Lakeside-02

Appendix A Supporting the Prepared Direct Testimony of Daryl Maas

(Pilot Project)

[PUBLIC VERSION VOLUME 9]

Table 2. Variable Definitions and Descriptive Statistics.
(205 Observations on LIHTC Projects, Completed 1997–2002)

Variable	*Definition*	*Mean*	*Standard Deviation*
Prevailing Wages	One if prevailing wages were paid as a result of federal, state, or local requirements, zero otherwise.	0.20	0.40
Units	Number of units in project.	82.79	56.41
Affordability	Fraction of units in project that meet affordability guidelines.	0.95	0.14
Targeting			
Non-Targeted	One if units are not targeted to a specific population, zero otherwise.	0.09	0.28
Senior	One if units are targeted to seniors, zero otherwise.	0.28	0.45
SRO	One if units are single room occupancy, zero otherwise.	0.02	0.15
Needs	One if units are targeted to special needs populations, zero otherwise.	0.04	0.21
Time	Occupancy date. Elapsed time in days from July 19, 1995.	1,700	376
Parking	One if project contains parking beneath the structure, zero otherwise.	0.17	0.37
Three Bedrooms	One if ≥ 50% of units have ≥ 3 bedrooms, zero otherwise.	0.31	0.46
Island	One if project is on an island, zero otherwise.	0.00	0.07
Special Facilities	One if project contains special needs facilities, zero otherwise.	0.03	0.18
Mitigation	One if project requires substantial environmental mitigation, zero otherwise.	0.05	0.23
Applicant Non-Profit	One if applicant is a non-profit organization, zero otherwise.	0.22	0.42
Developer			
For Profit	One if developer is a for-profit organization, zero otherwise.	0.22	0.42
Non Profit	One if developer is a non-profit organization, zero otherwise.	0.41	0.49
Funding	Fraction of project funding from public sources.	0.19	0.21
Sources	Number of different funding sources.	3.63	1.45
Bonds	One if project received tax-exempt bond finance.	0.40	0.49
Structure			
Townhouse	One if project is a townhouse, zero otherwise.	0.18	0.39
Cooperative	One if project is a cooperative, zero otherwise.	0.00	0.07
Two Stories	One if project has two or more stories, zero otherwise.	0.50	0.50
Single Family	One if project is single family detached, zero otherwise.	0.01	0.10
Infill	One if development is an inner city infill site, zero otherwise.	0.15	0.35
Residential Project Cost	See text (millions of $).	9.39	6.54
Site and Structure Cost	See text (millions of $).	5.14	3.50

projects paying prevailing wages were about 9–11% more costly than otherwise identical projects not subject to these regulations.[12] In columns (1) and (2), the estimated coefficient for the logarithm of the number of units is statistically significantly less than one, suggesting that there were modest economies of scale in projects containing more dwellings. Despite this, models using the logarithm of cost per unit as the dependent variable (thereby constraining the model to reflect constant returns to scale) are quite similar; the magnitudes and statistical significance of the coefficients are also similar.

When the geographic identifiers are removed from the specification, the explained variation is slightly lower, but the magnitudes of the other coefficients and their statistical significance are quite comparable. However, the estimated coefficients for the prevailing wage variable are substantially larger, suggesting cost increases of about 18% for those projects paying prevailing wages as compared to projects for which this requirement was not imposed. Results from specifications including interactions between geography and regulation suggest that prevailing wage effects on construction costs did vary by region within California.[13]

Instrumental Variables Estimates

It is possible that the requirement to pay prevailing wages imposed on some of these construction projects is not exogenous to the other factors determining project costs. If projects located in higher-cost areas (for example, in highly urbanized areas) were more likely to be required to pay prevailing wages (for example, because unions were able to exercise more political influence in these regions), then simple ordinary least squares regression models would falsely attribute these higher costs to the payment of prevailing wages. Alternatively, lower-cost areas of California may feature relatively more intensive advocacy for prevailing wages adoption and enforcement, in which case OLS might falsely bias estimates of regulatory effects downward.

Estimation of the models by the method of instrumental variables (IV) eliminates this source of bias and yields consistent estimates of the effect of prevailing wage requirement on construction costs. Appropriate instruments are variables that are correlated with the regulatory classification of projects—that is, identifying those paying prevailing wages as opposed to those paying market wages—and that do not themselves cause construction costs to vary.

From computerized voting information, we obtained the election results on ten statewide California propositions for the city in which each of the 205 sample projects was located. We also measured the party registration of voters in each jurisdiction, and the percentage of workers in highly unionized industries and occupations by census place.[14] Finally, we tabulated homeownership rates and age distributions of the population in each jurisdiction, as well as union membership in the relevant geographical location, as a fraction of total wage and salary employment.

[12]Since the dependent variable is the natural logarithm of costs, the percentage change in cost due to payment of prevailing wages is the exponentiated coefficient on that dummy variable.

[13]Geographic identifiers specify project location by metropolitan statistical area (MSA). Geographic differences in cost appear to have been significantly greater in certain regions (for example, San Francisco/Oakland/San Jose, Los Angeles, Sacramento, and Modesto) whether or not the prevailing wage variable is included in the basic OLS model. When models include interactive variables reflecting both geographic and regulatory effects, it appears that prevailing wage regulation added significantly greater cost in the San Francisco metropolitan area than in other high-cost construction areas in California. These results are also available from the authors on request.

[14]Highly unionized industries and occupations are defined based on Current Population Survey data analyzed by Barry T. Hirsch and David A. Macpherson (2003). U.S. Census data on employment by industry and occupation for employed persons 16 years and older in each census place were used to compute the variables "highly unionized industries" and "highly unionized occupations" associated with each of the 205 housing projects.

Table 3. OLS Models of Construction Costs.
(Dependent Variables in Logarithms)
(t-ratios in parentheses)

Variable	*Total Cost*		*Cost per Unit*	
	Site and Structure Cost	*Project Cost*	*Site and Structure Cost*	*Project Cost*
Prevailing Wage	0.103	0.097	0.097	0.091
	(2.41)	(2.82)	(2.22)	(2.56)
Log Units	0.913	0.917	—	—
	(33.39)	(41.67)	—	—
Affordability	–0.352	–0.144	–0.303	–0.097
	(2.91)	(1.49)	(2.47)	(0.97)
Targeting				
Non-Targeted	–0.150	–0.065	–0.138	–0.053
	(2.56)	(1.39)	(2.30)	(1.10)
Senior	–0.168	–0.200	–0.184	–0.215
	(4.06)	(5.99)	(4.37)	(6.27)
SRO	–0.541	–0.641	–0.577	–0.675
	(5.62)	(8.28)	(5.88)	(8.46)
Needs	–0.011	–0.093	–0.009	–0.091
	(0.13)	(1.40)	(0.11)	(1.32)
Time	4.878	6.561	4.597	6.290
	(3.04)	(5.08)	(2.79)	(4.70)
Parking	0.173	0.155	0.201	0.182
	(3.35)	(3.73)	(3.87)	(4.30)
Three Bedrooms	0.144	0.082	0.156	0.094
	(3.86)	(2.74)	(4.11)	(3.04)
Island	0.625	0.379	0.625	0.379
	(2.94)	(2.22)	(2.87)	(2.14)
Special Facilities	–0.223	0.035	–0.257	0.002
	(2.19)	(0.42)	(2.47)	(0.02)
Mitigation	–0.061	0.053	–0.073	0.041
	(0.84)	(0.90)	(0.98)	(0.68)

Continued

Arguably, these demographic and political variables affect the propensities of local government and regional officials to require payment of prevailing wages. These demographic and political variables have no direct causal effect on construction costs. Table 4 summarizes these measures of political and demographic variation across the sample of construction projects, reporting the means and standard deviations. The table also reports the results of the first stage regressions of the instrumental variables procedure.

In this first stage, the dependent variable is the dummy representing whether prevailing wages were required to be paid. Two models are presented, both including the complete set of instruments and including all other variables presented in Table 2. As shown in the table, a number of the instruments are individually significant at about the 0.10 level. An F-test for the joint significance of the instruments when no other regressors are included is highly statistically significant. When the other regressors are included, the F-ratio is significant at the 0.10 level.

Table 3. Continued.

Variable	*Total Cost*		*Cost per Unit*	
	Site and Structure Cost	*Project Cost*	*Site and Structure Cost*	*Project Cost*
Applicant				
Non-Profit	–0.005	0.029	–0.008	0.026
	(0.10)	(0.78)	(0.16)	(0.68)
Developer				
For Profit			–0.017	–0.006
			(0.14)	(0.06)
Non Profit	0.115	0.052	0.147	0.083
	(2.69)	(1.53)	(3.46)	(2.40)
Funding	–0.118	0.142	–0.015	0.241
	(1.25)	(1.87)	(0.17)	(3.26)
Sources	0.016	0.005	0.014	0.003
	(1.39)	(0.54)	(1.18)	(0.31)
Bonds	–0.065	–0.035	–0.098	–0.067
	(1.59)	(1.08)	(2.43)	(2.05)
Structure				
Townhouse	0.155	0.134	0.168	0.146
	(3.17)	(3.39)	(3.35)	(3.57)
Cooperative	0.697	0.459	0.874	0.629
	(2.81)	(2.30)	(3.51)	(3.11)
Two Stories	0.102	0.061	0.106	0.065
	(2.65)	(1.96)	(2.69)	(2.01)
Single Family	0.371	0.243	0.399	0.271
	(2.43)	(1.98)	(2.55)	(2.13)
Infill	0.161	0.073	0.179	0.091
	(3.15)	(1.77)	(3.44)	(2.14)
Constant	6.313	4.951	6.190	4.831
	(3.80)	(3.70)	(3.63)	(3.48)
R^2	0.932	0.955	0.732	0.802

Note: Regressions based on 205 observations on LIHTC projects in California completed from 1997 to 2002. All models include 14 additional controls for geographic location (by MSA).

Table 5 presents instrumental variables estimates of the same models reported in Table 3. The pattern of magnitudes and statistical significance of the coefficients in Table 5 is nearly identical to that previously reported. The coefficient on the logarithm of the number of units is significantly less than one, again suggesting modest scale economies. When the coefficient is constrained to one, representing constant returns to scale—in the third and fourth columns of the table—the substantive results are unchanged.

Note that when the model is estimated using instrumental variables, the coefficient on the prevailing wage variable is larger in magnitude and is more precisely measured than in the ordinary least squares regression. The results in Table 5 imply that—for otherwise identical low-income projects—prevailing wage construction is between 19% and 28% more costly. Importantly, the finding that prevailing wage legislation increases housing costs does not arise simply because prevailing wages are more likely to be required in high-cost housing markets.

Table 4. First Stage Instruments in Two Stage Least Squares Models.
(Dependent Variable: Prevailing Wage)
(t-ratios in parentheses)

		First Stage Coefficient	
Variable	*Mean (Standard deviation)*	*Model 1*[a]	*Model 2*[b]
Number of Adjacent Jurisdictions	7.440 (9.49)	0.002 (0.49)	0.002 (0.40)
Fraction Yes Vote on Prop. 199 Low-Income Rental Assistance, 1996	0.386 (0.08)	–0.013 (0.02)	0.057 (0.10)
Fraction Yes Vote on Prop. 107 Housing and Homeless Bonds, 1990	0.533 (0.09)	1.090 (1.24)	1.084 (1.23)
Fraction Yes Vote on Prop. 168 Low-Rent Housing Projects, 1993	0.422 (0.10)	–1.283 (1.56)	–1.306 (1.59)
Fraction Yes Vote on Prop. 155 School Facilities Bonds, 1992	0.496 (0.12)	–0.877 (0.93)	–0.973 (1.03)
Fraction Yes Vote on Prop. 156 Passenger Rail and Clean Air Bonds, 1992	0.483 (0.09)	0.723 (0.82)	0.757 (0.86)
Fraction Yes Vote on Prop. 157 Toll Roads and Highways, 1992	0.330 (0.13)	–0.275 (0.26)	–0.427 (0.41)
Fraction Yes Vote on Prop. 160 Project Tax Exemptions, 1992	0.503 (0.07)	1.734 (1.74)	1.762 (1.77)
Fraction Yes Vote on Prop. 164 Term Limits, 1992	0.575 (0.12)	–0.617 (0.72)	–0.776 (0.89)
Fraction Yes Vote on Prop. 167 State Taxes, 1992	0.413 (0.07)	–1.730 (1.65)	–1.724 (1.64)
Fraction Yes Vote on Prop. 210 Minimum Wage Increase, 1996	0.649 (0.09)	1.769 (1.47)	1.770 (1.47)
Percent of Voters Registered as Democrats	0.597 (0.13)	–1.136 (1.35)	–1.102 (1.31)
Percent of Population over 40 Years Old	0.341 (0.06)	–0.209 (0.34)	–0.117 (0.19)
Percent of Housing Units Owner-Occupied	0.554 (0.13)	–0.682 (1.60)	–0.717 (1.68)
Percent Working in Highly Unionized Industries	0.339 (0.07)	0.841 (1.31)	0.836 (1.31)
Percent Working in Highly Unionized Occupations	0.265 (0.07)	–1.065 (1.57)	–1.093 (1.61)
Percent Unionized	0.166 (0.06)	1.446 (1.13)	1.667 (1.28)
F-ratio[c] [p value]		1.492 [0.11]	1.492 [0.11]
F-ratio[d] [p value]		2.981 [0.00]	2.981 [0.00]

[a]Regression includes all observed project characteristics (coefficients not shown).
[b]Regression includes log-units regressor, and all observed project characteristics (coefficients not shown).
[c]F-test for the joint significance of the instruments.
[d]F-test for the joint significance of the instruments in an equation including no other covariates.
Both models include 14 additional controls for geographic location (by MSA).

Conclusions

We have presented the first systematic evidence showing the effects of prevailing wage requirements on the costs of constructing low-income housing. A sample of 205 low-income housing projects subsidized by the California Tax Credit Allocation Commission during the 1997–2002 period formed the basis for the empirical analysis. We estimated statistical models using several definitions of cost certified by TCAC and by an independent auditor, in two specifications—one allowing for scale economies in construction and the other imposing constant returns to scale. Finally, we estimated models both by ordinary least squares regression and by instrumental variables techniques. *Ceteris paribus,* low-income housing projects were significantly more expensive if developers were required to pay prevailing wages. Importantly, these cost increases did *not* arise simply because prevailing wages were more likely to be required in high-cost housing markets.

The statistical models explain about 90% of the variation in construction costs across a broad sample of low-income housing projects, and about 80% of the variation in cost per unit built. The results confirm the variation in costs by type of project. Single room occupancy projects were considerably less expensive to build, while projects targeted toward large families were more expensive.[15] Underground parking and greater numbers of three-bedroom units also added significantly to project costs.

Construction costs may vary by type of applicant and type of developer. Cooperatives and single-family dwellings appear to have been more costly to build. Some differences in construction costs are also apparent by geographical region. In particular, newly constructed units in San Francisco were more than 20% costlier than elsewhere. There is also clear evidence of economies of scale in multifamily housing construction.

Table 6 provides a summary of the results of various econometric specifications as they pertain to prevailing wage requirements. It presents estimates of the percentage increase in construction costs arising from the imposition of prevailing wage regulation, holding constant characteristics such as the project's sponsorship, its financing, and its location.

Using the most realistic specifications of costs where geographic variation is accounted for, ordinary least squares models imply that prevailing wage requirements increased the cost of low-income housing construction between 9% and 11%.[16] The instrumental variables models imply that cost increases were higher—between 19% and 37% for the most realistic specifications.[17] These increases are far greater than those recently reported for construction wages (rather than overall projects) by Kessler and Katz (2001). There are several ways to harmonize our results with theirs. First, our study uses only California data rather than a multistate sample; the enforcement of prevailing wages may be more aggressive in California than elsewhere. Second, Kessler and Katz reported smaller *decreases* in wage levels *after repeal* of the regulation. Price effects of wage regulation, captured more directly by our project-cost analysis, may linger long after repeal. Finally, it is certainly possible that the process of complying with prevailing wage regulations exacerbates known administrative inefficiencies in tax-credit projects (Cummings and DiPasquale 1999).

[15]Single room occupancy units lack individual bathrooms, kitchens, and living areas. To consider these aspects of housing costs, we also estimated the same models reported in the text using cost per square foot as the dependent variable. The results did not differ substantially from those reported in the text.

[16]Alternatively, if low-income housing is subsidized by 9–11% and if prevailing wage requirements are imposed, these results suggest that developer costs were unchanged, but income was transferred from taxpayers to construction workers.

[17]While it is possible that payment of prevailing wages attracts more productive construction workers, these results indicate that higher wage costs outweighed any unmeasured productivity gain in those housing projects.

Table 5. Instrumental Variables Estimates of Construction Costs.
(Dependent Variables in Logarithms)
(t-ratios in parentheses)

Variable	*Total Cost*		*Cost per Unit*	
	Site and Structure Cost	*Project Cost*	*Site and Structure Cost*	*Project Cost*
Prevailing Wage	0.225	0.177	0.248	0.196
	(2.58)	(2.50)	(2.76)	(2.67)
Log Units	0.910	0.914	—	—
	(33.26)	(41.25)	—	—
Affordability	–0.363	–0.152	–0.315	–0.105
	(3.01)	(1.55)	(2.58)	(1.05)
Targeting				
Non-Targeted	–0.187	–0.089	–0.182	–0.084
	(2.98)	(1.76)	(2.85)	(1.62)
Senior	–0.161	–0.195	–0.176	–0.210
	(3.87)	(5.78)	(4.18)	(6.08)
SRO	–0.554	–0.649	–0.595	–0.688
	(5.75)	(8.32)	(6.08)	(8.59)
Needs	–0.047	–0.117	–0.053	–0.122
	(0.55)	(1.68)	(0.61)	(1.70)
Time	4.327	6.200	3.900	5.806
	(2.64)	(4.67)	(2.33)	(4.24)
Parking	0.169	0.152	0.198	0.180
	(3.28)	(3.65)	(3.83)	(4.25)
Three Bedrooms	0.147	0.084	0.161	0.097
	(3.94)	(2.79)	(4.24)	(3.13)
Island	0.677	0.413	0.689	0.424
	(3.16)	(2.38)	(3.15)	(2.36)
Special Facilities	–0.236	0.026	–0.275	–0.011
	(2.32)	(0.31)	(2.66)	(0.13)

Continued

Increases in project cost due to prevailing wage regulation surely lead to reductions in the number of newly constructed low-income housing units produced through public subsidy. Consider, for example, new dwellings completed under the LIHTC. The federal allocation of tax credits provided financing for an average of 19,129 low-income housing units per year from 2000 to 2002 (including both new construction and rehabilitation).[18] We can estimate the effect of applying new prevailing wage requirements to the share of annual production (about 15,686 units annually)[19] not previously subject to these regulations. If costs were increased by just 9.5% as a result of prevailing wage legislation (the smallest increase predicted by any of

[18]See California Tax Credit Allocation Committee *Annual Reports* (2000–2002). The total credits reported combine those issued at the 9% and 4% levels, the latter being applied to projects using federal subsidies or tax-exempt fund sources beyond tax credits alone. The two categories are subject to different rules concerning the state's total credit-issuing authority.

[19]On the basis of our dataset, it appears that approximately 20% of the LIHTC units, or about 3,443 annually, may have been governed by prevailing wage prior to the application of SB 975.

Table 5. Continued.

Variable	*Total Cost*		*Cost per Unit*	
	Site and Structure Cost	*Project Cost*	*Site and Structure Cost*	*Project Cost*
Mitigation	–0.041	0.066	–0.049	0.058
	(0.56)	(1.11)	(0.66)	(0.94)
Applicant Non-Profit	–0.022	0.018	–0.029	0.011
	(0.46)	(0.46)	(0.61)	(0.28)
Developer Non-Profit	0.105	0.046	0.136	0.076
	(2.45)	(1.32)	(3.22)	(2.18)
Funding	–0.172	0.106	–0.078	0.197
	(1.73)	(1.31)	(0.81)	(2.52)
Sources	0.015	0.004	0.013	0.002
	(1.32)	(0.49)	(1.10)	(0.24)
Bonds	–0.073	–0.041	–0.110	–0.075
	(1.78)	(1.23)	(2.70)	(2.27)
Structure				
Townhouse	0.148	0.129	0.160	0.140
	(3.02)	(3.24)	(3.20)	(3.43)
Cooperative	0.725	0.477	0.916	0.659
	(2.92)	(2.37)	(3.70)	(3.25)
Two Stories	0.090	0.053	0.092	0.055
	(2.32)	(1.69)	(2.32)	(1.69)
Single Family	0.418	0.274	0.459	0.312
	(2.70)	(2.18)	(2.90)	(2.41)
Infill	0.159	0.072	0.179	0.090
	(3.13)	(1.74)	(3.46)	(2.13)
Constant	6.926	5.352	6.943	5.354
	(4.07)	(3.88)	(4.00)	(3.76)
R^2	0.932	0.955	0.736	0.802

Regressions based on 205 observations on LIHTC projects in California completed from 1997 to 2002. All models include controls for geographic location (by MSA).

our statistical models), 1,361 fewer subsidized dwellings would have been built. A cost increase of 25.2%, a mid-range level among the estimates presented in Table 6, would have resulted in 3,157 fewer low-income housing units. And at a cost increase of 37.2%—our upper bound estimate—the imposition of prevailing wage legislation would have prevented 4,253 low-income housing units from being developed. In this way, state regulation of construction wages conflicts with the federal goal of increasing access to new housing for California's low-income households.

These estimates are illustrative rather than definitive. But they do demonstrate how the imposition of prevailing wages affects the supply of low-income housing provided by the federal tax credit program. Of course, the LIHTC is not the only program providing low-income housing in California. In November 2002, California voters approved Proposition 46, a $2.1 billion bond measure dedicated to affordable housing development and related programs. About half these funds are directed toward new multifamily construction. If prevailing wage requirements are applied to dwellings built using proceeds from the tax-exempt bonds and those from other existing programs—the HOME program and the Community Development Block Grant Program, for

Table 6. Cost Increases for Low-Income Housing Projects in California Due to Prevailing Wage Requirements. (%)

Statistical Model	*Scale Economies Assumed?*	*Site and Structure Cost*	*Project Cost*
A. Ordinary Least Squares Estimation			
Extended	YES	10.4%	11.0%
	NO	9.3	10.0
Basic	YES	10.8	10.2
	NO	10.2	9.5
B. Instrumental Variables Estimation			
Extended	YES	34.9	33.9
	NO	37.2	35.9
Basic	YES	25.2	19.4
	NO	28.1	21.7

Notes: "Extended" models include all observed project characteristics. "Basic" models include only the variables reported in Table 3. Estimates are based on the antilog of coefficients on the prevailing wage indicator variable in multivariate regressions.

example—the effect on low-income housing production will be much larger. The requirement would effectively transfer income from low-income housing consumers in California to workers in California's construction industry.

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1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

SITE INDEX MAP

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.00

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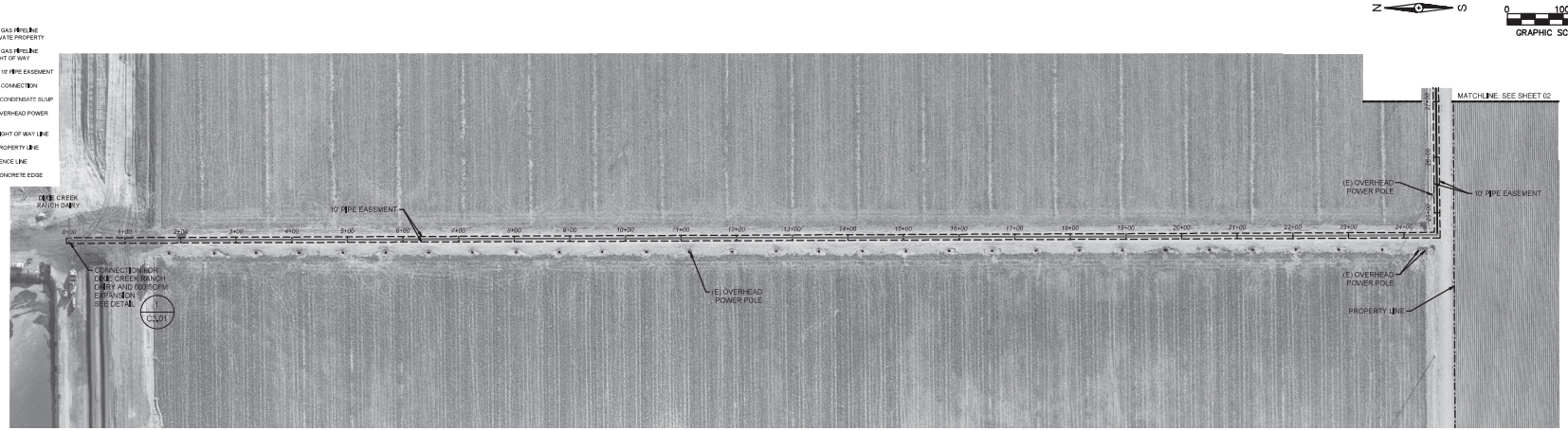

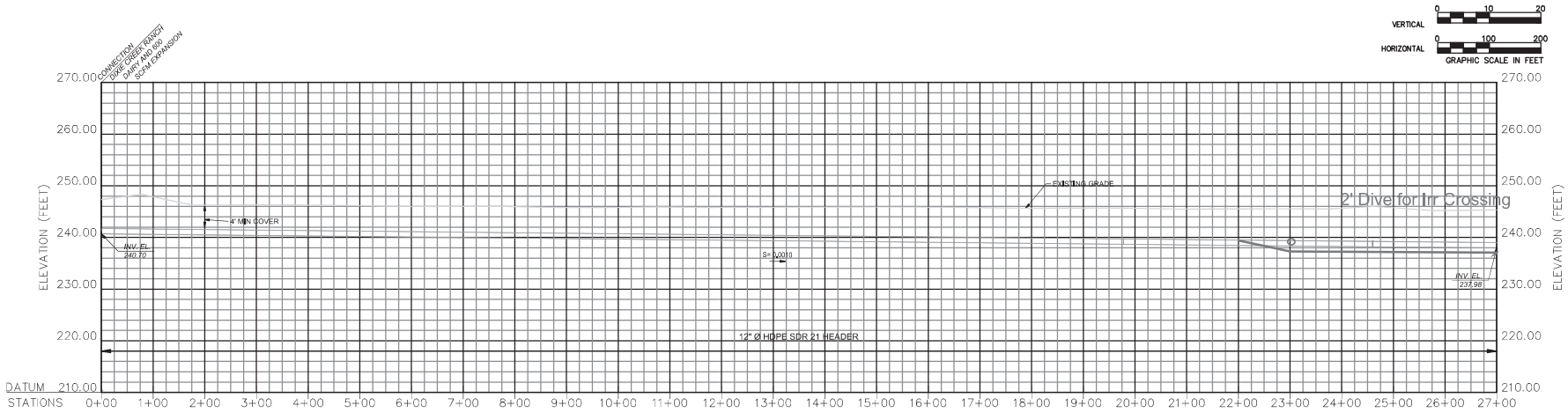

PROFILE – STA. 0+00 TO 27+00

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STA. 0+00 TO 27+00

LAKESIDE DAIRY CLUSTER
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DRAWING NO.
C2.01

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LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
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- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE

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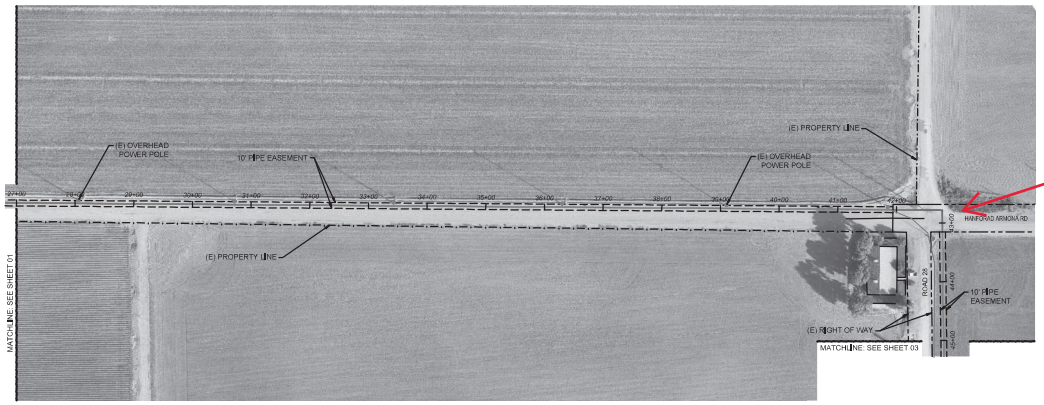
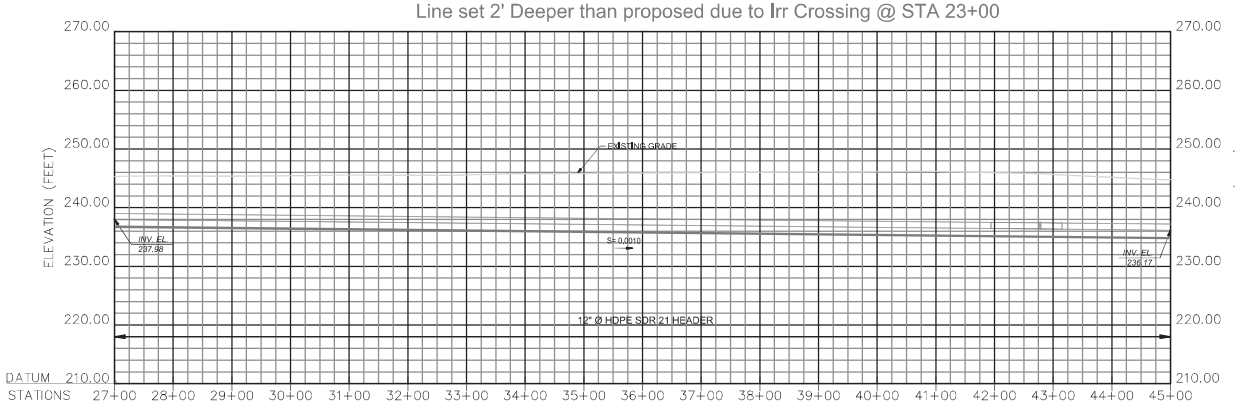


Street Crossing

Line set 2' Deeper than proposed due to Irr Crossing @ STA 23+00



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GRAPHIC SCALE IN FEET

PROFILE – STA. 27+00 TO 45+00

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STA. 27+00 TO 45+00

LAKESIDE DAIRY CLUSTER
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DRAWING NO.
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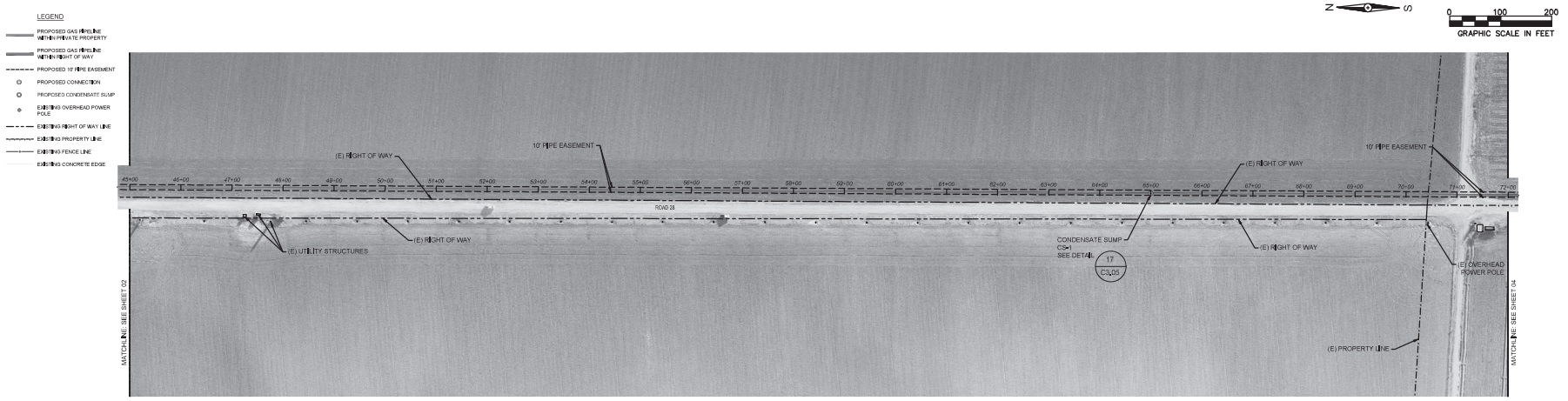

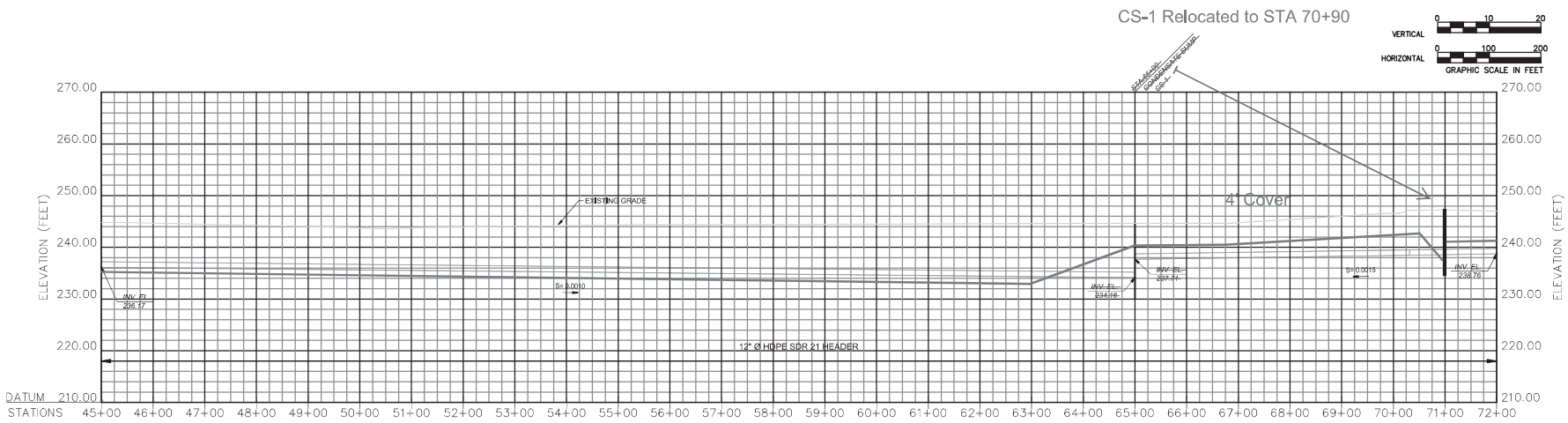

PROFILE – STA. 45+00 TO 72+00

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STA. 45+00 TO 72+00

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DRAWING NO.
C2.03

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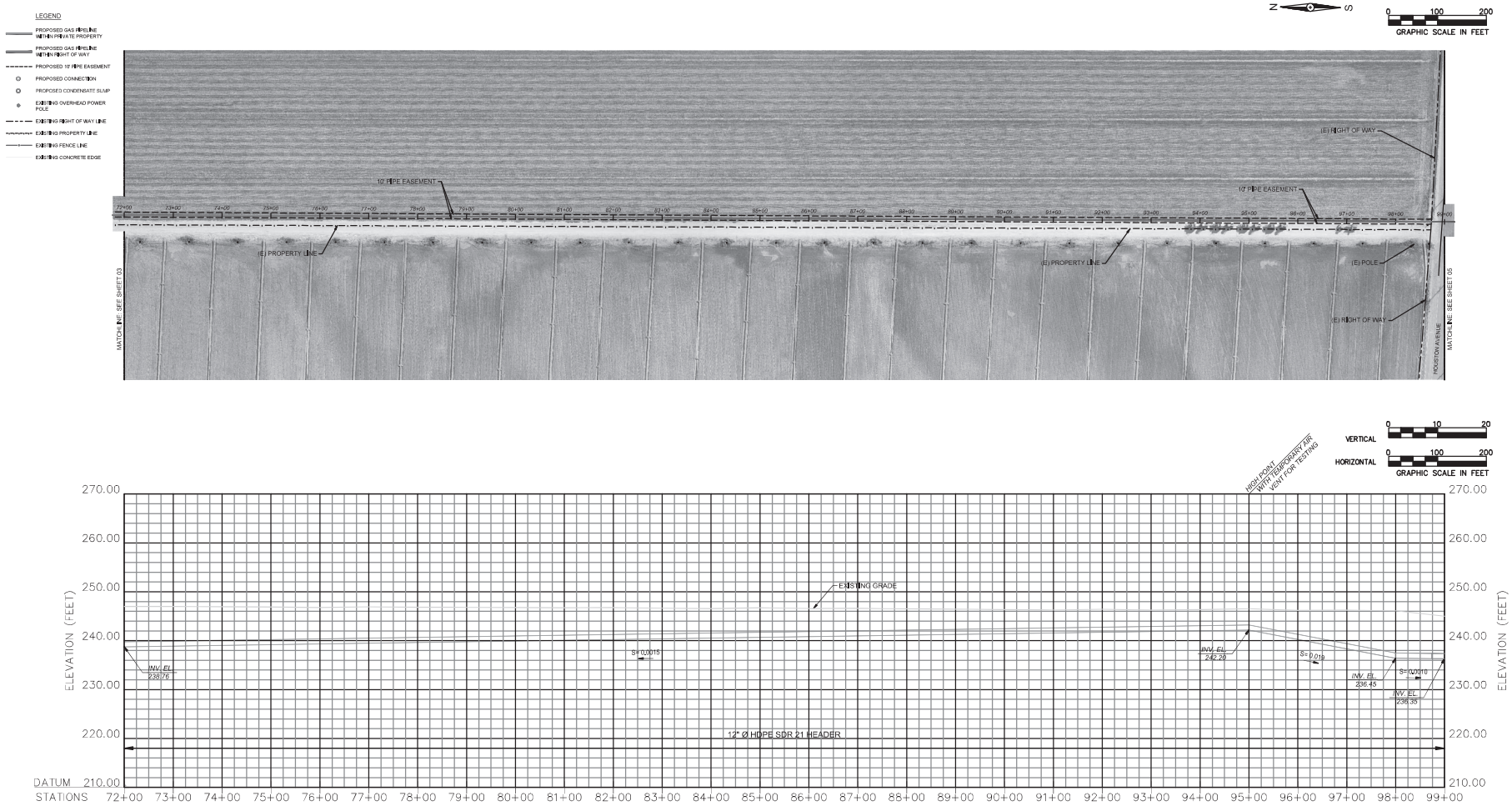

PROFILE – STA. 72+00 TO 99+00

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STA. 72+00 TO 99+00

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C2.04

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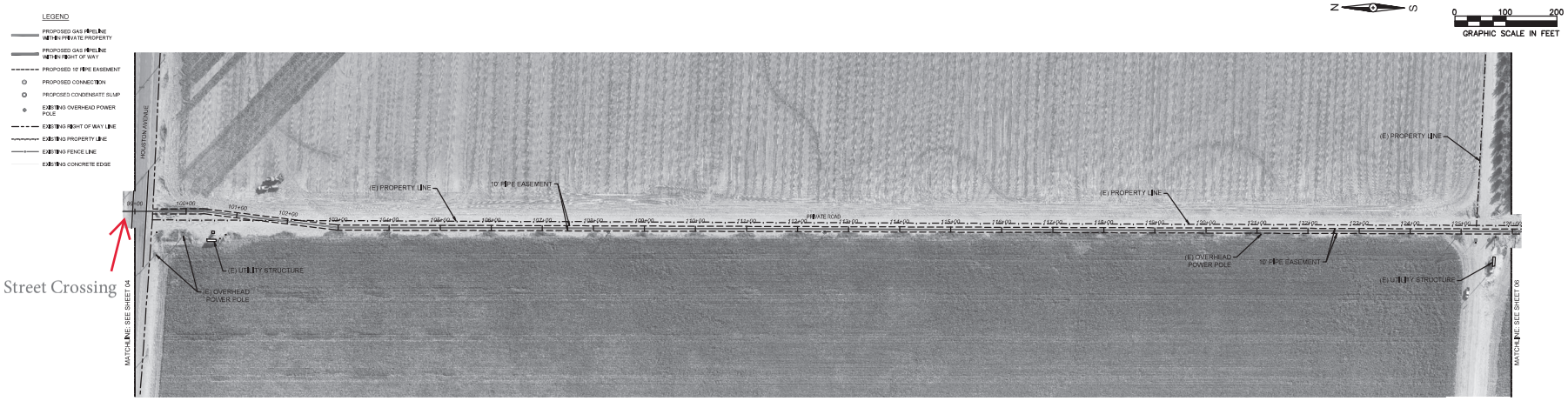

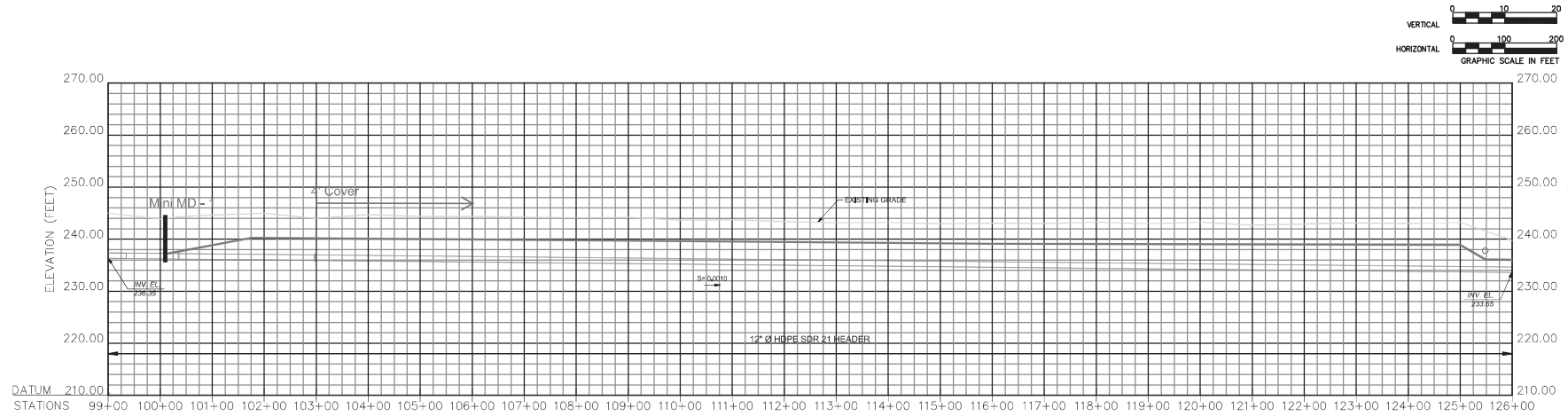

PROFILE – STA. 99+00 TO 126+00

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STA. 99+00 TO 126+00

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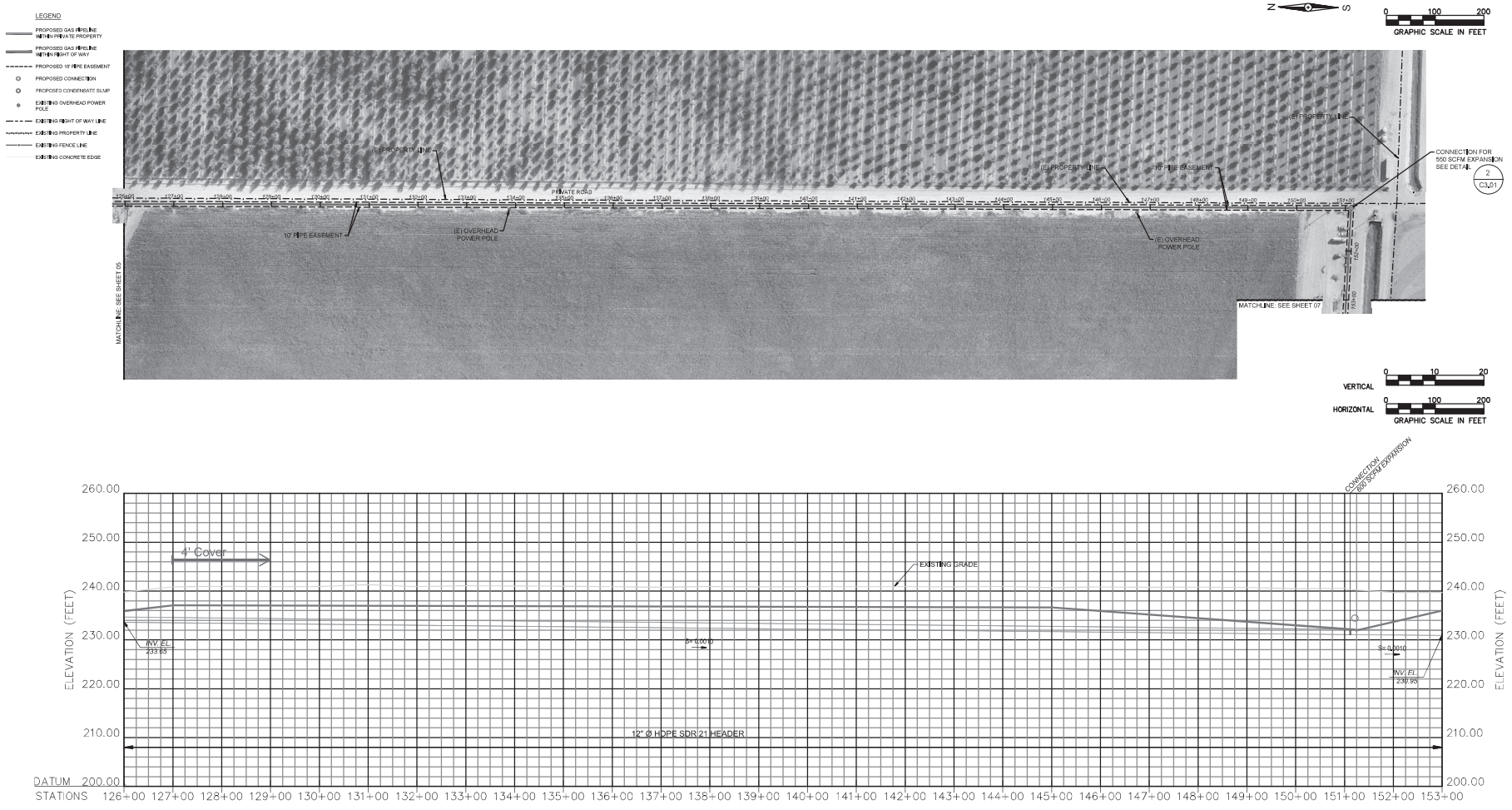

PROFILE – STA. 126+00 TO 153+00

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STA. 126+00 TO 153+00

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C2.06

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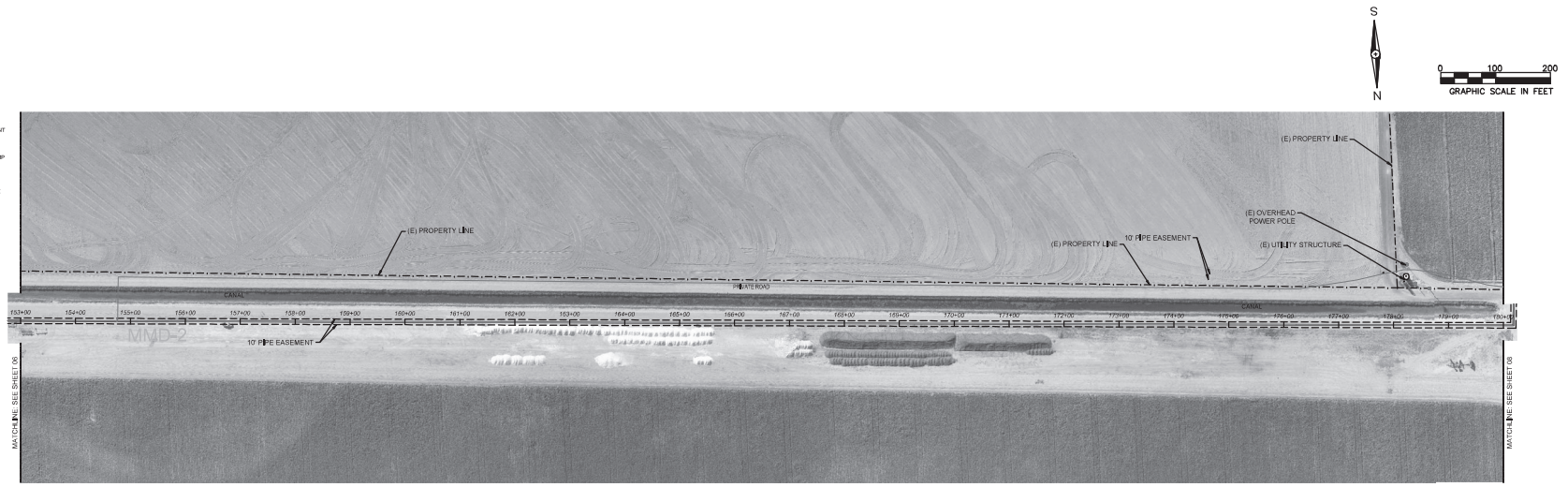

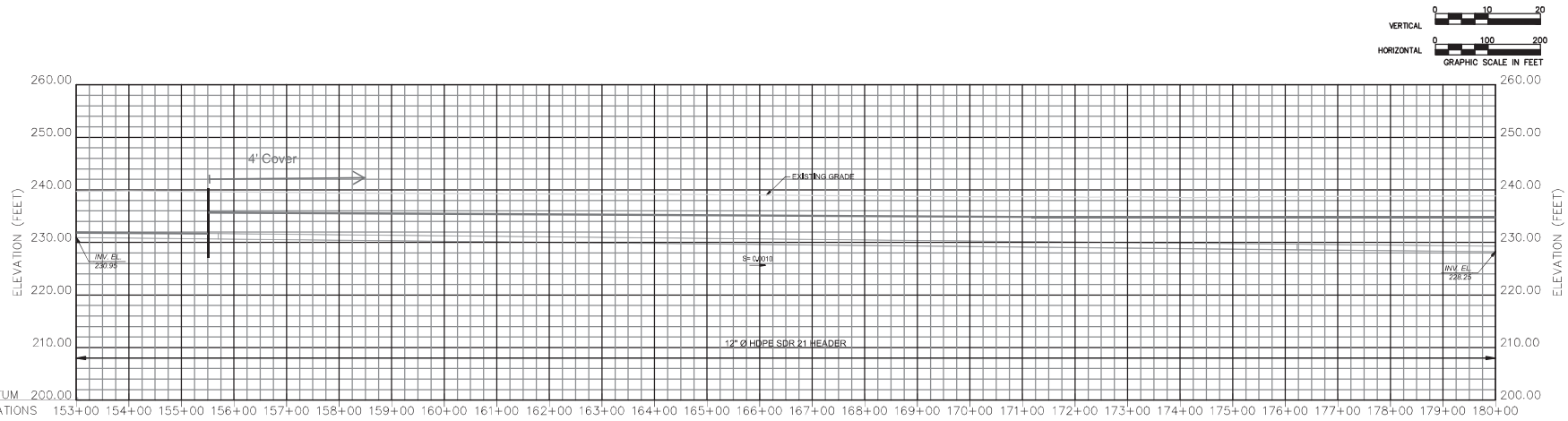

PROFILE – STA. 153+00 TO 180+00

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STA. 153+00 TO 180+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.07

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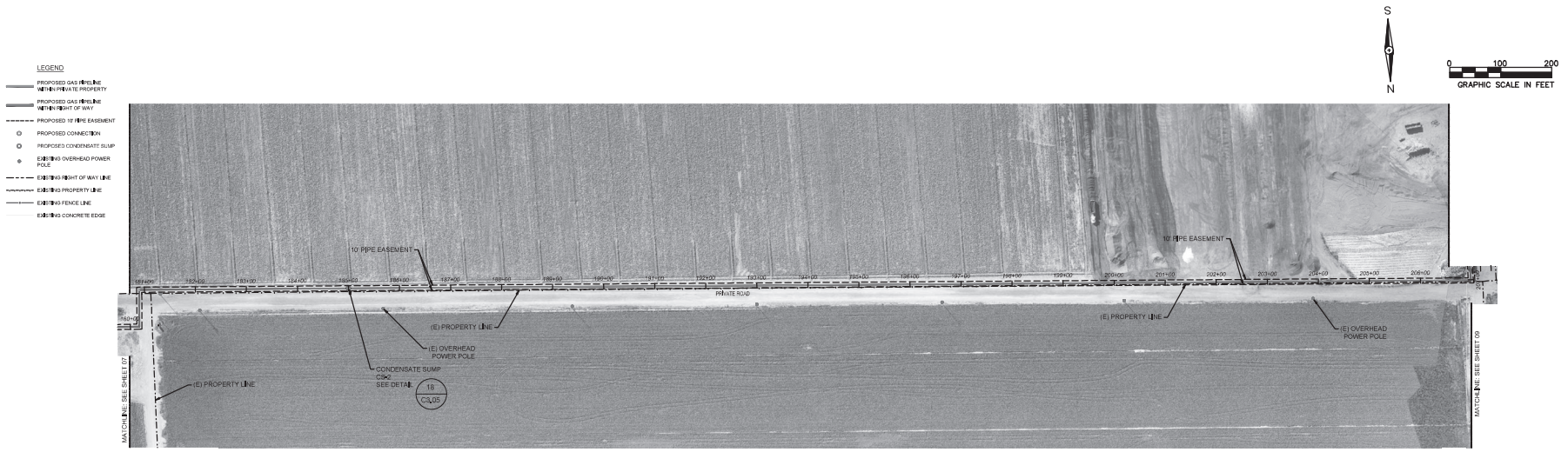

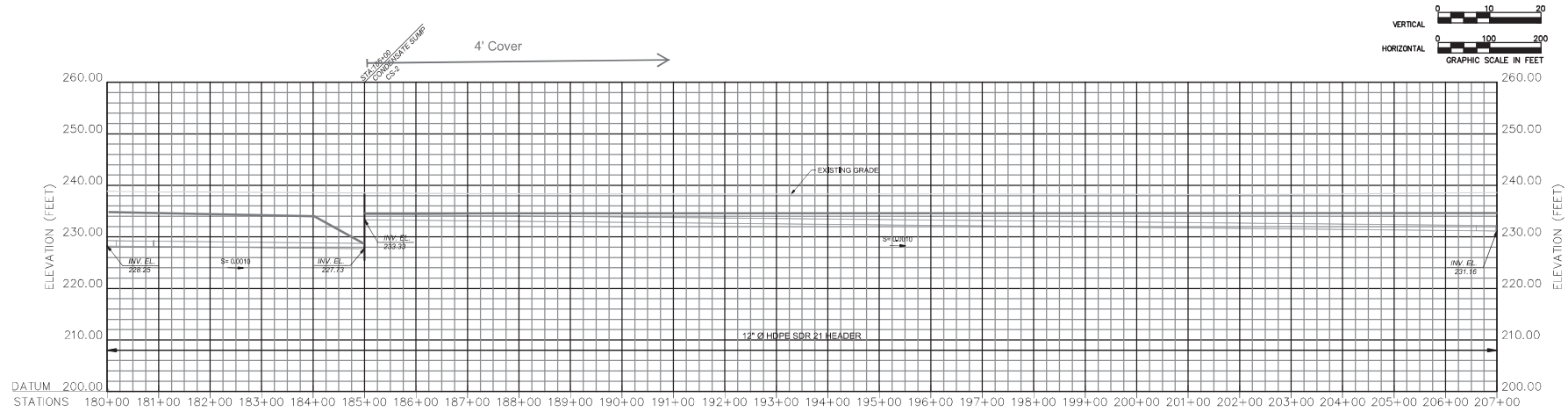

PROFILE – STA. 180+00 TO 207+00

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STA. 180+00 TO 207+00

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DRAWING NO.
C2.08

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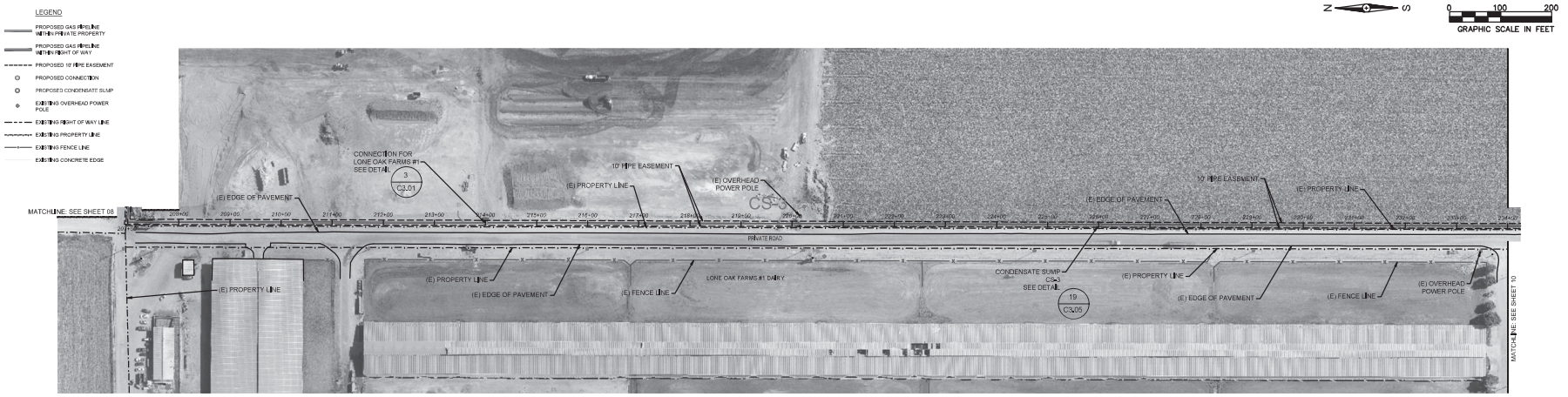

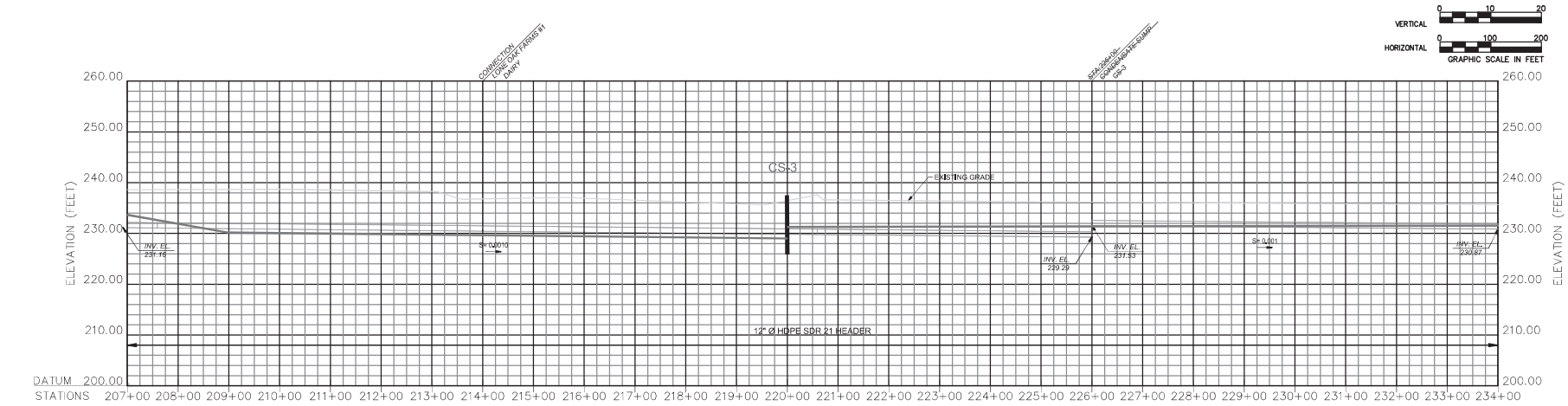

PROFILE – STA. 207+00 TO 234+00

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STA. 207+00 TO 234+00

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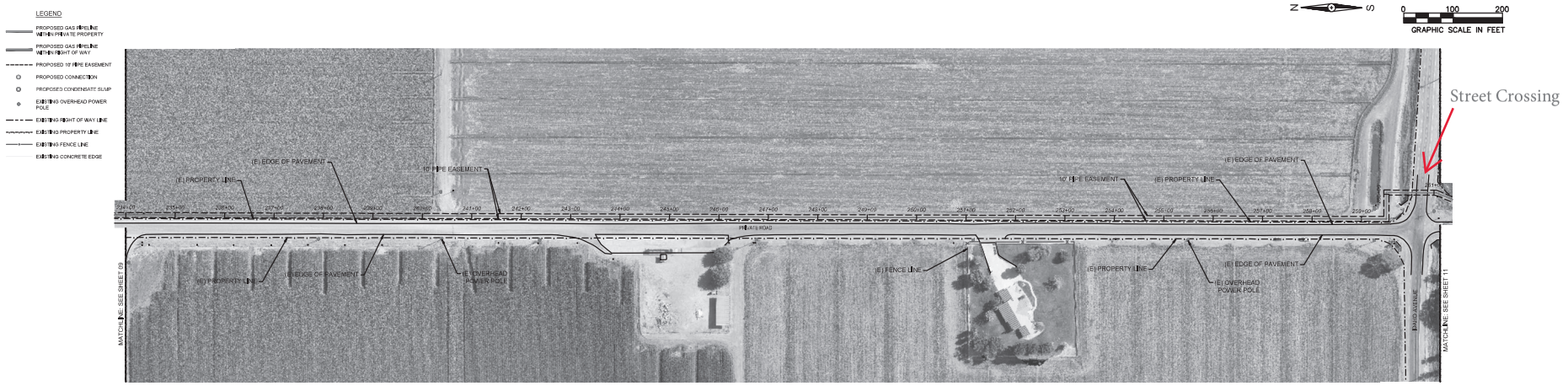

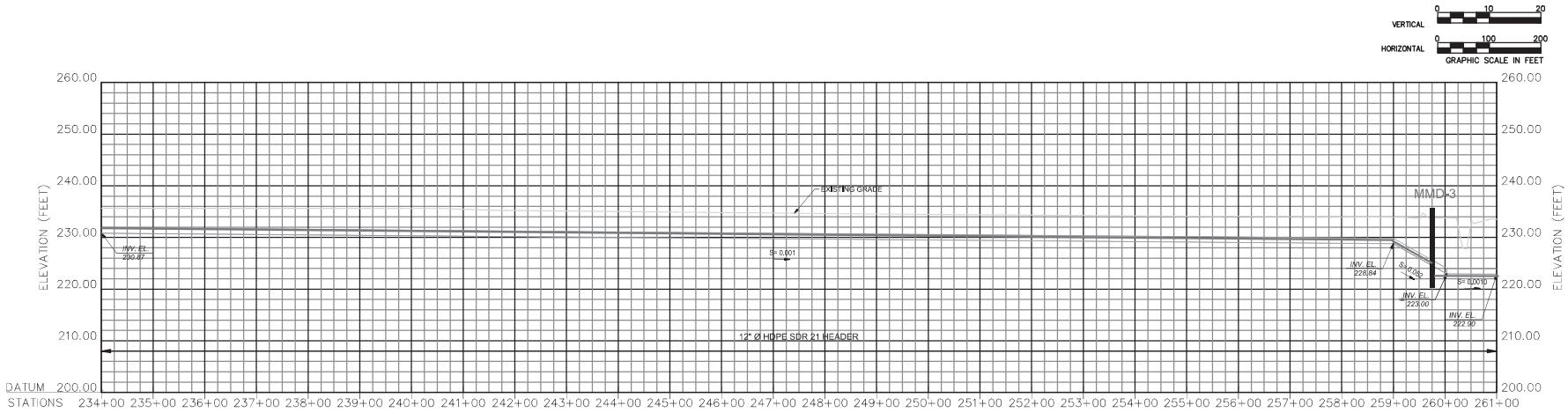

PROFILE – STA. 234+00 TO 261+00

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STA. 234+00 TO 261+00

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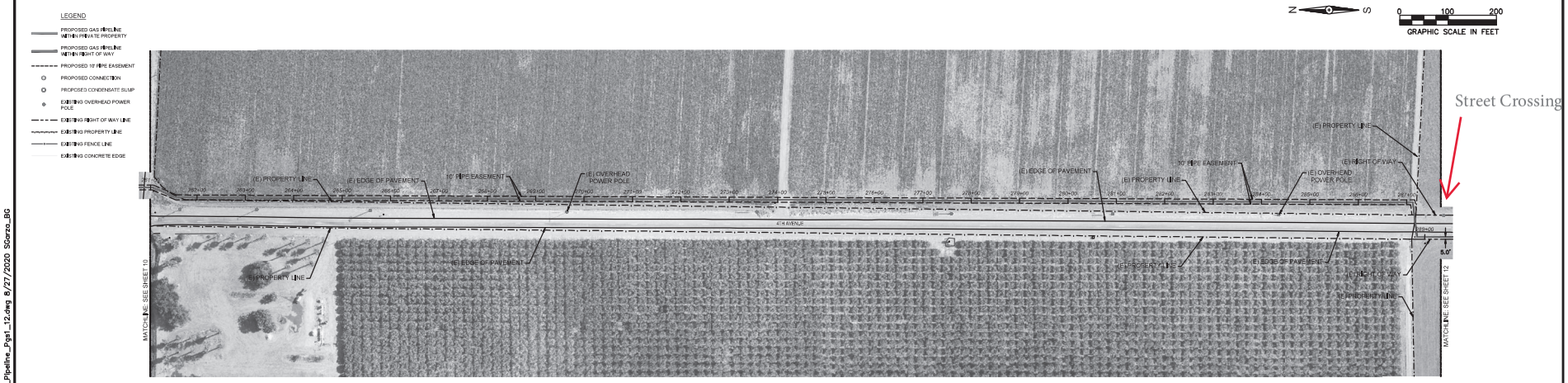

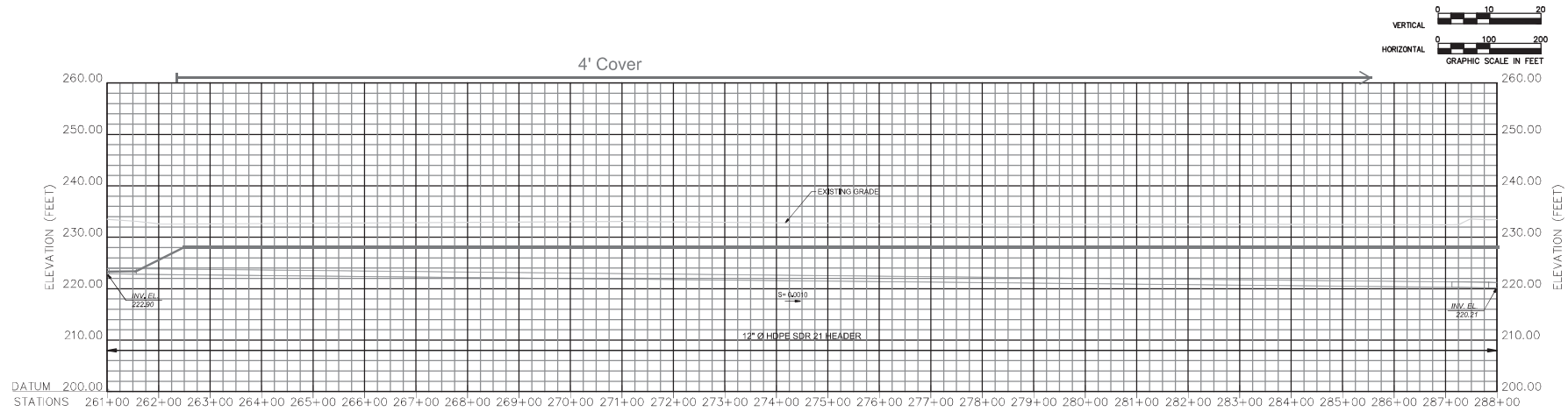

PROFILE – STA. 261+00 TO 288+00

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STA. 261+00 TO 288+00

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LEGEND

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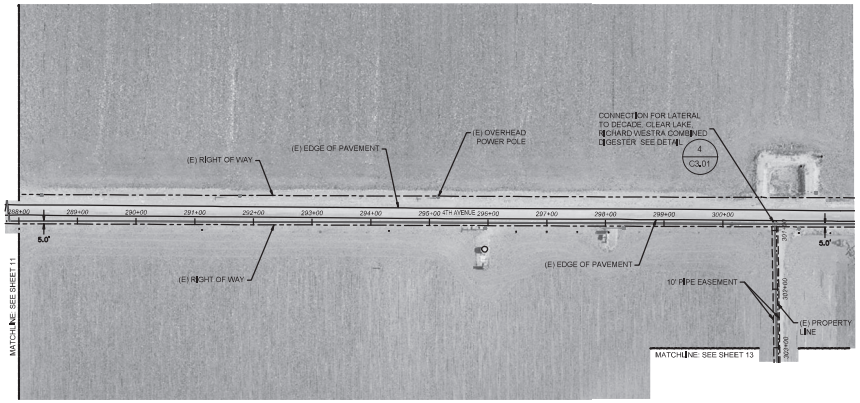

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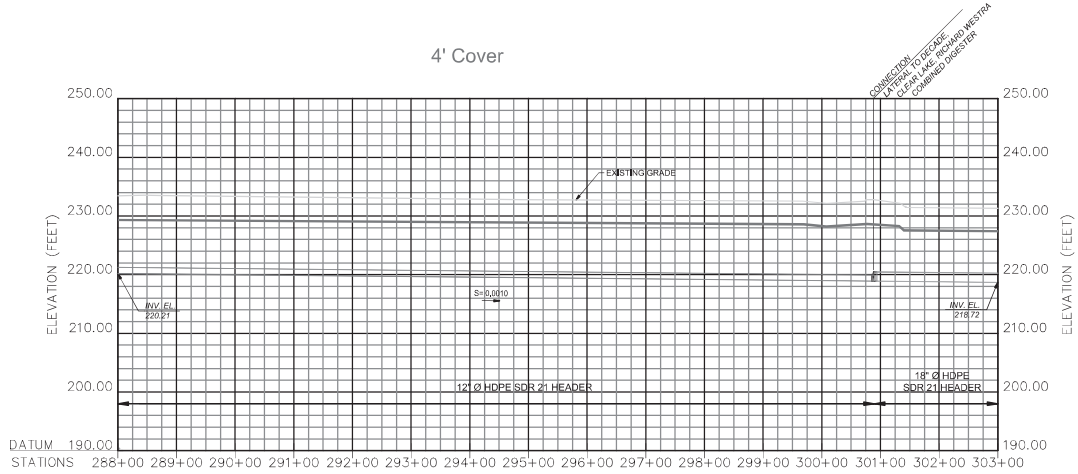

PROFILE – STA. 288+00 TO 303+00

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GRAPHIC SCALE IN FEET

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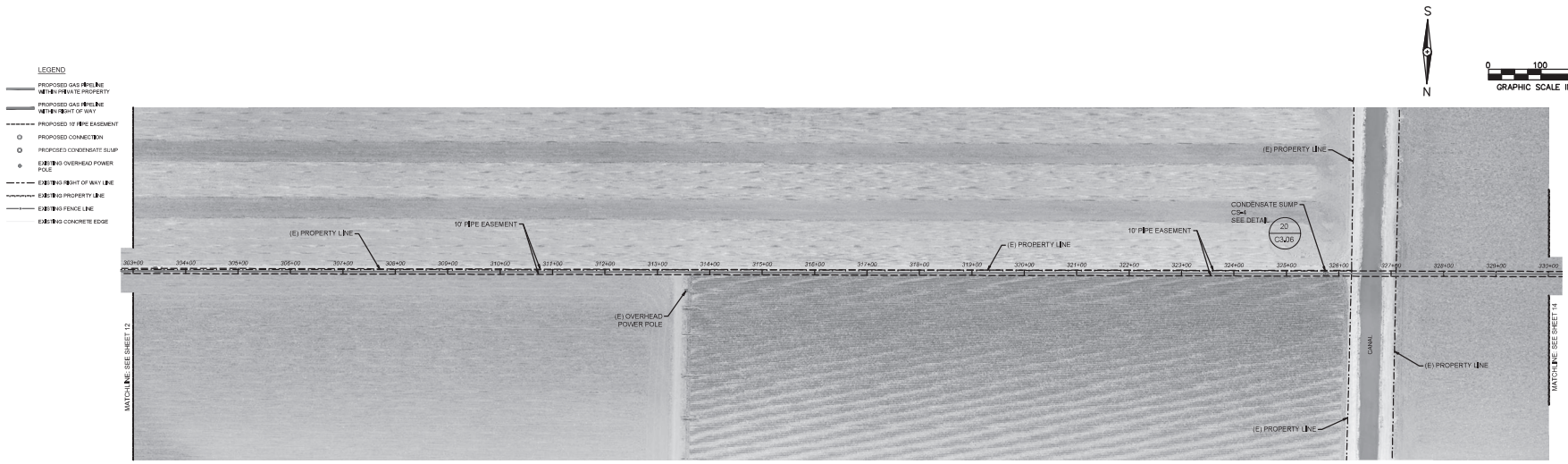
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

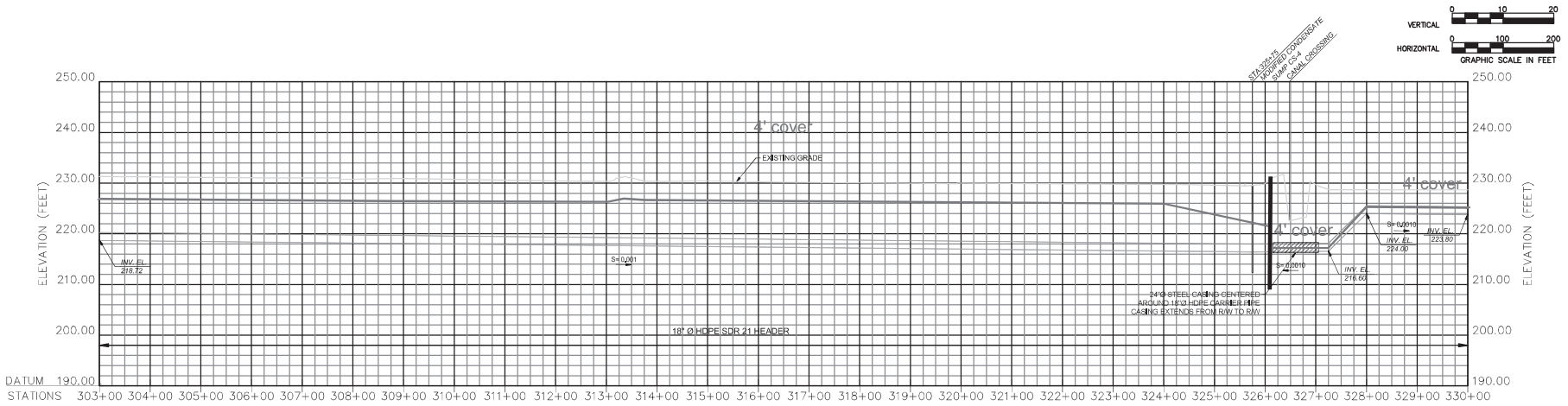
STA. 288+00 TO 303+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.12

C:\Users\SGarza_BG\Dropbox (Biogas Engineering)\Engineering\Projects\USH1807-101 – Lakeside Collection Pipeline\D-Drawings\C-Civil\PP_Lakeside_Pipeline_Pgs1_12.dwg 8/27/2020 SGarza_BG





PROFILE – STA. 303+00 TO 330+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 303+00 TO 330+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.13

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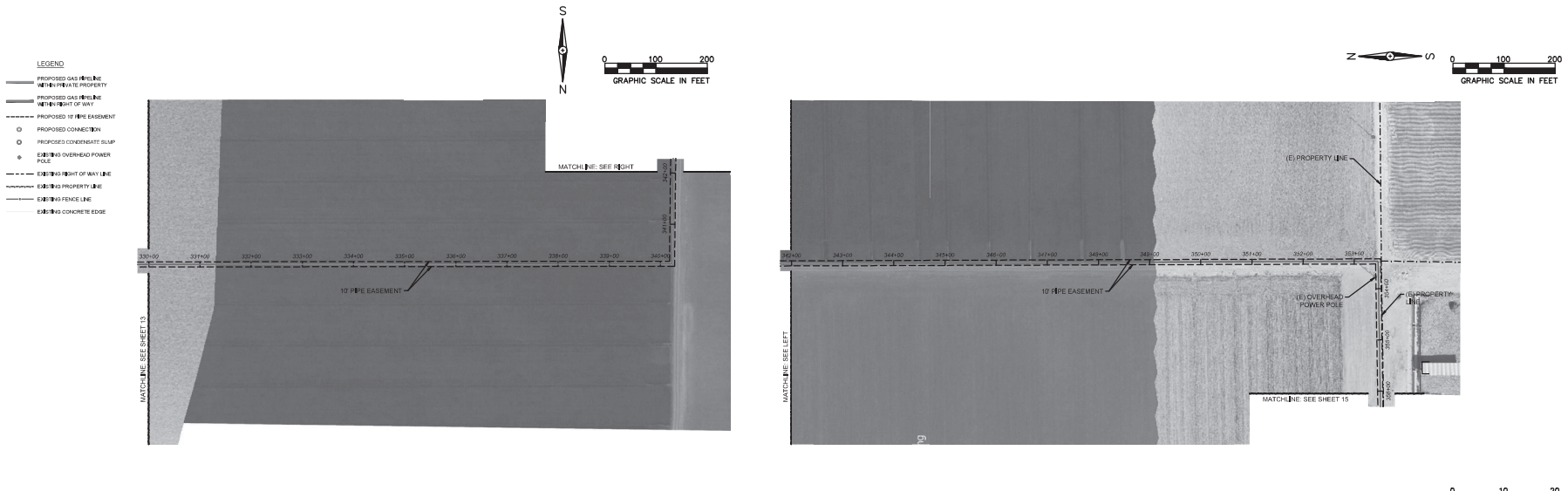

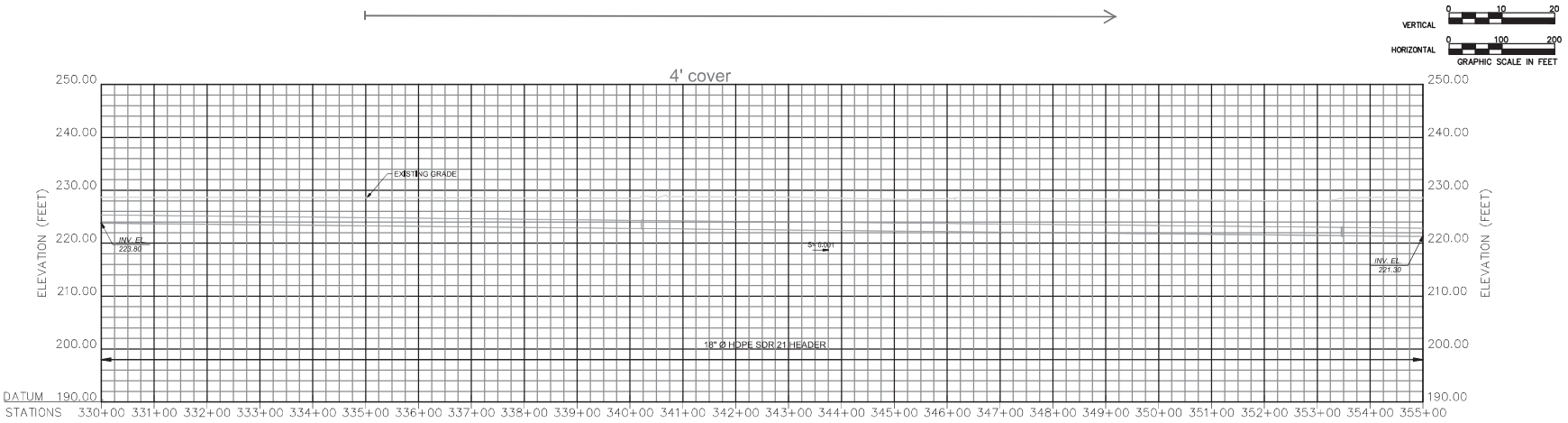

PROFILE – STA. 330+00 TO 355+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 330+00 TO 355+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.14

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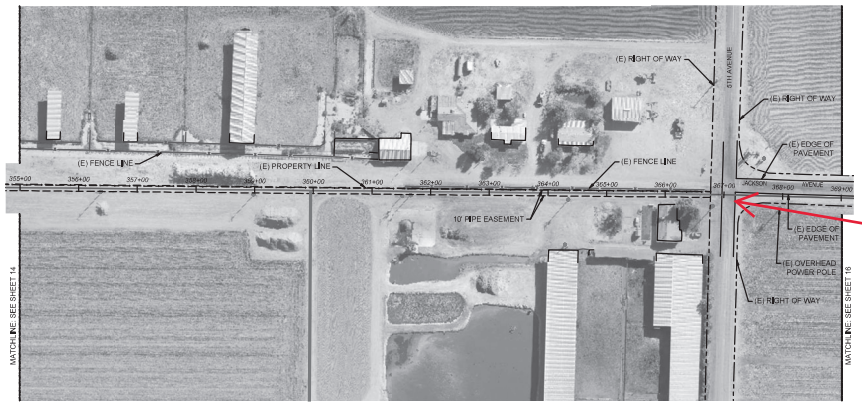

PROFILE – STA. 355+00 TO 369+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
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SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 355+00 TO 369+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.15

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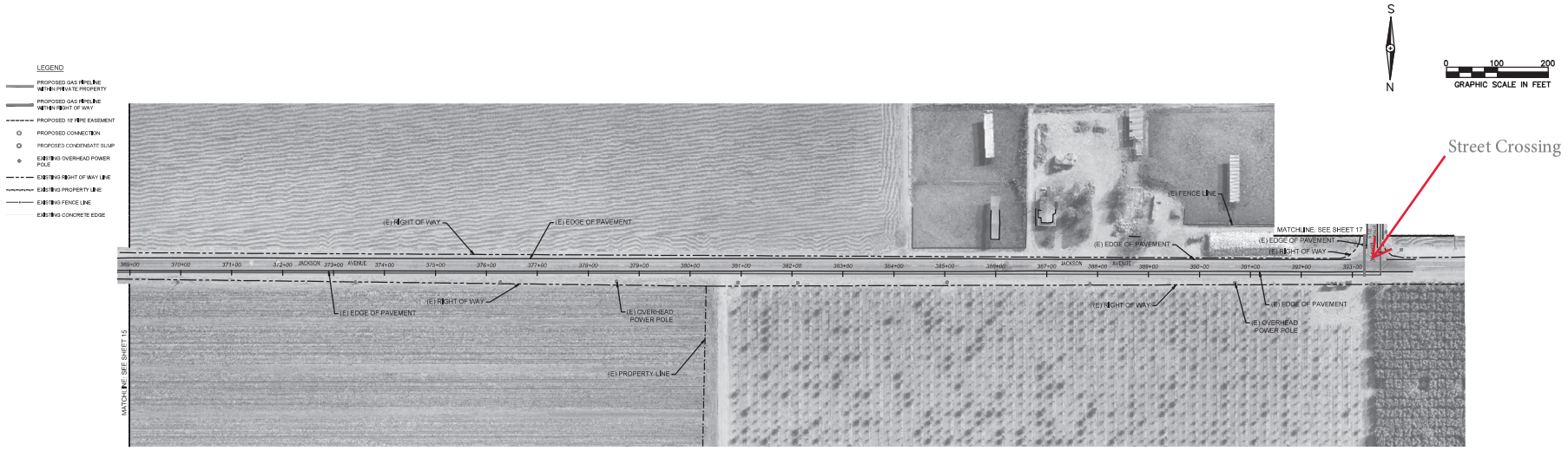

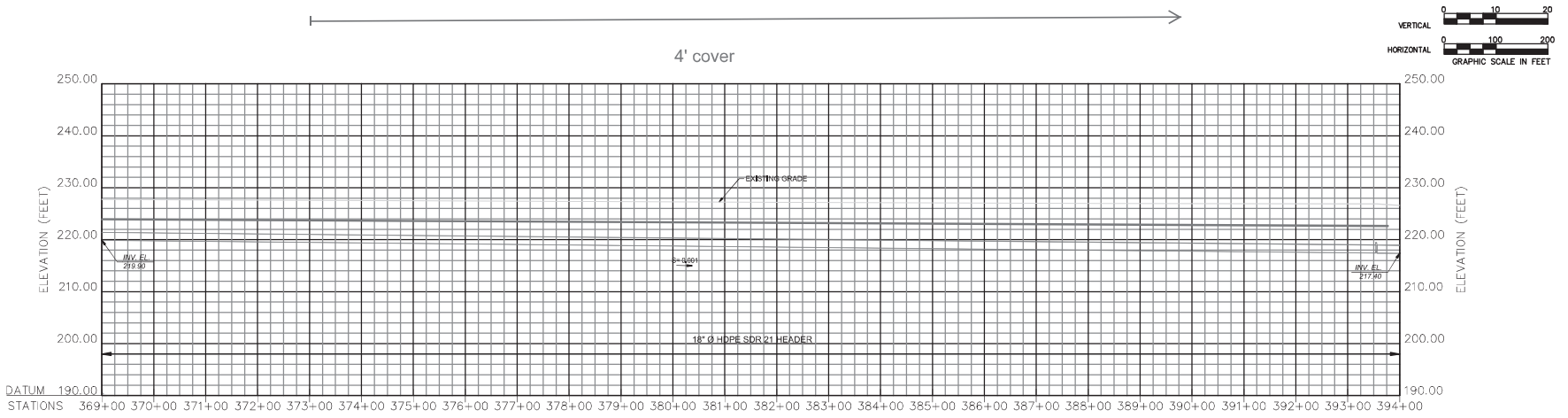

PROFILE – STA. 369+00 TO 394+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
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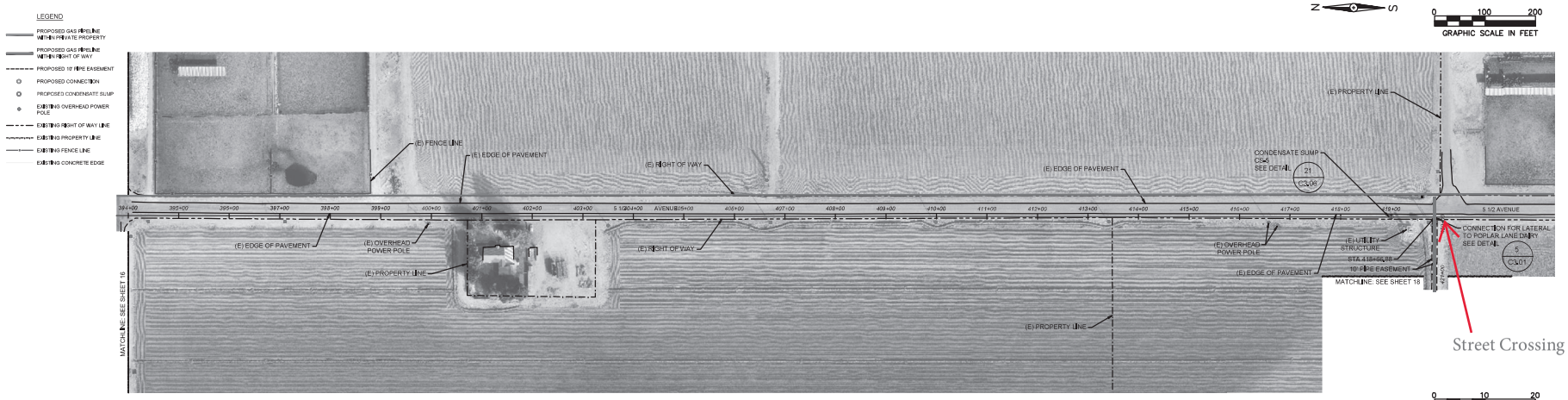
EMAIL: INFO@BIOGASENG.COM

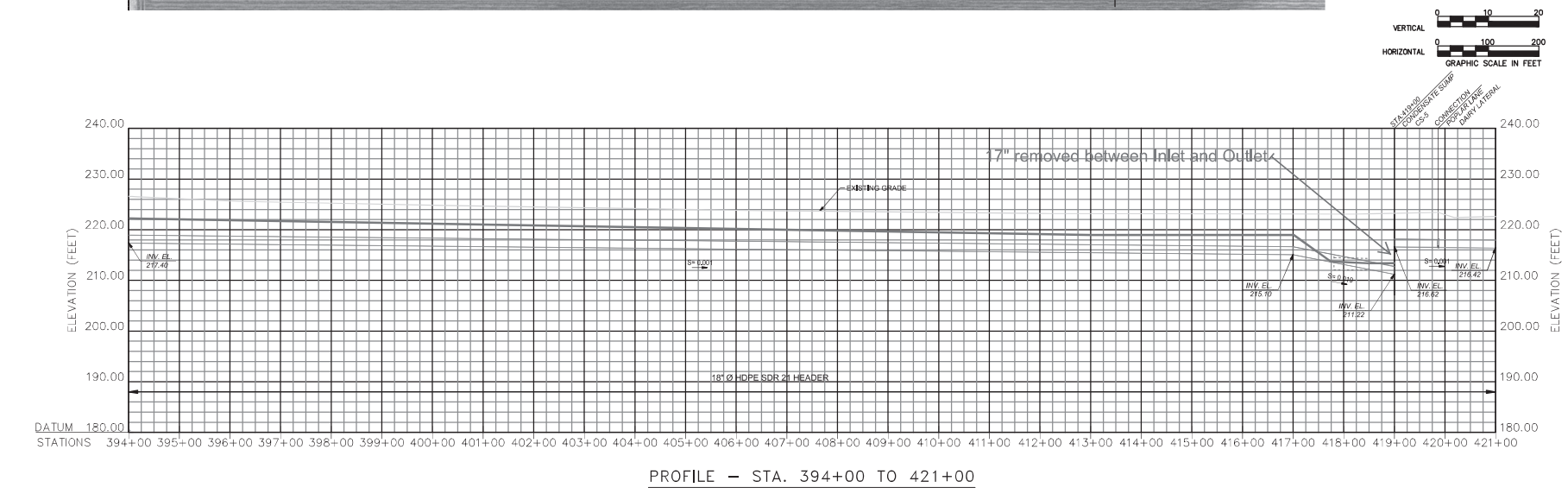
STA. 369+00 TO 394+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.16

C:\Users\SGarza_BG\Dropbox (Biogas Engineering)\Engineering\Projects\USH1807-101 – Lakeside Collection Pipeline\D-Drawings\C-Civil\PP_Lakeside_Pipeline_Pgs13_24.dwg 8/27/2020 SGarza_BG





PROFILE – STA. 394+00 TO 421+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

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MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 394+00 TO 421+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.17

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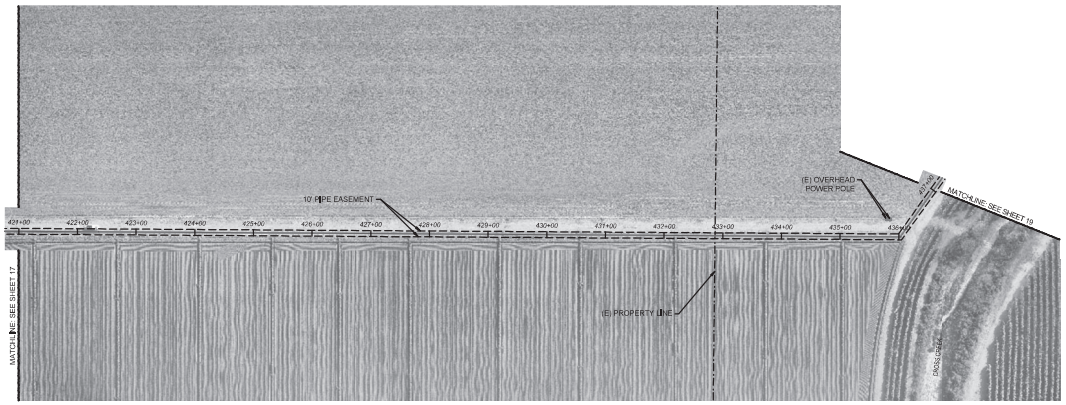
LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



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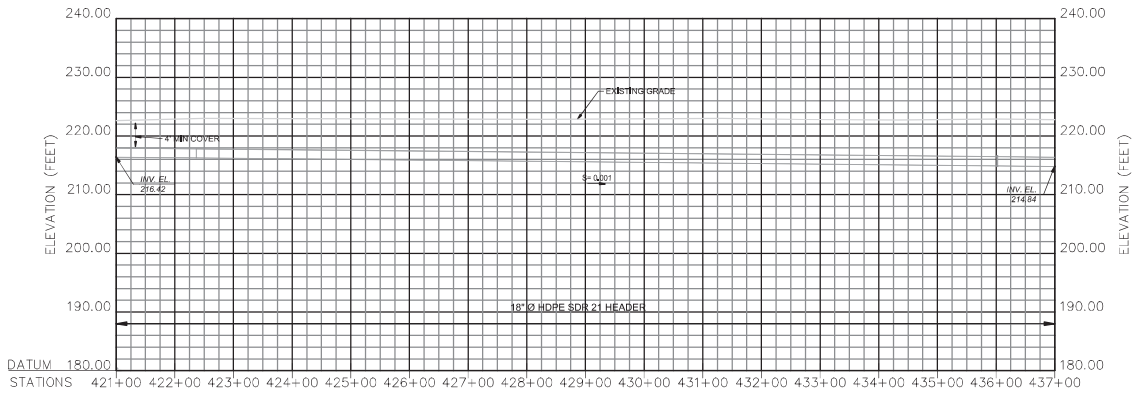
GRAPHIC SCALE IN FEET



VERTICAL 0 10 20
HORIZONTAL 0 100 200
GRAPHIC SCALE IN FEET

PROFILE – STA. 421+00 TO 437+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

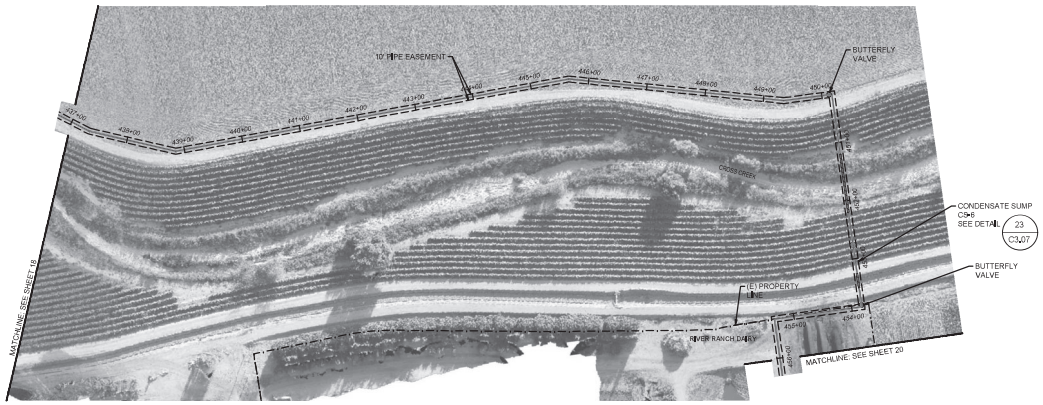
STA. 421+00 TO 437+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.18

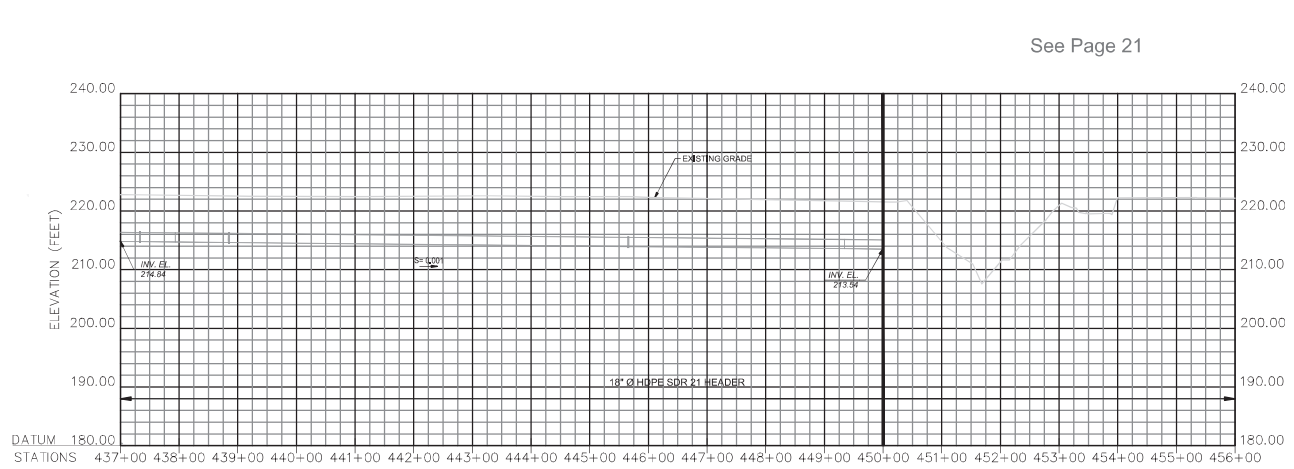
LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



GRAPHIC SCALE IN FEET 0 100 200

See Page 21



VERTICAL 0 10 20
HORIZONTAL 0 100 200 GRAPHIC SCALE IN FEET

PROFILE – STA. 437+00 TO 456+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 437+00 TO 456+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.19

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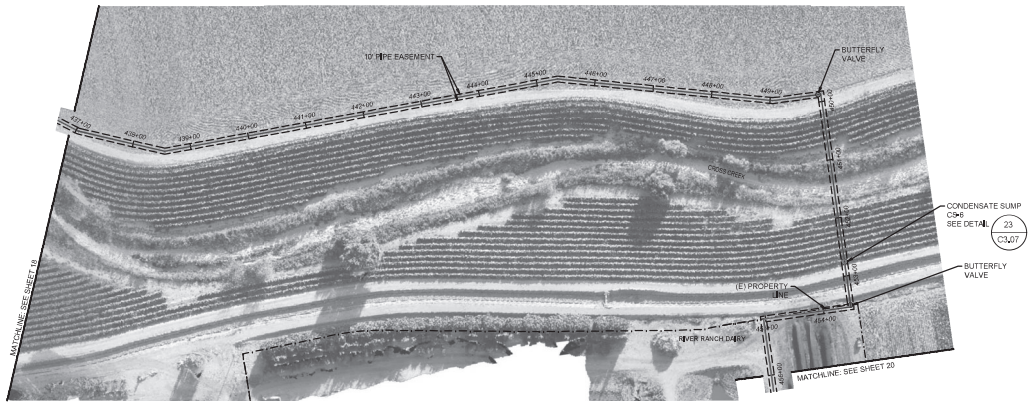
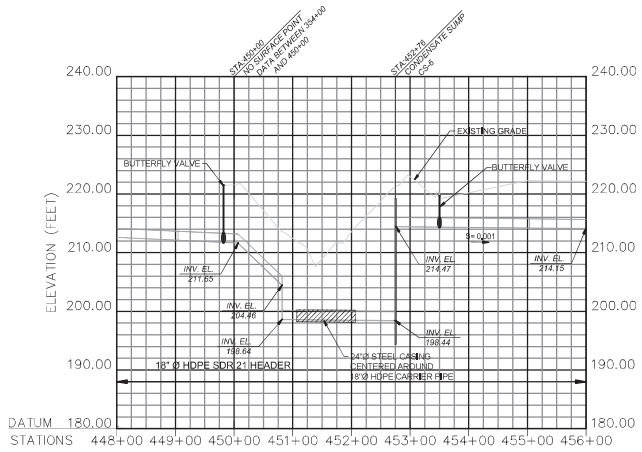
LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE





PROFILE – STA. 448+00 TO 456+00

VERTICAL 0 10 20
HORIZONTAL 0 100 200 GRAPHIC SCALE IN FEET

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 437+00 TO 456+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.19

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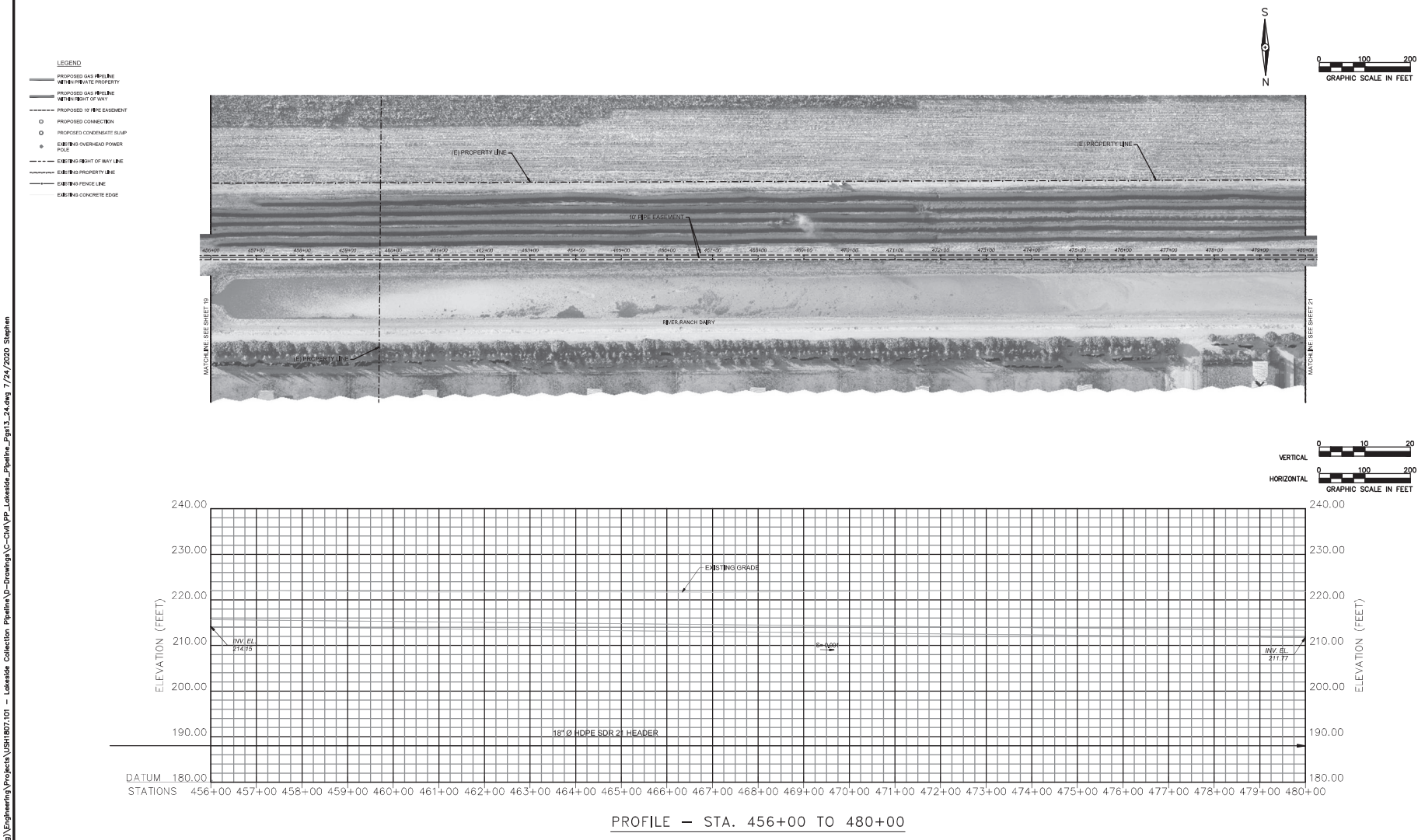

PROFILE – STA. 456+00 TO 480+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

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MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 456+00 TO 480+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.20

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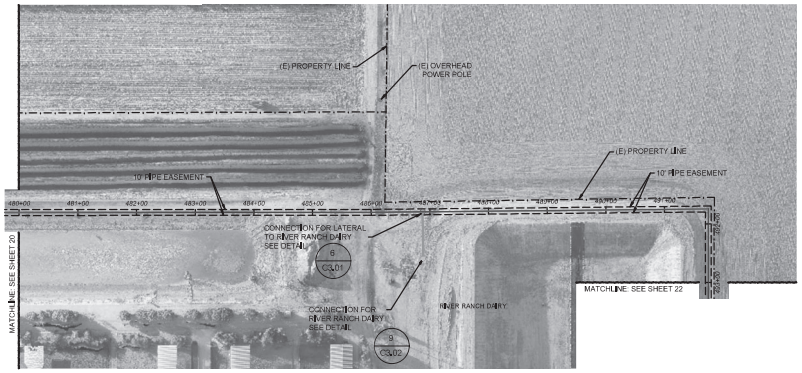
LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



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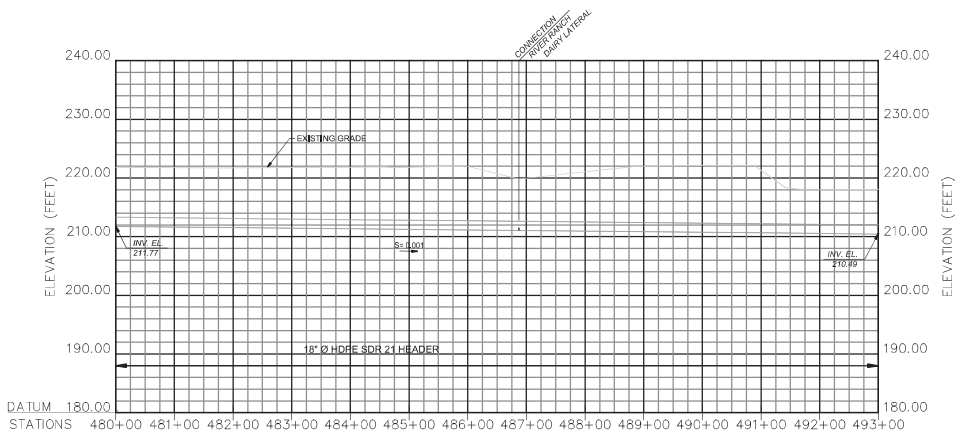
GRAPHIC SCALE IN FEET



0 10 20
VERTICAL
0 100 200
HORIZONTAL
GRAPHIC SCALE IN FEET

PROFILE – STA. 480+00 TO 493+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY

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ENGINEER:
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PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 480+00 TO 493+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.21

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LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
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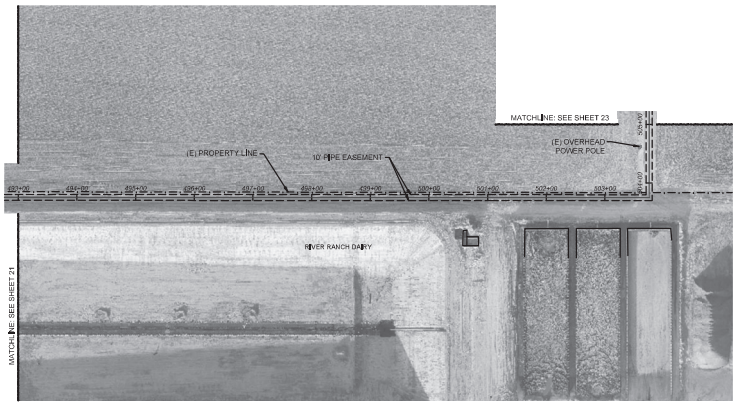
GRAPHIC SCALE IN FEET



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VERTICAL
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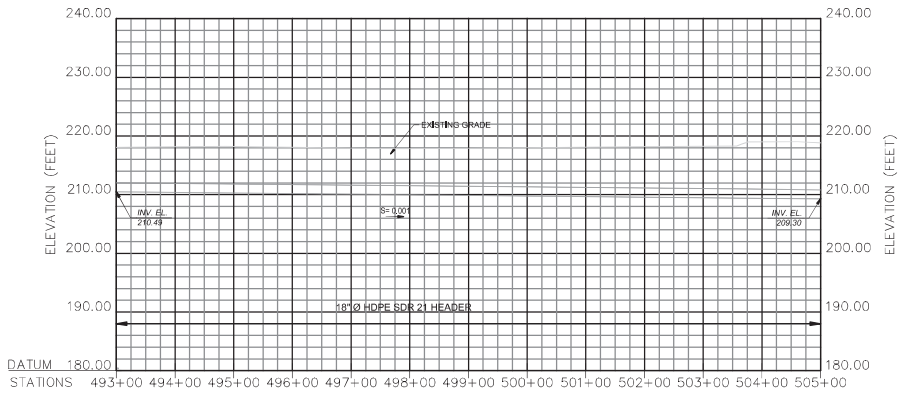
HORIZONTAL
GRAPHIC SCALE IN FEET



PROFILE – STA. 493+00 TO 505+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY

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ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 493+00 TO 505+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
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DRAWING NO.
C2.22

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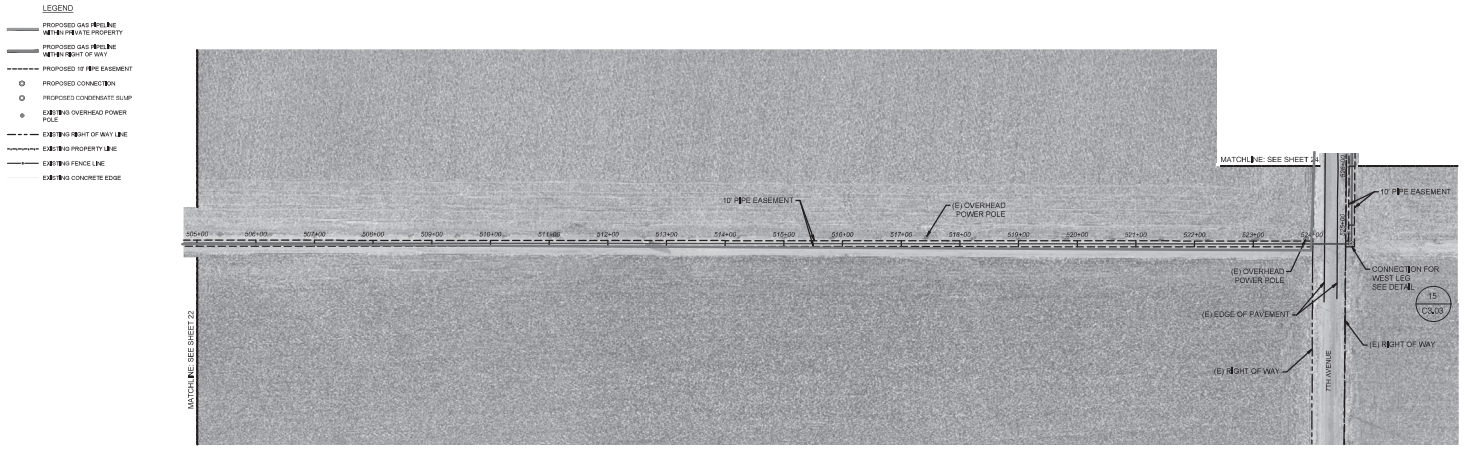

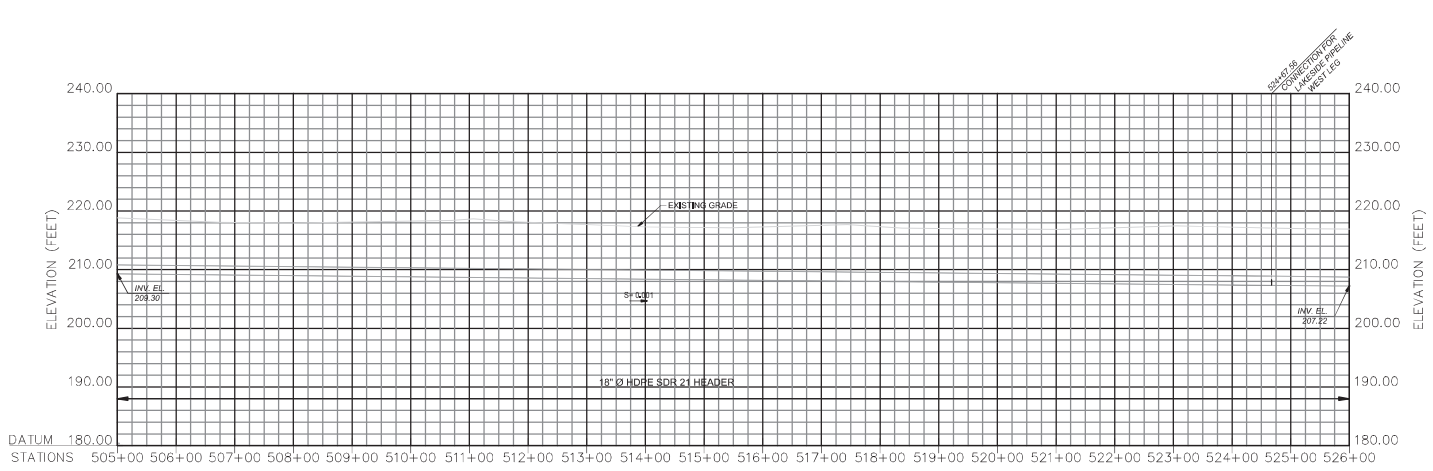

PROFILE – STA. 505+00 TO 526+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
			SG	SK	SK
			SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

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EMAIL: INFO@BIOGASENG.COM

STA. 505+00 TO 526+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
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DRAWING NO.
C2.23

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LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
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- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
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- EXISTING CONCRETE EDGE

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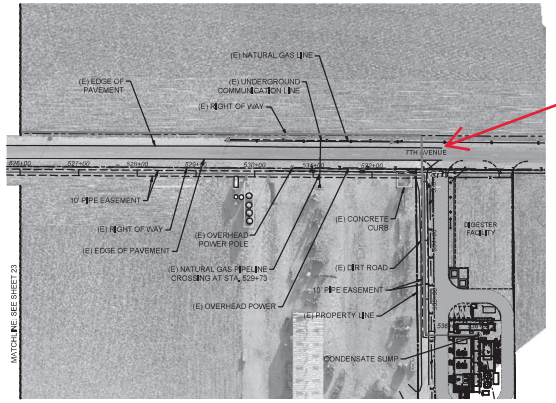
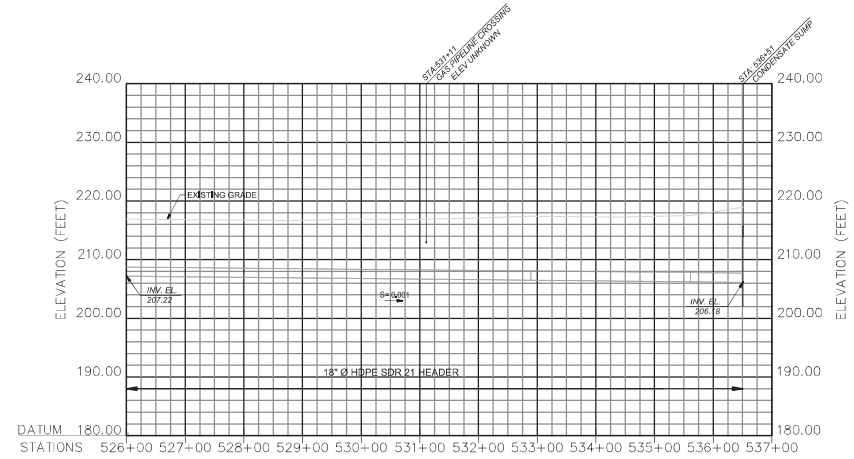
0 100 200
GRAPHIC SCALE IN FEET



Street Crossing

0 10 20
VERTICAL
HORIZONTAL 0 100 200
GRAPHIC SCALE IN FEET



PROFILE – STA. 526+00 TO 537+00

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

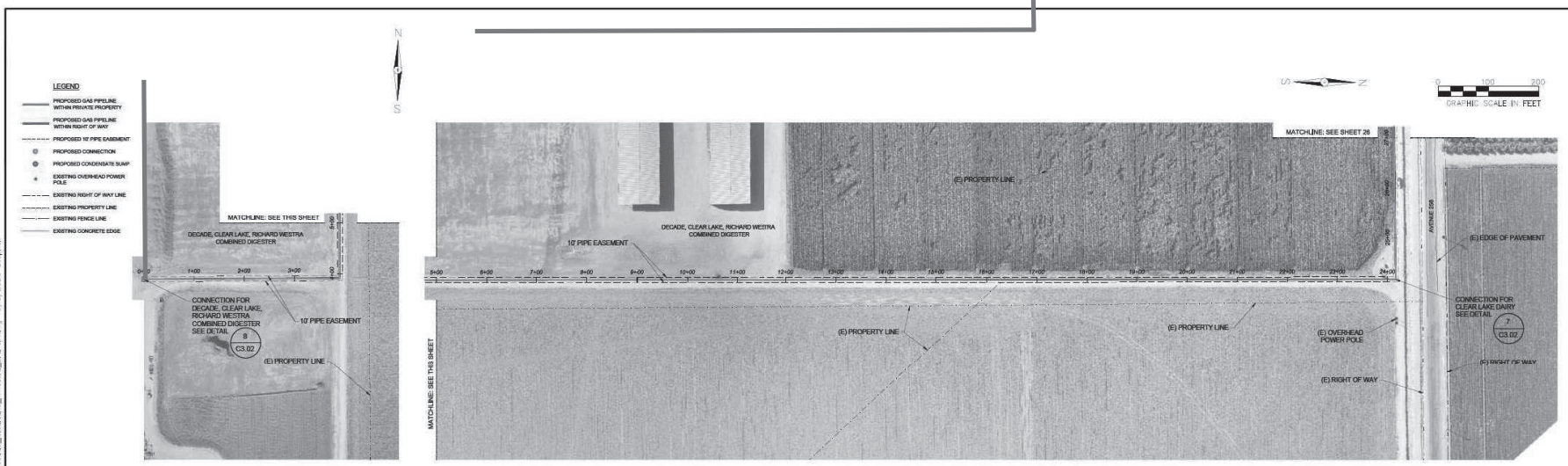
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

PLAN AND PROFILE
STA. 526+00 TO 536+51

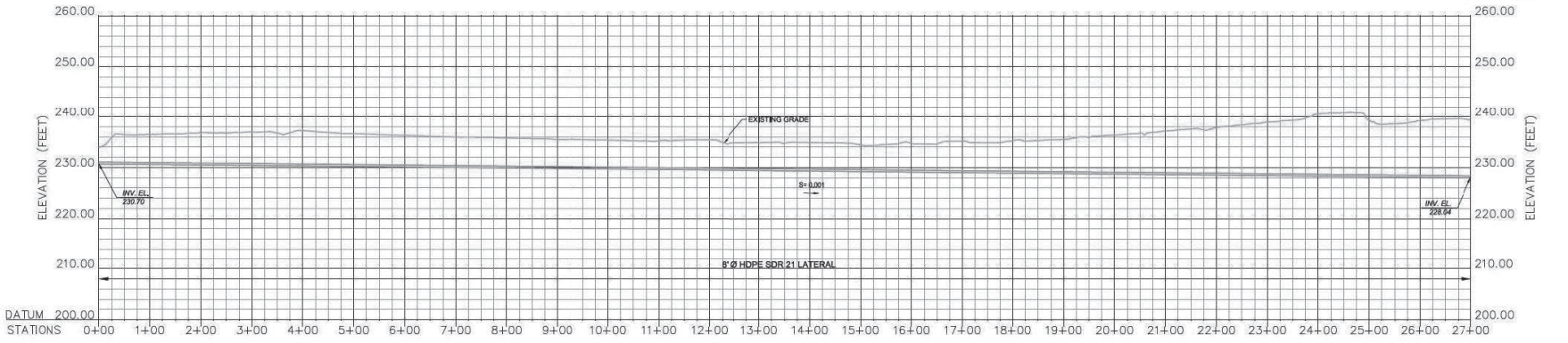
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.24

D:\Dropbox (Biogas Engineering)\Engineering\Projects\VSH1807.101 – Lakeside Collection Pipeline\0-Drawings\C-Civil\PP_Lakeside_Pipeline_Pgs13_24.dwg 7/24/2020 Stephen



Rerouted @ 5' Cover



PROFILE – STA. 0+00 TO 27+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

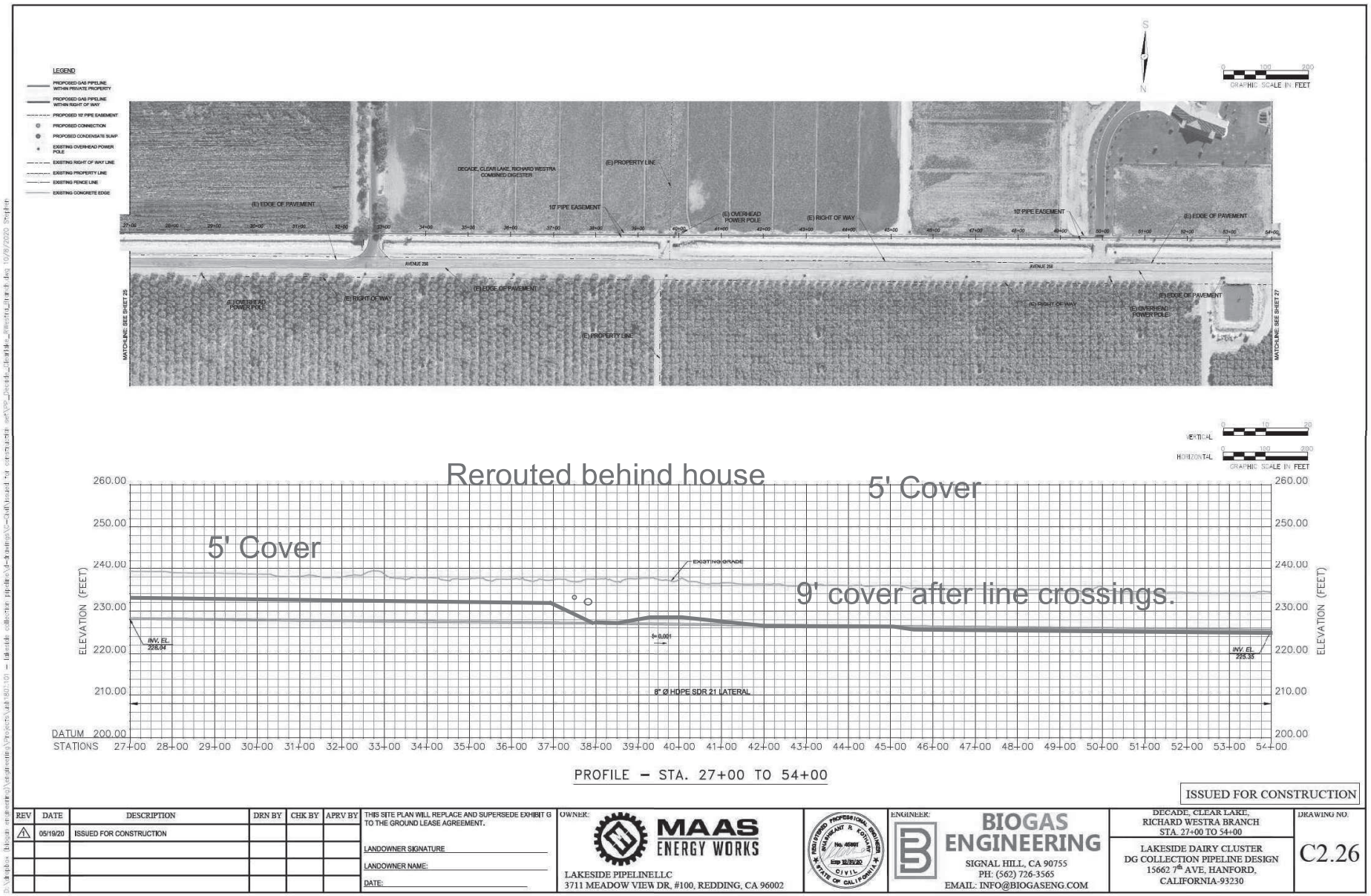
OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

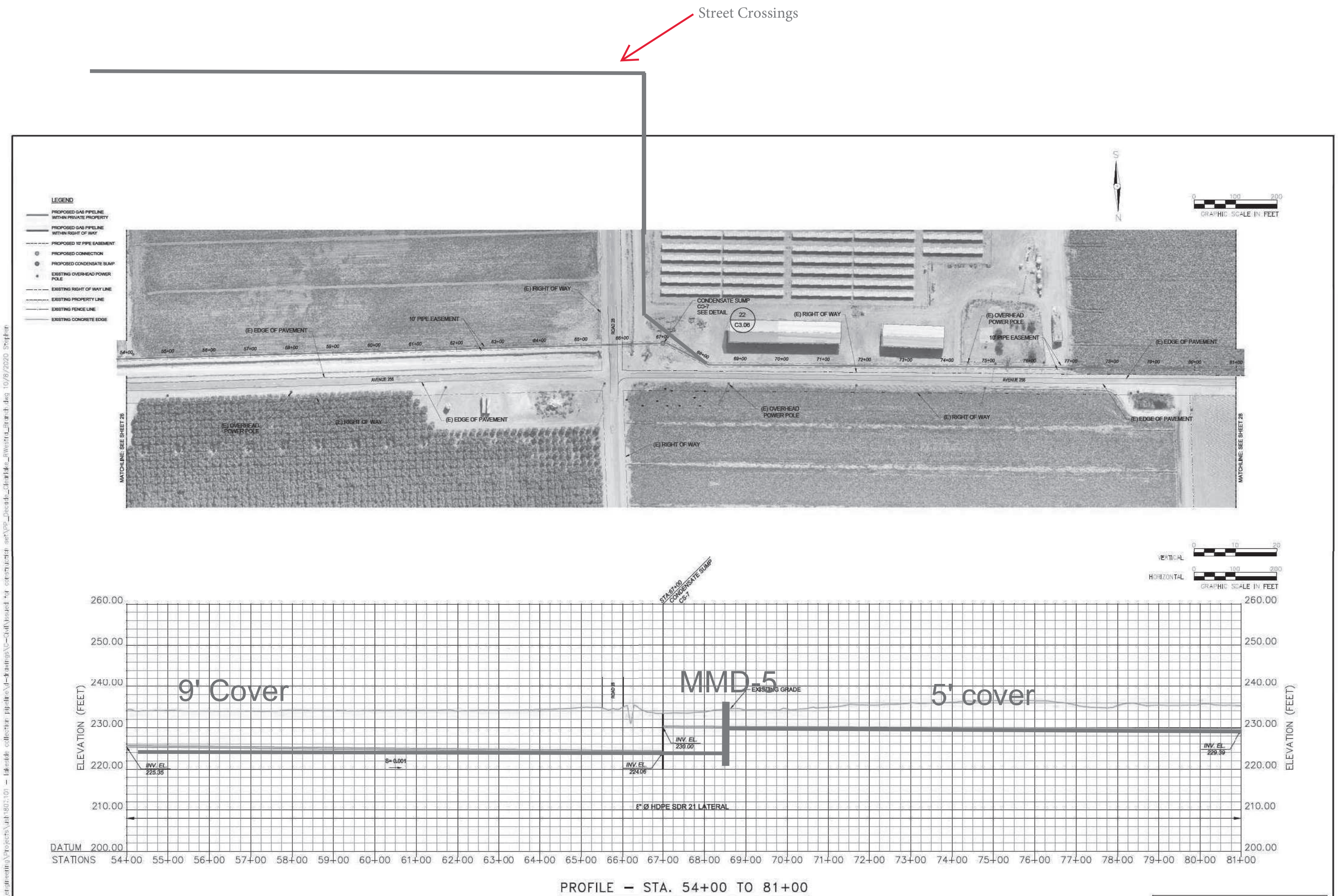
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

DECADE, CLEAR LAKE, RICHARD WESTRA BRANCH
STA. 0+00 TO 27+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.25


LEGEND
PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
PROPOSED 10' PIPE EASEMENT
PROPOSED CONNECTION
PROPOSED CONDENSATE SUMP
EXISTING OVERHEAD POWER POLE
EXISTING RIGHT OF WAY LINE
EXISTING PROPERTY LINE
EXISTING FENCE LINE
EXISTING CONCRETE EDGE
GRAPHIC SCALE IN FEET
DECADE, CLEAR LAKE, RICHARD WESTRA COMBINED DIGESTER
(E) PROPERTY LINE
(E) EDGE OF PAVEMENT
10' PIPE EASEMENT
(E) OVERHEAD POWER POLE
(E) RIGHT OF WAY
AVENUE 256
MATCHLINE: SEE SHEET 25
MATCHLINE: SEE SHEET 27
Rerouted behind house
5' Cover
5' Cover
9' cover after line crossings.
EXISTING GRADE
INV. EL. 228.04
INV. EL. 225.35
S= 0.001
8" Ø HDPE SDR 21 LATERAL
ELEVATION (FEET)
DATUM 200.00
STATIONS 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00
PROFILE – STA. 27+00 TO 54+00
ISSUED FOR CONSTRUCTION
REV DATE DESCRIPTION DRN BY CHK BY APRV BY
05/19/20 ISSUED FOR CONSTRUCTION
THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.
LANDOWNER SIGNATURE
LANDOWNER NAME:
DATE:
OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM
DECADE, CLEAR LAKE, RICHARD WESTRA BRANCH STA. 27+00 TO 54+00
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230
DRAWING NO.
C2.26



ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
△	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

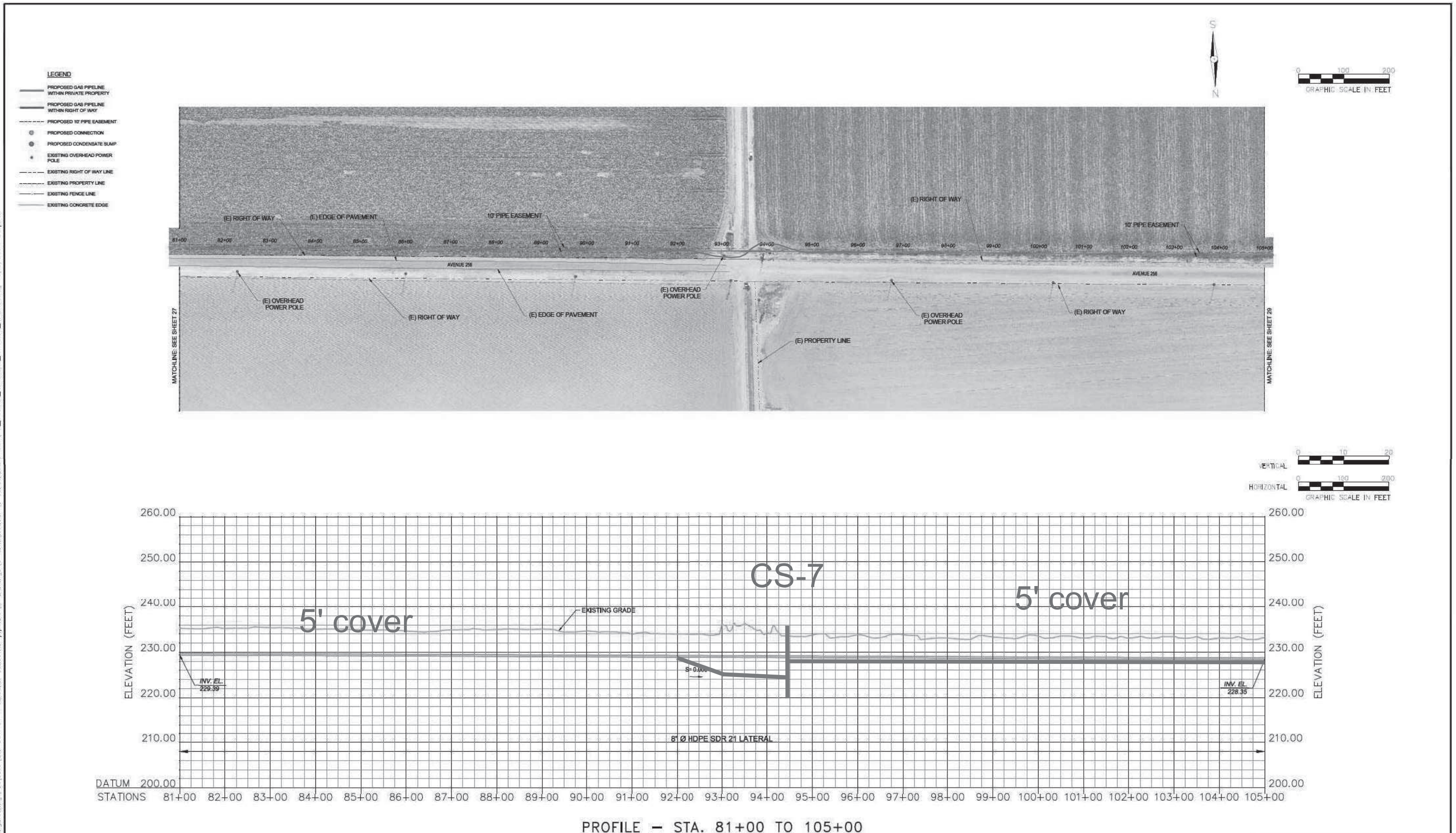
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

DECADE, CLEAR LAKE, RICHARD WESTRA BRANCH
STA. 54+00 TO 81+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.27



ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
△	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

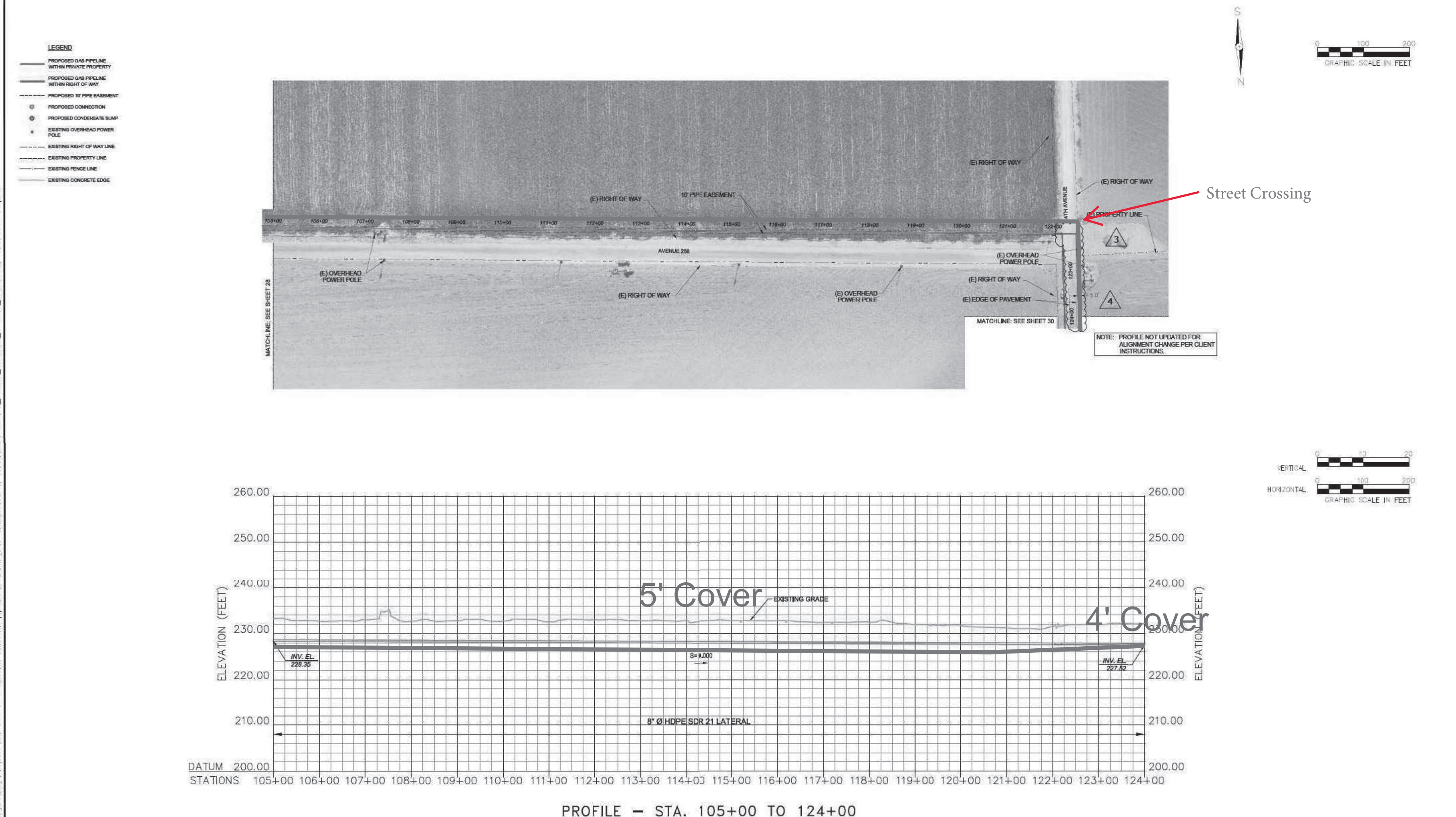
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

DECADE, CLEAR LAKE, RICHARD WESTRA BRANCH
STA. 81+00 TO 105+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.28



ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION			
3	07/30/20	PIPE ALIGNMENT CHANGED	SG	SK	SK
4	08/10/20	PIPE ALIGNMENT CHANGED PER CLIENT REQUEST	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

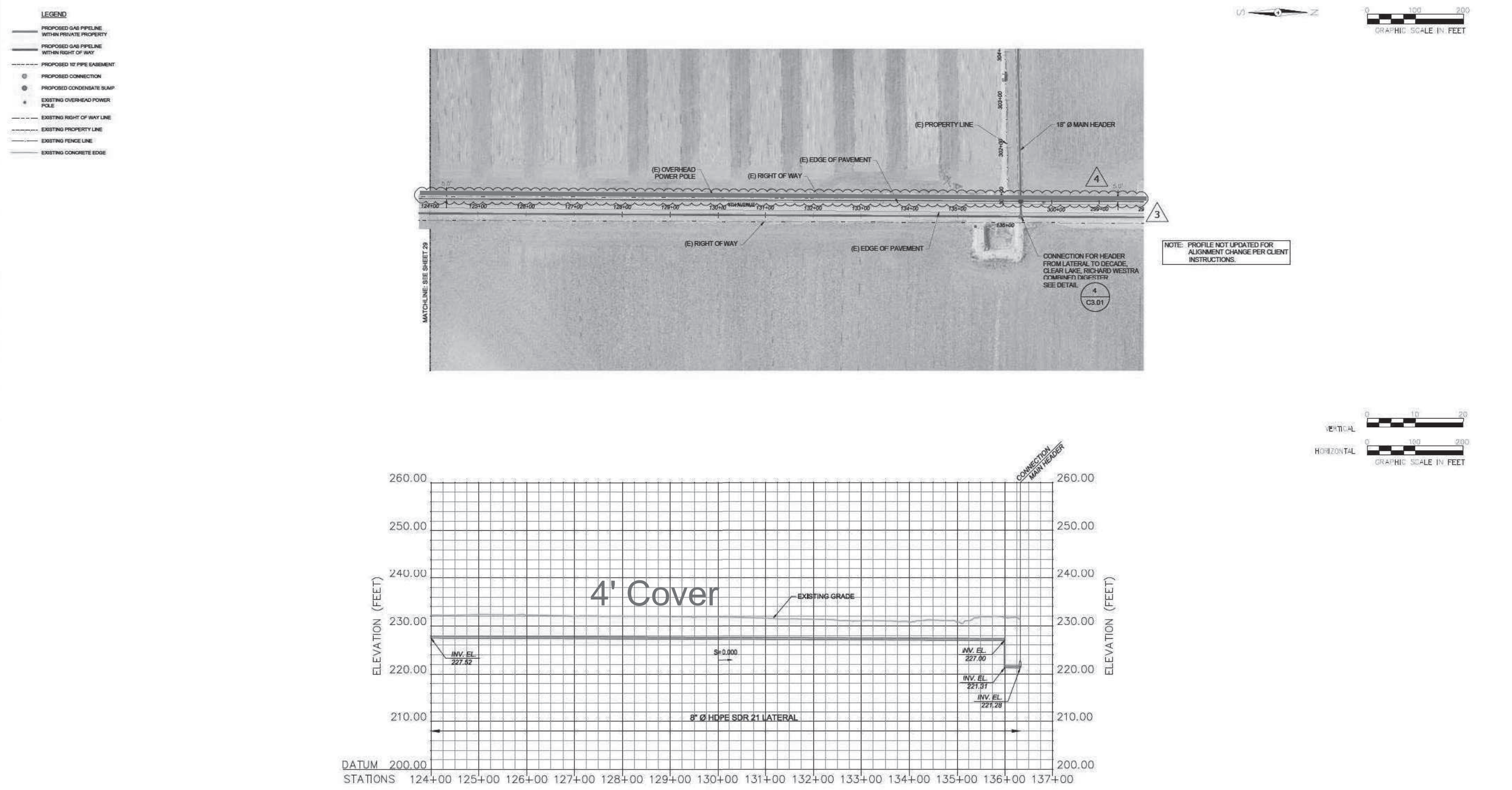
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

DECADE, CLEAR LAKE, RICHARD WESTRA BRANCH
STA. 105+00 TO 124+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.29



PROFILE – STA. 124+00 TO 137+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION			
3	07/30/20	PIPE ALIGNMENT CHANGED	SG	SK	SK
4	08/10/20	PIPE ALIGNMENT CHANGED PER CLIENT REQUEST	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

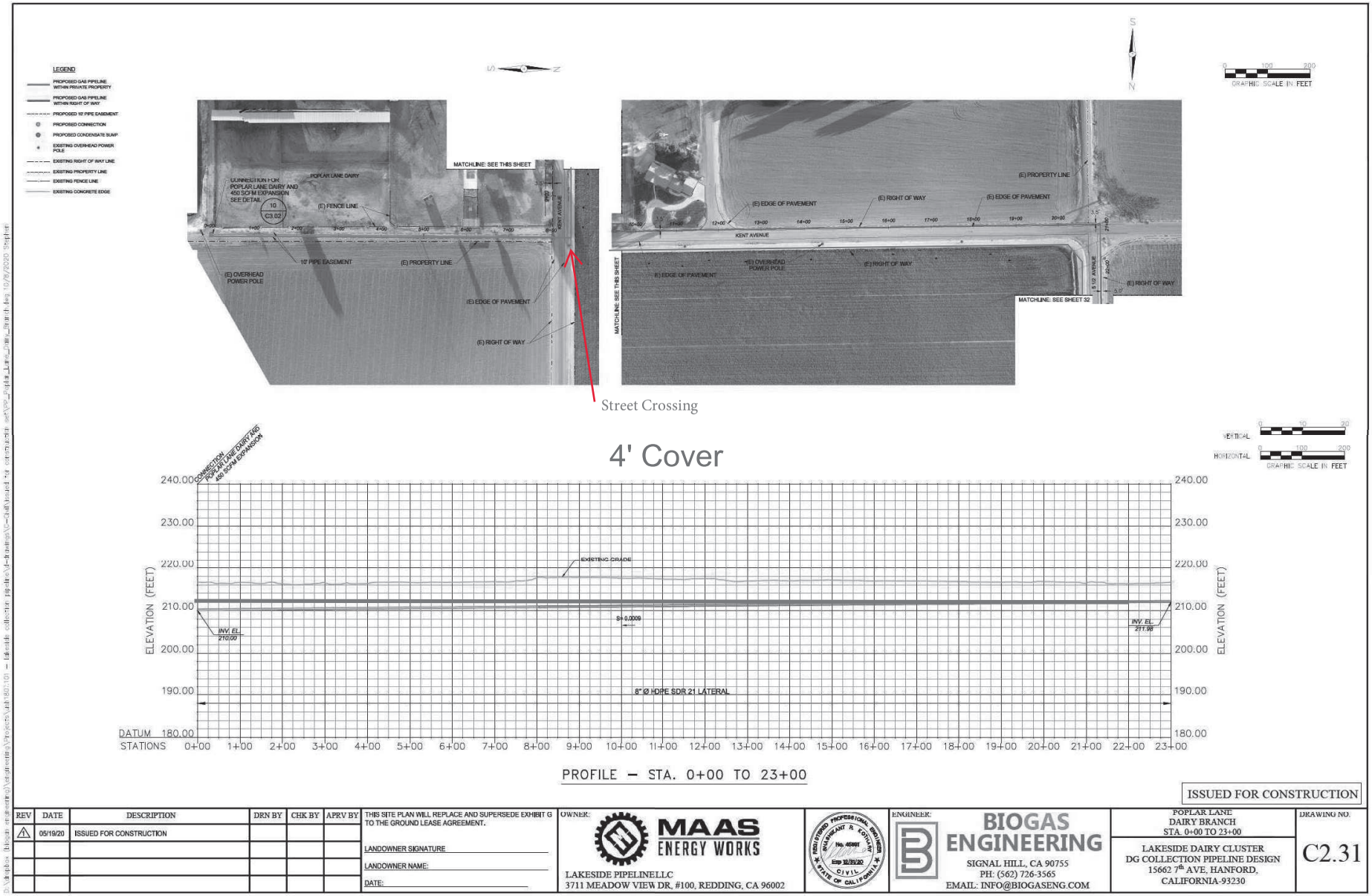
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

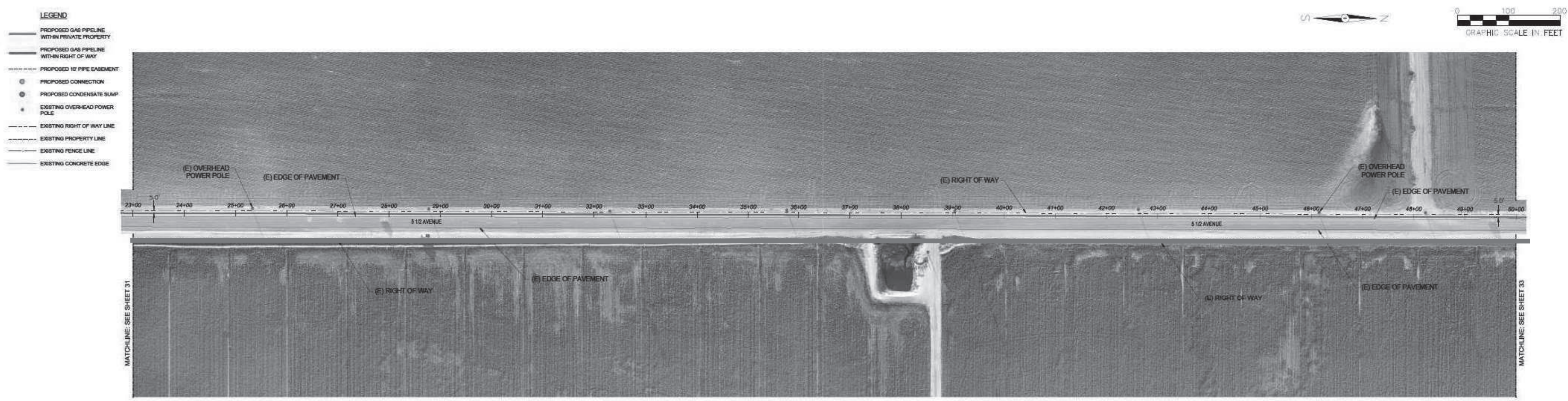
ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

DECADE, CLEAR LAKE, RICHARD WESTRA BRANCH
STA. 124+00 TO 136+32

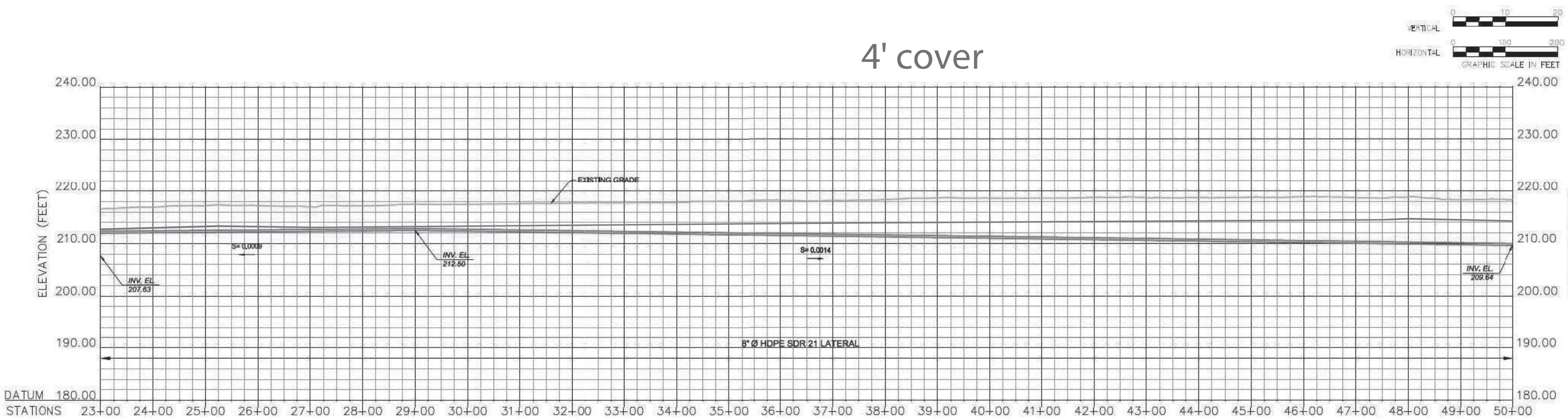
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.30


LEGEND
PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
PROPOSED 10' PIPE EASEMENT
PROPOSED CONNECTION
PROPOSED CONDENSATE SUMP
EXISTING OVERHEAD POWER POLE
EXISTING RIGHT OF WAY LINE
EXISTING PROPERTY LINE
EXISTING FENCE LINE
EXISTING CONCRETE EDGE
GRAPHIC SCALE IN FEET
MATCHLINE: SEE THIS SHEET
CONNECTION FOR POPLAR LANE DAIRY AND 450 SCFM EXPANSION SEE DETAIL 10 C3.02
POPLAR LANE DAIRY
(E) FENCE LINE
10' PIPE EASEMENT
(E) PROPERTY LINE
(E) OVERHEAD POWER POLE
(E) EDGE OF PAVEMENT
(E) RIGHT OF WAY
KENT AVENUE
MATCHLINE: SEE SHEET 32
Street Crossing
4' Cover
VERTICAL
HORIZONTAL
CONNECTION POPLAR LANE DAIRY N65 450 SCFM EXPANSION
EXISTING GRADE
INV. EL. 210.00
S=0.0009
INV. EL. 211.98
8" Ø HDPE SDR 21 LATERAL
ELEVATION (FEET)
DATUM 180.00
STATIONS 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00
PROFILE – STA. 0+00 TO 23+00
ISSUED FOR CONSTRUCTION
REV
DATE
DESCRIPTION
DRN BY
CHK BY
APRV BY
05/19/20
ISSUED FOR CONSTRUCTION
THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.
LANDOWNER SIGNATURE
LANDOWNER NAME:
DATE:
OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002
REGISTERED PROFESSIONAL ENGINEER
No. 46991
Exp 12/31/20
CIVIL
STATE OF CALIFORNIA
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM
POPLAR LANE DAIRY BRANCH STA. 0+00 TO 23+00
LAKESIDE DAIRY CLUSTER DG COLLECTION PIPELINE DESIGN 15662 7th AVE, HANFORD, CALIFORNIA-93230
DRAWING NO.
C2.31



4' cover



PROFILE – STA. 23+00 TO 50+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE ______

LANDOWNER NAME: ______

DATE: ______

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

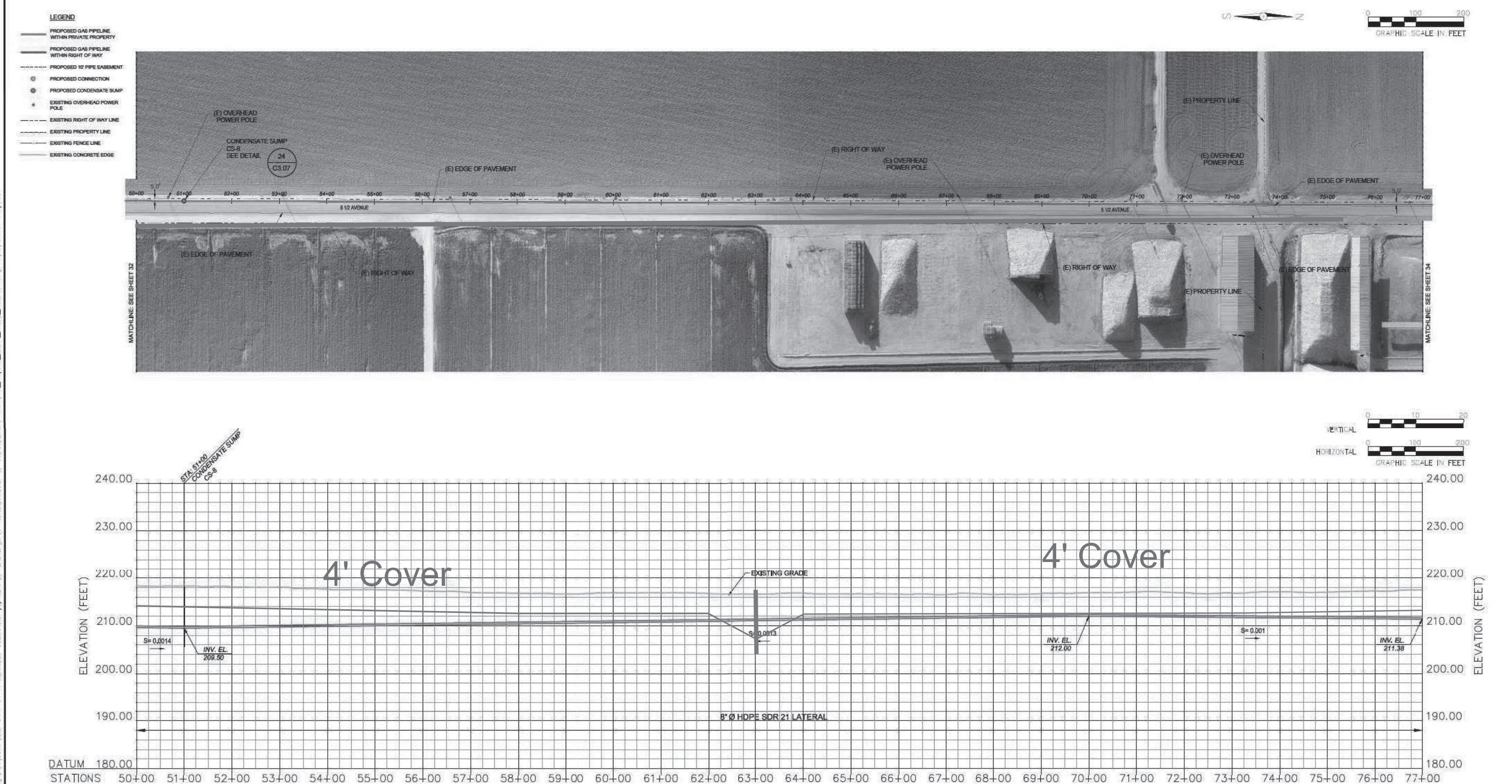
REGISTERED PROFESSIONAL ENGINEER — No. 45897 — Exp 12/31/20 — CIVIL — STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

POPLAR LANE
DAIRY BRANCH
STA. 23+00 TO 50+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.32



PROFILE – STA. 50+00 TO 77+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE: ____

LANDOWNER NAME: ____

DATE: ____

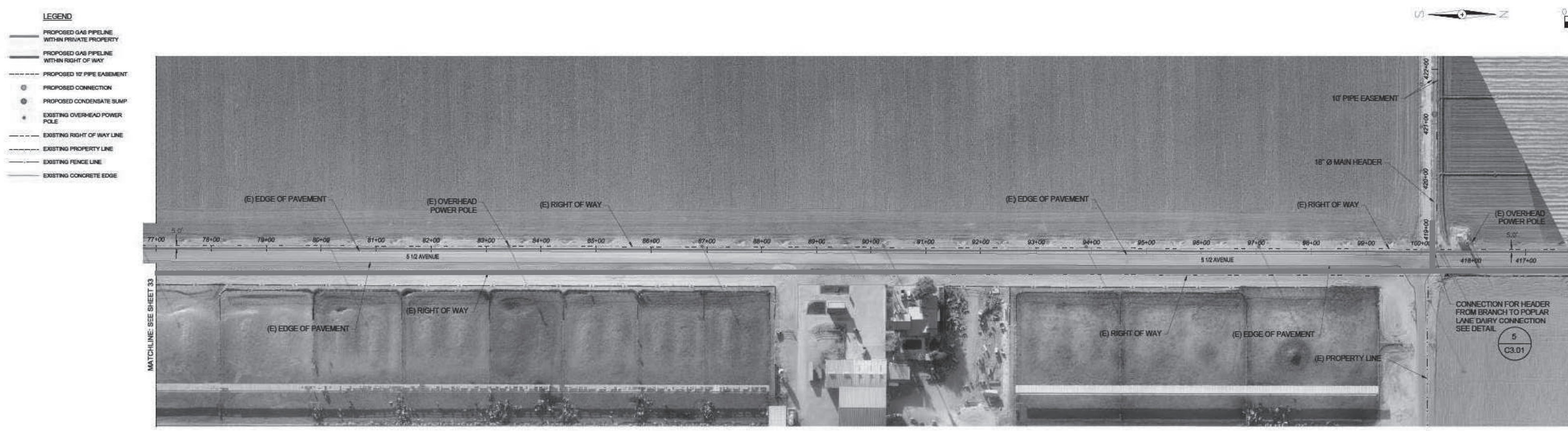
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

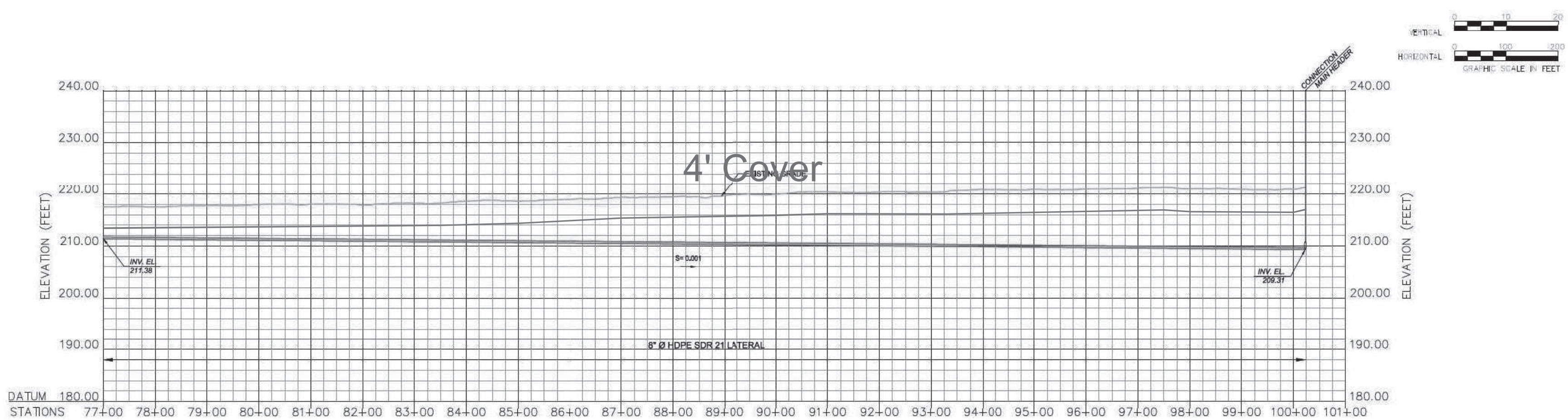
ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

POPLAR LANE
DAIRY BRANCH
STA. 50+00 TO 77+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.33





PROFILE – STA. 77+00 TO 101+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
△	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

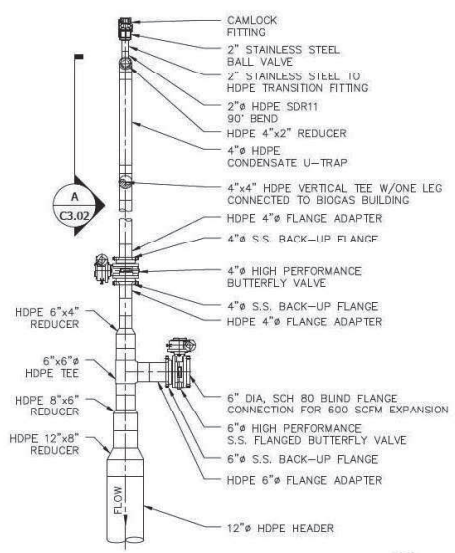
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

POPLAR LANE
DAIRY BRANCH
STA. 77+00 TO 100+23

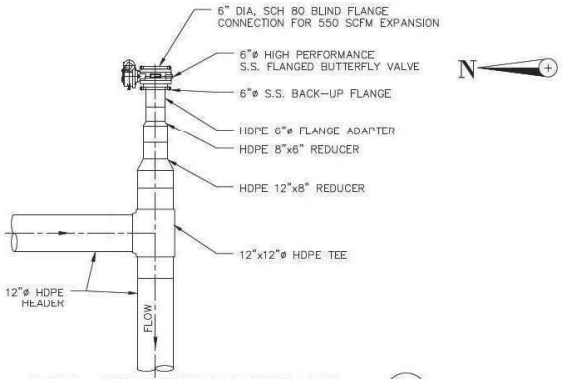
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.34



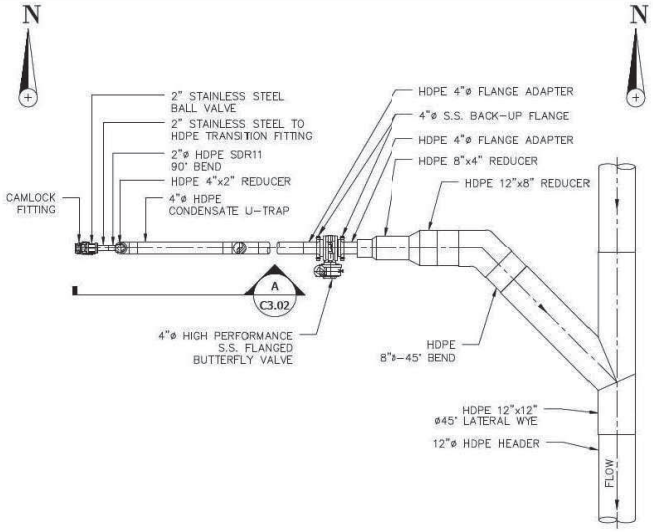
DETAIL - 600 SCFM EXPANSION & DIXIE CREEK RANCH DAIRY CONNECTION 1 C3.01

SCALE – N.T.S.



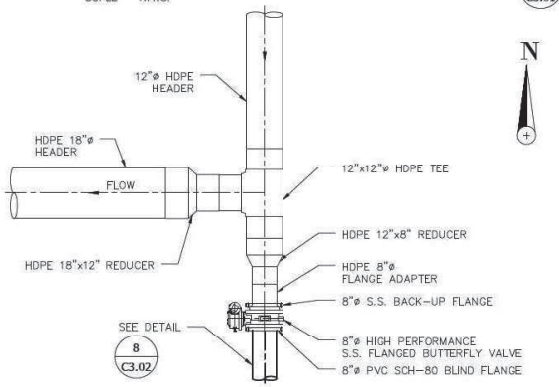
DETAIL - 550 EXPANSION CONNECTION 2 C3.01

SCALE – 1":20"



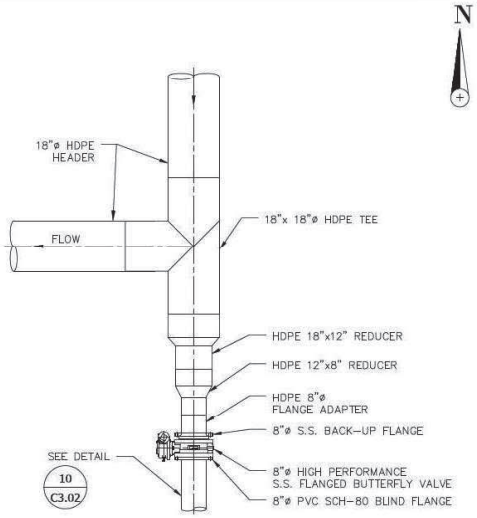
DETAIL - LOAN OAK FARMS #1 DAIRY CONNECTION 3 C3.01

SCALE – N.T.S.



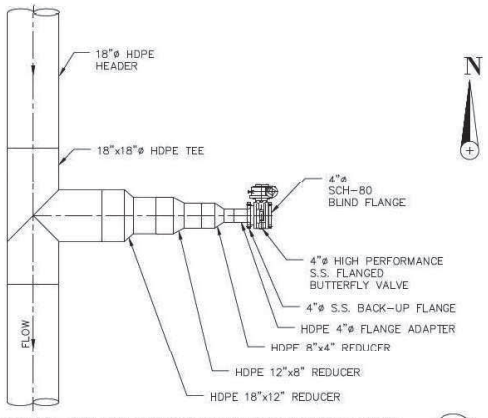
DETAIL - BRANCH TO DECADE/CLEAR LAKE/RICHARD WESTRA DIGESTER 4 C3.01

SCALE – 1":20"



DETAIL - BRANCH TO POPLAR LANE DAIRY CONNECTION 5 C3.01

SCALE – 1":20"



DETAIL - RIVER RANCH DAIRY STUB CONNECTION 6 C3.01

SCALE – 1":20"

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

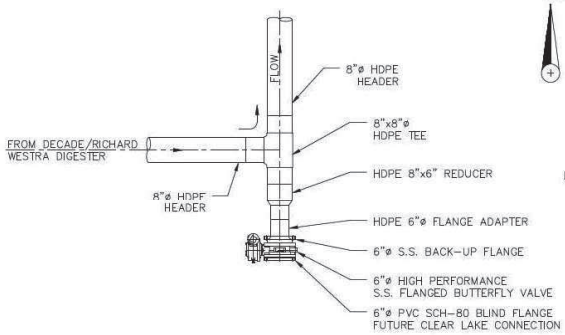
REGISTERED PROFESSIONAL ENGINEER — No. 45990 — Exp 12/31/20 — CIVIL — STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

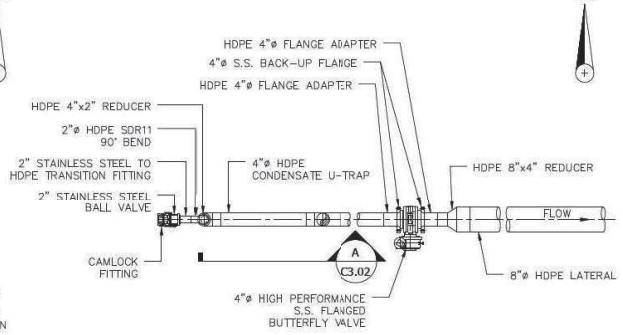
MISCELLANEOUS DETAILS

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

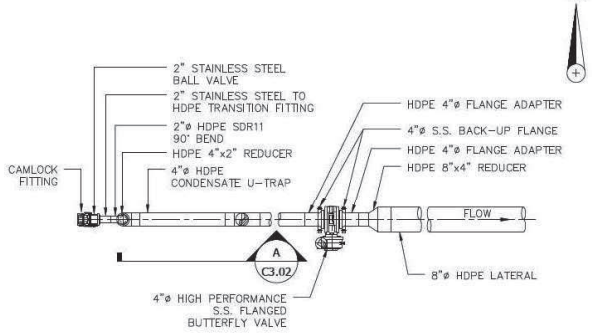
DRAWING NO. C3.01



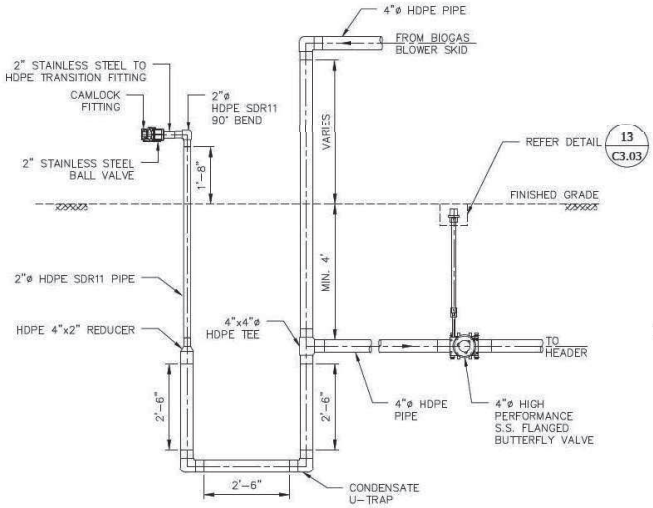
DETAIL - FUTURE CLEAR LAKE DAIRY CONNECTION (7 / C3.02)
SCALE – N.T.S.



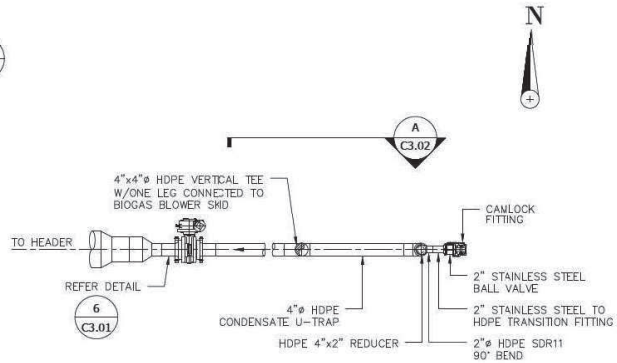
DETAIL - DECADE/RICHARD WESTRA DIGESTER BLOWER SKID / CONDENSATE TRAP CONNECTION (8 / C3.02)
SCALE – N.T.S.



DETAIL - POPLAR LANE DAIRY BLOWER SKID / CONDENSATE TRAP CONNECTION (10 / C3.02)
SCALE – N.T.S.



SECTION (CONDENSATE U-TRAP) (A C3.01) (A C3.02)
SCALE – N.T.S.



DETAIL - RIVER RANCH BIOGAS BLOWER SKID/ CONDENSATE TRAP CONNECTION (9 / C3.02)
SCALE – N.T.S.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION			

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

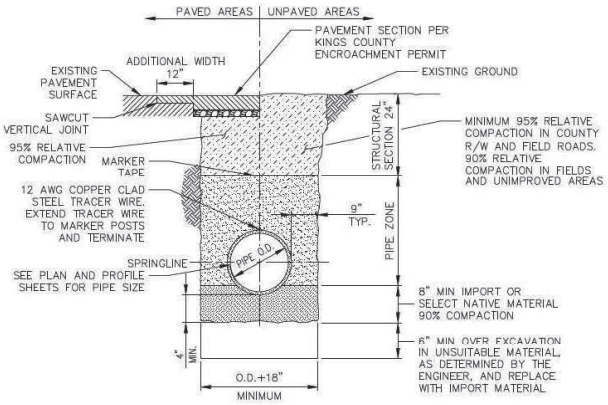
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MISCELLANEOUS DETAILS

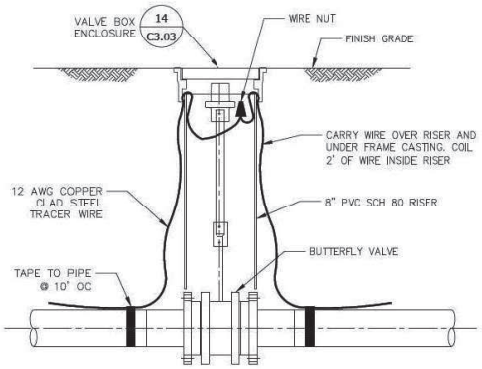
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C3.02



DETAIL - PIPE TRENCH 12 C3.03

NOT TO SCALE

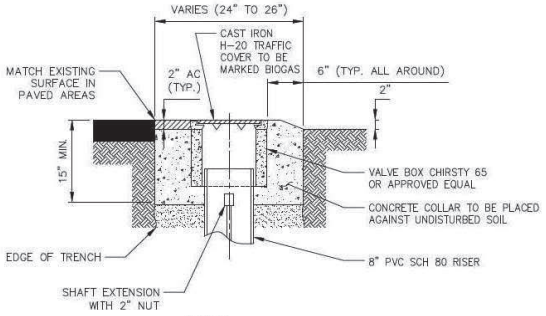


NOTES

1. EXTENSION ROD REQUIRED WHEN DISTANCE FROM FINISHED GRADE IS GREATER THAN 36".
2. PROVIDE AT LEAST 6" OF OVERLAP BETWEEN RISER PIPES.

DETAIL - BUTTERFLY VALVE WITH VALVE BOX 13 C3.03

NOT TO SCALE

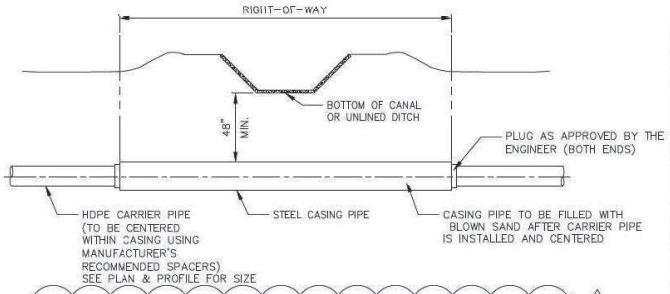


NOTES

1. ADJUST VALVE BOX AND COVER TO FINISHED GRADE.
2. CONCRETE COLLAR SHALL BE CONSTRUCTED USING CLASS "A" CONCRETE.
3. APPLY PAINT BINDER TO EXPOSED SIDE OF VALVE BOX PRIOR TO PAVING.
4. COVER TO BE MARKED "BIOGAS VALVE".

DETAIL - VALVE BOX ENCLOSURE 14 C3.03

NOT TO SCALE

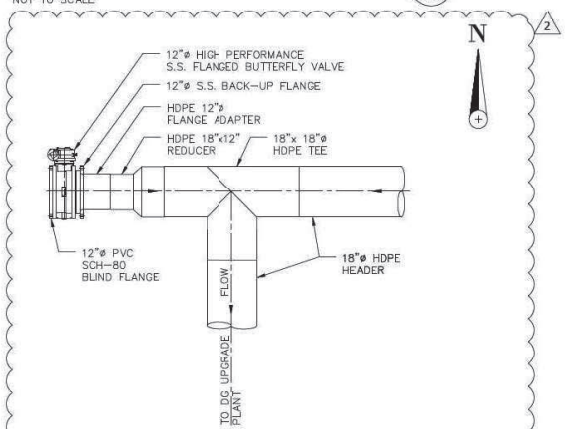


NOTES

1. BACKFILL FOR PIPELINE SHALL BE BACKFILLED IN MAXIMUM OF 8-INCH LIFTS AND COMPACTED TO 90% RELATIVE COMPACTION (ASTM D-1557).
2. IF CANAL CROSSING IS DONE WITH OPEN CUT EXCAVATION, THEN THE CONTRACTOR WILL BE REQUIRED TO COORDINATE WITH LAKESIDE IRRIGATION DISTRICT (LID) A MINIMUM TWO WEEKS IN ADVANCE. LID CAN DELAY THE CONSTRUCTION DURING WATER DELIVERY PERIOD. LID IS REQUIRED TO INSPECT AND VERIFY CANAL CROSSING CONSTRUCTION AND RECEIVE COMPACTION RESULTS PRIOR TO SIGN OFF THE PROJECT.

DETAIL - CANAL CROSSING 11 C3.03

NOT TO SCALE



DETAIL - WEST LEG PIPELINE CONNECTION 15 C3.03

SCALE - 1":20"

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	05/19/20	ISSUED FOR CONSTRUCTION	AK	TP	SK
2	06/08/20	WEST LEG CONNECTION DETAIL ADDED	AK	TP	SK
3	07/30/20	ADDED NOTE #2 TO DETAIL	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

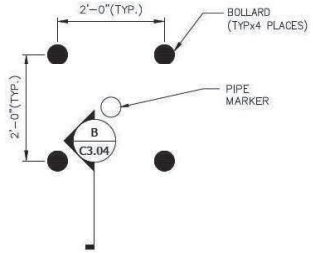
OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

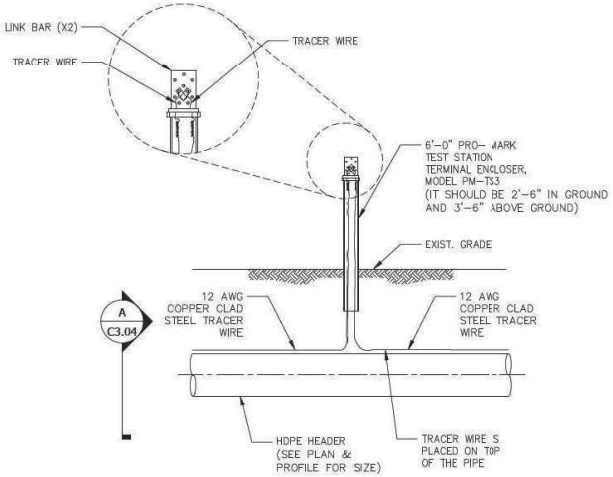
MISCELLANEOUS DETAILS

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C3.03



PLAN - PIPE MARKER



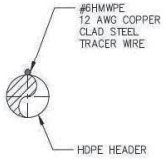
SECTIONAL FRONT ELEVATION

INSTALL MARKERS WITH THIS DECAL EVERY 700FEET (MAX. SPACING) DIRECTLY ABOVE THE PIPELINE AS DIRECTED BY THE ENGINEER.

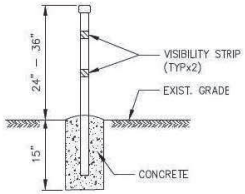
INSTALL MARKERS WITH THIS DECAL AT EVERY LOCATIONS WHERE LOCATING MARKERS DIRECTLY ABOVE THE PIPELINE IS NOT POSSIBLE AS DIRECTED BY THE ENGINEER.

MARKER IDENTIFICATION

DETAIL PIPE MARKER 16 C3.04
NOT TO SCALE



SECTION A C3.04
NOT TO SCALE



SECTION B C3.04
NOT TO SCALE

ISSUED FOR CONSTRUCTION

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1	05/19/20	ISSUED FOR CONSTRUCTION			

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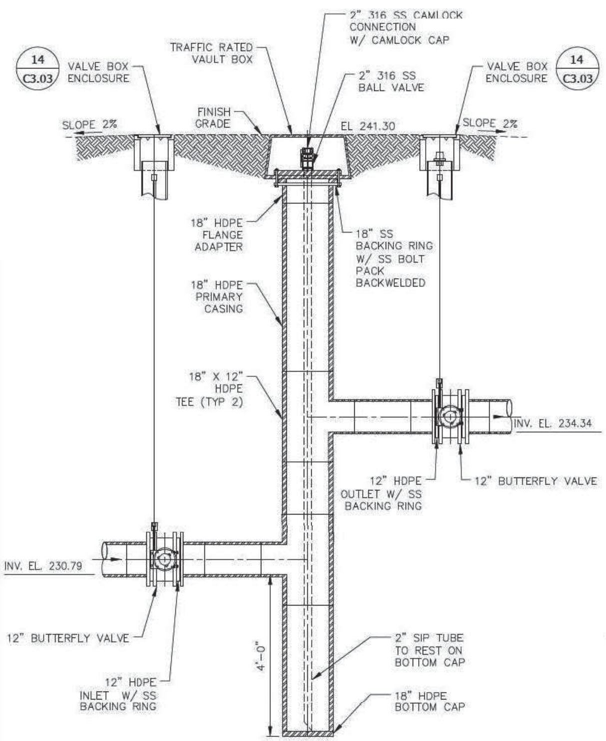
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

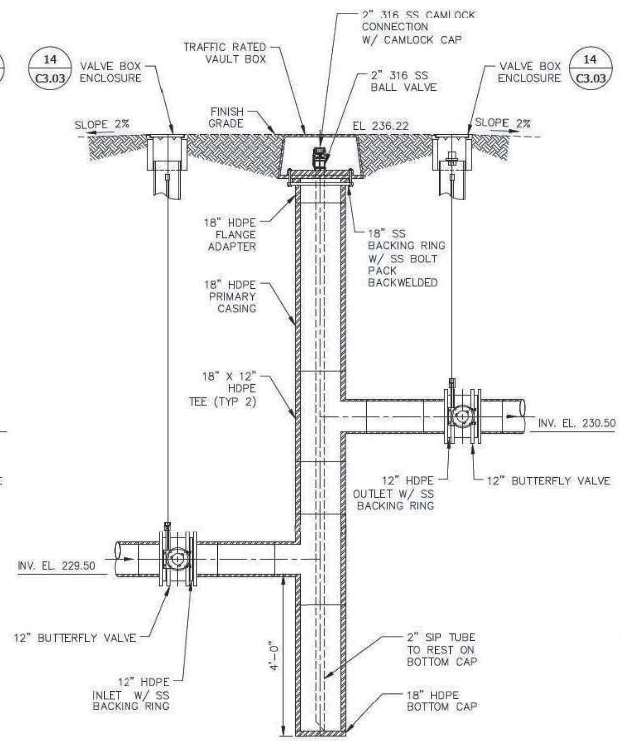
MISCELLANEOUS FITTING DETAILS

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

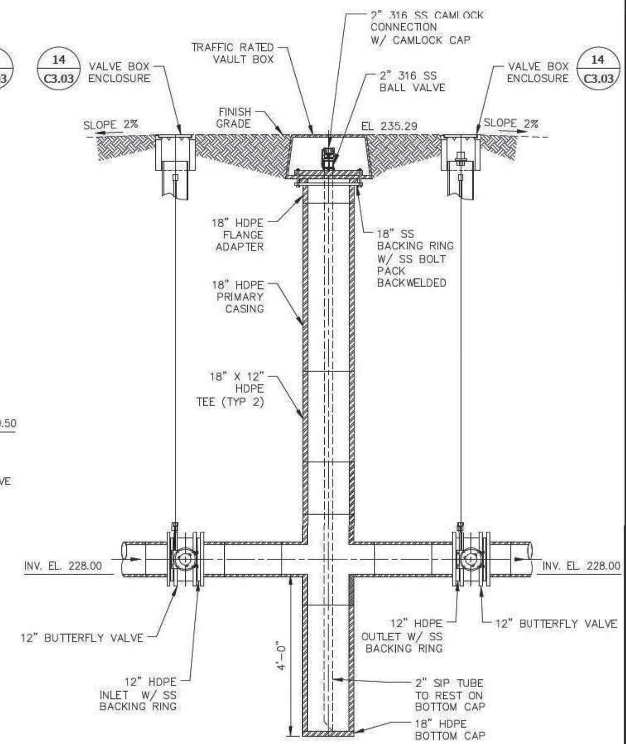
DRAWING NO.
C3.04



CONDENSATE SUMP - CS-1 (17 / C3.05)
NOT TO SCALE



CONDENSATE SUMP - CS-2 (18 / C3.05)
NOT TO SCALE



CONDENSATE SUMP - CS-3 (19 / C3.05)
NOT TO SCALE

THE CONTRACTOR SHALL GET A WRITTEN APPROVAL ON INLET AND OUTLET INVERT ELEVATIONS OF SUMP AND FINISH GRADE ELEVATION FROM THE ENGINEER PRIOR TO MANUFACTURING OF THE CONDENSATE SUMPS.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
△	05/19/20	ISSUED FOR CONSTRUCTION			

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LANDOWNER SIGNATURE
LANDOWNER NAME:
DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

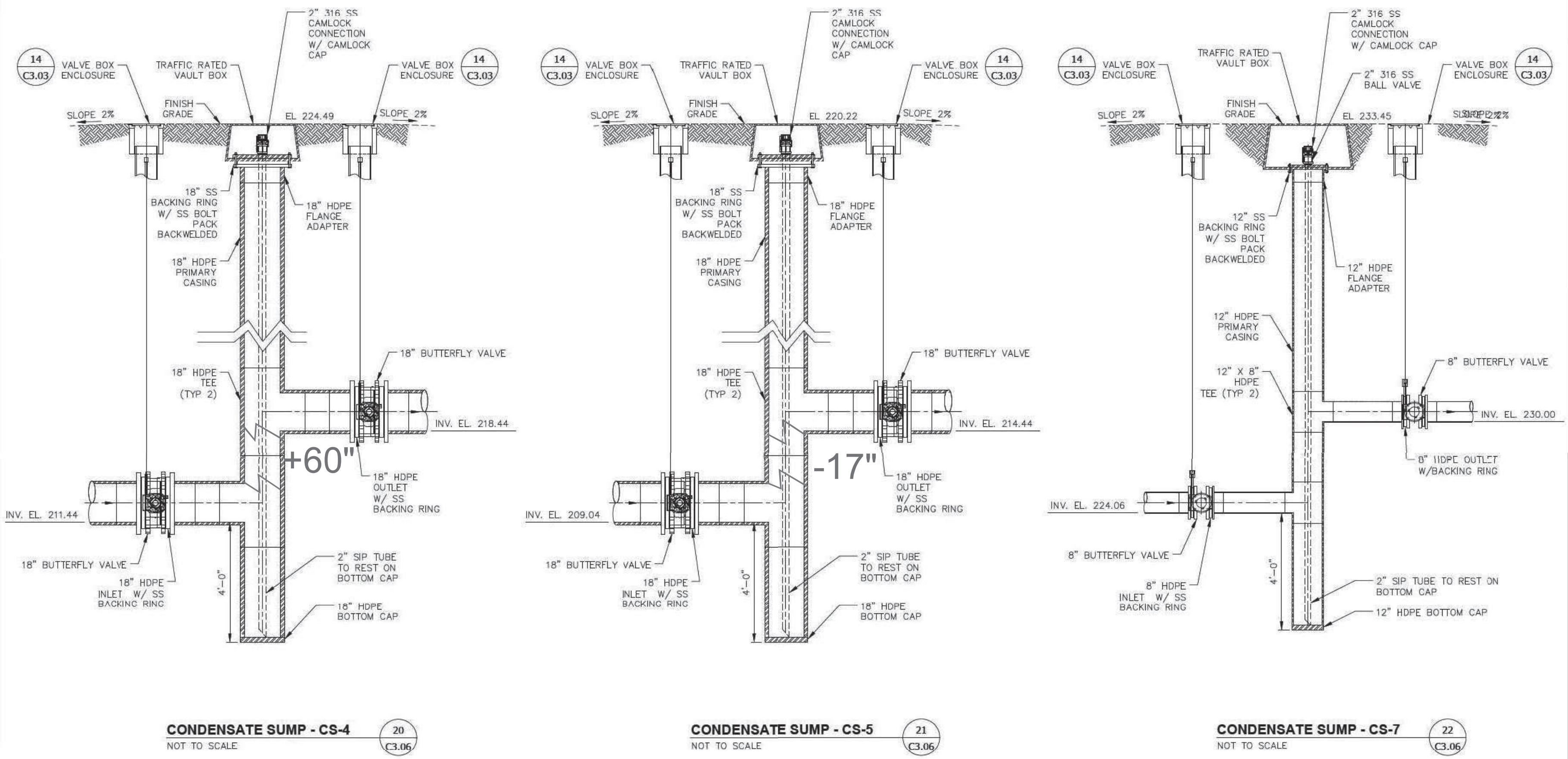
REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARY No. 45897 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

CONDENSATE SUMP
CS-1, CS-2 & CS-3
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C3.05

D:\dropbox (biogas engineering)\engineering\Projects\ash 807.101 – lakeside collection pipeline\-drawings\C-Civil\issued for construction set\C3.01 & C3.07.dwg 10/8/2020 Stephen



THE CONTRACTOR SHALL GET A WRITTEN APPROVAL ON INLET AND OUTLET INVERT ELEVATIONS OF SUMP AND FINISH GRADE ELEVATION FROM THE ENGINEER PRIOR TO MANUFACTURING OF THE CONDENSATE SUMPS.

ISSUED FOR CONSTRUCTION

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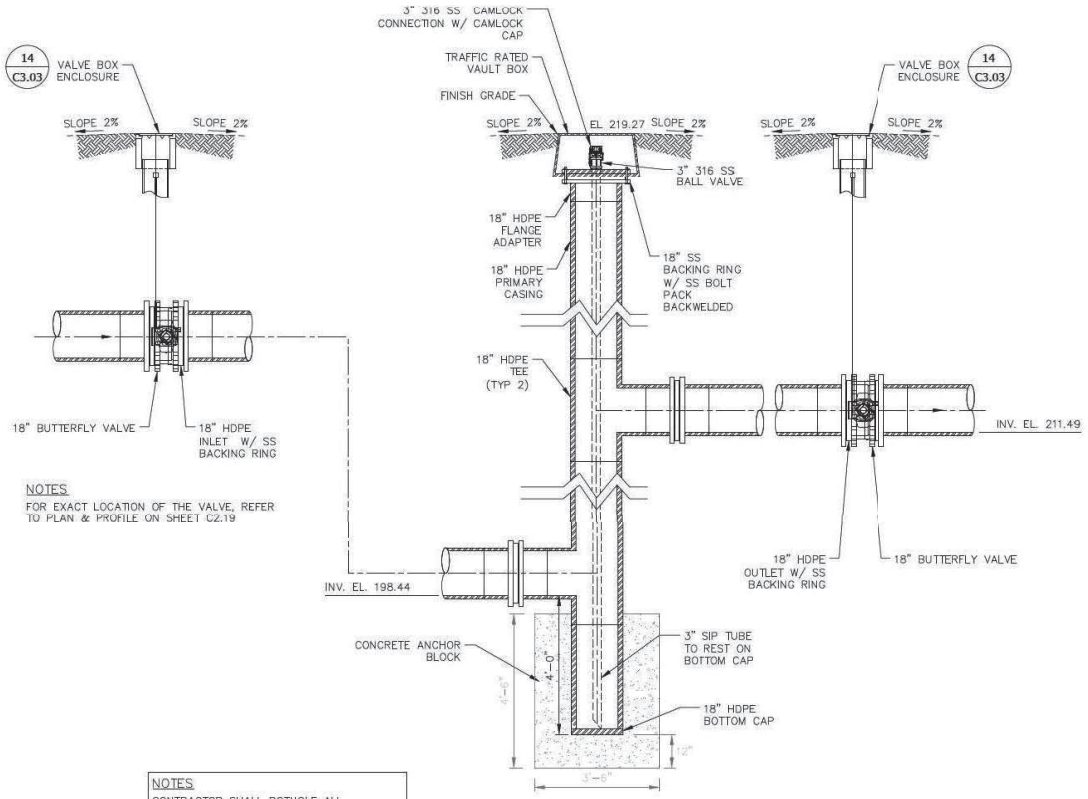
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

CONDENSATE SUMP
CS-4, CS-5 & CS-7

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C3.06



NOTES

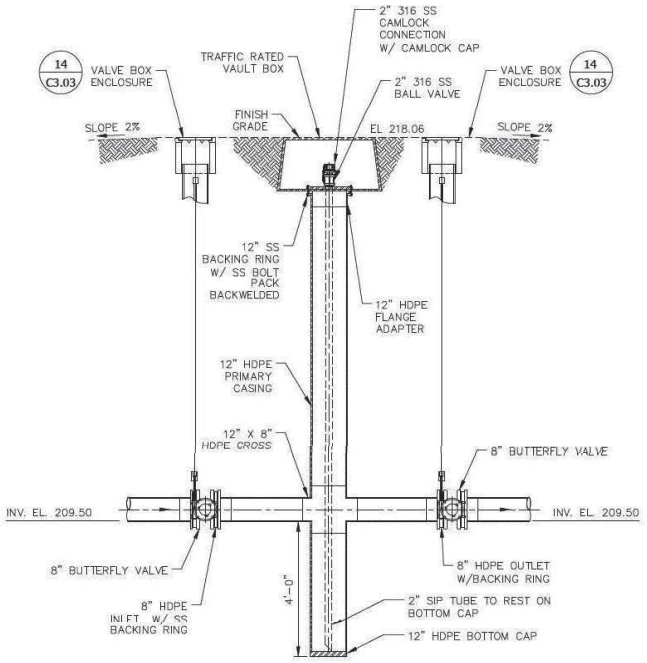
FOR EXACT LOCATION OF THE VALVE, REFER TO PLAN & PROFILE ON SHEET C2.19

NOTES

CONTRACTOR SHALL POTHOLE ALL CONDENSATE SUMP LOCATIONS IN ADVANCE AND VERIFY THE LEVEL OF GROUNDWATER AT EACH LOCATION DURING WET AND DRY SEASON. IF THE GROUNDWATER LEVEL (WET OR DRY) IS ABOVE THE BOTTOM OF THE SUMP, THE CONTRACTOR SHALL INSTALL A CONCRETE ANCHOR BLOCK. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 2,500 PSI. THIS ANCHOR BLOCK DETAIL APPLIES TO ALL THE CONDENSATE WHERE GROUNDWATER IS ENCOUNTERED.

CONDENSATE SUMP - CS-6 23 C3.07

NOT TO SCALE



CONDENSATE SUMP - CS-8 24 C3.07

NOT TO SCALE

THE CONTRACTOR SHALL GET A WRITTEN APPROVAL ON INLET AND OUTLET INVERT ELEVATIONS OF SUMP AND FINISH GRADE ELEVATION FROM THE ENGINEER PRIOR TO MANUFACTURING OF THE CONDENSATE SUMPS.

ISSUED FOR CONSTRUCTION

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1	05/19/20	ISSUED FOR CONSTRUCTION			

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DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
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CONDENSATE SUMP
CS-6 & CS-8

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C3.07

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

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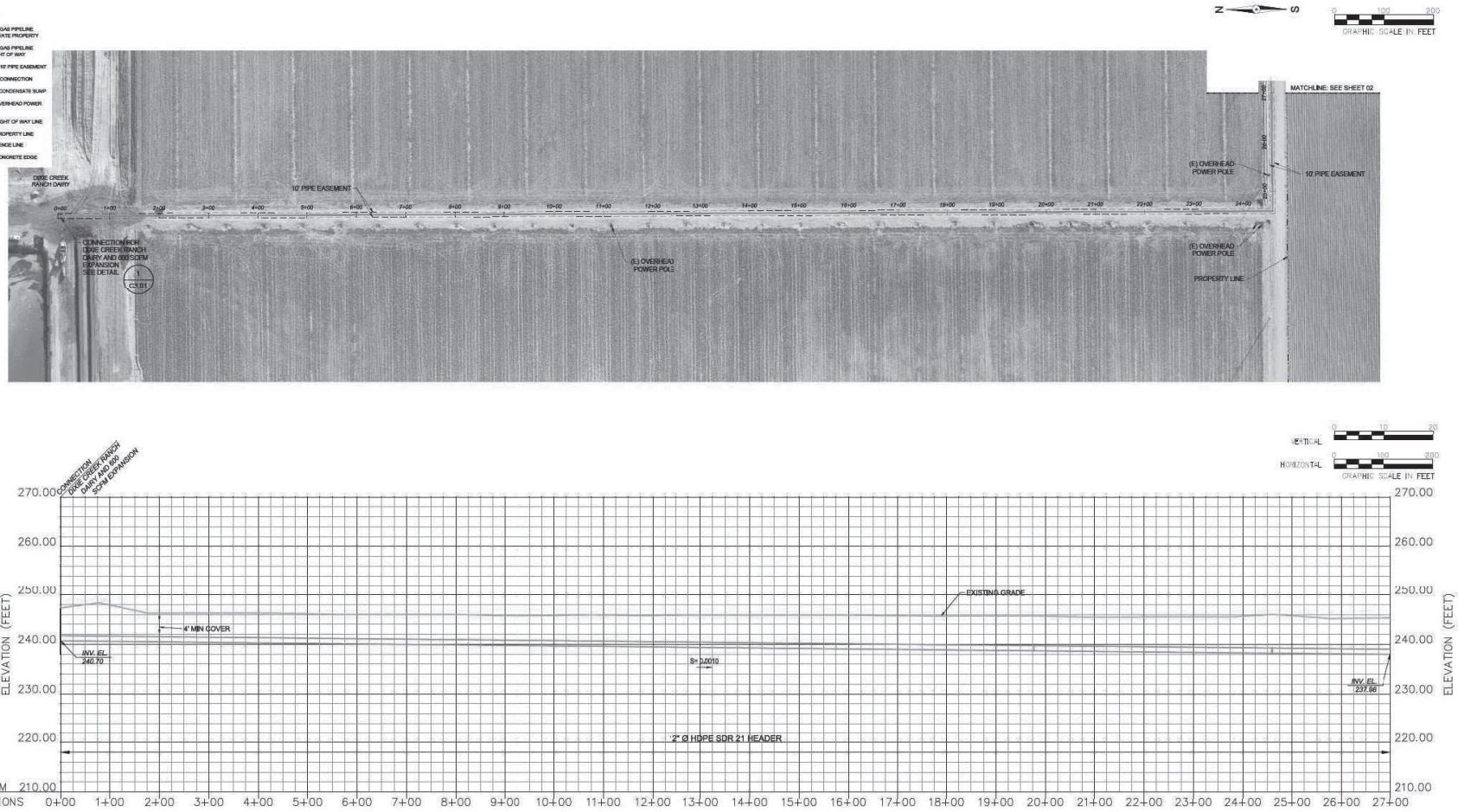
OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

SITE INDEX MAP

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.00



PROFILE – STA. 0+00 TO 27+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

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MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
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STA. 0+00 TO 27+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.01

LEGEND

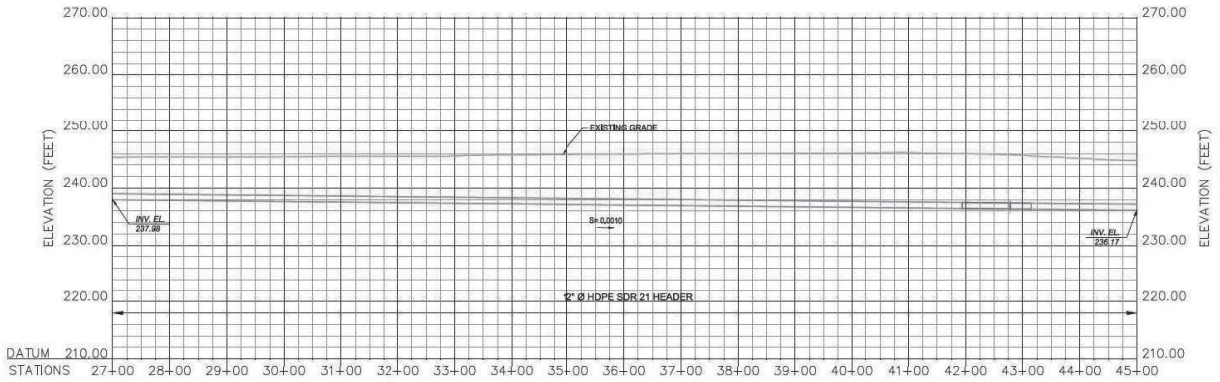
- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE

N

S

0 100 200
GRAPHIC SCALE IN FEET

VERTICAL 0 10 20
HORIZONTAL 0 100 200
GRAPHIC SCALE IN FEET



PROFILE – STA. 27+00 TO 45+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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MAAS ENERGY WORKS
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3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
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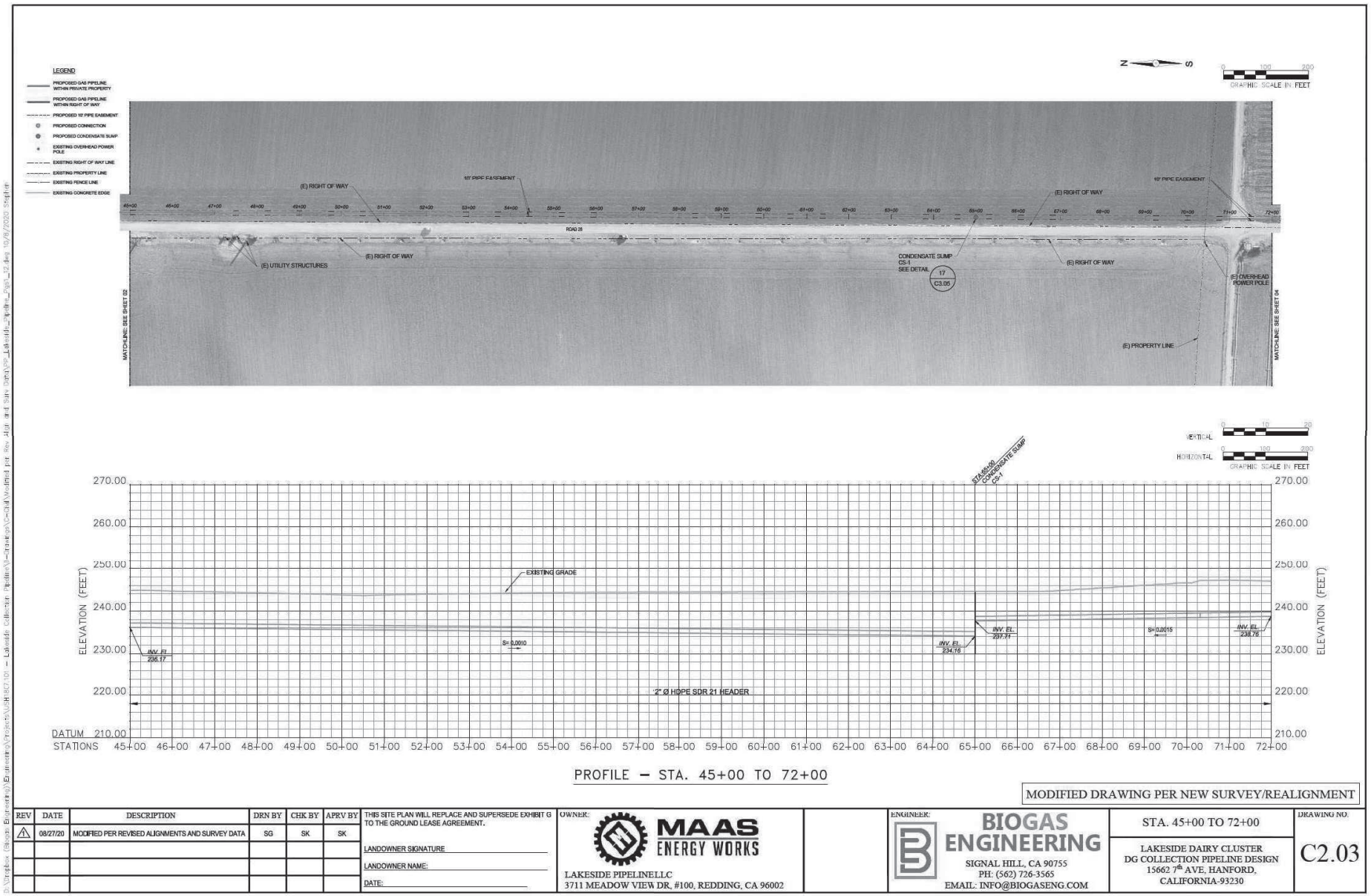
STA. 27+00 TO 45+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.02



PROFILE – STA. 45+00 TO 72+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
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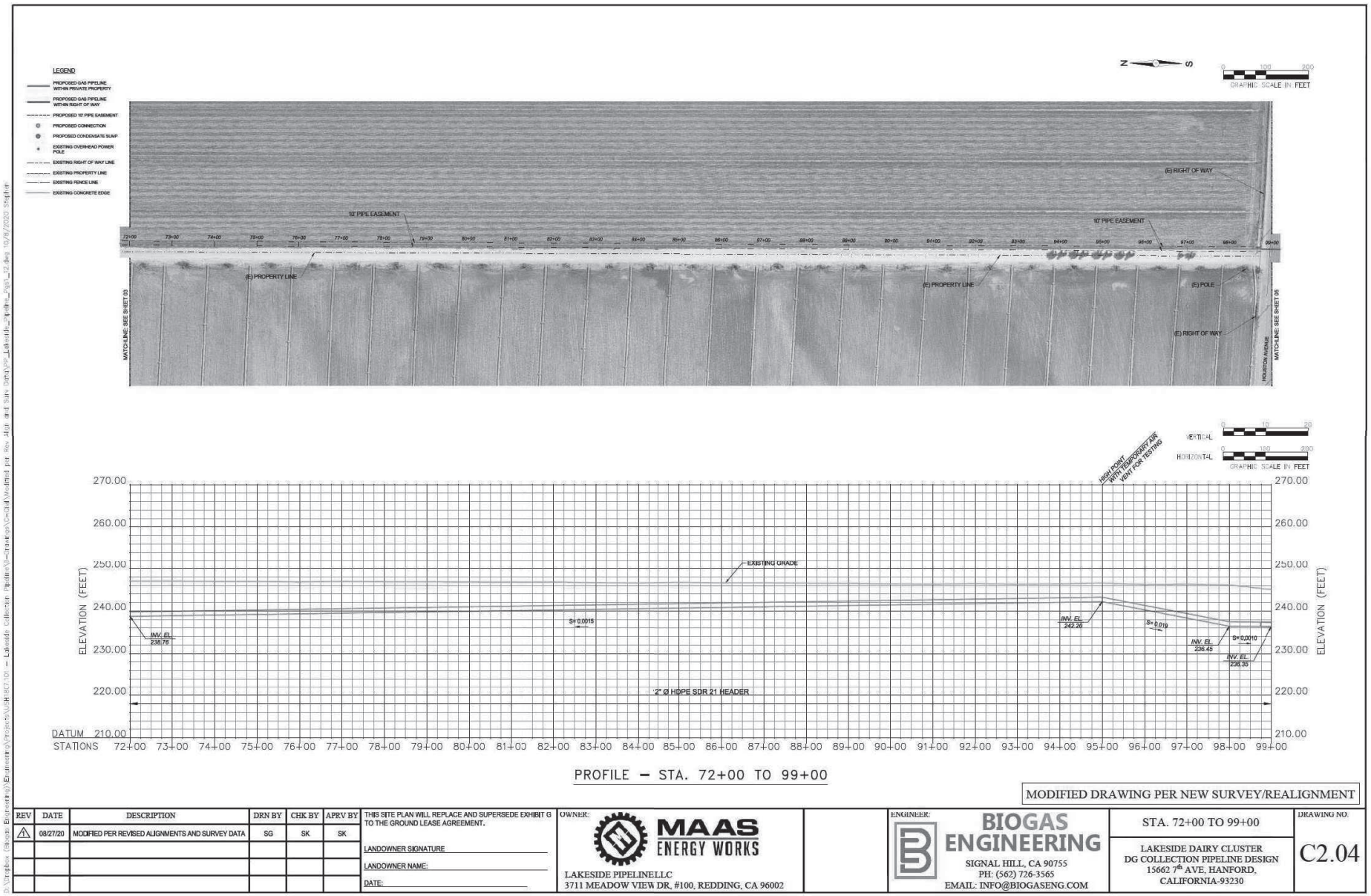
STA. 45+00 TO 72+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.03



PROFILE – STA. 72+00 TO 99+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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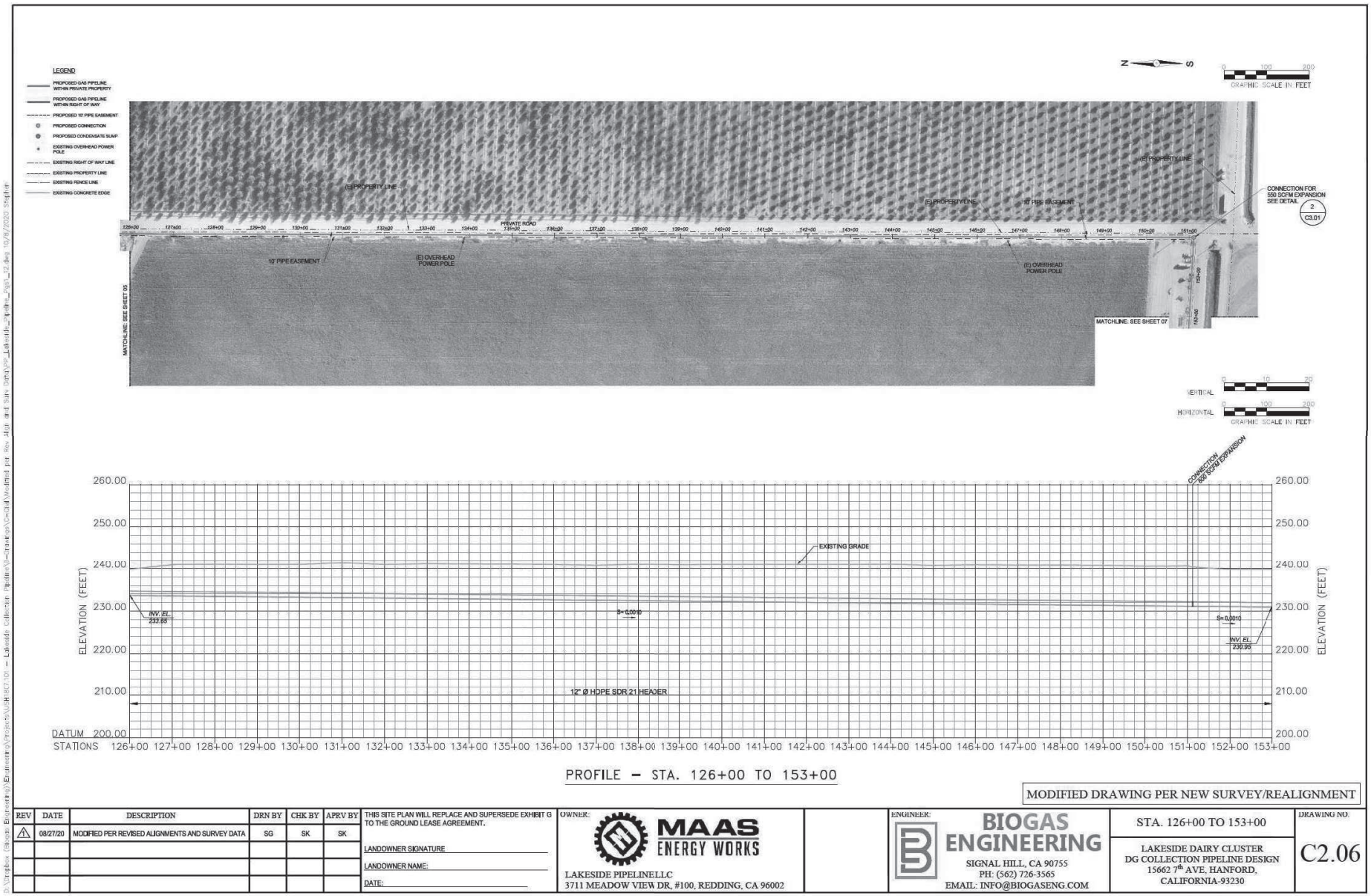
STA. 72+00 TO 99+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.04



PROFILE – STA. 126+00 TO 153+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
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ENGINEER:
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SIGNAL HILL, CA 90755
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STA. 126+00 TO 153+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
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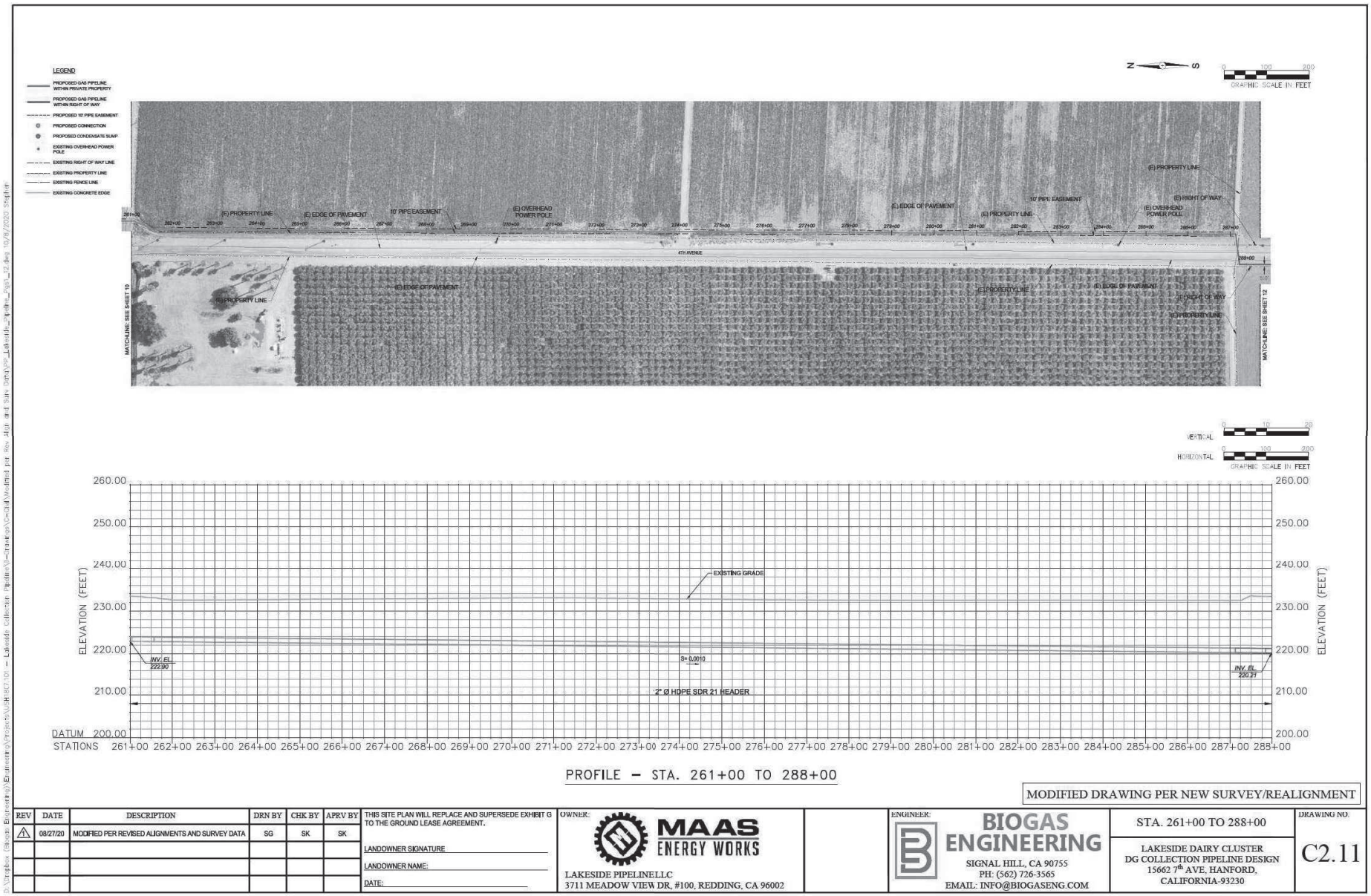
CALIFORNIA-93230

DRAWING NO.
C2.06



PROFILE – STA. 261+00 TO 288+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
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BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
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STA. 261+00 TO 288+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

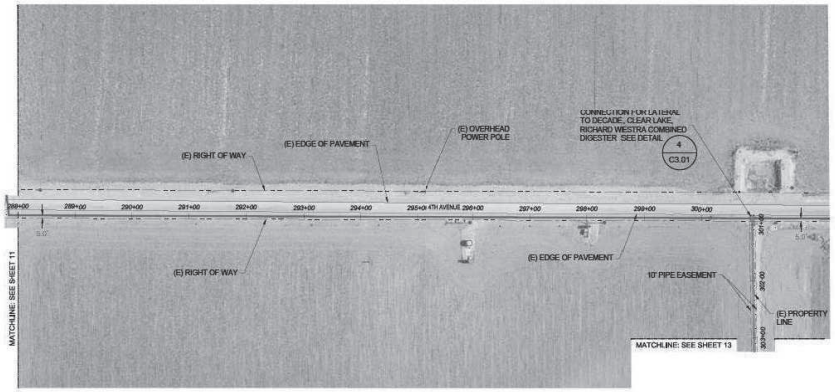
DRAWING NO.
C2.11

LEGEND

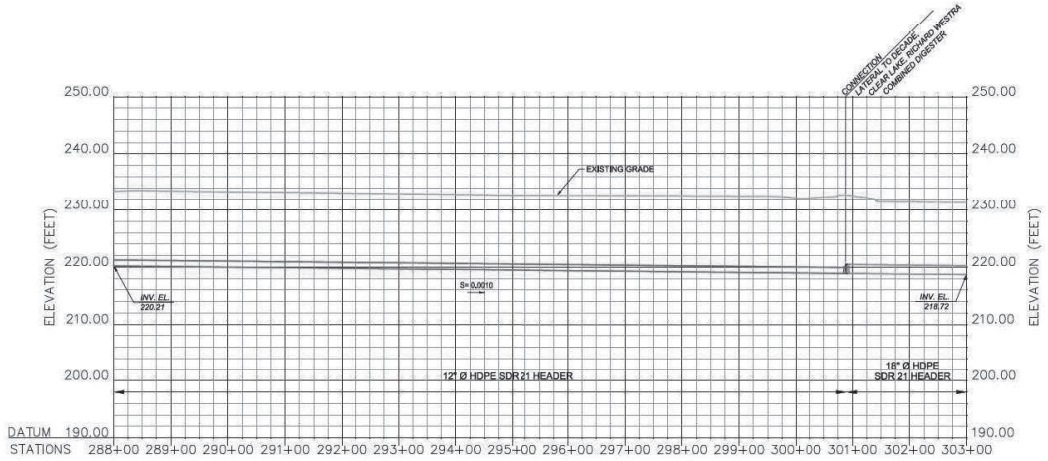
- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE

N S

0 100 200
GRAPHIC SCALE IN FEET



0 10 20
VERTICAL
0 100 200
HORIZONTAL
GRAPHIC SCALE IN FEET



PROFILE – STA. 288+00 TO 303+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

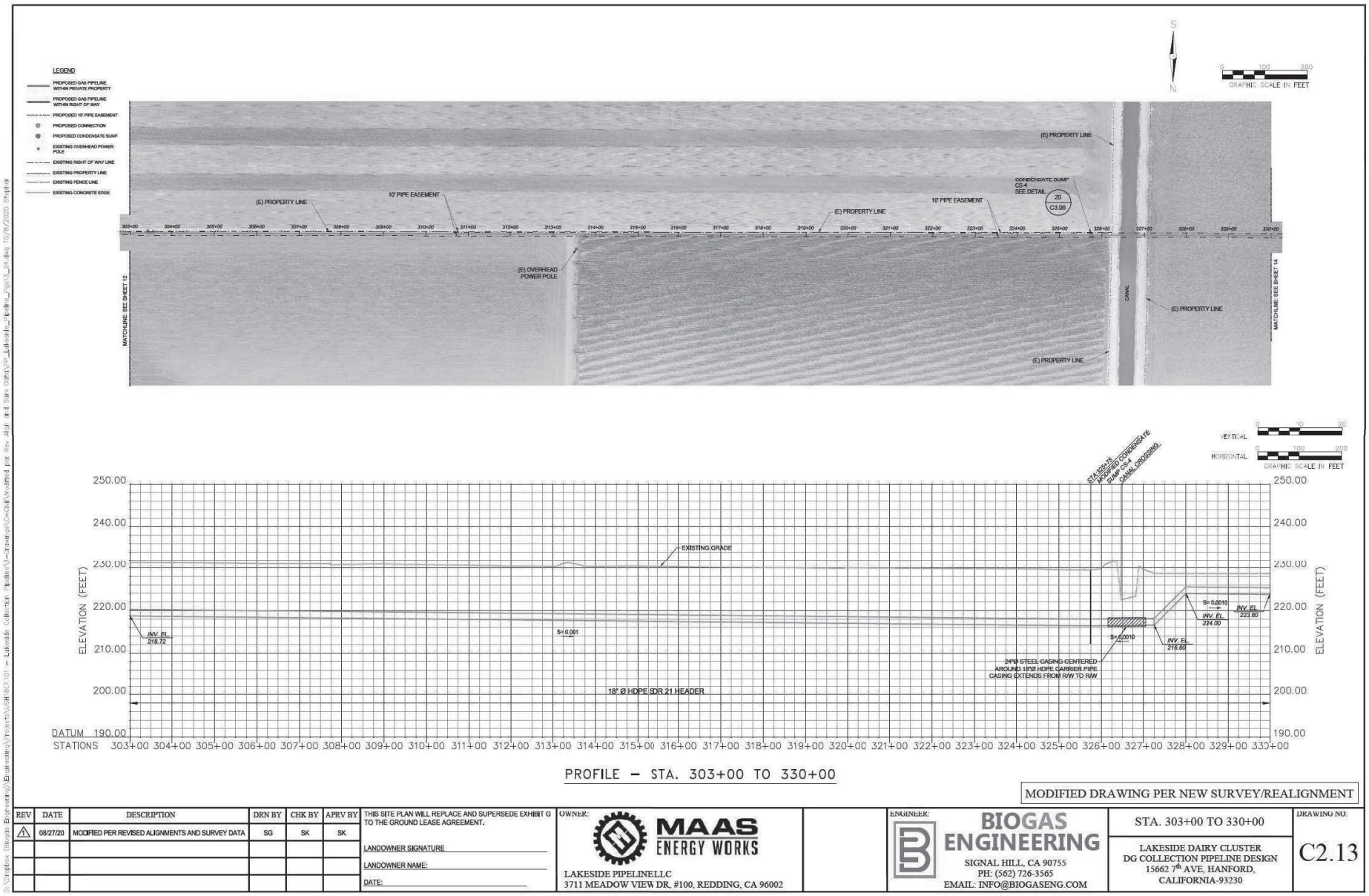
OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 288+00 TO 303+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.12



PROFILE – STA. 303+00 TO 330+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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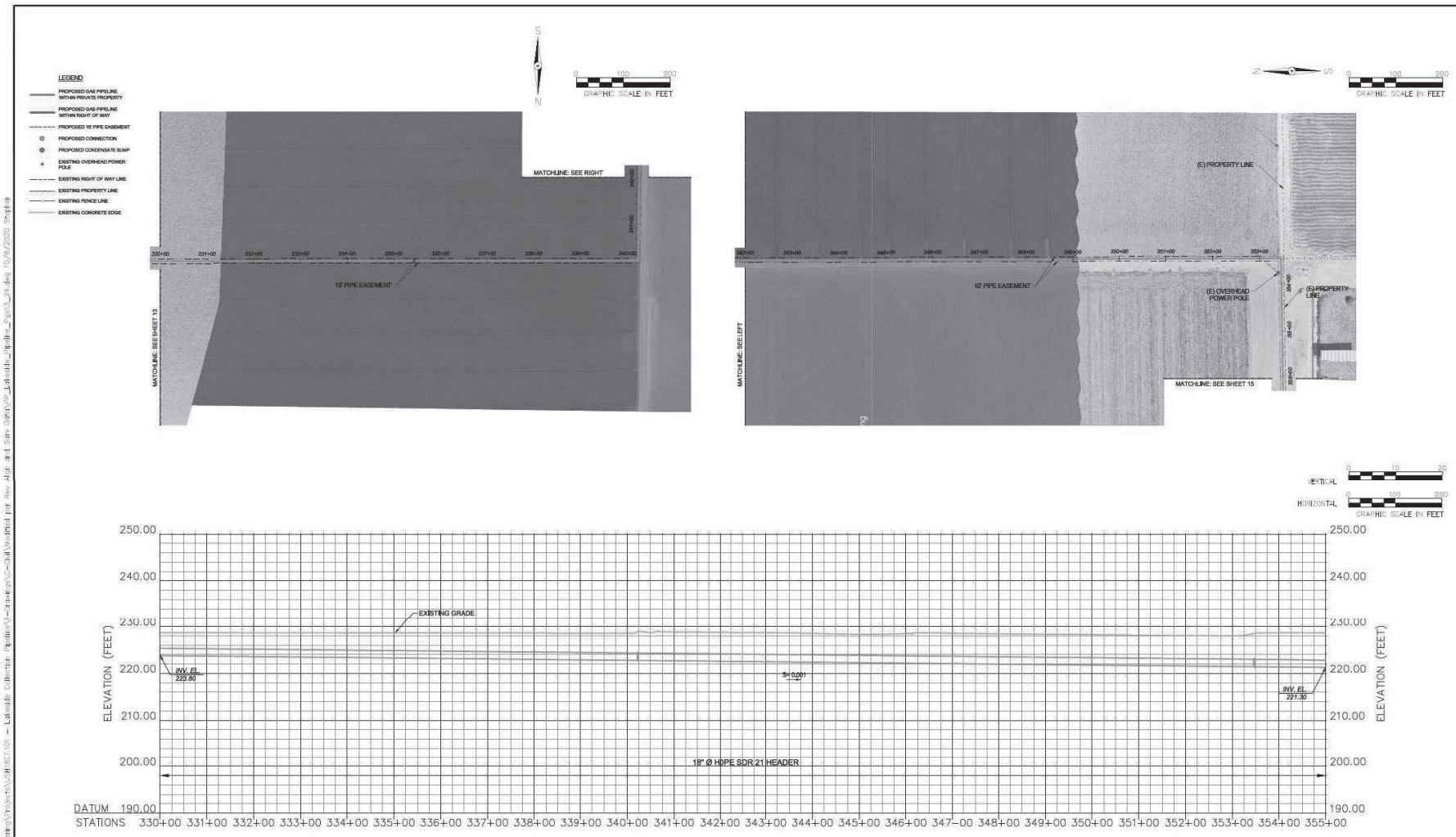
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 303+00 TO 330+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.13



PROFILE – STA. 330+00 TO 355+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

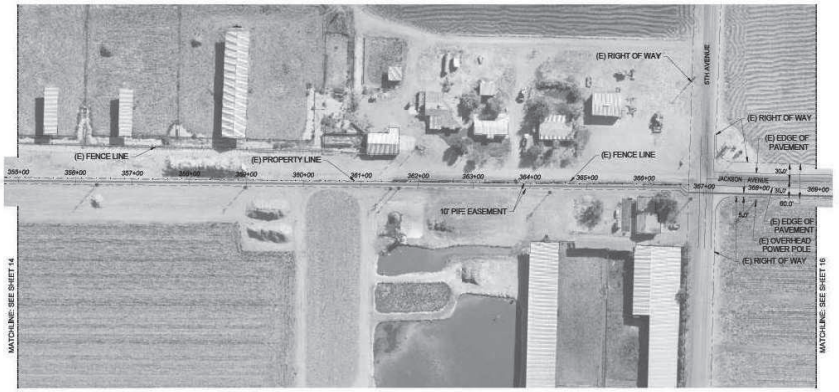
STA. 330+00 TO 355+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.14

LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



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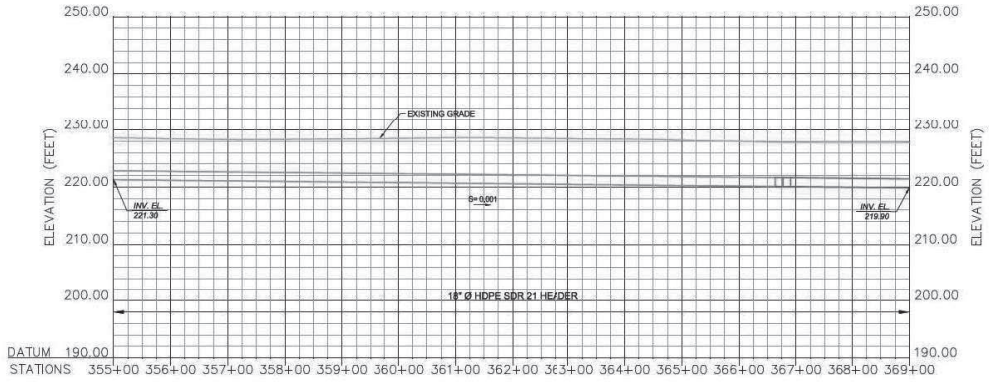
0 100 200
GRAPHIC SCALE IN FEET



PROFILE – STA. 355+C0 TO 369+00

0 10 20
VERTICAL
0 100 200
HORIZONTAL
GRAPHIC SCALE IN FEET

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
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SIGNAL HILL, CA 90755
PH: (562) 726-3565
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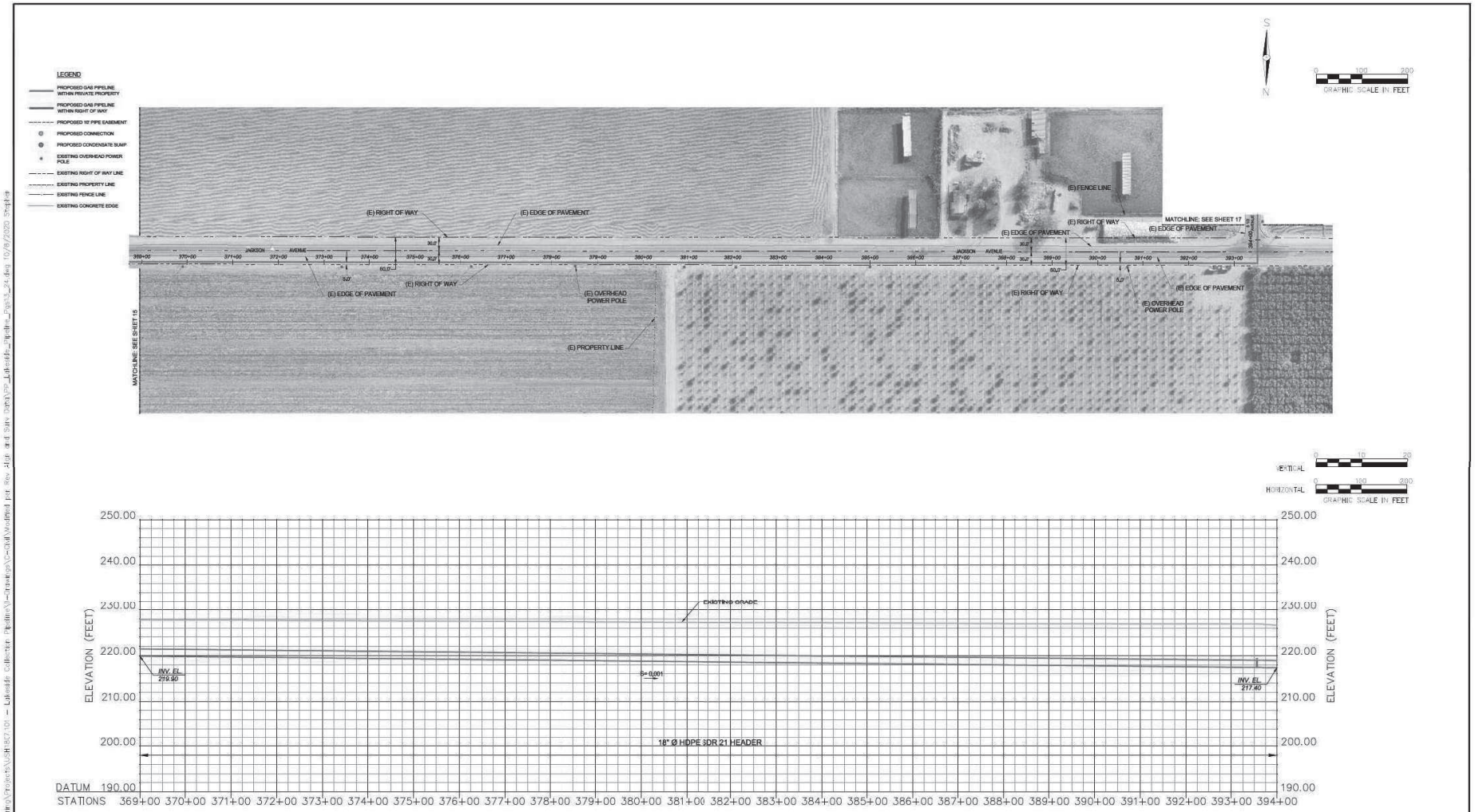
STA. 355+00 TO 369+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.15



PROFILE – STA. 369+00 TO 394+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
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3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
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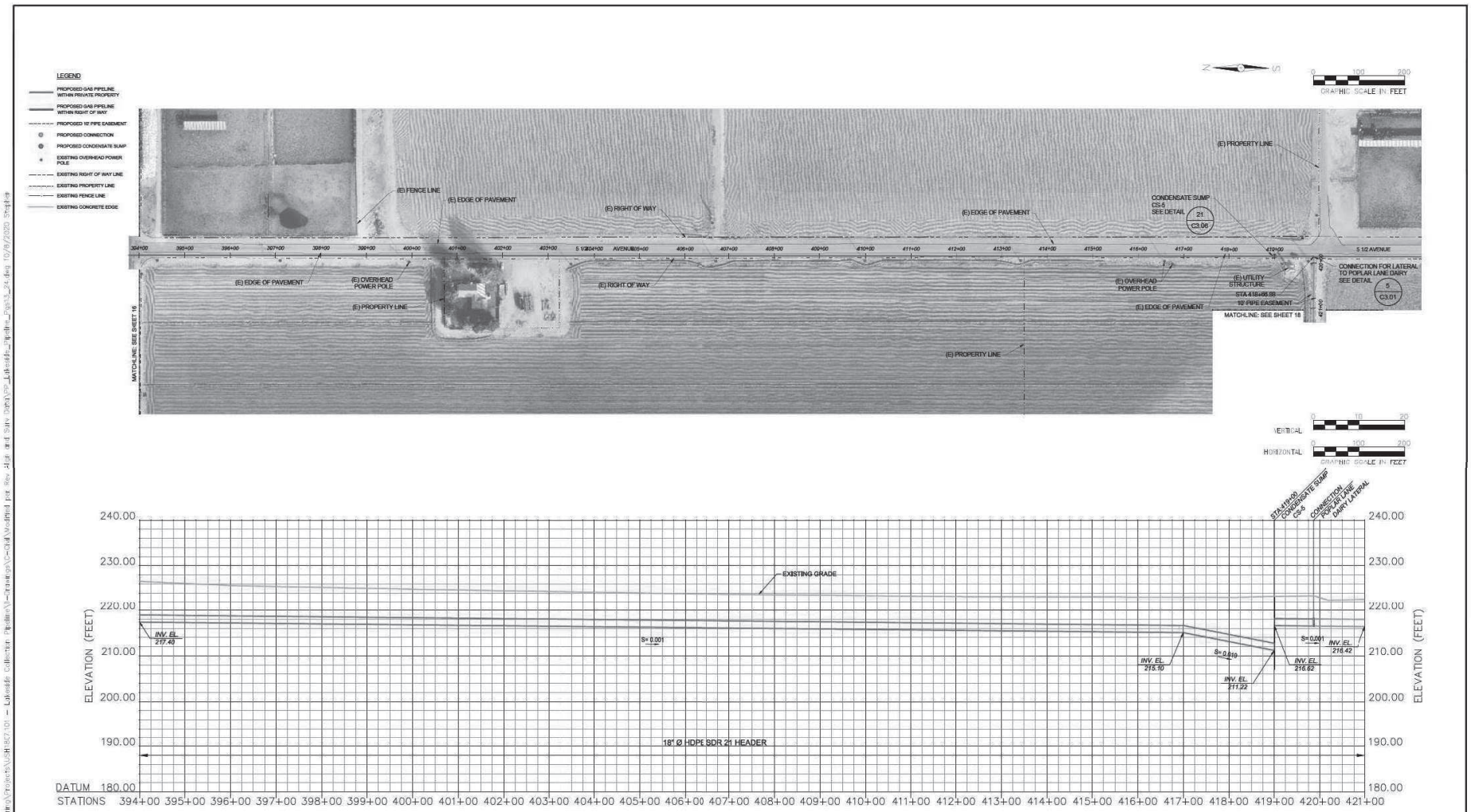
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 369+00 TO 394+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.16



PROFILE – STA. 394+00 TO 421+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
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SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

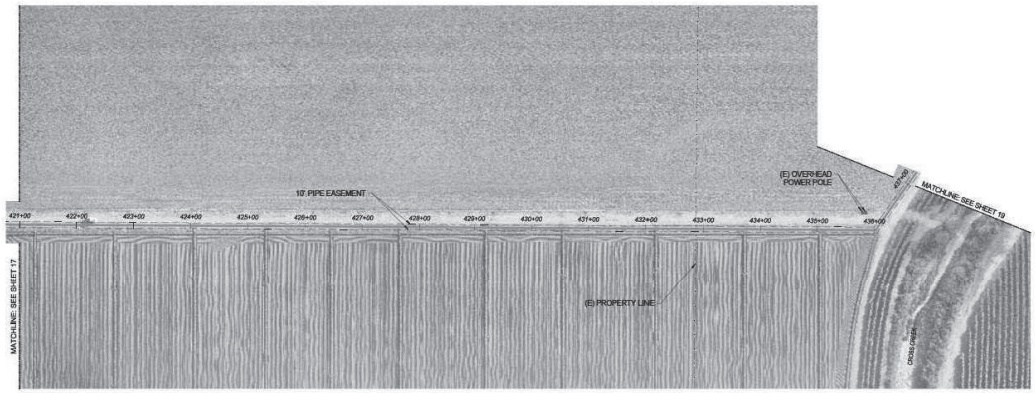
STA. 394+00 TO 421+00

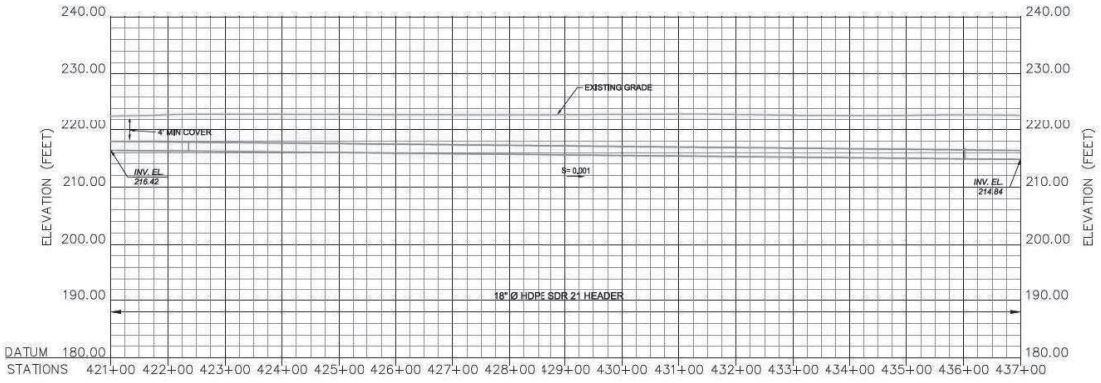
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.17

LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE





PROFILE – STA. 421+00 TO 437+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

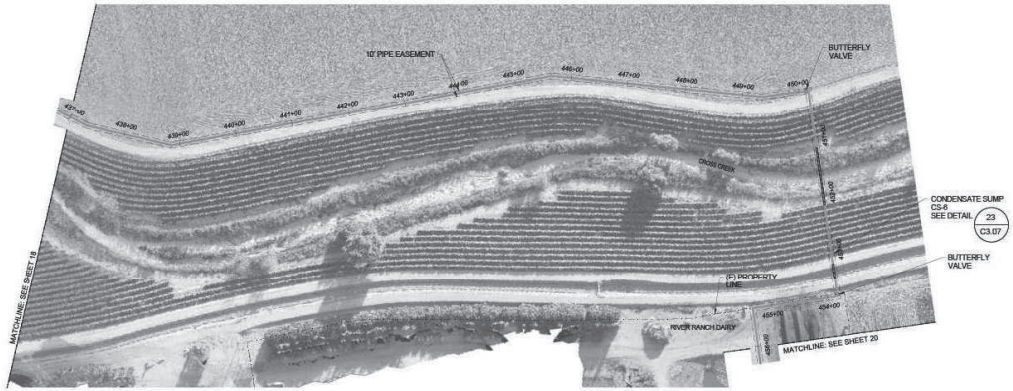
STA. 421+00 TO 437+00

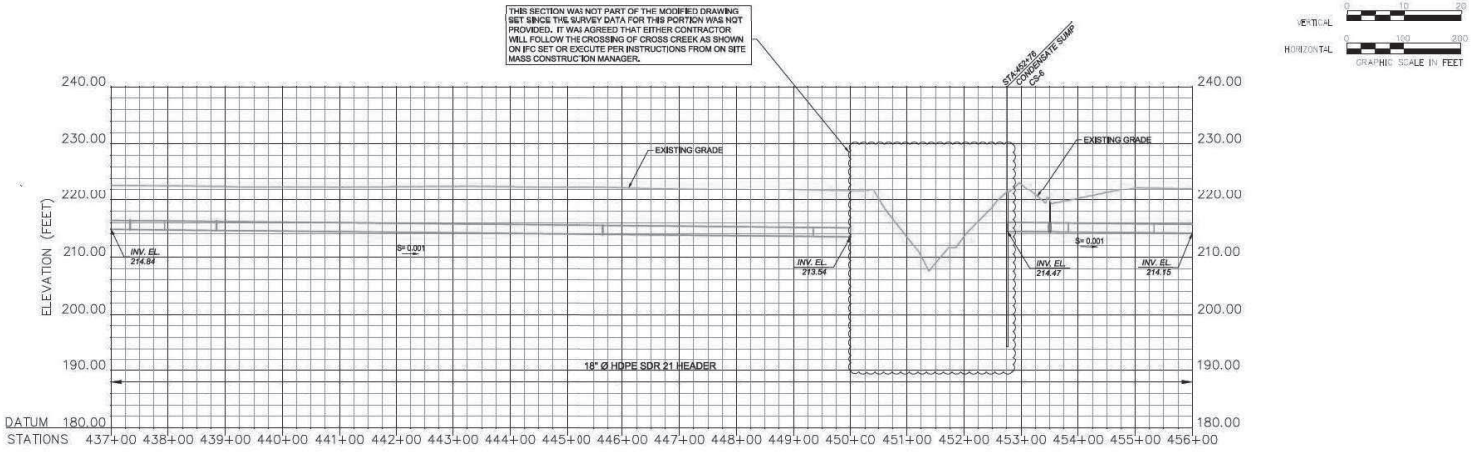
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.18

LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE





PROFILE – STA. 437+00 TO 456+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
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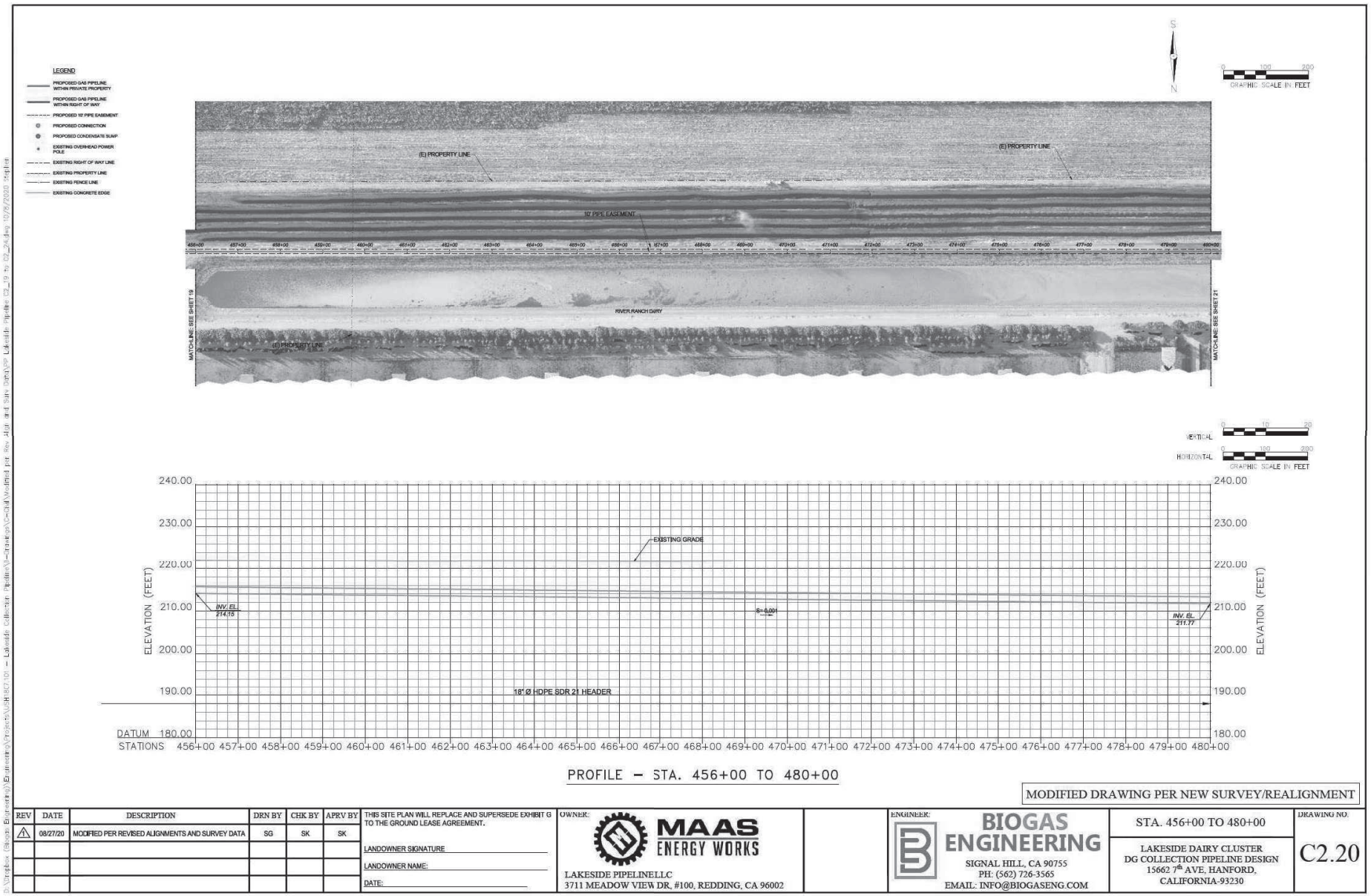
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 437+00 TO 456+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.19



PROFILE – STA. 456+00 TO 480+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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MAAS ENERGY WORKS
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3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

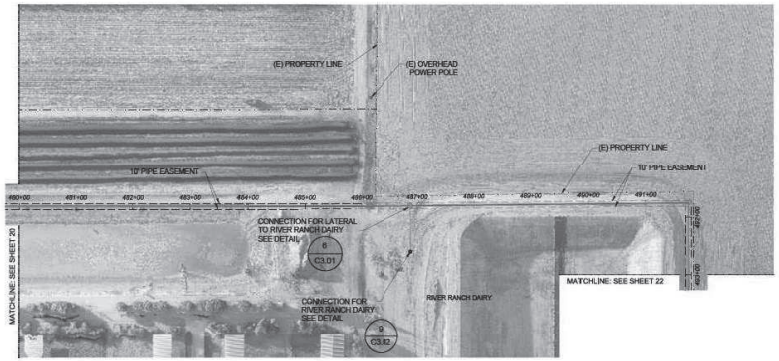
STA. 456+00 TO 480+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.20

LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



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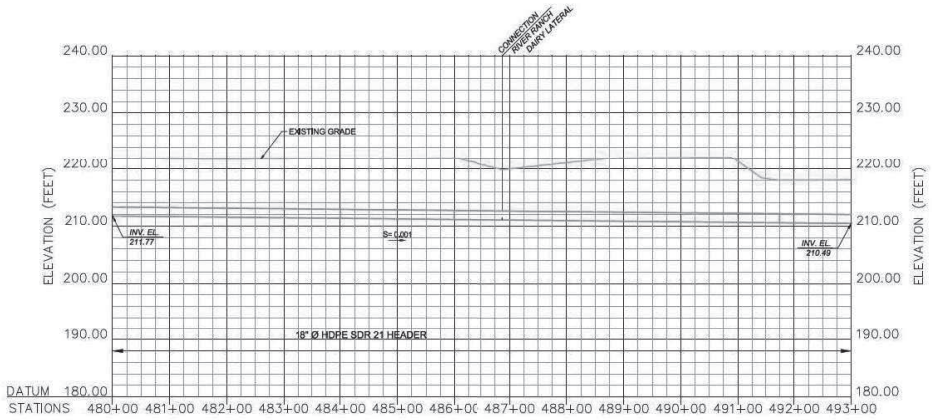
GRAPHIC SCALE IN FEET



PROFILE – STA. 480+00 TO 493+00

0 10 20
VERTICAL
0 100 200
HORIZONTAL
GRAPHIC SCALE IN FEET

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

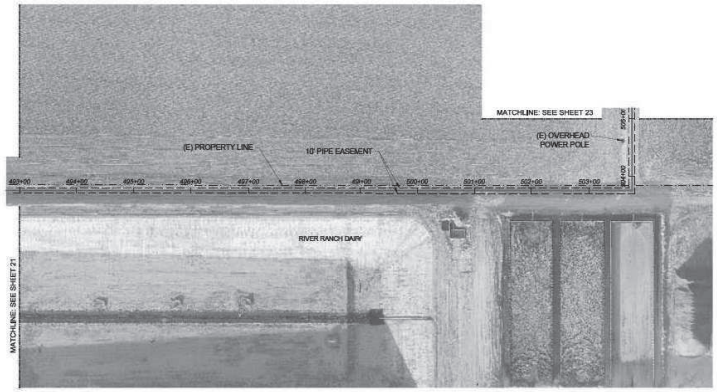
STA. 480+00 TO 493+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

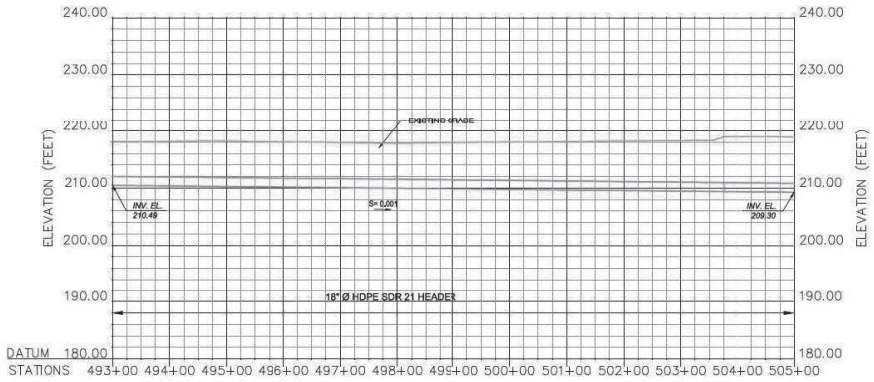
DRAWING NO.
C2.21

LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



GRAPHIC SCALE IN FEET



VERTICAL

HORIZONTAL

GRAPHIC SCALE IN FEET

PROFILE – STA. 493+00 TO 505+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
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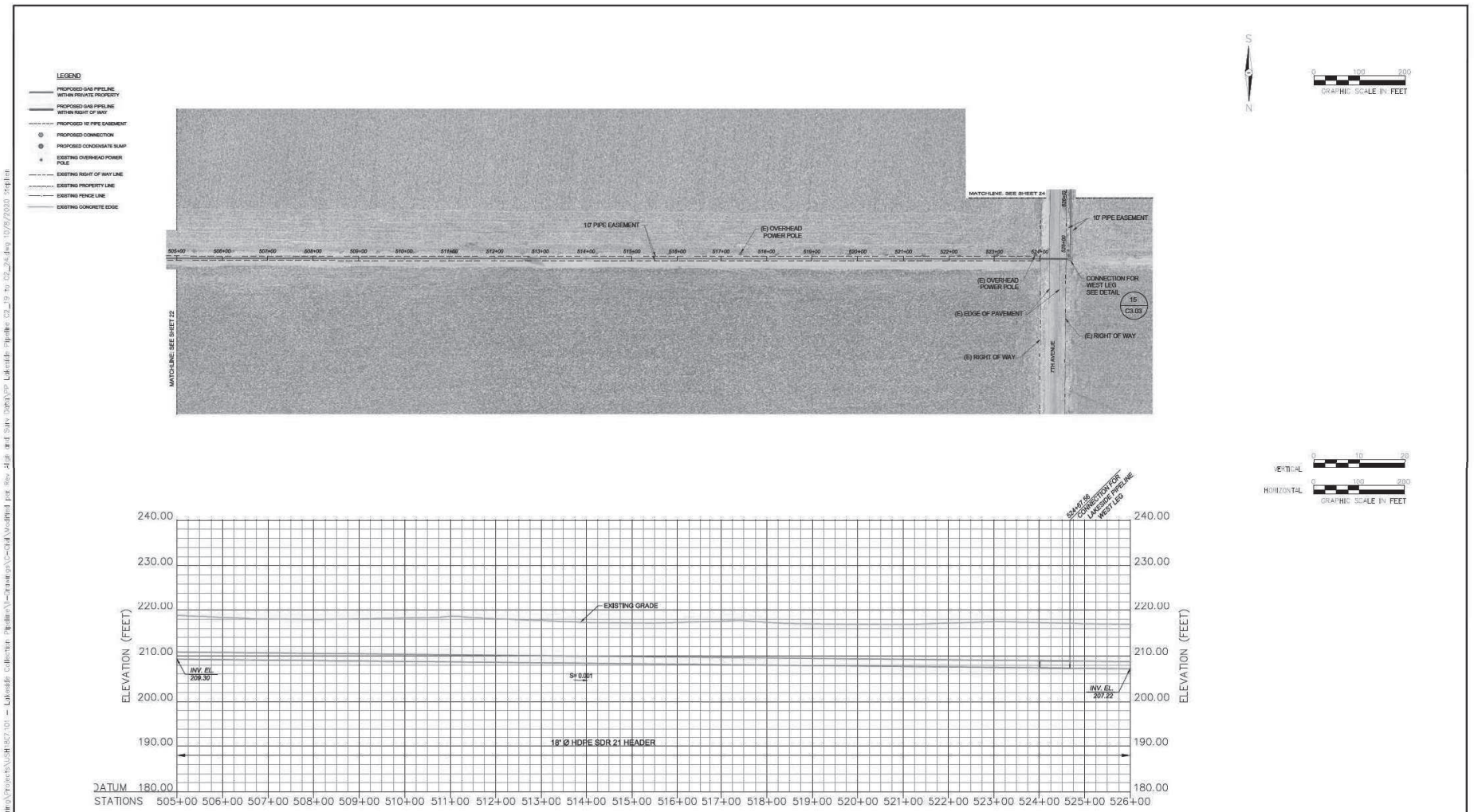
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 493+00 TO 505+00

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.22



PROFILE – STA. 505+00 TO 526+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK

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3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

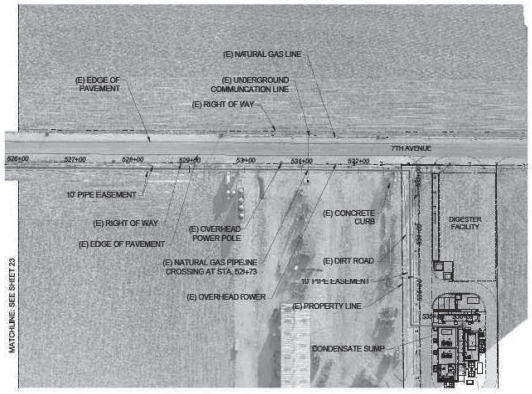
STA. 505+00 TO 526+00

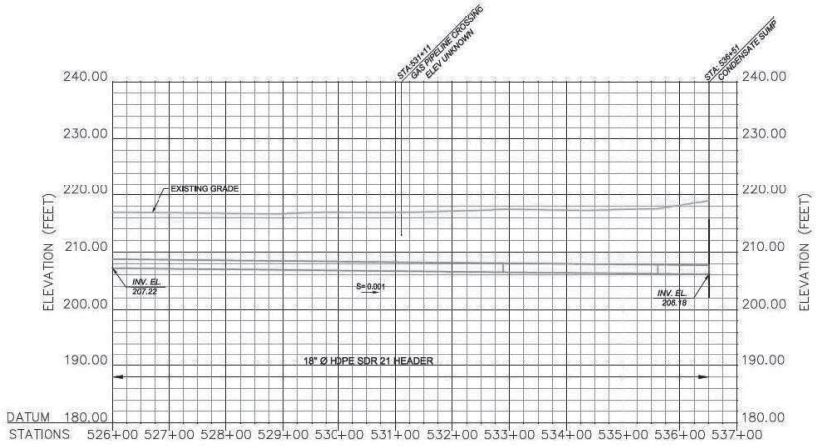
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.23

LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING OVERHEAD POWER POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE





PROFILE – STA. 526+00 TO 537+00

MODIFIED DRAWING PER NEW SURVEY/REALIGNMENT

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
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3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 526+00 TO 536+51

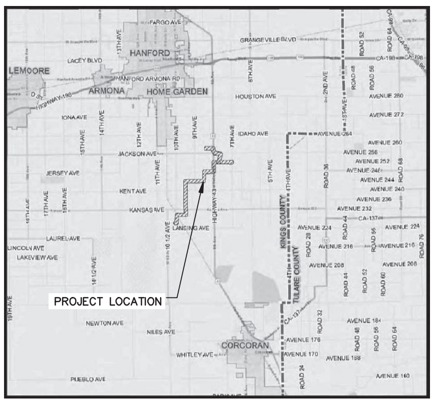
LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.24

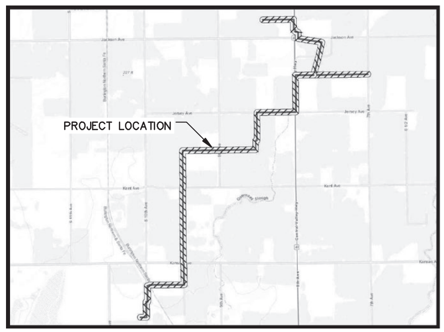
LAKESIDE DAIRY CLUSTER - WEST LEG
DIGESTER GAS (DG) COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DRIVE, STE # 100, REDDING, CA - 96002

LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.



DRAWING INDEX

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C1.02	SPECIFICATIONS
C2.00	SITE INDEX MAP
C2.01	PLAN & PROFILE – STA. 00+00 TO 27+00
C2.02	PLAN & PROFILE – STA. 27+00 TO 53+00
C2.03	PLAN & PROFILE – STA. 53+00 TO 80+00
C2.04	PLAN & PROFILE – STA. 80+00 TO 107+00
C2.05	PLAN & PROFILE – STA. 107+00 TO 134+00
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C2.08	PLAN & PROFILE – STA. 184+00 TO 210+00
C2.09	PLAN & PROFILE – STA. 210+00 TO 237+00
C2.10	PLAN & PROFILE – STA. 237+00 TO 265+00
C2.11	PLAN & PROFILE – STA. 265+00 TO 291+00
C2.12	PLAN & PROFILE – STA. 291+00 TO 318+00
C2.13	PLAN & PROFILE – STA. 318+00 TO 340+09.83
C2,14	PLAN & PROFILE – STA. 500+00 TO 518+00
C2.15	PLAN & PROFILE – STA. 518+00 TO 534+00
C2.16	PLAN & PROFILE – STA. 534+00 TO 552+00
C2.17	PLAN & PROFILE – STA. 552+00 TO 574+41
C3.01	MISCELLANEOUS DETAILS
C3.02	MISCELLANEOUS DETAILS
C3.03	MISCELLANEOUS DETAILS
C3.04	CONDENSATE SUMPS – CS–1, CS–2, & CS–3
C3.05	CONDENSATE SUMPS – CS–4, CS–5, & CS–6
C3.06	HIGHWAY 43 CROSSING
C3.07	HIGHWAY 43 GENERAL, BORE AND RECEIVING PIT NOTES

PROJECT INFORMATION

OWNER/ APPLICANT	LAKESIDE PIPELINE LLC 3711 MEADOW VIEW DRIVE, #100 REDDING, CA 96002
ENGINEER	BIOGAS ENGINEERING 2321 E. 28TH STREET, SUITE 400, SIGNAL HILL, CA 90755 Ph: (562) 726-3565
PROJECT SUMMARY	LAKESIDE DAIRY CLUSTER DIGESTER GAS COLLECTION PIPELINE

AERIAL SURVEY INFORMATION

AERIAL PHOTOGRAPHY DATE APRIL 3, 2020.
GEOGRAPHIC COORDINATE REFERENCE SYSTEM – NAD83 (2011)
GEOGRAPHIC EPSG CODE – 6319
PROJECTED COORDINATE REFERENCE SYSTEM – NAD83 (2011)/CALIFORNIA ZONE 4 (FT/US)
PROJECTED EPSG CODE – 6422
VERTICAL COORDINATE REFERENCE SYSTEM – NAVD88 HEIGHT
VERTICAL EPSG CODE – 5703
GEOID MODEL – GEOID 12B
AEROPOINTS USED FOR ESTABLISHMENT OF BENCHMARKS

DETAIL CROSS REFERENCING CONVENTION

'SECTION' OR 'DETAIL' IDENTIFICATION LETTER OR NUMBER.

SHEET NUMBER ON WHICH 'SECTION' OR 'DETAIL' IS DRAWN

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45891 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

TITLE SHEET
LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN 15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. TS

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SPECIAL NOTE

1. UNDERGROUND SERVICE ALERT: CALL 811 (1-800-227-2600) A MINIMUM OF 2 BUSINESS DAYS (NOT INCLUDING INITIAL DAY OF CONTRACT) IN ADVANCE FOR MARKING OF UNDERGROUND UTILITIES, INCLUDING ALL NON-UTILITIES BEFORE YOU DIG, GRADE, OR EXECUTE.
2. UTILITY NOTES
   - DIMENSION SHOWN ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION FROM SEVERAL SOURCES AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO COMMENCING THE WORK.
   - THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES, PROPERTY LINES, AND OTHER SUBSTRUCTURES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE, UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR AIMING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS NECESSARY TO AVOID DAMAGE OR ENCROACHMENTS.
   - PROSPECTING IS REQUIRED AHEAD OF WORK. ALL OFFSETS OR ROPING WILL BE NEED TO BE APPROVED BY THE DESIGN ENGINEER, AND REDLINED DETAILS SHOWN ON PROFILE AND CONSTRUCTION DETAIL SHEETS OF EACH ADDITIONAL STRUCTURE.
   - CONTRACTOR SHALL COORDIDINATE WITH THE APPROPRIATE GOVERNING AGENCY OR UTILITY COMPANY FOR ALL UTILITY RELOCATES PRIOR TO ANY WORK TO BE DONE.

SITE SAFETY & PROTECTION NOTES

1. THE DUTY OF THE ENGINEER, OWNER OR ITS AGENTS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE AND THE UNDERTAKING OF THE INSPECTION OR THE GIVING OF THE INSTRUCTIONS AS AUTHORIZED HEREIN IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE AND SHALL NOT BE CONSTRUCTED AS SUPERVISION OF THE ACTUAL CONSTRUCTION NOR THE MAKE THE ENGINEER, OWNER OR ITS AGENTS RESPONSIBLE FOR PROVIDING A SAFE PLACE FOR THE PERFORMANCE OF WORK BY THE CONTRACTOR, SUBCONTRACTORS, OR FOR ACCESS, VISITS, USE, WORK, TRAVEL OR OCCUPANCY BY ANY PERSON.
2. THE CONTRACTOR SHALL HAVE AT THE WORK SITE, COPIES OR SUITABLE EXTRACTS OF CONSTRUCTION SAFETY ORDERS, ISSUED BY CAL-OSHA. CONTRACTOR SHALL COMPLY WITH PROVISIONS OF THESE AND ALL OTHER APPLICABLE LAWS, ORDINANCES AND REGULATIONS. THE CONTRACTOR MUST COMPLY WITH PROVISIONS OF THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, PROMULGATED BY THE SECRETARY OF LABOR UNDER SECTION 107 OF THE CONTRACT WORK HOURS AND SAFETY STANDARDS ACT, AS SET FORTH IN TITLE 29 C.F.R.
3. TO PROTECT THE LIVES AND HEALTH OF CONTRACTOR'S EMPLOYEES UNDER THE CONTRACT, THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC., AND SHALL MAINTAIN AN ACCURATE RECORD OF ALL CASES OF DEATH, OCCUPATIONAL DISEASE, AND INJURY REQUIRING MEDICAL ATTENTION OR CAUSING LOSS OF TIME FROM WORK, ARISING OUT OF AND IN THE COURSE OF EMPLOYMENT OR WORK UNDER THE CONTRACT.
4. THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR THE SAFETY, EFFICIENCY AND ADEQUACY OF CONTRACTOR'S FACILITIES, APPLIANCES, AND METHODS AND FOR ANY DAMAGE, WHICH MAY RESULT FROM THEIR FAILURE OR THEIR IMPROPER CONSTRUCTION, MAINTENANCE OR OPERATION.
5. THE CONTRACTOR AGREES THAT IT SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, PROVOST & PRITCHARD CONSULTING GROUP, AND THEIR RESPECTIVE AGENTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF OWNER, ENGINEER, OR THEIR RESPECTIVE AGENTS.
6. THE OWNER AND IT'S AGENTS SITE RESPONSIBILITIES ARE LIMITED SOLELY TO THE ACTIVITIES OF THEIR EMPLOYEES ON SITE. THESE RESPONSIBILITIES SHALL NOT BE INFERRED BY ANY PARTY TO MEAN THAT THE OWNER OR ITS AGENTS HAVE RESPONSIBILITY FOR SITE SAFETY. SAFETY IN, OR ABOUT THE SITE IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR ALONE. THE CONTRACTOR'S METHODS OF WORK PERFORMANCE, SUPERINTENDENCE AND THE CONTRACTOR'S EMPLOYEES, AND SEQUENCING OF CONSTRUCTION ARE ALSO THE SOLE AND EXCLUSIVE RESPONSIBILITIES OF THE CONTRACTOR ALONE.

GENERAL NOTE

1. KINGS COUNTY SHALL BE CONTACTED AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK ON OR NEAR EXISTING COUNTY FACILITIES.
2. USED MATERIAL, REJECTS MISFITS OR SECONDS, ETC. RE NOT ACCEPTABLE FOR USE ON LAKESIDE DIGESTER CLUSTER DG COLLECTION PIPELINE DESIGN.
3. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THESE PLANS, PROJECT SPECIFICATIONS AND KINGS COUNTY SPECIFICATIONS.
4. ALL NUTS, BOLTS, AND WASHERS USED TO SECURE UNDERGROUND FITTINGS SHALL BE STAINLESS STEEL. AFTER INSTALLATION, ALL STEEL HARDWARE SHALL BE COATED WITH A RUST PREVENTATIVE, WRAPPED WITH 4 MIL POLYETHYLENE SHEETING, AND SECURE WITH PVC TAPE.
5. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS OF THE STATE OF CALIFORNIA AND CAL/OSHA STANDARD.
6. TRENCH BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS.
7. CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ALL PIPELINE CRACKS, WHICH DEVELOP DURING CONSTRUCTION OF IMPROVEMENTS.
8. ALL EXCESS MATERIAL AND/OR DEBRIS SHALL BE REMOVED UPON COMPLETION OF INSTALLATION.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE DUST CONTROL AT ALL TIMES.
10. CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN TO MITIGATE IMPACTS OF SOIL EROSION OFFSITE, AND SHALL OBTAIN AN N.P.D.E.S. CONSTRUCTION PERMIT FROM THE CENTRAL VALLEY RWQCB. SUBMIT A COPY OF THIS PERMIT TO THE COUNTY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN UP OF SOIL EROSION FROM THE SITE THROUGHOUT THE ONE YEAR WARRANTY PERIOD FOLLOWING COUNTY ACCEPTANCE OF THE IMPROVEMENTS.
11. CONTRACTOR IS RESPONSIBLE FOR OBTAINING FOR ALL PERMITS, INSPECTIONS, AND MATERIALS TESTING. ANY INSPECTION TO BE PERFORMED BY KING COUNTY SHALL REQUIRE A 24-HOUR NOTICE.
12. CONTRACTOR SHALL EXPOSE ALL EXISTING PIPELINES OR OTHER UNDERGROUND OBSTRUCTION'S TO VERIFY THAT THERE ARE NO GRADE CONFLICTS PRIOR TO LAYING ANY PIPELINES UPSTREAM OF SAID PIPELINES OR OBSTRUCTIONS.
13. THE CONTRACTOR SHALL PROVIDE FOR INGRESS AND EGRESS FOR PRIVATE PROPERTY ADJACENT TO WORK THROUGHOUT THE PERIOD OF CONSTRUCTION.

ABBREVIATIONS

ACRONYM	DEFINITION
AB	AGGREGATE BASE
ABN	ABANDON
AC	ASPHALT CONCRETE
API	AMERICAN PETROLEUM INSTITUTE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATE
AVE	AVENUE
ARC	ABRASION RESISTANT COATING
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
BBCL	BELL BELL CHILL RING
BC	BEGIN CURVE
BD	BLOWDOWN
BEG	BEGIN
BKF	BACKFILL
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BOM	BILL OF MATERIAL

ABBREVIATIONS

ACRONYM	DEFINITION
BR	BRIDGE
BTU	BRITISH THERMAL UNITS
BV	BALL VALVE
BW	BACK OF WALK
CATS	COMPUTER AUTOMATED TEST STATION
CCV	CORROSION CONTROL VOLUME
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CNG	COMPRESSED NATURAL GAS
CO	COUNTY
CONC	CONCRETE
COND	CONDUIT
CP	CATHODIC PROTECTION
CPT	CATCH POINT
CROP	CONDITIONAL REDUCTION OF PRESSURE
CTS	COUPON TEST STATION
CU	COPPER
CULV	CULVERT
D	DEPTH
DE	DEAD END
DEG	DEGREE
DET	DETAIL
DI	DRAINAGE INLET
DIA	DIAMETER
DIST	DISTRIBUTION
DPV	DAMAGE PREVENTION VOLUME
DR	DISTRIBUTION REGULATOR
DSAW	DOUBLE SUBMERGED ARC-WELDED
DWA	DEEP WELL ANODE
DWY	DRIVEWAY
E	EAST
EASE	EASEMENT
EC	END CURVE
EL	ELBOW
ELECT	ELECTRIC
ELEV	ELEVATION
EM	ELECTRONIC MARKER
EMS	ENGINEERING MATERIAL SPECIFICATION
ENGR	ENGINEER
EP	EDGE OF PAVEMENT
EQ	EQUATION
ERW	ELECTRIC RESISTANCE WELDED
ESA	ENVIRONMENTALLY SENSITIVE AREA
ETS	ELECTROLYSIS TEST STATION
ETW	EDGE OF TRAVELED WAY
F	FILTER
F & C	FRAME AND COVER
FBE	FUSION BONDED EPOXY
FC	FACE OF CURB
FDP	FUTURE DESIGN PRESSURE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FL	FLOW LINE
FLG	FLANGE
FWY	FREEWAY
GS	NATURAL GAS SERVICE
GV	GATE VALVE
GW	NATURAL GAS WELL
H	HORIZONTAL
HDD	HORIZONTAL DIRECTIONAL DRILL
HFW	HIGH FREQUENCY WELD
HPR	HIGH PRESSURE REGULATOR
HWY	HIGHWAY
ID	INSIDE DIAMETER
ILI	IN-LINE INSPECTION
INV	INVERT
IRR	IRRIGATION
JP	JOINT POLE
JT	JOINT TRENCH
LAT	LATITUDE
LN	LANE
LNG	LIQUID NATURAL GAS
LOC	LOCATION
LONG	LONGITUDE
LT	LEFT
M	MONITOR
MAOP	MAXIMUM ALLOWABLE OPERATING PRESSURE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOI	METHOD OF INSTALLATION
MON	MONUMENT
MOP	MAXIMUM OPERATING PRESSURE
MP	MILE POINT
MSP	MAXIMUM STOPPING PRESSURE
MT	METER
MW	WORKING MONITOR
MWP	MAXIMUM WORKING PRESSURE
N	NORTH
NDE	NON-DESTRUCTIVE EXAMINATION
NOP	NORMAL OPERATING PRESSURE
NPC	NON-PROTECTED/NATIVE COUPON
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OG	ORIGINAL GROUND
OH	OVERHEAD
P	PIPELINE
P/L	PROPERTY LINE
PC	POINT OF CURVATURE
PCF	PRESSURE CONTROL FITTING
PKWY	PARKWAY
PL	PLASTIC
PLC	PROGRAMMABLE LOGIC CONTROLLERS
PSI	POUNDS PER SQUARE INCH
PV	PLUG VALVE
PVMT	PAVEMENT
QTY	QUANTITY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REG	REGULATOR
REL	RELOCATE
REPL	REPLACE
REV	REVISION
RR	RAILROAD
RT	RIGHT
RTE	ROUTE
R/W	RIGHT OF WAY
S	SOUTH
SAWH	SUBMERGED ARC-WELDED HELICAL
SAWL	SUBMERGED ARC-WELDED LONGITUDINAL
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCP	SURVEY CONTROL POINT
SD	STORM DRAIN
SG	SUBGRADE
SHT	SHEET
SMLS	SEAMLESS
SMYS	SPECIFIED MINIMUM YIELD STRENGTH
SPEC	SPECIFICATION
SS	SANITARY SEWER
SSAW	SINGLE SUBMERGED ARC-WELDED
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
T	TIED (CONNECTED TO SYSTEM)
TCE	TEMPORARY CONSTRUCTION EASEMENT
TCP	TRAFFIC CONTROL PLAN
TEL	TELEPHONE
TEMP	TEMPORARY
TG	TOP OF GRADE
TT	TOP TAP
TYP	TYPICAL
UG	UNDERGROUND
USA	UNDERGROUND SERVICE ALERT
UT	ULTRA-SONIC TEST
V	VALVE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VOL	VOLUME
W	WATER
WT	WALL THICKNESS
WV	WATER VALVE
W/	WITH
W/O	WITHOUT

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

NOTES AND ABBREVIATIONS

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C1.01

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GENERAL SPECIFICATIONS

1. ALL WORK PERFORMED IN THE KINGS COUNTY RIGHT-OF-WAY SHALL BE IN COMPLIANCE WITH ENCROACHMENT PERMIT REQUIREMENTS.
2. ALL WORK SHALL BE IN CONFORMANCE WITH THE KINGS COUNTY IMPROVEMENT STANDARDS, STREET ENCROACHMENT PERMIT, IRRIGATION DISTRICT ENCROACHMENT PERMIT, THESE CONSTRUCTION PLANS, AND AS DIRECTED BY THE ENGINEER.
3. PRIOR TO INITIATING CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING AT THE PROJECT SITE TO DISCUSS PROPOSED WORK. INCLUDED IN THIS MEETING WILL BE REPRESENTATIVE OF LAKESIDE PIPELINE LLC, MASS ENERGY WORKS, BIOGAS ENGINEERING, THE ENGINEER, THE KINGS COUNTY PUBLIC WORKS AND/OR PLANNING DEPARTMENT, THE CONTRACTOR AND HIS JOB SUPERINTENDENT, THE CONTRACTOR'S SUBCONTRACTORS AND THEIR SUPERINTENDENTS, REPRESENTATIVES OF AFFECTED UTILITY AUTHORITIES, AND OTHER INTERESTED AGENCIES OR INDIVIDUALS.
4. CONTRACTOR SHALL NOT PROCEED WITH CHANCES TO THE WORK IN THESE PLANS WITHOUT APPROVAL FROM THE ENGINEER. ANY CHANGES TO THE APPROVED SET OF PLANS WITHOUT NOTIFYING THE ENGINEER PRIOR TO SUCH CHANGES ABSOLVES SAID ENGINEER FROM ANY AND ALL RESPONSIBILITY WITH RESPECT TO THE LIABILITY, DAMAGE OR EXTRA WORK RESULTING FROM SAID CHANGES.
5. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY PERMITS AS REQUIRED BY THE KINGS COUNTY FOR WORK WITHIN THEIR RIGHT-OF-WAY. THE CONTRACTOR SHALL OBTAIN ALL OTHER PERMITS REQUIRED TO PERFORM THE WORK AND SHALL ABIDE BY THE CONDITIONS OF THE PERMITS AND SHALL PERFORM ALL WORK ORDERED BY SAID PERMITS, IN CONFORMANCE THEREWITH AND AS DIRECTED BY THE ENGINEER.
6. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY PERMITS AS REQUIRED BY THE IRRIGATION DISTRICT FOR WORK WITHIN THEIR RIGHT-OF-WAY.
7. BEFORE COMMENCING EXCAVATION, THE CONTRACTOR SHALL NOTIFY ALL UTILITY AUTHORITIES OF UTILITY COMPANIES HAVING INTEREST IN THE WORK OF THE CONTRACTORS INTENTION TO EXCAVATE PROXIMATE TO THE LOCATION, DEPTH AND SIZE OF ALL UTILITIES IN THE WORK AREA.
8. THE CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM ANY PROPERTY OWNER GIVING HIM PERMISSION TO ENTER HIS PROPERTY FOR THE PURPOSES OF CONSTRUCTING THE IMPROVEMENTS DELINEATED ON THE PLANS AND TRANSITIONS THERETO.
9. DIRT OR DEBRIS TRACKED ONTO EXISTING COUNTY ROADS FROM THIS PROJECT SHALL BE CLEANED OFF AT THE END OF EACH WORKING DAY TO THE SATISFACTION OF THE COUNTY INSPECTOR.
10. TRENCH CUTS IN THE EXISTING STREETS THAT ARE NOT TO BE RECONSTRUCTED OR OVERLAID SHALL HAVE PERMANENT TRENCH RESURFACING INSTALLED WITHIN SEVEN (7) DAYS AFTER ANY INITIAL STREET CUT.
11. PERMANENT TRENCH RESURFACING TO BE PER COUNTY STANDARD OR AS DETAILED. TEMPORARY TRENCH RESURFACING TO BE A MINIMUM 4" COLD MIX.
12. UTILITY INFORMATION SHOWN HEREIN IS BASED ON RECORD INFORMATION SUPPLIED TO THE ENGINEER BY UTILITY COMPANIES. THE ENGINEER CAN MAKE NO GUARANTEE AS TO THE ACCURACY OR COMPLETENESS OF THE UTILITY FACILITIES AND THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING TO THE BIOGAS LINE IN PROXIMITY OF EXISTING FACILITIES.
13. ALL STATIONING IS ALONG PIPE CENTERLINE UNLESS INDICATED OTHERWISE.
14. PROPER BEDDING AND ENVELOPE SHALL BE PROVIDED FOR THE UTILITY PIPES, IMPORTED OR NATIVE GRANULAR MATERIAL, 100% PASSING THE NO. 4 SIEVE AS BEDDING AND PIPE ENVELOPE. PIPE BACKFILL MATERIAL SHALL BE COMPACTED, EXCAVATED SITE SANDY SOILS MAY BE USED AS BACKFILL PROVIDED THEY DO NOT CONTAIN ROCK FRAGMENTS OR CEMENTED PARTICLES GREATER THEN 3 INCHES IN THE GREATEST DIMENSION AS APPROVED BY THE ENGINEER.
15. ALL REQUESTS FOR STAKING SHALL BE IN WRITING AND BE SIGNED BY THE CONTRACTOR. REQUESTS FOR THE STAKING SHALL BE SUBMITTED TO THE ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE TIME THAT STAKING IS REQUIRED. INITIAL STAKING SHALL BE PAID FOR BY THE OWNER. ANY STAKES DISTURBED OR REMOVED PRIOR TO THE COMPLETION AND INSPECTION SHALL BE REPLACED BY THE ENGINEER, AT THE EXPENSE OF THE CONTRACTOR.
16. COMPACTION REQUIREMENTS FOR THE PIPELINE AND STRUCTURE BACKFILL SHALL BE IN CONFORMANCE WITH THE KINGS COUNTY STREET ENCROACHMENT PERMIT IN THE COUNTY ROW, THE DETAILS SHOWN ON THESE CONSTRUCTION PLANS, AND AS DESIGNATED BY THE ENGINEER. COMPACTION TESTING SHALL BE PROVIDED BY A LICENSED GEOTECHNICAL FIRM APPROVED BY THE ENGINEER AND THE KINGS COUNTY. THE LOCATION AND DEPTHS OF COMPACTION TESTING SHALL BE DETERMINED BY THE ENGINEER AND COUNTY INSPECTOR. ALL COST ASSOCIATED WITH COMPACTION TESTING SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
17. INSPECTION SHALL BE IN CONFORMANCE WITH THE COUNTY REQUIREMENTS AND THE COUNTY STREET ENCROACHMENT PERMIT. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COMPLY WITH AND COORDINATE THE WORK OF THIS PROJECT IN CONFORMANCE WITH THE INSPECTION REQUIREMENTS OF ALL UTILITY AUTHORITIES AND OTHER PERMITTING AGENCIES AFFECTED BY THE WORK OF THIS PROJECT.
18. SIGNING AND FLAGGING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE CURRENT AMENDED VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR USE IN CALIFORNIA.
19. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PREPARATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), CONDUCTING SITE MONITORING, REPORTING, IMPLEMENTING, FOLLOWING, MAINTAINING, AND REMOVING BEST MANAGEMENT PRACTICES SET FORTH IN THE SWPPP.
20. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PREPARATION AND OBTAINING APPROVAL OF A DUCT CONTROL PLAN FROM THE SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT. THE CONTRACTOR SHALL CONDUCT SITE MONITORING, REPORTING, IMPLEMENTING, FOLLOWING, MAINTAINING THE CONSTRUCTION AREA IN CONFORMANCE WITH THE APPROVED DUCT CONTROL PLAN.
21. PRIOR TO TRENCH BACKFILLING, THE CONTRACTOR SHALL CONDUCT PIPELINE PRESSURE TESTING AT A TEST PRESSURE EQUAL TO 150% OF THE SPECIFIED PIPELINE OPERATING PRESSURE FOR 4 HOURS, IF LEAKS ARE LOCATED, DEPRESSURIZE THE LINE PRIOR TO MAKING REPAIRS, WAIT A MINIMUM OF 8 HOURS PRIOR TO RETESTING THE REPAIRED PIPELINE.
22. THE CONTRACTOR SHALL MAINTAIN ONE PAVED TRAVEL LANE IN EACH DIRECTION AT ALL TIMES IN THE COUNTY RIGHT-OF-WAY DURING THE PIPELINE EXCAVATION. CONSTRUCTION AND BACKFILLING ACTIVITIES, ANY PAVEMENT AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN KIND AND IN ACCORDANCE WITH THE COUNTY'S ENCROACHMENT PERMIT AND AS DIRECTED BY THE COUNTY INSPECTOR.
23. SURFACE ELEVATIONS BETWEEN STATIONS 516+00 AND 526+50 ARE APPROXIMATE. IF SIGNIFICANTLY DIFFERENT THAN GRADES SHOWN IN DESIGN CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION.

PIPE SPECIFICATIONS

1. PIPE MATERIALS SHALL BE AS FOLLOWS:

PIPE	LOCATION	MATERIAL
BIOGAS PIPE	EXPOSED	STAINLESS STEEL
	BURIED	HDPE

2. HIGH DENSITY POLYETHYLENE (HDPE) PIPE SHALL BE SDR 21 MOLECULAR WEIGHT, HIGH DENSITY POLYETHYLENE, IN CONFORMANCE WITH AWWA C906, PPI DESIGNATION PE4710 AND HAVE A CELL CLASSIFICATION OF PE 445474C AS DESCRIBED IN ASTM D3350. ALL JOINTS FOR BURIED PE PIPE SHALL BE THERMAL FUSION TYPE. PE FITTINGS SHALL CONFORM TO ASTM D3261. EACH FITTING SHALL BE CLEARLY LABELED TO IDENTIFY ITS SIZE AND DIMENSION RATIO.
3. ALL HDPE PIPES SHALL BE JOINED USING HEAT FUSION. BUTT FUSION JOINTS IN HDPE GAS PIPING SHALL BE MADE USING PROCEDURES IN ACCORDANCE WITH ASTM F2620.
4. THE CONTRACTOR SHALL ENSURE THAT ALL PERSONS MAKING HEAT FUSION JOINTS HAVE BEEN QUALIFIED TO MAKE JOINTS IN ACCORDANCE WITH THE APPROVED QUALIFIED FUSION PROCEDURE AS SPECIFIED.
5. STAINLESS STEEL PIPE SHALL BE A MINIMUM OF SCHDULE 10S SEAMLESS PIP, PER ASTM A312 AND ASME B36.19M. FITTINGS SHALL BE STAINLESS STEEL, SOCKET WELDED PER ANSI B16.11.
6. CONNECTIONS TO FITTINGS MAY EITHER BE FUSION WELDED, FLANGED, OR RESTRAINED MECHANICAL JOINTS. ALL MECHANICAL JOINT FITTINGS ARE TO BE RESTRAINED. MECHANICAL JOINTS RESTRAINTS SHALL BE EBAA MEGALUG, OR APPROVED EQUIVALENT. CONCRETE THRUST BLOCKS WILL NOT BE ALLOWED.
7. ALL NUTS, BOLTS, AND WASHERS SHALL BE STAINLESS STEEL.
8. SUBMIT MANUFACTURER'S CATALOG DATA INCLUDING WALL THICKNESS, MATERIALS OF CONSTRUCTION, COATINGS, AND REFERENCE STANDARDS, AS APPLICABLE. WORK PERFORMED BEFORE APPROVAL OF THE SUBMITTAL, OR NOT CONFORMING TO APPROVED SUBMITTALS, SHALL BE AT CONTRACTOR'S OWN RISK.

TRENCH NOTES

1. PIPE INSTALLATIONS ARE ARE TO EMPLOY TRENCH SHORING AND/OR SLOPING IN ACCORDANCE WITH ALL APPLICABLE SAFETY STANDARDS.
2. BACKFILL SHALL BE BROUGHT TO OPTIMUM MOISTURE CONTENT PLACED IN LOOSE LIFTS NO MORE THAN 8 INCHES IN THICKNESS AND COMPACTED TO ACHIEVE COMPACTION REQUIREMENTS SHOWN ON DETAILS. COMPACTION SHALL BE DETERMINED BY ASTM TEST METHOD D1557.
3. COMPACTION TESTS SHALL BE PERFORMED EERY 500 FEET, AND AS REQUIRED IN THE ENCROACHMENT PERMIT.

VALVE SPECIFICATIONS

1. HIGH PERFORMANCE BUTTERFLY VALVES (HPBFVS) SHALL HAVE STAINLESS STEEL BODY, DISC, AND SHAFT, WITH PTFE PACKING, SUITABLE FOR BIOGAS SERVICE. HPBFVS SHALL HAVE ANSI 150 PSI FLANGED OR MECHANICAL JOINTS ENDS. VALVE SHAFTS SHALL BE STUB SHAFT OR ONE-PIECE UNITS EXTENDING COMPLETELY THROUGH THE VALVE DISC. VALVES SHALL BE DEZURIK BHP HIGH PERFORMANCE BUTTERFLY VALAVE, PRATT HP SERIES HIGH PERFORMANCE BUTTERFLY VALVES, OR ENGINEER APPROVED EQUIVALENT.
2. PLUG VALVES SHALL BE 2-WAY, SLEEVED VALVES WITH V-RING TOP SEAL, SUITABLE FOR BIOGAS SERVICE. PLUG VALVES SHALL HAVE STAINLESS STEEL BODY AND PLUG, WITH SOLID PTFE SLEEVE. ALL VALVES FOR SIZES 4-INCH AND LARGER SHALL HAVE WORM GEAR OPERATORS, AND ANSI 150 PSI FLANGED OR GROOVED ENDS. SUBMERGED AND BURIED VALVES SHALL BE EQUIPPED WITH WORM-GEAR OPERATORS, LUBRICATED AND SEALED TO PREVENT ENTRY OF DIRT AND WATER INTO THE OPERATOR. SHAFT BEARINGS SHALL BE STAINLESS STEEL FURNISHED WITH PERMANENTLY-LUBRICATED BEARING SURFACES. OPERATORS SHALL CLEARLY INDICATE VALVE POSITION. VALVES SHALL HAVE AN UNOBSTRUCTED PORT AREA OF NOT LESS THAN 80 PERCENT OF FULL PIPE AREA. PLUG VALVES SHALL HAVE A PRESSURE RATING OF NOT LESS THAN 150 PSI WATER, OIL, OR GAS (WOG) SERVICE AND BUBBLE-TIGHT SHUT OFF. PLUG VALVES SHALL BE SMG CHEM-PLUG SLEEVED VALVES, OR ENGINEER APPROVED EQUIVALENT.
3. PROVIDE 2-INCH AWWA OPERATING NUTS FOR BURIED VALVES. DESIGN ACTUATORS ON BURIED VALVES TO PRODUCE THE REQUIRED TORQUE ON THE OPERATING NUT WITH A MAXIMUM INPUT OF 150 FOOT-POUNDS.
4. VALVE BOXES SHALL BE CHRISTY G5 WITH CHRISTY IRON COVERS, OR EQUAL.
5. RISERS SHALL BE 8-INCH NOMINAL DIAMETER PVC PIPE SCH 80 CONFORMING TO AWWA C900.
6. HDPE SPACERS SHALL BE PROVIDED ON ALL BUTTERFLY VALVES THAT ARE LESS THAN 12" IN DIAMETER.
7. AFTER INSTALLING AND TESTING AND PRIOR TO BACKFILL, ALL VALVES SHALL BE WRAPPED WITH TWO LAYERS OF POLYETHYLENE SHEETING.

BIOGAS CONTENTS	
GAS	%
METHANE	60-69%
OXYGEN	0-2%
NITROGEN	0-8%
HYDROGEN SULFIDE	0-4000 ppm
CARBON DIOXIDE	BALANCE

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	08/27/20	MODIFIED PER REVISED ALIGNMENTS AND SURVEY DATA	SG	SK	SK
2	02/23/21	ADDED NOTE	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE: ____________

LANDOWNER NAME: ____________

DATE: ____________

OWNER: MAAS ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER — SHASHIKANT R. KOTHARI — No. 46800 — Exp 12/31/20 — CIVIL — STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

SPECIFICATIONS

LAKESIDE DAIRY CLUSTER
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C1.02

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REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

SITE INDEX MAP

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.00

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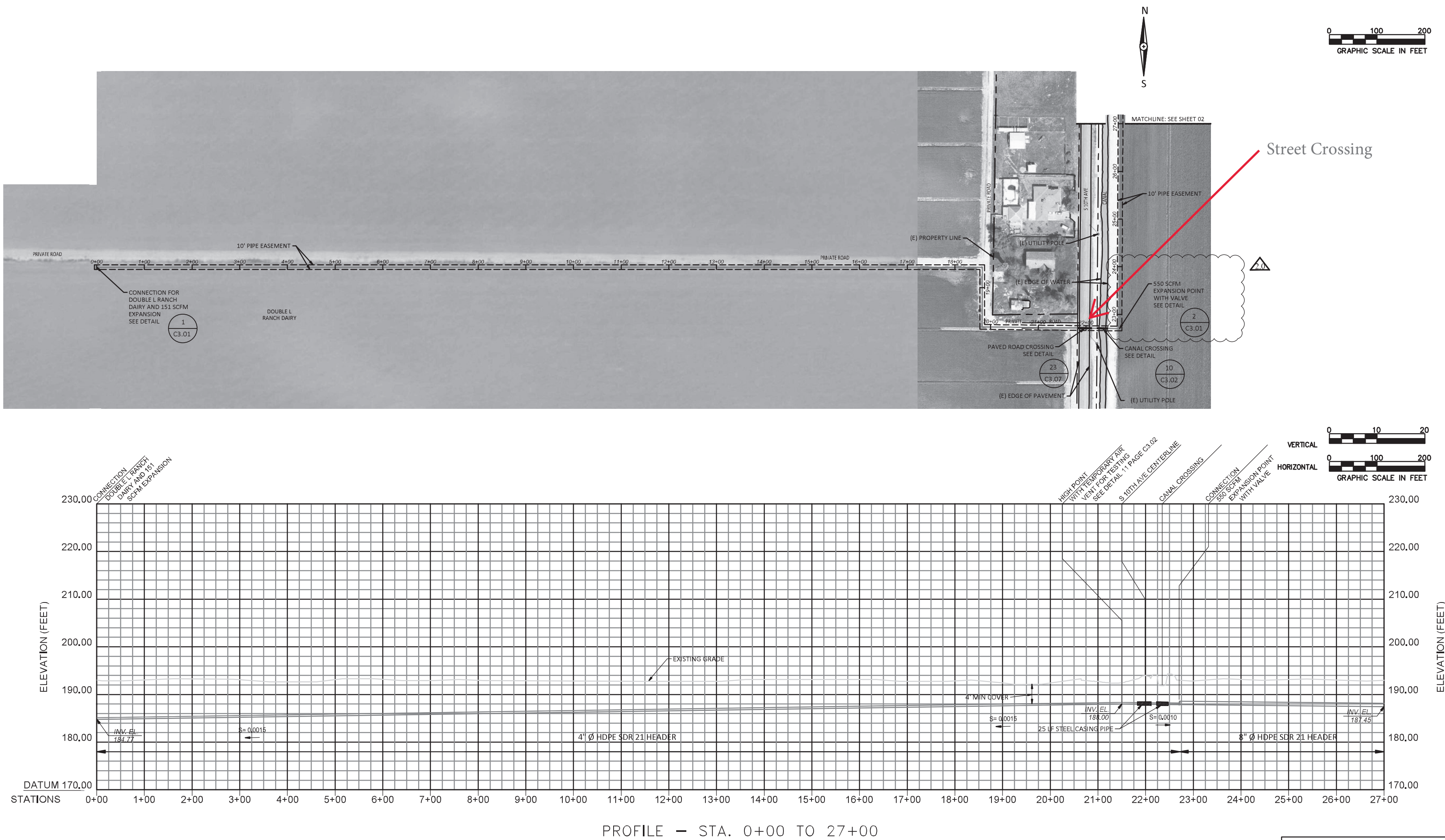

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2	03/16/21	REVISED CALL OUT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 0+00 TO 27+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN 15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.01

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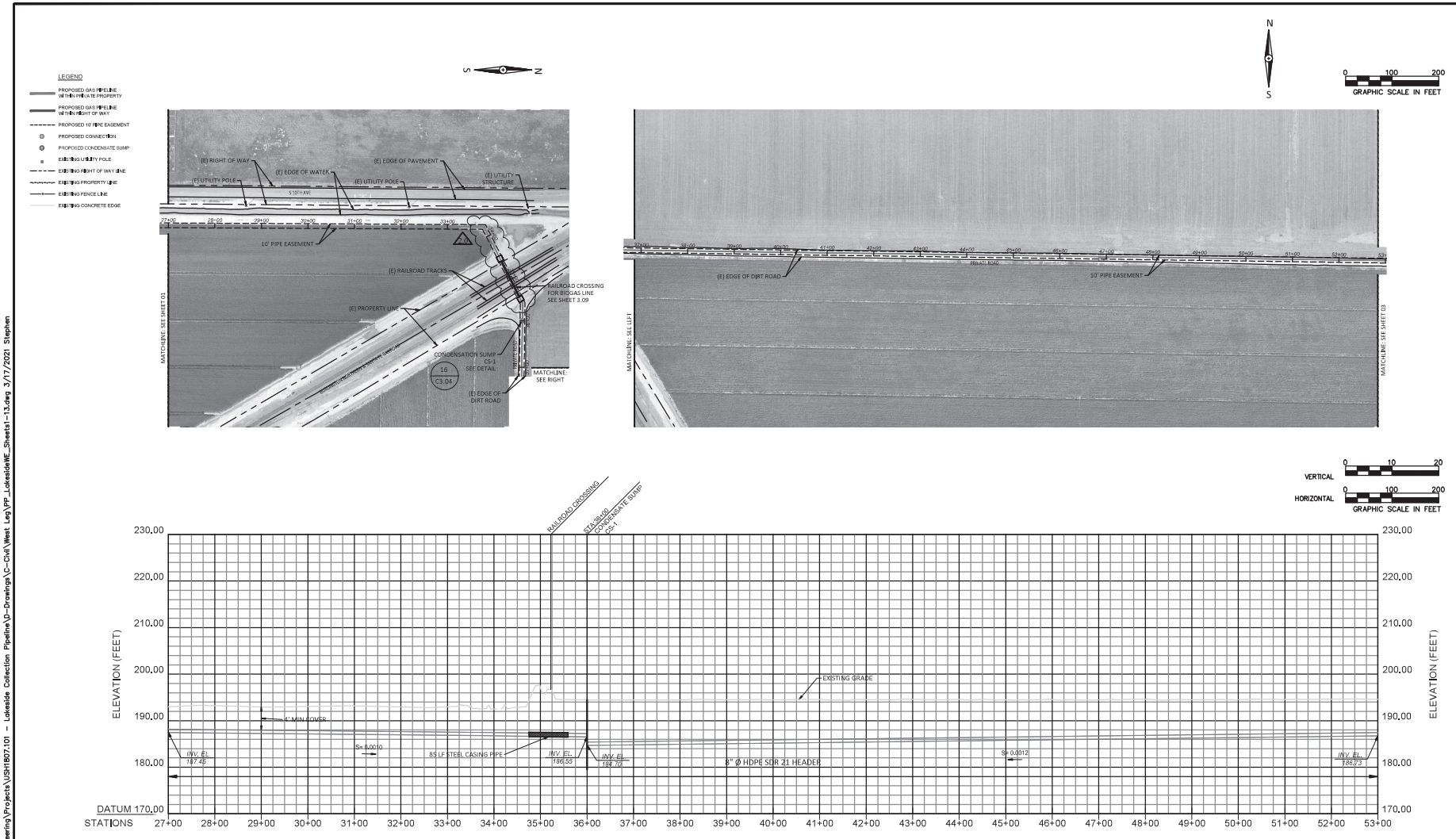

PROFILE – STA. 27+00 TO 53+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2	12/04/20	ADDED 18" DIA IRRIGATION PIPELINE	SG	SK	SK
3	03/16/21	LOWERED HEADER ELEVATION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 27+00 TO 53+00

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C2.02

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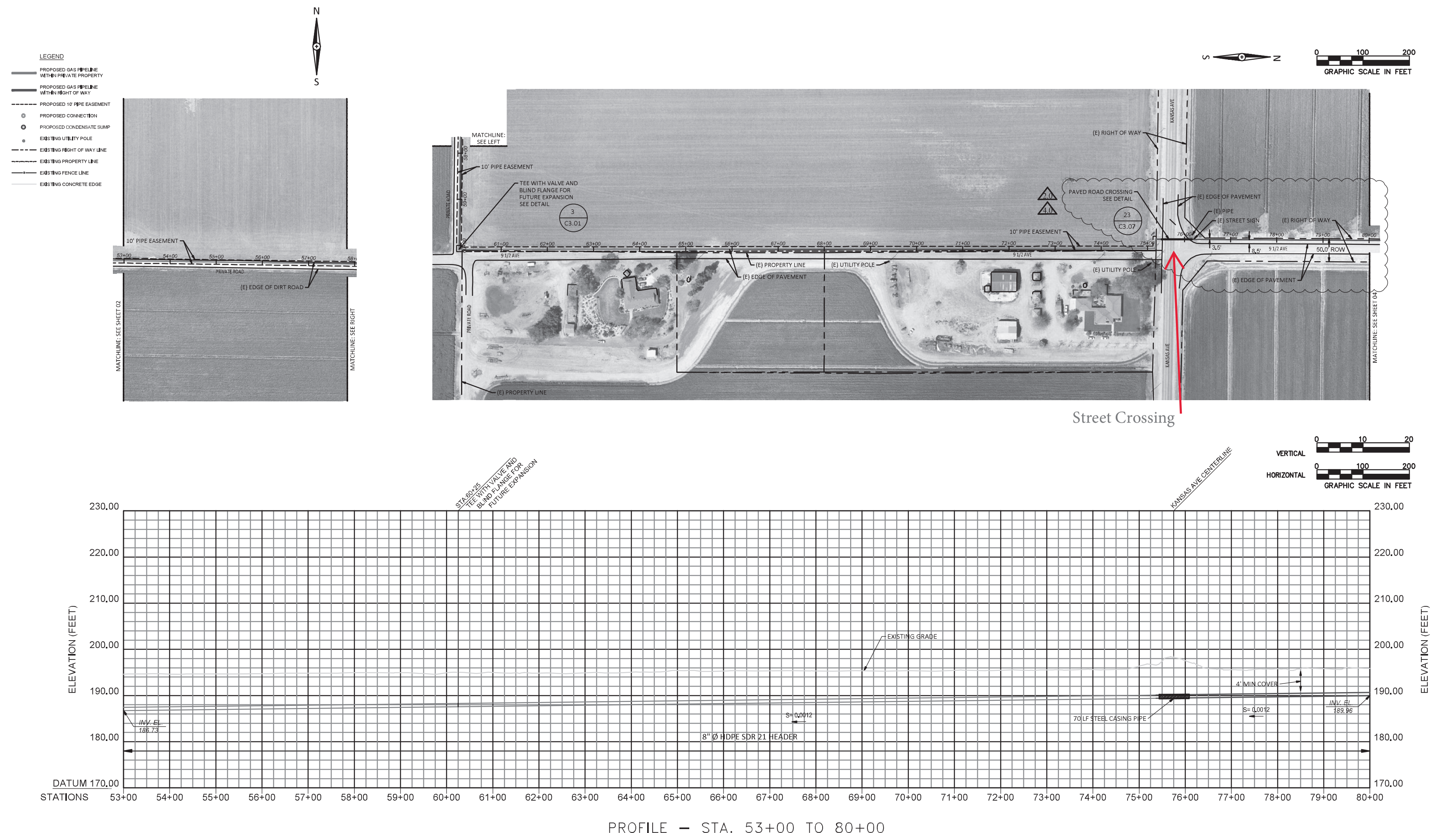

PROFILE – STA. 53+00 TO 80+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2	12/23/20	ADDITIONAL SURVEY DATA AND CALL OUTS	SG	SK	SK
3	03/16/21	LOWERED HEADER ELEVATION	SG	SK	SK
4	05/13/21	REVISED ALIGNMENT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45897 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 53+00 TO 80+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.03

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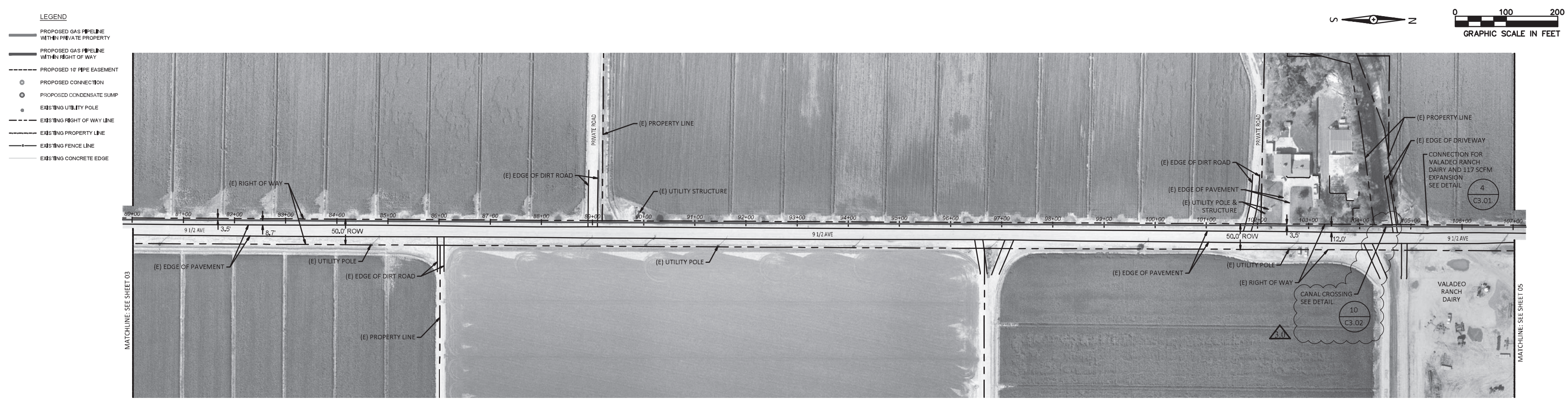

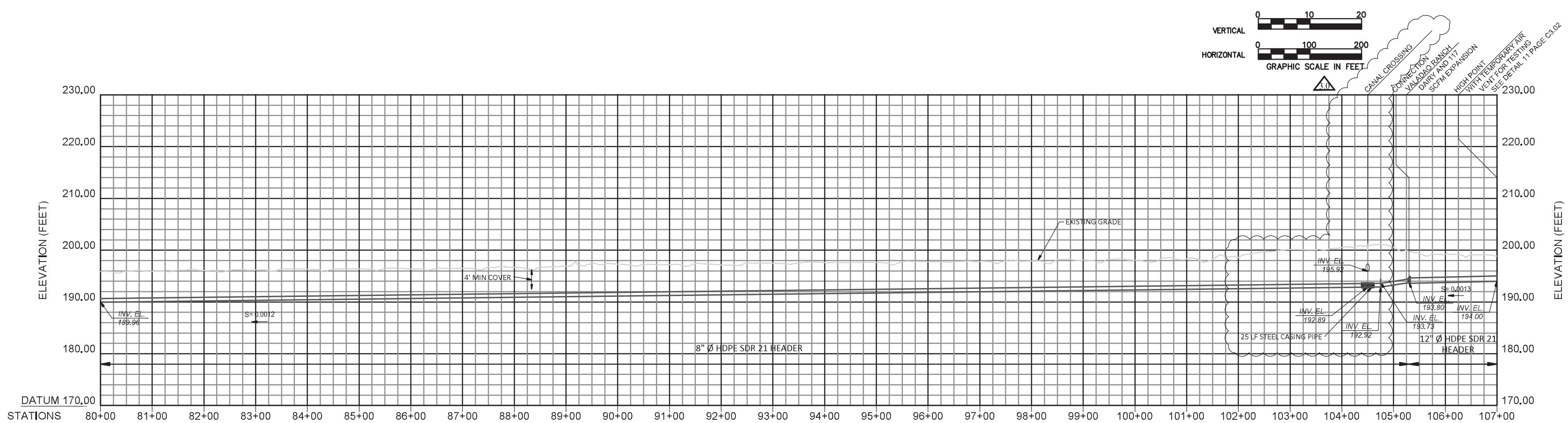

PROFILE – STA. 80+00 TO 107+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	12/23/20	ADDITIONAL SURVEY DATA AND CALL OUTS	SG	SK	SK
3.0	03/16/21	LOWERED HEADER ELEVATION AND ADDED CANAL CROSSING	SG	SK	SK
4.0	05/13/21	REVISED ALIGNMENT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45891 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 80+00 TO 107+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.04

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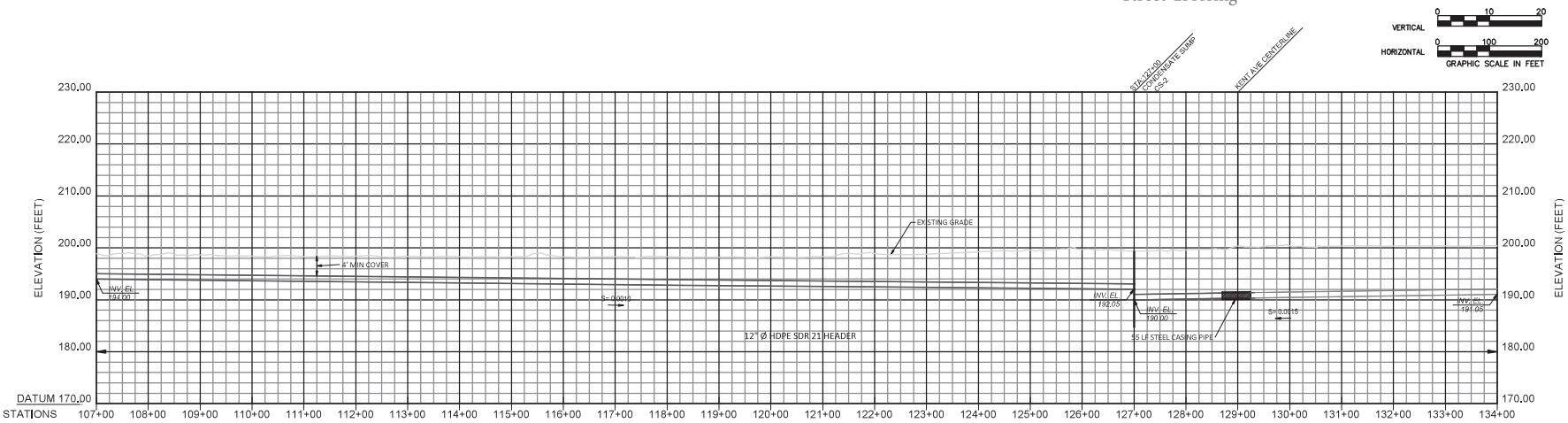
Street Crossing



PROFILE – STA. 107+00 TO 134+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	03/16/21	ADDED CANAL ROW DIMENSIONS	SG	SK	SK
2.0	03/29/21	REVISED ALIGNMENT AT KENT AVE. CROSSING	SG	SK	SK
3.0	04/22/21	REVISED ALIGNMENT AFTER KENT AVE. CROSSING	SG	SK	SK
4.0	05/13/21	REVISED ALIGNMENT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 107+00 TO 134+00

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.05

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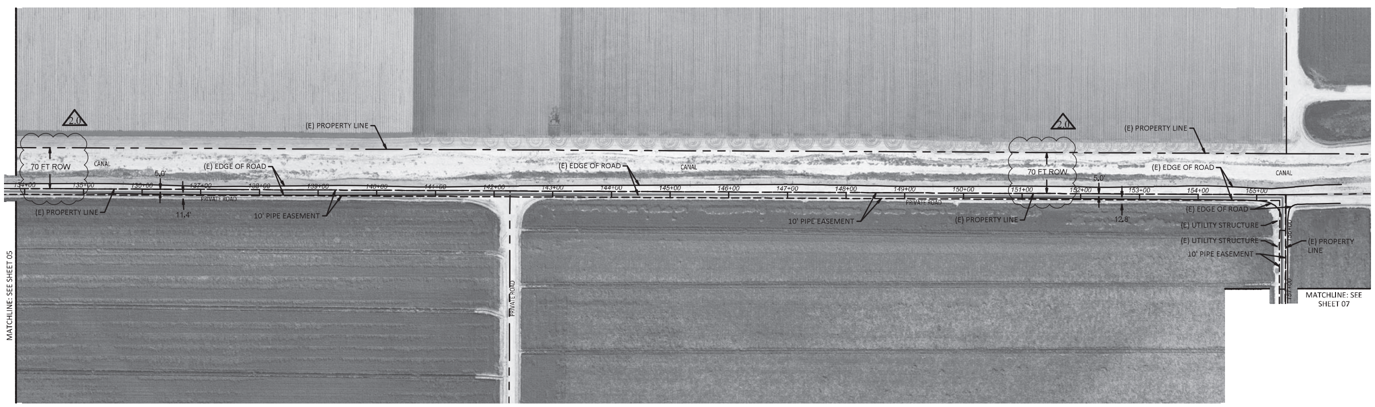
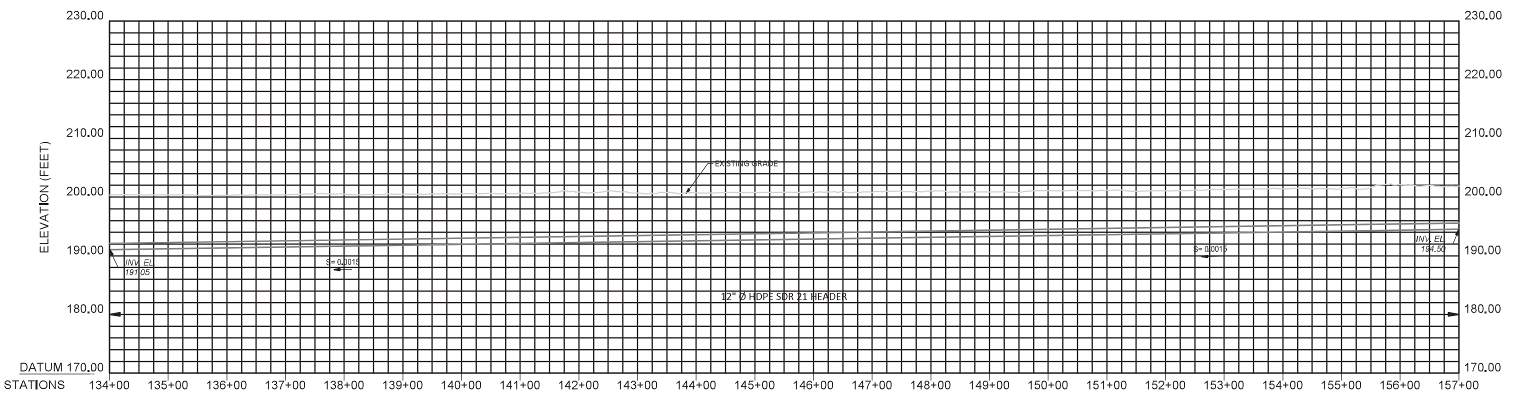
LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING UTILITY POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE





PROFILE – STA. 134+00 TO 157+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2	03/16/21	ADDED CANAL ROW DIMENSIONS	SG	SK	SK
3	04/22/21	REVISED ALIGNMENT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

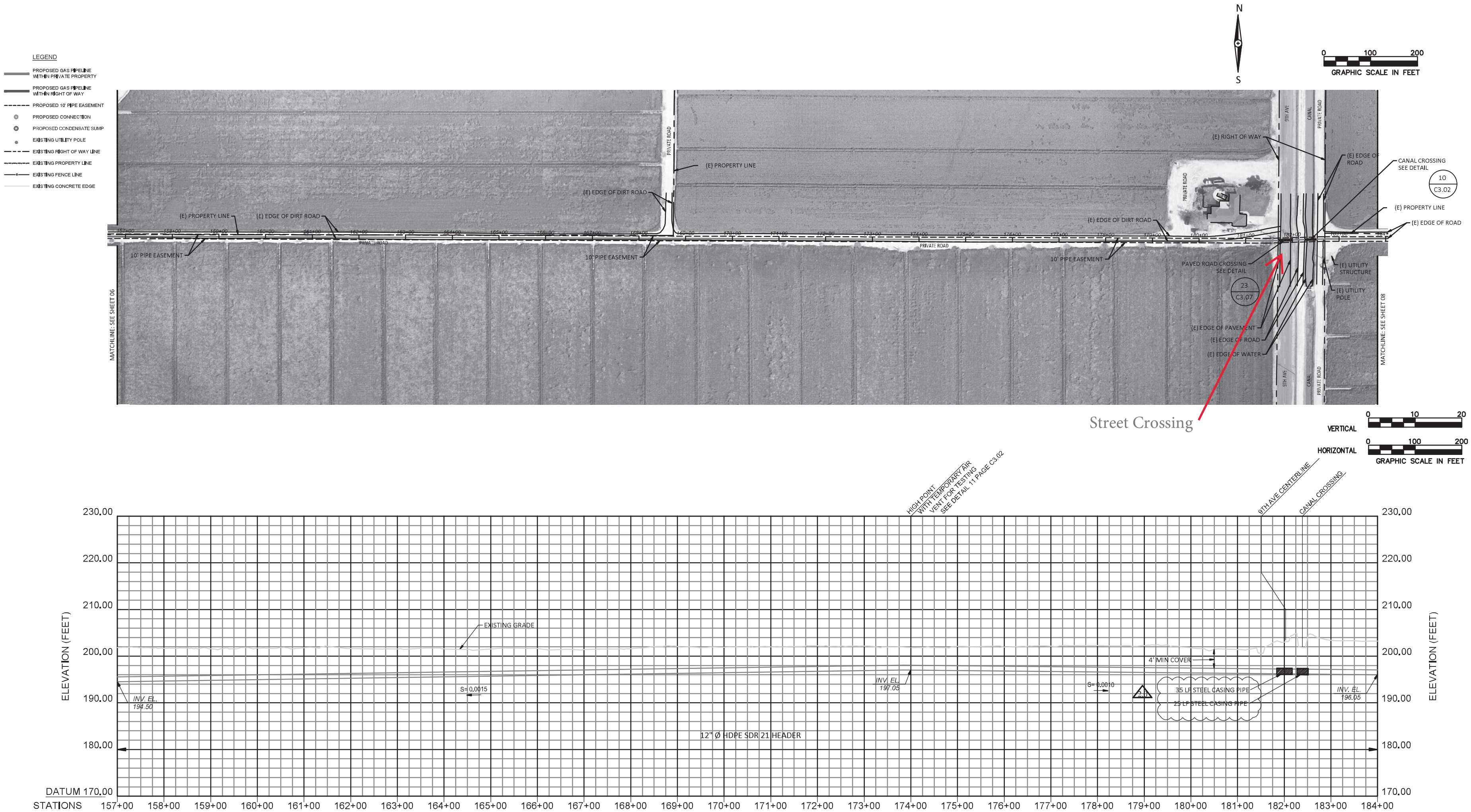
REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45891 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 134+00 TO 157+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.06



PROFILE – STA. 157+00 TO 184+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2	03/16/21	REVISED CALL OUT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45806 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 157+00 TO 184+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.07

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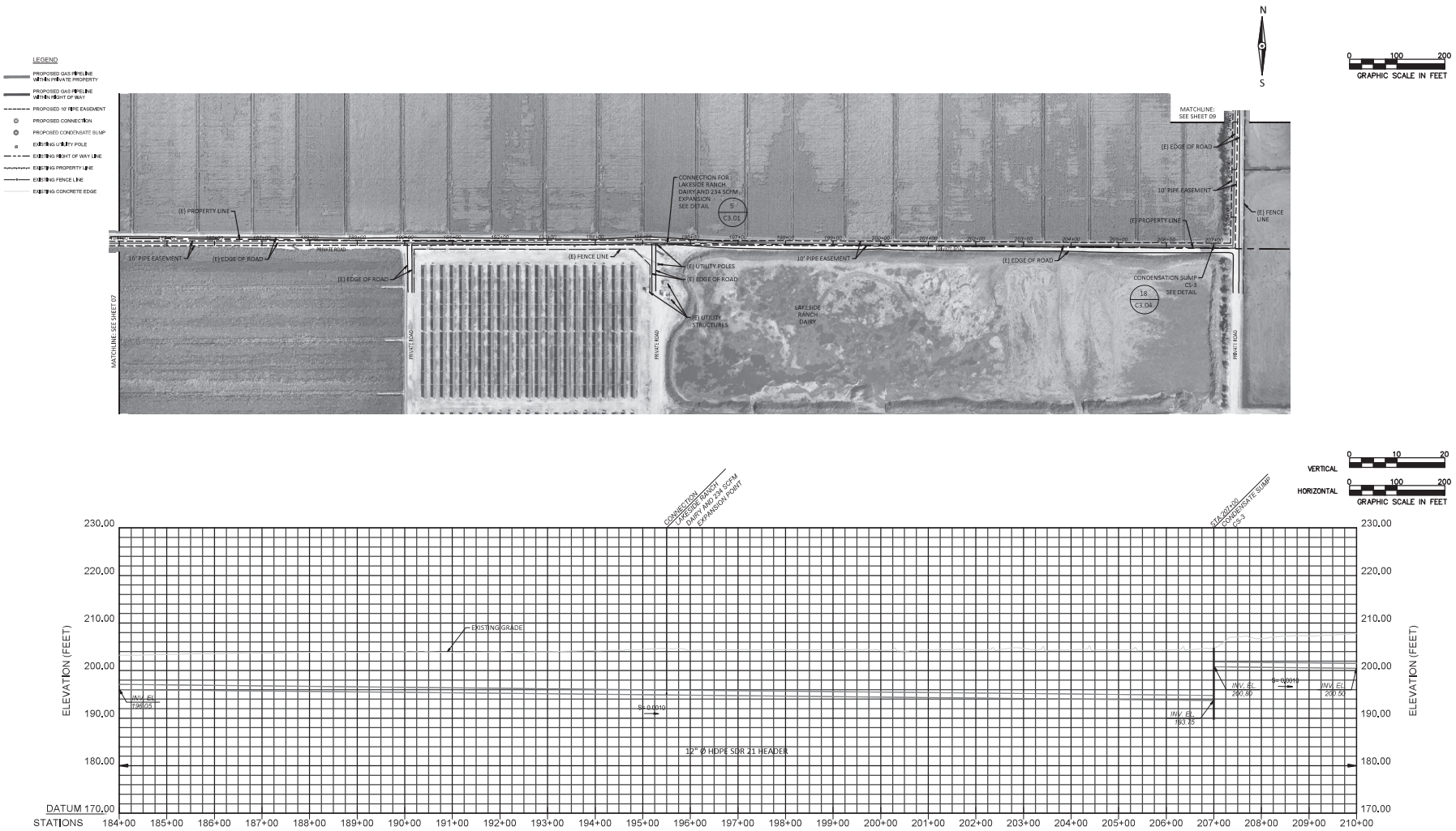

PROFILE – STA. 184+00 TO 210+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 184+00 TO 210+00

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.08

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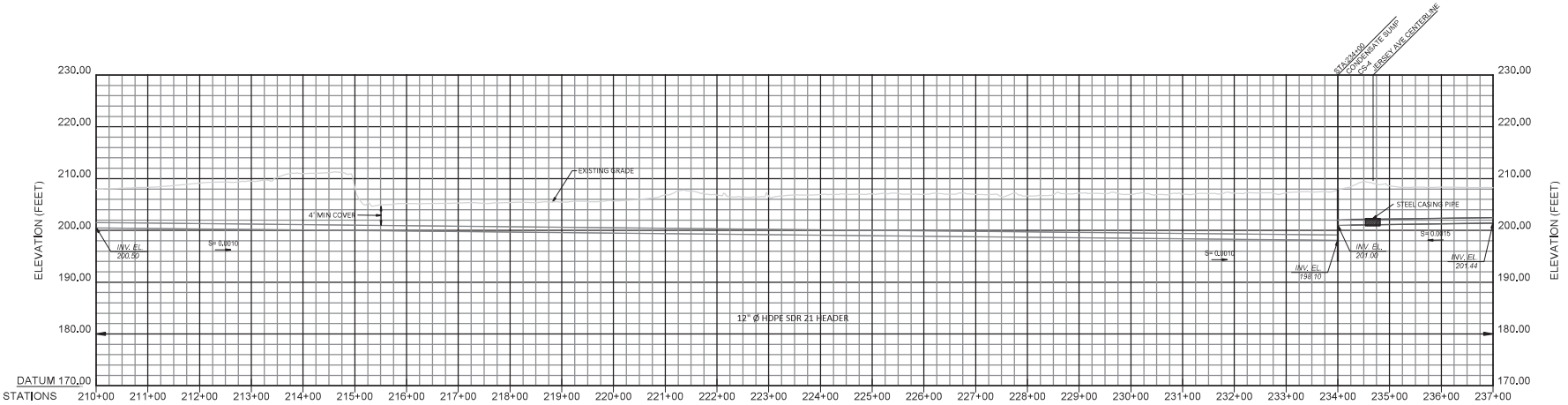

PROFILE – STA. 210+00 TO 237+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2	12/23/20	ADDITIONAL SURVEY DATA AND CALL OUTS	SG	SK	SK
3	05/13/21	REVISED ALIGNMENT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 210+00 TO 237+00

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C2.09

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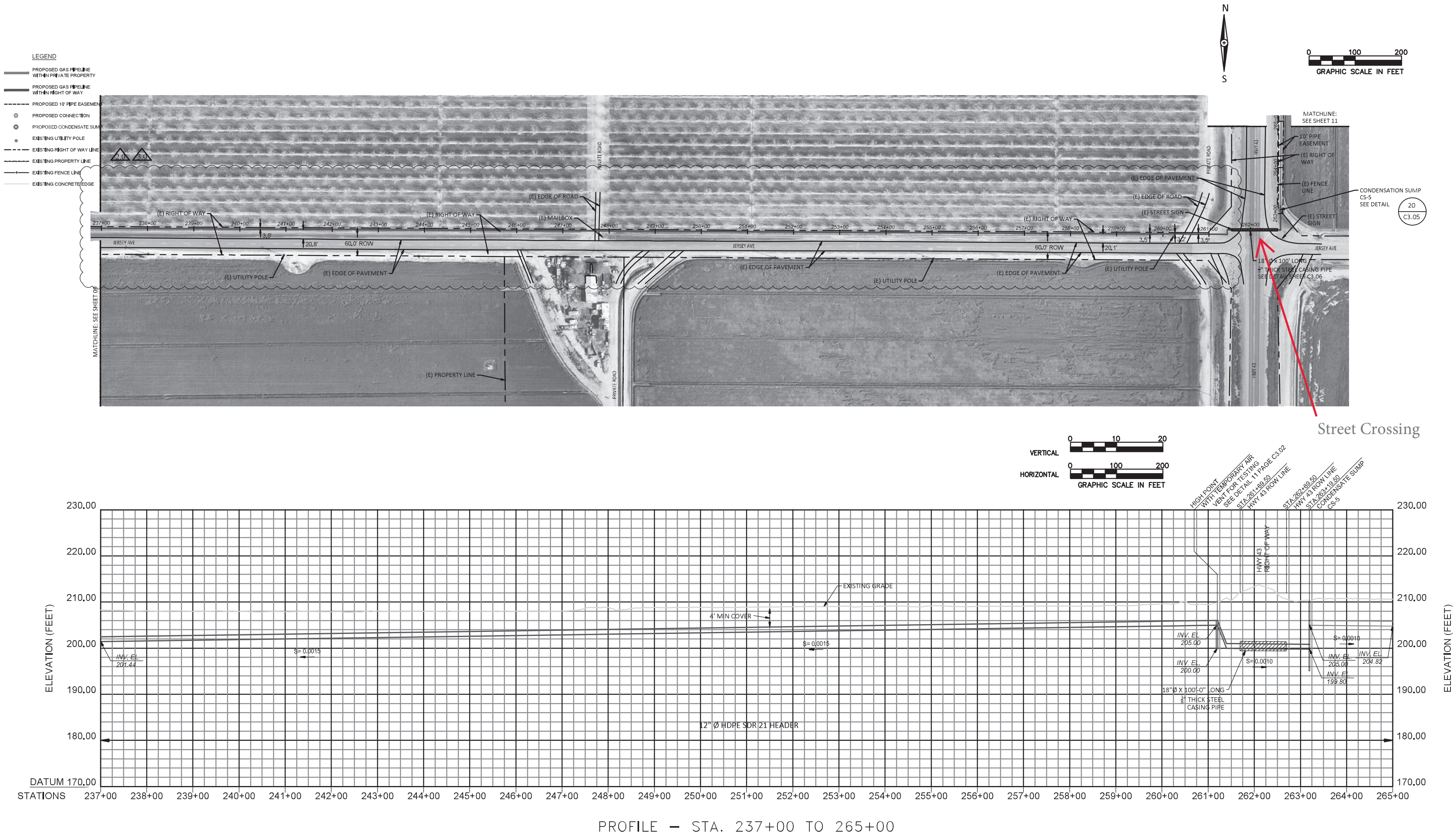

PROFILE – STA. 237+00 TO 265+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	12/23/20	ADDITIONAL SURVEY DATA AND CALL OUTS	SG	SK	SK
3.0	05/13/21	REVISED ALIGNMENT	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45850 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 237+00 TO 265+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.10

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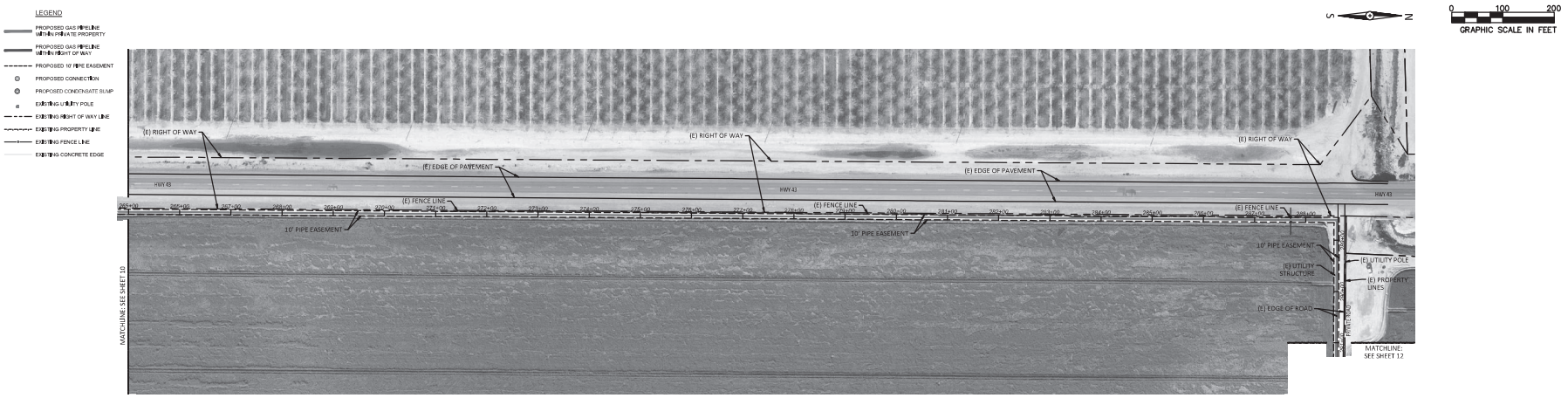

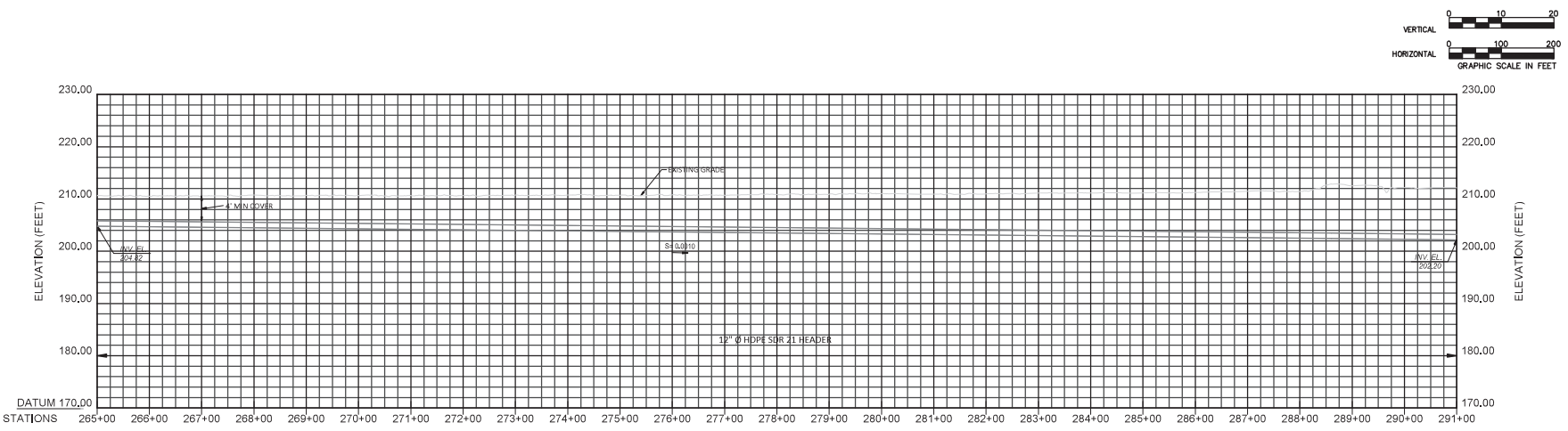

PROFILE – STA. 265+00 TO 291+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 265+00 TO 291+00

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.11

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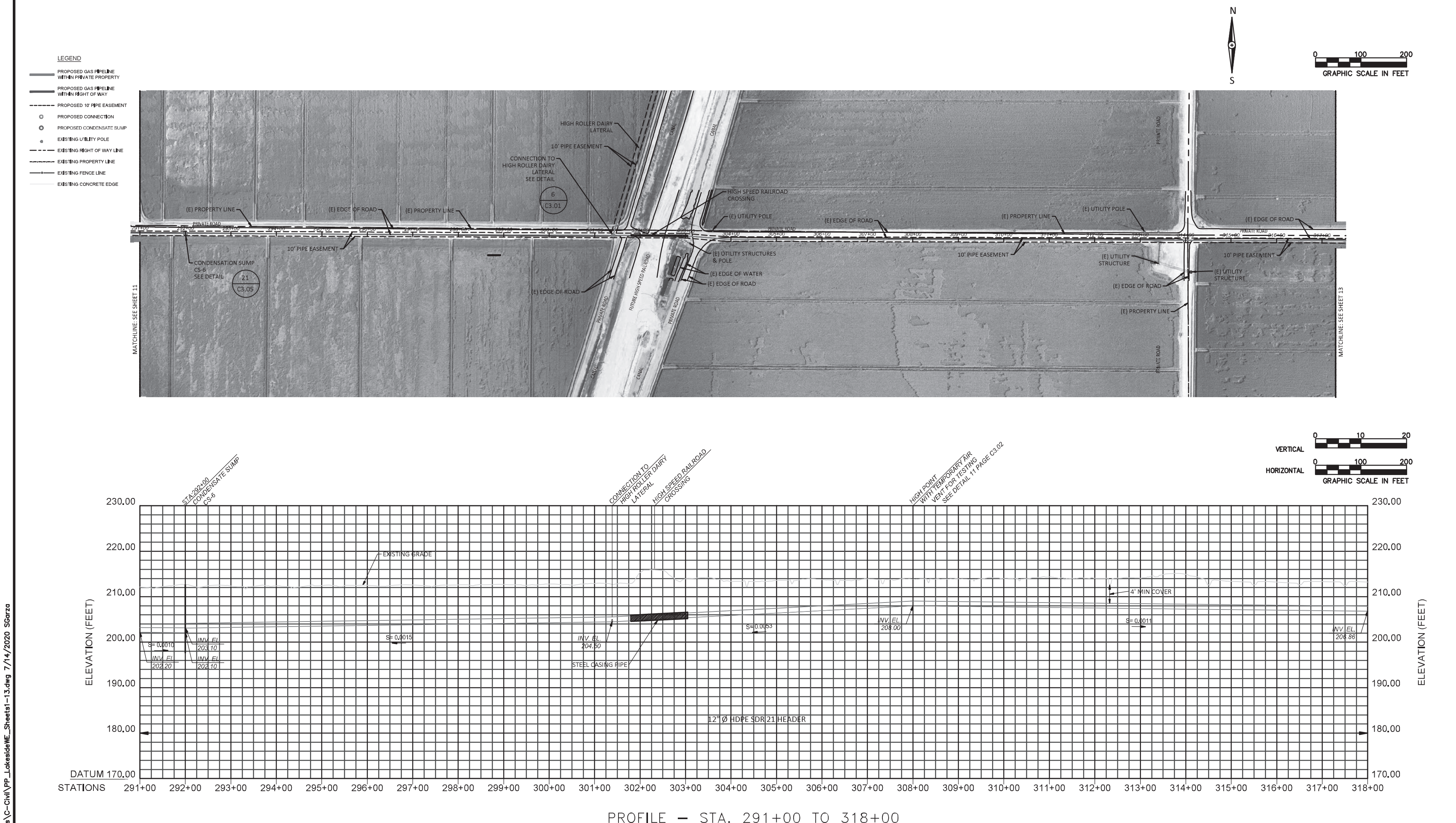

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45897 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 284+00 TO 311+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN 15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.12

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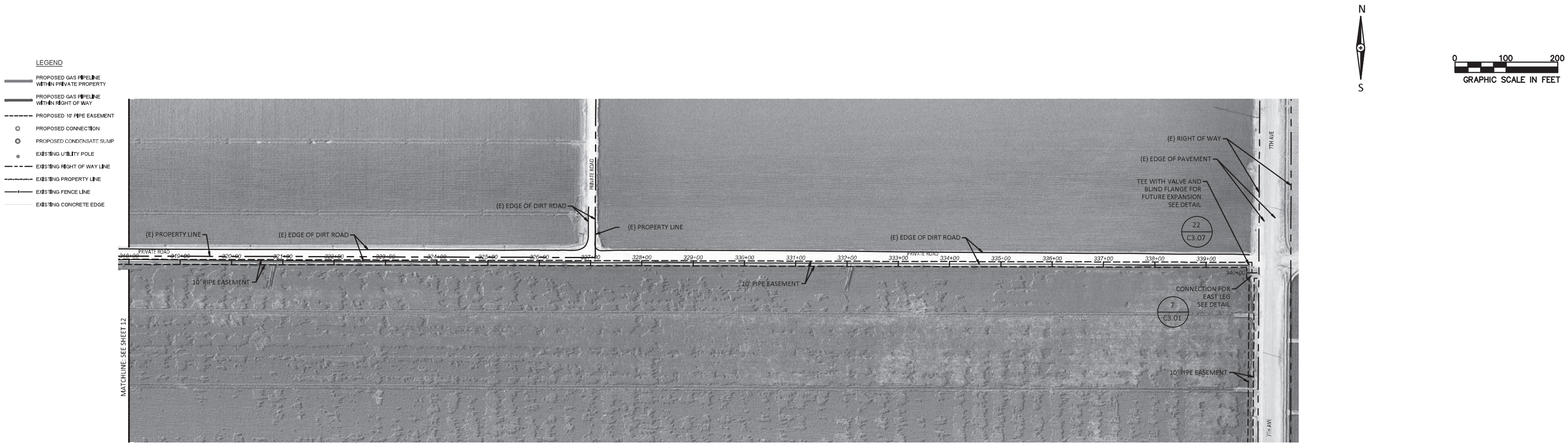
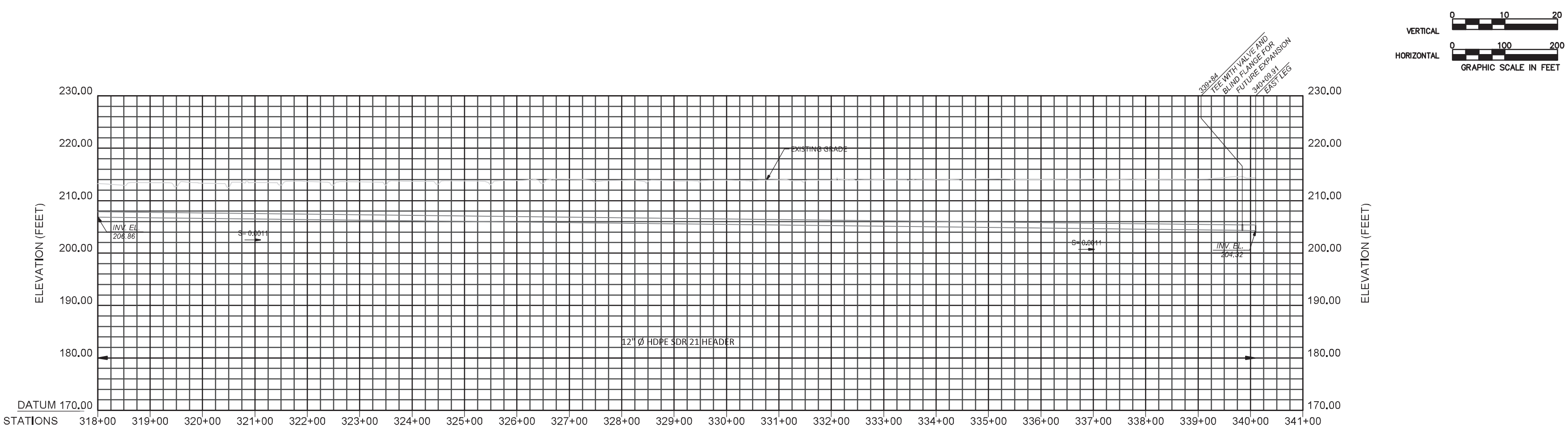




PROFILE — STA. 318+00 TO 341+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE ____________

LANDOWNER NAME: ____________

DATE: ____________

OWNER:

MAAS ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45895 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER:

BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

STA. 318+00 TO 340+09.91

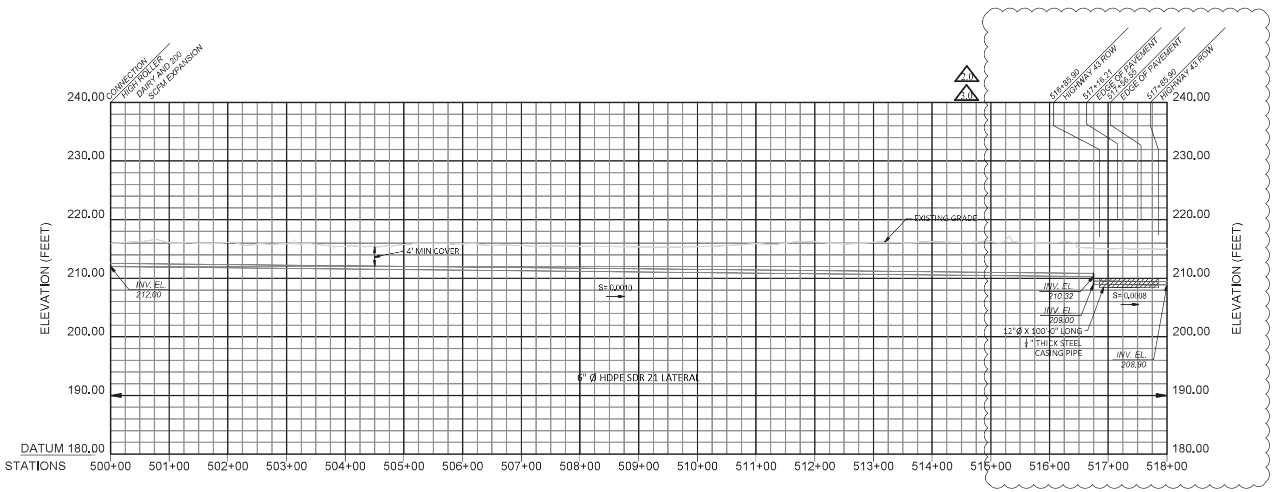
LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.13

P:\102\01\03\Design\D-Drawings\C-Civil\PP_LakesideWE_Sheets1-13.dwg 7/14/2020 SGarza

LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING UTILITY POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



PROFILE – STA. 500+00 TO 518+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	02/23/21	REVISED ALIGNMENT LOCATION	SG	SK	SK
3.0	03/16/21	LOWERED LATERAL ELEVATION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE ____________

LANDOWNER NAME: ____________

DATE: ____________

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45892 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

HIGH ROLLER DAIRY LATERAL
STA. 500+00 TO 518+00

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.14

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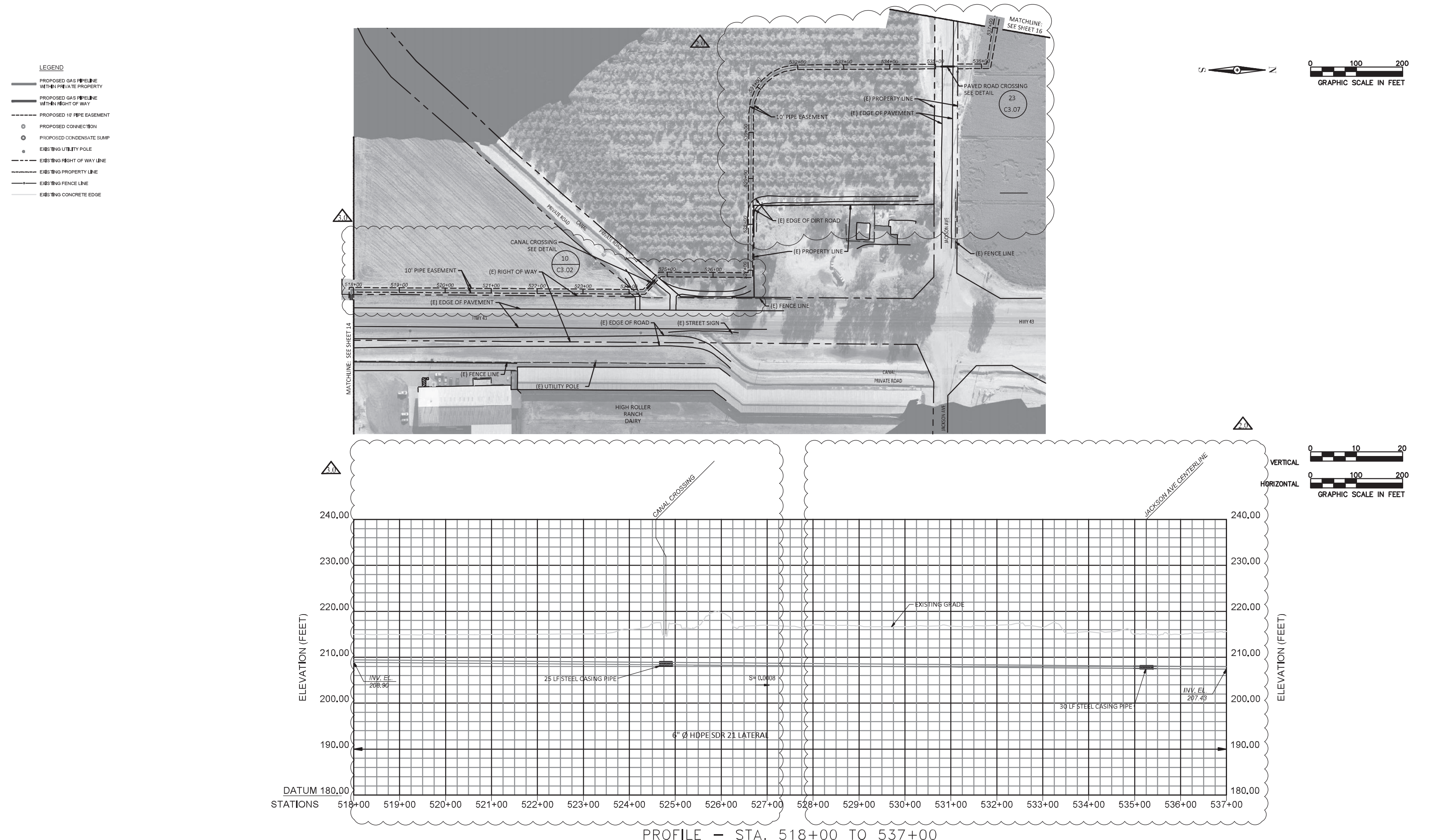

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	12/04/20	REVISED ALIGNMENT LOCATION	SG	SK	SK
3.0	02/23/21	REVISED ALIGNMENT LOCATION	SG	SK	SK
4.0	03/16/21	LOWERED LATERAL ELEVATION	SG	SK	SK

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LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:

MAAS ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45891 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER:

BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

HIGH ROLLER DAIRY LATERAL
STA. 518+00 TO 537+00

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO.
C2.15

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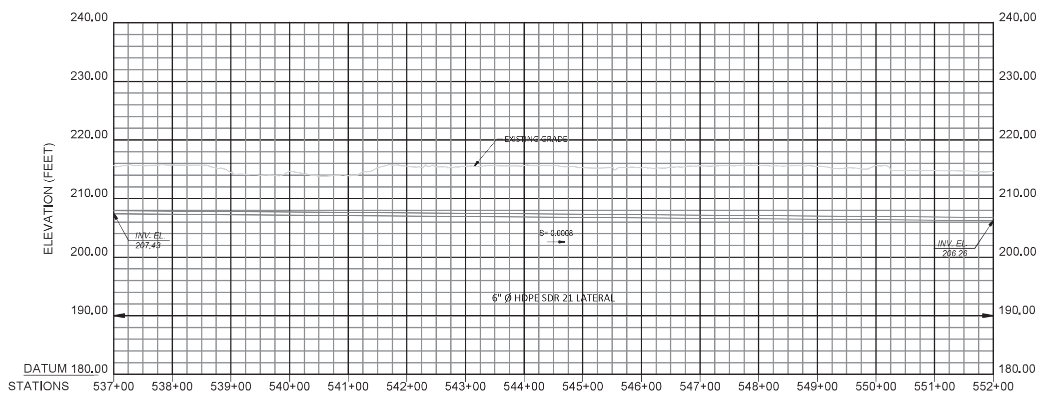
LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING UTILITY POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE

GRAPHIC SCALE IN FEET (0, 100, 200)

VERTICAL (0, 10, 20)
HORIZONTAL (0, 100, 200)
GRAPHIC SCALE IN FEET



PROFILE – STA. 537+00 TO 552+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	03/16/21	LOWERED LATERAL ELEVATION	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45881 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

HIGH ROLLER DAIRY LATERAL
STA. 537+00 TO 552+00

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C2.16

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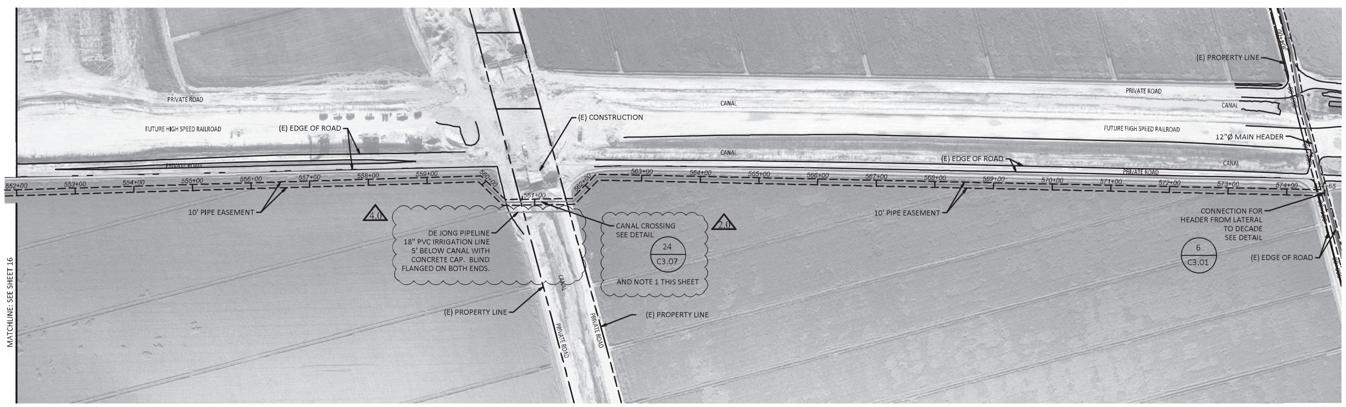
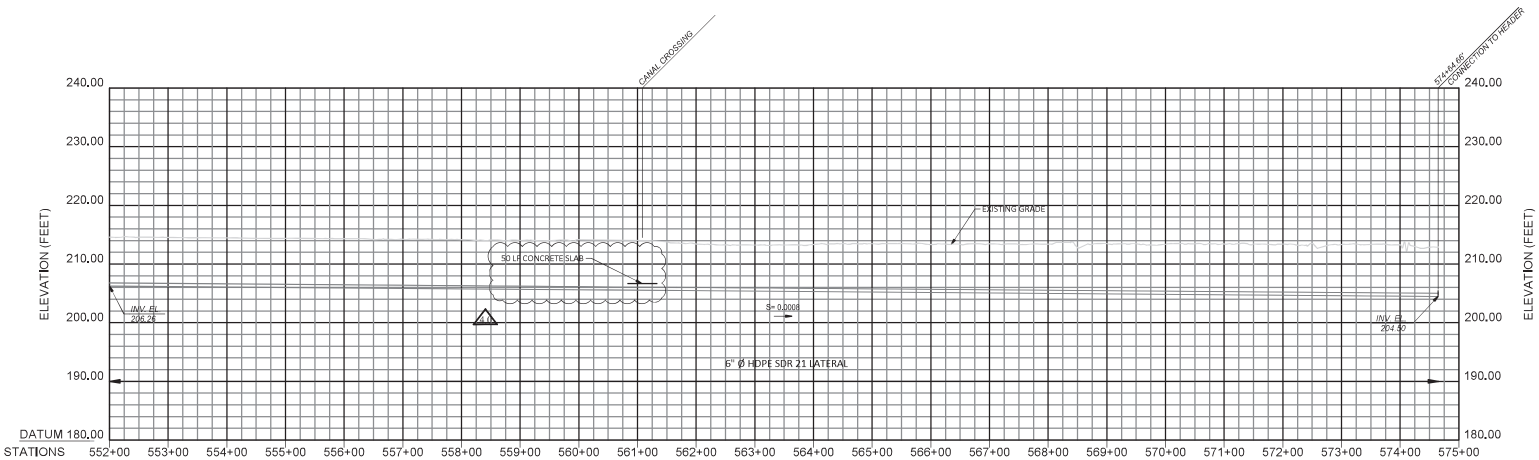
LEGEND

- PROPOSED GAS PIPELINE WITHIN PRIVATE PROPERTY
- PROPOSED GAS PIPELINE WITHIN RIGHT OF WAY
- PROPOSED 10' PIPE EASEMENT
- PROPOSED CONNECTION
- PROPOSED CONDENSATE SUMP
- EXISTING UTILITY POLE
- EXISTING RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING FENCE LINE
- EXISTING CONCRETE EDGE



NOTE 1

IF THE BIOGAS OR DE JONG PIPELINE CROSSES AN EARTHEN SECTION OF THE CANAL, A PROTECTIVE REINFORCED CONCRETE SLAB SHALL BE PLACED ABOVE AND CENTERED AROUND THE PIPE. SLAB SHOULD BE MINIMUM 6 INCHES IN THICKNESS, WITH NO. 4 REBAR AT 12 INCH CENTERS, BOTH WAYS. SLAB SHALL BE MINIMUM 4 FEET WIDE AND 50-60 FEET LONG. TOP OF SLAB SHALL BE MINIMUM 6 INCHES BELOW EXISTING CHANNEL BOTTOM (IN THIS CASE 6 INCHES BELOW THE CULVERT FLOOR). THE TOP OF LINES SHALL BE MINIMUM 5 FEET BELOW THE CONCRETE SLAB.



PROFILE – STA. 552+00 TO 575+00

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	07/16/20	NOTE 1 ADDED	SG	SK	SK
3.0	03/16/21	LOWERED LATERAL ELEVATION	SG	SK	SK
4.0	06/16/21	ADDED DE JONG PIPELINE AND CONCRETE SLAB	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45868 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

HIGH ROLLER DAIRY LATERAL
STA. 552+00 TO 574+65

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C2.17

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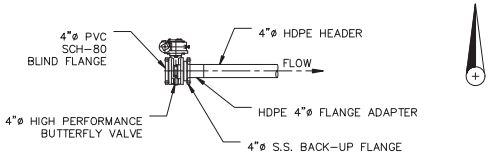
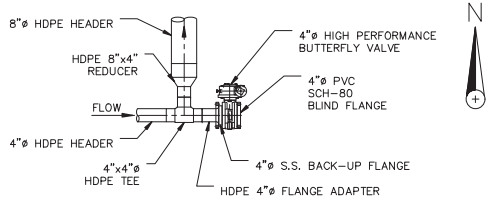
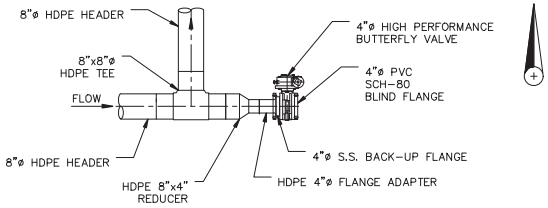


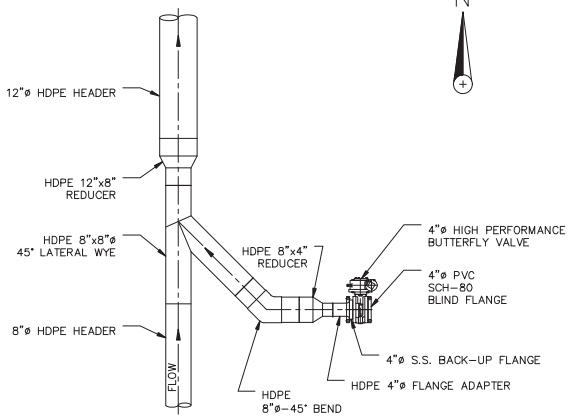
DETAIL - DOUBLE CATTLE L CONNECTION (1, C3.01)
SCALE – N.T.S.



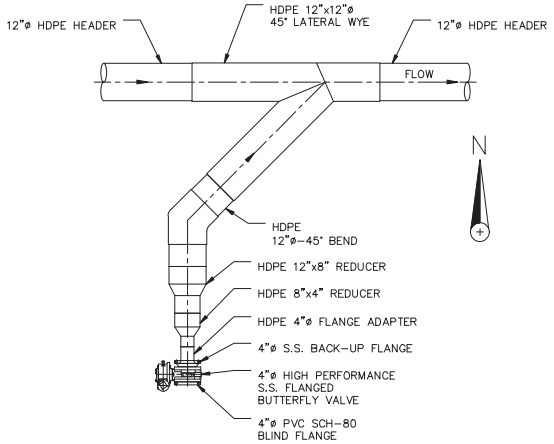
DETAIL - 550 SCFM EXPANSION CONNECTION (2, C3.01)
SCALE – N.T.S.



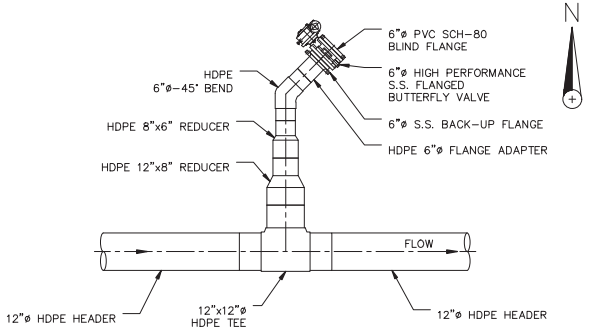
DETAIL - FUTURE EXPANSION CONNECTION (3, C3.01)
SCALE – N.T.S.



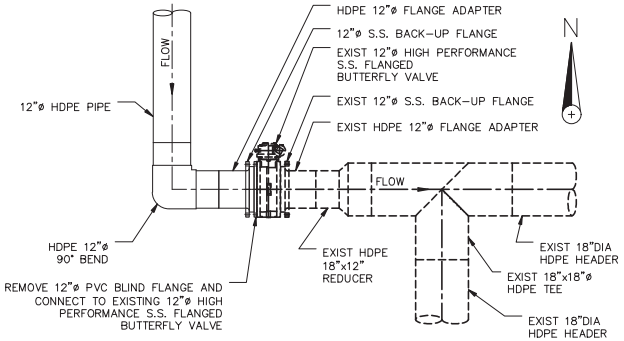
DETAIL - VALADAO DAIRY CONNECTION (4, C3.01)
SCALE – N.T.S.



DETAIL - LAKESIDE DAIRY CONNECTION (5, C3.01)
SCALE – N.T.S.



DETAIL - HIGH ROLLER DAIRY LATERAL CONNECTION (6, C3.01)
SCALE – N.T.S.



DETAIL - WEST LEG CONNECTION TO EAST LEG (7, C3.01)
SCALE – N.T.S.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	AK	TP	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MISCELLANEOUS DETAILS

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C3.01

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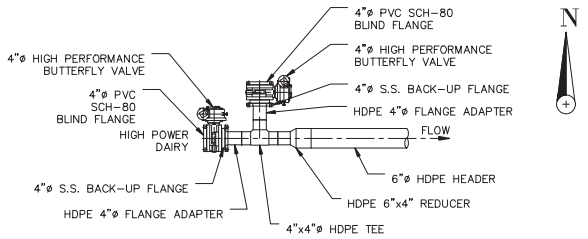
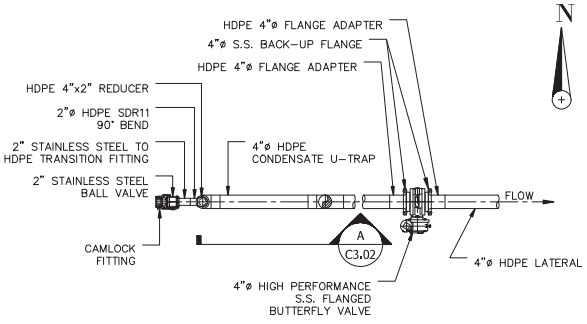


DETAIL - HIGH ROLLER DAIRY AND 200 SCFM EXPANSION CONNECTION (8 / C3.02)

SCALE – N.T.S.

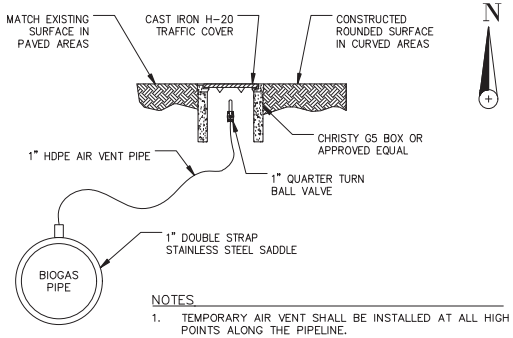


NOTE

THIS DETAIL APPLIES TO DOUBLE L CATTLE, VALADAO, LAKESIDE AND HIGH ROLLER DAIRIES

DETAIL - BIOGAS BLOWER SKID/CONDENSATE TRAP CONNECTION AT DAIRY (9 / C3.02)

SCALE – N.T.S.

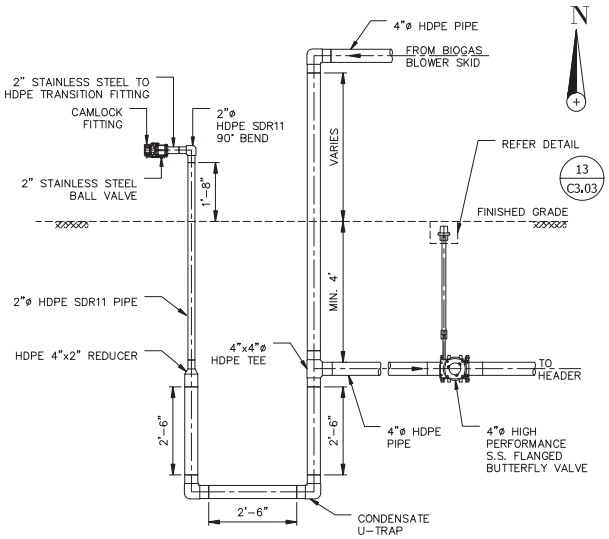


NOTES

1. TEMPORARY AIR VENT SHALL BE INSTALLED AT ALL HIGH POINTS ALONG THE PIPELINE.
2. AFTER TESTING OF BIOGAS PIPING IS COMPLETE, CONTRACTOR SHALL REMOVE AIR VENT PIPE, BALL VALVE AND BOX. SADDLE TO BE PLUGGED WITH 1"SS THREADED PLUG
3. LOCATE BOX AS DIRECTED BY OWNER.

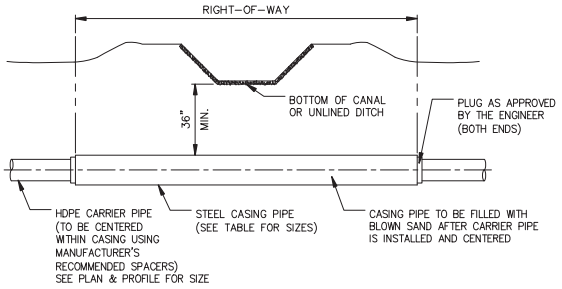
TEMPORARY AIR VENT FOR TESTING (11 / C3.02)

SCALE – N.T.S.



SECTION (CONDENSATE U-TRAP) (A / C3.02)

SCALE – N.T.S.



NOTES

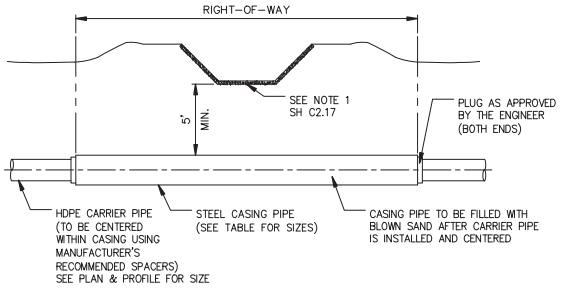
1. BACKFILL FOR PIPELINE SHALL BE BACKFILLED IN MAXIMUM OF 8-INCH LIFTS AND COMPACTED TO 90% RELATIVE COMPACTION (ASTM D-1557).

TABLE 1

CARRIER PIPE DIAMETER	STEEL SLEEVE PIPE DIAMETER
4"	8"
6"	12"
8"	12"
12"	18"

DETAIL - CANAL CROSSING (10 / C3.02)

SCALE – N.T.S.



NOTES

1. BACKFILL FOR PIPELINE SHALL BE BACKFILLED IN MAXIMUM OF 8-INCH LIFTS AND COMPACTED TO 90% RELATIVE COMPACTION (ASTM D-1557).

TABLE 1

CARRIER PIPE DIAMETER	STEEL SLEEVE PIPE DIAMETER
4"	8"
6"	12"
8"	12"
12"	18"

DETAIL - JG BOSWELL CANAL CROSSING (12 / C3.02)

SCALE – N.T.S.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	AK	TP	SK
2	01/27/21	ADDED DETAIL	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MISCELLANEOUS DETAILS

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C3.02

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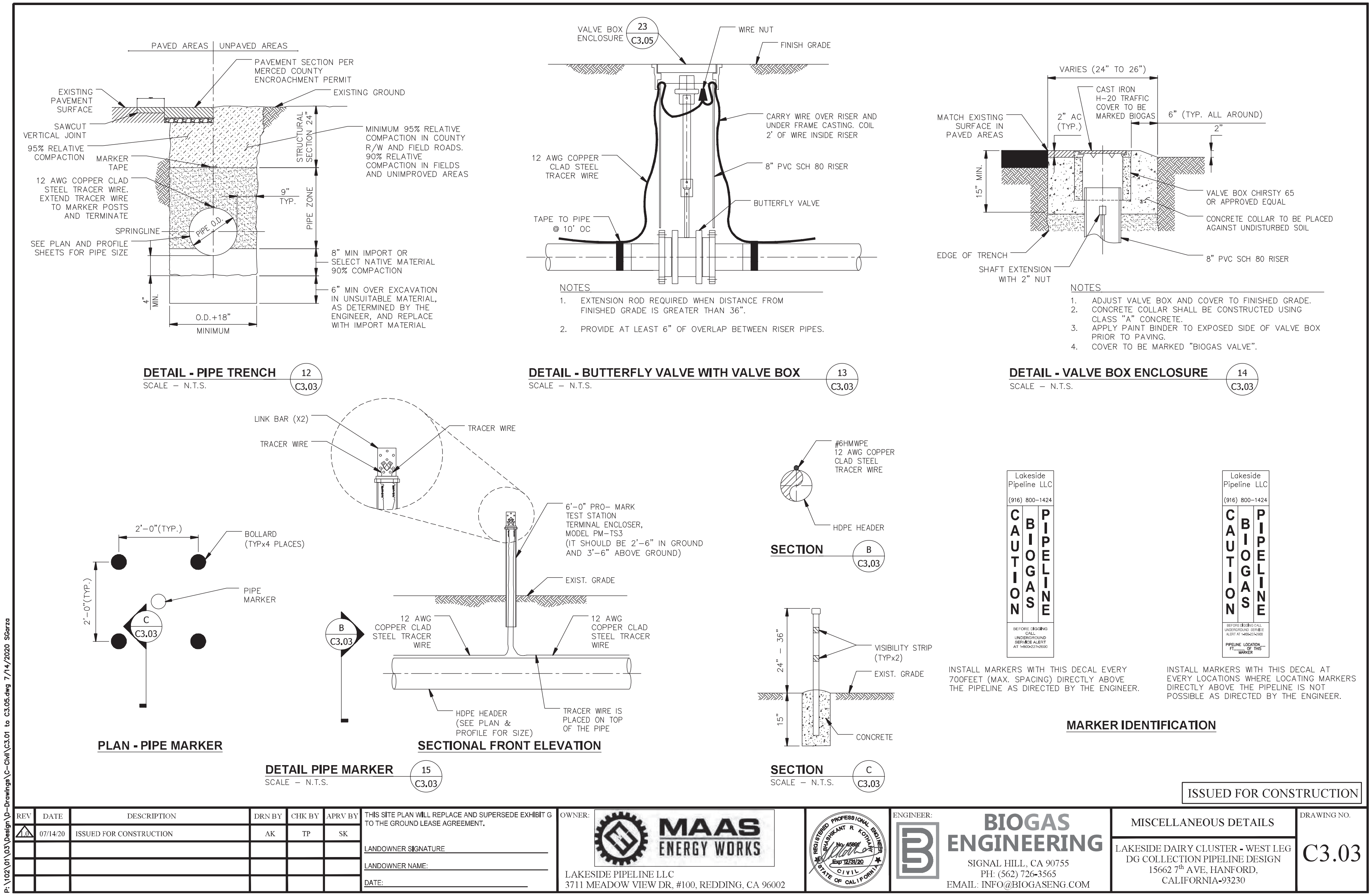
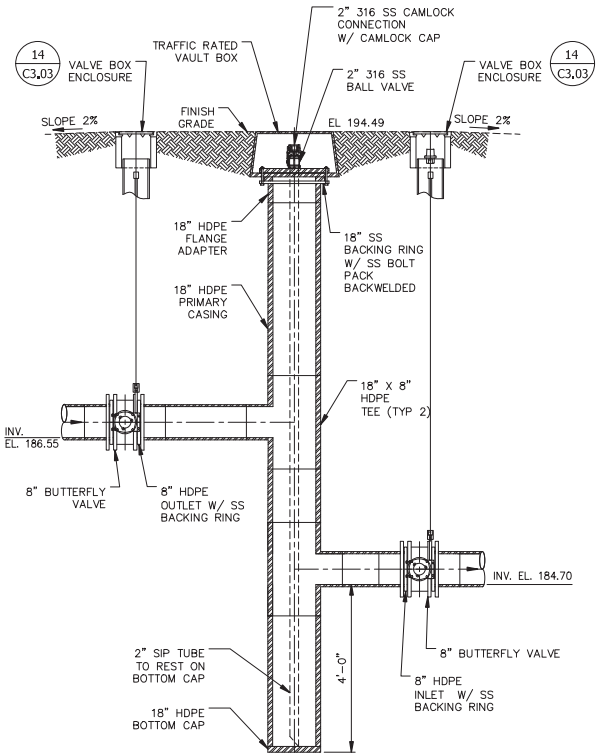
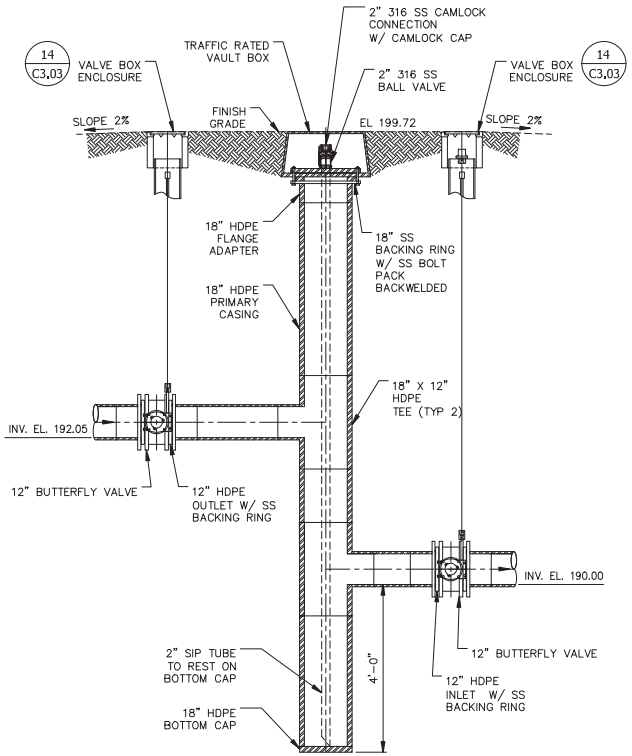
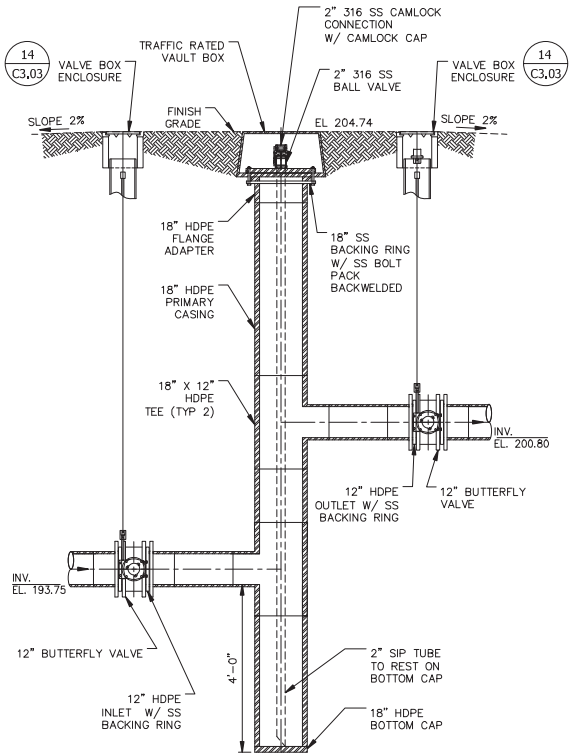

PAVED AREAS | UNPAVED AREAS
PAVEMENT SECTION PER MERCED COUNTY ENCROACHMENT PERMIT
EXISTING GROUND
EXISTING PAVEMENT SURFACE
SAWCUT VERTICAL JOINT
95% RELATIVE COMPACTION
MARKER TAPE
12 AWG COPPER CLAD STEEL TRACER WIRE. EXTEND TRACER WIRE TO MARKER POSTS AND TERMINATE
SPRINGLINE
SEE PLAN AND PROFILE SHEETS FOR PIPE SIZE
PIPE O.D.
STRUCTURAL SECTION 24"
PIPE ZONE
9" TYP.
4" MIN.
O.D.+18" MINIMUM
MINIMUM 95% RELATIVE COMPACTION IN COUNTY R/W AND FIELD ROADS. 90% RELATIVE COMPACTION IN FIELDS AND UNIMPROVED AREAS
8" MIN IMPORT OR SELECT NATIVE MATERIAL 90% COMPACTION
6" MIN OVER EXCAVATION IN UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, AND REPLACE WITH IMPORT MATERIAL
DETAIL - PIPE TRENCH 12 C3.03
SCALE – N.T.S.
VALVE BOX ENCLOSURE 23 C3.05
WIRE NUT
FINISH GRADE
CARRY WIRE OVER RISER AND UNDER FRAME CASTING. COIL 2' OF WIRE INSIDE RISER
12 AWG COPPER CLAD STEEL TRACER WIRE
8" PVC SCH 80 RISER
BUTTERFLY VALVE
TAPE TO PIPE @ 10' OC
NOTES
1. EXTENSION ROD REQUIRED WHEN DISTANCE FROM FINISHED GRADE IS GREATER THAN 36".
2. PROVIDE AT LEAST 6" OF OVERLAP BETWEEN RISER PIPES.
DETAIL - BUTTERFLY VALVE WITH VALVE BOX 13 C3.03
SCALE – N.T.S.
VARIES (24" TO 26")
CAST IRON H-20 TRAFFIC COVER TO BE MARKED BIOGAS
6" (TYP. ALL AROUND)
2"
MATCH EXISTING SURFACE IN PAVED AREAS
2" AC (TYP.)
15" MIN.
VALVE BOX CHIRSTY 65 OR APPROVED EQUAL
CONCRETE COLLAR TO BE PLACED AGAINST UNDISTURBED SOIL
EDGE OF TRENCH
SHAFT EXTENSION WITH 2" NUT
8" PVC SCH 80 RISER
NOTES
1. ADJUST VALVE BOX AND COVER TO FINISHED GRADE.
2. CONCRETE COLLAR SHALL BE CONSTRUCTED USING CLASS "A" CONCRETE.
3. APPLY PAINT BINDER TO EXPOSED SIDE OF VALVE BOX PRIOR TO PAVING.
4. COVER TO BE MARKED "BIOGAS VALVE".
DETAIL - VALVE BOX ENCLOSURE 14 C3.03
SCALE – N.T.S.
LINK BAR (X2)
TRACER WIRE
TRACER WIRE
6'-0" PRO- MARK TEST STATION TERMINAL ENCLOSER, MODEL PM-TS3 (IT SHOULD BE 2'-6" IN GROUND AND 3'-6" ABOVE GROUND)
EXIST. GRADE
12 AWG COPPER CLAD STEEL TRACER WIRE
12 AWG COPPER CLAD STEEL TRACER WIRE
HDPE HEADER (SEE PLAN & PROFILE FOR SIZE)
TRACER WIRE IS PLACED ON TOP OF THE PIPE
SECTIONAL FRONT ELEVATION
2'-0"(TYP.)
2'-0"(TYP.)
BOLLARD (TYPx4 PLACES)
PIPE MARKER
C C3.03
B C3.03
PLAN - PIPE MARKER
DETAIL PIPE MARKER 15 C3.03
SCALE – N.T.S.
#6HMWPE 12 AWG COPPER CLAD STEEL TRACER WIRE
HDPE HEADER
SECTION B C3.03
24" – 36"
15"
VISIBILITY STRIP (TYPx2)
EXIST. GRADE
CONCRETE
SECTION C C3.03
SCALE – N.T.S.
Lakeside Pipeline LLC
(916) 800-1424
CAUTION BIOGAS PIPELINE
INSTALL MARKERS WITH THIS DECAL EVERY 700FEET (MAX. SPACING) DIRECTLY ABOVE THE PIPELINE AS DIRECTED BY THE ENGINEER.
Lakeside Pipeline LLC
(916) 800-1424
CAUTION BIOGAS PIPELINE
INSTALL MARKERS WITH THIS DECAL AT EVERY LOCATIONS WHERE LOCATING MARKERS DIRECTLY ABOVE THE PIPELINE IS NOT POSSIBLE AS DIRECTED BY THE ENGINEER.
MARKER IDENTIFICATION
ISSUED FOR CONSTRUCTION
REV | DATE | DESCRIPTION | DRN BY | CHK BY | APRV BY
1 | 07/14/20 | ISSUED FOR CONSTRUCTION | AK | TP | SK
THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.
LANDOWNER SIGNATURE
LANDOWNER NAME:
DATE:
OWNER:
MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002
ENGINEER:
BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM
MISCELLANEOUS DETAILS
LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230
DRAWING NO.
C3.03
P:\102\01\03\Design\D-Drawings\C-Civil\C3.01 to C3.05.dwg 7/14/2020 SGarza



DETAIL - CONDENSATE SUMP - CS-1 16 C3.04
SCALE – N.T.S.



DETAIL - CONDENSATE SUMP - CS-2 17 C3.04
SCALE – N.T.S.



DETAIL - CONDENSATE SUMP - CS-3 18 C3.04
SCALE – N.T.S.

THE CONTRACTOR SHALL GET A WRITTEN APPROVAL ON INLET AND OUTLET INVERT ELEVATIONS OF SUMP AND FINISH GRADE ELEVATION FROM THE ENGINEER PRIOR TO MANUFACTURING OF THE CONDENSATE SUMPS.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	AK	TP	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MISCELLANEOUS DETAILS

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C3.04

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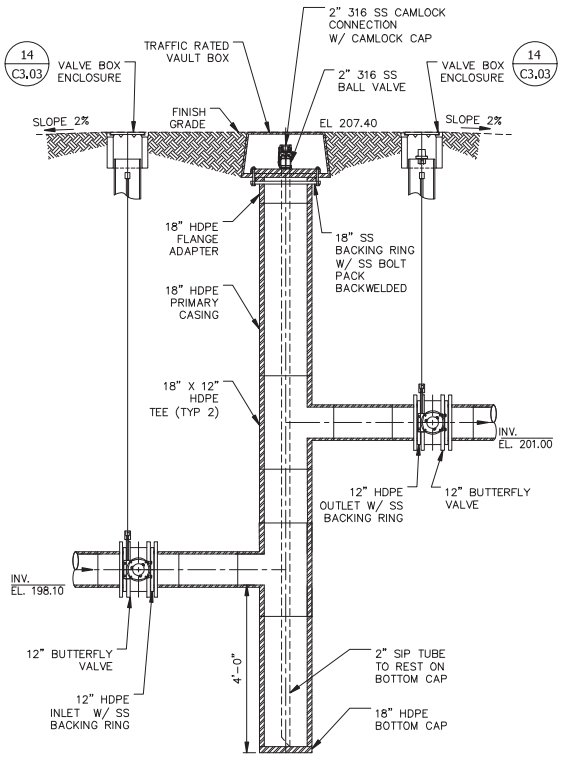
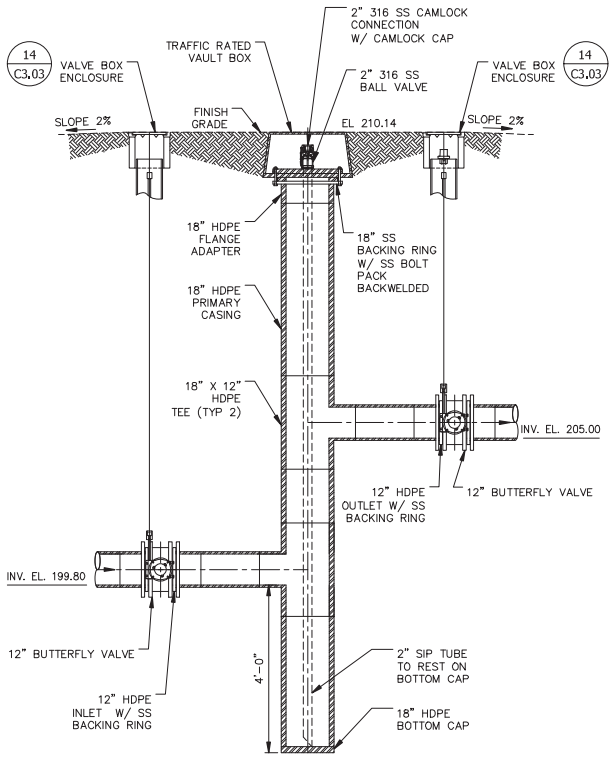


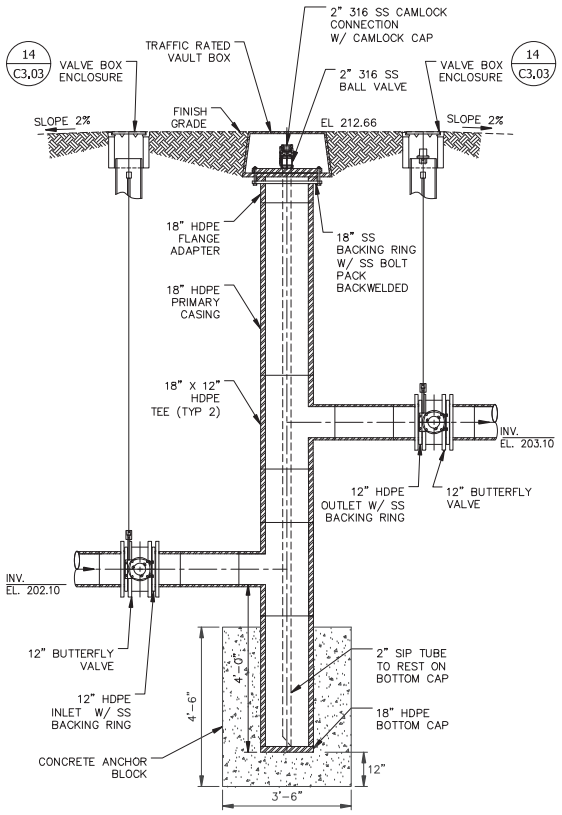
DETAIL - CONDENSATE SUMP - CS-4 19 C3,05

SCALE – N.T.S.



DETAIL - CONDENSATE SUMP - CS-5 20 C3,05

SCALE – N.T.S.



DETAIL - CONDENSATE SUMP - CS-6 21 C3,05

SCALE – N.T.S.

NOTES

CONTRACTOR SHALL POTHOLE ALL CONDENSATE SUMP LOCATIONS IN ADVANCE AND VERIFY THE LEVEL OF GROUNDWATER AT EACH LOCATION DURING WET AND DRY SEASON. IF THE GROUNDWATER LEVEL (WET OR DRY) IS ABOVE THE BOTTOM OF THE SUMP, THE CONTRACTOR SHALL INSTALL A CONCRETE ANCHOR BLOCK. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 2,500 PSI. THIS ANCHOR BLOCK DETAIL APPLIES TO ALL THE CONDENSATE WHERE GROUNDWATER IS ENCOUNTERED.

THE CONTRACTOR SHALL GET A WRITTEN APPROVAL ON INLET AND OUTLET INVERT ELEVATIONS OF SUMP AND FINISH GRADE ELEVATION FROM THE ENGINEER PRIOR TO MANUFACTURING OF THE CONDENSATE SUMPS.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	AK	TP	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

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DATE:

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LAKESIDE PIPELINE LLC
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ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

MISCELLANEOUS DETAILS

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C3.05

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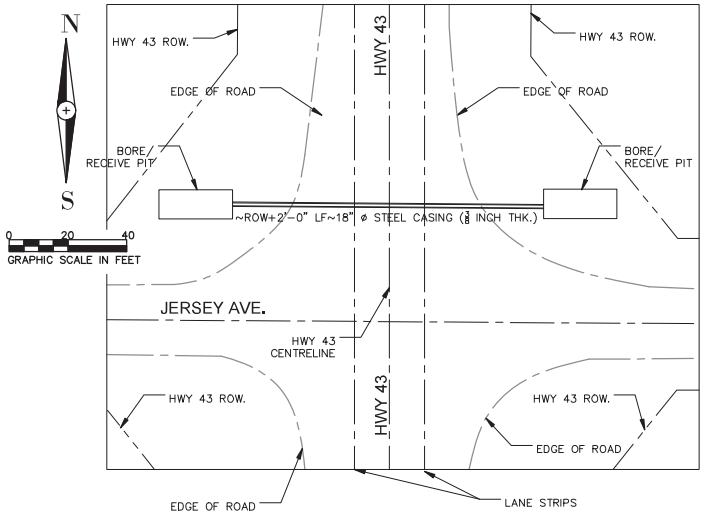
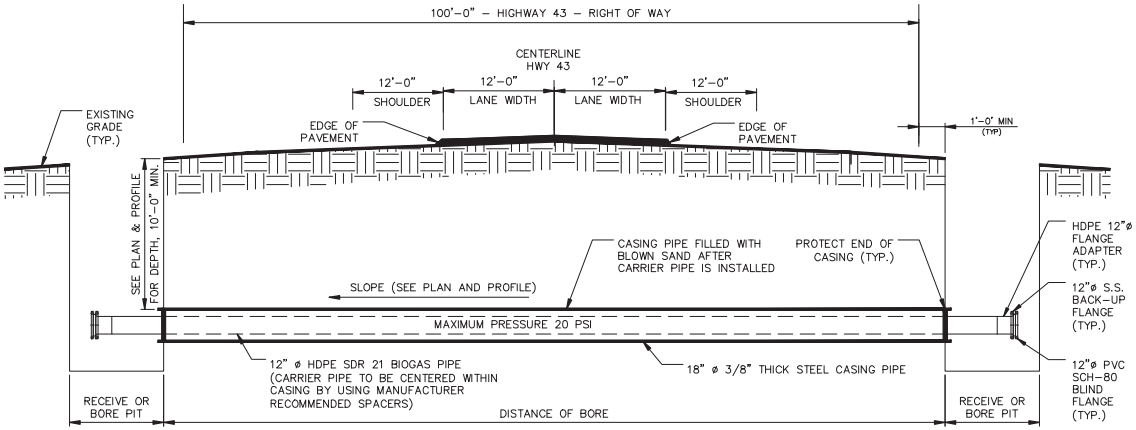
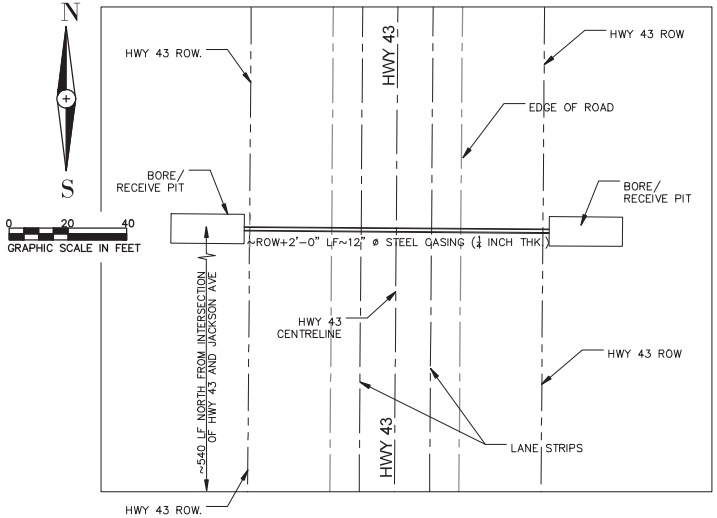


PLAN - 12" DIAMETER HDPE CARRIER PIPE CROSSING HIGHWAY 43

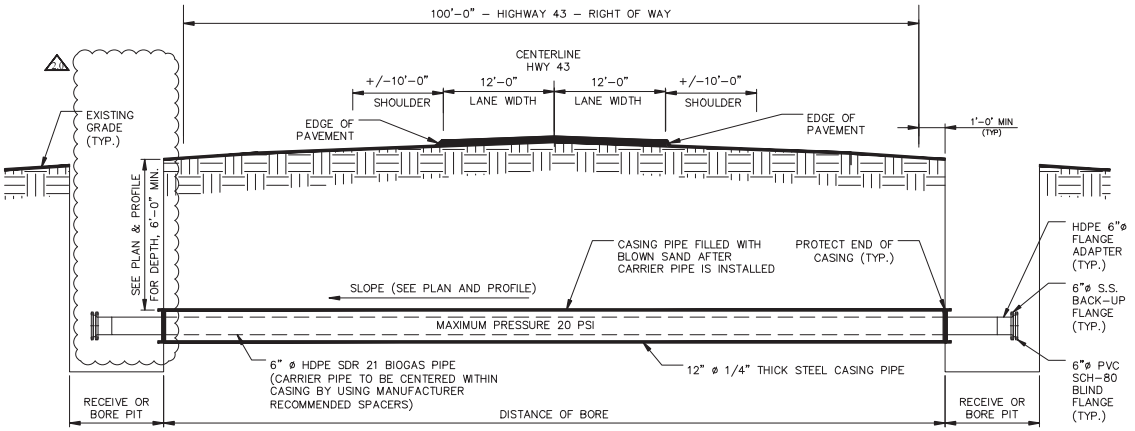


SECTION - 12" DIAMETER HDPE CARRIER PIPE CROSSING HIGHWAY 43

NOT TO SCALE



PLAN - 6" DIAMETER HDPE CARRIER PIPE CROSSING HIGHWAY 43



SECTION - 6" DIAMETER HDPE CARRIER PIPE CROSSING HIGHWAY 43

NOT TO SCALE

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	AK	TP	SK
2	03/16/21	REVISED DETAIL	SG	TP	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

HIGHWAY 43 CROSSING

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C3.06

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GENERAL NOTES:

1) CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT 2 DAYS PRIOR TO STARTING THE CONSTRUCTION.

2) ALL EXISTING UNDERGROUND UTILITIES SHALL BE PROPERLY SECURED, SUPPORTED AND PROTECTED IN PLACE.

3) CASING PIPE INSTALLATION BY BORE AND JACK METHOD SHALL BE MONITORED TO ENSURE THE INTEGRITY OF THE EXISTING ROADWAY ELEVATIONS ARE MAINTAINED.

4) CONTRACTOR TO FOLLOW ALL APPLICABLE LOCAL, STATE AND CALTRANS STANDARDS FOR THE PROJECT.

5) EXCAVATIONS MADE WITHIN THE LIMITS OF HIGHWAY 43 RIGHT OF WAY SHALL BE BACKFILLED AND RESURFACED TO ORIGINAL CONDITION BEFORE LEAVING THE WORK AREA UNLESS OTHERWISE AUTHORIZED BY THE DEPARTMENT'S REPRESENTATIVE.

6) CONTRACTOR TO REPLACE ALL DAMAGED STRIPING WITHIN HIGHWAY 43 RIGHT OF WAY TO MATCH THE EXISTING STRIPING PER CALTRANS STANDARD PLANS AND SPECIFICATIONS.

BORE AND RECEIVING PITS NOTES:

A. MUST BE LOCATED AS FAR FROM TRAVELED WAY AS FEASIBLE. AT MINIMUM, MUST BE LOCATED 10'–0" FROM THE EDGE OF PAVEMENT.

B. MUST BE LOCATED OUTSIDE OF ACCESS–CONTROLLED RIGHT–OF –WAY. AT A MINIMUM, MUST BE LOCATED 1'–0" FROM THE LINE OF RIGHT–OF–WAY. ANY DEVIATIONS FOR DIRECT CROSSINGS THAT ARE EXCESSIVELY LONG, OR THERE IS A RESTRICTED SPACE AVAILABLE FOR PLACEMENT, OUTSIDE OF THE RIGHT–OF–WAY REQUIRE AN APPROVED ENCROACHMENT POLICY EXCEPTION. THOSE PORTIONS OF THE INSTALLATION NOT PLACED BY BORE & JACK MUST BE ENCASED BY THE OPEN TRENCH METHOD.

C. MUST BE PROTECTED BY PLACEMENT OF 6–FOOT CHAIN LINK FENCE OR TYPE–K BARRIER AROUND THEM.

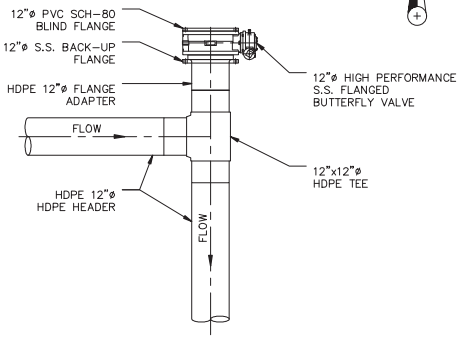
D. MUST BE SHORED IN ACCORDANCE TO CAL–OSHA REQUIREMENTS. SHORING OF PITS LOCATED WITHIN 15 FEET OF LANES WITHIN STATE HIGHWAY RIGHT–OF–WAY MUST NOT EXCEED MORE THE 36 INCHES IN HEIGHT ABOVE THE PAVEMENT GRADE, UNLESS AUTHORIZED BY CALTRANS' REPRESENTATIVE.

E. REFLECTORS MUST BE AFFIXED TO THE SHORING ON ALL SIDES FACING TRAFFIC.

F. PITS MUST NOT AFFECT ANY STATE FACILITIES, OR CREATE HAZARD TO THE TRAVELLING PUBLIC. DAMAGED STATE FACILITIES MUST BE REPLACED IN–KIND OR REPAIRED TO THEIR ORIGINAL STATE.

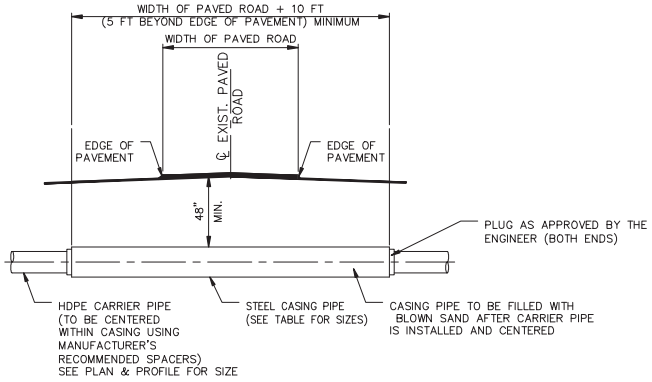
G. ALL PITS SHOULD HAVE CRUSHED–ROCK AND SUMP AREAS TO CLEAR GROUNDWATER AND WATER USED TO CLEAN THE CASINGS. PITS MUST BE LINED WITH FILTER FABRIC WHEN GROUNDWATER IS FOUND AND PUMPING IS REQUIRED.

H. TEMPORARY TYPE–K RAILING MUST BE PLACED AT A 10:1 TAPER OR AS OTHERWISE DIRECTED BY THE CALRANS' REPRESENTATIVE TO MAINTAIN THE INTEGRITY OF THE ADJACENT TRAVEL LANE.



DETAIL - FUTURE EXPANSION CONNECTION 22 C3.07

SCALE – N.T.S.



NOTES

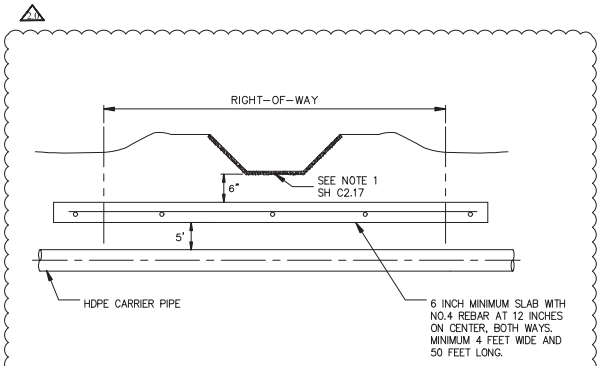
1. BACKFILL FOR PIPELINE SHALL BE BACKFILLED IN MAXIMUM OF 8–INCH LIFTS AND COMPACTED TO 90% RELATIVE COMPACTION (ASTM D–1557).

DETAIL - PAVED ROAD CROSSING 23 C3.07

SCALE – N.T.S.

TABLE 1

CARRIER PIPE DIAMETER	STEEL SLEEVE PIPE DIAMETER
4"	8"
6"	12"
8"	12"
12"	18"



NOTES

1. BACKFILL FOR PIPELINE SHALL BE BACKFILLED IN MAXIMUM OF 8–INCH LIFTS AND COMPACTED TO 90% RELATIVE COMPACTION (ASTM D–1557).

DETAIL - CANAL CROSSING 24 C3.07

SCALE – N.T.S.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	AK	TP	SK
2	06/16/21	ADDED DETAIL	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS

LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

ENGINEER: BIOGAS ENGINEERING

SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

HIGHWAY 43
GENERAL, BORE AND RECEIVING PIT NOTES

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C3.07

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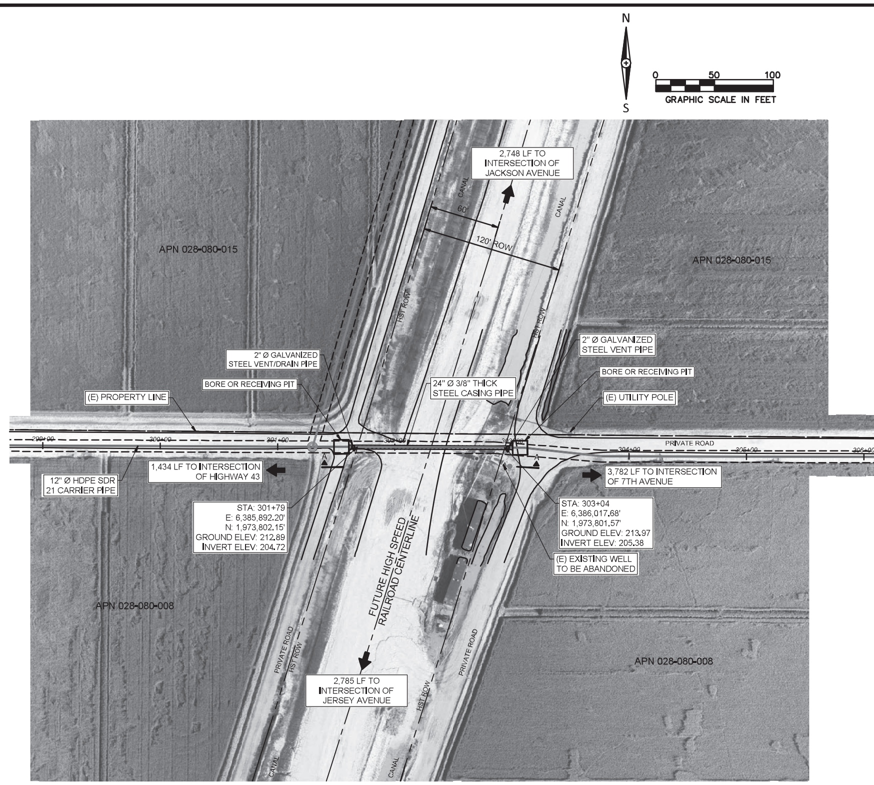
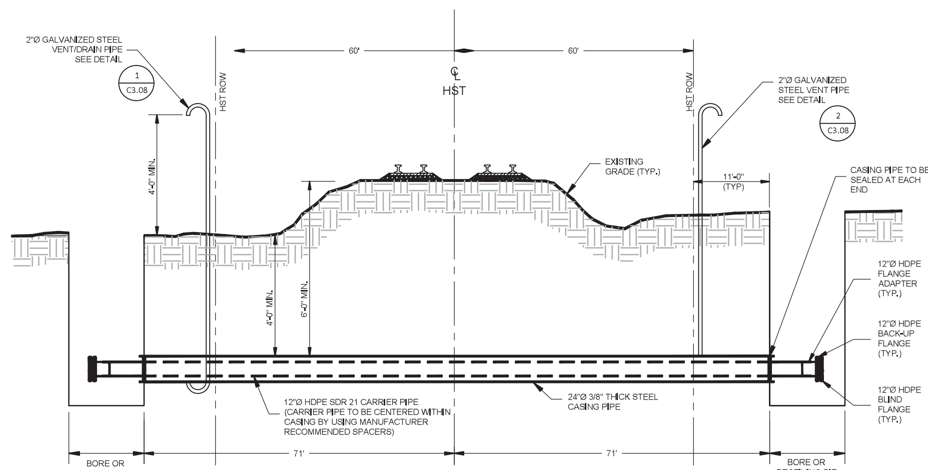
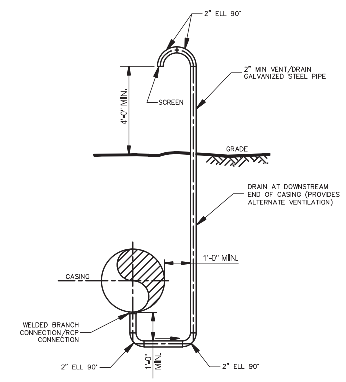


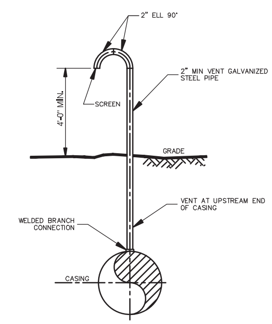
PLAN



SECTION A-A
N.T.S.



DETAIL - VENT/DRAIN PIPE (1 / C3.08)
N.T.S.



DETAIL - VENT PIPE (2 / C3.08)
N.T.S.

BORE AND RECEIVING PITS NOTES:

A. MUST BE LOCATED OUTSIDE OF HST RIGHT-OF-WAY. AT A MINIMUM, MUST BE LOCATED 1'-0" FROM THE LINE OF RIGHT-OF-WAY. ANY DEVIATIONS FOR DIRECT CROSSINGS THAT ARE EXCESSIVELY LONG, OR THERE IS A RESTRICTED SPACE AVAILABLE FOR PLACEMENT, OUTSIDE OF THE RIGHT-OF-WAY REQUIRE AN APPROVED ENCROACHMENT POLICY EXCEPTION. THOSE PORTIONS OF THE INSTALLATION NOT PLACED BY BORE & JACK MUST BE ENCASED BY THE OPEN TRENCH METHOD.
B. MUST BE PROTECTED BY PLACEMENT OF 6-FOOT CHAIN LINK FENCE OR TYPE-K BARRIER AROUND THEM.
C. MUST BE SHORED IN ACCORDANCE TO CAL-OSHA REQUIREMENTS.
D. PITS MUST NOT AFFECT ANY STATE FACILITIES, OR CREATE HAZARD TO THE PUBLIC. DAMAGED STATE FACILITIES MUST BE REPLACED IN-KIND OR REPAIRED TO THEIR ORIGINAL STATE.
E. ALL PITS SHOULD HAVE CRUSHED-ROCK AND SUMP AREAS TO CLEAR GROUNDWATER AND WATER USED TO CLEAN THE CASINGS. PITS MUST BE LINED WITH FILTER FABRIC WHEN GROUNDWATER IS FOUND AND PUMPING IS REQUIRED.
F. TEMPORARY TYPE-K RAILING MUST BE PLACED AT A 10:1 TAPER OR AS OTHERWISE DIRECTED BY THE CALRANS' REPRESENTATIVE TO MAINTAIN THE INTEGRITY OF THE ADJACENT TRAVEL LANE.

GENERAL NOTES:

1) CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT 2 DAYS PRIOR TO STARTING THE CONSTRUCTION.
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3) CASING PIPE INSTALLATION BY BORE AND JACK METHOD SHALL BE MONITORED TO ENSURE THE INTEGRITY OF THE EXISTING RAILROAD ELEVATIONS ARE MAINTAINED.
4) CONTRACTOR TO FOLLOW ALL APPLICABLE LOCAL, STATE AND CALTRANS STANDARDS FOR THE PROJECT.
5) EXCAVATIONS MADE WITHIN THE LIMITS RIGHT-OF-WAY SHALL BE BACKFILLED AND RESURFACED TO ORIGINAL CONDITION BEFORE LEAVING THE WORK AREA UNLESS OTHERWISE AUTHORIZED BY THE BNSF REPRESENTATIVE.
6) STEEL CASING PIPE IS DESIGNED FOR EFFECTIVE CORROSION CONTROL, LONG LIFE SERVICE AND RELATIVELY FREE FROM ROUTING SERVICING AND MAINTENANCE. CORROSION CONTROL MEASURE FOR THE STEEL PIPING IS BY COATING IT WITH FUSION BONDED EPOXY (FBE) WITH AN ABRASION RESISTANT OVERCOATING (ARO) COMPLYING WITH THE REQUIREMENTS OF ASTM A106-B /A53-B.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	12/03/20	UPDATED DETAILS	SG	SK	SK
3.0	01/19/21	AGENCY COMMENTS	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE ____________

LANDOWNER NAME: ____________

DATE: ____________

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45891 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

HST RAILROAD CROSSING

LAKESIDE DAIRY CLUSTER - WEST LEG DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD, CALIFORNIA-93230

DRAWING NO. C3.08

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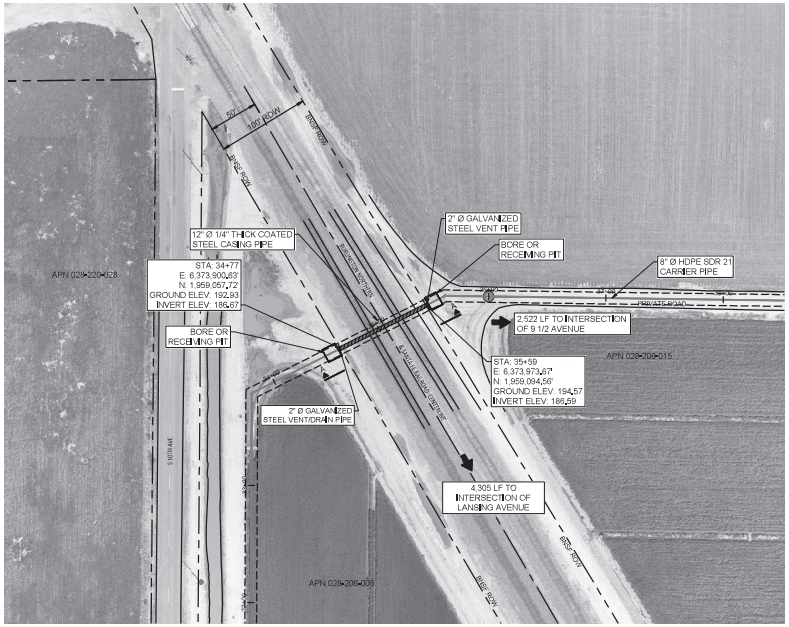
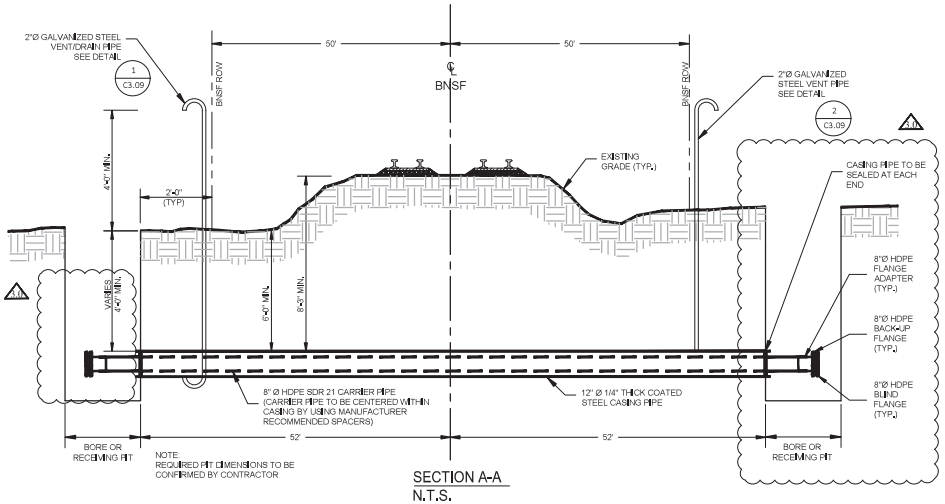


PLAN



SECTION A-A
N.T.S.

BORE AND RECEIVING PITS NOTES:

A. MUST BE LOCATED OUTSIDE OF BNSF RIGHT-OF-WAY. AT A MINIMUM, MUST BE LOCATED 1'-0" FROM THE LINE OF RIGHT-OF-WAY. ANY DEVIATIONS FOR DIRECT CROSSINGS THAT ARE EXCESSIVELY LONG, OR THERE IS A RESTRICTED SPACE AVAILABLE FOR PLACEMENT, OUTSIDE OF THE RIGHT-OF-WAY REQUIRE AN APPROVED ENCROACHMENT POLICY EXCEPTION. THOSE PORTIONS OF THE INSTALLATION NOT PLACED BY BORE & JACK MUST BE ENCASED BY THE OPEN TRENCH METHOD.
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F. TEMPORARY TYPE-K RAILING MUST BE PLACED AT A 10:1 TAPER OR AS OTHERWISE DIRECTED BY THE CALRANS' REPRESENTATIVE TO MAINTAIN THE INTEGRITY OF THE ADJACENT TRAVEL LANE.

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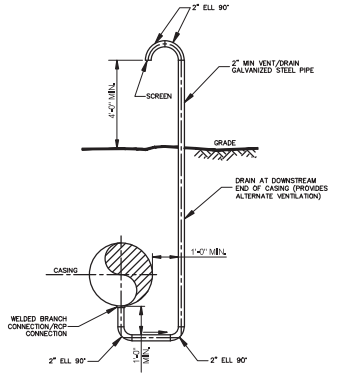
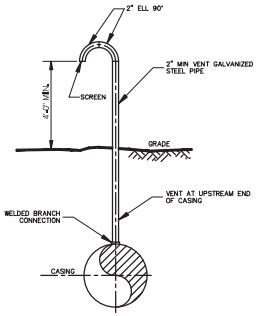


DETAIL - VENT/DRAIN PIPE 1 C3.09
N.T.S.



DETAIL - VENT PIPE 2 C3.09
N.T.S.

ISSUED FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2	12/04/20	UPDATED DETAILS	SG	SK	SK
3	01/19/21	AGENCY COMMENTS	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE

LANDOWNER NAME:

DATE:

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR. #100, REDDING, CA 96002

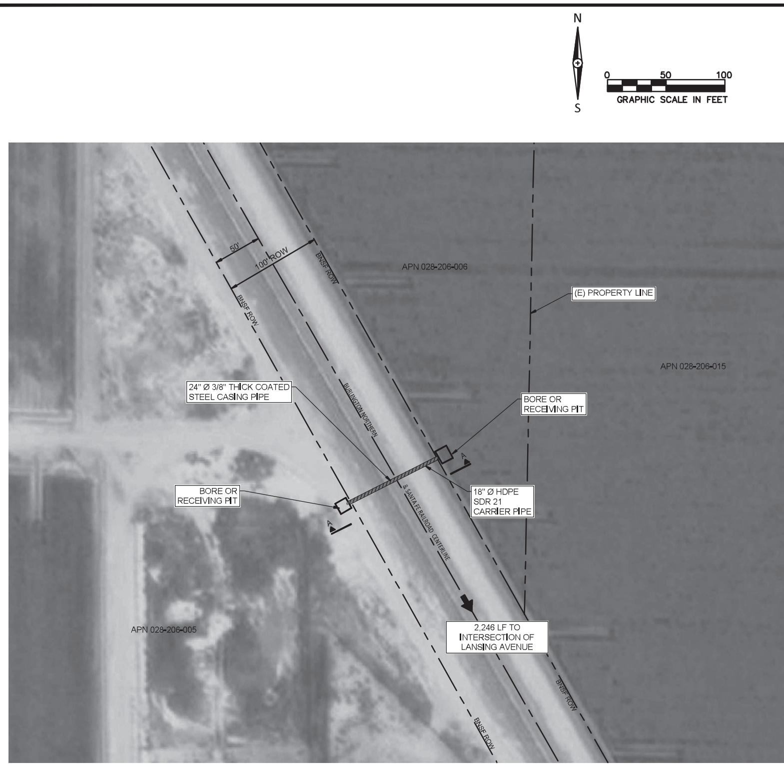
ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

BNSF RAILROAD CROSSING
8" DIA DG PIPELINE

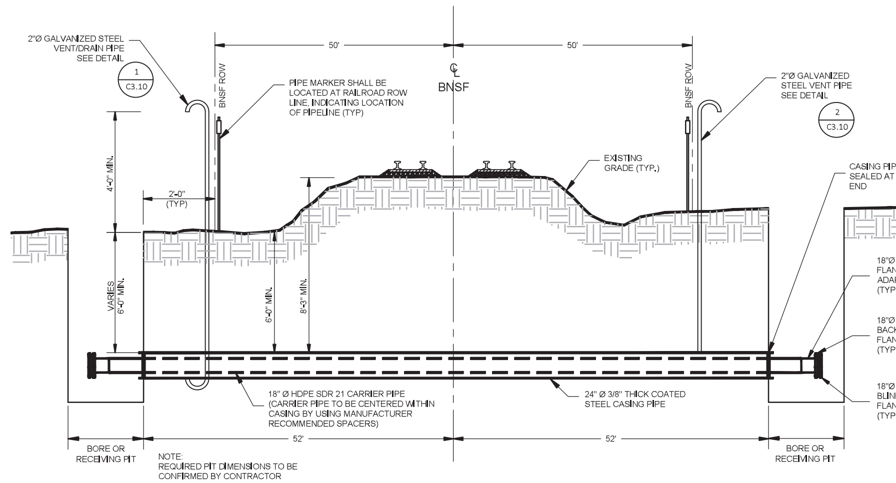
LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO.
C3.09

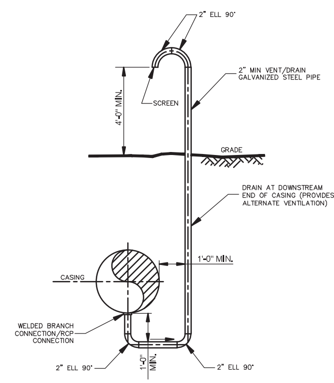
D:\Dropbox (Biogas Engineering)\Engineering\Projects\USH1B07.101 - Lakeside Collection Pipeline\0-Drawings\C-Civil\West Leg\PP_LakesideWE_Sheets1-13.dwg 1/20/2021 Stephen



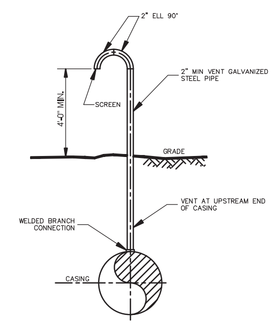
PLAN



SECTION A-A
N.T.S.



DETAIL - VENT/DRAIN PIPE (1 / C3.10)
N.T.S.



DETAIL - VENT PIPE (2 / C3.10)
N.T.S.

BORE AND RECEIVING PITS NOTES:

A. MUST BE LOCATED OUTSIDE OF BNSF RIGHT-OF-WAY. AT A MINIMUM, MUST BE LOCATED 1'-0" FROM THE LINE OF RIGHT-OF-WAY. ANY DEVIATIONS FOR DIRECT CROSSINGS THAT ARE EXCESSIVELY LONG, OR THERE IS A RESTRICTED SPACE AVAILABLE FOR PLACEMENT, OUTSIDE OF THE RIGHT-OF-WAY REQUIRE AN APPROVED ENCROACHMENT POLICY EXCEPTION. THOSE PORTIONS OF THE INSTALLATION NOT PLACED BY BORE & JACK MUST BE ENCASED BY THE OPEN TRENCH METHOD.
B. MUST BE PROTECTED BY PLACEMENT OF 6-FOOT CHAIN LINK FENCE OR TYPE-K BARRIER AROUND THEM.
C. MUST BE SHORED IN ACCORDANCE TO CAL-OSHA REQUIREMENTS.
D. PITS MUST NOT AFFECT ANY STATE FACILITIES, OR CREATE HAZARD TO THE PUBLIC. DAMAGED STATE FACILITIES MUST BE REPLACED IN-KIND OR REPAIRED TO THEIR ORIGINAL STATE.
E. ALL PITS SHOULD HAVE CRUSHED-ROCK AND SUMP AREAS TO CLEAR GROUNDWATER AND WATER USED TO CLEAN THE CASINGS. PITS MUST BE LINED WITH FILTER FABRIC WHEN GROUNDWATER IS FOUND AND PUMPING IS REQUIRED.
F. TEMPORARY TYPE-K RAILING MUST BE PLACED AT A 10:1 TAPER OR AS OTHERWISE DIRECTED BY THE CALRANS' REPRESENTATIVE TO MAINTAIN THE INTEGRITY OF THE ADJACENT TRAVEL LANE.

GENERAL NOTES:

1) CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT 2 DAYS PRIOR TO STARTING THE CONSTRUCTION.
2) ALL EXISTING UNDERGROUND UTILITIES SHALL BE PROPERLY SECURED, SUPPORTED AND PROTECTED IN PLACE.
3) CASING PIPE INSTALLATION BY BORE AND JACK METHOD SHALL BE MONITORED TO ENSURE THE INTEGRITY OF THE EXISTING RAILROAD ELEVATIONS ARE MAINTAINED.
4) CONTRACTOR TO FOLLOW ALL APPLICABLE LOCAL, STATE AND CALTRANS STANDARDS FOR THE PROJECT.
5) EXCAVATIONS MADE WITHIN THE LIMITS RIGHT-OF-WAY SHALL BE BACKFILLED AND RESURFACED TO ORIGINAL CONDITION BEFORE LEAVING THE WORK AREA UNLESS OTHERWISE AUTHORIZED BY THE BNSF REPRESENTATIVE.
6) STEEL CASING PIPE IS DESIGNED FOR EFFECTIVE CORROSION CONTROL, LONG LIFE SERVICE AND RELATIVELY FREE FROM ROUTING SERVICING AND MAINTENANCE. CORROSION CONTROL MEASURE FOR THE STEEL PIPING IS BY COATING IT WITH FUSION BONDED EPOXY (FBE) WITH AN ABRASION RESISTANT OVERCOATING (ARO) COMPLYING WITH THE REQUIREMENTS OF ASTM A106-B /A53-B.

REV	DATE	DESCRIPTION	DRN BY	CHK BY	APRV BY
1.0	07/14/20	ISSUED FOR CONSTRUCTION	SG	SK	SK
2.0	12/04/20	UPDATED DETAILS	SG	SK	SK

THIS SITE PLAN WILL REPLACE AND SUPERSEDE EXHIBIT G TO THE GROUND LEASE AGREEMENT.

LANDOWNER SIGNATURE ______

LANDOWNER NAME: ______

DATE: ______

OWNER: MAAS ENERGY WORKS
LAKESIDE PIPELINE LLC
3711 MEADOW VIEW DR, #100, REDDING, CA 96002

REGISTERED PROFESSIONAL ENGINEER SHASHIKANT R. KOTHARI No. 45896 Exp 12/31/20 CIVIL STATE OF CALIFORNIA

ENGINEER: BIOGAS ENGINEERING
SIGNAL HILL, CA 90755
PH: (562) 726-3565
EMAIL: INFO@BIOGASENG.COM

BNSF RAILROAD CROSSING
18" DIA IRRIGATION PIPELINE

LAKESIDE DAIRY CLUSTER - WEST LEG
DG COLLECTION PIPELINE DESIGN
15662 7th AVE, HANFORD,
CALIFORNIA-93230

DRAWING NO. C3.10

D:\Dropbox (Biogas Engineering)\Engineering\Projects\USH1807.101 - Lakeside Collection Pipeline\D-Drawings\C-Civil\West Leg\PP_LakesideWE_Sheets1-13.dwg 12/16/2020 Stephen

Outlook

FW: LAKESIDE PIPE SHIPPING DATES

From Dessa Eagleson <dessa@maasenergy.com>
Date Tue 11/19/2024 3:26 PM
To Paul Freer <paul.freer@maasenergy.com>

Dessa Eagleson
Executive Assistant | Grant Coordinator
Maas Energy Works LLC
(Phone) 530.351.4643

From: Dessa Eagleson <dessa@maasenergy.com>
Sent: Tuesday, November 19, 2024 3:19 PM
To: Dessa Eagleson <dessa@maasenergy.com>
Subject: Fwd: LAKESIDE PIPE SHIPPING DATES

---------- Forwarded message ---------
From: **Ruthie Allen** <ruthie.allen@maasenergy.com>
Date: Thu, Aug 8, 2024 at 10:43 AM
Subject: Re: LAKESIDE PIPE SHIPPING DATES
To: David Sparling <david@maasenergy.com>

Thanks Dave!

Ruthie Allen | Grant Writer Intern
Maas Energy Works, Inc. | 530.215.4755

On Mon, Aug 5, 2024 at 8:25 AM David Sparling <david@maasenergy.com> wrote:

> Ruthie,
>
> See the dates in 2020 below for when the Lakeside Phase 1 pipe was shipped. Not precise dates, but it shows that it took over a month to ship all the pipe.
>
> Also, you can refer back to Tim's first email on this thread for an explanation of why it was tough to get trucks at this time.
>
> **David Sparling** | Regional Operations Director
> *Texas, Merced, Lakeside*
> Maas Energy Works, Inc. | 541.640.0014

---------- Forwarded message ---------
From: **Tim Roush** <tim@pfdistributors.com>
Date: Fri, Aug 2, 2024 at 1:06 PM
Subject: RE: LAKESIDE PIPE SHIPPING DATES
To: David Sparling <david@maasenergy.com>

David,

Please see the delivery dates for Hanford phase1.

18" Shipped 6/22/2020-7/6/2020
8" Shipped 7/16/2020-8/3/2020
12" Shipped 7/6/2020-7/20/2020
4" Shipped 7/20/2020

Please let me know if you need anything else.

Thank you,

Tim Roush | P & F Distributors
Outside Sales | Office: 415.467.4630 | Cell: 925.393.9657
Tim@PFDistributors.com | www.PFDistributors.com
511 Tunnel Avenue | Brisbane, CA 94005
WILL CALL Orders: Must be placed in advance via Tel/Email/Text/Fax
Verbal signatures only. Credit Card Information taken via Tel/Fax.

From: David Sparling <david@maasenergy.com>
Sent: Thursday, August 1, 2024 1:47 PM
To: Tim Roush <tim@pfdistributors.com>
Subject: Re: LAKESIDE PIPE SHIPPING DATES

Thanks TIm,

These dates aren't quite lining up with what I have. See the attached file that shows dates in March of 2021.

David Sparling | Regional Operations Director
Texas, Merced, Lakeside
Maas Energy Works, Inc. | 541.640.0014

On Thu, Aug 1, 2024 at 1:37 PM Tim Roush <tim@pfdistributors.com> wrote:

> Good afternoon David,

Nice taking with you and thanks for the call.

Here are the shipping dates for the Lakeside pipe we spoke about.

For this project there we delays with trucking because construction on one of the major gas lines was shut down which made finding trucks in the Bella Fourche SD area difficult to fine. The manufacturer ended up having to go out of the immediate area to source the trucks.

4” shipped 7/28/2021 rode with 8” partial
6” shipped 7/26/2021
8” shipped 7/26 and 7/28
12” shipped 7/16 3 loads, 7/21 1 load 7/22 2 loads 7/23 3 loads

Please let me know if you need anything else.

Thank you,

Tim Roush | P & F Distributors
Outside Sales | Office: 415.467.4630 | Cell: 925.393.9657
Tim@PFDistributors.com | www.PFDistributors.com
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Verbal signatures only. Credit Card Information taken via Tel/Fax.

--
Dessa Eagleson
Executive Assistant | Fundraising Coordinator
Maas Energy Works LLC
(Phone) 530.351.4643

Lakeside Pipeline LLC - Pilot Project

*Reimbursement Request #5 - **Overage** - 07/23/24*

	Entity	Contractor - Company	Invoice Date	Invoice #	Invoice Amount	POP #	Budget Line Item	Payment Status	Invoice Filename	Description of Work provided.		Dairy (if applicable)	SoCal Gas Notes	Responses
Request 1	Lakeside Pipeline	Biogas Engineering	2/4/2019	263	$3,440.00	1032	2b. Collection Lines	Previously Submitted to Utility	1 - Biogas Engineering - Inv# 263 (2b. Collection Lines)	Data collection included project planning and discussions with surveyors. Project Management	1	River Ranch		
Request 1	Lakeside Pipeline	Biogas Engineering	3/5/2019	273	$15,717.50	1034	2b. Collection Lines	Previously Submitted to Utility	2 - Biogas Engineering - Inv# 273 (2b. Collection Lines)	Data collection included project planning and discussions with surveyors. Engineering Design	2	Dixie Creek		
Request 1	Lakeside Pipeline	Biogas Engineering	4/2/2019	288	$16,090.00	1082	2b. Collection Lines	Previously Submitted to Utility	3 - Biogas Engineering - Inv# 288 (2b. Collection Lines)	Data collection included project planning and discussions with surveyors. Project Management	3	LO1		
Request 1	Lakeside Pipeline	Biogas Engineering	5/3/2019	300	$3,600.00	1088	2b. Collection Lines	Previously Submitted to Utility	4 - Biogas Engineering - Inv# 300 (2b. Collection Lines)	Project Management and Coordination included meetings, follow up with staff and surveyors.	4		This is down payment for the On Dairy Conditioning	Want to confirm this is relevant to lane 2a
Request 1	Lakeside Pipeline	Biogas Engineering	6/6/2019	315	$3,830.00	1089	2b. Collection Lines	Previously Submitted to Utility	5 - Biogas Engineering - Inv# 315 (2b. Collection Lines)	Project Management and Coordination included project management, coordination, and	5	River Ranch	On Dairy H2S Scrubber	What does the Howitzer do on the project?
Request 1	Lakeside Pipeline	Biogas Engineering	7/8/2019	326	$5,230.00	1099	2b. Collection Lines	Previously Submitted to Utility	6 - Biogas Engineering - Inv# 326 (2b. Collection Lines)	drawing revisions. Engineering Design included paying the engineering team to work on the	6	Dixie Creek		
Request 1	Lakeside Pipeline	Biogas Engineering	8/1/2019	336	$1,020.00	1102	2b. Collection Lines	Previously Submitted to Utility	7 - Biogas Engineering - Inv# 336 (2b. Collection Lines)	Engineering Design included having the lead engineer work on the design for the collection	7	LO1		
Request 1	Lakeside Pipeline	Biogas Engineering	9/6/2019	351	$3,950.00	1111	2b. Collection Lines	Previously Submitted to Utility	8 - Biogas Engineering - Inv# 351 (2b. Collection Lines)	Engineering Design included preparing design drawings and cost estimations for the collection	8		See 'Pipeline Material Orders' worksheet for the summary of	Please show diagram what was ordered, installed to date for Lane 2b
Request 1	Lakeside Pipeline	Biogas Engineering	10/2/2019	366	$1,740.00	1117	2b. Collection Lines	Previously Submitted to Utility	9 - Biogas Engineering - Inv# 366 (2b. Collection Lines)	Project Management and Coordination included drawing revision coordination and review.	9			
Request 1	Lakeside Pipeline	Biogas Engineering	12/5/2019	400	$6,357.50	1126	2b. Collection Lines	Previously Submitted to Utility	10 - Biogas Engineering - Inv# 400 (2b. Collection Lines)	Project Management and Coordination included having the principal manage the project.	10		As part of our pipeline construction contract, if the contractor	Why is this cost subject to reimbursement?
Request 1	Lakeside Pipeline	Biogas Engineering	1/5/2020	412	$7,680.00	1139	2b. Collection Lines	Previously Submitted to Utility	11 - Biogas Engineering - Inv# 412 (2b. Collection Lines)	Project Management and Coordination included having the principal manage the project.	11		See 'Pipeline Material Orders' worksheet for the summary of	Please provide BOM of total footage of pipe required for the project, referenced on
Request 1	Lakeside Pipeline	Biogas Engineering	2/4/2020	427	$28,197.50	1045	2b. Collection Lines	Previously Submitted to Utility	12 - Biogas Engineering - Inv# 427 (2b. Collection Lines)	Project Management and Coordination included having the principal manage the project.	12			Paid with Invoice 426 - Check 1045
Request 1	Lakeside Pipeline	Biogas Engineering	3/11/2020	445	$27,845.00	1042	2b. Collection Lines	Previously Submitted to Utility	13 - Biogas Engineering - Inv# 445 (2b. Collection Lines)	Project Management and Coordination included having the principal manage the project.	13			
Request 1	Lakeside Pipeline	Biogas Engineering	4/1/2020	459	$24,695.00	1052	2b. Collection Lines	Previously Submitted to Utility	14 - Biogas Engineering - Inv# 459 (2b. Collection Lines)	Project Management and Coordination included project management and design. Engineering	14			
Request 1	Lakeside Pipeline	Biogas Engineering	5/8/2020	476	$3,945.00	1072	2b. Collection Lines	Previously Submitted to Utility	15 - Biogas Engineering - Inv# 476 (2b. Collection Lines)	Project Management and Coordination included having the principal manage the project.	15			Paid with Invoice #468 & #484 - Check 1072
Request 1	Lakeside Pipeline	Biogas Engineering	5/31/2020	491	$26,709.50	1082	2b. Collection Lines	Previously Submitted to Utility	16 - Biogas Engineering - Inv# 491 (2b. Collection Lines)	Project Management and Coordination included the charge for the lead engineer's labor hours.	16	Lakeside Collection Pipeline	Invoices 490 and 491 Total $38,761.45	
Request 1	Lakeside Pipeline	Biogas Engineering	7/2/2020	504	$23,253.00	1097	2b. Collection Lines	Previously Submitted to Utility	17 - Biogas Engineering - Inv# 504 (2b. Collection Lines)	Western Expansion included the engineering for the project. This invoice was for the 100% final	17			
Request 1	Lakeside Pipeline	Biogas Engineering	8/10/2020	524	$5,980.00	1131	2b. Collection Lines	Previously Submitted to Utility	18 - Biogas Engineering - Inv# 524 (2b. Collection Lines)	Construction Engineering Support included new alignment and review of the survey and	18			Paid with invoice #523 - check 1131
Request 1	Lakeside Pipeline	Electric Innovations	3/16/2020	1692	$243,800.00	1126	2a. Biogas Treatment	Previously Submitted to Utility	19 - Electric Innovations - Inv# 1692 (2a. Biogas Treatment)	This invoice billed for a biogas processing system that is involved in treating the biogas received from the digesters. It was a 50% large equipment deposit	19	River Ranch		
Request 1	Lakeside Pipeline	Electric Innovations	6/26/2020	1723	$335,450.00	1127	2a. Biogas Treatment	Previously Submitted to Utility	20 - Electric Innovations - Inv# 1723 (2a. Biogas Treatment)	This invoice billed for the 50% equipment deposit and design for a biogas injection processing	20	Dixie Creek		
Request 1	Lakeside Pipeline	Electric Innovations	6/26/2020	1724	$344,450.00	1128	2a. Biogas Treatment	Previously Submitted to Utility	21 - Electric Innovations - Inv# 1724 (2a. Biogas Treatment)	This invoice billed for the 50% equipment deposit and design for a biogas injection processing	21			
Request 1	Lakeside Pipeline	Electric Innovations	9/3/2020	1768	$73,375.00	1147	2b. Collection Lines	Previously Submitted to Utility	22 - Electric Innovations - Inv# 1768 (2b. Collection Lines)	This invoice billed for design work, power skid equipment, a cable tray and conductor,	22			
Request 1	Lakeside Pipeline	Maas Motor Works	5/8/2020	2463	$56,553.45	ACH (7.12.20)	2a. Biogas Treatment	Previously Submitted to Utility	23 - Maas Motor Works - Inv# 2463 (2a. Biogas Treatment)	This invoice billed for a howitzer that cleans up the biogas when it enters the biogas conditioning facility for treatment. This was for River Ranch Farms.	23			
Request 1	Lakeside Pipeline	Maas Motor Works	5/11/2020	2532	$56,553.45	ACH (9.11.20)	2a. Biogas Treatment	Previously Submitted to Utility	24 - Maas Motor Works - Inv# 2532 (2a. Biogas Treatment)	This invoice billed for a howitzer that cleans up the biogas when it enters the biogas conditioning facility for treatment. This was for Lone Oak Farms 1.	24			
Request 1	Lakeside Pipeline	Maas Motor Works	5/11/2020	2533	$56,553.45	ACH (9.11.20)	2a. Biogas Treatment	Previously Submitted to Utility	25 - Maas Motor Works - Inv# 2533 (2a. Biogas Treatment)	This invoice billed for a howitzer that cleans up the biogas when it enters the biogas conditioning facility for treatment. This was for Dixie Creek Dairy.	25			
Request 1	Lakeside Pipeline	Cal Valley Construction	6/15/2020	201401.001	$340,200.00	1090	2b. Collection Lines	Previously Submitted to Utility	26 - Cal Valley Construction - Inv# 201401.001 (2b. Collection Lines)	This invoice billed for Cal Valley Construction to mobilize for work on constructing the	26			
Request 1	Lakeside Pipeline	Cal Valley Construction	7/15/2020	201401.002	$36,900.00	1112	2b. Collection Lines	Previously Submitted to Utility	27 - Cal Valley Construction - Inv# 201401.002 (2b. Collection Lines)	This invoice billed for standby costs. These were for the construction team's time as they worked on building the collection lines.	27			
Request 1	Lakeside Pipeline	Cal Valley Construction	7/15/2020	201401.003	$826,352.29	1110	2b. Collection Lines	Previously Submitted to Utility	28 - Cal Valley Construction - Inv# 201401.003 (2b. Collection Lines)	This invoice billed for pipeline installation (the pipeline is the material used for the collection	28			
Request 1	Lakeside Pipeline	P&F Distributors	5/28/2020	0138258-IN	$307,593.75	WIRE 6.1.20	2b. Collection Lines	Previously Submitted to Utility	29 - P&F Distributors - Inv# 0138258-IN (2b. Collection Lines)	This invoice billed for pipeline. It includes 4", 8", 12", and 18" pipeline that was used to build the collection lines.	29			
Request 1	Lakeside Pipeline	P&F Distributors	7/6/2020	0139286-IN	$20,966.25	WIRE 7.16.20	2b. Collection Lines	Previously Submitted to Utility	30 - P&F Distributors - Inv# 0139286-IN (2b. Collection Lines)	This invoice billed for pipeline. It includes 4", 8", 12", and 18" pipeline that was used to build the collection lines.	30			
Request 1	Lakeside Pipeline	P&F Distributors	7/10/2020	0139442-IN	$210,184.00	WIRE 7.16.20	2b. Collection Lines	Previously Submitted to Utility	31 - P&F Distributors - Inv# 0139442-IN (2b. Collection Lines)	This invoice billed for pipeline. It includes 4", 8", and 12" pipeline that was used to build the collection lines.	31			
Request 1	Lakeside Pipeline	P&F Distributors	7/15/2020	0139556-IN	$111,567.50	WIRE 8.3.20	2b. Collection Lines	Previously Submitted to Utility	32 - P&F Distributors - Inv# 0139556-IN (2b. Collection Lines)	This invoice billed for pipeline. It includes 4", 6", 8", and 12" pipeline that was used to build the collection lines.	32			
Request 1	Lakeside Pipeline	P&F Distributors	7/28/2020	0139964-IN	$72,061.50	WIRE 8.3.20	2b. Collection Lines	Previously Submitted to Utility	33 - P&F Distributors - Inv# 0139964-IN (2b. Collection Lines)	This invoice billed for pipeline. It includes 4", 8", and 12" pipeline that was used to build the collection lines.	33			
Request 1	Lakeside Pipeline	P&F Distributors	8/3/2020	0140159-IN	$4,382.00	WIRE 8.24.20	2b. Collection Lines	Previously Submitted to Utility	34 - P&F Distributors - Inv# 0140159-IN (2b. Collection Lines)	This invoice billed for pipeline. It includes 8" pipeline that was used to build the collection lines.	34			
Request 1	Lakeside Pipeline	Pacific Land Surveys	7/13/2020	20-008e	$19,650.00	1105	2b. Collection Lines	Previously Submitted to Utility	35 - Pacific Land Surveys - Inv# 20-008e (2b. Collection Lines)	Survey Construction Staking included staking 60% of pipeline alignment to date. This was part	35		Question: does all of these costs apply to Lane 2 costs?	Yes, that is biogas conditoning skid at the dairy that includes the chiller, blower, and
Request 1	Lakeside Pipeline	Real Environmental Products	5/22/2020	R200512	$46,896.04	1075	2b. Collection Lines	Previously Submitted to Utility	36 - Real Environmental Products - Inv# R200512 (2b. Collection Lines)	This invoice billed for manual sumps that are materials used in building out the collection lines. It was for the 50% that is due up-front.	36			
Request 1	Lakeside Pipeline	Real Environmental Products	7/31/2020	R200713	$48,096.04	1107	2b. Collection Lines	Previously Submitted to Utility	37 - Real Environmental Products - Inv# R200713 (2b. Collection Lines)	This invoice billed for manual sumps that are materials used in building out the collection lines. It was for the other 50% that was due and for shipping costs.	37			
Request 2	Lakeside Pipeline	Biogas Engineering	11/23/2020	538	$17,742.50	1205	2b. Collection Lines	Previously Submitted to Utility	38 - Biogas Engineering - Inv# 538 (2b. Collection Lines)	Construction Engineering Support billed for the lead engineer and autocad designer/drafter	38		Sump pumps for the moisture traps along the gathering line network	What is this for?
Request 2	Lakeside Pipeline	Biogas Engineering	11/4/2020	575	$16,945.00	1200	2b. Collection Lines	Previously Submitted to Utility	39 - Biogas Engineering - Inv# 575 (2b. Collection Lines)	Construction Engineering Support included making pipeline updates. Engineering Changes	39		Sump pumps for the moisture traps along the gathering line network	What is this for?
Request 2	Lakeside Pipeline	Electric Innovations	10/19/2020	1765	$219,420.00	1191	2a. Biogas Treatment	Previously Submitted to Utility	40 - Electric Innovations - Inv# 1765 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	40	River Ranch		
Request 2	Lakeside Pipeline	Electric Innovations	9/3/2020	1778	$280,860.00	1154	2a. Biogas Treatment	Previously Submitted to Utility	41 - Electric Innovations - Inv# 1778 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	41	Decade		
Request 2	Lakeside Pipeline	Electric Innovations	12/6/2020	1846	$72,300.07	1197	2a. Biogas Treatment	Previously Submitted to Utility	42 - Electric Innovations - Inv# 1846 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	42	River Ranch		
Request 2	Lakeside Pipeline	Electric Innovations	12/3/2020	1857	$295,660.01	1212	2a. Biogas Treatment	Previously Submitted to Utility	43 - Electric Innovations - Inv# 1857 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	43	Lakeside		
Request 2	Lakeside Pipeline	Cal Valley Construction	8/15/2020	201401.004	$528,985.29	Wire	2b. Collection Lines	Previously Submitted to Utility	44 - Cal Valley Construction - Inv# 201401.004 (2b. Collection Lines)	This invoice billed for pipeline installation (the physical construction of the collection lines). It	44			
Request 2	Lakeside Pipeline	Cal Valley Construction	9/15/2020	201401.005	$800,249.13	1164	2b. Collection Lines	Previously Submitted to Utility	45 - Cal Valley Construction - Inv# 201401.005 (2b. Collection Lines)	This invoice billed for pipeline installation (the physical construction of the collection lines). It	45			
Request 2	Lakeside Pipeline	Cal Valley Construction	10/15/2020	201401.006	$793,684.19	1181	2b. Collection Lines	Previously Submitted to Utility	46 - Cal Valley Construction - Inv# 201401.006 (2b. Collection Lines)	This invoice billed for pipeline installation (the physical construction of the collection lines). It	46			
Request 2	Lakeside Pipeline	Cal Valley Construction	11/15/2020	201401.007	$727,582.50	1199	2b. Collection Lines	Previously Submitted to Utility	47 - Cal Valley Construction - Inv# 201401.007 (2b. Collection Lines)	This invoice billed for pipeline installation (the physical construction of the collection lines). It	47			
Request 2	Lakeside Pipeline	Cal Valley Construction	12/15/2020	201401.008	$692,788.44	Wire	2b. Collection Lines	Previously Submitted to Utility	48 - Cal Valley Construction - Inv# 201401.008 (2b. Collection Lines)	This invoice billed for pipeline installation (the physical construction of the collection lines). It	48			
Request 2	Lakeside Pipeline	P&F Distributors	10/9/2020	0142127-IN	$34,755.28	Wire	2b. Collection Lines	Previously Submitted to Utility	49 - P&F Distributors - Inv# 0142127-IN (2b. Collection Lines)	This invoice billed for 4", 6", and 8" pipeline, the material used for the collection lines. It was	49			
Request 2	Lakeside Pipeline	P&F Distributors	10/20/2020	0142426-IN	$77,092.36	Wire	2b. Collection Lines	Previously Submitted to Utility	50 - P&F Distributors - Inv# 0142426-IN (2b. Collection Lines)	This invoice billed for 8" and 12" pipeline, the material used for the collection lines. It was	50			
Request 2	Lakeside Pipeline	Pacific Land Surveys	9/3/2020	20-027b	$40,750.00	Wire	2b. Collection Lines	Previously Submitted to Utility	51 - Pacific Land Surveys - Inv# 20-027b (2b. Collection Lines)	This invoice billed for survey construction staking. It also billed for excavation depth checks,	51			
Request 2	Lakeside Pipeline	Pacific Land Surveys	10/13/2020	20-049	$18,250.00	$1,174.00	2b. Collection Lines	Previously Submitted to Utility	52 - Pacific Land Surveys - Inv# 20-049 (2b. Collection Lines)	This invoice billed for survey construction staking which is necessary to be able to build out the	52			The total for this invoice was transposed wrong. The total of the invoice an payment
Request 2	Lakeside Pipeline	Real Environmental Products	2/23/2020	R200205	$9,294.50	1160	2b. Collection Lines	Previously Submitted to Utility	53 - Real Environmental Products - Inv# R200205 (2b. Collection Lines)	This invoice billed for an auto sump (a component that connects the gathering pipeline to the	53			
Request 2	Lakeside Pipeline	Real Environmental Products	6/20/2020	R200605	$12,104.50	1083	2b. Collection Lines	Previously Submitted to Utility	54 - Real Environmental Products - Inv# R200605 (2b. Collection Lines)	This invoice billed for the auto sump, adder, and shipping costs. It was the other 50% of the	54			
Request 2	Lakeside Pipeline	Real Environmental Products	9/11/2020	R200909	$6,094.05	1162	2a. Biogas Treatment	Previously Submitted to Utility	55 - Real Environmental Products - Inv# R200909 (2a. Biogas Treatment)	This invoice billed for a GCS8000-EZ Clean 24" w/6 " inlet and outlet which was part of the	55			This invoice is showing $6,094.50 but we only paid $6094.05. So this is being
Request 2	Lakeside Pipeline	Real Environmental Products	10/12/2020	R201006	$2,530.00	1172	2b. Collection Lines	Previously Submitted to Utility	56 - Real Environmental Products - Inv# R201006 (2b. Collection Lines)	This invoice billed for the pick up of CS-1 and the delivery of CS-1 and CS-4. It also billed for an	56		Please provide a scope of work for Real Environmental products	These are sump pumps that are being placed along the low points of the pipeline.
Request 2	Lakeside Pipeline	Real Environmental Products	12/4/2020	R201108	$6,495.00	1198	2a. Biogas Treatment	Previously Submitted to Utility	57 - Real Environmental Products - Inv# R201108 (2a. Biogas Treatment)	This invoice billed for a GCS8000-EZ Clean 24" w/6 " inlet and outlet which was part of the	57	Dixie Creek		
Request 3	Lakeside Pipeline	Biogas Engineering	12/11/2020	589	$8,792.00	6009	2b. Collection Lines	Previously Submitted to Utility	58 - Biogas Engineering - Inv# 589 (2b. Collection Lines)	This invoice billed for labor hours of the autocad designer/drafter, sr. project manager, lead	58			Paid with Invoice 591, 614 - Check 6009 Reimbursement #4
Request 3	Lakeside Pipeline	Biogas Engineering	1/18/2021	614	$10,746.75	6009	2b. Collection Lines	Previously Submitted to Utility	59 - Biogas Engineering - Inv# 614 (2b. Collection Lines)	This invoice billed for labor hours of the autocad designer/drafter, sr. project manager, lead	59			Paid with Invoice 591, 589- Check 6009 Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	2/1/2021	1766	$24,379.93	6042	2a. Biogas Treatment	Previously Submitted to Utility	60 - Electric Innovations - Inv# 1766 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	60	River Ranch		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	11/30/2020	1776	$301,905.00	6021	2a. Biogas Treatment	Previously Submitted to Utility	61 - Electric Innovations - Inv# 1776 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	61	Dixie Creek		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	3/31/2021	1777	$33,545.00	6058	2a. Biogas Treatment	Previously Submitted to Utility	62 - Electric Innovations - Inv# 1777 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	62	Dixie Creek		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	3/22/2021	1779	$252,774.00	6055	2a. Biogas Treatment	Previously Submitted to Utility	63 - Electric Innovations - Inv# 1779 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	63	Decade		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	3/22/2021	1780	$28,086.00	6059	2a. Biogas Treatment	Previously Submitted to Utility	64 - Electric Innovations - Inv# 1780 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	64	Decade		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	3/31/2021	1830	$25,790.00	6041	2a. Biogas Treatment	Previously Submitted to Utility	65 - Electric Innovations - Inv# 1830 (2a. Biogas Treatment)	This invoice billed for Predator Pro H2s, CH4, O2 gas sensing and recording unit and data	65	River Ranch		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	1/4/2021	1878	$275,000.00	Wire	2a. Biogas Treatment	Previously Submitted to Utility	66 - Electric Innovations - Inv# 1878 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	66	Yokum Dairy		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	5/24/2021	1892	$247,500.00	6060	2a. Biogas Treatment	Previously Submitted to Utility	67 - Electric Innovations - Inv# 1892 (2a. Biogas Treatment)	This invoice billed for the design work, biogas equipment, control room, automation and	67	Yokum Dairy		Reimbursement #4
Request 3	Lakeside Pipeline	Electric Innovations	3/24/2021	1935	$53,950.30	134	2a. Biogas Treatment	Previously Submitted to Utility	69 - Electric Innovations - Inv# 1935 (2a. Biogas Treatment)	This invoice billed for change orders for all the dairies. It was for adding an automated valve to	69	Decade, Dixie, Lakeside, River Ranch, Yokum		Reimbursement #4
Request 3	Lakeside Pipeline	Cal Valley Construction	1/16/2021	201401.009	$9,400.55	$6,010.00	2b. Collection Lines	Previously Submitted to Utility	70 - Cal Valley Construction - Inv# 201401.009 (2b. Collection Lines)	This invoice billed for gaskets that hold together pipeline in the collection lines. They were from P&F Distributors	70		Reimbursement #4	The invoice total was input incorrectly. Should be $9,400.55 but was input as $9,400.66
Request 3	Lakeside Pipeline	Cal Valley Construction	3/15/2021	201401.01	$167,367.15	6053	2b. Collection Lines	Previously Submitted to Utility	71 - Cal Valley Construction - Inv# 201401.01 (2b. Collection Lines)	This invoice billed for demobilization. It also billed for pressure testing, T&M misc. work, yard	71			Reimbursement #4
Request 3	Lakeside Pipeline	Cal Valley Construction	3/15/2021	201401.011	$547,056.61	60444	2b. Collection Lines	Previously Submitted to Utility	72 - Cal Valley Construction - Inv# 201401.011 (2b. Collection Lines)	This invoice was for retention billing. It was retention for all the work done by Cal Valley Construction on the collection lines.	72			Reimbursement #4
Request 3	Lakeside Pipeline	Cal Valley Construction	3/24/2021	201401.012	$89,813.00	6099	2b. Collection Lines	Previously Submitted to Utility	73 - Cal Valley Construction - Inv# 201401.012 (2b. Collection Lines)	This invoice billed for gasket replacement. This was for the pipeline (part of the collection lines construction)	73			Reimbursement #4
Request 3	Lakeside Pipeline	Pacific Land Surveys	12/7/2020	20-027c	$8,000.00		2b. Collection Lines	Previously Submitted to Utility	74 - Pacific Land Surveys - Inv# 20-027c (2b. Collection Lines)	This invoice billed for additionally requested work involved in the construction process of the	74			Reimbursement #4
Request 3	Lakeside Pipeline	Real Environmental Products	12/9/2020	R201207			2a. Biogas Treatment	Previously Submitted to Utility	#NAME?		75	Decade		This invoice was actually sent to producer to pay.
Request 3	Lakeside Pipeline	Real Environmental Products	1/25/2021	R210121	$1,927.50	6015	2b. Collection Lines	Previously Submitted to Utility	76 - Real Environmental Products - Inv# R210121 (2b. Collection Lines)	This invoice billed for field upgrade of isolation well and 18" flange (components of the auto	76			Reimbursement #4
Request 3	Lakeside Pipeline	Real Environmental Products	3/25/2021	R210313	$6,836.20	122	2a. Biogas Treatment	Previously Submitted to Utility	77 - Real Environmental Products - Inv# R210313 (2a. Biogas Treatment)	This invoice billed for a GCS 8000-EZ Clean TL 24" w/ 6" inlet and 6" outlet nozzles (components	77	Yokum Dairy	Confirm Yokum is in original scope of pilot	Reimbursement #4
Request 3	Lakeside Pipeline	Real Environmental Products	4/14/2021	R210405	$6,944.50	129	2a. Biogas Treatment	Previously Submitted to Utility	78 - Real Environmental Products - Inv# R210405 (2a. Biogas Treatment)	This invoice billed for a GCS 8000-EZ Clean TL 24" w/ 6" inlet and 6" outlet nozzles (components of the auto sump that connects the gathering lines to the cleanup facility). It was for the other	78	Yokum Dairy	Confirm Yokum is in original scope of pilot	Reimbursement #4
Request 4	Lakeside Pipeline	Biogas Engineering	6/3/2020	490	$12,051.95	1082	2b. Collection Lines	Previously Submitted to Utility	79 - Biogas Engineering - Inv# 490 (2b. Collection Lines)	This invoice included construction support that involved reviewing of RFI's. It also included	79	Lakeside DG Upgrading	Invoices 490 and 491 Total $38,761.45	
Request 4	Lakeside Pipeline	Biogas Engineering	6/3/2020	491	$26,709.50	1082	2b. Collection Lines	Previously Submitted to Utility	80 - Biogas Engineering - Inv# 491 (2b. Collection Lines)	Project Management and Coordination included the lead engineer's labor hours. The invoice	80			
Request 4	Lakeside Pipeline	Biogas Engineering	8/16/2021	681	$8,373.75	1306	2b. Collection Lines	Previously Submitted to Utility	81 - Biogas Engineering - Inv# 681 (2b. Collection Lines)	This invoice was billing for 30% retainage held on invoices 589 & 614. This work included the	81	Lakeside Collection Pipeline		
Request 4	Lakeside Pipeline	Electric Innovations	2/1/2021	1760	$310,005.00	6007	2a. Biogas Treatment	Previously Submitted to Utility	82 - Electric Innovations - Inv# 1760 (2a. Biogas Treatment)	This invoice was for Lone Oak 1's gas injection processing system (a component of the biogas	82			
Request 4	Lakeside Pipeline	Electric Innovations	2/1/2021	1761	$34,445.00	6054	2a. Biogas Treatment	Previously Submitted to Utility	83 - Electric Innovations - Inv# 1761 (2a. Biogas Treatment)	This invoice was for Lone Oak 1's gas injection processing system (a component of the biogas	83			
Request 4	Lakeside Pipeline	Electric Innovations	9/3/2020	1781	$50,729.70	1149	2a. Biogas Treatment	Previously Submitted to Utility	84 - Electric Innovations - Inv# 1781 (2a. Biogas Treatment)	This invoice was for Lakeside IT network infrastructure which is needed to communicate	84		IT Infrastructure? Comms to the dairies?	Yes, this is what allows us to remotely control the digesters and balance flows
Request 4	Lakeside Pipeline	Electric Innovations	9/17/2020	1782	$72,471.00	1202	2a. Biogas Treatment	Previously Submitted to Utility	85 - Electric Innovations - Inv# 1782 (2a. Biogas Treatment)	This invoice was for Lakeside IT network infrastructure which is needed to communicate	85		IT Infrastructure? Comms to the dairies?	Yes, this is what allows us to remotely control the digesters and balance flows
Request 4	Lakeside Pipeline	Electric Innovations	1/15/2021	1783	$21,741.30	6045	2a. Biogas Treatment	Previously Submitted to Utility	86 - Electric Innovations - Inv# 1783 (2a. Biogas Treatment)	This invoice was for Lakeside IT network infrastructure which is needed to communicate	86		IT Infrastructure? Comms to the dairies?	Yes, this is what allows us to remotely control the digesters and balance flows
Request 4	Lakeside Pipeline	Electric Innovations	11/9/2020	1847	$38,310.00	1196	2a. Biogas Treatment	Previously Submitted to Utility	87 - Electric Innovations - Inv# 1847 (2a. Biogas Treatment)	This invoice was for scada cluster development and implementation costs and for four software	87		SCADA at dairies?	Yes, this is the SCADA that allows us to control the digesters from the biogas conditioning facility.
Request 4	Lakeside Pipeline	Electric Innovations	3/31/2021	1893	$27,500.00	6045	2a. Biogas Treatment	Previously Submitted to Utility	88 - Electric Innovations - Inv# 1893 (2a. Biogas Treatment)	This invoice was for the design work, biogas equipment, control room, automation and controls	88		IT Infrastructure? Comms to the dairies?	Yes, this is what allows us to remotely control the digesters and balance flows
Request 4	Lakeside Pipeline	Electric Innovations	3/24/2021	1904	$42,820.00	6056	2a. Biogas Treatment	Previously Submitted to Utility	89 - Electric Innovations - Inv# 1904 (2a. Biogas Treatment)	This invoice was for the design work, biogas equipment, control room, automation and controls programming, site prep, site work, and site final. It was for Double L (Yokum)'s biogas	89		SCADA at dairies?	Yes, this is the SCADA that allows us to control the digesters from the biogas conditioning facility.
Request 4	Lakeside Pipeline	Electric Innovations	12/17/2021	2115	$48,627.00	6178	2a. Biogas Treatment	Previously Submitted to Utility	90 - Electric Innovations - Inv# 2115 (2a. Biogas Treatment)	This invoice was for various change orders. It included different equipment pieces of the biogas conditioning facility	90		Confirm scope	This is a change order for the on-dairy biogas conditioning equipment at Double L Dairy
Request 4	Lakeside Pipeline	Maas Motor Works	11/8/2021	3187	$54,059.02	6157	2a. Biogas Treatment	Previously Submitted to Utility	91 - Maas Motor Works - Inv# 3187 (2a. Biogas Treatment)	This invoice was for 48.87% of the price of the howitzer which is used to clean up the gas entering the biogas conditioning facility. It was for River Ranch Farms	91			
Request 4	Lakeside Pipeline	Maas Motor Works	11/8/2021	3188	$54,064.55	1347	2a. Biogas Treatment	Previously Submitted to Utility	92 - Maas Motor Works - Inv# 3188 (2a. Biogas Treatment)	This invoice was for 48.88% of the price of the howitzer which is used to clean up the gas entering the biogas conditioning facility. It was for Lone Oak Farms #1	92			
Request 4	Lakeside Pipeline	Maas Motor Works	11/8/2021	3189	$54,064.55	6168	2a. Biogas Treatment	Previously Submitted to Utility	93 - Maas Motor Works - Inv# 3189 (2a. Biogas Treatment)	This invoice was for 48.88% of the price of the howitzer which is used to clean up the gas entering the biogas conditioning facility. It was for Dixie Creek Dairy	93			
Request 4	Lakeside Pipeline	Cal Valley Construction	5/15/2021	201401.013	$42,126.00	6115	2b. Collection Lines	Previously Submitted to Utility	94 - Cal Valley Construction - Inv# 201401.013 (2b. Collection Lines)	This invoice was for T&M Remobe Work. It was part of the construction of the collection lines for Lakeside Pipeline	94			
Request 4	Lakeside Pipeline	Cal Valley Construction	7/15/2021	201401.014	$54,000.00	1233	2b. Collection Lines	Previously Submitted to Utility	95 - Cal Valley Construction - Inv# 201401.014 (2b. Collection Lines)	This invoice was for Remobilization from Merced. It was part of the construction of the collection lines for Lakeside Pipeline	95			
Request 4	Lakeside Pipeline	Cal Valley Construction	8/15/2021	201401.015	$770,558.97	1307	2b. Collection Lines	Previously Submitted to Utility	96 - Cal Valley Construction - Inv# 201401.015 (2b. Collection Lines)	This invoice was for dust control, potholing, T&M misc extra work, and traffic control. It was also for various equipment pieces, construction, and crossings. These were all costs associated with the installation of the collection lines	96			
Request 4	Lakeside Pipeline	Cal Valley Construction	9/15/2021	201401.016	$144,139.61	1307	2b. Collection Lines	Previously Submitted to Utility	97 - Cal Valley Construction - Inv# 201401.016 (2b. Collection Lines)	This invoice was for dust control and traffic control. It was also for various lakeside western	97			
Request 4	Lakeside Pipeline	P&F Distributors	1/27/2022	0155351-IN	$11,820.00	ACH	2b. Collection Lines	Previously Submitted to Utility	98 - P&F Distributors - Inv# 0155351-IN (2b. Collection Lines)	This invoice was for 6" pipeline (the material used for the collection lines). It included 1,200 ft	98			
Request 4	Lakeside Pipeline	Pacific Land Surveys	8/9/2021	20-049b	$15,996.33	1236	2b. Collection Lines	Previously Submitted to Utility	99 - Pacific Land Surveys - Inv# 20-049b (2b. Collection Lines)	This invoice was for survey construction staking. It involved staking revised alignment. Staking	99			
Request 4	Lakeside Pipeline	Real Environmental Products	2/10/2021	R210207	$1,730.00	6029	2b. Collection Lines	Previously Submitted to Utility	100 - Real Environmental Products - Inv# R210207 (2b. Collection Lines)	This invoice was for service tech and truck & tools involved in completing the biogas conditioning facilities. It also included costs for per diem	100			
Overage	Lakeside Pipeline	Electric Innovations	3/24/2021	1905	$286,310.00	6057	2a. Biogas Treatment	Paid and Sent to Utility	101 - Electric Innovations - Inv# 1905 (2a. Biogas Treatment)	This invoice was for the design work, biogas equipment, control room, automation and controls programming, site prep, site work, and site final of one of the biogas conditioning facilities. It	101	Poplar Lane Digester | Project #70		
Overage	Lakeside Pipeline	Electric Innovations	2/22/2022	1906	$257,679.00	6255	2a. Biogas Treatment	Paid and Sent to Utility	102 - Electric Innovations - Inv# 1906 (2a. Biogas Treatment)	This invoice was for Poplar Lane Dairy's biogas conditioning facility set up. It was the 45% due when shipped	102	Poplar Lane Digester | Project #70		
Overage	Lakeside Pipeline	Electric Innovations	9/29/2021	2075	$299,470.03	6151	2a. Biogas Treatment	Paid and Sent to Utility	103 - Electric Innovations - Inv# 2075 (2a. Biogas Treatment)	programming, site prep, site work, and site final. It was for High Roller and was the 50% up front	103	High Roller Digester | Project #68	Where is invoice 2150 (included in payment of 2075)	
Overage	Lakeside Pipeline	Electric Innovations	5/31/2022	2292	$269,523.01	6255	2a. Biogas Treatment	Paid and Sent to Utility	104 - Electric Innovations - Inv# 2292 (2a. Biogas Treatment)	programming, site prep, site work, and site final (all components of preparing the biogas conditioning facility). It was a general bill to Lakeside Pipeline	104	High Roller Digester | Project #68		
Overage	Lakeside Pipeline	Maas Motor Works	3/15/2022	3412	$135,221.99	6199	2a. Biogas Treatment	Paid and Sent to Utility	105 - Maas Motor Works - Inv# 3412 (2a. Biogas Treatment)	This invoice was for a howitzer that helps clean up gas in the biogas conditioning facility. It was specifically for Poplar Lane Dairy	105			This invoice was for the Howitzer at Poplar Lane and this was paid for through Lakeside Pipeline LLC as shown in the QuickBooks data in the invoice tracking sheet.
Overage	Lakeside Pipeline	Maas Motor Works	3/15/2022	3413	$135,221.99	6198	2a. Biogas Treatment	Paid and Sent to Utility	106 - Maas Motor Works - Inv# 3413 (2a. Biogas Treatment)	This invoice was for a howitzer that helps clean up gas in the biogas conditioning facility. It was specifically for River Ranch Farms	106			This invoice was for the Howitzer at High Roller and this was paid for through Lakeside Pipeline LLC as shown in the QuickBooks data in the invoice tracking sheet.
Overage	Lakeside Pipeline	Maas Motor Works	3/17/2022	3415	$24,603.99	6191	2a. Biogas Treatment	Paid and Sent to Utility	107 - Maas Motor Works - Inv# 3415 (2a. Biogas Treatment)	This invoice was for a howitzer (which helps to clean up gas in the biogas conditioning facility)	107	Yokum Digester | Project #53	Explanation would be helpful, confirm Yokum is a part of original project scope	
Overage	Lakeside Pipeline	Cal Valley Construction	2/15/2022	201401.018	$1,003,312.79	wire	2b. Collection Lines	Paid and Sent to Utility	108 - Cal Valley Construction - Inv# 201401.018 (2b. Collection Lines)	This invoice was for dust control and potholing that was done during the construction of the collection lines. It was also for various expenses due to the Lakeside West Expansion	108	Lakeside Biogas Pipeline Phase 2 - HRD, LED, YDD | Project #139		
Overage	Lakeside Pipeline	Cal Valley Construction	3/15/2022	201401.019	$976,364.86	wire	2b. Collection Lines	Paid and Sent to Utility	109 - Cal Valley Construction - Inv# 201401.019 (2b. Collection Lines)	This invoice was for dust control and potholing that was done during the construction of the collection lines. It was also for various expenses due to the Lakeside West Expansion	109	Lakeside Biogas Pipeline Phase 2 - HRD, LED, YDD | Project #139		
Overage	Lakeside Pipeline	Cal Valley Construction	3/15/2022	201401.02	$329,818.00	$6,218.00	2b. Collection Lines	Paid and Sent to Utility	110 - Cal Valley Construction - Inv# 201401.02 (2b. Collection Lines)	This invoice was for the retention billing. It was retention from all the cost items from Cal Valley Construction (the company hired to build the collection lines)	110			This invoice was for the remainder of the contract with Cal Valley and was not initially included in the final overage reimbursement summary. This was likely paid
Overage	Lakeside Pipeline	P&F Distributors	2/16/2022	0155880-IN	$6,575.00	ACH	2b. Collection Lines	Paid and Sent to Utility	111 - P&F Distributors - Inv# 0155880-IN (2b. Collection Lines)	This invoice was for 16" pipeline which is material used for the collection lines. It also included the freight cost	111	Lakeside Biogas Pipeline Phase 2 - HRD, LED, YDD | Project #139		
Overage	Lakeside Pipeline	P&F Distributors	2/18/2022	0155983-IN	$3,100.00	ACH	2b. Collection Lines	Paid and Sent to Utility	112 - P&F Distributors - Inv# 0155983-IN (2b. Collection Lines)	This invoice was for two 16" X 8" eccentric reducers that are used to connect 16" pipeline with	112	Lakeside Biogas Pipeline Phase 2 - HRD, LED, YDD | Project #139	Overpayment of $425 documented, $3,100	
Overage	Lakeside Pipeline	P&F Distributors	2/18/2022	0155989-IN	$42,912.25	ACH	2b. Collection Lines	Paid and Sent to Utility	113 - P&F Distributors - Inv# 0155989-IN (2b. Collection Lines)	when boring is required in the collection line construction process). It also included the freight cost	113	Lakeside Biogas Pipeline Phase 2 - HRD, LED, YDD | Project #139	Overpayment of $690.75, invoice $42,912.25	
Overage	Lakeside Pipeline	P&F Distributors	2/24/2022	0156165-IN	$51,996.00	ACH	2b. Collection Lines	Paid and Sent to Utility	114 - P&F Distributors - Inv# 0156165-IN (2b. Collection Lines)	when boring is required in the collection line construction process). It also included HDPE Pipe	114	Lakeside Biogas Pipeline Phase 2 - HRD, LED, YDD | Project #139	Overpaid $921, invoice $51,996	
Overage	Lakeside Pipeline	P&F Distributors	3/3/2022	0156310-IN	$15,171.00	ACH	2b. Collection Lines	Paid and Sent to Utility	115 - P&F Distributors - Inv# 0156310-IN (2b. Collection Lines)	end seals which are all miscellanous materials used in the collection lines. It also included the freight cost	115	Lakeside Biogas Pipeline Phase 2 - HRD, LED, YDD | Project #139		
Overage	Lakeside Pipeline	Maas Motor Works	12/1/2020	2851	$110,618.00	Wire	2a. Biogas Treatment	Paid and Sent to Utility	116 - Maas Motor Works - IN# 2851 (2a. Biogas Treatment)	This invoice was for a howitzer that helps clean up gas in the biogas conditioning facility. It was specifically for Double L/Yokum Dairy	116	Yokum Digester | Project #53		
					$16,018,503.17						116			

Vendor	Paid and Sent to Utility
Cal Valley Construction	$ 2,309,495.65
Electric Innovations	$ 1,112,982.04
Maas Motor Works	$ 405,665.97
P&F Distributors	$ 119,754.25
Total	**$ 3,947,897.91**
Milestone #1	**$ 156,311.47**
Milestone #2	**$ 1,389,029.57**
Milestone #3	**$ 700,720.24**
Milestone #4	**$ 497,248.98**
Overage Reimbursement Request	**$ 6,691,208.17**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

DECLARATION OF DARYL R. MAAS REGARDING CONFIDENTIALITY OF CERTAIN DATA/DOCUMENTS PURSUANT TO THE CALIFORNIA PUBLIC RECORDS ACT, D.21-09-020, AND D.21-11-029

I, Daryl R. Maas, do declare as follows:

1. I am the Founder and Chief Executive Officer of Maas Energy Works, LLC, designated to submit this declaration. I have authority to sign this declaration by Daryl R. Maas, Chief Executive Officer, Maas Energy. I have reviewed the Prepared Direct Testimony of Daryl Maas on Behalf of Maas Energy Works, LLC. In addition, I am personally familiar with the facts and representations in this Declaration and, if called upon to testify, I could and would testify to the following based upon my personal knowledge and/or belief.

2. I hereby provide this Declaration in accordance with Public Utilities Code Section 454.5(g), Public Utilities Code Section 583, General Order ("GO") 66-D Revision 2, Decision ("D.") 06-06-066, D.08-04-023, D.21-09-020, D.21-11-029, and the Matrix of Allowed Confidential Treatment for Investor Owned Utility Data ("IOU Matrix") attached as Appendix 1 to the latter decision to demonstrate that the confidential information ("Protected Information") provided in the Prepared Direct Testimony of Daryl Maas on Behalf of Maas Energy Works, LLC submitted concurrently herewith is within the scope of data protected as confidential under applicable law.

3. In accordance with the legal citations and narrative justification described in Attachment A, the Protected Information should be protected from public disclosure.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 15th day of August 2025, at Redding, California.

/s/ *Daryl R. Maas*

Daryl R. Maas
Chief Executive Officer, Maas Energy Works, LLC

SoCalGas Request for Confidentiality
on the following information contained in the Prepared Direct Testimony of Daryl Maas on Behalf of Maas Energy Works, LLC

Location of Protected Information	Legal Citations	Narrative Justification
Prepared Direct Testimony of Daryl Maas on Behalf of Maas Energy Works, LLC Appendix A, p. 2 Outlined in Red Market Sensitive Gas Production Information	CPRA Exemption, Gov't Code § 7927.705 ("Records, the disclosure of which is exempted or prohibited pursuant to federal or state law") • Gov't Code §§ 6250 et seq. • Gov't Code § 6254.7(d) (Protects "trade secrets," including "any formula, plan, … production data, or compilation of information…, which is known only to certain individuals within a commercial concern who are using it to fabricate, product, or compound an article of trade or a service … and which gives its user an opportunity to obtain a business advantage over competitors who do now know or use it.") • Gov't Code § 6255 • Evidence Code § 1060 • Cal. Civil Code §§ 3426 *et seq.* (Uniform Trade Secrets Act) • Cal. Civil Code § 3426.1(d) IOU Matrix • I.A.1. – Commercially available gas price forecasts (confidential for three years due to confidentiality provision with Maas Energy Works, LLC) • I.B.2. – Utility recorded gas procurement and cost information (actual quantity and cost of procured natural gas is confidential for one year) • XII – Monthly Portfolio Risk Assessment (confidential for three years)	Market-sensitive gas production information constitutes a trade secret (confidential internal business plan, process, mechanism, and/or procedure) and commercially sensitive data, which, if disclosed could provide market participants and SoCalGas' competitors with insights into SoCalGas' procurement activities, plans, and strategies, which would place SoCalGas at an unfair business disadvantage. This could ultimately result in increased costs to core ratepayers. If this information were to be disclosed SoCalGas's competitors and market participants could also derive economic value from this information.