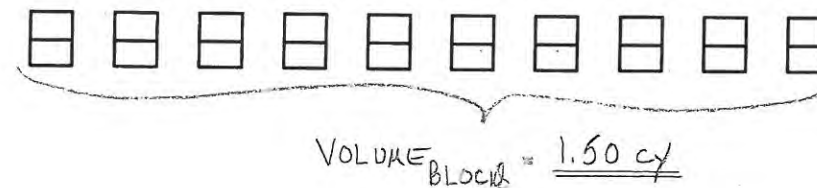
$$\text{PUMP} = 1.0$$

$$\text{BACK} = 0.86$$

$$\underline{\underline{32.50 \text{ cy}}}$$



$$V = (17.71)(1.0)(1.0) / 27 = \underline{\underline{0.66 \text{ cy}}}$$



$$A_1 = 2(1' / 2)(6.79)(1.67) = 11.34 \text{ FT}^2$$

$$A_2 = 2(6.79)(1.25) = 16.98 \text{ FT}^2$$

$$A_3 = 2.0(16.0) = 32.0 \text{ FT}^2$$

$$A_{\text{TOTAL}} = 60.32 \text{ FT}^2$$

$$V_{\text{FISH}} = \frac{60.32(1.0)}{27} = 2.23 \text{ cy / EACH WALL}$$

$$\text{VOLUME} = (88 \text{ FT})(1.50 \text{ FT})(4.0 \text{ FT}) / 27 = \underline{\underline{19.56 \text{ cy}}}$$

$$V_{\text{FISH}} = 4(2.23) = \underline{\underline{8.92 \text{ cy}}}$$

WALLS

FEBRUARY 24 - CONCRETE POUR # 7 7 TRUCKS

MARCH 11 - CONCRETE POUR # 9

"AS BUILT"; MEASURED IN FIELD

$$V_{HG} = 18.67 \text{ cy}$$

$$PUMP = 1.0 \text{ cy}$$

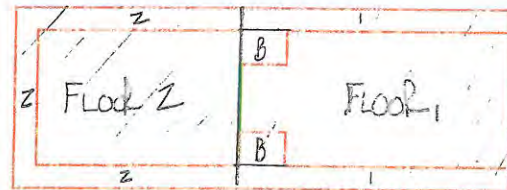
$$\underline{19.67 \text{ cy}}$$

$$V_{WALL_1} = \frac{2(12.0 \text{ FT})(9.0 \text{ FT})(1.0 \text{ FT})}{27} = 8.0 \text{ cy}$$

$$V_{BLOCK} = \frac{2(1.50 \text{ FT})(2.0 \text{ FT})(9.0 \text{ FT})}{27} = 2.0 \text{ cy}$$

$$V_{WALL_2} = \frac{(9.0 + 2.0 + 9.0)(9.0)(1.0)}{27} = 8.67 \text{ cy}$$

$$\underline{18.67 \text{ cy}}$$



"AS BUILT"; MEASURED IN FIELD

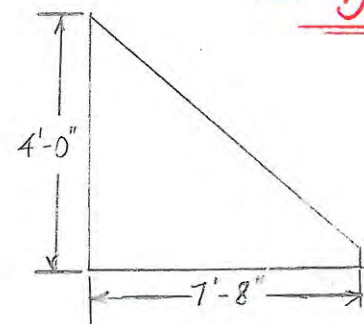
$$V_{WEDGE} = 52.15 \text{ cy}$$

$$PUMP \approx 1.0 \text{ cy}$$

$$TOE \approx 0.10 \text{ cy}$$

$$\underline{53.05 \text{ cy}}$$

$$\sim \underline{53 \text{ cy}}$$



$$VOL_{WEDGE} = \frac{1}{2}(8.0 \text{ FT})(4.0 \text{ FT})(88.0 \text{ FT}) = 52.15 \text{ cy}$$

$$WEDGE = 88.0 \text{ FT LONG} \times (4.0 \text{ FT HIGH}) \times (8.0 \text{ FT WIDE})$$

$$\begin{aligned} & \text{2" TALL } \Rightarrow A = \frac{1}{2} \left(\frac{4}{12} \right) \left(\frac{2}{12} \right) = 0.03 \text{ FT}^2 \\ & \text{4" LONG} \Rightarrow V = \frac{(0.03 \text{ FT}^2)(88.0 \text{ FT})}{27 \text{ FT}^3/\text{cy}} = 0.10 \text{ cy} \end{aligned}$$

MARCH 5 - CONCRETE POUR # 8 1 TRUCK - NO TICKET

$$V_{FLOOR_1} = \frac{(12.0 \text{ FT})(8.0 \text{ FT})(1.50 \text{ FT})}{27 \text{ FT}^3/\text{cy}} = 5.33 \text{ cy}$$

$$V_{FLOOR_2} = \frac{(10.0 \text{ FT})(8.0 \text{ FT})(1.0 \text{ FT})}{27 \text{ FT}^3/\text{cy}} = 2.96 \text{ cy}$$

$$\underline{8.29 \text{ cy}}$$