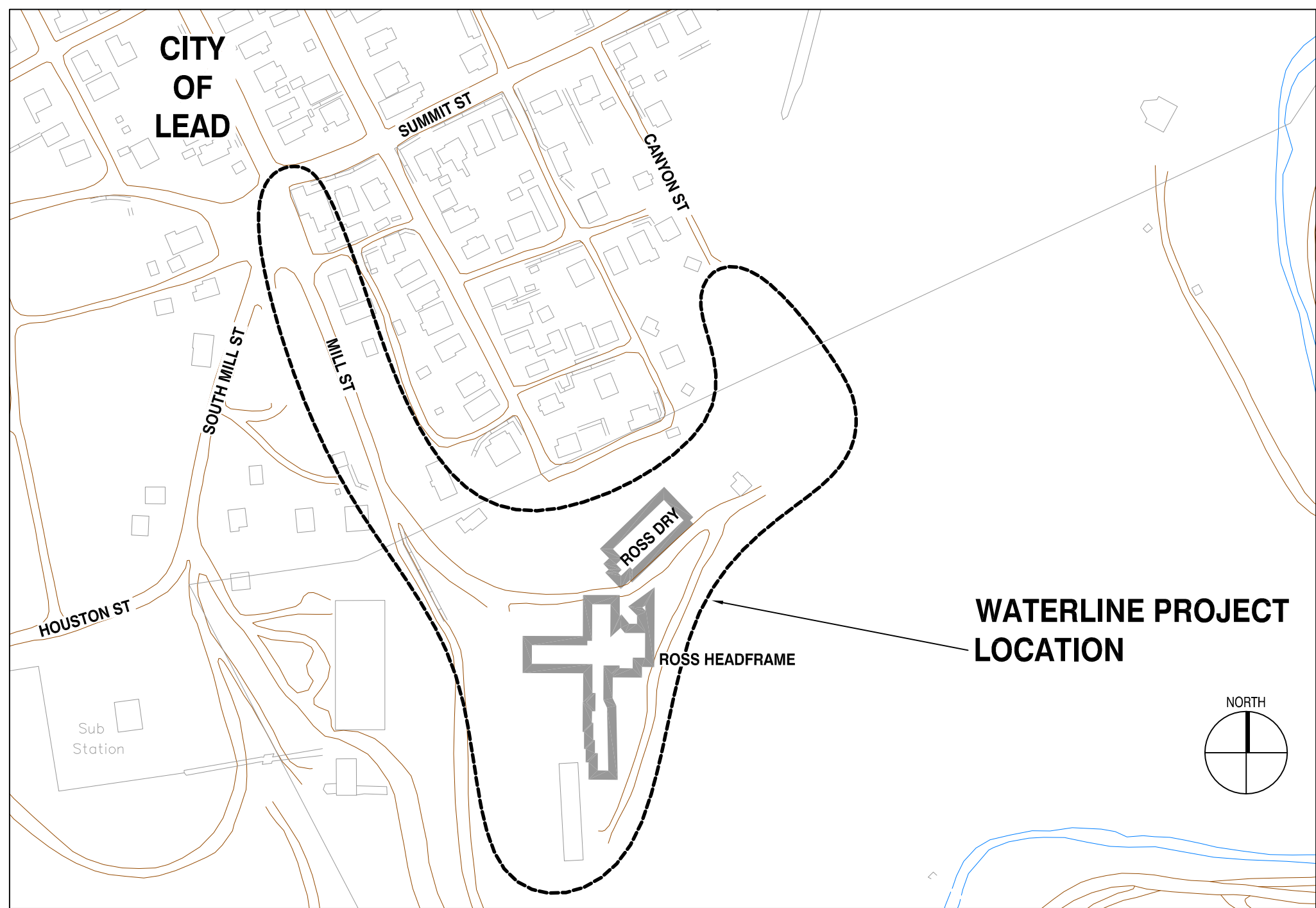


Industrial/Potable Waterline and Hydrant Replacement: Ross Complex

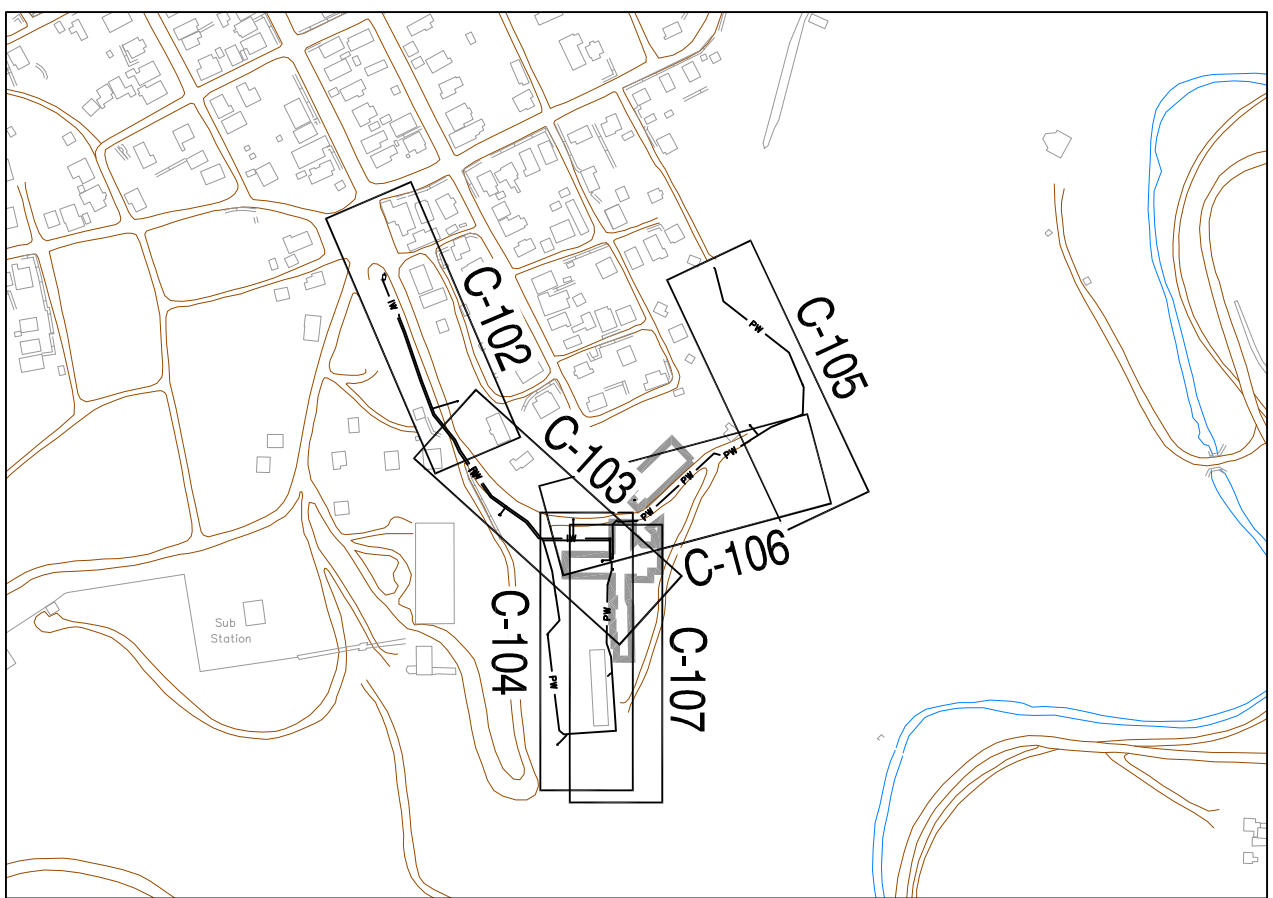
South Dakota Science and Technology Authority - SURF Lead, South Dakota



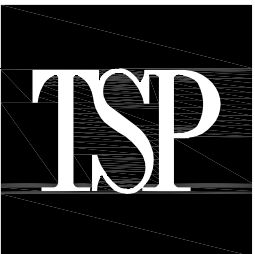
VICINITY MAP

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KEY PLAN

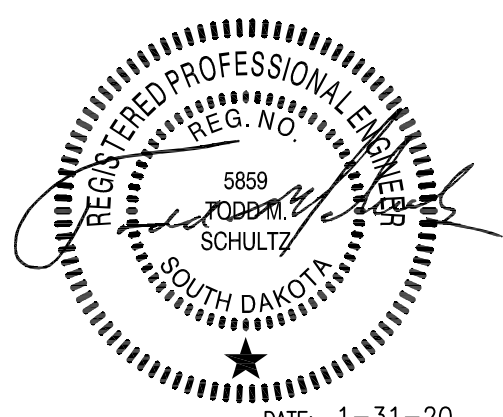


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Rapid City, SD 57701

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PROJECT TITLE
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ISSUES		

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SHEET TITLE
COVER SHEET

SHEET NUMBER
G-001

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Drawing Name: G:\2018\03181281.1 SDSTA_Ross Complex Waterline Project\B-Design\03 CAD\Civil\G-G-002.dwg
Plot Date: 2/7/2020 1:32 PM

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GENERAL

1. ALL QUANTITIES ARE CONSIDERED APPROXIMATE.

2. THE CONTRACTOR SHALL INCLUDE ALL MATERIALS, TOOLS, EQUIPMENT, LABOR AND APPURTENANT ITEMS TO COMPLETE THE WORK WITHIN THE BID PRICE.

3. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE PRIOR TO CONSTRUCTION.

4. THE CONTRACTOR SHALL NOTIFY THE CITY, EMERGENCY MEDICAL SERVICES, THE FIRE DEPARTMENT, LAW ENFORCEMENT, LOCAL MEDIA AND SCHOOLS TO ALL ROAD CLOSURES AND ALTERNATE ROUTES.

5. LEGAL LOAD LIMIT REQUIREMENTS SHALL BE ENFORCED ON ALL STATE HIGHWAYS, CITY STREETS, AND COUNTY ROADS.

6. CONTRACTOR SHALL PROVIDE HIS OWN WATER FOR DUST CONTROL AND COMPACTION.

7. THE CONTRACTOR SHALL NOT USE WATER FROM FIRE HYDRANTS FOR ANY PURPOSE UNLESS PRIOR APPROVAL IS OBTAINED FROM THE CITY AND THE CONTRACTOR PROVIDES AN APPROVED BACKFLOW PREVENTION DEVICE WITH WATER METER.

RIGHT-OF-WAY AND SURVEY

1. THE BASE MAPPING WAS DEVELOPED BY A FIELD SURVEY. CONTRACTOR SHOULD MAKE ACTUAL FIELD INVESTIGATIONS TO BE ASSURED OF THE PHYSICAL FEATURES.

2. ANY DISTURBED PROPERTY OR SECTION CORNERS SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF SOUTH DAKOTA, AT THE CONTRACTOR'S EXPENSE.

3. PERMITS TO WORK IN PUBLIC RIGHTS-OF-WAY SHALL BE OBTAINED BY THE CONTRACTOR. CONTRACTOR IS TO COMPLY WITH ALL PERMIT CONDITIONS AND RESTRICTIONS.

TRAFFIC CONTROL

1. CONSTRUCTION SHALL NOT COMMENCE ON THE PROJECT UNTIL NECESSARY CONSTRUCTION WARNING SIGNS AND TRAFFIC CONTROL ARE IN PLACE.

2. TWO-WAY TRAFFIC IS TO BE MAINTAINED AT ALL TIMES UNLESS SPECIAL PERMISSION IS OBTAINED.

EXISTING UTILITIES

1. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITH A 48-HOUR ADVANCE NOTICE AND DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE COMMENCING WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND PROPERLY REPAIRING ANY DAMAGED UTILITIES.

2. UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE BASED ON RECORDS OF UTILITY COMPANIES AND FIELD VERIFICATION BY THE UTILITY COMPANIES. FIELD VERIFICATION OF BURIED GAS, ELECTRIC, TELEPHONE, WATER, SEWER AND CABLE TV LINES ARE BY ELECTRONIC OR MAGNETIC DETECTION METHODS. ALL UTILITY LOCATIONS ARE SUBJECT TO THE ACCURACY OF THE LOCATION METHOD, AND SUBJECT TO RELOCATION FROM THE TIME THAT THE DRAWINGS WERE PREPARED. NO EXCAVATION WAS PERFORMED.

3. CONTRACTOR SHALL CONTACT UTILITY COMPANIES 48 HOURS PRIOR TO TRENCHING WITHIN 10 FEET OF ALL OVERHEAD POLES TO ALLOW FOR THE UTILITY COMPANY TO SECURE POLES.

4. THE CONTRACTOR SHALL NOTIFY THE SDSTA CONSTRUCTION COORDINATOR OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION NOT SHOWN ON PLANS, AND SHALL NOT BACKFILL UNTIL THE CONTRACTOR HAS MADE A RECORD OF ITS TYPE, SIZE AND LOCATION AND NOTED ON THE DRAWINGS FOR INCLUSION ON THE RECORD DRAWINGS.

GENERAL NOTES

PROPOSED UTILITIES

5. ONLY CITY PERSONNEL SHALL OPERATE EXISTING CITY WATERLINE VALVES UNLESS THE CITY GIVES PRIOR APPROVAL TO THE CONTRACTOR. CONTRACTOR SHALL RECEIVE APPROVAL FROM THE SDSTA CONTRACTOR COORDINATOR PRIOR TO OPERATING SURF VALVES.

6. CONTRACTOR SHALL RESPECT ALL RIGHT-OF-WAY AND EASEMENT BOUNDARIES SHOWN. ALL WORK SHALL BE DONE WITHIN THESE BOUNDARIES. ANY WORK OUTSIDE OF THE RIGHT-OF-WAY OR EASEMENT SHALL ONLY BE DONE AFTER RECEIVING WRITTEN PERMISSION OF THE LANDOWNER. THIS PERMISSION SHALL BE OBTAINED BY THE CONTRACTOR.

7. A MINIMUM COVER OF 6 FEET IS TO BE MAINTAINED OVER ALL WATER LINES UNLESS SHOWN OTHERWISE ON THE PLANS. WHERE THE ENGINEER AUTHORIZES A REDUCTION IN THE COVER, INSULATION OF THE PIPE IS TO BE PROVIDED.

8. WATER AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LEAD AND STATE OF SOUTH DAKOTA DENR STANDARDS.

10. CONTRACTOR IS RESPONSIBLE FOR HIRING A SURVEYOR LICENSED IN THE STATE OF SOUTH DAKOTA TO STAKE THE WATER LINE LAYOUT.

SAFETY

1. GENERAL: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE, TEMPORARY EXCAVATIONS AND SHOULD SHORE, SLOPE, OR BENCH THE SIDES OF THE EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM. ALL EXCAVATIONS SHOULD COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING THE CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS. CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL ALSO BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION OPERATIONS.

2. UNDER NO CIRCUMSTANCES SHOULD THE INFORMATION PROVIDED BE INTERPRETED TO MEAN THAT THE SDSTA CONSTRUCTION COORDINATOR IS ASSUMING RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY OR THE CONTRACTOR'S ACTIVITIES. SUCH RESPONSIBILITY IS NOT BEING IMPLIED AND SHALL NOT BE INFERRED.

3. EXCAVATION AND SLOPES: IN NO CASE SHOULD SLOPE HEIGHT, SLOPE INCLINATION, OR EXCAVATION DEPTH, INCLUDING UTILITY TRENCH EXCAVATION DEPTH, EXCEED THOSE SPECIFIED IN LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. SPECIFICALLY, THE CURRENT OSHA HEALTH AND SAFETY STANDARDS FOR EXCAVATIONS, 29 CFR PART 1926 SHOULD BE FOLLOWED. IT IS THE SDSTA CONSTRUCTION COORDINATOR'S UNDERSTANDING THAT THESE REGULATIONS ARE BEING STRICTLY ENFORCED AND IF THEY ARE NOT CLOSELY FOLLOWED, THE CONTRACTOR COULD BE LIABLE FOR SUBSTANTIAL PENALTIES.

STREETS

1. CONTRACTOR SHALL NOT DISTURB EXISTING CURB AND GUTTER UNLESS DIRECTED BY THE SDSTA CONSTRUCTION COORDINATOR OR SHOWN ON THE PLANS. ANY DAMAGE TO THE EXISTING CURB AND GUTTER SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

2. ALL CONCRETE CURB AND GUTTER SHALL BE THOROUGHLY CLEANED OF EXISTING ASPHALT AND SEDIMENT PRIOR TO PAVING.

RESTORATION

1. ALL AREAS OF DISTURBANCE SHALL BE RECLAIMED TO A CONDITION THAT IS EQUAL TO OR BETTER THAN THE ORIGINAL. TOPSOIL IS TO BE SAVED AND REPLACED.

2. REMOVED FENCES SHALL BE REINSTALLED TO A CONDITION THAT IS EQUAL TO OR BETTER THAN THE ORIGINAL.

3. CONTRACTOR SHALL REMOVE AND REPLACE ALL TRAFFIC SIGNS AS NEEDED FOR INSTALLATION OF WATER LINE.

PROJECT NOTES

1. CONTRACTOR SHALL ADHERE TO ALL CITY OF LEAD ORDINANCES, DESIGN STANDARDS AND SPECIFICATIONS WHERE APPLICABLE. REFER TO NOTE 5.

2. EXTERIOR WATER PIPE SHALL BE AWWA C-900 PVC DR-18, CLASS 150.

3. INTERIOR WATER PIPE SHALL BE GROOVED JOINT, GALVANIZED STEEL, AWWA A53. REFER TO SPECIFICATIONS.

4. CONTRACTOR SHALL SUPPLY THEIR OWN DRINKING WATER AND PORTABLE TOILETS FOR THIS PROJECT.

5. THE CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 2007 EDITION ARE THE GENERALLY ACCEPTED DESIGN STANDARDS OF THE AREA AND SHOULD BE FOLLOWED UNLESS NOTED OTHERWISE IN PROJECT PLANS AND SPECIFICATIONS.

6. 2-INCH AND 3-INCH CONDUIT FOR COMMUNICATIONS AND POWER RESPECTIVELY SHALL BE SCH 80 PVC. BENDS SHALL BE RMC SWEEP BENDS.

UTILITY CONTACTS

BLACK HILLS POWER – JUSTIN MADETZKE
605-206-2964
JUSTIN.MADETZKE@BLACKHILLSCORP.COM

MDU – TOBY BORDEWYK
605-355-4054 OR 605-484-7893 (C)
TOBY.BORDEWYK@MDU.COM

CITY OF LEAD – JASON BAUERNFEIND
605-580-1758

LEAD-DEADWOOD SANITARY DISTRICT
TERRY WOLTERSTORFF
605-578-1835

ABBREVIATIONS

Ⓔ AASHTO AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
AR AIR RELEASE
ASS'Y ASSEMBLY
ASTM AMERICAN SOCIETY FOR TESTING MATERIALS
AV ALTITUDE VALVE
AVE AVENUE
AWWA AMERICAN WATER WORKS ASSOCIATION
B.FLY BUTTERFLY VALVE
BIT. PVMT. BITUMINOUS PAVEMENT
BM BENCH MARK
BS BOOSTER STATION
CB CATCH BASIN
C-C CENTER TO CENTER
C.F. CUBIC FOOT
CIP CAST IRON PIPE
CL CENTERLINE
CMP CORRUGATED METAL PIPE
CPLG COUPLING
CONST. CONSTRUCTION
C.S. CURB STOP
CV CULVERT
D DEGREE OF CURVE
DIA DIAMETER
DIP DUCTILE IRON PIPE
E EAST
ELEC BURIED ELECTRIC
EX. EXISTING
F. HYD FIRE HYDRANT
FL FLANGE
FL. HYD FLUSHING HYDRANT
G UNDERGROUND NATURAL GAS
GRND. ELEV. GROUND ELEVATION
GSP GALVANIZED STEEL PIPE
GV GATE VALVE
HDPE HIGH DENSITY POLYETHYLENE
INV INVERT
LT LEFT
L.F. LINEAL FEET
MAT'L MATERIAL
MAX MAXIMUM
MH MANHOLE
MJ MECHANICAL JOINT
MIN MINIMUM

Ⓔ NORTH
NORTHEAST
NORTHWEST
OUTSIDE DIAMETER
OVERHEAD POWER
POINT OF REVERSE CURVATURE
POINT OF INTERSECTION
POINT OF CURVATURE
PLAIN END
PEDESTAL
PERMANENT
PROPERTY LINE
PRESSURE REDUCING VALVE
POUNDS PER SQUARE FOOT
POUNDS PER SQUARE INCH
POLYVINYL CHLORIDE PIPE
RADIUS
R.C.P. REINFORCED CONCRETE PIPE
REQ'D REQUIRED
RD ROAD
R.R. RAILROAD
RT RIGHT
R/W RIGHT-OF-WAY
S SOUTH
SAN SANITARY SEWER
SE SOUTHEAST
SHT SHEET
ST STREET
STA STATION
SS STORM SEWER
STL STEEL
SR STORAGE RESERVOIR
SW SOUTHWEST
TELE BURIED TELEPHONE CABLE
TBC TOP BACK OF CURB
THEOR. THEORETICAL
T.O.P. TOP OF PIPE
TV BURIED CABLE TELEVISION LINE
TYP TYPICAL
V.C.P. VITRIFIED CLAY PIPE
VPI VERTICAL POINT OF INTERSECTION
VERT VERTICAL
VR VACUUM RELIEF
W WEST
WL WATER LINE X-ING CROSSING
TP OVERHEAD TELEPHONE
TVP OVERHEAD TELEVISION
TC TOP OF CONCRETE

QUANTITIES

01 GENERAL CONDITIONS

Mobilization 1 LS
Traffic Control 1 LS

03 CONCRETE

Concrete Vault for Water Meter (Industrial) 1 EA
Saw Cut Rectangular hole in Headframe Basement Wall 1 LS
Penetration of Ramp wall(s) 1 LS

31 EARTHWORK

Erosion Control & Maintenance 1 LS
Asphalt Removal 870 SY
Asphalt Millings Removal 108 SY
Concrete Removal 143 SY
SDDOT Base Course below New Asphalt Patch 415 TN
Existing Gravel: Removed, Salvaged, & Reinstalled in gravel areas 437 TN
Base Course at Removed Concrete Paving areas 63 TN
Boring for Water line (30LF - Includes 8" Certa-Lok pipe) 1 LS
Trench Waste Haul (assume 1 mi) 250 CY

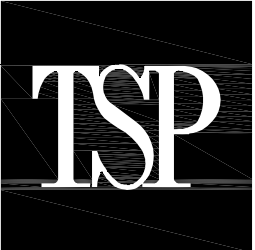
32 EXTERIOR IMPROVEMENTS

AC Class E Type 1 Patch 357 TN
6" Steel Bollards 10 EA

33 UTILITIES

Abandon Water Main/Service (Industrial water @ existing meter pit west of Hoist; Existing Potable main/service south of Mill/Summit; Postable in Steam Tunnel near Hoist; Potable south of Ross Dry; Any potable in Ramp getting abandoned) 1 LS
Remove existing 4" steel pipe in tunnel 1 LS
Remove existing fire hydrant & auxillary valve 2 EA
Reconnect 1" Water in Tunnel to New 8" Potable Water 1 LS
8" PVC AWWA C900 Water (Potable) (Shared trench) 708 LF
(Water Alignment 1, station 2+47 to 9+52)
6" PVC AWWA C900 Water (Potable) (non-shared trench) 175 LF
(Ross Hoist stub and fire hydrants leads)
8" PVC AWWA C900 Water (Potable) (non-shared trench) 1681 LF
(Water Alignment 2, Station 0+00 to 5+35; Water Alignment 3, Station 0+00 to 8+52; Water Alignment 4, 0+00 to 3+12)
6" PVC AWWA C900 Water (Industrial) (shared trench) 705 LF
(Water Alignment 1, 2+47 to 9+52)
8" Galvanized Steel Water (Potable) in Tunnel 160 LF
6" Galvanized Steel Water (Industrial) in Tunnel 70 LF
8"x8"x8" Grooved Tee (Potable) in Tunnel 2 EA
6"x6"x6" Grooved Tee (Industrial) in Tunnel 1 EA
4" Gate Valve (Potable) in Tunnel 1 EA
8" Galvanized Steel Fitting (Potable) in Tunnel 17 EA
6" Galvanized Steel Fitting (Industrial) in Tunnel 8 EA
8"x6" Galvanized Steel Reducer (Potable) in Tunnel 1 EA
6"x4" Galvanized Steel Reducer (Potable) in Tunnel 1 EA
8" Gate Valve (Potable Interior) in Tunnel 2 EA
6" Gate Valve (Industrial Interior) in Tunnel 2 EA
1" PVC Potable Water Service in Tunnel 8 LF
6" Water Meter in Tunnel 1 EA
8"x1" Tapping Saddle with Corporation Stop 5 EA
Connection to Existing 6" Water Main (Potable) 2 LS
Connection to Existing 4" Ductile Iron Water Main (Industrial) 2 LS
6" Gate Valve and Box (Potable) 2 EA
8" Gate Valve and Box (Potable) 8 EA
Fire Hydrant Assembly W/Gate Valve 4 EA
8"x8"x6" Tee (Potable) 8 EA
8"x8"x8" Tee (Potable) 2 EA
8"x6" Reducer (Potable) 1 EA
6" Ductile Iron Fittings (Potable) 1 EA
8" Ductile Iron Fittings (Potable) 27 EA
6" Ductile Iron Fittings (Industrial) 10 EA
6" Ductile Iron Plug (Potable) 2 EA
Encase Water Line (Approximately 20' Long per EA) 4 EA
PRZ Backflow Preventers (1" and 2") 2 EA
3" SCH 80 PVC Conduit w/RGSI Sweep Bends (shared trench) 424 LF
2" SCH 80 PVC Conduit w/RGS Sweep Bends (shared trench) 424 LF

Industrial Water Meter Pit (Utilities):
6" Water Meter (Industrial) 1 EA
6" Flanged Ductile Iron Pipe 11 LF
6" Flanged Gate Valve 3 EA
6" Flanged Ductile Iron Fittings 2 EA
6"x6"x6" Flanged Ductile Iron Tee 2 EA
6" Check Valve 1 EA

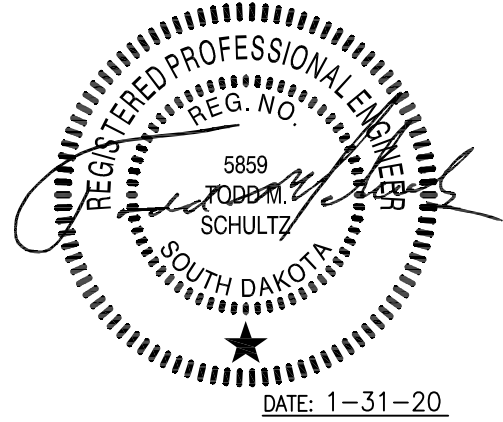


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DATE: 1-31-20

PROJECT TITLE

**Industrial/Potable
Waterline and Hydrant
Replacement: Ross
Complex
South Dakota Science
and Technology
Authority - SURF**

Lead, SD

ISSUES		

MARK	DATE	DESCRIPTION
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PROJECT #	CHECKED BY
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SHEET TITLE

**GENERAL NOTES
AND QUANTITIES**

SHEET NUMBER

G-002

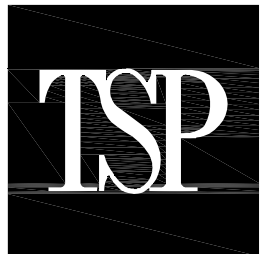
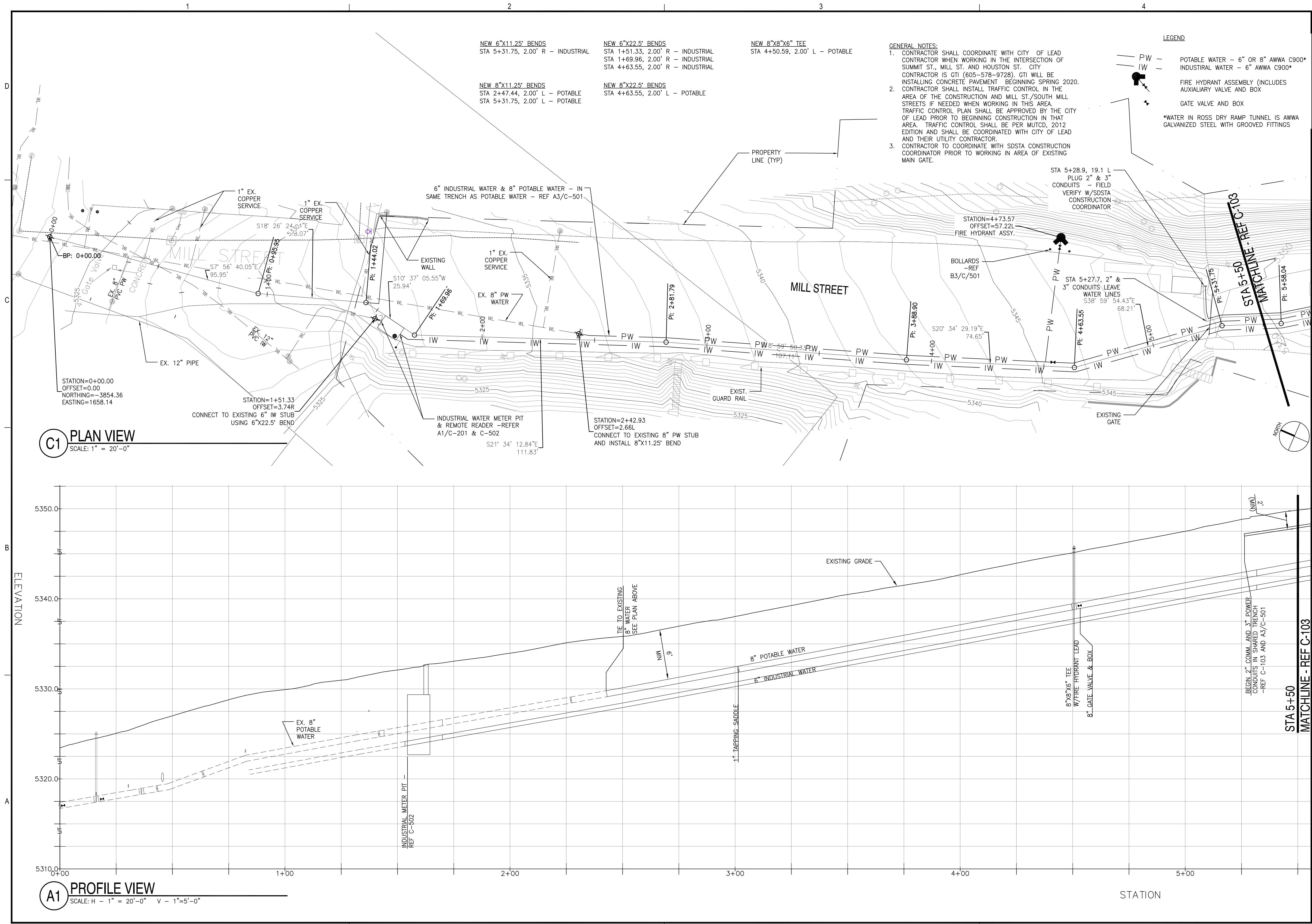
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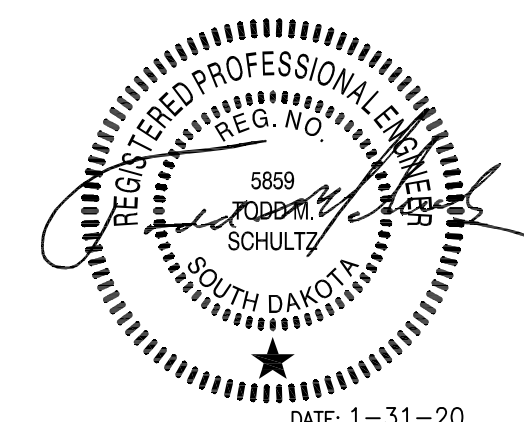


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SHEET TITLE
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WATER ALIGNMENT 1
STA 1+50 TO 5+50**

SHEET NUMBER

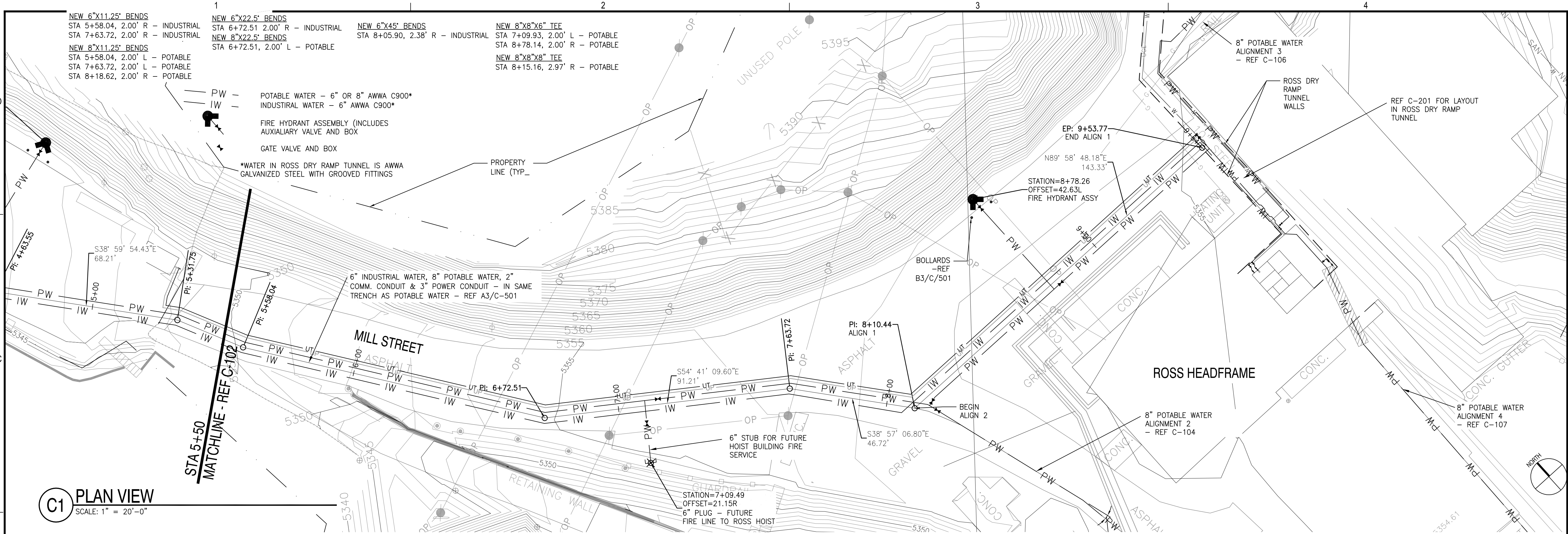
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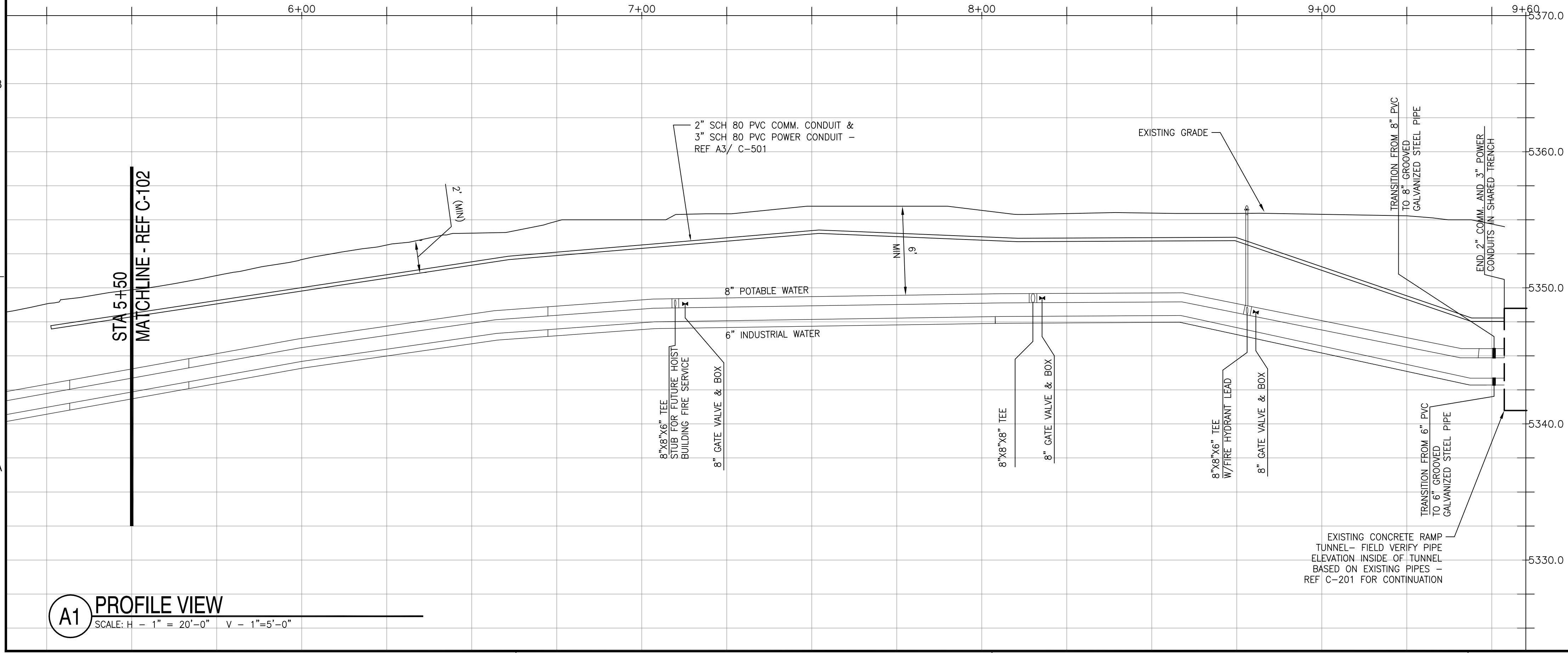
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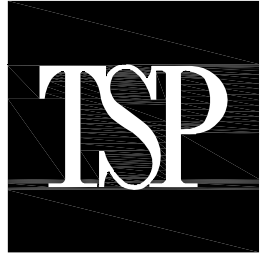
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C1 PLAN VIEW
SCALE: 1" = 20'-0"



A1 PROFILE VIEW
SCALE: H - 1" = 20'-0" V - 1"=5'-0"

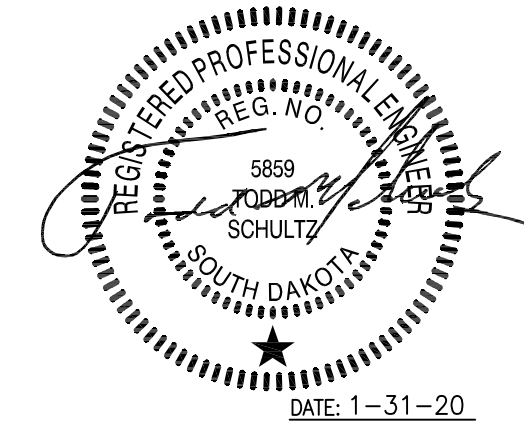


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MARK	DATE	DESCRIPTION

SHEET TITLE
**WATERLINE PLAN/PROF
WATER ALIGNMENT 1
STA 5+50 TO 9+51.88**

SHEET NUMBER

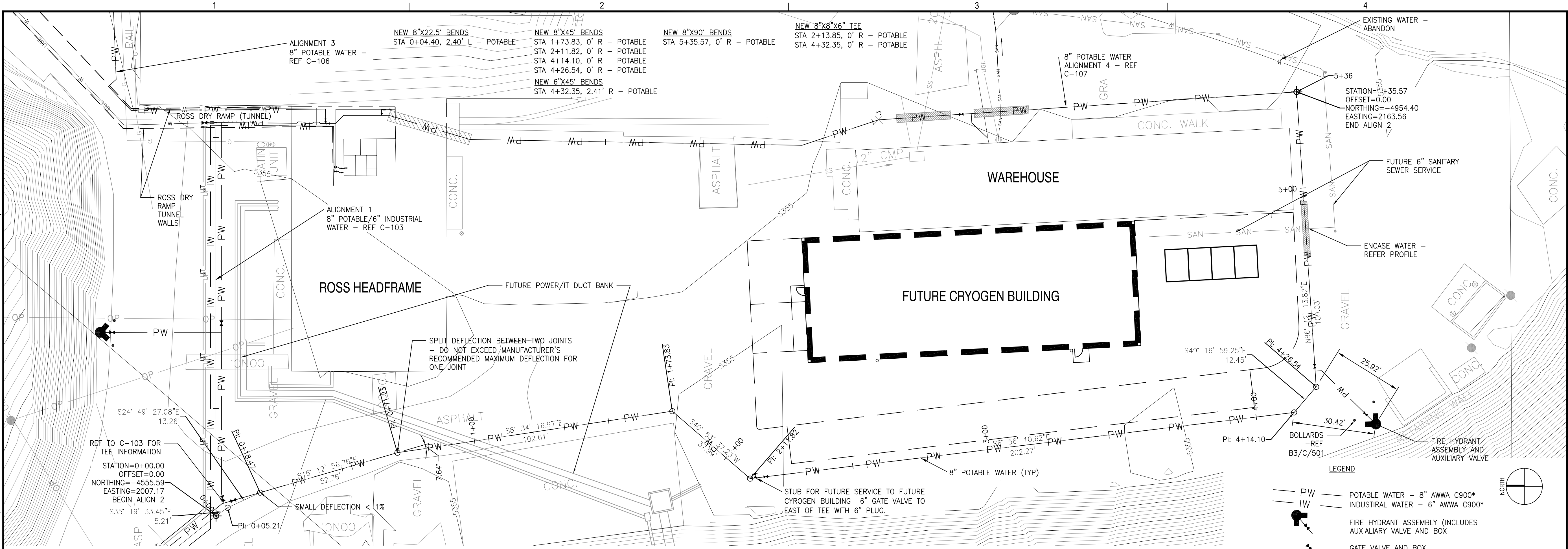
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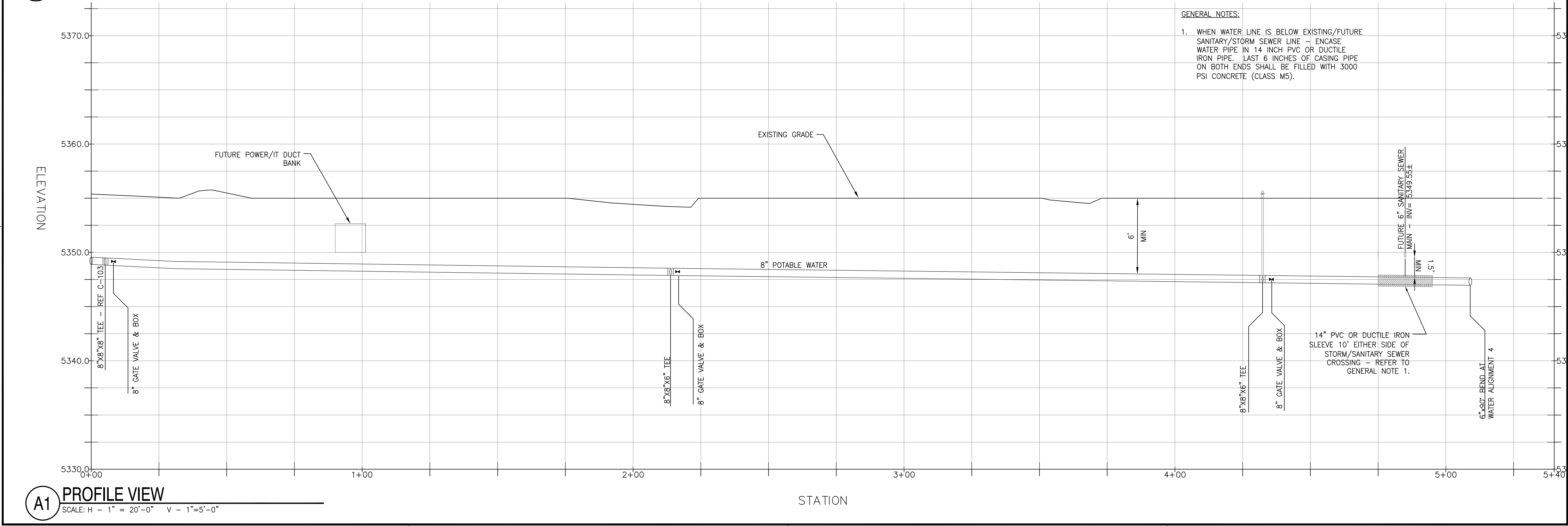
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C1 PLAN VIEW
SCALE: 1" = 20'-0"

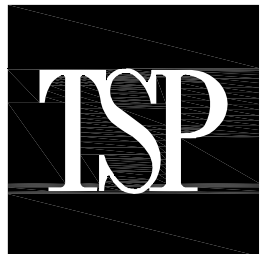


A1 PROFILE VIEW
SCALE: H - 1" = 20'-0" V - 1"=5'-0"

GENERAL NOTES:

1. WHEN WATER LINE IS BELOW EXISTING/FUTURE SANITARY/STORM SEWER LINE - ENCASE WATER PIPE IN 14" INCH PVC OR DUCTILE IRON PIPE. LAST 6 INCHES OF CASING PIPE ON BOTH ENDS SHALL BE FILLED WITH 3000 PSI CONCRETE (CLASS M5).

- LEGEND
- PW POTABLE WATER - 8" AWWA C900*
 - IW INDUSTRIAL WATER - 6" AWWA C900*
 - FIRE HYDRANT ASSEMBLY (INCLUDES AUXILIARY VALVE AND BOX)
 - GATE VALVE AND BOX
- *WATER IN ROSS DRY RAMP TUNNEL IS AWWA GALVANIZED STEEL WITH GROOVED FITTINGS

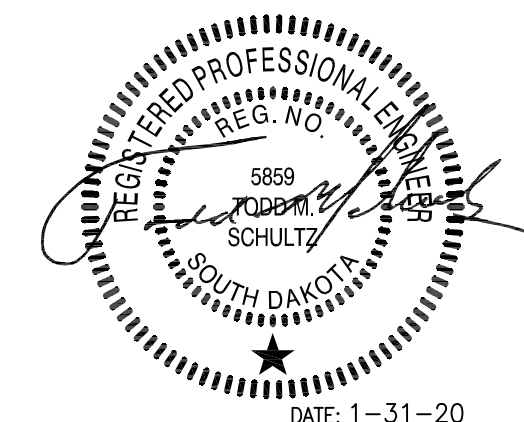


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Lead, SD

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SHEET TITLE
**WATERLINE PLAN/PROF
WATER ALIGNMENT 2
STA 0+00 TO 5+35.57**

SHEET NUMBER

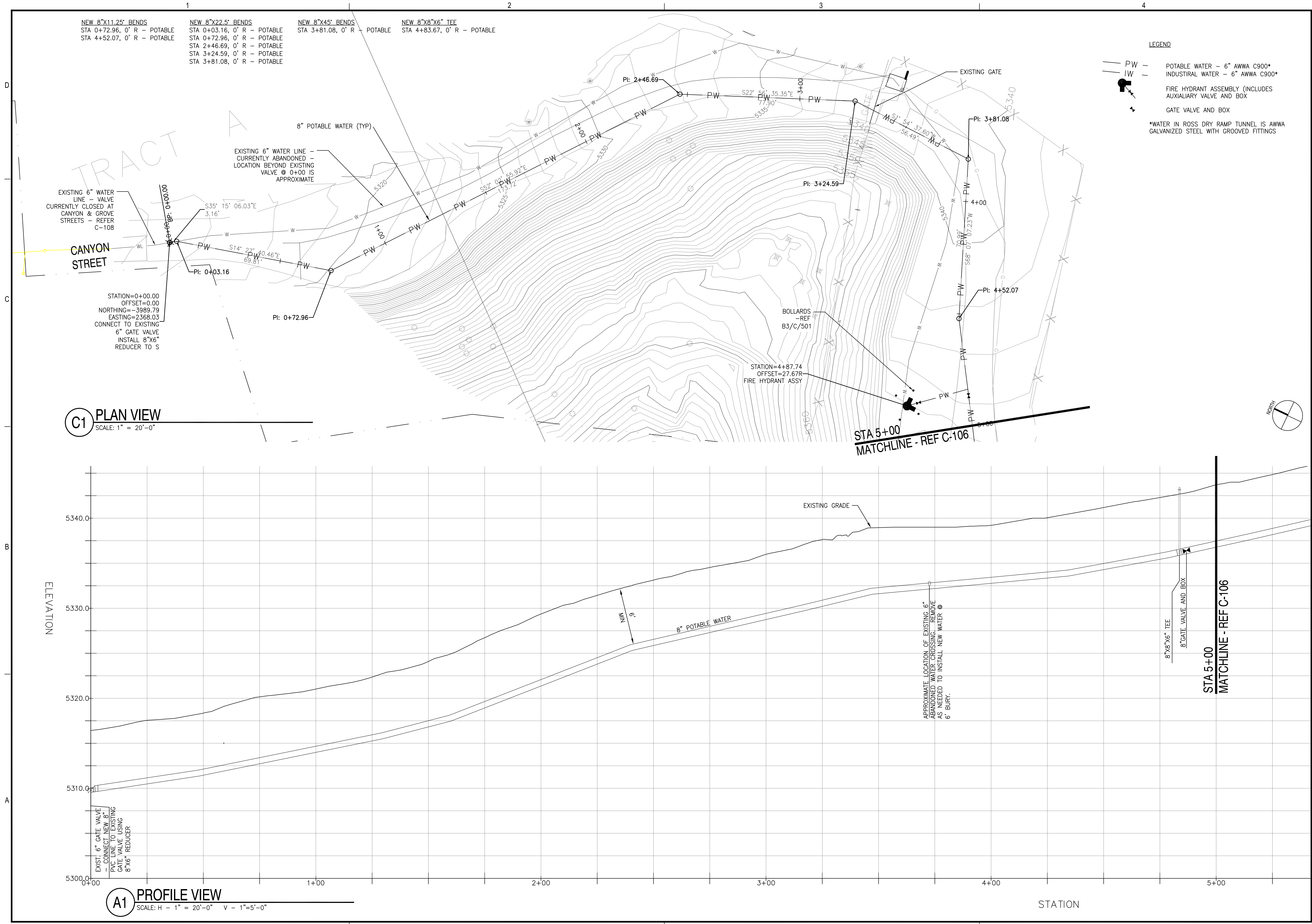
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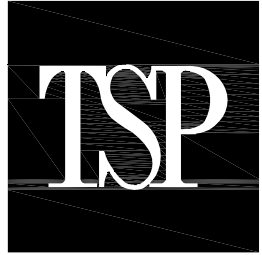
LEGEND

PW - POTABLE WATER - 6" AWWA C900*
IW - INDUSTRIAL WATER - 6" AWWA C900*

FIRE HYDRANT ASSEMBLY (INCLUDES AUXILIARY VALVE AND BOX)

GATE VALVE AND BOX

*WATER IN ROSS DRY RAMP TUNNEL IS AWWA GALVANIZED STEEL WITH GROOVED FITTINGS

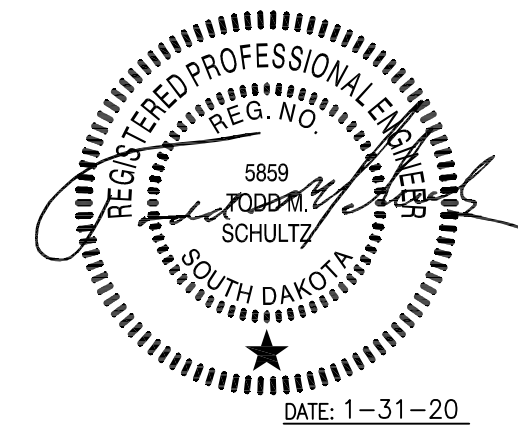


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600 Kansas City St.
Rapid City, SD 57701

phone: (605) 343-6102
www.teamtsp.com

Architecture
Engineering
Planning

CONSULTANTS



PROJECT TITLE
**Industrial/Potable
Waterline and Hydrant
Replacement: Ross
Complex
South Dakota Science
and Technology
Authority - SURF**

Lead, SD

ISSUES		

MARK	DATE	DESCRIPTION

SHEET TITLE
**WATERLINE PLAN/PROF
WATER ALIGNMENT 3
STA 0+00 TO 5+00**

SHEET NUMBER

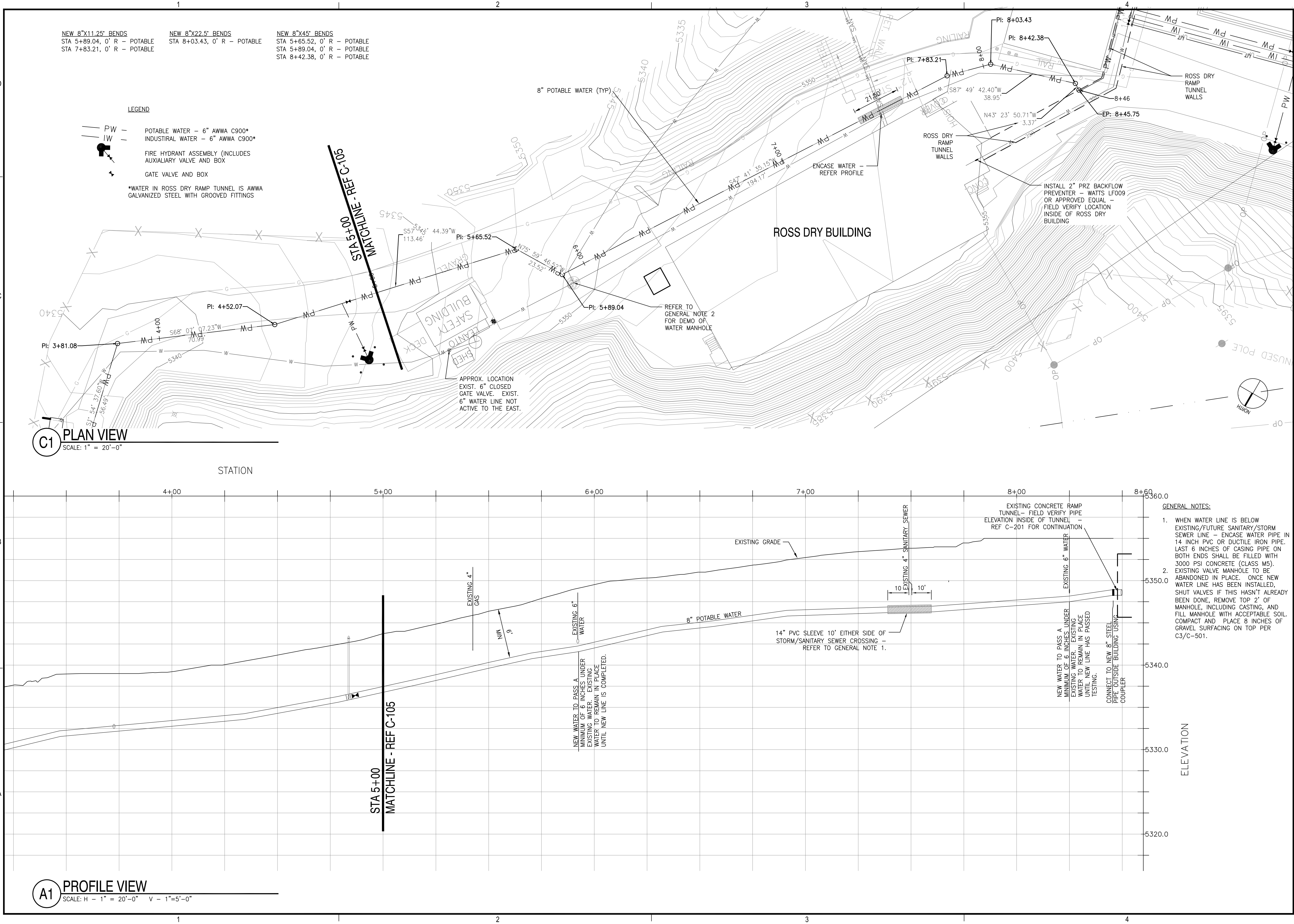
C-105

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LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

ISSUE FOR PROPOSAL

Drawing Name: G:\2018\03181281.1 SDSTA_Ross Complex Waterline Project\B-Design\03 CAD\Civil\C-102-107.dwg
Plot Date: 2/7/2020 1:37 PM



NEW 8"x11.25" BENDS
STA 5+89.04, 0' R - POTABLE
STA 7+83.21, 0' R - POTABLE

NEW 8"x22.5" BENDS
STA 8+03.43, 0' R - POTABLE

NEW 8"x45" BENDS
STA 5+65.52, 0' R - POTABLE
STA 5+89.04, 0' R - POTABLE
STA 8+42.38, 0' R - POTABLE

LEGEND

PW - POTABLE WATER - 6" AWWA C900*
IW - INDUSTRIAL WATER - 6" AWWA C900*
FIRE HYDRANT ASSEMBLY (INCLUDES AUXILIARY VALVE AND BOX)
GATE VALVE AND BOX

*WATER IN ROSS DRY RAMP TUNNEL IS AWWA GALVANIZED STEEL WITH GROOVED FITTINGS

ROSS DRY BUILDING

MATCHLINE - REF C-105
STA 5+00

MATCHLINE - REF C-105
STA 5+00

ELEVATION

GENERAL NOTES:

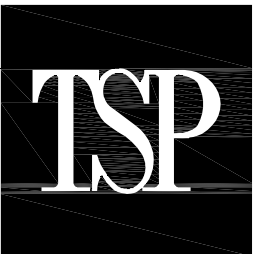
1. WHEN WATER LINE IS BELOW EXISTING/FUTURE SANITARY/STORM SEWER LINE - ENCASE WATER PIPE IN 14 INCH PVC OR DUCTILE IRON PIPE. LAST 6 INCHES OF CASING PIPE ON BOTH ENDS SHALL BE FILLED WITH 3000 PSI CONCRETE (CLASS M5).
2. EXISTING VALVE MANHOLE TO BE ABANDONED IN PLACE. ONCE NEW WATER LINE HAS BEEN INSTALLED, SHUT VALVES IF THIS HASN'T ALREADY BEEN DONE. REMOVE TOP 2' OF MANHOLE, INCLUDING CASTING, AND FILL MANHOLE WITH ACCEPTABLE SOIL. COMPACT AND PLACE 8 INCHES OF GRAVEL SURFACING ON TOP PER C3/C-501.

PLAN VIEW

SCALE: 1" = 20'-0"

PROFILE VIEW

SCALE: H - 1" = 20'-0" V - 1"=5'-0"

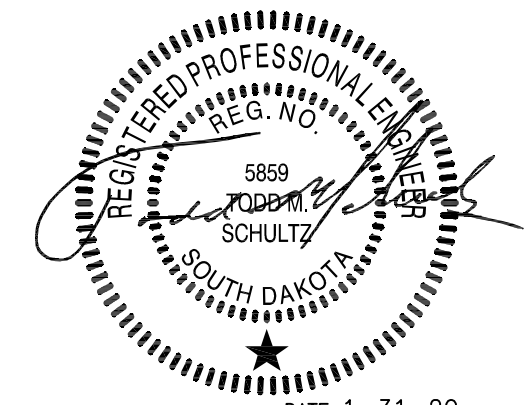


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MARK	DATE	DESCRIPTION
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ISSUE DATE	DRAWN BY
01/31/2020	TMS
PROJECT #	CHECKED BY
03180281.1	TMS

SHEET TITLE

**WATERLINE PLAN/PROF
WATER ALIGNMENT 3
STA 5+00 TO 8+52.34**

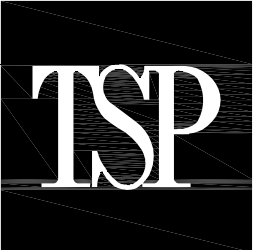
SHEET NUMBER

C-106

PHASING NOTES:

1. REMOVALS
2. INSTALL ALIGNMENT #1, INCLUDES BOTH POTABLE AND INDUSTRIAL WATERLINES IN A SHARED TRENCH, INCLUDING INDUSTRIAL WATER METER VAULT. PRESSURE TEST BOTH LINES. DISINFECT POTABLE WATER LINE.
3. CONNECT TO EXISTING POTABLE AND INDUSTRIAL WATERLINES INSTALLED AT MILL/SUMMIT BY OTHERS.
5. INSTALL NEW ASPHALT PATCHING.
6. INSTALL ALIGNMENT #3. TEST AND DISINFECT.
7. INSTALL NEW ASPHALT PATCHING.
8. CONNECT TO EXISTING CITY WATERLINE AT END OF CANYON STREET.
9. DRILL HOLE IN EXISTING RAMP AND CUT RECTANGULAR HOLE IN ROSS HEADFRAME BASEMENT WALL.
10. BORING OPERATION.
11. INSTALL GALVANIZED STEEL PIPE IN RAMP/ROSS HEADFRAME. TEST AND DISINFECT.
12. INSTALL ALIGNMENT #4. TEST AND DISINFECT.
13. INSTALL ALIGNMENT #2. TEST AND DISINFECT.

FIELD VERIFY THAT VALVES AT THIS INTERSECTION ARE CLOSED. IF VALVES ARE CLOSED WATER LINE FROM GROVE STREET TO THE BEGINNING OF ALIGNMENT 3 WILL NEED TO BE CHLORINATED PRIOR TO OPENING VALVES. COORDINATE WITH THE CITY OF LEAD CONCERNING FLUSHING AND CHLORINATION OF LINE TO THE SOUTH.

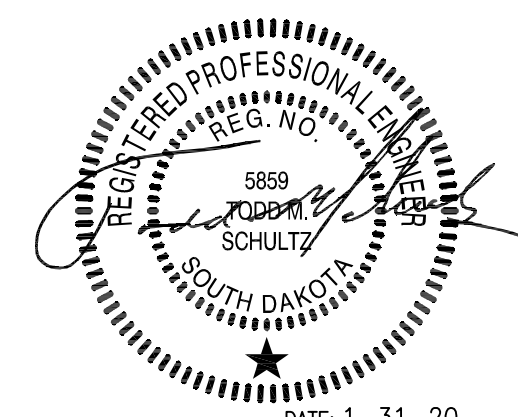


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ISSUE DATE 01/31/2020	DRAWN BY TMS
PROJECT # 03180281.1	CHECKED BY TMS

SHEET TITLE
PHASING PLAN

SHEET NUMBER

C-108

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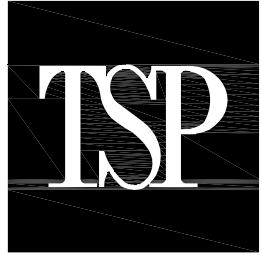
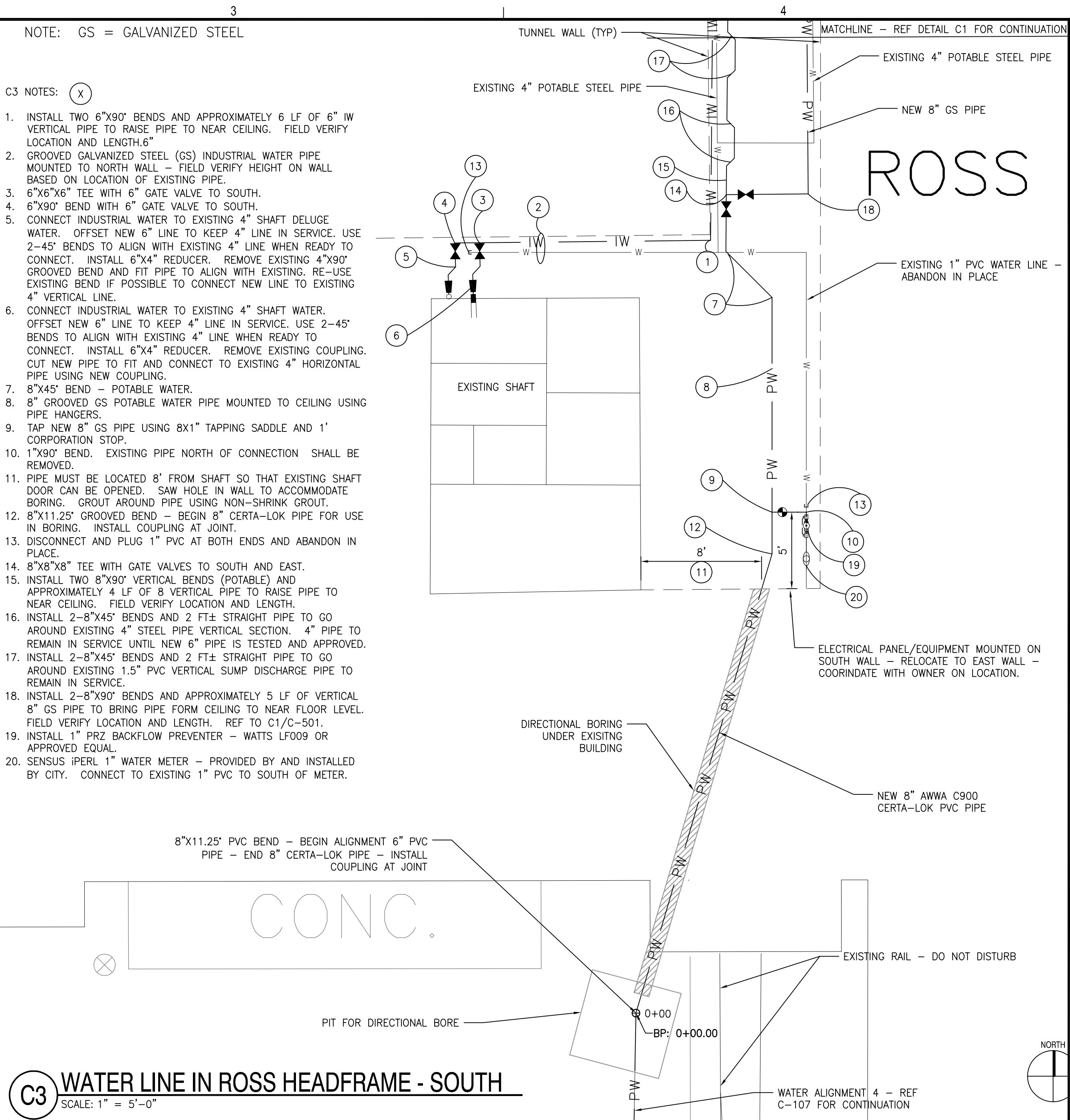
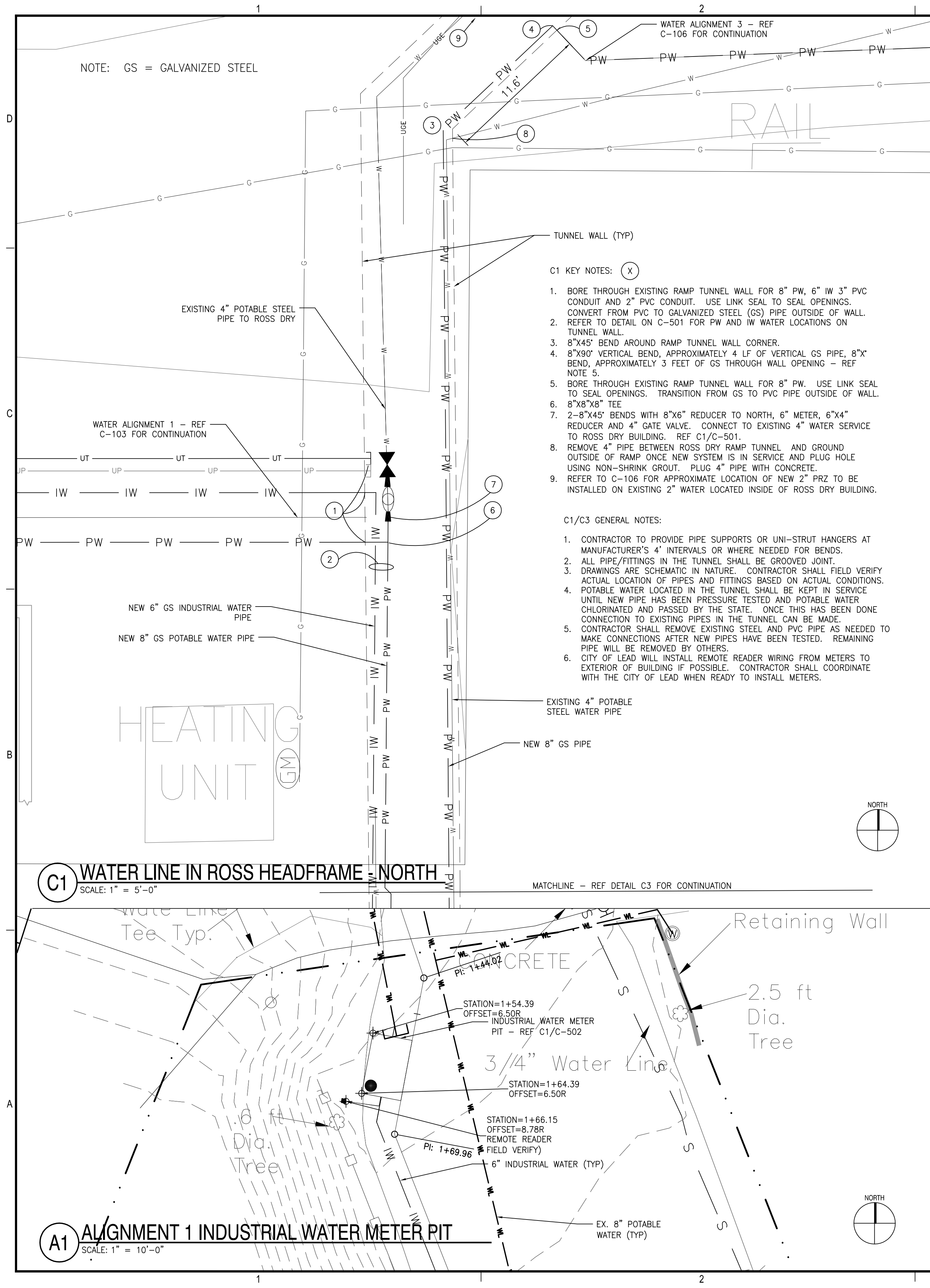
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ISSUE FOR PROPOSAL

A1 PHASING PLAN
SCALE: 1" = 60'-0"

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Plot Date: 2/7/2020 1:40 PM

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Plot Date: 2/7/2020 1:41 PM

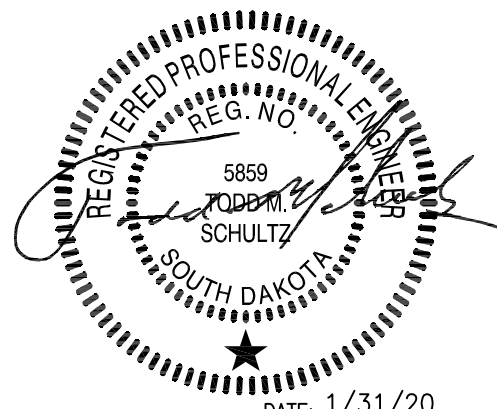


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SITE ENLARGEMENTS

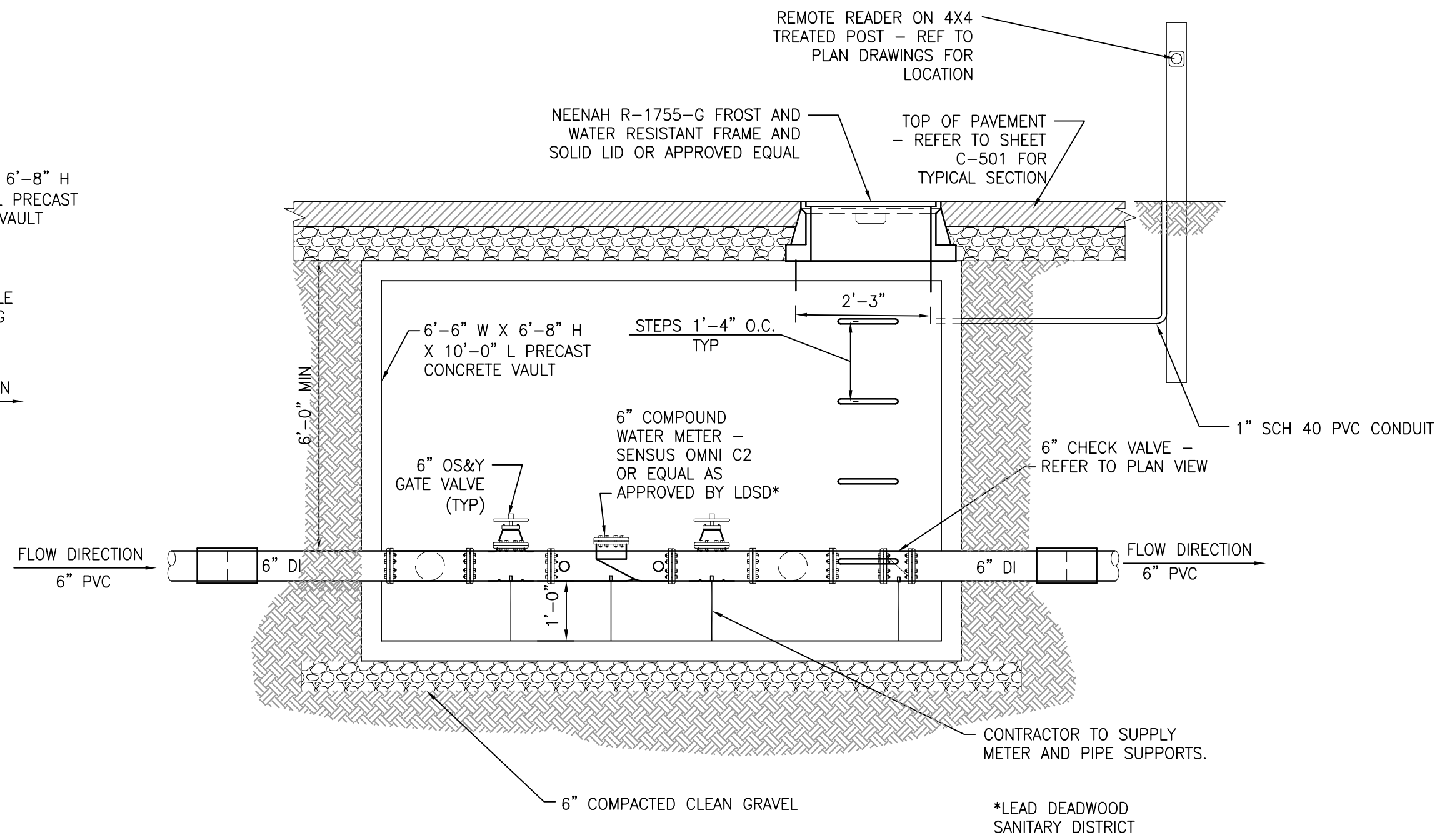
SHEET NUMBER

C-201

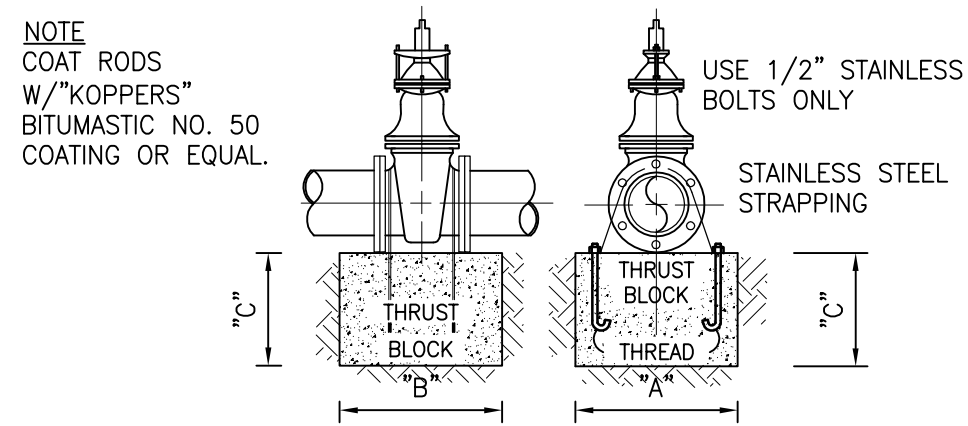
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ISSUE FOR PROPOSAL



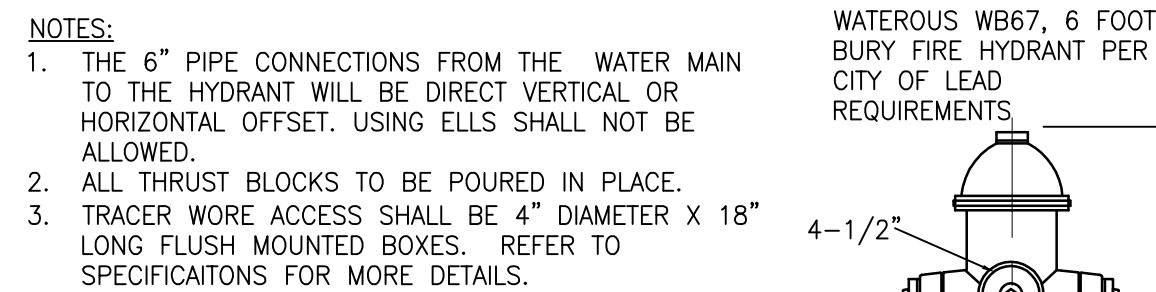
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NOTE: THIS TABLE IS BASED ON 150 PSI MAIN
PRESSURE 2000 PSF SOIL BEARING
PRESSURE. FOR OTHER CONDITIONS, THRUST
BLOCKS MUST BE COMPUTED AND APPROVED.

NOTES:

1. PRESSURES SHOWN ABOVE ARE MAXIMUM WORKING PRESSURE IN SYSTEM.
2. TO BE INSTALLED AS CALLED FOR AND AT LOCATIONS AS SHOWN ON THE PLANS.
3. FOR OTHER CONDITIONS, THRUST BLOCKING MUST BE COMPUTED AND APPROVED.



SCALE: NO SCALE

SCALE: NO SCALE

SCALE: NO SCALE

