

# ICE AGE DRIVE: KINDER MORGAN GAS RELOCATION

Clearing and Grubbing, Tree Removal, Utility Trenching and Casing Installation

## Call Before You Dig:

POTENTIAL UNDERGROUND  
FACILITY OWNERS  
"ONE CALL"  
UTILITY NOTIFICATION CENTER

1-800-332-2344 or 811

ATTENTION: Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Notification Center Is (503) 232-1987.)

## BASIS OF STATIONING:

For SE Oregon St, Held Station 47+74.10 at Point of Tangency, Centerline Monument set in Washington County Survey No.29428 Centerline from Washington County Survey No.28721

## SITE INFORMATION

NW 1/4 & SW 1/4 of Section 32, Township 2 South, Range 1 West, Washington County

## DATUM:

Elevations are based on Washington County Benchmark No. 103  
Datum: NAVD29  
Elevation: 171.38

## MONUMENTS

Existing Survey monuments are to be protected during construction or replaced in accordance with Oregon Revised Statutes 209.104 - 209.155.

## BASIS OF BEARINGS:

The basis of bearing for SE Oregon St is defined by the ROW.

## ORS 92.044

This Design Complies With ORS 92.044 (7) In That No Utility Infrastructure Is Designed To Be Within One Foot Of A Survey Monument Location Shown On A Subdivision Or Partition Plat. No Design Modification Nor Final Field Location Change Shall Be Permitted If It Would Cause Any Utility Infrastructure To Be Placed Within The Prohibited Area.

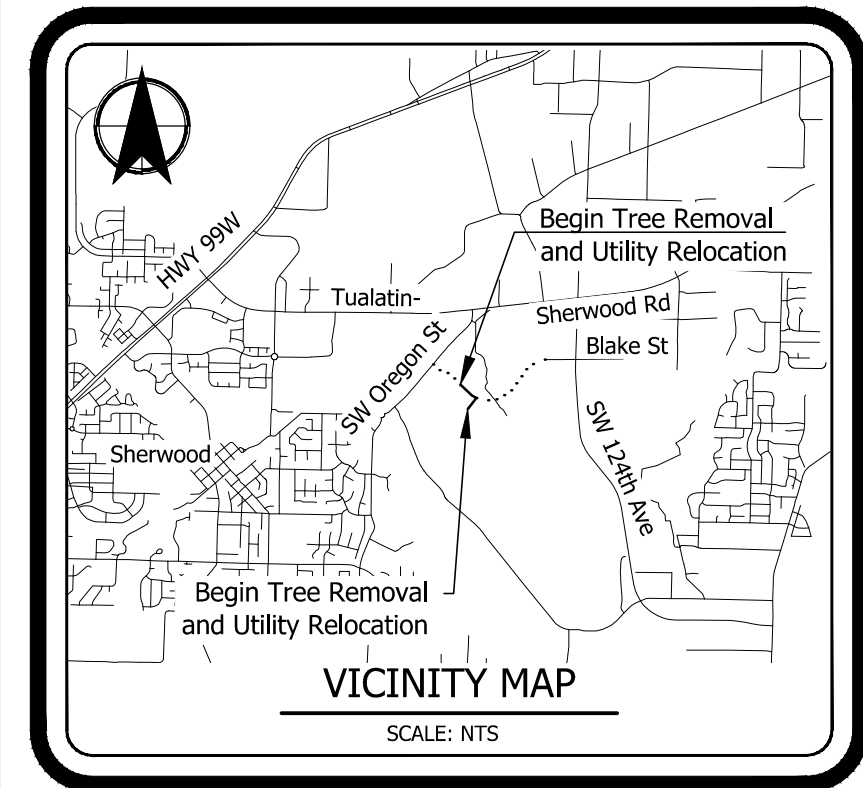
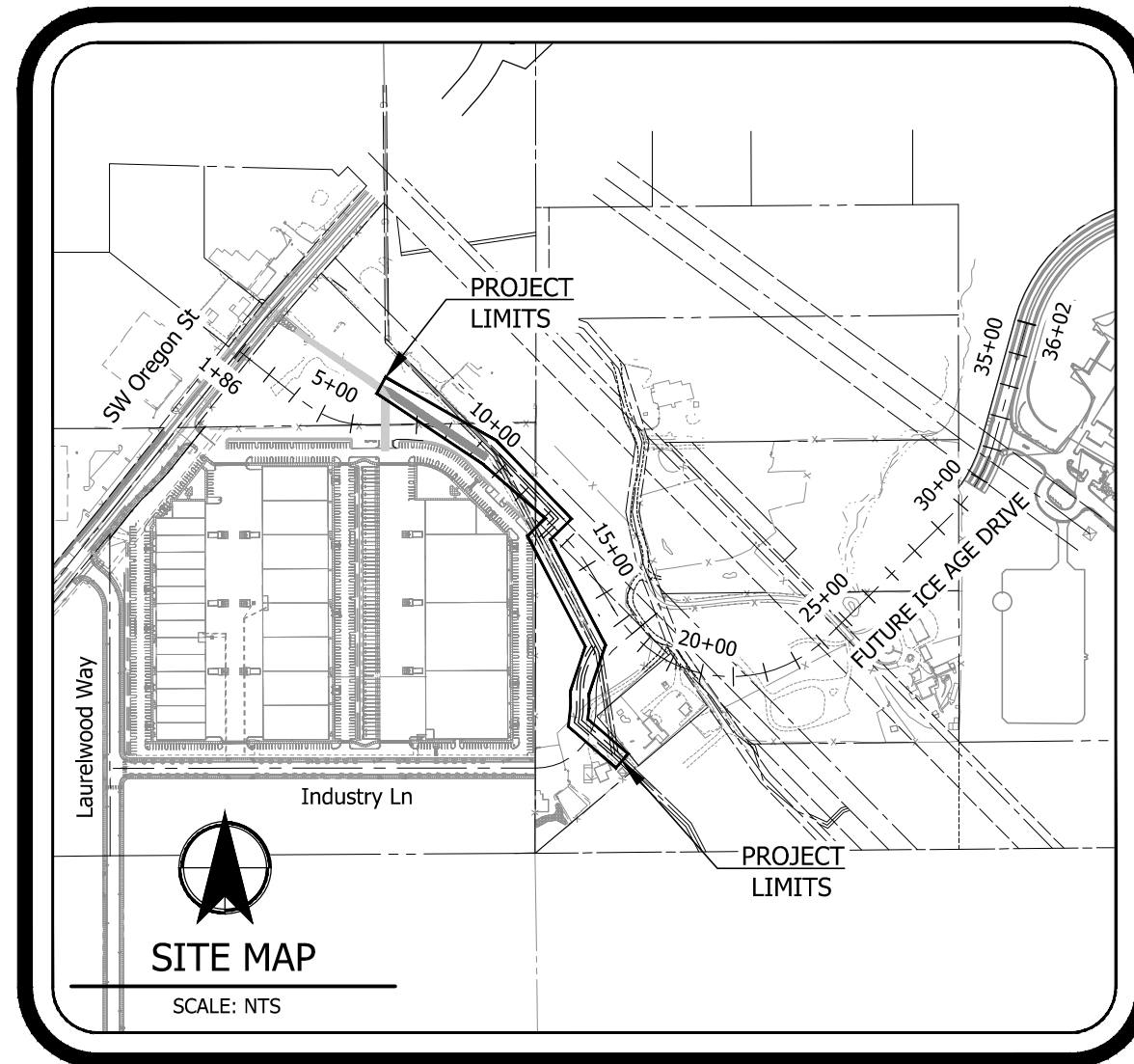
## PROJECT CONTACTS:

City of Sherwood City Engineer Jason Waters, PE 22560 SW Pine Street Sherwood, Oregon 97140 503.925.2304 WatersJ@SherwoodOregon.gov	Kittelsson and Associates, Inc. Engineer Tony Roos, PE 851 SW 6th Ave, Suite 600 Portland, OR 97204 503.535.7444 TRoos@kittelsson.com	Kinder Morgan James (Jay) Jackson 713.420.1078 James_Jackson@kindermorgan.com  Kevin Wallace 503.209.4572 Kevin_Wallace@kindermorgan.com
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PREPARED FOR

THE CITY OF SHERWOOD, OREGON

January, 2024

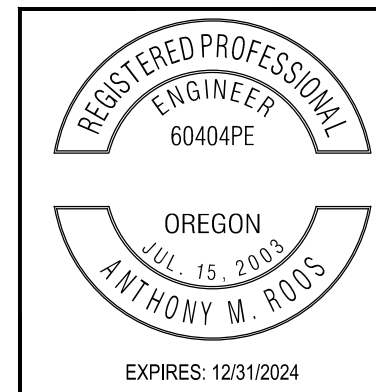


**IMPERVIOUS TABLE:**

Existing Impervious Area	= 16,017 SF (0.36 AC)
Proposed Impervious Area	= 23,678 SF (0.54 AC)



NOTE: Increase in Impervious Area is Temporary in Nature - Permanent Increases in Impervious Area will occur with Ice Age Drive Project (Expected Bid Nov. 2024)



**KITTELSON & ASSOCIATES**  
851 SW 6TH AVENUE, SUITE 600  
PORTLAND, OR 97204  
P 503.228.5250 F 503.273.8168

APP'D	REVISION	DATE	#

Signed Date: 1/2/2024  
Drawn: BSC, Designed: CKD, Checked: AMR  
KN 27311

ICE AGE DRIVE:  
KINDER MORGAN GAS RELOCATION  
COVER  
SHEET NO. 1

Plot Stamp: 1/2/2024 4:38:38 PM - Claire Dougherty  
File: H:\27\27311 - Ice Age Drive Extension\Design\Early Work Package\_CD\CD-EWP-1-Cover\_Index\_Legend\_General\_Notes-27311.dwg

# CITY OF SHERWOOD STANDARD NOTES

- CONTRACTOR SHALL NOTIFY CITY OF SHERWOOD ENGINEERING DEPARTMENT (AT 503-925-2306) TWO BUSINESS DAYS PRIOR TO COMMENCEMENT OF WORK ON GRADING, PUBLIC IMPROVEMENTS, OR STORM WATER TREATMENT FACILITIES.
- ALL CONSTRUCTION WORK AND MATERIALS SHALL CONFORM TO APPLICABLE CITY OF SHERWOOD STANDARDS CONSTRUCTION SPECIFICATIONS, CLEAN WATER SERVICES (CWS) DESIGN AND CONSTRUCTION STANDARDS, UNIFORM PLUMBING CODE (UPC) AND UNIFORM BUILDING CODE (UBC). CONTRACTOR AND SUBCONTRACTOR(S) SHALL HAVE A MINIMUM OF ONE SET OF APPROVED PLANS AND CITY OF SHERWOOD STANDARD CONSTRUCTION SPECIFICATIONS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
- ATTENTION EXCAVATORS:** OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING (503) 232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THESE RULES, YOU MAY CONTACT THE CALL CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING EXCAVATION. CALL (503) 246-6699.
- ALL TRENCH LINES AND EXCAVATIONS SHALL BE PROPERLY SHORED AND BRACED TO PREVENT CAVING. UNUSUALLY DEEP EXCAVATIONS MAY REQUIRE EXTRA SHORING AND BRACING. ALL SHEETING, SHORING, AND BRACING OF TRENCHES SHALL CONFORM TO OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION (OSHA) REGULATIONS AND CITY OF SHERWOOD STANDARD SPECIFICATIONS.
- CONTRACTOR IS TO FIELD VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- SITE EROSION CONTROL PLAN AND BMP'S MEETING CWS STANDARDS TO BE IN PLACE AND APPROVED PRIOR TO CONSTRUCTION.
- UNDER NO CIRCUMSTANCE SHALL A CONSTRUCTION TRAILER BE LOCATED IN THE PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION. A COPY OF THE REQUIRED PERMITS AND ATTACHMENTS SHALL BE AT THE WORK SITE AND AVAILABLE DURING CONSTRUCTION.
- TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL PLAN SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
- ANY INSPECTION OR CONSTRUCTION OBSERVATION BY THE CITY, COUNTY, STATE, OR OTHER JURISDICTIONAL AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, CITY STANDARDS, AND PROJECT CONTRACT DOCUMENTS.
- CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING STRUCTURES AND UTILITIES NOT SHOWN TO BE REMOVED. CONTRACTOR SHALL REPLACE OR REPAIR ANY EXISTING STRUCTURES (SIDEWALKS, CURB, FENCE, STREET TREES, ETC.) DAMAGED DURING CONSTRUCTION, IN ACCORDANCE WITH CITY STANDARDS.
- NO TRENCHES OR PITS WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT. ALL TRENCHES AND PITS SHALL BE COVERED WITH STEEL PLATES OR FILLED IN AT NIGHT.
- ANY ALTERATIONS OR VARIATIONS FROM THESE PLANS, EXCEPT MINOR FIELD ADJUSTMENTS NEEDED TO MEET EXISTING FIELD CONDITIONS, SHALL BE APPROVED THE THE ENGINEER AND APPLICABLE REGULATORY AGENCY REPRESENTATIVE.
- CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF A TRAFFIC CONTROL PLAN AND ITS CONTINUED FUNCTIONING FOR THE PROTECTION OF CONSTRUCTION WORKERS, VEHICULAR TRAFFIC, BICYCLE TRAFFIC AND PEDESTRIANS. ALL TRAFFIC CONTROL DEVICES/SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. APPROVAL OF THE TRAFFIC CONTROL PLAN BY THE CITY OF SHERWOOD DOES NOT NEGATE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN A SAFE WORK ZONE. THE CITY OF SHERWOOD BEARS NO LIABILITY FOR THE CONTRACTOR'S IMPLEMENTATION OF THIS TRAFFIC CONTROL PLAN.

Sheet List Table	
Sheet Number	Sheet Title
1	Cover
1A	Sheet Index, Legend and Notes
1B	Sheet Layout
2D	Erosion Control Plan
2D-2	Erosion Control Plan
2D-3	Erosion Control Plan
2D-4	Erosion Control Plan
2D-5	Erosion Control Plan (Industry Lane)
2D-6	Erosion Control Detail
2D-7	Erosion Control Detail
2D-8	Erosion Control Detail
3	Pipe Plan and Profile
4	Pipe Detail
5	Pipe Detail

# LEGEND

**EXISTING**

	EXISTING RIGHT OF WAY		EXISTING MANHOLE
	EXISTING PROPERTY LINE		EXISTING CATCH BASIN
	EXISTING CENTERLINE		EXISTING CURB INLET
	EXISTING EASEMENT		EXISTING CLEANOUT
	EXISTING WETLAND BOUNDARY		EXISTING AREA DRAIN
	EXISTING WETLAND BUFFER		EXISTING WATER METER
	EXISTING CURB		EXISTING IRRIGATION BOX
	EXISTING BUILDING		EXISTING GATE VALVE
	EXISTING STORM		EXISTING FIRE HYDRANT
	EXISTING DITCH		EXISTING POWER TRANSFORMER
	EXISTING SANITARY		EXISTING GATE
	EXISTING WATER		EXISTING UTILITY POLE
	EXISTING GAS		EXISTING GUY WIRE
	EXISTING OVERHEAD TELEPHONE		EXISTING TV PEDESTAL
	EXISTING UNDERGROUND TELEPHONE		EXISTING STREET LIGHT
	EXISTING OVERHEAD POWER		EXISTING MAILBOX
	EXISTING UNDERGROUND POWER		EXISTING ELECTRICAL BOX
	EXISTING OVERHEAD CABLE TV		EXISTING GAS VALVE
	EXISTING UNDERGROUND CABLE TV		EXISTING GAS METER
	EXISTING OVERHEAD WIRE		EXISTING SIGN
	EXISTING FENCE		EXISTING TREE, SHRUB, OR ROOT SYSTEM
	EXISTING MINOR CONTOUR		EXISTING UNDERGROUND UTILITY STRUCTURES (DIMENSIONS VARY)
	EXISTING MAJOR CONTOUR		

**PROPOSED**

	EXISTING TREE, SHRUB, OR ROOT SYSTEM REMOVAL
	PROPOSED UTILITY CASING PIPE
	PROPOSED FENCE REMOVAL

# STANDARD DRAWINGS

City of Sherwood	
FO-2*	City Fiber Joint Utility Trench (Sleeving for Gasline Crossings)
RD-47	Pipe Trench Backfill
Clean Water Services	
610	Bore Detail (Casing Pipe)
855	Construction Entrance
875	Sediment Fence
905	Curb and Gutter Inlet Protection
945	Standard Erosion Control Notes for Sites Less Than 1 Acre
950	Sediment Bag



City of Sherwood Oregon

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**KITTELSON & ASSOCIATES**  
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 PORTLAND, OR 97204  
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#	DATE	REVISION	APP'D

Signed Date: 1/2/2024  
 Drawn: BSC    Designed: CKD    Checked: AMR

KN  
**27311**

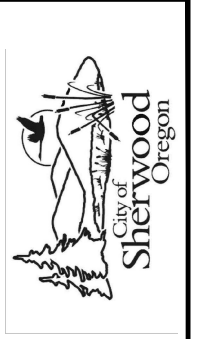
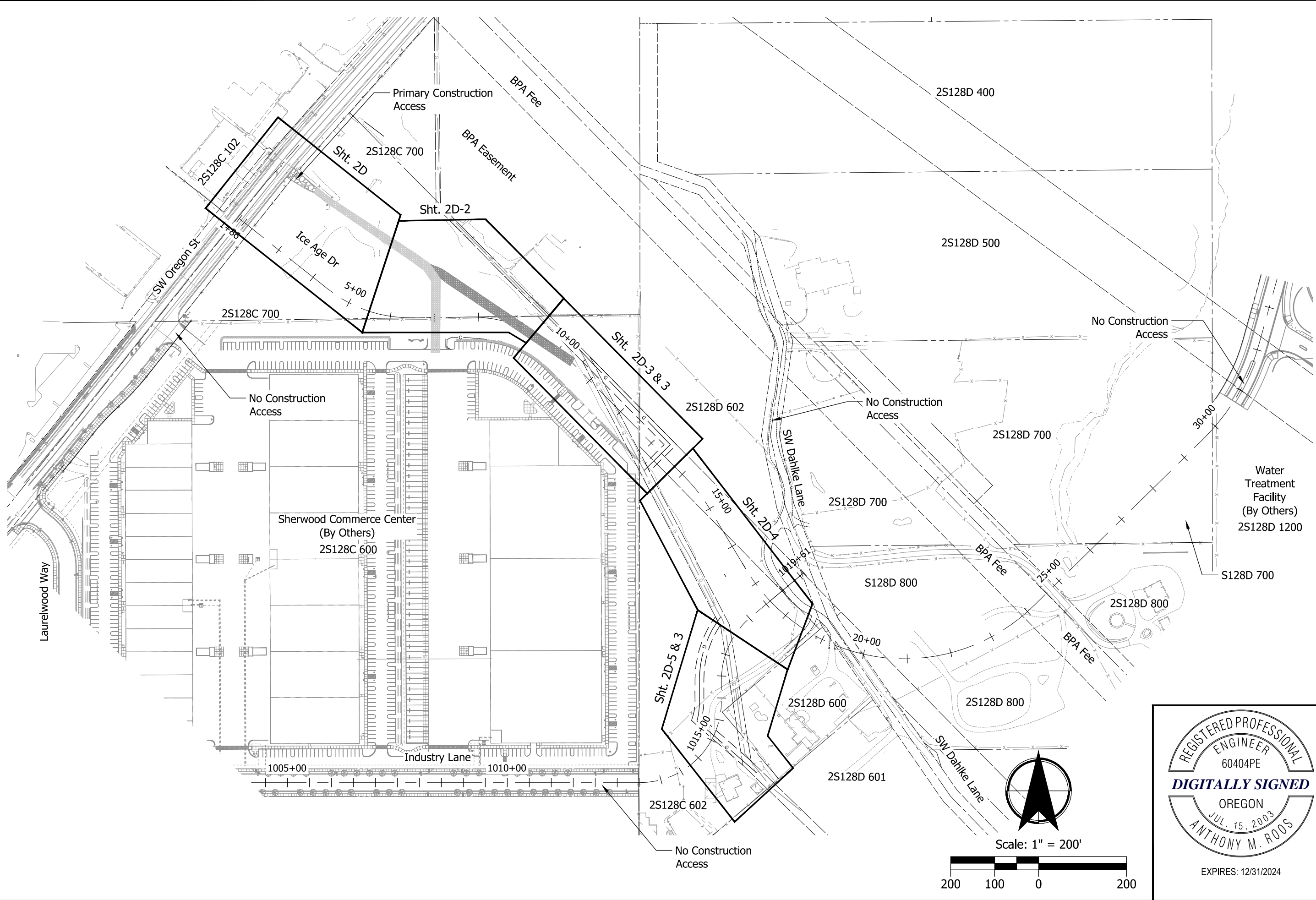
ICE AGE DRIVE:  
KINDER MORGAN GAS RELOCATION

SHEET INDEX

SHEET NO.  
**1A**

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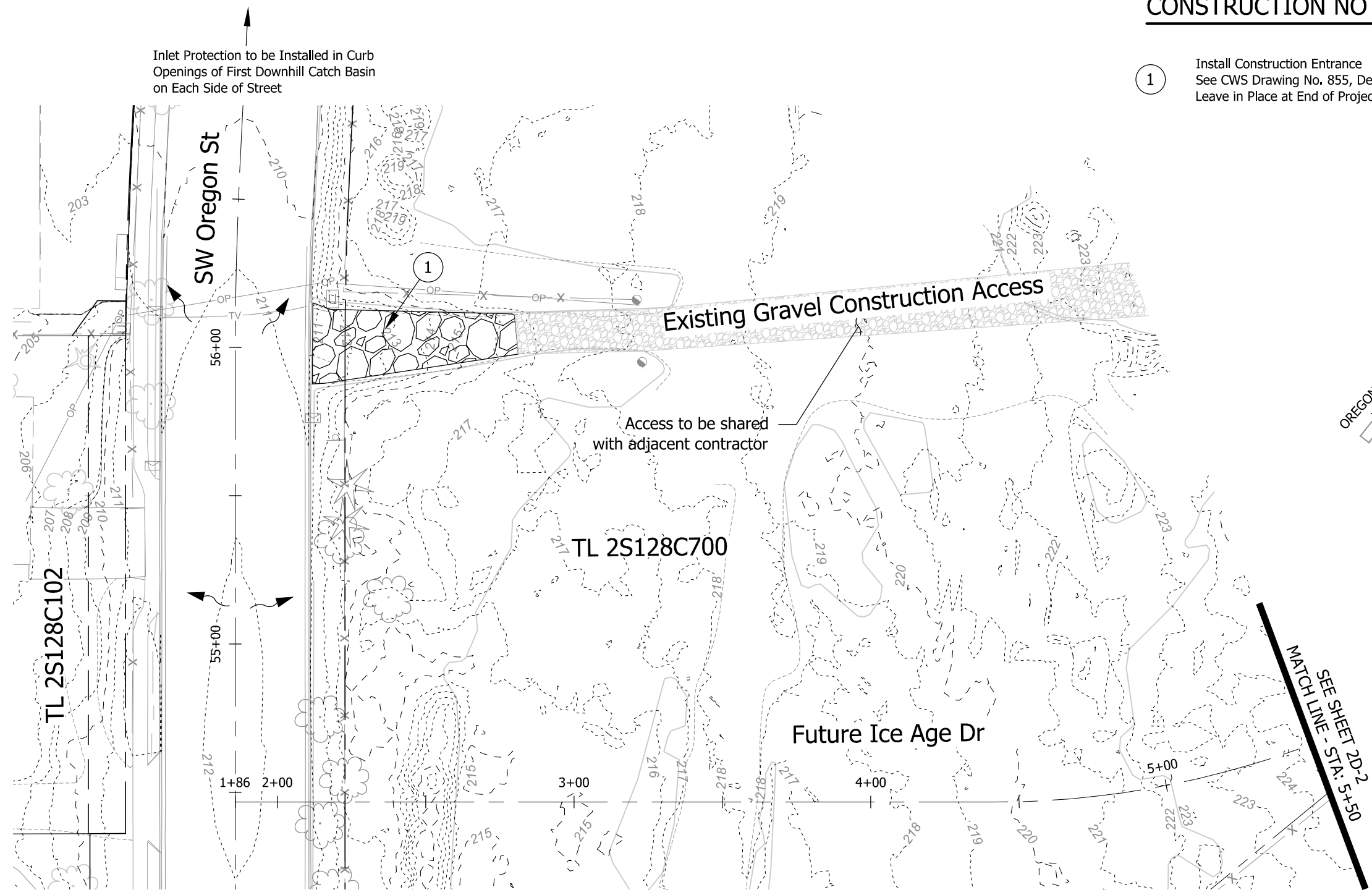
ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 SHEET LAYOUT

SHEET NO. 1B



Plot Stamp: 1/2/2024 4:38:56 PM - Claire Dougherty  
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Inlet Protection to be Installed in Curb  
 Openings of First Downhill Catch Basin  
 on Each Side of Street



**CONSTRUCTION NOTES**

- 1 Install Construction Entrance  
 See CWS Drawing No. 855, Detail Sheet 2D-6  
 Leave in Place at End of Project

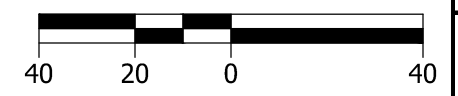
**LEGEND**

- 250--- Existing Major Contours
- .....250..... Existing Minor Contours
- Flow Arrow
- Construction Entrance

**KEY PLAN**  
 NOT TO SCALE



Scale: 1" = 40'



EXPIRES: 12/31/2024



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#	DATE	REVISION	APP'D

Signed Date: 1/2/2024  
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ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION

EROSION CONTROL PLAN

SHEET NO. 2D



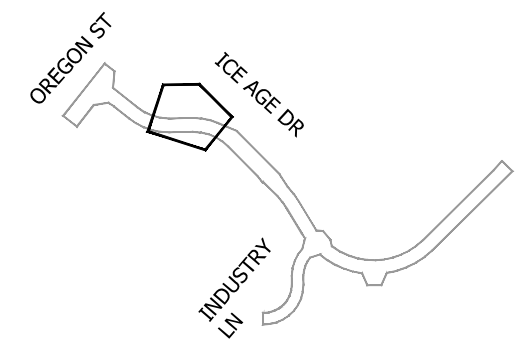
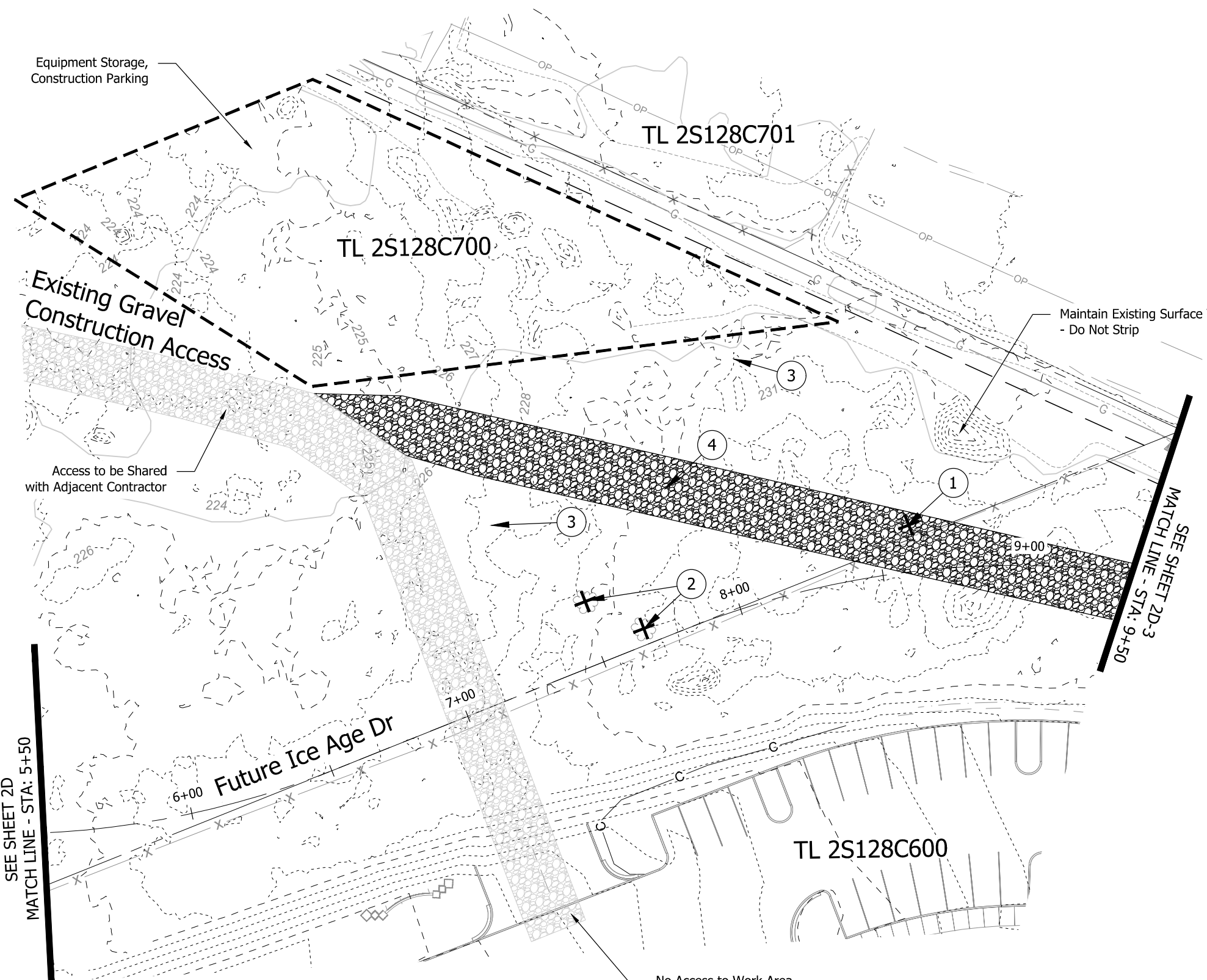
**KITTELSON & ASSOCIATES**  
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 PORTLAND, OR 97204  
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**CONSTRUCTION NOTES**

- ① Remove Existing Tree and Root Wad (1 EA)
- ② Remove Existing Tree (Leave Stump) (2 EA)
- ③ Install Sediment Fence  
See CWS Drawing No. 875, Detail Sheet 2D-10
- ④ Construct Gravel Construction Access Road (12' Width, 4" Minus Rock)  
Strip Vegetation Prior to Placing Aggregate.

**LEGEND**

- 250--- Existing Major Contours
- 250--- Existing Minor Contours
- xx --- Sediment Fence
- XX Trees To Be Removed
- [Gravel Pattern] Gravel Construction Access Road  
Strip Vegetation, Install 6" Thick of  
4"-0" Aggregate, 12' Width. - 7,436.76 SF

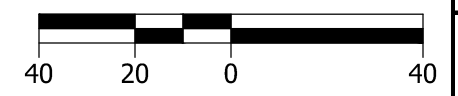


**KEY PLAN**

NOT TO SCALE



Scale: 1" = 40'



Kinder Morgan Inspector To Be Notified Of All Work To Occur Within 25 Feet Of Gas Line

EXPIRES: 12/31/2024

#	DATE	REVISION	APP'D

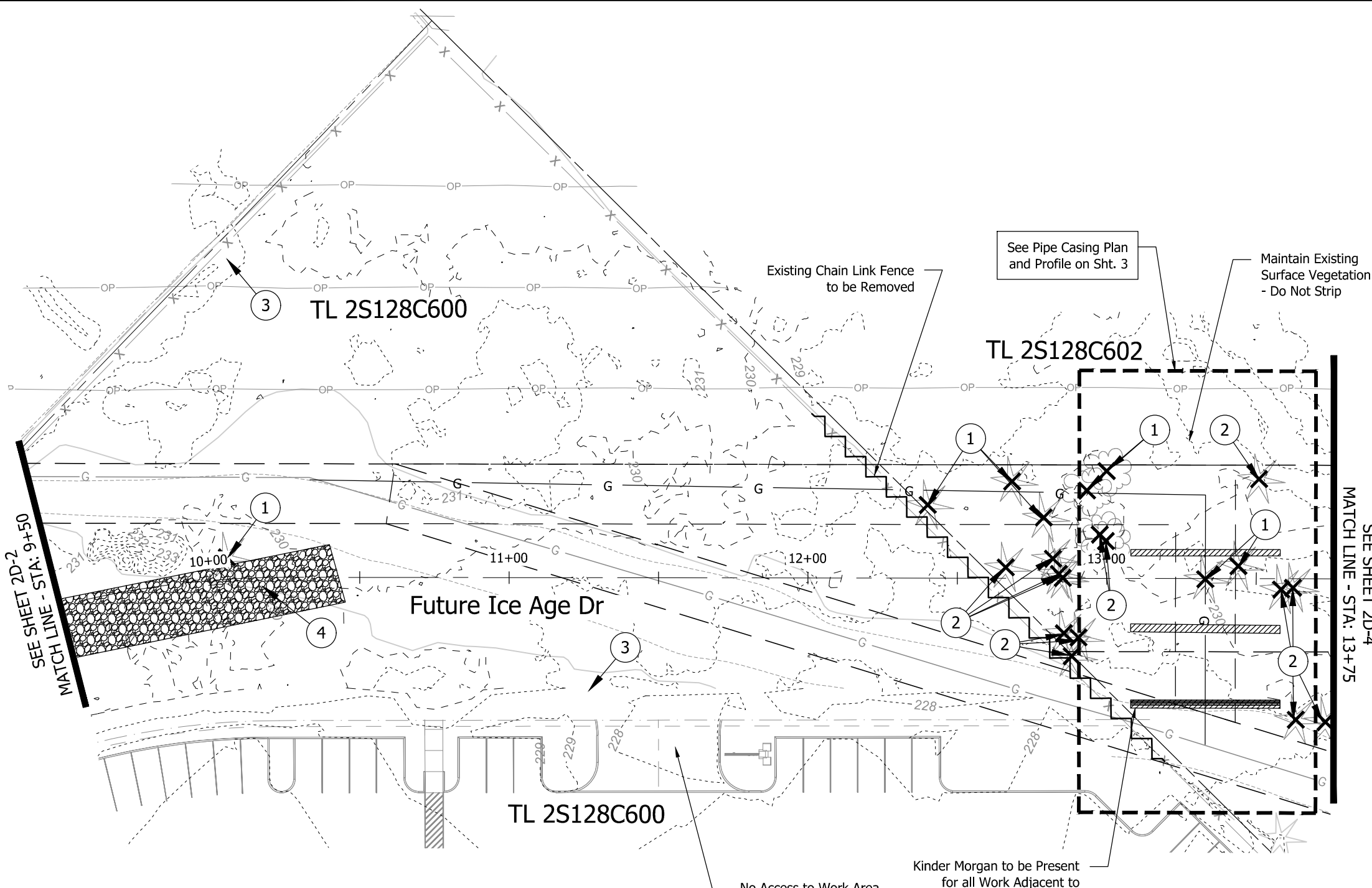
Signed Date: 1/2/2024  
 Drawn: BSC, Designed: CKD, Checked: AMR  
 KN 27311

ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 EROSION CONTROL PLAN

SHEET NO. 2D-2

Plot Stamp: 1/2/2024 4:39:09 PM - Claire Dougherty  
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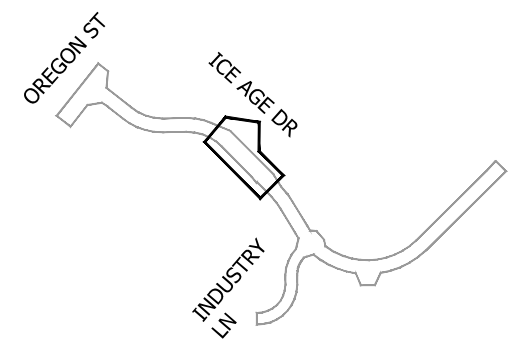


**CONSTRUCTION NOTES**

- ① Remove Existing Tree and Root Wad (8 EA)
- ② Remove Existing Tree (Leave Stump) (13 EA)
- ③ Install Sediment Fence  
See CWS Drawing No. 875, Detail Sheet 2D-10
- ④ Construct Gravel Construction Access Road  
(20' Width, 6" Minus Rock)

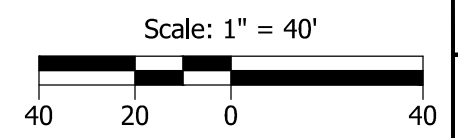
**LEGEND**

- 250--- Existing Major Contours
- 250--- Existing Minor Contours
- xx --- xx --- xx --- Sediment Fence
- XX Trees To Be Removed
- [Hatched Box] Gravel Construction Access Road  
Strip Vegetation, Install 6" Thick of 4"-0" Aggregate, 12' Width. - 7,436.76 SF



**KEY PLAN**

NOT TO SCALE



EXPIRES: 12/31/2024

Kinder Morgan Inspector To Be Notified Of All Work To Occur Within 25 Feet Of Gas Line



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#	DATE	REVISION	APP'D

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 Drawn: BSC, Designed: CKD, Checked: AMR  
 KN 27311

ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 EROSION CONTROL PLAN

SHEET NO. 2D-3



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### CONSTRUCTION NOTES

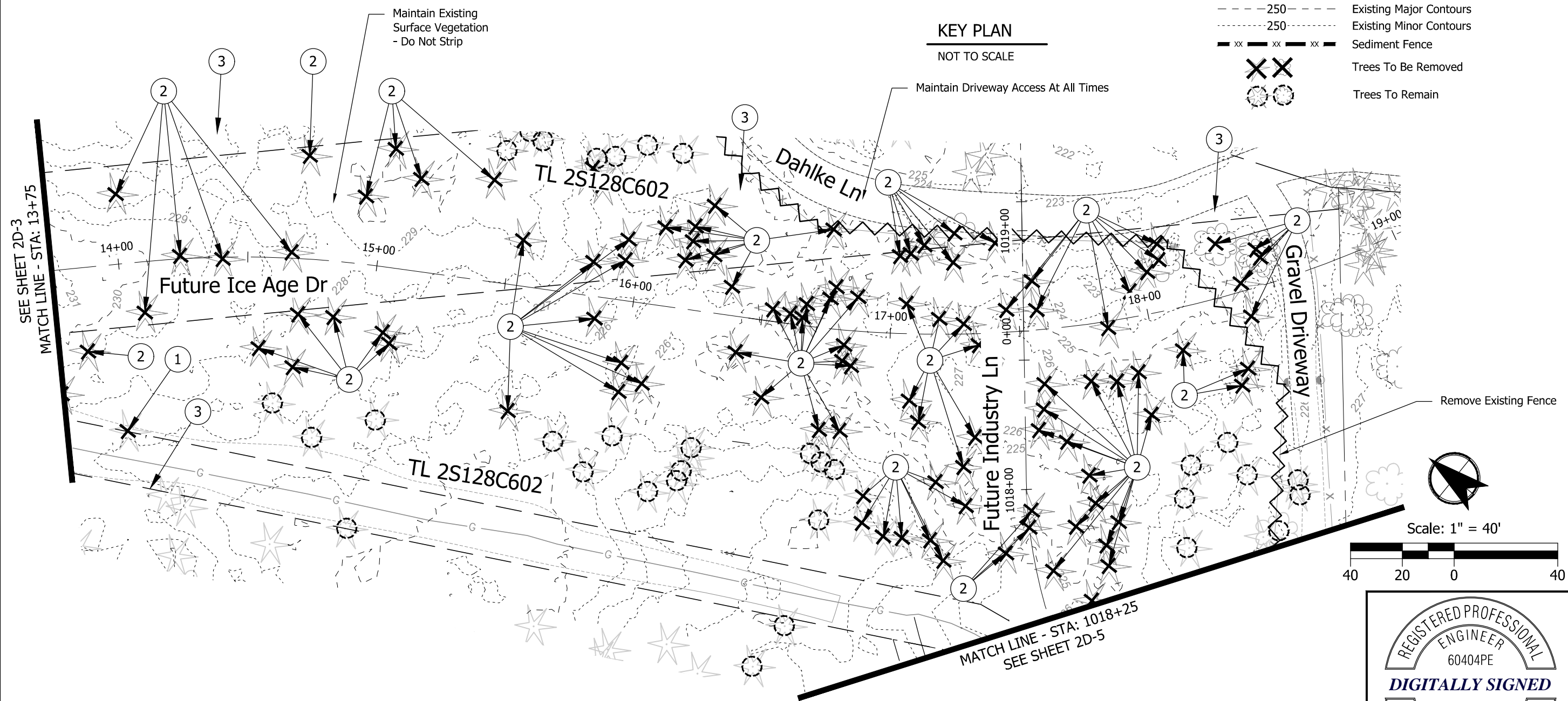
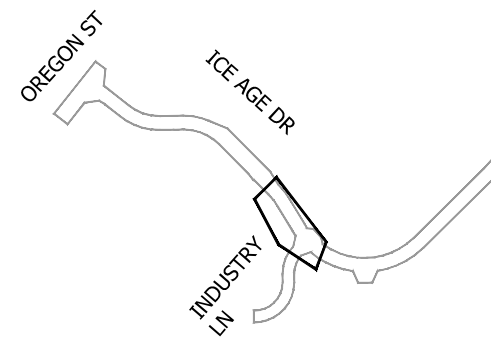
- ① Remove Existing Tree and Root Wad (1 EA)
- ② Remove Existing Tree (Leave Stump) (106 EA)
- ③ Install Sediment Fence  
See CWS Drawing No. 875, Detail Sheet 2D-10

### LEGEND

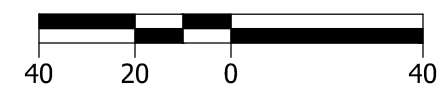
- 250--- Existing Major Contours
- 250----- Existing Minor Contours
- xx--- Sediment Fence
- XX Trees To Be Removed
- ⊗ Trees To Remain

### KEY PLAN

NOT TO SCALE



Scale: 1" = 40'



EXPIRES: 12/31/2024

Kinder Morgan Inspector To Be Notified Of All Work To Occur Within 25 Feet Of Gas Line

#	DATE	REVISION	APP'D

Signed Date: 1/2/2024  
 Drawn: BSC  
 Designed: CKD  
 Checked: AMR  
 KN 27311

ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 EROSION CONTROL PLAN

SHEET NO. 2D-4

Plot Stamp: 1/2/2024 4:39:43 PM - Claire Dougherty  
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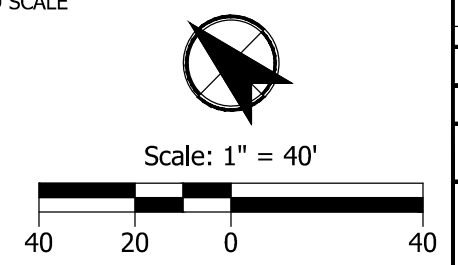
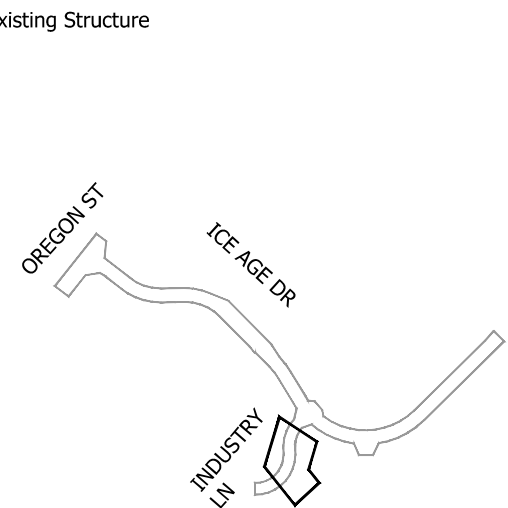
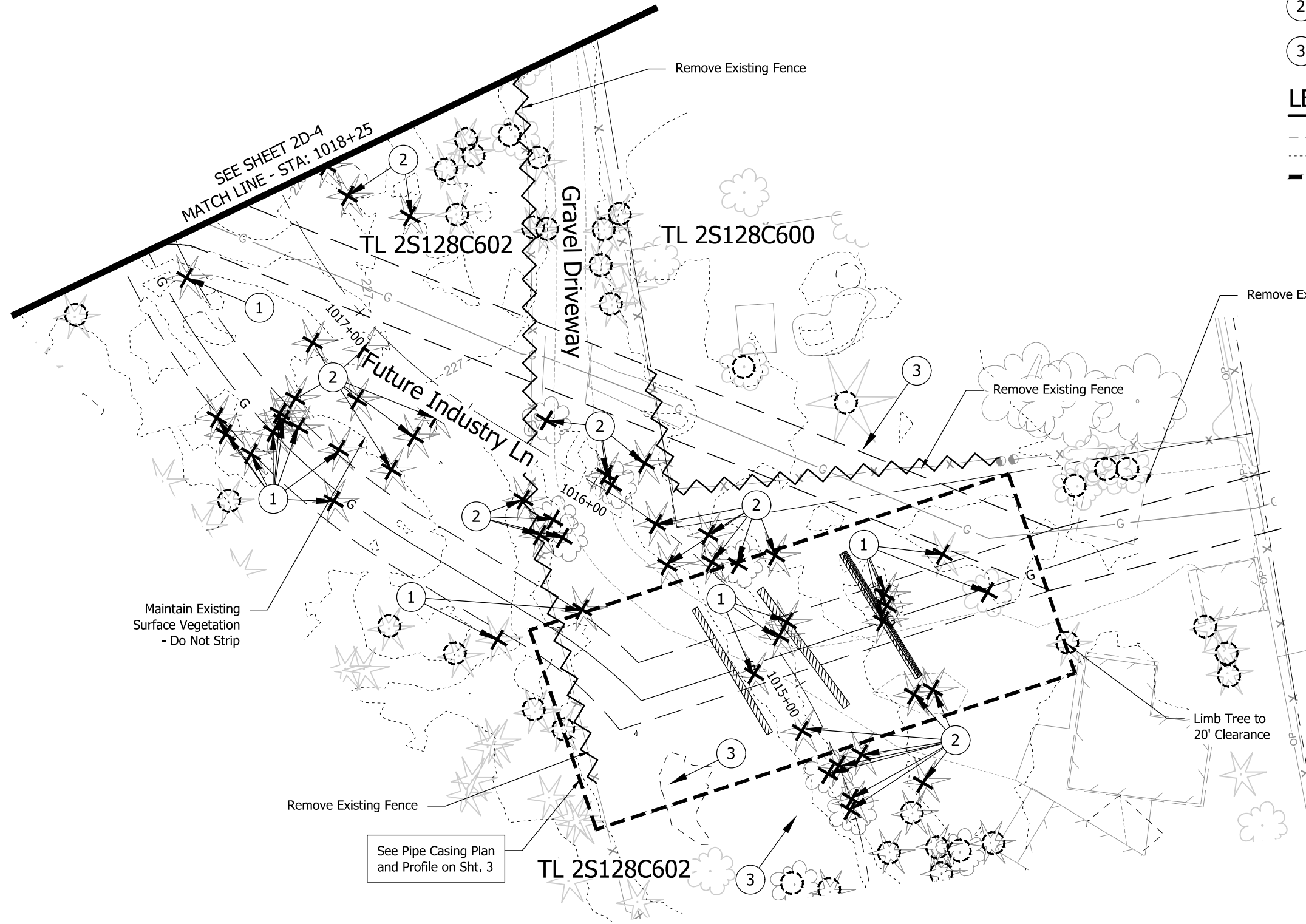
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### CONSTRUCTION NOTES

- ① Remove Existing Tree and Root Wad (20 EA)
- ② Remove Existing Tree (Leave Stump) (32 EA)
- ③ Install Sediment Fence  
See CWS Drawing No. 875, Detail Sheet 2D-10

### LEGEND

- 250--- Existing Major Contours
- - - - -250- - - - - Existing Minor Contours
- xx --- Sediment Fence
- ✕✕ Trees To Be Removed
- ⊗⊗ Trees To Remain



Kinder Morgan Inspector To Be Notified Of All Work To Occur Within 25 Feet Of Gas Line

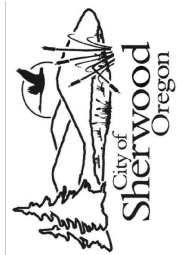


#	DATE	REVISION	APP'D

Signed Date: 1/2/2024  
 Drawn: BSC, Designed: CKD, Checked: AMR

ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 EROSION CONTROL PLAN  
 (INDUSTRY LANE)  
 SHEET NO. 2D-5





**KITTELSON & ASSOCIATES**  
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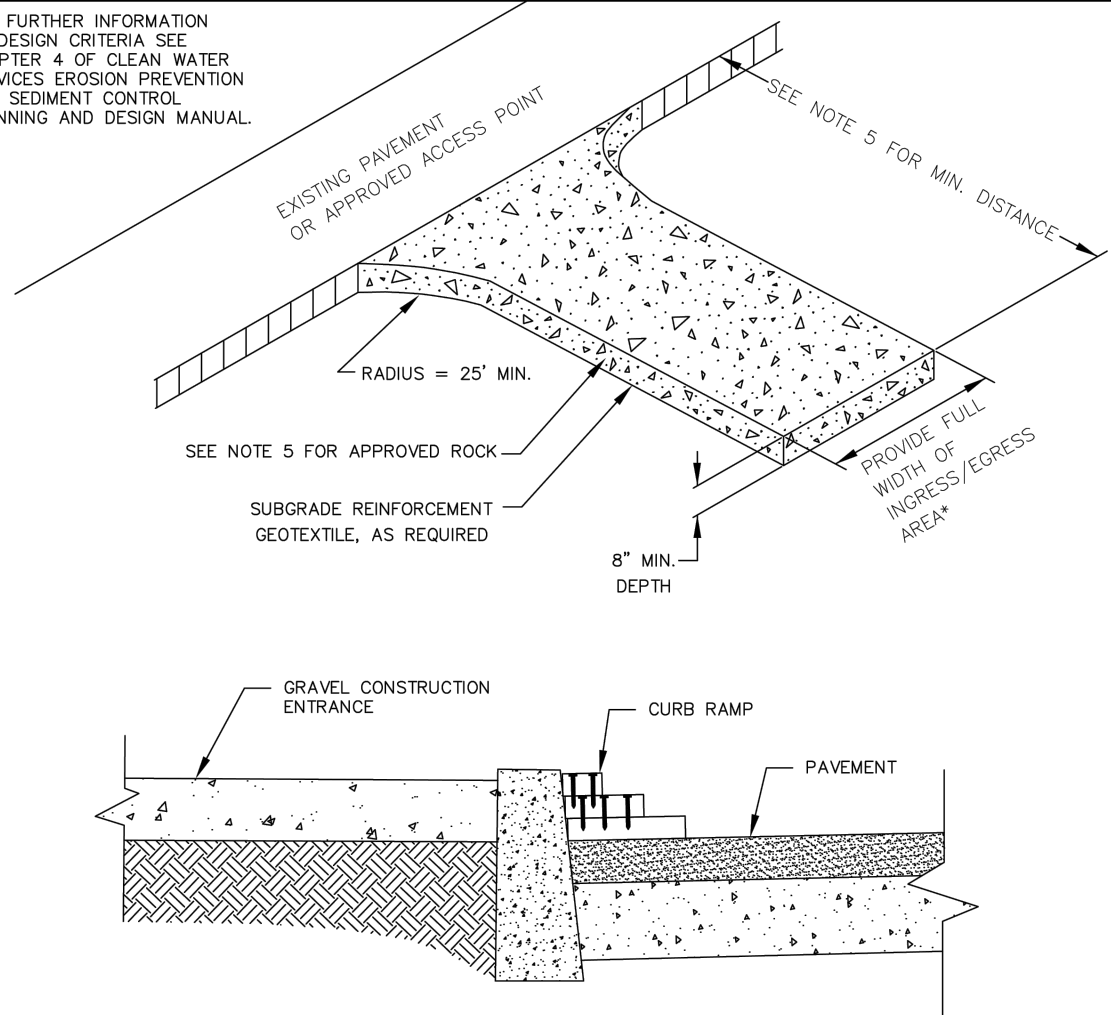
Signed Date: 1/2/2024  
 Drawn: BSC, Designed: CKD, Checked: AMR

KN 27311

ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 EROSION CONTROL DETAILS

SHEET NO. 2D-6

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.



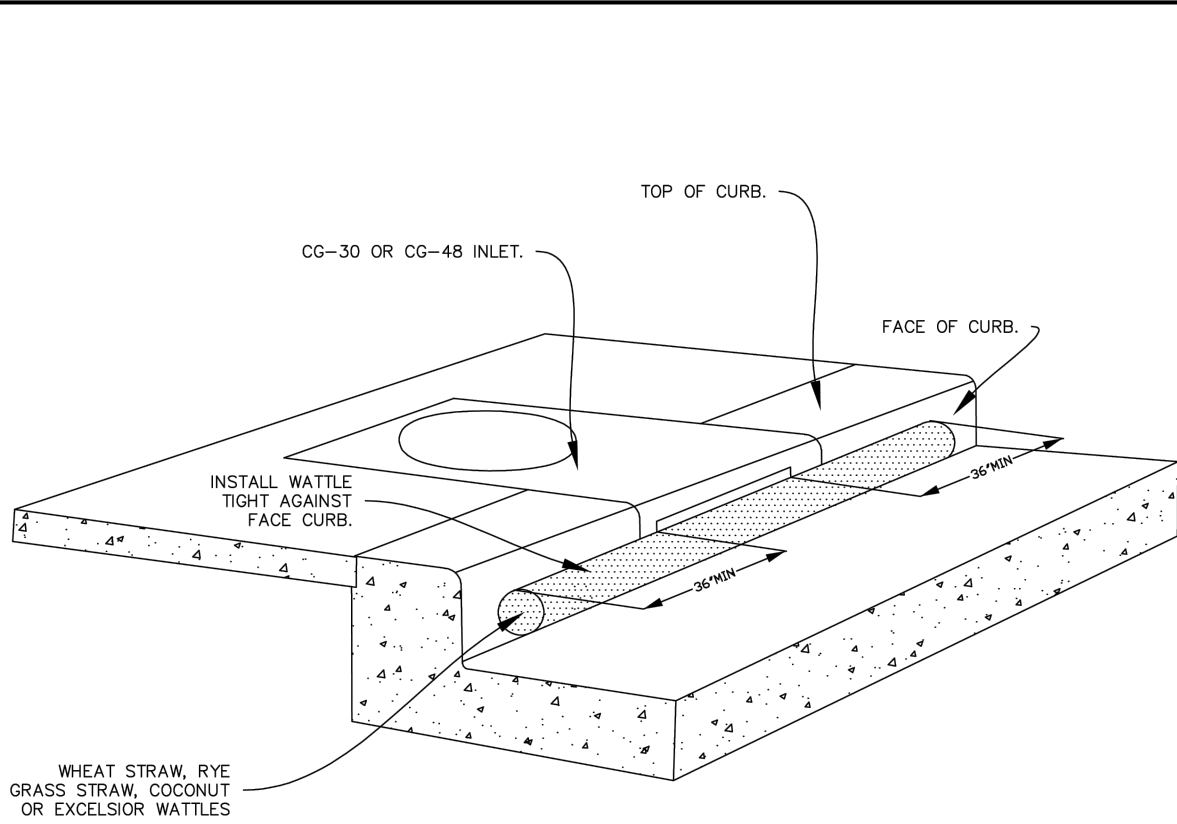
**NOTES:**

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS  
SINGLE FAMILY  
 20' LONG BY 20' WIDE 8" DEEP OF 3/4" MINUS CLEAN ROCK.  
COMMERCIAL/SITE DEVELOPMENT  
 50' LONG BY 20' WIDE 3-6" CLEAN ROCK, GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

DRAWING NO. 855

REVISED 10-31-19

**CONSTRUCTION ENTRANCE**



PERSPECTIVE VIEW SHOWING WATTLE ALONG GUTTER AT CURB INLET

**NOTES:**

1. ONLY ALLOWED USE OF APPLICATION IS ON CURB AND GUTTER INLETS.
2. INSTALL WATTLE ALONG INLET WITH WATTLE EXTENDING A MIN OF 36" BEYOND INLET OPENINGS IN EACH DIRECTION.
3. WATTLE MUST BE INSTALLED TIGHTLY AGAINST CURB. MAY REQUIRE ADDITIONAL MEASURES TO ENSURE WATTLE REMAINS TIGHT AGAINST CURB, SUCH AS USING ZIP TIES TO SECURE WATTLE TO INLET'S TRASH BARS OR USING SANDBAGS TO WEIGHT DOWN WATTLE.
4. REPLACE WATTLE AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING THE STORM SYSTEM.

DRAWING NO. 905

REVISED 10-31-19

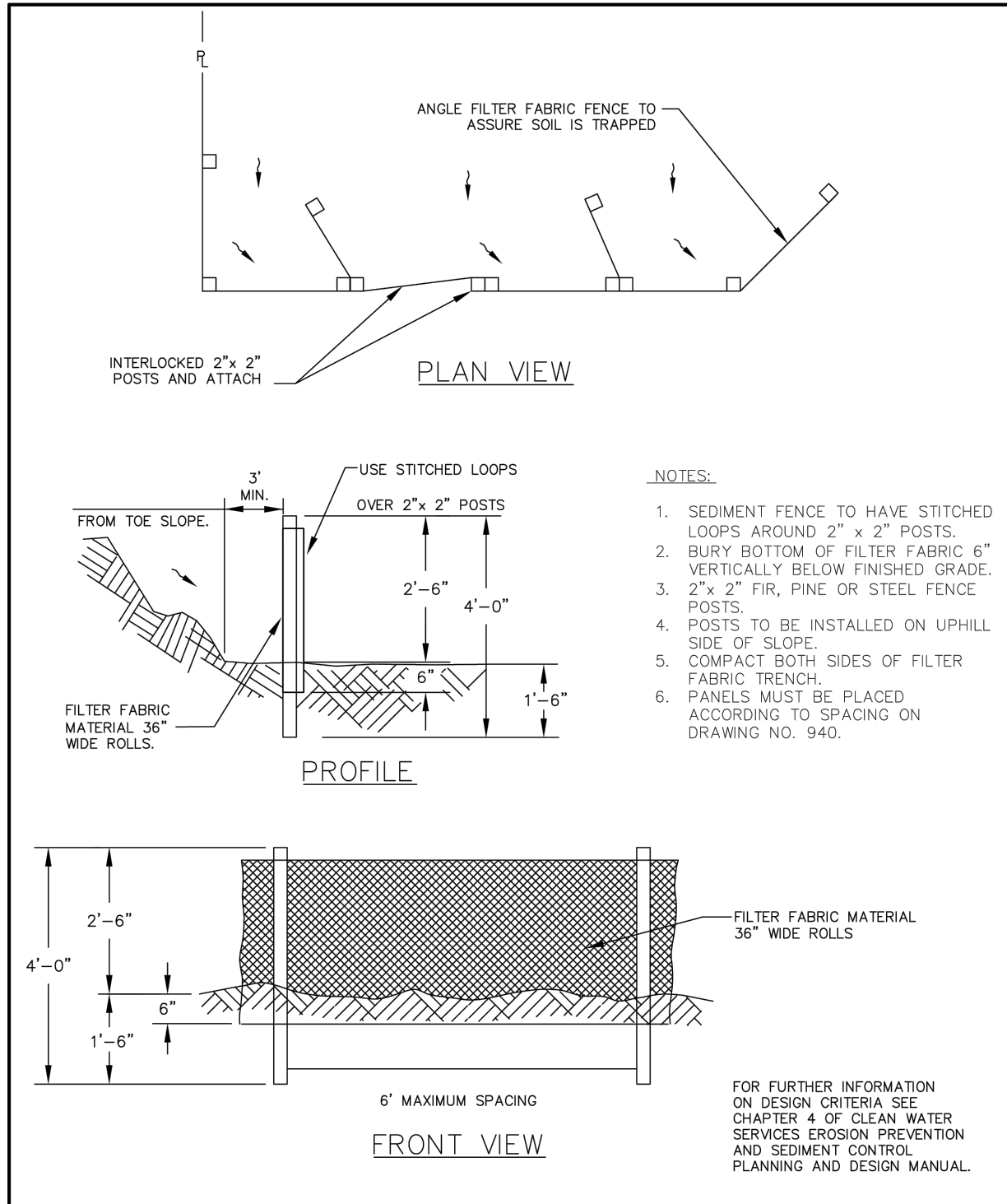
**CURB AND GUTTER INLET PROTECTION**



EXPIRES: 12/31/2024

Plot Stamp: 1/2/2024 4:39:59 PM - Claire Dougherty  
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- NOTES:**
1. SEDIMENT FENCE TO HAVE STITCHED LOOPS AROUND 2" x 2" POSTS.
  2. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
  3. 2" x 2" FIR, PINE OR STEEL FENCE POSTS.
  4. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
  5. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
  6. PANELS MUST BE PLACED ACCORDING TO SPACING ON DRAWING NO. 940.

- NOTES:**
1. WHEN RAINFALL AND RUNOFF OCCURS, A KNOWLEDGEABLE AND EXPERIENCED PERSON IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS WHO WORKS FOR THE PERMITTEE MUST PROVIDE DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROLS AND DISCHARGE OUTFALLS.
  2. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31ST EACH YEAR.
  3. DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
  4. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED.
  5. ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
  6. SIGNIFICANT AMOUNTS OF SEDIMENT THAT LEAVES THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
  7. SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
  8. SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF 1/3-RD THE BARRIER HEIGHT AND PRIOR TO THE CONTROL MEASURES REMOVAL.
  9. CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
  10. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
  11. THE PERMITTEE MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
  12. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
  13. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE, AND FEDERAL REGULATIONS.
  14. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. UNLESS OTHERWISE APPROVED, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
  15. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMPs THAT MUST BE INSTALLED ARE GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMPs MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
  16. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1ST; THE TYPE AND PERCENTAGES OF SEED IN THE MIX ARE AS IDENTIFIED ON THE PLANS OR AS SPECIFIED BY THE DESIGN ENGINEER.
  17. WATERTIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPs; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
  18. ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
  19. THE ESC PLAN MUST BE KEPT ONSITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
  20. THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
  21. WRITTEN ESC LOGS ARE SUGGESTED TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
  22. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPs MUST BE USED, WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
  23. ALL EXPOSED SOILS MUST BE COVERED, AT END OF BUSINESS DAY, DURING WET WEATHER PERIOD, FROM OCTOBER 1 - MAY 31.

**SEDIMENT FENCE**

DRAWING NO. 875 REVISED 10-31-19

**CleanWater Services**

**STANDARD EROSION CONTROL NOTES FOR SITES LESS THAN 1 ACRE**

DRAWING NO. 945 REVISED 10-31-19

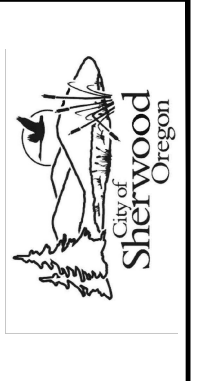
**CleanWater Services**

REGISTERED PROFESSIONAL ENGINEER  
 60404PE  
**DIGITALLY SIGNED**  
 OREGON  
 JUL. 15, 2003  
 ANTHONY M. ROOS  
 EXPIRES: 12/31/2024

ICE AGE DRIVE:  
KINDER MORGAN GAS RELOCATION

EROSION CONTROL DETAILS

SHEET NO.  
2D-7



**KITTELSON & ASSOCIATES**

851 SW 6TH AVENUE, SUITE 600  
 PORTLAND, OR 97204  
 P 503.228.5250 F 503.273.8168

#	DATE	REVISION	APP'D

Signed Date:  
1/2/2024

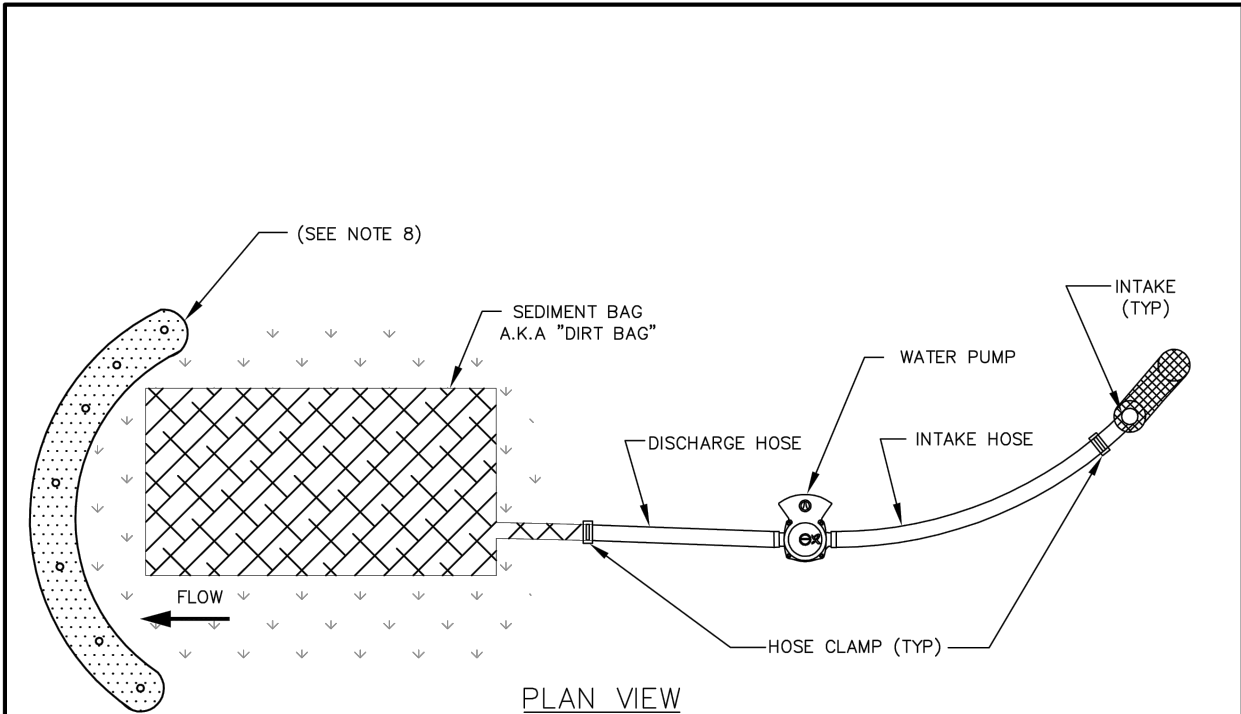
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KN  
**27311**



**KITTELSON & ASSOCIATES**

851 SW 6TH AVENUE, SUITE 600  
 PORTLAND, OR 97204  
 P 503.228.5250 F 503.273.8168



**NOTES:**

1. THE SEDIMENT BAG SHALL BE MANUFACTURED USING A POLYPROPYLENE 8 OZ. NON-WOVEN GEOTEXTILE SEWN INTO A BAG WITH A DOUBLE NEEDLE, USING A HIGH STRENGTH THREAD.
2. EACH STANDARD SEDIMENT BAG MUST HAVE A FILL SPOUT LARGE ENOUGH TO ACCOMMODATE A 4" DISCHARGE HOSE. STRAPS ARE ATTACHED TO SECURE THE HOSE AND PREVENT PUMPED WATER FROM ESCAPING WITHOUT BEING FILTERED.
3. THE SEDIMENT BAG SHALL MEET OR EXCEED OVERALL BAG REMOVAL EFFICIENCY RATE OF 97.55%.
4. WATER BEING DISCHARGED FROM THE SEDIMENT BAG MUST BE FREE OF ALL SEDIMENT PRIOR TO LEAVING THE SITE OR ENTERING INTO THE STORM SYSTEM.
5. SEDIMENT BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A RATE LESS THAN 50% OF MANUFACTURER'S DESIGNED FLOW RATE.
6. DURING USE, THE SEDIMENT BAG MUST BE MONITORED.
7. DISPOSE OF USED SEDIMENT BAG OFF SITE OR AS APPROVED BY CWS.
8. WHEN APPROPRIATE, INSTALL DOWNSTREAM SEDIMENT CONTROL MEASURES PER CWS STANDARDS.
9. FOR BEST RESULTS, PLACE SEDIMENT BAG ON FLAT SURFACE.
10. SEDIMENT BAG SHOULD BE PLACED ON EXISTING VEGETATION, ROCK, OR BED OF STRAW. SEDIMENT BAG SHOULD NOT BE PLACED ON BARE GROUND.

**SEDIMENT BAG**

DRAWING NO. 950

REVISED 10-31-19



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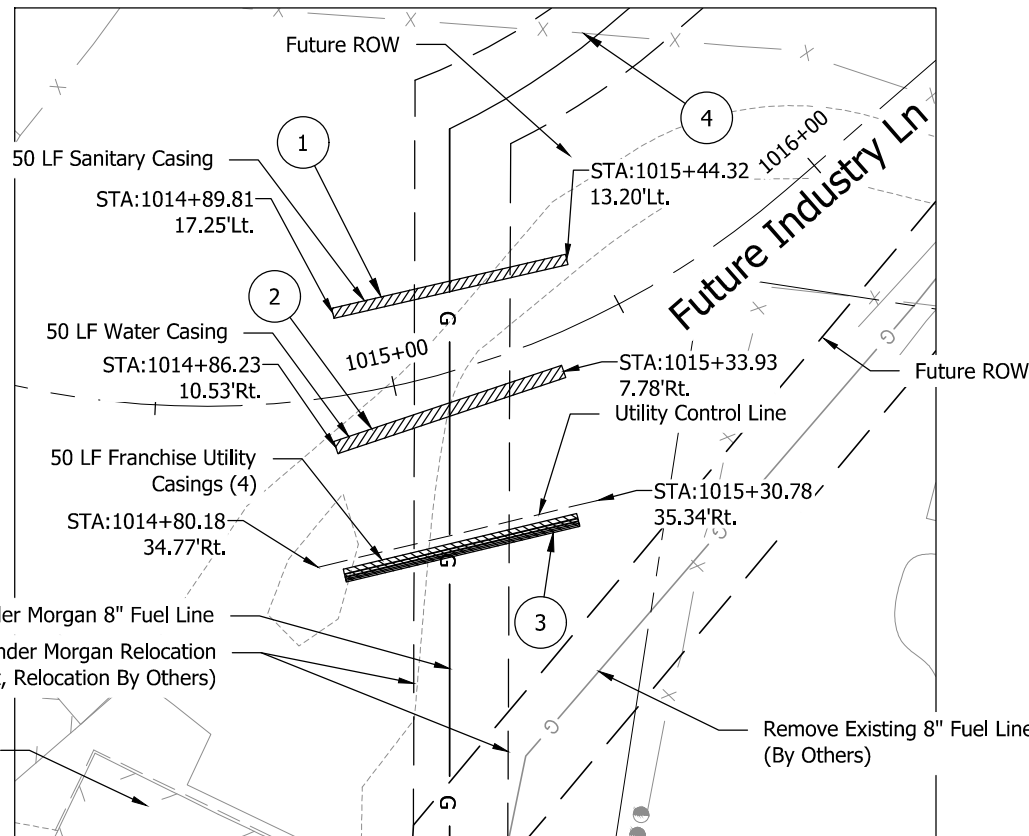
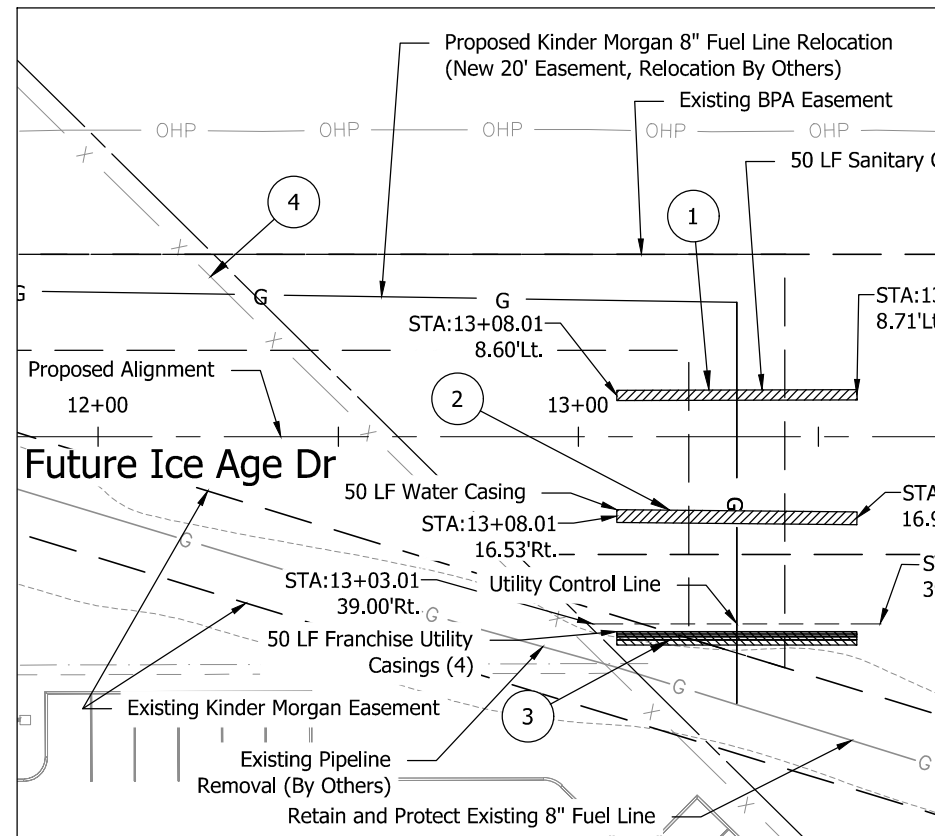
Signed Date: 1/2/2024  
 Drawn: BSC, Designed: CKD, Checked: AMR

KN 27311

ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 EROSION CONTROL DETAILS

SHEET NO. 2D-8





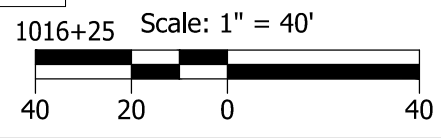
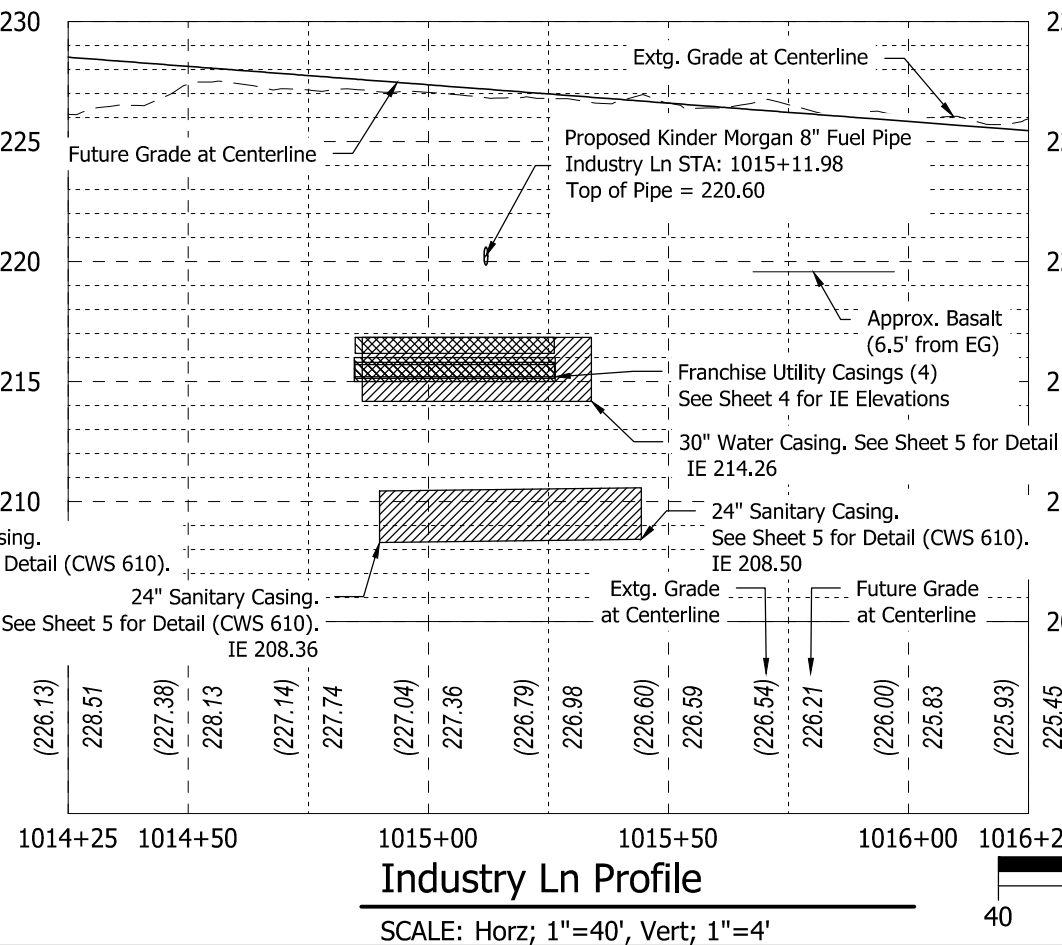
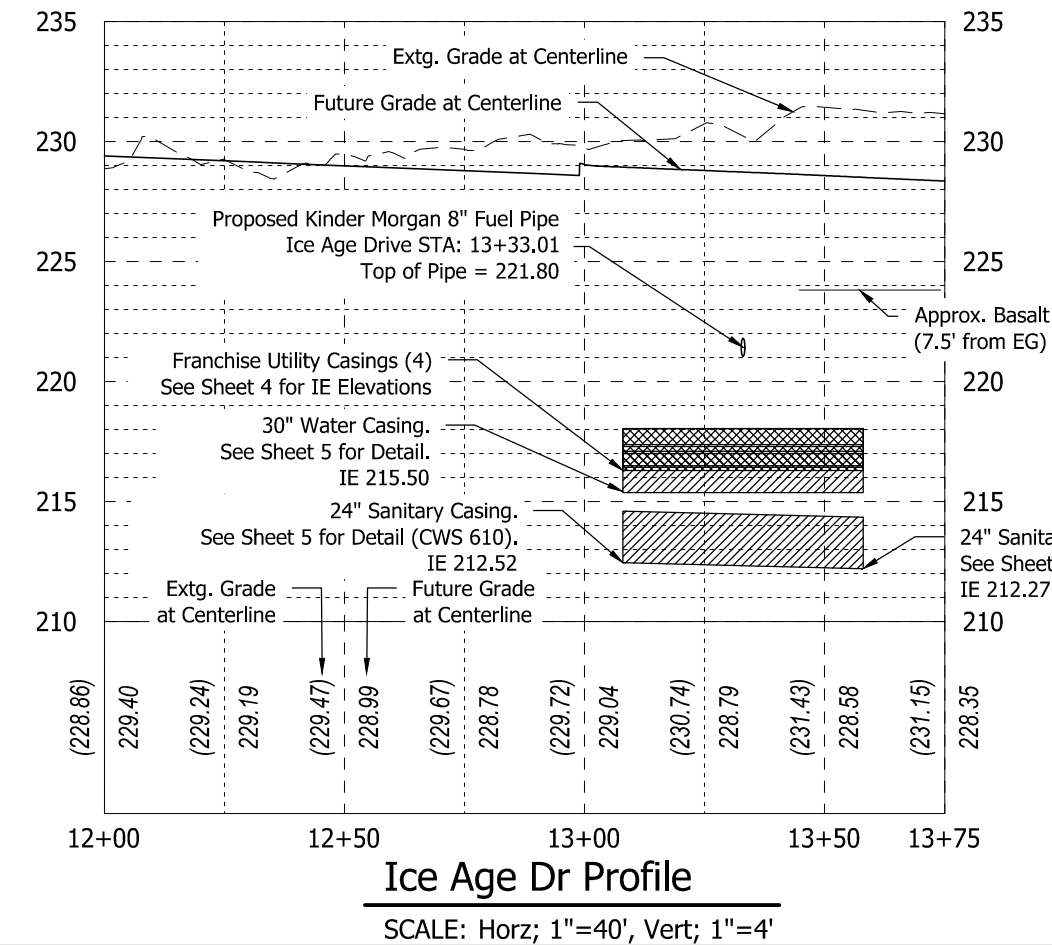
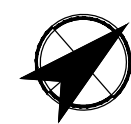
**CONSTRUCTION NOTES**

- 1. Install 50 LF 24-In Diameter Steel Casing Pipe for Future Sanitary Sewer. See Sheet 5 for Detail.
- 2. Install 50 LF 30-In Diameter Steel Casing Pipe for Future Water Main. See Sheet 5 for Detail.
- 3. Install Franchise Utility PVC Casing Pipes, See Sheet 4 for Depth and Horizontal Clearance Requirements
- 4. Remove Existing Chainlink Fence

**GENERAL NOTES**

- 1. All Casing Pipes to be installed in trenches per City Detail 2D-47, see Sheet 4. Trench limits to extend 5 feet beyond each casing end.
- 2. All Casing Pipes are to be surveyed in place and elevations confirmed by Engineer before trench is backfilled.
- 3. All Casing Pipe Ends to be capped with Visqueen and Plywood board and marked with vertical 2x4 extending up to ground level.
- 4. See Erosion Control Plans for Existing Tree Removals.
- 5. Steel Casings to be Welded Smooth Steel Pipe Conforming to ASTM A36 With a Minimum Yield Strength of 36,000 PSI.
- 6. Franchise Utility PVC Casings to be Schedule 40 PVC.

**CAUTION - Existing Fuel Pipe Will be Active at Time of Casing Installation. Do Not Damage.**  
 Kinder Morgan Inspector to be Notified Of All Work To Occur Within 25 Feet Of Gas Line.  
 Class 'B' Backfill For Sanitary and Water Casing Trench, Class 'A' For Franchise Utility Casings Trench.



**KITTELSON & ASSOCIATES**  
 851 SW 6TH AVENUE, SUITE 600  
 PORTLAND, OR 97204  
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Signed Date: 1/11/2024  
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 Checked: CKD, AMR  
 KN 27311



ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 PIPE PLAN AND PROFILE  
 ICE AGE DRIVE  
 SHEET NO. 3

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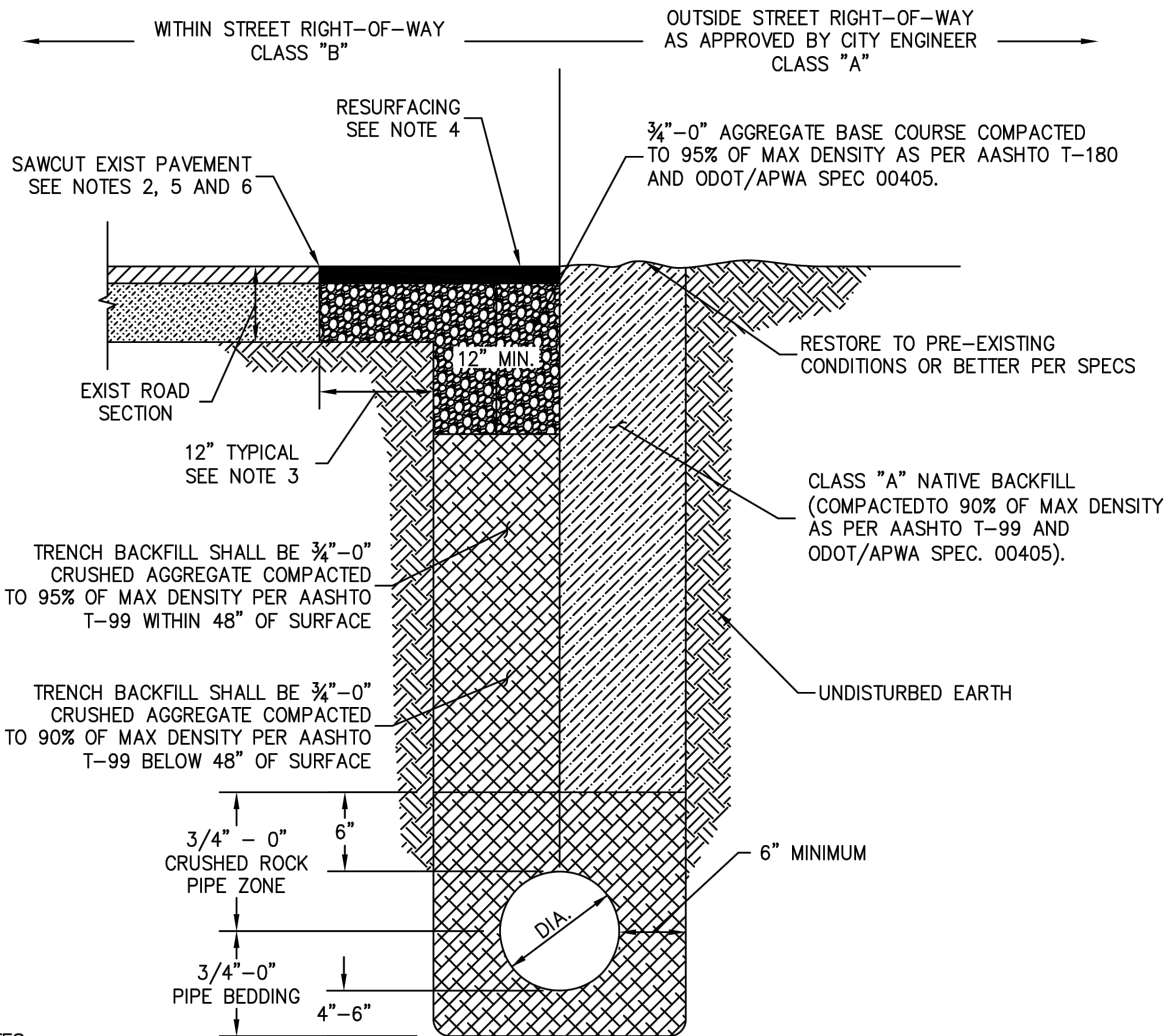
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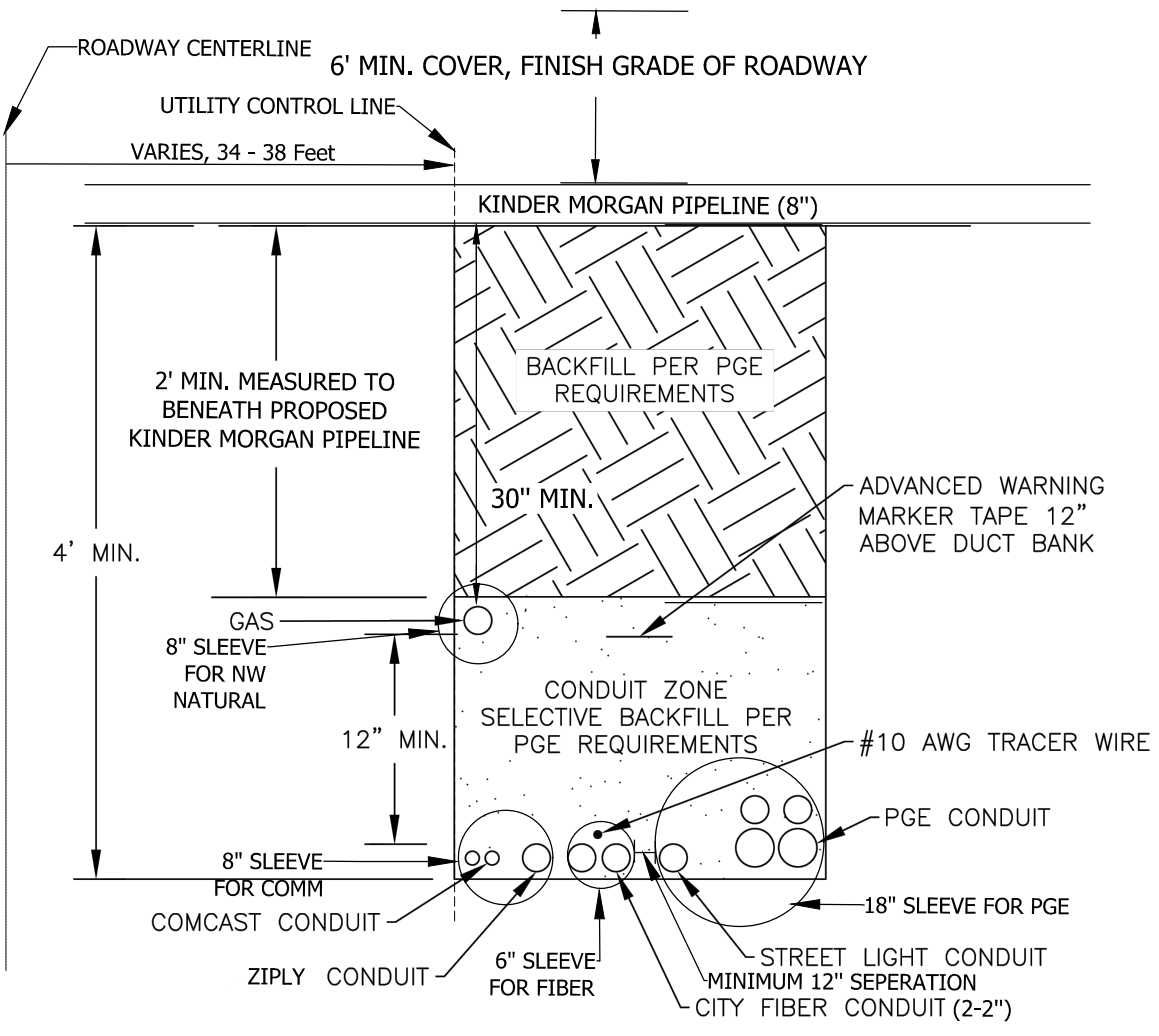
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ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 PIPE DETAIL  
 INDUSTRY LANE

SHEET NO. 4



- NOTES:
- THESE TRENCH BACKFILL REQUIREMENTS APPLY TO ALL UTILITY PIPES. FOR ADDITIONAL REQUIREMENTS, SEE CITY STANDARD DESIGN MANUAL SECTION 210.19.
  - SAWCUT EXISTING HMAC PAVEMENT FULL DEPTH. SAWCUT EXISTING PCC PAVEMENT ACCORDING TO CITY STANDARD DETAILS.
  - 12" FOR TRENCHES WIDER THAN 12". 6" FOR TRENCHES LESS THAN 12".
  - MATCH EXISTING PAVEMENT MATERIAL(S). THICKNESS SHALL BE AS FOLLOWS:
    - FOR EXISTING HMAC: RESURFACE TO A MINIMUM OF 3" OF LEVEL 2, 1/2" DENSE HMAC OR EXISTING AC THICKNESS PLUS 2", WHICHEVER IS GREATER, NOT TO EXCEED 6". COMPACT AC IN 2" MAX LIFTS TO 92% OF MAXIMUM DENSITY (RICE).
    - FOR EXISTING PCC: EXISTING PAVEMENT THICKNESS PLUS 2", BUT NOT LESS THAN 8". ON ARTERIAL AND COLLECTOR STREETS, CONCRETE PATCHING MATERIAL SHALL BE HIGH EARLY STRENGTH CLASS 5000 PSI PCC APPROVED BY CITY ENGINEER.
  - ALL CUT EDGES AND COLD JOINTS OF AC SHALL BE SEALED WITH HOT RUBBERIZED ASPHALT CRACK SEALER CONFORMING TO ASTM D3405.
  - OVERCUTTING OF ASPHALT NOT ALLOWED.



**JOINT UTILITY TRENCH AT KINDER MORGAN PIPELINE CROSSING**

TYPICAL SECTION (N.T.S.)  
 THIS DETAIL IS SCHEMATIC AND FOR INFORMATIONAL PURPOSES AND SHALL COMPLY WITH PGE REQUIREMENTS

- NOTES:
- UTILITIES IN JOINT TRENCH VARY BY PROJECT. SEE PLANS FOR LOCATIONS AND SIZES OF CONDUIT FOR EACH UTILITY.
  - SURFACING OF PAVED AREAS SHALL COMPLY WITH STANDARD DETAIL RD-45.
  - ALL SLEEVING TO EXTEND THROUGH ENTIRE KINDER MORGAN EASEMENT CROSSING (20 FOOT WIDTH), AND AT LEAST 25 FEET EACH SIDE OF PROPOSED KINDER MORGAN PIPELINE.

STANDARD DRAWING TITLE	DRAWING NUMBER
PIPE TRENCH BACKFILL	RD-47
SCALE	DATE
N.T.S.	2023.03.14

STANDARD DRAWING TITLE	DRAWING NUMBER
CITY FIBER JOINT UTILITY TRENCH	
SCALE	
N.T.S.	

ICE AGE DR	CASING	RT. OFFSET -	
		UTILITY CASING CONTROL LINE TO CASING CENTER	MAX TOP OF CASING ELEVATION
8" PVC (GAS)		0.33'	218.63
8" PVC (COM)		0.33'	216.97
6" PVC (FIB.)		1.00'	216.97
18" PVC (PGE)		3'	218.00

INDUSTRY LN	CASING	RT. OFFSET -	
		UTILITY CASING CONTROL LINE TO CASING CENTER	MAX TOP OF CASING ELEVATION
8" PVC (GAS)		0.33'	217.43
8" PVC (COM)		0.33'	215.76
6" PVC (FIB.)		1.00'	215.76
18" PVC (PGE)		3'	217.00



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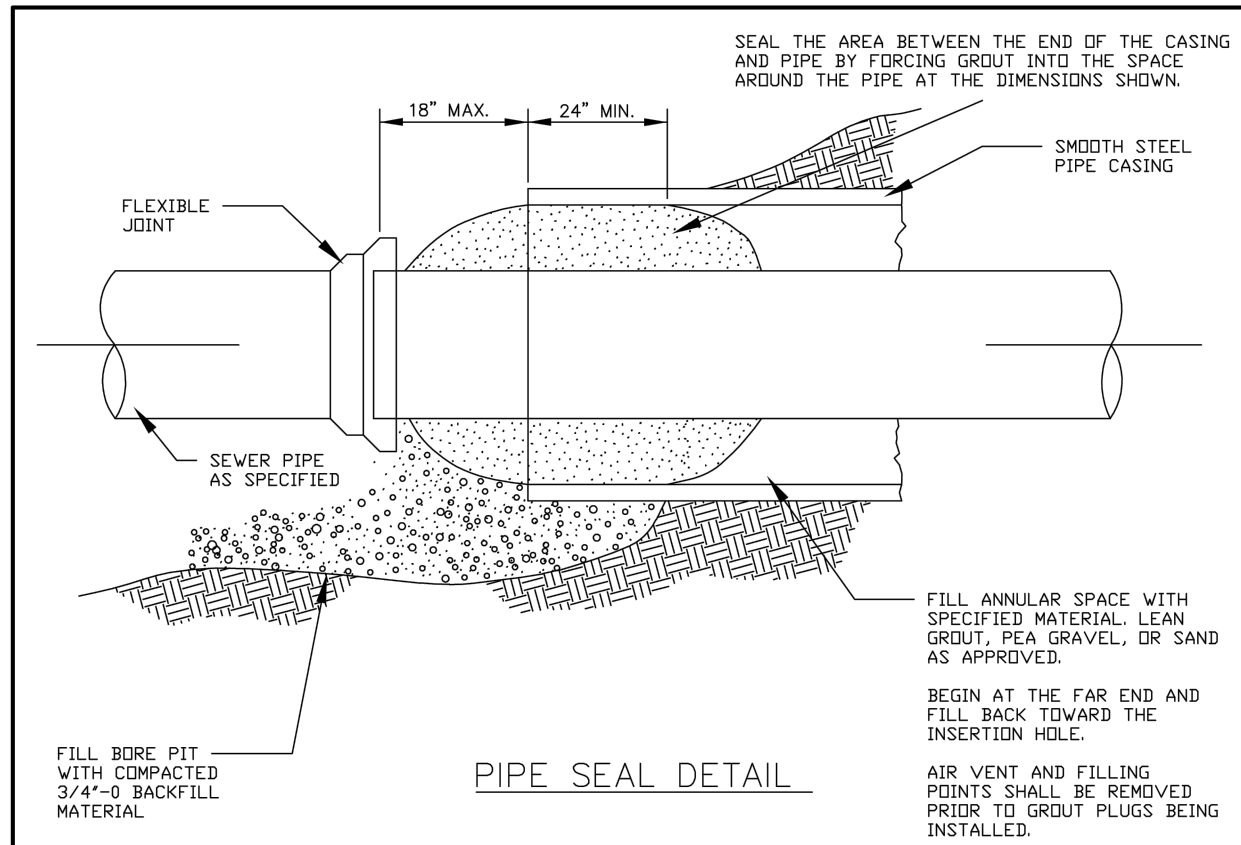
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Signed Date: 1/1/2024  
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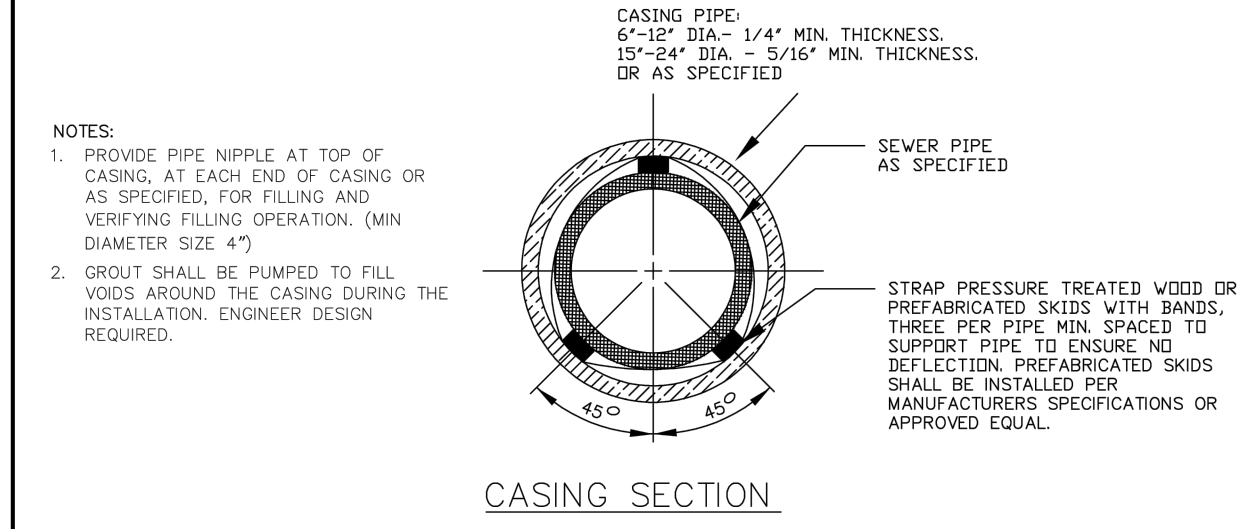
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ICE AGE DRIVE:  
 KINDER MORGAN GAS RELOCATION  
 PIPE DETAIL  
 INDUSTRY LANE

SHEET NO. 5



PIPE SEAL DETAIL



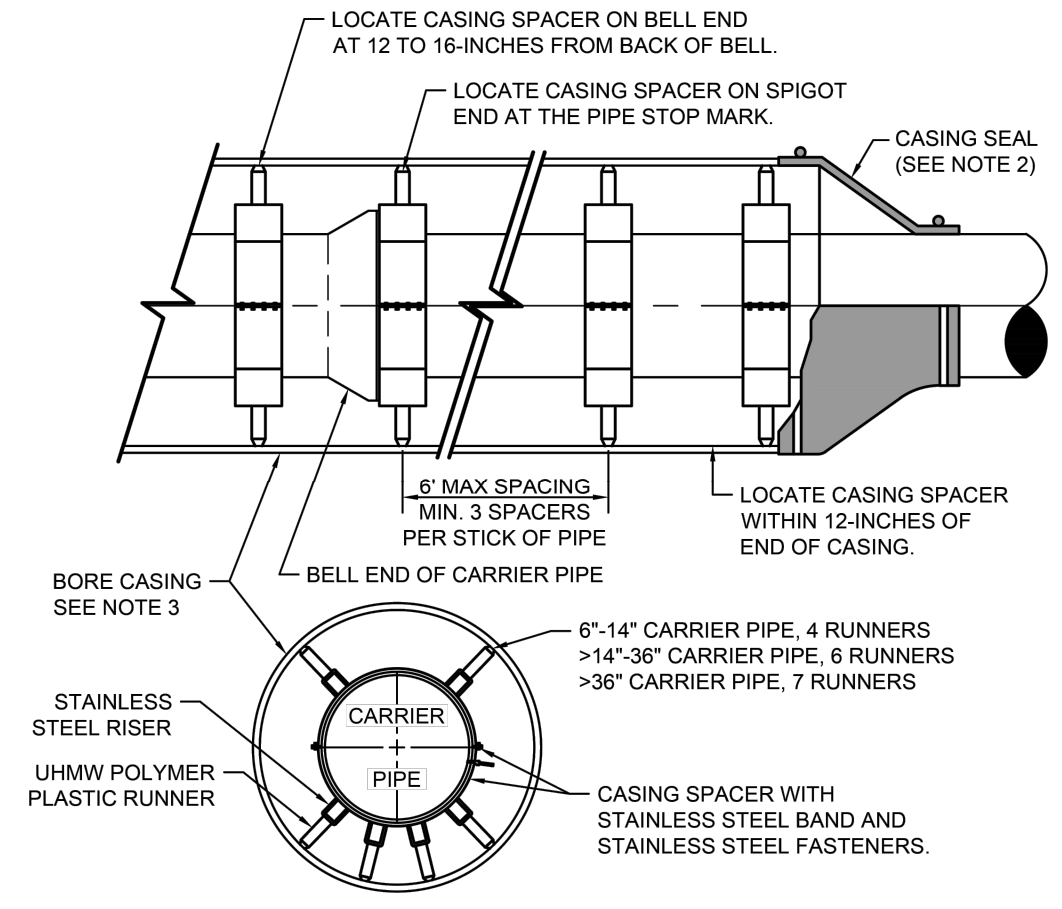
CASING SECTION

- NOTES:
1. PROVIDE PIPE NIPPLE AT TOP OF CASING, AT EACH END OF CASING OR AS SPECIFIED, FOR FILLING AND VERIFYING FILLING OPERATION. (MIN DIAMETER SIZE 4")
  2. GROUT SHALL BE PUMPED TO FILL VOIDS AROUND THE CASING DURING THE INSTALLATION. ENGINEER DESIGN REQUIRED.

BORE DETAIL

DRAWING NO. 610

REVISED 10-31-19



1 WATER CASING DETAIL  
 SCALE: NONE

DETAIL NOTES:

1. CASING SPACERS: 12" WIDE, 2-PIECE CONSTRUCTION, AND ALL STAINLESS STEEL. MANUFACTURED BY CASCADE MANUFACTURING, CALPICO INC., OR APPROVED EQUAL.
2. CASING SEALS: SEAL BOTH ENDS OF CASING PIPE SHALL BE SEALED WITH MODEL "C" CUSTOM PULL-ON CASING ENDS, AS MANUFACTURED BY CALPICO INC., OR APPROVED EQUAL.
3. CASING SHALL BE WELDED SMOOTH STEEL PIPE CONFORMING TO ASTM A36 WITH A MINIMUM YIELD STRENGTH OF 36,000 PSI.
4. CARRIER PIPE DIAMETER AND MATERIAL AS PER DESIGN DRAWINGS.
5. INCREASE CASING DIAMETER AS REQUIRED TO ALLOW TRIMMING OF CASING SPACERS ON GRADE CRITICAL BORES.

ABOVE DETAILS ARE FOR REFERENCE FOR CASING MATERIAL ONLY. CARRIER PIPE AND SPACERS ARE NOT TO BE CONSTRUCTED WITH THIS PROJECT.



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