

TRIPLE CREEK DIRECTIONAL PROJECT

LOCATED IN THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER
OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH P.M.
CITY OF GREELEY, COUNTY OF WELD STATE OF COLORADO.

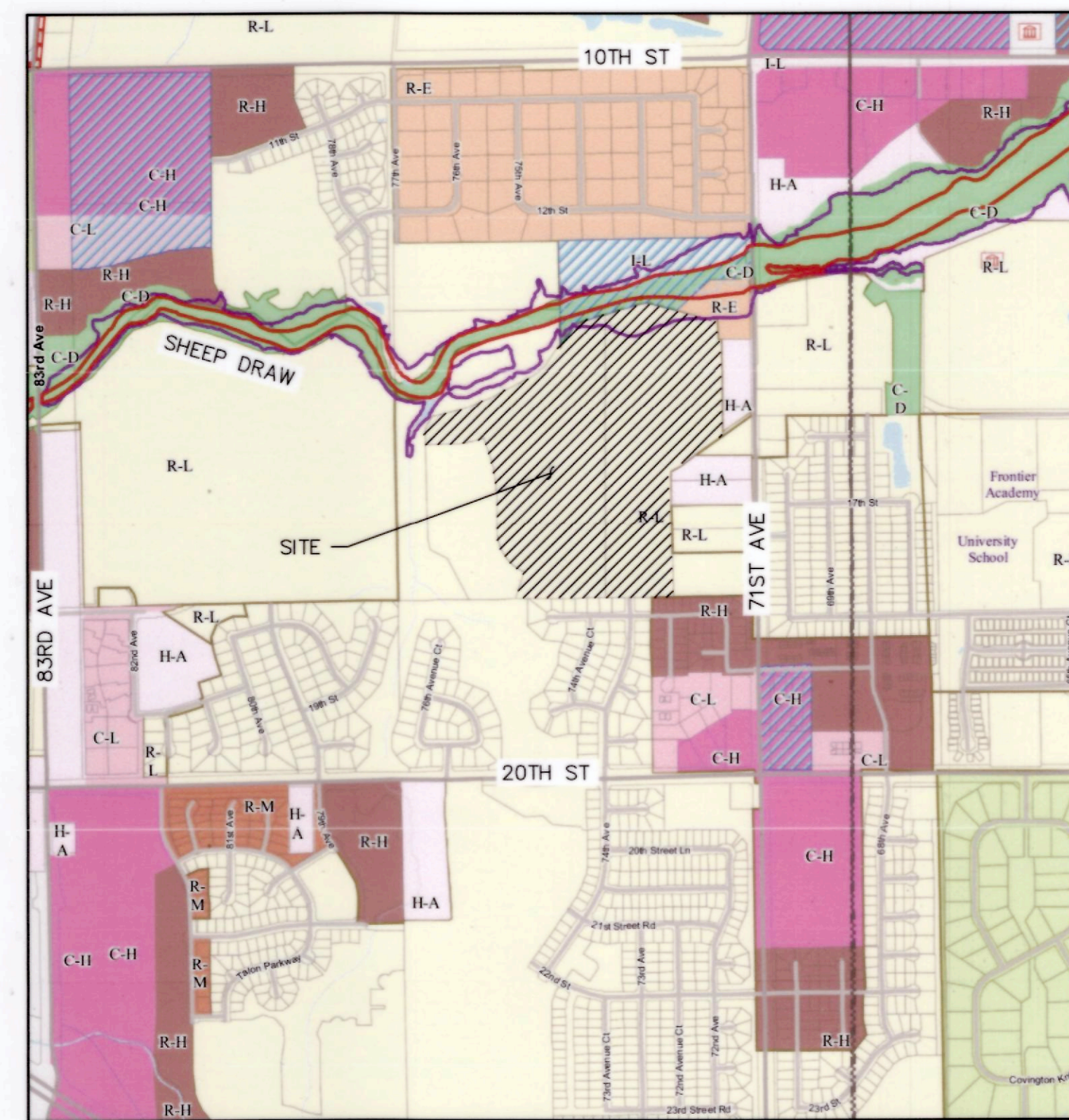
USE BY SPECIAL REVIEW USR 6.14



GENERAL NOTES

- ALL OPERATIONS SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL LAWS INCLUDING APPLICABLE STANDARDS INCLUDED IN 18.56 OIL & GAS OPERATIONS OF THE GREELEY DEVELOPMENT CODE.
- OPERATIONS SHALL FOLLOW THE APPROVED BEST MANAGEMENT PRACTICES (BMPs) AS OUTLINED IN THE CONDITIONS OF APPROVAL OF THE TRIPLE CREEK DIRECTIONAL PROJECT OIL AND GAS LOCATION ASSESSMENT (FORM 2A), COGCC LOCATION DOCUMENT NUMBER 400518456.
- THE OPERATIONAL SYSTEM MUST BE AUTOMATED, TO ALLOW REMOTE SHUT IN, REMOTE MONITORING, AND OFF-SITE RESPONSE TO EMERGENCIES.
- THE OPERATION MUST COMPLY WITH THE CITY OF GREELEY'S NOISE REGULATIONS, IN ACCORDANCE WITH TITLE 9, ARTICLE 11 OF THE CITY OF GREELEY'S MUNICIPAL CODE AS IS CONSISTENT WITH THE RULES AND REGULATIONS OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION (COGCC).
- NOISE SUPPRESSION BEST PRACTICES DESIGNED TO MINIMIZE NOISE FROM THE WELL SITE SHALL BE UTILIZED, INCLUDING THE USE OF A TEMPORARY SOUND-RATED ENGINEERED SOUND ATTENUATION WALL, TO CONFORM TO THE MAXIMUM PERMISSIBLE NOISE LEVELS AS OUTLINED PER COGCC RULE 802 NOISE ABATEMENT.

ZONE	7:00 AM TO NEXT 7:00 PM	7:00 PM TO NEXT 7:00 AM
RESIDENTIAL/ AGRICULTURAL/ RURAL	55 DB(A)	50 DB(A)
COMMERCIAL	60 DB(A)	55 DB(A)
LIGHT INDUSTRIAL	70 DB(A)	65 DB(A)
INDUSTRIAL	80 DB(A)	75 DB(A)
- THE OPERATION MUST COMPLY WITH THE CITY OF GREELEY'S LIGHTING STANDARDS, IN ACCORDANCE WITH SECTION 18.40.110 OF THE DEVELOPMENT CODE AS IS CONSISTENT WITH THE RULES AND REGULATIONS OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION (COGCC).
- THE OPERATION SHALL COMPLY WITH COLORADO OIL AND GAS CONSERVATION COMMISSION (COGCC) RULE 803 LIGHTING.
- AT THE TIME OF INITIAL INSTALLATION, ALL PUMPS, PITS, WELLHEADS AND PRODUCTION FACILITIES MUST BE ADEQUATELY FENCED TO RESTRICT ACCESS BY UNAUTHORIZED PERSONS. FOR SECURITY PURPOSES, ALL SUCH FACILITIES AND EQUIPMENT USED IN THE OPERATION OF A COMPLETED WELL MUST BE SURROUNDED BY A FENCE SIX (6) FEET IN HEIGHT, OF NONCOMBUSTIBLE MATERIAL, AND WHICH MUST INCLUDE A GATE THAT SHALL BE LOCKED.
- ANY MATERIAL NOT IN USE THAT MIGHT CONSTITUTE A FIRE HAZARD SHALL BE PLACED A MINIMUM OF TWENTY-FIVE (25) FEET FROM THE WELLHEAD, TANKS AND SEPARATOR. WITHIN NINETY (90) DAYS AFTER A WELL IS PLUGGED AND ABANDONED, THE WELL SITE SHALL BE CLEARED OF ALL NONESSENTIAL EQUIPMENT.
- IN ACCORDANCE WITH COGCC RULE 604.C.(2)J, THE OPERATOR SHALL IDENTIFY THE LOCATION OF THE WELLBORE WITH A PERMANENT MONUMENT AS SPECIFIED IN RULE 319.A.(5). THE OPERATOR SHALL ALSO INSCRIBE OR IMBED THE WELL NUMBER AND DATE OF PLUGGING UPON THE PERMANENT MONUMENT.
- ADEQUATE BLOWOUT PREVENTION EQUIPMENT SHALL BE PROVIDED FOR DRILLING OPERATIONS AND WELL SERVICING OPERATIONS.
- ALL BMPs PROVIDED WITHIN THE OPERATIONAL PLAN PER THE CITY OF GREELEY'S USE BY SPECIAL REVIEW (USR) SHALL BE INCLUDED IN THE BMPs SECTION OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION (COGCC) OIL AND GAS LOCATION ASSESSMENT, FORM 2A. ANY BMPs NOT INCLUDED ON THE FORM 2A SHALL BE ADDED VIA A COGC SUNDRY NOTICE, FORM 4, BY THE OPERATOR WITHIN 30 DAYS OF USR APPROVAL.
- ONLY ELECTRICAL ENGINES WILL BE USED DURING THE DRILLING, COMPLETION, AND PRODUCTION PHASES OF OPERATIONS.
- THE COLORADO DIVISION OF WILDLIFE DEFINES THE ACTIVE NESTING SEASON FOR RED TAIL HAWKS AS FEBRUARY 15TH THROUGH JULY 15TH. IF THE RED TAIL HAWK NEST IS DETERMINED TO BE IN USE DURING THE NESTING SEASON, NO DRILLING WILL OCCUR WHILE THE NEST IS ACTIVE. DRILLING OPERATIONS MAY COMMENCE ONCE THE NEST HAS BEEN DETERMINED TO BE FLEDGED. IF THE NEST IS DETERMINED TO BE INACTIVE, NO TIMING STIPULATION WILL OCCUR. ADDITIONALLY, EXTRACTION WILL HAVE A CERTIFIED REPORT COMPLETED BY A LICENSED BIOLOGIST INCORPORATING BEST MANAGEMENT PRACTICES (BMPs) THAT WOULD MITIGATE AFFECTS TO THE HAWK DURING THE NESTING SEASON. THESE MITIGATION MEASURES WOULD BE EMPLOYED DURING THE ACTIVE NESTING SEASON FROM FEBRUARY 15TH THROUGH JULY 15TH, AND ALLOW DRILLING OPERATIONS TO CONTINUE DURING THIS PERIODS. THE REPORT WILL BE PROVIDED TO THE CITY OF GREELEY FOR REVIEW AND APPROVAL.
- THE OPERATOR SHALL ONLY UTILIZE LEASE AUTOMATIC CUSTODY TRANSFER (LACT) METERS DURING THE PRODUCTION PHASE.
- DURING THE COMPLETION PHASE, ONLY MODERN LOW-NOISE DIESEL ENGINES (OR ELECTRIC MOTORS) MAY BE UTILIZED.
- OPERATOR WILL MAINTAIN A WORKING MODEL OF THE SITE AND OPERATIONS, INCLUDING THE ABILITY TO RECORD AND TRACK SPECIFIC EQUIPMENT FOR THE ENTIRE SITE.
- ALL TANKS ON SITE MUST BE NO TALLER THAN 12.5 FEET.
- NO DRILLING WASTE (CUTTINGS, ETC.) MAY BE STORED OR KEPT ON THE SITE PERMANENTLY.
- THE OPERATOR MUST HAVE REGULAR RESPONSE PERSONNEL AVAILABLE AND VISITING THE SITE, A MINIMUM OF TWO VISITS PER DAYLIGHT HOURS AND ONE VISIT PER NIGHT, WITH MINOR EXCEPTIONS ALLOWED FOR WEATHER CONDITIONS, ETC.



VICINITY MAP
1" = 1000'

ENGINEER

OLSSON ASSOCIATES
5285 McWHINNEY BOULEVARD, SUITE 160
LOVELAND, CO 80538
PHONE: (970) 461-7733

APPLICANT/ OPERATOR

EXTRACTION OIL & GAS
370 17th STREET, SUITE 5300
DENVER, CO 80202
PHONE: (720) 557-8300

OWNER

RICHMARK REAL ESTATE PARTNERS, LLC
PO BOX 328
GREELEY, COLORADO 80632
PHONE: (970) 352-9446

SURVEYOR

LAMP RYNEARSON & ASSOCIATES
4715 INNOVATION DR.
FORT COLLINS, CO 80525
PHONE: (970) 226-0342

DRAWING INDEX		
NUMBER	DESCRIPTION	SHEET
1	COVER SHEET	USR 1
USR 6.14		
2	OVERALL SITE PLAN	USR 2
3	SITE PLAN	USR 3
4	DRILLING PLAN	USR 4
5	COMPLETION PLAN	USR 5
6	PRODUCTION PLAN	USR 6
7	TANK BATTERY ELEVATION	USR 7
CONSTRUCTION DRAWINGS		
8	CONSTRUCTION COVER SHEET	C1
9	DEMOLITION PLAN	C2
10	EROSION AND SEDIMENT CONTROL PLAN	C3
11	HORIZONTAL CONTROL PLAN	C4
12	GRADING PLAN	C5
13	UTILITY PLAN	C6
14	DETAILS	C7
15	DETAILS	C8
LANDSCAPE & IRRIGATION		
16	LANDSCAPE COVERSHEET	LS 00
17	LANDSCAPE PLAN	LS 1
18	LANDSCAPE PLAN	LS 2
19	IRRIGATION PLAN	IR 1
20	IRRIGATION PLAN	IR 2
21	IRRIGATION DETAILS/FENCE DETAILS	D1

LENGEND

---	PROPERTY LINE
- - - - -	SECTION LINE
- · - · - ·	ADJACENT PROPERTY LINE
x x x x x	EXISTING FENCE
- · - · - ·	EXISTING WATERLINE
- · - · - ·	EXISTING STORM LINE
- · - · - ·	EXISTING SANITARY SEWER
- · - · - ·	OIL AND GAS SETBACK ROAD
▨	GRAVEL ACCESS ROAD
●	PROPOSED WELL
△	CORNERS SET (5/8" REBAR WITH 1 1/4" YELLOW PLASTIC CAP STAMPED PLS 38199)
□	CORNERS FOUND (1/2" REBAR) UPGRADED WITH 1 1/4" YELLOW PLASTIC CAP STAMPED PLS 38199
•	CORNERS FOUND FOUND 5/8" REBAR WITH 2" ALUMINUM CAP STAMPED: ALLES AND ASSOCIATES, INC. PLS 9644-2002 UNLESS OTHERWISE NOTED

CONSTRUCTION MUST BE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSION OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

[Signature] 6/14/16
COMMUNITY DEVELOPMENT DIRECTOR DATE

OLSSON ASSOCIATES
9285 McWhinney Boulevard, Suite 160
Loveland, CO 80538
TEL: 970.461.7733 www.olssonassociates.com



OLSSON ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

811
Know what's below.
Call before you dig.
CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REV. NO.	DATE	DESCRIPTION
0	06/27/2016	RELEASED FOR CONSTRUCTION

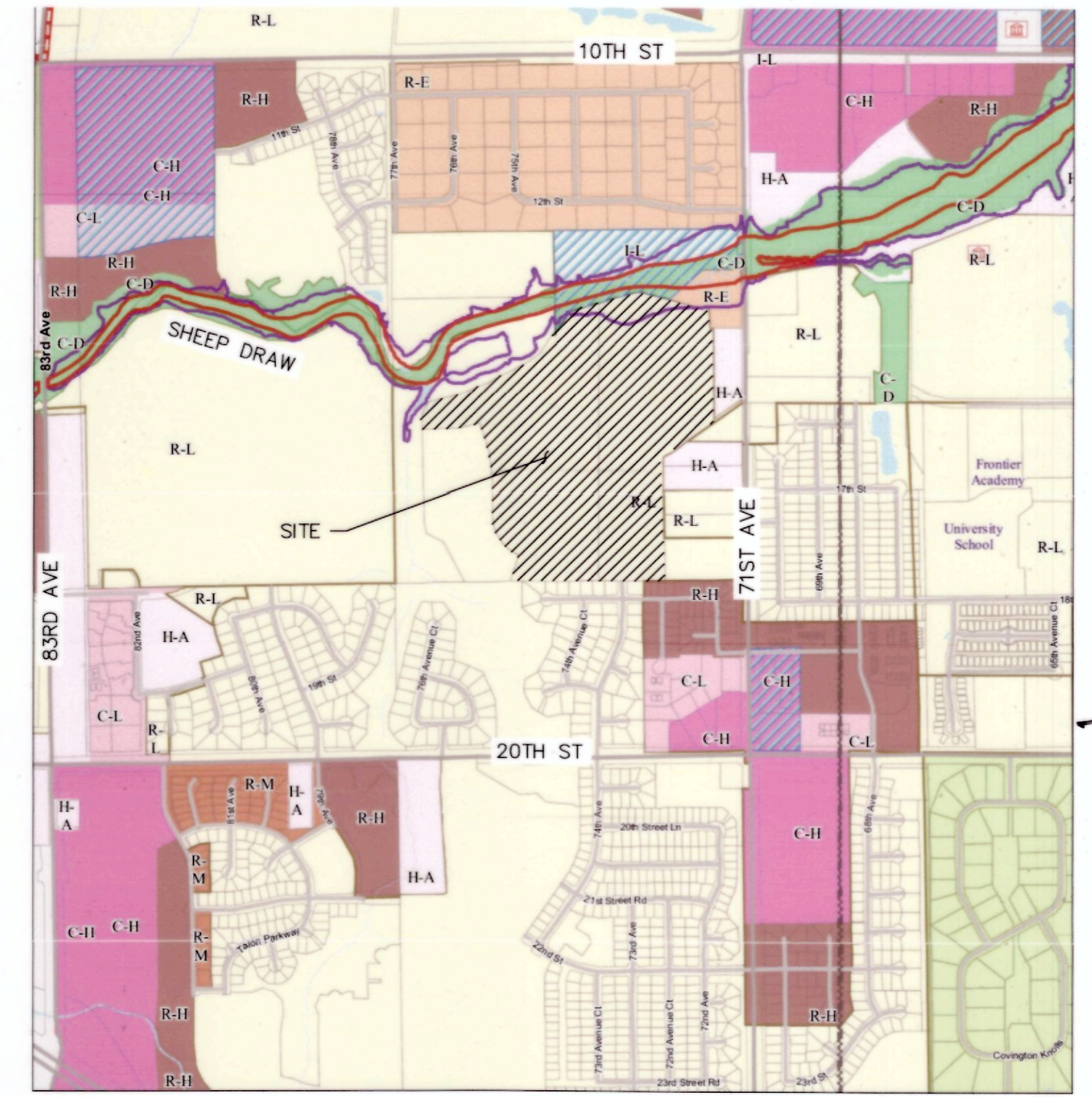
2016

TRIPLE CREEK DIRECTIONAL PROJECT
USE BY SPECIAL REVIEW USR 6.14
COVER SHEET
GREELEY, COLORADO

drawn by: BK/ERM
checked by: EKM
approved by: DDH
QA/QC by: DDH
project no.: 013-2978
drawing no.: 013-2978
date: 06/27/2016

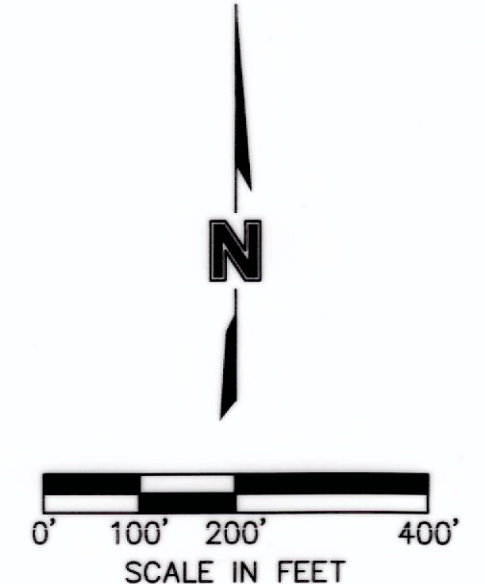
SHEET
USR 1

DWS: F:\Projects\013-2978\LDVP\Final_Plans\132978_TL_01.dwg USER: mbennett DATE: May 27, 2016 10:08am XREFS: 132978_XGIS EAST_HALF_SECTION_8 - 2



VICINITY MAP
1" = 1000'

- LENGEND**
- — — — — PROPERTY LINE
 - — — — — SECTION LINE
 - — — — — ADJACENT PROPERTY LINE
 - x-x-x-x-x- EXISTING FENCE
 - - - - - EXISTING WATERLINE
 - - - - - EXISTING STORM LINE
 - - - - - EXISTING SANITARY SEWER
 - - - - - OIL AND GAS SETBACK
- △ CORNERS SET (5/8" REBAR WITH 1 1/4" YELLOW PLASTIC CAP STAMPED PLS 38199)
 - CORNERS FOUND (1/2" REBAR) UPGRADED WITH 1 1/4" YELLOW PLASTIC CAP STAMPED PLS 38199
 - CORNERS FOUND FOUND 5/8" REBAR WITH 2" ALUMINUM CAP STAMPED: ALLES AND ASSOCIATES, INC. PLS 9844-2002 UNLESS OTHERWISE NOTED



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REV. NO.	DATE	REVISIONS DESCRIPTION
0	05/27/2016	RELEASED FOR CONSTRUCTION

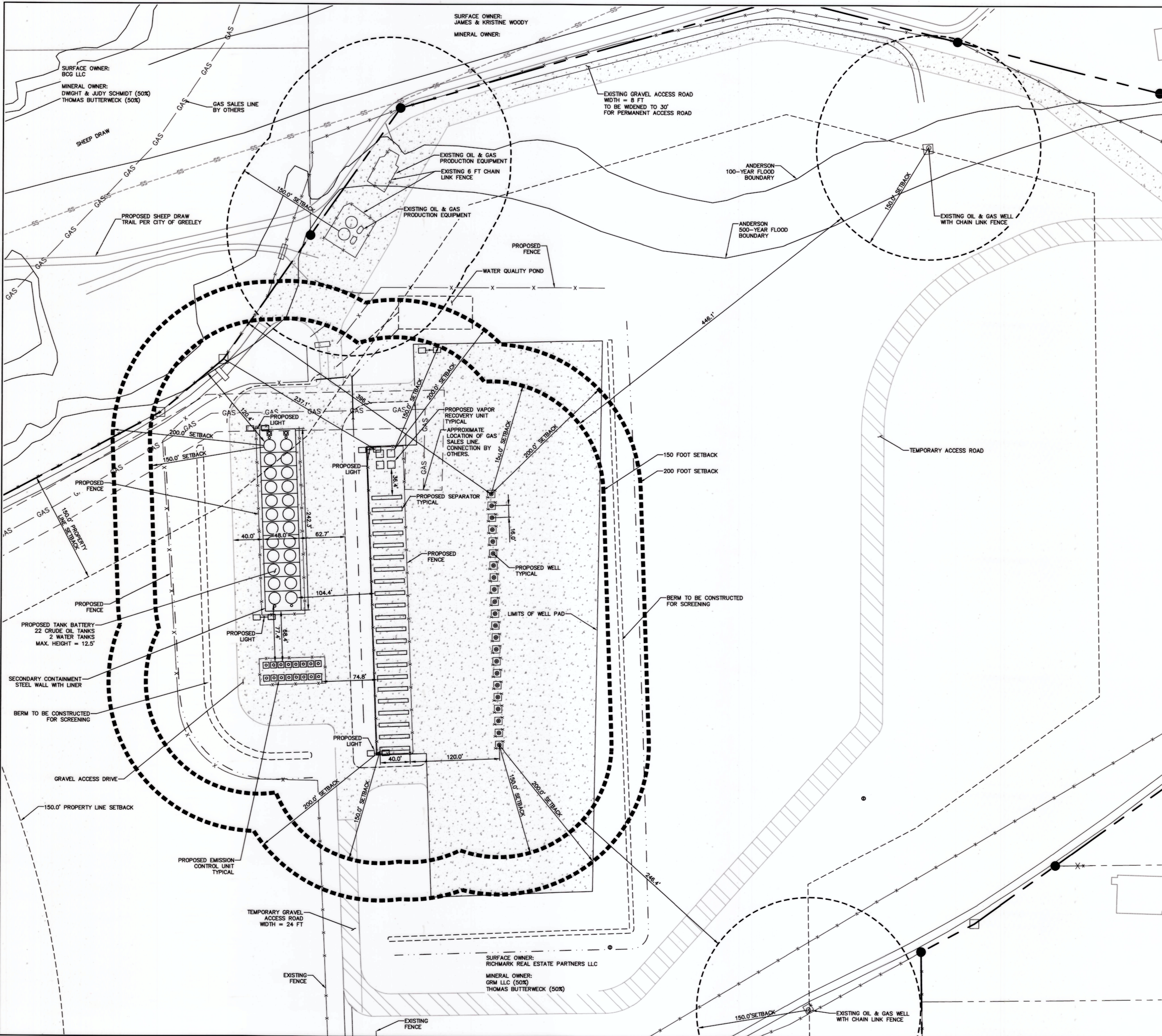
2016

TRIPLE CREEK DIRECTIONAL PROJECT
USE BY SPECIAL REVIEW. USR 6.14
OVERALL SITE PLAN
GREELEY, COLORADO

drawn by: BKE/KM
checked by: JEL
approved by: DDH
QA/QC by: DDH
project no.: 013-2978
drawing no.: 013-2978
date: 05/27/2016

SHEET
USR 2

DWG: F:\Projects\013-2978\LDVP\Final_Plans\132978_SIT02.dwg
 DATE: May 27, 2016 10:09am
 USER: mbennett
 XREFS: 132978_XGIS 132978_XAERL 132978_PLSC 132978_PBASE 132978_SETBACKS 132978_Anderson_Flood-2 EAST HALF SECTION 8 - 2



SITE STATISTICS

PROPOSED SITE CONTAINS THE FOLLOWING:

WELLS =	22
SEPARATORS =	22
OIL TANKS =	22
WATER TANKS =	2
EMISSION CONTROL DEVICES =	16
VAPOR RECOVERY UNITS =	4

LENGEND

- PROPERTY LINE
- SECTION LINE
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- x-x-x-x- EXISTING FENCE
- o-o-o-o- EXISTING WATERLINE
- s-s-s-s- EXISTING STORM LINE
- s-s-s-s- EXISTING SANITARY SEWER
- OIL AND GAS SETBACK
- EXISTING OIL AND GAS SETBACK
- OIL AND GAS PROPERTY LINE SETBACK
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MOLSSON ASSOCIATES
 5205 Main Street, Greenwood, Suite 100
 Greenwood, CO 81639
 TEL: 970-461-7733 www.molssonassociates.com



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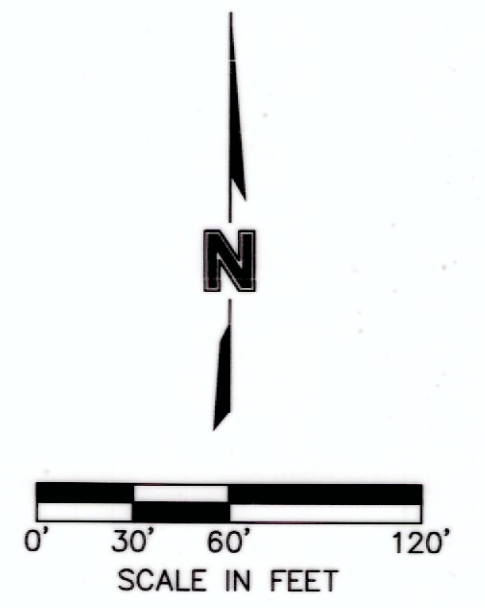
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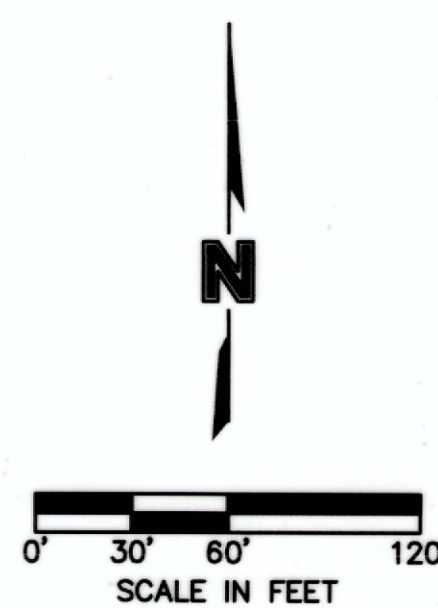
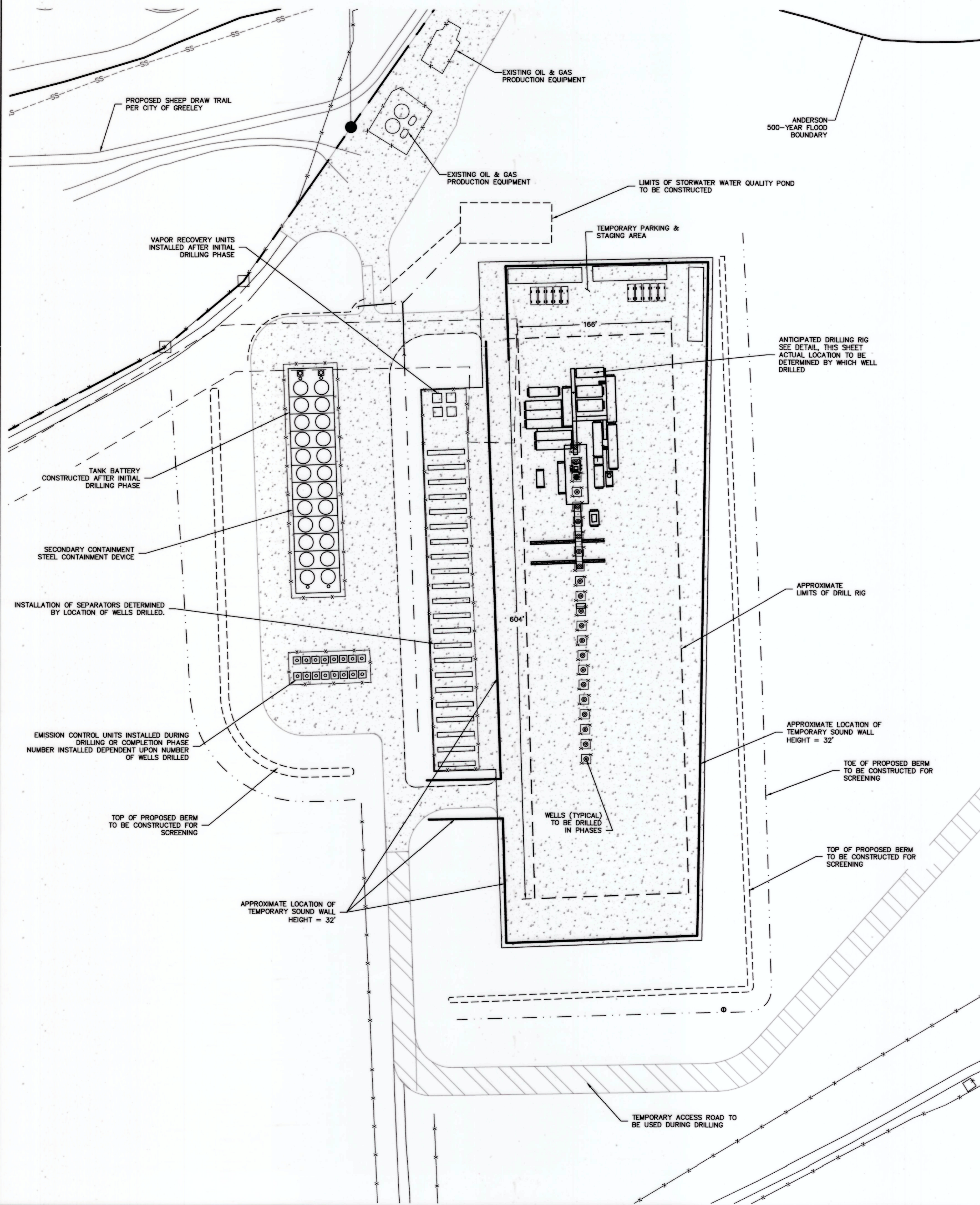
TRIPLE CREEK DIRECTIONAL PROJECT
 USE BY SPECIAL REVIEW, USR 6.14
 SITE PLAN
 GREELEY, COLORADO
 2016

drawn by: BK/EKM
 checked by: JEZ
 approved by: DDH
 QA/QC by: DDH
 project no.: 013-2978
 drawing no.: 013-2978
 date: 05/27/2016

SHEET USR 3



DRILLING PHASE SCHEMATIC



GENERAL NOTES

- THE LAYOUT SHOWN ON THIS PLAN IS CONCEPTUAL AND IS A REPRESENTATION OF THE ANTICIPATED LAYOUT OF THE DRILL RIG AND OTHER EQUIPMENT DURING THE DRILLING PHASE OF THIS PROJECT. ACTUAL LOCATION OF THE DRILL RIG AND OTHER EQUIPMENT MAY VARY ONCE RIG IS SETUP ON SITE.
- OVERALL LIMITS OF DRILL RIG PLACEMENT SHOWN ON PLAN ARE APPROXIMATE.
- DRILLING RIG AND OTHER EQUIPMENT SHOWN ARE TEMPORARY AND WILL BE MOVED OFF-SITE UPON COMPLETION OF DRILLING.
- THE PROPOSED WELLS WILL BE DRILLED IN PHASES.
- OPERATOR INTENDS ON POWERING THE DRILLING RIG OFF OF HIGH LINE POWER, WHICH WOULD ELIMINATE THE NOISE CAUSED BY THE GENERATORS LOCATED ON A TYPICAL DRILLING RIG. HOWEVER, TO DO SO, THE PROPER INFRASTRUCTURE MUST BE SUPPLIED BY XCEL ENERGY. EXTRACTION AND EXCEL ARE CURRENTLY WORKING TOGETHER TO DEVELOP A PLAN SO THAT AN ADEQUATE POWER SOURCE WILL BE AVAILABLE. IN THE EVENT THAT AN ADEQUATE POWER SOURCE IS NOT AVAILABLE A TRADITIONAL RIG WILL BE UTILIZED. REGARDLESS OF WHICH RIG IS USED, 32 FOOT TALL TEMPORARY SOUND WALLS WILL BE INSTALLED AROUND THE PERIMETER OF THE DRILL PAD DURING DRILLING AND COMPLETION ACTIVITIES.

BEST MANAGEMENT PRACTICES

- TO MINIMIZE NOISE IMPACTS, SOUND MITIGATION WILL BE PROVIDED BY INSTALLING A TEMPORARY SOUND WALL. SOUND MITIGATION MEASURES ARE SUBJECT TO CHANGE DEPENDING ON ACTUAL ON-SITE CONDITIONS AT THE TIME OF DRILLING OPERATIONS. THE TEMPORARY SOUND WALL SHALL REMAIN IN PLACE DURING ALL STAGES OF THE DRILLING PHASE OF THIS PROJECT.
- EXHAUST FROM ALL ENGINES, MOTORS, COOLERS, AND OTHER MECHANIZED EQUIPMENT SHALL BE VENTED AWAY FROM ALL OCCUPIED BUILDINGS.
- WHEN FEASIBLE, ELECTRIC COMPRESSORS SHALL BE UTILIZED.
- A CLOSED LOOP SYSTEM WILL BE UTILIZED FOR ALL DRILLING FLUIDS. NO OPEN PITS WILL BE USED.
- TO MINIMIZE IMPACTS FROM LIGHTING USED DURING THE DRILLING PHASE, LIGHTING SHIELD DEVICES WILL BE INSTALLED ON ALL OF THE MORE CONSPICUOUS LIGHTS AND THE RIG FLOOR WILL BE SHROUDED.
- SECONDARY CONTAINMENT WILL BE PROVIDED AROUND THE TANK BATTERY AND SEPARATORS PER COGCC RULES AND REGULATIONS. SECONDARY CONTAINMENT AROUND THE TANK BATTERY WILL INCLUDE A STEEL CONTAINMENT SYSTEM, 30-44 INCHES TALL, WITH EITHER A GEOMEMBRANE TOP MOUNTED OR SPRAY ON LINER.
- ADEQUATE BLOWOUT PREVENTION EQUIPMENT SHALL BE PROVIDED FOR DRILLING OPERATIONS AND WELL SERVICING OPERATIONS.
- NO DRILLING WASTE (CUTTING, ETC.) MAY BE STORED OR KEPT ON THE SITE PERMANENTLY.



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TRIPLE CREEK DIRECTIONAL PROJECT
USE BY SPECIAL REVIEW. USR 6.14
DRILLING PLAN
GREELEY, COLORADO
2016

Behrens and Associates, Inc.
Environmental Noise Control
PRODUCT SPECIFICATIONS SHEET

ENC 32ft HIGH TEMPORARY SOUND WALL

ENC Style STC-25 - 20 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-35 - 30 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-45 - 40 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-55 - 50 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-65 - 60 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-75 - 70 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-85 - 80 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-95 - 90 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-105 - 100 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-115 - 110 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-125 - 120 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-135 - 130 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-145 - 140 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-155 - 150 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-165 - 160 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-175 - 170 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-185 - 180 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-195 - 190 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-205 - 200 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-215 - 210 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-225 - 220 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-235 - 230 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-245 - 240 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-255 - 250 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-265 - 260 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-275 - 270 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-285 - 280 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-295 - 290 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-305 - 300 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-315 - 310 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-325 - 320 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-335 - 330 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-345 - 340 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-355 - 350 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-365 - 360 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-375 - 370 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-385 - 380 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-395 - 390 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-405 - 400 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-415 - 410 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-425 - 420 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-435 - 430 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-445 - 440 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-455 - 450 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-465 - 460 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-475 - 470 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-485 - 480 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-495 - 490 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-505 - 500 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-515 - 510 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-525 - 520 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-535 - 530 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-545 - 540 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-555 - 550 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-565 - 560 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-575 - 570 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-585 - 580 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-595 - 590 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-605 - 600 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-615 - 610 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-625 - 620 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-635 - 630 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-645 - 640 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-655 - 650 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-665 - 660 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-675 - 670 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-685 - 680 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-695 - 690 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-705 - 700 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-715 - 710 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-725 - 720 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-735 - 730 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-745 - 740 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-755 - 750 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-765 - 760 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-775 - 770 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-785 - 780 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-795 - 790 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-805 - 800 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-815 - 810 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-825 - 820 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-835 - 830 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-845 - 840 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-855 - 850 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-865 - 860 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-875 - 870 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-885 - 880 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-895 - 890 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-905 - 900 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-915 - 910 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-925 - 920 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-935 - 930 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-945 - 940 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-955 - 950 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-965 - 960 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-975 - 970 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-985 - 980 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-995 - 990 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1005 - 1000 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1015 - 1010 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1025 - 1020 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1035 - 1030 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1045 - 1040 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1055 - 1050 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1065 - 1060 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1075 - 1070 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1085 - 1080 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1095 - 1090 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1105 - 1100 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1115 - 1110 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1125 - 1120 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1135 - 1130 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1145 - 1140 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1155 - 1150 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1165 - 1160 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1175 - 1170 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1185 - 1180 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1195 - 1190 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1205 - 1200 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1215 - 1210 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1225 - 1220 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1235 - 1230 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1245 - 1240 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1255 - 1250 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1265 - 1260 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1275 - 1270 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1285 - 1280 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1295 - 1290 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1305 - 1300 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1315 - 1310 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1325 - 1320 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1335 - 1330 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1345 - 1340 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1355 - 1350 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1365 - 1360 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1375 - 1370 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1385 - 1380 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1395 - 1390 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1405 - 1400 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1415 - 1410 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1425 - 1420 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1435 - 1430 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1445 - 1440 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1455 - 1450 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1465 - 1460 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1475 - 1470 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1485 - 1480 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1495 - 1490 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1505 - 1500 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1515 - 1510 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1525 - 1520 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1535 - 1530 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1545 - 1540 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1555 - 1550 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1565 - 1560 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1575 - 1570 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1585 - 1580 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1595 - 1590 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1605 - 1600 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1615 - 1610 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1625 - 1620 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1635 - 1630 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1645 - 1640 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1655 - 1650 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1665 - 1660 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1675 - 1670 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1685 - 1680 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1695 - 1690 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1705 - 1700 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1715 - 1710 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1725 - 1720 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1735 - 1730 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1745 - 1740 feet wide by 8 feet high Acoustical Barrier Panel

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ENC Style STC-1785 - 1780 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1795 - 1790 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1805 - 1800 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1815 - 1810 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1825 - 1820 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1835 - 1830 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1845 - 1840 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1855 - 1850 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1865 - 1860 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1875 - 1870 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1885 - 1880 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1895 - 1890 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1905 - 1900 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1915 - 1910 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1925 - 1920 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1935 - 1930 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1945 - 1940 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1955 - 1950 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1965 - 1960 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1975 - 1970 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1985 - 1980 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-1995 - 1990 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2005 - 2000 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2015 - 2010 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2025 - 2020 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2035 - 2030 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2045 - 2040 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2055 - 2050 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2065 - 2060 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2075 - 2070 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2085 - 2080 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2095 - 2090 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2105 - 2100 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2115 - 2110 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2125 - 2120 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2135 - 2130 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2145 - 2140 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2155 - 2150 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2165 - 2160 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2175 - 2170 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2185 - 2180 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2195 - 2190 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2205 - 2200 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2215 - 2210 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2225 - 2220 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2235 - 2230 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2245 - 2240 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2255 - 2250 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2265 - 2260 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2275 - 2270 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2285 - 2280 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2295 - 2290 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2305 - 2300 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2315 - 2310 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2325 - 2320 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2335 - 2330 feet wide by 8 feet high Acoustical Barrier Panel

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ENC Style STC-2355 - 2350 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2365 - 2360 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2375 - 2370 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2385 - 2380 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2395 - 2390 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2405 - 2400 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2415 - 2410 feet wide by 8 feet high Acoustical Barrier Panel

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ENC Style STC-2605 - 2600 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2615 - 2610 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2625 - 2620 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2635 - 2630 feet wide by 8 feet high Acoustical Barrier Panel

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ENC Style STC-2685 - 2680 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2695 - 2690 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2705 - 2700 feet wide by 8 feet high Acoustical Barrier Panel

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ENC Style STC-2775 - 2770 feet wide by 8 feet high Acoustical Barrier Panel

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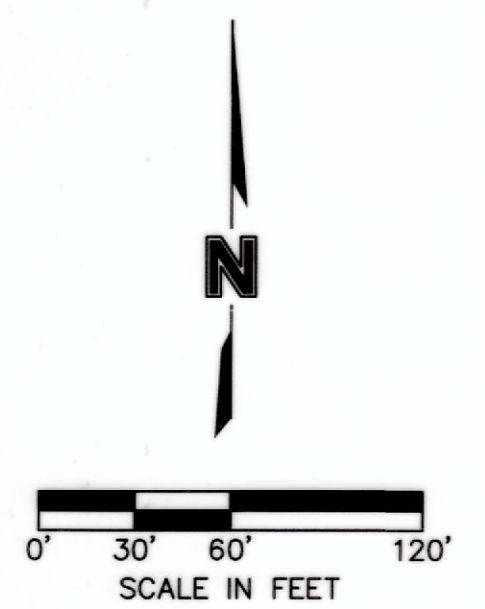
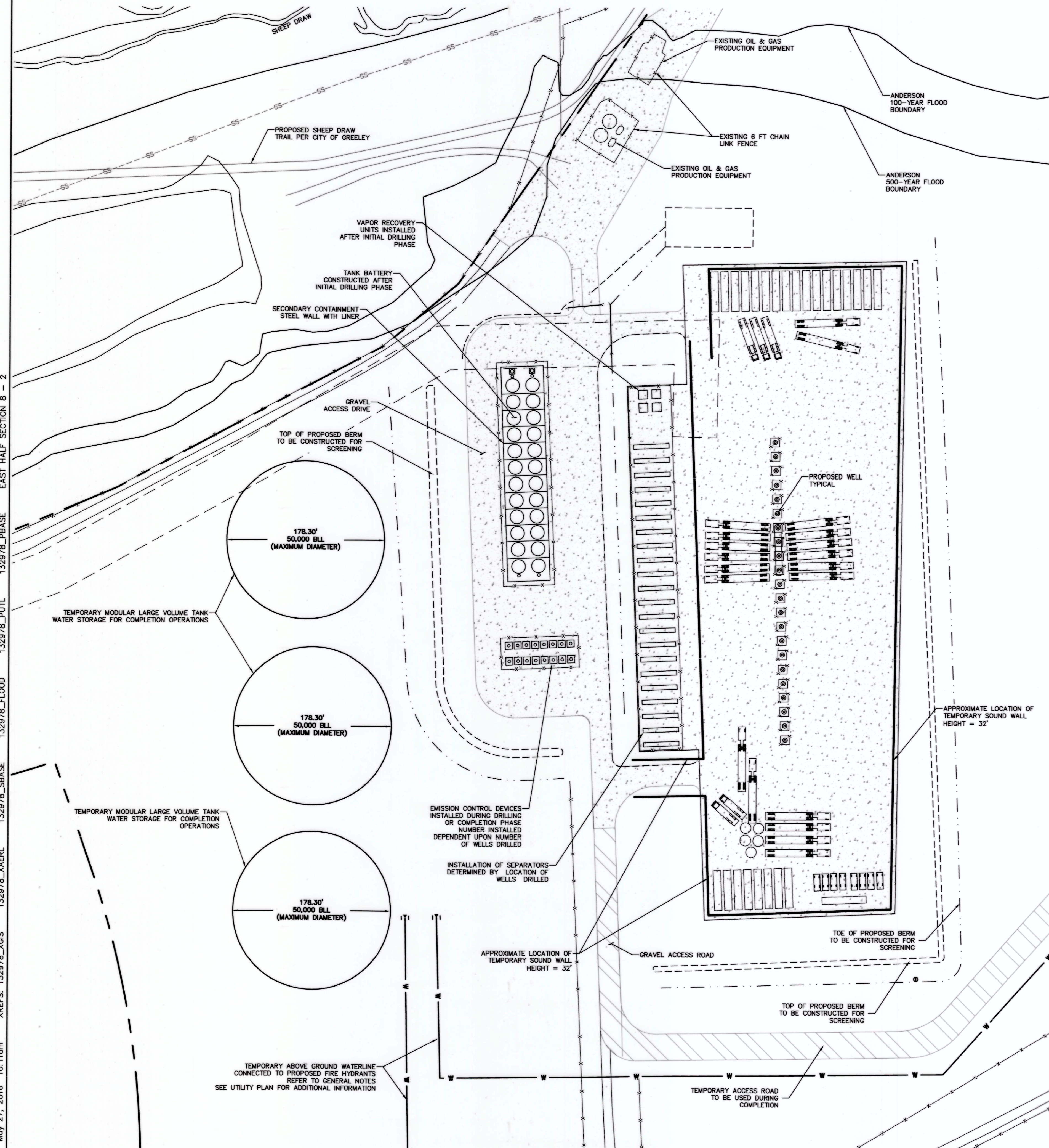
ENC Style STC-2795 - 2790 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2805 - 2800 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2815 - 2810 feet wide by 8 feet high Acoustical Barrier Panel

ENC Style STC-2825 - 2820 feet wide by 8 feet high Acoustical Barrier Panel</

COMPLETION PHASE SCHEMATIC



TEMPORARY COMPLETION EQUIPMENT
EXAMPLE CONFIGURATION
ESTIMATED DURATION ON-SITE: 6-8 DAYS PER WELL

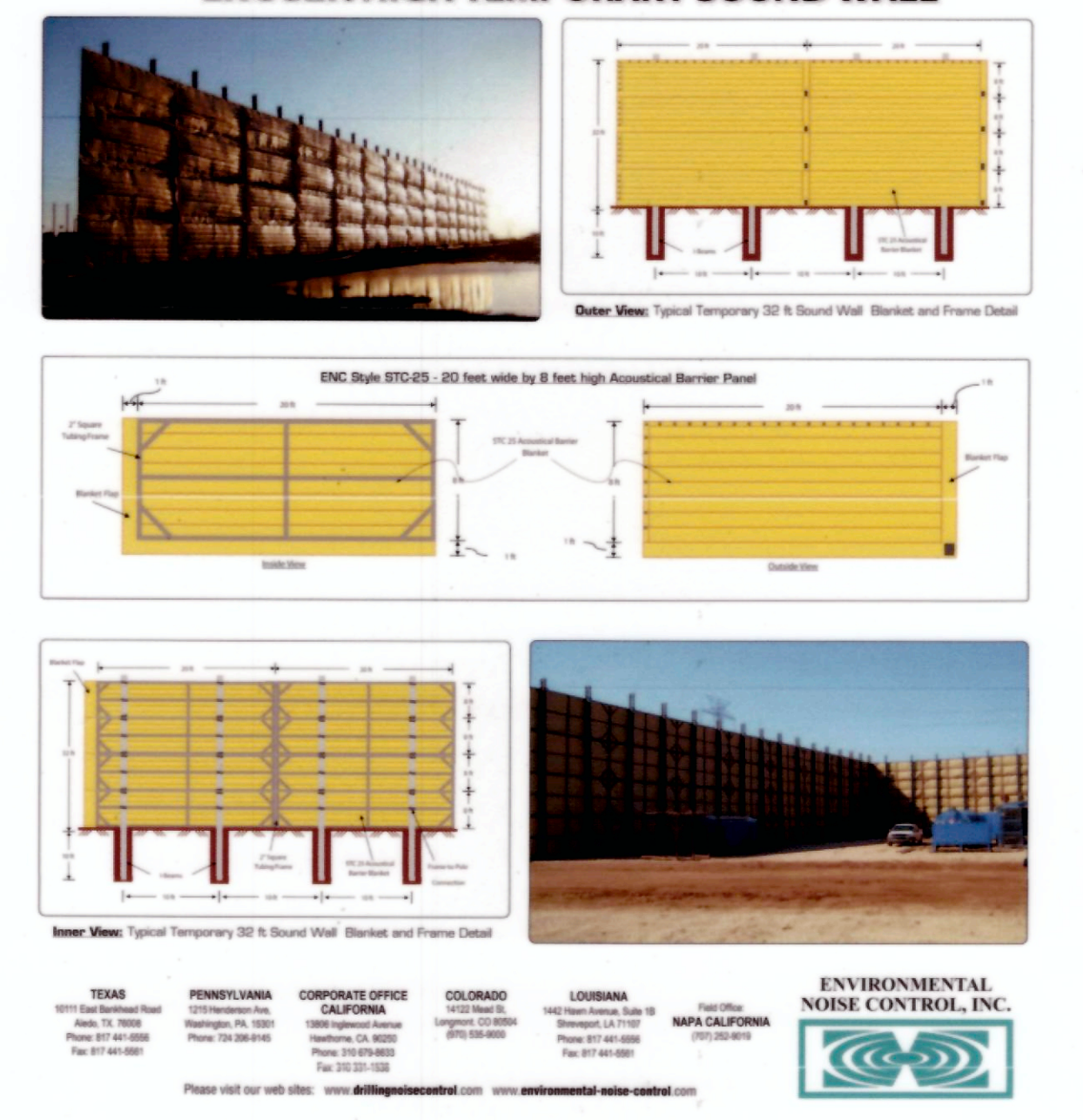
GENERAL NOTES

1. THE LAYOUT SHOWN ON THIS PLAN IS CONCEPTUAL AND IS A REPRESENTATION OF THE ANTICIPATED LAYOUT OF EQUIPMENT USED DURING THE COMPLETION PHASE OF THIS PROJECT. ACTUAL LOCATION OF EQUIPMENT MAY VARY.
2. THE MODULAR LARGE VOLUME TANKS (MLVTS) FOR WATER STORAGE ARE TEMPORARY AND WILL BE MOVED OFF-SITE UPON COMPLETION OF WELLS.
3. THE PUMPER TRUCKS AND OTHER ASSOCIATED EQUIPMENT ARE TEMPORARY AND WILL BE MOVED OFF-SITE UPON COMPLETION OF COMPLETION OPERATIONS.
4. TWO PROPOSED FIRE HYDRANTS WILL BE USED FOR COMPLETION WATER. A TOTAL OF 4 METERS WILL BE ALLOWED. THE MAXIMUM ALLOWABLE FLOW THROUGH EACH OF THESE METERS IS 250 GPM TO 300 GPM.

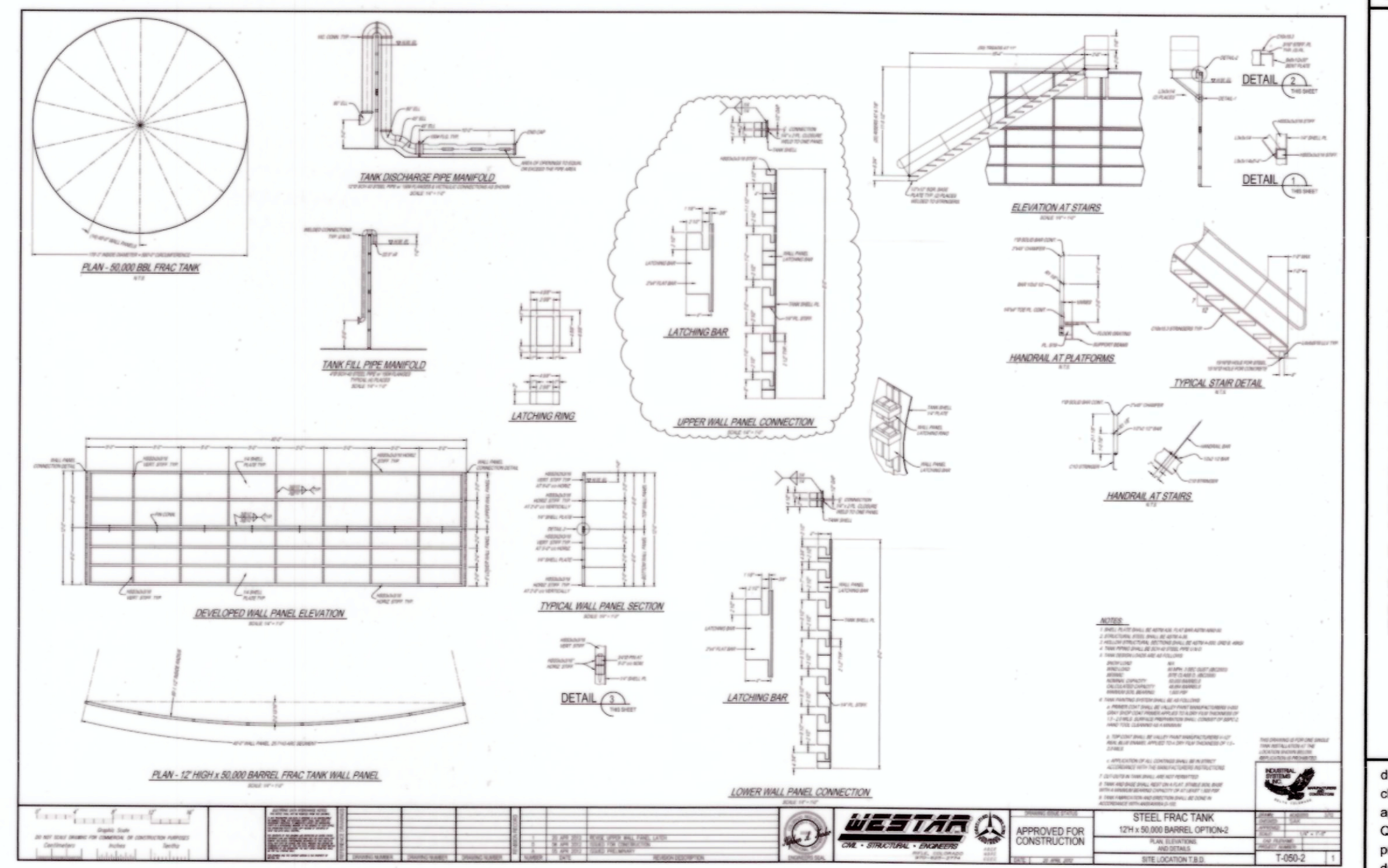
BEST MANAGEMENT PRACTICES

1. TO MINIMIZE NOISE IMPACTS, SOUND MITIGATION WILL BE PROVIDED BY INSTALLING A TEMPORARY SOUND WALL. SOUND MITIGATION MEASURES ARE SUBJECT TO CHANGE DEPENDING ON ACTUAL ON-SITE CONDITIONS AT THE TIME OF OPERATIONS. THE TEMPORARY SOUND WALL SHALL REMAIN IN PLACE DURING ALL STAGES OF THE COMPLETION PHASE OF THIS PROJECT.
2. TO REDUCE IMPACTS TO AIR QUALITY GAS GATHERING LINES WILL BE CONSTRUCTED AND INSTALLED PRIOR TO COMPLETION OF THE WELLS. THEREFORE FLARING OF GAS DURING THE FLOWBACK PROCESS WILL BE LIMITED, IF NOT ELIMINATED.
3. TO IMPROVE AIR QUALITY, GENERATED DUST FROM THE SILICA SAND USED DURING HYDRAULIC FRACTURING WILL BE CONTAINED USING A DUST SUPPRESSION VACUUM SYSTEM.
4. TEMPORARY ABOVE GROUND WATER TANKS SHALL BE INSTALLED ON-SITE TO BE USED FOR WATER STORAGE DURING THE COMPLETION PHASE. TANKS WILL BE FILLED FROM THE CITY OF GREELEY'S WATER SYSTEM. BY FILLING THE TANK IN THIS MANNER, WATER HAULING TRUCKS WILL NOT BACK UP TO THE TANK TO OFFLOAD WATER. THIS PROCESS SIGNIFICANTLY REDUCES THE CHANCE OF A COLLISION WITH THE TANK. IN ADDITION, THIS PROCESS ALSO SIGNIFICANTLY REDUCES TRUCK TRAFFIC ASSOCIATED WITH WATER HAULING.
5. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED DURING TANK INSTALLATION:
 - 5.A. THE SITE SHALL BE PREPARED IN ACCORDANCE WITH TANK MANUFACTURER'S SPECIFICATIONS PRIOR TO TANK INSTALLATION, INCLUDING ENSURING THAT PROPER COMPACTION REQUIREMENTS HAVE BEEN MET.
 - 5.B. A 36-MIL FABRIC REINFORCED LINER WILL BE UTILIZED, IN THE EVENT THAT A TANK BREACH WERE TO OCCUR, THE FABRIC REINFORCED LINER WILL PREVENT A "ZIPPING" FAILURE FROM OCCURRING.
6. DURING THE COMPLETION PHASE, ONLY MODERN LOW-NOISE DIESEL ENGINES (OR ELECTRIC MOTORS) MAY BE UTILIZED.

Behrens and Associates, Inc. Environmental Noise Control PRODUCT SPECIFICATIONS SHEET

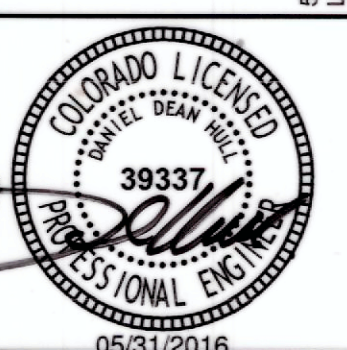


TEMPORARY SOUND WALL
NOT TO SCALE



MODULAR LARGE VOLUME TANK (MLVT)
NOT TO SCALE

MOLSSON ASSOCIATES
5205 McWhorter Boulevard, Suite 100
Loveland, CO 80538
TEL: 970-461-7733
www.molssonassociates.com



MOLSSON ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.



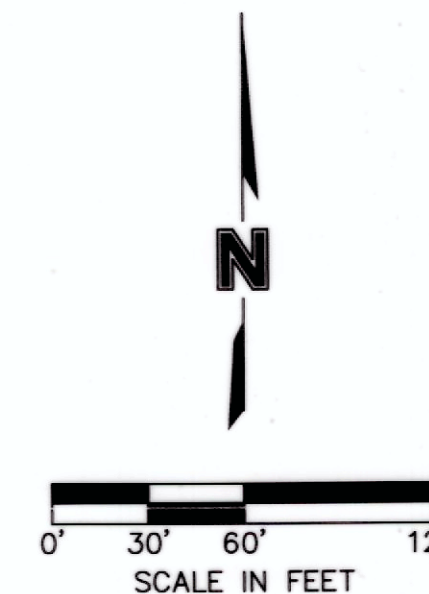
CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REV. NO.	DATE	DESCRIPTION
0	05/27/2016	RELEASED FOR CONSTRUCTION

TRIPLE CREEK DIRECTIONAL PROJECT USE BY SPECIAL REVIEW, USR 6.14	COMPLETION PLAN	2016
GREELEY, COLORADO		
drawn by: BK/EKM	checked by: JEZ	approved by: DDH
QA/QC by: DDH	project no: 013-2978	drawing no: 013-2978
date: 05/27/2016		

DWG: F:\Projects\013-2978_LDVP_Final_Plans\132978_COMP01.dwg
 DATE: May 27, 2016 10:11am
 USER: mbennett
 XREFS: 132978_XGIS 132978_XAERL 132978_PUL 132978_PBASE 132978_FLOOD 132978_SBASE

PRODUCTION PHASE SCHEMATIC

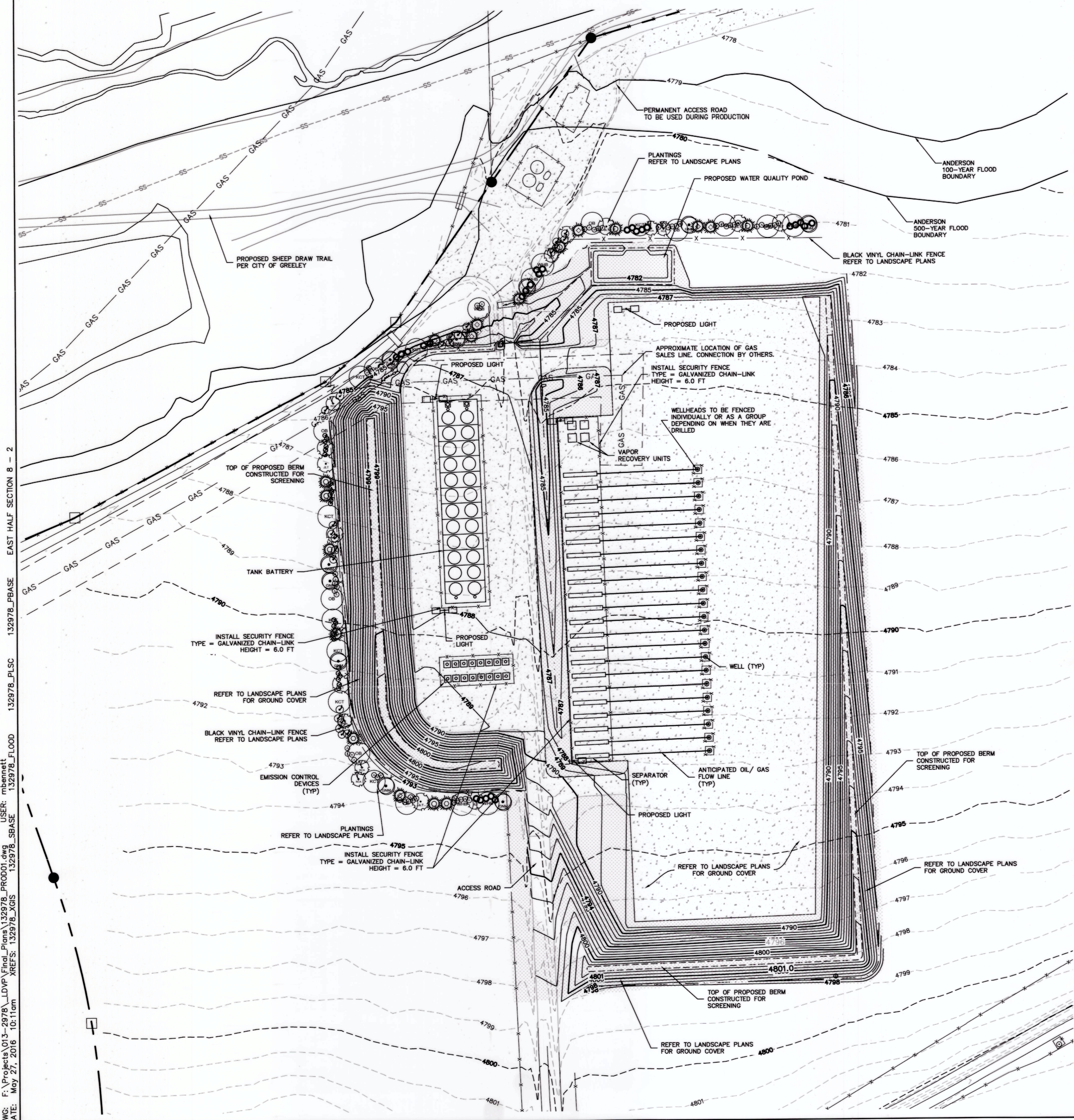


GENERAL NOTES

1. THE LAYOUT SHOWN ON THIS PLAN REPRESENTS THE PRODUCTION PHASE OF THIS PROJECT AT FULL BUILD OUT. DEPENDING UPON THE NUMBER OF WELLS DRILLED, THE AMOUNT OF PRODUCTION EQUIPMENT INSTALLED MAY VARY.

BEST MANAGEMENT PRACTICE NOTES

1. THE SITE WILL BE FENCED IN ACCORDANCE WITH CITY AND COLORADO OIL AND GAS COMMISSION (COGCC) REGULATIONS FOR PUBLIC SAFETY. EXTERIOR SITE FENCING AND FENCING OF OIL AND GAS EQUIPMENT WILL BE PROVIDED. REFER TO THIS PLAN AND THE LANDSCAPE PLANS PREPARED BY TB GROUP FOR LOCATION.
2. SIGNAGE PROVIDING COMPANY INFORMATION AND A 24 HOUR CONTACT INFORMATION WILL BE PROVIDED. REFER TO LANDSCAPE PLAN FOR LOCATION.
3. ACCESS TO THE PROPERTY WILL BE CONTROLLED BY A MOTORIZED GATE OPERATED BY A KNOX BOX KEY PAD. REFER TO THE LANDSCAPE PLAN FOR SPECIFICATIONS.
4. THE SITE WILL BE MONITORED DAILY BY THE OPERATOR TO ENSURE OPERATIONS ARE FUNCTIONING PROPERLY. DAILY REPORTS CONSIST OF TANK MEASUREMENTS, GAS PRODUCTION ESTIMATES, PRESSURE READINGS, AND GENERAL FACILITY CARE AND MAINTENANCE.
5. SECURITY CAMERAS WILL BE INSTALLED ALLOWING THE OPERATOR TO MONITOR THE FACILITY.
6. THE OPERATIONS OF THE FACILITY WILL BE COMPLETELY AUTOMATED ALLOWING THE OPERATOR TO MONITOR ALL PRODUCTION OPERATIONS REMOTELY. IN THE EVENT THAT THE FACILITY IS NOT OPERATING UNDER NORMAL CONDITIONS, THE AUTOMATION SYSTEM WILL IMMEDIATELY NOTIFY THE OPERATOR. THE AUTOMATION SYSTEM ALSO HAS THE ABILITY TO REMOTELY PERFORM AN EMERGENCY SHUT DOWN IF NECESSARY.
7. EMISSION CONTROL DEVICES (ECD) AND VAPOR RECOVERY UNITS (VRU) WILL BE INSTALLED. BOTH UNITS FUNCTION TO REDUCE VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS THAT ARE GENERATED FROM THE CRUDE OIL CONDENSATE TANKS. THE ECD AND VRU DEVICES REDUCE VOC EMISSIONS BY AT LEAST 95% THROUGH COMBUSTION AND SEQUESTRATION.
8. REGULAR FUGITIVE EMISSIONS AIR QUALITY AND GENERAL FACILITY INSPECTIONS WILL BE CONDUCTED BY CGRS, AN ENVIRONMENTAL COMPLIANCE SPECIALIST. INSPECTIONS INCLUDE:
 - 8.A. PERFORM GENERAL TANK BATTERY INSPECTION TO DOCUMENT ANY OBVIOUS ISSUES BASED ON THE CDHPE-APCD OIL AND GAS CONDENSATE SPOT CHECK INSPECTION CHECK LIST.
 - 8.B. IDENTIFY ALL POTENTIAL FUGITIVE EMISSION SOURCES BY UTILIZING A FORWARD LOOKING INFRARED (FLIR) OPTICAL IMAGING CAMERA; MODEL FLIR™ GF-320.
 - 8.C. DOCUMENT AND RECORD BY MEANS OF PHYSICAL DOCUMENTATION, VIDEO AND/OR PHOTO ALL FUGITIVE EMISSION SOURCES
 - 8.D. LABEL TANK BATTERY, SEPARATOR, EMISSION CONTROL DEVICE (ECD), WELL HEAD, AND OTHER EQUIPMENT THAT EXHIBIT FUGITIVE EMISSIONS WITH A UNIQUE NUMBERED 'FUGITIVE EMISSIONS INSPECTION TAG'.
 - 8.E. MARK INDIVIDUAL LEAK SOURCES WITH A TEMPORARY YELLOW MARKING (AS APPLICABLE) IN ORDER TO FACILITATE IMPROVING EFFICIENCY OF SUBSEQUENT REPAIRS.
 - 8.F. PERFORM FUGITIVE EMISSION MINOR EQUIPMENT REPAIRS (AS APPLICABLE) ON LOW-PRESSURE COMPONENTS USING BASIC HAND TOOLS AT THE TANK BATTERY AND WELL PAD.
 - 8.G. PREPARE A FUGITIVE EMISSIONS INSPECTION AND OPTICAL GAS IMAGING REPORT TO DOCUMENT AREAS THAT REQUIRE ADDITIONAL REPAIR OR MAINTENANCE.
9. THE OPERATOR HAS DEVELOPED AN EMERGENCY RESPONSE AND FIRE PROTECTION PLAN SPECIFIC TO THIS SITE.
10. SECONDARY CONTAINMENT WILL BE PROVIDED AROUND THE TANK BATTERY AND SEPARATORS PER COGCC RULES AND REGULATIONS. SECONDARY CONTAINMENT AROUND THE TANK BATTERY WILL INCLUDE A STEEL CONTAINMENT SYSTEM, 30-44 INCHES TALL, WITH EITHER A GEOMEMBRANE TOP MOUNTED OR SPRAY ON LINER.
11. ANY MATERIAL NOT IN USE THAT MIGHT CONSTITUTE A FIRE HAZARD SHALL BE PLACED A MINIMUM OF TWENTY-FIVE (25) FEET FROM THE WELLHEAD, TANKS AND SEPARATOR. WITHIN NINETY (90) DAYS AFTER A WELL IS PLUGGED AND ABANDONED, THE WELL SITE SHALL BE CLEARED OF ALL NONESSENTIAL EQUIPMENT.
12. THE OPERATOR SHALL IDENTIFY THE LOCATION OF PLUGGED AND ABANDONED WELLS WITH A PERMANENT MONUMENT WHICH SHALL INCLUDE THE WELL NUMBER AND DATE OF PLUGGING INSCRIBED ON THE MONUMENT.
13. AT THE TIME OF INITIAL INSTALLATION, ALL PUMPS, PITS, WELLHEADS AND PRODUCTION FACILITIES MUST BE ADEQUATELY FENCED TO RESTRICT ACCESS BY UNAUTHORIZED PERSONS. FOR SECURITY PURPOSES, ALL SUCH FACILITIES AND EQUIPMENT USED IN THE OPERATION OF A COMPLETED WELL MUST BE SURROUNDED BY A FENCE SIX (6) FEET IN HEIGHT, OF NONCOMBUSTIBLE MATERIAL, AND WHICH MUST INCLUDE A GATE THAT SHALL BE LOCKED.
14. THE OPERATOR SHALL ONLY UTILIZE LEASE AUTOMATIC CUSTODY TRANSFER (LACT) METERS DURING THE PRODUCTION PHASE.

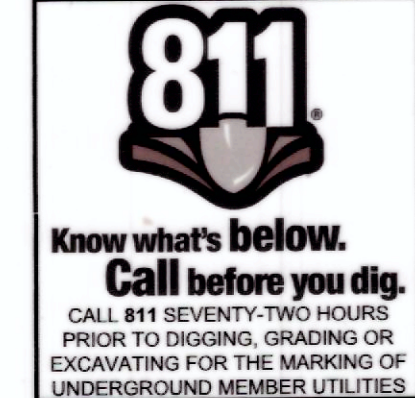


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 DATE: May 27, 2016 10:11am XREFS: 132978_XGS 132978_SBASE 132978_FLOOD 132978_FLSC 132978_PBASE EAST HALF SECTION 8 - 2

MOLSSON ASSOCIATES
 5285 McWhinney Boulevard, Suite 160
 Loveland, CO 80538
 TEL: 970-461-7733 www.molssonassociates.com



MOLSSON ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

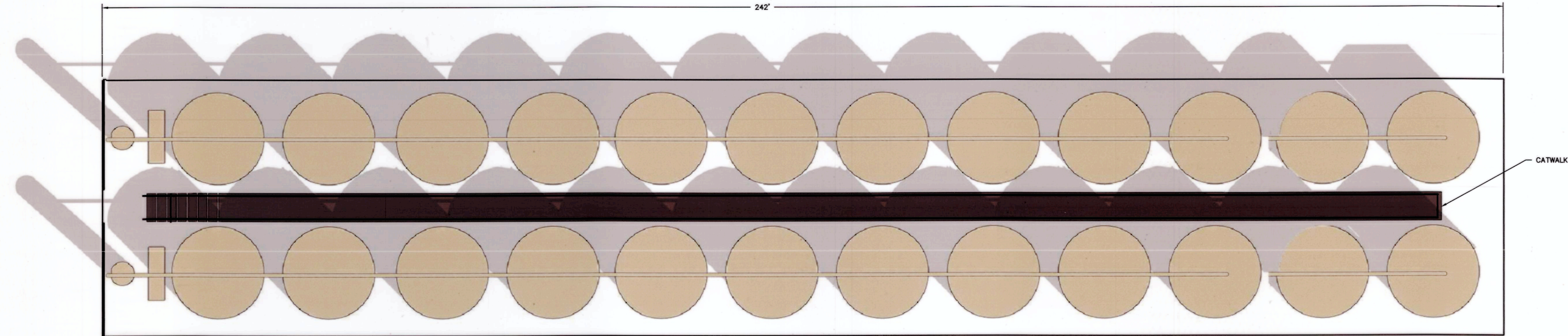


REV. NO.	DATE	REVISION DESCRIPTION
0	05/27/2016	RELEASED FOR CONSTRUCTION

TRIPLE CREEK DIRECTIONAL PROJECT
 USE BY SPECIAL REVIEW. USR 6.14
 PRODUCTION PLAN
 GREELEY, COLORADO
 2016

drawn by: BK/EKM
 checked by: JEZ
 approved by: DDH
 QA/QC by: DDH
 project no.: 013-2978
 drawing no.: 013-2978
 date: 05/27/2016

SHEET USR 6



OLSSON ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.



CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REV. NO.	DATE	REVISIONS DESCRIPTION
0	05/27/2016	RELEASED FOR CONSTRUCTION

REVISIONS

TRIPLE CREEK DIRECTIONAL PROJECT
USE BY SPECIAL REVIEW. USR 6.14

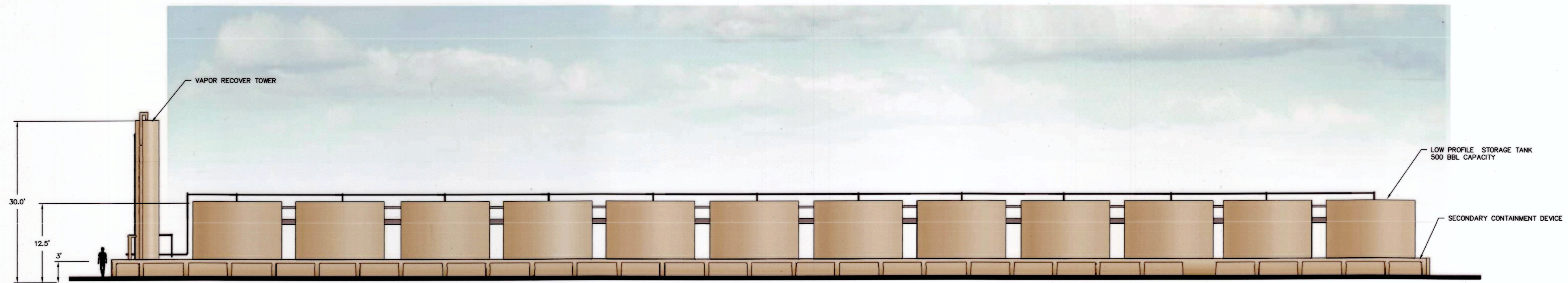
TANK BATTERY ELEVATION

GREELEY, COLORADO

2016

drawn by: BK/EKM
checked by: EXM
approved by:
QA/QC by: 013-2978
project no.: 013-2978
drawing no.: 05/27/2016

SHEET
USR 7



TANK BATTERY ELEVATION

Landscape Architectural Plans for: Triple Creek Directional USR #1

Greeley, Colorado

Plans Prepared For:

Extraction Oil and Gas
370 17th Street, Suite 5300
Denver, CO 80202

(720) 557-8300

Plans Prepared By:

TB GROUP
landscape architecture | planning | illustration

444 Mountain Ave. TEL 970.532.5891
Berthoud, CO 80513 WEB TBGroup.us

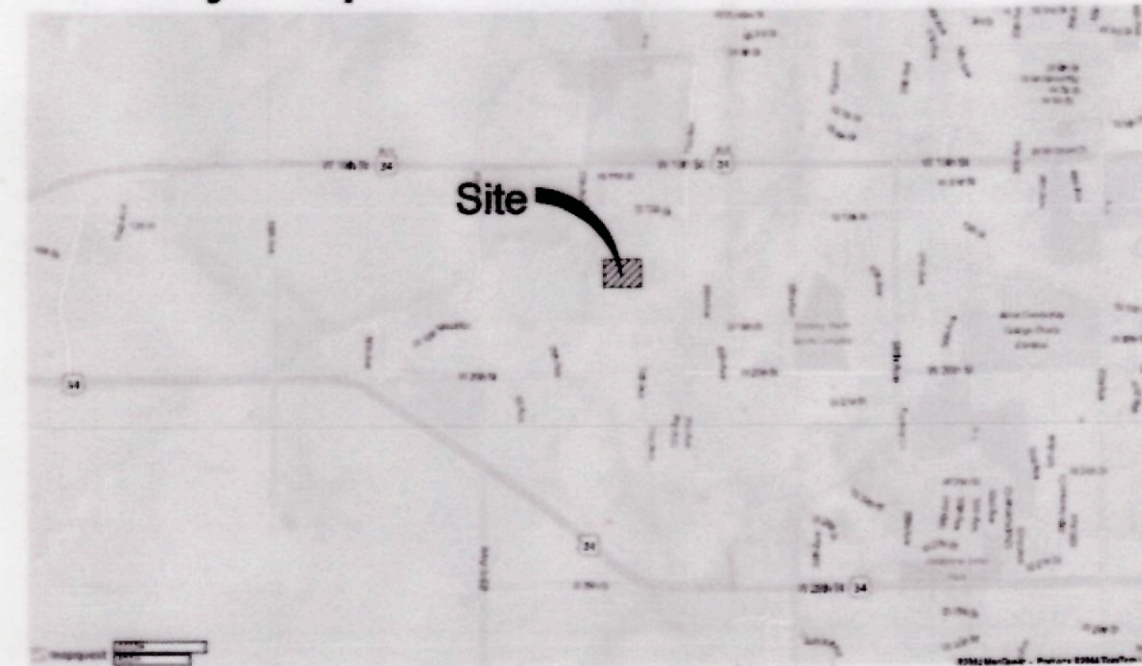
Plant List

KEY	QTY	RATIO	COMMON NAME	BOTANICAL NAME	HEIGHT	WIDTH	SIZE	INSTALLATION NOTES
SHADE / CANOPY TREES - 23								
KCT	8	11.8%	COFFEETREE, KENTUCKY (SEEDLES)	Gymnocladus dioica 'Espresso'	55'	50'	2.0' cal BB	BALANCED, WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
WHB	7	10.3%	HACKBERRY, WESTERN	Celtis occidentalis	50'	45'	2.0' cal BB	BALANCED, WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
OB	6	11.8%	OAK, BUR	Quercus macrocarpa	40'	40'	2.0' cal BB	BALANCED, WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
EVERGREEN TREES - 18								
Sun	7	10.3%	PIKE, AUSTRIAN	Pinus nigra	45'	40'	6-8" BB	FULL SPECIMEN, EVENLY AND WELL BRANCHED W/ STRAIGHT TRUNK & TOP LEADER
Sun	3	4.4%	PIKE, PINON	Pinus edulis	25'	20'	6-8" BB	FULL SPECIMEN, EVENLY AND WELL BRANCHED W/ STRAIGHT TRUNK & TOP LEADER
Sun	8	11.8%	PIKE, PONDEROSA	Pinus ponderosa	70'	40'	6-8" BB	FULL SPECIMEN, EVENLY AND WELL BRANCHED W/ STRAIGHT TRUNK & TOP LEADER
ORNAMENTAL TREES - 27								
JLT	10	14.7%	LILAC TREE, JAPANESE	Syringa reticulata	20'	20'	5' Clump BB	BALANCED, WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
RCA	7	10.3%	CRABAPPLE, RADIANT	Malus spp 'Radiant'	20'	20'	1.5' cal BB	BALANCED, WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
GMM	10	14.7%	MAPLE, HOT WINGS	Acer, latericum 'Hot Wings'	20'	20'	5' Clump BB	BALANCED, WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
DECIDUOUS SHRUBS - 132								
C	25	-	NINEBARK, COPPERTINA	Physocarpus opulifolius 'Coppertina'	10'	10'	5 Gallon	24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
C	27	-	OAK, GAMBLE	Quercus gambelii	15'	10'	5 Gallon	24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
C	24	-	SANDCHERRY, WESTERN	Prunus bessei	4'	8'	5 Gallon	24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
C	56	-	SERVICEBERRY	Amelanchier alnifolia	15'	8'	5 Gallon	24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED

CONSTRUCTION MUST BE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

ACCEPTED BY: [Signature] DATE: 6/22/16
COMMUNITY DEVELOPMENT DIRECTOR

Vicinity Map:



Landscape Sheet Index:

SHEET LS 00	COVER SHEET, NOTES, DETAILS
SHEET LS 1	LANDSCAPE / FENCE PLAN
SHEET LS 2	LANDSCAPE / FENCE PLAN
SHEET IR 1	IRRIGATION PLAN
SHEET IR 2	IRRIGATION PLAN
SHEET D1	IRRIGATION / FENCE DETAILS

BUFFER YARD STANDARDS AND CALCULATIONS

BUFFER YARD E - 50' WIDE OPTION PER 100 LF = 1200 LF TOTAL

- 2.5 CANOPY TREES,
- 3 ORNAMENTAL TREES,
- 2 EVERGREEN TREES
- 15 SHRUBS PER 100 LF.

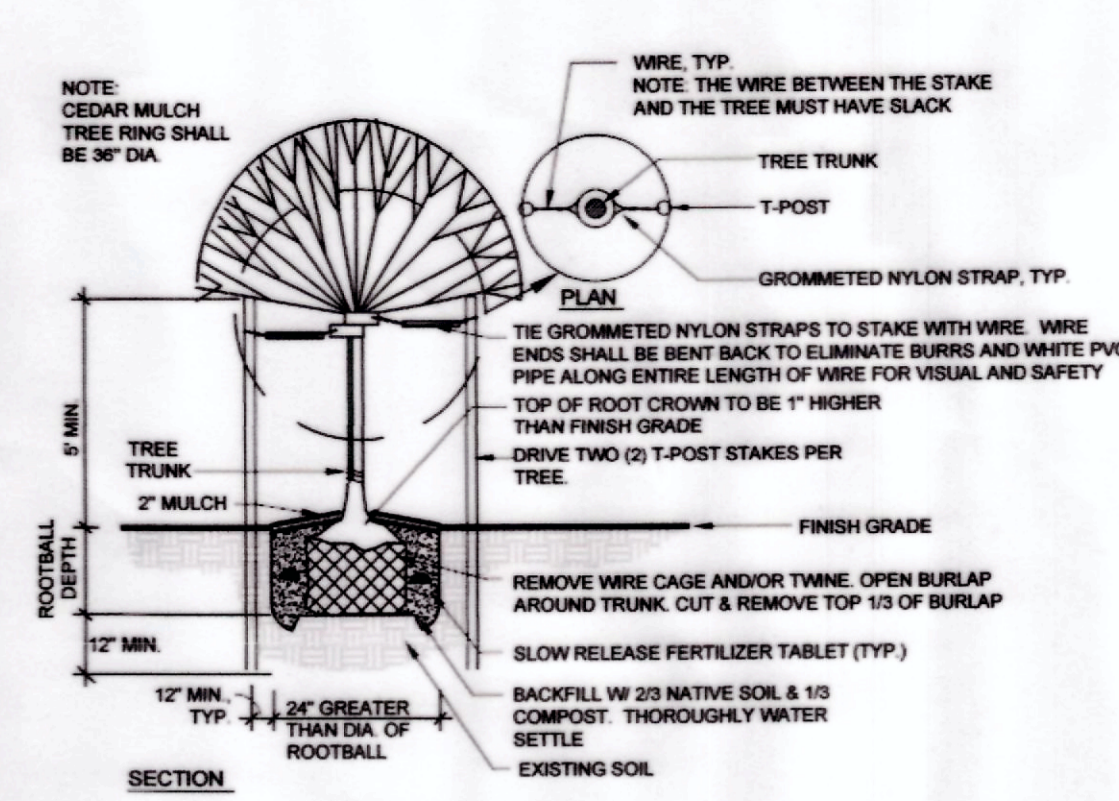
6' FENCE AND BERM OPTION - THE ABOVE LANDSCAPE REQUIREMENT CAN BE REDUCED BY 0.85 X 0.85 = .73 TIMES PER 100 LF. = 1200 LF TOTAL

- 1.9 CANOPY TREES
- 2.2 ORNAMENTAL TREES
- 1.5 EVERGREEN TREES
- 11 SHRUBS

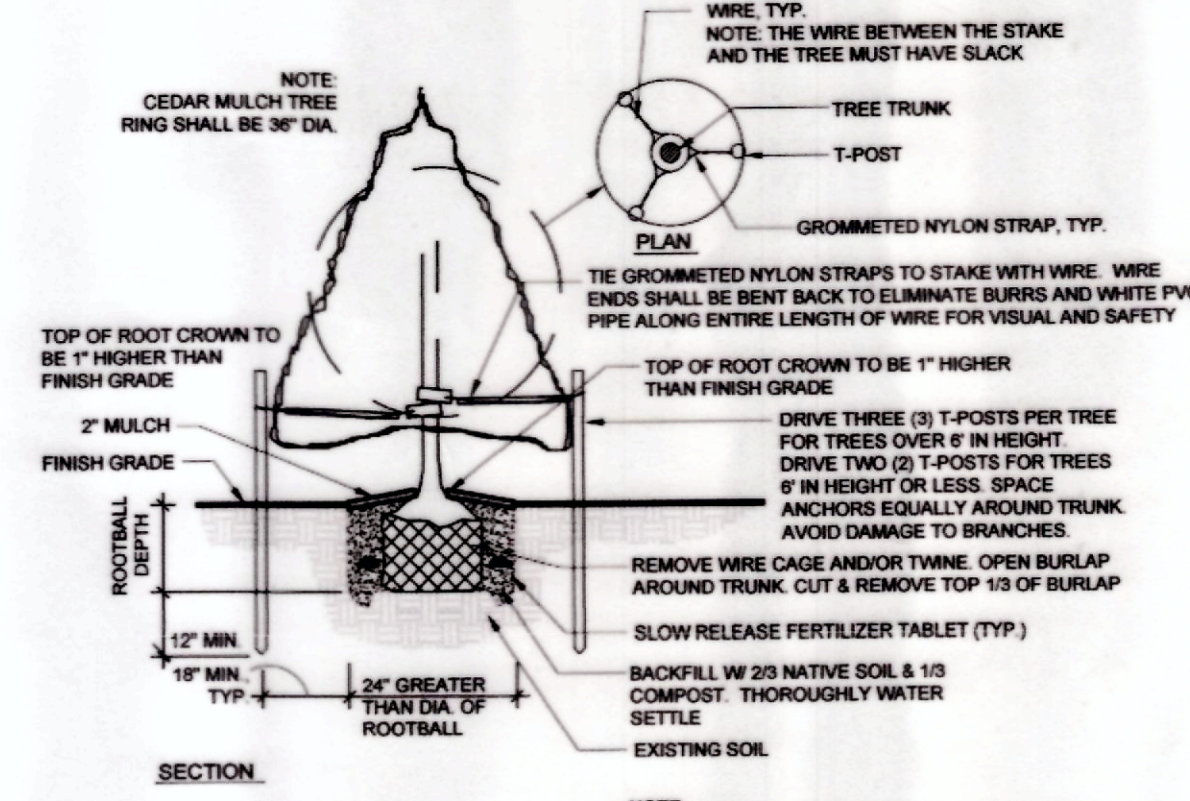
TOTALS

23 CANOPY TREES
27 ORNAMENTAL TREES
18 EVERGREEN TREES
132 SHRUBS

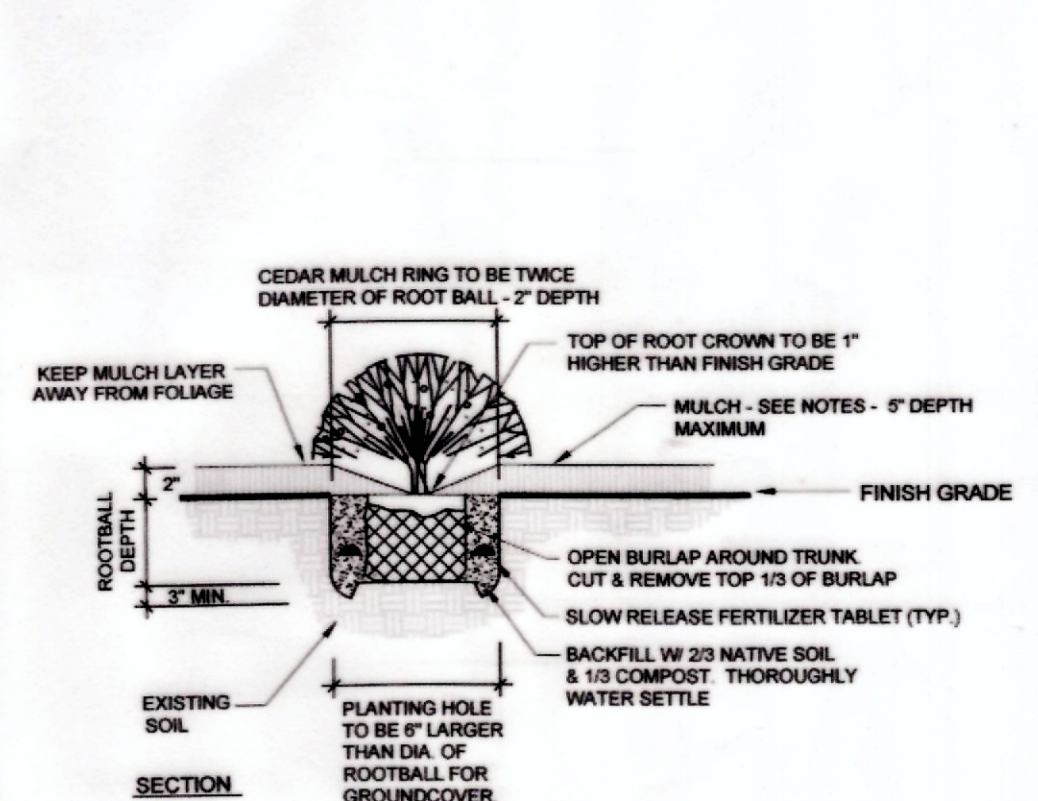
Planting Details



DECIDUOUS TREE PLANTING DETAIL



CONIFER TREE PLANTING DETAIL



GROUND COVER & SHRUB PLANTING DETAIL

General Notes:

- GRADES DISTURBED SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES OR TO DRAINAGE AREAS AND SWALES WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
- JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
- ALL SOILS DISTURBED WITHIN AND ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED BY RESEEDING THESE AREAS PER THE NATIVE GRASS SEED MIX NOTES THIS SHEET.
- PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / CITY.
- CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
- THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE AND THE CITY OF GREELEY IF SITUATION ARISES AND REVISIONS ARE NECESSARY.
- THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATERWAYS, ETC. DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATERWAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1967.
- CONTRACTOR IS RESPONSIBLE FOR BECOMING AWARE OF AND OBTAINING ANY AND ALL PERMITS AS REQUIRED FOR THIS PROJECT / WORK.

Landscape Notes

- MAINTENANCE PERIOD: LANDSCAPE SHALL BE MAINTAINED, INCLUDING WATERING, MOWING, PRUNING, REPLACEMENT OF DEAD OR DYING PLANT MATERIALS, AND FERTILIZING BY CONTRACTOR FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE. AFTER MAINTENANCE PERIOD OWNER WILL MAINTAIN AS DESCRIBED ABOVE.
- WARRANTY PERIOD: LANDSCAPE WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER MAINTENANCE PERIOD.
- ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
- CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
- NO PLANT MATERIAL WITH MATURE GROWTH GREATER THAN THREE (3) FEET IN HEIGHT SHALL BE PLANTED WITHIN POTABLE WATER, SANITARY SEWER, FIRE HYDRANTS, OR NON-POTABLE IRRIGATION EASEMENTS. (VOLUME III, SECTION 2.05.A)
- NO SHRUBS SHALL BE PLANTED WITHIN FIVE (5) FEET OR TREES WITHIN TEN (10) FEET OF POTABLE AND NON-POTABLE WATER METERS, FIRE HYDRANTS, SANITARY SEWER MANHOLES, OR POTABLE WATER, SANITARY SEWER, AND NON-POTABLE IRRIGATION MAINS AND SERVICES. (VOLUME III, SECTION 2.05.B)
- MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
- IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT.
- TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
- EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
- PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES OR FOUNDATIONS CREATING A SMOOTH TRANSITION BETWEEN ALL ADJACENT EXISTING GRADES AND PROPOSED GRADES BEING SURE NOT TO DISTURB EXISTING DRAINAGE PATTERNS.
- PRIOR TO NATIVE SEEDING OPERATIONS; FOOTHILLS NATIVE GRASS SEEDING AREAS AND THE PLANTING BEDS, SHALL BE THOROUGHLY LOOSEND AND FINE GRADED. REMOVE ALL UNSUITABLE SOIL, INCLUDING ALL ROCKS LARGER THAN 3 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS.
- ORGANIC AMENDMENTS SHALL BE INCORPORATED WITHIN THE FOOTHILLS NATIVE GRASS SEEDING AREAS AND PLANTING BEDS TO A MINIMUM 6" DEPTH AT THE MINIMUM OF RATE OF 2 CU. YDS. / 1,000 SQ.FT.
- ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
- IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE CITY.
- CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE TOWN PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
- ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
- ALL EXISTING TREES TO REMAIN UNLESS OTHERWISE NOTED
- ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
- ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH OF WASHED ROCK OR MULCH OVER A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL AREAS WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4" O.C. IN ALL DIRECTIONS.
- EDGING BETWEEN GRASS TYPES AND SHRUB BEDS / ROCK SHALL BE HEAVY DUTY STEEL EDGER MIN. 3/4" X 4" WITH ROUNDED TOP AND SHALL BE SET LEVEL WITH THE TOP OF THE ADJACENT GRADE. NO EDGING SHALL BE USED BETWEEN CEDAR MULCH AND COBBLE TRANSITIONS.
- A LANDSCAPE PLANTING PERMIT IS REQUIRED PRIOR TO PLANTING ANY TREES, SHRUBS OR PERENNIALS LOCATED IN PUBLIC RIGHTS-OF-WAY. THIS PERMIT IS OBTAINED THROUGH THE COMMUNITY DEVELOPMENT DEPARTMENT AT 870-350-9780.
- ALL FENCE LINES WITHIN NATIVE GRASS AREAS TO HAVE 4" X 18" CONTINUOUS CONCRETE MOW STRIP PER DETAILS. TOP OF MOW STRIP TO BE FLUSH TO FINISHED GRADE.
- FENCE LINES ADJACENT TO SHRUB BEDS TO HAVE ROCK MULCH AND WEED BARRIER FABRIC EXTENDED 1' BEHIND FENCE LINE WITH SPADED EDGE.

Native Grass Seed Mix

NON IRRIGATED NATIVE GRASS -

FOOTHILLS NATIVE GRASS MIX. SEED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

COMMON NAME	%
ANNUAL RYEGRASS	20%
SLENDER WHEATGRASS	15%
MOUNTAIN BROME	10%
PURESCENT WHEATGRASS	10%
HARD FESCUE	10%
KENTUCKY BLUEGRASS	10%
INDIANGRASS	8%
BIG BLUESTEM	7%
BLUE GRAMA	5%
SWITCHGRASS	5%

LOW GROW NATIVE GRASS MIX. SEED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

COMMON NAME	%
EPHRASE CRESTED WHEATGRASS	30%
SHEEP FESCUE	25%
PERENNIAL RYE	20%
CHEWINGS FESCUE	15%
KENTUCKY BLUEGRASS	10%

- SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337.
- DRILLED IN TWO PERPENDICULAR DIRECTIONS WITH AN APPLICATION RATE: 25.0 LBS (PLS) PER ACRE (0.57 LBS / 1000 SF)
- ADEQUATE TEMPORARY IRRIGATION OR BY WATER TRUCK WILL BE PROVIDED BY CONTRACTOR FOR THE ESTABLISHMENT AND MAINTENANCE OF THESE SEEDING AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.

MULCH IN ALL NATIVE SEED AREAS:

- IMMEDIATELY FOLLOWING THE RAKING / SEEDING OPERATION, ADD STRAW MULCH TO THE SEEDING AREAS.
- APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
- WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER WITH A PLAIN SERRATED DISC AT LEAST 1/4 INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 3 INCHES APART. WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
- IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDING AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
- WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

Tree Protection Notes

- ALL EXISTING TREES TO BE PROTECTED AND PRESERVED AND SHALL NOT BE REMOVED.
- HEAVY EQUIPMENT SHOULD NOT BE ALLOWED TO COMPACT OVER THE SOIL OVER THE ROOT ZONE OF EXISTING TREES.
- AVOID CUTTING SURFACE ROOTS WHEREVER POSSIBLE. SIDEWALKS AND PAVING LEVELS SHOULD BE CONTOURED SUFFICIENTLY TO AVOID DAMAGE.
- ROOT CUTS FROM EXCAVATION SHOULD BE DONE RAPIDLY. SMOOTH FLUSH CUTS SHOULD BE MADE. BACKFILL BEFORE THE ROOTS HAVE A CHANCE TO DRY OUT AND WATER THE TREE IMMEDIATELY.
- PRIOR TO CONSTRUCTION, ALL PROTECTED TREES SHALL HAVE ORANGE PROTECTION BARRIER FENCING ERECTED, WHICH AS A MINIMUM ARE SUPPORTED BY 1" X 1" OR SIMILAR STURDY STOCK, FOR SHIELDING OF PROTECTED TREES. NO CLOSER THAN SIX (6) FEET FROM THE TRUNK OR ONE HALF (1/2) OF THE DRIP LINE, WHICH EVER IS GREATER. WITHIN THIS PROTECTION ZONE THERE SHALL BE NO MOVEMENT OF EQUIPMENT OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, FILL OR CUT UNLESS APPROVED BY THE CITY FORESTER.
- WITHIN THE DRIP LINE OF ANY PROTECTED EXISTING TREE, THERE SHALL BE NO CUT OR FILL OVER A FOUR INCH DEPTH UNLESS A QUALIFIED ARBORIST OR FORESTER HAS EVALUATED AND APPROVED THE DISTURBANCE.
- DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE APPLICANT SHALL PREVENT THE CLEANING OF EQUIPMENT OR MATERIAL OR THE STORAGE OR DISPOSAL OF WASTE MATERIAL, SUCH AS PAINTS, OILS, SOLVENTS, ASPHALT, CONCRETE, MOTOR OIL OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF A TREE. WITHIN THE DRIP LINE OF ANY PROTECTED TREE OR GROUP OF TREES.
- NO DAMAGING ATTACHMENT, WIRES, SIGNS OR PERMITS MAY BE FASTENED TO ANY PROTECTED TREE.

Irrigation Notes

- CONTRACTOR TO UTILIZE THE EXISTING IRRIGATION WATER TANK WITH THE DESIGN INCLUDING ELECTRONIC CONTROLLER AND BOOSTER PUMP AS A PART OF THEIR DESIGN AND SCOPE FOR THE PROPOSED LANDSCAPE DEPICTED ON PLANS.
- AUTOMATIC IRRIGATION SYSTEM SHALL BE EQUIPPED WITH AN AUTOMATIC RAIN DETECTION DEVICE. (SECTION 14.08)
- CONTRACTOR SHALL VERIFY THE MAXIMUM AVAILABLE P.S.I. AND GPM AND DESIGN THE IRRIGATION SYSTEM TO MEET THE REQUIRED P.S.I. AND GPM FOR THE PROPOSED LANDSCAPE.
- ALL TREES AND SHRUBS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM.
- IRRIGATION SYSTEM WILL BE ADJUSTED TO THE MINIMUM WATER REQUIREMENT, BASED ON THE NEEDS OF SELECTED PLANT MATERIAL.
- QUICK COUPLERS SHALL BE PROVIDED AT EACH POINT OF CONNECTION AND AT REGULAR SPACING ALONG THE IRRIGATION MAINLINE. SPACING OF QUICK COUPLERS SHALL NOT EXCEED 200 FEET. LOCATE QUICK COUPLING VALVE AT A POINT OF EASY ACCESS.
- ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- CONTRACTOR TO DETERMINE AND COORDINATE APPROPRIATE POWER SOURCE AND ASSOCIATED ELECTRICAL DESIGN FOR THE ELECTRONIC CONTROLLER AND BOOSTER PUMP.
- ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.



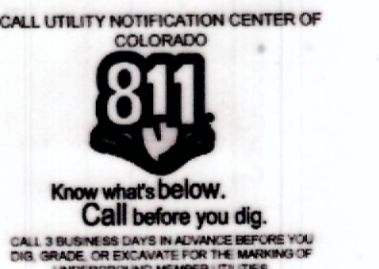
TRIPLE CREEK
USR #1

Landscape Plan

Greeley, Colorado

Extraction Oil and Gas
370 17th Street, Suite 5300
Denver, CO 80202

(720) 557-8300

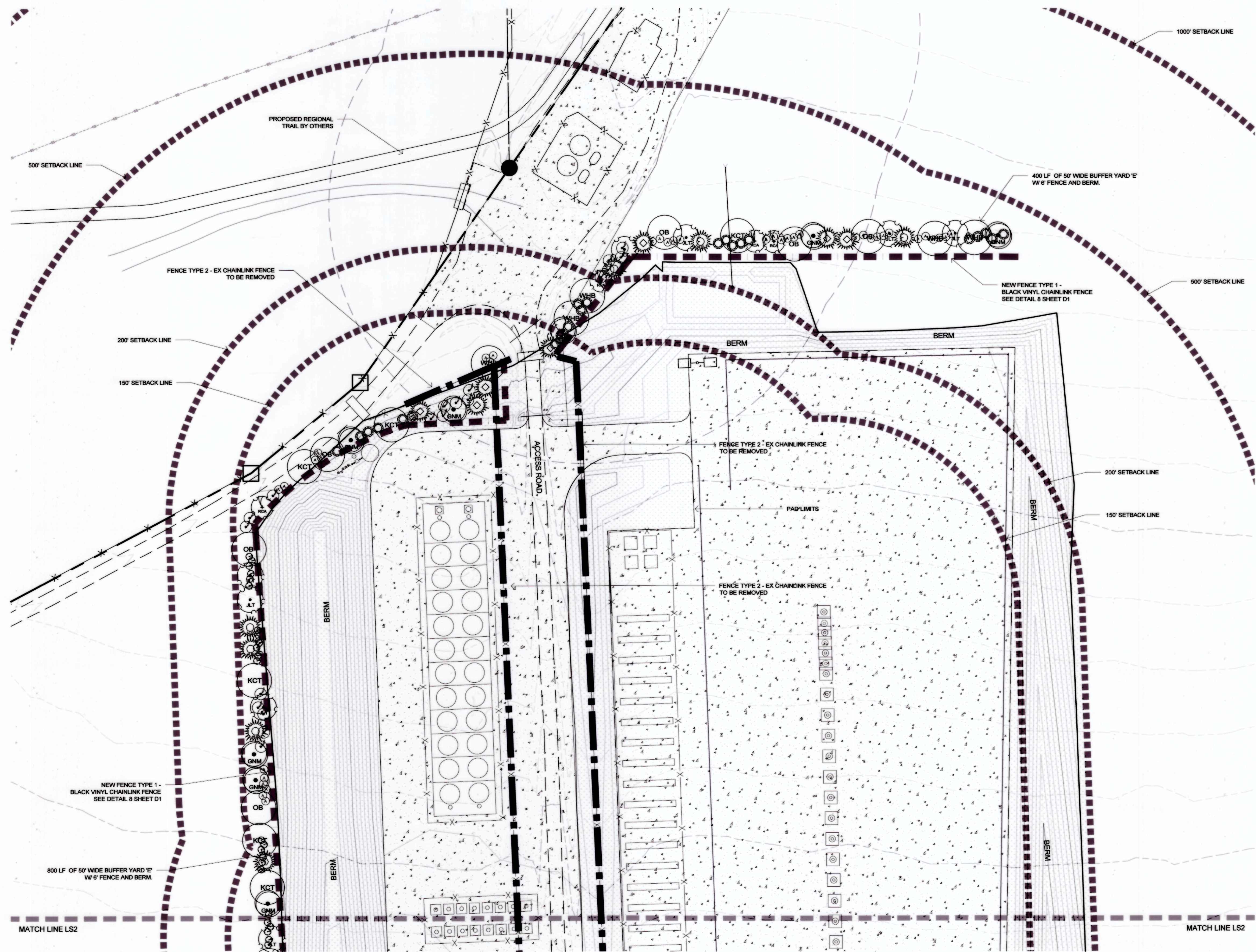


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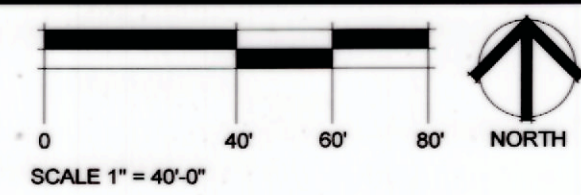
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Cover Sheet

LS 00



Landscape and Buffer Yard Plan



184,100 S.F.
 NON-IRRIGATED LOW GROW NATIVE GRASS MIX
 ARKANSAS VALLEY SEED MIX - OR APPROVED
 EQUAL

Fence Type Schedule

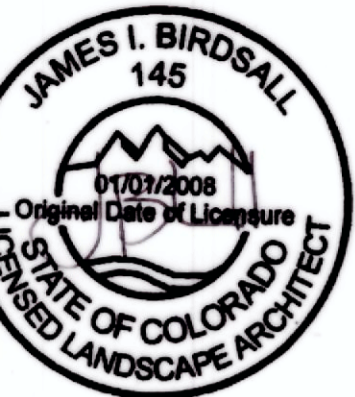
- FENCE TYPE 1: 6" (h) BLACK VINYL CHAINLINK
- FENCE TYPE 2: FENCE TO BE REMOVED

Plant List

KEY	QTY	RATIO	COMMON NAME
SHADE / CANOPY TREES - 23			
KCT	8	11.8%	COFFEETREE, KENTUCKY (BEEDELES)
WHB	7	10.3%	HACKBERRY, WESTERN
OB	8	11.8%	OAK, BUR
EVERGREEN TREES - 18			
	7	10.3%	PINE, AUSTRIAN
	3	4.4%	PINE, PINON
	8	11.8%	PINE, PONDEROSA
ORNAMENTAL TREES - 27			
JLT	10	14.7%	LILAC TREE, JAPANESE
RCA	7	10.3%	CRABAPPLE, RADIANT
GNM	10	14.7%	MAPLE, HOT WINGS
DECIDUOUS SHRUBS - 132			
	25	-	NINEBARK, COPPERTINA
	27	-	OAK, GAMBLE
	24	-	SANDCHEERY, WESTERN
	56	-	SERVICEBERRY

BUFFER YARD STANDARDS AND CALCULATIONS

- BUFFER YARD E - 50' WIDE OPTION PER 100 LF = 1200 LF TOTAL**
- 2.5 CANOPY TREES,
 - 3 ORNAMENTAL TREES,
 - 2 EVERGREEN TREES,
 - 15 SHRUBS PER 100 LF.
- 6' FENCE AND BERM OPTION - THE ABOVE LANDSCAPE REQUIREMENT CAN BE REDUCED BY 0.85 X 0.85 = .73 TIMES PER 100 LF. = 1200 LF TOTAL**
- 1.9 CANOPY TREES
 - 2.2 ORNAMENTAL TREES
 - 1.5 EVERGREEN TREES
 - 11 SHRUBS
- TOTALS**
- 23 CANOPY TREES
 27 ORNAMENTAL TREES
 18 EVERGREEN TREES
 132 SHRUBS



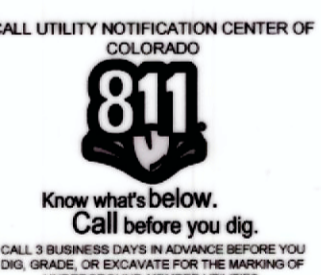
TRIPLE CREEK
 USR #1

Landscape Plan

Greeley, Colorado

Extraction Oil and Gas
 370 17th Street, Suite 5300
 Denver, CO 80202

(720) 557-8300



REVISIONS

NO.	DATE	DESCRIPTION
FINAL	05/27/16	

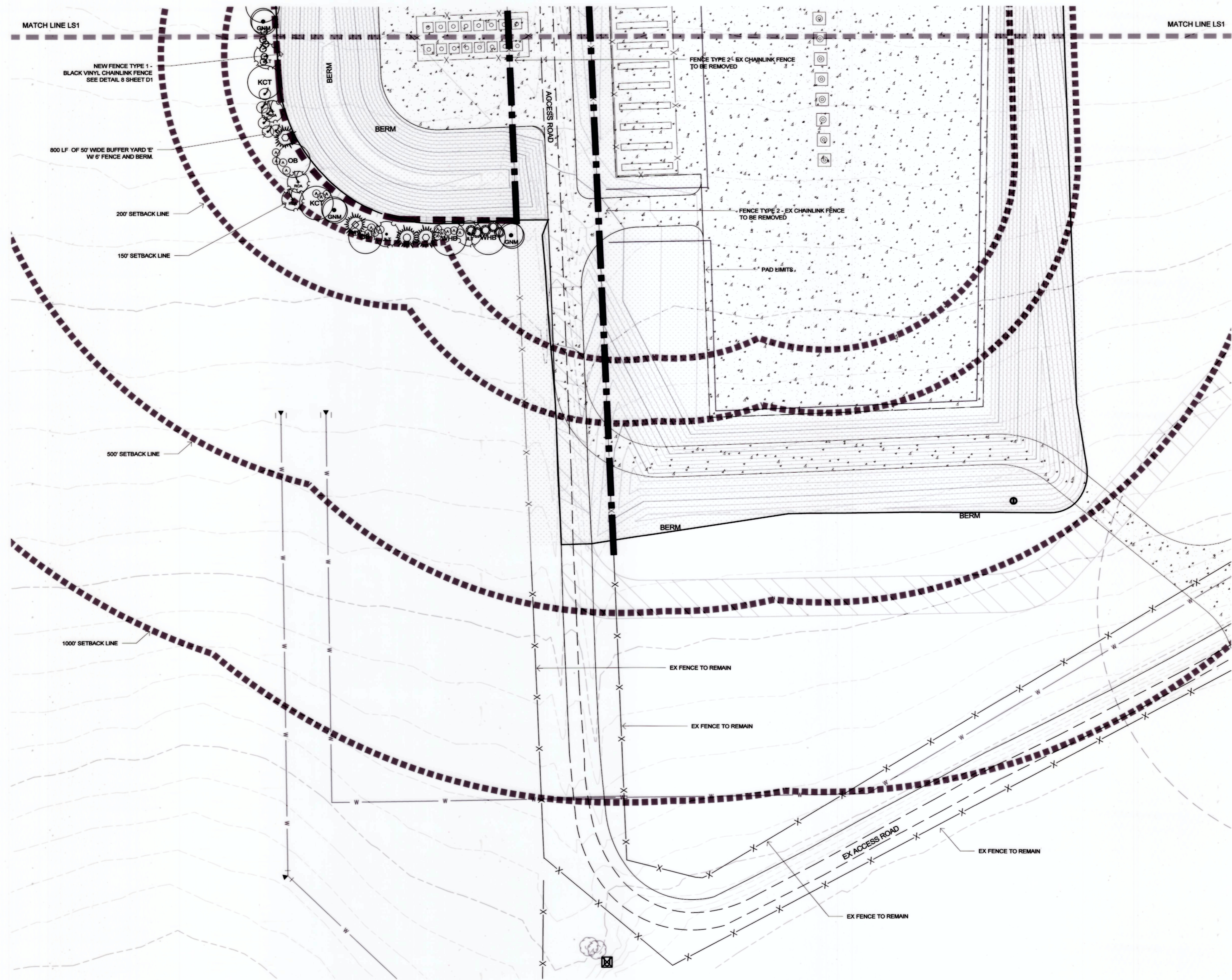
05-27-16

Lot 3 Landscape Plan

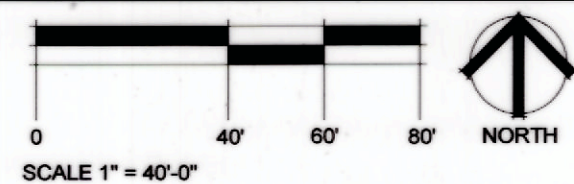
LS 1

CONSTRUCTION MUST BE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

ACCEPTED BY: DATE: 6/14/16



Landscape and Buffer Yard Plan



184,100 S.F.
NON-IRRIGATED LOW GROW NATIVE GRASS MIX
ARKANSAS VALLEY SEED MIX - OR APPROVED
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Fence Type Schedule

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(Sun icon)	7	10.3%	PINE, AUSTRIAN
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(Shrub icon)	25	-	NINEBARK, COPPERTINA
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ACCEPTED BY: [Signature] DATE: [Blank]
COMMUNITY DEVELOPMENT DIRECTOR [Signature] DATE: [Blank]



PROJECT TITLE
**TRIPLE CREEK
USR #1**

Landscape Plan

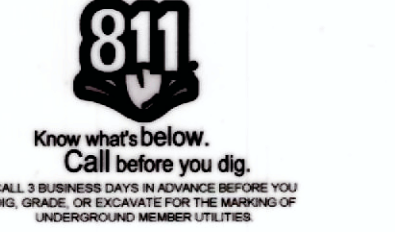
Greeley, Colorado

PREPARED FOR

Extraction Oil and Gas
370 17th Street, Suite 5300
Denver, CO 80202

(720) 557-8300

CALL UTILITY NOTIFICATION CENTER OF
COLORADO



REVISIONS

NO.	DESCRIPTION	DATE
1	FINAL	05/27/16

DATE

05-27-16

SHEET TITLE

Lot 3 Landscape Plan

SHEET INFORMATION

LS 2



**TRIPLE CREEK
USR #1**

Landscape Plan

Greeley, Colorado

Extraction Oil and Gas
370 17th Street, Suite 5300
Denver, CO 80202

(720) 557-8300

CALL UTILITY NOTIFICATION CENTER OF
COLORADO



CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU
DIG. (800) 452-5039 OR VISIT US AT WWW.811.CO
UNDERGROUND UTILITY SERVICES

REVISIONS: DATE

REVISIONS:	DATE
FINAL	05/27/16

DATE

05-27-16

SHEET TITLE

Irrigation Plan

SHEET INFORMATION

IR 1

Irrigation General Notes

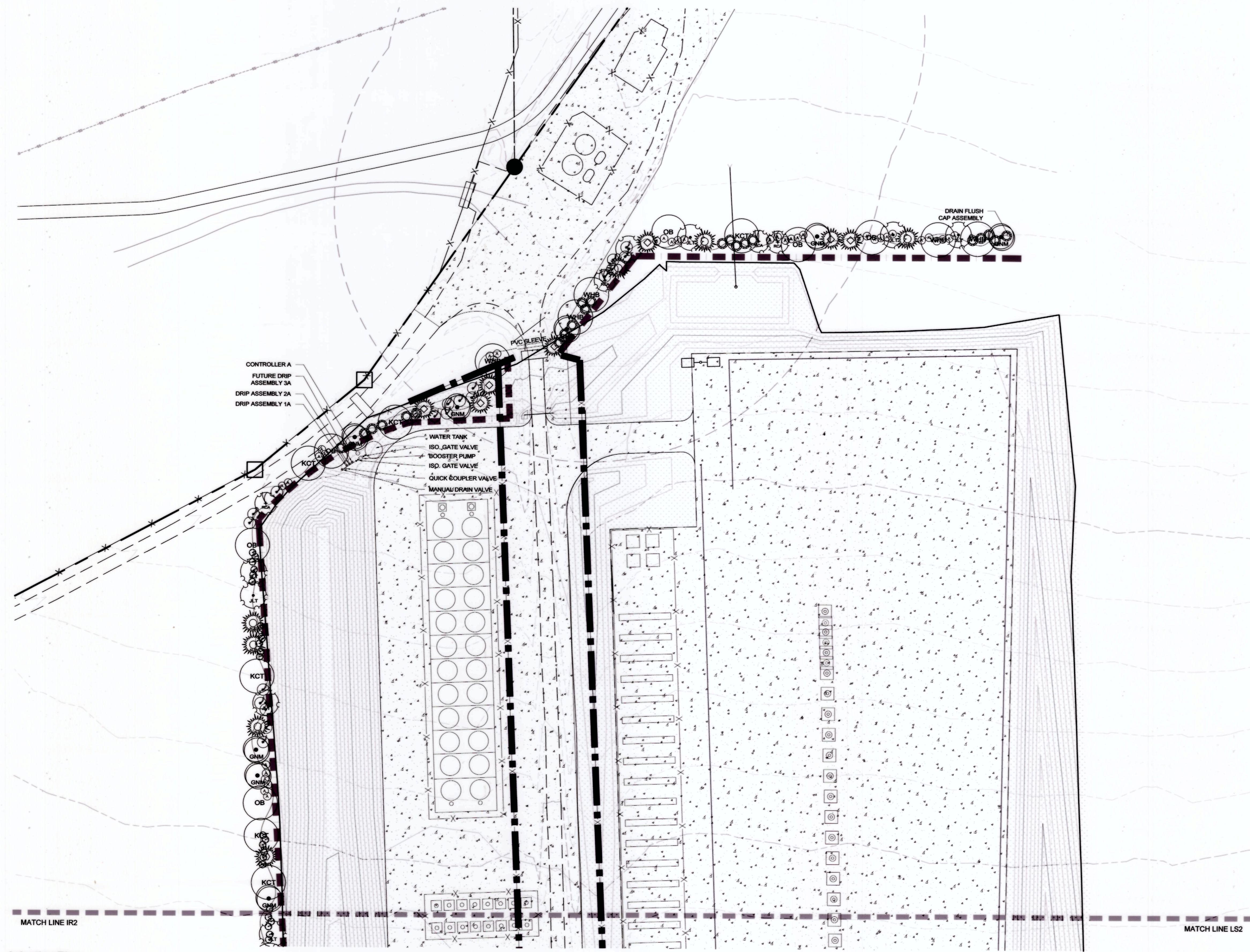
1. A CONTROLLED, AUTOMATIC IRRIGATION SYSTEM WITH RAIN SENSOR SHALL BE DESIGNED AND BUILT BY CONTRACTOR UTILIZING A 2,100 GALLON WATER TANK, ELECTRONIC CONTROLLER AND BOOSTER PUMP.
2. CONTRACTOR SHALL VERIFY THE MAXIMUM AVAILABLE P.S.I. AND GPM AND DESIGN THE IRRIGATION SYSTEM TO MEET THE REQUIRED P.S.I. AND GPM FOR THE PROPOSED LANDSCAPE. CONTRACTOR RESERVES THE RIGHT TO ADD ADDITIONAL VALVES IF IT'S DETERMINED NECESSARY.
3. ALL TREES AND SHRUBS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM.
4. IRRIGATION SYSTEM WILL BE ADJUSTED TO THE MINIMUM WATER REQUIREMENT, BASED ON THE NEEDS OF SELECTED PLANT MATERIAL.
5. QUICK COUPLERS SHALL BE PROVIDED AT EACH POINT OF CONNECTION AND AT REGULAR SPACING ALONG THE IRRIGATION MAINLINE. SPACING OF QUICK COUPLERS SHALL NOT EXCEED 200 FEET. LOCATE QUICK COUPLING VALVE AT A POINT OF EASY ACCESS.
6. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
7. CONTRACTOR TO DETERMINE AND COORDINATE APPROPRIATE POWER SOURCE AND ASSOCIATED ELECTRICAL DESIGN FOR THE ELECTRONIC CONTROLLER AND BOOSTER PUMP.
8. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.

INSTALLATION GENERAL NOTES

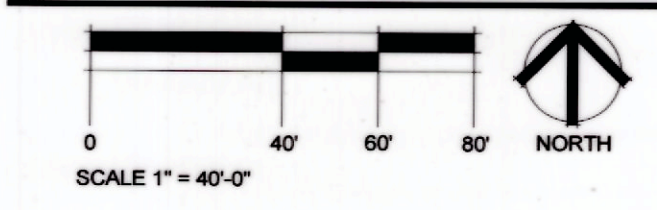
1. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR ALL RELATED WORK PRIOR TO CONSTRUCTION.
2. COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
3. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATION ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
4. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
TREE AND SHRUB LOCATION AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS AND ARCHITECTURAL FEATURES.
5. USE ONLY STANDARD TREES AND ELBOW FITTINGS. USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
6. PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT.
7. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE AND / OR DRIVE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR.
8. INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM AND BOOSTER PUMP IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.
9. INSTALL SPARE TWO-WIRE PATH FROM CONTROLLER LOCATION TO EACH DEAD-END OF MAINLINE FOR USE AS SPARES IN CASE OF CONTROL WIRE FAILURE. COIL 3 FEET OF WIRE IN VALVE BOX.

CONSTRUCTION NOTES

1. MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. COORDINATE ELECTRICAL POWER TO THE CONTROLLER WITH THE OWNER'S REPRESENTATIVE. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.
2. INSTALL PVC CAP AND THRUST BLOCK ON THE END OF THE MAINLINE.
3. INSTALL ISOLATION GATE VALVES AS SHOWN.
4. CONTRACTOR SHALL INSTALL 6-INCH STUBOUT AND ISOLATION GATE VALVE FOR FUTURE IRRIGATION CONNECTION.
5. INSTALL DRIP VALVE ASSEMBLY TO SERVE FUTURE LANDSCAPE. INSTALL 1-INCH CLASS 200 PVC LATERAL FROM VALVE AND CAP LATERAL INSIDE 10-INCH ROUND VALVE BOX FOR FUTURE CONNECTION.
6. MAIN LINE TO BE 2" CLASS 200 PVC
7. DRIP LINE LATERAL TO BE UV RADIATION RESISTANT 3/4" POLYETHYLENE. ROUTING ON PLAN IS DIAGRAMMATIC.



Irrigation Plan



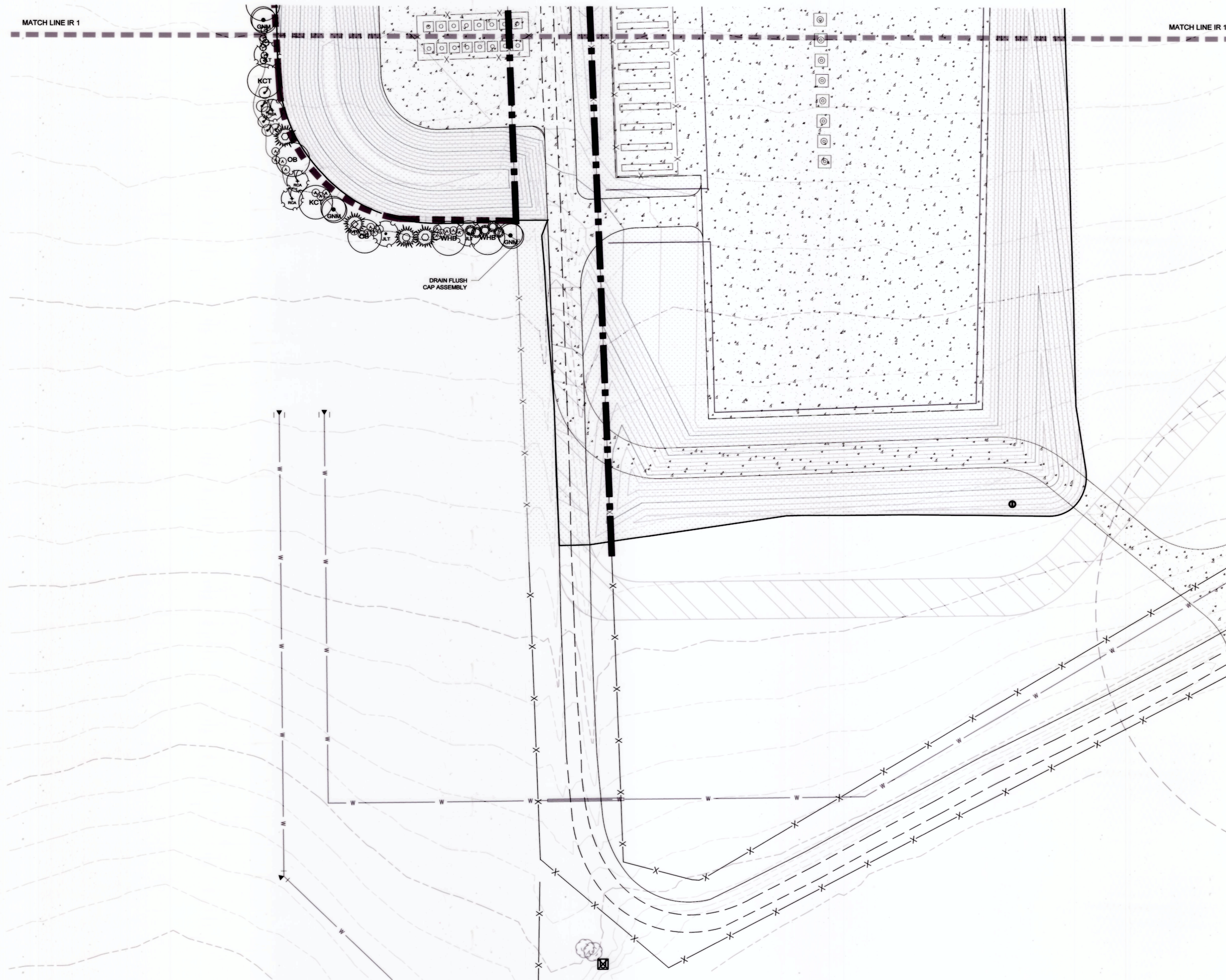
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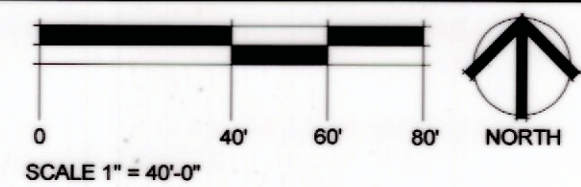
ACCEPTED BY: DATE: 6/20/16
DIRECTOR WATER + SEWER

MATCH LINE IR 1

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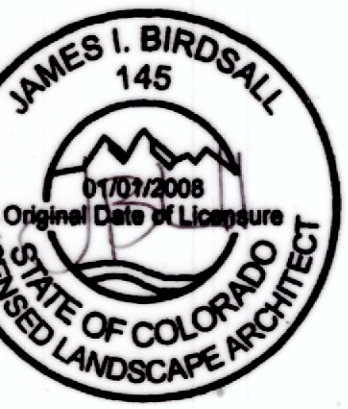
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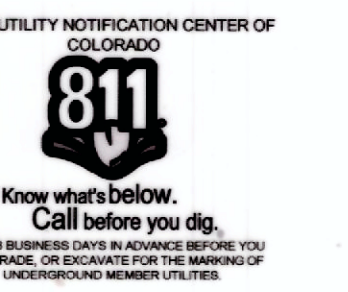
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PROJECT TITLE
**TRIPLE CREEK
 USR #1**
 Landscape Plan

Greeley, Colorado

PREPARED FOR
 Extraction Oil and Gas
 370 17th Street, Suite 5300
 Denver, CO 80202
 (720) 557-8300



REVISIONS	DATE
FINAL	05/27/16

05-27-16

SHEET TITLE
Irrigation Plan

SHEET INFORMATION
IR 2

TRIPLE CREEK DIRECTIONAL PROJECT

LOCATED IN THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 66 WEST OF THE 6TH P.M. CITY OF GREELEY, COUNTY OF WELD STATE OF COLORADO.

CITY OF GREELEY GENERAL NOTES

- ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY, OR EASEMENT SHALL CONFORM TO THE CITY OF GREELEY CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PERMIT FROM PUBLIC WORKS DEPARTMENT (970-350-9881) IS REQUIRED FOR ALL CONSTRUCTION IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR SHALL NOTIFY CONSTRUCTION SERVICES (970-350-9358) AT LEAST 24 HOUR PRIOR TO REQUIRED INSPECTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER/ DEVELOPER, AND THE CITY, OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
- IT IS THE RESPONSIBILITY OF THE DEVELOPER DURING CONSTRUCTION ACTIVITIES TO RESOLVE CONSTRUCTION PROBLEMS DUE TO CHANGED CONDITIONS, OR DESIGN ERRORS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROJECT. IF, IN THE OPINION OF THE CITY, THE MODIFICATIONS PROPOSED BY THE DEVELOPER, TO THE ACCEPTED PLANS, INVOLVE SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DEVELOPER SHALL BE RESPONSIBLE FOR RE-SUBMITTING THE REVISED PLANS TO THE CITY OF GREELEY FOR ACCEPTANCE PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE PROJECT. ANY IMPROVEMENTS NOT CONSTRUCTED IN ACCORDANCE WITH THE ACCEPTED PLANS, OR THE ACCEPTED REVISED PLANS, SHALL BE REMOVED AND RECONSTRUCTED ACCORDING TO THE APPROVED PLAN.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE GREELEY SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION SHALL BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL LICENSED SURVEYOR (PLS) PRIOR TO DISTURBING ANY MONUMENTS.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES (1) SIGNED COPY OF THE PLANS, STANDARDS, AND SPECIFICATIONS AS APPROVED BY THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARDS, PERMITS, BONDS, ETC. WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.

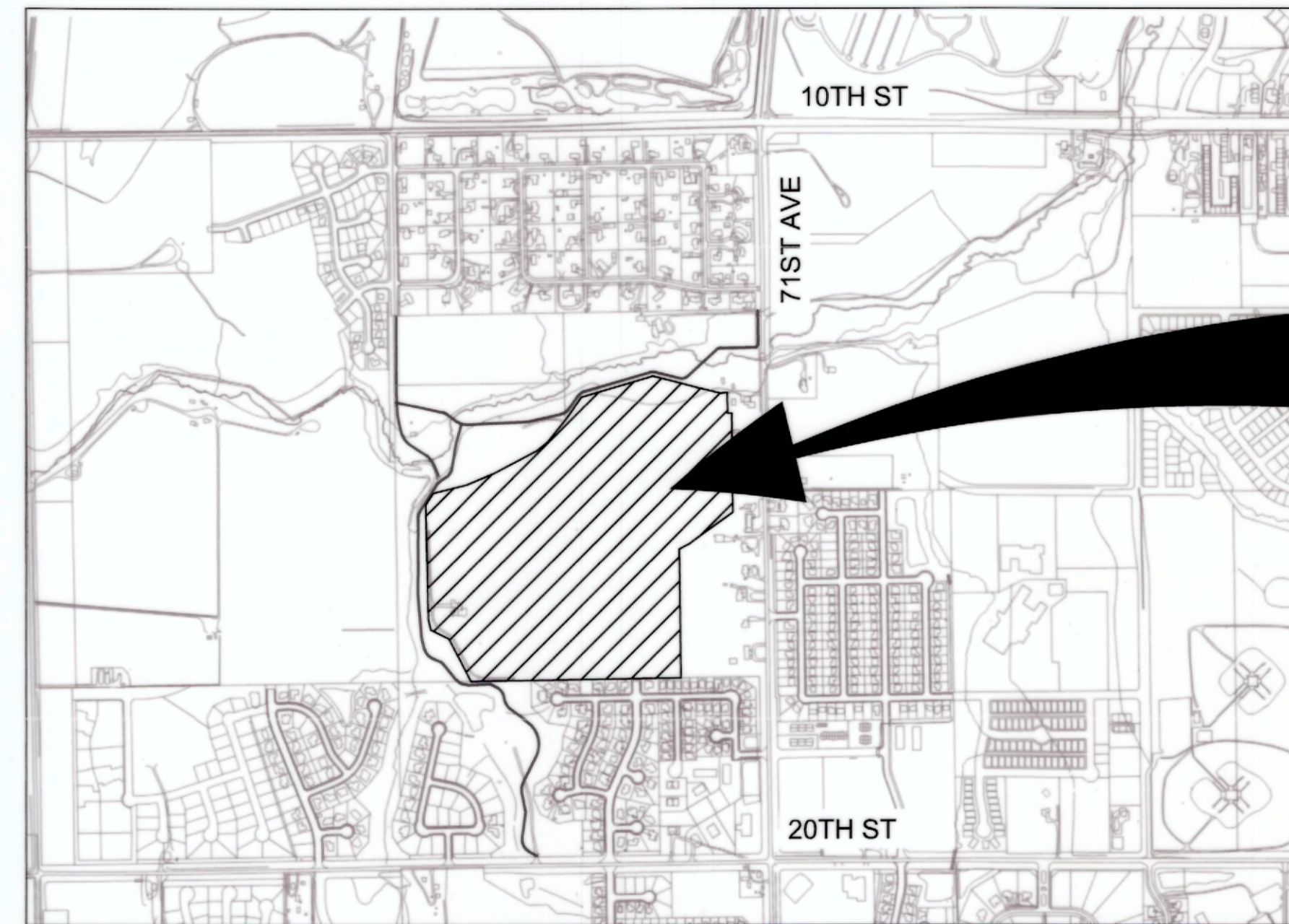
OLSSON ASSOCIATES GENERAL NOTES

- LOCATIONS AND ELEVATIONS OF EXISTING IMPROVEMENTS TO BE MET (OR AVOIDED) BY WORK TO BE DONE SHALL BE CONFIRMED BY THE CONTRACTOR THROUGH FIELD EXPLORATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPORT TO THE ENGINEER ANY DISCREPANCIES BETWEEN HIS MEASUREMENTS AND THESE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE APPROPRIATE FIRE DEPARTMENT OF ALL STREET CLOSURES AND EXISTING FIRE HYDRANTS TAKEN OUT OF SERVICE AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- ANY CONSTRUCTION DEBRIS OR MUD DROPPED INTO MANHOLES, INLETS, PIPES OR TRACKED ONTO EXISTING ROADWAYS SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY HIS CONSTRUCTION. THE CONTRACTOR SHALL PROPERLY BARRICADE THE CONSTRUCTION SITE UNTIL CONSTRUCTION IS COMPLETE.
- PRIOR TO BEGINNING THE WORK, THE CONTRACTOR SHALL OBTAIN ANY WRITTEN AGREEMENTS FOR INGRESS AND EGRESS TO THE WORK FROM ADJACENT PRIVATE PROPERTY OWNERS. ACCESS TO ANY ADJACENT PRIVATE PROPERTY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NOT OBTAINED BY THE OWNER OR OWNER'S REPRESENTATIVES AND PAY ALL FEES AS REQUIRED BY THE CONSTRUCTION COVERED IN THESE PLANS.
- EXCEPT FOR MATERIALS DESIGNED TO BE RELOCATED ON THIS PLAN, ALL OTHER CONSTRUCTION MATERIALS SHALL BE NEW.
- SHOP DRAWINGS AND MATERIAL SPECIFICATIONS SHALL BE SUBMITTED TO OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF MATERIAL.
- ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL APPLICABLE LAWS AND REGULATIONS.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SITE IMPROVEMENTS (INCLUDING BUT NOT LIMITED TO: UTILITIES, STRUCTURES, PAVING, LANDSCAPING, ETC.) SUCH THAT NO DAMAGE IS DONE TO SITE IMPROVEMENTS (I.E. SAWCUTTING NEW PAVEMENT). SITE IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
- IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE THAT A PRIOR UNIDENTIFIED SITUATION IS PRESENT, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL REMOVE ALL DEBRIS RESULTING FROM WORK UNDER THIS CONTRACT TO AN APPROVED DUMP SITE.
- USE ONLY DIMENSIONS PROVIDED ON THESE PLANS. DO NOT SCALE DRAWINGS. INFORM ENGINEER OF ANY DISCREPANCIES AND/OR MISSING INFORMATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ADJACENT PARCELS DURING ALL HOURS OF OPERATION FOR THE BUSINESSES LOCATED ON THOSE PARCELS.
- CONTRACTOR TO OBTAIN TEMPORARY POWER, TELEPHONE AND WATER FOR THE SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ADJACENT CITY STREETS FREE AND CLEAN OF ALL DEBRIS AND DIRT FROM THE JOB SITE.

UTILITY & GOVERNING AGENCY CONTACT LIST

CITY OF GREELEY 1100 10th STREET GREELEY, CO 80631	ATMOS ENERGY JERRY ADAMS 1200 11th AVE GREELEY CO, 80631 970-304-2075
DEVELOPMENT REVIEW DEREK GLOSSAN PE ENGINEERING DEVELOPMENT REVIEW MANAGER 970-350-9798	COMCAST COMMUNICATIONS BILL BLAIR 3737 W. 10th ST GREELEY CO, 80634 720-490-3891
FIRE DEPARTMENT DALE LYMAN FIRE MARSHALL 970-350-9798	XCEL ENERGY TERRY STENCEL 1500 6th AVE GREELEY CO, 80631 970-395-1207
FORESTRY DIVISION SHILON HATCHER FORESTRY MANAGER 970-339-2405	CENTERY LINK CARSON ORTEGA 2505 1st AVE GREELEY CO, 80631 970-392-4837
ATMOS ENERGY JERRY ADAMS 1200 11th AVE GREELEY CO, 80631 970-304-2075	

CONSTRUCTION DRAWINGS FOR USR 6:14



VICINITY MAP
SCALE: 1" = 1000'

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
01	COVER SHEET
02	DEMOLITION PLAN
03	EROSION AND SEDIMENT CONTROL PLAN
04	HORIZONTAL CONTROL PLAN
05	GRADING PLAN
06	UTILITY PLAN
07	DETAILS
08	DETAILS

LENGEND

---	PROPERTY LINE
---	SECTION LINE
---	ADJACENT PROPERTY LINE
---	EXISTING FENCE
---	EXISTING WATERLINE
---	EXISTING STORM LINE
---	EXISTING SANITARY SEWER
---	OIL AND GAS SETBACK ROAD
---	GRAVEL ACCESS ROAD
⊙	PROPOSED WELL
△	CORNERS SET (5/8" REBAR WITH 1 1/4" YELLOW PLASTIC CAP STAMPED PLS 38199)
□	CORNERS FOUND (1/2" REBAR) UPGRADED WITH 1 1/4" YELLOW PLASTIC CAP STAMPED PLS 38199
●	CORNERS FOUND FOUND 5/8" REBAR WITH 2" ALUMINUM CAP STAMPED: ALLES AND ASSOCIATES, INC. PLS 9644-2002 UNLESS OTHERWISE NOTED
⊙ 12'	DECIDUOUS TREE AND SIZE
⊙	POWER POLE AND GUY
⊙	MANHOLE
⊙	FIRE HYDRANT
x	WATER VALVE
⊙	AUTO SPRINKLER
⊙	GAS METER
⊙	LIGHT POLE
⊙	STREET LIGHT
⊙	POWER RISER
⊙	POWER METER
⊙	TELEPHONE RISER
⊙	GUARD POST
⊙	INFORMATION SIGN
⊙	DELINEATOR

ENGINEER

OLSSON ASSOCIATES
5285 McWHINNEY BOULEVARD, SUITE 160
LOVELAND, CO 80538
PHONE: (970) 461-7733

LANDSCAPE ARCHITECT

TB GROUP
444 MOUNTAIN AVENUE
BERTHOUD, COLORADO 80513
PHONE: (970) 532-5891

PROPERTY OWNER

RICHMARK REAL ESTATE PARTNERS, LLC
PO BOX 328
GREELEY, COLORADO 80632
PHONE: (970) 352-9446

APPLICANT/ OPERATOR

EXTRACTION OIL & GAS
370 17th STREET, SUITE 5300
DENVER, CO 80202
PHONE: (720) 3557-8308

SURVEYOR

LAMP RYNEARSON & ASSOCIATES
4715 INNOVATION DR.
FORT COLLINS, CO 80525
PHONE: (970) 226-0342

CONSTRUCTION MUST BE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSION OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

ACCEPTED BY: *[Signature]*
CITY ENGINEER

ACCEPTED BY: *[Signature]*
DIRECTOR OF WATER & SEWER

ACCEPTED BY: *[Signature]*
FIRE MARSHALL

OLSSON ASSOCIATES
5285 McWhinney Boulevard, Suite 160
Loveland, CO 80538
TEL: 970-461-7733 www.olssonassociates.com



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REV. NO.	DATE	REVISIONS DESCRIPTION
0	05/27/2016	RELEASED FOR CONSTRUCTION

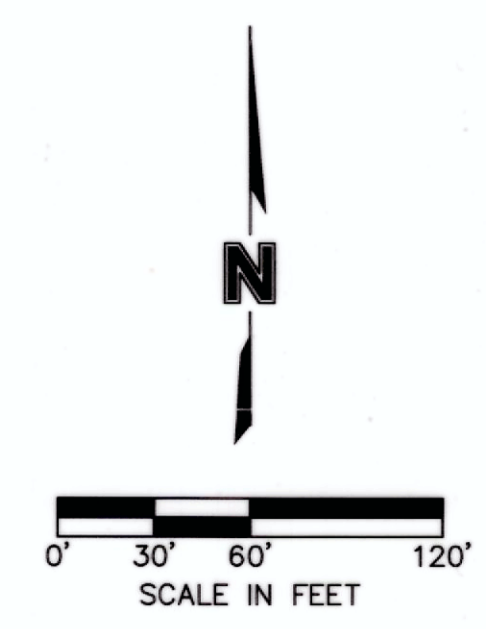
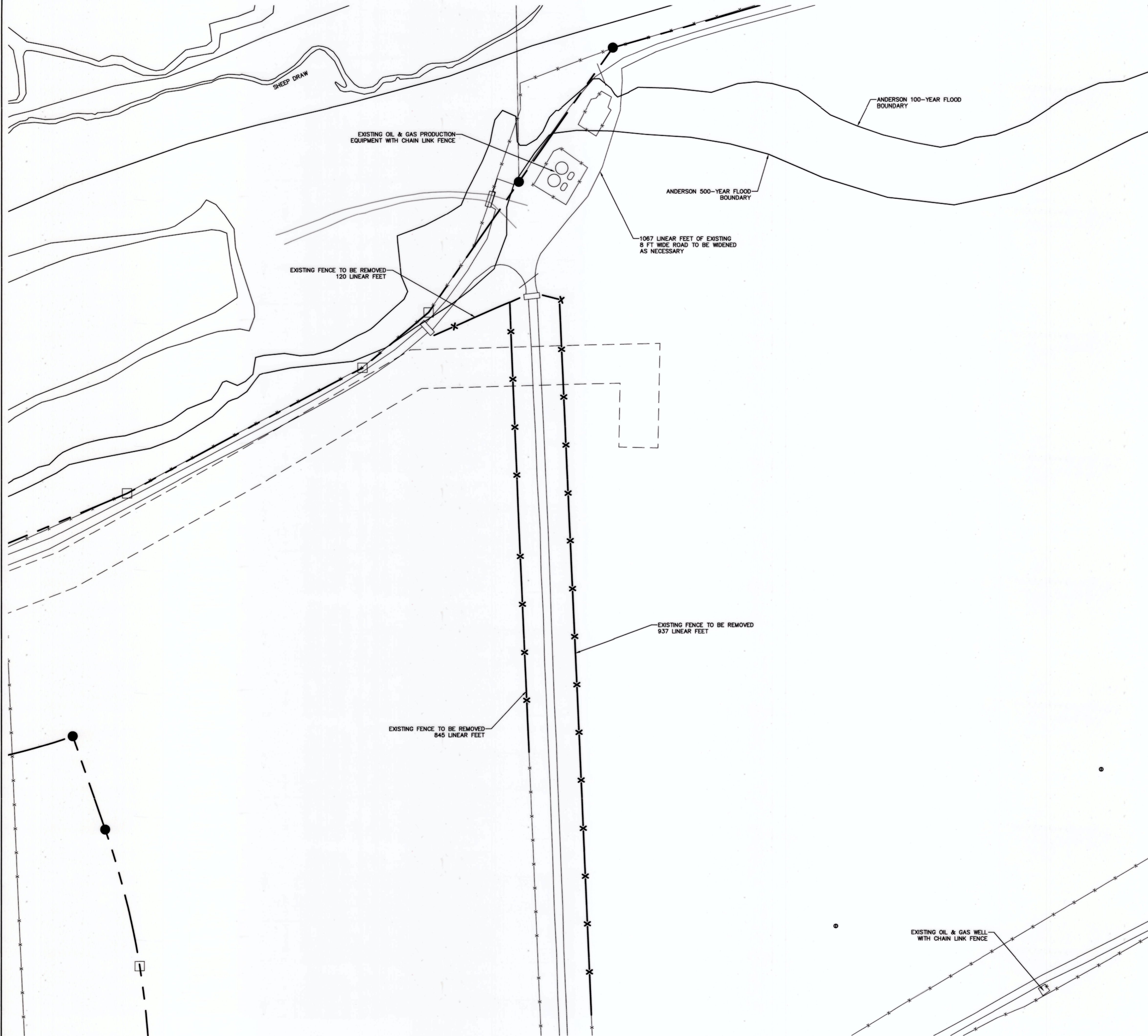
2016

TRIPLE CREEK DIRECTIONAL PROJECT
CONSTRUCTION DRAWINGS
COVER SHEET
GREELEY, COLORADO

drawn by: BK/ERM
checked by: JET
approved by: DDH
QA/QC by: DDH
project no.: 013-2978
drawing no.: 013-2978
date: 05/27/2016

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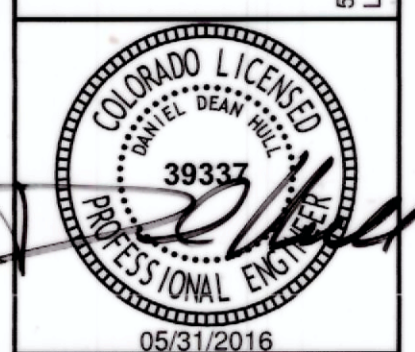
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 DATE: May 27, 2016 10:16am
 USER: mhennett
 132978_SBASE
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 132978_FLOOD
 EAST HALF SECTION 8 - 2



DEMOLITION NOTES

1. DEMOLITION SHALL INCLUDE REMOVAL OF EXISTING OBJECTS OR IMPROVEMENTS, WHETHER INDICATED ON DRAWINGS OR NOT, THAT WOULD IN ANY WAY PREVENT OR INTERFERE WITH PROGRESS OR COMPLETION OF PROPOSED WORK.
2. CONTRACTOR SHALL ENSURE SAFE PASSAGE OF PERSONS AROUND AREA OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, OTHER FACILITIES, AND INJURY TO PERSONS.
3. CONTRACTOR SHALL PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION OPERATIONS AT NO COST TO OWNER.
4. CONTRACTOR SHALL NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES AS ACCEPTABLE TO GOVERNING AUTHORITIES.
5. CONTRACTOR SHALL CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING PRIOR TO START OF WORK.
6. CONTRACTOR SHALL DISPOSE OF DEMOLISHED MATERIALS IN A LEGAL MANNER.
7. CONTRACTOR SHALL CONDUCT SITE CLEARING OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. CONTRACTOR SHALL NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.
8. CONTRACTOR SHALL PROVIDE PROTECTION AND PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED TO REMAIN IN PLACE. CONTRACTOR SHALL PROTECT IMPROVEMENTS ON ADJOINING PROPERTIES AND ON OWNER'S PROPERTY. CONTRACTOR SHALL RESTORE DAMAGED IMPROVEMENTS TO ORIGINAL CONDITION AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
9. CONTRACTOR SHALL CLEAR SITE OF TREES, SHRUBS, AND OTHER VEGETATION AND REMOVE EXISTING ABOVE GRADE AND BELOW GRADE IMPROVEMENTS NECESSARY TO PERMIT CONSTRUCTION AND OTHER WORK.
10. CONTRACTOR SHALL STRIP TOPSOIL TO WHATEVER DEPTHS ENCOUNTERED TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL.
11. STOCKPILE TOPSOIL IN STORAGE PILES IN AREAS SHOWN OR WHERE DIRECTED. CONSTRUCT STORAGE PILES TO FREELY DRAIN SURFACE WATER, COVER STORAGE PILES IF REQUIRED TO PREVENT WINDBLOWN DUST, INSTALL EROSION CONTROL DEVICES TO PREVENT TOPSOIL LEAVING THE STOCKPILE AREA.

MOLSSON ASSOCIATES
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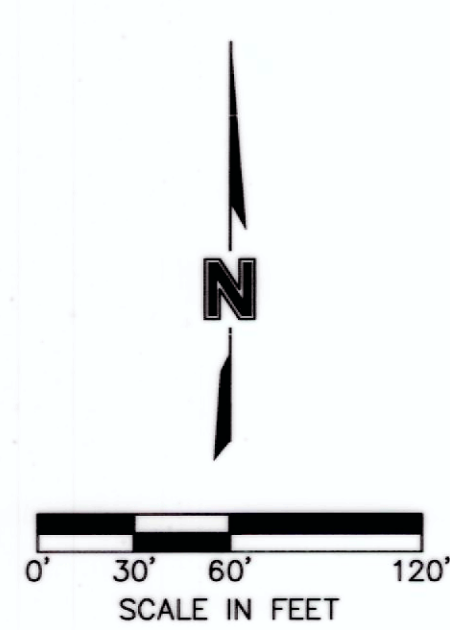
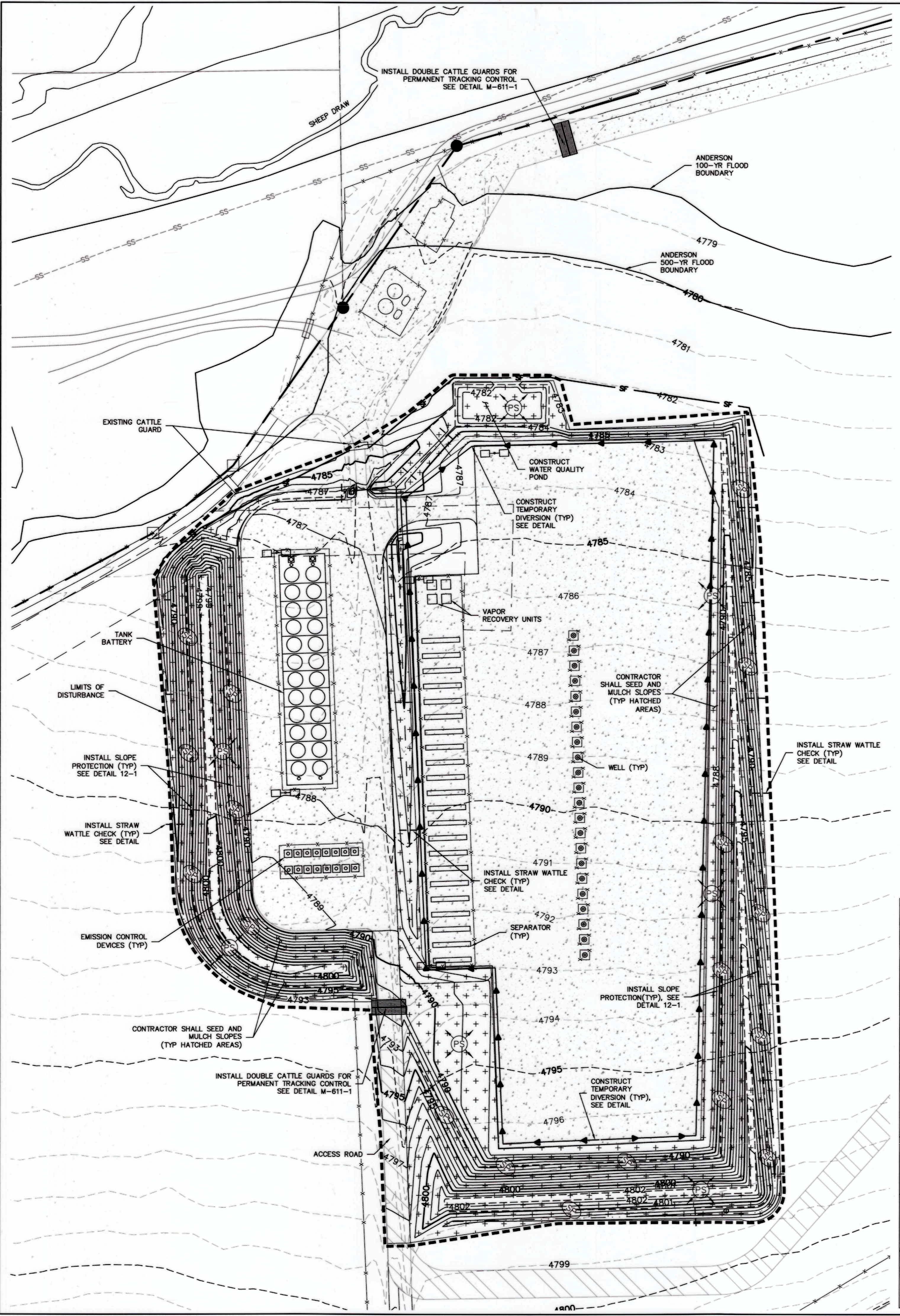
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REV. NO.	DATE	REVISIONS DESCRIPTION
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TRIPLE CREEK DIRECTIONAL PROJECT CONSTRUCTION DRAWINGS	DEMOLITION PLAN	2016
		REVISIONS
drawn by: BK/ERM	checked by: JEZ	approved by: DDH
QA/QC by: DDH	project no.: 013-2978	drawing no.: 013-2978
date: 05/27/2016		

DWG: F:\Projects\013-2978_LDVP\Final_Plans\132978_ERC01.dwg USER: mbennett
 DATE: May 27, 2016 10:17am XREFS: 132978_PLSC 132978_SBASE 132978_FLOOD 132978_PBASE EAST HALF SECTION 8 - 2



EROSION CONTROL NOTES

- OPERATOR MAINTAINS A FIELD WIDE STORMWATER DISCHARGE PERMIT, CERTIFICATION NO. COR03H509, FOR COVERAGE UNDER THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES PERMIT.
- THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (E.G., CLEARING, GRUBBING, OR EXCAVATION).
- THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION AND SEDIMENT CONTROL PLAN PREPARED FOR THE PROJECT.
- CONTRACTOR TO ADJUST EROSION CONTROL MEASURES AS NEEDED FOR VARIOUS PHASES OF WORK.
- CONTRACTOR TO ENSURE THAT NO DIRT AND SEDIMENT IS TRACKED ONTO ADJACENT STREETS AND WATERWAYS.
- APPROVED EROSION AND SEDIMENT CONTROL "BEST MANAGEMENT PRACTICES" (BMPs) SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. AT A MINIMUM, THE CONTRACTOR SHALL INSPECT ALL BMPs EVERY 14 DAYS, AND AFTER ALL SIGNIFICANT PRECIPITATION EVENTS (I.E. RAINFALL, SNOWMELT). ALL NECESSARY MAINTENANCE AND REPAIR ACTIVITIES SHALL BE COMPLETED PER THE CITY INSPECTOR. ACCUMULATED SEDIMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED WEEKLY FROM ALL BMPs, OR AT ANY TIME THAT SEDIMENT OR CONSTRUCTION DEBRIS ADVERSELY IMPACTS THE FUNCTIONING OF THE BMPs.
- TOPSOIL SHALL BE STOCKPILED WITHIN LIMITS OF CONSTRUCTION FOR USE ON AREAS TO BE RE-VEGETATED. ANY AND ALL STOCKPILES SHALL BE PLACED IN AN APPROVED LOCATION AND PROTECTED FROM EROSION ELEMENTS USING MEASURES SPECIFIED IN THE EROSION CONTROL PLAN. SOIL AND MATERIAL STOCKPILES SHALL BE LOCATED AT AWAY FROM DRAINAGE PATHWAYS AND HIGH TRAFFIC AREAS. STOCKPILE SHALL BE LESS THAN 10 FEET IN HEIGHT. ALL STOCKPILES SHALL EMPLOY PERIMETER SEDIMENT CONTROLS. WEIGHTED TARPS ARE RECOMMENDED TO PROTECT STOCKPILES FROM WIND AND RAIN EROSION.
- SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE MULCHED AND SEEDED WITH A TEMPORARY OR PERMANENT GRASS COVER WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION.
- ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE LIMITS OF CONSTRUCTION DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, PROPERTIES, ETC. RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
- THE CONTRACTOR MUST KEEP ALL POLLUTANTS, INCLUDING SEDIMENT, CONSTRUCTION DEBRIS, AND TRENCH BACKFILL MATERIALS FROM ENTERING THE STORM SEWER SYSTEM.
- ALL SPILLS INCLUDING, BUT NOT LIMITED TO, PETROLEUM PRODUCTS, SOLVENTS, AND CEMENT SHALL BE CLEANED UP IMMEDIATELY. THE CITY OF GREELEY SHALL BE NOTIFIED IMMEDIATELY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REQUIRED SPILL NOTIFICATIONS TO ALL OTHER LOCAL, STATE, AND FEDERAL AUTHORITIES.
- THE CONTRACTOR SHALL ENSURE THAT ALL MATERIAL EXPORTED FROM THE SITE, IS DISPOSED OF AT A SITE PERMITTED TO ACCEPT SUCH MATERIAL.
- PRIOR TO ACTUAL CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES. FOR INFORMATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 OR 811.
- THE CONTRACTOR SHALL LOCATE ALL SANITARY WASTE RECEPTACLES, PORT-A-POTTIES, AWAY FROM DRAINAGE PATHWAYS AND HIGH TRAFFIC AREAS. ALL SANITARY WASTE RECEPTACLES SHALL BE SECURED TO THE GROUND OR AN ADJACENT STRUCTURE TO PREVENT TIP-OVER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE TIMELY AND PROPER DISPOSAL OF ALL SANITARY WASTE.
- THE SEDIMENT TRAP AND DIVERSION SWALES SHALL BE PERMANENT FEATURES UNTIL THE SITE IS BUILT OUT.
- CONTRACTOR SHALL CONSTRUCT AND UTILIZE A CONCRETE WASHOUT AREA PER CITY OF GREELEY DETAIL 12-2, SEE DETAIL SHEET 10, FOR ALL ACTIVITIES THAT NECESSITATE A CONCRETE WASHOUT AREA. ALTERNATIVELY, THE CONTRACTOR MAY CHOOSE TO USE A DEDICATED PLASTIC LINED DUMPSTER FOR CONCRETE WASHOUT, WHEREUPON SOLIDIFICATION OF THE WASHOUT MATERIAL THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF THE WASTE.

SEEDING REQUIREMENTS AND NOTES

- ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS, OR WITHIN 14 DAYS OF CESSATION OF DISTURBANCE IN A GIVEN AREA, WHICHEVER IS MORE STRINGENT.
- THE SITE SHALL BE SEEDDED IN ACCORDANCE WITH THE LANDSCAPE PLAN.

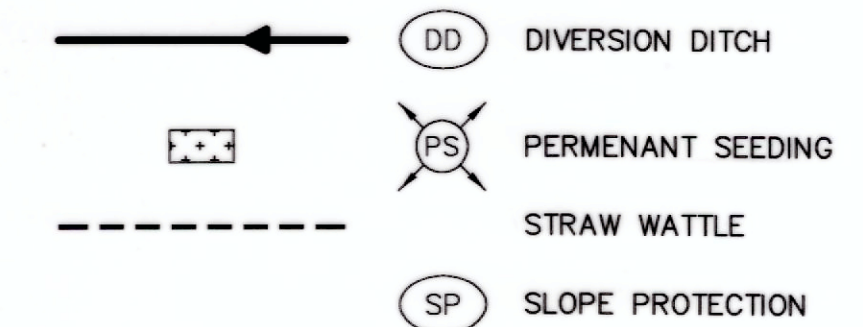
FUGITIVE DUST CONTROL NOTES

- CONTROL OF UNPAVED ROADS:
 - WATERING SHALL BE COMPLETED AS NEEDED TO CONTROL DUST.
 - SPEEDS LIMITED TO PREVENT DUST.
- CONTROL OF DISTURBED AREAS:
 - WATERING SHALL BE COMPLETED AS NEEDED TO CONTROL DUST.
 - VEHICLE SPEEDS SHALL BE LIMITED TO TEN (10) MILES PER HOUR.
 - REVEGETATION SHALL BE COMPLETED WITHIN ONE (1) YEAR OF SOIL DISTURBANCE, SEE SEEDING NOTES.
 - FURROWING OF DISTURBED SOIL SHALL BE PROVIDED AT RIGHT ANGLES TO PREVAILING WINDS AND SHALL BE A MINIMUM OF SIX (6) INCHES IN DEPTH.
 - COMPACTION OF DISTURBED SOILS SHALL BE COMPLETED BASED ON GEOTECHNICAL REPORT NUMBERS.
 - SILT FENCE SHALL BE INSTALLED FOR WIND BREAK AS NEEDED.
- A WATER SOURCE MUST BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE CONTRACTOR SHALL ENSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHT-OF-WAY.

INSPECTION & MAINTENANCE PROCEDURES

- ALL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE INSPECTED AT LEAST ONCE EVERY 7 DAYS, EXCEPT IN CONDITIONS OUTLINED IN THE GENERAL CONSTRUCTION STORMWATER PERMIT.
- ALL BMPs WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, THAT REPAIR WILL BE COMPLETED WITHIN 7 DAYS.
- SEDIMENT WILL BE REMOVED FROM THE SILT FENCE WHEN IT HAS REACHED ONE-HALF OF THE HEIGHT OF THE BARRIER. SILT FENCES ARE TO BE INSPECTED FOR DEPTH OF ACCUMULATED SEDIMENT, TEARS, ATTACHMENT TO POSTS, UNDERMINING, AND STABILITY.
- COVER CROP, TEMPORARY SEEDING, AND PERMANENT SEEDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
- INSPECT RIP RAP FOR BARE SPOTS AND WASHOUTS.
- INSPECT ALL ENTRANCES TO THE CONSTRUCTION SITE FOR SEDIMENT TRACK OUT.
- CONCRETE WASHOUT AREAS, PORTABLE TOILETS, AND ANY OTHER POTENTIAL POLLUTANT THAT IS BEING STORED ON-SITE SHALL BE INSPECTED.
- INSPECTION AND MAINTENANCE SHALL BE NOTED ON THE TABLE PROVIDED ON THIS PLAN AND IN THE SITE SPECIFIC BINDER WHICH ACCOMPANIES THE GENERAL CONSTRUCTION PERMIT.

EROSION CONTROL LEGEND



SITE SPECIFIC BEST MANAGEMENT PRACTICES

BMP DESCRIPTION	BMP INSTALLED AND OPERATING PROPERLY?	CORRECTIVE ACTION NEEDED	DATE OF CORRECTIVE ACTION/PERSON RESPONSIBLE

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ACCEPTED BY: *[Signature]*
CITY ENGINEER

THIS EROSION & SEDIMENT CONTROL PLAN HAS BEEN SUBMITTED TO THE CITY OF GREELEY IN FULFILLMENT OF THE CITY CRITERIA. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN PROBLEMS OCCUR OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LANDOWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED, OR VOIDED. NOTE: THIS EROSION & SEDIMENT CONTROL PLAN IN AND OF ITSELF DOES NOT FULFILL THE REQUIREMENTS OF THE COLORADO DEPARTMENT OF PUBLIC HEALTH STORMWATER CONSTRUCTION PERMIT FOR A STORMWATER MANAGEMENT PLAN (SWMP).

ACCEPTED BY: *[Signature]* 06/01/2016
LANDOWNER DATE

ACCEPTED BY: *[Signature]* 06/01/2016
SWMP ADMINISTRATOR DATE

OLSSON ASSOCIATES
 5228 Matthews Boulevard, Suite 100
 Loveland, CO 80538
 TEL: 970.461.7733 www.olssonassociates.com

COLORADO LICENSED PROFESSIONAL ENGINEER
 39337
 05/31/2016

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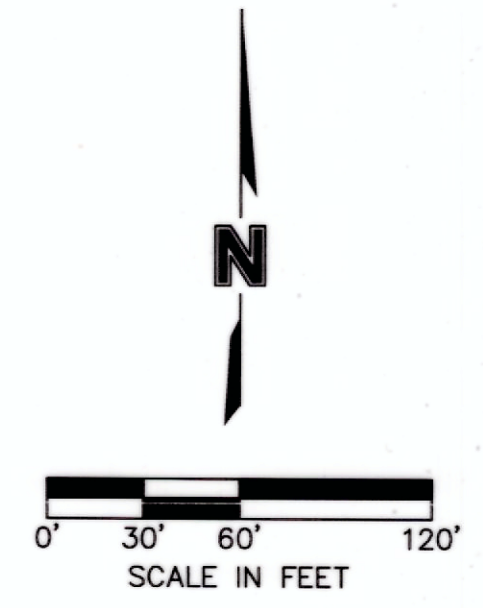
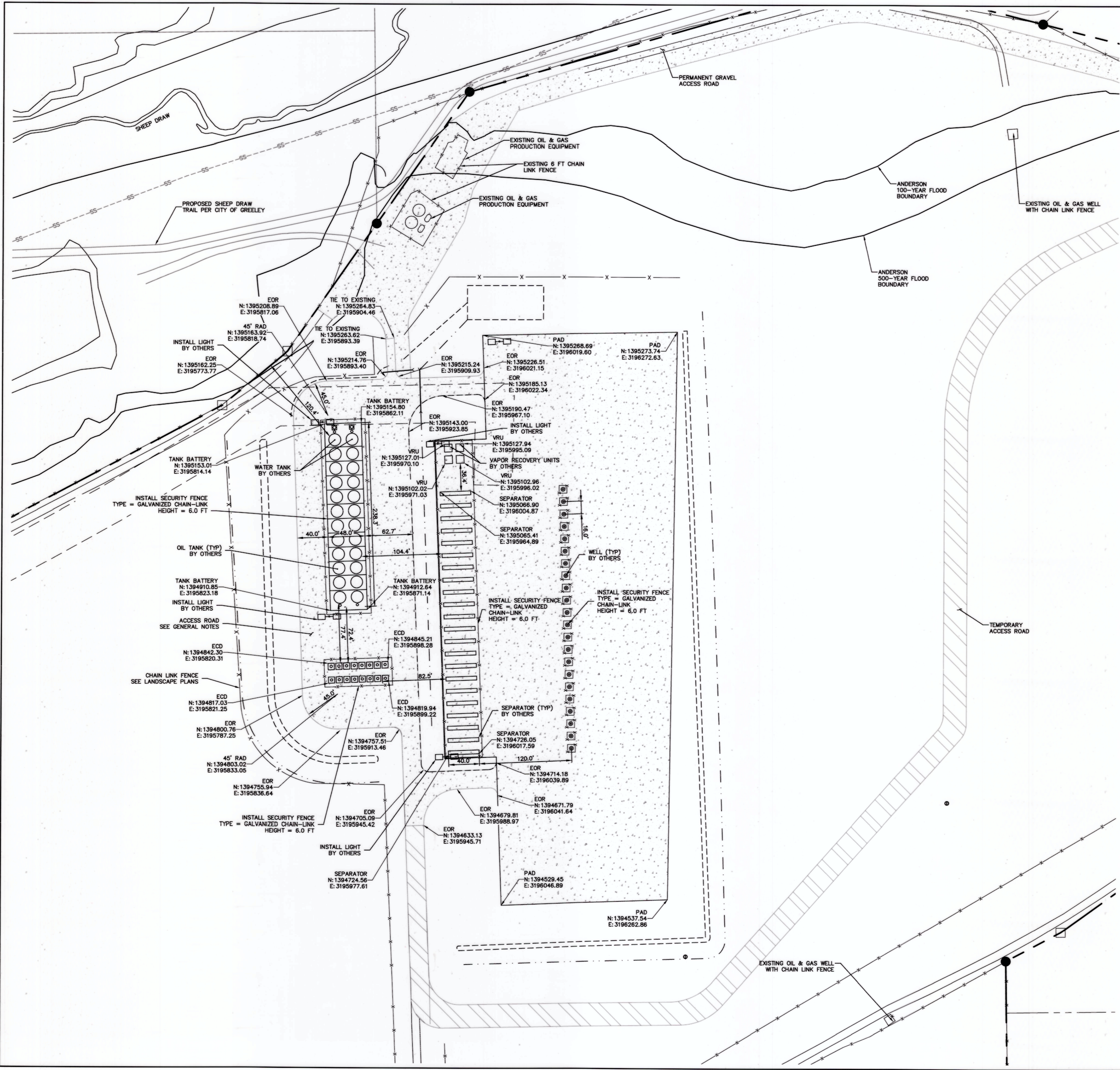
TRIPLE CREEK DIRECTIONAL PROJECT
 CONSTRUCTION DRAWINGS
 EROSION AND SEDIMENT CONTROL PLAN
 GREELEY, COLORADO

2016

SHEET C3

drawn by: BK/ERM
 checked by: JEZ
 approved by: DDH
 QA/QC by: DDH
 project no.: 013-2978
 drawing no.: 013-2978
 date: 05/27/2016

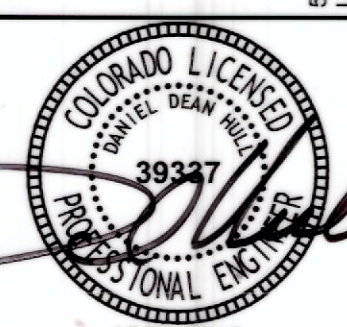
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GENERAL NOTES

1. ACCESS ROAD SHALL HAVE A PREPARED SUBGRADE AND AN AGGREGATE BASE COURSE SURFACE, A MINIMUM OF SIX (6) INCHES THICK COMPACTED TO A MINIMUM DENSITY OF NINETY FIVE (95) PERCENT OF THE MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING SAMPLING AND TESTING PROCEDURES APPROVED BY THE PUBLIC WORKS DEPARTMENT. THE AGGREGATE MATERIAL, AT A MINIMUM SHALL MET THE REQUIREMENTS FOR CLASS 6, AGGREGATE BASE COURSE AS SPECIFIED IN THE COOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

MOLSSON ASSOCIATES
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 Loveland, CO 80538
 TEL: 970.461.7733 www.molssonassociates.com



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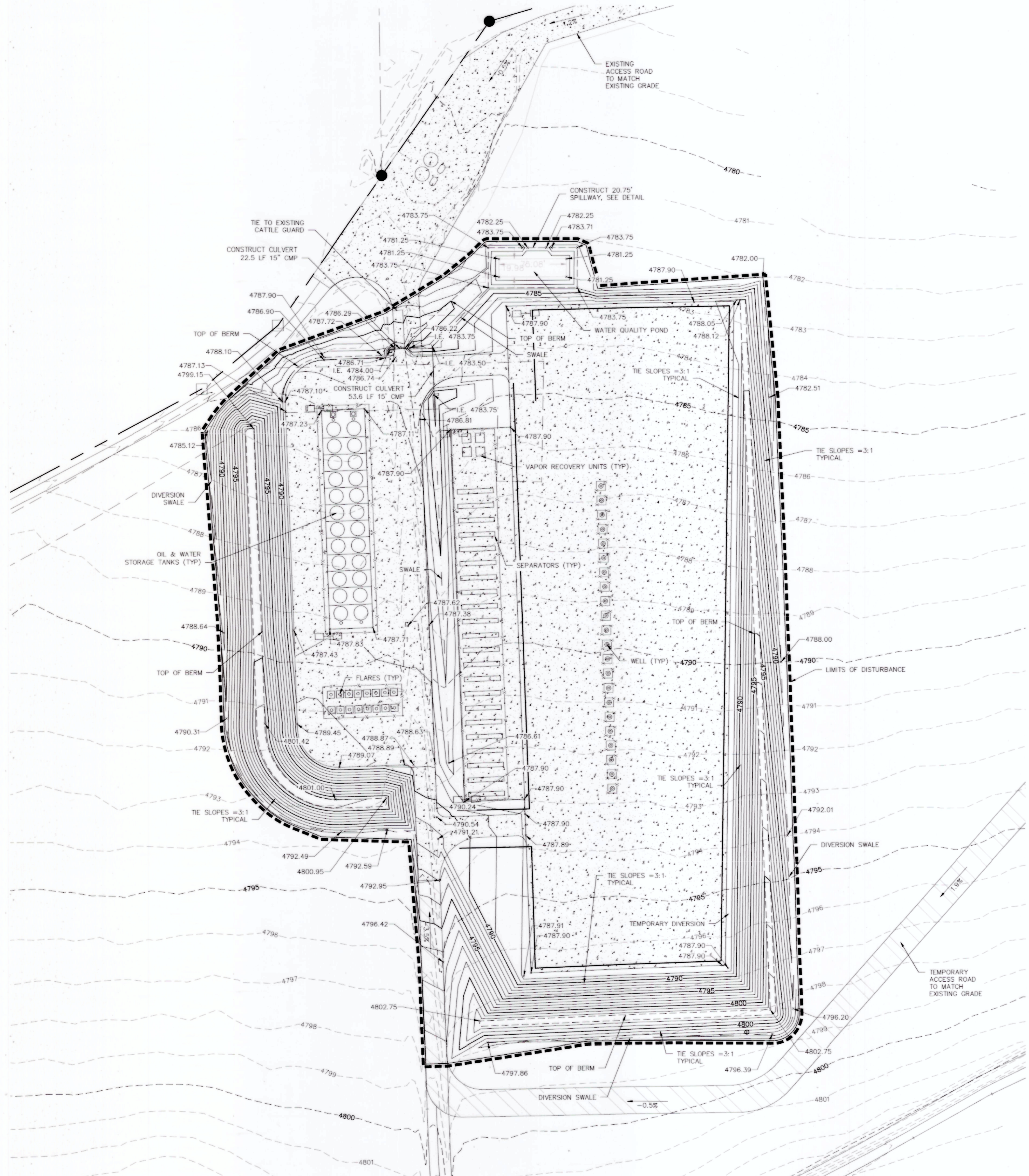
TRIPLE CREEK DIRECTIONAL PROJECT
 CONSTRUCTION DRAWINGS
 HORIZONTAL CONTROL PLAN
 GREELEY, COLORADO

drawn by: BK/EKM
 checked by: JEZ
 approved by: DDH
 QA/QC by: DDH
 project no.: 013-2978
 drawing no.: 013-2978
 date: 05/27/2016

2016 REVISIONS

SHEET C4

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GRADING NOTES

1. EROSION CONTROL MEASURES MUST BE IN PLACE PRIOR TO ANY LAND DISTURBING ACTIVITY COMMENCING.
2. TOP OF CURB AND SIDEWALK ELEVATIONS AT LOCATIONS OTHER THAN THE SIDEWALK AROUND THE BUILDING SHALL BE 0.5' ABOVE GUTTER ELEVATIONS UNLESS OTHERWISE NOTED. IN AREAS WITH SIDEWALK ABUTTING BACK OF CURB, TOP OF CURB ELEVATIONS SHALL BE EQUAL TO SIDEWALK ELEVATIONS.
3. NO ASPHALT OR CONCRETE PAVING SHALL BE INSTALLED UNTIL ALL UTILITIES IN OR CROSSING PAVED AREAS HAVE BEEN INSTALLED AND THE BASE COURSE IS APPROVED.
4. BASE MATERIAL AND ASPHALT SHALL BE INSTALLED PER GEOTECHNICAL RECOMMENDATIONS AND SPECIFICATIONS.
5. CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
6. CONTRACTOR SHALL CONDUCT SAMPLING AND TESTING QUALITY CONTROL PER THE PLANS AND GEOTECHNICAL RECOMMENDATIONS.
7. PRIOR TO BEGINNING ANY CUT OR FILL, CONTRACTOR SHALL STRIP EXISTING GROUND TO REMOVE ALL VEGETATION.
8. TOPSOIL SHALL BE REMOVED WHERE STRUCTURES ARE TO BE BUILT. TOPSOIL SHALL BE STORED CLEAR OF THE CONSTRUCTION AREA. CONTRACTOR SHALL TAKE CARE TO PREVENT THE TOPSOIL FROM BECOMING MIXED WITH SUBSOIL.
9. DO NOT PLACE FILL OR BACKFILL IF FILL OR BACKFILL MATERIAL IS FROZEN OR IF THE SURFACE UPON WHICH FILL OR BACKFILL IS TO BE PLACED IS FROZEN.
10. BACKFILL AROUND STRUCTURES: CONTRACTOR SHALL PLACE BACKFILL AROUND CONCRETE STRUCTURES ONLY AFTER THE CONCRETE HAS ATTAINED THE SPECIFIED COMPRESSIVE STRENGTH. CONTRACTOR SHALL REMOVE ALL FORM MATERIALS AND TRASH FROM THE EXCAVATION BEFORE PLACING ANY BACKFILL. CONTRACTOR SHALL NOT OPERATE EARTH-MOVING EQUIPMENT WITHIN 5 FEET OF WALLS OF CONCRETE STRUCTURES FOR THE PURPOSE OF DEPOSITING OR COMPACTING BACKFILL MATERIAL. CONTRACTOR SHALL COMPACT BACKFILL ADJACENT TO CONCRETE WALLS WITH HAND-OPERATED TAMPERS OR SIMILAR EQUIPMENT THAT WILL NOT DAMAGE THE STRUCTURE. CONTRACTOR SHALL PLACE FILL IN LIFTS NOT MORE THAN 8 INCHES THICK PRIOR TO COMPACTION AND COMPACT IN ACCORDANCE WITH QUALITY CONTROL NOTES.
11. PRIOR TO THE ONSET OF CONSTRUCTION ACTIVITIES, ANY BLACK-TAILED PRAIRIE DOGS INHABITING PORTIONS OF THE SITE SHALL BE RELOCATED OR HUMANELY EUTHANIZED BY THE DEVELOPER OR DEVELOPER'S AGENT USING LEGALLY APPROVED METHODS FOR EUTHANASIA AND RELOCATION METHODS THAT DO NOT DISPLACE PRAIRIE DOGS ONTO NEIGHBORING PROPERTIES. DESTRUCTION OF PRAIRIE DOG TOWNS SHALL NOT OCCUR DURING THE NESTING SEASON (MAY 15 - SEPTEMBER 15) OF THE BURROWING OWL. UNLESS THE TOWN HAS BEEN SURVEYED BY A PROFESSIONAL BIOLOGIST/ECOLOGIST FAMILIAR WITH BURROWING OWL BEHAVIOR AND IT IS FOUND THAT BURROWING OWLS ARE NOT ENGAGED IN NESTING/BROOD-REARING ACTIVITIES.

QUALITY CONTROL NOTES

1. MOISTURE DENSITY TESTS: THE FOLLOWING TESTS SHALL BE CONDUCTED ON REPRESENTATIVE SAMPLES OF EACH TYPE OF MATERIAL ENCOUNTERED OR UTILIZED AND WILL BE USED AS A BASIS FOR COMPACTION CONTROL.
 - 1.1. ASTM D698 OR AASHTO T99 - STANDARD METHOD OF TEST FOR MOISTURE DENSITY RELATION OF SOILS USING A 5.5 LB RAMMER AND A 12-INCH DROP.
 - 1.2. USE METHOD A, B, C OR D AS APPROPRIATE, BASED ON SOIL CONDITION AND JUDGMENT OF THE TESTING LABORATORY.
 - 1.3. DETERMINE AND PROVIDE OPTIMUM DENSITY CURVE FOR EACH TYPE OF MATERIAL ENCOUNTERED OR UTILIZED. INCLUDE ATTERBERG LIMITS, GRAIN SIZE DETERMINATION AND SPECIFIC GRAVITY.
2. ASTM D2049 - TEST FOR RELATIVE DENSITY OF COHESIONLESS SOILS.

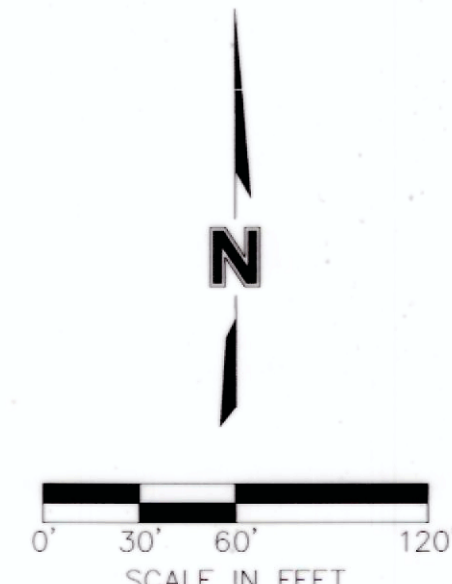
COMPACTION CONTROL:

FIELD TESTS WILL BE CONDUCTED TO DETERMINE COMPLIANCE OF COMPACTION METHODS WITH SPECIFIED DENSITY IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS:

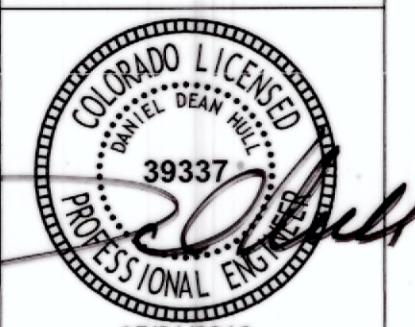
 - 2.1.1. ASTM D2922 - TESTS FOR DENSITY OF SOIL AND SOIL - AGGREGATE IN PLACE BY NUCLEAR METHODS.
 - 2.1.2. ASTM D1556 - TESTS FOR DENSITY OF SOIL IN-PLACE BY THE SAND CONE METHOD.
 - 2.1.3. ASTM D2167 - TESTS FOR DENSITY OF SOIL IN-PLACE BY RUBBER-BALLOON METHOD.
3. FIELD DENSITY TESTS SHALL BE MADE BY A GEOTECHNICAL ENGINEER. QUANTITY AND LOCATIONS SHALL BE AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER. DENSITY TESTS SHALL BE TAKEN IN COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN DENSITY TESTS INDICATE THAT THE DRY DENSITY OR MOISTURE CONTENT OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THAT REQUIRED, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED UNTIL THE REQUIRED DRY DENSITY OR MOISTURE CONTENT HAS BEEN ACHIEVED.
4. COMPACTION SHALL BE MINIMUM OF 95% OF OPTIMUM DENSITY, IN ACCORDANCE WITH ASTM D 698, AT A MOISTURE CONTENT OF NOT LESS THAN 2% BELOW AND NOT MORE THAN 2% ABOVE THE OPTIMUM MOISTURE CONTENT.
5. TANK SUBGRADE SHALL BE PROOF ROLLED TO DETECT ANY AREAS OF INSUFFICIENT COMPACTION. PROOF ROLLING SHALL BE ACCOMPLISHED BY MAKING A MINIMUM OF TWO (2) COMPLETE PASSES WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK, OR APPROVED EQUIVALENT, IN EACH OF THE TWO PERPENDICULAR DIRECTIONS UNDER THE SUPERVISION AND DIRECTION OF A GEOTECHNICAL ENGINEER. AREAS OF FAILURE SHALL BE SCARIFIED AND RECOMPACTED.

EARTHWORK VOLUME					
CUT FACTOR	FILL FACTOR	2D AREA (ACRES)	CUT (CU YD)	FILL (CU YD)	6" TOPSOIL STRIPPING (CU YD)
1.0	1.2	10.7	28,400	28,900	8,600

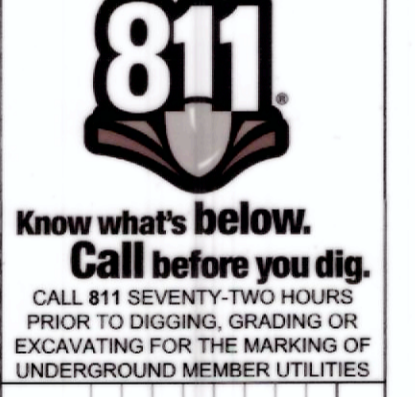
NOTE: COMPACTION FACTOR IS 20%
 TOPSOIL IS AN ASSUMED 6" DEPTH.



MOLSSON ASSOCIATES
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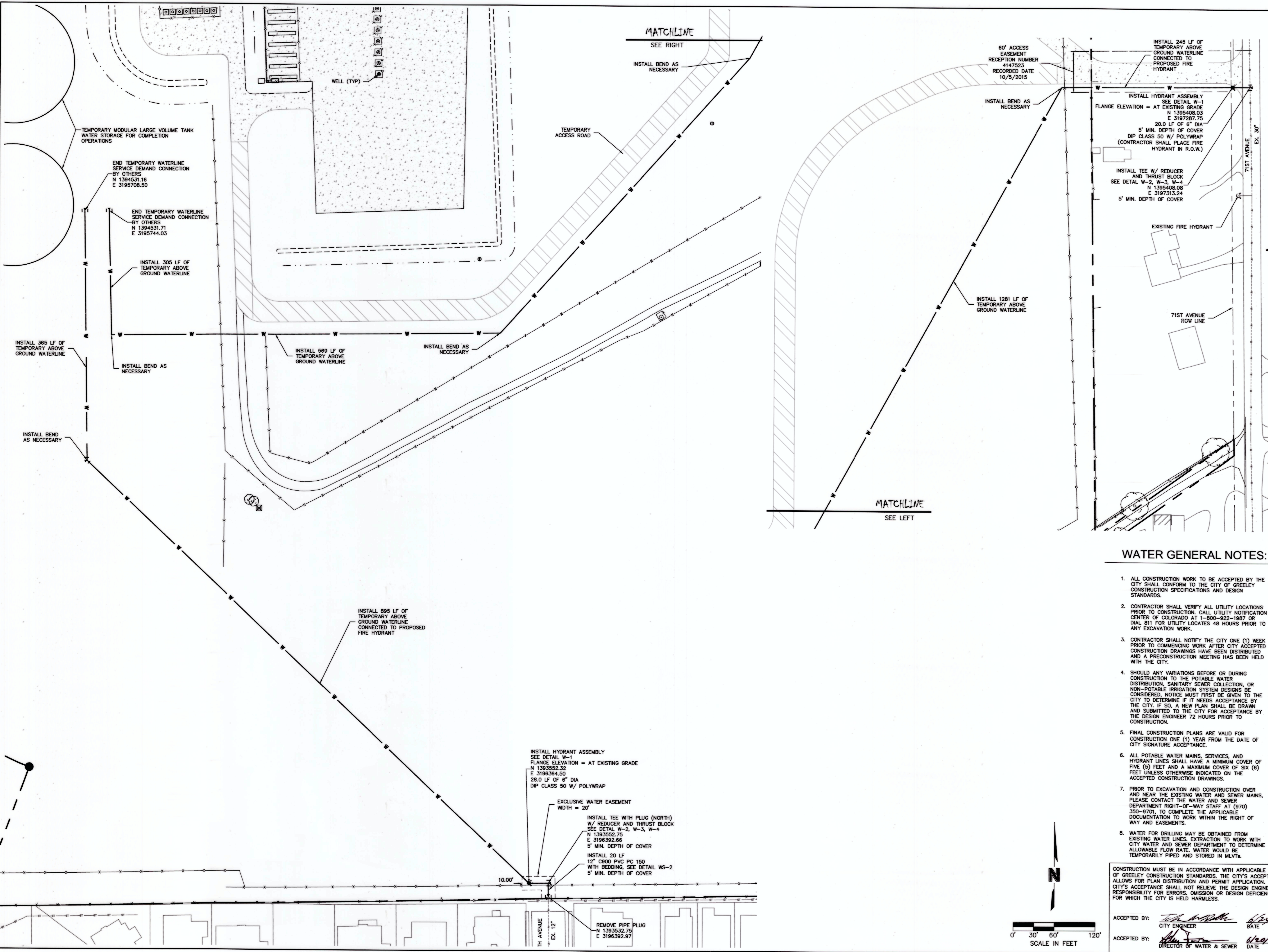


REV. NO.	DATE	REVISIONS DESCRIPTION
0	05/27/2016	RELEASED FOR CONSTRUCTION

TRIPLE CREEK DIRECTIONAL PROJECT
 CONSTRUCTION DRAWINGS
 GRADING PLAN
 GREELEY, COLORADO
 2016

drawn by: SSZ
 checked by: JEZ
 approved by: DDH
 QA/QC by: DDH
 project no.: 013-2978
 drawing no.: 013-2978
 date: 05/27/2016

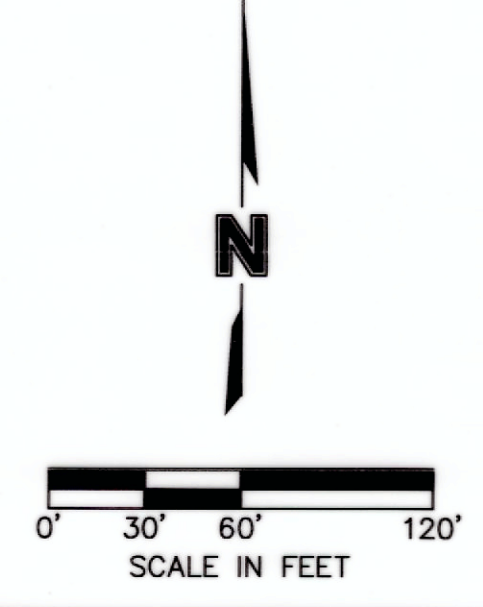
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 DATE: May 27, 2016 10:18am XREFS: 132978_SBASE 132978_XGIS 132978_PUTIL 132978_PBASE EAST HALF SECTION B - 2



WATER GENERAL NOTES:

- ALL CONSTRUCTION WORK TO BE ACCEPTED BY THE CITY SHALL CONFORM TO THE CITY OF GREELEY CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
- CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 OR DIAL 811 FOR UTILITY LOCATES 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- CONTRACTOR SHALL NOTIFY THE CITY ONE (1) WEEK PRIOR TO COMMENCING WORK AFTER CITY ACCEPTED CONSTRUCTION DRAWINGS HAVE BEEN DISTRIBUTED AND A PRECONSTRUCTION MEETING HAS BEEN HELD WITH THE CITY.
- SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE POTABLE WATER DISTRIBUTION, SANITARY SEWER COLLECTION, OR NON-POTABLE IRRIGATION SYSTEM DESIGNS BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE CITY TO DETERMINE IF IT NEEDS ACCEPTANCE BY THE CITY. IF SO, A NEW PLAN SHALL BE DRAWN AND SUBMITTED TO THE CITY FOR ACCEPTANCE BY THE DESIGN ENGINEER 72 HOURS PRIOR TO CONSTRUCTION.
- FINAL CONSTRUCTION PLANS ARE VALID FOR CONSTRUCTION ONE (1) YEAR FROM THE DATE OF CITY SIGNATURE ACCEPTANCE.
- ALL POTABLE WATER MAINS, SERVICES, AND HYDRANT LINES SHALL HAVE A MINIMUM COVER OF FIVE (5) FEET AND A MAXIMUM COVER OF SIX (6) FEET UNLESS OTHERWISE INDICATED ON THE ACCEPTED CONSTRUCTION DRAWINGS.
- PRIOR TO EXCAVATION AND CONSTRUCTION OVER AND NEAR THE EXISTING WATER AND SEWER MAINS, PLEASE CONTACT THE WATER AND SEWER DEPARTMENT RIGHT-OF-WAY STAFF AT (970) 350-9701, TO COMPLETE THE APPLICABLE DOCUMENTATION TO WORK WITHIN THE RIGHT OF WAY AND EASEMENTS.
- WATER FOR DRILLING MAY BE OBTAINED FROM EXISTING WATER LINES. EXTRACTION TO WORK WITH CITY WATER AND SEWER DEPARTMENT TO DETERMINE ALLOWABLE FLOW RATE. WATER WOULD BE TEMPORARILY PIPED AND STORED IN MLVTS.

CONSTRUCTION MUST BE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSION OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.



ACCEPTED BY: *[Signature]* CITY ENGINEER DATE: *6/24/16*
 ACCEPTED BY: *[Signature]* DIRECTOR OF WATER & SEWER DATE: *6/24/16*

MOLSSON ASSOCIATES
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05/31/2016
 39337
 PROFESSIONAL ENGINEER

OLSSON ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

811
 Know what's below.
 Call before you dig.
 CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REV. NO.	DATE	DESCRIPTION
0	05/27/2016	RELEASED FOR CONSTRUCTION

TRIPLE CREEK DIRECTIONAL PROJECT
 CONSTRUCTION DRAWINGS
 UTILITY PLAN

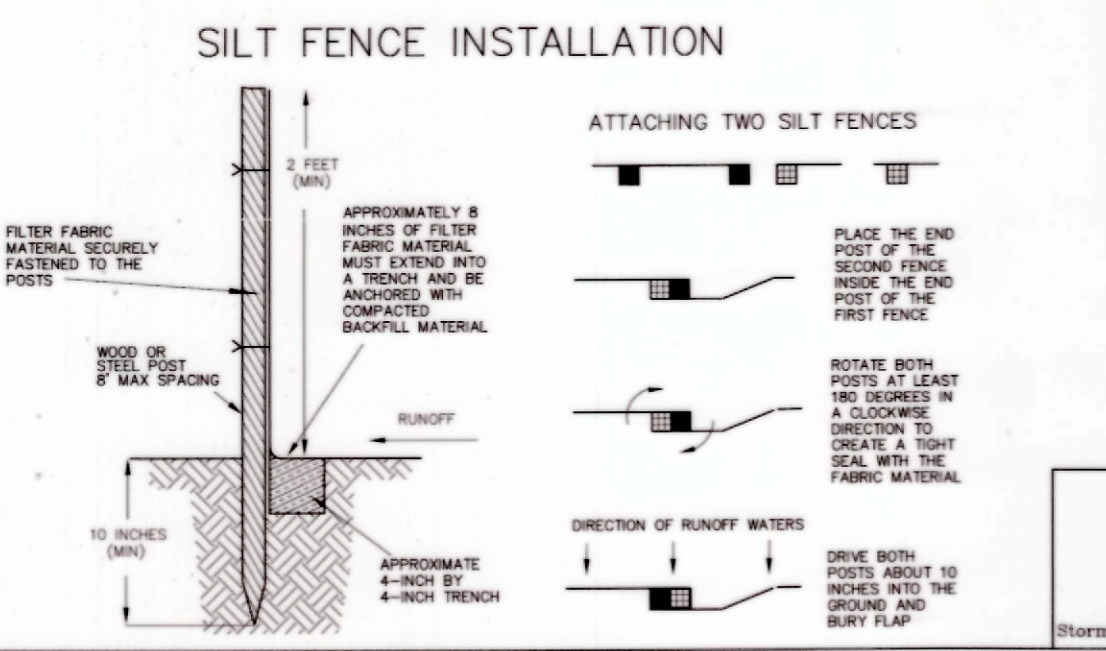
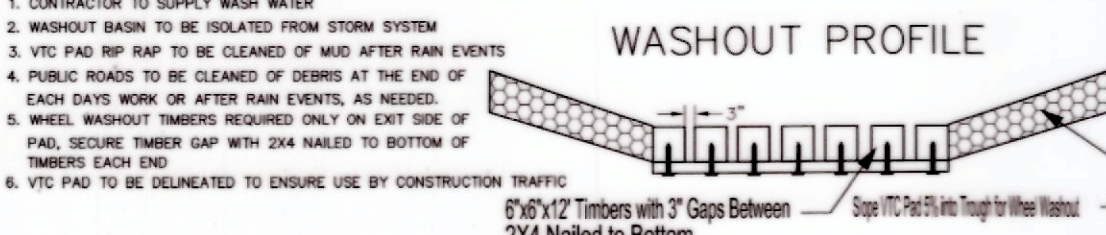
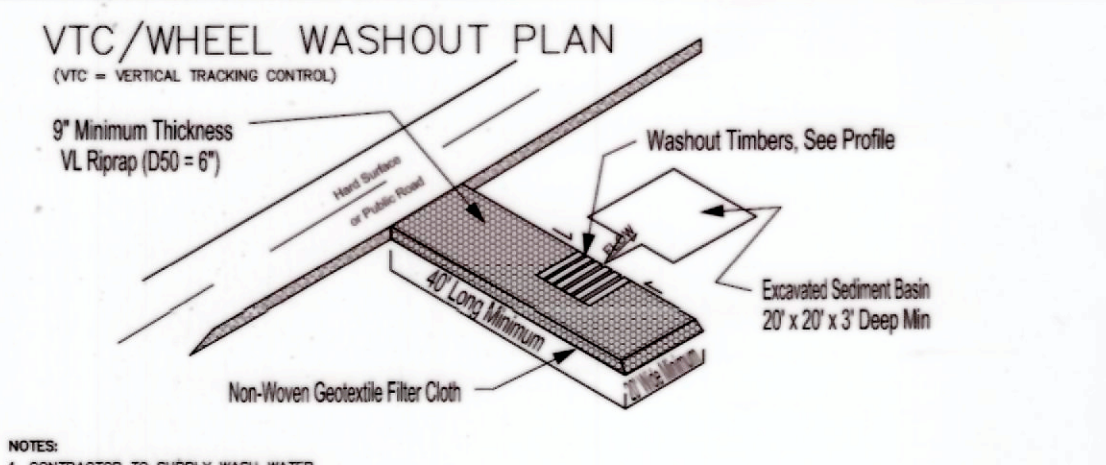
2016
 GREELEY, COLORADO

drawn by: BK/EKM
 checked by: JEZ
 approved by: DDH
 QA/QC by: DDH
 project no.: 013-2978
 drawing no.: 013-2978
 date: 05/27/2016

SHEET C6

DWG: F:\Projects\013-2978_LDP\Final\Drawings\132978_ER001.dwg USER: mbennett DATE: May 27, 2016 10:18am

EAST HALF SECTION B - 2 132978_FLOOD 132978_PBASE 132978_SBASE



GENERAL EROSION CONTROL NOTES

CONTRACTOR SHALL INSTALL ALL PERMIT SEDIMENT AND EROSION CONTROL DEVICES INCLUDING, BUT NOT LIMITED TO, SILT FENCE, INLET PROTECTION, VTC PAD, WHEEL WASHOUT, AND SEDIMENT BASINS BEFORE COMMENCING ANY LAND CLEARING OR GRADING ACTIVITIES. THE CONTRACTOR SHALL LIMIT TOPSOIL STRIPPING OPERATIONS TO WITHIN THE AREAS IN WHICH THEY WILL BE IMMEDIATELY WORKING. THE CONSTRUCTION OF UNDERGROUND UTILITIES SHALL BE INCLUDED AS A LAND DISTURBING ACTIVITY. ALL EXCAVATED MATERIAL SHALL BE PLACED WHERE SEDIMENT WILL ERODE BACK INTO THE TRENCH. ALL TRENCHES SHALL BE BACKFILLED BY THE END OF THE DAYS WORK. BACKFILL SHALL BE PERMANENTLY STABILIZED BEFORE CONSTRUCTION IS CONSIDERED COMPLETE.

ALL DISTURBED AREAS AND SOIL STOCKPILES SHALL BE ADEQUATELY STABILIZED AS DEFINED IN THE URBAN DRAINAGE FLOOD CONTROL DISTRICT (UDFC) VOLUME 3, CONSTRUCTION BEST MANAGEMENT PRACTICES, SECTION 3.0 "EROSION CONTROL". ALL DISTURBED SOILS AND SOIL STOCKPILES SHALL BE WATERED AND MAINTAINED IN A ROUGHENED CONDITION AT ALL TIMES DURING CONSTRUCTION ACTIVITIES TO PREVENT WIND-CAUSED EROSION. ALL LAND DISTURBING ACTIVITIES WILL BE IMMEDIATELY DISCONTINUED WHEN FUGITIVE DUST IMPACTS ADJACENT PROPERTIES, AS DETERMINED BY CITY INSPECTOR. PERMANENT OR TEMPORARY NATIVE SEED (SEE EROSION CONTROL STRUCTURES - DETAIL 12-2 FOR SEEDING SPECIFICATIONS) SOIL STABILIZATION SHALL BE REQUIRED WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED. IF DISTURBED AREAS OR STOCKPILES ARE NOT BROUGHT TO FINAL GRADE WITHIN 30 DAYS FOLLOWING THE INITIAL DISTURBANCE, OR RE-DISTURBANCE, TEMPORARY STABILIZATION MEASURES SHALL BE REQUIRED. NO SOIL STOCKPILE SHALL EXCEED TEN (10) FEET IN HEIGHT. ALL SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED A SLOPE OF 4V:1H.

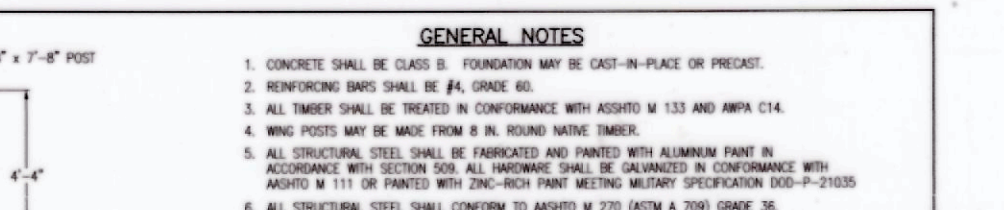
ALL STORM SEWER INLETS SHALL BE PROTECTED FROM THE ENTRY OF SEDIMENT-LADEN WATER. HAY BALES ARE NOT RECOGNIZED BY THE CITY OF GREELEY AS AN ACCEPTABLE FORM OF EROSION CONTROL.

INSPECTION OF ALL EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REQUIRED AT THE END OF EACH DAY'S WORK. WITH NECESSARY MAINTENANCE AND REPAIRS PROVIDED IMMEDIATELY, THE CITY OF GREELEY INSPECTOR SHALL, AT THEIR DISCRETION, REQUIRE ANY EROSION CONTROL DEVICES TO BE REPAIRED, REPLACED, MODIFIED, OR REMOVED. SUCH REQUESTS SHALL BE COMPLETED WITHIN 5 WORKING DAYS FOLLOWING RECEIPT OF THE WRITTEN REQUEST FROM THE INSPECTOR. ALL PUBLIC RIGHT OF WAY FOLLOWS WITH CITY, STATE, OR FEDERAL LAWS SHALL BE KEPT CLEAN AT THE END OF EACH DAY'S WORK OR AFTER STORM EVENTS, AS NECESSARY. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AS SOON AS THEIR FUNCTION HAS BEEN FULFILLED. SEDIMENT TRAPS/BASINS SHALL BE CLEANED AND REMOVED, OR STABILIZED, WHEN ALL PERMANENTLY ESTABLISHED. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL SILT FROM THE SITE, IF IT IS NOT REUSABLE ON SITE.

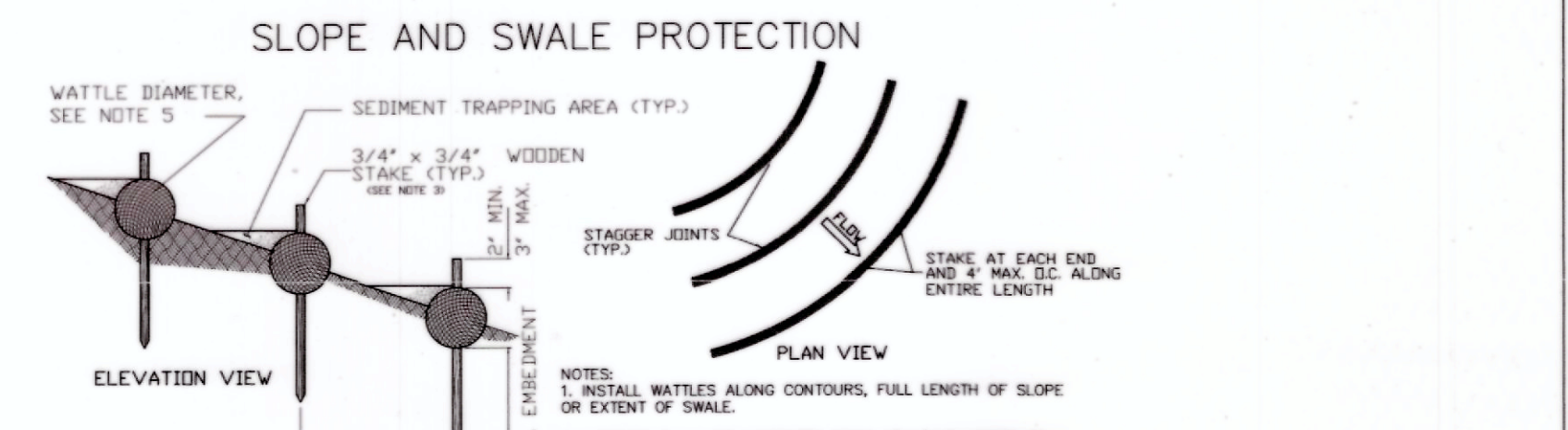
THE LANDOWNER SHALL BE HELD RESPONSIBLE FOR THE LONG-TERM STABILITY OF CUT AND FILL SLOPES AND THE SUCCESSFUL ESTABLISHMENT OF PERMANENT COVER ON EXPOSED SOIL AS DEFINED IN THE UDFC, VOLUME 3, CONSTRUCTION BEST MANAGEMENT PRACTICES, SECTION 3.2 "MULCHING".

ALL CONSTRUCTION SUPPLIES OR MATERIALS USED OR STORED ON SITE MUST BE DISPOSED OF PROPERLY AND MUST MEET ALL APPLICABLE MATERIAL SAFETY DATA SHEET CRITERIA.

THE STATE STORMWATER DISCHARGE PERMIT HOLDER MAY BE LIABLE FOR ANY VIOLATIONS RESULTING FROM THE ACTIONS TAKEN BY SITE CONTRACTORS, SUBCONTRACTORS, MAINTENANCE CREWS, ETC.

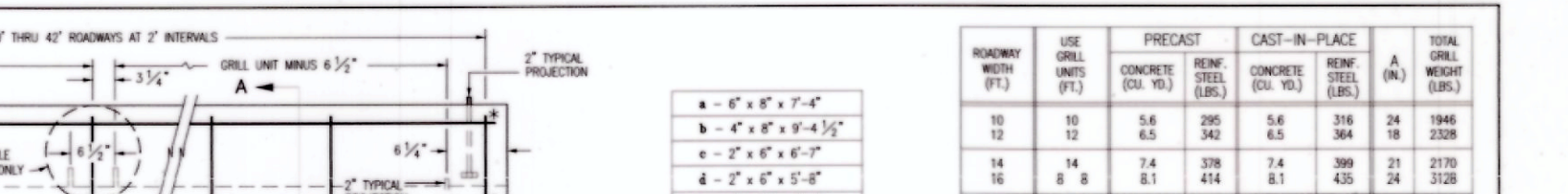
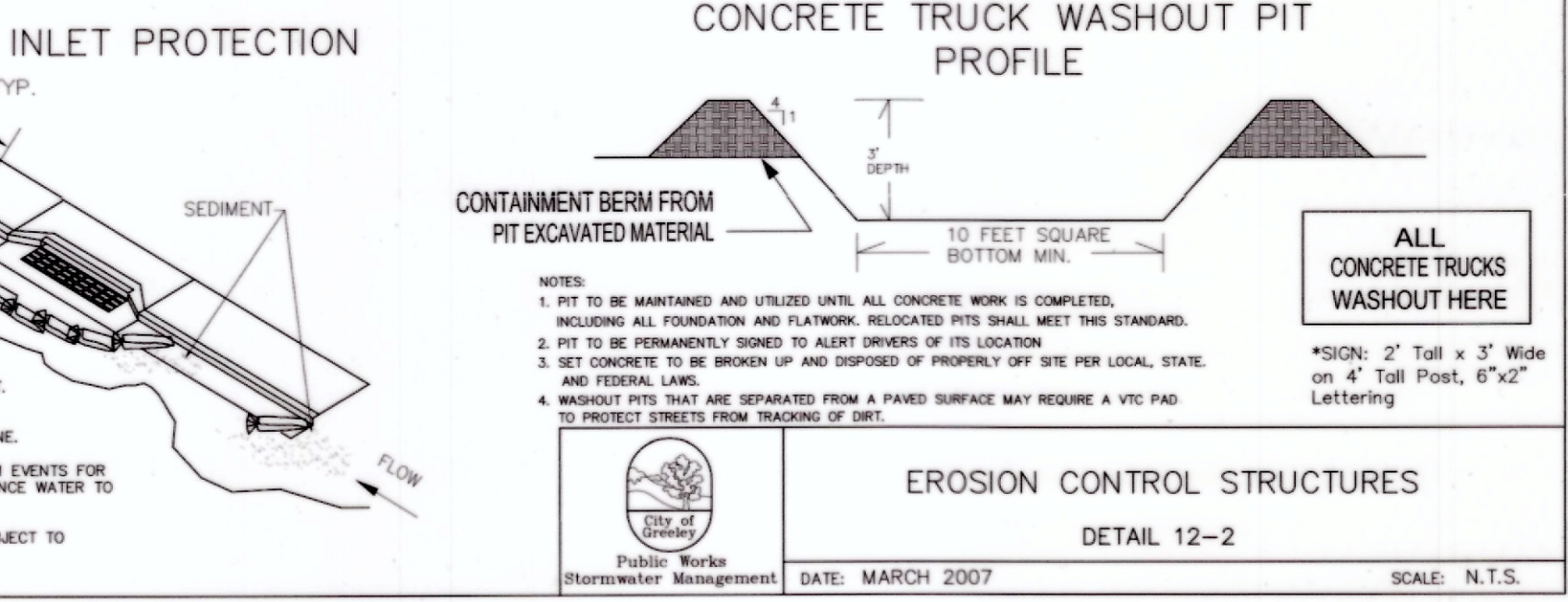


EROSION CONTROL STRUCTURES
DETAIL 12-1
DATE: MARCH 2007
SCALE: N.T.S.

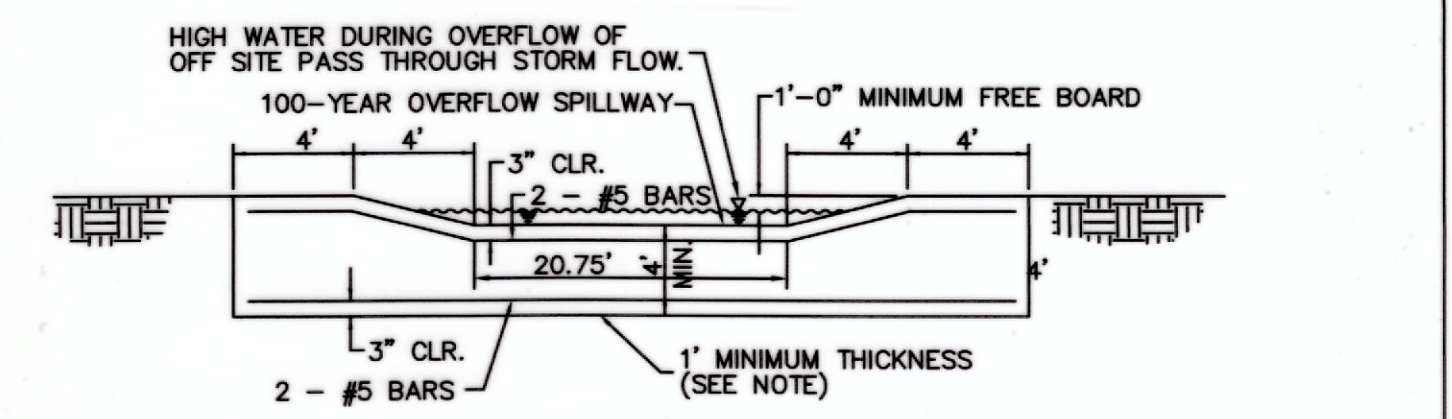


WATTLE SPACING TABLE

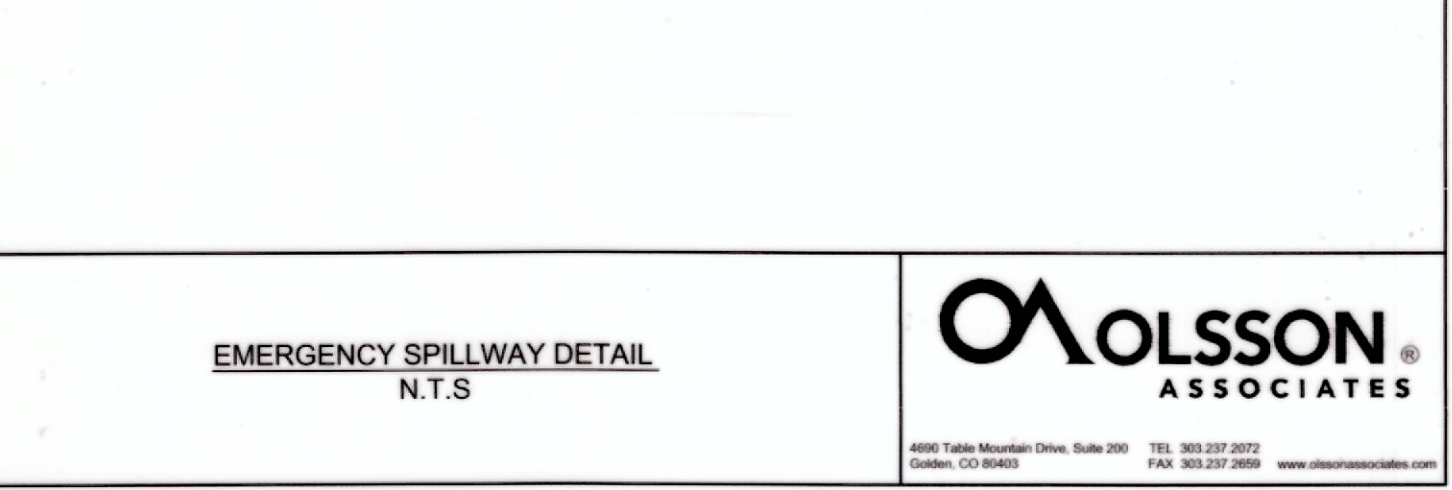
SLOPE TYPE	MAXIMUM SPACING
ALL SWALES	20 FEET
4:1 SLOPE OR STEEPER	40 FEET



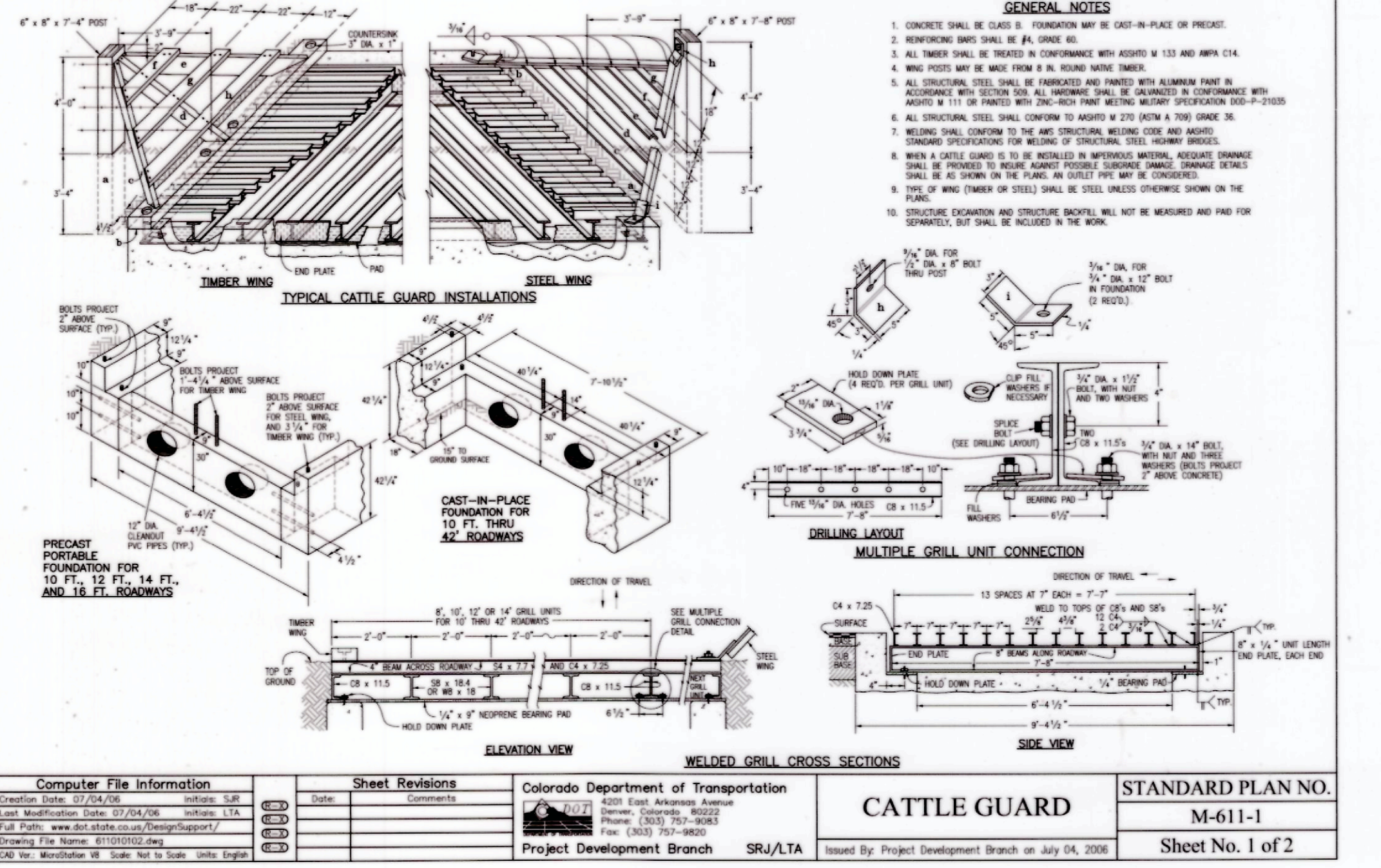
EROSION CONTROL STRUCTURES
DETAIL 12-2
DATE: MARCH 2007
SCALE: N.T.S.



NOTE: TRENCH FOR WEIR OUTLET STRUCTURE USING NATIVE GROUND AS FORM WORK. CONSTRUCT WEIR 1" MINIMUM THICKNESS. UPON COMPLETION OF TRENCHING, PLACE TEMPERATURE STEEL AND CONCRETE IMMEDIATELY, FORM TOP 4".



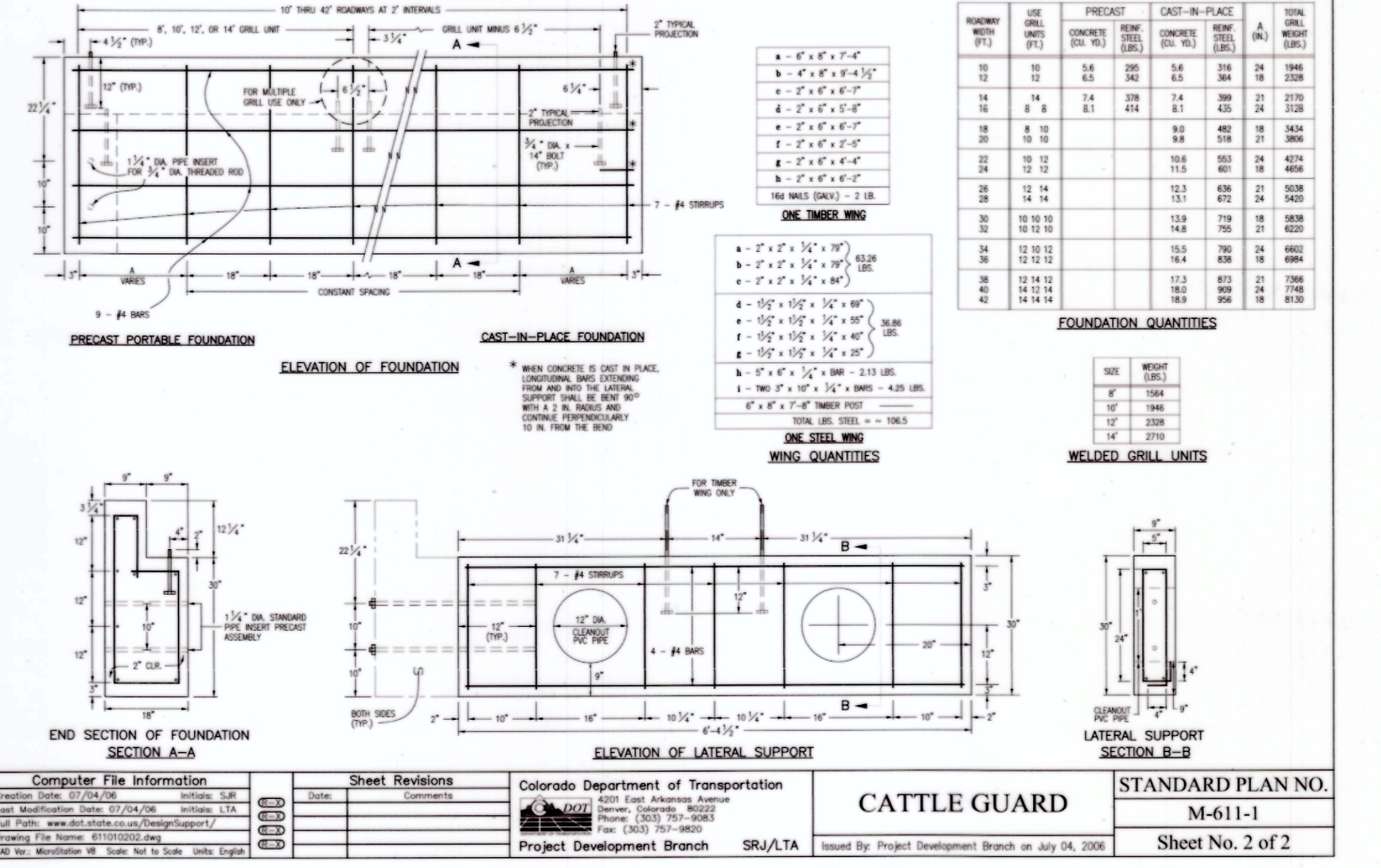
EMERGENCY SPILLWAY DETAIL
N.T.S.



GENERAL NOTES

- CONCRETE SHALL BE CLASS B. FOUNDATION MAY BE CAST-IN-PLACE OR PRECAST.
- REINFORCING BARS SHALL BE #4, UNLESS NOTED OTHERWISE.
- ALL TIMBER SHALL BE TREATED IN CONFORMANCE WITH ASTM W 133 AND AMPS C14.
- WOOD POSTS MAY BE MADE FROM 8 IN. ROUND WHITE PINE.
- ALL STRUCTURAL STEEL SHALL BE FABRICATED AND PAINTED WITH ALUMINUM PAINT IN ACCORDANCE WITH THE URBAN DRAINAGE FLOOD CONTROL DISTRICT (UDFC) VOLUME 3, CONSTRUCTION BEST MANAGEMENT PRACTICES, SECTION 3.2 "MULCHING".
- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A 36 OR A 572 GRADE 50.
- WELDED SHALL CONFORM TO THE WELDING SPECIFICATIONS, CODE AND WQMS.
- STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL, HANDBOOK.
- WHEN A WELDED JOINT IS TO BE INSTALLED IN IMPROVED WEARING SURFACE, DAMAGE SHALL BE PREVENTED TO WEAR SURFACE. PROTECTIVE SURFACE DAMAGE SHALL BE REPAIRED AS SOON AS POSSIBLE. ALL WELDED JOINTS SHALL BE IN ACCORDANCE WITH THE WELDING SPECIFICATIONS, CODE AND WQMS.
- TYPE OF WELD (TIMBER OR STEEL) SHALL BE INDICATED OTHERWISE SHOWN ON THE DRAWING.
- STRUCTURE LOCATION AND STRUCTURE HEIGHT SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

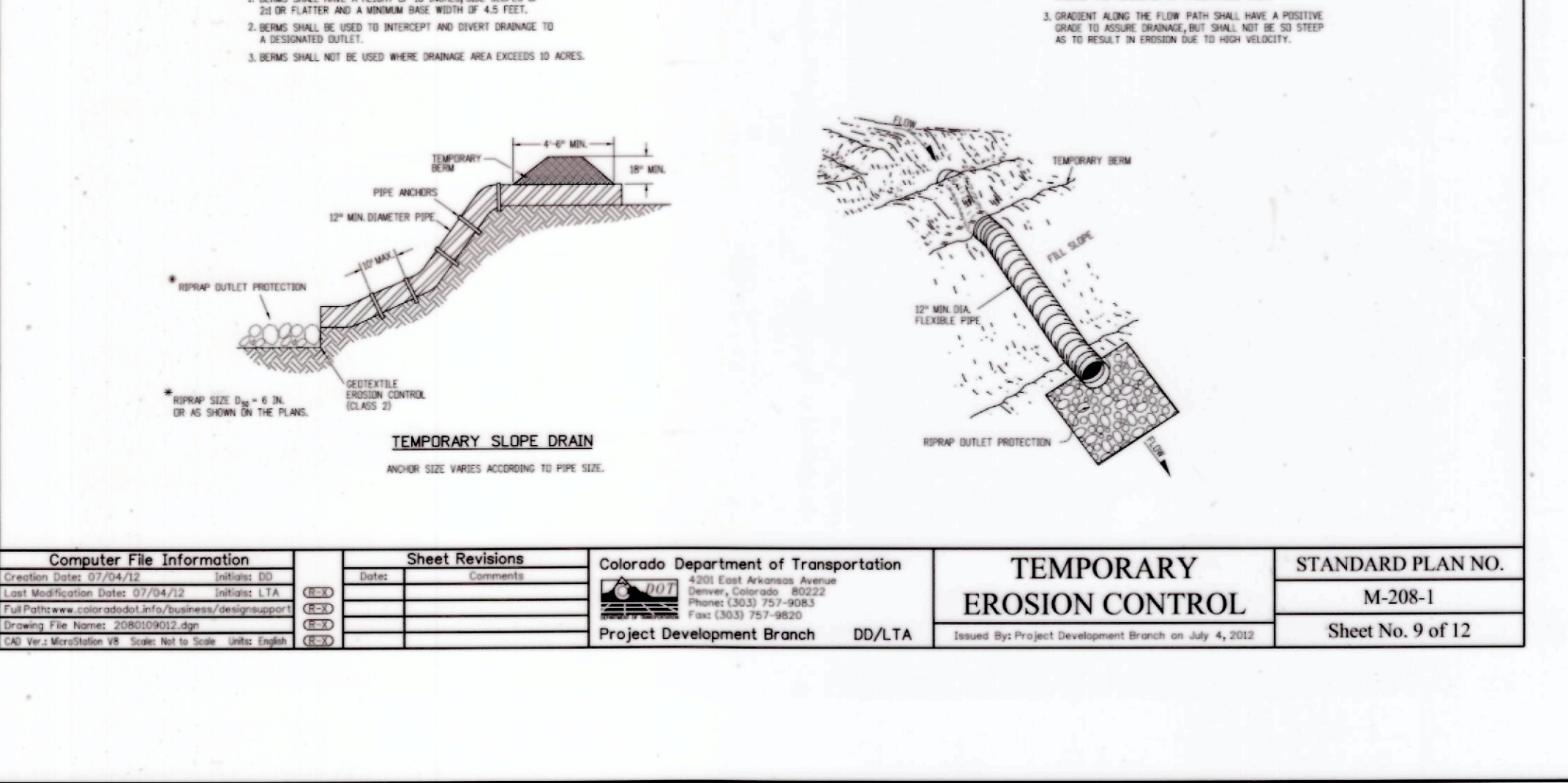
Computer File Information	Sheet Revisions	Colorado Department of Transportation	STANDARD PLAN NO.
Creation Date: 07/24/2006 Last Modification Date: 07/24/2006 Full Path: \\www.dot.state.co.us\DesignSupport\Projects\013-2978_LDP\Final\Drawings\132978_PBASE\132978_SBASE\132978_ER001.dwg Drawing File Name: 132978_ER001.dwg CAD File Modification: 08/24/2016 10:18:00 AM	Date: 07/24/2006 Comments: M-611-1	4200 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 767-9000 Fax: (303) 767-9000 Project Development Branch SRJ/LTA	M-611-1 Sheet No. 1 of 2



FOUNDATION QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
1	CAST-IN-PLACE CONCRETE	CU YD	1.00	100.00	100.00
2	PRECAST PORTABLE FOUNDATION	EA	1.00	100.00	100.00
3	WELDED GRILL UNITS	EA	1.00	100.00	100.00

Computer File Information	Sheet Revisions	Colorado Department of Transportation	STANDARD PLAN NO.
Creation Date: 07/24/2006 Last Modification Date: 07/24/2006 Full Path: \\www.dot.state.co.us\DesignSupport\Projects\013-2978_LDP\Final\Drawings\132978_PBASE\132978_SBASE\132978_ER001.dwg Drawing File Name: 132978_ER001.dwg CAD File Modification: 08/24/2016 10:18:00 AM	Date: 07/24/2006 Comments: M-611-1	4200 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 767-9000 Fax: (303) 767-9000 Project Development Branch SRJ/LTA	M-611-1 Sheet No. 2 of 2



TEMPORARY EROSION CONTROL

Computer File Information	Sheet Revisions	Colorado Department of Transportation	STANDARD PLAN NO.
Creation Date: 07/24/2006 Last Modification Date: 07/24/2006 Full Path: \\www.dot.state.co.us\DesignSupport\Projects\013-2978_LDP\Final\Drawings\132978_PBASE\132978_SBASE\132978_ER001.dwg Drawing File Name: 132978_ER001.dwg CAD File Modification: 08/24/2016 10:18:00 AM	Date: 07/24/2006 Comments: M-208-1	4200 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 767-9000 Fax: (303) 767-9000 Project Development Branch DD/LTA	M-208-1 Sheet No. 9 of 12

39337
PROFESSIONAL ENGINEER
06/11/2016

OLSSON ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL) THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

Know what's below.
Call before you dig.
CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REV. NO.	DATE	DESCRIPTION
0	08/27/2016	RELEASED FOR CONSTRUCTION

TRIPLE CREEK DIRECTIONAL PROJECT
CONSTRUCTION DRAWINGS
DETAILS

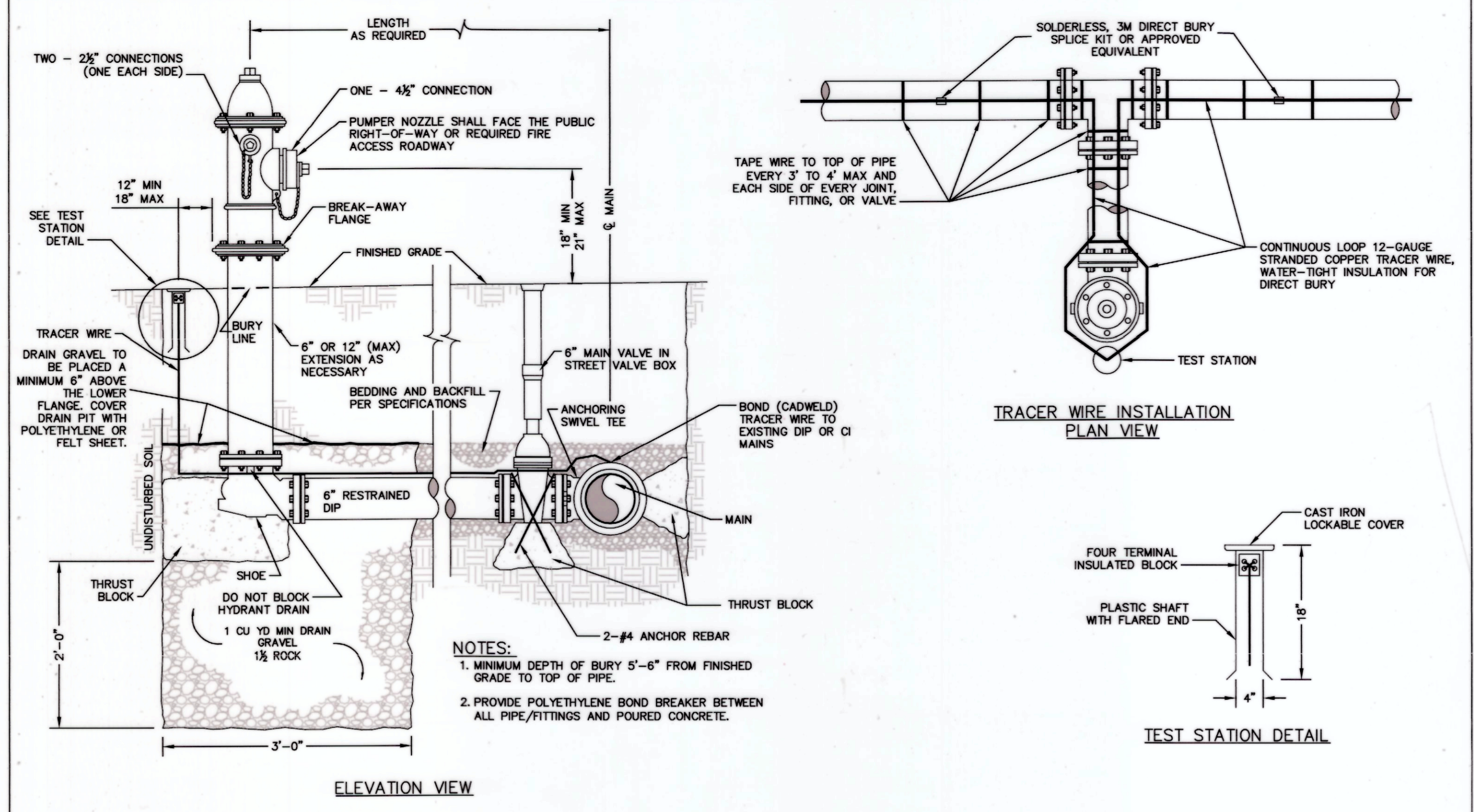
GREELEY, COLORADO

2016

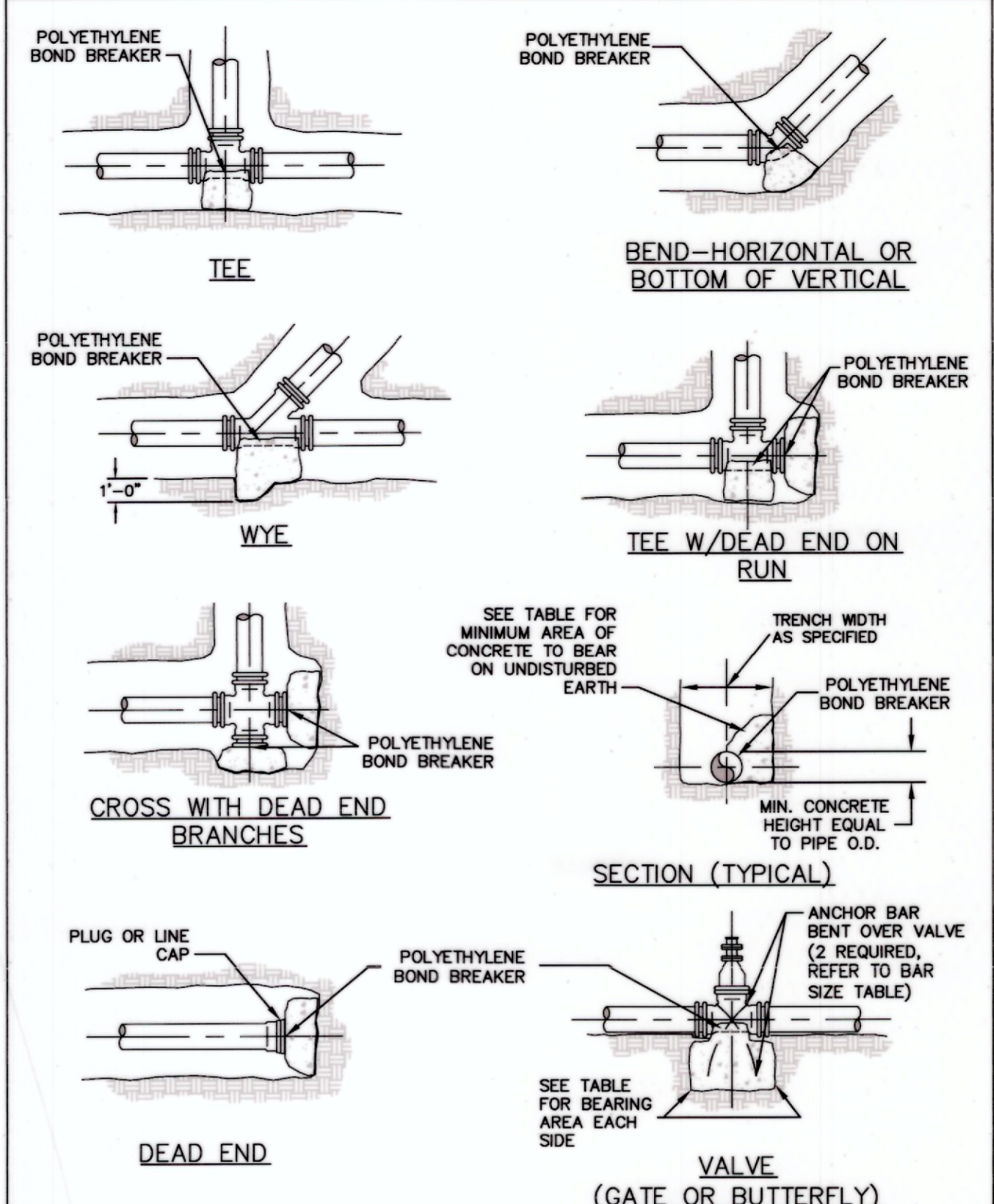
drawn by:	EKM
checked by:	JEZ
approved by:	DDH
QA/QC by:	DDH
project no.:	013-2978
drawing no.:	013-2978
date:	08/27/2016

SHEET
C7

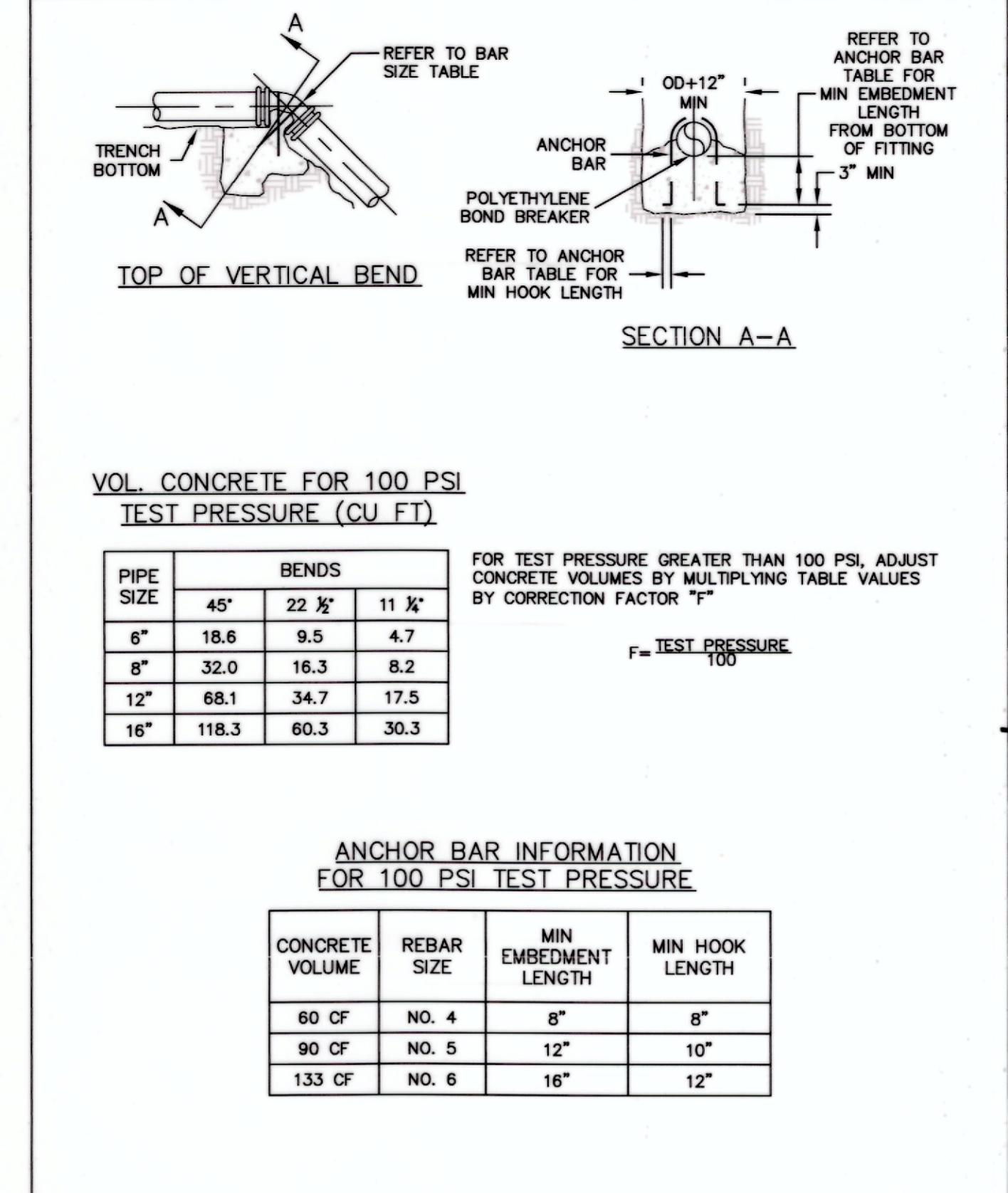
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 DATE: May 27, 2016 10:19am
 USER: mbennett
 PROJECT: 132978_SBSE
 SHEET: 132978_FLOOD
 EAST HALF SECTION 8 - 2



FIRE HYDRANT ASSEMBLY WITH TRACER WIRE INSTALLATION
 DETAIL NO. W-1
 DATE: JANUARY, 2008
 SCALE: N.T.S.



THRUST BLOCKS
 SHEET 1 OF 3
 DETAIL NO. W-2
 DATE: JANUARY, 2008
 SCALE: N.T.S.



THRUST BLOCKS
 SHEET 2 OF 3
 DETAIL NO. W-3
 DATE: JANUARY, 2008
 SCALE: N.T.S.

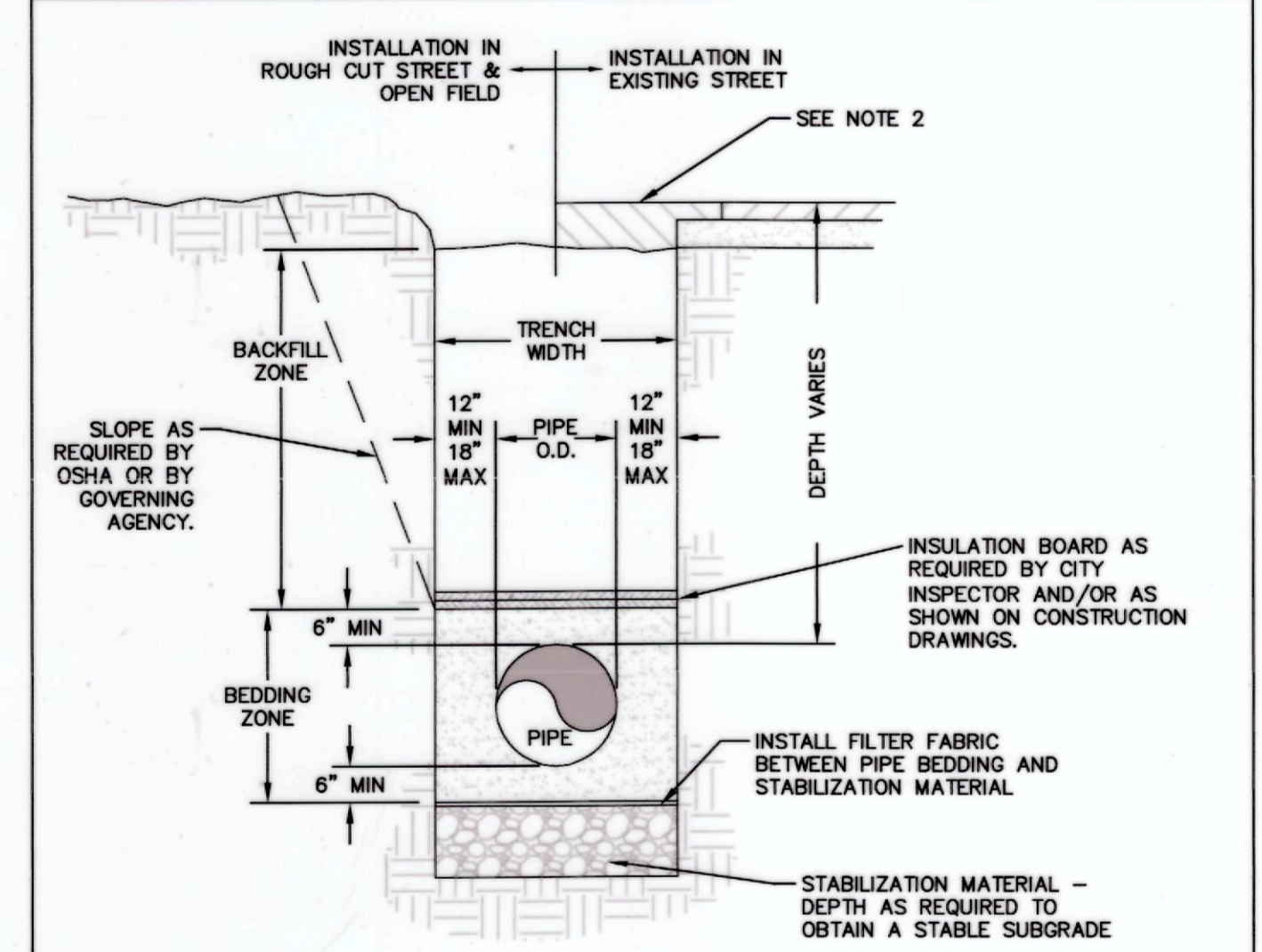
THRUST BLOCK BEARING AREAS (SQ-FT) FOR INTERNAL STATIC PRESSURE OF 100 PSI AND SOIL BEARING CAPACITY OF 1000 PSF

DIAM (IN)	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	DEAD ENDS, VALVES & TEES, PLUGGED CROSS BRANCHES
3	1.7	0.9	0.5	0.2	1.2
4	2.6	1.4	0.7	0.4	1.8
6	5.3	2.9	1.5	0.7	3.7
8	9.1	4.9	2.5	1.3	6.4
12	19.4	10.5	5.3	2.7	13.7
16	33.6	18.2	9.3	4.7	23.8

NOTES:

- POLYETHYLENE BOND BREAKER SHALL BE INSTALLED BETWEEN ALL FITTINGS AND CONCRETE.
- ALL THRUST BLOCKING SHALL BE CAST-IN-PLACE CONCRETE WITH A MINIMUM YIELD 28 DAY STRENGTH OF 2000 P.S.I.
- THRUST BLOCKING SHALL BE CAST AGAINST UNDISTURBED SOIL. FORMS SHALL BE USED AS REQUIRED TO OBTAIN ADEQUATE BEARING AREA AND TO CONFINE THE CONCRETE. THRUST BLOCKING SHALL BEAR ON THE FITTING OR END CAP ONLY AND WILL NOT BE ALLOWED TO SPILL OVER THE JOINT OR AGAINST THE PIPE.
- THE CITY MAY REQUIRE LARGER THRUST BLOCKS THAN SPECIFIED IF SOILS ARE DETERMINED TO PROVIDE LESS THAN 1000 PSF BEARING CAPACITY.
- IN THE ABSENCE OF SOIL BEARING CAPACITY INFORMATION USE 1000 PSF.
- BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED BEARING AREAS BY A CORRECTION FACTOR "F":
 $F = \frac{\text{ACTUAL SOIL BEARING CAPACITY IN PSF} / (1000 \text{ PSF})}{\text{(ACTUAL SPECIFIED TEST PRESSURE IN PSI)} / (100 \text{ PSI})}$
- EXAMPLE: CALCULATE THE BEARING AREA FOR 6"-90° BEND WITH A STATIC INTERNAL PRESSURE OF 150 PSI AND SOIL BEARING CAPACITY OF 3000 PSF.
 FROM TABLE BEARING AREA = 9.1 SF
 $F = \frac{(150 \text{ PSI}) / (100 \text{ PSI})}{(3000 \text{ PSF}) / (1000 \text{ PSF})} = 0.5$
 REQUIRED BEARING AREA ON UNDISTURBED SOIL = (0.5)(9.1 SF) = 4.55 SF

THRUST BLOCKS
 SHEET 3 OF 3
 DETAIL NO. W-4
 DATE: JANUARY, 2008
 SCALE: N.T.S.



- NOTES:**
- REFER TO WATER AND SEWER DEPARTMENT CONSTRUCTION SPECIFICATIONS FOR STABILIZATION, FILTER FABRIC, BEDDING, BACKFILL MATERIAL, AND COMPACTION REQUIREMENTS. FOR ANY CONFLICT BETWEEN WATER AND SEWER AND PUBLIC WORKS BACKFILL MATERIAL SPECIFICATIONS AND COMPACTION REQUIREMENTS, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
 - REFER TO STREETS DETAIL S-31 "EXISTING STREET PAVEMENT PATCH DETAIL FOR ASPHALT & CONCRETE", CURRENT VERSION, FOR STREET CUT REQUIREMENTS.
 - AN OVER EXCAVATED TRENCH SHALL BE BACKFILLED AND COMPACTED (AS PER SPECIFICATIONS) UNDER THE DIRECTION OF THE CITY.
 - PIPELINE SHALL BE LAID IN A PROPOSED FILL AREA PRIOR TO AREA BEING COMPLETELY FILLED TO PROPOSED FINAL GRADES AND COMPACTED PER THE CITY OF GREELEY SPECIFICATIONS.
 - COMPACTION TESTING METHODS AND FREQUENCY SHALL BE IN ACCORDANCE WITH PUBLIC WORKS CONSTRUCTION SPECIFICATIONS.
 - TRENCHES SHALL BE SHORED, BRACED, OR SHEETED AS NECESSARY FOR THE SAFETY AND PROTECTION OF PERSONNEL AND OTHER UTILITIES.
 - INSULATION BOARD SHALL BE 2" THICK MINIMUM, CONSISTING OF TWO BOARDS (1" MINIMUM PER BOARD) WITH OFFSET JOINTS PLACED ACROSS FULL TRENCH WIDTH.

TRENCH CROSS SECTION
 DETAIL NO. WS-2
 DATE: JANUARY, 2008
 SCALE: N.T.S.

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 Loveland, CO 80538
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OLSSON ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

811
 Know what's below.
 Call before you dig.
 CALL 811 SEVENTY-TWO HOURS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REV. NO.	DATE	REVISIONS DESCRIPTION
0	09/27/2016	RELEASED FOR CONSTRUCTION

TRIPLE CREEK DIRECTIONAL PROJECT
 CONSTRUCTION DRAWINGS
 DETAILS
 GREELEY, COLORADO
 2016

drawn by: BKE/EM
 checked by: JEZ
 approved by: DDH
 QA/QC by: DDH
 project no.: 013-2978
 drawing no.: 013-2978
 date: 09/27/2016

SHEET C8